LONGHORN ARMY AMMUNITION PLANT KARNACK, TEXAS

ADMINISTRATIVE RECORD

Volume 10

2023

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LONGHORN ARMY AMMUNITION PLANT
KARNACK, TEXAS
ADMINISTRATIVE RECORD – CHRONOLOGICAL INDEX

VOLUME 10

2023

A.	Title:	(Cont'd) Report—Draft Final Year 7 Annual Remedial Action Operation Report (September 2020–August 2021), LHAAP-35A (58) Shops Area, Longhorn Army Ammunition Plant, Karnack, Texas, January 2022
	Author(s):	Department of the Army
	Recipient:	Environmental Protection Agency and Texas Commission on Environmental Quality
	Date:	January 25, 2023
	Bate Stamp:	01150036 – 01150687
B.	Title:	Report—Draft Final Fifth Annual Remedial Action Operation Report, LHAAP-35B (37) (Chemical Laboratory), Longhorn Army Ammunition Plant, Karnack, Texas, January 2023
	Author(s):	Department of the Army
	Recipient:	Environmental Protection Agency and Texas Commission on Environmental Quality
	Date:	January 27, 2023
	Bate Stamp:	01150688 – 01151533
C.	Title:	Report—Final Eighth Annual Remedial Action Operation Report, LHAAP-50 Former Sump Water Tank, Longhorn Army Ammunition Plant (LHAAP), Karnack, Texas, February 2023
	Author(s):	Department of the Army
	Recipient:	Environmental Protection Agency and Texas Commission on Environmental Quality
	Date:	February 27, 2023
	Bate Stamp:	01151534 – 01152048

APPENDIX E
MONITORING WELL SAMPLE COLLECTION FORMS

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bhate ENVIRONMENT INFRASTRUCTURE

GROUNDWATER SAMPLE COLLECTION FORM

LOCATION	Site: LHAAP - 58	Location ID: 03WW01	Date: 12/1/20
	Project Name: LHAAP	Project No./Phase: NWO1312.0150	Recorded By: Scott Beesinger
EQUIPMENT	Pump Type/ID#: Bladder Pump / SamplePro	Water Quality Meter/ID#: U-52 Horiba	PID Type/ID#: NA
	Water Level Indicator Type/ID#: Solinist 101	Other Equipment/ID#: NA	Decon Method: Liquinox & DI water
	Tubing Type/Diameter (in): 1/4"	Other Equipment/ID#: NA	PPE: Level D
WELL INFO	Casing Type / ID (in): PVC 2in	Unit Casing Volume (gal/lin ft) (A): ~~0.16~~ 0.160	Initial Depth to Water (ft) (B): 29.33
	Total Well Depth (ft) (C): 33.40	Water Column Thickness (ft) (C-B): 4.07	2nd Depth to Water(pre-purge): 29.33
	Screened Interval: 23.43 - 33.43	Weather: Clear / cold	Well Volume (gal) (A*(C-B)): 0.65
	Pump placement: 30.50	Well Condition: Good	Ferrous Iron: 3.73 mg/L

CASING INFO	Casing ID (in)	0.5	0.75	1.0	1.5	2.0	3.0	4.0	5.0	6.0	8.0
	Unit Casing Volume (gal/lin ft)	0.016	0.020	0.043	0.103	0.160	0.378	0.652	1.03	1.48	2.57

DATE	TIME (24 Hr)	Water Level (BTOC)	Volume Removed (Gals)	Pumping Rate (ml/min)	Temp (C)	pH	Cond (mS/cm)	DO (mg/l)	Turb (NTU)	ORP (mV)	Remarks (odor, clarity, etc.)
12/1/20	0655	29.40	.13	100	11.34	6.71	5.73	0.70	9.5	-20	
	0700	29.44	.26	100	12.39	6.26	5.16	0.23	10.1	-37	
	0705	29.50	.39	100	12.61	6.18	4.91	0.11	10.3	-48	
	0710	29.53	.52	100	12.69	6.18	4.90	0.11	10.5	-49	
	0715	29.56	.65	100	12.77	6.17	4.89	0.10	10.6	-50	
	0720	29.59	.78	100	12.88	6.17	4.89	0.10	10.7	-50	

Colorimeter Results

Time	Analyte	Dilution	Result	Units

Conversions

1 L = 0.26 gals	Stabilization Criteria			
1 gal = 3.79 L	Temp	+/- 10%	DO	+/- 10%
	pH	+/- 0.1	Turb	+/- 10%
	Cond	+/- 10%	ORP	+/- 10

No. Containers/Volume/Type			Preserv.	Filter (Y/N)	Method	Parameter(s)
	3	40ml Glass	HCL	N		VOC
	3	40ml Glass	HCL	N		MEE
	2	40ml Amber	H2SO4	N		TOC
	3	40ml Glass	NA	N		CO2
	1	200 ml Plastic	NA	N		Anions
	1	125ml Plastic	HNO3	N		Arsenic
	1	1 Liter Glass	NA	N		DHC/DHB
	1	250ml Amber		N		VFA

Sample ID: 03WW01-120120 Sample Time: 0720

bhate ENVIRONMENT INFRASTRUCTURE

GROUNDWATER SAMPLE COLLECTION FORM

LOCATION	Site: LHAAP - 58	Location ID: 35AWW01	Date: 12/7/20
	Project Name: LHAAP	Project No./Phase: NWO1312.0150	Recorded By: Scott Beesinger
EQUIPMENT	Pump Type/ID#: Bladder Pump / SamplePro	Water Quality Meter/ID#: U-52 Horiba	PID Type/ID#: NA
	Water Level Indicator Type/ID#: Solinist 101	Other Equipment/ID#: NA	Decon Method: Liquinox & DI water
	Tubing Type/Diameter (in): 1/4"	Other Equipment/ID#: NA	PPE: Level D
WELL INFO	Casing Type / ID (in): SS 4"	Unit Casing Volume (gal/lin ft) (A): 0.652	Initial Depth to Water (ft) (B): 44.75
	Total Well Depth (ft) (C): 72.45	Water Column Thickness (ft) (C-B): 27.70	2nd Depth to Water(pre-purge): 44.75
	Screened Interval: 62.50 - 72.50	Weather: CLEAR / COLD	Well Volume (gal) (A*(C-B)): 18.06
	Pump placement: 67.50	Well Condition: Good	Ferrous Iron: NA

CASING INFO											
Casing ID (in)	0.5	0.75	1.0	1.5	2.0	3.0	4.0	5.0	6.0	8.0
Unit Casing Volume (gal/lin ft)	0.016	0.020	0.043	0.103	0.160	0.378	0.652	1.03	1.48	2.57

DATE	TIME (24 Hr)	Water Level (BTOC)	Volume Removed (Gals)	Pumping Rate (ml/min)	Temp (C)	pH	Cond (mS/cm)	DO (mg/l)	Turb (NTU)	ORP (mV)	Remarks (odor, clarity, etc.)
12/7/20	0900	44.80	.13	100	15.03	7.41	0.679	0.90	80.1	167	
	0905	44.83	.26	100	15.62	6.70	0.680	0.46	70.5	[redacted]105	
	0910	44.85	.39	100	16.12	6.55	0.681	0.22	65.7	65	
	0915	44.87	.52	100	16.18	6.54	0.681	0.21	65.4	64	
	0920	44.88	.65	100	16.25	6.53	0.681	0.20	64.8	63	
↓	0925	44.89	.78	100	16.33	6.53	0.681	0.20	64.3	62	

Colorimeter Results					No. Containers/Volume/Type			Preserv.	Filter (Y/N)	Method	Parameter(s)
Time	Analyte	Dilution	Result	Units		3	40ml Glass	HCL	N		VOC
						1	125ml Plastic	HNO3	N		Arsenic

Conversions	Stabilization Criteria						
1 L = 0.26 gals	Temp	+/- 10%	DO	+/- 10%			
1 gal = 3.79 L	pH	+/- 0.1	Turb	+/- 10%			
	Cond	+/- 10%	ORP	+/- 10	Sample ID: 35AWW01_120720		Sample Time: 0925

bhate ENVIRONMENT INFRASTRUCTURE

GROUNDWATER SAMPLE COLLECTION FORM

LOCATION	Site: LHAAP - 58	Location ID: 35AWW05	Date: 12/3/20
	Project Name: LHAAP	Project No./Phase: NWO1312.0150	Recorded By: Scott Beesinger
EQUIPMENT	Pump Type/ID#: Bladder Pump / SamplePro	Water Quality Meter/ID#: U-52 Horiba	PID Type/ID#: NA
	Water Level Indicator Type/ID#: Solinist 101	Other Equipment/ID#: NA	Decon Method: Liquinox & DI water
	Tubing Type/Diameter (in): 1/4"	Other Equipment/ID#: NA	PPE: Level D
WELL INFO	Casing Type / ID (in): PVC 4"	Unit Casing Volume (gal/lin ft) (A): 0.652	Initial Depth to Water (ft) (B): 46.71
	Total Well Depth (ft) (C): 72.35	Water Column Thickness (ft) (C-B): 25.64	2nd Depth to Water(pre-purge): 46.71
	Screened Interval: 62.50 - 72.50	Weather: Cloudy	Well Volume (gal) (A*(C-B)): 16.72
	Pump placement: 67.50	Well Condition: Good	Ferrous Iron: NA

CASING INFO											
Casing ID (in)	0.5	0.75	1.0	1.5	2.0	3.0	4.0	5.0	6.0	8.0
Unit Casing Volume (gal/lin ft)	0.016	0.020	0.043	0.103	0.160	0.378	0.652	1.03	1.48	2.57

DATE	TIME (24 Hr)	Water Level (BTOC)	Volume Removed (Gals)	Pumping Rate (ml/min)	Temp (C)	pH	Cond (mS/cm)	DO (mg/l)	Turb (NTU)	ORP (mV)	Remarks (odor, clarity, etc.)
12/3/20	0845	46.77	.13	100	16.01	7.04	2.65	0.75	38.1	34	
	0850	46.81	.26	100	16.75	6.23	2.66	0.38	27.5	55	
	0855	46.84	.39	100	17.03	5.80	2.66	0.27	26.8	78	
	0900	46.86	.52	100	17.08	5.79	2.67	0.26	26.5	79	
	0905	46.88	.65	100	17.15	5.78	2.67	0.25	26.2	80	
↓	0910	46.89	.78	100	17.21	5.77	2.67	0.25	27.9	80	

Colorimeter Results

Time	Analyte	Dilution	Result	Units

Conversions	**Stabilization Criteria**			
1 L = 0.26 gals	Temp	+/- 10%	DO	+/- 10%
1 gal = 3.79 L	pH	+/- 0.1	Turb	+/- 10%
	Cond	+/- 10%	ORP	+/- 10

No. Containers/Volume/Type			Preserv.	Filter (Y/N)	Method	Parameter(s)
3	40ml Glass		HCL	N		VOC

Sample ID: 35AWW05_120320 Sample Time: 0910

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GROUNDWATER SAMPLE COLLECTION FORM

LOCATION	Site: LHAAP - 58	Location ID: 35AWW06	Date: 12/1/20
	Project Name: LHAAP	Project No./Phase: NWO1312.0150	Recorded By: Scott Beesinger
EQUIPMENT	Pump Type/ID#: Bladder Pump / SamplePro	Water Quality Meter/ID#: U-52 Horiba	PID Type/ID#: NA
	Water Level Indicator Type/ID#: Solinist 101	Other Equipment/ID#: NA	Decon Method: Liquinox & DI water
	Tubing Type/Diameter (in): 1/4"	Other Equipment/ID#: NA	PPE: Level D
WELL INFO	Casing Type / ID (in): SS 4"	Unit Casing Volume (gal/lin ft) (A): 0.652	Initial Depth to Water (ft) (B): 18.55
	Total Well Depth (ft) (C): 30.30	Water Column Thickness (ft) (C-B): 11.75	2nd Depth to Water(pre-purge): 18.55
	Screened Interval: 20.50 - 30.50	Weather: Clear/ cold	Well Volume (gal) (A*(C-B)): 7.66
	Pump placement: 25.50	Well Condition: Good	Ferrous Iron: 4.05 mg/L

CASING INFO											
Casing ID (in)	0.5	0.75	1.0	1.5	2.0	3.0	4.0	5.0	6.0	8.0
Unit Casing Volume (gal/lin ft)	0.016	0.020	0.043	0.103	0.160	0.378	0.652	1.03	1.48	2.57

DATE	TIME (24 Hr)	Water Level (BTOC)	Volume Removed (Gals)	Pumping Rate (ml/min)	Temp (C)	pH	Cond (mS/cm)	DO (mg/l)	Turb (NTU)	ORP (mV)	Remarks (odor, clarity, etc.)
12/1/20	0955	18.62	.13	100	14.05	6.83	5.45	0.63	303	-15	
	1000	18.68	.26	100	15.41	6.95	5.39	0.23	285	-37	
	1005	18.72	.39	100	16.05	7.02	5.34	0.04	280	-52	
	1010	18.75	.52	100	16.15	7.03	5.33	0.03	279	-53	
	1015	18.77	.65	100	16.23	7.03	5.33	0.03	278	-54	
	1020	18.79	.78	100	16.30	7.03	5.33	0.03	277	-55	

Colorimeter Results					No. Containers/Volume/Type			Preserv.	Filter (Y/N)	Method	Parameter(s)
Time	Analyte	Dilution	Result	Units		3	40ml Glass	HCL	N		VOC
						3	40ml Glass	HCL	N		MEE
						2	40ml Amber	H2SO4	N		TOC
						3	40ml Glass	NA	N		CO2
Conversions	Stabilization Criteria					1	200ml Plastic	NA	N		ANIONS
1 L = 0.26 gals	Temp	+/- 10%	DO	+/- 10%		1	250ml Amber		N		VFA
1 gal = 3.79 L	pH	+/- 0.1	Turb	+/- 10%		1	1 Liter Glass	NA	N		DRO/DRB
	Cond	+/- 10%	ORP	+/- 10	Sample ID: 35AWW06-12D120				Sample Time: 1020		

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GROUNDWATER SAMPLE COLLECTION FORM

LOCATION	Site: LHAAP - 58	Location ID: [redacted]35AWW08	Date: 12/1/20
	Project Name: LHAAP	Project No./Phase: NWO1312.0150	Recorded By: Scott Beesinger
EQUIPMENT	Pump Type/ID#: Bladder Pump / SamplePro	Water Quality Meter/ID#: U-52 Horiba	PID Type/ID#: NA
	Water Level Indicator Type/ID#: Solinist 101	Other Equipment/ID#: NA	Decon Method: Liquinox & DI water
	Tubing Type/Diameter (in): 1/4"	Other Equipment/ID#: NA	PPE: Level D
WELL INFO	Casing Type / ID (in): PVC 2"	Unit Casing Volume (gal/lin ft) (A): 0.160	Initial Depth to Water (ft) (B): 28.58
	Total Well Depth (ft) (C): 33.30	Water Column Thickness (ft) (C-B): 4.72	2nd Depth to Water(pre-purge): 28.58
	Screened Interval: 23.35-33.35	Weather: CLEAR / COLD	Well Volume (gal) (A*(C-B)): 0.76
	Pump placement: 29.25	Well Condition: GOOD	Ferrous Iron: 2.89 mg/L

CASING INFO											
Casing ID (in)	0.5	0.75	1.0	1.5	2.0	3.0	4.0	5.0	6.0	8.0
Unit Casing Volume (gal/lin ft)	0.016	0.020	0.043	0.103	0.160	0.378	0.652	1.03	1.48	2.57

DATE	TIME (24 Hr)	Water Level (BTOC)	Volume Removed (Gals)	Pumping Rate (ml/min)	Temp (C)	pH	Cond (mS/cm)	DO (mg/l)	Turb (NTU)	ORP (mV)	Remarks (odor, clarity, etc.)
12/1/20	0755	28.65	.13	100	12.78	6.31	10.3	0.71	67.7	-8	
	0800	28.71	.26	100	14.49	6.15	9.75	0.20	64.5	-15	
	0805	28.75	.39	100	14.87	6.07	9.69	0.09	64.5	-23	
	0810	28.78	.52	100	14.93	6.06	9.68	0.08	64.0	-24	
	0815	28.81	.65	100	14.98	6.05	9.67	0.08	63.6	-24	
	0820	28.84	.78	100	15.03	6.05	9.67	0.08	63.2	-25	

Colorimeter Results

Time	Analyte	Dilution	Result	Units

Conversions	Stabilization Criteria			
1 L = 0.26 gals	Temp	+/- 10%	DO	+/- 10%
1 gal = 3.79 L	pH	+/- 0.1	Turb	+/- 10%
	Cond	+/- 10%	ORP	+/- 10

No. Containers/Volume/Type			Preserv.	Filter (Y/N)	Method	Parameter(s)
	3	40ml Glass	HCL	N		VOC
	3	40ml Glass	HCL	N		M&G
	2	40ml Amber	H2SO4	N		TOC
	3	40ml Glass	NA	N		CO2
	1	200 ml Plastic	NA	N		Anions
	1	125 ml Plastic	HNO3	N		Arsenic
	1	1 Liter Glass	NA	N		DHC/DHB
Sample ID: 35AWW08_120120				Sample Time: 0820		
	1	250ml Amber	H3PO4	N		VFA

bhate ENVIRONMENT INFRASTRUCTURE

GROUNDWATER SAMPLE COLLECTION FORM

LOCATION	Site: LHAAP - 58	Location ID: 35AWW09	Date: 12/7/20
	Project Name: LHAAP	Project No./Phase: NWO1312.0150	Recorded By: Scott Beesinger
EQUIPMENT	Pump Type/ID#: Bladder Pump / SamplePro	Water Quality Meter/ID#: U-52 Horiba	PID Type/ID#: NA
	Water Level Indicator Type/ID#: Solinist 101	Other Equipment/ID#: NA	Decon Method: Liquinox & DI water
	Tubing Type/Diameter (in): 1/4"	Other Equipment/ID#: NA	PPE: Level D
WELL INFO	Casing Type / ID (in): PVC 4"	Unit Casing Volume (gal/lin ft) (A): 0.160	Initial Depth to Water (ft) (B): 31.55
	Total Well Depth (ft) (C): 42.08	Water Column Thickness (ft) (C-B): 10.53	2nd Depth to Water(pre-purge): 31.55
	Screened Interval: 27.58 - 42.18	Weather: CLEAR / COOL	Well Volume (gal) (A*(C-B)): 1.68
	Pump placement: 34.88	Well Condition: GOOD	Ferrous Iron: NA

CASING INFO											
Casing ID (in)	0.5	0.75	1.0	1.5	2.0	3.0	4.0	5.0	6.0	80
Unit Casing Volume (gal/lin ft)	0.016	0.020	0.043	0.103	0.160	0.378	0.652	1.03	1.48	2.57

DATE	TIME (24 Hr)	Water Level (BTOC)	Volume Removed (Gals)	Pumping Rate (ml/min)	Temp (C)	pH	Cond (mS/cm)	DO (mg/l)	Turb (NTU)	ORP (mV)	Remarks (odor, clarity, etc.)
12/7/20	0945	31.63	.13	100	15.38	6.71	5.67	1.12	33.2	89	
	0950	31.69	.26	100	15.77	6.20	5.75	0.90	24.9	99	
	0955	31.73	.39	100	16.02	5.96	5.96	0.81	18.5	110	
	1000	31.76	.52	100	16.09	5.95	5.97	0.80	18.0	111	
	1005	31.78	.65	100	16.15	5.95	5.98	0.79	17.7	111	
	1010	31.80	.78	100	16.20	5.94	5.98	0.79	17.2	112	

Colorimeter Results

Time	Analyte	Dilution	Result	Units

No. Containers/Volume/Type			Preserv.	Filter (Y/N)	Method	Parameter(s)
	3	40 ml Glass	HCL	N		VOC

Conversions	Stabilization Criteria			
1 L = 0.26 gals	Temp	+/- 10%	DO	+/- 10%
1 gal = 3.79 L	pH	+/- 0.1	Turb	+/- 10%
	Cond	+/- 10%	ORP	+/- 10

Sample ID: 35AWW09_120720 Sample Time: 1010

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GROUNDWATER SAMPLE COLLECTION FORM

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LOCATION	Site: LHAAP - 58	Location ID: 35AWW10	Date: 12/3/20
	Project Name: LHAAP	Project No./Phase: NWO1312.0150	Recorded By: Scott Beesinger
EQUIPMENT	Pump Type/ID#: Bladder Pump / SamplePro	Water Quality Meter/ID#: U-52 Horiba	PID Type/ID#: NA
	Water Level Indicator Type/ID#: Solinist 101	Other Equipment/ID#: NA	Decon Method: Liquinox & DI water
	Tubing Type/Diameter (in): 1/4"	Other Equipment/ID#: NA	PPE: Level D
WELL INFO	Casing Type / ID (in): PVC 2"	Unit Casing Volume (gal/lin ft) (A): 0.160	Initial Depth to Water (ft) (B): 18.65
	Total Well Depth (ft) (C): 33.65	Water Column Thickness (ft) (C-B): 15.00	2nd Depth to Water(pre-purge): 18.65
	Screened Interval: 19.13 - 33.73	Weather: CLEAR / COLD	Well Volume (gal) (A*(C-B)): 2.40
	Pump placement: 26.43	Well Condition: BROKEN HINGE	Ferrous Iron: NA

CASING INFO											
Casing ID (in)	0.5	0.75	1.0	1.5	2.0	3.0	4.0	5.0	6.0	8.0
Unit Casing Volume (gal/lin ft)	0.016	0.020	0.043	0.103	0.160	0.378	0.652	1.03	1.48	2.57

DATE	TIME (24 Hr)	Water Level (BTOC)	Volume Removed (Gals)	Pumping Rate (ml/min)	Temp (C)	pH	Cond (mS/cm)	DO (mg/l)	Turb (NTU)	ORP (mV)	Remarks (odor, clarity, etc.)
12/3/20	0725	18.72	.13	100	16.88	6.01	0.282	2.53	14.1	167	
	0730	18.77	.26	100	17.51	5.33	0.229	2.30	15.6	212	
	0735	18.80	.39	100	18.15	5.12	0.200	2.18	15.2	237	
	0740	18.82	.52	100	18.20	5.11	0.199	2.17	14.8	238	
	0745	18.83	.65	100	18.26	5.10	0.199	2.16	14.5	239	
	0750	18.84	.78	100	18.30	5.09	0.199	2.15	14.3	239	

Colorimeter Results				
Time	Analyte	Dilution	Result	Units

Conversions	Stabilization Criteria			
1 L = 0.26 gals	Temp	+/- 10%	DO	+/- 10%
1 gal = 3.79 L	pH	+/- 0.1	Turb	+/- 10%
	Cond	+/- 10%	ORP	+/- 10

No. Containers/Volume/Type			Preserv.	Filter (Y/N)	Method	Parameter(s)
	6	40ml GLASS	HCL	N		VOC
Sample ID: 35AWW10-120320				Sample Time: 0750		

bhate ENVIRONMENT INFRASTRUCTURE

GROUNDWATER SAMPLE COLLECTION FORM

LOCATION	Site: LHAAP - 58	Location ID: 35AWW11	Date: 12/1/20
	Project Name: LHAAP	Project No./Phase: NWO1312.0150	Recorded By: Scott Beesinger
EQUIPMENT	Pump Type/ID#: Bladder Pump / SamplePro	Water Quality Meter/ID#: U-52 Horiba	PID Type/ID#: NA
	Water Level Indicator Type/ID#: Solinist 101	Other Equipment/ID#: NA	Decon Method: Liquinox & DI water
	Tubing Type/Diameter (in): 1/4"	Other Equipment/ID#: NA	PPE: Level D
WELL INFO	Casing Type / ID (in): PVC 2"	Unit Casing Volume (gal/lin ft) (A): 0.160	Initial Depth to Water (ft) (B): 28.95
	Total Well Depth (ft) (C): 37.88	Water Column Thickness (ft) (C-B): 8.93	2nd Depth to Water(pre-purge): 28.95
	Screened Interval: 23.58 - 38.10	Weather: CLEAR / COLD	Well Volume (gal) (A*(C-B)): 1.43
	Pump placement: 30.80	Well Condition: GOOD	Ferrous Iron: 3.89 mg/L

CASING INFO										
Casing ID (in)	0.5	0.75	1.0	1.5	2.0	3.0	4.0	5.0	6.0	8.0
Unit Casing Volume (gal/lin ft)	0.016	0.020	0.043	0.103	0.160	0.378	0.652	1.03	1.48	2.57

DATE	TIME (24 Hr)	Water Level (BTOC)	Volume Removed (Gals)	Pumping Rate (ml/min)	Temp (C)	pH	Cond (mS/cm)	DO (mg/l)	Turb (NTU)	ORP (mV)	Remarks (odor, clarity, etc.)
12/1/20	0850	29.02	.13	100	12.17	6.14	8.41	0.74	27.5	12	
	0855	29.08	.26	100	12.89	5.99	8.37	0.21	24.1	8	
	0900	29.12	.39	100	13.17	5.99	8.41	0.06	22.6	5	
	0905	29.14	.52	100	13.24	5.99	8.42	0.06	22.1	5	
	0910	29.16	.65	100	13.28	5.99	8.43	0.05	21.7	4	
	0915	29.17	.78	100	13.32	5.99	8.43	0.05	21.3	4	

Colorimeter Results

Time	Analyte	Dilution	Result	Units

Conversions	**Stabilization Criteria**			
1 L = 0.26 gals	Temp	+/- 10%	DO	+/- 10%
1 gal = 3.79 L	pH	+/- 0.1	Turb	+/- 10%
	Cond	+/- 10%	ORP	+/- 10

No. Containers/Volume/Type		Preserv.	Filter (Y/N)	Method	Parameter(s)
6	40ml Glass	HCL	N		VOC
6	40ml Glass	HCL	N		MEE
4	40ml Amber	HCL	N		TOC
6	40ml Glass	NA	N		CO2
2	200ml Plastic	NA	N		Anions
2	250ml Amber	H3PO4	N		VFA
2	1L Amber Glass	NA	N		DRO/DRB

Sample ID: 35AWW11-120120 Sample Time: 0915

bhate ENVIRONMENT INFRASTRUCTURE

GROUNDWATER SAMPLE COLLECTION FORM

LOCATION	Site: LHAAP - 58	Location ID: 35AWW12	Date: 12/7/20
	Project Name: LHAAP	Project No./Phase: NWO1312.0150	Recorded By: Scott Beesinger
EQUIPMENT	Pump Type/ID#: Bladder Pump / SamplePro	Water Quality Meter/ID#: U-52 Horiba	PID Type/ID#: NA
	Water Level Indicator Type/ID#: Solinist 101	Other Equipment/ID#: NA	Decon Method: Liquinox & DI water
	Tubing Type/Diameter (in): 1/4"	Other Equipment/ID#: NA	PPE: Level D
WELL INFO	Casing Type / ID (in): PVC 2"	Unit Casing Volume (gal/lin ft) (A): 0.160	Initial Depth to Water (ft) (B): 29.72
	Total Well Depth (ft) (C): 37.55	Water Column Thickness (ft) (C-B): 7.83	2nd Depth to Water(pre-purge): 29.72
	Screened Interval: 23.01 - 37.61	Weather: CLEAR	Well Volume (gal) (A*(C-B)): 1.25
	Pump placement: 30.31	Well Condition: BROKEN HINGE	Ferrous Iron: NA

CASING INFO											
Casing ID (in)	0.5	0.75	1.0	1.5	2.0	3.0	4.0	5.0	6.0	8.0
Unit Casing Volume (gal/lin ft)	0.016	0.020	0.043	0.103	0.160	0.378	0.652	1.03	1.48	2.57

DATE	TIME (24 Hr)	Water Level (BTOC)	Volume Removed (Gals)	Pumping Rate (ml/min)	Temp (C)	pH	Cond (mS/cm)	DO (mg/l)	Turb (NTU)	ORP (mV)	Remarks (odor, clarity, etc.)
12/7/20	1155	29.80	.13	100	17.33	5.88	1.86	0.80	7.9	169	
	1200	29.86	.26	100	18.17	5.35	1.80	0.33	7.4	190	
	1205	29.90	.39	100	18.67	5.24	1.77	0.13	5.2	200	
	1210	29.93	.52	100	18.75	5.23	1.77	0.13	4.0	201	
	1215	29.96	.65	100	18.83	5.22	1.76	0.12	3.1	201	
	1220	29.98	.78	100	18.90	5.21	1.76	0.12	2.3	202	

Colorimeter Results				
Time	Analyte	Dilution	Result	Units

Conversions	Stabilization Criteria			
1 L = 0.26 gals	Temp	+/- 10%	DO	+/- 10%
1 gal = 3.79 L	pH	+/- 0.1	Turb	+/- 10%
	Cond	+/- 10%	ORP	+/- 10

No. Containers/Volume/Type			Preserv.	Filter (Y/N)	Method	Parameter(s)
	3	40ml Glass	HCL	N		VOC

Sample ID: 35AWW12_120720 Sample Time: 1220

bhate ENVIRONMENT INFRASTRUCTURE

GROUNDWATER SAMPLE COLLECTION FORM

LOCATION	Site: LHAAP - 58	Location ID: 35AWW13	Date: 12/7/20
	Project Name: LHAAP	Project No./Phase: NWO1312.0150	Recorded By: Scott Beesinger
EQUIPMENT	Pump Type/ID#: Bladder Pump / SamplePro	Water Quality Meter/ID#: U-52 Horiba	PID Type/ID#: NA
	Water Level Indicator Type/ID#: Solinist 101	Other Equipment/ID#: NA	Decon Method: Liquinox & DI water
	Tubing Type/Diameter (in): 1/4"	Other Equipment/ID#: NA	PPE: Level D
WELL INFO	Casing Type / ID (in): PVC 2"	Unit Casing Volume (gal/lin ft) (A): 0.160	Initial Depth to Water (ft) (B): 24.61
	Total Well Depth (ft) (C): 40.20	Water Column Thickness (ft) (C-B): 15.59	2nd Depth to Water(pre-purge): 24.61
	Screened Interval: 25.68 - 40.28	Weather: Clear/ cold	Well Volume (gal) (A*(C-B)): 2.49
	Pump placement: 32.98	Well Condition: Good	Ferrous Iron: NA

CASING INFO											
Casing ID (in)	0.5	0.75	1.0	1.5	2.0	3.0	4.0	5.0	6.0	8.0
Unit Casing Volume (gal/lin ft)	0.016	0.020	0.043	0.103	0.160	0.378	0.652	1.03	1.48	2.57

DATE	TIME (24 Hr)	Water Level (BTOC)	Volume Removed (Gals)	Pumping Rate (ml/min)	Temp (C)	pH	Cond (mS/cm)	DO (mg/l)	Turb (NTU)	ORP (mV)	Remarks (odor, clarity, etc.)
12/7/20	0810	24.69	.13	100	14.91	5.98	1.17	0.85	43.2	224	
	0815	24.75	.26	100	15.62	5.99	1.18	0.40	35.7	223	
	0820	24.79	.39	100	16.38	5.99	1.16	0.22	32.7	218	
	0825	24.81	.52	100	16.46	5.99	1.15	0.21	32.1	217	
	0830	24.83	.65	100	16.55	5.99	1.15	0.21	31.6	217	
↓	0835	24.85	.78	100	16.61	5.99	1.15	0.20	31.3	216	

Colorimeter Results					No. Containers/Volume/Type			Preserv.	Filter (Y/N)	Method	Parameter(s)
Time	Analyte	Dilution	Result	Units		9	40ml Glass	HCL	N		VOC

Conversions	Stabilization Criteria			
1 L = 0.26 gals	Temp	+/- 10%	DO	+/- 10%
1 gal = 3.79 L	pH	+/- 0.1	Turb	+/- 10%
	Cond	+/- 10%	ORP	+/- 10

Sample ID: 35AWW13-120720 Sample Time: 0835

bhate ENVIRONMENT INFRASTRUCTURE

GROUNDWATER SAMPLE COLLECTION FORM

LOCATION	Site: LHAAP - 58	Location ID: 35AWW14	Date: 12/7/20
	Project Name: LHAAP	Project No./Phase: NWO1312.0150	Recorded By: Scott Beesinger
EQUIPMENT	Pump Type/ID#: Bladder Pump / SamplePro	Water Quality Meter/ID#: U-52 Horiba	PID Type/ID#: NA
	Water Level Indicator Type/ID#: Solinist 101	Other Equipment/ID#: NA	Decon Method: Liquinox & DI water
	Tubing Type/Diameter (in): 1/4"	Other Equipment/ID#: NA	PPE: Level D
WELL INFO	Casing Type / ID (in): PVC 4"	Unit Casing Volume (gal/lin ft) (A): 0.160	Initial Depth to Water (ft) (B): 30.75
	Total Well Depth (ft) (C): 32.35	Water Column Thickness (ft) (C-B): 1.60	2nd Depth to Water(pre-purge): 30.75
	Screened Interval: 17.76 - 32.46	Weather: CLEAR / COLD	Well Volume (gal) (A*(C-B)): 0.25
	Pump placement: NA	Well Condition: GOOD	Ferrous Iron: NA

CASING INFO											
Casing ID (in)	0.5	0.75	1.0	1.5	2.0	3.0	4.0	5.0	6.0	8.0
Unit Casing Volume (gal/lin ft)	0.016	0.020	0.043	0.103	0.160	0.378	0.652	1.03	1.48	2.57

DATE	TIME (24 Hr)	Water Level (BTOC)	Volume Removed (Gals)	Pumping Rate (ml/min)	Temp (C)	pH	Cond (mS/cm)	DO (mg/l)	Turb (NTU)	ORP (mV)	Remarks (odor, clarity, etc.)
12/7/20	0703	30.75	~~0~~ NA	NA							BAILING WELL
12/7/20	0706	32.30	0.5	NA							BAILED 0.5 GALLONS RAN DRY
12/7/20	1230	30.79	NA	NA	17.50	5.75	5.57	8.74	10.3	163	

Colorimeter Results

Time	Analyte	Dilution	Result	Units

Conversions	**Stabilization Criteria**			
1 L = 0.26 gals	Temp	+/- 10%	DO	+/- 10%
1 gal = 3.79 L	pH	+/- 0.1	Turb	+/- 10%
	Cond	+/- 10%	ORP	+/- 10

No. Containers/Volume/Type			Preserv.	Filter (Y/N)	Method	Parameter(s)
	3	40ml Glass	HCL	N		VOC

Sample ID: 35AWW14-120720 Sample Time: 1230

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GROUNDWATER SAMPLE COLLECTION FORM

LOCATION	Site: LHAAP - 58	Location ID: 35AWW15	Date: 12/1/20
	Project Name: LHAAP	Project No./Phase: NWO1312.0150	Recorded By: Scott Beesinger
EQUIPMENT	Pump Type/ID#: Bladder Pump / SamplePro	Water Quality Meter/ID#: U-52 Horiba	PID Type/ID#: NA
	Water Level Indicator Type/ID#: Solinist 101	Other Equipment/ID#: NA	Decon Method: Liquinox & DI water
	Tubing Type/Diameter (in): 1/4"	Other Equipment/ID#: NA	PPE: Level D
WELL INFO	Casing Type / ID (in): PVC 2"	Unit Casing Volume (gal/lin ft) (A): 0.160	Initial Depth to Water (ft) (B): 17.05
	Total Well Depth (ft) (C): 41.35	Water Column Thickness (ft) (C-B): 24.30	2nd Depth to Water(pre-purge): 17.05
	Screened Interval: 26.78 - 41.48	Weather: CLEAR/COOL	Well Volume (gal) (A*(C-B)): 3.89
	Pump placement: 34.10	Well Condition: HINGE BROKEN	Ferrous Iron: NA

CASING INFO											
Casing ID (in)	0.5	0.75	1.0	1.5	2.0	3.0	4.0	5.0	6.0	8.0
Unit Casing Volume (gal/lin ft)	0.016	0.020	0.043	0.103	0.160	0.378	0.652	1.03	1.48	2.57

DATE	TIME (24 Hr)	Water Level (BTOC)	Volume Removed (Gals)	Pumping Rate (ml/min)	Temp (C)	pH	Cond (mS/cm)	DO (mg/l)	Turb (NTU)	ORP (mV)	Remarks (odor, clarity, etc.)
12/1/20	1255	17.12	.13	100	21.12	6.76	13.6	0.71	111	74	
	1300	17.18	.26	100	21.51	6.60	13.5	0.63	102	79	
	1305	17.21	.39	100	21.77	6.54	13.5	0.56	97.7	79	
	1310	17.23	.52	100	21.85	6.53	13.5	0.55	97.3	78	
	1315	17.25	.65	100	21.92	6.53	13.5	0.54	96.5	78	
↓	1320	17.26	.78	100	21.98	6.52	13.5	0.54	96.1	78	

Colorimeter Results

Time	Analyte	Dilution	Result	Units

Conversions	**Stabilization Criteria**			
1 L = 0.26 gals	Temp	+/- 10%	DO	+/- 10%
1 gal = 3.79 L	pH	+/- 0.1	Turb	+/- 10%
	Cond	+/- 10%	ORP	+/- 10

No. Containers/Volume/Type			Preserv.	Filter (Y/N)	Method	Parameter(s)
	3	40ml Glass	HCL	N		VOC
Sample ID: 35AWW15_120120				Sample Time: 1320		

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GROUNDWATER SAMPLE COLLECTION FORM

LOCATION	Site: LHAAP - 58	Location ID: 35AWW16	Date: 12/1/20
	Project Name: LHAAP	Project No./Phase: NWO1312.0150	Recorded By: Scott Beesinger
EQUIPMENT	Pump Type/ID#: Bladder Pump / SamplePro	Water Quality Meter/ID#: U-52 Horiba	PID Type/ID#: NA
	Water Level Indicator Type/ID#: Solinist 101	Other Equipment/ID#: NA	Decon Method: Liquinox & DI water
	Tubing Type/Diameter (in): 1/4"	Other Equipment/ID#: NA	PPE: Level D
WELL INFO	Casing Type / ID (in): PVC 2"	Unit Casing Volume (gal/lin ft) (A): 0.160	Initial Depth to Water (ft) (B): 17.25
	Total Well Depth (ft) (C): 37.36	Water Column Thickness (ft) (C-B): 20.11	2nd Depth to Water(pre-purge): 17.25
	Screened Interval: 22.81 - 37.51	Weather: CLEAR / COOL	Well Volume (gal) (A*(C-B)): 3.22
	Pump placement: 30.16	Well Condition: GOOD	Ferrous Iron: NA

CASING INFO											
Casing ID (in)	0.5	0.75	1.0	1.5	2.0	3.0	4.0	5.0	6.0	8.0
Unit Casing Volume (gal/lin ft)	0.016	0.020	0.043	0.103	0.160	0.378	0.652	1.03	1.48	2.57

DATE	TIME (24 Hr)	Water Level (BTOC)	Volume Removed (Gals)	Pumping Rate (ml/min)	Temp (C)	pH	Cond (mS/cm)	DO (mg/l)	Turb (NTU)	ORP (mV)	Remarks (odor, clarity, etc.)
12/1/20	1215	17.32	.13	100	16.88	6.65	11.9	0.67	106	80	
	1220	17.38	.26	100	17.91	6.56	12.2	0.19	86.5	78	
	1225	17.41	.39	100	18.89	6.55	12.4	0.05	81.8	72	
	1230	17.43	.52	100	18.99	6.54	12.4	0.05	81.3	71	
	1235	17.44	.65	100	19.10	6.54	12.5	0.04	80.7	71	
↓	1240	17.45	.78	100	19.18	6.54	12.5	0.04	80.4	70	

Colorimeter Results

Time	Analyte	Dilution	Result	Units

Conversions	**Stabilization Criteria**			
1 L = 0.26 gals	Temp	+/- 10%	DO	+/- 10%
1 gal = 3.79 L	pH	+/- 0.1	Turb	+/- 10%
	Cond	+/- 10%	ORP	+/- 10

No. Containers/Volume/Type			Preserv.	Filter (Y/N)	Method	Parameter(s)
	3	40ml GLASS	HCl	N		VOC

Sample ID: 35AWW16_120120 Sample Time: 1240

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GROUNDWATER SAMPLE COLLECTION FORM

LOCATION	Site: LHAAP - 58	Location ID: 35A WW17	Date: 12/1/20
	Project Name: LHAAP	Project No./Phase: NWO1312.0150	Recorded By: Scott Beesinger
EQUIPMENT	Pump Type/ID#: Bladder Pump / SamplePro	Water Quality Meter/ID#: U-52 Horiba	PID Type/ID#: NA
	Water Level Indicator Type/ID#: Solinist 101	Other Equipment/ID#: NA	Decon Method: Liquinox & DI water
	Tubing Type/Diameter (in): 1/4"	Other Equipment/ID#: NA	PPE: Level D
WELL INFO	Casing Type / ID (in): PVC 2"	Unit Casing Volume (gal/lin ft) (A): 0.160	Initial Depth to Water (ft) (B): 23.12
	Total Well Depth (ft) (C): 42.31	Water Column Thickness (ft) (C-B): 19.19	2nd Depth to Water(pre-purge): 23.12
	Screened Interval: 22.78 - 42.48	Weather: CLEAR / COLD	Well Volume (gal) (A*(C-B)): 3.07
	Pump placement: 32.63	Well Condition: HINGE BROKEN	Ferrous Iron: NA

CASING INFO											
Casing ID (in)	0.5	0.75	1.0	1.5	2.0	3.0	4.0	5.0	6.0	8.0
Unit Casing Volume (gal/lin ft)	0.016	0.020	0.043	0.103	0.160	0.378	0.652	1.03	1.48	2.57

DATE	TIME (24 Hr)	Water Level (BTOC)	Volume Removed (Gals)	Pumping Rate (ml/min)	Temp (C)	pH	Cond (mS/cm)	DO (mg/l)	Turb (NTU)	ORP (mV)	Remarks (odor, clarity, etc.)
12/1/20	1045	23.20	.13	100	13.93	6.88	11.5	1.03	17.8	17	
	1050	23.25	.26	100	15.14	6.50	11.1	0.93	14.5	32	
	1055	23.28	.39	100	15.60	6.39	11.0	0.88	14.4	44	
	1100	23.30	.52	100	15.70	6.38	11.0	0.88	14.3	45	
	1105	23.32	.65	100	15.79	6.37	10.9	0.87	14.2	45	
↓	1110	23.33	.78	100	15.89	6.37	10.9	0.87	14.1	46	

Colorimeter Results

Time	Analyte	Dilution	Result	Units

Conversions	Stabilization Criteria			
1 L = 0.26 gals	Temp	+/- 10%	DO	+/- 10%
1 gal = 3.79 L	pH	+/- 0.1	Turb	+/- 10%
	Cond	+/- 10%	ORP	+/- 10

No. Containers/Volume/Type			Preserv.	Filter (Y/N)	Method	Parameter(s)
	3	40ml Glass	HCl	N		VOC

Sample ID: 35A WW17_120120 Sample Time: 1110

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GROUNDWATER SAMPLE COLLECTION FORM

LOCATION	Site: LHAAP - 58	Location ID: 35AWW18	Date: 12/1/20
	Project Name: LHAAP	Project No./Phase: NWO1312.0150	Recorded By: Scott Beesinger
EQUIPMENT	Pump Type/ID#: Bladder Pump / SamplePro	Water Quality Meter/ID#: U-52 Horiba	PID Type/ID#: NA
	Water Level Indicator Type/ID#: Solinist 101	Other Equipment/ID#: NA	Decon Method: Liquinox & DI water
	Tubing Type/Diameter (in): 1/4"	Other Equipment/ID#: NA	PPE: Level D
WELL INFO	Casing Type / ID (in): PVC 2"	Unit Casing Volume (gal/lin ft) (A): 0.160	Initial Depth to Water (ft) (B): 23.95
	Total Well Depth (ft) (C): 42.11	Water Column Thickness (ft) (C-B): 18.16	2nd Depth to Water(pre-purge): 23.95
	Screened Interval: 27.48 - 42.18	Weather: CLEAR/COLD	Well Volume (gal) (A*(C-B)): 2.91
	Pump placement: 34.83	Well Condition: GOOD	Ferrous Iron: NA

CASING INFO										
Casing ID (in)	0.5	0.75	1.0	1.5	2.0	3.0	4.0	5.0	6.0	8.0
Unit Casing Volume (gal/lin ft)	0.016	0.020	0.043	0.103	0.160	0.378	0.652	1.03	1.48	2.57

DATE	TIME (24 Hr)	Water Level (BTOC)	Volume Removed (Gals)	Pumping Rate (ml/min)	Temp (C)	pH	Cond (mS/cm)	DO (mg/l)	Turb (NTU)	ORP (mV)	Remarks (odor, clarity, etc.)
12/1/20	1130	24.03	.13	100	16.05	6.77	10.2	1.09	69.8	61	
	1135	24.09	.26	100	16.45	6.70	10.2	1.03	63.5	63	
	1140	24.13	.39	100	16.73	6.65	10.1	0.99	60.9	63	
	1145	24.15	.52	100	16.82	6.64	10.1	0.98	60.3	64	
	1150	24.17	.65	100	16.89	6.63	10.0	0.97	59.9	64	
↓	1155	24.19	.78	100	16.95	6.63	10.0	0.97	59.5	64	

Colorimeter Results

Time	Analyte	Dilution	Result	Units

No. Containers/Volume/Type			Preserv.	Filter (Y/N)	Method	Parameter(s)
	6	40ml GLASS	HCL	N		VOC

Conversions	Stabilization Criteria			
1 L = 0.26 gals	Temp	+/- 10%	DO	+/- 10%
1 gal = 3.79 L	pH	+/- 0.1	Turb	+/- 10%
	Cond	+/- 10%	ORP	+/- 10

Sample ID: 35AWW18_120120 Sample Time: 1155

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GROUNDWATER SAMPLE COLLECTION FORM

LOCATION	Site: LHAAP - 58	Location ID: 35HWW19	Date: 12/3/20
	Project Name: LHAAP	Project No./Phase: NWO1312.0150	Recorded By: Scott Beesinger
EQUIPMENT	Pump Type/ID#: Bladder Pump / SamplePro	Water Quality Meter/ID#: U-52 Horiba	PID Type/ID#: NA
	Water Level Indicator Type/ID#: Solinist 101	Other Equipment/ID#: NA	Decon Method: Liquinox & DI water
	Tubing Type/Diameter (in): 1/4"	Other Equipment/ID#: NA	PPE: Level D
WELL INFO	Casing Type / ID (in): PVC 2"	Unit Casing Volume (gal/lin ft) (A): 0.160	Initial Depth to Water (ft) (B): 24.63
	Total Well Depth (ft) (C): 32.42	Water Column Thickness (ft) (C-B): 7.79	2nd Depth to Water(pre-purge): 24.63
	Screened Interval: 17.29 - 31.39	Weather: Cloudy	Well Volume (gal) (A*(C-B)): 1.25
	Pump placement: 25.25	Well Condition: Broken Hinge	Ferrous Iron: 2.47 mg/L

CASING INFO											
Casing ID (in)	0.5	0.75	1.0	1.5	2.0	3.0	4.0	5.0	6.0	8.0
Unit Casing Volume (gal/lin ft)	0.016	0.020	0.043	0.103	0.160	0.378	0.652	1.03	1.48	2.57

DATE	TIME (24 Hr)	Water Level (BTOC)	Volume Removed (Gals)	Pumping Rate (ml/min)	Temp (C)	pH	Cond (mS/cm)	DO (mg/l)	Turb (NTU)	ORP (mV)	Remarks (odor, clarity, etc.)
12/3/20	1020	24.70	.13	100	15.97	6.63	4.13	0.79	35.6	31	
	1025	24.76	.26	100	16.59	5.79	4.10	0.34	33.2	52	
	1030	24.80	.39	100	17.01	5.66	4.02	0.12	3.0	62	
	1035	24.82	.52	100	17.10	5.65	4.01	0.12	3.6	63	
	1040	24.84	.65	100	17.18	5.64	4.01	0.11	4.0	64	
	1045	24.86	.78	100	17.26	5.64	4.00	0.11	4.5	65	

Colorimeter Results

Time	Analyte	Dilution	Result	Units

Conversions	**Stabilization Criteria**			
1 L = 0.26 gals	Temp	+/- 10%	DO	+/- 10%
1 gal = 3.79 L	pH	+/- 0.1	Turb	+/- 10%
	Cond	+/- 10%	ORP	+/- 10

No. Containers/Volume/Type			Preserv.	Filter (Y/N)	Method	Parameter(s)
	3	40ml Glass	HCL	N		VOC
	3	40ml Glass	HCL	N		MEE
	2	40ml Glass	NA	N		CO2
	2	40ml Amber	H2SO4	N		TOC
	1	250ml Amber	H3PO4	N		VFA
	1	200ml Plastic	NA	N		Anions
	1	1 Liter Glass	NA	N		DHC/DHP

Sample ID: 35AMW19-120320 Sample Time: 1045

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GROUNDWATER SAMPLE COLLECTION FORM

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LOCATION	Site: LHAAP - 58	Location ID: 35AWW20	Date: 12/3/20
	Project Name: LHAAP	Project No./Phase: NWO1312.0150	Recorded By: Scott Beesinger
EQUIPMENT	Pump Type/ID#: Bladder Pump / SamplePro	Water Quality Meter/ID#: U-52 Horiba	PID Type/ID#: NA
	Water Level Indicator Type/ID#: Solinist 101	Other Equipment/ID#: NA	Decon Method: Liquinox & DI water
	Tubing Type/Diameter (in): 1/4"	Other Equipment/ID#: NA	PPE: Level D
WELL INFO	Casing Type / ID (in): PVC 2"	Unit Casing Volume (gal/lin ft) (A): 0.160	Initial Depth to Water (ft) (B): 18.58
	Total Well Depth (ft) (C): 42.88	Water Column Thickness (ft) (C-B): 24.30	2nd Depth to Water(pre-purge): 18.58
	Screened Interval: 21.42 - 42.84	Weather: Cloudy / Drizzle	Well Volume (gal) (A*(C-B)): 3.89
	Pump placement: 28.77	Well Condition: Good	Ferrous Iron: 2.37 mg/L

CASING INFO											
Casing ID (in)	0.5	0.75	1.0	1.5	2.0	3.0	4.0	5.0	6.0	8.0
Unit Casing Volume (gal/lin ft)	0.016	0.020	0.043	0.103	0.160	0.378	0.652	1.03	1.48	2.57

DATE	TIME (24 Hr)	Water Level (BTOC)	Volume Removed (Gals)	Pumping Rate (ml/min)	Temp (C)	pH	Cond (mS/cm)	DO (mg/l)	Turb (NTU)	ORP (mV)	Remarks (odor, clarity, etc.)
12/3/20	0700	18.65	.13	100	15.98	6.22	5.62	1.09	10.2	195	
	0705	18.71	.26	100	16.89	6.30	5.35	0.84	8.0	137	
	0710	18.75	.39	100	17.51	6.36	5.16	0.63	7.3	97	
	0715	18.77	.52	100	17.57	6.36	5.15	0.62	6.4	96	
	0720	18.79	.65	100	17.65	6.37	5.14	0.62	5.8	95	
	0725	18.80	.78	100	17.72	6.37	5.14	0.61	5.1	94	

Colorimeter Results

Time	Analyte	Dilution	Result	Units

Conversions	Stabilization Criteria			
1 L = 0.26 gals	Temp	+/- 10%	DO	+/- 10%
1 gal = 3.79 L	pH	+/- 0.1	Turb	+/- 10%
	Cond	+/- 10%	ORP	+/- 10

No. Containers/Volume/Type			Preserv.	Filter (Y/N)	Method	Parameter(s)
	3	40ml Glass	HCL	N		VOC
	3	40ml Glass	HCL	N		MEE
	2	40ml Glass	N	N		CO2
	2	40ml Amber	H2SO4	N		TOC
	1	250 ml Amber	H3PO4	N		VFA
	1	200 ml Plastic	NA	N		Anions
	1	1 Liter Glass	NA	N		DHC/DHB

Sample ID: 35AWW20_120320 Sample Time: 0725

bhate ENVIRONMENT INFRASTRUCTURE

GROUNDWATER SAMPLE COLLECTION FORM

LOCATION	Site: LHAAP - 58	Location ID: 35AWW21	Date: 12/7/20
	Project Name: LHAAP	Project No./Phase: NWO1312.0150	Recorded By: Scott Beesinger
EQUIPMENT	Pump Type/ID#: Bladder Pump / SamplePro	Water Quality Meter/ID#: U-52 Horiba	PID Type/ID#: NA
	Water Level Indicator Type/ID#: Solinist 101	Other Equipment/ID#: NA	Decon Method: Liquinox & DI water
	Tubing Type/Diameter (in): 1/4"	Other Equipment/ID#: NA	PPE: Level D
WELL INFO	Casing Type / ID (in): PVC 2"	Unit Casing Volume (gal/lin ft) (A): 0.160	Initial Depth to Water (ft) (B): 33.33
	Total Well Depth (ft) (C): 42.81	Water Column Thickness (ft) (C-B): 9.48	2nd Depth to Water(pre-purge): 33.33
	Screened Interval: 28.14 - 42.84	Weather: CLEAR	Well Volume (gal) (A*(C-B)): 1.52
	Pump placement: 35.49	Well Condition: BROKEN HINGE	Ferrous Iron: NA

CASING INFO											
Casing ID (in)	0.5	0.75	1.0	1.5	2.0	3.0	4.0	5.0	6.0	8.0
Unit Casing Volume (gal/lin ft)	0.016	0.020	0.043	0.103	0.160	0.378	0.652	1.03	1.48	2.57

DATE	TIME (24 Hr)	Water Level (BTOC)	Volume Removed (Gals)	Pumping Rate (ml/min)	Temp (C)	pH	Cond (mS/cm)	DO (mg/l)	Turb (NTU)	ORP (mV)	Remarks (odor, clarity, etc.)
12/7/20	1030	33.40	.13	100	15.38	5.63	2.67	1.03	17.8	134	
	1035	33.46	.26	100	16.31	5.03	2.65	0.73	14.0	159	
	1040	33.50	.39	100	17.40	4.99	2.64	0.41	10.5	185	
	1045	33.53	.52	100	17.65	5.05	2.63	0.32	6.3	191	
	1050	33.55	.65	100	17.74	5.06	2.63	0.32	5.7	192	
	1055	33.57	.78	100	17.82	5.06	2.62	0.31	5.0	192	
	1100	33.59	.91	100	17.89	5.06	2.62	0.31	4.4	193	

Colorimeter Results

Time	Analyte	Dilution	Result	Units

Conversions	**Stabilization Criteria**			
1 L = 0.26 gals	Temp	+/- 10%	DO	+/- 10%
1 gal = 3.79 L	pH	+/- 0.1	Turb	+/- 10%
	Cond	+/- 10%	ORP	+/- 10

No. Containers/Volume/Type			Preserv.	Filter (Y/N)	Method	Parameter(s)
	3	40ml GLASS	HCL	N		VOC

Sample ID: 35AWW21_120720 Sample Time: ~~1055~~ 1100

bhate ENVIRONMENT INFRASTRUCTURE

GROUNDWATER SAMPLE COLLECTION FORM

LOCATION	Site: LHAAP - 58	Location ID: 35AWW22	Date: 12/7/20
	Project Name: LHAAP	Project No./Phase: NWO1312.0150	Recorded By: Scott Beesinger
EQUIPMENT	Pump Type/ID#: Bladder Pump / SamplePro	Water Quality Meter/ID#: U-52 Horiba	PID Type/ID#: NA
	Water Level Indicator Type/ID#: Solinist 101	Other Equipment/ID#: NA	Decon Method: Liquinox & DI water
	Tubing Type/Diameter (in): 1/4"	Other Equipment/ID#: NA	PPE: Level D
WELL INFO	Casing Type / ID (in): PVC 2"	Unit Casing Volume (gal/lin ft) (A): 0.160	Initial Depth to Water (ft) (B): 32.27
	Total Well Depth (ft) (C): 37.68	Water Column Thickness (ft) (C-B): 5.41	2nd Depth to Water(pre-purge): 32.27
	Screened Interval: 23.28 - 37.78	Weather: CLEAR / COOL	Well Volume (gal) (A*(C-B)): 0.87
	Pump placement: 33.00	Well Condition: BROKEN HINGE	Ferrous Iron: NA

CASING INFO										
Casing ID (in)	0.5	0.75	1.0	1.5	2.0	3.0	4.0	5.0	6.0	8.0
Unit Casing Volume (gal/lin ft)	0.016	0.020	0.043	0.103	0.160	0.378	0.652	1.03	1.48	2.57

DATE	TIME (24 Hr)	Water Level (BTOC)	Volume Removed (Gals)	Pumping Rate (ml/min)	Temp (C)	pH	Cond (mS/cm)	DO (mg/l)	Turb (NTU)	ORP (mV)	Remarks (odor, clarity, etc.)
12/7/20	1115	32.35	.13	100	16.09	5.81	8.55	0.98	16.1	188	
	1120	32.41	.26	100	16.64	5.63	8.52	0.65	11.5	187	
	1125	32.45	.39	100	16.91	5.56	8.50	0.35	8.4	186	
	1130	32.48	.52	100	16.99	5.55	8.49	0.35	7.6	186	
	1135	32.51	.65	100	17.08	5.55	8.49	0.34	7.0	185	
↓	1140	32.53	.78	100	17.16	5.55	8.49	0.34	6.7	185	

Colorimeter Results

Time	Analyte	Dilution	Result	Units

Conversions	Stabilization Criteria			
1 L = 0.26 gals	Temp	+/- 10%	DO	+/- 10%
1 gal = 3.79 L	pH	+/- 0.1	Turb	+/- 10%
	Cond	+/- 10%	ORP	+/- 10

No. Containers/Volume/Type			Preserv.	Filter (Y/N)	Method	Parameter(s)
	3	40ml Glass	HCL	N		VOC

Sample ID: 35AWW22_120720 Sample Time: 1140

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GROUNDWATER SAMPLE COLLECTION FORM

LOCATION	Site: LHAAP - 58	Location ID: 35AWW23	Date: 12/3/20
	Project Name: LHAAP	Project No./Phase: NWO1312.0150	Recorded By: Scott Beesinger
EQUIPMENT	Pump Type/ID#: Bladder Pump / SamplePro	Water Quality Meter/ID#: U-52 Horiba	PID Type/ID#: NA
	Water Level Indicator Type/ID#: Solinist 101	Other Equipment/ID#: NA	Decon Method: Liquinox & DI water
	Tubing Type/Diameter (in): 1/4"	Other Equipment/ID#: NA	PPE: Level D
WELL INFO	Casing Type / ID (in): PVC 2"	Unit Casing Volume (gal/lin ft) (A): 0.160	Initial Depth to Water (ft) (B): 22.55
	Total Well Depth (ft) (C): 43.72	Water Column Thickness (ft) (C-B): 21.17	2nd Depth to Water(pre-purge): 22.55
	Screened Interval: 28.50 - 43.50	Weather: Cloudy	Well Volume (gal) (A*(C-B)): 3.39
	Pump placement: 36.00	Well Condition: Good	Ferrous Iron: 2.91 mg/L

CASING INFO											
Casing ID (in)	0.5	0.75	1.0	1.5	2.0	3.0	4.0	5.0	6.0	8.0
Unit Casing Volume (gal/lin ft)	0.016	0.020	0.043	0.103	0.160	0.378	0.652	1.03	1.48	2.57

DATE	TIME (24 Hr)	Water Level (BTOC)	Volume Removed (Gals)	Pumping Rate (ml/min)	Temp (C)	pH	Cond (mS/cm)	DO (mg/l)	Turb (NTU)	ORP (mV)	Remarks (odor, clarity, etc.)
12/3/20	0930	22.62	.13	100	15.21	6.40	4.78	0.67	13.4	-12	
	0935	22.68	.26	100	15.71	6.35	4.72	0.18	12.3	-31	
	0940	22.72	.39	100	15.89	6.33	4.68	0.08	12.1	-39	
	0945	22.74	.52	100	15.95	6.32	4.67	0.08	11.8	-40	
	0950	22.76	.65	100	16.02	6.32	4.67	0.07	11.6	-41	
	0955	22.77	.78	100	16.07	6.32	4.67	0.07	11.5	-41	

Colorimeter Results

Time	Analyte	Dilution	Result	Units

Conversions

1 L = 0.26 gals

1 gal = 3.79 L

Stabilization Criteria

Temp	+/- 10%	DO	+/- 10%
pH	+/- 0.1	Turb	+/- 10%
Cond	+/- 10%	ORP	+/- 10

No. Containers/Volume/Type		Preserv.	Filter (Y/N)	Method	Parameter(s)
3	40ml Glass	HCL	N		VOC
3	40ml Glass	HCL	N		MEE
2	40ml Glass	NH	N		CO2
2	40 ml Glass	H2SO4	N		TOC
1	250 ml Amber	H3PO4	N		VFA
1	200 ml Plastic	NA	N		Anions
1	1 Liter Glass	NA	N		DHC/DHB

Sample ID: 35AWW23_120320 Sample Time: 0955

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GROUNDWATER SAMPLE COLLECTION FORM

LOCATION	Site: LHAAP - 58	Location ID: 35AMW24	Date: 12/3/20
	Project Name: LHAAP	Project No./Phase: NWO1312.0150	Recorded By: Scott Beesinger
EQUIPMENT	Pump Type/ID#: Bladder Pump / SamplePro	Water Quality Meter/ID#: U-52 Horiba	PID Type/ID#: NA
	Water Level Indicator Type/ID#: Solinist 101	Other Equipment/ID#: NA	Decon Method: Liquinox & DI water
	Tubing Type/Diameter (in): 1/4"	Other Equipment/ID#: NA	PPE: Level D
WELL INFO	Casing Type / ID (in): PVC 2"	Unit Casing Volume (gal/lin ft) (A): 0.160	Initial Depth to Water (ft) (B): 23.85
	Total Well Depth (ft) (C): 35.00	Water Column Thickness (ft) (C-B): 11.15	2nd Depth to Water(pre-purge): 23.85
	Screened Interval: 24.68 - 34.68	Weather: Cloudy	Well Volume (gal) (A*(C-B)): 1.78
	Pump placement: 29.68	Well Condition: GOOD	Ferrous Iron: NA

CASING INFO											
Casing ID (in)	0.5	0.75	1.0	1.5	2.0	3.0	4.0	5.0	6.0	8.0
Unit Casing Volume (gal/lin ft)	0.016	0.020	0.043	0.103	0.160	0.378	0.652	1.03	1.48	2.57

DATE	TIME (24 Hr)	Water Level (BTOC)	Volume Removed (Gals)	Pumping Rate (ml/min)	Temp (C)	pH	Cond (mS/cm)	DO (mg/l)	Turb (NTU)	ORP (mV)	Remarks (odor, clarity, etc.)
12/3/20	1115	23.92	.13	100	16.47	5.79	0.566	0.85	131	94	
	1120	23.96	.26	100	16.95	5.01	0.500	0.33	118	136	
	1125	24.00	.39	100	17.39	4.90	0.491	0.18	111	153	
	1130	24.03	.52	100	17.47	4.89	0.490	0.18	110	154	
	1135	24.05	.65	100	17.56	4.88	0.490	0.18	110	155	
	1140	24.07	.78	100	17.65	4.88	0.490	0.17	109	156	

Colorimeter Results

Time	Analyte	Dilution	Result	Units

Conversions	Stabilization Criteria			
1 L = 0.26 gals	Temp	+/- 10%	DO	+/- 10%
1 gal = 3.79 L	pH	+/- 0.1	Turb	+/- 10%
	Cond	+/- 10%	ORP	+/- 10

No. Containers/Volume/Type			Preserv.	Filter (Y/N)	Method	Parameter(s)
	9	40ml GLASS	HCL	N		VOC

Sample ID: 35AMW24-120320 Sample Time: 1140

bhate ENVIRONMENT INFRASTRUCTURE

GROUNDWATER SAMPLE COLLECTION FORM

LOCATION	Site: LHAAP - 58	Location ID: LHSMW04	Date: 12/3/20
	Project Name: LHAAP	Project No./Phase: NWO1312.0150	Recorded By: Scott Beesinger
EQUIPMENT	Pump Type/ID#: Bladder Pump / SamplePro	Water Quality Meter/ID#: U-52 Horiba	PID Type/ID#: NA
	Water Level Indicator Type/ID#: Solinist 101	Other Equipment/ID#: NA	Decon Method: Liquinox & DI water
	Tubing Type/Diameter (in): 1/4"	Other Equipment/ID#: NA	PPE: Level D
WELL INFO	Casing Type / ID (in): PVC 4"	Unit Casing Volume (gal/lin ft) (A): 0.652	Initial Depth to Water (ft) (B): DRY
	Total Well Depth (ft) (C): 31.00	Water Column Thickness (ft) (C-B): NA	2nd Depth to Water(pre-purge): DRY
	Screened Interval: 21.14-31.14	Weather: CLOUDY	Well Volume (gal) (A*(C-B)): NA
	Pump placement: NA	Well Condition: GOOD	Ferrous Iron: NA

CASING INFO											
Casing ID (in)	0.5	0.75	1.0	1.5	2.0	3.0	4.0	5.0	6.0	8.0
Unit Casing Volume (gal/lin ft)	0.016	0.020	0.043	0.103	0.160	0.378	0.652	1.03	1.48	2.57

DATE	TIME (24 Hr)	Water Level (BTOC)	Volume Removed (Gals)	Pumping Rate (ml/min)	Temp (C)	pH	Cond (mS/cm)	DO (mg/l)	Turb (NTU)	ORP (mV)	Remarks (odor, clarity, etc.)

DRY WELL

Colorimeter Results				
Time	Analyte	Dilution	Result	Units

Conversions	Stabilization Criteria			
1 L = 0.26 gals	Temp	+/- 10%	DO	+/- 10%
1 gal = 3.79 L	pH	+/- 0.1	Turb	+/- 10%
	Cond	+/- 10%	ORP	+/- 10

No. Containers/Volume/Type			Preserv.	Filter (Y/N)	Method	Parameter(s)
Sample ID:			Sample Time:			

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GROUNDWATER SAMPLE COLLECTION FORM

LOCATION	Site: LHAAP - 58	Location ID: LHSMW06	Date: 12/3/20
	Project Name: LHAAP	Project No./Phase: NWO1312.0150	Recorded By: Scott Beesinger
EQUIPMENT	Pump Type/ID#: Bladder Pump / SamplePro	Water Quality Meter/ID#: U-52 Horiba	PID Type/ID#: NA
	Water Level Indicator Type/ID#: Solinist 101	Other Equipment/ID#: NA	Decon Method: Liquinox & DI water
	Tubing Type/Diameter (in): 1/4"	Other Equipment/ID#: NA	PPE: Level D
WELL INFO	Casing Type / ID (in): PVC 4"	Unit Casing Volume (gal/lin ft) (A): 0.652	Initial Depth to Water (ft) (B): 18.53
	Total Well Depth (ft) (C): 23.50	Water Column Thickness (ft) (C-B): 4.97	2nd Depth to Water(pre-purge): 18.53
	Screened Interval: 13.53 - 23.53	Weather: Cloudy	Well Volume (gal) (A*(C-B)): 3.24
	Pump placement: 19.25	Well Condition: Good	Ferrous Iron: NA

CASING INFO											
Casing ID (in)	0.5	0.75	1.0	1.5	2.0	3.0	4.0	5.0	6.0	8.0
Unit Casing Volume (gal/lin ft)	0.016	0.020	0.043	0.103	0.160	0.378	0.652	1.03	1.48	2.57

DATE	TIME (24 Hr)	Water Level (BTOC)	Volume Removed (Gals)	Pumping Rate (ml/min)	Temp (C)	pH	Cond (mS/cm)	DO (mg/l)	Turb (NTU)	ORP (mV)	Remarks (odor, clarity, etc.)
12/3/20	1205	18.60	.13	100	16.20	6.22	3.78	0.79	1.2	133	
	1210	18.66	.26	100	16.63	6.51	3.26	0.23	0.6	88	
	1215	18.71	.39	100	16.75	6.60	3.08	0.17	0.0	77	
	1220	18.75	.52	100	16.82	6.61	3.07	0.16	0.0	76	
	1225	18.78	.65	100	16.87	6.61	3.07	0.16	0.0	75	
↓	1230	18.81	.78	100	16.92	6.61	3.06	0.16	0.0	75	

Colorimeter Results

Time	Analyte	Dilution	Result	Units

Conversions	**Stabilization Criteria**			
1 L = 0.26 gals	Temp	+/- 10%	DO	+/- 10%
1 gal = 3.79 L	pH	+/- 0.1	Turb	+/- 10%
	Cond	+/- 10%	ORP	+/- 10

No. Containers/Volume/Type			Preserv.	Filter (Y/N)	Method	Parameter(s)
3	40ml Glass		HCL	N		VOC
1	125ml Plastic		HNO3	N		ARSENIC

Sample ID: LHSMW06-120320 Sample Time: 1230

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GROUNDWATER SAMPLE COLLECTION FORM

LOCATION	Site: LHAAP - 58	Location ID: LHSMW07	Date: 12/3/20
	Project Name: LHAAP	Project No./Phase: NWO1312.0150	Recorded By: Scott Beesinger
EQUIPMENT	Pump Type/ID#: Bladder Pump / SamplePro	Water Quality Meter/ID#: U-52 Horiba	PID Type/ID#: NA
	Water Level Indicator Type/ID#: Solinist 101	Other Equipment/ID#: NA	Decon Method: Liquinox & DI water
	Tubing Type/Diameter (in): 1/4"	Other Equipment/ID#: NA	PPE: Level D
WELL INFO	Casing Type / ID (in): PVC 4"	Unit Casing Volume (gal/lin ft) (A): 0.652	Initial Depth to Water (ft) (B): 17.88
	Total Well Depth (ft) (C): 30.41	Water Column Thickness (ft) (C-B): 12.53	2nd Depth to Water(pre-purge): 17.88
	Screened Interval: 19.73 - 29.73	Weather: OVERCAST	Well Volume (gal) (A*(C-B)): 8.17
	Pump placement: 24.73	Well Condition: GOOD	Ferrous Iron: 1.79 mg/L

CASING INFO										
Casing ID (in)	0.5	0.75	1.0	1.5	2.0	3.0	4.0	5.0	6.0	8.0
Unit Casing Volume (gal/lin ft)	0.016	0.020	0.043	0.103	0.160	0.378	0.652	1.03	1.48	2.57

DATE	TIME (24 Hr)	Water Level (BTOC)	Volume Removed (Gals)	Pumping Rate (ml/min)	Temp (C)	pH	Cond (mS/cm)	DO (mg/l)	Turb (NTU)	ORP (mV)	Remarks (odor, clarity, etc.)
12/3/20	0750	17.95	.13	100	14.89	7.23	9.98	0.69	3.7	40	
	0755	18.01	.26	100	15.68	6.67	9.93	0.28	1.9	23	
	0800	18.05	.39	100	15.77	6.55	9.89	0.15	1.0	11	
	0805	18.08	.52	100	15.84	6.54	9.88	0.14	0.6	11	
	0810	18.10	.65	100	15.87	6.54	9.87	0.14	0.0	10	
↓	0815	18.11	.78	100	15.90	6.53	9.87	0.14	0.0	10	

Colorimeter Results

Time	Analyte	Dilution	Result	Units

Conversions	**Stabilization Criteria**			
1 L = 0.26 gals	Temp	+/- 10%	DO	+/- 10%
1 gal = 3.79 L	pH	+/- 0.1	Turb	+/- 10%
	Cond	+/- 10%	ORP	+/- 10

No. Containers	Volume/Type	Preserv.	Filter (Y/N)	Method	Parameter(s)
3	40ml GLASS	HCL	N		VOC
3	40ml GLASS	HCL	N		mag
2	40ml GLASS	NA	N		CO2
2	40 ml AMBER	H2SO4	N		TOC
1	250 ml AMBER	H2SO4	N		VFA
1	200ml Plastic	NA	N		Anions
1	1 Liter Glass	NA	N		DHC/DHB

Sample ID: LHSMW07_120320 Sample Time: 0815

bhate ENVIRONMENT INFRASTRUCTURE

GROUNDWATER SAMPLE COLLECTION FORM

LOCATION	Site: LHAAP - 58	Location ID: 03WW01	Date: 6/2/21
	Project Name: LHAAP	Project No./Phase: NWO1312.0150	Recorded By: Scott Beesinger
EQUIPMENT	Pump Type/ID#: Bladder Pump / SamplePro	Water Quality Meter/ID#: U-52 Horiba	PID Type/ID#: NA
	Water Level Indicator Type/ID#: Solinist 101	Other Equipment/ID#: NA	Decon Method: Liquinox & DI water
	Tubing Type/Diameter (in): 1/4"	Other Equipment/ID#: NA	PPE: Level D
WELL INFO	Casing Type / ID (in): PVC 2"	Unit Casing Volume (gal/lin ft) (A): 0.160	Initial Depth to Water (ft) (B): 28.88
	Total Well Depth (ft) (C): 33.36	Water Column Thickness (ft) (C-B): 4.48	2nd Depth to Water(pre-purge): 28.88
	Screened Interval: 21.53 - 31.53	Weather: CLEAR	Well Volume (gal) (A*(C-B)): 0.72
	Pump placement: 30.00	Well Condition: GOOD	Ferrous Iron: 3.77 mg/L

CASING INFO										
Casing ID (in)	0.5	0.75	1.0	1.5	2.0	3.0	4.0	5.0	6.0	8.0
Unit Casing Volume (gal/lin ft)	0.016	0.020	0.043	0.103	0.160	0.378	0.652	1.03	1.48	2.57

DATE	TIME (24 Hr)	Water Level (BTOC)	Volume Removed (Gals)	Pumping Rate (ml/min)	Temp (C)	pH	Cond (mS/cm)	DO (mg/l)	Turb (NTU)	ORP (mV)	Remarks (odor, clarity, etc.)
6/2/21	0740	28.95	.13	100	21.23	6.44	5.50	0.75	175	-58	
	0745	29.01	.26	100	21.08	6.30	5.30	0.40	163	-90	
	0750	29.05	.39	100	21.05	6.26	5.25	0.29	158	-97	
	0755	29.08	.52	100	21.03	6.25	5.24	0.28	157	-98	
	0800	29.11	.65	100	21.01	6.25	5.24	0.27	157	-199	
	0805	29.13	.78	100	20.98	6.25	5.24	0.27	156	-99	

Colorimeter Results

Time	Analyte	Dilution	Result	Units

Conversions	Stabilization Criteria			
1 L = 0.26 gals	Temp	+/- 10%	DO	+/- 10%
1 gal = 3.79 L	pH	+/- 0.1	Turb	+/- 10%
	Cond	+/- 10%	ORP	+/- 10

No. Containers/Volume/Type		Preserv.	Filter (Y/N)	Method	Parameter(s)
3	40ml Glass	HCL	N		VOC
3	40ml Glass	HCL	N		MEE
2	40ml Amber	H2SO4	N		TOC
2	40ml Glass	NA	N		CO2
1	200ml Plastic	NA	N		Anions
1	250ml Amber	H3PO4	N		VFA
1	120ml Plastic	HNO3	N		Arsenic

Sample ID: 03WW01_060221 Sample Time: 0805

1 1 Liter Glass NA N DHC/DHB

bhate ENVIRONMENT INFRASTRUCTURE

GROUNDWATER SAMPLE COLLECTION FORM

LOCATION	Site: LHAAP - 58	Location ID: 35AWW01	Date: 6/1/21
	Project Name: LHAAP	Project No./Phase: NWO1312.0150	Recorded By: Scott Beesinger
EQUIPMENT	Pump Type/ID#: Bladder Pump / SamplePro	Water Quality Meter/ID#: U-52 Horiba	PID Type/ID#: NA
	Water Level Indicator Type/ID#: Solinist 101	Other Equipment/ID#: NA	Decon Method: Liquinox & DI water
	Tubing Type/Diameter (in): 1/4"	Other Equipment/ID#: NA	PPE: Level D
WELL INFO	Casing Type / ID (in): SS 4"	Unit Casing Volume (gal/lin ft) (A): 0.652	Initial Depth to Water (ft) (B): 44.50
	Total Well Depth (ft) (C): 72.62	Water Column Thickness (ft) (C-B): 28.12	2nd Depth to Water(pre-purge): 44.50
	Screened Interval: 62.69 - 72.69	Weather: CLOUDY	Well Volume (gal) (A*(C-B)): 18.33
	Pump placement: 67.69	Well Condition: GOOD	Ferrous Iron: NA

CASING INFO										
Casing ID (in)	0.5	0.75	1.0	1.5	2.0	3.0	4.0	5.0	6.0	8.0
Unit Casing Volume (gal/lin ft)	0.016	0.020	0.043	0.103	0.160	0.378	0.652	1.03	1.48	2.57

DATE	TIME (24 Hr)	Water Level (BTOC)	Volume Removed (Gals)	Pumping Rate (ml/min)	Temp (C)	pH	Cond (mS/cm)	DO (mg/l)	Turb (NTU)	ORP (mV)	Remarks (odor, clarity, etc.)
6/1/21	0720	44.56	.13	100	22.84	7.39	0.772	0.88	97.3	15	
	0725	44.60	.26	100	22.30	6.08	0.770	0.55	85.2	40	
	0730	44.63	.39	100	22.18	5.70	0.753	0.18	81.7	75	
	0735	44.65	.52	100	22.12	5.69	0.753	0.17	81.3	76	
	0740	44.66	.65	100	22.07	5.68	0.752	0.17	80.6	77	
	0745	44.67	.78	100	22.03	5.68	0.752	0.17	80.1	78	

Colorimeter Results

Time	Analyte	Dilution	Result	Units

Conversions	Stabilization Criteria			
1 L = 0.26 gals	Temp	+/- 10%	DO	+/- 10%
1 gal = 3.79 L	pH	+/- 0.1	Turb	+/- 10%
	Cond	+/- 10%	ORP	+/- 10

No. Containers/Volume/Type			Preserv.	Filter (Y/N)	Method	Parameter(s)
6	40ml Glass		HCl	N		VOC
2	120ml Plastic		HNO3	N		ARSENIC

Sample ID: 35AWW01_060121 Sample Time: 0745

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GROUNDWATER SAMPLE COLLECTION FORM

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LOCATION	Site: LHAAP - 58	Location ID: 35AWW05	Date: 6/2/21
	Project Name: LHAAP	Project No./Phase: NWO1312.0150	Recorded By: Scott Beesinger
EQUIPMENT	Pump Type/ID#: Bladder Pump / SamplePro	Water Quality Meter/ID#: U-52 Horiba	PID Type/ID#: NA
	Water Level Indicator Type/ID#: Solinist 101	Other Equipment/ID#: NA	Decon Method: Liquinox & DI water
	Tubing Type/Diameter (in): 1/4"	Other Equipment/ID#: NA	PPE: Level D
WELL INFO	Casing Type / ID (in): PVC 4"	Unit Casing Volume (gal/lin ft) (A): 0.652	Initial Depth to Water (ft) (B): 46.25
	Total Well Depth (ft) (C): 72.08	Water Column Thickness (ft) (C-B): 25.83	2nd Depth to Water(pre-purge): 46.25
	Screened Interval: 62.15 - 72.15	Weather: CLEAR	Well Volume (gal) (A*(C-B)): 16.84
	Pump placement: 67.15	Well Condition: GOOD	Ferrous Iron: NA

CASING INFO										
Casing ID (in)	0.5	0.75	1.0	1.5	2.0	3.0	4.0	5.0	6.0	8.0
Unit Casing Volume (gal/lin ft)	0.016	0.020	0.043	0.103	0.160	0.378	0.652	1.03	1.48	2.57

DATE	TIME (24 Hr)	Water Level (BTOC)	Volume Removed (Gals)	Pumping Rate (ml/min)	Temp (C)	pH	Cond (mS/cm)	DO (mg/l)	Turb (NTU)	ORP (mV)	Remarks (odor, clarity, etc.)
6/2/21	1105	46.31	.13	100	22.90	7.02	3.40	0.74	22.5	-6	
	1110	46.36	.26	100	22.81	5.88	2.83	0.20	22.2	21	
	1115	46.39	.39	100	22.80	5.51	2.76	0.06	21.6	50	
	1120	46.41	.52	100	22.78	5.50	2.75	0.06	21.1	51	
	1125	46.43	.65	100	22.76	5.49	2.75	0.05	20.7	51	
	1130	46.44	.78	100	22.75	5.48	2.75	0.05	20.3	52	

Colorimeter Results

Time	Analyte	Dilution	Result	Units

Conversions	Stabilization Criteria			
1 L = 0.26 gals	Temp	+/- 10%	DO	+/- 10%
1 gal = 3.79 L	pH	+/- 0.1	Turb	+/- 10%
	Cond	+/- 10%	ORP	+/- 10

No. Containers/Volume/Type			Preserv.	Filter (Y/N)	Method	Parameter(s)
	3	40 ml Glass	HCL	N		VOC

Sample ID: 35AWW05_060221 Sample Time: 1130

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GROUNDWATER SAMPLE COLLECTION FORM

LOCATION	Site: LHAAP - 58	Location ID: 35AWW06	Date: 6/3/21
	Project Name: LHAAP	Project No./Phase: NWO1312.0150	Recorded By: Scott Beesinger
EQUIPMENT	Pump Type/ID#: Bladder Pump / SamplePro	Water Quality Meter/ID#: U-52 Horiba	PID Type/ID#: NA
	Water Level Indicator Type/ID#: Solinist 101	Other Equipment/ID#: NA	Decon Method: Liquinox & DI water
	Tubing Type/Diameter (in): 1/4"	Other Equipment/ID#: NA	PPE: Level D
WELL INFO	Casing Type / ID (in): PVC 4"	Unit Casing Volume (gal/lin ft) (A): 0.652	Initial Depth to Water (ft) (B): 18.16
	Total Well Depth (ft) (C): 30.30	Water Column Thickness (ft) (C-B): 12.14	2nd Depth to Water(pre-purge): 18.16
	Screened Interval: 19.05 - 29.05	Weather: CLEAR	Well Volume (gal) (A*(C-B)): 7.92
	Pump placement: 24.05	Well Condition: GOOD	Ferrous Iron: 4.31 mg/L

CASING INFO											
Casing ID (in)	0.5	0.75	1.0	1.5	2.0	3.0	4.0	5.0	6.0	8.0
Unit Casing Volume (gal/lin ft)	0.016	0.020	0.043	0.103	0.160	0.378	0.652	1.03	1.48	2.57

DATE	TIME (24 Hr)	Water Level (BTOC)	Volume Removed (Gals)	Pumping Rate (ml/min)	Temp (C)	pH	Cond (mS/cm)	DO (mg/l)	Turb (NTU)	ORP (mV)	Remarks (odor, clarity, etc.)
6/3/21	1015	18.23	.13	100	22.70	6.81	5.15	0.65	331	14	
	1020	18.28	.26	100	22.10	6.70	5.17	0.20	320	24	
	1025	18.31	.39	100	21.88	6.53	5.19	0.04	313	27	
	1030	18.33	.52	100	21.83	6.52	5.19	0.04	313	28	
	1035	18.35	.65	100	21.76	6.51	5.19	0.03	314	29	
	1040	18.36	.78	100	21.72	6.50	5.19	0.03	313	29	

Colorimeter Results

Time	Analyte	Dilution	Result	Units

Conversions	Stabilization Criteria			
1 L = 0.26 gals	Temp	+/- 10%	DO	+/- 10%
1 gal = 3.79 L	pH	+/- 0.1	Turb	+/- 10%
	Cond	+/- 10%	ORP	+/- 10

No. Containers/Volume/Type			Preserv.	Filter (Y/N)	Method	Parameter(s)
3	40 ml Glass		HCl			VOC
3	40 ml Glass		HCl			MEE
2	40 ml Amber		H2SO4			TOC
2	40 ml Glass		NA			CO2
1	200 ml Plastic		NA			Anions
1	250 ml Amber		H3PO4			VFA
1	1 Liter Glass		NA			DHC/DHB

Sample ID: 35AWW06_060321 Sample Time: 1040

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GROUNDWATER SAMPLE COLLECTION FORM

LOCATION	Site: LHAAP - 58	Location ID: 35AWW08	Date: 6/2/21
	Project Name: LHAAP	Project No./Phase: NWO1312.0150	Recorded By: Scott Beesinger
EQUIPMENT	Pump Type/ID#: Bladder Pump / SamplePro	Water Quality Meter/ID#: U-52 Horiba	PID Type/ID#: NA
	Water Level Indicator Type/ID#: Solinist 101	Other Equipment/ID#: NA	Decon Method: Liquinox & DI water
	Tubing Type/Diameter (in): 1/4"	Other Equipment/ID#: NA	PPE: Level D
WELL INFO	Casing Type / ID (in): PVC 2"	Unit Casing Volume (gal/lin ft) (A): 0.160	Initial Depth to Water (ft) (B): 28.28
	Total Well Depth (ft) (C): 33.33	Water Column Thickness (ft) (C-B): 5.05	2nd Depth to Water(pre-purge): 28.28
	Screened Interval: 21.83 - 31.83	Weather: CLEAR	Well Volume (gal) (A*(C-B)): 0.81
	Pump placement: 30.00	Well Condition: GOOD	Ferrous Iron: 4.03 mg/L

CASING INFO											
Casing ID (in)	0.5	0.75	1.0	1.5	2.0	3.0	4.0	5.0	6.0	8.0
Unit Casing Volume (gal/lin ft)	0.016	0.020	0.043	0.103	0.160	0.378	0.652	1.03	1.48	2.57

DATE	TIME (24 Hr)	Water Level (BTOC)	Volume Removed (Gals)	Pumping Rate (ml/min)	Temp (C)	pH	Cond (mS/cm)	DO (mg/l)	Turb (NTU)	ORP (mV)	Remarks (odor, clarity, etc.)
6/2/21	0830	28.35	.13	100	21.67	6.59	9.69	0.70	8.6	-116	
	0835	28.41	.26	100	21.58	6.61	9.53	0.20	5.5	-131	
	0840	28.45	.39	100	21.49	6.63	9.31	0.05	5.0	-142	
	0845	28.48	.52	100	21.45	6.64	9.30	0.05	4.5	-143	
	0850	28.51	.65	100	21.41	6.64	9.29	0.04	3.9	-143	
	0855	28.53	.78	100	21.38	6.64	9.29	0.04	3.2	-144	

Colorimeter Results

Time	Analyte	Dilution	Result	Units

Conversions	Stabilization Criteria			
1 L = 0.26 gals	Temp	+/- 10%	DO	+/- 10%
1 gal = 3.79 L	pH	+/- 0.1	Turb	+/- 10%
	Cond	+/- 10%	ORP	+/- 10

No. Containers/Volume/Type			Preserv.	Filter (Y/N)	Method	Parameter(s)
3	40ml Glass		HCl	N		VOC
3	40ml Glass		HCl	N		MEK
2	40ml Amber		H2SO4	N		TOC
2	40ml Glass		NA	N		CO2
1	200ml Plastic		NA	N		Anions
1	250ml Amber		H3PO4	N		VFA
1	120ml Plastic		HNO3	N		Arsenic
Sample ID: 35AWW08-060221				Sample Time: 0855		
1	1 Liter Amber		NA	N		DHC/DHB

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GROUNDWATER SAMPLE COLLECTION FORM

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LOCATION	Site: LHAAP - 58	Location ID: 35AWW09	Date: 6/2/21
	Project Name: LHAAP	Project No./Phase: NWO1312.0150	Recorded By: Scott Beesinger
EQUIPMENT	Pump Type/ID#: Bladder Pump / SamplePro	Water Quality Meter/ID#: U-52 Horiba	PID Type/ID#: NA
	Water Level Indicator Type/ID#: Solinist 101	Other Equipment/ID#: NA	Decon Method: Liquinox & DI water
	Tubing Type/Diameter (in): 1/4"	Other Equipment/ID#: NA	PPE: Level D
WELL INFO	Casing Type / ID (in): PVC 2"	Unit Casing Volume (gal/lin ft) (A): 0.160	Initial Depth to Water (ft) (B): 30.88
	Total Well Depth (ft) (C): 42.12	Water Column Thickness (ft) (C-B): 11.24	2nd Depth to Water(pre-purge): 30.88
	Screened Interval: 26.69 - 41.29	Weather: CLEAR	Well Volume (gal) (A*(C-B)): 1.83
	Pump placement: 33.99	Well Condition: GOOD	Ferrous Iron: 0.48 mg/L

CASING INFO										
Casing ID (in)	0.5	0.75	1.0	1.5	2.0	3.0	4.0	5.0	6.0	8.0
Unit Casing Volume (gal/lin ft)	0.016	0.020	0.043	0.103	0.160	0.378	0.652	1.03	1.48	2.57

DATE	TIME (24 Hr)	Water Level (BTOC)	Volume Removed (Gals)	Pumping Rate (ml/min)	Temp (C)	pH	Cond (mS/cm)	DO (mg/l)	Turb (NTU)	ORP (mV)	Remarks (odor, clarity, etc.)
6/2/21	0645	30.95	.13	100	22.01	5.91	5.55	0.95	56.5	199	
↓	0650	31.01	.26	100	21.49	5.71	5.60	0.78	~~48.8~~	218	
	0655	31.05	.39	100	21.23	5.59	5.72	0.50	44.7	253	
	0700	31.08	.52	100	21.17	5.58	5.73	0.49	44.1	254	
	0705	31.10	.65	100	21.12	5.58	5.74	0.48	43.6	255	
↓	0710	31.12	.78	100	21.08	5.57	5.74	0.47	43.2	256	

Colorimeter Results

Time	Analyte	Dilution	Result	Units

Conversions	Stabilization Criteria			
1 L = 0.26 gals	Temp	+/- 10%	DO	+/- 10%
1 gal = 3.79 L	pH	+/- 0.1	Turb	+/- 10%
	Cond	+/- 10%	ORP	+/- 10

No. Containers/Volume/Type		Preserv.	Filter (Y/N)	Method	Parameter(s)
6	40ml Glass	HCL	N		VOC
6	40ml Glass	HCL	N		MEE
4	40ml Amber	H2SO4	N		TOC
4	40ml Glass	NA	N		CO2
2	200ml Plastic	NA	N		Anions
2	120ml Plastic	HNO3	N		Arsenic
1	1 Liter Glass	NA	N		DHC/DHB
Sample ID: 35AWW09_060221			Sample Time: 0710		
2	250 ml Amber	H3PO4	N		VFA

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GROUNDWATER SAMPLE COLLECTION FORM

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LOCATION	Site: LHAAP - 58	Location ID: 35AWW10	Date: 6/1/21
	Project Name: LHAAP	Project No./Phase: NWO1312.0150	Recorded By: Scott Beesinger
EQUIPMENT	Pump Type/ID#: Bladder Pump / SamplePro	Water Quality Meter/ID#: U-52 Horiba	PID Type/ID#: NA
	Water Level Indicator Type/ID#: Solinist 101	Other Equipment/ID#: NA	Decon Method: Liquinox & DI water
	Tubing Type/Diameter (in): 1/4"	Other Equipment/ID#: NA	PPE: Level D
WELL INFO	Casing Type / ID (in): PVC 2"	Unit Casing Volume (gal/lin ft) (A): 0.160	Initial Depth to Water (ft) (B): 15.55
	Total Well Depth (ft) (C): 33.65	Water Column Thickness (ft) (C-B): 18.10	2nd Depth to Water(pre-purge): 15.55
	Screened Interval: 18.16 - 32.76	Weather: Cloudy	Well Volume (gal) (A*(C-B)): 2.90
	Pump placement: 25.46	Well Condition: BROKEN HINGE	Ferrous Iron: NA

CASING INFO											
Casing ID (in)	0.5	0.75	1.0	1.5	2.0	3.0	4.0	5.0	6.0	8.0
Unit Casing Volume (gal/lin ft)	0.016	0.020	0.043	0.103	0.160	0.378	0.652	1.03	1.48	2.57

DATE	TIME (24 Hr)	Water Level (BTOC)	Volume Removed (Gals)	Pumping Rate (ml/min)	Temp (C)	pH	Cond (mS/cm)	DO (mg/l)	Turb (NTU)	ORP (mV)	Remarks (odor, clarity, etc.)
6/1/21	0845	15.62	.13	100	23.90	6.38	0.297	2.27	19.1	135	
↓	0850	15.67	.26	100	23.58	5.95	0.282	2.12	10.5	163	
↓	0855	15.70	.39	100	23.59	5.81	0.279	2.03	8.8	175	
↓	0900	15.72	.52	100	23.61	5.81	0.278	2.01	7.7	176	
↓	0905	15.73	.65	100	23.62	5.80	0.278	1.99	6.8	177	
↓	0910	15.74	.78	100	23.63	5.80	0.278	1.97	6.4	177	

Colorimeter Results					No. Containers/Volume/Type			Preserv.	Filter (Y/N)	Method	Parameter(s)
Time	Analyte	Dilution	Result	Units		9	40ml Glass	HCl	N		VOC

Conversions	Stabilization Criteria					
1 L = 0.26 gals	Temp	+/- 10%	DO	+/- 10%		
1 gal = 3.79 L	pH	+/- 0.1	Turb	+/- 10%		
	Cond	+/- 10%	ORP	+/- 10	Sample ID: 35AWW10_060121	Sample Time: [redacted] 0910

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GROUNDWATER SAMPLE COLLECTION FORM

LOCATION	Site: LHAAP - 58	Location ID: 35AWW11	Date: 6/2/21
	Project Name: LHAAP	Project No./Phase: NWO1312.0150	Recorded By: Scott Beesinger
EQUIPMENT	Pump Type/ID#: Bladder Pump / SamplePro	Water Quality Meter/ID#: U-52 Horiba	PID Type/ID#: NA
	Water Level Indicator Type/ID#: Solinist 101	Other Equipment/ID#: NA	Decon Method: Liquinox & DI water
	Tubing Type/Diameter (in): 1/4"	Other Equipment/ID#: NA	PPE: Level D
WELL INFO	Casing Type / ID (in): PVC 2"	Unit Casing Volume (gal/lin ft) (A): 0.160	Initial Depth to Water (ft) (B): 28.30
	Total Well Depth (ft) (C): 37.88	Water Column Thickness (ft) (C-B): 9.58	2nd Depth to Water(pre-purge): 28.30
	Screened Interval: 22.24 - 36.84	Weather: CLEAR	Well Volume (gal) (A*(C-B)): 1.53
	Pump placement: 29.54	Well Condition: GOOD	Ferrous Iron: 4.21 mg/L

CASING INFO										
Casing ID (in)	0.5	0.75	1.0	1.5	2.0	3.0	4.0	5.0	6.0	8.0
Unit Casing Volume (gal/lin ft)	0.016	0.020	0.043	0.103	0.160	0.378	0.652	1.03	1.48	2.57

DATE	TIME (24 Hr)	Water Level (BTOC)	Volume Removed (Gals)	Pumping Rate (ml/min)	Temp (C)	pH	Cond (mS/cm)	DO (mg/l)	Turb (NTU)	ORP (mV)	Remarks (odor, clarity, etc.)
6/2/21	0920	28.37	.13	100	22.11	6.27	6.50	0.80	7.9	-39	
	0925	28.43	.26	100	21.65	6.10	6.45	0.24	6.8	-26	
	0930	28.47	.39	100	21.60	5.98	6.49	0.07	6.1	-27	
	0935	28.50	.52	100	21.56	5.97	6.50	0.07	5.5	-27	
	0940	28.53	.65	100	21.52	5.97	6.51	0.06	4.9	-28	
	0945	28.56	.78	100	21.48	5.96	6.51	0.06	4.3	-28	

Colorimeter Results

Time	Analyte	Dilution	Result	Units

Conversions	**Stabilization Criteria**			
1 L = 0.26 gals	Temp	+/- 10%	DO	+/- 10%
1 gal = 3.79 L	pH	+/- 0.1	Turb	+/- 10%
	Cond	+/- 10%	ORP	+/- 10

No. Containers/Volume/Type			Preserv.	Filter (Y/N)	Method	Parameter(s)
	3	40ml Glass	HCL	N		VOC
	3	40ml Glass	HCL	N		MEE
	2	40ml Amber	H_2SO_4	N		TOC
	2	40ml Glass	NA	N		CO2
	1	200ml Plastic	NA	N		Anions
	1	250ml Amber	H_3PO_4	N		VFA
	1	1 Liter Glass	NA	N		DHC/DHB

Sample ID: 35AWW11-060221 Sample Time: 0945

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GROUNDWATER SAMPLE COLLECTION FORM

LOCATION	Site: LHAAP - 58	Location ID: 35AWW12	Date: 6/2/21
	Project Name: LHAAP	Project No./Phase: NWO1312.0150	Recorded By: Scott Beesinger
EQUIPMENT	Pump Type/ID#: Bladder Pump / SamplePro	Water Quality Meter/ID#: U-52 Horiba	PID Type/ID#: NA
	Water Level Indicator Type/ID#: Solinist 101	Other Equipment/ID#: NA	Decon Method: Liquinox & DI water
	Tubing Type/Diameter (in): 1/4"	Other Equipment/ID#: NA	PPE: Level D
WELL INFO	Casing Type / ID (in): PVC 2"	Unit Casing Volume (gal/lin ft) (A): 0.160	Initial Depth to Water (ft) (B): 28.00
	Total Well Depth (ft) (C): 37.55	Water Column Thickness (ft) (C-B): 9.55	2nd Depth to Water(pre-purge): 28.00
	Screened Interval: 22.17 - 36.77	Weather: CLEAR	Well Volume (gal) (A*(C-B)): 1.53
	Pump placement: 29.47	Well Condition: BROKEN HINGE	Ferrous Iron: NA

CASING INFO											
Casing ID (in)	0.5	0.75	1.0	1.5	2.0	3.0	4.0	5.0	6.0	8.0
Unit Casing Volume (gal/lin ft)	0.016	0.020	0.043	0.103	0.160	0.378	0.652	1.03	1.48	2.57

DATE	TIME (24 Hr)	Water Level (BTOC)	Volume Removed (Gals)	Pumping Rate (ml/min)	Temp (C)	pH	Cond (mS/cm)	DO (mg/l)	Turb (NTU)	ORP (mV)	Remarks (odor, clarity, etc.)
6/2/21	1245	28.08	.13	100	24.36	6.18	2.10	0.92	5.3	58	
	1250	28.14	.26	100	23.67	5.70	2.06	0.77	4.0	115	
	1255	28.19	.39	100	23.48	5.45	2.03	0.71	2.9	153	
	1300	28.22	.52	100	23.43	5.44	2.02	0.70	1.4	154	
	1305	28.25	.65	100	23.37	5.43	2.02	0.69	0.7	155	
	1310	28.28	.78	100	23.32	5.43	2.02	0.68	0.0	156	

Colorimeter Results

Time	Analyte	Dilution	Result	Units

Conversions	Stabilization Criteria			
1 L = 0.26 gals	Temp	+/- 10%	DO	+/- 10%
1 gal = 3.79 L	pH	+/- 0.1	Turb	+/- 10%
	Cond	+/- 10%	ORP	+/- 10

No. Containers/Volume/Type			Preserv.	Filter (Y/N)	Method	Parameter(s)
	3	40ml GLASS	HCL	N		VOC
Sample ID: 35AWW12_060221				Sample Time: 1310		

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GROUNDWATER SAMPLE COLLECTION FORM

LOCATION	Site: LHAAP - 58	Location ID: 35AWW13	Date: 6/1/21
	Project Name: LHAAP	Project No./Phase: NWO1312.0150	Recorded By: Scott Beesinger
EQUIPMENT	Pump Type/ID#: Bladder Pump / SamplePro	Water Quality Meter/ID#: U-52 Horiba	PID Type/ID#: NA
	Water Level Indicator Type/ID#: Solinist 101	Other Equipment/ID#: NA	Decon Method: Liquinox & DI water
	Tubing Type/Diameter (in): 1/4"	Other Equipment/ID#: NA	PPE: Level D
WELL INFO	Casing Type / ID (in): PVC 2"	Unit Casing Volume (gal/lin ft) (A): 0.160	Initial Depth to Water (ft) (B): 22.95
	Total Well Depth (ft) (C): 39.28	Water Column Thickness (ft) (C-B): 16.33	2nd Depth to Water(pre-purge): 22.95
	Screened Interval: 24.72 - 39.32	Weather: Cloudy	Well Volume (gal) (A*(C-B)): 2.61
	Pump placement: 32.02	Well Condition: Good	Ferrous Iron: NA

CASING INFO											
Casing ID (in)	0.5	0.75	1.0	1.5	2.0	3.0	4.0	5.0	6.0	8.0
Unit Casing Volume (gal/lin ft)	0.016	0.020	0.043	0.103	0.160	0.378	0.652	1.03	1.48	2.57

DATE	TIME (24 Hr)	Water Level (BTOC)	Volume Removed (Gals)	Pumping Rate (ml/min)	Temp (C)	pH	Cond (mS/cm)	DO (mg/l)	Turb (NTU)	ORP (mV)	Remarks (odor, clarity, etc.)
6/1/21	0805	23.02	.13	100	23.33	6.41	1.31	0.73	79.7	82	
	0810	23.08	.26	100	23.50	6.08	1.39	0.33	73.5	122	
	0815	23.12	.39	100	23.58	5.95	1.43	0.12	69.9	151	
	0820	23.15	.52	100	23.64	5.94	1.44	0.12	69.4	152	
	0825	23.17	.65	100	23.69	5.93	1.44	0.11	68.8	153	
	0830	23.19	.78	100	23.72	5.93	1.45	0.11	68.3	154	

Colorimeter Results

Time	Analyte	Dilution	Result	Units

Conversions	Stabilization Criteria			
1 L = 0.26 gals	Temp	+/- 10%	DO	+/- 10%
1 gal = 3.79 L	pH	+/- 0.1	Turb	+/- 10%
	Cond	+/- 10%	ORP	+/- 10

No. Containers/Volume/Type			Preserv.	Filter (Y/N)	Method	Parameter(s)
	3	40ml Glass	HCL	N		VOC

Sample ID: 35AWW13_060121 Sample Time: 0830

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GROUNDWATER SAMPLE COLLECTION FORM

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LOCATION	Site: LHAAP - 58	Location ID: 35BWW14	Date: 6/1/21
	Project Name: LHAAP	Project No./Phase: NWO1312.0150	Recorded By: Scott Beesinger
EQUIPMENT	Pump Type/ID#: Bladder Pump / SamplePro	Water Quality Meter/ID#: U-52 Horiba	PID Type/ID#: NA
	Water Level Indicator Type/ID#: Solinist 101	Other Equipment/ID#: NA	Decon Method: Liquinox & DI water
	Tubing Type/Diameter (in): 1/4"	Other Equipment/ID#: NA	PPE: Level D
WELL INFO	Casing Type / ID (in): PVC 2"	Unit Casing Volume (gal/lin ft) (A) 0.16	Initial Depth to Water (ft) (B): 27.80
	Total Well Depth (ft) (C): 32.28	Water Column Thickness (ft) (C-B): 4.48	2nd Depth to Water(pre-purge): 27.80
	Screened Interval: 17.06-31.76	Weather: CLOUDY	Well Volume (gal) (A*(C-B)): 0.72
	Pump placement: NA BAILED WELL	Well Condition: GOOD	Ferrous Iron: NA

CASING INFO											
Casing ID (in)	0.5	0.75	10	1.5	2.0	3.0	4.0	5.0	6.0	8.0
Unit Casing Volume (gal/lin ft)	0.016	0.020	0.043	0.103	0.160	0.378	0.652	1.03	1.48	2.57

DATE	TIME (24 Hr)	Water Level (BTOC)	Volume Removed (Gals)	Pumping Rate (ml/min)	Temp (C)	pH	Cond (mS/cm)	DO (mg/l)	Turb (NTU)	ORP (mV)	Remarks (odor, clarity, etc.)
6/1/21	0657	27.80	NA	NA							BAILING WELL
6/1/21	0700	32.20	.75	NA							BAILED .75 GALLONS RAN DRY
6/1/21	1300	27.82	NA	NA	22.50	5.81	0.851	8.39	16.3	88	

Colorimeter Results

Time	Analyte	Dilution	Result	Units

Conversions	Stabilization Criteria			
1 L = 0.26 gals	Temp	+/- 10%	DO	+/- 10%
1 gal = 3.79 L	pH	+/- 0.1	Turb	+/- 10%
	Cond	+/- 10%	ORP	+/- 10

No. Containers/Volume/Type			Preserv.	Filter (Y/N)	Method	Parameter(s)
	3	40 ml Glass	HCL	N		VOC

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GROUNDWATER SAMPLE COLLECTION FORM

LOCATION	Site: LHAAP - 58	Location ID: 35AWW15	Date: 6/1/21
	Project Name: LHAAP	Project No./Phase: NWO1312.0150	Recorded By: Scott Beesinger
EQUIPMENT	Pump Type/ID#: Bladder Pump / SamplePro	Water Quality Meter/ID#: U-52 Horiba	PID Type/ID#: NA
	Water Level Indicator Type/ID#: Solinist 101	Other Equipment/ID#: NA	Decon Method: Liquinox & DI water
	Tubing Type/Diameter (in): 1/4"	Other Equipment/ID#: NA	PPE: Level D
WELL INFO	Casing Type / ID (in): PVC 2"	Unit Casing Volume (gal/lin ft) (A): 0.160	Initial Depth to Water (ft) (B): 16.95
	Total Well Depth (ft) (C): 41.30	Water Column Thickness (ft) (C-B): 24.35	2nd Depth to Water(pre-purge): 16.95
	Screened Interval: 25.67-40.37	Weather: Cloudy	Well Volume (gal) (A*(C-B)): 3.90
	Pump placement: 33.02	Well Condition: Broken Hinge	Ferrous Iron: NA

CASING INFO										
Casing ID (in)	0.5	0.75	1.0	1.5	2.0	3.0	4.0	5.0	6.0	8.0
Unit Casing Volume (gal/lin ft)	0.016	0.020	0.043	0.103	0.160	0.378	0.652	1.03	1.48	2.57

DATE	TIME (24 Hr)	Water Level (BTOC)	Volume Removed (Gals)	Pumping Rate (ml/min)	Temp (C)	pH	Cond (mS/cm)	DO (mg/l)	Turb (NTU)	ORP (mV)	Remarks (odor, clarity, etc.)
6/1/21	0930	17.02	.13	100	22.75	6.55	4.59	0.77	318	113	
	0935	17.08	.26	100	22.51	6.12	5.60	0.35	305	145	
	0940	17.12	.39	100	22.37	5.95	6.03	0.21	300	157	
	0945	17.14	.52	100	22.33	5.94	6.04	0.21	299	158	
	0950	17.16	.65	100	22.30	5.94	6.05	0.20	298	158	
	0955	17.17	.78	100	22.27	5.93	6.05	0.20	298	159	

Colorimeter Results

Time	Analyte	Dilution	Result	Units

Conversions	**Stabilization Criteria**			
1 L = 0.26 gals	Temp	+/- 10%	DO	+/- 10%
1 gal = 3.79 L	pH	+/- 0.1	Turb	+/- 10%
	Cond	+/- 10%	ORP	+/- 10

No. Containers/Volume/Type			Preserv.	Filter (Y/N)	Method	Parameter(s)
	3	40 ml Glass	HCL	N		VOC

Sample ID: 35AWW15_060(21 Sample Time: 0955

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GROUNDWATER SAMPLE COLLECTION FORM

LOCATION	Site: LHAAP - 58	Location ID: 35AWW16	Date: 6/1/21
	Project Name: LHAAP	Project No./Phase: NWO1312.0150	Recorded By: Scott Beesinger
EQUIPMENT	Pump Type/ID#: Bladder Pump / SamplePro	Water Quality Meter/ID#: U-52 Horiba	PID Type/ID#: NA
	Water Level Indicator Type/ID#: Solinist 101	Other Equipment/ID#: NA	Decon Method: Liquinox & DI water
	Tubing Type/Diameter (in): 1/4"	Other Equipment/ID#: NA	PPE: Level D
WELL INFO	Casing Type / ID (in): PVC 2"	Unit Casing Volume (gal/lin ft) (A): 0.160	Initial Depth to Water (ft) (B): 16.28
	Total Well Depth (ft) (C): 37.45	Water Column Thickness (ft) (C-B): 21.17	2nd Depth to Water(pre-purge): 16.28
	Screened Interval: 21.75 - 36.45	Weather: Cloudy	Well Volume (gal) (A*(C-B)): 3.39
	Pump placement: 29.10	Well Condition: Good	Ferrous Iron: NA

CASING INFO											
Casing ID (in)	0.5	0.75	1.0	1.5	2.0	3.0	4.0	5.0	6.0	8.0
Unit Casing Volume (gal/lin ft)	0.016	0.020	0.043	0.103	0.160	0.378	0.652	1.03	1.48	2.57

DATE	TIME (24 Hr)	Water Level (BTOC)	Volume Removed (Gals)	Pumping Rate (ml/min)	Temp (C)	pH	Cond (mS/cm)	DO (mg/l)	Turb (NTU)	ORP (mV)	Remarks (odor, clarity, etc.)
6/1/21	1010	16.35	.13	100	22.13	6.62	10.8	0.89	295	96	
	1015	16.40	.26	100	22.89	6.30	11.4	0.54	267	75	
	1020	16.43	.39	100	22.85	6.12	11.2	0.33	255	83	
	1025	16.45	.52	100	22.80	6.11	11.1	0.32	254	84	
	1030	16.47	.65	100	22.76	6.10	11.1	0.31	253	84	
	1035	16.46	.78	100	22.72	6.10	11.1	0.31	252	85	

Colorimeter Results

Time	Analyte	Dilution	Result	Units

Conversions	Stabilization Criteria			
1 L = 0.26 gals	Temp	+/- 10%	DO	+/- 10%
1 gal = 3.79 L	pH	+/- 0.1	Turb	+/- 10%
	Cond	+/- 10%	ORP	+/- 10

No. Containers/Volume/Type			Preserv.	Filter (Y/N)	Method	Parameter(s)
	9	40 ml Glass	HCL	N		VOC

Sample ID: 35AWW16_060121 Sample Time: 1035

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GROUNDWATER SAMPLE COLLECTION FORM

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LOCATION	Site: LHAAP - 58	Location ID: 35AWW17	Date: 6/3/21
	Project Name: LHAAP	Project No./Phase: NWO1312.0150	Recorded By: Scott Beesinger
EQUIPMENT	Pump Type/ID#: Bladder Pump / SamplePro	Water Quality Meter/ID#: U-52 Horiba	PID Type/ID#: NA
	Water Level Indicator Type/ID#: Solinist 101	Other Equipment/ID#: NA	Decon Method: Liquinox & DI water
	Tubing Type/Diameter (in): 1/4"	Other Equipment/ID#: NA	PPE: Level D
WELL INFO	Casing Type / ID (in): PVC 2"	Unit Casing Volume (gal/lin ft) (A): 0.160	Initial Depth to Water (ft) (B): 23.02
	Total Well Depth (ft) (C): 42.30	Water Column Thickness (ft) (C-B): 19.28	2nd Depth to Water(pre-purge): 23.02
	Screened Interval: 26.97 - 41.67	Weather: CLEAR	Well Volume (gal) (A*(C-B)): 3.08
	Pump placement: 34.32	Well Condition: BROKEN HINGE	Ferrous Iron: NA

CASING INFO											
Casing ID (in)	0.5	0.75	1.0	1.5	2.0	3.0	4.0	5.0	6.0	8.0
Unit Casing Volume (gal/lin ft)	0.016	0.020	0.043	0.103	0.160	0.378	0.652	1.03	1.48	2.57

DATE	TIME (24 Hr)	Water Level (BTOC)	Volume Removed (Gals)	Pumping Rate (ml/min)	Temp (C)	pH	Cond (mS/cm)	DO (mg/l)	Turb (NTU)	ORP (mV)	Remarks (odor, clarity, etc.)
6/3/21	1105	23.10	.13	100	22.45	6.33	2.32	0.70	157	77	
	1110	23.15	.26	100	21.91	5.89	2.45	0.23	132	112	
	1115	23.19	.39	100	21.77	5.77	2.51	0.08	120	125	
	1120	23.21	.52	100	21.73	5.76	2.52	0.08	119	126	
	1125	23.23	.65	100	21.69	5.76	2.53	0.07	118	127	
	1130	23.24	.78	100	21.65	5.75	2.53	0.07	117	127	

Colorimeter Results

Time	Analyte	Dilution	Result	Units

Conversions	Stabilization Criteria			
1 L = 0.26 gals	Temp	+/- 10%	DO	+/- 10%
1 gal = 3.79 L	pH	+/- 0.1	Turb	+/- 10%
	Cond	+/- 10%	ORP	+/- 10

No. Containers/Volume/Type			Preserv.	Filter (Y/N)	Method	Parameter(s)
	3	40ml Glass	HCl	N		VOC

Sample ID: 35AWW17_060321 Sample Time: 1130

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GROUNDWATER SAMPLE COLLECTION FORM

LOCATION	Site: LHAAP - 58		Location ID: 35AWW18		Date: 6/1/21
	Project Name: LHAAP		Project No./Phase: NWO1312.0150		Recorded By: Scott Beesinger
EQUIPMENT	Pump Type/ID#: Bladder Pump / SamplePro		Water Quality Meter/ID#: U-52 Horiba		PID Type/ID#: NA
	Water Level Indicator Type/ID#: Solinist 101		Other Equipment/ID#: NA		Decon Method: Liquinox & DI water
	Tubing Type/Diameter (in): 1/4"		Other Equipment/ID#: NA		PPE: Level D
WELL INFO	Casing Type / ID (in): PVC 2"		Unit Casing Volume (gal/lin ft) (A): 0.160		Initial Depth to Water (ft) (B): 23.63
	Total Well Depth (ft) (C): 42.08		Water Column Thickness (ft) (C-B): 18.45		2nd Depth to Water(pre-purge): 23.63
	Screened Interval: 26.85-41.55		Weather: Cloudy		Well Volume (gal) (A*(C-B)): 2.95
	Pump placement: 34.20		Well Condition: Good		Ferrous Iron: NA

CASING INFO										
Casing ID (in)	0.5	0.75	1.0	1.5	2.0	3.0	4.0	5.0	6.0	8.0
Unit Casing Volume (gal/lin ft)	0.016	0.020	0.043	0.103	0.160	0.378	0.652	1.03	1.48	2.57

DATE	TIME (24 Hr)	Water Level (BTOC)	Volume Removed (Gals)	Pumping Rate (ml/min)	Temp (C)	pH	Cond (mS/cm)	DO (mg/l)	Turb (NTU)	ORP (mV)	Remarks (odor, clarity, etc.)
6/1/21	1055	23.70	.13	100	23.90	6.85	9.50	1.17	98.7	-15	
	1100	23.76	.26	100	22.88	6.65	9.55	1.06	91.5	1	
	1105	23.80	.39	100	22.60	6.35	9.14	1.02	87.7	5	
	1110	23.82	.52	100	22.54	6.34	9.13	1.00	87.3	5	
	1115	23.84	.65	100	22.49	6.32	9.12	0.98	86.9	6	
	1120	23.86	.78	100	22.46	6.32	9.11	0.97	86.2	6	

Colorimeter Results					No. Containers/Volume/Type			Preserv.	Filter (Y/N)	Method	Parameter(s)
Time	Analyte	Dilution	Result	Units		3	40ml Glass	HCL	N		VOC

Conversions	Stabilization Criteria			
1 L = 0.26 gals	Temp	+/- 10%	DO	+/- 10%
1 gal = 3.79 L	pH	+/- 0.1	Turb	+/- 10%
	Cond	+/- 10%	ORP	+/- 10

Sample ID: 35AWW18_060121 Sample Time: 1120

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GROUNDWATER SAMPLE COLLECTION FORM

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LOCATION	Site: LHAAP - 58	Location ID: 35AWW19	Date: 6/3/21
	Project Name: LHAAP	Project No./Phase: NWO1312.0150	Recorded By: Scott Beesinger
EQUIPMENT	Pump Type/ID#: Bladder Pump / SamplePro	Water Quality Meter/ID#: U-52 Horiba	PID Type/ID#: NA
	Water Level Indicator Type/ID#: Solinist 101	Other Equipment/ID#: NA	Decon Method: Liquinox & DI water
	Tubing Type/Diameter (in): 1/4"	Other Equipment/ID#: NA	PPE: Level D
WELL INFO	Casing Type / ID (in): PVC 2"	Unit Casing Volume (gal/lin ft) (A): 0.160	Initial Depth to Water (ft) (B): 23.98
	Total Well Depth (ft) (C): 32.43	Water Column Thickness (ft) (C-B): 8.45	2nd Depth to Water(pre-purge): 23.98
	Screened Interval: 17.29 - 31.39	Weather: CLEAR	Well Volume (gal) (A*(C-B)): 1.35
	Pump placement: 25.00	Well Condition: BROKEN HINGE	Ferrous Iron: 2.60 mg/L

CASING INFO											
Casing ID (in)	0.5	0.75	1.0	1.5	2.0	3.0	4.0	5.0	6.0	8.0
Unit Casing Volume (gal/lin ft)	0.016	0.020	0.043	0.103	0.160	0.378	0.652	1.03	1.48	2.57

DATE	TIME (24 Hr)	Water Level (BTOC)	Volume Removed (Gals)	Pumping Rate (ml/min)	Temp (C)	pH	Cond (mS/cm)	DO (mg/l)	Turb (NTU)	ORP (mV)	Remarks (odor, clarity, etc.)
6/3/21	0655	24.05	.13	100	20.95	6.13	3.65	0.85	17.3	96	
	0700	24.11	.26	100	20.53	5.48	3.90	0.36	13.5	105	
	0705	24.15	.39	100	20.46	5.33	3.91	0.12	11.8	120	
	0710	24.18	.52	100	20.41	5.33	3.92	0.12	11.3	121	
	0715	24.20	.65	100	20.37	5.32	3.92	0.11	10.7	121	
	0720	24.22	.78	100	20.34	5.32	3.92	0.11	10.4	122	

Colorimeter Results

Time	Analyte	Dilution	Result	Units

Conversions	Stabilization Criteria			
1 L = 0.26 gals	Temp	+/- 10%	DO	+/- 10%
1 gal = 3.79 L	pH	+/- 0.1	Turb	+/- 10%
	Cond	+/- 10%	ORP	+/- 10

No. Containers	Volume/Type	Preserv.	Filter (Y/N)	Method	Parameter(s)
3	40 ml Glass	HCl	N		VOC
3	40ml Glass	HCl	N		MEE
2	40 ml Amber	H_2SO_4	N		~~H_2SO_4~~ TOC
2	40 ml Glass	NA	N		CO2
1	200 ml Plastic	NA	N		Anions
1	250 ml Amber	H_3PO_4	N		VFA
1	1 Liter Glass	NA	N		DHC/DHB

Sample ID: 35AWW19_060321 Sample Time: 0720

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GROUNDWATER SAMPLE COLLECTION FORM

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LOCATION	Site: LHAAP - 58	Location ID: 35AWW20	Date: 6/3/21
	Project Name: LHAAP	Project No./Phase: NWO1312.0150	Recorded By: Scott Beesinger
EQUIPMENT	Pump Type/ID#: Bladder Pump / SamplePro	Water Quality Meter/ID#: U-52 Horiba	PID Type/ID#: NA
	Water Level Indicator Type/ID#: Solinist 101	Other Equipment/ID#: NA	Decon Method: Liquinox & DI water
	Tubing Type/Diameter (in): 1/4"	Other Equipment/ID#: NA	PPE: Level D
WELL INFO	Casing Type / ID (in): PVC 2"	Unit Casing Volume (gal/lin ft) (A): 0.160	Initial Depth to Water (ft) (B): 16.95
	Total Well Depth (ft) (C): 36.05	Water Column Thickness (ft) (C-B): 19.1	2nd Depth to Water(pre-purge): 16.95
	Screened Interval: 20.94 - 35.64	Weather: CLEAR	Well Volume (gal) (A*(C-B)): 3.06
	Pump placement: 28.29	Well Condition: GOOD	Ferrous Iron: 0.75 mg/L

CASING INFO										
Casing ID (in)	0.5	0.75	1.0	1.5	2.0	3.0	4.0	5.0	6.0	8.0
Unit Casing Volume (gal/lin ft)	0.016	0.020	0.043	0.103	0.160	0.378	0.652	1.03	1.48	2.57

DATE	TIME (24 Hr)	Water Level (BTOC)	Volume Removed (Gals)	Pumping Rate (ml/min)	Temp (C)	pH	Cond (mS/cm)	DO (mg/l)	Turb (NTU)	ORP (mV)	Remarks (odor, clarity, etc.)
6/3/21	0835	17.02	.13	100	21.69	6.55	5.03	0.71	17.5	35	
	0840	17.08	.26	100	22.29	6.35	4.99	0.31	15.0	67	
	0845	17.12	.39	100	22.41	6.27	4.99	0.12	14.7	81	
	0850	17.14	.52	100	22.47	6.27	5.00	0.11	14.2	82	
	0855	17.16	.65	100	22.52	6.26	5.00	0.11	13.6	83	
	0900	17.17	.78	100	22.57	6.25	5.00	0.11	13.3	84	

Colorimeter Results

Time	Analyte	Dilution	Result	Units

Conversions	Stabilization Criteria			
1 L = 0.26 gals	Temp	+/- 10%	DO	+/- 10%
1 gal = 3.79 L	pH	+/- 0.1	Turb	+/- 10%
	Cond	+/- 10%	ORP	+/- 10

No. Containers/Volume/Type			Preserv.	Filter (Y/N)	Method	Parameter(s)
	3	40ml Glass	HCL	N		VOC
	3	40ml Glass	HCL	N		MEE
	2	40 ml Amber	H2SO4	N		TOC
	2	40ml Glass	NA	N		CO2
	1	200ml Plastic	NA	N		Anions
	1	250ml Amber	H3PO4	N		VFA
	1	120ml Plastic	HNO3	N		Arsenic
Sample ID: 35AWW20_060321				Sample Time: 0900		
	1	1 Liter Glass	NA	N		DRO/DRB

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GROUNDWATER SAMPLE COLLECTION FORM

LOCATION	Site: LHAAP - 58	Location ID: 35AWW21	Date: 6/1/21
	Project Name: LHAAP	Project No./Phase: NWO1312.0150	Recorded By: Scott Beesinger
EQUIPMENT	Pump Type/ID#: Bladder Pump / SamplePro	Water Quality Meter/ID#: U-52Horiba	PID Type/ID#: NA
	Water Level Indicator Type/ID#: Solinist 101	Other Equipment/ID#: NA	Decon Method: Liquinox & DI water
	Tubing Type/Diameter (in): 1/4"	Other Equipment/ID#: NA	PPE: Level D
WELL INFO	Casing Type / ID (in): PVC 2"	Unit Casing Volume (gal/lin ft) (A): 0.160	Initial Depth to Water (ft) (B): 30.70
	Total Well Depth (ft) (C): 42.80	Water Column Thickness (ft) (C-B): 12.10	2nd Depth to Water(pre-purge): 30.70
	Screened Interval: 27.56 - 42.26	Weather: Cloudy / RAIN	Well Volume (gal) (A*(C-B)): 1.94
	Pump placement: 34.85	Well Condition: BROKEN HINGE	Ferrous Iron: NA

CASING INFO											
Casing ID (in)	0.5	0.75	1.0	1.5	2.0	3.0	4.0	5.0	6.0	8.0
Unit Casing Volume (gal/lin ft)	0.016	0.020	0.043	0.103	0.160	0.378	0.652	1.03	1.48	2.57

DATE	TIME (24 Hr)	Water Level (BTOC)	Volume Removed (Gals)	Pumping Rate (ml/min)	Temp (C)	pH	Cond (mS/cm)	DO (mg/l)	Turb (NTU)	ORP (mV)	Remarks (odor, clarity, etc.)
6/1/21	1225	30.78	.13	100	22.61	5.55	2.47	1.31	68.3	185	
	1230	30.84	.26	100	21.97	5.33	2.54	1.02	60.5	221	
	1235	30.88	.39	100	21.93	5.27	2.60	0.86	57.6	257	
	1240	30.91	.52	100	21.90	5.26	2.61	0.85	57.1	258	
	1245	30.93	.65	100	21.87	5.24	2.62	0.84	56.5	258	
	1250	30.95	.78	100	21.84	5.24	2.62	0.84	56.0	259	

Colorimeter Results

Time	Analyte	Dilution	Result	Units

Conversions	**Stabilization Criteria**			
1 L = 0.26 gals	Temp	+/- 10%	DO	+/- 10%
1 gal = 3.79 L	pH	+/- 0.1	Turb	+/- 10%
	Cond	+/- 10%	ORP	+/- 10

No. Containers/Volume/Type			Preserv.	Filter (Y/N)	Method	Parameter(s)
	3	40ml Glass	HCL	N		VOC

Sample ID: 35AWW21_060121 Sample Time: 1250

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GROUNDWATER SAMPLE COLLECTION FORM

LOCATION	Site: LHAAP - 58	Location ID: 35AWW22	Date: 6/2/21
	Project Name: LHAAP	Project No./Phase: NWO1312.0150	Recorded By: Scott Beesinger
EQUIPMENT	Pump Type/ID#: Bladder Pump / SamplePro	Water Quality Meter/ID#: U-52 Horiba	PID Type/ID#: NA
	Water Level Indicator Type/ID#: Solinist 101	Other Equipment/ID#: NA	Decon Method: Liquinox & DI water
	Tubing Type/Diameter (in): 1/4"	Other Equipment/ID#: NA	PPE: Level D
WELL INFO	Casing Type / ID (in): PVC 2"	Unit Casing Volume (gal/lin ft) (A): 0.160	Initial Depth to Water (ft) (B): 32.10
	Total Well Depth (ft) (C): 37.68	Water Column Thickness (ft) (C-B): 5.58	2nd Depth to Water (pre-purge): 32.10
	Screened Interval: 22.77 - 36.77	Weather: CLEAR	Well Volume (gal) (A*(C-B)): 0.89
	Pump placement: [redacted] 34.00	Well Condition: BROKEN HINGE	Ferrous Iron: NA

CASING INFO											
Casing ID (in)	0.5	0.75	1.0	1.5	2.0	3.0	4.0	5.0	6.0	8.0
Unit Casing Volume (gal/lin ft)	0.016	0.020	0.043	0.103	0.160	0.378	0.652	1.03	1.48	2.57

DATE	TIME (24 Hr)	Water Level (BTOC)	Volume Removed (Gals)	Pumping Rate (ml/min)	Temp (C)	pH	Cond (mS/cm)	DO (mg/l)	Turb (NTU)	ORP (mV)	Remarks (odor, clarity, etc.)
6/2/21	1200	32.18	.13	100	24.38	6.12	8.06	1.08	17.4	43	
	1205	32.26	.26	100	23.66	5.78	8.15	0.83	8.3	101	
	1210	32.30	.39	100	23.31	5.53	8.20	0.77	4.0	135	
	1215	32.33	.52	100	23.27	5.53	8.21	0.76	2.2	136	
	1220	32.36	.65	100	23.23	5.52	8.21	0.75	1.3	137	
↓	1225	32.39	.78	100	23.19	5.51	8.21	0.75	0.8	138	

Colorimeter Results

Time	Analyte	Dilution	Result	Units

Conversions	Stabilization Criteria			
1 L = 0.26 gals	Temp	+/- 10%	DO	+/- 10%
1 gal = 3.79 L	pH	+/- 0.1	Turb	+/- 10%
	Cond	+/- 10%	ORP	+/- 10

No. Containers/Volume/Type			Preserv.	Filter (Y/N)	Method	Parameter(s)
	3	40ml Glass	HCL	N		VOC

Sample ID: 35AWW22_060221 Sample Time: 1225

bhate ENVIRONMENT INFRASTRUCTURE

GROUNDWATER SAMPLE COLLECTION FORM

LOCATION	Site: LHAAP - 58	Location ID: 35AWW23	Date: 6/3/21
	Project Name: LHAAP	Project No./Phase: NWO1312.0150	Recorded By: Scott Beesinger
EQUIPMENT	Pump Type/ID#: Bladder Pump / SamplePro	Water Quality Meter/ID#: U-52 Horiba	PID Type/ID#: NA
	Water Level Indicator Type/ID#: Solinist 101	Other Equipment/ID#: NA	Decon Method: Liquinox & DI water
	Tubing Type/Diameter (in): 1/4"	Other Equipment/ID#: NA	PPE: Level D
WELL INFO	Casing Type / ID (in): PVC 2"	Unit Casing Volume (gal/lin ft) (A): 0.160	Initial Depth to Water (ft) (B): 23.05
	Total Well Depth (ft) (C): 43.72	Water Column Thickness (ft) (C-B): 20.67	2nd Depth to Water (pre-purge): 23.05
	Screened Interval: 28.20 - 43.20	Weather: CLEAR	Well Volume (gal) (A*(C-B)): 3.31
	Pump placement: 35.70	Well Condition: GOOD	Ferrous Iron: 4.31 mg/L

CASING INFO											
Casing ID (in)	0.5	0.75	1.0	1.5	2.0	3.0	4.0	5.0	6.0	8.0
Unit Casing Volume (gal/lin ft)	0.016	0.020	0.043	0.103	0.160	0.378	0.652	1.03	1.48	2.57

DATE	TIME (24 Hr)	Water Level (BTOC)	Volume Removed (Gals)	Pumping Rate (ml/min)	Temp (C)	pH	Cond (mS/cm)	DO (mg/l)	Turb (NTU)	ORP (mV)	Remarks (odor, clarity, etc.)
6/3/21	0745	23.12	.13	100	21.17	6.29	4.51	0.69	9.2	-95	
	0750	23.18	.26	100	20.97	6.39	4.57	0.21	9.2	-120	
	0755	23.22	.39	100	20.93	6.43	4.58	0.05	9.4	-128	
	0800	23.25	.52	100	20.89	6.44	4.59	0.05	9.5	-128	
	0805	23.27	.65	100	20.86	6.44	4.59	0.04	9.6	-129	
	0810	23.29	.78	100	20.84	6.44	4.59	0.04	9.7	-129	

Colorimeter Results

Time	Analyte	Dilution	Result	Units

Conversions	**Stabilization Criteria**			
1 L = 0.26 gals	Temp	+/- 10%	DO	+/- 10%
1 gal = 3.79 L	pH	+/- 0.1	Turb	+/- 10%
	Cond	+/- 10%	ORP	+/- 10

No. Containers	Volume/Type	Preserv.	Filter (Y/N)	Method	Parameter(s)
3	40ml Glass	HCL	N		VOC
3	40ml Glass	HCL	N		MEE
2	40ml Amber	H2SO4	N		TOC
2	40ml Glass	NA	N		CO2
1	200ml Plastic	NA	N		ANIONS
1	250ml Amber	H3PO4	N		VFA
1	1 Liter Glass	NA	N		DHC/DHB

Sample ID: 35AWW23_060321 Sample Time: 0810

bhate ENVIRONMENT INFRASTRUCTURE

GROUNDWATER SAMPLE COLLECTION FORM

LOCATION	Site: LHAAP - 58	Location ID: 35AWW24	Date: 6/1/21
	Project Name: LHAAP	Project No./Phase: NWO1312.0150	Recorded By: Scott Beesinger
EQUIPMENT	Pump Type/ID#: Bladder Pump / SamplePro	Water Quality Meter/ID#: U-52 Horiba	PID Type/ID#: NA
	Water Level Indicator Type/ID#: Solinist 101	Other Equipment/ID#: NA	Decon Method: Liquinox & DI water
	Tubing Type/Diameter (in): 1/4"	Other Equipment/ID#: NA	PPE: Level D
WELL INFO	Casing Type / ID (in): PVC 2"	Unit Casing Volume (gal/lin ft) (A): 0.160	Initial Depth to Water (ft) (B): 23.15
	Total Well Depth (ft) (C): 35.03	Water Column Thickness (ft) (C-B): 11.88	2nd Depth to Water(pre-purge): 23.15
	Screened Interval: 25.10 - 35.10	Weather: CLOUDY	Well Volume (gal) (A*(C-B)): 1.90
	Pump placement: 30.10	Well Condition: GOOD	Ferrous Iron: NA

CASING INFO											
Casing ID (in)	0.5	0.75	1.0	1.5	2.0	3.0	4.0	5.0	6.0	8.0
Unit Casing Volume (gal/lin ft)	0.016	0.020	0.043	0.103	0.160	0.378	0.652	1.03	1.48	2.57

DATE	TIME (24 Hr)	Water Level (BTOC)	Volume Removed (Gals)	Pumping Rate (ml/min)	Temp (C)	pH	Cond (mS/cm)	DO (mg/l)	Turb (NTU)	ORP (mV)	Remarks (odor, clarity, etc.)
6/1/21	1140	23.23	.13	100	23.39	6.86	1.01	0.89	86.6	61	
↓	1145	23.29	.26	100	22.65	5.88	0.621	0.48	76.4	132	
	1150	23.33	.39	100	22.23	5.68	0.538	0.33	72.8	164	
	1155	23.36	.52	100	22.16	5.67	0.538	0.32	72.4	165	
	1200	23.38	.65	100	22.12	5.66	0.537	0.32	71.7	165	
↓	1205	23.40	.78	100	22.09	5.66	0.537	0.31	71.1	166	

Colorimeter Results					No. Containers/Volume/Type			Preserv.	Filter (Y/N)	Method	Parameter(s)
Time	Analyte	Dilution	Result	Units		6	40ml Glass	HCL	N		VOC
Conversions	**Stabilization Criteria**										
1 L = 0.26 gals	Temp	+/- 10%	DO	+/- 10%							
1 gal = 3.79 L	pH	+/- 0.1	Turb	+/- 10%							
	Cond	+/- 10%	ORP	+/- 10	Sample ID: 35AWW24_060121				Sample Time: 1205		

bhate ENVIRONMENT INFRASTRUCTURE

GROUNDWATER SAMPLE COLLECTION FORM

LOCATION	Site: LHAAP - 58	Location ID: LHSmw04	Date: 6/3/21
	Project Name: LHAAP	Project No./Phase: NWO1312.0150	Recorded By: Scott Beesinger
EQUIPMENT	Pump Type/ID#: Bladder Pump / SamplePro	Water Quality Meter/ID#: U-52 Horiba	PID Type/ID#: NA
	Water Level Indicator Type/ID#: Solinist 101	Other Equipment/ID#: NA	Decon Method: Liquinox & DI water
	Tubing Type/Diameter (in): 1/4"	Other Equipment/ID#: NA	PPE: Level D
WELL INFO	Casing Type / ID (in): PVC 4"	Unit Casing Volume (gal/lin ft) (A): 0.652	Initial Depth to Water (ft) (B): DRY
	Total Well Depth (ft) (C): 31.02	Water Column Thickness (ft) (C-B): NA	2nd Depth to Water(pre-purge): DRY
	Screened Interval: 21.11 - 31.11	Weather: CLEAR	Well Volume (gal) (A*(C-B)): NA
	Pump placement: NA	Well Condition: GOOD	Ferrous Iron: NA

CASING INFO											
Casing ID (in)	0.5	0.75	1.0	1.5	2.0	3.0	4.0	5.0	6.0	8.0
Unit Casing Volume (gal/lin ft)	0.016	0.020	0.043	0.103	0.160	0.378	0.652	1.03	1.48	2.57

DATE	TIME (24 Hr)	Water Level (BTOC)	Volume Removed (Gals)	Pumping Rate (ml/min)	Temp (C)	pH	Cond (mS/cm)	DO (mg/l)	Turb (NTU)	ORP (mV)	Remarks (odor, clarity, etc.)
6/3/21			DRY WELL								

Colorimeter Results				
Time	Analyte	Dilution	Result	Units

Conversions	Stabilization Criteria			
1 L = 0.26 gals	Temp	+/- 10%	DO	+/- 10%
1 gal = 3.79 L	pH	+/- 0.1	Turb	+/- 10%
	Cond	+/- 10%	ORP	+/- 10

No. Containers/Volume/Type			Preserv.	Filter (Y/N)	Method	Parameter(s)
Sample ID:			Sample Time:			

bhate ENVIRONMENT INFRASTRUCTURE

GROUNDWATER SAMPLE COLLECTION FORM

Page 1 of 1

LOCATION	Site: LHAAP - 58			Location ID: LHSmw06						Date: 6/3/21			
	Project Name: LHAAP			Project No./Phase: NWO1312.0150						Recorded By: Scott Beesinger			
EQUIPMENT	Pump Type/ID#: Bladder Pump / SamplePro			Water Quality Meter/ID#: U-52 Horiba						PID Type/ID#: NA			
	Water Level Indicator Type/ID#: Solinist 101			Other Equipment/ID#: NA						Decon Method: Liquinox & DI water			
	Tubing Type/Diameter (in): 1/4"			Other Equipment/ID#: NA						PPE: Level D			
WELL INFO	Casing Type / ID (in): PVC 4"			Unit Casing Volume (gal/lin ft) (A): 0.652						Initial Depth to Water (ft) (B): 16.07			
	Total Well Depth (ft) (C): 23.45			Water Column Thickness (ft) (C-B): 7.38						2nd Depth to Water (pre-purge): 16.07			
	Screened Interval: 13.32 - 23.32			Weather: CLEAR						Well Volume (gal) (A*(C-B)): 4.81			
	Pump placement: 18.32			Well Condition: ~~GOOD~~ NEEDS PAINT						Ferrous Iron: NA			
CASING INFO	Casing ID (in)	0.5	0.75	1.0	1.5	2.0	3.0	4.0	5.0	6.0	8.0		
	Unit Casing Volume (gal/lin ft)	0.016	0.020	0.043	0.103	0.160	0.378	0.652	1.03	1.48	2.57		

DATE	TIME (24 Hr)	Water Level (BTOC)	Volume Removed (Gals)	Pumping Rate (ml/min)	Temp (C)	pH	Cond (mS/cm)	DO (mg/l)	Turb (NTU)	ORP (mV)	Remarks (odor, clarity, etc.)
6/3/21	0930	16.15	.13	100	22.79	6.55	2.98	0.73	0.8	88	
	0935	16.21	.26	100	22.12	6.21	2.27	0.24	0.1	131	
	0940	16.25	.39	100	21.96	6.00	2.08	0.13	0.0	163	
	0945	16.28	.52	100	21.91	5.99	2.07	0.13	0.0	164	
	0950	16.30	.65	100	21.87	5.98	2.07	0.12	0.0	165	
	0955	16.32	.78	100	21.83	5.98	2.06	0.12	0.0	166	

Colorimeter Results

Time	Analyte	Dilution	Result	Units

Conversions	Stabilization Criteria			
1 L = 0.26 gals	Temp	+/- 10%	DO	+/- 10%
1 gal = 3.79 L	pH	+/- 0.1	Turb	+/- 10%
	Cond	+/- 10%	ORP	+/- 10

No. Containers	Volume/Type	Preserv.	Filter (Y/N)	Method	Parameter(s)
3	40 ml GLASS	HCL	N		VOC
1	120ml Plastic	HNO3	N		ARSENIC

Sample ID: LHSmw06_060321 Sample Time: 0955

bhate ENVIRONMENT INFRASTRUCTURE

GROUNDWATER SAMPLE COLLECTION FORM

LOCATION	Site: LHAAP - 58	Location ID: LHSmw07	Date: 6/2/21
	Project Name: LHAAP	Project No./Phase: NWO1312.0150	Recorded By: Scott Beesinger
EQUIPMENT	Pump Type/ID#: Bladder Pump / SamplePro	Water Quality Meter/ID#: U-52 Horiba	PID Type/ID#: NA
	Water Level Indicator Type/ID#: Solinist 101	Other Equipment/ID#: NA	Decon Method: Liquinox & DI water
	Tubing Type/Diameter (in): 1/4"	Other Equipment/ID#: NA	PPE: Level D
WELL INFO	Casing Type / ID (in): PVC 4"	Unit Casing Volume (gal/lin ft) (A): 0.652	Initial Depth to Water (ft) (B): 16.57
	Total Well Depth (ft) (C): 30.45	Water Column Thickness (ft) (C-B): 13.88	2nd Depth to Water(pre-purge): 16.57
	Screened Interval: 19.73 - 29.73	Weather: CLEAR	Well Volume (gal) (A*(C-B)): 9.05
	Pump placement: 24.73	Well Condition: BROKEN HINGE	Ferrous Iron: 0.47 mg/L

CASING INFO										
Casing ID (in)	0.5	0.75	1.0	1.5	2.0	3.0	4.0	5.0	6.0	8.0
Unit Casing Volume (gal/lin ft)	0.016	0.020	0.043	0.103	0.160	0.378	0.652	1.03	1.48	2.57

DATE	TIME (24 Hr)	Water Level (BTOC)	Volume Removed (Gals)	Pumping Rate (ml/min)	Temp (C)	pH	Cond (mS/cm)	DO (mg/l)	Turb (NTU)	ORP (mV)	Remarks (odor, clarity, etc.)
6/2/21	1010	16.65	.13	100	21.98	6.59	9.39	0.81	3.6	-120	
	1015	16.70	.26	100	21.35	6.55	9.52	0.27	2.5	-135	
	1020	16.73	.39	100	21.32	6.53	9.58	0.14	2.0	-142	
	1025	16.75	.52	100	21.28	6.52	9.59	0.13	1.6	-143	
	1030	16.76	.65	100	21.24	6.52	9.60	0.13	1.1	-143	
	1035	16.77	.78	100	21.20	6.52	9.60	0.13	0.8	-144	

Colorimeter Results

Time	Analyte	Dilution	Result	Units

Conversions	Stabilization Criteria			
1 L = 0.26 gals	Temp	+/- 10%	DO	+/- 10%
1 gal = 3.79 L	pH	+/- 0.1	Turb	+/- 10%
	Cond	+/- 10%	ORP	+/- 10

No. Containers/Volume/Type			Preserv.	Filter (Y/N)	Method	Parameter(s)
	3	40ml Glass	HCL	N		VOC
	3	40ml Glass	HCL	N		MEE
	2	40ml Amber	H2SO4	N		TOC
	2	40ml Glass	NA	N		CO2
	1	200ml Plastic	NA	N		Anions
	1	250ml Amber	H3PO4	N		VFA
	1	1 Liter Glass	NA	N		DRO/GRO

Sample ID: LHSmw07-060221 Sample Time: 1035

APPENDIX F
LABORATORY ANALYTICAL RESULTS
(PROVIDED ON CD)

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10450 Stancliff Rd. Suite 210
Houston, TX 77099
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December 28, 2020

Marcia Olive
Bhate Environmental Associates, Inc.
445 Union Blvd Ste 129
Lakewood, CO 80228

Work Order: **HS20120090**

Laboratory Results for: **LHAAP / Site 58**

Dear Marcia Olive,

ALS Environmental received 11 sample(s) on Dec 02, 2020 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Generated By: DAYNA.FISHER
RJ Modashia
Project Manager

ALS Houston, US Date: 28-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP / Site 58
Work Order: HS20120090

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS20120090-01	03WW01_120120	Groundwater		01-Dec-2020 07:20	02-Dec-2020 10:40	☐
HS20120090-02	35AWW08_120120	Groundwater		01-Dec-2020 08:20	02-Dec-2020 10:40	☐
HS20120090-03	35AWW11_120120	Groundwater		01-Dec-2020 09:15	02-Dec-2020 10:40	☐
HS20120090-04	35AWW11_120120_a	Groundwater		01-Dec-2020 09:15	02-Dec-2020 10:40	☐
HS20120090-05	35AWW06_120120	Groundwater		01-Dec-2020 10:20	02-Dec-2020 10:40	☐
HS20120090-06	35AWW17_120120	Groundwater		01-Dec-2020 11:10	02-Dec-2020 10:40	☐
HS20120090-07	35AWW18_120120	Groundwater		01-Dec-2020 11:55	02-Dec-2020 10:40	☐
HS20120090-08	35AWW18_120120_a	Groundwater		01-Dec-2020 11:55	02-Dec-2020 10:40	☐
HS20120090-09	35AWW16_120120	Groundwater		01-Dec-2020 12:40	02-Dec-2020 10:40	☐
HS20120090-10	35AWW15_120120	Groundwater		01-Dec-2020 13:20	02-Dec-2020 10:40	☐
HS20120090-11	Trip Blank	Water	VBLKW-112420-44	01-Dec-2020 00:00	02-Dec-2020 10:40	☐

ALS Houston, US Date: 28-Dec-20

Client: Bhate Environmental Associates, Inc. **CASE NARRATIVE**
Project: LHAAP / Site 58
Work Order: HS20120090

Work Order Comments

- The analyses for Total Organic Carbon were subcontracted to ALS Environmental in Kelso, WA. Final Report attached.
- The analyses for Volatile Fatty Acids were subcontracted to ALS Environmental in Rochester, NY. Final Report attached.
- The analyses for Methane, Ethene, Ethane and Carbon Dioxide were subcontracted to ALS Environmental in Simi Valley, CA. Final Report attached.
- The analyses for DHC/DHB were subcontracted to Microbial Insights in Knoxville TN. Final report attached.

GCMS Volatiles by Method SW8260

Batch ID: R374536

Sample ID: 03WW01_120120 (HS20120090-01)

- Sample run as dilution due to sample foaming.

Sample ID: 35AWW08_120120 (HS20120090-02)

- Sample run as dilution due to sample foaming.

Sample ID: HS20120448-34MS

- MS and MSD are for an unrelated sample

Batch ID: R374634

Sample ID: HS20120243-01MS

- MS and MSD are for an unrelated sample

Metals by Method SW6020

Batch ID: 160306

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

WetChemistry by Method SW9056

Batch ID: R374294

Sample ID: 03WW01_120120 (HS20120090-01)

- Sample ran at 2X due to high concentration of Chloride

Sample ID: 35AWW06_120120 (HS20120090-05)

- Sample ran at 2X due to high concentration of Chloride

Sample ID: 35AWW08_120120 (HS20120090-02)

- Sample ran at 5X due to high concentration of Chloride

Sample ID: 35AWW11_120120 (HS20120090-03)

- Sample ran at 5X due to high concentration of Chloride

Sample ID: 35AWW11_120120_a (HS20120090-04)

ALS Houston, US Date: 28-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP / Site 58
Work Order: HS20120090

CASE NARRATIVE

WetChemistry by Method SW9056

Batch ID: R374294

- Sample ran at 5X due to high concentration of Chloride

Sample ID: HS20120073-02MS

- MS and MSD are for an unrelated sample

Batch ID: R374246

Sample ID: HS20120396-55MS

- MS and MSD are for an unrelated sample (Chloride)

ALS Houston, US Date: 28-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP / Site 58
Sample ID: 03WW01_120120
Collection Date: 01-Dec-2020 07:20

ANALYTICAL REPORT
WorkOrder:HS20120090
Lab ID:HS20120090-01
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: QX
1,1,1,2-Tetrachloroethane	5.0	U	3.0	5.0	10	ug/L	10	12-Dec-2020 23:36
1,1,1-Trichloroethane	5.0	U	2.0	5.0	10	ug/L	10	12-Dec-2020 23:36
1,1,2,2-Tetrachloroethane	5.0	U	5.0	5.0	10	ug/L	10	12-Dec-2020 23:36
1,1,2-Trichloroethane	5.0	U	3.0	5.0	10	ug/L	10	12-Dec-2020 23:36
1,1-Dichloroethane	5.0	U	2.0	5.0	10	ug/L	10	12-Dec-2020 23:36
1,1-Dichloroethene	5.0	U	2.0	5.0	10	ug/L	10	12-Dec-2020 23:36
1,1-Dichloropropene	5.0	U	3.0	5.0	10	ug/L	10	12-Dec-2020 23:36
1,2,3-Trichlorobenzene	10	U	4.0	10	10	ug/L	10	12-Dec-2020 23:36
1,2,3-Trichloropropane	10	U	5.0	10	10	ug/L	10	12-Dec-2020 23:36
1,2,4-Trichlorobenzene	10	U	5.0	10	10	ug/L	10	12-Dec-2020 23:36
1,2,4-Trimethylbenzene	10	U	3.0	10	10	ug/L	10	12-Dec-2020 23:36
1,2-Dibromo-3-chloropropane	5.0	U	2.0	5.0	10	ug/L	10	12-Dec-2020 23:36
1,2-Dibromoethane	5.0	U	2.0	5.0	10	ug/L	10	12-Dec-2020 23:36
1,2-Dichlorobenzene	10	U	5.0	10	10	ug/L	10	12-Dec-2020 23:36
1,2-Dichloroethane	5.0	U	2.0	5.0	10	ug/L	10	12-Dec-2020 23:36
1,2-Dichloropropane	5.0	U	5.0	5.0	10	ug/L	10	12-Dec-2020 23:36
1,3,5-Trimethylbenzene	5.0	U	3.0	5.0	10	ug/L	10	12-Dec-2020 23:36
1,3-Dichlorobenzene	10	U	4.0	10	10	ug/L	10	12-Dec-2020 23:36
1,3-Dichloropropane	10	U	3.0	10	10	ug/L	10	12-Dec-2020 23:36
1,4-Dichlorobenzene	10	U	4.0	10	10	ug/L	10	12-Dec-2020 23:36
2,2-Dichloropropane	5.0	U	2.0	5.0	10	ug/L	10	12-Dec-2020 23:36
2-Butanone	10	U	5.0	10	20	ug/L	10	12-Dec-2020 23:36
2-Chlorotoluene	10	U	3.0	10	10	ug/L	10	12-Dec-2020 23:36
2-Hexanone	20	U	10	20	20	ug/L	10	12-Dec-2020 23:36
4-Chlorotoluene	10	U	4.0	10	10	ug/L	10	12-Dec-2020 23:36
4-Isopropyltoluene	10	U	3.0	10	10	ug/L	10	12-Dec-2020 23:36
4-Methyl-2-pentanone	20	U	7.0	20	20	ug/L	10	12-Dec-2020 23:36
Acetone	10	U	4.0	10	20	ug/L	10	12-Dec-2020 23:36
Benzene	5.0	U	2.0	5.0	10	ug/L	10	12-Dec-2020 23:36
Bromobenzene	10	U	4.0	10	10	ug/L	10	12-Dec-2020 23:36
Bromochloromethane	5.0	U	2.0	5.0	10	ug/L	10	12-Dec-2020 23:36
Bromodichloromethane	5.0	U	2.0	5.0	10	ug/L	10	12-Dec-2020 23:36
Bromoform	5.0	U	4.0	5.0	10	ug/L	10	12-Dec-2020 23:36
Bromomethane	5.0	U	4.0	5.0	10	ug/L	10	12-Dec-2020 23:36
Carbon disulfide	10	U	6.0	10	20	ug/L	10	12-Dec-2020 23:36
Carbon tetrachloride	5.0	U	5.0	5.0	10	ug/L	10	12-Dec-2020 23:36
Chlorobenzene	5.0	U	3.0	5.0	10	ug/L	10	12-Dec-2020 23:36
Chloroethane	5.0	U	3.0	5.0	10	ug/L	10	12-Dec-2020 23:36
Chloroform	5.0	U	2.0	5.0	10	ug/L	10	12-Dec-2020 23:36

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 28-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP / Site 58
Sample ID: 03WW01_120120
Collection Date: 01-Dec-2020 07:20

ANALYTICAL REPORT
WorkOrder:HS20120090
Lab ID:HS20120090-01
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: QX
Chloromethane	5.0	U	2.0	5.0	10	ug/L	10	12-Dec-2020 23:36
cis-1,2-Dichloroethene	**7.2**	J	**2.0**	**5.0**	**10**	**ug/L**	10	12-Dec-2020 23:36
cis-1,3-Dichloropropene	5.0	U	1.0	5.0	10	ug/L	10	12-Dec-2020 23:36
Dibromochloromethane	5.0	U	3.0	5.0	10	ug/L	10	12-Dec-2020 23:36
Dibromomethane	5.0	U	2.0	5.0	10	ug/L	10	12-Dec-2020 23:36
Dichlorodifluoromethane	5.0	U	3.0	5.0	10	ug/L	10	12-Dec-2020 23:36
Ethylbenzene	10	U	3.0	10	10	ug/L	10	12-Dec-2020 23:36
Hexachlorobutadiene	10	U	10	10	10	ug/L	10	12-Dec-2020 23:36
Isopropylbenzene	10	U	3.0	10	10	ug/L	10	12-Dec-2020 23:36
m,p-Xylene	10	U	5.0	10	20	ug/L	10	12-Dec-2020 23:36
Methylene chloride	10	U	4.0	10	20	ug/L	10	12-Dec-2020 23:36
n-Butylbenzene	10	U	4.0	10	10	ug/L	10	12-Dec-2020 23:36
n-Propylbenzene	10	U	3.0	10	10	ug/L	10	12-Dec-2020 23:36
Naphthalene	10	U	3.0	10	10	ug/L	10	12-Dec-2020 23:36
o-Xylene	10	U	3.0	10	10	ug/L	10	12-Dec-2020 23:36
sec-Butylbenzene	10	U	3.0	10	10	ug/L	10	12-Dec-2020 23:36
Styrene	10	U	3.0	10	10	ug/L	10	12-Dec-2020 23:36
tert-Butylbenzene	5.0	U	3.0	5.0	10	ug/L	10	12-Dec-2020 23:36
Tetrachloroethene	5.0	U	3.0	5.0	10	ug/L	10	12-Dec-2020 23:36
Toluene	5.0	U	2.0	5.0	10	ug/L	10	12-Dec-2020 23:36
trans-1,2-Dichloroethene	5.0	U	2.0	5.0	10	ug/L	10	12-Dec-2020 23:36
trans-1,3-Dichloropropene	5.0	U	2.0	5.0	10	ug/L	10	12-Dec-2020 23:36
Trichloroethene	**24**		**2.0**	**5.0**	**10**	**ug/L**	10	12-Dec-2020 23:36
Trichlorofluoromethane	10	U	3.0	10	10	ug/L	10	12-Dec-2020 23:36
Vinyl chloride	5.0	U	2.0	5.0	10	ug/L	10	12-Dec-2020 23:36
Surr: 1,2-Dichloroethane-d4	*87.8*			**0**	*81-118*	*%REC*	*10*	*12-Dec-2020 23:36*
Surr: 4-Bromofluorobenzene	*93.3*			**0**	*85-114*	*%REC*	*10*	*12-Dec-2020 23:36*
Surr: Dibromofluoromethane	*88.1*			**0**	*80-119*	*%REC*	*10*	*12-Dec-2020 23:36*
Surr: Toluene-d8	*104*			**0**	*89-112*	*%REC*	*10*	*12-Dec-2020 23:36*
METALS BY ICPMS BY SW6020A		**Method:SW6020**				Prep:SW3010A / 03-Dec-2020		Analyst: JHD
Arsenic	**0.0152**		**0.000400**	**0.00100**	**0.00500**	**mg/L**	1	10-Dec-2020 16:44
ANIONS BY SW9056A		**Method:SW9056**						Analyst: YP
Chloride	**870**		**10.0**	**25.0**	**25.0**	**mg/L**	50	09-Dec-2020 02:04
Nitrogen, Nitrate (As N)	**0.0690**	J	**0.0600**	**0.200**	**0.200**	**mg/L**	2	03-Dec-2020 06:47
Nitrogen, Nitrite (As N)	0.200	U	0.0600	0.200	0.200	mg/L	2	03-Dec-2020 06:47
Sulfate	**82.7**		**0.400**	**1.00**	**1.00**	**mg/L**	2	03-Dec-2020 06:47
SUBCONTRACT ANALYSIS - DHC/DHB		**Method:NA**						Analyst: SUB
Subcontract Analysis	See Attached		0	0		NA	1	09-Dec-2020 17:36

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 28-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP / Site 58
Sample ID: 03WW01_120120
Collection Date: 01-Dec-2020 07:20

ANALYTICAL REPORT
WorkOrder:HS20120090
Lab ID:HS20120090-01
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
SUBCONTRACT ANALYSIS - RSK		**Method:NA**						Analyst: SUBCA
Subcontract Analysis	See Attached		0	0		NA	1	15-Dec-2020 09:48
SUBCONTRACT ANALYSIS - TOC ANALYSIS		**Method:NA**						Analyst: SUBK
Subcontract Analysis	See Attached		0	0		NA	1	18-Dec-2020 10:40
SUBCONTRACT ANALYSIS - VOLATILE FATTY ACIDS		**Method:NA**						Analyst: SUB
Subcontract Analysis	See Attached		0	0		NA	1	28-Dec-2020 11:10

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 28-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP / Site 58
Sample ID: 35AWW08_120120
Collection Date: 01-Dec-2020 08:20

ANALYTICAL REPORT
WorkOrder:HS20120090
Lab ID:HS20120090-02
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: QX
1,1,1,2-Tetrachloroethane	5.0	U	3.0	5.0	10	ug/L	10	12-Dec-2020 23:57
1,1,1-Trichloroethane	5.0	U	2.0	5.0	10	ug/L	10	12-Dec-2020 23:57
1,1,2,2-Tetrachloroethane	5.0	U	5.0	5.0	10	ug/L	10	12-Dec-2020 23:57
1,1,2-Trichloroethane	5.0	U	3.0	5.0	10	ug/L	10	12-Dec-2020 23:57
1,1-Dichloroethane	5.0	U	2.0	5.0	10	ug/L	10	12-Dec-2020 23:57
1,1-Dichloroethene	5.0	U	2.0	5.0	10	ug/L	10	12-Dec-2020 23:57
1,1-Dichloropropene	5.0	U	3.0	5.0	10	ug/L	10	12-Dec-2020 23:57
1,2,3-Trichlorobenzene	10	U	4.0	10	10	ug/L	10	12-Dec-2020 23:57
1,2,3-Trichloropropane	10	U	5.0	10	10	ug/L	10	12-Dec-2020 23:57
1,2,4-Trichlorobenzene	10	U	5.0	10	10	ug/L	10	12-Dec-2020 23:57
1,2,4-Trimethylbenzene	10	U	3.0	10	10	ug/L	10	12-Dec-2020 23:57
1,2-Dibromo-3-chloropropane	5.0	U	2.0	5.0	10	ug/L	10	12-Dec-2020 23:57
1,2-Dibromoethane	5.0	U	2.0	5.0	10	ug/L	10	12-Dec-2020 23:57
1,2-Dichlorobenzene	10	U	5.0	10	10	ug/L	10	12-Dec-2020 23:57
1,2-Dichloroethane	5.0	U	2.0	5.0	10	ug/L	10	12-Dec-2020 23:57
1,2-Dichloropropane	5.0	U	5.0	5.0	10	ug/L	10	12-Dec-2020 23:57
1,3,5-Trimethylbenzene	5.0	U	3.0	5.0	10	ug/L	10	12-Dec-2020 23:57
1,3-Dichlorobenzene	10	U	4.0	10	10	ug/L	10	12-Dec-2020 23:57
1,3-Dichloropropane	10	U	3.0	10	10	ug/L	10	12-Dec-2020 23:57
1,4-Dichlorobenzene	10	U	4.0	10	10	ug/L	10	12-Dec-2020 23:57
2,2-Dichloropropane	5.0	U	2.0	5.0	10	ug/L	10	12-Dec-2020 23:57
2-Butanone	10	U	5.0	10	20	ug/L	10	12-Dec-2020 23:57
2-Chlorotoluene	10	U	3.0	10	10	ug/L	10	12-Dec-2020 23:57
2-Hexanone	20	U	10	20	20	ug/L	10	12-Dec-2020 23:57
4-Chlorotoluene	10	U	4.0	10	10	ug/L	10	12-Dec-2020 23:57
4-Isopropyltoluene	10	U	3.0	10	10	ug/L	10	12-Dec-2020 23:57
4-Methyl-2-pentanone	20	U	7.0	20	20	ug/L	10	12-Dec-2020 23:57
Acetone	10	U	4.0	10	20	ug/L	10	12-Dec-2020 23:57
Benzene	5.0	U	2.0	5.0	10	ug/L	10	12-Dec-2020 23:57
Bromobenzene	10	U	4.0	10	10	ug/L	10	12-Dec-2020 23:57
Bromochloromethane	5.0	U	2.0	5.0	10	ug/L	10	12-Dec-2020 23:57
Bromodichloromethane	5.0	U	2.0	5.0	10	ug/L	10	12-Dec-2020 23:57
Bromoform	5.0	U	4.0	5.0	10	ug/L	10	12-Dec-2020 23:57
Bromomethane	5.0	U	4.0	5.0	10	ug/L	10	12-Dec-2020 23:57
Carbon disulfide	10	U	6.0	10	20	ug/L	10	12-Dec-2020 23:57
Carbon tetrachloride	5.0	U	5.0	5.0	10	ug/L	10	12-Dec-2020 23:57
Chlorobenzene	5.0	U	3.0	5.0	10	ug/L	10	12-Dec-2020 23:57
Chloroethane	5.0	U	3.0	5.0	10	ug/L	10	12-Dec-2020 23:57
Chloroform	5.0	U	2.0	5.0	10	ug/L	10	12-Dec-2020 23:57

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 28-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP / Site 58
Sample ID: 35AWW08_120120
Collection Date: 01-Dec-2020 08:20

ANALYTICAL REPORT
WorkOrder:HS20120090
Lab ID:HS20120090-02
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: QX
Chloromethane	5.0	U	2.0	5.0	10	ug/L	10	12-Dec-2020 23:57
cis-1,2-Dichloroethene	**18**		**2.0**	**5.0**	**10**	**ug/L**	10	12-Dec-2020 23:57
cis-1,3-Dichloropropene	5.0	U	1.0	5.0	10	ug/L	10	12-Dec-2020 23:57
Dibromochloromethane	5.0	U	3.0	5.0	10	ug/L	10	12-Dec-2020 23:57
Dibromomethane	5.0	U	2.0	5.0	10	ug/L	10	12-Dec-2020 23:57
Dichlorodifluoromethane	10	U	3.0	10	10	ug/L	10	12-Dec-2020 23:57
Ethylbenzene	5.0	U	3.0	5.0	10	ug/L	10	12-Dec-2020 23:57
Hexachlorobutadiene	10	U	10	10	10	ug/L	10	12-Dec-2020 23:57
Isopropylbenzene	10	U	3.0	10	10	ug/L	10	12-Dec-2020 23:57
m,p-Xylene	10	U	5.0	10	20	ug/L	10	12-Dec-2020 23:57
Methylene chloride	10	U	4.0	10	20	ug/L	10	12-Dec-2020 23:57
n-Butylbenzene	10	U	4.0	10	10	ug/L	10	12-Dec-2020 23:57
n-Propylbenzene	5.0	U	3.0	5.0	10	ug/L	10	12-Dec-2020 23:57
Naphthalene	5.0	U	3.0	5.0	10	ug/L	10	12-Dec-2020 23:57
o-Xylene	5.0	U	3.0	5.0	10	ug/L	10	12-Dec-2020 23:57
sec-Butylbenzene	5.0	U	3.0	5.0	10	ug/L	10	12-Dec-2020 23:57
Styrene	5.0	U	3.0	5.0	10	ug/L	10	12-Dec-2020 23:57
tert-Butylbenzene	10	U	3.0	10	10	ug/L	10	12-Dec-2020 23:57
Tetrachloroethene	5.0	U	3.0	5.0	10	ug/L	10	12-Dec-2020 23:57
Toluene	5.0	U	2.0	5.0	10	ug/L	10	12-Dec-2020 23:57
trans-1,2-Dichloroethene	5.0	U	2.0	5.0	10	ug/L	10	12-Dec-2020 23:57
trans-1,3-Dichloropropene	5.0	U	2.0	5.0	10	ug/L	10	12-Dec-2020 23:57
Trichloroethene	5.0	U	2.0	5.0	10	ug/L	10	12-Dec-2020 23:57
Trichlorofluoromethane	5.0	U	3.0	5.0	10	ug/L	10	12-Dec-2020 23:57
Vinyl chloride	**6.1**	J	**2.0**	**5.0**	**10**	**ug/L**	10	12-Dec-2020 23:57
Surr: 1,2-Dichloroethane-d4	*85.8*			**0**	*81-118*	*%REC*	*10*	*12-Dec-2020 23:57*
Surr: 4-Bromofluorobenzene	*88.8*			**0**	*85-114*	*%REC*	*10*	*12-Dec-2020 23:57*
Surr: Dibromofluoromethane	*88.5*			**0**	*80-119*	*%REC*	*10*	*12-Dec-2020 23:57*
Surr: Toluene-d8	*105*			**0**	*89-112*	*%REC*	*10*	*12-Dec-2020 23:57*
METALS BY ICPMS BY SW6020A		**Method:SW6020**				Prep:SW3010A / 03-Dec-2020		Analyst: JHD
Arsenic	**0.0244**		**0.000400**	**0.00100**	**0.00500**	**mg/L**	1	10-Dec-2020 16:46
ANIONS BY SW9056A		**Method:SW9056**						Analyst: YP
Chloride	**2,480**		**40.0**	**100**	**100**	**mg/L**	200	09-Dec-2020 02:59
Nitrogen, Nitrate (As N)	**0.188**	J	**0.150**	**0.500**	**0.500**	**mg/L**	5	03-Dec-2020 07:06
Nitrogen, Nitrite (As N)	0.500	U	0.150	0.500	0.500	mg/L	5	03-Dec-2020 07:06
Sulfate	**63.0**		**1.00**	**2.50**	**2.50**	**mg/L**	5	03-Dec-2020 07:06
SUBCONTRACT ANALYSIS - DHC/DHB		**Method:NA**						Analyst: SUB
Subcontract Analysis	See Attached		0	0		NA	1	09-Dec-2020 17:36

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US

Date: 28-Dec-20

Client: Bhate Environmental Associates, Inc.

ANALYTICAL REPORT

Project: LHAAP / Site 58

WorkOrder:HS20120090

Sample ID: 35AWW08_120120

Lab ID:HS20120090-02

Collection Date: 01-Dec-2020 08:20

Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
SUBCONTRACT ANALYSIS - RSK		**Method:NA**						Analyst: SUBCA
Subcontract Analysis	See Attached		0	0		NA	1	15-Dec-2020 09:48
SUBCONTRACT ANALYSIS - TOC ANALYSIS		**Method:NA**						Analyst: SUBK
Subcontract Analysis	See Attached		0	0		NA	1	18-Dec-2020 10:40
SUBCONTRACT ANALYSIS - VOLATILE FATTY ACIDS		**Method:NA**						Analyst: SUB
Subcontract Analysis	See Attached		0	0		NA	1	28-Dec-2020 11:10

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 28-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP / Site 58
Sample ID: 35AWW11_120120
Collection Date: 01-Dec-2020 09:15

ANALYTICAL REPORT
WorkOrder:HS20120090
Lab ID:HS20120090-03
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: QX
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	13-Dec-2020 00:18
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	13-Dec-2020 00:18
1,1,2,2-Tetrachloroethane	0.50	U	0.50	0.50	1.0	ug/L	1	13-Dec-2020 00:18
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	13-Dec-2020 00:18
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	13-Dec-2020 00:18
1,1-Dichloroethene	**0.53**	J	**0.20**	**0.50**	**1.0**	**ug/L**	1	13-Dec-2020 00:18
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	ug/L	1	13-Dec-2020 00:18
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	13-Dec-2020 00:18
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	13-Dec-2020 00:18
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	13-Dec-2020 00:18
1,2,4-Trimethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	13-Dec-2020 00:18
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	13-Dec-2020 00:18
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	13-Dec-2020 00:18
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	13-Dec-2020 00:18
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	13-Dec-2020 00:18
1,2-Dichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	13-Dec-2020 00:18
1,3,5-Trimethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	13-Dec-2020 00:18
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	13-Dec-2020 00:18
1,3-Dichloropropane	0.50	U	0.30	0.50	1.0	ug/L	1	13-Dec-2020 00:18
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	13-Dec-2020 00:18
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	13-Dec-2020 00:18
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	13-Dec-2020 00:18
2-Chlorotoluene	0.50	U	0.30	0.50	1.0	ug/L	1	13-Dec-2020 00:18
2-Hexanone	2.0	U	1.0	2.0	2.0	ug/L	1	13-Dec-2020 00:18
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	13-Dec-2020 00:18
4-Isopropyltoluene	0.50	U	0.30	0.50	1.0	ug/L	1	13-Dec-2020 00:18
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	ug/L	1	13-Dec-2020 00:18
Acetone	1.0	U	0.40	1.0	2.0	ug/L	1	13-Dec-2020 00:18
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	13-Dec-2020 00:18
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	13-Dec-2020 00:18
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	13-Dec-2020 00:18
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	13-Dec-2020 00:18
Bromoform	0.50	U	0.40	0.50	1.0	ug/L	1	13-Dec-2020 00:18
Bromomethane	0.50	U	0.40	0.50	1.0	ug/L	1	13-Dec-2020 00:18
Carbon disulfide	1.0	U	0.60	1.0	2.0	ug/L	1	13-Dec-2020 00:18
Carbon tetrachloride	0.50	U	0.50	0.50	1.0	ug/L	1	13-Dec-2020 00:18
Chlorobenzene	1.0	U	0.30	1.0	1.0	ug/L	1	13-Dec-2020 00:18
Chloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	13-Dec-2020 00:18
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	13-Dec-2020 00:18

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 28-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP / Site 58
Sample ID: 35AWW11_120120
Collection Date: 01-Dec-2020 09:15

ANALYTICAL REPORT
WorkOrder:HS20120090
Lab ID:HS20120090-03
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: QX
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	13-Dec-2020 00:18
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	13-Dec-2020 00:18
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	ug/L	1	13-Dec-2020 00:18
Dibromochloromethane	0.50	U	0.30	0.50	1.0	ug/L	1	13-Dec-2020 00:18
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	13-Dec-2020 00:18
Dichlorodifluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	13-Dec-2020 00:18
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	13-Dec-2020 00:18
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	13-Dec-2020 00:18
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	13-Dec-2020 00:18
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	13-Dec-2020 00:18
Methylene chloride	1.0	U	0.40	1.0	2.0	ug/L	1	13-Dec-2020 00:18
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	13-Dec-2020 00:18
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	13-Dec-2020 00:18
Naphthalene	0.50	U	0.30	0.50	1.0	ug/L	1	13-Dec-2020 00:18
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	13-Dec-2020 00:18
sec-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	13-Dec-2020 00:18
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	13-Dec-2020 00:18
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	13-Dec-2020 00:18
Tetrachloroethene	0.50	U	0.30	0.50	1.0	ug/L	1	13-Dec-2020 00:18
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	13-Dec-2020 00:18
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	13-Dec-2020 00:18
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	13-Dec-2020 00:18
Trichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	13-Dec-2020 00:18
Trichlorofluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	13-Dec-2020 00:18
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	13-Dec-2020 00:18
Surr: 1,2-Dichloroethane-d4	*88.1*			**0**	*81-118*	*%REC*	*1*	*13-Dec-2020 00:18*
Surr: 4-Bromofluorobenzene	*92.9*			**0**	*85-114*	*%REC*	*1*	*13-Dec-2020 00:18*
Surr: Dibromofluoromethane	*89.0*			**0**	*80-119*	*%REC*	*1*	*13-Dec-2020 00:18*
Surr: Toluene-d8	*103*			**0**	*89-112*	*%REC*	*1*	*13-Dec-2020 00:18*
ANIONS BY SW9056A		**Method:SW9056**						Analyst: YP
Chloride	**1,990**		**40.0**	**100**	**100**	**mg/L**	200	09-Dec-2020 03:17
Nitrogen, Nitrate (As N)	**0.248**	J	**0.150**	**0.500**	**0.500**	**mg/L**	5	03-Dec-2020 07:24
Nitrogen, Nitrite (As N)	0.500	U	0.150	0.500	0.500	mg/L	5	03-Dec-2020 07:24
Sulfate	**415**		**1.00**	**2.50**	**2.50**	**mg/L**	5	03-Dec-2020 07:24
SUBCONTRACT ANALYSIS - DHC/DHB		**Method:NA**						Analyst: SUB
Subcontract Analysis	See Attached		0	0		NA	1	09-Dec-2020 17:36
SUBCONTRACT ANALYSIS - RSK		**Method:NA**						Analyst: SUBCA
Subcontract Analysis	See Attached		0	0		NA	1	15-Dec-2020 09:48

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US

Date: 28-Dec-20

Client: Bhate Environmental Associates, Inc.

ANALYTICAL REPORT

Project: LHAAP / Site 58

WorkOrder:HS20120090

Sample ID: 35AWW11_120120

Lab ID:HS20120090-03

Collection Date: 01-Dec-2020 09:15

Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
SUBCONTRACT ANALYSIS - TOC ANALYSIS		**Method:NA**						Analyst: SUBK
Subcontract Analysis	See Attached		0	0		NA	1	18-Dec-2020 10:40
SUBCONTRACT ANALYSIS - VOLATILE FATTY ACIDS		**Method:NA**						Analyst: SUB
Subcontract Analysis	See Attached		0	0		NA	1	28-Dec-2020 11:10

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 28-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP / Site 58
Sample ID: 35AWW11_120120_a
Collection Date: 01-Dec-2020 09:15

ANALYTICAL REPORT
WorkOrder:HS20120090
Lab ID:HS20120090-04
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: QX
1,1,1,2-Tetrachloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	13-Dec-2020 00:39
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	13-Dec-2020 00:39
1,1,2,2-Tetrachloroethane	0.50	U	0.50	0.50	1.0	ug/L	1	13-Dec-2020 00:39
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	13-Dec-2020 00:39
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	13-Dec-2020 00:39
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	13-Dec-2020 00:39
1,1-Dichloropropene	0.50	U	0.30	0.50	1.0	ug/L	1	13-Dec-2020 00:39
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	13-Dec-2020 00:39
1,2,3-Trichloropropane	**26**		**0.50**	**1.0**	**1.0**	**ug/L**	1	13-Dec-2020 00:39
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	13-Dec-2020 00:39
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	13-Dec-2020 00:39
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	13-Dec-2020 00:39
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	13-Dec-2020 00:39
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	13-Dec-2020 00:39
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	13-Dec-2020 00:39
1,2-Dichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	13-Dec-2020 00:39
1,3,5-Trimethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	13-Dec-2020 00:39
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	13-Dec-2020 00:39
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	13-Dec-2020 00:39
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	13-Dec-2020 00:39
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	13-Dec-2020 00:39
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	13-Dec-2020 00:39
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	13-Dec-2020 00:39
2-Hexanone	2.0	U	1.0	2.0	2.0	ug/L	1	13-Dec-2020 00:39
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	13-Dec-2020 00:39
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	13-Dec-2020 00:39
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	ug/L	1	13-Dec-2020 00:39
Acetone	1.0	U	0.40	1.0	2.0	ug/L	1	13-Dec-2020 00:39
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	13-Dec-2020 00:39
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	13-Dec-2020 00:39
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	13-Dec-2020 00:39
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	13-Dec-2020 00:39
Bromoform	0.50	U	0.40	0.50	1.0	ug/L	1	13-Dec-2020 00:39
Bromomethane	0.50	U	0.40	0.50	1.0	ug/L	1	13-Dec-2020 00:39
Carbon disulfide	1.0	U	0.60	1.0	2.0	ug/L	1	13-Dec-2020 00:39
Carbon tetrachloride	0.50	U	0.50	0.50	1.0	ug/L	1	13-Dec-2020 00:39
Chlorobenzene	0.50	U	0.30	0.50	1.0	ug/L	1	13-Dec-2020 00:39
Chloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	13-Dec-2020 00:39
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	13-Dec-2020 00:39

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 28-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP / Site 58
Sample ID: 35AWW11_120120_a
Collection Date: 01-Dec-2020 09:15

ANALYTICAL REPORT
WorkOrder:HS20120090
Lab ID:HS20120090-04
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: QX
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	13-Dec-2020 00:39
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	13-Dec-2020 00:39
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	ug/L	1	13-Dec-2020 00:39
Dibromochloromethane	0.50	U	0.30	0.50	1.0	ug/L	1	13-Dec-2020 00:39
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	13-Dec-2020 00:39
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	13-Dec-2020 00:39
Ethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	13-Dec-2020 00:39
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	13-Dec-2020 00:39
Isopropylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	13-Dec-2020 00:39
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	13-Dec-2020 00:39
Methylene chloride	1.0	U	0.40	1.0	2.0	ug/L	1	13-Dec-2020 00:39
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	13-Dec-2020 00:39
n-Propylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	13-Dec-2020 00:39
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	13-Dec-2020 00:39
o-Xylene	0.50	U	0.30	0.50	1.0	ug/L	1	13-Dec-2020 00:39
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	13-Dec-2020 00:39
Styrene	0.50	U	0.30	0.50	1.0	ug/L	1	13-Dec-2020 00:39
tert-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	13-Dec-2020 00:39
Tetrachloroethene	0.50	U	0.30	0.50	1.0	ug/L	1	13-Dec-2020 00:39
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	13-Dec-2020 00:39
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	13-Dec-2020 00:39
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	13-Dec-2020 00:39
Trichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	13-Dec-2020 00:39
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	13-Dec-2020 00:39
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	13-Dec-2020 00:39
Surr: 1,2-Dichloroethane-d4	*86.9*			**0**	*81-118*	*%REC*	*1*	*13-Dec-2020 00:39*
Surr: 4-Bromofluorobenzene	*92.6*			**0**	*85-114*	*%REC*	*1*	*13-Dec-2020 00:39*
Surr: Dibromofluoromethane	*87.7*			**0**	*80-119*	*%REC*	*1*	*13-Dec-2020 00:39*
Surr: Toluene-d8	*103*			**0**	*89-112*	*%REC*	*1*	*13-Dec-2020 00:39*
ANIONS BY SW9056A		**Method:SW9056**						Analyst: YP
Chloride	**2,030**		**40.0**	**100**	**100**	**mg/L**	200	09-Dec-2020 03:35
Nitrogen, Nitrate (As N)	**0.284**	J	**0.150**	**0.500**	**0.500**	**mg/L**	5	03-Dec-2020 08:18
Nitrogen, Nitrite (As N)	0.500	U	0.150	0.500	0.500	mg/L	5	03-Dec-2020 08:18
Sulfate	**295**		**1.00**	**2.50**	**2.50**	**mg/L**	5	03-Dec-2020 08:18
SUBCONTRACT ANALYSIS - RSK		**Method:NA**						Analyst: SUBCA
Subcontract Analysis	See Attached		0	0		NA	1	15-Dec-2020 09:48
SUBCONTRACT ANALYSIS - TOC ANALYSIS		**Method:NA**						Analyst: SUBK
Subcontract Analysis	See Attached		0	0		NA	1	18-Dec-2020 10:40

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 28-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP / Site 58
Sample ID: 35AWW11_120120_a
Collection Date: 01-Dec-2020 09:15

ANALYTICAL REPORT
WorkOrder:HS20120090
Lab ID:HS20120090-04
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
SUBCONTRACT ANALYSIS - VOLATILE FATTY ACIDS	**Method:NA**							Analyst: SUB
Subcontract Analysis	See Attached		0	0		NA	1	28-Dec-2020 11:10

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 28-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP / Site 58
Sample ID: 35AWW06_120120
Collection Date: 01-Dec-2020 10:20

ANALYTICAL REPORT
WorkOrder:HS20120090
Lab ID:HS20120090-05
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: QX
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	13-Dec-2020 01:00
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	13-Dec-2020 01:00
1,1,2,2-Tetrachloroethane	0.50	U	0.50	0.50	1.0	ug/L	1	13-Dec-2020 01:00
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	13-Dec-2020 01:00
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	13-Dec-2020 01:00
1,1-Dichloroethene	**0.78**	J	**0.20**	**0.50**	**1.0**	**ug/L**	1	13-Dec-2020 01:00
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	ug/L	1	13-Dec-2020 01:00
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	13-Dec-2020 01:00
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	13-Dec-2020 01:00
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	13-Dec-2020 01:00
1,2,4-Trimethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	13-Dec-2020 01:00
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	13-Dec-2020 01:00
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	13-Dec-2020 01:00
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	13-Dec-2020 01:00
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	13-Dec-2020 01:00
1,2-Dichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	13-Dec-2020 01:00
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	13-Dec-2020 01:00
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	13-Dec-2020 01:00
1,3-Dichloropropane	0.50	U	0.30	0.50	1.0	ug/L	1	13-Dec-2020 01:00
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	13-Dec-2020 01:00
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	13-Dec-2020 01:00
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	13-Dec-2020 01:00
2-Chlorotoluene	0.50	U	0.30	0.50	1.0	ug/L	1	13-Dec-2020 01:00
2-Hexanone	2.0	U	1.0	2.0	2.0	ug/L	1	13-Dec-2020 01:00
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	13-Dec-2020 01:00
4-Isopropyltoluene	0.50	U	0.30	0.50	1.0	ug/L	1	13-Dec-2020 01:00
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	ug/L	1	13-Dec-2020 01:00
Acetone	1.0	U	0.40	1.0	2.0	ug/L	1	13-Dec-2020 01:00
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	13-Dec-2020 01:00
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	13-Dec-2020 01:00
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	13-Dec-2020 01:00
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	13-Dec-2020 01:00
Bromoform	0.50	U	0.40	0.50	1.0	ug/L	1	13-Dec-2020 01:00
Bromomethane	0.50	U	0.40	0.50	1.0	ug/L	1	13-Dec-2020 01:00
Carbon disulfide	1.0	U	0.60	1.0	2.0	ug/L	1	13-Dec-2020 01:00
Carbon tetrachloride	0.50	U	0.50	0.50	1.0	ug/L	1	13-Dec-2020 01:00
Chlorobenzene	1.0	U	0.30	1.0	1.0	ug/L	1	13-Dec-2020 01:00
Chloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	13-Dec-2020 01:00
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	13-Dec-2020 01:00

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 28-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP / Site 58
Sample ID: 35AWW06_120120
Collection Date: 01-Dec-2020 10:20

ANALYTICAL REPORT
WorkOrder:HS20120090
Lab ID:HS20120090-05
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: QX
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	13-Dec-2020 01:00
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	13-Dec-2020 01:00
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	ug/L	1	13-Dec-2020 01:00
Dibromochloromethane	0.50	U	0.30	0.50	1.0	ug/L	1	13-Dec-2020 01:00
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	13-Dec-2020 01:00
Dichlorodifluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	13-Dec-2020 01:00
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	13-Dec-2020 01:00
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	13-Dec-2020 01:00
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	13-Dec-2020 01:00
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	13-Dec-2020 01:00
Methylene chloride	1.0	U	0.40	1.0	2.0	ug/L	1	13-Dec-2020 01:00
n-Butylbenzene	**1.7**		**0.40**	**1.0**	**1.0**	**ug/L**	1	13-Dec-2020 01:00
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	13-Dec-2020 01:00
Naphthalene	0.50	U	0.30	0.50	1.0	ug/L	1	13-Dec-2020 01:00
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	13-Dec-2020 01:00
sec-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	13-Dec-2020 01:00
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	13-Dec-2020 01:00
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	13-Dec-2020 01:00
Tetrachloroethene	0.50	U	0.30	0.50	1.0	ug/L	1	13-Dec-2020 01:00
Toluene	**0.55**	J	**0.20**	**0.50**	**1.0**	**ug/L**	1	13-Dec-2020 01:00
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	13-Dec-2020 01:00
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	13-Dec-2020 01:00
Trichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	13-Dec-2020 01:00
Trichlorofluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	13-Dec-2020 01:00
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	13-Dec-2020 01:00
Surr: 1,2-Dichloroethane-d4	*85.9*			**0**	*81-118*	*%REC*	*1*	*13-Dec-2020 01:00*
Surr: 4-Bromofluorobenzene	*95.4*			**0**	*85-114*	*%REC*	*1*	*13-Dec-2020 01:00*
Surr: Dibromofluoromethane	*88.4*			**0**	*80-119*	*%REC*	*1*	*13-Dec-2020 01:00*
Surr: Toluene-d8	*105*			**0**	*89-112*	*%REC*	*1*	*13-Dec-2020 01:00*
ANIONS BY SW9056A		**Method:SW9056**						Analyst: YP
Chloride	**937**		**10.0**	**25.0**	**25.0**	**mg/L**	50	09-Dec-2020 03:53
Nitrogen, Nitrate (As N)	0.200	U	0.0600	0.200	0.200	mg/L	2	03-Dec-2020 08:36
Nitrogen, Nitrite (As N)	0.200	U	0.0600	0.200	0.200	mg/L	2	03-Dec-2020 08:36
Sulfate	**45.6**		**0.400**	**1.00**	**1.00**	**mg/L**	2	03-Dec-2020 08:36
SUBCONTRACT ANALYSIS - DHC/DHB		**Method:NA**						Analyst: SUB
Subcontract Analysis	See Attached		0	0		NA	1	09-Dec-2020 17:36
SUBCONTRACT ANALYSIS - RSK		**Method:NA**						Analyst: SUBCA
Subcontract Analysis	See Attached		0	0		NA	1	15-Dec-2020 09:48

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 28-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP / Site 58
Sample ID: 35AWW06_120120
Collection Date: 01-Dec-2020 10:20

ANALYTICAL REPORT
WorkOrder:HS20120090
Lab ID:HS20120090-05
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
SUBCONTRACT ANALYSIS - TOC ANALYSIS		**Method:NA**						Analyst: SUBK
Subcontract Analysis	See Attached		0	0		NA	1	18-Dec-2020 10:40
SUBCONTRACT ANALYSIS - VOLATILE FATTY ACIDS		**Method:NA**						Analyst: SUB
Subcontract Analysis	See Attached		0	0		NA	1	28-Dec-2020 11:10

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 28-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP / Site 58
Sample ID: 35AWW17_120120
Collection Date: 01-Dec-2020 11:10

ANALYTICAL REPORT
WorkOrder:HS20120090
Lab ID:HS20120090-06
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	14-Dec-2020 14:22
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 14:22
1,1,2,2-Tetrachloroethane	0.50	U	0.50	0.50	1.0	ug/L	1	14-Dec-2020 14:22
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	14-Dec-2020 14:22
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 14:22
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 14:22
1,1-Dichloropropene	0.50	U	0.30	0.50	1.0	ug/L	1	14-Dec-2020 14:22
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	14-Dec-2020 14:22
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	14-Dec-2020 14:22
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	14-Dec-2020 14:22
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	14-Dec-2020 14:22
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 14:22
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 14:22
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	14-Dec-2020 14:22
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 14:22
1,2-Dichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	14-Dec-2020 14:22
1,3,5-Trimethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	14-Dec-2020 14:22
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	14-Dec-2020 14:22
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	14-Dec-2020 14:22
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	14-Dec-2020 14:22
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 14:22
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	14-Dec-2020 14:22
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	14-Dec-2020 14:22
2-Hexanone	2.0	U	1.0	2.0	2.0	ug/L	1	14-Dec-2020 14:22
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	14-Dec-2020 14:22
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	14-Dec-2020 14:22
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	ug/L	1	14-Dec-2020 14:22
Acetone	1.0	U	0.40	1.0	2.0	ug/L	1	14-Dec-2020 14:22
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 14:22
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	14-Dec-2020 14:22
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 14:22
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 14:22
Bromoform	0.50	U	0.40	0.50	1.0	ug/L	1	14-Dec-2020 14:22
Bromomethane	0.50	U	0.40	0.50	1.0	ug/L	1	14-Dec-2020 14:22
Carbon disulfide	1.0	U	0.60	1.0	2.0	ug/L	1	14-Dec-2020 14:22
Carbon tetrachloride	0.50	U	0.50	0.50	1.0	ug/L	1	14-Dec-2020 14:22
Chlorobenzene	0.50	U	0.30	0.50	1.0	ug/L	1	14-Dec-2020 14:22
Chloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	14-Dec-2020 14:22
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 14:22

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 28-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP / Site 58
Sample ID: 35AWW17_120120
Collection Date: 01-Dec-2020 11:10

ANALYTICAL REPORT
WorkOrder:HS20120090
Lab ID:HS20120090-06
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 14:22
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 14:22
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	ug/L	1	14-Dec-2020 14:22
Dibromochloromethane	0.50	U	0.30	0.50	1.0	ug/L	1	14-Dec-2020 14:22
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 14:22
Dichlorodifluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	14-Dec-2020 14:22
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	14-Dec-2020 14:22
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	14-Dec-2020 14:22
Isopropylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	14-Dec-2020 14:22
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	14-Dec-2020 14:22
Methylene chloride	1.0	U	0.40	1.0	2.0	ug/L	1	14-Dec-2020 14:22
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	14-Dec-2020 14:22
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	14-Dec-2020 14:22
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	14-Dec-2020 14:22
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	14-Dec-2020 14:22
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	14-Dec-2020 14:22
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	14-Dec-2020 14:22
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	14-Dec-2020 14:22
Tetrachloroethene	0.50	U	0.30	0.50	1.0	ug/L	1	14-Dec-2020 14:22
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 14:22
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 14:22
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 14:22
Trichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 14:22
Trichlorofluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	14-Dec-2020 14:22
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 14:22
Surr: 1,2-Dichloroethane-d4	*86.1*			**0**	*81-118*	*%REC*	*1*	*14-Dec-2020 14:22*
Surr: 4-Bromofluorobenzene	*94.4*			**0**	*85-114*	*%REC*	*1*	*14-Dec-2020 14:22*
Surr: Dibromofluoromethane	*88.3*			**0**	*80-119*	*%REC*	*1*	*14-Dec-2020 14:22*
Surr: Toluene-d8	*106*			**0**	*89-112*	*%REC*	*1*	*14-Dec-2020 14:22*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 28-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP / Site 58
Sample ID: 35AWW18_120120
Collection Date: 01-Dec-2020 11:55

ANALYTICAL REPORT
WorkOrder:HS20120090
Lab ID:HS20120090-07
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	14-Dec-2020 14:43
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 14:43
1,1,2,2-Tetrachloroethane	0.50	U	0.50	0.50	1.0	ug/L	1	14-Dec-2020 14:43
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	14-Dec-2020 14:43
1,1-Dichloroethane	**3.6**		**0.20**	**0.50**	**1.0**	**ug/L**	1	14-Dec-2020 14:43
1,1-Dichloroethene	**22**		**0.20**	**0.50**	**1.0**	**ug/L**	1	14-Dec-2020 14:43
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	ug/L	1	14-Dec-2020 14:43
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	14-Dec-2020 14:43
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	14-Dec-2020 14:43
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	14-Dec-2020 14:43
1,2,4-Trimethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	14-Dec-2020 14:43
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 14:43
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 14:43
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	14-Dec-2020 14:43
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 14:43
1,2-Dichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	14-Dec-2020 14:43
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	14-Dec-2020 14:43
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	14-Dec-2020 14:43
1,3-Dichloropropane	0.50	U	0.30	0.50	1.0	ug/L	1	14-Dec-2020 14:43
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	14-Dec-2020 14:43
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 14:43
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	14-Dec-2020 14:43
2-Chlorotoluene	0.50	U	0.30	0.50	1.0	ug/L	1	14-Dec-2020 14:43
2-Hexanone	2.0	U	1.0	2.0	2.0	ug/L	1	14-Dec-2020 14:43
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	14-Dec-2020 14:43
4-Isopropyltoluene	0.50	U	0.30	0.50	1.0	ug/L	1	14-Dec-2020 14:43
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	ug/L	1	14-Dec-2020 14:43
Acetone	1.0	U	0.40	1.0	2.0	ug/L	1	14-Dec-2020 14:43
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 14:43
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	14-Dec-2020 14:43
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 14:43
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 14:43
Bromoform	0.50	U	0.40	0.50	1.0	ug/L	1	14-Dec-2020 14:43
Bromomethane	0.50	U	0.40	0.50	1.0	ug/L	1	14-Dec-2020 14:43
Carbon disulfide	1.0	U	0.60	1.0	2.0	ug/L	1	14-Dec-2020 14:43
Carbon tetrachloride	0.50	U	0.50	0.50	1.0	ug/L	1	14-Dec-2020 14:43
Chlorobenzene	1.0	U	0.30	1.0	1.0	ug/L	1	14-Dec-2020 14:43
Chloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	14-Dec-2020 14:43
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 14:43

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 28-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP / Site 58
Sample ID: 35AWW18_120120
Collection Date: 01-Dec-2020 11:55

ANALYTICAL REPORT
WorkOrder:HS20120090
Lab ID:HS20120090-07
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 14:43
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 14:43
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	ug/L	1	14-Dec-2020 14:43
Dibromochloromethane	0.50	U	0.30	0.50	1.0	ug/L	1	14-Dec-2020 14:43
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 14:43
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	14-Dec-2020 14:43
Ethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	14-Dec-2020 14:43
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	14-Dec-2020 14:43
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	14-Dec-2020 14:43
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	14-Dec-2020 14:43
Methylene chloride	1.0	U	0.40	1.0	2.0	ug/L	1	14-Dec-2020 14:43
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	14-Dec-2020 14:43
n-Propylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	14-Dec-2020 14:43
Naphthalene	0.50	U	0.30	0.50	1.0	ug/L	1	14-Dec-2020 14:43
o-Xylene	0.50	U	0.30	0.50	1.0	ug/L	1	14-Dec-2020 14:43
sec-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	14-Dec-2020 14:43
Styrene	0.50	U	0.30	0.50	1.0	ug/L	1	14-Dec-2020 14:43
tert-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	14-Dec-2020 14:43
Tetrachloroethene	0.50	U	0.30	0.50	1.0	ug/L	1	14-Dec-2020 14:43
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 14:43
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 14:43
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 14:43
Trichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 14:43
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	14-Dec-2020 14:43
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 14:43
Surr: 1,2-Dichloroethane-d4	*86.6*			**0**	*81-118*	*%REC*	*1*	*14-Dec-2020 14:43*
Surr: 4-Bromofluorobenzene	*93.8*			**0**	*85-114*	*%REC*	*1*	*14-Dec-2020 14:43*
Surr: Dibromofluoromethane	*89.1*			**0**	*80-119*	*%REC*	*1*	*14-Dec-2020 14:43*
Surr: Toluene-d8	*104*			**0**	*89-112*	*%REC*	*1*	*14-Dec-2020 14:43*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 28-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP / Site 58
Sample ID: 35AWW18_120120_a
Collection Date: 01-Dec-2020 11:55

ANALYTICAL REPORT
WorkOrder:HS20120090
Lab ID:HS20120090-08
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	14-Dec-2020 15:04
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 15:04
1,1,2,2-Tetrachloroethane	0.50	U	0.50	0.50	1.0	ug/L	1	14-Dec-2020 15:04
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	14-Dec-2020 15:04
1,1-Dichloroethane	**3.5**		**0.20**	**0.50**	**1.0**	**ug/L**	1	14-Dec-2020 15:04
1,1-Dichloroethene	**22**		**0.20**	**0.50**	**1.0**	**ug/L**	1	14-Dec-2020 15:04
1,1-Dichloropropene	0.50	U	0.30	0.50	1.0	ug/L	1	14-Dec-2020 15:04
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	14-Dec-2020 15:04
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	14-Dec-2020 15:04
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	14-Dec-2020 15:04
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	14-Dec-2020 15:04
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 15:04
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 15:04
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	14-Dec-2020 15:04
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 15:04
1,2-Dichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	14-Dec-2020 15:04
1,3,5-Trimethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	14-Dec-2020 15:04
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	14-Dec-2020 15:04
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	14-Dec-2020 15:04
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	14-Dec-2020 15:04
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 15:04
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	14-Dec-2020 15:04
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	14-Dec-2020 15:04
2-Hexanone	2.0	U	1.0	2.0	2.0	ug/L	1	14-Dec-2020 15:04
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	14-Dec-2020 15:04
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	14-Dec-2020 15:04
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	ug/L	1	14-Dec-2020 15:04
Acetone	1.0	U	0.40	1.0	2.0	ug/L	1	14-Dec-2020 15:04
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 15:04
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	14-Dec-2020 15:04
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 15:04
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 15:04
Bromoform	0.50	U	0.40	0.50	1.0	ug/L	1	14-Dec-2020 15:04
Bromomethane	0.50	U	0.40	0.50	1.0	ug/L	1	14-Dec-2020 15:04
Carbon disulfide	1.0	U	0.60	1.0	2.0	ug/L	1	14-Dec-2020 15:04
Carbon tetrachloride	0.50	U	0.50	0.50	1.0	ug/L	1	14-Dec-2020 15:04
Chlorobenzene	0.50	U	0.30	0.50	1.0	ug/L	1	14-Dec-2020 15:04
Chloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	14-Dec-2020 15:04
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 15:04

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 28-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP / Site 58
Sample ID: 35AWW18_120120_a
Collection Date: 01-Dec-2020 11:55

ANALYTICAL REPORT
WorkOrder:HS20120090
Lab ID:HS20120090-08
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 15:04
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 15:04
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	ug/L	1	14-Dec-2020 15:04
Dibromochloromethane	0.50	U	0.30	0.50	1.0	ug/L	1	14-Dec-2020 15:04
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 15:04
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	14-Dec-2020 15:04
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	14-Dec-2020 15:04
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	14-Dec-2020 15:04
Isopropylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	14-Dec-2020 15:04
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	14-Dec-2020 15:04
Methylene chloride	1.0	U	0.40	1.0	2.0	ug/L	1	14-Dec-2020 15:04
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	14-Dec-2020 15:04
n-Propylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	14-Dec-2020 15:04
Naphthalene	0.50	U	0.30	0.50	1.0	ug/L	1	14-Dec-2020 15:04
o-Xylene	0.50	U	0.30	0.50	1.0	ug/L	1	14-Dec-2020 15:04
sec-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	14-Dec-2020 15:04
Styrene	0.50	U	0.30	0.50	1.0	ug/L	1	14-Dec-2020 15:04
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	14-Dec-2020 15:04
Tetrachloroethene	0.50	U	0.30	0.50	1.0	ug/L	1	14-Dec-2020 15:04
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 15:04
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 15:04
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 15:04
Trichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 15:04
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	14-Dec-2020 15:04
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 15:04
Surr: 1,2-Dichloroethane-d4	*87.6*			**0**	*81-118*	*%REC*	*1*	*14-Dec-2020 15:04*
Surr: 4-Bromofluorobenzene	*91.9*			**0**	*85-114*	*%REC*	*1*	*14-Dec-2020 15:04*
Surr: Dibromofluoromethane	*88.0*			**0**	*80-119*	*%REC*	*1*	*14-Dec-2020 15:04*
Surr: Toluene-d8	*104*			**0**	*89-112*	*%REC*	*1*	*14-Dec-2020 15:04*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 28-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP / Site 58
Sample ID: 35AWW16_120120
Collection Date: 01-Dec-2020 12:40

ANALYTICAL REPORT
WorkOrder:HS20120090
Lab ID:HS20120090-09
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	14-Dec-2020 15:25
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 15:25
1,1,2,2-Tetrachloroethane	0.50	U	0.50	0.50	1.0	ug/L	1	14-Dec-2020 15:25
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	14-Dec-2020 15:25
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 15:25
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 15:25
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	ug/L	1	14-Dec-2020 15:25
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	14-Dec-2020 15:25
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	14-Dec-2020 15:25
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	14-Dec-2020 15:25
1,2,4-Trimethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	14-Dec-2020 15:25
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 15:25
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 15:25
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	14-Dec-2020 15:25
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 15:25
1,2-Dichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	14-Dec-2020 15:25
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	14-Dec-2020 15:25
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	14-Dec-2020 15:25
1,3-Dichloropropane	0.50	U	0.30	0.50	1.0	ug/L	1	14-Dec-2020 15:25
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	14-Dec-2020 15:25
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 15:25
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	14-Dec-2020 15:25
2-Chlorotoluene	0.50	U	0.30	0.50	1.0	ug/L	1	14-Dec-2020 15:25
2-Hexanone	2.0	U	1.0	2.0	2.0	ug/L	1	14-Dec-2020 15:25
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	14-Dec-2020 15:25
4-Isopropyltoluene	0.50	U	0.30	0.50	1.0	ug/L	1	14-Dec-2020 15:25
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	ug/L	1	14-Dec-2020 15:25
Acetone	1.0	U	0.40	1.0	2.0	ug/L	1	14-Dec-2020 15:25
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 15:25
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	14-Dec-2020 15:25
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 15:25
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 15:25
Bromoform	0.50	U	0.40	0.50	1.0	ug/L	1	14-Dec-2020 15:25
Bromomethane	0.50	U	0.40	0.50	1.0	ug/L	1	14-Dec-2020 15:25
Carbon disulfide	1.0	U	0.60	1.0	2.0	ug/L	1	14-Dec-2020 15:25
Carbon tetrachloride	0.50	U	0.50	0.50	1.0	ug/L	1	14-Dec-2020 15:25
Chlorobenzene	1.0	U	0.30	1.0	1.0	ug/L	1	14-Dec-2020 15:25
Chloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	14-Dec-2020 15:25
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 15:25

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 28-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP / Site 58
Sample ID: 35AWW16_120120
Collection Date: 01-Dec-2020 12:40

ANALYTICAL REPORT
WorkOrder:HS20120090
Lab ID:HS20120090-09
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 15:25
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 15:25
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	ug/L	1	14-Dec-2020 15:25
Dibromochloromethane	0.50	U	0.30	0.50	1.0	ug/L	1	14-Dec-2020 15:25
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 15:25
Dichlorodifluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	14-Dec-2020 15:25
Ethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	14-Dec-2020 15:25
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	14-Dec-2020 15:25
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	14-Dec-2020 15:25
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	14-Dec-2020 15:25
Methylene chloride	1.0	U	0.40	1.0	2.0	ug/L	1	14-Dec-2020 15:25
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	14-Dec-2020 15:25
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	14-Dec-2020 15:25
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	14-Dec-2020 15:25
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	14-Dec-2020 15:25
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	14-Dec-2020 15:25
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	14-Dec-2020 15:25
tert-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	14-Dec-2020 15:25
Tetrachloroethene	0.50	U	0.30	0.50	1.0	ug/L	1	14-Dec-2020 15:25
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 15:25
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 15:25
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 15:25
Trichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 15:25
Trichlorofluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	14-Dec-2020 15:25
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 15:25
Surr: 1,2-Dichloroethane-d4	*85.7*			**0**	*81-118*	*%REC*	*1*	*14-Dec-2020 15:25*
Surr: 4-Bromofluorobenzene	*97.0*			**0**	*85-114*	*%REC*	*1*	*14-Dec-2020 15:25*
Surr: Dibromofluoromethane	*90.0*			**0**	*80-119*	*%REC*	*1*	*14-Dec-2020 15:25*
Surr: Toluene-d8	*107*			**0**	*89-112*	*%REC*	*1*	*14-Dec-2020 15:25*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 28-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP / Site 58
Sample ID: 35AWW15_120120
Collection Date: 01-Dec-2020 13:20

ANALYTICAL REPORT
WorkOrder:HS20120090
Lab ID:HS20120090-10
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	14-Dec-2020 15:46
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 15:46
1,1,2,2-Tetrachloroethane	0.50	U	0.50	0.50	1.0	ug/L	1	14-Dec-2020 15:46
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	14-Dec-2020 15:46
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 15:46
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 15:46
1,1-Dichloropropene	0.50	U	0.30	0.50	1.0	ug/L	1	14-Dec-2020 15:46
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	14-Dec-2020 15:46
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	14-Dec-2020 15:46
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	14-Dec-2020 15:46
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	14-Dec-2020 15:46
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 15:46
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 15:46
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	14-Dec-2020 15:46
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 15:46
1,2-Dichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	14-Dec-2020 15:46
1,3,5-Trimethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	14-Dec-2020 15:46
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	14-Dec-2020 15:46
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	14-Dec-2020 15:46
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	14-Dec-2020 15:46
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 15:46
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	14-Dec-2020 15:46
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	14-Dec-2020 15:46
2-Hexanone	2.0	U	1.0	2.0	2.0	ug/L	1	14-Dec-2020 15:46
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	14-Dec-2020 15:46
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	14-Dec-2020 15:46
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	ug/L	1	14-Dec-2020 15:46
Acetone	1.0	U	0.40	1.0	2.0	ug/L	1	14-Dec-2020 15:46
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 15:46
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	14-Dec-2020 15:46
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 15:46
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 15:46
Bromoform	0.50	U	0.40	0.50	1.0	ug/L	1	14-Dec-2020 15:46
Bromomethane	0.50	U	0.40	0.50	1.0	ug/L	1	14-Dec-2020 15:46
Carbon disulfide	1.0	U	0.60	1.0	2.0	ug/L	1	14-Dec-2020 15:46
Carbon tetrachloride	0.50	U	0.50	0.50	1.0	ug/L	1	14-Dec-2020 15:46
Chlorobenzene	0.50	U	0.30	0.50	1.0	ug/L	1	14-Dec-2020 15:46
Chloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	14-Dec-2020 15:46
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 15:46

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 28-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP / Site 58
Sample ID: 35AWW15_120120
Collection Date: 01-Dec-2020 13:20

ANALYTICAL REPORT
WorkOrder:HS20120090
Lab ID:HS20120090-10
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 15:46
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 15:46
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	ug/L	1	14-Dec-2020 15:46
Dibromochloromethane	0.50	U	0.30	0.50	1.0	ug/L	1	14-Dec-2020 15:46
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 15:46
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	14-Dec-2020 15:46
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	14-Dec-2020 15:46
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	14-Dec-2020 15:46
Isopropylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	14-Dec-2020 15:46
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	14-Dec-2020 15:46
Methylene chloride	1.0	U	0.40	1.0	2.0	ug/L	1	14-Dec-2020 15:46
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	14-Dec-2020 15:46
n-Propylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	14-Dec-2020 15:46
Naphthalene	0.50	U	0.30	0.50	1.0	ug/L	1	14-Dec-2020 15:46
o-Xylene	0.50	U	0.30	0.50	1.0	ug/L	1	14-Dec-2020 15:46
sec-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	14-Dec-2020 15:46
Styrene	0.50	U	0.30	0.50	1.0	ug/L	1	14-Dec-2020 15:46
tert-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	14-Dec-2020 15:46
Tetrachloroethene	0.50	U	0.30	0.50	1.0	ug/L	1	14-Dec-2020 15:46
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 15:46
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 15:46
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 15:46
Trichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 15:46
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	14-Dec-2020 15:46
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 15:46
Surr: 1,2-Dichloroethane-d4	*86.0*			**0**	*81-118*	*%REC*	*1*	*14-Dec-2020 15:46*
Surr: 4-Bromofluorobenzene	*93.4*			**0**	*85-114*	*%REC*	*1*	*14-Dec-2020 15:46*
Surr: Dibromofluoromethane	*88.0*			**0**	*80-119*	*%REC*	*1*	*14-Dec-2020 15:46*
Surr: Toluene-d8	*104*			**0**	*89-112*	*%REC*	*1*	*14-Dec-2020 15:46*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 28-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP / Site 58
Sample ID: Trip Blank
Collection Date: 01-Dec-2020 00:00

ANALYTICAL REPORT
WorkOrder:HS20120090
Lab ID:HS20120090-11
Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	14-Dec-2020 13:19
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 13:19
1,1,2,2-Tetrachloroethane	0.50	U	0.50	0.50	1.0	ug/L	1	14-Dec-2020 13:19
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	14-Dec-2020 13:19
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 13:19
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 13:19
1,1-Dichloropropene	0.50	U	0.30	0.50	1.0	ug/L	1	14-Dec-2020 13:19
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	14-Dec-2020 13:19
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	14-Dec-2020 13:19
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	14-Dec-2020 13:19
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	14-Dec-2020 13:19
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 13:19
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 13:19
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	14-Dec-2020 13:19
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 13:19
1,2-Dichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	14-Dec-2020 13:19
1,3,5-Trimethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	14-Dec-2020 13:19
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	14-Dec-2020 13:19
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	14-Dec-2020 13:19
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	14-Dec-2020 13:19
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 13:19
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	14-Dec-2020 13:19
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	14-Dec-2020 13:19
2-Hexanone	2.0	U	1.0	2.0	2.0	ug/L	1	14-Dec-2020 13:19
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	14-Dec-2020 13:19
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	14-Dec-2020 13:19
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	ug/L	1	14-Dec-2020 13:19
Acetone	1.0	U	0.40	1.0	2.0	ug/L	1	14-Dec-2020 13:19
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 13:19
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	14-Dec-2020 13:19
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 13:19
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 13:19
Bromoform	0.50	U	0.40	0.50	1.0	ug/L	1	14-Dec-2020 13:19
Bromomethane	0.50	U	0.40	0.50	1.0	ug/L	1	14-Dec-2020 13:19
Carbon disulfide	1.0	U	0.60	1.0	2.0	ug/L	1	14-Dec-2020 13:19
Carbon tetrachloride	0.50	U	0.50	0.50	1.0	ug/L	1	14-Dec-2020 13:19
Chlorobenzene	0.50	U	0.30	0.50	1.0	ug/L	1	14-Dec-2020 13:19
Chloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	14-Dec-2020 13:19
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 13:19

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 28-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP / Site 58
Sample ID: Trip Blank
Collection Date: 01-Dec-2020 00:00

ANALYTICAL REPORT
WorkOrder:HS20120090
Lab ID:HS20120090-11
Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 13:19
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 13:19
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	ug/L	1	14-Dec-2020 13:19
Dibromochloromethane	0.50	U	0.30	0.50	1.0	ug/L	1	14-Dec-2020 13:19
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 13:19
Dichlorodifluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	14-Dec-2020 13:19
Ethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	14-Dec-2020 13:19
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	14-Dec-2020 13:19
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	14-Dec-2020 13:19
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	14-Dec-2020 13:19
Methylene chloride	1.0	U	0.40	1.0	2.0	ug/L	1	14-Dec-2020 13:19
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	14-Dec-2020 13:19
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	14-Dec-2020 13:19
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	14-Dec-2020 13:19
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	14-Dec-2020 13:19
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	14-Dec-2020 13:19
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	14-Dec-2020 13:19
tert-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	14-Dec-2020 13:19
Tetrachloroethene	0.50	U	0.30	0.50	1.0	ug/L	1	14-Dec-2020 13:19
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 13:19
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 13:19
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 13:19
Trichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 13:19
Trichlorofluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	14-Dec-2020 13:19
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	14-Dec-2020 13:19
Surr: 1,2-Dichloroethane-d4	*84.9*			**0**	*81-118*	*%REC*	*1*	*14-Dec-2020 13:19*
Surr: 4-Bromofluorobenzene	*93.2*			**0**	*85-114*	*%REC*	*1*	*14-Dec-2020 13:19*
Surr: Dibromofluoromethane	*85.4*			**0**	*80-119*	*%REC*	*1*	*14-Dec-2020 13:19*
Surr: Toluene-d8	*106*			**0**	*89-112*	*%REC*	*1*	*14-Dec-2020 13:19*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 28-Dec-20

Weight / Prep Log

Client: Bhate Environmental Associates, Inc.
Project: LHAAP / Site 58
WorkOrder: HS20120090

Batch ID: 160306 **Start Date:** 03 Dec 2020 11:00 **End Date:** 03 Dec 2020 15:00
Method: WATER - SW3010A **Prep Code:** 3010A

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS20120090-01		10 (mL)	10 (mL)	1
HS20120090-02		10 (mL)	10 (mL)	1

ALS Houston, US Date: 28-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP / Site 58
WorkOrder: HS20120090

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: 160306 (0)	**Test Name :** METALS BY ICPMS BY SW6020A				**Matrix:** Groundwater	
HS20120090-01	03WW01_120120	01 Dec 2020 07:20		03 Dec 2020 15:00	10 Dec 2020 16:44	1
HS20120090-02	35AWW08_120120	01 Dec 2020 08:20		03 Dec 2020 15:00	10 Dec 2020 16:46	1
Batch ID: R374246 (0)	**Test Name :** ANIONS BY SW9056A				**Matrix:** Groundwater	
HS20120090-01	03WW01_120120	01 Dec 2020 07:20			09 Dec 2020 02:04	50
HS20120090-02	35AWW08_120120	01 Dec 2020 08:20			09 Dec 2020 02:59	200
HS20120090-03	35AWW11_120120	01 Dec 2020 09:15			09 Dec 2020 03:17	200
HS20120090-04	35AWW11_120120_a	01 Dec 2020 09:15			09 Dec 2020 03:35	200
HS20120090-05	35AWW06_120120	01 Dec 2020 10:20			09 Dec 2020 03:53	50
Batch ID: R374294 (0)	**Test Name :** ANIONS BY SW9056A				**Matrix:** Groundwater	
HS20120090-01	03WW01_120120	01 Dec 2020 07:20			03 Dec 2020 06:47	2
HS20120090-02	35AWW08_120120	01 Dec 2020 08:20			03 Dec 2020 07:06	5
HS20120090-03	35AWW11_120120	01 Dec 2020 09:15			03 Dec 2020 07:24	5
HS20120090-04	35AWW11_120120_a	01 Dec 2020 09:15			03 Dec 2020 08:18	5
HS20120090-05	35AWW06_120120	01 Dec 2020 10:20			03 Dec 2020 08:36	2
Batch ID: R374299 (0)	**Test Name :** SUBCONTRACT ANALYSIS - DHC/DHB				**Matrix:** Groundwater	
HS20120090-01	03WW01_120120	01 Dec 2020 07:20			09 Dec 2020 17:36	1
HS20120090-02	35AWW08_120120	01 Dec 2020 08:20			09 Dec 2020 17:36	1
HS20120090-03	35AWW11_120120	01 Dec 2020 09:15			09 Dec 2020 17:36	1
HS20120090-05	35AWW06_120120	01 Dec 2020 10:20			09 Dec 2020 17:36	1
Batch ID: R374536 (0)	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C				**Matrix:** Groundwater	
HS20120090-01	03WW01_120120	01 Dec 2020 07:20			12 Dec 2020 23:36	10
HS20120090-02	35AWW08_120120	01 Dec 2020 08:20			12 Dec 2020 23:57	10
HS20120090-03	35AWW11_120120	01 Dec 2020 09:15			13 Dec 2020 00:18	1
HS20120090-04	35AWW11_120120_a	01 Dec 2020 09:15			13 Dec 2020 00:39	1
HS20120090-05	35AWW06_120120	01 Dec 2020 10:20			13 Dec 2020 01:00	1
Batch ID: R374619 (0)	**Test Name :** SUBCONTRACT ANALYSIS - RSK				**Matrix:** Groundwater	
HS20120090-01	03WW01_120120	01 Dec 2020 07:20			15 Dec 2020 09:48	1
HS20120090-02	35AWW08_120120	01 Dec 2020 08:20			15 Dec 2020 09:48	1
HS20120090-03	35AWW11_120120	01 Dec 2020 09:15			15 Dec 2020 09:48	1
HS20120090-04	35AWW11_120120_a	01 Dec 2020 09:15			15 Dec 2020 09:48	1
HS20120090-05	35AWW06_120120	01 Dec 2020 10:20			15 Dec 2020 09:48	1
Batch ID: R374634 (0)	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C				**Matrix:** Water	
HS20120090-11	Trip Blank	01 Dec 2020 00:00			14 Dec 2020 13:19	1

ALS Houston, US Date: 28-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP / Site 58
WorkOrder: HS20120090

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: R374634 (0)	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C				**Matrix:** Groundwater	
HS20120090-06	35AWW17_120120	01 Dec 2020 11:10			14 Dec 2020 14:22	1
HS20120090-07	35AWW18_120120	01 Dec 2020 11:55			14 Dec 2020 14:43	1
HS20120090-08	35AWW18_120120_a	01 Dec 2020 11:55			14 Dec 2020 15:04	1
HS20120090-09	35AWW16_120120	01 Dec 2020 12:40			14 Dec 2020 15:25	1
HS20120090-10	35AWW15_120120	01 Dec 2020 13:20			14 Dec 2020 15:46	1
Batch ID: R374903 (0)	**Test Name :** SUBCONTRACT ANALYSIS - TOC ANALYSIS				**Matrix:** Groundwater	
HS20120090-01	03WW01_120120	01 Dec 2020 07:20			18 Dec 2020 10:40	1
HS20120090-02	35AWW08_120120	01 Dec 2020 08:20			18 Dec 2020 10:40	1
HS20120090-03	35AWW11_120120	01 Dec 2020 09:15			18 Dec 2020 10:40	1
HS20120090-04	35AWW11_120120_a	01 Dec 2020 09:15			18 Dec 2020 10:40	1
HS20120090-05	35AWW06_120120	01 Dec 2020 10:20			18 Dec 2020 10:40	1
Batch ID: R375421 (0)	**Test Name :** SUBCONTRACT ANALYSIS - VOLATILE FATTY ACIDS				**Matrix:** Groundwater	
HS20120090-01	03WW01_120120	01 Dec 2020 07:20			28 Dec 2020 11:10	1
HS20120090-02	35AWW08_120120	01 Dec 2020 08:20			28 Dec 2020 11:10	1
HS20120090-03	35AWW11_120120	01 Dec 2020 09:15			28 Dec 2020 11:10	1
HS20120090-04	35AWW11_120120_a	01 Dec 2020 09:15			28 Dec 2020 11:10	1
HS20120090-05	35AWW06_120120	01 Dec 2020 10:20			28 Dec 2020 11:10	1

ALS Houston, US Date: 28-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP / Site 58
WorkOrder: HS20120090

QC BATCH REPORT

Batch ID: 160306 (0) **Instrument: ICPMS04** **Method: METALS BY ICPMS BY SW6020A**

MBLK Sample ID: **MBLK-160306** Units: **mg/L** Analysis Date: **10-Dec-2020 16:18**
Client ID: Run ID: **ICPMS04_374333** SeqNo: **5873677** PrepDate: **03-Dec-2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.00100	0.00500								U

LCS Sample ID: **LCS-160306** Units: **mg/L** Analysis Date: **10-Dec-2020 16:06**
Client ID: Run ID: **ICPMS04_374333** SeqNo: **5873671** PrepDate: **03-Dec-2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.05306	0.00500	0.05	0	106	84 - 116				

MS Sample ID: **HS20111258-01MS** Units: **mg/L** Analysis Date: **10-Dec-2020 16:12**
Client ID: Run ID: **ICPMS04_374333** SeqNo: **5873674** PrepDate: **03-Dec-2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.0471	0.00500	0.05	0.000811	92.6	84 - 116				

MSD Sample ID: **HS20111258-01MSD** Units: **mg/L** Analysis Date: **10-Dec-2020 16:14**
Client ID: Run ID: **ICPMS04_374333** SeqNo: **5873675** PrepDate: **03-Dec-2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.04723	0.00500	0.05	0.000811	92.8	84 - 116	0.0471	0.29	20	

PDS Sample ID: **HS20111258-01PDS** Units: **mg/L** Analysis Date: **10-Dec-2020 16:16**
Client ID: Run ID: **ICPMS04_374333** SeqNo: **5873676** PrepDate: **03-Dec-2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.1134	0.00500	0.1	0.000811	113	80 - 120				

SD Sample ID: **HS20111258-01SD** Units: **mg/L** Analysis Date: **10-Dec-2020 16:10**
Client ID: Run ID: **ICPMS04_374333** SeqNo: **5873820** PrepDate: **03-Dec-2020** DF: **5**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Arsenic	0.00500	0.0250					0.000811	0	10	U

The following samples were analyzed in this batch: HS20120090-01 HS20120090-02

ALS Houston, US Date: 28-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP / Site 58
WorkOrder: HS20120090

QC BATCH REPORT

Batch ID: R374536 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MBLK Sample ID: **VBLKW-201212** Units: **ug/L** Analysis Date: **12-Dec-2020 16:55**
Client ID: Run ID: **VOA6_374536** SeqNo: **5878412** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	0.50	1.0								U
1,1,1-Trichloroethane	0.50	1.0								U
1,1,2,2-Tetrachloroethane	0.50	1.0								U
1,1,2-Trichloroethane	0.50	1.0								U
1,1-Dichloroethane	0.50	1.0								U
1,1-Dichloroethene	0.50	1.0								U
1,1-Dichloropropene	0.50	1.0								U
1,2,3-Trichlorobenzene	1.0	1.0								U
1,2,3-Trichloropropane	1.0	1.0								U
1,2,4-Trichlorobenzene	1.0	1.0								U
1,2,4-Trimethylbenzene	1.0	1.0								U
1,2-Dibromo-3-chloropropane	0.50	1.0								U
1,2-Dibromoethane	0.50	1.0								U
1,2-Dichlorobenzene	1.0	1.0								U
1,2-Dichloroethane	0.50	1.0								U
1,2-Dichloropropane	0.50	1.0								U
1,3,5-Trimethylbenzene	0.50	1.0								U
1,3-Dichlorobenzene	1.0	1.0								U
1,3-Dichloropropane	1.0	1.0								U
1,4-Dichlorobenzene	1.0	1.0								U
2,2-Dichloropropane	0.50	1.0								U
2-Butanone	1.0	2.0								U
2-Chlorotoluene	1.0	1.0								U
2-Hexanone	2.0	2.0								U
4-Chlorotoluene	1.0	1.0								U
4-Isopropyltoluene	1.0	1.0								U
4-Methyl-2-pentanone	2.0	2.0								U
Acetone	1.0	2.0								U
Benzene	0.50	1.0								U
Bromobenzene	1.0	1.0								U
Bromochloromethane	0.50	1.0								U
Bromodichloromethane	0.50	1.0								U
Bromoform	0.50	1.0								U
Bromomethane	0.50	1.0								U

ALS Houston, US Date: 28-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP / Site 58
WorkOrder: HS20120090

QC BATCH REPORT

Batch ID: R374536 (0) **Instrument: VOA6** **Method: VOLATILES ORGANICS BY METHOD 8260C**

MBLK Sample ID: **VBLKW-201212** Units: **ug/L** Analysis Date: **12-Dec-2020 16:55**
Client ID: Run ID: **VOA6_374536** SeqNo: **5878412** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Carbon disulfide	1.0	2.0								U
Carbon tetrachloride	0.50	1.0								U
Chlorobenzene	0.50	1.0								U
Chloroethane	0.50	1.0								U
Chloroform	0.50	1.0								U
Chloromethane	0.50	1.0								U
cis-1,2-Dichloroethene	0.50	1.0								U
cis-1,3-Dichloropropene	0.50	1.0								U
Dibromochloromethane	0.50	1.0								U
Dibromomethane	0.50	1.0								U
Dichlorodifluoromethane	0.50	1.0								U
Ethylbenzene	1.0	1.0								U
Hexachlorobutadiene	1.0	1.0								U
Isopropylbenzene	0.50	1.0								U
m,p-Xylene	1.0	2.0								U
Methylene chloride	1.0	2.0								U
Naphthalene	0.50	1.0								U
n-Butylbenzene	1.0	1.0								U
n-Propylbenzene	1.0	1.0								U
o-Xylene	1.0	1.0								U
sec-Butylbenzene	0.50	1.0								U
Styrene	1.0	1.0								U
tert-Butylbenzene	1.0	1.0								U
Tetrachloroethene	0.50	1.0								U
Toluene	0.50	1.0								U
trans-1,2-Dichloroethene	0.50	1.0								U
trans-1,3-Dichloropropene	0.50	1.0								U
Trichloroethene	0.50	1.0								U
Trichlorofluoromethane	0.50	1.0								U
Vinyl chloride	0.50	1.0								U
Surr: 1,2-Dichloroethane-d4	*43.43*	*1.0*	*50*	*0*	*86.9*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*45.6*	*1.0*	*50*	*0*	*91.2*	*85 - 114*				
Surr: Dibromofluoromethane	*43.45*	*1.0*	*50*	*0*	*86.9*	*80 - 119*				
Surr: Toluene-d8	*53.92*	*1.0*	*50*	*0*	*108*	*89 - 112*				

ALS Houston, US Date: 28-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP / Site 58
WorkOrder: HS20120090

QC BATCH REPORT

Batch ID: R374536 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

LCS Sample ID: **VLCSW-201212** Units: **ug/L** Analysis Date: **12-Dec-2020 16:13**
Client ID: Run ID: **VOA6_374536** SeqNo: **5878411** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	17.99	1.0	20	0	90.0	78 - 124				
1,1,1-Trichloroethane	18.6	1.0	20	0	93.0	74 - 131				
1,1,2,2-Tetrachloroethane	19.09	1.0	20	0	95.4	71 - 121				
1,1,2-Trichloroethane	18.87	1.0	20	0	94.3	80 - 119				
1,1-Dichloroethane	18.24	1.0	20	0	91.2	77 - 125				
1,1-Dichloroethene	18.25	1.0	20	0	91.3	71 - 131				
1,1-Dichloropropene	17.57	1.0	20	0	87.8	78 - 125				
1,2,3-Trichlorobenzene	20.86	1.0	20	0	104	69 - 129				
1,2,3-Trichloropropane	18.85	1.0	20	0	94.2	73 - 122				
1,2,4-Trichlorobenzene	19.53	1.0	20	0	97.7	69 - 130				
1,2,4-Trimethylbenzene	17.53	1.0	20	0	87.6	76 - 124				
1,2-Dibromo-3-chloropropane	18.61	1.0	20	0	93.0	62 - 128				
1,2-Dibromoethane	17.98	1.0	20	0	89.9	77 - 121				
1,2-Dichlorobenzene	17.87	1.0	20	0	89.4	80 - 119				
1,2-Dichloroethane	18.42	1.0	20	0	92.1	73 - 128				
1,2-Dichloropropane	18.44	1.0	20	0	92.2	78 - 122				
1,3,5-Trimethylbenzene	17.01	1.0	20	0	85.0	75 - 124				
1,3-Dichlorobenzene	17.46	1.0	20	0	87.3	80 - 119				
1,3-Dichloropropane	18.87	1.0	20	0	94.4	80 - 119				
1,4-Dichlorobenzene	18.01	1.0	20	0	90.0	79 - 118				
2,2-Dichloropropane	19.2	1.0	20	0	96.0	60 - 139				
2-Butanone	39.45	2.0	40	0	98.6	56 - 143				
2-Chlorotoluene	18.32	1.0	20	0	91.6	79 - 122				
2-Hexanone	35.07	2.0	40	0	87.7	57 - 139				
4-Chlorotoluene	17.92	1.0	20	0	89.6	78 - 122				
4-Isopropyltoluene	16.69	1.0	20	0	83.5	77 - 127				
4-Methyl-2-pentanone	35.63	2.0	40	0	89.1	67 - 130				
Acetone	44.51	2.0	40	0	111	39 - 160				
Benzene	18.13	1.0	20	0	90.6	79 - 120				
Bromobenzene	17.8	1.0	20	0	89.0	80 - 120				
Bromochloromethane	18.8	1.0	20	0	94.0	78 - 123				
Bromodichloromethane	18.98	1.0	20	0	94.9	79 - 125				
Bromoform	18.96	1.0	20	0	94.8	66 - 130				
Bromomethane	21.51	1.0	20	0	108	53 - 141				

ALS Houston, US Date: 28-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP / Site 58
WorkOrder: HS20120090

QC BATCH REPORT

Batch ID: R374536 (0) **Instrument: VOA6** **Method: VOLATILES ORGANICS BY METHOD 8260C**

LCS Sample ID: **VLCSW-201212** Units: **ug/L** Analysis Date: **12-Dec-2020 16:13**
Client ID: Run ID: **VOA6_374536** SeqNo: **5878411** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Carbon disulfide	37.96	2.0	40	0	94.9	64 - 133				
Carbon tetrachloride	18.44	1.0	20	0	92.2	72 - 136				
Chlorobenzene	17.86	1.0	20	0	89.3	82 - 118				
Chloroethane	18.46	1.0	20	0	92.3	60 - 138				
Chloroform	18.58	1.0	20	0	92.9	79 - 124				
Chloromethane	17.33	1.0	20	0	86.6	50 - 139				
cis-1,2-Dichloroethene	18.65	1.0	20	0	93.3	78 - 123				
cis-1,3-Dichloropropene	18.87	1.0	20	0	94.4	75 - 124				
Dibromochloromethane	18.17	1.0	20	0	90.9	74 - 126				
Dibromomethane	19.29	1.0	20	0	96.5	79 - 123				
Dichlorodifluoromethane	18.95	1.0	20	0	94.7	32 - 152				
Ethylbenzene	18.38	1.0	20	0	91.9	79 - 121				
Hexachlorobutadiene	19.66	1.0	20	0	98.3	66 - 134				
Isopropylbenzene	17.26	1.0	20	0	86.3	72 - 131				
m,p-Xylene	36.22	2.0	40	0	90.5	80 - 121				
Methylene chloride	18.24	2.0	20	0	91.2	74 - 124				
Naphthalene	19.71	1.0	20	0	98.5	61 - 128				
n-Butylbenzene	18.04	1.0	20	0	90.2	75 - 128				
n-Propylbenzene	17.51	1.0	20	0	87.6	76 - 126				
o-Xylene	17.5	1.0	20	0	87.5	78 - 122				
sec-Butylbenzene	16.99	1.0	20	0	84.9	77 - 126				
Styrene	18.19	1.0	20	0	90.9	78 - 123				
tert-Butylbenzene	17.05	1.0	20	0	85.3	78 - 124				
Tetrachloroethene	17.7	1.0	20	0	88.5	74 - 129				
Toluene	18.27	1.0	20	0	91.4	80 - 121				
trans-1,2-Dichloroethene	18.49	1.0	20	0	92.5	75 - 124				
trans-1,3-Dichloropropene	18.94	1.0	20	0	94.7	73 - 127				
Trichloroethene	17.24	1.0	20	0	86.2	79 - 123				
Trichlorofluoromethane	18.25	1.0	20	0	91.3	65 - 141				
Vinyl chloride	19.13	1.0	20	0	95.7	58 - 137				
Surr: 1,2-Dichloroethane-d4	*48.02*	*1.0*	*50*	*0*	*96.0*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*49.84*	*1.0*	*50*	*0*	*99.7*	*85 - 114*				
Surr: Dibromofluoromethane	*47.9*	*1.0*	*50*	*0*	*95.8*	*80 - 119*				
Surr: Toluene-d8	*48.27*	*1.0*	*50*	*0*	*96.5*	*89 - 112*				

ALS Houston, US Date: 28-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP / Site 58
WorkOrder: HS20120090

QC BATCH REPORT

Batch ID: R374536 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS20120448-34MS** Units: **ug/L** Analysis Date: **12-Dec-2020 18:41**
Client ID: Run ID: **VOA6_374536** SeqNo: **5878417** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	16.02	1.0	20	0	80.1	78 - 124				
1,1,1-Trichloroethane	14.66	1.0	20	0	73.3	74 - 131				S
1,1,2,2-Tetrachloroethane	17.93	1.0	20	0	89.6	71 - 121				
1,1,2-Trichloroethane	16.61	1.0	20	0	83.1	80 - 119				
1,1-Dichloroethane	13.71	1.0	20	0	68.6	77 - 125				S
1,1-Dichloroethene	13.66	1.0	20	0	68.3	71 - 131				S
1,1-Dichloropropene	15.21	1.0	20	0	76.0	78 - 125				S
1,2,3-Trichlorobenzene	17.54	1.0	20	0	87.7	69 - 129				
1,2,3-Trichloropropane	17.67	1.0	20	0	88.3	73 - 122				
1,2,4-Trichlorobenzene	16.53	1.0	20	0	82.7	69 - 130				
1,2,4-Trimethylbenzene	16.42	1.0	20	0	82.1	76 - 124				
1,2-Dibromo-3-chloropropane	15.96	1.0	20	0	79.8	62 - 128				
1,2-Dibromoethane	16.09	1.0	20	0	80.5	77 - 121				
1,2-Dichlorobenzene	16.22	1.0	20	0	81.1	80 - 119				
1,2-Dichloroethane	15.59	1.0	20	0	77.9	73 - 128				
1,2-Dichloropropane	15.51	1.0	20	0	77.5	78 - 122				S
1,3,5-Trimethylbenzene	16.19	1.0	20	0	80.9	75 - 124				
1,3-Dichlorobenzene	16.07	1.0	20	0	80.3	80 - 119				
1,3-Dichloropropane	16.26	1.0	20	0	81.3	80 - 119				
1,4-Dichlorobenzene	16.2	1.0	20	0	81.0	79 - 118				
2,2-Dichloropropane	14.6	1.0	20	0	73.0	60 - 139				
2-Butanone	32.38	2.0	40	0	81.0	56 - 143				
2-Chlorotoluene	17.35	1.0	20	0	86.7	79 - 122				
2-Hexanone	31.35	2.0	40	0	78.4	57 - 139				
4-Chlorotoluene	16.41	1.0	20	0	82.1	78 - 122				
4-Isopropyltoluene	15.55	1.0	20	0	77.8	77 - 127				
4-Methyl-2-pentanone	30.47	2.0	40	0	76.2	67 - 130				
Acetone	36.89	2.0	40	0	92.2	39 - 160				
Benzene	15.31	1.0	20	0	76.5	79 - 120				S
Bromobenzene	16.37	1.0	20	0	81.8	80 - 120				
Bromochloromethane	14.68	1.0	20	0	73.4	78 - 123				S
Bromodichloromethane	15.6	1.0	20	0	78.0	79 - 125				S
Bromoform	16.29	1.0	20	0	81.4	66 - 130				
Bromomethane	17.89	1.0	20	0	89.4	53 - 141				

ALS Houston, US Date: 28-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP / Site 58
WorkOrder: HS20120090

QC BATCH REPORT

Batch ID: R374536 (0) **Instrument: VOA6** **Method: VOLATILES ORGANICS BY METHOD 8260C**

MS Sample ID: **HS20120448-34MS** Units: **ug/L** Analysis Date: **12-Dec-2020 18:41**
Client ID: Run ID: **VOA6_374536** SeqNo: **5878417** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Carbon disulfide	27.95	2.0	40	0	69.9	64 - 133				
Carbon tetrachloride	15.93	1.0	20	0.951	74.9	72 - 136				
Chlorobenzene	15.76	1.0	20	0	78.8	82 - 118				S
Chloroethane	14.35	1.0	20	0	71.7	60 - 138				
Chloroform	15.43	1.0	20	1.921	67.5	79 - 124				S
Chloromethane	13.12	1.0	20	0	65.6	50 - 139				
cis-1,2-Dichloroethene	40.7	1.0	20	68.84	-141	78 - 123				S
cis-1,3-Dichloropropene	15.41	1.0	20	0	77.0	75 - 124				
Dibromochloromethane	15.97	1.0	20	0	79.9	74 - 126				
Dibromomethane	15.8	1.0	20	0	79.0	79 - 123				
Dichlorodifluoromethane	13.86	1.0	20	0	69.3	32 - 152				
Ethylbenzene	16.4	1.0	20	0	82.0	79 - 121				
Hexachlorobutadiene	17.71	1.0	20	0	88.6	66 - 134				
Isopropylbenzene	15.64	1.0	20	0	78.2	72 - 131				
m,p-Xylene	31.39	2.0	40	0	78.5	80 - 121				S
Methylene chloride	13.91	2.0	20	0	69.5	74 - 124				S
Naphthalene	15.6	1.0	20	0	78.0	61 - 128				
n-Butylbenzene	17.04	1.0	20	0	85.2	75 - 128				
n-Propylbenzene	16.45	1.0	20	0	82.3	76 - 126				
o-Xylene	15.28	1.0	20	0	76.4	78 - 122				S
sec-Butylbenzene	16.29	1.0	20	0	81.4	77 - 126				
Styrene	15.63	1.0	20	0	78.2	78 - 123				
tert-Butylbenzene	16.52	1.0	20	0	82.6	78 - 124				
Tetrachloroethene	15.92	1.0	20	0	79.6	74 - 129				
Toluene	16.47	1.0	20	0	82.3	80 - 121				
trans-1,2-Dichloroethene	14.59	1.0	20	0.6414	69.7	75 - 124				S
trans-1,3-Dichloropropene	15.63	1.0	20	0	78.2	73 - 127				
Trichloroethene	39.39	1.0	20	135.7	-482	79 - 123				SO
Trichlorofluoromethane	14.65	1.0	20	0	73.3	65 - 141				
Vinyl chloride	13.54	1.0	20	0	67.7	58 - 137				
Surr: 1,2-Dichloroethane-d4	*43.93*	*1.0*	*50*	*0*	*87.9*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*50.24*	*1.0*	*50*	*0*	*100*	*85 - 114*				
Surr: Dibromofluoromethane	*45.18*	*1.0*	*50*	*0*	*90.4*	*80 - 119*				
Surr: Toluene-d8	*52*	*1.0*	*50*	*0*	*104*	*89 - 112*				

ALS Houston, US Date: 28-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP / Site 58
WorkOrder: HS20120090

QC BATCH REPORT

Batch ID: R374536 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS20120448-34MSD** Units: **ug/L** Analysis Date: **12-Dec-2020 19:02**
Client ID: Run ID: **VOA6_374536** SeqNo: **5878418** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	15.22	1.0	20	0	76.1	78 - 124	16.02	5.13	20	S
1,1,1-Trichloroethane	14.27	1.0	20	0	71.3	74 - 131	14.66	2.68	20	S
1,1,2,2-Tetrachloroethane	16.64	1.0	20	0	83.2	71 - 121	17.93	7.46	20	
1,1,2-Trichloroethane	16.1	1.0	20	0	80.5	80 - 119	16.61	3.16	20	
1,1-Dichloroethane	13.28	1.0	20	0	66.4	77 - 125	13.71	3.18	20	S
1,1-Dichloroethene	13.27	1.0	20	0	66.4	71 - 131	13.66	2.87	20	S
1,1-Dichloropropene	14.59	1.0	20	0	72.9	78 - 125	15.21	4.15	20	S
1,2,3-Trichlorobenzene	19.26	1.0	20	0	96.3	69 - 129	17.54	9.32	20	
1,2,3-Trichloropropane	16.73	1.0	20	0	83.6	73 - 122	17.67	5.46	20	
1,2,4-Trichlorobenzene	17.76	1.0	20	0	88.8	69 - 130	16.53	7.18	20	
1,2,4-Trimethylbenzene	15.05	1.0	20	0	75.2	76 - 124	16.42	8.74	20	S
1,2-Dibromo-3-chloropropane	16.35	1.0	20	0	81.8	62 - 128	15.96	2.41	20	
1,2-Dibromoethane	16.07	1.0	20	0	80.4	77 - 121	16.09	0.105	20	
1,2-Dichlorobenzene	15.01	1.0	20	0	75.1	80 - 119	16.22	7.71	20	S
1,2-Dichloroethane	15.03	1.0	20	0	75.1	73 - 128	15.59	3.65	20	
1,2-Dichloropropane	14.57	1.0	20	0	72.8	78 - 122	15.51	6.27	20	S
1,3,5-Trimethylbenzene	14.65	1.0	20	0	73.3	75 - 124	16.19	9.94	20	S
1,3-Dichlorobenzene	14.86	1.0	20	0	74.3	80 - 119	16.07	7.81	20	S
1,3-Dichloropropane	15.98	1.0	20	0	79.9	80 - 119	16.26	1.73	20	S
1,4-Dichlorobenzene	15.46	1.0	20	0	77.3	79 - 118	16.2	4.67	20	S
2,2-Dichloropropane	13.96	1.0	20	0	69.8	60 - 139	14.6	4.47	20	
2-Butanone	30.93	2.0	40	0	77.3	56 - 143	32.38	4.57	20	
2-Chlorotoluene	15.76	1.0	20	0	78.8	79 - 122	17.35	9.62	20	S
2-Hexanone	33.6	2.0	40	0	84.0	57 - 139	31.35	6.92	20	
4-Chlorotoluene	14.75	1.0	20	0	73.8	78 - 122	16.41	10.6	20	S
4-Isopropyltoluene	14.36	1.0	20	0	71.8	77 - 127	15.55	7.95	20	S
4-Methyl-2-pentanone	30.83	2.0	40	0	77.1	67 - 130	30.47	1.16	20	
Acetone	37.4	2.0	40	0	93.5	39 - 160	36.89	1.37	20	
Benzene	14.59	1.0	20	0	73.0	79 - 120	15.31	4.8	20	S
Bromobenzene	14.97	1.0	20	0	74.8	80 - 120	16.37	8.95	20	S
Bromochloromethane	13.9	1.0	20	0	69.5	78 - 123	14.68	5.46	20	S
Bromodichloromethane	15.5	1.0	20	0	77.5	79 - 125	15.6	0.648	20	S
Bromoform	16.05	1.0	20	0	80.2	66 - 130	16.29	1.5	20	
Bromomethane	18.09	1.0	20	0	90.5	53 - 141	17.89	1.14	20	

ALS Houston, US Date: 28-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP / Site 58
WorkOrder: HS20120090

QC BATCH REPORT

Batch ID: R374536 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS20120448-34MSD** Units: **ug/L** Analysis Date: **12-Dec-2020 19:02**
Client ID: Run ID: **VOA6_374536** SeqNo: **5878418** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Carbon disulfide	26.99	2.0	40	0	67.5	64 - 133	27.95	3.48	20	
Carbon tetrachloride	14.87	1.0	20	0.951	69.6	72 - 136	15.93	6.86	20	S
Chlorobenzene	14.77	1.0	20	0	73.8	82 - 118	15.76	6.47	20	S
Chloroethane	13.63	1.0	20	0	68.1	60 - 138	14.35	5.14	20	
Chloroform	14.96	1.0	20	1.921	65.2	79 - 124	15.43	3.06	20	S
Chloromethane	13.28	1.0	20	0	66.4	50 - 139	13.12	1.24	20	
cis-1,2-Dichloroethene	39.06	1.0	20	68.84	-149	78 - 123	40.7	4.1	20	S
cis-1,3-Dichloropropene	14.86	1.0	20	0	74.3	75 - 124	15.41	3.62	20	S
Dibromochloromethane	15.78	1.0	20	0	78.9	74 - 126	15.97	1.22	20	
Dibromomethane	16.03	1.0	20	0	80.1	79 - 123	15.8	1.39	20	
Dichlorodifluoromethane	13.94	1.0	20	0	69.7	32 - 152	13.86	0.613	20	
Ethylbenzene	15.3	1.0	20	0	76.5	79 - 121	16.4	6.94	20	S
Hexachlorobutadiene	16.95	1.0	20	0	84.8	66 - 134	17.71	4.37	20	
Isopropylbenzene	15.16	1.0	20	0	75.8	72 - 131	15.64	3.12	20	
m,p-Xylene	29.57	2.0	40	0	73.9	80 - 121	31.39	5.96	20	S
Methylene chloride	13.57	2.0	20	0	67.9	74 - 124	13.91	2.44	20	S
Naphthalene	17.9	1.0	20	0	89.5	61 - 128	15.6	13.8	20	
n-Butylbenzene	15.67	1.0	20	0	78.4	75 - 128	17.04	8.37	20	
n-Propylbenzene	15.01	1.0	20	0	75.0	76 - 126	16.45	9.18	20	S
o-Xylene	15.12	1.0	20	0	75.6	78 - 122	15.28	1.04	20	S
sec-Butylbenzene	14.86	1.0	20	0	74.3	77 - 126	16.29	9.13	20	S
Styrene	14.98	1.0	20	0	74.9	78 - 123	15.63	4.31	20	S
tert-Butylbenzene	14.7	1.0	20	0	73.5	78 - 124	16.52	11.7	20	S
Tetrachloroethene	15.05	1.0	20	0	75.2	74 - 129	15.92	5.63	20	
Toluene	15.24	1.0	20	0	76.2	80 - 121	16.47	7.72	20	S
trans-1,2-Dichloroethene	14	1.0	20	0.6414	66.8	75 - 124	14.59	4.15	20	S
trans-1,3-Dichloropropene	14.95	1.0	20	0	74.8	73 - 127	15.63	4.47	20	
Trichloroethene	36.22	1.0	20	135.7	-498	79 - 123	39.39	8.4	20	SO
Trichlorofluoromethane	13.88	1.0	20	0	69.4	65 - 141	14.65	5.38	20	
Vinyl chloride	13.36	1.0	20	0	66.8	58 - 137	13.54	1.37	20	
Surr: 1,2-Dichloroethane-d4	*45.9*	*1.0*	*50*	*0*	*91.8*	*81 - 118*	*43.93*	*4.38*	*20*	
Surr: 4-Bromofluorobenzene	*49.76*	*1.0*	*50*	*0*	*99.5*	*85 - 114*	*50.24*	*0.952*	*20*	
Surr: Dibromofluoromethane	*44.58*	*1.0*	*50*	*0*	*89.2*	*80 - 119*	*45.18*	*1.34*	*20*	
Surr: Toluene-d8	*50.81*	*1.0*	*50*	*0*	*102*	*89 - 112*	*52*	*2.32*	*20*	

ALS Houston, US Date: 28-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP / Site 58
WorkOrder: HS20120090

QC BATCH REPORT

Batch ID: R374536 (0)	Instrument: VOA6	Method: VOLATILES ORGANICS BY METHOD 8260C

The following samples were analyzed in this batch:

HS20120090-01	HS20120090-02	HS20120090-03	HS20120090-04
HS20120090-05			

ALS Houston, US Date: 28-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP / Site 58
WorkOrder: HS20120090

QC BATCH REPORT

Batch ID: R374634 (0) **Instrument: VOA6** **Method: VOLATILES ORGANICS BY METHOD 8260C**

MBLK Sample ID: **VBLKW-201214** Units: **ug/L** Analysis Date: **14-Dec-2020 12:58**
Client ID: Run ID: **VOA6_374634** SeqNo: **5880913** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	0.50	1.0								U
1,1,1-Trichloroethane	0.50	1.0								U
1,1,2,2-Tetrachloroethane	0.50	1.0								U
1,1,2-Trichloroethane	0.50	1.0								U
1,1-Dichloroethane	0.50	1.0								U
1,1-Dichloroethene	0.50	1.0								U
1,1-Dichloropropene	0.50	1.0								U
1,2,3-Trichlorobenzene	1.0	1.0								U
1,2,3-Trichloropropane	1.0	1.0								U
1,2,4-Trichlorobenzene	1.0	1.0								U
1,2,4-Trimethylbenzene	1.0	1.0								U
1,2-Dibromo-3-chloropropane	0.50	1.0								U
1,2-Dibromoethane	0.50	1.0								U
1,2-Dichlorobenzene	1.0	1.0								U
1,2-Dichloroethane	0.50	1.0								U
1,2-Dichloropropane	0.50	1.0								U
1,3,5-Trimethylbenzene	0.50	1.0								U
1,3-Dichlorobenzene	1.0	1.0								U
1,3-Dichloropropane	1.0	1.0								U
1,4-Dichlorobenzene	1.0	1.0								U
2,2-Dichloropropane	0.50	1.0								U
2-Butanone	1.0	2.0								U
2-Chlorotoluene	1.0	1.0								U
2-Hexanone	2.0	2.0								U
4-Chlorotoluene	1.0	1.0								U
4-Isopropyltoluene	1.0	1.0								U
4-Methyl-2-pentanone	2.0	2.0								U
Acetone	1.0	2.0								U
Benzene	0.50	1.0								U
Bromobenzene	1.0	1.0								U
Bromochloromethane	0.50	1.0								U
Bromodichloromethane	0.50	1.0								U
Bromoform	0.50	1.0								U
Bromomethane	0.50	1.0								U

ALS Houston, US Date: 28-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP / Site 58
WorkOrder: HS20120090

QC BATCH REPORT

Batch ID: R374634 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MBLK Sample ID: **VBLKW-201214** Units: **ug/L** Analysis Date: **14-Dec-2020 12:58**
Client ID: Run ID: **VOA6_374634** SeqNo: **5880913** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Carbon disulfide	1.0	2.0								U
Carbon tetrachloride	0.50	1.0								U
Chlorobenzene	0.50	1.0								U
Chloroethane	0.50	1.0								U
Chloroform	0.50	1.0								U
Chloromethane	0.50	1.0								U
cis-1,2-Dichloroethene	0.50	1.0								U
cis-1,3-Dichloropropene	0.50	1.0								U
Dibromochloromethane	0.50	1.0								U
Dibromomethane	0.50	1.0								U
Dichlorodifluoromethane	0.50	1.0								U
Ethylbenzene	1.0	1.0								U
Hexachlorobutadiene	1.0	1.0								U
Isopropylbenzene	1.0	1.0								U
m,p-Xylene	1.0	2.0								U
Methylene chloride	1.0	2.0								U
Naphthalene	0.50	1.0								U
n-Butylbenzene	1.0	1.0								U
n-Propylbenzene	1.0	1.0								U
o-Xylene	1.0	1.0								U
sec-Butylbenzene	0.50	1.0								U
Styrene	1.0	1.0								U
tert-Butylbenzene	0.50	1.0								U
Tetrachloroethene	0.50	1.0								U
Toluene	0.50	1.0								U
trans-1,2-Dichloroethene	0.50	1.0								U
trans-1,3-Dichloropropene	0.50	1.0								U
Trichloroethene	0.50	1.0								U
Trichlorofluoromethane	0.50	1.0								U
Vinyl chloride	0.50	1.0								U
Surr: 1,2-Dichloroethane-d4	*43.1*	*1.0*	*50*	*0*	*86.2*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*47.28*	*1.0*	*50*	*0*	*94.6*	*85 - 114*				
Surr: Dibromofluoromethane	*43.93*	*1.0*	*50*	*0*	*87.9*	*80 - 119*				
Surr: Toluene-d8	*52.45*	*1.0*	*50*	*0*	*105*	*89 - 112*				

ALS Houston, US Date: 28-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP / Site 58
WorkOrder: HS20120090

QC BATCH REPORT

Batch ID: R374634 (0) **Instrument: VOA6** **Method: VOLATILES ORGANICS BY METHOD 8260C**

LCS Sample ID: **VLCSW-201214** Units: **ug/L** Analysis Date: **14-Dec-2020 12:16**
Client ID: Run ID: **VOA6_374634** SeqNo: **5880912** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	19.91	1.0	20	0	99.6	78 - 124				
1,1,1-Trichloroethane	19.72	1.0	20	0	98.6	74 - 131				
1,1,2,2-Tetrachloroethane	20.67	1.0	20	0	103	71 - 121				
1,1,2-Trichloroethane	19.38	1.0	20	0	96.9	80 - 119				
1,1-Dichloroethane	19.67	1.0	20	0	98.4	77 - 125				
1,1-Dichloroethene	18.55	1.0	20	0	92.8	71 - 131				
1,1-Dichloropropene	18.72	1.0	20	0	93.6	78 - 125				
1,2,3-Trichlorobenzene	22.85	1.0	20	0	114	69 - 129				
1,2,3-Trichloropropane	20.24	1.0	20	0	101	73 - 122				
1,2,4-Trichlorobenzene	21.78	1.0	20	0	109	69 - 130				
1,2,4-Trimethylbenzene	20.64	1.0	20	0	103	76 - 124				
1,2-Dibromo-3-chloropropane	20.11	1.0	20	0	101	62 - 128				
1,2-Dibromoethane	20.03	1.0	20	0	100	77 - 121				
1,2-Dichlorobenzene	19.85	1.0	20	0	99.2	80 - 119				
1,2-Dichloroethane	19.54	1.0	20	0	97.7	73 - 128				
1,2-Dichloropropane	19.7	1.0	20	0	98.5	78 - 122				
1,3,5-Trimethylbenzene	19.74	1.0	20	0	98.7	75 - 124				
1,3-Dichlorobenzene	19.84	1.0	20	0	99.2	80 - 119				
1,3-Dichloropropane	19.49	1.0	20	0	97.4	80 - 119				
1,4-Dichlorobenzene	20.55	1.0	20	0	103	79 - 118				
2,2-Dichloropropane	19.71	1.0	20	0	98.6	60 - 139				
2-Butanone	40.65	2.0	40	0	102	56 - 143				
2-Chlorotoluene	20.79	1.0	20	0	104	79 - 122				
2-Hexanone	37.24	2.0	40	0	93.1	57 - 139				
4-Chlorotoluene	20.6	1.0	20	0	103	78 - 122				
4-Isopropyltoluene	19.03	1.0	20	0	95.2	77 - 127				
4-Methyl-2-pentanone	36.49	2.0	40	0	91.2	67 - 130				
Acetone	44.96	2.0	40	0	112	39 - 160				
Benzene	19.24	1.0	20	0	96.2	79 - 120				
Bromobenzene	20.92	1.0	20	0	105	80 - 120				
Bromochloromethane	20.04	1.0	20	0	100	78 - 123				
Bromodichloromethane	20.6	1.0	20	0	103	79 - 125				
Bromoform	21.17	1.0	20	0	106	66 - 130				
Bromomethane	21.74	1.0	20	0	109	53 - 141				

ALS Houston, US Date: 28-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP / Site 58
WorkOrder: HS20120090

QC BATCH REPORT

Batch ID: R374634 (0) **Instrument: VOA6** **Method: VOLATILES ORGANICS BY METHOD 8260C**

LCS Sample ID: **VLCSW-201214** Units: **ug/L** Analysis Date: **14-Dec-2020 12:16**
Client ID: Run ID: **VOA6_374634** SeqNo: **5880912** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Carbon disulfide	41.2	2.0	40	0	103	64 - 133				
Carbon tetrachloride	19.62	1.0	20	0	98.1	72 - 136				
Chlorobenzene	19.81	1.0	20	0	99.1	82 - 118				
Chloroethane	19.4	1.0	20	0	97.0	60 - 138				
Chloroform	19.65	1.0	20	0	98.2	79 - 124				
Chloromethane	17.9	1.0	20	0	89.5	50 - 139				
cis-1,2-Dichloroethene	19.68	1.0	20	0	98.4	78 - 123				
cis-1,3-Dichloropropene	20.32	1.0	20	0	102	75 - 124				
Dibromochloromethane	19.84	1.0	20	0	99.2	74 - 126				
Dibromomethane	20.57	1.0	20	0	103	79 - 123				
Dichlorodifluoromethane	18.09	1.0	20	0	90.5	32 - 152				
Ethylbenzene	19.92	1.0	20	0	99.6	79 - 121				
Hexachlorobutadiene	22.51	1.0	20	0	113	66 - 134				
Isopropylbenzene	18.7	1.0	20	0	93.5	72 - 131				
m,p-Xylene	39.21	2.0	40	0	98.0	80 - 121				
Methylene chloride	19.92	2.0	20	0	99.6	74 - 124				
Naphthalene	21.22	1.0	20	0	106	61 - 128				
n-Butylbenzene	20.18	1.0	20	0	101	75 - 128				
n-Propylbenzene	19.71	1.0	20	0	98.5	76 - 126				
o-Xylene	19.49	1.0	20	0	97.4	78 - 122				
sec-Butylbenzene	19.28	1.0	20	0	96.4	77 - 126				
Styrene	20.01	1.0	20	0	100	78 - 123				
tert-Butylbenzene	19.15	1.0	20	0	95.8	78 - 124				
Tetrachloroethene	18.87	1.0	20	0	94.4	74 - 129				
Toluene	19.84	1.0	20	0	99.2	80 - 121				
trans-1,2-Dichloroethene	20.24	1.0	20	0	101	75 - 124				
trans-1,3-Dichloropropene	20.8	1.0	20	0	104	73 - 127				
Trichloroethene	18.87	1.0	20	0	94.3	79 - 123				
Trichlorofluoromethane	18.46	1.0	20	0	92.3	65 - 141				
Vinyl chloride	18.8	1.0	20	0	94.0	58 - 137				
Surr: 1,2-Dichloroethane-d4	*50.11*	*1.0*	*50*	*0*	*100*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*52.12*	*1.0*	*50*	*0*	*104*	*85 - 114*				
Surr: Dibromofluoromethane	*48.41*	*1.0*	*50*	*0*	*96.8*	*80 - 119*				
Surr: Toluene-d8	*49.97*	*1.0*	*50*	*0*	*99.9*	*89 - 112*				

ALS Houston, US Date: 28-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP / Site 58
WorkOrder: HS20120090

QC BATCH REPORT

Batch ID: R374634 (0) **Instrument: VOA6** **Method: VOLATILES ORGANICS BY METHOD 8260C**

MS Sample ID: **HS20120243-01MS** Units: **ug/L** Analysis Date: **14-Dec-2020 16:50**
Client ID: Run ID: **VOA6_374634** SeqNo: **5880924** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	21.77	1.0	20	0	109	78 - 124				
1,1,1-Trichloroethane	18.27	1.0	20	0	91.3	74 - 131				
1,1,2,2-Tetrachloroethane	21.85	1.0	20	0	109	71 - 121				
1,1,2-Trichloroethane	21.22	1.0	20	0	106	80 - 119				
1,1-Dichloroethane	15.26	1.0	20	0	76.3	77 - 125				S
1,1-Dichloroethene	10.96	1.0	20	0	54.8	71 - 131				S
1,1-Dichloropropene	18.83	1.0	20	0	94.1	78 - 125				
1,2,3-Trichlorobenzene	21.99	1.0	20	0	110	69 - 129				
1,2,3-Trichloropropane	21.48	1.0	20	0	107	73 - 122				
1,2,4-Trichlorobenzene	22.74	1.0	20	0	114	69 - 130				
1,2,4-Trimethylbenzene	21.82	1.0	20	0	109	76 - 124				
1,2-Dibromo-3-chloropropane	20.54	1.0	20	0	103	62 - 128				
1,2-Dibromoethane	20.07	1.0	20	0	100	77 - 121				
1,2-Dichlorobenzene	20.8	1.0	20	0	104	80 - 119				
1,2-Dichloroethane	19.43	1.0	20	0	97.1	73 - 128				
1,2-Dichloropropane	19.75	1.0	20	0	98.8	78 - 122				
1,3,5-Trimethylbenzene	21.48	1.0	20	0	107	75 - 124				
1,3-Dichlorobenzene	20.55	1.0	20	0	103	80 - 119				
1,3-Dichloropropane	20.73	1.0	20	0	104	80 - 119				
1,4-Dichlorobenzene	21.39	1.0	20	0	107	79 - 118				
2,2-Dichloropropane	17.69	1.0	20	0	88.5	60 - 139				
2-Butanone	33.58	2.0	40	0	83.9	56 - 143				
2-Chlorotoluene	22.82	1.0	20	0	114	79 - 122				
2-Hexanone	42.58	2.0	40	0	106	57 - 139				
4-Chlorotoluene	21.33	1.0	20	0	107	78 - 122				
4-Isopropyltoluene	22.45	1.0	20	0	112	77 - 127				
4-Methyl-2-pentanone	39.17	2.0	40	0	97.9	67 - 130				
Acetone	28.34	2.0	40	0	70.9	39 - 160				
Benzene	18.26	1.0	20	0	91.3	79 - 120				
Bromobenzene	21.43	1.0	20	0	107	80 - 120				
Bromochloromethane	17.29	1.0	20	0	86.5	78 - 123				
Bromodichloromethane	21.03	1.0	20	0	105	79 - 125				
Bromoform	21.43	1.0	20	0	107	66 - 130				
Bromomethane	5.984	1.0	20	0	29.9	53 - 141				S

ALS Houston, US Date: 28-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP / Site 58
WorkOrder: HS20120090

QC BATCH REPORT

Batch ID: R374634 (0) **Instrument: VOA6** **Method: VOLATILES ORGANICS BY METHOD 8260C**

MS Sample ID: **HS20120243-01MS** Units: **ug/L** Analysis Date: **14-Dec-2020 16:50**
Client ID: Run ID: **VOA6_374634** SeqNo: **5880924** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Carbon disulfide	17.67	2.0	40	0	44.2	64 - 133				S
Carbon tetrachloride	21.04	1.0	20	0	105	72 - 136				
Chlorobenzene	20.65	1.0	20	0	103	82 - 118				
Chloroethane	59.47	1.0	20	0	297	60 - 138				S
Chloroform	17.73	1.0	20	0	88.6	79 - 124				
Chloromethane	46.13	1.0	20	0	231	50 - 139				S
cis-1,2-Dichloroethene	25.05	1.0	20	7.65	87.0	78 - 123				
cis-1,3-Dichloropropene	20.09	1.0	20	0	100	75 - 124				
Dibromochloromethane	20.87	1.0	20	0	104	74 - 126				
Dibromomethane	19.85	1.0	20	0	99.3	79 - 123				
Dichlorodifluoromethane	2.94	1.0	20	0	14.7	32 - 152				S
Ethylbenzene	22.42	1.0	20	0	112	79 - 121				
Hexachlorobutadiene	23.03	1.0	20	0	115	66 - 134				
Isopropylbenzene	22.15	1.0	20	0	111	72 - 131				
m,p-Xylene	42.31	2.0	40	0	106	80 - 121				
Methylene chloride	13.99	2.0	20	0	70.0	74 - 124				S
Naphthalene	19.94	1.0	20	0	99.7	61 - 128				
n-Butylbenzene	23.31	1.0	20	0	117	75 - 128				
n-Propylbenzene	22.86	1.0	20	0	114	76 - 126				
o-Xylene	20.87	1.0	20	0	104	78 - 122				
sec-Butylbenzene	23.17	1.0	20	0	116	77 - 126				
Styrene	20.35	1.0	20	0	102	78 - 123				
tert-Butylbenzene	22.9	1.0	20	0	115	78 - 124				
Tetrachloroethene	21.42	1.0	20	0	107	74 - 129				
Toluene	20.63	1.0	20	0	103	80 - 121				
trans-1,2-Dichloroethene	15.09	1.0	20	0	75.5	75 - 124				
trans-1,3-Dichloropropene	20.48	1.0	20	0	102	73 - 127				
Trichloroethene	20.13	1.0	20	1.205	94.6	79 - 123				
Trichlorofluoromethane	8.367	1.0	20	0	41.8	65 - 141				S
Vinyl chloride	2.093	1.0	20	0.4082	8.42	58 - 137				S
Surr: 1,2-Dichloroethane-d4	*44.72*	*1.0*	*50*	*0*	*89.4*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*50.81*	*1.0*	*50*	*0*	*102*	*85 - 114*				
Surr: Dibromofluoromethane	*44.35*	*1.0*	*50*	*0*	*88.7*	*80 - 119*				
Surr: Toluene-d8	*51.89*	*1.0*	*50*	*0*	*104*	*89 - 112*				

ALS Houston, US Date: 28-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP / Site 58
WorkOrder: HS20120090

QC BATCH REPORT

Batch ID: R374634 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS20120243-01MSD** Units: **ug/L** Analysis Date: **14-Dec-2020 17:11**
Client ID: Run ID: **VOA6_374634** SeqNo: **5880925** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	21.24	1.0	20	0	106	78 - 124	21.77	2.49	20	
1,1,1-Trichloroethane	17.52	1.0	20	0	87.6	74 - 131	18.27	4.19	20	
1,1,2,2-Tetrachloroethane	21.97	1.0	20	0	110	71 - 121	21.85	0.582	20	
1,1,2-Trichloroethane	21	1.0	20	0	105	80 - 119	21.22	1.05	20	
1,1-Dichloroethane	15.36	1.0	20	0	76.8	77 - 125	15.26	0.616	20	S
1,1-Dichloroethene	10.99	1.0	20	0	54.9	71 - 131	10.96	0.261	20	S
1,1-Dichloropropene	18.29	1.0	20	0	91.5	78 - 125	18.83	2.87	20	
1,2,3-Trichlorobenzene	23.73	1.0	20	0	119	69 - 129	21.99	7.58	20	
1,2,3-Trichloropropane	21.58	1.0	20	0	108	73 - 122	21.48	0.464	20	
1,2,4-Trichlorobenzene	23.01	1.0	20	0	115	69 - 130	22.74	1.2	20	
1,2,4-Trimethylbenzene	22.92	1.0	20	0	115	76 - 124	21.82	4.95	20	
1,2-Dibromo-3-chloropropane	21.86	1.0	20	0	109	62 - 128	20.54	6.23	20	
1,2-Dibromoethane	20.63	1.0	20	0	103	77 - 121	20.07	2.74	20	
1,2-Dichlorobenzene	20.97	1.0	20	0	105	80 - 119	20.8	0.816	20	
1,2-Dichloroethane	19.24	1.0	20	0	96.2	73 - 128	19.43	0.953	20	
1,2-Dichloropropane	18.84	1.0	20	0	94.2	78 - 122	19.75	4.72	20	
1,3,5-Trimethylbenzene	22.01	1.0	20	0	110	75 - 124	21.48	2.44	20	
1,3-Dichlorobenzene	21.68	1.0	20	0	108	80 - 119	20.55	5.35	20	
1,3-Dichloropropane	21.14	1.0	20	0	106	80 - 119	20.73	2	20	
1,4-Dichlorobenzene	21.66	1.0	20	0	108	79 - 118	21.39	1.28	20	
2,2-Dichloropropane	16.92	1.0	20	0	84.6	60 - 139	17.69	4.49	20	
2-Butanone	32.61	2.0	40	0	81.5	56 - 143	33.58	2.94	20	
2-Chlorotoluene	23.58	1.0	20	0	118	79 - 122	22.82	3.3	20	
2-Hexanone	39.34	2.0	40	0	98.4	57 - 139	42.58	7.9	20	
4-Chlorotoluene	21.84	1.0	20	0	109	78 - 122	21.33	2.37	20	
4-Isopropyltoluene	22.66	1.0	20	0	113	77 - 127	22.45	0.933	20	
4-Methyl-2-pentanone	39.27	2.0	40	0	98.2	67 - 130	39.17	0.257	20	
Acetone	28.23	2.0	40	0	70.6	39 - 160	28.34	0.42	20	
Benzene	18.21	1.0	20	0	91.0	79 - 120	18.26	0.316	20	
Bromobenzene	20.96	1.0	20	0	105	80 - 120	21.43	2.2	20	
Bromochloromethane	16.45	1.0	20	0	82.3	78 - 123	17.29	4.98	20	
Bromodichloromethane	20.4	1.0	20	0	102	79 - 125	21.03	3.04	20	
Bromoform	21.48	1.0	20	0	107	66 - 130	21.43	0.244	20	
Bromomethane	6.914	1.0	20	0	34.6	53 - 141	5.984	14.4	20	S

ALS Houston, US Date: 28-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP / Site 58
WorkOrder: HS20120090

QC BATCH REPORT

Batch ID: R374634 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS20120243-01MSD** Units: **ug/L** Analysis Date: **14-Dec-2020 17:11**
Client ID: Run ID: **VOA6_374634** SeqNo: **5880925** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Carbon disulfide	17.02	2.0	40	0	42.5	64 - 133	17.67	3.73	20	S
Carbon tetrachloride	20.79	1.0	20	0	104	72 - 136	21.04	1.22	20	
Chlorobenzene	20.13	1.0	20	0	101	82 - 118	20.65	2.57	20	
Chloroethane	15.09	1.0	20	0	75.5	60 - 138	59.47	119	20	R
Chloroform	17.76	1.0	20	0	88.8	79 - 124	17.73	0.204	20	
Chloromethane	3.478	1.0	20	0	17.4	50 - 139	46.13	172	20	SR
cis-1,2-Dichloroethene	24.74	1.0	20	7.65	85.4	78 - 123	25.05	1.24	20	
cis-1,3-Dichloropropene	19.24	1.0	20	0	96.2	75 - 124	20.09	4.32	20	
Dibromochloromethane	21.2	1.0	20	0	106	74 - 126	20.87	1.6	20	
Dibromomethane	19.85	1.0	20	0	99.3	79 - 123	19.85	0.00798	20	
Dichlorodifluoromethane	3.017	1.0	20	0	15.1	32 - 152	2.94	2.57	20	S
Ethylbenzene	21.97	1.0	20	0	110	79 - 121	22.42	2.02	20	
Hexachlorobutadiene	23.94	1.0	20	0	120	66 - 134	23.03	3.84	20	
Isopropylbenzene	22.22	1.0	20	0	111	72 - 131	22.15	0.322	20	
m,p-Xylene	41.98	2.0	40	0	105	80 - 121	42.31	0.799	20	
Methylene chloride	14.68	2.0	20	0	73.4	74 - 124	13.99	4.78	20	S
Naphthalene	22.35	1.0	20	0	112	61 - 128	19.94	11.4	20	
n-Butylbenzene	23.51	1.0	20	0	118	75 - 128	23.31	0.848	20	
n-Propylbenzene	23.35	1.0	20	0	117	76 - 126	22.86	2.11	20	
o-Xylene	20.67	1.0	20	0	103	78 - 122	20.87	0.956	20	
sec-Butylbenzene	23.42	1.0	20	0	117	77 - 126	23.17	1.07	20	
Styrene	19.98	1.0	20	0	99.9	78 - 123	20.35	1.83	20	
tert-Butylbenzene	23.27	1.0	20	0	116	78 - 124	22.9	1.59	20	
Tetrachloroethene	21.52	1.0	20	0	108	74 - 129	21.42	0.438	20	
Toluene	20.65	1.0	20	0	103	80 - 121	20.63	0.113	20	
trans-1,2-Dichloroethene	15.12	1.0	20	0	75.6	75 - 124	15.09	0.18	20	
trans-1,3-Dichloropropene	19.98	1.0	20	0	99.9	73 - 127	20.48	2.47	20	
Trichloroethene	19.38	1.0	20	1.205	90.9	79 - 123	20.13	3.8	20	
Trichlorofluoromethane	8.452	1.0	20	0	42.3	65 - 141	8.367	1.01	20	S
Vinyl chloride	1.971	1.0	20	0.4082	7.82	58 - 137	2.093	5.96	20	S
Surr: 1,2-Dichloroethane-d4	*43.6*	*1.0*	*50*	*0*	*87.2*	*81 - 118*	*44.72*	*2.54*	*20*	
Surr: 4-Bromofluorobenzene	*49.33*	*1.0*	*50*	*0*	*98.7*	*85 - 114*	*50.81*	*2.97*	*20*	
Surr: Dibromofluoromethane	*44.08*	*1.0*	*50*	*0*	*88.2*	*80 - 119*	*44.35*	*0.62*	*20*	
Surr: Toluene-d8	*51.77*	*1.0*	*50*	*0*	*104*	*89 - 112*	*51.89*	*0.219*	*20*	

ALS Houston, US Date: 28-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP / Site 58
WorkOrder: HS20120090

QC BATCH REPORT

Batch ID: R374634 (0)	Instrument: VOA6	Method: VOLATILES ORGANICS BY METHOD 8260C

The following samples were analyzed in this batch:

HS20120090-06	HS20120090-07	HS20120090-08	HS20120090-09
HS20120090-10	HS20120090-11		

ALS Houston, US Date: 28-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP / Site 58
WorkOrder: HS20120090

QC BATCH REPORT

Batch ID: R374246 (0) **Instrument: ICS2100** **Method: ANIONS BY SW9056A**

MBLK Sample ID: **MBLK-** Units: **mg/L** Analysis Date: **08-Dec-2020 13:05**
Client ID: Run ID: **ICS2100_374246** SeqNo: **5870528** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	0.500	0.500								U

LCS Sample ID: **LCS-** Units: **mg/L** Analysis Date: **08-Dec-2020 13:22**
Client ID: Run ID: **ICS2100_374246** SeqNo: **5870529** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	19.74	0.500	20	0	98.7	80 - 120				

MS Sample ID: **HS20120396-55MS** Units: **mg/L** Analysis Date: **08-Dec-2020 21:32**
Client ID: Run ID: **ICS2100_374246** SeqNo: **5870541** PrepDate: DF: **5**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	869	2.50	50	842.3	53.3	80 - 120				SEO

MSD Sample ID: **HS20120396-55MSD** Units: **mg/L** Analysis Date: **08-Dec-2020 21:50**
Client ID: Run ID: **ICS2100_374246** SeqNo: **5870542** PrepDate: DF: **5**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	865	2.50	50	842.3	45.4	80 - 120	869	0.455	20	SEO

The following samples were analyzed in this batch: HS20120090-01 HS20120090-02 HS20120090-03 HS20120090-04 HS20120090-05

ALS Houston, US Date: 28-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP / Site 58
WorkOrder: HS20120090

QC BATCH REPORT

Batch ID: R374294 (0) **Instrument: ICS-Integrion** **Method: ANIONS BY SW9056A**

MBLK Sample ID: **MBLK-120220** Units: **mg/L** Analysis Date: **03-Dec-2020 09:49**
Client ID: Run ID: **ICS-Integrion_374294** SeqNo: **5871328** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrogen, Nitrate (As N)	0.100	0.100								U
Nitrogen, Nitrite (As N)	0.100	0.100								U
Sulfate	0.500	0.500								U

LCS Sample ID: **LCS-120220** Units: **mg/L** Analysis Date: **03-Dec-2020 10:07**
Client ID: Run ID: **ICS-Integrion_374294** SeqNo: **5871329** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrogen, Nitrate (As N)	3.974	0.100	4	0	99.4	80 - 120				
Nitrogen, Nitrite (As N)	4.105	0.100	4	0	103	80 - 120				
Sulfate	19.69	0.500	20	0	98.5	80 - 120				

LCSD Sample ID: **LCSD-120220** Units: **mg/L** Analysis Date: **03-Dec-2020 10:25**
Client ID: Run ID: **ICS-Integrion_374294** SeqNo: **5871330** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrogen, Nitrate (As N)	3.883	0.100	4	0	97.1	80 - 120	3.974	2.32	20	
Nitrogen, Nitrite (As N)	4.019	0.100	4	0	100	80 - 120	4.105	2.13	20	
Sulfate	19.17	0.500	20	0	95.8	80 - 120	19.69	2.7	20	

MS Sample ID: **HS20120073-02MS** Units: **mg/L** Analysis Date: **02-Dec-2020 20:13**
Client ID: Run ID: **ICS-Integrion_374294** SeqNo: **5871315** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrogen, Nitrate (As N)	2.21	0.100	2	0.4083	90.1	80 - 120				
Nitrogen, Nitrite (As N)	2.02	0.100	2	0	101	80 - 120				
Sulfate	184.8	0.500	10	183.5	12.6	80 - 120				SEO

ALS Houston, US Date: 28-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP / Site 58
WorkOrder: HS20120090

QC BATCH REPORT

Batch ID: R374294 (0) **Instrument: ICS-Integrion** **Method: ANIONS BY SW9056A**

MSD Sample ID: **HS20120073-02MSD** Units: **mg/L** Analysis Date: **02-Dec-2020 20:31**
Client ID: Run ID: **ICS-Integrion_374294** SeqNo: **5871316** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrogen, Nitrate (As N)	2.044	0.100	2	0.4083	81.8	80 - 120	2.21	7.78	20	
Nitrogen, Nitrite (As N)	1.86	0.100	2	0	93.0	80 - 120	2.02	8.24	20	
Sulfate	172.3	0.500	10	183.5	-112	80 - 120	184.8	6.99	20	SEO

The following samples were analyzed in this batch: HS20120090-01 HS20120090-02 HS20120090-03 HS20120090-04 HS20120090-05

ALS Houston, US Date: 28-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP / Site 58
WorkOrder: **HS20120090**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitaion Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

Unit Reported	Description
mg/L	Milligrams per Liter

ALS Houston, US Date: 28-Dec-20

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	20-030-0	26-Mar-2021
California	2919, 2020-2021	30-Apr-2021
Dept of Defense	PJLA L20-507	22-Dec-2021
Florida	E87611-30-07/01/2020	30-Jun-2021
Illinois	2000322020-4	09-May-2021
Kansas	E-10352 2020-2021	31-Jul-2021
Kentucky	123043, 2020-2021	30-Apr-2021
Louisiana	03087, 2020-2021	30-Jun-2021
North Carolina	624-2020	31-Dec-2020
North Dakota	R-193 2020-2021	30-Apr-2021
Oklahoma	2020-165	31-Aug-2021
Texas	T104704231-20-26	30-Apr-2021

ALS Houston, US Date: 28-Dec-20

Sample Receipt Checklist

Work Order ID: HS20120090 **Date/Time Received:** **02-Dec-2020 10:40**

Client Name: Bhate Environmental **Received by:** **Jared R. Makan**

Completed By: */S/ Paresh M. Giga* 02-Dec-2020 15:35 **Reviewed by:** */S/ RJ Modashia* 02-Dec-2020 21:04

eSignature Date/Time eSignature Date/Time

Matrices: **GW/Water** Carrier name: **FedEx**

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
VOA/TX1005/TX1006 Solids in hermetically sealed vials?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	1 Page(s)
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	COC IDs:None
Samplers name present on COC?	Yes ☐	No ☑	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☐	No ☑	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	1.2C U/c	IR25	
Cooler(s)/Kit(s):	43893		
Date/Time sample(s) sent to storage:	12/2/2020 15:55		
Water - VOA vials have zero headspace?	Yes ☐	No ☑	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☐	No ☑	N/A ☐
pH adjusted?	Yes ☑	No ☐	N/A ☐
pH adjusted by:	Si Ma		

Login Notes:
03WW01 & 35AWW08 Metals pH >2 (7)
Pres'd with 0.5ml HNO3 12/2/20 @ 13:30 Final pH (1)
35AWW11 - CO2 - 1 Neat vial received broken.
03WW01 VOC vial 3 & RSK vials 2 & 3 have headspace > 6mm.
35AWW08 RSK viAL 3 has headspace > 6mm

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:

bhate ENVIRONMENTAL CONSTRUCTION SERVICES

1608 13th Avenue South, Suite 300
Birmingham Alabama 35205
Tel: 205-918-4000
Fax: 205-918-4050

Chain of Custody and Analytical Request

Page: ____ of ____

Project/Phase No: NWO1312.0150

COC Number(1): ____

LIMS Number: ____

Facility/Base I.D.: LHAAP

Project/Site Name: LHAAP / Site 58

Client Name:

Collected by: Scott Beesinger

Field Sample ID (30 Characters Max)	Date Collected (dd-mmm-yyyy)	Time Collected (Military) (hhmm)	Sample Depth (beginning - ending)	SA Code (2)	Sample Number (3)	Sample Matrix (4)	Number of containers	VOC	MEE	TOC	Carbon Dioxide	Anions	ARSENIC	Ambient Blank Lot Control Number	Equipment Blank Lot Control Number	Trip Blank Lot Control Number	Cooler ID
03AWW01_120120	01 DEC 2020	0720	-	N		WG	12	X	X	X	X	X	X				
35AWW08_120120	01 DEC 2020	0820	-	N		WG	12	X	X	X	X	X	X				
35AWW11_120120	01 DEC 2020	0915	-	N		WG	11	X	X	X	X	X					
35AWW11_120120_a	01 DEC 2020	0915		FD		WG	11	X	X	X	X	X					
35AWW06_120120	01 DEC 2020	1020		N		WG	11	X	X	X	X	X					
35AWW17_120120	01 DEC 2020	1110	-	N		WG	3	X									
35AWW18_120120	01 DEC 2020	1155	-	N		WG	3	X									
35AWW18_120120_a	01 DEC 2020	1155	-	FD		WG	3	X									
35AWW16_120120	01 DEC 2020	1240	-	N		WG	3	X									
35AWW15_120120	01 DEC 2020	1320	-	N		WG	3	X									
TRIP BLANK	01 DEC 2020		-	TB		W	2	X									

HS20120090
Bhate Environmental Associates, Inc.
LHAAP-58

COMMENTS: ____

Custody Transfers Prior to Receipt by Laboratory

Relinquished By (signed)	Date	Time	Received by (signed)	Date	Time
1. Scott Beesinger	12/1/20	1430	1. J. Hennessy	12/2/20	10:40
2.			2.		
3.			3.		

Cooler 4.5°C Temp 1.2°C 1425 CF

Sample Delivery Details / Laboratory Receipt

Delivered Directly to Lab: ____ Shipped ____ No.:

Method of Shipment: ____

Fed Ex ____ Airbill Number: ____

Analytical Lab: ALS, 10450 Stanchiff Rd. Suite 210 Houston, TX 77099 (281) 530-5656

ATTN: SONIA WEST Lab Recipient: Delivery Date/Time:

1.) Chain of Custody Number = date collected + custody number (e.g. 09-02-1999-01)

2.) Sample Type (SA) Codes: N = Normal Sample, TB = Trip Blank (-c) Sample, FD = Field Duplicate (-a) Samples, FR = Field Replicate (-b) Samples, EB = Equipment Blank (-d) Samples, MS = Matrix Spike, SD = Matrix Spike Duplicate, AB = Ambient Blank (-e)

3.) Sample Number: Unique sample number collected from a particular location per day. (e.g. Groundwater sample collected from MW-1 on 10/10/99 = 01, if sampled again on 10/10/99 = 02, etc.)

4.) Matrix Codes: GS = Soil Gas, WG = Groundwater, WS = Surface Water, SO = Soil, SE = Sediment, SL = Sludge, SS = Surface Soil Samples, WQ = Aqueous Blank Samples (trip, equipment, ambient, etc), SQ = Soil Blanks

5.) Sample Analysis Requested: Analytical method requested and number of containers provided for each.

6.) Quality assurance samples are assigned by date (ddmmyy) and the sample number associated with the sample (01, 02, etc) (e.g. Equipment blank collected in association with MW-1 on 10/10/99 will be designated 10109901 in the Equipment Blank Lot Control

ALS
10450 Stancliff Rd., Suite 210
Houston, Texas 77099
Tel. +1 281 530 5656
Fax. +1 281 530 5887

43893

CUSTODY SEAL

Date: 11-25 Time: 1430

Company: BHATE

Seal Broken By:

Date: 12/02/20

43893 DEC 0 2 2020

Must Deliver Next Business
Time and Tempature

1303
17
1:30 A
43893

ORIGIN ID:SGRA (303) 587-2450
SCOTT BEESINGER
BHATE ENVIRONMENTAL ASSOCIATES
1203-B EAST GRAND AVE.
PMB202
MARSHALL, TX 75670
UNITED STATES US

SHIP DATE: 25NOV20
ACTWGT: 1.00 LB MAN
CAD: 3001307CAFE3211
DIMS: 26x14x14 IN

TO CLIENT SERVICES
ALS LABORATORY GROUP
10450 STANCLIFF ROAD
SUITE 210
HOUSTON TX 77099
(281) 530-5656
REF: LHAAP-8075073-RJ

RMA:

FedEx Express

Fed Ex

WED - 02 DEC AA
PRIORITY OVERNIGHT

TRK# 0221 1891 8883 1308

77099
TX-US
IAH

AB SGRA

J10: 162785 01Dec2020 CGGA 5AVC/0196/8537

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December 17, 2020

Analytical Report for Service Request No: K2011317

RJ Modashia
ALS Laboratory Group
10450 Stancliff Road
Suite 210
Houston, TX 77099-4338

RE: HS20120090

Dear RJ,

Enclosed are the results of the sample(s) submitted to our laboratory December 04, 2020
For your reference, these analyses have been assigned our service request number **K2011317.**

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. All results are intended to be considered in their entirety, and ALS Group USA Corp. dba ALS Environmental (ALS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please contact me if you have any questions. My extension is 3350. You may also contact me via email at Kelley.Lovejoy@alsglobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Kelley Lovejoy
Project Manager

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Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LOD	Limit of Detection
LOQ	Limit of Quantitation
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Inorganic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated value.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
i	The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.
H	The holding time for this test is immediately following sample collection. The samples were analyzed as soon as possible after receipt by the laboratory.

Metals Data Qualifiers

#	The control limit criteria is not applicable. See case narrative.
J	The result is an estimated value.
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
M	The duplicate injection precision was not met.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
S	The reported value was determined by the Method of Standard Additions (MSA).
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
i	The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
X	See case narrative.
+	The correlation coefficient for the MSA is less than 0.995.
Q	See case narrative. One or more quality control criteria was outside the limits.

Organic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
A	A tentatively identified compound, a suspected aldol-condensation product.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
C	The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
D	The reported result is from a dilution.
E	The result is an estimated value.
J	The result is an estimated value.
N	The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
P	The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
i	The MRL/MDL or LOQ/LOD is elevated due to a chromatographic interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.

Additional Petroleum Hydrocarbon Specific Qualifiers

F	The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
L	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
H	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
Y	The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
Z	The chromatographic fingerprint does not resemble a petroleum product.

ALS Group USA Corp. dba ALS Environmental (ALS) - Kelso
State Certifications, Accreditations, and Licenses

Agency	Web Site	Number
Alaska DEH	http://dec.alaska.gov/eh/lab/cs/csapproval.htm	UST-040
Arizona DHS	http://www.azdhs.gov/lab/license/env.htm	AZ0339
Arkansas - DEQ	http://www.adeq.state.ar.us/techsvs/labcert.htm	88-0637
California DHS (ELAP)	http://www.cdph.ca.gov/certlic/labs/Pages/ELAP.aspx	2795
DOD ELAP	http://www.denix.osd.mil/edqw/Accreditation/AccreditedLabs.cfm	L16-58-R4
Florida DOH	http://www.doh.state.fl.us/lab/EnvLabCert/WaterCert.htm	E87412
Hawaii DOH	http://health.hawaii.gov/	-
ISO 17025	http://www.pjlabs.com/	L16-57
Louisiana DEQ	http://www.deq.louisiana.gov/page/la-lab-accreditation	03016
Maine DHS	http://www.maine.gov/dhhs/	WA01276
Minnesota DOH	http://www.health.state.mn.us/accreditation	053-999-457
Nevada DEP	http://ndep.nv.gov/bsdw/labservice.htm	WA01276
New Jersey DEP	http://www.nj.gov/dep/enforcement/oqa.html	WA005
New York - DOH	https://www.wadsworth.org/regulatory/elap	12060
North Carolina DEQ	https://deq.nc.gov/about/divisions/water-resources/water-resources-data/water-sciences-home-page/laboratory-certification-branch/non-field-lab-certification	605
Oklahoma DEQ	http://www.deq.state.ok.us/CSDnew/labcert.htm	9801
Oregon – DEQ (NELAP)	http://public.health.oregon.gov/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	WA100010
South Carolina DHEC	http://www.scdhec.gov/environment/EnvironmentalLabCertification/	61002
Texas CEQ	http://www.tceq.texas.gov/field/qa/env_lab_accreditation.html	T104704427
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C544
Wyoming (EPA Region 8)	https://www.epa.gov/region8-waterops/epa-region-8-certified-drinking-water-	-
Kelso Laboratory Website	www.alsglobal.com	NA

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. A complete listing of specific NELAP-certified analytes, can be found in the certification section at www.ALSGlobal.com or at the accreditation bodies web site.
Please refer to the certification and/or accreditation body's web site if samples are submitted for compliance purposes. The states highlighted above, require the analysis be listed on the state certification if used for compliance purposes and if the method/anlayte is offered by that state.

Case Narrative

ALS Environmental—Kelso Laboratory
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www.alsglobal.com

1317 South 13th Ave, Kelso, WA 98626 | 1-360-577-7222 | www.alsglobal.com

Client: ALS Environmental - US
Project: HS20120090
Sample Matrix: Ground Water

Service Request: K2011317
Date Received: 12/04/2020

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples for the Tier level II requested by the client.

Sample Receipt:

Five ground water samples were received for analysis at ALS Environmental on 12/04/2020. Any discrepancies upon initial sample inspection are annotated on the sample receipt and preservation form included within this report. The samples were stored at minimum in accordance with the analytical method requirements.

General Chemistry:

Method SM 5310 C, 12/16/2020: The matrix spike recovery of Total Organic Carbon for sample 35AWW06_120120 was outside control criteria. Recovery in the Laboratory Control Sample (LCS) was acceptable, which indicated the analytical batch was in control. The matrix spike outlier suggested a potential low bias in this matrix. No further corrective action was appropriate.

Approved by Sydney A Wolfe Date 12/17/2020

Chain of Custody

ALS Environmental—Kelso Laboratory
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www.alsglobal.com

K20113 17

Subcontract Chain of Custody

SAMPLING STATE: **Texas** **COC ID:** **15254**

SUBCONTRACT TO:

ALS Environmental Kelso
1317 S. 13th Avenue
Kelso, WA 98626

Phone: +1 360 501 3312

CUSTOMER INFORMATION:

Company:	ALS Houston
Contact:	RJ Modashia
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Email:	RJ.Modashia@alsglobal.com
Alternate Contact:	
Email:	

INVOICE INFORMATION:

Company:	ALS Houston
Contact:	Accounts Payable
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Reference:	HS20120090
TSR:	Danielle Winnings

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS20120090-01**	**03WW01_120120**	**Groundwater**	**01 Dec 2020 07:20**
	TOC: Provide DOD Level II and Level IV reports in separate pdf			16 Dec 2020
2.	**HS20120090-02**	**35AWW08_120120**	**Groundwater**	**01 Dec 2020 08:20**
	TOC: Provide DOD Level II and Level IV reports in separate pdf			16 Dec 2020
3.	**HS20120090-03**	**35AWW11_120120**	**Groundwater**	**01 Dec 2020 09:15**
	TOC: Provide DOD Level II and Level IV reports in separate pdf			16 Dec 2020
4.	**HS20120090-04**	**35AWW11_120120_a**	**Groundwater**	**01 Dec 2020 09:15**
	TOC: Provide DOD Level II and Level IV reports in separate pdf			16 Dec 2020
5.	**HS20120090-05**	**35AWW06_120120**	**Groundwater**	**01 Dec 2020 10:20**
	TOC: Provide DOD Level II and Level IV reports in separate pdf			16 Dec 2020

Comments: Please analyze for the analysis listed above.
Send report to the emails shown above.

QC Level: DOD IV (DoD Data Package)

K20113117

Subcontract Chain of Custody

SAMPLING STATE: **Texas** **COC ID:** **15254**

Relinquished By: J. Mueller Date/Time: 12/3/20 18:00

Received By: ALS Kelso Date/Time: 12/4/20 10:00

Cooler ID(s): _____ Temperature(s): _____

PM Kelly

Cooler Receipt and Preservation Form

Client ALS - Houston Service Request K20 11317

Received: 12/4/20 Opened: 12/4/20 By: [signature] Unloaded: 12/4/20 By: [signature]

1. Samples were received via? *USPS* *Fed Ex* *UPS* *DHL* *PDX* *Courier* *Hand Delivered*
2. Samples were received in: (circle) *Cooler* *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA Y N If yes, how many and where? 2 Front
   If present, were custody seals intact? Y N If present, were they signed and dated? Y N
4. Was a Temperature Blank present in cooler? NA Y N If yes, notate the temperature in the appropriate column below:
   If no, take the temperature of a representative sample bottle contained within the cooler; notate in the column "Sample Temp":
5. Were samples received within the method specified temperature ranges? NA Y N
   If no, were they received on ice and same day as collected? If not, notate the cooler # below and notify the PM. NA Y N

If applicable, tissue samples were received: *Frozen* *Partially Thawed* *Thawed*

Temp Blank	Sample Temp	IR Gun	Cooler #/COC ID / NA	Out of temp indicate with "X"	PM Notified If out of temp	Tracking Number NA	Filed
1.4		IR02	15254			1891 8883 3506	

6. Packing material: *Inserts* *Baggies* *Bubble Wrap* *Gel Packs* *Wet Ice* *Dry Ice* *Sleeves* _____
7. Were custody papers properly filled out (ink, signed, etc.)? NA Y N
8. Were samples received in good condition (unbroken) NA Y N
9. Were all sample labels complete (ie, analysis, preservation, etc.)? NA Y N
10. Did all sample labels and tags agree with custody papers? NA Y N
11. Were appropriate bottles/containers and volumes received for the tests indicated? NA Y N
12. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* NA Y N
13. Were VOA vials received without headspace? *Indicate in the table below.* NA Y N
14. Was C12/Res negative? NA Y N

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count Bottle Type	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

Notes, Discrepancies, Resolutions: _____

General Chemistry

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	K2011317
Project:	HS20120090	**Date Collected:**	12/1/20
Sample Matrix:	Ground Water	**Date Received:**	12/4/20
Analysis Method:	SM 5310 C	**Units:**	mg/L
Prep Method:	None	**Basis:**	NA

Carbon, Total Organic

Sample Name	Lab Code	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
03WW01_120120	K2011317-001	**99.9**	2.5	1.0	0.4	5	12/16/20 14:30	
35AWW08_120120	K2011317-002	**165**	5.0	2.0	0.7	10	12/16/20 14:30	
35AWW11_120120	K2011317-003	**3.63**	0.50	0.20	0.07	1	12/16/20 14:30	
35AWW11_120120_a	K2011317-004	**3.81**	0.50	0.20	0.07	1	12/16/20 14:30	
35AWW06_120120	K2011317-005	**8.67**	0.50	0.20	0.07	1	12/16/20 14:30	
Method Blank	K2011317-MB	ND U	0.50	0.20	0.07	1	12/16/20 14:30	

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	K2011317
Project	HS20120090	**Date Collected:**	12/01/20
Sample Matrix:	Ground Water	**Date Received:**	12/04/20
		Date Analyzed:	12/16/20

Replicate Sample Summary
General Chemistry Parameters

Sample Name:	35AWW06_120120	**Units:**	mg/L
Lab Code:	K2011317-005	**Basis:**	NA

Analyte Name	Analysis Method	LOQ	LOD	MDL	Sample Result	Duplicate Sample K2011317-005DUP Result	Average	RPD	RPD Limit
Carbon, Total Organic	SM 5310 C	0.50	0.20	0.07	8.67	8.57	8.62	1	10

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	K2011317
Project:	HS20120090	**Date Collected:**	12/01/20
Sample Matrix:	Ground Water	**Date Received:**	12/04/20
		Date Analyzed:	12/16/20
		Date Extracted:	NA

Matrix Spike Summary
Carbon, Total Organic

Sample Name:	35AWW06_120120	**Units:**	mg/L
Lab Code:	K2011317-005	**Basis:**	NA
Analysis Method:	SM 5310 C		
Prep Method:	None		

Matrix Spike
K2011317-005MS

Analyte Name	Sample Result	Result	Spike Amount	% Rec	% Rec Limits
Carbon, Total Organic	8.67	28.9	25.0	81 *	83-117

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Matrix Spike and Matrix Spike Duplicate Data is presented for information purposes only. The matrix may or may not be relevant to samples reported in this report. The laboratory evaluates system performance based on the LCS and LCSD control limits.

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	K2011317
Project:	HS20120090	**Date Analyzed:**	12/16/20
Sample Matrix:	Ground Water	**Date Extracted:**	NA

Lab Control Sample Summary
Carbon, Total Organic

Analysis Method:	SM 5310 C	**Units:**	mg/L
Prep Method:	None	**Basis:**	NA
		Analysis Lot:	707179

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K2011317-LCS	24.2	25.0	97	83-117

December 24, 2020 Service Request No:R2011383

RJ Modashia
ALS Laboratory Group
10450 Stancliff Road
Suite 210
Houston, TX 77099-4338

Laboratory Results for: LHAAP / Site 58, HS20120090

Dear RJ,

Enclosed are the results of the sample(s) submitted to our laboratory December 02, 2020
For your reference, these analyses have been assigned our service request number **R2011383.**

All testing was performed according to our laboratory's quality assurance program and met the requirements of the TNI standards except as noted in the case narrative report. Any testing not included in the lab's accreditation is identified on a Non-Certified Analytes report. All results are intended to be considered in their entirety. ALS Environmental is not responsible for use of less than the complete report. Results apply only to the individual samples submitted to the lab for analysis, as listed in the report. The measurement uncertainty of the results included in this report is within that expected when using the prescribed method(s), and represented by Laboratory Control Sample control limits. Any events, such as QC failures or Holding Time exceedances, which may add to the uncertainty are explained in the report narrative or are flagged with qualifiers. The flags are explained in the Report Qualifiers and Definitions page of this report.

Please contact me if you have any questions. My extension is 7471. You may also contact me via email at Brady.Kalkman@alsglobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Brady Kalkman
Project Manager

01150166

Narrative Documents

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

1565 Jefferson Rd, Building 300, Rochester, NY 14623 | 585-288-5380 | www.alsglobal.com

Client: ALS Environmental - US
Project: LHAAP / Site 58, HS20120090
Sample Matrix: Water

Service Request: R2011383
Date Received: 12/02/2020

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples for the Tier level IV requested by the client.

Sample Receipt:

Five water samples were received for analysis at ALS Environmental on 12/02/2020. Any discrepancies upon initial sample inspection are annotated on the sample receipt and preservation form included within this report. The samples were stored at minimum in accordance with the analytical method requirements.

Semivoa GC:

Method Organic Acids, 12/15/2020: The matrix spike recovery of Pyruvic Acid was outside of control limits for R2011383-005 Matrix Spike/Duplicate Matrix Spike. Other analytes were within acceptable limits. Parent sample did not contain a result for Pyruvic Acid above the reporting limit. All other run QC was within acceptable limits. QC was not required for the sample, no further action was taken.

Approved by _____ Date 12/24/2020

ALS Environmental

SAMPLE DETECTION SUMMARY

CLIENT ID: 03WW01_120120			Lab ID: R2011383-001			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Pyruvic Acid	0.068	J	0.016	0.20	mg/L	Organic Acids
Acetic Acid	1.3	J	0.56	4.0	mg/L	Organic Acids
Butanoic Acid (Butyric Acid)	9.6		0.32	2.0	mg/L	Organic Acids
Lactic Acid	2.8		0.14	2.0	mg/L	Organic Acids

CLIENT ID: 35AWW08_120120			Lab ID: R2011383-002			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Pyruvic Acid	0.096	J	0.016	0.20	mg/L	Organic Acids
Acetic Acid	1.1	J	0.56	4.0	mg/L	Organic Acids
Butanoic Acid (Butyric Acid)	17		0.32	2.0	mg/L	Organic Acids
Lactic Acid	1.9	J	0.14	2.0	mg/L	Organic Acids

01150169

Sample Receipt Information

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Client: ALS Environmental - US **Service Request:**R2011383
Project: LHAAP / Site 58, HS20120090/NW01312.0150

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
R2011383-001	03WW01_120120	12/1/2020	0720
R2011383-002	35AWW08_120120	12/1/2020	0820
R2011383-003	35AWW11_120120	12/1/2020	0915
R2011383-004	35AWW11_120120_a	12/1/2020	0915
R2011383-005	35AWW06_120120	12/1/2020	1020

bhate ENVIRONMENTAL CONSTRUCTION ENERGY

1608 13th Avenue South, Suite 300
Birmingham Alabama 35205
Tel: 205-918-4000
Fax: 205-918-4050

Chain of Custody and Analytical Request

Page: _____ of _____

Project/Phase No: NWO1312.0150

COC Number(1): _____

LIMS Number: _____

Facility/Base I.D.: LHAAP

Project/Site Name: LHAAP / Site 58

Client Name:

Collected by: Scott Beesinger

Field Sample ID (30 Characters Max)	Date Collected (dd-mmm-yyyy)	Time Collected (Military) (hhmm)	Sample Depth (beginning - ending)	SA Code (2)	Sample Number (3)	Sample Matrix (4)	Sample Analysis Requested (5): Number of containers	Volatile Fatty Acids	Quality Assurance Samples (6): Ambient Blank Lot Control Number	Equipment Blank Lot Control Number	Trip Blank Lot Control Number	Cooler ID
03WW01_120120	01DEC2020	0720	-	N		WG	1	X				
35AWW08_120120	01DEC2020	0820	-	N		WG	1	X				
35AWW11_120120	01DEC2020	0915	-	N		WG	1	X				
35AWW11_120120_a	01DEC2020	0915		FD		WG	1	X				
35AWW06_120120	01DEC2020	1020		N		WG	1	X				
			-									
			-									
			-									
			-									
			-									
			-									

COMMENTS: _____

Custody Transfers Prior to Receipt by Laboratory

Relinquished by (Signed)	Date	Time	Received by (Signed)	Date	Time
1.	12/1/20	1430	1.	12/2/2020	1100
2.			2.		
3.			3.		

Sample Delivery Details / Laboratory Receipt

Delivered Directly to Lab: _____ Shipped No.:

_____ Method of Shipment: _____

_____ Fed Ex _____ Airbill Number:

_____ Analytical Lab: ALS 10450 Stanciff Rd. Suite 210 Houston, TX 77099 (281) 530-5656

ATTN: SONIA WEST Lab Recipient: Delivery Date/Time:

1.) Chain of Custody Number = date collected + custody number (e.g. 09-02-1999-01)

2.) Sample Type (SA) Codes: N = Normal Sample, TB = Trip Blank (-c) Sample, FD = Field Duplicate (-a) Samples, FR = Field Replicate (-b) Samples, EB = Equipment Blank (-d) Samples, MS = Matrix Spike, SD = Matrix Spike Duplicate, AB = Ambient Blank (-e)

3.) Sample Number: Unique sample number collected from a particular location per day. (e.g. Groundwater sample collected from MW-1 on 10/10/99 = 01, if sampled again on 10/10/99 = 02, etc.)

4.) Matrix Codes: GS = Soil Gas, WG = Groundwater, WS = Surface Water, SO = Soil, SE = Sediment, SL = Sludge, SS = Surface Soil Samples, WQ = Aqueous Blank Samples (trip, equipment, ambient, etc), SQ = Soil Blanks

5.) Sample Analysis Requested: Analytical method requested and number of containers provided for each.

6.) Quality assurance samples are assigned by date (ddmmyy) and the sample number associated with the sample (01, 02, etc) (e.g. Equipment blank collected in association with MW-1 on 10/10/99 will be designated 10109901 in the Eq

R2011383 5
ALS Laboratory Group
LHAAP / Site 58

Cooler Receipt and Preservation Check Form

R2011383 5
ALS Laboratory Group
LHAAP / Site 69

Project/Client Bhate Folder Number .

Cooler received on 12/2/2020 by: @

COURIER: ALS UPS (FEDEX) VELOCITY CLIENT

1	Were **Custody seals** on outside of cooler?	Y (N)	5a	**Perchlorate** samples have required headspace?	Y N (NA)
2	**Custody papers** properly completed (ink, signed)?	(Y) N	5b	Did VOA vials, Alk,or Sulfide have sig* **bubbles**?	Y N (NA)
3	Did all bottles arrive in good **condition** (unbroken)?	(Y) N	6	Where did the bottles originate?	(ALS/ROC) CLIENT
4	Circle: (Wet Ice) **Dry Ice Gel packs** present?	(Y) N	7	Soil VOA received as: Bulk Encore 5035set	(NA)

8. Temperature Readings Date: 12/2/2020 Time: 1111 ID: IR#7 (IR#10) From: (Temp Blank) Sample Bottle

Observed Temp (°C)	2.1						
Within 0-6°C?	(Y) N	Y N	Y N	Y N	Y N	Y N	Y N
If <0°C, were samples frozen?	Y N	Y N	Y N	Y N	Y N	Y N	Y N

If out of Temperature, note packing/ice condition: Ice melted Poorly Packed (described below) Same Day Rule

&Client Approval to Run Samples: Standing Approval Client aware at drop-off Client notified by:

All samples held in storage location: R-002 by @ on 12/2/20 at 1115
5035 samples placed in storage location: by on at within 48 hours of sampling? Y N

Cooler Breakdown/Preservation Check**: Date : 12/2/2020 Time: 1418 by: @

9. Were all bottle labels complete (*i.e.* analysis, preservation, etc.)? (YES) NO
10. Did all bottle labels and tags agree with custody papers? (YES) NO
11. Were correct containers used for the tests indicated? (YES) NO
12. Were 5035 vials acceptable (no extra labels, not leaking)? YES NO (N/A)
13. Air Samples: Cassettes / Tubes Intact Y / N with MS Y / N Canisters Pressurized Tedlar® Bags Inflated (N/A)

pH	Lot of test paper	Reagent	Preserved? Yes	Preserved? No	Lot Received	Exp	Sample ID Adjusted	Vol. Added	Lot Added	Final pH
≥12		NaOH								
≤2		HNO_3								
≤2		H_2SO_4								
<4		$NaHSO_4$								
5-9		For 608pest			No=Notify for 3day					
Residual Chlorine (-)		For CN, Phenol, 625, 608pest, 522			If +, contact PM to add $Na_2S_2O_3$ (625, 608, CN), ascorbic (phenol).					
		$Na_2S_2O_3$								
		ZnAcetate	-	-			**VOAs and 1664 Not to be tested before analysis. Otherwise, all bottles of all samples with chemical preservatives are checked (not just representatives).			
		HCl	**	**						

Bottle lot numbers: 081020-1BMe
Explain all Discrepancies/ Other Comments:

H3PO4 - 208423 Exp. 07/21

HPROD	BULK
HTR	FLDT
SUB	HGFB
ALS	LL3541

Labels secondary reviewed by: @
PC Secondary Review:

*significant air bubbles: VOA > 5-6 mm : WC >1 in. diameter

01150173

Miscellaneous Forms

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ALS Environmental

REPORT QUALIFIERS AND DEFINITIONS

U	Analyte was analyzed for but not detected. The sample quantitation limit has been corrected for dilution and for percent moisture, unless otherwise noted in the case narrative.
J	Estimated value due to either being a Tentatively Identified Compound (TIC) or that the concentration is between the MRL and the MDL. Concentrations are not verified within the linear range of the calibration. For DoD: concentration >40% difference between two GC columns (pesticides/Arclors).
B	Analyte was also detected in the associated method blank at a concentration that may have contributed to the sample result.
E	Inorganics- Concentration is estimated due to the serial dilution was outside control limits.
E	Organics- Concentration has exceeded the calibration range for that specific analysis.
D	Concentration is a result of a dilution, typically a secondary analysis of the sample due to exceeding the calibration range or that a surrogate has been diluted out of the sample and cannot be assessed.
*	Indicates that a quality control parameter has exceeded laboratory limits. Under the "Notes" column of the Form I, this qualifier denotes analysis was performed out of Holding Time.
H	Analysis was performed out of hold time for tests that have an "immediate" hold time criteria.
#	Spike was diluted out.
+	Correlation coefficient for MSA is <0.995.
N	Inorganics- Matrix spike recovery was outside laboratory limits.
N	Organics- Presumptive evidence of a compound (reported as a TIC) based on the MS library search.
S	Concentration has been determined using Method of Standard Additions (MSA).
W	Post-Digestion Spike recovery is outside control limits and the sample absorbance is <50% of the spike absorbance.
P	Concentration >40% difference between the two GC columns.
C	Confirmed by GC/MS
Q	DoD reports: indicates a pesticide/Aroclor is not confirmed (≥100% Difference between two GC columns).
X	See Case Narrative for discussion.
MRL LOQ	Method Reporting Limit. Also known as: Limit of Quantitation (LOQ) The lowest concentration at which the method analyte may be reliably quantified under the method conditions.
MDL	Method Detection Limit. A statistical value derived from a study designed to provide the lowest concentration that will be detected 99% of the time. Values between the MDL and MRL are estimated (see J qualifier).
LOD	Limit of Detection. A value at or above the MDL which has been verified to be detectable.
ND	Non-Detect. Analyte was not detected at the concentration listed. Same as U qualifier.

ACCREDITED IN ACCORDANCE WITH nelac

Rochester Lab ID # for State Certifications[1]

Connecticut ID # PH0556	Maine ID #NY0032	Pennsylvania ID# 68-786
Delaware Approved	New Hampshire ID # 2941	Rhode Island ID # 158
DoD ELAP #65817	New York ID # 10145	Virginia #460167
Florida ID # E87674	North Carolina #676	

[1] Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state or agency requirements. The test results meet requirements of the current NELAP/TNI standards or state or agency requirements, where applicable, except as noted in the case narrative. Since not all analyte/method/matrix combinations are offered for state/NELAC accreditation, this report may contain results which are not accredited. For a specific list of accredited analytes, contact the laboratory or go to https://www.alsglobal.com/locations/americas/north-america/usa/new-york/rochester-environmental

ALS Laboratory Group

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

ALS Group USA, Corp.
dba ALS Environmental

Analyst Summary report

Client: ALS Environmental - US
Service Request: R2011383
Project: LHAAP / Site 58, HS20120090/NW01312.0150

Sample Name: 03WW01_120120
Lab Code: R2011383-001
Sample Matrix: Water
Date Collected: 12/1/20
Date Received: 12/2/20

Analysis Method	Extracted/Digested By	Analyzed By
Organic Acids		AFELSER

Sample Name: 35AWW08_120120
Lab Code: R2011383-002
Sample Matrix: Water
Date Collected: 12/1/20
Date Received: 12/2/20

Analysis Method	Extracted/Digested By	Analyzed By
Organic Acids		AFELSER

Sample Name: 35AWW11_120120
Lab Code: R2011383-003
Sample Matrix: Water
Date Collected: 12/1/20
Date Received: 12/2/20

Analysis Method	Extracted/Digested By	Analyzed By
Organic Acids		AFELSER

Sample Name: 35AWW11_120120_a
Lab Code: R2011383-004
Sample Matrix: Water
Date Collected: 12/1/20
Date Received: 12/2/20

Analysis Method	Extracted/Digested By	Analyzed By
Organic Acids		AFELSER

Sample Name: 35AWW06_120120
Lab Code: R2011383-005
Sample Matrix: Water
Date Collected: 12/1/20
Date Received: 12/2/20

Analysis Method	Extracted/Digested By	Analyzed By
Organic Acids		AFELSER

INORGANIC PREPARATION METHODS

The preparation methods associated with this report are found in these tables unless discussed in the case narrative.

Water/Liquid Matrix

Analytical Method	Preparation Method
200.7	200.2
200.8	200.2
6010C	3005A/3010A
6020A	ILM05.3
9034 Sulfide Acid Soluble	9030B
SM 4500-CN-E Residual Cyanide	SM 4500-CN-G
SM 4500-CN-E WAD Cyanide	SM 4500-CN-I

Solid/Soil/Non-Aqueous Matrix

Analytical Method	Preparation Method
6010C	3050B
6020A	3050B
6010C TCLP (1311) extract	3005A/3010A
6010 SPLP (1312) extract	3005A/3010A
7199	3060A
300.0 Anions/ 350.1/ 353.2/ SM 2320B/ SM 5210B/ 9056A Anions	DI extraction
For analytical methods not listed, the preparation method is the same as the analytical method reference.	

01150178

Sample Results

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Semivolatile Organic Compounds by GC

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ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	R2011383
Project:	LHAAP / Site 58, HS20120090/NW01312.0150	**Date Collected:**	12/01/20 07:20
Sample Matrix:	Water	**Date Received:**	12/02/20 11:00
Sample Name:	03WW01_120120	**Units:**	mg/L
Lab Code:	R2011383-001	**Basis:**	NA

Organic Acids in Aqueous Matrices by High Performance Liquid Chromatography (HPLC) 28 Day Hold Time

Analysis Method: Organic Acids

Analyte Name	Result		LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Pyruvic Acid	**0.068**	**J**	0.20	0.10	0.016	1	12/16/20 22:19	
Acetic Acid	**1.3**	**J**	4.0	2.0	0.56	1	12/16/20 22:19	
Butanoic Acid (Butyric Acid)	**9.6**		2.0	1.0	0.32	1	12/16/20 22:19	
Lactic Acid	**2.8**		2.0	1.0	0.14	1	12/16/20 22:19	
Propionic Acid	ND	U	2.0	1.0	0.19	1	12/16/20 22:19	

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Analytical Report

Client:	ALS Environmental - US	**Service Request:**	R2011383
Project:	LHAAP / Site 58, HS20120090/NW01312.0150	**Date Collected:**	12/01/20 08:20
Sample Matrix:	Water	**Date Received:**	12/02/20 11:00
Sample Name:	35AWW08_120120	**Units:**	mg/L
Lab Code:	R2011383-002	**Basis:**	NA

Organic Acids in Aqueous Matrices by High Performance Liquid Chromatography (HPLC) 28 Day Hold Time

Analysis Method: Organic Acids

Analyte Name	Result		LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Pyruvic Acid	**0.096**	**J**	0.20	0.10	0.016	1	12/17/20 00:22	
Acetic Acid	**1.1**	**J**	4.0	2.0	0.56	1	12/17/20 00:22	
Butanoic Acid (Butyric Acid)	**17**		2.0	1.0	0.32	1	12/17/20 00:22	
Lactic Acid	**1.9**	**J**	2.0	1.0	0.14	1	12/17/20 00:22	
Propionic Acid	ND	U	2.0	1.0	0.19	1	12/17/20 00:22	

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Analytical Report

Client:	ALS Environmental - US	**Service Request:**	R2011383
Project:	LHAAP / Site 58, HS20120090/NW01312.0150	**Date Collected:**	12/01/20 09:15
Sample Matrix:	Water	**Date Received:**	12/02/20 11:00
Sample Name:	35AWW11_120120	**Units:**	mg/L
Lab Code:	R2011383-003	**Basis:**	NA

Organic Acids in Aqueous Matrices by High Performance Liquid Chromatography (HPLC) 28 Day Hold Time

Analysis Method: Organic Acids

Analyte Name	Result		LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Pyruvic Acid	ND	U	0.20	0.10	0.016	1	12/17/20 01:23	
Acetic Acid	ND	U	4.0	2.0	0.56	1	12/17/20 01:23	
Butanoic Acid (Butyric Acid)	ND	U	2.0	1.0	0.32	1	12/17/20 01:23	
Lactic Acid	ND	U	2.0	1.0	0.14	1	12/17/20 01:23	
Propionic Acid	ND	U	2.0	1.0	0.19	1	12/17/20 01:23	

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Analytical Report

Client:	ALS Environmental - US	**Service Request:**	R2011383
Project:	LHAAP / Site 58, HS20120090/NW01312.0150	**Date Collected:**	12/01/20 09:15
Sample Matrix:	Water	**Date Received:**	12/02/20 11:00
Sample Name:	35AWW11_120120_a	**Units:**	mg/L
Lab Code:	R2011383-004	**Basis:**	NA

Organic Acids in Aqueous Matrices by High Performance Liquid Chromatography (HPLC) 28 Day Hold Time

Analysis Method: Organic Acids

Analyte Name	Result		LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Pyruvic Acid	ND	U	0.20	0.10	0.016	1	12/15/20 11:28	
Acetic Acid	ND	U	4.0	2.0	0.56	1	12/15/20 11:28	
Butanoic Acid (Butyric Acid)	ND	U	2.0	1.0	0.32	1	12/15/20 11:28	
Lactic Acid	ND	U	2.0	1.0	0.14	1	12/15/20 11:28	
Propionic Acid	ND	U	2.0	1.0	0.19	1	12/15/20 11:28	

ALS Group USA, Corp.
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Analytical Report

Client:	ALS Environmental - US	**Service Request:**	R2011383
Project:	LHAAP / Site 58, HS20120090/NW01312.0150	**Date Collected:**	12/01/20 10:20
Sample Matrix:	Water	**Date Received:**	12/02/20 11:00
Sample Name:	35AWW06_120120	**Units:**	mg/L
Lab Code:	R2011383-005	**Basis:**	NA

Organic Acids in Aqueous Matrices by High Performance Liquid Chromatography (HPLC) 28 Day Hold Time

Analysis Method: Organic Acids

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Pyruvic Acid	ND U	0.20	0.10	0.016	1	12/15/20 12:30	
Acetic Acid	ND U	4.0	2.0	0.56	1	12/15/20 12:30	
Butanoic Acid (Butyric Acid)	ND U	2.0	1.0	0.32	1	12/15/20 12:30	
Lactic Acid	ND U	2.0	1.0	0.14	1	12/15/20 12:30	
Propionic Acid	ND U	2.0	1.0	0.19	1	12/15/20 12:30	

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QC Summary Forms

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dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	R2011383
Project:	LHAAP / Site 58, HS20120090/NW01312.0150	**Date Collected:**	12/01/20
Sample Matrix:	Water	**Date Received:**	12/02/20
		Date Analyzed:	12/17/20

Duplicate Matrix Spike Summary
Organic Acids in Aqueous Matrices by High Performance Liquid Chromatography (HPLC) 28 Day Hold Time

Sample Name:	35AWW06_120120	**Units:**	mg/L
Lab Code:	R2011383-005	**Basis:**	NA
Analysis Method:	Organic Acids		

		Matrix Spike RQ2015512-01			Duplicate Matrix Spike RQ2015512-02					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Pyruvic Acid	ND U	1.38	2.00	69 *	1.43	2.00	72 *	73-122	3	30
Acetic Acid	ND U	20.5	20.0	102	21.5	20.0	107	80-130	5	30
Butanoic Acid (Butyric Acid)	ND U	21.5	20.0	108	21.4	20.0	107	86-128	<1	30
Lactic Acid	ND U	20.3	20.0	102	21.5	20.0	107	81-114	5	30
Propionic Acid	ND U	22.4	20.0	112	22.8	20.0	114	63-153	2	30

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Matrix Spike and Matrix Spike Duplicate Data is presented for information purposes only. The matrix may or may not be relevant to samples reported in this report. The laboratory evaluates system performance based on the LCS and LCSD control limits.

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Analytical Report

Client:	ALS Environmental - US	**Service Request:**	R2011383
Project:	LHAAP / Site 58, HS20120090/NW01312.0150	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	mg/L
Lab Code:	RQ2015512-15	**Basis:**	NA

Organic Acids in Aqueous Matrices by High Performance Liquid Chromatography (HPLC) 28 Day Hold Time

Analysis Method: Organic Acids

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Pyruvic Acid	ND U	0.20	0.10	0.016	1	12/16/20 15:08	
Acetic Acid	ND U	4.0	2.0	0.56	1	12/16/20 15:08	
Butanoic Acid (Butyric Acid)	ND U	2.0	1.0	0.32	1	12/16/20 15:08	
Lactic Acid	ND U	2.0	1.0	0.14	1	12/16/20 15:08	
Propionic Acid	ND U	2.0	1.0	0.19	1	12/16/20 15:08	

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QA/QC Report

Client: ALS Environmental - US
Project: LHAAP / Site 58, HS20120090/NW01312.0150
Sample Matrix: Water

Service Request: R2011383
Date Analyzed: 12/16/20

Duplicate Lab Control Sample Summary
Organic Acids in Aqueous Matrices by High Performance Liquid Chromatography (HPLC) 28 Day Hold Time

Units:mg/L
Basis:NA

		Lab Control Sample			Duplicate Lab Control Sample					
		RQ2015512-16			RQ2015512-17					
Analyte Name	**Analytical Method**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Pyruvic Acid	Organic Acids	1.59	2.00	80	1.61	2.00	80	73-122	<1	30
Acetic Acid	Organic Acids	21.5	20.0	107	21.8	20.0	109	80-130	2	30
Butanoic Acid (Butyric Acid)	Organic Acids	21.5	20.0	108	21.5	20.0	108	86-128	<1	30
Lactic Acid	Organic Acids	20.4	20.0	102	20.8	20.0	104	81-114	2	30
Propionic Acid	Organic Acids	21.9	20.0	109	22.2	20.0	111	63-153	2	30

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LABORATORY REPORT

December 11, 2020

RJ Modashia
ALS Laboratory Group
10450 Stancliff Road Suite 210
Houston, TX 77099-4338

RE: HS20120090

Dear RJ:

Enclosed are the results of the samples submitted to our laboratory on December 3, 2020. For your reference, these analyses have been assigned our service request number P2006780.

All analyses were performed according to our laboratory's NELAP and DoD-ELAP-approved quality assurance program. The test results meet requirements of the current NELAP and DoD-ELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP and DoD-ELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. Results are intended to be considered in their entirety and apply only to the samples analyzed and reported herein.

If you have any questions, please call me at (805) 526-7161.

Respectfully submitted,

ALS | Environmental

By Hayden Akers at 5:01 pm, Dec 11, 2020

Hayden Akers
Project Manager

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T: +1 805 526 7161
www.alsglobal.com

Client: ALS Laboratory Group
Project: HS20120090

Service Request No: P2006780

CASE NARRATIVE

The samples were received intact under chain of custody on December 3, 2020 and were stored in accordance with the analytical method requirements. Please refer to the sample acceptance check form for additional information. The results reported herein are applicable only to the condition of the samples at the time of sample receipt.

Carbon Dioxide Analysis

The samples were analyzed for carbon dioxide using a gas chromatograph equipped with a thermal conductivity detector (TCD). A known amount of liquid was displaced by injecting 8.0 milliliters of helium creating a headspace in the sample vial. Each sample vial was agitated using a sonic disrupter for fifteen minutes and then allowed to equilibrate for at least four hours. A volume of the headspace was withdrawn using a gas-tight syringe and analyzed using a manual injection technique. The amount of dissolved gases (carbon dioxide) in the original sample was calculated using Henry's Law. This method was performed with guidance from RSK 175 as described in laboratory SOP VOA-DISGAS. This analyte is included on the laboratory's NELAP and DoD-ELAP scope of accreditation.

Manual integrations were performed on all samples and the laboratory control sample and its duplicate for carbon dioxide.

Methane, Ethene and Ethane Analysis

The samples were also analyzed for methane, ethene, and ethane using a gas chromatograph equipped with a flame ionization detector (FID). A known amount of liquid was displaced by injecting 8.0 milliliters of helium creating a headspace in the sample vial. Each sample vial was agitated using a sonic disrupter for fifteen minutes and then allowed to equilibrate for at least two hours. A volume of the headspace was withdrawn using a gas-tight syringe and analyzed using a manual injection technique. The amount of dissolved gases (methane, ethene and ethane) in the original sample was calculated using Henry's Law. This method was performed with guidance from RSK 175. This method is included on the laboratory's NELAP and DoD-ELAP scope of accreditation.

All samples were originally prepped on December 7th 2020. Before analysis could be performed the power to the laboratory was turned off for potential fire prevention by SCE. On Tuesday December 8th the samples were re-prepped after the power was turned on. However the sample labeled "35AWW11_120120_a" was all displaced on December 7th and could not be re-prepped on December 8th. For this sample the vial from December 7th was analyzed with its extraction QC which failed. All other samples were prepped and run on December 8th and all QC passes.

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www.alsglobal.com

Client: ALS Laboratory Group
Project: HS20120090

Service Request No: P2006780

CASE NARRATIVE

Any analytes flagged with an X are not included on the laboratory's NELAP or DoD-ELAP accreditation.

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and ALS Environmental (ALS) is not responsible for utilization of less than the complete report.

Use of ALS Environmental (ALS)'s Name. Client shall not use ALS's name or trademark in any marketing or reporting materials, press releases or in any other manner ("Materials") whatsoever and shall not attribute to ALS any test result, tolerance or specification derived from ALS's data ("Attribution") without ALS's prior written consent, which may be withheld by ALS for any reason in its sole discretion. To request ALS's consent, Client shall provide copies of the proposed Materials or Attribution and describe in writing Client's proposed use of such Materials or Attribution. If ALS has not provided written approval of the Materials or Attribution within ten (10) days of receipt from Client, Client's request to use ALS's name or trademark in any Materials or Attribution shall be deemed denied. ALS may, in its discretion, reasonably charge Client for its time in reviewing Materials or Attribution requests. Client acknowledges and agrees that the unauthorized use of ALS's name or trademark may cause ALS to incur irreparable harm for which the recovery of money damages will be inadequate. Accordingly, Client acknowledges and agrees that a violation shall justify preliminary injunctive relief. For questions contact the laboratory.

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Simi Valley, CA 93065
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ALS Environmental – Simi Valley

CERTIFICATIONS, ACCREDITATIONS, AND REGISTRATIONS

Agency	Web Site	Number
Alaska DEC	http://dec.alaska.gov/eh/lab.aspx	17-019
Arizona DHS	http://www.azdhs.gov/preparedness/state-laboratory/lab-licensure-certification/index.php#laboratory-licensure-home	AZ0694
Florida DOH (NELAP)	http://www.floridahealth.gov/licensing-and-regulation/environmental-laboratories/index.html	E871020
Louisiana DEQ (NELAP)	http://www.deq.louisiana.gov/page/la-lab-accreditation	05071
Maine DHHS	http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/professionals/labCert.shtml	2018027
Minnesota DOH (NELAP)	http://www.health.state.mn.us/accreditation	1776326
New Jersey DEP (NELAP)	http://www.nj.gov/dep/enforcement/oqa.html	CA009
New York DOH (NELAP)	http://www.wadsworth.org/labcert/elap/elap.html	11221
Oregon PHD (NELAP)	http://www.oregon.gov/oha/ph/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	4068-007
Pennsylvania DEP	http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx	68-03307 (Registration)
PJLA (DoD ELAP)	http://www.pjlabs.com/search-accredited-labs	65818 (Testing)
Texas CEQ (NELAP)	http://www.tceq.texas.gov/agency/qa/env_lab_accreditation.html	T104704413-19-10
Utah DOH (NELAP)	http://health.utah.gov/lab/lab_cert_env	CA016272019-10
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C946

Analyses were performed according to our laboratory's NELAP and DoD-ELAP approved quality assurance program. A complete listing of specific NELAP and DoD-ELAP certified analytes can be found in the certifications section at www.alsglobal.com, or at the accreditation body's website.

Each of the certifications listed above have an explicit Scope of Accreditation that applies to specific matrices/methods/analytes; therefore, please contact the laboratory for information corresponding to a particular certification.

ALS ENVIRONMENTAL

DETAIL SUMMARY REPORT

Client: ALS Laboratory Group
Service Request: P2006780
Project ID: HS20120090

Date Received: 12/3/2020
Time Received: 10:15

Client Sample ID	Lab Code	Matrix	Date Collected	Time Collected	RSK 175 - CO2	RSK 175 - Gases
03WW01_120120	P2006780-001	Water	12/1/2020	07:20	X	X
35AWW08_120120	P2006780-002	Water	12/1/2020	08:20	X	X
35AWW11_120120	P2006780-003	Water	12/1/2020	09:15	X	X
35AWW11_120120_a	P2006780-004	Water	12/1/2020	09:15	X	X
35AWW06_120120	P2006780-005	Water	12/1/2020	10:20	X	X

PJ066780

01150195

10450 Stancliff Rd, Ste 210
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Subcontract Chain of Custody

SAMPLING STATE: Texas **COC ID:** 15253

SUBCONTRACT TO:

ALS Environmental
2655 Park Center Drive, Suite A
Simi Valley, CA 93065

Phone: +1 805 526 7161

CUSTOMER INFORMATION:

Company: ALS Houston
Contact: RJ Modashia
Address: 10450 Stancliff Rd, Ste 210
Phone: +1 281 530 5656
Email: RJ.Modashia@alsglobal.com
Alternate Contact:
Email:

INVOICE INFORMATION:

Company: ALS Houston
Contact: Accounts Payable
Address: 10450 Stancliff Rd, Ste 210
Phone: +1 281 530 5656
Reference: HS20120090
TSR: Danielle Winnings

	LAB SAMPLE ID / ANALYSIS REQUESTED	CLIENT SAMPLE ID	MATRIX	COLLECT DATE / DUE DATE
1.	**HS20120090-01**	**03WW01_120120**	**Groundwater**	**01 Dec 2020 07:20**
	MEE plus CO2. Provide Level II and Level IV reports in separate pdf			16 Dec 2020
2.	**HS20120090-02**	**35AWW08_120120**	**Groundwater**	**01 Dec 2020 08:20**
	MEE plus CO2. Provide Level II and Level IV reports in separate pdf			16 Dec 2020
3.	**HS20120090-03**	**35AWW11_120120**	**Groundwater**	**01 Dec 2020 09:15**
	MEE plus CO2. Provide Level II and Level IV reports in separate pdf			16 Dec 2020
4.	**HS20120090-04**	**35AWW11_120120_a**	**Groundwater**	**01 Dec 2020 09:15**
	MEE plus CO2. Provide Level II and Level IV reports in separate pdf			16 Dec 2020
5.	**HS20120090-05**	**35AWW06_120120**	**Groundwater**	**01 Dec 2020 10:20**
	MEE plus CO2. Provide Level II and Level IV reports in separate pdf			16 Dec 2020

Comments: Please analyze for the analysis listed above.
Send report to the emails shown above.

QC Level: DOD IV (DoD Data Package)

NEAT / PRESERVED JARS.

P2006780

Subcontract Chain of Custody

SAMPLING STATE: **Texas** **COC ID:** **15253**

Relinquished By: J. [illegible] Date/Time: 12/02/20 18:00

Received By: [signature] Date/Time: 12-3-20 1015

Cooler ID(s): [signature] Temperature(s): 1°C wet

ALS Environmental
Sample Acceptance Check Form

Client: ALS Laboratory Group Work order: P2006780

Project: HS20120090

Sample(s) received on: 12/3/20 Date opened: 12/3/20 by: ADAVID

Note: This form is used for all samples received by ALS. The use of this form for custody seals is strictly meant to indicate presence/absence and not as an indication of compliance or nonconformity. Thermal preservation and pH will only be evaluated either at the request of the client and/or as required by the method/SOP.

		Yes	No	N/A
1	Were **sample containers** properly marked with client sample ID?	☒	☐	☐
2	Did **sample containers** arrive in good condition?	☒	☐	☐
3	Were **chain-of-custody** papers used and filled out?	☒	☐	☐
4	Did **sample container labels** and/or tags agree with custody papers?	☒	☐	☐
5	Was **sample volume** received adequate for analysis?	☒	☐	☐
6	Are samples within specified holding times?	☒	☐	☐
7	Was proper **temperature** (thermal preservation) of cooler at receipt adhered to?	☒	☐	☐
	Cooler Temperature: 1° C Blank Temperature: ° C	Wet Ic		
8	Were **custody seals** on outside of cooler/Box/Container?	☒	☐	☐
	Location of seal(s)? _____ Sealing Lid?	☒	☐	☐
	Were signature and date included?	☒	☐	☐
	Were seals intact?	☒	☐	☐
9	Do containers have appropriate **preservation**, according to method/SOP or Client specified information?	☒	☐	☐
	Is there a client indication that the submitted samples are **pH** preserved?	☒	☐	☐
	Were **VOA vials** checked for presence/absence of air bubbles?	☒	☐	☐
	Does the client/method/SOP require that the analyst check the sample pH and if necessary alter it?	☐	☒	☐
10	**Tubes:** Are the tubes capped and intact?	☐	☐	☒
11	**Badges:** Are the badges properly capped and intact?	☐	☐	☒
	Are dual bed badges separated and individually capped and intact?	☐	☐	☒

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P2006780-001.01	40mL VOA NP				A	
P2006780-001.02	40mL VOA NP		6		A	CB 12/9/20
P2006780-001.04	40ml VOA HCL				A	
P2006780-001.05	40ml VOA HCL		1		A	CB 12/8/20
P2006780-001.06	40ml VOA HCL				A	
P2006780-002.01	40mL VOA NP		6		A	CB 12/9/20
P2006780-002.02	40mL VOA NP				A	
P2006780-002.04	40ml VOA HCL		1		A	CB 12/8/20
P2006780-002.05	40ml VOA HCL				A	
P2006780-002.06	40ml VOA HCL				A	
P2006780-003.01	40mL VOA NP				A	
P2006780-003.02	40mL VOA NP		6		A	CB 12/9/20
P2006780-003.04	40ml VOA HCL				A	
P2006780-003.05	40ml VOA HCL		1		A	CB 12/8/20
P2006780-003.06	40ml VOA HCL					

Explain any discrepancies: (include lab sample ID numbers):

Sample -003.06 was not received.

RSK - MEEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

ALS Environmental
Sample Acceptance Check Form

Client: ALS Laboratory Group Work order: P2006780

Project: HS20120090

Sample(s) received on: 12/3/20 Date opened: 12/3/20 by: ADAVID

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P2006780-004.01	40mL VOA NP		6		A	CB 12/9/20
P2006780-004.02	40mL VOA NP				A	
P2006780-004.04	40ml VOA HCL		1		A	CB 12/7/20
P2006780-004.05	40ml VOA HCL		1		A	CB 12/7/20
P2006780-004.06	40ml VOA HCL		1		A	CB 12/7/20
P2006780-005.01	40mL VOA NP		6		A	CB 12/9/20
P2006780-005.02	40mL VOA NP				A	
P2006780-005.04	40ml VOA HCL				A	
P2006780-005.05	40ml VOA HCL		1		A	CB 12/8/20
P2006780-005.06	40ml VOA HCL				A	

Explain any discrepancies: (include lab sample ID numbers):

RSK - MEEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **ALS Laboratory Group**
Client Project ID: **HS20120090** ALS Project ID: P2006780

Carbon Dioxide

Test Code: RSK 175
Instrument ID: HP5890A/GC10/TCD Date(s) Collected: 12/1/20
Analyst: Connor Barrett/Wade Henton Date Received: 12/3/20
Matrix: Liquid Date Analyzed: 12/9/20
Test Notes:

Client Sample ID	ALS Sample ID	Injection Volume ml(s)	Result µg/L	LOQ µg/L	LOD µg/L	MDL µg/L	Data Qualifier
03WW01_120120	P2006780-001	0.10	**460,000**	1,000	860	370	
35AWW08_120120	P2006780-002	0.050	**830,000**	2,000	1,700	740	
35AWW11_120120	P2006780-003	0.050	**610,000**	2,000	1,700	740	
35AWW11_120120_a	P2006780-004	0.050	**530,000**	2,000	1,700	740	
35AWW06_120120	P2006780-005	0.10	**270,000**	1,000	860	370	
Method Control Sample	P201209-MB	0.10	860	1,000	860	370	**U**

The Method Control Sample is laboratory water carried through the entire analytical process.
U = Compound was analyzed for, but not detected above the laboratory detection limit.
LOQ = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **ALS Laboratory Group**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2006780
Client Project ID: **HS20120090** ALS Sample ID: P201209-DLCS

Test Code: RSK 175 Date Collected: NA
Instrument ID: HP5890A/GC10/TCD Date Received: NA
Analyst: Connor Barrett/Wade Henton Date Analyzed: 12/09/20
Matrix: Liquid Volume(s) Analyzed: NA ml(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS ug/L	Result[1] LCS ug/L	Result[1] DLCS ug/L	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
124-38-9	Carbon Dioxide	22,900	19,700	19,300	**86**	**84**	80-122	2	12	

[1] = The concentration shown includes a subtraction of the Method Control Sample value, even if the result is less than the MRL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **ALS Laboratory Group**
Client Sample ID: **03WW01_120120**
Client Project ID: **HS20120090**

ALS Project ID: P2006780
ALS Sample ID: P2006780-001

Test Code: RSK 175
Instrument ID: HP5890A/GC10/FID
Analyst: WH/CB
Matrix: Water
Test Notes:

Date Collected: 12/1/20
Date Received: 12/3/20
Date Analyzed: 12/8/20
Volume(s) Analyzed: 0.10 ml(s)

CAS #	Compound	Result µg/L	LOQ µg/L	LOD µg/L	MDL µg/L	Data Qualifier
74-82-8	Methane	**1,700**	1.3	1.0	0.51	
74-85-1	Ethene	**1.1**	1.0	0.55	0.24	
74-84-0	Ethane	0.47	0.60	0.47	0.16	**U**

U = Compound was analyzed for, but not detected above the laboratory detection limit.
LOQ = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 1

Client: **ALS Laboratory Group**
Client Sample ID: **35AWW08_120120**
Client Project ID: **HS20120090**

ALS Project ID: P2006780
ALS Sample ID: P2006780-002

Test Code: RSK 175
Instrument ID: HP5890A/GC10/FID
Analyst: WH/CB
Matrix: Water
Test Notes:

Date Collected: 12/1/20
Date Received: 12/3/20
Date Analyzed: 12/8/20
Volume(s) Analyzed: 0.10 ml(s)

CAS #	Compound	Result µg/L	LOQ µg/L	LOD µg/L	MDL µg/L	Data Qualifier
74-82-8	Methane	**320**	1.3	1.0	0.51	
74-85-1	Ethene	**5.6**	1.0	0.55	0.24	
74-84-0	Ethane	0.47	0.60	0.47	0.16	**U**

U = Compound was analyzed for, but not detected above the laboratory detection limit.
LOQ = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **ALS Laboratory Group**
Client Sample ID: **35AWW11_120120**
Client Project ID: **HS20120090**

ALS Project ID: P2006780
ALS Sample ID: P2006780-003

Test Code: RSK 175
Instrument ID: HP5890A/GC10/FID
Analyst: WH/CB
Matrix: Water
Test Notes:

Date Collected: 12/1/20
Date Received: 12/3/20
Date Analyzed: 12/8/20
Volume(s) Analyzed: 0.10 ml(s)

CAS #	Compound	Result µg/L	LOQ µg/L	LOD µg/L	MDL µg/L	Data Qualifier
74-82-8	Methane	**1,800**	1.3	1.0	0.51	
74-85-1	Ethene	0.55	1.0	0.55	0.24	**U**
74-84-0	Ethane	0.47	0.60	0.47	0.16	**U**

U = Compound was analyzed for, but not detected above the laboratory detection limit.
LOQ = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **ALS Laboratory Group**
Client Sample ID: **35AWW11_120120_a**
Client Project ID: **HS20120090**

ALS Project ID: P2006780
ALS Sample ID: P2006780-004

Test Code: RSK 175
Instrument ID: HP5890A/GC10/FID
Analyst: WH/CB
Matrix: Water
Test Notes:

Date Collected: 12/1/20
Date Received: 12/3/20
Date Analyzed: 12/8/20
Volume(s) Analyzed: 0.10 ml(s)

CAS #	Compound	Result µg/L	LOQ µg/L	LOD µg/L	MDL µg/L	Data Qualifier
74-82-8	Methane	**4,400**	1.3	1.0	0.51	
74-85-1	Ethene	0.55	1.0	0.55	0.24	**U**
74-84-0	Ethane	0.47	0.60	0.47	0.16	**U**

U = Compound was analyzed for, but not detected above the laboratory detection limit.
LOQ = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **ALS Laboratory Group**
Client Sample ID: **35AWW06_120120**
Client Project ID: **HS20120090**

ALS Project ID: P2006780
ALS Sample ID: P2006780-005

Test Code: RSK 175
Instrument ID: HP5890A/GC10/FID
Analyst: WH/CB
Matrix: Water
Test Notes:

Date Collected: 12/1/20
Date Received: 12/3/20
Date Analyzed: 12/8/20
Volume(s) Analyzed: 0.10 ml(s)

CAS #	Compound	Result µg/L	LOQ µg/L	LOD µg/L	MDL µg/L	Data Qualifier
74-82-8	Methane	**3,300**	1.3	1.0	0.51	
74-85-1	Ethene	0.55	1.0	0.55	0.24	**U**
74-84-0	Ethane	0.47	0.60	0.47	0.16	**U**

U = Compound was analyzed for, but not detected above the laboratory detection limit.
LOQ = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **ALS Laboratory Group**
Client Sample ID: **Method Control Sample**
Client Project ID: **HS20120090**

ALS Project ID: P2006780
ALS Sample ID: P201208-MB

Test Code: RSK 175
Instrument ID: HP5890A/GC10/FID
Analyst: WH/CB
Matrix: Water
Test Notes:

Date Collected: NA
Date Received: NA
Date Analyzed: 12/08/20
Volume(s) Analyzed: 0.10 ml(s)

CAS #	Compound	Result µg/L	LOQ µg/L	LOD µg/L	MDL µg/L	Data Qualifier
74-82-8	Methane	1.0	1.3	1.0	0.51	**U**
74-85-1	Ethene	0.55	1.0	0.55	0.24	**U**
74-84-0	Ethane	0.47	0.60	0.47	0.16	**U**

The Method Control Sample is laboratory water carried through the entire analytical process.
U = Compound was analyzed for, but not detected above the laboratory detection limit.
LOQ = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **ALS Laboratory Group**
Client Sample ID: **Duplicate Lab Control Sample**
Client Project ID: **HS20120090**

ALS Project ID: P2006780
ALS Sample ID: P201208-LCS
P201208-DLCS

Test Code: RSK 175
Instrument ID: HP5890A/GC10/FID
Analyst: WH/CB
Matrix: Water
Test Notes:

Date Collected: NA
Date Received: NA
Date Analyzed: 12/08/20
Volume(s) Analyzed: 0.10 ml(s)

CAS #	Compound	Spike Amount LCS / DLCS µg/L	Result[1] LCS µg/L	Result[1] DLCS µg/L	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
74-82-8	Methane	2.52	2.92	2.75	**116**	**109**	73-125	6	26	
74-85-1	Ethene	4.40	4.97	5.09	**113**	**116**	72-133	3	11	
74-84-0	Ethane	4.72	4.80	4.99	**102**	**106**	74-131	4	10	

[1] = The concentration shown includes a subtraction of the Method Control Sample value, even if the result is less than the MRL.

10515 Research Drive
Knoxville, TN 37932
Phone: (865) 573-8188
Fax: (865) 573-8133

Client: RJ Modashia
ALS Laboratory Group
10450 Stancliff Rd
Suite 210
Houston, TX 77040

Phone: 281-575-2279

Fax:

Identifier: 005RL **Date Rec:** 12/02/2020 **Report Date:** 12/09/2020

Client Project #: NW01312.0150 **Client Project Name:** LHAAP-58

Purchase Order #:

Test results provided for: CENSUS

Reviewed By:



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Results relate only to the items tested and the sample(s) as received by the laboratory.

MICROBIAL INSIGHTS, INC.

10515 Research Dr., Knoxville, TN 37932
Tel. (865) 573-8188 Fax. (865) 573-8133

CENSUS

Client: **ALS Laboratory Group**
Project: LHAAP-58

MI Project Number: **005RL**
Date Received: 12/02/2020

Sample Information

Client Sample ID:		**03WW01_120120**	**35AWW08_120120**	**35AWW11_120120**	**35AWW06_120120**
Sample Date:		12/01/2020	12/01/2020	12/01/2020	12/01/2020
Units:		cells/mL	cells/mL	cells/mL	cells/mL
Analyst/Reviewer:		HT/CB	HT/CB	HT/CB	HT/CB
Dechlorinating Bacteria					
Dehalococcoides	*DHC*	**2.66E+04**	**9.20E+05**	**3.68E+02**	**1.06E+03**
tceA Reductase	TCE	**4.06E+03**	**1.17E+05**	**4.50E+00**	**1.14E+02**
BAV1 Vinyl Chloride Reductase	BVC	**1.18E+01**	**1.02E+01**	<1.10E+00	<1.40E+00
Vinyl Chloride Reductase	VCR	**2.33E+03**	**8.09E+04**	**1.18E+02**	**1.23E+02**
Dehalobacter spp.	*DHBt*	**1.61E+03**	**7.74E+04**	**5.27E+04**	**3.70E+03**

Legend:
NA = Not Analyzed NS = Not Sampled J = Estimated gene copies below PQL but above LQL I = Inhibited
< = Result not detected

Quality Assurance/Quality Control Data

Samples Received **12/2/2020**

Component	Date Prepared	Date Analyzed	Arrival Temperature	Positive Control	Extraction Blank	Negative Control
DHC	12/02/2020	12/09/2020	0 °C	103%	non-detect	non-detect
BVC	12/02/2020	12/09/2020	0 °C	105%	non-detect	non-detect
TCE	12/02/2020	12/09/2020	0 °C	101%	non-detect	non-detect
VCR	12/02/2020	12/09/2020	0 °C	103%	non-detect	non-detect
DHBt	12/02/2020	12/09/2020	0 °C	105%	non-detect	non-detect

01150211

REPORT TO:

Name: MARCIA OLIVE
Company: BHATE
Address: 475 UNION BLVD. STE. 129
LAKEWOOD, CO. 80228
email: molive@bhate.com
Phone: 303-725-7631
Fax:

Project Manager: Kim Nemmers
Project Name: LHAAP-58
Project No.: NWO1312.0150

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Sample Information					Analyses					CENSUS: Please select the target organism/gene																								
MI ID (Laboratory Use Only)	Sample Name	Date Sampled	Time Sampled	Matrix	PLFA	DGGE+3ID	DGGE+5ID	QuantArray Chlor	QuantArray Petro	DHC (Dehalococcoides)	DHC Functional genes (vcr, tce, tce)	DHBt (Dehalobacter)	DSM (Desulfuromonas)	DSB (Desulfitobacterium)	EBAC (Total)	SRB (Sulfate Reducing Bacteria-APS)	MGN (Methanogens)	MOB (Methanotrophs)	SMMO	DNF (Denitrifiers-nirS and nirK)	AOB (ammonia oxidizing bacteria)	PMM (MTBE aerobic)	RMO (Toluene Monooxygenase)	RDEG (Toluene Monooxygenase)	PHE (Phenol Hydroxylase)	NAH (Naphthalene-aerobic)	BSSA (Toluene/Xylene-Anaerobic)	add. qPCR:	add. qPCR:	RNA (Expression Option)*	Other:	Other:	Other:
005RL 1	03WW01_120120	12/1/20	0720	WG							X	X																						
2	35AWW08_120120	12/1/20	0820	WG							X	X																						
3	35AWW11_120120	12/1/20	0915	WG							X	X																						
4	35AWW06_120120	12/1/20	1020	WG							X	X																						

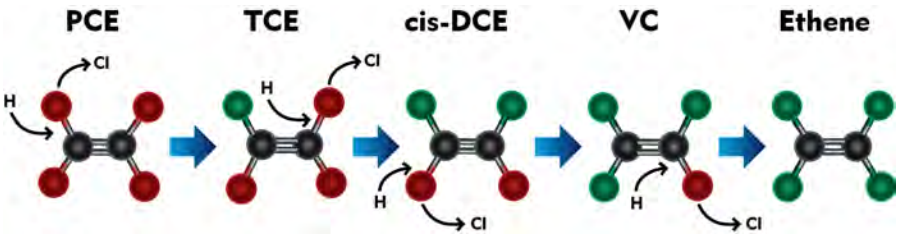
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Failure to provide sufficient and/or correct information regarding reporting, invoicing & analyses requested information may result in delays for which MI will not be liable.

DHC Interpretation

Dehalococcoides 16S rRNA gene (qDHC)

Under anaerobic conditions, tetrachloroethene (PCE) and trichloroethene (TCE) can undergo sequential reductive dechlorination through the daughter products *cis*-dichloroethene (*cis*-DCE) and vinyl chloride to nontoxic ethene (1,2).



While a number of bacterial cultures capable of utilizing PCE and TCE as growth supporting electron acceptors have been isolated (3-7), *Dehalococcoides* spp. may be the most important because they are the only bacterial group that has been isolated to date which is capable of complete reductive dechlorination of PCE to ethene (8). In fact, the presence of *Dehalococcoides* spp. has been associated with complete dechlorination to ethene at sites across North America and Europe (9).

Status	*Dehalococcoides spp.*	Observation
	**≥ 10^4** (cells/mL)	Lu et al. proposed that a concentration of 1 x 10^4 DHC cells/mL could be used as a screening criterion to identify sites where reductive dechlorination will yield a generally useful biodegradation rate (10). Similarly, in an internal study conducted with nearly 1000 groundwater samples obtained from sites across the US, ethene production was observed in approximately 80% of samples in which CENSUS® qDHC results were greater than or equal to 10^4 DHC cells/mL.
	**10^1 to < 10^4** (cells/mL)	When vinyl chloride reductase genes (See DHC functional genes discussion below) are also detected, complete reductive dechlorination of PCE and TCE to ethene may still occur even with moderate DHC concentrations. When the DHC population is below the 10^4 cells/mL criterion proposed by Lu et al. (10), project managers should carefully consider other site-specific data to determine whether subsurface conditions may be limiting reductive dechlorination. For example, the addition of an electron donor may be able to stimulate DHC growth and enhance anaerobic bioremediation.
	**< 10^1** (cells/mL)	DHC concentrations are low suggesting that complete reductive dechlorination of PCE and TCE to ethene is unlikely to occur under existing conditions. Enhanced anaerobic bioremediation options (biostimulation or bioaugmentation) may need to be considered.

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DHC Interpretation

DHC Functional Genes (*tce*A, *bvc*A, *vcr*A)

A "stall" where daughter products *cis*-DCE and vinyl chloride accumulate can occur at PCE- and TCE-impacted sites especially under MNA conditions. The accumulation of vinyl chloride, generally considered more carcinogenic than the parent compounds, is particularly problematic. Although elevated *Dehalococcoides* concentrations correspond to ethene production in numerous studies, the range of chlorinated ethenes metabolized and cometabolized varies among species and strains within the *Dehalococcoides* genus. For example, *Dehalococcoides ethenogenes* str. 195 metabolizes PCE, TCE, and *cis*-DCE and cometabolizes vinyl chloride (8) to produce ethene. Conversely, *Dehalococcoides* sp. CBDB1 utilizes PCE and TCE but does not cometabolize additional chloroethenes (11). Other *Dehalococcoides* strains, such as BAV1, GT and VS, are known to fully dechlorinate cis-DCE and VC to ethene (14,16,19). Quantification of reductive dehalogenase genes is used to more definitively confirm the potential for reductive dechlorination of TCE, cis-DCE, and vinyl chloride (12-15).

Functional Gene	Observation
TCE Reductase	
***tce*A gene**	The *tce*A gene encodes the enzyme responsible for reductive dechlorination of TCE to *cis*-DCE in some strains of *Dehalococcoides*. Absence of *tce*A does not preclude the potential for reductive dechlorination of TCE in the field since the *tce*A gene is not universally distributed among all DHC and is not present in other microorganisms capable of reductive dechlorination of TCE (e.g. *Dehalobacter*). Detection of the *tce*A gene provides an additional line of evidence indicating the potential for dechlorination of TCE.
Vinyl Chloride Reductase	
***bvc*A gene**	The *bvc*A gene encodes the vinyl chloride reductase enzyme responsible for reductive dechlorination of vinyl chloride to ethene by *Dehalococcoides* sp. str. BAV1 (16). Presence of *bvc*A gene indicates the potential for reductive dechlorination of VC to ethene. Absence of both *bvc*A and *vcr*A genes suggests VC may accumulate. An internal study with ~1,000 samples showed ethene production was observed in 80% of the samples that the DHC population was greater than or equal to 10^4 cells/mL. The *bvc*A gene was detected in over 50% of these samples. Van Der Zaan et al (17) noted that the bvcA gene was the only VC reductase gene detected at three of their sites. Alfred Spormann's laboratory at Stanford University (18) reported that the *bvc*A gene was the most abundant and active at the outflow of a PCE fed column study. This section of the column was in the DCE to VC stages of reductive dechlorination thus confirming the importance of the *bvc*A gene for complete reductive dechlorination.
***vcr*A gene**	The *vcr*A gene encodes the vinyl chloride reductase enzyme responsible for reductive dechlorination of *cis*-DCE and vinyl chloride by *Dehalococcoides* sp. strain VS (14). Presence of *vcr*A gene indicates the potential for reductive dechlorination of DCE and/or VC to ethene. Absence of both *bvc*A and *vcr*A genes suggest VC may accumulate. As with the *bvc*A gene, detection of the *vcr*A gene is associated with ethene production in internal studies (67%) and vinyl chloride reduction in independent studies (14, 17).

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DHC Interpretation

Reporting

Microbial Insights can provide a variety of data packages and reporting levels to suit the needs of any project. Data packages range from simple analytical reports with results only to more complex data packages that include a report narrative, analytical results, QC data, and supporting materials including all raw data and chain-of-custody documentation. The figure below shows our standard report and explains the way values are reported.

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CENSUS

Client: Company Name
Project: Your Project Name

MI Project Number: Unique Laboratory Identifier
Date Received: Date Samples Arrived

Sample Information

Client Sample ID:		Sample A	Sample B	Sample C
Sample Date:		00/00/0000	00/00/0000	00/00/0000
Units:		cells/mL	cells/mL	cells/mL
Analyst:		Intials	Intials	Intials
Dechlorinating Bacteria				
Dehalococcoides spp.	DHC	**1.84E+05**	**2.76E+02**	**2.28E+01 (J)**
Functional Genes				
tceA Reductase	TCE	**6.00E+01**	**3.23E+01**	<4.00E-01
bvcA Reductase	BVC	**1.17E+04**	**1.81E+01**	<4.00E-01
vcrA Reducatase	VCR	**8.42E+04**	**1.74E+02**	<4.00E-01

"J" value
Result is an estimated value. This data qualifier (flag) is used when the target gene is detected but at a concentration or abundance below the practical quantification limit (PQL).

Legend:
NA = Not Analyzed NS = Not Sampled J = Estimated gene copies below PQL but above LQL I = Inhibited
< = Result not detected

< value
The target gene was not detected at the limit of quantitation (LOQ) reported for that sample.

"I" value
QA Procedure indicated that the sample may have exhibited PCR inhibition. Although relatively rare, PCR inhibition can occur due to the presence of metals or humic acids at high concentrations in the sample.

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DHC Interpretation

Quality Assurance

Microbial Insights' comprehensive Quality Assurance (QA) Program is the foundation of all laboratory analyses, ensuring that our clients receive high-quality analytical services that are timely, reliable, and meet their intended purpose in a cost effective manner. MI is committed to providing quality data that surpasses regulatory and industry standards, thus enabling the client to make well-informed decisions. MI maintains strict standard operating procedures and QA/QC measures throughout all of the analyses offered. The following Table details specific QA/QC procedures that are used for CENSUS.

QA/QC	Description
Date of Extraction	DNA and RNA extractions are performed the day the samples are received by MI to minimize the possibility of any changes to the microbial community prior to analysis.
Laboratory Method Blanks	An extraction blank (no sample added) is processed alongside each set of field samples from DNA extraction through CENSUS® analysis to ensure that cross contamination has not occurred. Although MI has never experienced this issue, the detection of the CENSUS® target (e.g. *Dehalococcoides*) in an extraction blank is direct evidence of cross contamination with a sample or contamination of a reagent and would invalidate the results. If this were to occur, MI would re-extract the sample. If not possible to re-extract, MI would contact the client immediately and notate it on the laboratory report.
Laboratory Control Samples (LCS)	A laboratory control sample (LCS) or positive control (target DNA) is included with each CENSUS® plate to confirm amplification and as a continuing calibration check.
Negative Controls	A negative control (no DNA) is included with each CENSUS plate to ensure that cross contamination has not occurred during amplification. As with the extraction blank, detection of CENSUS target (e.g. DHC) in a negative control is direct evidence of contamination and would invalidate the results. If this were to occur, MI would rerun the analysis.

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How to Use Estimated Percentile Ranks from the Microbial Insights Database

The MI Database and Client Portal

The Microbial Insights Database is the largest collection of field concentrations of key microorganisms and functional genes currently containing qPCR and QuantArray results for more than 32,000 unique groundwater, soil, and sediment samples from all 50 states and 33 countries worldwide. Driven by field samples, the database reflects the impacts of common contaminants, geochemical conditions, and site management practices on critical microbial populations.

With your report, you received a passcode enabling you to retrieve estimates of the percentile ranks of your results based on those compiled in the MI database at no additional charge. When accessing the database, you will be asked to provide background information about the sample (e.g. contaminant concentrations) to aid in understanding the links between environmental conditions and microbial populations. As with all client information provided to MI, site specific data will be treated as confidential.

Is that low, medium or high?

In practice, biodegradation depends not just on the presence but the actual concentrations of the contaminant degrading microorganisms. Simply put, qPCR and QuantArray results demonstrating high concentrations of target microorganisms or functional genes suggest in situ selection, enrichment and growth of those specific contaminant degraders and therefore a greater probability that monitored natural attenuation (MNA) or bioremediation will be successful.

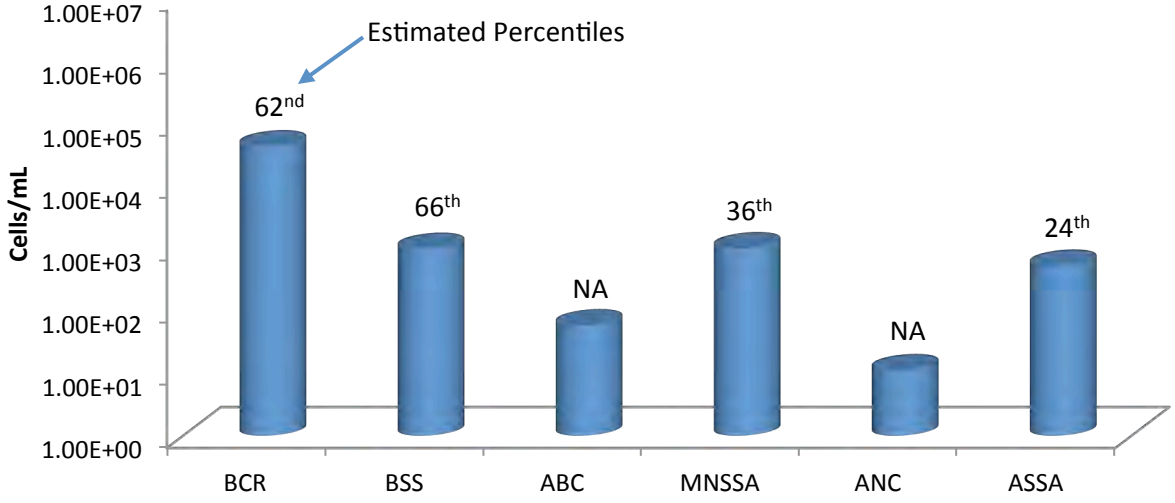
Is that a low, medium, or high concentration? The estimated percentile ranks retrieved from the MI Database answer that question by comparing your qPCR and QuantArray results to those of the literally thousands of other environmental samples submitted to MI for analysis over the last 20+ years.

Using the Estimated Percentile - Interpretation Examples

MNA Assessment – Petroleum Hydrocarbon Site:

Whenever possible, interpretation of qPCR and QuantArray results should include comparisons between samples obtained from background and impacted wells. The estimated percentile ranks however provide an additional avenue for comparison and evaluation of treatment options as shown below.

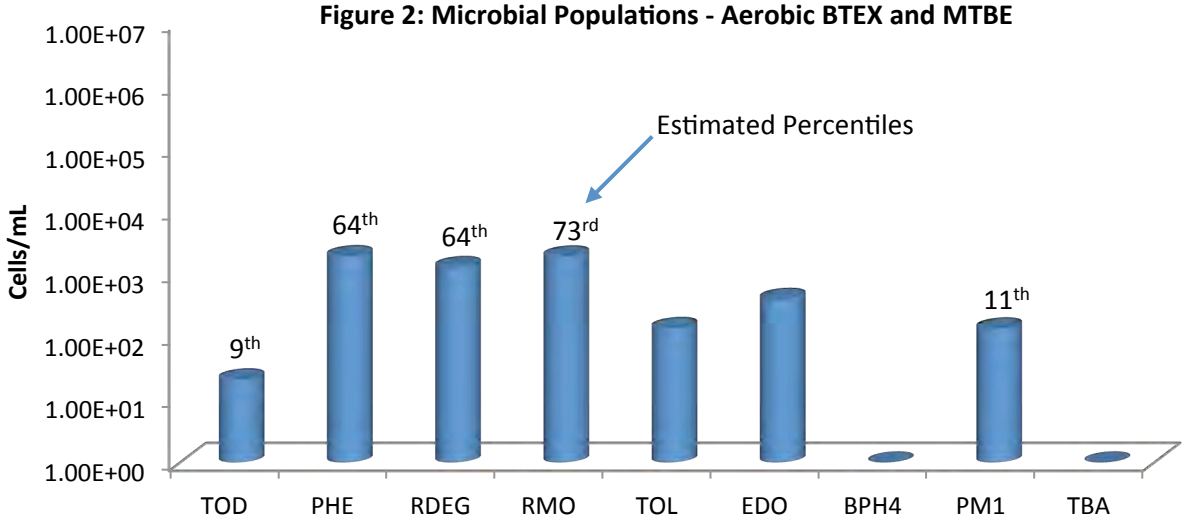
Figure 1: Microbial Populations - Anaerobic BTEX and PAHs



Anaerobic BTEX and PAH Biodegradation (Figure 1):

- With moderate concentrations of functional genes involved in anaerobic BTEX metabolism detected, the QuantArray-Petro® results were encouraging in terms of evaluating biodegradation potential under existing site conditions.
- More specifically, benzylsuccinate synthase (BSS) was detected on the order of nearly 10^3 cells/mL indicating the presence of a substantial population (66^{th} percentile) capable of anaerobic biodegradation of toluene and other alkyl substituted benzenes.
- Naphthyl-2-methylsuccinate synthase (MNSSA) and alkylsuccinate synthase (ASSA) genes were also detected indicating the potential for anaerobic biodegradation of 2-methylnaphthalene and normal alkanes.
- The concentration of MNSSA genes would be considered modest with an estimated percentile of 36^{th}.
- While the percentile rank for MNSSA would be "below average", a number of additional factors should be considered.
    - First, anaerobic hydrocarbon degraders are less prevalent than aerobic BTEX degraders and overall detection frequencies for many genes involved in anaerobic hydrocarbon biodegradation are less than 50%.
    - Therefore, the detection of genes like BSS, MNSSA, ASSA, anaerobic benzene carboxylase (ABC), and anaerobic naphthalene carboxylase (ANC) even at low concentrations is certainly noteworthy and inherently "better than average".
    - The estimated percentiles for all assays are based only on samples where the concentration of the target gene was greater than the practical quantitation limit (PQL).
    - For less commonly detected targets like many of the genes involved in anaerobic hydrocarbon biodegradation this is an especially important consideration.
    - Excluding samples where a gene target is below the PQL ensured that the median concentrations of less commonly detected targets would not be unduly biased low by the fact that the gene is not detected in most samples.
- Anaerobic benzene carboxylase (ABC) and naphthalene carboxylase (ANC) genes were also detected indicating the presence of bacterial populations capable of anaerobic biodegradation of benzene and naphthalene.
- For newly identified genes like ABC and ANC, estimated percentile ranks are not yet available due to the limited number of field samples that have been analyzed to date.
- However, like MNSSA and other genes involved in anaerobic hydrocarbon biodegradation, ABC and ANC detection frequencies are relatively low so the detection of these genes even at low concentrations should be considered when evaluating biodegradation potential under existing site conditions.

Figure 2: Microbial Populations - Aerobic BTEX and MTBE



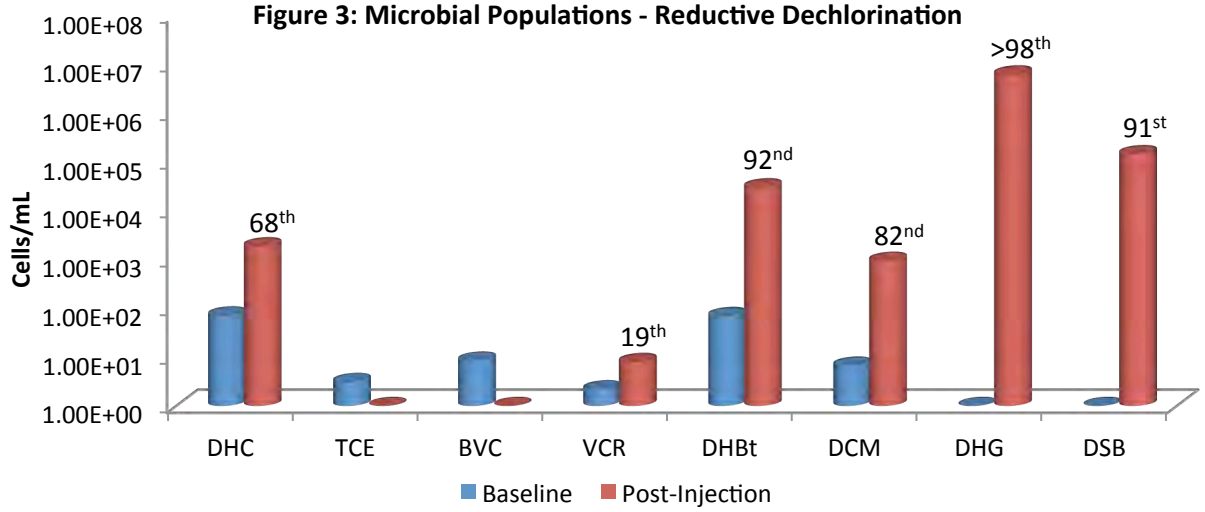
Aerobic BTEX and MTBE Biodegradation (Figure 2):

- With growing evidence that aromatic oxygenases function at low dissolved oxygen concentrations, aerobic BTEX biodegradation pathways should also be evaluated when considering MNA.
- Again, the QuantArray-Petro results were encouraging – genes encoding the first step in multiple pathways for aerobic BTEX biodegradation were detected indicating the presence of a diverse population of aerobic BTEX degraders.
- However, aerobic BTEX degraders are often considered ubiquitous. Therefore answering the question "Is that low, medium or high?" becomes especially important when evaluating aerobic BTEX biodegradation at petroleum hydrocarbon sites.
- In this case, the estimated percentile ranks of the concentrations of toluene/benzene monooxygenase (RMO and RDEG) and phenol hydroxylase (PHE) genes ranged from the 64th to 73rd percentile.
- In other words, the concentrations of RMO, RDEG, and PHE detected in this groundwater sample were greater than the concentrations detected in 64% to 73% of all other groundwater samples where these genes were analyzed and detected above the PQL.
- Aerobic BTEX degraders are common in the environment, but in this sample concentrations of toluene/benzene monooxygenase genes could be viewed as "better than average" when compared to the MI Database.

Biostimulation – Chlorinated Solvent Site:

Whenever possible, interpretation of qPCR and QuantArray results should include comparisons between baseline and post-injection monitoring events as shown below (Figure 3). The estimated percentile ranks however provide an additional avenue for comparison and evaluation of remedy performance.

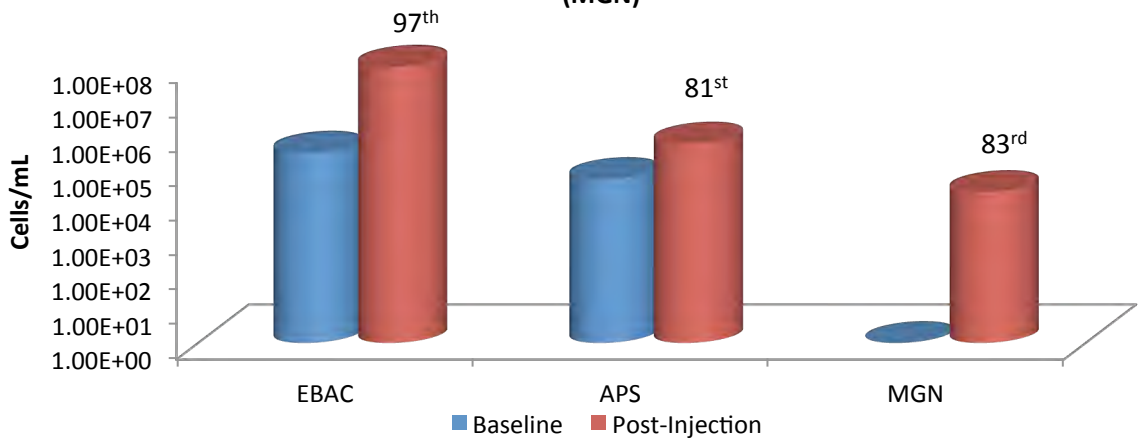
Figure 3: Microbial Populations - Reductive Dechlorination



- During the baseline groundwater sampling event, *Dehalococcoides* and vinyl chloride reductase genes were detected indicating the potential for complete reductive dechlorination of PCE and TCE to ethene.
- However, the *Dehalococcoides* concentration was well below the 10^4 cells/mL recommended by Lu et al. (2006) for generally effective rates of reductive dechlorination.
- Based on qPCR results as well as traditional groundwater monitoring, biostimulation with electron donor addition was selected as the site management plan.
- By the first monitoring event after injection, populations of halorespiring bacteria had increased substantially in response to electron donor addition.
    - *Dehalobacter* populations increased by more than two orders of magnitude to post-injection concentrations greater than 10^4 cells/mL (92^{nd} percentile).
    - *Dehalogenimonas* (10^6 cells/mL) and *Desulfitobacterium* (10^5 cells/mL) which had not been detected prior electron donor addition were present at concentrations greater than observed in over 90% of other groundwater samples where these halorespiring bacteria were detected.
- After injection, *Dehalococcoides* populations increased by more than an order of magnitude to a concentration of over 10^3 cells/mL (68^{th} percentile) demonstrating growth of this key group of halorespiring bacteria.
- Despite a substantial increase and a "better than average" concentration, the *Dehalococcoides* population was still below the 10^4 cells/mL threshold and vinyl chloride reductase gene copies were low (19^{th} percentile).
    - In terms of electron donors and acceptors, the metabolic capabilities of *Dehalococcoides* are rather specialized (hydrogen utilizing obligate halorespiring bacteria) so the median concentration is low. With a low median concentration across the database, a "better than average" *Dehalococcoides* concentration in a given sample may not exceed the 10^4 cells/mL threshold established for effective reductive dechlorination (Lu et al. 2006) and ethene production (Microbial Insights, unpublished data).

- In this case, the initial growth of *Dehalococcoides* was substantial but may have been somewhat hindered by competition with sulfate reducing bacteria (Figure 4 below).
    - The baseline population of sulfate reducing bacteria was moderate (10^4 cells/mL; 63rd percentile). Consistent with an observed decreased in dissolved sulfate concentrations, populations of sulfate reducing bacteria increased and were detected at a relatively high concentration (81st percentile) after electron donor addition.
    - After injection, methanogen populations also increased to a relatively high concentration (83rd percentile) suggesting generation of methanogenic conditions.
- With sulfate depletion and generation of highly anaerobic conditions more conducive to reductive dechlorination, *Dehalococcoides* populations may continue to increase and exceed the 10^4 *Dehalococcoides* cells/mL threshold in subsequent monitoring events.
- Overall, QuantArray analysis conclusively demonstrated that electron donor addition stimulated growth of halorespiring bacteria with the estimated percentiles retrieved from the MI Database providing the "low, medium or high" perspective to the observed changes in microbial populations.

Figure 4: Total Bacteria (EBAC), Sulfate Reducering Bacteria (APS) and Methanogens (MGN)



References

Lu, X., J.T. Wilson, and D.H. Kampbell. 2006. Relationship between *Dehalococcoides* DNA in ground water and rates of reductive dechlorination at field scale. *Water Research* 40 no. 16: 3131-3140.

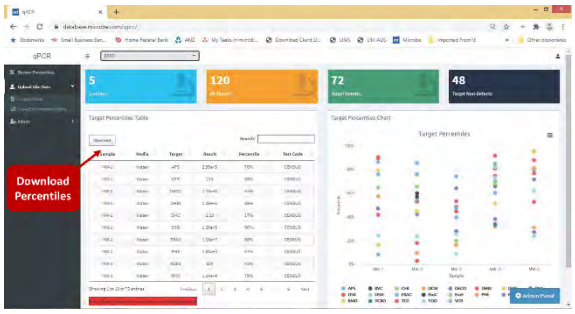
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The MI Database

The Microbial Insights Database is the largest collection of field concentrations of key microorganisms and functional genes currently containing qPCR and QuantArray results for more than 70,000 unique groundwater, soil, and sediment samples from all 50 states and 33 countries worldwide.

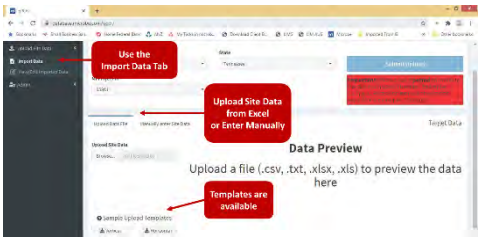
Is that low, medium or high?

In practice, biodegradation depends not just on the presence but the actual concentrations of the contaminant degrading microorganisms. The percentile ranks retrieved from the MI Database answer the question "Is that low, medium or high?" by comparing your results to those of the literally thousands of other environmental samples submitted to MI for analysis.



Retrieving Estimated Percentile Ranks

When you receive your report, you will be emailed a link enabling you to login to the Microbial Insights Database. Click the link and use the Upload Site Data Tab to enter basic information about the sample (e.g. contaminant concentrations) to aid in understanding the links between environmental conditions and microbial populations. Once the site data is entered, you will be able to retrieve the percentile ranks of your results based on those compiled in the MI database at no additional charge.



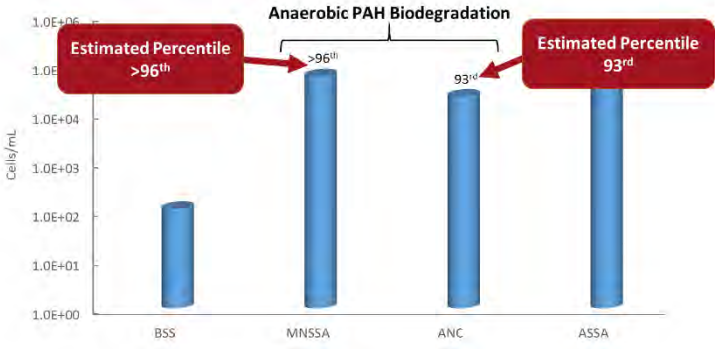
All site specific data is treated as confidential and uploading is easy.

You can even upload chemical and geochemical data from EDDs. Just save as a Tab Delimited text file.

Example - Using Estimated Percentile for MNA Assessment at an MGP Site

CENSUS® qPCR was performed to quantify anaerobic naphthalene carboxylase (ANC) and naphthyl-2-methylsuccinate synthase (MNSSA) to assess anaerobic biodegradation of naphthalene and methyl-naphthalene under existing site conditions.

- Not only were ANC and MNSSA genes detected, but these functional genes responsible for anaerobic biodegradation of PAHs were present at high concentrations based on the percentile ranks.
- Demonstrating high concentrations of ANC and MNSSA gave an additional line of evidence indicating growth substantial populations of anaerobic PAH degraders and suggested a greater probability that monitored natural attenuation (MNA) will be successful.



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December 30, 2020

Marcia Olive
Bhate Environmental Associates, Inc.
445 Union Blvd Ste 129
Lakewood, CO 80228

Work Order: **HS20120247**

Laboratory Results for: **LHAAP / Site 58**

Dear Marcia Olive,

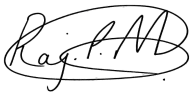
ALS Environmental received 8 sample(s) on Dec 04, 2020 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,



Generated By: JUMOKE.LAWAL
RJ Modashia
Project Manager

ALS Houston, US Date: 30-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP / Site 58
Work Order: HS20120247

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS20120247-01	35AWW20_120320	Groundwater		03-Dec-2020 07:25	04-Dec-2020 10:15	☐
HS20120247-02	LHSMW07_120320	Groundwater		03-Dec-2020 08:15	04-Dec-2020 10:15	☐
HS20120247-03	35AWW05_120320	Groundwater		03-Dec-2020 09:10	04-Dec-2020 10:15	☐
HS20120247-04	35AWW23_120320	Groundwater		03-Dec-2020 09:55	04-Dec-2020 10:15	☐
HS20120247-05	35AWW19_120320	Groundwater		03-Dec-2020 10:45	04-Dec-2020 10:15	☐
HS20120247-06	35AWW24_120320	Groundwater		03-Dec-2020 11:40	04-Dec-2020 10:15	☐
HS20120247-07	LHSMW06_120320	Groundwater		03-Dec-2020 12:30	04-Dec-2020 10:15	☐
HS20120247-08	Trip Blank	Water		03-Dec-2020 00:00	04-Dec-2020 10:15	☐

ALS Houston, US Date: 30-Dec-20

Client: Bhate Environmental Associates, Inc. **CASE NARRATIVE**
Project: LHAAP / Site 58
Work Order: HS20120247

Work Order Comments

• The analysis for VFAs was subcontracted to ALS Rochester NY Final report attached.

The analysis for MEE plus CO2 was subcontracted to ALS Simi Valley CA. Final report attached.

The analysis for TOC was subcontracted to ALS Kelso, WA. Final report attached.

The analyses for DHC/DHB were subcontracted to Microbial Insights in Knoxville, TN. Final Report attached.

GCMS Volatiles by Method SW8260

Batch ID: R374913

Sample ID: 35AWW24_120320(HS20120247-06MSD)

• The RPD between the MS and MSD was outside of the control limit.

Sample ID: VLCSW-201217

• 1,2,3_Trichlorobenzene exceeded QC limits for LCS. Samples are ND for this compound.

Metals by Method SW6020

Batch ID: 160930

• The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

WetChemistry by Method SW9056

Batch ID: R374034

Sample ID: LHSMW07_120320 (HS20120247-02)

• Sample ran at 2X due to high concentration of Chloride & Sulfate

Batch ID: R375028

Sample ID: HS20120396-54MS

• MS and MSD are for an unrelated sample (Sulfate)

ALS Houston, US Date: 30-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP / Site 58
Sample ID: 35AWW20_120320
Collection Date: 03-Dec-2020 07:25

ANALYTICAL REPORT
WorkOrder:HS20120247
Lab ID:HS20120247-01
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 15:47
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 15:47
1,1,2,2-Tetrachloroethane	0.50	U	0.50	0.50	1.0	ug/L	1	17-Dec-2020 15:47
1,1,2-Trichloroethane	**73**		**0.30**	**0.50**	**1.0**	**ug/L**	1	17-Dec-2020 15:47
1,1-Dichloroethane	**550**		**5.0**	**12**	**25**	**ug/L**	25	17-Dec-2020 18:36
1,1-Dichloroethene	**950**		**5.0**	**12**	**25**	**ug/L**	25	17-Dec-2020 18:36
1,1-Dichloropropene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 15:47
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	17-Dec-2020 15:47
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	17-Dec-2020 15:47
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	17-Dec-2020 15:47
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 15:47
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 15:47
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 15:47
1,2-Dichlorobenzene	**22**		**0.50**	**1.0**	**1.0**	**ug/L**	1	17-Dec-2020 15:47
1,2-Dichloroethane	**16**		**0.20**	**0.50**	**1.0**	**ug/L**	1	17-Dec-2020 15:47
1,2-Dichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	17-Dec-2020 15:47
1,3,5-Trimethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 15:47
1,3-Dichlorobenzene	**1.0**		**0.40**	**1.0**	**1.0**	**ug/L**	1	17-Dec-2020 15:47
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 15:47
1,4-Dichlorobenzene	**3.8**		**0.40**	**1.0**	**1.0**	**ug/L**	1	17-Dec-2020 15:47
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 15:47
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	17-Dec-2020 15:47
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 15:47
2-Hexanone	2.0	U	1.0	2.0	2.0	ug/L	1	17-Dec-2020 15:47
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	17-Dec-2020 15:47
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 15:47
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	ug/L	1	17-Dec-2020 15:47
Acetone	1.0	U	0.40	1.0	2.0	ug/L	1	17-Dec-2020 15:47
Benzene	**8.2**		**0.20**	**0.50**	**1.0**	**ug/L**	1	17-Dec-2020 15:47
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	17-Dec-2020 15:47
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 15:47
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 15:47
Bromoform	0.50	U	0.40	0.50	1.0	ug/L	1	17-Dec-2020 15:47
Bromomethane	0.50	U	0.40	0.50	1.0	ug/L	1	17-Dec-2020 15:47
Carbon disulfide	1.0	U	0.60	1.0	2.0	ug/L	1	17-Dec-2020 15:47
Carbon tetrachloride	0.50	U	0.50	0.50	1.0	ug/L	1	17-Dec-2020 15:47
Chlorobenzene	**0.56**	J	**0.30**	**0.50**	**1.0**	**ug/L**	1	17-Dec-2020 15:47
Chloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 15:47
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 15:47

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 30-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP / Site 58
Sample ID: 35AWW20_120320
Collection Date: 03-Dec-2020 07:25

ANALYTICAL REPORT
WorkOrder:HS20120247
Lab ID:HS20120247-01
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 15:47
cis-1,2-Dichloroethene	**63**		**0.20**	**0.50**	**1.0**	**ug/L**	1	17-Dec-2020 15:47
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	ug/L	1	17-Dec-2020 15:47
Dibromochloromethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 15:47
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 15:47
Dichlorodifluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 15:47
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 15:47
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	17-Dec-2020 15:47
Isopropylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 15:47
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	17-Dec-2020 15:47
Methylene chloride	1.0	U	0.40	1.0	2.0	ug/L	1	17-Dec-2020 15:47
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	17-Dec-2020 15:47
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 15:47
Naphthalene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 15:47
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 15:47
sec-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 15:47
Styrene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 15:47
tert-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 15:47
Tetrachloroethene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 15:47
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 15:47
trans-1,2-Dichloroethene	**6.7**		**0.20**	**0.50**	**1.0**	**ug/L**	1	17-Dec-2020 15:47
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 15:47
Trichloroethene	**91**		**0.20**	**0.50**	**1.0**	**ug/L**	1	17-Dec-2020 15:47
Trichlorofluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 15:47
Vinyl chloride	**1,800**		**5.0**	**12**	**25**	**ug/L**	25	17-Dec-2020 18:36
Surr: 1,2-Dichloroethane-d4	*94.1*			**0**	*81-118*	*%REC*	*1*	*17-Dec-2020 15:47*
Surr: 1,2-Dichloroethane-d4	*90.9*			**0**	*81-118*	*%REC*	*25*	*17-Dec-2020 18:36*
Surr: 4-Bromofluorobenzene	*96.7*			**0**	*85-114*	*%REC*	*1*	*17-Dec-2020 15:47*
Surr: 4-Bromofluorobenzene	*95.3*			**0**	*85-114*	*%REC*	*25*	*17-Dec-2020 18:36*
Surr: Dibromofluoromethane	*90.2*			**0**	*80-119*	*%REC*	*1*	*17-Dec-2020 15:47*
Surr: Dibromofluoromethane	*90.7*			**0**	*80-119*	*%REC*	*25*	*17-Dec-2020 18:36*
Surr: Toluene-d8	*102*			**0**	*89-112*	*%REC*	*1*	*17-Dec-2020 15:47*
Surr: Toluene-d8	*102*			**0**	*89-112*	*%REC*	*25*	*17-Dec-2020 18:36*
ANIONS BY SW9056A		**Method:SW9056**						Analyst: YP
Chloride	**727**		**10.0**	**25.0**	**25.0**	**mg/L**	50	18-Dec-2020 19:25
Nitrogen, Nitrate (As N)	0.100	U	0.0300	0.100	0.100	mg/L	1	04-Dec-2020 16:15
Nitrogen, Nitrite (As N)	0.100	U	0.0300	0.100	0.100	mg/L	1	04-Dec-2020 16:15
Sulfate	**1,070**		**10.0**	**25.0**	**25.0**	**mg/L**	50	18-Dec-2020 19:25

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 30-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP / Site 58
Sample ID: 35AWW20_120320
Collection Date: 03-Dec-2020 07:25

ANALYTICAL REPORT
WorkOrder:HS20120247
Lab ID:HS20120247-01
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
SUBCONTRACT ANALYSIS - DHC/DHB		**Method:NA**						Analyst: SUB
Subcontract Analysis	See Attached		0	0		NA	1	23-Dec-2020 17:43
SUBCONTRACT ANALYSIS - RSK		**Method:NA**						Analyst: SUBCA
Subcontract Analysis	See Attached		0	0		NA	1	16-Dec-2020 12:44
SUBCONTRACT ANALYSIS - TOC ANALYSIS		**Method:NA**						Analyst: SUBK
Subcontract Analysis	See Attached		0	0		NA	1	22-Dec-2020 13:05
SUBCONTRACT ANALYSIS - VOLATILE FATTY ACIDS		**Method:NA**						Analyst: SUB
Subcontract Analysis	See Attached		0	0		NA	1	30-Dec-2020 15:38

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 30-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP / Site 58
Sample ID: LHSMW07_120320
Collection Date: 03-Dec-2020 08:15

ANALYTICAL REPORT
WorkOrder:HS20120247
Lab ID:HS20120247-02
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 18:57
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 18:57
1,1,2,2-Tetrachloroethane	0.50	U	0.50	0.50	1.0	ug/L	1	17-Dec-2020 18:57
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 18:57
1,1-Dichloroethane	**7.8**		**0.20**	**0.50**	**1.0**	**ug/L**	1	17-Dec-2020 18:57
1,1-Dichloroethene	**64**		**0.20**	**0.50**	**1.0**	**ug/L**	1	17-Dec-2020 18:57
1,1-Dichloropropene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 18:57
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	17-Dec-2020 18:57
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	17-Dec-2020 18:57
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	17-Dec-2020 18:57
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 18:57
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 18:57
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 18:57
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	17-Dec-2020 18:57
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 18:57
1,2-Dichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	17-Dec-2020 18:57
1,3,5-Trimethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 18:57
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	17-Dec-2020 18:57
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 18:57
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	17-Dec-2020 18:57
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 18:57
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	17-Dec-2020 18:57
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 18:57
2-Hexanone	2.0	U	1.0	2.0	2.0	ug/L	1	17-Dec-2020 18:57
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	17-Dec-2020 18:57
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 18:57
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	ug/L	1	17-Dec-2020 18:57
Acetone	1.0	U	0.40	1.0	2.0	ug/L	1	17-Dec-2020 18:57
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 18:57
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	17-Dec-2020 18:57
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 18:57
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 18:57
Bromoform	0.50	U	0.40	0.50	1.0	ug/L	1	17-Dec-2020 18:57
Bromomethane	0.50	U	0.40	0.50	1.0	ug/L	1	17-Dec-2020 18:57
Carbon disulfide	1.0	U	0.60	1.0	2.0	ug/L	1	17-Dec-2020 18:57
Carbon tetrachloride	0.50	U	0.50	0.50	1.0	ug/L	1	17-Dec-2020 18:57
Chlorobenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 18:57
Chloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 18:57
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 18:57

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 30-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP / Site 58
Sample ID: LHSMW07_120320
Collection Date: 03-Dec-2020 08:15

ANALYTICAL REPORT
WorkOrder:HS20120247
Lab ID:HS20120247-02
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 18:57
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 18:57
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	ug/L	1	17-Dec-2020 18:57
Dibromochloromethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 18:57
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 18:57
Dichlorodifluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 18:57
Ethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 18:57
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	17-Dec-2020 18:57
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 18:57
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	17-Dec-2020 18:57
Methylene chloride	1.0	U	0.40	1.0	2.0	ug/L	1	17-Dec-2020 18:57
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	17-Dec-2020 18:57
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 18:57
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 18:57
o-Xylene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 18:57
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 18:57
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 18:57
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 18:57
Tetrachloroethene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 18:57
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 18:57
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 18:57
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 18:57
Trichloroethene	**2.1**		**0.20**	**0.50**	**1.0**	**ug/L**	1	17-Dec-2020 18:57
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 18:57
Vinyl chloride	**42**		**0.20**	**0.50**	**1.0**	**ug/L**	1	17-Dec-2020 18:57
Surr: 1,2-Dichloroethane-d4	*91.0*			**0**	*81-118*	*%REC*	*1*	*17-Dec-2020 18:57*
Surr: 4-Bromofluorobenzene	*95.6*			**0**	*85-114*	*%REC*	*1*	*17-Dec-2020 18:57*
Surr: Dibromofluoromethane	*90.5*			**0**	*80-119*	*%REC*	*1*	*17-Dec-2020 18:57*
Surr: Toluene-d8	*103*			**0**	*89-112*	*%REC*	*1*	*17-Dec-2020 18:57*
ANIONS BY SW9056A		**Method:SW9056**						Analyst: YP
Chloride	**1,650**		**20.0**	**50.0**	**50.0**	**mg/L**	100	18-Dec-2020 19:43
Nitrogen, Nitrate (As N)	0.200	U	0.0600	0.200	0.200	mg/L	2	04-Dec-2020 16:33
Nitrogen, Nitrite (As N)	0.200	U	0.0600	0.200	0.200	mg/L	2	04-Dec-2020 16:33
Sulfate	**2,650**		**20.0**	**50.0**	**50.0**	**mg/L**	100	18-Dec-2020 19:43
SUBCONTRACT ANALYSIS - DHC/DHB		**Method:NA**						Analyst: SUB
Subcontract Analysis	See Attached		0	0		NA	1	23-Dec-2020 17:43
SUBCONTRACT ANALYSIS - RSK		**Method:NA**						Analyst: SUBCA
Subcontract Analysis	See Attached		0	0		NA	1	16-Dec-2020 12:44

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 30-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP / Site 58
Sample ID: LHSMW07_120320
Collection Date: 03-Dec-2020 08:15

ANALYTICAL REPORT
WorkOrder:HS20120247
Lab ID:HS20120247-02
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
SUBCONTRACT ANALYSIS - TOC ANALYSIS		**Method:NA**						Analyst: SUBK
Subcontract Analysis	See Attached		0	0		NA	1	22-Dec-2020 13:05
SUBCONTRACT ANALYSIS - VOLATILE FATTY ACIDS		**Method:NA**						Analyst: SUB
Subcontract Analysis	See Attached		0	0		NA	1	30-Dec-2020 15:38

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 30-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP / Site 58
Sample ID: 35AWW05_120320
Collection Date: 03-Dec-2020 09:10

ANALYTICAL REPORT
WorkOrder:HS20120247
Lab ID:HS20120247-03
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 19:18
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 19:18
1,1,2,2-Tetrachloroethane	0.50	U	0.50	0.50	1.0	ug/L	1	17-Dec-2020 19:18
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 19:18
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 19:18
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 19:18
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 19:18
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	17-Dec-2020 19:18
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	17-Dec-2020 19:18
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	17-Dec-2020 19:18
1,2,4-Trimethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 19:18
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 19:18
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 19:18
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	17-Dec-2020 19:18
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 19:18
1,2-Dichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	17-Dec-2020 19:18
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 19:18
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	17-Dec-2020 19:18
1,3-Dichloropropane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 19:18
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	17-Dec-2020 19:18
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 19:18
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	17-Dec-2020 19:18
2-Chlorotoluene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 19:18
2-Hexanone	2.0	U	1.0	2.0	2.0	ug/L	1	17-Dec-2020 19:18
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	17-Dec-2020 19:18
4-Isopropyltoluene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 19:18
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	ug/L	1	17-Dec-2020 19:18
Acetone	1.0	U	0.40	1.0	2.0	ug/L	1	17-Dec-2020 19:18
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 19:18
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	17-Dec-2020 19:18
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 19:18
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 19:18
Bromoform	0.50	U	0.40	0.50	1.0	ug/L	1	17-Dec-2020 19:18
Bromomethane	0.50	U	0.40	0.50	1.0	ug/L	1	17-Dec-2020 19:18
Carbon disulfide	1.0	U	0.60	1.0	2.0	ug/L	1	17-Dec-2020 19:18
Carbon tetrachloride	0.50	U	0.50	0.50	1.0	ug/L	1	17-Dec-2020 19:18
Chlorobenzene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 19:18
Chloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 19:18
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 19:18

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 30-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP / Site 58
Sample ID: 35AWW05_120320
Collection Date: 03-Dec-2020 09:10

ANALYTICAL REPORT
WorkOrder:HS20120247
Lab ID:HS20120247-03
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 19:18
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 19:18
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	ug/L	1	17-Dec-2020 19:18
Dibromochloromethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 19:18
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 19:18
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 19:18
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 19:18
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	17-Dec-2020 19:18
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 19:18
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	17-Dec-2020 19:18
Methylene chloride	1.0	U	0.40	1.0	2.0	ug/L	1	17-Dec-2020 19:18
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	17-Dec-2020 19:18
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 19:18
Naphthalene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 19:18
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 19:18
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 19:18
Styrene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 19:18
tert-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 19:18
Tetrachloroethene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 19:18
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 19:18
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 19:18
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 19:18
Trichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 19:18
Trichlorofluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 19:18
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 19:18
Surr: 1,2-Dichloroethane-d4	*91.0*			**0**	*81-118*	*%REC*	*1*	*17-Dec-2020 19:18*
Surr: 4-Bromofluorobenzene	*97.1*			**0**	*85-114*	*%REC*	*1*	*17-Dec-2020 19:18*
Surr: Dibromofluoromethane	*90.1*			**0**	*80-119*	*%REC*	*1*	*17-Dec-2020 19:18*
Surr: Toluene-d8	*104*			**0**	*89-112*	*%REC*	*1*	*17-Dec-2020 19:18*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 30-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP / Site 58
Sample ID: 35AWW23_120320
Collection Date: 03-Dec-2020 09:55

ANALYTICAL REPORT
WorkOrder:HS20120247
Lab ID:HS20120247-04
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 19:39
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 19:39
1,1,2,2-Tetrachloroethane	0.50	U	0.50	0.50	1.0	ug/L	1	17-Dec-2020 19:39
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 19:39
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 19:39
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 19:39
1,1-Dichloropropene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 19:39
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	17-Dec-2020 19:39
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	17-Dec-2020 19:39
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	17-Dec-2020 19:39
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 19:39
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 19:39
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 19:39
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	17-Dec-2020 19:39
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 19:39
1,2-Dichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	17-Dec-2020 19:39
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 19:39
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	17-Dec-2020 19:39
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 19:39
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	17-Dec-2020 19:39
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 19:39
2-Butanone	**68**		**0.50**	**1.0**	**2.0**	**ug/L**	1	17-Dec-2020 19:39
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 19:39
2-Hexanone	2.0	U	1.0	2.0	2.0	ug/L	1	17-Dec-2020 19:39
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	17-Dec-2020 19:39
4-Isopropyltoluene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 19:39
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	ug/L	1	17-Dec-2020 19:39
Acetone	**120**		**0.40**	**1.0**	**2.0**	**ug/L**	1	17-Dec-2020 19:39
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 19:39
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	17-Dec-2020 19:39
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 19:39
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 19:39
Bromoform	0.50	U	0.40	0.50	1.0	ug/L	1	17-Dec-2020 19:39
Bromomethane	0.50	U	0.40	0.50	1.0	ug/L	1	17-Dec-2020 19:39
Carbon disulfide	1.0	U	0.60	1.0	2.0	ug/L	1	17-Dec-2020 19:39
Carbon tetrachloride	0.50	U	0.50	0.50	1.0	ug/L	1	17-Dec-2020 19:39
Chlorobenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 19:39
Chloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 19:39
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 19:39

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 30-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP / Site 58
Sample ID: 35AWW23_120320
Collection Date: 03-Dec-2020 09:55

ANALYTICAL REPORT
WorkOrder:HS20120247
Lab ID:HS20120247-04
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 19:39
cis-1,2-Dichloroethene	**2.7**		**0.20**	**0.50**	**1.0**	**ug/L**	1	17-Dec-2020 19:39
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	ug/L	1	17-Dec-2020 19:39
Dibromochloromethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 19:39
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 19:39
Dichlorodifluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 19:39
Ethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 19:39
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	17-Dec-2020 19:39
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 19:39
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	17-Dec-2020 19:39
Methylene chloride	1.0	U	0.40	1.0	2.0	ug/L	1	17-Dec-2020 19:39
n-Butylbenzene	**1.7**		**0.40**	**1.0**	**1.0**	**ug/L**	1	17-Dec-2020 19:39
n-Propylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 19:39
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 19:39
o-Xylene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 19:39
sec-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 19:39
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 19:39
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 19:39
Tetrachloroethene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 19:39
Toluene	**1.5**		**0.20**	**0.50**	**1.0**	**ug/L**	1	17-Dec-2020 19:39
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 19:39
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 19:39
Trichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 19:39
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 19:39
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 19:39
Surr: 1,2-Dichloroethane-d4	*90.5*			**0**	*81-118*	*%REC*	*1*	*17-Dec-2020 19:39*
Surr: 4-Bromofluorobenzene	*92.6*			**0**	*85-114*	*%REC*	*1*	*17-Dec-2020 19:39*
Surr: Dibromofluoromethane	*90.2*			**0**	*80-119*	*%REC*	*1*	*17-Dec-2020 19:39*
Surr: Toluene-d8	*102*			**0**	*89-112*	*%REC*	*1*	*17-Dec-2020 19:39*
ANIONS BY SW9056A		**Method:SW9056**						Analyst: YP
Chloride	**958**		**20.0**	**50.0**	**50.0**	**mg/L**	100	18-Dec-2020 20:01
Nitrogen, Nitrate (As N)	0.100	U	0.0300	0.100	0.100	mg/L	1	04-Dec-2020 16:51
Nitrogen, Nitrite (As N)	0.100	U	0.0300	0.100	0.100	mg/L	1	04-Dec-2020 16:51
Sulfate	0.500	U	0.200	0.500	0.500	mg/L	1	04-Dec-2020 16:51
SUBCONTRACT ANALYSIS - DHC/DHB		**Method:NA**						Analyst: SUB
Subcontract Analysis	See Attached		0	0		NA	1	23-Dec-2020 17:43
SUBCONTRACT ANALYSIS - RSK		**Method:NA**						Analyst: SUBCA
Subcontract Analysis	See Attached		0	0		NA	1	16-Dec-2020 12:44

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 30-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP / Site 58
Sample ID: 35AWW23_120320
Collection Date: 03-Dec-2020 09:55

ANALYTICAL REPORT
WorkOrder:HS20120247
Lab ID:HS20120247-04
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
SUBCONTRACT ANALYSIS - TOC ANALYSIS		**Method:NA**						Analyst: SUBK
Subcontract Analysis	See Attached		0	0		NA	1	22-Dec-2020 13:05
SUBCONTRACT ANALYSIS - VOLATILE FATTY ACIDS		**Method:NA**						Analyst: SUB
Subcontract Analysis	See Attached		0	0		NA	1	30-Dec-2020 15:38

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 30-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP / Site 58
Sample ID: 35AWW19_120320
Collection Date: 03-Dec-2020 10:45

ANALYTICAL REPORT
WorkOrder:HS20120247
Lab ID:HS20120247-05
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 20:00
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 20:00
1,1,2,2-Tetrachloroethane	0.50	U	0.50	0.50	1.0	ug/L	1	17-Dec-2020 20:00
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 20:00
1,1-Dichloroethane	**0.89**	J	**0.20**	**0.50**	**1.0**	**ug/L**	1	17-Dec-2020 20:00
1,1-Dichloroethene	**3.2**		**0.20**	**0.50**	**1.0**	**ug/L**	1	17-Dec-2020 20:00
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 20:00
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	17-Dec-2020 20:00
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	17-Dec-2020 20:00
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	17-Dec-2020 20:00
1,2,4-Trimethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 20:00
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 20:00
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 20:00
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	17-Dec-2020 20:00
1,2-Dichloroethane	**1.3**		**0.20**	**0.50**	**1.0**	**ug/L**	1	17-Dec-2020 20:00
1,2-Dichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	17-Dec-2020 20:00
1,3,5-Trimethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 20:00
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	17-Dec-2020 20:00
1,3-Dichloropropane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 20:00
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	17-Dec-2020 20:00
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 20:00
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	17-Dec-2020 20:00
2-Chlorotoluene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 20:00
2-Hexanone	2.0	U	1.0	2.0	2.0	ug/L	1	17-Dec-2020 20:00
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	17-Dec-2020 20:00
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 20:00
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	ug/L	1	17-Dec-2020 20:00
Acetone	1.0	U	0.40	1.0	2.0	ug/L	1	17-Dec-2020 20:00
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 20:00
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	17-Dec-2020 20:00
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 20:00
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 20:00
Bromoform	0.50	U	0.40	0.50	1.0	ug/L	1	17-Dec-2020 20:00
Bromomethane	0.50	U	0.40	0.50	1.0	ug/L	1	17-Dec-2020 20:00
Carbon disulfide	1.0	U	0.60	1.0	2.0	ug/L	1	17-Dec-2020 20:00
Carbon tetrachloride	0.50	U	0.50	0.50	1.0	ug/L	1	17-Dec-2020 20:00
Chlorobenzene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 20:00
Chloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 20:00
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 20:00

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 30-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP / Site 58
Sample ID: 35AWW19_120320
Collection Date: 03-Dec-2020 10:45

ANALYTICAL REPORT
WorkOrder:HS20120247
Lab ID:HS20120247-05
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 20:00
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 20:00
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	ug/L	1	17-Dec-2020 20:00
Dibromochloromethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 20:00
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 20:00
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 20:00
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 20:00
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	17-Dec-2020 20:00
Isopropylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 20:00
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	17-Dec-2020 20:00
Methylene chloride	1.0	U	0.40	1.0	2.0	ug/L	1	17-Dec-2020 20:00
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	17-Dec-2020 20:00
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 20:00
Naphthalene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 20:00
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 20:00
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 20:00
Styrene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 20:00
tert-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 20:00
Tetrachloroethene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 20:00
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 20:00
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 20:00
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 20:00
Trichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 20:00
Trichlorofluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 20:00
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 20:00
Surr: 1,2-Dichloroethane-d4	*87.6*			**0**	*81-118*	*%REC*	*1*	*17-Dec-2020 20:00*
Surr: 4-Bromofluorobenzene	*95.0*			**0**	*85-114*	*%REC*	*1*	*17-Dec-2020 20:00*
Surr: Dibromofluoromethane	*91.3*			**0**	*80-119*	*%REC*	*1*	*17-Dec-2020 20:00*
Surr: Toluene-d8	*104*			**0**	*89-112*	*%REC*	*1*	*17-Dec-2020 20:00*
ANIONS BY SW9056A		**Method:SW9056**						Analyst: YP
Chloride	**786**		**10.0**	**25.0**	**25.0**	**mg/L**	50	18-Dec-2020 21:13
Nitrogen, Nitrate (As N)	0.100	U	0.0300	0.100	0.100	mg/L	1	04-Dec-2020 17:09
Nitrogen, Nitrite (As N)	0.100	U	0.0300	0.100	0.100	mg/L	1	04-Dec-2020 17:09
Sulfate	**860**		**10.0**	**25.0**	**25.0**	**mg/L**	50	18-Dec-2020 21:13
SUBCONTRACT ANALYSIS - DHC/DHB		**Method:NA**						Analyst: SUB
Subcontract Analysis	See Attached		0	0		NA	1	23-Dec-2020 17:43
SUBCONTRACT ANALYSIS - RSK		**Method:NA**						Analyst: SUBCA
Subcontract Analysis	See Attached		0	0		NA	1	16-Dec-2020 12:44

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 30-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP / Site 58
Sample ID: 35AWW19_120320
Collection Date: 03-Dec-2020 10:45

ANALYTICAL REPORT
WorkOrder:HS20120247
Lab ID:HS20120247-05
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
SUBCONTRACT ANALYSIS - TOC ANALYSIS		**Method:NA**						Analyst: SUBK
Subcontract Analysis	See Attached		0	0		NA	1	22-Dec-2020 13:05
SUBCONTRACT ANALYSIS - VOLATILE FATTY ACIDS		**Method:NA**						Analyst: SUB
Subcontract Analysis	See Attached		0	0		NA	1	30-Dec-2020 15:38

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 30-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP / Site 58
Sample ID: 35AWW24_120320
Collection Date: 03-Dec-2020 11:40

ANALYTICAL REPORT
WorkOrder:HS20120247
Lab ID:HS20120247-06
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 14:23
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 14:23
1,1,2,2-Tetrachloroethane	0.50	U	0.50	0.50	1.0	ug/L	1	17-Dec-2020 14:23
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 14:23
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 14:23
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 14:23
1,1-Dichloropropene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 14:23
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	17-Dec-2020 14:23
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	17-Dec-2020 14:23
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	17-Dec-2020 14:23
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 14:23
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 14:23
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 14:23
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	17-Dec-2020 14:23
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 14:23
1,2-Dichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	17-Dec-2020 14:23
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 14:23
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	17-Dec-2020 14:23
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 14:23
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	17-Dec-2020 14:23
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 14:23
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	17-Dec-2020 14:23
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 14:23
2-Hexanone	2.0	U	1.0	2.0	2.0	ug/L	1	17-Dec-2020 14:23
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	17-Dec-2020 14:23
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 14:23
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	ug/L	1	17-Dec-2020 14:23
Acetone	1.0	U	0.40	1.0	2.0	ug/L	1	17-Dec-2020 14:23
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 14:23
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	17-Dec-2020 14:23
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 14:23
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 14:23
Bromoform	0.50	U	0.40	0.50	1.0	ug/L	1	17-Dec-2020 14:23
Bromomethane	0.50	U	0.40	0.50	1.0	ug/L	1	17-Dec-2020 14:23
Carbon disulfide	1.0	U	0.60	1.0	2.0	ug/L	1	17-Dec-2020 14:23
Carbon tetrachloride	0.50	U	0.50	0.50	1.0	ug/L	1	17-Dec-2020 14:23
Chlorobenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 14:23
Chloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 14:23
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 14:23

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 30-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP / Site 58
Sample ID: 35AWW24_120320
Collection Date: 03-Dec-2020 11:40

ANALYTICAL REPORT
WorkOrder:HS20120247
Lab ID:HS20120247-06
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 14:23
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 14:23
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	ug/L	1	17-Dec-2020 14:23
Dibromochloromethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 14:23
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 14:23
Dichlorodifluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 14:23
Ethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 14:23
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	17-Dec-2020 14:23
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 14:23
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	17-Dec-2020 14:23
Methylene chloride	1.0	U	0.40	1.0	2.0	ug/L	1	17-Dec-2020 14:23
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	17-Dec-2020 14:23
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 14:23
Naphthalene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 14:23
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 14:23
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 14:23
Styrene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 14:23
tert-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 14:23
Tetrachloroethene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 14:23
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 14:23
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 14:23
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 14:23
Trichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 14:23
Trichlorofluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 14:23
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 14:23
Surr: 1,2-Dichloroethane-d4	*92.4*			**0**	*81-118*	*%REC*	*1*	*17-Dec-2020 14:23*
Surr: 4-Bromofluorobenzene	*94.3*			**0**	*85-114*	*%REC*	*1*	*17-Dec-2020 14:23*
Surr: Dibromofluoromethane	*90.4*			**0**	*80-119*	*%REC*	*1*	*17-Dec-2020 14:23*
Surr: Toluene-d8	*102*			**0**	*89-112*	*%REC*	*1*	*17-Dec-2020 14:23*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 30-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP / Site 58
Sample ID: LHSMW06_120320
Collection Date: 03-Dec-2020 12:30

ANALYTICAL REPORT
WorkOrder:HS20120247
Lab ID:HS20120247-07
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 20:21
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 20:21
1,1,2,2-Tetrachloroethane	0.50	U	0.50	0.50	1.0	ug/L	1	17-Dec-2020 20:21
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 20:21
1,1-Dichloroethane	**6.1**		**0.20**	**0.50**	**1.0**	**ug/L**	1	17-Dec-2020 20:21
1,1-Dichloroethene	**14**		**0.20**	**0.50**	**1.0**	**ug/L**	1	17-Dec-2020 20:21
1,1-Dichloropropene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 20:21
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	17-Dec-2020 20:21
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	17-Dec-2020 20:21
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	17-Dec-2020 20:21
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 20:21
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 20:21
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 20:21
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	17-Dec-2020 20:21
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 20:21
1,2-Dichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	17-Dec-2020 20:21
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 20:21
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	17-Dec-2020 20:21
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 20:21
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	17-Dec-2020 20:21
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 20:21
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	17-Dec-2020 20:21
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 20:21
2-Hexanone	2.0	U	1.0	2.0	2.0	ug/L	1	17-Dec-2020 20:21
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	17-Dec-2020 20:21
4-Isopropyltoluene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 20:21
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	ug/L	1	17-Dec-2020 20:21
Acetone	1.0	U	0.40	1.0	2.0	ug/L	1	17-Dec-2020 20:21
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 20:21
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	17-Dec-2020 20:21
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 20:21
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 20:21
Bromoform	0.50	U	0.40	0.50	1.0	ug/L	1	17-Dec-2020 20:21
Bromomethane	0.50	U	0.40	0.50	1.0	ug/L	1	17-Dec-2020 20:21
Carbon disulfide	1.0	U	0.60	1.0	2.0	ug/L	1	17-Dec-2020 20:21
Carbon tetrachloride	0.50	U	0.50	0.50	1.0	ug/L	1	17-Dec-2020 20:21
Chlorobenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 20:21
Chloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 20:21
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 20:21

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 30-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP / Site 58
Sample ID: LHSMW06_120320
Collection Date: 03-Dec-2020 12:30

ANALYTICAL REPORT
WorkOrder:HS20120247
Lab ID:HS20120247-07
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 20:21
cis-1,2-Dichloroethene	**62**		**0.20**	**0.50**	**1.0**	**ug/L**	1	17-Dec-2020 20:21
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	ug/L	1	17-Dec-2020 20:21
Dibromochloromethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 20:21
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 20:21
Dichlorodifluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 20:21
Ethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 20:21
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	17-Dec-2020 20:21
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 20:21
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	17-Dec-2020 20:21
Methylene chloride	1.0	U	0.40	1.0	2.0	ug/L	1	17-Dec-2020 20:21
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	17-Dec-2020 20:21
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 20:21
Naphthalene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 20:21
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 20:21
sec-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 20:21
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 20:21
tert-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 20:21
Tetrachloroethene	**1.6**		**0.30**	**0.50**	**1.0**	**ug/L**	1	17-Dec-2020 20:21
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 20:21
trans-1,2-Dichloroethene	**1.3**		**0.20**	**0.50**	**1.0**	**ug/L**	1	17-Dec-2020 20:21
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 20:21
Trichloroethene	**14**		**0.20**	**0.50**	**1.0**	**ug/L**	1	17-Dec-2020 20:21
Trichlorofluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 20:21
Vinyl chloride	**4.8**		**0.20**	**0.50**	**1.0**	**ug/L**	1	17-Dec-2020 20:21
Surr: 1,2-Dichloroethane-d4	*88.0*			**0**	*81-118*	*%REC*	*1*	*17-Dec-2020 20:21*
Surr: 4-Bromofluorobenzene	*94.4*			**0**	*85-114*	*%REC*	*1*	*17-Dec-2020 20:21*
Surr: Dibromofluoromethane	*88.4*			**0**	*80-119*	*%REC*	*1*	*17-Dec-2020 20:21*
Surr: Toluene-d8	*104*			**0**	*89-112*	*%REC*	*1*	*17-Dec-2020 20:21*
METALS BY ICPMS BY SW6020A		**Method:SW6020**				Prep:SW3010A / 21-Dec-2020		Analyst: JHD
Arsenic	**0.000481**	J	**0.000400**	**0.00100**	**0.00500**	**mg/L**	1	24-Dec-2020 10:53

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 30-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP / Site 58
Sample ID: Trip Blank
Collection Date: 03-Dec-2020 00:00

ANALYTICAL REPORT
WorkOrder:HS20120247
Lab ID:HS20120247-08
Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 15:05
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 15:05
1,1,2,2-Tetrachloroethane	0.50	U	0.50	0.50	1.0	ug/L	1	17-Dec-2020 15:05
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 15:05
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 15:05
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 15:05
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 15:05
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	17-Dec-2020 15:05
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	17-Dec-2020 15:05
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	17-Dec-2020 15:05
1,2,4-Trimethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 15:05
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 15:05
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 15:05
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	17-Dec-2020 15:05
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 15:05
1,2-Dichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	17-Dec-2020 15:05
1,3,5-Trimethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 15:05
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	17-Dec-2020 15:05
1,3-Dichloropropane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 15:05
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	17-Dec-2020 15:05
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 15:05
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	17-Dec-2020 15:05
2-Chlorotoluene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 15:05
2-Hexanone	2.0	U	1.0	2.0	2.0	ug/L	1	17-Dec-2020 15:05
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	17-Dec-2020 15:05
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 15:05
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	ug/L	1	17-Dec-2020 15:05
Acetone	1.0	U	0.40	1.0	2.0	ug/L	1	17-Dec-2020 15:05
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 15:05
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	17-Dec-2020 15:05
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 15:05
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 15:05
Bromoform	0.50	U	0.40	0.50	1.0	ug/L	1	17-Dec-2020 15:05
Bromomethane	0.50	U	0.40	0.50	1.0	ug/L	1	17-Dec-2020 15:05
Carbon disulfide	1.0	U	0.60	1.0	2.0	ug/L	1	17-Dec-2020 15:05
Carbon tetrachloride	0.50	U	0.50	0.50	1.0	ug/L	1	17-Dec-2020 15:05
Chlorobenzene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 15:05
Chloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 15:05
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 15:05

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 30-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP / Site 58
Sample ID: Trip Blank
Collection Date: 03-Dec-2020 00:00

ANALYTICAL REPORT
WorkOrder:HS20120247
Lab ID:HS20120247-08
Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 15:05
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 15:05
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	ug/L	1	17-Dec-2020 15:05
Dibromochloromethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 15:05
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 15:05
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 15:05
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 15:05
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	17-Dec-2020 15:05
Isopropylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 15:05
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	17-Dec-2020 15:05
Methylene chloride	1.0	U	0.40	1.0	2.0	ug/L	1	17-Dec-2020 15:05
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	17-Dec-2020 15:05
n-Propylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 15:05
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 15:05
o-Xylene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 15:05
sec-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 15:05
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 15:05
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 15:05
Tetrachloroethene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 15:05
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 15:05
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 15:05
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 15:05
Trichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 15:05
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 15:05
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 15:05
Surr: 1,2-Dichloroethane-d4	*90.4*			**0**	*81-118*	*%REC*	*1*	*17-Dec-2020 15:05*
Surr: 4-Bromofluorobenzene	*94.7*			**0**	*85-114*	*%REC*	*1*	*17-Dec-2020 15:05*
Surr: Dibromofluoromethane	*90.0*			**0**	*80-119*	*%REC*	*1*	*17-Dec-2020 15:05*
Surr: Toluene-d8	*100*			**0**	*89-112*	*%REC*	*1*	*17-Dec-2020 15:05*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 30-Dec-20

Weight / Prep Log

Client: Bhate Environmental Associates, Inc.
Project: LHAAP / Site 58
WorkOrder: HS20120247

Batch ID: 160930 **Start Date:** 21 Dec 2020 13:00 **End Date:** 21 Dec 2020 17:00
Method: WATER - SW3010A **Prep Code:** 3010A

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS20120247-07		10 (mL)	10 (mL)	1

ALS Houston, US Date: 30-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP / Site 58
WorkOrder: HS20120247

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: 160930 (0)	**Test Name :** METALS BY ICPMS BY SW6020A				**Matrix:** Groundwater	
HS20120247-07	LHSMW06_120320	03 Dec 2020 12:30		21 Dec 2020 17:00	24 Dec 2020 10:53	1
Batch ID: R374034 (0)	**Test Name :** ANIONS BY SW9056A				**Matrix:** Groundwater	
HS20120247-01	35AWW20_120320	03 Dec 2020 07:25			04 Dec 2020 16:15	1
HS20120247-02	LHSMW07_120320	03 Dec 2020 08:15			04 Dec 2020 16:33	2
HS20120247-04	35AWW23_120320	03 Dec 2020 09:55			04 Dec 2020 16:51	1
HS20120247-05	35AWW19_120320	03 Dec 2020 10:45			04 Dec 2020 17:09	1
Batch ID: R374732 (0)	**Test Name :** SUBCONTRACT ANALYSIS - RSK				**Matrix:** Groundwater	
HS20120247-01	35AWW20_120320	03 Dec 2020 07:25			16 Dec 2020 12:44	1
HS20120247-02	LHSMW07_120320	03 Dec 2020 08:15			16 Dec 2020 12:44	1
HS20120247-04	35AWW23_120320	03 Dec 2020 09:55			16 Dec 2020 12:44	1
HS20120247-05	35AWW19_120320	03 Dec 2020 10:45			16 Dec 2020 12:44	1
Batch ID: R374913 (0)	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C				**Matrix:** Water	
HS20120247-08	Trip Blank	03 Dec 2020 00:00			17 Dec 2020 15:05	1
Batch ID: R374913 (0)	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C				**Matrix:** Groundwater	
HS20120247-01	35AWW20_120320	03 Dec 2020 07:25			17 Dec 2020 18:36	25
HS20120247-01	35AWW20_120320	03 Dec 2020 07:25			17 Dec 2020 15:47	1
HS20120247-02	LHSMW07_120320	03 Dec 2020 08:15			17 Dec 2020 18:57	1
HS20120247-03	35AWW05_120320	03 Dec 2020 09:10			17 Dec 2020 19:18	1
HS20120247-04	35AWW23_120320	03 Dec 2020 09:55			17 Dec 2020 19:39	1
HS20120247-05	35AWW19_120320	03 Dec 2020 10:45			17 Dec 2020 20:00	1
HS20120247-06	35AWW24_120320	03 Dec 2020 11:40			17 Dec 2020 14:23	1
HS20120247-07	LHSMW06_120320	03 Dec 2020 12:30			17 Dec 2020 20:21	1
Batch ID: R375028 (0)	**Test Name :** ANIONS BY SW9056A				**Matrix:** Groundwater	
HS20120247-01	35AWW20_120320	03 Dec 2020 07:25			18 Dec 2020 19:25	50
HS20120247-02	LHSMW07_120320	03 Dec 2020 08:15			18 Dec 2020 19:43	100
HS20120247-04	35AWW23_120320	03 Dec 2020 09:55			18 Dec 2020 20:01	100
HS20120247-05	35AWW19_120320	03 Dec 2020 10:45			18 Dec 2020 21:13	50
Batch ID: R375125 (0)	**Test Name :** SUBCONTRACT ANALYSIS - TOC ANALYSIS				**Matrix:** Groundwater	
HS20120247-01	35AWW20_120320	03 Dec 2020 07:25			22 Dec 2020 13:05	1
HS20120247-02	LHSMW07_120320	03 Dec 2020 08:15			22 Dec 2020 13:05	1
HS20120247-04	35AWW23_120320	03 Dec 2020 09:55			22 Dec 2020 13:05	1
HS20120247-05	35AWW19_120320	03 Dec 2020 10:45			22 Dec 2020 13:05	1

ALS Houston, US Date: 30-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP / Site 58
WorkOrder: HS20120247

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: R375279 (0)	**Test Name :** SUBCONTRACT ANALYSIS - DHC/DHB				**Matrix:** Groundwater	
HS20120247-01	35AWW20_120320	03 Dec 2020 07:25			23 Dec 2020 17:43	1
HS20120247-02	LHSMW07_120320	03 Dec 2020 08:15			23 Dec 2020 17:43	1
HS20120247-04	35AWW23_120320	03 Dec 2020 09:55			23 Dec 2020 17:43	1
HS20120247-05	35AWW19_120320	03 Dec 2020 10:45			23 Dec 2020 17:43	1
Batch ID: R375648 (0)	**Test Name :** SUBCONTRACT ANALYSIS - VOLATILE FATTY ACIDS				**Matrix:** Groundwater	
HS20120247-01	35AWW20_120320	03 Dec 2020 07:25			30 Dec 2020 15:38	1
HS20120247-02	LHSMW07_120320	03 Dec 2020 08:15			30 Dec 2020 15:38	1
HS20120247-04	35AWW23_120320	03 Dec 2020 09:55			30 Dec 2020 15:38	1
HS20120247-05	35AWW19_120320	03 Dec 2020 10:45			30 Dec 2020 15:38	1

ALS Houston, US Date: 30-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP / Site 58
WorkOrder: HS20120247

QC BATCH REPORT

Batch ID: 160930 (0) **Instrument: ICPMS05** **Method: METALS BY ICPMS BY SW6020A**

MBLK Sample ID: **MBLK-160930** Units: **mg/L** Analysis Date: **24-Dec-2020 10:49**
Client ID: Run ID: **ICPMS05_375348** SeqNo: **5897738** PrepDate: **21-Dec-2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.00100	0.00500								U

LCS Sample ID: **LCS-160930** Units: **mg/L** Analysis Date: **24-Dec-2020 10:51**
Client ID: Run ID: **ICPMS05_375348** SeqNo: **5897739** PrepDate: **21-Dec-2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.05162	0.00500	0.05	0	103	84 - 116				

MS Sample ID: **HS20120486-08MS** Units: **mg/L** Analysis Date: **24-Dec-2020 10:59**
Client ID: Run ID: **ICPMS05_375348** SeqNo: **5897743** PrepDate: **21-Dec-2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.05393	0.00500	0.05	0.000759	106	84 - 116				

MSD Sample ID: **HS20120486-08MSD** Units: **mg/L** Analysis Date: **24-Dec-2020 11:15**
Client ID: Run ID: **ICPMS05_375348** SeqNo: **5897749** PrepDate: **21-Dec-2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.05396	0.00500	0.05	0.000759	106	84 - 116	0.05393	0.0445	20	

PDS Sample ID: **HS20120486-08PDS** Units: **mg/L** Analysis Date: **24-Dec-2020 11:03**
Client ID: Run ID: **ICPMS05_375348** SeqNo: **5897745** PrepDate: **21-Dec-2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.1166	0.00500	0.1	0.000759	116	80 - 120				

SD Sample ID: **HS20120486-08SD** Units: **mg/L** Analysis Date: **24-Dec-2020 16:12**
Client ID: Run ID: **ICPMS05_375348** SeqNo: **5898069** PrepDate: **21-Dec-2020** DF: **5**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Arsenic	0.00500	0.0250					0.000759	0	10	U

The following samples were analyzed in this batch: HS20120247-07

ALS Houston, US Date: 30-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP / Site 58
WorkOrder: HS20120247

QC BATCH REPORT

Batch ID: R374913 (0) **Instrument: VOA6** **Method: VOLATILES ORGANICS BY METHOD 8260C**

MBLK Sample ID: **VBLKW-201217** Units: **ug/L** Analysis Date: **17-Dec-2020 14:02**
Client ID: Run ID: **VOA6_374913** SeqNo: **5887320** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	0.50	1.0								U
1,1,1-Trichloroethane	0.50	1.0								U
1,1,2,2-Tetrachloroethane	0.50	1.0								U
1,1,2-Trichloroethane	0.50	1.0								U
1,1-Dichloroethane	0.50	1.0								U
1,1-Dichloroethene	0.50	1.0								U
1,1-Dichloropropene	0.50	1.0								U
1,2,3-Trichlorobenzene	1.0	1.0								U
1,2,3-Trichloropropane	1.0	1.0								U
1,2,4-Trichlorobenzene	1.0	1.0								U
1,2,4-Trimethylbenzene	0.50	1.0								U
1,2-Dibromo-3-chloropropane	0.50	1.0								U
1,2-Dibromoethane	0.50	1.0								U
1,2-Dichlorobenzene	1.0	1.0								U
1,2-Dichloroethane	0.50	1.0								U
1,2-Dichloropropane	0.50	1.0								U
1,3,5-Trimethylbenzene	0.50	1.0								U
1,3-Dichlorobenzene	1.0	1.0								U
1,3-Dichloropropane	1.0	1.0								U
1,4-Dichlorobenzene	1.0	1.0								U
2,2-Dichloropropane	0.50	1.0								U
2-Butanone	1.0	2.0								U
2-Chlorotoluene	1.0	1.0								U
2-Hexanone	2.0	2.0								U
4-Chlorotoluene	1.0	1.0								U
4-Isopropyltoluene	1.0	1.0								U
4-Methyl-2-pentanone	2.0	2.0								U
Acetone	1.0	2.0								U
Benzene	0.50	1.0								U
Bromobenzene	1.0	1.0								U
Bromochloromethane	0.50	1.0								U
Bromodichloromethane	0.50	1.0								U
Bromoform	0.50	1.0								U
Bromomethane	0.50	1.0								U

ALS Houston, US Date: 30-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP / Site 58
WorkOrder: HS20120247

QC BATCH REPORT

Batch ID: R374913 (0) **Instrument: VOA6** **Method: VOLATILES ORGANICS BY METHOD 8260C**

MBLK Sample ID: **VBLKW-201217** Units: **ug/L** Analysis Date: **17-Dec-2020 14:02**
Client ID: Run ID: **VOA6_374913** SeqNo: **5887320** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Carbon disulfide	1.0	2.0								U
Carbon tetrachloride	0.50	1.0								U
Chlorobenzene	0.50	1.0								U
Chloroethane	0.50	1.0								U
Chloroform	0.50	1.0								U
Chloromethane	0.50	1.0								U
cis-1,2-Dichloroethene	0.50	1.0								U
cis-1,3-Dichloropropene	0.50	1.0								U
Dibromochloromethane	0.50	1.0								U
Dibromomethane	0.50	1.0								U
Dichlorodifluoromethane	0.50	1.0								U
Ethylbenzene	1.0	1.0								U
Hexachlorobutadiene	1.0	1.0								U
Isopropylbenzene	0.50	1.0								U
m,p-Xylene	1.0	2.0								U
Methylene chloride	1.0	2.0								U
Naphthalene	0.50	1.0								U
n-Butylbenzene	1.0	1.0								U
n-Propylbenzene	1.0	1.0								U
o-Xylene	1.0	1.0								U
sec-Butylbenzene	0.50	1.0								U
Styrene	1.0	1.0								U
tert-Butylbenzene	0.50	1.0								U
Tetrachloroethene	0.50	1.0								U
Toluene	0.50	1.0								U
trans-1,2-Dichloroethene	0.50	1.0								U
trans-1,3-Dichloropropene	0.50	1.0								U
Trichloroethene	0.50	1.0								U
Trichlorofluoromethane	0.50	1.0								U
Vinyl chloride	0.50	1.0								U
Surr: 1,2-Dichloroethane-d4	*44*	*1.0*	*50*	*0*	*88.0*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*47.51*	*1.0*	*50*	*0*	*95.0*	*85 - 114*				
Surr: Dibromofluoromethane	*43.93*	*1.0*	*50*	*0*	*87.9*	*80 - 119*				
Surr: Toluene-d8	*50.67*	*1.0*	*50*	*0*	*101*	*89 - 112*				

ALS Houston, US Date: 30-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP / Site 58
WorkOrder: HS20120247

QC BATCH REPORT

Batch ID: R374913 (0) **Instrument: VOA6** **Method: VOLATILES ORGANICS BY METHOD 8260C**

LCS Sample ID: **VLCSW-201217** Units: **ug/L** Analysis Date: **17-Dec-2020 13:20**
Client ID: Run ID: **VOA6_374913** SeqNo: **5887319** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	22.79	1.0	20	0	114	78 - 124				
1,1,1-Trichloroethane	20.92	1.0	20	0	105	74 - 131				
1,1,2,2-Tetrachloroethane	20.17	1.0	20	0	101	71 - 121				
1,1,2-Trichloroethane	21.55	1.0	20	0	108	80 - 119				
1,1-Dichloroethane	21.08	1.0	20	0	105	77 - 125				
1,1-Dichloroethene	18.38	1.0	20	0	91.9	71 - 131				
1,1-Dichloropropene	20.01	1.0	20	0	100	78 - 125				
1,2,3-Trichlorobenzene	26.48	1.0	20	0	132	69 - 129				S
1,2,3-Trichloropropane	20.9	1.0	20	0	104	73 - 122				
1,2,4-Trichlorobenzene	21.82	1.0	20	0	109	69 - 130				
1,2,4-Trimethylbenzene	20.18	1.0	20	0	101	76 - 124				
1,2-Dibromo-3-chloropropane	22.94	1.0	20	0	115	62 - 128				
1,2-Dibromoethane	22.33	1.0	20	0	112	77 - 121				
1,2-Dichlorobenzene	19.88	1.0	20	0	99.4	80 - 119				
1,2-Dichloroethane	22.4	1.0	20	0	112	73 - 128				
1,2-Dichloropropane	22.75	1.0	20	0	114	78 - 122				
1,3,5-Trimethylbenzene	19.23	1.0	20	0	96.2	75 - 124				
1,3-Dichlorobenzene	20.14	1.0	20	0	101	80 - 119				
1,3-Dichloropropane	22.79	1.0	20	0	114	80 - 119				
1,4-Dichlorobenzene	19.76	1.0	20	0	98.8	79 - 118				
2,2-Dichloropropane	21.98	1.0	20	0	110	60 - 139				
2-Butanone	47.85	2.0	40	0	120	56 - 143				
2-Chlorotoluene	20.86	1.0	20	0	104	79 - 122				
2-Hexanone	43.39	2.0	40	0	108	57 - 139				
4-Chlorotoluene	20.41	1.0	20	0	102	78 - 122				
4-Isopropyltoluene	17.79	1.0	20	0	88.9	77 - 127				
4-Methyl-2-pentanone	40.45	2.0	40	0	101	67 - 130				
Acetone	50.48	2.0	40	0	126	39 - 160				
Benzene	21.88	1.0	20	0	109	79 - 120				
Bromobenzene	20.83	1.0	20	0	104	80 - 120				
Bromochloromethane	22.82	1.0	20	0	114	78 - 123				
Bromodichloromethane	23.23	1.0	20	0	116	79 - 125				
Bromoform	22.45	1.0	20	0	112	66 - 130				
Bromomethane	26.18	1.0	20	0	131	53 - 141				

ALS Houston, US Date: 30-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP / Site 58
WorkOrder: HS20120247

QC BATCH REPORT

Batch ID: R374913 (0) **Instrument: VOA6** **Method: VOLATILES ORGANICS BY METHOD 8260C**

LCS Sample ID: **VLCSW-201217** Units: **ug/L** Analysis Date: **17-Dec-2020 13:20**
Client ID: Run ID: **VOA6_374913** SeqNo: **5887319** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Carbon disulfide	43.38	2.0	40	0	108	64 - 133				
Carbon tetrachloride	21.19	1.0	20	0	106	72 - 136				
Chlorobenzene	21.12	1.0	20	0	106	82 - 118				
Chloroethane	20.58	1.0	20	0	103	60 - 138				
Chloroform	21.85	1.0	20	0	109	79 - 124				
Chloromethane	17.73	1.0	20	0	88.6	50 - 139				
cis-1,2-Dichloroethene	22.48	1.0	20	0	112	78 - 123				
cis-1,3-Dichloropropene	22.83	1.0	20	0	114	75 - 124				
Dibromochloromethane	22.02	1.0	20	0	110	74 - 126				
Dibromomethane	23.26	1.0	20	0	116	79 - 123				
Dichlorodifluoromethane	17.23	1.0	20	0	86.2	32 - 152				
Ethylbenzene	21.38	1.0	20	0	107	79 - 121				
Hexachlorobutadiene	20.11	1.0	20	0	101	66 - 134				
Isopropylbenzene	19.78	1.0	20	0	98.9	72 - 131				
m,p-Xylene	41.41	2.0	40	0	104	80 - 121				
Methylene chloride	21.66	2.0	20	0	108	74 - 124				
Naphthalene	24.44	1.0	20	0	122	61 - 128				
n-Butylbenzene	18.62	1.0	20	0	93.1	75 - 128				
n-Propylbenzene	19.49	1.0	20	0	97.5	76 - 126				
o-Xylene	21.18	1.0	20	0	106	78 - 122				
sec-Butylbenzene	17.8	1.0	20	0	89.0	77 - 126				
Styrene	21.51	1.0	20	0	108	78 - 123				
tert-Butylbenzene	17.76	1.0	20	0	88.8	78 - 124				
Tetrachloroethene	19.47	1.0	20	0	97.4	74 - 129				
Toluene	21.6	1.0	20	0	108	80 - 121				
trans-1,2-Dichloroethene	22.25	1.0	20	0	111	75 - 124				
trans-1,3-Dichloropropene	23.81	1.0	20	0	119	73 - 127				
Trichloroethene	21.05	1.0	20	0	105	79 - 123				
Trichlorofluoromethane	17.81	1.0	20	0	89.1	65 - 141				
Vinyl chloride	17.93	1.0	20	0	89.7	58 - 137				
Surr: 1,2-Dichloroethane-d4	*54.7*	*1.0*	*50*	*0*	*109*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*52.81*	*1.0*	*50*	*0*	*106*	*85 - 114*				
Surr: Dibromofluoromethane	*51.83*	*1.0*	*50*	*0*	*104*	*80 - 119*				
Surr: Toluene-d8	*49.75*	*1.0*	*50*	*0*	*99.5*	*89 - 112*				

ALS Houston, US Date: 30-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP / Site 58
WorkOrder: HS20120247

QC BATCH REPORT

Batch ID: R374913 (0) **Instrument: VOA6** **Method: VOLATILES ORGANICS BY METHOD 8260C**

MS Sample ID: **HS20120479-03MS** Units: **ug/L** Analysis Date: **17-Dec-2020 17:33**
Client ID: Run ID: **VOA6_374913** SeqNo: **5887329** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	18.1	1.0	20	0	90.5	78 - 124				
1,1,1-Trichloroethane	17.28	1.0	20	0	86.4	74 - 131				
1,1,2,2-Tetrachloroethane	18.29	1.0	20	0	91.4	71 - 121				
1,1,2-Trichloroethane	18.39	1.0	20	0	92.0	80 - 119				
1,1-Dichloroethane	17.56	1.0	20	0	87.8	77 - 125				
1,1-Dichloroethene	15.58	1.0	20	0	77.9	71 - 131				
1,1-Dichloropropene	18.39	1.0	20	0	91.9	78 - 125				
1,2,3-Trichlorobenzene	22.79	1.0	20	0	114	69 - 129				
1,2,3-Trichloropropane	18.29	1.0	20	0	91.4	73 - 122				
1,2,4-Trichlorobenzene	21.24	1.0	20	0	106	69 - 130				
1,2,4-Trimethylbenzene	19.68	1.0	20	0	98.4	76 - 124				
1,2-Dibromo-3-chloropropane	19.53	1.0	20	0	97.6	62 - 128				
1,2-Dibromoethane	18.18	1.0	20	0	90.9	77 - 121				
1,2-Dichlorobenzene	18.88	1.0	20	0	94.4	80 - 119				
1,2-Dichloroethane	18	1.0	20	0	90.0	73 - 128				
1,2-Dichloropropane	18.68	1.0	20	0	93.4	78 - 122				
1,3,5-Trimethylbenzene	19.17	1.0	20	0	95.9	75 - 124				
1,3-Dichlorobenzene	18.98	1.0	20	0	94.9	80 - 119				
1,3-Dichloropropane	18.63	1.0	20	0	93.2	80 - 119				
1,4-Dichlorobenzene	19.44	1.0	20	0	97.2	79 - 118				
2,2-Dichloropropane	17.25	1.0	20	0	86.3	60 - 139				
2-Butanone	32.48	2.0	40	0	81.2	56 - 143				
2-Chlorotoluene	19.6	1.0	20	0	98.0	79 - 122				
2-Hexanone	33.31	2.0	40	0	83.3	57 - 139				
4-Chlorotoluene	19.51	1.0	20	0	97.5	78 - 122				
4-Isopropyltoluene	19.38	1.0	20	0	96.9	77 - 127				
4-Methyl-2-pentanone	35.08	2.0	40	0	87.7	67 - 130				
Acetone	24.02	2.0	40	0	60.1	39 - 160				
Benzene	18.05	1.0	20	0	90.2	79 - 120				
Bromobenzene	18.65	1.0	20	0	93.2	80 - 120				
Bromochloromethane	16.4	1.0	20	0	82.0	78 - 123				
Bromodichloromethane	18.78	1.0	20	0	93.9	79 - 125				
Bromoform	18.74	1.0	20	0	93.7	66 - 130				
Bromomethane	20.62	1.0	20	0	103	53 - 141				

ALS Houston, US Date: 30-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP / Site 58
WorkOrder: HS20120247

QC BATCH REPORT

Batch ID: R374913 (0) **Instrument: VOA6** **Method: VOLATILES ORGANICS BY METHOD 8260C**

MS Sample ID: **HS20120479-03MS** Units: **ug/L** Analysis Date: **17-Dec-2020 17:33**
Client ID: Run ID: **VOA6_374913** SeqNo: **5887329** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Carbon disulfide	35.27	2.0	40	0	88.2	64 - 133				
Carbon tetrachloride	20.32	1.0	20	0	102	72 - 136				
Chlorobenzene	18.48	1.0	20	0	92.4	82 - 118				
Chloroethane	20.71	1.0	20	0	104	60 - 138				
Chloroform	17.41	1.0	20	0	87.0	79 - 124				
Chloromethane	14.52	1.0	20	0	72.6	50 - 139				
cis-1,2-Dichloroethene	17.7	1.0	20	0	88.5	78 - 123				
cis-1,3-Dichloropropene	18.33	1.0	20	0	91.6	75 - 124				
Dibromochloromethane	18.27	1.0	20	0	91.4	74 - 126				
Dibromomethane	18.46	1.0	20	0	92.3	79 - 123				
Dichlorodifluoromethane	15.03	1.0	20	0	75.1	32 - 152				
Ethylbenzene	19.68	1.0	20	0	98.4	79 - 121				
Hexachlorobutadiene	19.91	1.0	20	0	99.5	66 - 134				
Isopropylbenzene	19.31	1.0	20	0	96.6	72 - 131				
m,p-Xylene	38.27	2.0	40	0	95.7	80 - 121				
Methylene chloride	17.04	2.0	20	0	85.2	74 - 124				
Naphthalene	21.46	1.0	20	0	107	61 - 128				
n-Butylbenzene	20.48	1.0	20	0	102	75 - 128				
n-Propylbenzene	19.44	1.0	20	0	97.2	76 - 126				
o-Xylene	18.99	1.0	20	0	94.9	78 - 122				
sec-Butylbenzene	19.72	1.0	20	0	98.6	77 - 126				
Styrene	18.4	1.0	20	0	92.0	78 - 123				
tert-Butylbenzene	19.55	1.0	20	0	97.8	78 - 124				
Tetrachloroethene	19.54	1.0	20	0	97.7	74 - 129				
Toluene	18.65	1.0	20	0	93.3	80 - 121				
trans-1,2-Dichloroethene	17.64	1.0	20	0	88.2	75 - 124				
trans-1,3-Dichloropropene	17.95	1.0	20	0	89.7	73 - 127				
Trichloroethene	17.8	1.0	20	0	89.0	79 - 123				
Trichlorofluoromethane	15.36	1.0	20	0	76.8	65 - 141				
Vinyl chloride	16.23	1.0	20	0	81.1	58 - 137				
Surr: 1,2-Dichloroethane-d4	*45.22*	*1.0*	*50*	*0*	*90.4*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*50.25*	*1.0*	*50*	*0*	*100*	*85 - 114*				
Surr: Dibromofluoromethane	*44.98*	*1.0*	*50*	*0*	*90.0*	*80 - 119*				
Surr: Toluene-d8	*51.18*	*1.0*	*50*	*0*	*102*	*89 - 112*				

ALS Houston, US Date: 30-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP / Site 58
WorkOrder: HS20120247

QC BATCH REPORT

Batch ID: R374913 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS20120247-06MS** Units: **ug/L** Analysis Date: **17-Dec-2020 16:50**
Client ID: **35AWW24_120320** Run ID: **VOA6_374913** SeqNo: **5887327** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	19.12	1.0	20	0	95.6	78 - 124				
1,1,1-Trichloroethane	18.12	1.0	20	0	90.6	74 - 131				
1,1,2,2-Tetrachloroethane	17.34	1.0	20	0	86.7	71 - 121				
1,1,2-Trichloroethane	18.58	1.0	20	0	92.9	80 - 119				
1,1-Dichloroethane	17.77	1.0	20	0	88.9	77 - 125				
1,1-Dichloroethene	16.77	1.0	20	0	83.9	71 - 131				
1,1-Dichloropropene	19.58	1.0	20	0	97.9	78 - 125				
1,2,3-Trichlorobenzene	16.23	1.0	20	0	81.2	69 - 129				
1,2,3-Trichloropropane	17.15	1.0	20	0	85.8	73 - 122				
1,2,4-Trichlorobenzene	17.46	1.0	20	0	87.3	69 - 130				
1,2,4-Trimethylbenzene	18.82	1.0	20	0	94.1	76 - 124				
1,2-Dibromo-3-chloropropane	16.4	1.0	20	0	82.0	62 - 128				
1,2-Dibromoethane	18.5	1.0	20	0	92.5	77 - 121				
1,2-Dichlorobenzene	17.83	1.0	20	0	89.1	80 - 119				
1,2-Dichloroethane	18.78	1.0	20	0	93.9	73 - 128				
1,2-Dichloropropane	18.87	1.0	20	0	94.4	78 - 122				
1,3,5-Trimethylbenzene	18.37	1.0	20	0	91.8	75 - 124				
1,3-Dichlorobenzene	18.09	1.0	20	0	90.5	80 - 119				
1,3-Dichloropropane	18.92	1.0	20	0	94.6	80 - 119				
1,4-Dichlorobenzene	18.43	1.0	20	0	92.1	79 - 118				
2,2-Dichloropropane	17.98	1.0	20	0	89.9	60 - 139				
2-Butanone	32.47	2.0	40	0	81.2	56 - 143				
2-Chlorotoluene	19.01	1.0	20	0	95.0	79 - 122				
2-Hexanone	32.77	2.0	40	0	81.9	57 - 139				
4-Chlorotoluene	18.33	1.0	20	0	91.6	78 - 122				
4-Isopropyltoluene	18.26	1.0	20	0	91.3	77 - 127				
4-Methyl-2-pentanone	34.06	2.0	40	0	85.2	67 - 130				
Acetone	27.99	2.0	40	0	70.0	39 - 160				
Benzene	19.01	1.0	20	0	95.0	79 - 120				
Bromobenzene	18.06	1.0	20	0	90.3	80 - 120				
Bromochloromethane	17.55	1.0	20	0	87.8	78 - 123				
Bromodichloromethane	18.97	1.0	20	0	94.8	79 - 125				
Bromoform	18.77	1.0	20	0	93.9	66 - 130				
Bromomethane	21.79	1.0	20	0	109	53 - 141				

ALS Houston, US Date: 30-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP / Site 58
WorkOrder: HS20120247

QC BATCH REPORT

Batch ID: R374913 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS20120247-06MS** Units: **ug/L** Analysis Date: **17-Dec-2020 16:50**
Client ID: **35AWW24_120320** Run ID: **VOA6_374913** SeqNo: **5887327** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Carbon disulfide	36.56	2.0	40	0	91.4	64 - 133				
Carbon tetrachloride	21.1	1.0	20	0	106	72 - 136				
Chlorobenzene	19.45	1.0	20	0	97.3	82 - 118				
Chloroethane	18.31	1.0	20	0	91.6	60 - 138				
Chloroform	17.93	1.0	20	0	89.6	79 - 124				
Chloromethane	14.14	1.0	20	0	70.7	50 - 139				
cis-1,2-Dichloroethene	18.21	1.0	20	0	91.1	78 - 123				
cis-1,3-Dichloropropene	18.49	1.0	20	0	92.5	75 - 124				
Dibromochloromethane	18.64	1.0	20	0	93.2	74 - 126				
Dibromomethane	18.46	1.0	20	0	92.3	79 - 123				
Dichlorodifluoromethane	15.63	1.0	20	0	78.2	32 - 152				
Ethylbenzene	19.57	1.0	20	0	97.8	79 - 121				
Hexachlorobutadiene	16.89	1.0	20	0	84.4	66 - 134				
Isopropylbenzene	19.77	1.0	20	0	98.8	72 - 131				
m,p-Xylene	38.57	2.0	40	0	96.4	80 - 121				
Methylene chloride	17.03	2.0	20	0	85.1	74 - 124				
Naphthalene	14.76	1.0	20	0	73.8	61 - 128				
n-Butylbenzene	18.86	1.0	20	0	94.3	75 - 128				
n-Propylbenzene	18.96	1.0	20	0	94.8	76 - 126				
o-Xylene	19.21	1.0	20	0	96.0	78 - 122				
sec-Butylbenzene	18.5	1.0	20	0	92.5	77 - 126				
Styrene	19.07	1.0	20	0	95.3	78 - 123				
tert-Butylbenzene	18.97	1.0	20	0	94.8	78 - 124				
Tetrachloroethene	21.73	1.0	20	0	109	74 - 129				
Toluene	19.09	1.0	20	0	95.5	80 - 121				
trans-1,2-Dichloroethene	18	1.0	20	0	90.0	75 - 124				
trans-1,3-Dichloropropene	18.76	1.0	20	0	93.8	73 - 127				
Trichloroethene	18.83	1.0	20	0	94.2	79 - 123				
Trichlorofluoromethane	16.72	1.0	20	0	83.6	65 - 141				
Vinyl chloride	16.8	1.0	20	0	84.0	58 - 137				
Surr: 1,2-Dichloroethane-d4	*44.68*	*1.0*	*50*	*0*	*89.4*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*52.87*	*1.0*	*50*	*0*	*106*	*85 - 114*				
Surr: Dibromofluoromethane	*46.94*	*1.0*	*50*	*0*	*93.9*	*80 - 119*				
Surr: Toluene-d8	*50.86*	*1.0*	*50*	*0*	*102*	*89 - 112*				

ALS Houston, US Date: 30-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP / Site 58
WorkOrder: HS20120247

QC BATCH REPORT

Batch ID: R374913 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS20120479-03MSD** Units: **ug/L** Analysis Date: **17-Dec-2020 17:54**
Client ID: Run ID: **VOA6_374913** SeqNo: **5887330** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	17.93	1.0	20	0	89.6	78 - 124	18.1	0.974	20	
1,1,1-Trichloroethane	17.43	1.0	20	0	87.2	74 - 131	17.28	0.866	20	
1,1,2,2-Tetrachloroethane	16.32	1.0	20	0	81.6	71 - 121	18.29	11.4	20	
1,1,2-Trichloroethane	18.14	1.0	20	0	90.7	80 - 119	18.39	1.4	20	
1,1-Dichloroethane	16.27	1.0	20	0	81.4	77 - 125	17.56	7.61	20	
1,1-Dichloroethene	14.85	1.0	20	0	74.2	71 - 131	15.58	4.84	20	
1,1-Dichloropropene	18.24	1.0	20	0	91.2	78 - 125	18.39	0.797	20	
1,2,3-Trichlorobenzene	20.79	1.0	20	0	104	69 - 129	22.79	9.21	20	
1,2,3-Trichloropropane	16.9	1.0	20	0	84.5	73 - 122	18.29	7.86	20	
1,2,4-Trichlorobenzene	19.08	1.0	20	0	95.4	69 - 130	21.24	10.7	20	
1,2,4-Trimethylbenzene	17.58	1.0	20	0	87.9	76 - 124	19.68	11.3	20	
1,2-Dibromo-3-chloropropane	16.15	1.0	20	0	80.8	62 - 128	19.53	18.9	20	
1,2-Dibromoethane	17.15	1.0	20	0	85.7	77 - 121	18.18	5.84	20	
1,2-Dichlorobenzene	17.24	1.0	20	0	86.2	80 - 119	18.88	9.05	20	
1,2-Dichloroethane	18	1.0	20	0	90.0	73 - 128	18	0.00849	20	
1,2-Dichloropropane	18.13	1.0	20	0	90.7	78 - 122	18.68	2.98	20	
1,3,5-Trimethylbenzene	17.25	1.0	20	0	86.2	75 - 124	19.17	10.6	20	
1,3-Dichlorobenzene	16.97	1.0	20	0	84.8	80 - 119	18.98	11.2	20	
1,3-Dichloropropane	17.75	1.0	20	0	88.7	80 - 119	18.63	4.85	20	
1,4-Dichlorobenzene	17.26	1.0	20	0	86.3	79 - 118	19.44	11.9	20	
2,2-Dichloropropane	16.72	1.0	20	0	83.6	60 - 139	17.25	3.12	20	
2-Butanone	30.9	2.0	40	0	77.2	56 - 143	32.48	5.01	20	
2-Chlorotoluene	17.81	1.0	20	0	89.1	79 - 122	19.6	9.55	20	
2-Hexanone	32.91	2.0	40	0	82.3	57 - 139	33.31	1.2	20	
4-Chlorotoluene	17.51	1.0	20	0	87.5	78 - 122	19.51	10.8	20	
4-Isopropyltoluene	17.65	1.0	20	0	88.2	77 - 127	19.38	9.39	20	
4-Methyl-2-pentanone	33.86	2.0	40	0	84.7	67 - 130	35.08	3.53	20	
Acetone	24.68	2.0	40	0	61.7	39 - 160	24.02	2.71	20	
Benzene	17.85	1.0	20	0	89.2	79 - 120	18.05	1.11	20	
Bromobenzene	17.11	1.0	20	0	85.5	80 - 120	18.65	8.63	20	
Bromochloromethane	16.33	1.0	20	0	81.6	78 - 123	16.4	0.423	20	
Bromodichloromethane	18.45	1.0	20	0	92.2	79 - 125	18.78	1.77	20	
Bromoform	18.17	1.0	20	0	90.9	66 - 130	18.74	3.07	20	
Bromomethane	18.97	1.0	20	0	94.9	53 - 141	20.62	8.34	20	

ALS Houston, US Date: 30-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP / Site 58
WorkOrder: HS20120247

QC BATCH REPORT

Batch ID: R374913 (0) **Instrument: VOA6** **Method: VOLATILES ORGANICS BY METHOD 8260C**

MSD Sample ID: **HS20120479-03MSD** Units: **ug/L** Analysis Date: **17-Dec-2020 17:54**
Client ID: Run ID: **VOA6_374913** SeqNo: **5887330** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Carbon disulfide	33.76	2.0	40	0	84.4	64 - 133	35.27	4.37	20	
Carbon tetrachloride	20.03	1.0	20	0	100	72 - 136	20.32	1.43	20	
Chlorobenzene	17.52	1.0	20	0	87.6	82 - 118	18.48	5.38	20	
Chloroethane	18.07	1.0	20	0	90.3	60 - 138	20.71	13.6	20	
Chloroform	16.55	1.0	20	0	82.8	79 - 124	17.41	5.03	20	
Chloromethane	14.01	1.0	20	0	70.1	50 - 139	14.52	3.55	20	
cis-1,2-Dichloroethene	16.79	1.0	20	0	84.0	78 - 123	17.7	5.24	20	
cis-1,3-Dichloropropene	17.63	1.0	20	0	88.2	75 - 124	18.33	3.87	20	
Dibromochloromethane	17.64	1.0	20	0	88.2	74 - 126	18.27	3.56	20	
Dibromomethane	18.41	1.0	20	0	92.1	79 - 123	18.46	0.233	20	
Dichlorodifluoromethane	14.49	1.0	20	0	72.5	32 - 152	15.03	3.64	20	
Ethylbenzene	18.73	1.0	20	0	93.6	79 - 121	19.68	4.95	20	
Hexachlorobutadiene	18.82	1.0	20	0	94.1	66 - 134	19.91	5.64	20	
Isopropylbenzene	18.2	1.0	20	0	91.0	72 - 131	19.31	5.95	20	
m,p-Xylene	36.2	2.0	40	0	90.5	80 - 121	38.27	5.55	20	
Methylene chloride	16	2.0	20	0	80.0	74 - 124	17.04	6.35	20	
Naphthalene	19.1	1.0	20	0	95.5	61 - 128	21.46	11.6	20	
n-Butylbenzene	18.76	1.0	20	0	93.8	75 - 128	20.48	8.78	20	
n-Propylbenzene	18.18	1.0	20	0	90.9	76 - 126	19.44	6.73	20	
o-Xylene	17.61	1.0	20	0	88.0	78 - 122	18.99	7.56	20	
sec-Butylbenzene	18.02	1.0	20	0	90.1	77 - 126	19.72	9	20	
Styrene	18.32	1.0	20	0	91.6	78 - 123	18.4	0.463	20	
tert-Butylbenzene	17.8	1.0	20	0	89.0	78 - 124	19.55	9.38	20	
Tetrachloroethene	18.94	1.0	20	0	94.7	74 - 129	19.54	3.12	20	
Toluene	17.92	1.0	20	0	89.6	80 - 121	18.65	4.02	20	
trans-1,2-Dichloroethene	16.83	1.0	20	0	84.1	75 - 124	17.64	4.71	20	
trans-1,3-Dichloropropene	17.82	1.0	20	0	89.1	73 - 127	17.95	0.721	20	
Trichloroethene	17.53	1.0	20	0	87.7	79 - 123	17.8	1.52	20	
Trichlorofluoromethane	15.28	1.0	20	0	76.4	65 - 141	15.36	0.519	20	
Vinyl chloride	15.66	1.0	20	0	78.3	58 - 137	16.23	3.58	20	
Surr: 1,2-Dichloroethane-d4	*45.19*	*1.0*	*50*	*0*	*90.4*	*81 - 118*	*45.22*	*0.0792*	*20*	
Surr: 4-Bromofluorobenzene	*51.05*	*1.0*	*50*	*0*	*102*	*85 - 114*	*50.25*	*1.59*	*20*	
Surr: Dibromofluoromethane	*44.39*	*1.0*	*50*	*0*	*88.8*	*80 - 119*	*44.98*	*1.32*	*20*	
Surr: Toluene-d8	*50.05*	*1.0*	*50*	*0*	*100*	*89 - 112*	*51.18*	*2.25*	*20*	

ALS Houston, US Date: 30-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP / Site 58
WorkOrder: HS20120247

QC BATCH REPORT

Batch ID: R374913 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS20120247-06MSD** Units: **ug/L** Analysis Date: **17-Dec-2020 17:12**
Client ID: **35AWW24_120320** Run ID: **VOA6_374913** SeqNo: **5887328** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	18.14	1.0	20	0	90.7	78 - 124	19.12	5.27	20	
1,1,1-Trichloroethane	18.1	1.0	20	0	90.5	74 - 131	18.12	0.149	20	
1,1,2,2-Tetrachloroethane	17.23	1.0	20	0	86.2	71 - 121	17.34	0.653	20	
1,1,2-Trichloroethane	17.84	1.0	20	0	89.2	80 - 119	18.58	4.06	20	
1,1-Dichloroethane	16.78	1.0	20	0	83.9	77 - 125	17.77	5.76	20	
1,1-Dichloroethene	15.24	1.0	20	0	76.2	71 - 131	16.77	9.57	20	
1,1-Dichloropropene	18.65	1.0	20	0	93.3	78 - 125	19.58	4.88	20	
1,2,3-Trichlorobenzene	21.4	1.0	20	0	107	69 - 129	16.23	27.4	20	R
1,2,3-Trichloropropane	16.87	1.0	20	0	84.3	73 - 122	17.15	1.67	20	
1,2,4-Trichlorobenzene	19.52	1.0	20	0	97.6	69 - 130	17.46	11.2	20	
1,2,4-Trimethylbenzene	18.65	1.0	20	0	93.3	76 - 124	18.82	0.906	20	
1,2-Dibromo-3-chloropropane	17.29	1.0	20	0	86.5	62 - 128	16.4	5.29	20	
1,2-Dibromoethane	17.85	1.0	20	0	89.3	77 - 121	18.5	3.54	20	
1,2-Dichlorobenzene	17.76	1.0	20	0	88.8	80 - 119	17.83	0.357	20	
1,2-Dichloroethane	18.26	1.0	20	0	91.3	73 - 128	18.78	2.82	20	
1,2-Dichloropropane	18.02	1.0	20	0	90.1	78 - 122	18.87	4.62	20	
1,3,5-Trimethylbenzene	18.08	1.0	20	0	90.4	75 - 124	18.37	1.57	20	
1,3-Dichlorobenzene	17.87	1.0	20	0	89.4	80 - 119	18.09	1.24	20	
1,3-Dichloropropane	18.21	1.0	20	0	91.0	80 - 119	18.92	3.81	20	
1,4-Dichlorobenzene	18.32	1.0	20	0	91.6	79 - 118	18.43	0.569	20	
2,2-Dichloropropane	17.87	1.0	20	0	89.4	60 - 139	17.98	0.604	20	
2-Butanone	33.93	2.0	40	0	84.8	56 - 143	32.47	4.42	20	
2-Chlorotoluene	18.63	1.0	20	0	93.1	79 - 122	19.01	2.02	20	
2-Hexanone	33.22	2.0	40	0	83.0	57 - 139	32.77	1.36	20	
4-Chlorotoluene	18.52	1.0	20	0	92.6	78 - 122	18.33	1.06	20	
4-Isopropyltoluene	18.39	1.0	20	0	92.0	77 - 127	18.26	0.699	20	
4-Methyl-2-pentanone	33.98	2.0	40	0	84.9	67 - 130	34.06	0.241	20	
Acetone	26.75	2.0	40	0	66.9	39 - 160	27.99	4.55	20	
Benzene	18.07	1.0	20	0	90.4	79 - 120	19.01	5.05	20	
Bromobenzene	17.11	1.0	20	0	85.6	80 - 120	18.06	5.37	20	
Bromochloromethane	16.63	1.0	20	0	83.2	78 - 123	17.55	5.38	20	
Bromodichloromethane	18.75	1.0	20	0	93.8	79 - 125	18.97	1.14	20	
Bromoform	17.47	1.0	20	0	87.3	66 - 130	18.77	7.19	20	
Bromomethane	20.66	1.0	20	0	103	53 - 141	21.79	5.31	20	

ALS Houston, US Date: 30-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP / Site 58
WorkOrder: HS20120247

QC BATCH REPORT

Batch ID: R374913 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS20120247-06MSD** Units: **ug/L** Analysis Date: **17-Dec-2020 17:12**
Client ID: **35AWW24_120320** Run ID: **VOA6_374913** SeqNo: **5887328** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Carbon disulfide	35.85	2.0	40	0	89.6	64 - 133	36.56	1.94	20	
Carbon tetrachloride	20.74	1.0	20	0	104	72 - 136	21.1	1.73	20	
Chlorobenzene	18.03	1.0	20	0	90.2	82 - 118	19.45	7.59	20	
Chloroethane	18.64	1.0	20	0	93.2	60 - 138	18.31	1.81	20	
Chloroform	16.97	1.0	20	0	84.9	79 - 124	17.93	5.5	20	
Chloromethane	14.73	1.0	20	0	73.7	50 - 139	14.14	4.1	20	
cis-1,2-Dichloroethene	17.4	1.0	20	0	87.0	78 - 123	18.21	4.54	20	
cis-1,3-Dichloropropene	17.65	1.0	20	0	88.3	75 - 124	18.49	4.64	20	
Dibromochloromethane	17.69	1.0	20	0	88.4	74 - 126	18.64	5.24	20	
Dibromomethane	18.45	1.0	20	0	92.2	79 - 123	18.46	0.0696	20	
Dichlorodifluoromethane	15.57	1.0	20	0	77.8	32 - 152	15.63	0.421	20	
Ethylbenzene	19.27	1.0	20	0	96.4	79 - 121	19.57	1.52	20	
Hexachlorobutadiene	17.69	1.0	20	0	88.4	66 - 134	16.89	4.65	20	
Isopropylbenzene	19.15	1.0	20	0	95.7	72 - 131	19.77	3.18	20	
m,p-Xylene	37.21	2.0	40	0	93.0	80 - 121	38.57	3.6	20	
Methylene chloride	16.83	2.0	20	0	84.2	74 - 124	17.03	1.13	20	
Naphthalene	19.21	1.0	20	0	96.0	61 - 128	14.76	26.2	20	R
n-Butylbenzene	19.35	1.0	20	0	96.7	75 - 128	18.86	2.57	20	
n-Propylbenzene	19.36	1.0	20	0	96.8	76 - 126	18.96	2.13	20	
o-Xylene	17.94	1.0	20	0	89.7	78 - 122	19.21	6.81	20	
sec-Butylbenzene	18.67	1.0	20	0	93.4	77 - 126	18.5	0.932	20	
Styrene	18.19	1.0	20	0	91.0	78 - 123	19.07	4.69	20	
tert-Butylbenzene	18.63	1.0	20	0	93.2	78 - 124	18.97	1.78	20	
Tetrachloroethene	20.07	1.0	20	0	100	74 - 129	21.73	7.96	20	
Toluene	18.31	1.0	20	0	91.5	80 - 121	19.09	4.18	20	
trans-1,2-Dichloroethene	17.5	1.0	20	0	87.5	75 - 124	18	2.86	20	
trans-1,3-Dichloropropene	18.11	1.0	20	0	90.6	73 - 127	18.76	3.5	20	
Trichloroethene	17.6	1.0	20	0	88.0	79 - 123	18.83	6.76	20	
Trichlorofluoromethane	15.81	1.0	20	0	79.1	65 - 141	16.72	5.61	20	
Vinyl chloride	16.15	1.0	20	0	80.7	58 - 137	16.8	3.99	20	
Surr: 1,2-Dichloroethane-d4	*43.71*	*1.0*	*50*	*0*	*87.4*	*81 - 118*	*44.68*	*2.2*	*20*	
Surr: 4-Bromofluorobenzene	*50.74*	*1.0*	*50*	*0*	*101*	*85 - 114*	*52.87*	*4.11*	*20*	
Surr: Dibromofluoromethane	*44.23*	*1.0*	*50*	*0*	*88.5*	*80 - 119*	*46.94*	*5.95*	*20*	
Surr: Toluene-d8	*49.6*	*1.0*	*50*	*0*	*99.2*	*89 - 112*	*50.86*	*2.51*	*20*	

ALS Houston, US Date: 30-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP / Site 58
WorkOrder: HS20120247

QC BATCH REPORT

Batch ID: R374913 (0)	Instrument: VOA6	Method: VOLATILES ORGANICS BY METHOD 8260C

The following samples were analyzed in this batch:

HS20120247-01	HS20120247-02	HS20120247-03	HS20120247-04
HS20120247-05	HS20120247-06	HS20120247-07	HS20120247-08

ALS Houston, US Date: 30-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP / Site 58
WorkOrder: HS20120247

QC BATCH REPORT

Batch ID: R374034 (0) **Instrument: ICS2100** **Method: ANIONS BY SW9056A**

MBLK Sample ID: **MBLK-** Units: **mg/L** Analysis Date: **05-Dec-2020 08:17**
Client ID: Run ID: **ICS2100_374034** SeqNo: **5865591** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrogen, Nitrate (As N)	0.100	0.100								U
Nitrogen, Nitrite (As N)	0.100	0.100								U
Sulfate	0.500	0.500								U

LCS Sample ID: **LCS-** Units: **mg/L** Analysis Date: **05-Dec-2020 08:35**
Client ID: Run ID: **ICS2100_374034** SeqNo: **5865592** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrogen, Nitrate (As N)	4.098	0.100	4	0	102	80 - 120				
Nitrogen, Nitrite (As N)	4.406	0.100	4	0	110	80 - 120				
Sulfate	22.22	0.500	20	0	111	80 - 120				

MS Sample ID: **HS20120240-01MS** Units: **mg/L** Analysis Date: **04-Dec-2020 14:44**
Client ID: Run ID: **ICS2100_374034** SeqNo: **5865580** PrepDate: DF: **100**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrogen, Nitrate (As N)	196.4	10.0	200	0	98.2	80 - 120				
Nitrogen, Nitrite (As N)	217.8	10.0	200	0	109	80 - 120				
Sulfate	3369	50.0	1000	2444	92.5	80 - 120				

MSD Sample ID: **HS20120240-01MSD** Units: **mg/L** Analysis Date: **04-Dec-2020 15:02**
Client ID: Run ID: **ICS2100_374034** SeqNo: **5865581** PrepDate: DF: **100**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrogen, Nitrate (As N)	196.5	10.0	200	0	98.3	80 - 120	196.4	0.0611	20	
Nitrogen, Nitrite (As N)	218.1	10.0	200	0	109	80 - 120	217.8	0.147	20	
Sulfate	3420	50.0	1000	2444	97.6	80 - 120	3369	1.49	20	

The following samples were analyzed in this batch: HS20120247-01 HS20120247-02 HS20120247-04 HS20120247-05

ALS Houston, US Date: 30-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP / Site 58
WorkOrder: HS20120247

QC BATCH REPORT

Batch ID: R375028 (0) **Instrument: ICS-Integrion** **Method: ANIONS BY SW9056A**

MBLK Sample ID: **MBLK-121820** Units: **mg/L** Analysis Date: **18-Dec-2020 10:03**
Client ID: Run ID: **ICS-Integrion_375028** SeqNo: **5889985** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	0.500	0.500								U
Sulfate	0.500	0.500								U

LCS Sample ID: **LCS-121820** Units: **mg/L** Analysis Date: **18-Dec-2020 10:21**
Client ID: Run ID: **ICS-Integrion_375028** SeqNo: **5889986** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	18.59	0.500	20	0	92.9	80 - 120				
Sulfate	18.59	0.500	20	0	93.0	80 - 120				

MS Sample ID: **HS20120396-54MS** Units: **mg/L** Analysis Date: **18-Dec-2020 21:50**
Client ID: Run ID: **ICS-Integrion_375028** SeqNo: **5889999** PrepDate: DF: **100**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	1651	50.0	1000	762.7	88.8	80 - 120				
Sulfate	2972	50.0	1000	2216	75.6	80 - 120				S

MSD Sample ID: **HS20120396-54MSD** Units: **mg/L** Analysis Date: **18-Dec-2020 22:08**
Client ID: Run ID: **ICS-Integrion_375028** SeqNo: **5890000** PrepDate: DF: **100**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	1734	50.0	1000	762.7	97.1	80 - 120	1651	4.92	20	
Sulfate	3138	50.0	1000	2216	92.2	80 - 120	2972	5.44	20	

The following samples were analyzed in this batch: HS20120247-01 HS20120247-02 HS20120247-04 HS20120247-05

ALS Houston, US Date: 30-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP / Site 58
WorkOrder: **HS20120247**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitaion Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

Unit Reported	Description
mg/L	Milligrams per Liter

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	20-030-0	26-Mar-2021
California	2919, 2020-2021	30-Apr-2021
Dept of Defense	PJLA L20-507	22-Dec-2021
Florida	E87611-30-07/01/2020	30-Jun-2021
Illinois	2000322020-4	09-May-2021
Kansas	E-10352 2020-2021	31-Jul-2021
Kentucky	123043, 2020-2021	30-Apr-2021
Louisiana	03087, 2020-2021	30-Jun-2021
North Carolina	624-2020	31-Dec-2020
North Dakota	R-193 2020-2021	30-Apr-2021
Oklahoma	2020-165	31-Aug-2021
Texas	T104704231-20-26	30-Apr-2021

ALS Houston, US Date: 30-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP / Site 58
Work Order: HS20120247

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS20120247-01	35AWW20_120320	Login	12/4/2020 1:06:05 PM	JRM	MET046
HS20120247-01	35AWW20_120320	Login	12/4/2020 1:06:05 PM	JRM	Sub
HS20120247-01	35AWW20_120320	Login	12/4/2020 1:06:05 PM	JRM	Sub
HS20120247-01	35AWW20_120320	Login	12/4/2020 1:06:05 PM	JRM	WET204
HS20120247-01	35AWW20_120320	Login	12/4/2020 1:06:05 PM	JRM	VOA062
HS20120247-01	35AWW20_120320	Login	12/4/2020 1:06:05 PM	JRM	Sub
HS20120247-01	35AWW20_120320	Login	12/4/2020 1:06:05 PM	JRM	Sub
HS20120247-02	LHSMW07_120320	Login	12/4/2020 1:12:47 PM	JML	Sub
HS20120247-02	LHSMW07_120320	Login	12/4/2020 1:12:47 PM	JML	Sub
HS20120247-02	LHSMW07_120320	Login	12/4/2020 1:12:47 PM	JML	WET215
HS20120247-02	LHSMW07_120320	Login	12/4/2020 1:12:47 PM	JML	VOA190
HS20120247-02	LHSMW07_120320	Login	12/4/2020 1:12:47 PM	JML	Sub
HS20120247-02	LHSMW07_120320	Login	12/4/2020 1:12:47 PM	JML	Sub
HS20120247-03	35AWW05_120320	Login	12/4/2020 1:12:47 PM	JML	VOA190
HS20120247-04	35AWW23_120320	Login	12/4/2020 1:13:55 PM	JML	Sub
HS20120247-04	35AWW23_120320	Login	12/4/2020 1:13:55 PM	JML	Sub
HS20120247-04	35AWW23_120320	Login	12/4/2020 1:13:55 PM	JML	WET215
HS20120247-04	35AWW23_120320	Login	12/4/2020 1:13:55 PM	JML	VOA190
HS20120247-04	35AWW23_120320	Login	12/4/2020 1:13:55 PM	JML	Sub
HS20120247-04	35AWW23_120320	Login	12/4/2020 1:13:55 PM	JML	Sub
HS20120247-05	35AWW19_120320	Login	12/4/2020 1:13:55 PM	JML	Sub
HS20120247-05	35AWW19_120320	Login	12/4/2020 1:13:55 PM	JML	Sub
HS20120247-05	35AWW19_120320	Login	12/4/2020 1:13:55 PM	JML	WET215
HS20120247-05	35AWW19_120320	Login	12/4/2020 1:13:55 PM	JML	VOA190
HS20120247-05	35AWW19_120320	Login	12/4/2020 1:13:55 PM	JML	Sub
HS20120247-05	35AWW19_120320	Login	12/4/2020 1:13:55 PM	JML	Sub
HS20120247-06	35AWW24_120320	Login	12/4/2020 1:15:53 PM	JML	VOA190
HS20120247-07	LHSMW06_120320	Login	12/4/2020 1:15:53 PM	JML	MET096
HS20120247-07	LHSMW06_120320	Login	12/4/2020 1:15:53 PM	JML	VOA190
HS20120247-08	Trip Blank	Login	12/4/2020 1:15:53 PM	JML	VOA190

ALS Houston, US Date: 30-Dec-20

Sample Receipt Checklist

Work Order ID: HS20120247 **Date/Time Received:** **04-Dec-2020 10:15**

Client Name: Bhate Environmental **Received by:** **Jared R. Makan**

Completed By: */S/ Jared R. Makan* (eSignature) 04-Dec-2020 13:20 (Date/Time) **Reviewed by:** */S/ RJ Modashia* (eSignature) 04-Dec-2020 16:35 (Date/Time)

Matrices: **Water** Carrier name: **FedEx**

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
VOA/TX1005/TX1006 Solids in hermetically sealed vials?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	1 Page(s)
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	COC IDs:None
Samplers name present on COC?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	

Temperature(s)/Thermometer(s):	0.5°C/0.5°C UC/C	IR25
Cooler(s)/Kit(s):	45531	
Date/Time sample(s) sent to storage:	12/04/2020 13:25	

Water - VOA vials have zero headspace?	Yes ☑	No ☐	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☑	No ☐	N/A ☐
pH adjusted?	Yes ☐	No ☑	N/A ☐
pH adjusted by:			

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:

bhate

1608 13th Avenue South, Suite 300
Birmingham Alabama 35205
Tel: 205-918-4000
Fax: 205-918-4050

Chain of Custody and Analytical Request

Page: ____ of ____

Project/Phase No: NWO1312.0150

COC Number(1): ____

LIMS Number: ____

Facility/Base I.D.: LHAAP

Project/Site Name: LHAAP / Site 58

Client Name:

Collected by: Scott Beesinger

Field Sample ID (30 Characters Max)	Date Collected (dd-mmm-yyyy)	Time Collected (Military) (hhmm)	Sample Depth (beginning - ending)	SA Code (2)	Sample Number (3)	Sample Matrix (4)	Number of containers	VOC	MEE	TOC	Carbon Dioxide	Anions	Arsenic				Ambient Blank Lot Control Number	Equipment Blank Lot Control Number	Trip Blank Lot Control Number	Cooler ID
35AWW20_120320	03 Dec 2020	0725	-	N		WG	11	X	X	X	X	X								
LHSMW07_120320	03 Dec 2020	0815	-	N		WG	11	X	X	X	X	X								
35AWW05_120320	03 Dec 2020	0910	-	N		WG	3	X												
35AWW23_120320	03 Dec 2020	0955	-	N		WG	11	X	X	X	X	X								
35AWW19_120320	03 Dec 2020	1045	-	N		WG	11	X	X	X	X	X								
35AWW24_120320	03 Dec 2020	1140	-	N		WG	3	X												
35AWW24_120320_MS	03 Dec 2020	1140	-	MS		WG	3	X												
35AWW24_120320_MSD	03 Dec 2020	1140	-	SD		WG	3	X												
LHSMW06_120320	03 Dec 2020	1230	-	N		WG	4	X					X							
TRIP BLANK	03 Dec 2020		-	TB		W	2	X												
			-																	

Sample Analysis Requested (5)

Quality Assurance Samples (6)

COMMENTS: ____

HS20120247

Bhate Environmental Associates, Inc.
LHAAP / Site 58

Custody Transfers Prior to Receipt by Laboratory

Relinquished By (Signed)	Date	Time	Received by (signed)	Date	Time
1. Scott Beesinger	12/3/20	1430	1. JM AM	12-4-20	10:15
2.			2.		
3.			3.		

Sample Delivery Details / Laboratory Receipt

Delivered Directly to Lab: ____ Shipped ____ No.:

Method of Shipment: ____

Fed Ex ____ Airbill ____ Number:

Analytical Lab: ALS 10450 Stanciff Rd. Suite 210 Houston, TX 77099 (281) 530-5656

ATTN: SONIA WEST Lab Recipient: Delivery Date/Time:

1.) Chain of Custody Number = date collected + custody number (e.g. 09-02-1999-01)

2.) Sample Type (SA) Codes: N = Normal Sample, TB = Trip Blank (-c) Sample, FD = Field Duplicate (-a) Samples, FR = Field Replicate (-b) Samples, EB = Equipment Blank (-d) Samples, MS = Matrix Spike, SD = Matrix Spike Duplicate, AB = Ambient Blank (-e)

3.) Sample Number: Unique sample number collected from a particular location per day. (e.g. Groundwater sample collected from MW-1 on 10/10/99 = 01, if sampled again on 10/10/99 = 02, etc.)

4.) Matrix Codes: GS = Soil Gas, WG = Groundwater, WS = Surface Water, SO = Soil, SE = Sediment, SL = Sludge, SS = Surface Soil Samples, WQ = Aqueous Blank Samples (trip, equipment, ambient, etc), SQ = Soil Blanks

5.) Sample Analysis Requested: Analytical method requested and number of containers provided for each.

6.) Quality assurance samples are assigned by date (ddmmyy) and the sample number associated with the sample (01, 02, etc) (e.g. Equipment blank collected in association with MW-1 on 10/10/99 will be designated 10109901 in the Equipment Blank Lot Control

45531 0.5C IR25 CFO

ALS
10450 Stancliff Rd., Suite 210
Houston, Texas 77099
Tel. +1 281 530 5656
Fax. +1 281 530 5887

45531

CUSTODY SEAL

Date: 12/3/20 Time: 1430
Name: Scott Beesinger
Company: Pinnacle

Seal Broken By: SM
Date: 12/04/20

45531 DEC 04 2020

Must Deliver Next Business Day
Time and Tempature Sensitive!

45531

ORIGIN ID:SGRA (303) 597-2450
SCOTT BEESINGER
BHATE ENVIRONMENTAL ASSOCIATES
1203-B EAST GRAND AVE.
PHB202
MARSHALL, TX 75670
UNITED STATES US

SHIP DATE: 03NOV20
ACTWGT: 1.00 LB MAN
CAD: 300130/CAFE3211
DIMS: 26x14x14 IN

TO CLIENT SERVICES
ALS LABORATORY GROUP
10450 STANCLIFF ROAD
SUITE 210
HOUSTON TX 77099
(281) 530-5656
REF: LHAAP-68-BO 74790-RJ

RMA:

FedEx Express

FedEx
TRK# 0221 1891 8882 5714

FRI - 04 DEC 10:30A
PRIORITY OVERNIGHT

AB SGRA

77099
TX-US IAH

December 30, 2020 Service Request No:R2011542

RJ Modashia
ALS Laboratory Group
10450 Stancliff Road
Suite 210
Houston, TX 77099-4338

Laboratory Results for: LHAAP / Site-58, HS20120247

Dear RJ,

Enclosed are the results of the sample(s) submitted to our laboratory December 04, 2020
For your reference, these analyses have been assigned our service request number **R2011542.**

All testing was performed according to our laboratory's quality assurance program and met the requirements of the TNI standards except as noted in the case narrative report. Any testing not included in the lab's accreditation is identified on a Non-Certified Analytes report. All results are intended to be considered in their entirety. ALS Environmental is not responsible for use of less than the complete report. Results apply only to the individual samples submitted to the lab for analysis, as listed in the report. The measurement uncertainty of the results included in this report is within that expected when using the prescribed method(s), and represented by Laboratory Control Sample control limits. Any events, such as QC failures or Holding Time exceedances, which may add to the uncertainty are explained in the report narrative or are flagged with qualifiers. The flags are explained in the Report Qualifiers and Definitions page of this report.

Please contact me if you have any questions. My extension is 7471. You may also contact me via email at Brady.Kalkman@alsglobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Brady Kalkman
Project Manager

ADDRESS 1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
PHONE +1 585 288 5380 | FAX +1 585 288 8475
ALS Group USA, Corp.
dba ALS Environmental

Narrative Documents

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

1565 Jefferson Rd, Building 300, Rochester, NY 14623 | 585-288-5380 | www.alsglobal.com

Client: ALS Environmental - US
Project: LHAAP / Site-58, HS20120247
Sample Matrix: Water

Service Request: R2011542
Date Received: 12/04/2020

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples for the Tier level IV requested by the client.

Sample Receipt:

Four water samples were received for analysis at ALS Environmental on 12/04/2020. Any discrepancies upon initial sample inspection are annotated on the sample receipt and preservation form included within this report. The samples were stored at minimum in accordance with the analytical method requirements.

Semivoa GC:

No significant anomalies were noted with this analysis.

Approved by _____ Date 12/29/2020

SAMPLE DETECTION SUMMARY

CLIENT ID: 35AWW23_120320			Lab ID: R2011542-003			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Acetic Acid	65		0.56	4.0	mg/L	Organic Acids
Propionic Acid	2.8		0.19	2.0	mg/L	Organic Acids

Sample Receipt Information

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Client: ALS Environmental - US **Service Request:**R2011542
Project: LHAAP / Site-58, HS20120247/NW01312.0150

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
R2011542-001	35AWW20_120320	12/3/2020	0725
R2011542-002	LHSMW07_120320	12/3/2020	0815
R2011542-003	35AWW23_120320	12/3/2020	0955
R2011542-004	35AWW19_120320	12/3/2020	1045

bhate ENVIRONMENTAL CONSTRUCTION ENERGY

1608 13th Avenue South, Suite 300
Birmingham Alabama 35205
Tel: 205-918-4000
Fax: 205-918-4050

Chain of Custody and Analytical Request

Page: _____ of _____

Project/Phase No: NWO1312.0150

COC Number(1): _____

LIMS Number: _____

Facility/Base I.D.: LHAAP

Project/Site Name: LHAAP / Site 58

Client Name:

Collected by: Scott Beesinger

Sample Analysis Requested [5] | Quality Assurance Samples [6]

Field Sample ID (30 Characters Max)	Date Collected (dd-mmm-yyyy)	Time Collected (Military) (hhmm)	Sample Depth (beginning - ending)	SA Code [2]	Sample Number [3]	Sample Matrix [4]	Number of containers	Volatile Fatty Acids									Ambient Blank Lot Control Number	Equipment Blank Lot Control Number	Trip Blank Lot Control Number	Cooler ID
35AWW20_120320	03 Dec 2020	0725	-	N		WG	1	X												
LHSMW07_120320	03 Dec 2020	0815	-	N		WG	1	X												
35AWW23_120320	03 Dec 2020	0955	-	N		WG	1	X												
35AWW19_120320	03 Dec 2020	1045		N		WG	1	X												
			-																	
			-																	
			-																	
			-																	
			-																	
			-																	

COMMENTS: _____

Custody Transfers Prior to Receipt by Laboratory

Relinquished By (Signed)	Date	Time	Received by (signed)	Date	Time
1. Scott Beesinger	12/3/20	1430	1. [signature]	12/4/2020	09 1035
2.			2.		
3.			3.		

Sample Delivery Details / Laboratory Receipt

Delivered Directly to Lab: _____ Shipped No.:

_____ Method of Shipment: _____

_____ Fed Ex _____ Airbill Number:

_____ Analytical Lab: ALS 10450 Stancliff Rd. Suite 210 Houston, TX 77099 (281) 530-5656

ATTN: SONIA WEST Lab Recipient: Delivery Date/Time:

1.) Chain of Custody Number = date collected + custody number (e.g. 09-02-1999-01)

2.) Sample Type (SA) Codes: N = Normal Sample, TB = Trip Blank (-c) Sample, FD = Field Duplicate (-a) Samples, FR = Field Replicate (-b) Samples, EB = Equipment Blank (-d) Samples, MS = Matrix Spike, SD = Matrix Spike Duplicate, AB = Ambient Blank (-e)

3.) Sample Number: Unique sample number collected from a particular location per day. (e.g. Groundwater sample collected from MW-1 on 10/10/99 = 01, if sampled again on 10/10/99 = 02, etc.)

4.) Matrix Codes: GS = Soil Gas, WG = Groundwater, WS = Surface Water, SO = Soil, SE = Sediment, SL = Sludge, SS = Surface Soil Samples, WQ = Aqueous Blank Samples (trip, equipment, ambient, etc), SQ = Soil Blanks

5.) Sample Analysis Requested: Analytical method requested and number of containers provided for each.

6.) Quality assurance samples are assigned by date (ddmmyy) and the sample number associated with the sample (01, 02, etc) (e.g. Equipment blank collected in association with MW-1 on 10/10/99 will be designated 10109901 in th

R2011542 5
ALS Laboratory Group
LHAAP / Site 58

Cooler Receipt and Preservation Check Form

R2011542 5
ALS Laboratory Group
LHAAP / Site-68

Project/Client Bhefs Folder Number

Cooler received on 12/4/2020 by: CD

COURIER: ALS UPS (FEDEX) VELOCITY CLIENT

1	Were **Custody seals** on outside of cooler?	(Y) N	5a	**Perchlorate** samples have required headspace?	Y N (NA)
2	**Custody papers** properly completed (ink, signed)?	(Y) N	5b	Did VOA vials, Alk,or Sulfide have sig* **bubbles**?	Y N (NA)
3	Did all bottles arrive in good **condition** (unbroken)?	(Y) N	6	Where did the bottles originate?	(ALS/ROC) CLIENT
4	Circle: (**Wet Ice**) **Dry Ice** **Gel packs** present?	(Y) N	7	Soil VOA received as: Bulk Encore 5035set	(NA)

8. Temperature Readings Date: 12/4/2020 Time: 1050 ID: IR#7 (IR#10) From: (Temp Blank) Sample Bottle

Observed Temp (°C)	1.4						
Within 0-6°C?	(Y) N	Y N	Y N	Y N	Y N	Y N	Y N
If <0°C, were samples frozen?	Y N	Y N	Y N	Y N	Y N	Y N	Y N

If out of Temperature, note packing/ice condition: _____ Ice melted Poorly Packed (described below) Same Day Rule

&Client Approval to Run Samples: _____ Standing Approval Client aware at drop-off Client notified by: _____

All samples held in storage location: 2-002 by @ on 12/4/2020 at 1055
5035 samples placed in storage location: _____ by _____ on _____ at _____ within 48 hours of sampling? Y N

Cooler Breakdown/Preservation Check**: Date: 12/5/2020 Time: 1020 by: JW

9. Were all bottle labels complete (*i.e.* analysis, preservation, etc.)? (YES) NO
10. Did all bottle labels and tags agree with custody papers? (YES) NO
11. Were correct containers used for the tests indicated? (YES) NO
12. Were 5035 vials acceptable (no extra labels, not leaking)? YES NO (N/A)
13. Air Samples: Cassettes / Tubes Intact Y / N with MS Y / N Canisters Pressurized Tedlar® Bags Inflated (N/A)

pH	Lot of test paper	Reagent	Preserved? Yes	Preserved? No	Lot Received	Exp	Sample ID Adjusted	Vol. Added	Lot Added	Final pH
≥12		NaOH								
≤2		HNO_3								
≤2		H_2SO_4								
<4		$NaHSO_4$								
5-9		For 608pest			No=Notify for 3day					
Residual Chlorine (-)		For CN, Phenol, 625, 608pest, 522			If +, contact PM to add $Na_2S_2O_3$ (625, 608, CN), ascorbic (phenol).					
		$Na_2S_2O_3$								
		ZnAcetate	-	-			**VOAs and 1664 Not to be tested before analysis. Otherwise, all bottles of all samples with chemical preservatives are checked (not just representatives).			
		HCl	**	**						

Bottle lot numbers: client label

Explain all Discrepancies/ Other Comments:

HPROD	BULK
HTR	FLDT
SUB	HGFB
ALS	LL3541

Labels secondary reviewed by: JW
PC Secondary Review: _____

*significant air bubbles: VOA > 5-6 mm : WC >1 in. diameter

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Internal Chain of Custody Report

Client: ALS Laboratory Group **Service Request:** R2011542
Project: LHAAP / Site-58, HS20120247/NW01312.0150

Bottle ID	Methods	Date	Time	Sample Location / User	Disposed On
R2011542-001.01					
	Organic Acids				
		12/5/2020	1017	SMO / DWARD	
		12/5/2020	1018	R-002 / DWARD	
		12/5/2020	1018	R-002 / DWARD	
		12/14/2020	1357	In Lab / AFELSER	
		12/14/2020	1511	R-002 / AFELSER	
R2011542-002.01					
	Organic Acids				
		12/5/2020	1017	SMO / DWARD	
		12/5/2020	1018	R-002 / DWARD	
		12/5/2020	1018	R-002 / DWARD	
		12/14/2020	1357	In Lab / AFELSER	
		12/14/2020	1511	R-002 / AFELSER	
R2011542-003.01					
	Organic Acids				
		12/5/2020	1017	SMO / DWARD	
		12/5/2020	1018	R-002 / DWARD	
		12/5/2020	1018	R-002 / DWARD	
		12/14/2020	1357	In Lab / AFELSER	
		12/14/2020	1510	R-002 / AFELSER	
R2011542-004.01					
	Organic Acids				
		12/5/2020	1017	SMO / DWARD	
		12/5/2020	1018	R-002 / DWARD	
		12/5/2020	1018	R-002 / DWARD	
		12/14/2020	1357	In Lab / AFELSER	
		12/14/2020	1510	R-002 / AFELSER	

Miscellaneous Forms

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REPORT QUALIFIERS AND DEFINITIONS

U	Analyte was analyzed for but not detected. The sample quantitation limit has been corrected for dilution and for percent moisture, unless otherwise noted in the case narrative.
J	Estimated value due to either being a Tentatively Identified Compound (TIC) or that the concentration is between the MRL and the MDL. Concentrations are not verified within the linear range of the calibration. For DoD: concentration >40% difference between two GC columns (pesticides/Arclors).
B	Analyte was also detected in the associated method blank at a concentration that may have contributed to the sample result.
E	Inorganics- Concentration is estimated due to the serial dilution was outside control limits.
E	Organics- Concentration has exceeded the calibration range for that specific analysis.
D	Concentration is a result of a dilution, typically a secondary analysis of the sample due to exceeding the calibration range or that a surrogate has been diluted out of the sample and cannot be assessed.
*	Indicates that a quality control parameter has exceeded laboratory limits. Under the "Notes" column of the Form I, this qualifier denotes analysis was performed out of Holding Time.
H	Analysis was performed out of hold time for tests that have an "immediate" hold time criteria.
#	Spike was diluted out.
+	Correlation coefficient for MSA is <0.995.
N	Inorganics- Matrix spike recovery was outside laboratory limits.
N	Organics- Presumptive evidence of a compound (reported as a TIC) based on the MS library search.
S	Concentration has been determined using Method of Standard Additions (MSA).
W	Post-Digestion Spike recovery is outside control limits and the sample absorbance is <50% of the spike absorbance.
P	Concentration >40% difference between the two GC columns.
C	Confirmed by GC/MS
Q	DoD reports: indicates a pesticide/Aroclor is not confirmed (≥100% Difference between two GC columns).
X	See Case Narrative for discussion.
MRL LOQ	Method Reporting Limit. Also known as: Limit of Quantitation (LOQ) The lowest concentration at which the method analyte may be reliably quantified under the method conditions.
MDL	Method Detection Limit. A statistical value derived from a study designed to provide the lowest concentration that will be detected 99% of the time. Values between the MDL and MRL are estimated (see J qualifier).
LOD	Limit of Detection. A value at or above the MDL which has been verified to be detectable.
ND	Non-Detect. Analyte was not detected at the concentration listed. Same as U qualifier.

ACCREDITED IN ACCORDANCE WITH nelac

Rochester Lab ID # for State Certifications[1]

Connecticut ID # PH0556	Maine ID #NY0032	Pennsylvania ID# 68-786
Delaware Approved	New Hampshire ID # 2941	Rhode Island ID # 158
DoD ELAP #65817	New York ID # 10145	Virginia #460167
Florida ID # E87674	North Carolina #676	

[1] Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state or agency requirements. The test results meet requirements of the current NELAP/TNI standards or state or agency requirements, where applicable, except as noted in the case narrative. Since not all analyte/method/matrix combinations are offered for state/NELAC accreditation, this report may contain results which are not accredited. For a specific list of accredited analytes, contact the laboratory or go to https://www.alsglobal.com/locations/americas/north-america/usa/new-york/rochester-environmental

ALS Laboratory Group

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

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Analyst Summary report

Client:	ALS Environmental - US	**Service Request:**	R2011542
Project:	LHAAP / Site-58, HS20120247/NW01312.0150		

Sample Name:	35AWW20_120320	**Date Collected:**	12/3/20
Lab Code:	R2011542-001	**Date Received:**	12/4/20
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
Organic Acids		AFELSER

Sample Name:	LHSMW07_120320	**Date Collected:**	12/3/20
Lab Code:	R2011542-002	**Date Received:**	12/4/20
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
Organic Acids		AFELSER

Sample Name:	35AWW23_120320	**Date Collected:**	12/3/20
Lab Code:	R2011542-003	**Date Received:**	12/4/20
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
Organic Acids		AFELSER

Sample Name:	35AWW19_120320	**Date Collected:**	12/3/20
Lab Code:	R2011542-004	**Date Received:**	12/4/20
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
Organic Acids		AFELSER

INORGANIC PREPARATION METHODS

The preparation methods associated with this report are found in these tables unless discussed in the case narrative.

Water/Liquid Matrix

Analytical Method	Preparation Method
200.7	200.2
200.8	200.2
6010C	3005A/3010A
6020A	ILM05.3
9034 Sulfide Acid Soluble	9030B
SM 4500-CN-E Residual Cyanide	SM 4500-CN-G
SM 4500-CN-E WAD Cyanide	SM 4500-CN-I

Solid/Soil/Non-Aqueous Matrix

Analytical Method	Preparation Method
6010C	3050B
6020A	3050B
6010C TCLP (1311) extract	3005A/3010A
6010 SPLP (1312) extract	3005A/3010A
7199	3060A
300.0 Anions/ 350.1/ 353.2/ SM 2320B/ SM 5210B/ 9056A Anions	DI extraction
For analytical methods not listed, the preparation method is the same as the analytical method reference.	

Sample Results

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Semivolatile Organic Compounds by GC

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ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	R2011542
Project:	LHAAP / Site-58, HS20120247/NW01312.0150	**Date Collected:**	12/03/20 07:25
Sample Matrix:	Water	**Date Received:**	12/04/20 10:35
Sample Name:	35AWW20_120320	**Units:**	mg/L
Lab Code:	R2011542-001	**Basis:**	NA

Organic Acids in Aqueous Matrices by High Performance Liquid Chromatography (HPLC) 28 Day Hold Time

Analysis Method: Organic Acids

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Pyruvic Acid	ND U	0.20	0.10	0.016	1	12/15/20 17:36	
Acetic Acid	ND U	4.0	2.0	0.56	1	12/15/20 17:36	
Butanoic Acid (Butyric Acid)	ND U	2.0	1.0	0.32	1	12/15/20 17:36	
Lactic Acid	ND U	2.0	1.0	0.14	1	12/15/20 17:36	
Propionic Acid	ND U	2.0	1.0	0.19	1	12/15/20 17:36	

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Analytical Report

Client:	ALS Environmental - US	**Service Request:**	R2011542
Project:	LHAAP / Site-58, HS20120247/NW01312.0150	**Date Collected:**	12/03/20 08:15
Sample Matrix:	Water	**Date Received:**	12/04/20 10:35
Sample Name:	LHSMW07_120320	**Units:**	mg/L
Lab Code:	R2011542-002	**Basis:**	NA

Organic Acids in Aqueous Matrices by High Performance Liquid Chromatography (HPLC) 28 Day Hold Time

Analysis Method: Organic Acids

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Pyruvic Acid	ND U	0.20	0.10	0.016	1	12/15/20 18:39	
Acetic Acid	ND U	4.0	2.0	0.56	1	12/15/20 18:39	
Butanoic Acid (Butyric Acid)	ND U	2.0	1.0	0.32	1	12/15/20 18:39	
Lactic Acid	ND U	2.0	1.0	0.14	1	12/15/20 18:39	
Propionic Acid	ND U	2.0	1.0	0.19	1	12/15/20 18:39	

ALS Group USA, Corp.
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Analytical Report

Client:	ALS Environmental - US	**Service Request:**	R2011542
Project:	LHAAP / Site-58, HS20120247/NW01312.0150	**Date Collected:**	12/03/20 09:55
Sample Matrix:	Water	**Date Received:**	12/04/20 10:35
Sample Name:	35AWW23_120320	**Units:**	mg/L
Lab Code:	R2011542-003	**Basis:**	NA

Organic Acids in Aqueous Matrices by High Performance Liquid Chromatography (HPLC) 28 Day Hold Time

Analysis Method: Organic Acids

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Pyruvic Acid	ND U	0.20	0.10	0.016	1	12/15/20 20:40	
Acetic Acid	**65**	4.0	2.0	0.56	1	12/15/20 20:40	
Butanoic Acid (Butyric Acid)	ND U	2.0	1.0	0.32	1	12/15/20 20:40	
Lactic Acid	ND U	2.0	1.0	0.14	1	12/15/20 20:40	
Propionic Acid	**2.8**	2.0	1.0	0.19	1	12/15/20 20:40	

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Analytical Report

Client:	ALS Environmental - US	**Service Request:**	R2011542
Project:	LHAAP / Site-58, HS20120247/NW01312.0150	**Date Collected:**	12/03/20 10:45
Sample Matrix:	Water	**Date Received:**	12/04/20 10:35
Sample Name:	35AWW19_120320	**Units:**	mg/L
Lab Code:	R2011542-004	**Basis:**	NA

Organic Acids in Aqueous Matrices by High Performance Liquid Chromatography (HPLC) 28 Day Hold Time

Analysis Method: Organic Acids

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Pyruvic Acid	ND U	0.20	0.10	0.016	1	12/15/20 21:43	
Acetic Acid	ND U	4.0	2.0	0.56	1	12/15/20 21:43	
Butanoic Acid (Butyric Acid)	ND U	2.0	1.0	0.32	1	12/15/20 21:43	
Lactic Acid	ND U	2.0	1.0	0.14	1	12/15/20 21:43	
Propionic Acid	ND U	2.0	1.0	0.19	1	12/15/20 21:43	

QC Summary Forms

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Semivolatile Organic Compounds by GC

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Analytical Report

Client:	ALS Environmental - US	**Service Request:**	R2011542
Project:	LHAAP / Site-58, HS20120247/NW01312.0150	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	mg/L
Lab Code:	RQ2015512-15	**Basis:**	NA

Organic Acids in Aqueous Matrices by High Performance Liquid Chromatography (HPLC) 28 Day Hold Time

Analysis Method: Organic Acids

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Pyruvic Acid	ND U	0.20	0.10	0.016	1	12/16/20 15:08	
Acetic Acid	ND U	4.0	2.0	0.56	1	12/16/20 15:08	
Butanoic Acid (Butyric Acid)	ND U	2.0	1.0	0.32	1	12/16/20 15:08	
Lactic Acid	ND U	2.0	1.0	0.14	1	12/16/20 15:08	
Propionic Acid	ND U	2.0	1.0	0.19	1	12/16/20 15:08	

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QA/QC Report

Client: ALS Environmental - US
Project: LHAAP / Site-58, HS20120247/NW01312.0150
Sample Matrix: Water

Service Request: R2011542
Date Analyzed: 12/16/20

Duplicate Lab Control Sample Summary
Organic Acids in Aqueous Matrices by High Performance Liquid Chromatography (HPLC) 28 Day Hold Time

Units:mg/L
Basis:NA

		Lab Control Sample			Duplicate Lab Control Sample					
		RQ2015512-16			RQ2015512-17					
Analyte Name	**Analytical Method**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Pyruvic Acid	Organic Acids	1.59	2.00	80	1.61	2.00	80	73-122	<1	30
Acetic Acid	Organic Acids	21.5	20.0	107	21.8	20.0	109	80-130	2	30
Butanoic Acid (Butyric Acid)	Organic Acids	21.5	20.0	108	21.5	20.0	108	86-128	<1	30
Lactic Acid	Organic Acids	20.4	20.0	102	20.8	20.0	104	81-114	2	30
Propionic Acid	Organic Acids	21.9	20.0	109	22.2	20.0	111	63-153	2	30

LABORATORY REPORT

December 16, 2020

RJ Modashia
ALS Laboratory Group
10450 Stancliff Road Suite 210
Houston, TX 77099-4338

RE: HS20120247

Dear RJ:

Enclosed are the results of the samples submitted to our laboratory on December 8, 2020. For your reference, these analyses have been assigned our service request number P2006888.

All analyses were performed according to our laboratory's NELAP and DoD-ELAP-approved quality assurance program. The test results meet requirements of the current NELAP and DoD-ELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP and DoD-ELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. Results are intended to be considered in their entirety and apply only to the samples analyzed and reported herein.

If you have any questions, please call me at (805) 526-7161.

Respectfully submitted,

ALS | Environmental

By Hayden Akers at 9:47 am, Dec 16, 2020

Hayden Akers
Project Manager

Client: ALS Laboratory Group Service Request No: P2006888
Project: HS20120247

CASE NARRATIVE

The samples were received intact under chain of custody on December 8, 2020 and were stored in accordance with the analytical method requirements. Please refer to the sample acceptance check form for additional information. The results reported herein are applicable only to the condition of the samples at the time of sample receipt.

Carbon Dioxide Analysis

The samples were analyzed for carbon dioxide using a gas chromatograph equipped with a thermal conductivity detector (TCD). A known amount of liquid was displaced by injecting 8.0 milliliters of helium creating a headspace in the sample vial. Each sample vial was agitated using a sonic disrupter for fifteen minutes and then allowed to equilibrate for at least four hours. A volume of the headspace was withdrawn using a gas-tight syringe and analyzed using a manual injection technique. The amount of dissolved gases (carbon dioxide) in the original sample was calculated using Henry's Law. This method was performed with guidance from RSK 175 as described in laboratory SOP VOA-DISGAS. This analyte is included on the laboratory's NELAP and DoD-ELAP scope of accreditation.

The recovery for the Laboratory Control Sample and its duplicate were below the 80% minimum according to the DoD QSM Limits. However the recoveries were within our laboratory criteria.

Manual integrations were performed on the following samples and analytes. Refer to the raw data for additional information.

Sample Identification(s)	Analyte(s)
P2006888-001	CO2
P2006888-002	CO2
P2006888-003	CO2
P2006888-004	CO2

Methane, Ethene and Ethane Analysis

The samples were also analyzed for methane, ethene, and ethane using a gas chromatograph equipped with a flame ionization detector (FID). A known amount of liquid was displaced by injecting 8.0 milliliters of helium creating a headspace in the sample vial. Each sample vial was agitated using a sonic disrupter for fifteen minutes and then allowed to equilibrate for at least two hours. A volume of the headspace was withdrawn using a gas-tight syringe and analyzed using a manual injection technique. The amount of dissolved gases (methane, ethene and ethane) in the original sample was calculated using Henry's Law. This method was performed with guidance from RSK 175.

Client: ALS Laboratory Group Service Request No: P2006888
Project: HS20120247

CASE NARRATIVE

This method is included on the laboratory's NELAP and DoD-ELAP scope of accreditation. Any analytes flagged with an X are not included on the laboratory's NELAP or DoD-ELAP accreditation.

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and ALS Environmental (ALS) is not responsible for utilization of less than the complete report.

Use of ALS Environmental (ALS)'s Name. Client shall not use ALS's name or trademark in any marketing or reporting materials, press releases or in any other manner ("Materials") whatsoever and shall not attribute to ALS any test result, tolerance or specification derived from ALS's data ("Attribution") without ALS's prior written consent, which may be withheld by ALS for any reason in its sole discretion. To request ALS's consent, Client shall provide copies of the proposed Materials or Attribution and describe in writing Client's proposed use of such Materials or Attribution. If ALS has not provided written approval of the Materials or Attribution within ten (10) days of receipt from Client, Client's request to use ALS's name or trademark in any Materials or Attribution shall be deemed denied. ALS may, in its discretion, reasonably charge Client for its time in reviewing Materials or Attribution requests. Client acknowledges and agrees that the unauthorized use of ALS's name or trademark may cause ALS to incur irreparable harm for which the recovery of money damages will be inadequate. Accordingly, Client acknowledges and agrees that a violation shall justify preliminary injunctive relief. For questions contact the laboratory.

ALS Environmental – Simi Valley

CERTIFICATIONS, ACCREDITATIONS, AND REGISTRATIONS

Agency	Web Site	Number
Alaska DEC	http://dec.alaska.gov/eh/lab.aspx	17-019
Arizona DHS	http://www.azdhs.gov/preparedness/state-laboratory/lab-licensure-certification/index.php#laboratory-licensure-home	AZ0694
Florida DOH (NELAP)	http://www.floridahealth.gov/licensing-and-regulation/environmental-laboratories/index.html	E871020
Louisiana DEQ (NELAP)	http://www.deq.louisiana.gov/page/la-lab-accreditation	05071
Maine DHHS	http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/professionals/labCert.shtml	2018027
Minnesota DOH (NELAP)	http://www.health.state.mn.us/accreditation	1776326
New Jersey DEP (NELAP)	http://www.nj.gov/dep/enforcement/oqa.html	CA009
New York DOH (NELAP)	http://www.wadsworth.org/labcert/elap/elap.html	11221
Oregon PHD (NELAP)	http://www.oregon.gov/oha/ph/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	4068-007
Pennsylvania DEP	http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx	68-03307 (Registration)
PJLA (DoD ELAP)	http://www.pjlabs.com/search-accredited-labs	65818 (Testing)
Texas CEQ (NELAP)	http://www.tceq.texas.gov/agency/qa/env_lab_accreditation.html	T104704413-19-10
Utah DOH (NELAP)	http://health.utah.gov/lab/lab_cert_env	CA016272019-10
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C946

Analyses were performed according to our laboratory's NELAP and DoD-ELAP approved quality assurance program. A complete listing of specific NELAP and DoD-ELAP certified analytes can be found in the certifications section at www.alsglobal.com, or at the accreditation body's website.

Each of the certifications listed above have an explicit Scope of Accreditation that applies to specific matrices/methods/analytes; therefore, please contact the laboratory for information corresponding to a particular certification.

ALS ENVIRONMENTAL

DETAIL SUMMARY REPORT

Client: ALS Laboratory Group
Service Request: P2006888
Project ID: HS20120247

Date Received: 12/8/2020
Time Received: 09:45

Client Sample ID	Lab Code	Matrix	Date Collected	Time Collected	RSK 175 - CO2	RSK 175 - Gases
35AWW20_120320	P2006888-001	Water	12/3/2020	07:25	X	X
LHSMW07_120320	P2006888-002	Water	12/3/2020	08:15	X	X
35AWW23_120320	P2006888-003	Water	12/3/2020	09:55	X	X
35AWW19_120320	P2006888-004	Water	12/3/2020	10:45	X	X

PJ066888

10450 Stancliff Rd, Ste 210
Houston, TX 77099
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F: +1 281 530 5887
www.alsglobal.com

Subcontract Chain of Custody

SAMPLING STATE: **Texas** **COC ID:** **15272**

SUBCONTRACT TO:

ALS Environmental
2655 Park Center Drive, Suite A
Simi Valley, CA 93065

Phone: +1 805 526 7161

CUSTOMER INFORMATION:

Company:	ALS Houston
Contact:	RJ Modashia
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Email:	RJ.Modashia@alsglobal.com
Alternate Contact:	Jumoke M. Lawal
Email:	jumoke.lawal@alsglobal.com

INVOICE INFORMATION:

Company:	ALS Houston
Contact:	Accounts Payable
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Reference:	HS20120247
TSR:	Danielle Winnings

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS20120247-01**	**35AWW20_120320**	**Groundwater**	**03 Dec 2020 07:25**
	MEE plus CO2. Provide Level II and Level IV reports in separate pdf			17 Dec 2020
2.	**HS20120247-02**	**LHSMW07_120320**	**Groundwater**	**03 Dec 2020 08:15**
	MEE plus CO2. Provide Level II and Level IV reports in separate pdf			17 Dec 2020
3.	**HS20120247-04**	**35AWW23_120320**	**Groundwater**	**03 Dec 2020 09:55**
	MEE plus CO2. Provide Level II and Level IV reports in separate pdf			17 Dec 2020
4.	**HS20120247-05**	**35AWW19_120320**	**Groundwater**	**03 Dec 2020 10:45**
	MEE plus CO2. Provide Level II and Level IV reports in separate pdf			17 Dec 2020

Comments: Please analyze for the analysis listed above.
Send report to the emails shown above.

QC Level: DOD IV (DoD Data Package)

Relinquished By: _____ Date/Time: 12/7/2020 1800

Received By: _____ Date/Time: 12-8-20 0945

Cooler ID(s): _____ Temperature(s): 1° WOT

ALS Environmental
Sample Acceptance Check Form

Client: ALS Laboratory Group Work order: P2006888

Project: HS20120247

Sample(s) received on: 12/8/20 Date opened: 12/8/20 by: ADAVID

Note: This form is used for all samples received by ALS. The use of this form for custody seals is strictly meant to indicate presence/absence and not as an indication of compliance or nonconformity. Thermal preservation and pH will only be evaluated either at the request of the client and/or as required by the method/SOP.

		Yes	No	N/A
1	Were **sample containers** properly marked with client sample ID?	☒	☐	☐
2	Did **sample containers** arrive in good condition?	☒	☐	☐
3	Were **chain-of-custody** papers used and filled out?	☒	☐	☐
4	Did **sample container labels** and/or tags agree with custody papers?	☒	☐	☐
5	Was **sample volume** received adequate for analysis?	☒	☐	☐
6	Are samples within specified holding times?	☒	☐	☐
7	Was proper **temperature** (thermal preservation) of cooler at receipt adhered to?	☒	☐	☐
	Cooler Temperature: ° C Blank Temperature: 1° C	Wet Ic		
8	Were **custody seals** on outside of cooler/Box/Container?	☒	☐	☐
	Location of seal(s)? Cooler lid. Sealing Lid?	☒	☐	☐
	Were signature and date included?	☒	☐	☐
	Were seals intact?	☒	☐	☐
9	Do containers have appropriate **preservation**, according to method/SOP or Client specified information?	☒	☐	☐
	Is there a client indication that the submitted samples are **pH** preserved?	☒	☐	☐
	Were **VOA vials** checked for presence/absence of air bubbles?	☒	☐	☐
	Does the client/method/SOP require that the analyst check the sample pH and if necessary alter it?	☐	☒	☐
10	**Tubes:** Are the tubes capped and intact?	☐	☐	☒
11	**Badges:** Are the badges properly capped and intact?	☐	☐	☒
	Are dual bed badges separated and individually capped and intact?	☐	☐	☒

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P2006888-001.01	40mL VOA NP		7		A	CB 12/11/20
P2006888-001.02	40mL VOA NP				A	
P2006888-001.04	40ml VOA HCL				A	
P2006888-001.05	40ml VOA HCL		1		A	CB 12/11/20
P2006888-001.06	40ml VOA HCL				A	
P2006888-002.01	40mL VOA NP		7		A	CB 12/11/20
P2006888-002.02	40mL VOA NP				A	
P2006888-002.04	40ml VOA HCL		1		A	CB 12/11/20
P2006888-002.05	40ml VOA HCL				A	
P2006888-002.06	40ml VOA HCL				A	
P2006888-003.01	40mL VOA NP		7		A	CB 12/11/20
P2006888-003.02	40mL VOA NP				A	
P2006888-003.04	40ml VOA HCL		1		A	CB 12/11/20
P2006888-003.05	40ml VOA HCL				A	
P2006888-003.06	40ml VOA HCL				A	

Explain any discrepancies: (include lab sample ID numbers):

RSK - MEEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

ALS Environmental
Sample Acceptance Check Form

Client: ALS Laboratory Group Work order: P2006888

Project: HS20120247

Sample(s) received on: 12/8/20 Date opened: 12/8/20 by: ADAVID

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P2006888-004.01	40mL VOA NP				A	
P2006888-004.02	40mL VOA NP		5		A	CB 12/11/20
P2006888-004.04	40ml VOA HCL		1		A	CB 12/11/20
P2006888-004.05	40ml VOA HCL				A	
P2006888-004.06	40ml VOA HCL				A	

Explain any discrepancies: (include lab sample ID numbers):

RSK - MEEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **ALS Laboratory Group**
Client Project ID: **HS20120247** ALS Project ID: P2006888

Carbon Dioxide

Test Code: RSK 175
Instrument ID: HP5890A/GC10/TCD Date(s) Collected: 12/3/20
Analyst: Connor Barrett/Wade Henton Date Received: 12/8/20
Matrix: Water Date Analyzed: 12/11/20
Test Notes:

Client Sample ID	ALS Sample ID	Injection Volume ml(s)	Result µg/L	LOQ µg/L	LOD µg/L	MDL µg/L	Data Qualifier
35AWW20_120320	P2006888-001	0.10	**370,000**	1,000	860	370	
LHSMW07_120320	P2006888-002	0.10	**260,000**	1,000	860	370	
35AWW23_120320	P2006888-003	0.050	**540,000**	2,000	1,700	740	
35AWW19_120320	P2006888-004	0.10	**440,000**	1,000	860	370	
Method Control Sample	P201211-MB	0.10	860	1,000	860	370	**U**

The Method Control Sample is laboratory water carried through the entire analytical process.
U = Compound was analyzed for, but not detected above the laboratory detection limit.
LOQ = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **ALS Laboratory Group**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2006888
Client Project ID: **HS20120247** ALS Sample ID: P201211-DLCS

Test Code: RSK 175 Date Collected: NA
Instrument ID: HP5890A/GC10/TCD Date Received: NA
Analyst: Connor Barrett/Wade Henton Date Analyzed: 12/11/20
Matrix: Water Volume(s) Analyzed: NA ml(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS ug/L	Result[1] LCS ug/L	Result[1] DLCS ug/L	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
124-38-9	Carbon Dioxide	22,900	18,300	17,600	**80**	**77**	80-122	4	12	**L**

[1] = The concentration shown includes a subtraction of the Method Control Sample value, even if the result is less than the MRL.
L = Laboratory control sample recovery outside the specified limits, results may be biased low.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **ALS Laboratory Group**
Client Sample ID: **35AWW20_120320**
Client Project ID: **HS20120247**

ALS Project ID: P2006888
ALS Sample ID: P2006888-001

Test Code: RSK 175
Instrument ID: HP5890A/GC10/FID
Analyst: Connor Barrett/Wade Henton
Matrix: Water
Test Notes:

Date Collected: 12/3/20
Date Received: 12/8/20
Date Analyzed: 12/11/20
Volume(s) Analyzed: 0.10 ml(s)

CAS #	Compound	Result µg/L	LOQ µg/L	LOD µg/L	MDL µg/L	Data Qualifier
74-82-8	Methane	**1,000**	1.3	1.0	0.51	
74-85-1	Ethene	**11**	1.0	0.55	0.24	
74-84-0	Ethane	0.47	0.60	0.47	0.16	**U**

U = Compound was analyzed for, but not detected above the laboratory detection limit.
LOQ = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **ALS Laboratory Group**
Client Sample ID: **LHSMW07_120320**
Client Project ID: **HS20120247**

ALS Project ID: P2006888
ALS Sample ID: P2006888-002

Test Code: RSK 175
Instrument ID: HP5890A/GC10/FID
Analyst: Connor Barrett/Wade Henton
Matrix: Water
Test Notes:

Date Collected: 12/3/20
Date Received: 12/8/20
Date Analyzed: 12/11/20
Volume(s) Analyzed: 0.10 ml(s)

CAS #	Compound	Result µg/L	LOQ µg/L	LOD µg/L	MDL µg/L	Data Qualifier
74-82-8	Methane	**810**	1.3	1.0	0.51	
74-85-1	Ethene	**5.9**	1.0	0.55	0.24	
74-84-0	Ethane	**0.42**	0.60	0.47	0.16	**J**

U = Compound was analyzed for, but not detected above the laboratory detection limit.
LOQ = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **ALS Laboratory Group**
Client Sample ID: **35AWW23_120320**
Client Project ID: **HS20120247**

ALS Project ID: P2006888
ALS Sample ID: P2006888-003

Test Code: RSK 175
Instrument ID: HP5890A/GC10/FID
Analyst: Connor Barrett/Wade Henton
Matrix: Water
Test Notes:

Date Collected: 12/3/20
Date Received: 12/8/20
Date Analyzed: 12/11/20
Volume(s) Analyzed: 0.10 ml(s)

CAS #	Compound	Result µg/L	LOQ µg/L	LOD µg/L	MDL µg/L	Data Qualifier
74-82-8	Methane	**3,700**	1.3	1.0	0.51	
74-85-1	Ethene	0.55	1.0	0.55	0.24	**U**
74-84-0	Ethane	0.47	0.60	0.47	0.16	**U**

U = Compound was analyzed for, but not detected above the laboratory detection limit.
LOQ = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **ALS Laboratory Group**
Client Sample ID: **35AWW19_120320**
Client Project ID: **HS20120247**

ALS Project ID: P2006888
ALS Sample ID: P2006888-004

Test Code: RSK 175
Instrument ID: HP5890A/GC10/FID
Analyst: Connor Barrett/Wade Henton
Matrix: Water
Test Notes:

Date Collected: 12/3/20
Date Received: 12/8/20
Date Analyzed: 12/11/20
Volume(s) Analyzed: 0.10 ml(s)

CAS #	Compound	Result µg/L	LOQ µg/L	LOD µg/L	MDL µg/L	Data Qualifier
74-82-8	Methane	**4.2**	1.3	1.0	0.51	
74-85-1	Ethene	0.55	1.0	0.55	0.24	**U**
74-84-0	Ethane	0.47	0.60	0.47	0.16	**U**

U = Compound was analyzed for, but not detected above the laboratory detection limit.
LOQ = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **ALS Laboratory Group**
Client Sample ID: **Method Control Sample** ALS Project ID: P2006888
Client Project ID: **HS20120247** ALS Sample ID: P201211-MB

Test Code: RSK 175 Date Collected: NA
Instrument ID: HP5890A/GC10/FID Date Received: NA
Analyst: Connor Barrett/Wade Henton Date Analyzed: 12/11/20
Matrix: Water Volume(s) Analyzed: 0.10 ml(s)
Test Notes:

CAS #	Compound	Result µg/L	LOQ µg/L	LOD µg/L	MDL µg/L	Data Qualifier
74-82-8	Methane	1.0	1.3	1.0	0.51	**U**
74-85-1	Ethene	0.55	1.0	0.55	0.24	**U**
74-84-0	Ethane	0.47	0.60	0.47	0.16	**U**

The Method Control Sample is laboratory water carried through the entire analytical process.
U = Compound was analyzed for, but not detected above the laboratory detection limit.
LOQ = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **ALS Laboratory Group**
Client Sample ID: **Duplicate Lab Control Sample**
Client Project ID: **HS20120247**

ALS Project ID: P2006888
ALS Sample ID: P201211-LCS
P201211-DLCS

Test Code: RSK 175
Instrument ID: HP5890A/GC10/FID
Analyst: Connor Barrett/Wade Henton
Matrix: Water
Test Notes:

Date Collected: NA
Date Received: NA
Date Analyzed: 12/11/20
Volume(s) Analyzed: 0.10 ml(s)

CAS #	Compound	Spike Amount LCS / DLCS µg/L	Result[1] LCS µg/L	Result[1] DLCS µg/L	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
74-82-8	Methane	2.52	2.38	2.53	**94**	**100**	73-125	6	26	
74-85-1	Ethene	4.40	5.07	4.92	**115**	**112**	72-133	3	11	
74-84-0	Ethane	4.72	4.96	4.94	**105**	**105**	74-131	0	10	

[1] = The concentration shown includes a subtraction of the Method Control Sample value, even if the result is less than the MRL.

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December 21, 2020 **Analytical Report for Service Request No:** K2011430

RJ Modashia
ALS Laboratory Group
10450 Stancliff Road
Suite 210
Houston, TX 77099-4338

RE: ALS Houston DOD TOC

Dear RJ,

Enclosed are the results of the sample(s) submitted to our laboratory December 08, 2020
For your reference, these analyses have been assigned our service request number **K2011430.**

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. All results are intended to be considered in their entirety, and ALS Group USA Corp. dba ALS Environmental (ALS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please contact me if you have any questions. My extension is 3350. You may also contact me via email at Kelley.Lovejoy@alsglobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

for Kelley Lovejoy
Project Manager

RIGHT SOLUTIONS | RIGHT PARTNER

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Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LOD	Limit of Detection
LOQ	Limit of Quantitation
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Inorganic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated value.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
i	The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.
H	The holding time for this test is immediately following sample collection. The samples were analyzed as soon as possible after receipt by the laboratory.

Metals Data Qualifiers

#	The control limit criteria is not applicable. See case narrative.
J	The result is an estimated value.
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
M	The duplicate injection precision was not met.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
S	The reported value was determined by the Method of Standard Additions (MSA).
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
i	The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
X	See case narrative.
+	The correlation coefficient for the MSA is less than 0.995.
Q	See case narrative. One or more quality control criteria was outside the limits.

Organic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
A	A tentatively identified compound, a suspected aldol-condensation product.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
C	The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
D	The reported result is from a dilution.
E	The result is an estimated value.
J	The result is an estimated value.
N	The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
P	The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
i	The MRL/MDL or LOQ/LOD is elevated due to a chromatographic interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.

Additional Petroleum Hydrocarbon Specific Qualifiers

F	The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
L	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
H	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
Y	The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
Z	The chromatographic fingerprint does not resemble a petroleum product.

ALS Group USA Corp. dba ALS Environmental (ALS) - Kelso
State Certifications, Accreditations, and Licenses

Agency	Web Site	Number
Alaska DEH	http://dec.alaska.gov/eh/lab/cs/csapproval.htm	UST-040
Arizona DHS	http://www.azdhs.gov/lab/license/env.htm	AZ0339
Arkansas - DEQ	http://www.adeq.state.ar.us/techsvs/labcert.htm	88-0637
California DHS (ELAP)	http://www.cdph.ca.gov/certlic/labs/Pages/ELAP.aspx	2795
DOD ELAP	http://www.denix.osd.mil/edqw/Accreditation/AccreditedLabs.cfm	L16-58-R4
Florida DOH	http://www.doh.state.fl.us/lab/EnvLabCert/WaterCert.htm	E87412
Hawaii DOH	http://health.hawaii.gov/	-
ISO 17025	http://www.pjlabs.com/	L16-57
Louisiana DEQ	http://www.deq.louisiana.gov/page/la-lab-accreditation	03016
Maine DHS	http://www.maine.gov/dhhs/	WA01276
Minnesota DOH	http://www.health.state.mn.us/accreditation	053-999-457
Nevada DEP	http://ndep.nv.gov/bsdw/labservice.htm	WA01276
New Jersey DEP	http://www.nj.gov/dep/enforcement/oqa.html	WA005
New York - DOH	https://www.wadsworth.org/regulatory/elap	12060
North Carolina DEQ	https://deq.nc.gov/about/divisions/water-resources/water-resources-data/water-sciences-home-page/laboratory-certification-branch/non-field-lab-certification	605
Oklahoma DEQ	http://www.deq.state.ok.us/CSDnew/labcert.htm	9801
Oregon – DEQ (NELAP)	http://public.health.oregon.gov/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	WA100010
South Carolina DHEC	http://www.scdhec.gov/environment/EnvironmentalLabCertification/	61002
Texas CEQ	http://www.tceq.texas.gov/field/qa/env_lab_accreditation.html	T104704427
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C544
Wyoming (EPA Region 8)	https://www.epa.gov/region8-waterops/epa-region-8-certified-drinking-water-	-
Kelso Laboratory Website	www.alsglobal.com	NA

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. A complete listing of specific NELAP-certified analytes, can be found in the certification section at www.ALSGlobal.com or at the accreditation bodies web site.
Please refer to the certification and/or accreditation body's web site if samples are submitted for compliance purposes. The states highlighted above, require the analysis be listed on the state certification if used for compliance purposes and if the method/anlayte is offered by that state.

Case Narrative

ALS Environmental—Kelso Laboratory
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1317 South 13th Ave, Kelso, WA 98626 | 1-360-577-7222 | www.alsglobal.com

Client: ALS Environmental - US
Project: ALS Houston DOD TOC
Sample Matrix: Ground Water

Service Request: K2011430
Date Received: 12/08/2020

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples for the Tier level IV requested by the client.

Sample Receipt:

Four ground water samples were received for analysis at ALS Environmental on 12/08/2020. Any discrepancies upon initial sample inspection are annotated on the sample receipt and preservation form included within this report. The samples were stored at minimum in accordance with the analytical method requirements.

General Chemistry:

Method SM 5310 C, 12/17/2020: The matrix spike recovery of Total Organic Carbon for sample 35AWW20_120320 was outside control criteria. Recovery in the Laboratory Control Sample (LCS) was acceptable, which indicated the analytical batch was in control. The matrix spike outlier suggested a potential low bias in this matrix. No further corrective action was appropriate.

Approved by Noe D. Davis Date 12/21/2020

Chain of Custody

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
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K2011430

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Subcontract Chain of Custody

SAMPLING STATE: **Texas** **COC ID:** **15273**

SUBCONTRACT TO:

ALS Environmental Kelso
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CUSTOMER INFORMATION:

Company:	ALS Houston
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INVOICE INFORMATION:

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Contact:	Accounts Payable
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Reference:	HS20120247
TSR:	Danielle Winnings

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS20120247-01**	**35AWW20_120320**	**Groundwater**	**03 Dec 2020 07:25**
	TOC: Provide DOD Level II and Level IV reports in separate pdf			17 Dec 2020
2.	**HS20120247-02**	**LHSMW07_120320**	**Groundwater**	**03 Dec 2020 08:15**
	TOC: Provide DOD Level II and Level IV reports in separate pdf			17 Dec 2020
3.	**HS20120247-04**	**35AWW23_120320**	**Groundwater**	**03 Dec 2020 09:55**
	TOC: Provide DOD Level II and Level IV reports in separate pdf			17 Dec 2020
4.	**HS20120247-05**	**35AWW19_120320**	**Groundwater**	**03 Dec 2020 10:45**
	TOC: Provide DOD Level II and Level IV reports in separate pdf			17 Dec 2020

Comments: Please analyze for the analysis listed above.
Send report to the emails shown above.

QC Level: DOD IV (DoD Data Package)

Relinquished By: _____ Date/Time: 12/7/2020 1800

Received By: Nlederson Date/Time: 12/8/20 1000

Cooler ID(s): _____ Temperature(s): _____

PM KL

Cooler Receipt and Preservation Form

Client AB Houston Service Request K20 114430

Received: 12/8/20 Opened: 12/8/20 By: AP Unloaded: 12/8/20 By: AP

1. Samples were received via? *USPS* (*Fed Ex*) *UPS* *DHL* *PDX* *Courier* *Hand Delivered*
2. Samples were received in: (circle) (*Cooler*) *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA (Y) N If yes, how many and where? 2 front
   If present, were custody seals intact? (Y) N If present, were they signed and dated? (Y) N
4. Was a Temperature Blank present in cooler? NA (Y) N If yes, notate the temperature in the appropriate column below:
   If no, take the temperature of a representative sample bottle contained within the cooler; notate in the column "Sample Temp":
5. Were samples received within the method specified temperature ranges? NA (Y) N
   If no, were they received on ice and same day as collected? If not, notate the cooler # below and notify the PM. (NA) Y N

If applicable, tissue samples were received: *Frozen* *Partially Thawed* *Thawed*

Temp Blank	Sample Temp	IR Gun	Cooler #/COC ID / NA	Out of temp indicate with "X"	PM Notified If out of temp	Tracking Number NA	Filed
4.1	—	IR02	15273	—	—	1891 8883 4329	

6. Packing material: *Inserts* (*Baggies*) (*Bubble Wrap*) *Gel Packs* (*Wet Ice*) *Dry Ice* *Sleeves* _____
7. Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N
8. Were samples received in good condition (unbroken) NA (Y) N
9. Were all sample labels complete (ie, analysis, preservation, etc.)? NA (Y) N
10. Did all sample labels and tags agree with custody papers? NA (Y) N
11. Were appropriate bottles/containers and volumes received for the tests indicated? NA (Y) N
12. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* NA (Y) N
13. Were VOA vials received without headspace? *Indicate in the table below.* (NA) Y N
14. Was C12/Res negative? (NA) Y N

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count Bottle Type	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

Notes, Discrepancies, Resolutions: _____

General Chemistry

ALS Environmental—Kelso Laboratory
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ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	K2011430
Project:	ALS Houston DOD TOC	**Date Collected:**	12/3/20
Sample Matrix:	Ground Water	**Date Received:**	12/8/20
Analysis Method:	SM 5310 C	**Units:**	mg/L
Prep Method:	None	**Basis:**	NA

Carbon, Total Organic

Sample Name	Lab Code	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
35AWW20_120320	K2011430-001	**12.0**	0.50	0.20	0.07	1	12/17/20 18:43	
7	K2011430-002	**2.33**	0.50	0.20	0.07	1	12/17/20 18:43	
35AWW23_120320	K2011430-003	**21.4**	0.50	0.20	0.07	1	12/17/20 18:43	
35AWW19_120320	K2011430-004	**1.63**	0.50	0.20	0.07	1	12/17/20 18:43	
Method Blank	K2011430-MB	ND U	0.50	0.20	0.07	1	12/17/20 18:43	

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	K2011430
Project	ALS Houston DOD TOC	**Date Collected:**	12/03/20
Sample Matrix:	Ground Water	**Date Received:**	12/08/20
		Date Analyzed:	12/17/20

Replicate Sample Summary
General Chemistry Parameters

Sample Name:	35AWW20_120320	**Units:**	mg/L
Lab Code:	K2011430-001	**Basis:**	NA

Analyte Name	Analysis Method	LOQ	LOD	MDL	Sample Result	Duplicate Sample K2011430-001DUP Result	Average	RPD	RPD Limit
Carbon, Total Organic	SM 5310 C	0.50	0.20	0.07	12.0	12.3	12.1	3	10

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	K2011430
Project:	ALS Houston DOD TOC	**Date Collected:**	12/03/20
Sample Matrix:	Ground Water	**Date Received:**	12/08/20
		Date Analyzed:	12/17/20
		Date Extracted:	NA

Matrix Spike Summary
Carbon, Total Organic

Sample Name:	35AWW20_120320	**Units:**	mg/L
Lab Code:	K2011430-001	**Basis:**	NA
Analysis Method:	SM 5310 C		
Prep Method:	None		

Matrix Spike
K2011430-001MS

Analyte Name	Sample Result	Result	Spike Amount	% Rec	% Rec Limits
Carbon, Total Organic	12.0	31.7	25.0	79 *	83-117

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Matrix Spike and Matrix Spike Duplicate Data is presented for information purposes only. The matrix may or may not be relevant to samples reported in this report. The laboratory evaluates system performance based on the LCS and LCSD control limits.

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	K2011430
Project:	ALS Houston DOD TOC	**Date Analyzed:**	12/17/20
Sample Matrix:	Ground Water	**Date Extracted:**	NA

Lab Control Sample Summary
Carbon, Total Organic

Analysis Method:	SM 5310 C	**Units:**	mg/L
Prep Method:	None	**Basis:**	NA
		Analysis Lot:	707530

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K2011430-LCS	23.6	25.0	95	83-117

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	K2011430
Project:	ALS Houston DOD TOC	**Date Collected:**	12/3/20
Sample Matrix:	Ground Water	**Date Received:**	12/8/20
Analysis Method:	SM 5310 C	**Units:**	mg/L
Prep Method:	None	**Basis:**	NA

Carbon, Total Organic

Sample Name	Lab Code	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
35AWW20_120320	K2011430-001	**12.0**	0.50	0.20	0.07	1	12/17/20 18:43	
7	K2011430-002	**2.33**	0.50	0.20	0.07	1	12/17/20 18:43	
35AWW23_120320	K2011430-003	**21.4**	0.50	0.20	0.07	1	12/17/20 18:43	
35AWW19_120320	K2011430-004	**1.63**	0.50	0.20	0.07	1	12/17/20 18:43	
Method Blank	K2011430-MB	ND U	0.50	0.20	0.07	1	12/17/20 18:43	

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	K2011430
Project	ALS Houston DOD TOC	**Date Collected:**	12/03/20
Sample Matrix:	Ground Water	**Date Received:**	12/08/20
		Date Analyzed:	12/17/20

Replicate Sample Summary
General Chemistry Parameters

Sample Name:	35AWW20_120320	**Units:**	mg/L
Lab Code:	K2011430-001	**Basis:**	NA

Analyte Name	Analysis Method	LOQ	LOD	MDL	Sample Result	Duplicate Sample K2011430-001DUP Result	Average	RPD	RPD Limit
Carbon, Total Organic	SM 5310 C	0.50	0.20	0.07	12.0	12.3	12.1	3	10

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	K2011430
Project:	ALS Houston DOD TOC	**Date Collected:**	12/03/20
Sample Matrix:	Ground Water	**Date Received:**	12/08/20
		Date Analyzed:	12/17/20
		Date Extracted:	NA

Matrix Spike Summary
Carbon, Total Organic

Sample Name:	35AWW20_120320	**Units:**	mg/L
Lab Code:	K2011430-001	**Basis:**	NA
Analysis Method:	SM 5310 C		
Prep Method:	None		

Matrix Spike
K2011430-001MS

Analyte Name	Sample Result	Result	Spike Amount	% Rec	% Rec Limits
Carbon, Total Organic	12.0	31.7	25.0	79 *	83-117

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Matrix Spike and Matrix Spike Duplicate Data is presented for information purposes only. The matrix may or may not be relevant to samples reported in this report. The laboratory evaluates system performance based on the LCS and LCSD control limits.

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	K2011430
Project:	ALS Houston DOD TOC	**Date Analyzed:**	12/17/20
Sample Matrix:	Ground Water	**Date Extracted:**	NA

Lab Control Sample Summary
Carbon, Total Organic

Analysis Method:	SM 5310 C	**Units:**	mg/L
Prep Method:	None	**Basis:**	NA
		Analysis Lot:	707530

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K2011430-LCS	23.6	25.0	95	83-117

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US **Service Request:** K2011430
Project: ALS Houston DOD TOC

Continuing Calibration Verification (CCV) Summary

Carbon, Total Organic

Analysis Method: SM 5310 C **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	707530	KQ2020442-01	12/17/20 18:43	25.0	25.3	101	90-110
CCV2	707530	KQ2020442-02	12/17/20 18:43	25.0	25.2	101	90-110
CCV3	707530	KQ2020442-03	12/17/20 18:43	25.0	24.7	99	90-110
CCV4	707530	KQ2020442-04	12/17/20 18:43	25.0	25.0	100	90-110

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US **Service Request:**K2011430
Project: ALS Houston DOD TOC

Continuing Calibration Blank (CCB) Summary
Carbon, Total Organic

Analysis Method: SM 5310 C **Units:**mg/L

	Analysis Lot	Lab Code	Date Analyzed	LOQ	LOD	MDL	Result	Q
CCB1	707530	KQ2020442-05	12/17/20 18:43	0.50	0.20	0.07	ND	U
CCB2	707530	KQ2020442-06	12/17/20 18:43	0.50	0.20	0.07	ND	U
CCB3	707530	KQ2020442-07	12/17/20 18:43	0.50	0.20	0.07	ND	U
CCB4	707530	KQ2020442-08	12/17/20 18:43	0.50	0.20	0.07	ND	U

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Client: RJ Modashia
ALS Laboratory Group
10450 Stancliff Rd
Suite 210
Houston, TX 77040

Phone: 281-575-2279

Fax:

Identifier: 019RL **Date Rec:** 12/04/2020 **Report Date:** 12/09/2020

Client Project #: NW01312.0150 **Client Project Name:** LHAAP-58

Purchase Order #:

Test results provided for: CENSUS

Reviewed By:



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Results relate only to the items tested and the sample(s) as received by the laboratory.

MICROBIAL INSIGHTS, INC.

10515 Research Dr., Knoxville, TN 37932
Tel. (865) 573-8188 Fax. (865) 573-8133

CENSUS

Client: **ALS Laboratory Group**
Project: LHAAP-58

MI Project Number: **019RL**
Date Received: 12/04/2020

Sample Information

Client Sample ID:		**35AWW20_120320**	**LHSMW07_120320**	**35AWW23_120320**	**35AWW19_120320**
Sample Date:		12/03/2020	12/03/2020	12/03/2020	12/03/2020
Units:		cells/mL	cells/mL	cells/mL	cells/mL
Analyst/Reviewer:		HT/CB	HT/CB	HT/CB	HT/CB
Dechlorinating Bacteria					
Dehalococcoides	*DHC*	**7.80E+03**	**1.46E+03**	**5.57E+02**	**4.02E+01**
tceA Reductase	TCE	<5.00E-01	<6.00E-01	**3.76E+01**	<6.00E-01
BAV1 Vinyl Chloride Reductase	BVC	**6.55E+03**	**1.20E+00**	<5.00E-01	**5.50E+00**
Vinyl Chloride Reductase	VCR	<5.00E-01	**4.00E+02**	**3.01E+01**	**2.00E-01 (J)**
Dehalobacter spp.	*DHBt*	**4.36E+02**	**1.75E+04**	<5.30E+00	**3.01E+04**

Legend:
NA = Not Analyzed NS = Not Sampled J = Estimated gene copies below PQL but above LQL I = Inhibited
< = Result not detected

Quality Assurance/Quality Control Data

Samples Received **12/4/2020**

Component	Date Prepared	Date Analyzed	Arrival Temperature	Positive Control	Extraction Blank	Negative Control
DHC	12/04/2020	12/09/2020	4 °C	104%	non-detect	non-detect
BVC	12/04/2020	12/09/2020	4 °C	105%	non-detect	non-detect
DHBt	12/04/2020	12/09/2020	4 °C	105%	non-detect	non-detect
TCE	12/04/2020	12/09/2020	4 °C	101%	non-detect	non-detect
VCR	12/04/2020	12/09/2020	4 °C	104%	non-detect	non-detect

How to Use Estimated Percentile Ranks from the Microbial Insights Database

The MI Database and Client Portal

The Microbial Insights Database is the largest collection of field concentrations of key microorganisms and functional genes currently containing qPCR and QuantArray results for more than 32,000 unique groundwater, soil, and sediment samples from all 50 states and 33 countries worldwide. Driven by field samples, the database reflects the impacts of common contaminants, geochemical conditions, and site management practices on critical microbial populations.

With your report, you received a passcode enabling you to retrieve estimates of the percentile ranks of your results based on those compiled in the MI database at no additional charge. When accessing the database, you will be asked to provide background information about the sample (e.g. contaminant concentrations) to aid in understanding the links between environmental conditions and microbial populations. As with all client information provided to MI, site specific data will be treated as confidential.

Is that low, medium or high?

In practice, biodegradation depends not just on the presence but the actual concentrations of the contaminant degrading microorganisms. Simply put, qPCR and QuantArray results demonstrating high concentrations of target microorganisms or functional genes suggest in situ selection, enrichment and growth of those specific contaminant degraders and therefore a greater probability that monitored natural attenuation (MNA) or bioremediation will be successful.

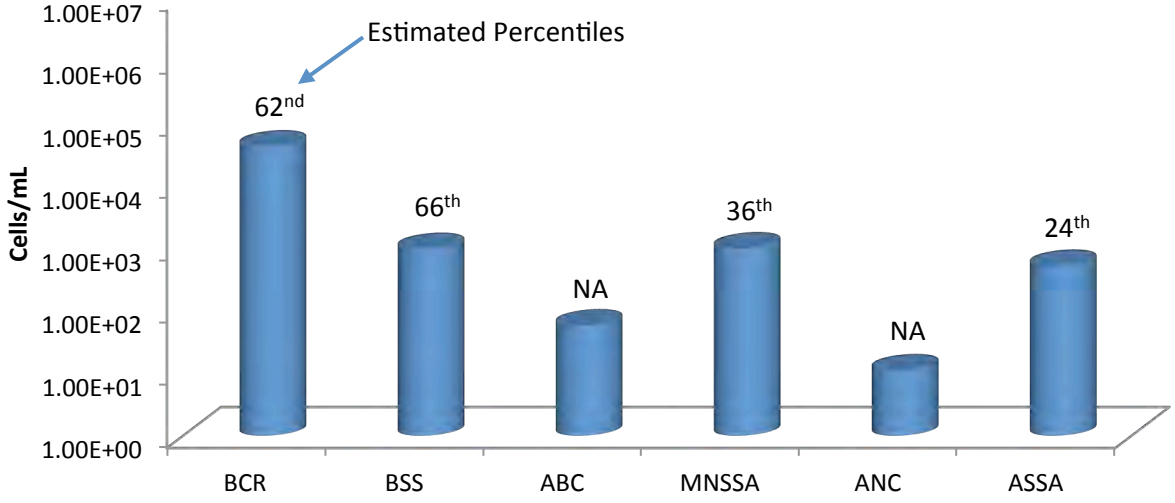
Is that a low, medium, or high concentration? The estimated percentile ranks retrieved from the MI Database answer that question by comparing your qPCR and QuantArray results to those of the literally thousands of other environmental samples submitted to MI for analysis over the last 20+ years.

Using the Estimated Percentile - Interpretation Examples

MNA Assessment – Petroleum Hydrocarbon Site:

Whenever possible, interpretation of qPCR and QuantArray results should include comparisons between samples obtained from background and impacted wells. The estimated percentile ranks however provide an additional avenue for comparison and evaluation of treatment options as shown below.

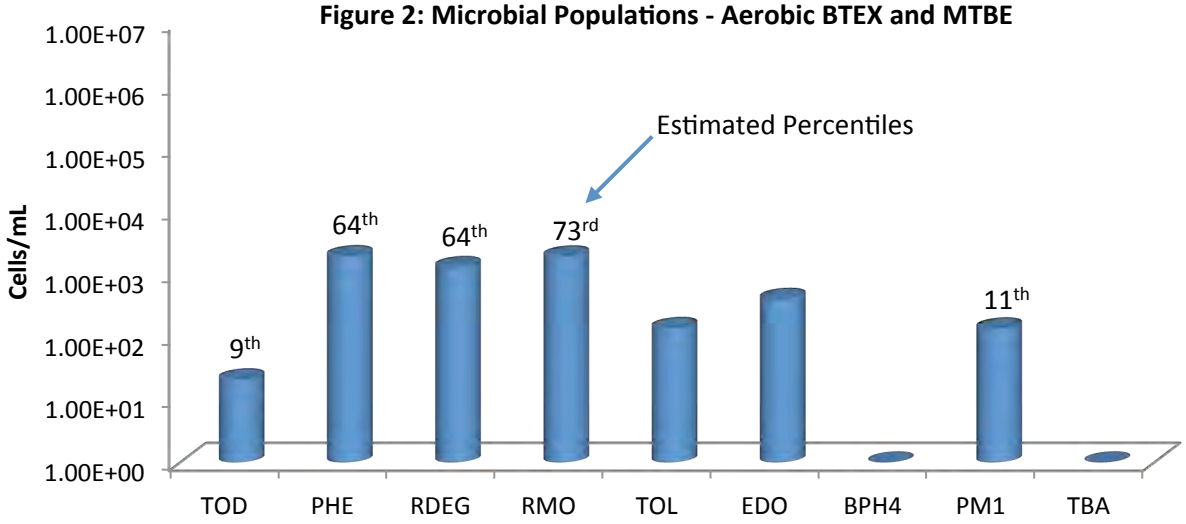
Figure 1: Microbial Populations - Anaerobic BTEX and PAHs



Anaerobic BTEX and PAH Biodegradation (Figure 1):

- With moderate concentrations of functional genes involved in anaerobic BTEX metabolism detected, the QuantArray-Petro® results were encouraging in terms of evaluating biodegradation potential under existing site conditions.
- More specifically, benzylsuccinate synthase (BSS) was detected on the order of nearly 10^3 cells/mL indicating the presence of a substantial population (66^{th} percentile) capable of anaerobic biodegradation of toluene and other alkyl substituted benzenes.
- Naphthyl-2-methylsuccinate synthase (MNSSA) and alkylsuccinate synthase (ASSA) genes were also detected indicating the potential for anaerobic biodegradation of 2-methylnaphthalene and normal alkanes.
- The concentration of MNSSA genes would be considered modest with an estimated percentile of 36^{th}.
- While the percentile rank for MNSSA would be "below average", a number of additional factors should be considered.
    - First, anaerobic hydrocarbon degraders are less prevalent than aerobic BTEX degraders and overall detection frequencies for many genes involved in anaerobic hydrocarbon biodegradation are less than 50%.
    - Therefore, the detection of genes like BSS, MNSSA, ASSA, anaerobic benzene carboxylase (ABC), and anaerobic naphthalene carboxylase (ANC) even at low concentrations is certainly noteworthy and inherently "better than average".
    - The estimated percentiles for all assays are based only on samples where the concentration of the target gene was greater than the practical quantitation limit (PQL).
    - For less commonly detected targets like many of the genes involved in anaerobic hydrocarbon biodegradation this is an especially important consideration.
    - Excluding samples where a gene target is below the PQL ensured that the median concentrations of less commonly detected targets would not be unduly biased low by the fact that the gene is not detected in most samples.
- Anaerobic benzene carboxylase (ABC) and naphthalene carboxylase (ANC) genes were also detected indicating the presence of bacterial populations capable of anaerobic biodegradation of benzene and naphthalene.
- For newly identified genes like ABC and ANC, estimated percentile ranks are not yet available due to the limited number of field samples that have been analyzed to date.
- However, like MNSSA and other genes involved in anaerobic hydrocarbon biodegradation, ABC and ANC detection frequencies are relatively low so the detection of these genes even at low concentrations should be considered when evaluating biodegradation potential under existing site conditions.

Figure 2: Microbial Populations - Aerobic BTEX and MTBE



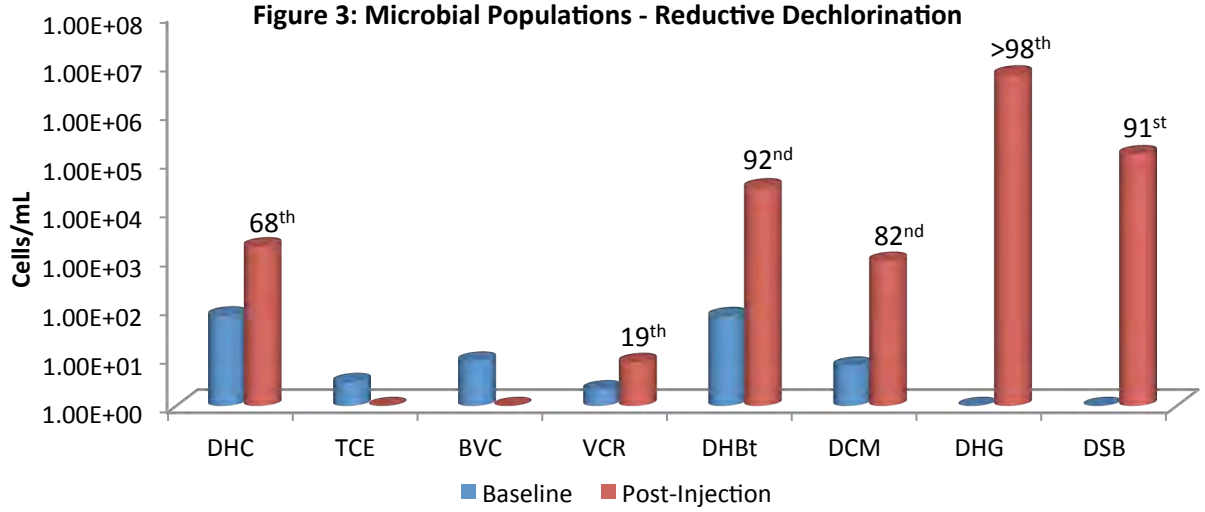
Aerobic BTEX and MTBE Biodegradation (Figure 2):

- With growing evidence that aromatic oxygenases function at low dissolved oxygen concentrations, aerobic BTEX biodegradation pathways should also be evaluated when considering MNA.
- Again, the QuantArray-Petro results were encouraging – genes encoding the first step in multiple pathways for aerobic BTEX biodegradation were detected indicating the presence of a diverse population of aerobic BTEX degraders.
- However, aerobic BTEX degraders are often considered ubiquitous. Therefore answering the question "Is that low, medium or high?" becomes especially important when evaluating aerobic BTEX biodegradation at petroleum hydrocarbon sites.
- In this case, the estimated percentile ranks of the concentrations of toluene/benzene monooxygenase (RMO and RDEG) and phenol hydroxylase (PHE) genes ranged from the 64th to 73rd percentile.
- In other words, the concentrations of RMO, RDEG, and PHE detected in this groundwater sample were greater than the concentrations detected in 64% to 73% of all other groundwater samples where these genes were analyzed and detected above the PQL.
- Aerobic BTEX degraders are common in the environment, but in this sample concentrations of toluene/benzene monooxygenase genes could be viewed as "better than average" when compared to the MI Database.

Biostimulation – Chlorinated Solvent Site:

Whenever possible, interpretation of qPCR and QuantArray results should include comparisons between baseline and post-injection monitoring events as shown below (Figure 3). The estimated percentile ranks however provide an additional avenue for comparison and evaluation of remedy performance.

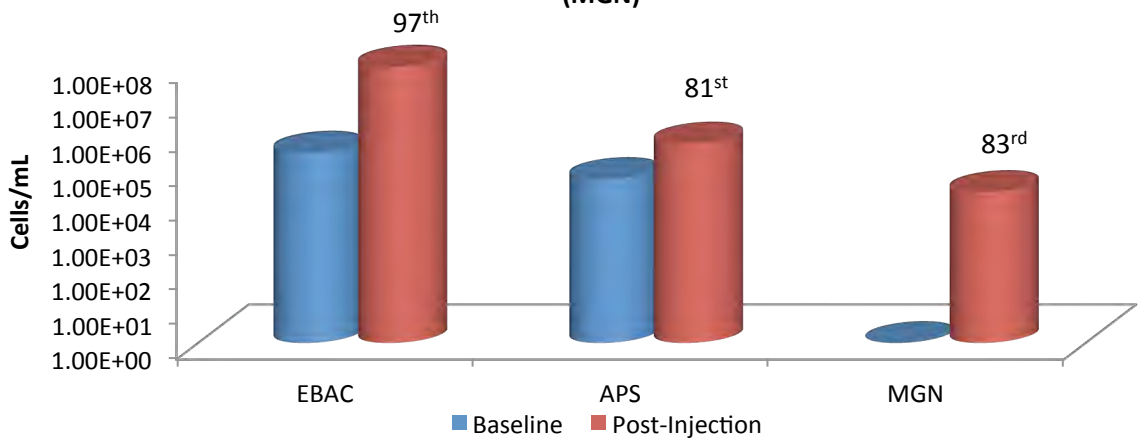
Figure 3: Microbial Populations - Reductive Dechlorination



- During the baseline groundwater sampling event, *Dehalococcoides* and vinyl chloride reductase genes were detected indicating the potential for complete reductive dechlorination of PCE and TCE to ethene.
- However, the *Dehalococcoides* concentration was well below the 10^4 cells/mL recommended by Lu et al. (2006) for generally effective rates of reductive dechlorination.
- Based on qPCR results as well as traditional groundwater monitoring, biostimulation with electron donor addition was selected as the site management plan.
- By the first monitoring event after injection, populations of halorespiring bacteria had increased substantially in response to electron donor addition.
    - *Dehalobacter* populations increased by more than two orders of magnitude to post-injection concentrations greater than 10^4 cells/mL (92^{nd} percentile).
    - *Dehalogenimonas* (10^6 cells/mL) and *Desulfitobacterium* (10^5 cells/mL) which had not been detected prior electron donor addition were present at concentrations greater than observed in over 90% of other groundwater samples where these halorespiring bacteria were detected.
- After injection, *Dehalococcoides* populations increased by more than an order of magnitude to a concentration of over 10^3 cells/mL (68^{th} percentile) demonstrating growth of this key group of halorespiring bacteria.
- Despite a substantial increase and a "better than average" concentration, the *Dehalococcoides* population was still below the 10^4 cells/mL threshold and vinyl chloride reductase gene copies were low (19^{th} percentile).
    - In terms of electron donors and acceptors, the metabolic capabilities of *Dehalococcoides* are rather specialized (hydrogen utilizing obligate halorespiring bacteria) so the median concentration is low. With a low median concentration across the database, a "better than average" *Dehalococcoides* concentration in a given sample may not exceed the 10^4 cells/mL threshold established for effective reductive dechlorination (Lu et al. 2006) and ethene production (Microbial Insights, unpublished data).

- In this case, the initial growth of *Dehalococcoides* was substantial but may have been somewhat hindered by competition with sulfate reducing bacteria (Figure 4 below).
    - The baseline population of sulfate reducing bacteria was moderate (10^4 cells/mL; 63rd percentile). Consistent with an observed decreased in dissolved sulfate concentrations, populations of sulfate reducing bacteria increased and were detected at a relatively high concentration (81st percentile) after electron donor addition.
    - After injection, methanogen populations also increased to a relatively high concentration (83rd percentile) suggesting generation of methanogenic conditions.
- With sulfate depletion and generation of highly anaerobic conditions more conducive to reductive dechlorination, *Dehalococcoides* populations may continue to increase and exceed the 10^4 *Dehalococcoides* cells/mL threshold in subsequent monitoring events.
- Overall, QuantArray analysis conclusively demonstrated that electron donor addition stimulated growth of halorespiring bacteria with the estimated percentiles retrieved from the MI Database providing the "low, medium or high" perspective to the observed changes in microbial populations.

Figure 4: Total Bacteria (EBAC), Sulfate Reducering Bacteria (APS) and Methanogens (MGN)



References

Lu, X., J.T. Wilson, and D.H. Kampbell. 2006. Relationship between *Dehalococcoides* DNA in ground water and rates of reductive dechlorination at field scale. *Water Research* 40 no. 16: 3131-3140.

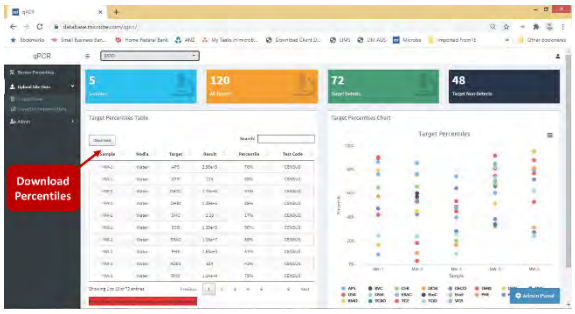
How to Retrieve and Use Percentile Ranks from the Microbial Insights Database

The MI Database

The Microbial Insights Database is the largest collection of field concentrations of key microorganisms and functional genes currently containing qPCR and QuantArray results for more than 70,000 unique groundwater, soil, and sediment samples from all 50 states and 33 countries worldwide.

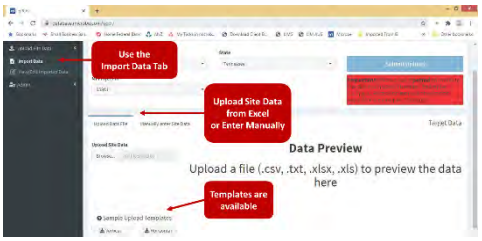
Is that low, medium or high?

In practice, biodegradation depends not just on the presence but the actual concentrations of the contaminant degrading microorganisms. The percentile ranks retrieved from the MI Database answer the question "Is that low, medium or high?" by comparing your results to those of the literally thousands of other environmental samples submitted to MI for analysis.



Retrieving Estimated Percentile Ranks

When you receive your report, you will be emailed a link enabling you to login to the Microbial Insights Database. Click the link and use the Upload Site Data Tab to enter basic information about the sample (e.g. contaminant concentrations) to aid in understanding the links between environmental conditions and microbial populations. Once the site data is entered, you will be able to retrieve the percentile ranks of your results based on those compiled in the MI database at no additional charge.



All site specific data is treated as confidential and uploading is easy.

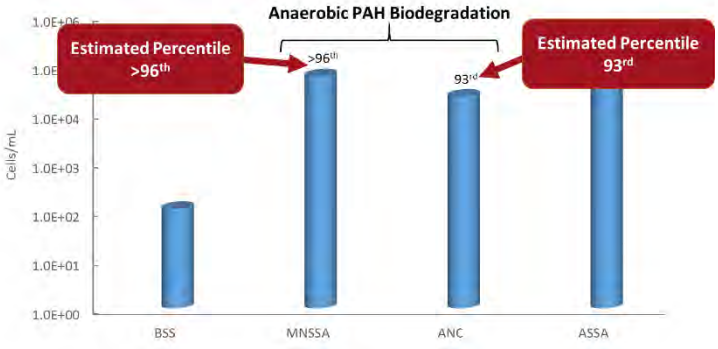
You can even upload chemical and geochemical data from EDDs. Just save as a Tab Delimited text file.

Example - Using Estimated Percentile for MNA Assessment at an MGP Site

CENSUS® qPCR was performed to quantify anaerobic naphthalene carboxylase (ANC) and naphthyl-2-methylsuccinate synthase (MNSSA) to assess anaerobic biodegradation of naphthalene and methyl-naphthalene under existing site conditions.

- Not only were ANC and MNSSA genes detected, but these functional genes responsible for anaerobic biodegradation of PAHs were present at high concentrations based on the percentile ranks.

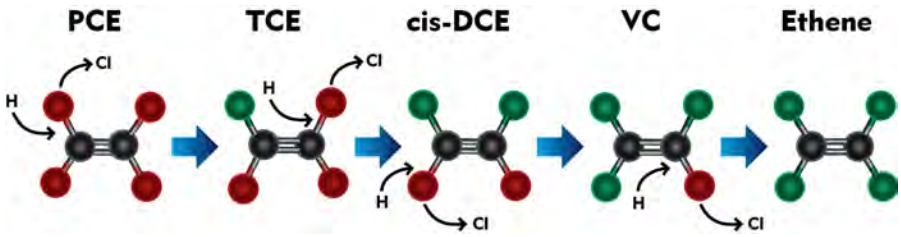
- Demonstrating high concentrations of ANC and MNSSA gave an additional line of evidence indicating growth substantial populations of anaerobic PAH degraders and suggested a greater probability that monitored natural attenuation (MNA) will be successful.



DHC Interpretation

Dehalococcoides 16S rRNA gene (qDHC)

Under anaerobic conditions, tetrachloroethene (PCE) and trichloroethene (TCE) can undergo sequential reductive dechlorination through the daughter products *cis*-dichloroethene (*cis*-DCE) and vinyl chloride to nontoxic ethene (1,2).



While a number of bacterial cultures capable of utilizing PCE and TCE as growth supporting electron acceptors have been isolated (3-7), *Dehalococcoides* spp. may be the most important because they are the only bacterial group that has been isolated to date which is capable of complete reductive dechlorination of PCE to ethene (8). In fact, the presence of *Dehalococcoides* spp. has been associated with complete dechlorination to ethene at sites across North America and Europe (9).

Status	*Dehalococcoides spp.*	Observation
	**≥ 10^4** (cells/mL)	Lu et al. proposed that a concentration of 1 x 10^4 DHC cells/mL could be used as a screening criterion to identify sites where reductive dechlorination will yield a generally useful biodegradation rate (10). Similarly, in an internal study conducted with nearly 1000 groundwater samples obtained from sites across the US, ethene production was observed in approximately 80% of samples in which CENSUS® qDHC results were greater than or equal to 10^4 DHC cells/mL.
	**10^1 to < 10^4** (cells/mL)	When vinyl chloride reductase genes (See DHC functional genes discussion below) are also detected, complete reductive dechlorination of PCE and TCE to ethene may still occur even with moderate DHC concentrations. When the DHC population is below the 10^4 cells/mL criterion proposed by Lu et al. (10), project managers should carefully consider other site-specific data to determine whether subsurface conditions may be limiting reductive dechlorination. For example, the addition of an electron donor may be able to stimulate DHC growth and enhance anaerobic bioremediation.
	**< 10^1** (cells/mL)	DHC concentrations are low suggesting that complete reductive dechlorination of PCE and TCE to ethene is unlikely to occur under existing conditions. Enhanced anaerobic bioremediation options (biostimulation or bioaugmentation) may need to be considered.

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DHC Interpretation

DHC Functional Genes (*tce*A, *bvc*A, *vcr*A)

A "stall" where daughter products *cis*-DCE and vinyl chloride accumulate can occur at PCE- and TCE-impacted sites especially under MNA conditions. The accumulation of vinyl chloride, generally considered more carcinogenic than the parent compounds, is particularly problematic. Although elevated *Dehalococcoides* concentrations correspond to ethene production in numerous studies, the range of chlorinated ethenes metabolized and cometabolized varies among species and strains within the *Dehalococcoides* genus. For example, *Dehalococcoides ethenogenes* str. 195 metabolizes PCE, TCE, and *cis*-DCE and cometabolizes vinyl chloride (8) to produce ethene. Conversely, *Dehalococcoides* sp. CBDB1 utilizes PCE and TCE but does not cometabolize additional chloroethenes (11). Other *Dehalococcoides* strains, such as BAV1, GT and VS, are known to fully dechlorinate cis-DCE and VC to ethene (14,16,19). Quantification of reductive dehalogenase genes is used to more definitively confirm the potential for reductive dechlorination of TCE, cis-DCE, and vinyl chloride (12-15).

Functional Gene	Observation
TCE Reductase	
***tce*A gene**	The *tce*A gene encodes the enzyme responsible for reductive dechlorination of TCE to *cis*-DCE in some strains of *Dehalococcoides*. Absence of *tce*A does not preclude the potential for reductive dechlorination of TCE in the field since the *tce*A gene is not universally distributed among all DHC and is not present in other microorganisms capable of reductive dechlorination of TCE (e.g. *Dehalobacter*). Detection of the *tce*A gene provides an additional line of evidence indicating the potential for dechlorination of TCE.
Vinyl Chloride Reductase	
***bvc*A gene**	The *bvc*A gene encodes the vinyl chloride reductase enzyme responsible for reductive dechlorination of vinyl chloride to ethene by *Dehalococcoides* sp. str. BAV1 (16). Presence of *bvc*A gene indicates the potential for reductive dechlorination of VC to ethene. Absence of both *bvc*A and *vcr*A genes suggests VC may accumulate. An internal study with ~1,000 samples showed ethene production was observed in 80% of the samples that the DHC population was greater than or equal to 10^4 cells/mL. The *bvc*A gene was detected in over 50% of these samples. Van Der Zaan et al (17) noted that the bvcA gene was the only VC reductase gene detected at three of their sites. Alfred Spormann's laboratory at Stanford University (18) reported that the *bvc*A gene was the most abundant and active at the outflow of a PCE fed column study. This section of the column was in the DCE to VC stages of reductive dechlorination thus confirming the importance of the *bvc*A gene for complete reductive dechlorination.
***vcr*A gene**	The *vcr*A gene encodes the vinyl chloride reductase enzyme responsible for reductive dechlorination of *cis*-DCE and vinyl chloride by *Dehalococcoides* sp. strain VS (14). Presence of *vcr*A gene indicates the potential for reductive dechlorination of DCE and/or VC to ethene. Absence of both *bvc*A and *vcr*A genes suggest VC may accumulate. As with the *bvc*A gene, detection of the *vcr*A gene is associated with ethene production in internal studies (67%) and vinyl chloride reduction in independent studies (14, 17).

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DHC Interpretation

Reporting

Microbial Insights can provide a variety of data packages and reporting levels to suit the needs of any project. Data packages range from simple analytical reports with results only to more complex data packages that include a report narrative, analytical results, QC data, and supporting materials including all raw data and chain-of-custody documentation. The figure below shows our standard report and explains the way values are reported.

Microbial Insights, Inc.

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Tel. (865) 573-8188 Fax. (865) 573-8133

CENSUS

Client: Company Name
Project: Your Project Name

MI Project Number: Unique Laboratory Identifier
Date Received: Date Samples Arrived

Sample Information

Client Sample ID:		Sample A	Sample B	Sample C
Sample Date:		00/00/0000	00/00/0000	00/00/0000
Units:		cells/mL	cells/mL	cells/mL
Analyst:		Intials	Intials	Intials
Dechlorinating Bacteria				
Dehalococcoides spp.	DHC	**1.84E+05**	**2.76E+02**	**2.28E+01 (J)**
Functional Genes				
tceA Reductase	TCE	**6.00E+01**	**3.23E+01**	<4.00E-01
bvcA Reductase	BVC	**1.17E+04**	**1.81E+01**	<4.00E-01
vcrA Reducatase	VCR	**8.42E+04**	**1.74E+02**	<4.00E-01

"J" value
Result is an estimated value. This data qualifier (flag) is used when the target gene is detected but at a concentration or abundance below the practical quantification limit (PQL).

Legend:
NA = Not Analyzed NS = Not Sampled J = Estimated gene copies below PQL but above LQL I = Inhibited
< = Result not detected

< value
The target gene was not detected at the limit of quantitation (LOQ) reported for that sample.

"I" value
QA Procedure indicated that the sample may have exhibited PCR inhibition. Although relatively rare, PCR inhibition can occur due to the presence of metals or humic acids at high concentrations in the sample.

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Quality Assurance

Microbial Insights' comprehensive Quality Assurance (QA) Program is the foundation of all laboratory analyses, ensuring that our clients receive high-quality analytical services that are timely, reliable, and meet their intended purpose in a cost effective manner. MI is committed to providing quality data that surpasses regulatory and industry standards, thus enabling the client to make well-informed decisions. MI maintains strict standard operating procedures and QA/QC measures throughout all of the analyses offered. The following Table details specific QA/QC procedures that are used for CENSUS.

QA/QC	Description
Date of Extraction	DNA and RNA extractions are performed the day the samples are received by MI to minimize the possibility of any changes to the microbial community prior to analysis.
Laboratory Method Blanks	An extraction blank (no sample added) is processed alongside each set of field samples from DNA extraction through CENSUS® analysis to ensure that cross contamination has not occurred. Although MI has never experienced this issue, the detection of the CENSUS® target (e.g. *Dehalococcoides*) in an extraction blank is direct evidence of cross contamination with a sample or contamination of a reagent and would invalidate the results. If this were to occur, MI would re-extract the sample. If not possible to re-extract, MI would contact the client immediately and notate it on the laboratory report.
Laboratory Control Samples (LCS)	A laboratory control sample (LCS) or positive control (target DNA) is included with each CENSUS® plate to confirm amplification and as a continuing calibration check.
Negative Controls	A negative control (no DNA) is included with each CENSUS plate to ensure that cross contamination has not occurred during amplification. As with the extraction blank, detection of CENSUS target (e.g. DHC) in a negative control is direct evidence of contamination and would invalidate the results. If this were to occur, MI would rerun the analysis.

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Phone: 303-725-7631
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Project Manager: Kim Niemmers
Project Name: LHAAP-58
Project No.: NW013I2.0150

INVOICE TO: (For invoices paid by a third party it is imperative that all information be provided)
Name:
Company:
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email:
Phone:
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Purchase Order No.
Subcontract No.
MI Quote No.

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Please Check One:
☐ More samples to follow
☒ ~~No~~ Additional Samples

Report Type: ☑ Standard (default) ☐ Microbial Insights Level III raw data(15% surcharge) ☐ Microbial Insights Level IV (25% surcharge) ☐ Comprehensive Interpretive(15%) ☐ Historical Interpretive (30%)
EDD type: ☐ Microbial Insights Standard (default) ☐ All other available EDDs (5% surcharge) Specify EDD Type:

Please contact us with any questions about the analyses or filling out the COC at (865) 573-8188 (9:00 am to 5:00 pm EST, M-F). After hours email: customerservice@microbe.com

Sample Information					Analyses					CENSUS: Please select the target organism/gene																						
MI ID (Laboratory Use Only)	Sample Name	Date Sampled	Time Sampled	Matrix	PLFA	DGGE+3ID	DGGE+5ID	QuantArray Chlor	QuantArray Petro	DHC (Dehalococcoides)	DHC Functional genes bvc, tca, vcr	DHBt (Dehalobacter)	DSM (Desulfuromonas)	DSB (Desulfitobacterium)	EBAC (Total)	SRB (Sulfate Reducing Bacteria-APS)	MGN (Methanogens)	MOB (Methanotrophs)	SMMO	DNF (Denitrifiers-nirS and nirK)	AOB (ammonia oxidizing bacteria)	PMI (MTBE aerobic)	RMO (Toluene Monooxygenase)	RDEG (Toluene Monooxygenase)	PHE (Phenol Hydroxylase)	NAH (Naphthalene-aerobic)	BSSA (Toluene/Xylene-Anaerobic)	add. qPCR:	add. qPCR:	RNA Expression Option)*	Other:	Other:	Other:
019RL1	35AWW20-120320	12/3/20	0725	WG							X	X																				
2	445MW07-120320	12/3/20	0815	WG							X	X																				
3	35AWW23-120320	12/3/20	0955	WG							X	X																				
4	35AWW19-120320	12/3/20	1045	WG							X	X																				

Relinquished by: [signature] 12/3/20 1430 Received by: [signature] Date 12/4/2020

It is vital that chain of custody is filled out correctly & that all relative information is provided.
Failure to provide sufficient and/or correct information regarding reporting, invoicing & analyses requested information may result in delays for which MI will not be liable.

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December 29, 2020

Marcia Olive
Bhate Environmental Associates, Inc.
445 Union Blvd Ste 129
Lakewood, CO 80228

Work Order: **HS20120479**

Laboratory Results for: **LHAAP-58**

Dear Marcia Olive,

ALS Environmental received 10 sample(s) on Dec 09, 2020 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Generated By: JUMOKE.LAWAL
RJ Modashia
Project Manager

ALS Houston, US Date: 29-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
Work Order: HS20120479

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS20120479-01	35AWW10_12072020	Groundwater		07-Dec-2020 07:50	09-Dec-2020 10:50	☐
HS20120479-02	35AWW10_12072020_a	Groundwater		07-Dec-2020 07:50	09-Dec-2020 10:50	☐
HS20120479-03	35AWW13_12072020	Groundwater		07-Dec-2020 08:35	09-Dec-2020 10:50	☐
HS20120479-04	35AWW01_12072020	Groundwater		07-Dec-2020 09:25	09-Dec-2020 10:50	☐
HS20120479-05	35AWW21_12072020	Groundwater		07-Dec-2020 11:00	09-Dec-2020 10:50	☐
HS20120479-06	35AWW09_12072020	Groundwater		07-Dec-2020 10:10	09-Dec-2020 10:50	☐
HS20120479-07	35AWW22_12072020	Groundwater		07-Dec-2020 11:40	09-Dec-2020 10:50	☐
HS20120479-08	35AWW12_12072020	Groundwater		07-Dec-2020 12:20	09-Dec-2020 10:50	☐
HS20120479-09	35AWW14_12072020	Groundwater		07-Dec-2020 12:30	09-Dec-2020 10:50	☐
HS20120479-10	Trip Blank	Water	VBLKW-112420-45	07-Dec-2020 00:00	09-Dec-2020 10:50	☐

ALS Houston, US Date: 29-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
Work Order: HS20120479

CASE NARRATIVE

GCMS Volatiles by Method SW8260

Batch ID: R374913

Sample ID: VLCSW-201217

- 1,2,3-Trichlorobenzene exceeded QC limits in the LCS. Samples are non-detect for this compound.

Sample ID: HS20120247-06MSD

- MSD is for an unrelated sample.

Batch ID: R375002

Sample ID: CCV

- 1,2-Dibromo-3-Chloropropane exceeded %D limits for CCV. Samples are non-detect for this compound.

Sample ID: VLCSW-201218

- 1,2,3-Trichlorobenzene exceeded QC limits in the LCS. Samples are non-detect for this compound.

Metals by Method SW6020

Batch ID: 160930

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

ALS Houston, US Date: 29-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
Sample ID: 35AWW10_12072020
Collection Date: 07-Dec-2020 07:50

ANALYTICAL REPORT
WorkOrder:HS20120479
Lab ID:HS20120479-01
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 20:42
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 20:42
1,1,2,2-Tetrachloroethane	0.50	U	0.50	0.50	1.0	ug/L	1	17-Dec-2020 20:42
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 20:42
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 20:42
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 20:42
1,1-Dichloropropene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 20:42
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	17-Dec-2020 20:42
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	17-Dec-2020 20:42
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	17-Dec-2020 20:42
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 20:42
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 20:42
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 20:42
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	17-Dec-2020 20:42
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 20:42
1,2-Dichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	17-Dec-2020 20:42
1,3,5-Trimethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 20:42
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	17-Dec-2020 20:42
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 20:42
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	17-Dec-2020 20:42
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 20:42
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	17-Dec-2020 20:42
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 20:42
2-Hexanone	2.0	U	1.0	2.0	2.0	ug/L	1	17-Dec-2020 20:42
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	17-Dec-2020 20:42
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 20:42
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	ug/L	1	17-Dec-2020 20:42
Acetone	1.0	U	0.40	1.0	2.0	ug/L	1	17-Dec-2020 20:42
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 20:42
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	17-Dec-2020 20:42
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 20:42
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 20:42
Bromoform	0.50	U	0.40	0.50	1.0	ug/L	1	17-Dec-2020 20:42
Bromomethane	0.50	U	0.40	0.50	1.0	ug/L	1	17-Dec-2020 20:42
Carbon disulfide	1.0	U	0.60	1.0	2.0	ug/L	1	17-Dec-2020 20:42
Carbon tetrachloride	0.50	U	0.50	0.50	1.0	ug/L	1	17-Dec-2020 20:42
Chlorobenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 20:42
Chloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 20:42
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 20:42

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 29-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
Sample ID: 35AWW10_12072020
Collection Date: 07-Dec-2020 07:50

ANALYTICAL REPORT
WorkOrder:HS20120479
Lab ID:HS20120479-01
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 20:42
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 20:42
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	ug/L	1	17-Dec-2020 20:42
Dibromochloromethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 20:42
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 20:42
Dichlorodifluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 20:42
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 20:42
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	17-Dec-2020 20:42
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 20:42
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	17-Dec-2020 20:42
Methylene chloride	1.0	U	0.40	1.0	2.0	ug/L	1	17-Dec-2020 20:42
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	17-Dec-2020 20:42
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 20:42
Naphthalene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 20:42
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 20:42
sec-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 20:42
Styrene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 20:42
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 20:42
Tetrachloroethene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 20:42
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 20:42
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 20:42
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 20:42
Trichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 20:42
Trichlorofluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 20:42
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 20:42
Surr: 1,2-Dichloroethane-d4	*87.8*			**0**	*81-118*	*%REC*	*1*	*17-Dec-2020 20:42*
Surr: 4-Bromofluorobenzene	*92.7*			**0**	*85-114*	*%REC*	*1*	*17-Dec-2020 20:42*
Surr: Dibromofluoromethane	*89.9*			**0**	*80-119*	*%REC*	*1*	*17-Dec-2020 20:42*
Surr: Toluene-d8	*103*			**0**	*89-112*	*%REC*	*1*	*17-Dec-2020 20:42*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 29-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
Sample ID: 35AWW10_12072020_a
Collection Date: 07-Dec-2020 07:50

ANALYTICAL REPORT
WorkOrder:HS20120479
Lab ID:HS20120479-02
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 21:03
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 21:03
1,1,2,2-Tetrachloroethane	0.50	U	0.50	0.50	1.0	ug/L	1	17-Dec-2020 21:03
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 21:03
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 21:03
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 21:03
1,1-Dichloropropene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 21:03
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	17-Dec-2020 21:03
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	17-Dec-2020 21:03
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	17-Dec-2020 21:03
1,2,4-Trimethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 21:03
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 21:03
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 21:03
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	17-Dec-2020 21:03
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 21:03
1,2-Dichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	17-Dec-2020 21:03
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 21:03
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	17-Dec-2020 21:03
1,3-Dichloropropane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 21:03
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	17-Dec-2020 21:03
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 21:03
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	17-Dec-2020 21:03
2-Chlorotoluene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 21:03
2-Hexanone	2.0	U	1.0	2.0	2.0	ug/L	1	17-Dec-2020 21:03
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	17-Dec-2020 21:03
4-Isopropyltoluene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 21:03
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	ug/L	1	17-Dec-2020 21:03
Acetone	1.0	U	0.40	1.0	2.0	ug/L	1	17-Dec-2020 21:03
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 21:03
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	17-Dec-2020 21:03
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 21:03
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 21:03
Bromoform	0.50	U	0.40	0.50	1.0	ug/L	1	17-Dec-2020 21:03
Bromomethane	0.50	U	0.40	0.50	1.0	ug/L	1	17-Dec-2020 21:03
Carbon disulfide	1.0	U	0.60	1.0	2.0	ug/L	1	17-Dec-2020 21:03
Carbon tetrachloride	0.50	U	0.50	0.50	1.0	ug/L	1	17-Dec-2020 21:03
Chlorobenzene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 21:03
Chloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 21:03
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 21:03

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 29-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
Sample ID: 35AWW10_12072020_a
Collection Date: 07-Dec-2020 07:50

ANALYTICAL REPORT
WorkOrder:HS20120479
Lab ID:HS20120479-02
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 21:03
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 21:03
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	ug/L	1	17-Dec-2020 21:03
Dibromochloromethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 21:03
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 21:03
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 21:03
Ethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 21:03
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	17-Dec-2020 21:03
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 21:03
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	17-Dec-2020 21:03
Methylene chloride	1.0	U	0.40	1.0	2.0	ug/L	1	17-Dec-2020 21:03
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	17-Dec-2020 21:03
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 21:03
Naphthalene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 21:03
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 21:03
sec-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 21:03
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 21:03
tert-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 21:03
Tetrachloroethene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 21:03
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 21:03
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 21:03
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 21:03
Trichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 21:03
Trichlorofluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 21:03
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 21:03
Surr: 1,2-Dichloroethane-d4	*86.7*			**0**	*81-118*	*%REC*	*1*	*17-Dec-2020 21:03*
Surr: 4-Bromofluorobenzene	*95.9*			**0**	*85-114*	*%REC*	*1*	*17-Dec-2020 21:03*
Surr: Dibromofluoromethane	*88.2*			**0**	*80-119*	*%REC*	*1*	*17-Dec-2020 21:03*
Surr: Toluene-d8	*100*			**0**	*89-112*	*%REC*	*1*	*17-Dec-2020 21:03*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 29-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
Sample ID: 35AWW13_12072020
Collection Date: 07-Dec-2020 08:35

ANALYTICAL REPORT
WorkOrder:HS20120479
Lab ID:HS20120479-03
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 15:26
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 15:26
1,1,2,2-Tetrachloroethane	0.50	U	0.50	0.50	1.0	ug/L	1	17-Dec-2020 15:26
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 15:26
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 15:26
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 15:26
1,1-Dichloropropene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 15:26
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	17-Dec-2020 15:26
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	17-Dec-2020 15:26
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	17-Dec-2020 15:26
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 15:26
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 15:26
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 15:26
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	17-Dec-2020 15:26
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 15:26
1,2-Dichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	17-Dec-2020 15:26
1,3,5-Trimethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 15:26
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	17-Dec-2020 15:26
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 15:26
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	17-Dec-2020 15:26
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 15:26
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	17-Dec-2020 15:26
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 15:26
2-Hexanone	2.0	U	1.0	2.0	2.0	ug/L	1	17-Dec-2020 15:26
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	17-Dec-2020 15:26
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 15:26
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	ug/L	1	17-Dec-2020 15:26
Acetone	1.0	U	0.40	1.0	2.0	ug/L	1	17-Dec-2020 15:26
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 15:26
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	17-Dec-2020 15:26
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 15:26
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 15:26
Bromoform	0.50	U	0.40	0.50	1.0	ug/L	1	17-Dec-2020 15:26
Bromomethane	0.50	U	0.40	0.50	1.0	ug/L	1	17-Dec-2020 15:26
Carbon disulfide	1.0	U	0.60	1.0	2.0	ug/L	1	17-Dec-2020 15:26
Carbon tetrachloride	0.50	U	0.50	0.50	1.0	ug/L	1	17-Dec-2020 15:26
Chlorobenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 15:26
Chloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 15:26
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 15:26

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 29-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
Sample ID: 35AWW13_12072020
Collection Date: 07-Dec-2020 08:35

ANALYTICAL REPORT
WorkOrder:HS20120479
Lab ID:HS20120479-03
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 15:26
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 15:26
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	ug/L	1	17-Dec-2020 15:26
Dibromochloromethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 15:26
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 15:26
Dichlorodifluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 15:26
Ethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 15:26
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	17-Dec-2020 15:26
Isopropylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 15:26
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	17-Dec-2020 15:26
Methylene chloride	1.0	U	0.40	1.0	2.0	ug/L	1	17-Dec-2020 15:26
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	17-Dec-2020 15:26
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 15:26
Naphthalene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 15:26
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 15:26
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 15:26
Styrene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 15:26
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 15:26
Tetrachloroethene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 15:26
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 15:26
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 15:26
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 15:26
Trichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 15:26
Trichlorofluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 15:26
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 15:26
Surr: 1,2-Dichloroethane-d4	*90.9*			**0**	*81-118*	*%REC*	*1*	*17-Dec-2020 15:26*
Surr: 4-Bromofluorobenzene	*95.4*			**0**	*85-114*	*%REC*	*1*	*17-Dec-2020 15:26*
Surr: Dibromofluoromethane	*89.2*			**0**	*80-119*	*%REC*	*1*	*17-Dec-2020 15:26*
Surr: Toluene-d8	*103*			**0**	*89-112*	*%REC*	*1*	*17-Dec-2020 15:26*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 29-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
Sample ID: 35AWW01_12072020
Collection Date: 07-Dec-2020 09:25

ANALYTICAL REPORT
WorkOrder:HS20120479
Lab ID:HS20120479-04
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 21:24
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 21:24
1,1,2,2-Tetrachloroethane	0.50	U	0.50	0.50	1.0	ug/L	1	17-Dec-2020 21:24
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 21:24
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 21:24
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 21:24
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 21:24
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	17-Dec-2020 21:24
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	17-Dec-2020 21:24
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	17-Dec-2020 21:24
1,2,4-Trimethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 21:24
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 21:24
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 21:24
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	17-Dec-2020 21:24
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 21:24
1,2-Dichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	17-Dec-2020 21:24
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 21:24
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	17-Dec-2020 21:24
1,3-Dichloropropane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 21:24
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	17-Dec-2020 21:24
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 21:24
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	17-Dec-2020 21:24
2-Chlorotoluene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 21:24
2-Hexanone	2.0	U	1.0	2.0	2.0	ug/L	1	17-Dec-2020 21:24
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	17-Dec-2020 21:24
4-Isopropyltoluene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 21:24
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	ug/L	1	17-Dec-2020 21:24
Acetone	1.0	U	0.40	1.0	2.0	ug/L	1	17-Dec-2020 21:24
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 21:24
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	17-Dec-2020 21:24
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 21:24
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 21:24
Bromoform	0.50	U	0.40	0.50	1.0	ug/L	1	17-Dec-2020 21:24
Bromomethane	0.50	U	0.40	0.50	1.0	ug/L	1	17-Dec-2020 21:24
Carbon disulfide	1.0	U	0.60	1.0	2.0	ug/L	1	17-Dec-2020 21:24
Carbon tetrachloride	0.50	U	0.50	0.50	1.0	ug/L	1	17-Dec-2020 21:24
Chlorobenzene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 21:24
Chloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 21:24
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 21:24

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 29-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
Sample ID: 35AWW01_12072020
Collection Date: 07-Dec-2020 09:25

ANALYTICAL REPORT
WorkOrder:HS20120479
Lab ID:HS20120479-04
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 21:24
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 21:24
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	ug/L	1	17-Dec-2020 21:24
Dibromochloromethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 21:24
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 21:24
Dichlorodifluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 21:24
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 21:24
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	17-Dec-2020 21:24
Isopropylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 21:24
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	17-Dec-2020 21:24
Methylene chloride	1.0	U	0.40	1.0	2.0	ug/L	1	17-Dec-2020 21:24
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	17-Dec-2020 21:24
n-Propylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 21:24
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 21:24
o-Xylene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 21:24
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 21:24
Styrene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 21:24
tert-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 21:24
Tetrachloroethene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 21:24
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 21:24
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 21:24
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 21:24
Trichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 21:24
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 21:24
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 21:24
Surr: 1,2-Dichloroethane-d4	*87.6*			**0**	*81-118*	*%REC*	*1*	*17-Dec-2020 21:24*
Surr: 4-Bromofluorobenzene	*94.5*			**0**	*85-114*	*%REC*	*1*	*17-Dec-2020 21:24*
Surr: Dibromofluoromethane	*90.6*			**0**	*80-119*	*%REC*	*1*	*17-Dec-2020 21:24*
Surr: Toluene-d8	*103*			**0**	*89-112*	*%REC*	*1*	*17-Dec-2020 21:24*
METALS BY ICPMS BY SW6020A		**Method:SW6020**				Prep:SW3010A / 21-Dec-2020		Analyst: JHD
Arsenic	0.00100	U	0.000400	0.00100	0.00500	mg/L	1	24-Dec-2020 11:21

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 29-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
Sample ID: 35AWW21_12072020
Collection Date: 07-Dec-2020 11:00

ANALYTICAL REPORT
WorkOrder:HS20120479
Lab ID:HS20120479-05
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 21:45
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 21:45
1,1,2,2-Tetrachloroethane	0.50	U	0.50	0.50	1.0	ug/L	1	17-Dec-2020 21:45
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 21:45
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 21:45
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 21:45
1,1-Dichloropropene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 21:45
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	17-Dec-2020 21:45
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	17-Dec-2020 21:45
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	17-Dec-2020 21:45
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 21:45
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 21:45
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 21:45
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	17-Dec-2020 21:45
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 21:45
1,2-Dichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	17-Dec-2020 21:45
1,3,5-Trimethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 21:45
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	17-Dec-2020 21:45
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 21:45
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	17-Dec-2020 21:45
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 21:45
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	17-Dec-2020 21:45
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 21:45
2-Hexanone	2.0	U	1.0	2.0	2.0	ug/L	1	17-Dec-2020 21:45
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	17-Dec-2020 21:45
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 21:45
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	ug/L	1	17-Dec-2020 21:45
Acetone	1.0	U	0.40	1.0	2.0	ug/L	1	17-Dec-2020 21:45
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 21:45
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	17-Dec-2020 21:45
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 21:45
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 21:45
Bromoform	0.50	U	0.40	0.50	1.0	ug/L	1	17-Dec-2020 21:45
Bromomethane	0.50	U	0.40	0.50	1.0	ug/L	1	17-Dec-2020 21:45
Carbon disulfide	1.0	U	0.60	1.0	2.0	ug/L	1	17-Dec-2020 21:45
Carbon tetrachloride	0.50	U	0.50	0.50	1.0	ug/L	1	17-Dec-2020 21:45
Chlorobenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 21:45
Chloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 21:45
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 21:45

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 29-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
Sample ID: 35AWW21_12072020
Collection Date: 07-Dec-2020 11:00

ANALYTICAL REPORT
WorkOrder:HS20120479
Lab ID:HS20120479-05
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 21:45
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 21:45
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	ug/L	1	17-Dec-2020 21:45
Dibromochloromethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 21:45
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 21:45
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 21:45
Ethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 21:45
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	17-Dec-2020 21:45
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 21:45
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	17-Dec-2020 21:45
Methylene chloride	1.0	U	0.40	1.0	2.0	ug/L	1	17-Dec-2020 21:45
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	17-Dec-2020 21:45
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 21:45
Naphthalene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 21:45
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 21:45
sec-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 21:45
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 21:45
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 21:45
Tetrachloroethene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 21:45
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 21:45
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 21:45
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 21:45
Trichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 21:45
Trichlorofluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 21:45
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 21:45
Surr: 1,2-Dichloroethane-d4	*89.9*			**0**	*81-118*	*%REC*	*1*	*17-Dec-2020 21:45*
Surr: 4-Bromofluorobenzene	*94.0*			**0**	*85-114*	*%REC*	*1*	*17-Dec-2020 21:45*
Surr: Dibromofluoromethane	*90.3*			**0**	*80-119*	*%REC*	*1*	*17-Dec-2020 21:45*
Surr: Toluene-d8	*103*			**0**	*89-112*	*%REC*	*1*	*17-Dec-2020 21:45*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 29-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
Sample ID: 35AWW09_12072020
Collection Date: 07-Dec-2020 10:10

ANALYTICAL REPORT
WorkOrder:HS20120479
Lab ID:HS20120479-06
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 16:29
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 16:29
1,1,2,2-Tetrachloroethane	0.50	U	0.50	0.50	1.0	ug/L	1	17-Dec-2020 16:29
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 16:29
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 16:29
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 16:29
1,1-Dichloropropene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 16:29
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	17-Dec-2020 16:29
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	17-Dec-2020 16:29
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	17-Dec-2020 16:29
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 16:29
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 16:29
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 16:29
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	17-Dec-2020 16:29
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 16:29
1,2-Dichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	17-Dec-2020 16:29
1,3,5-Trimethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 16:29
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	17-Dec-2020 16:29
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 16:29
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	17-Dec-2020 16:29
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 16:29
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	17-Dec-2020 16:29
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 16:29
2-Hexanone	2.0	U	1.0	2.0	2.0	ug/L	1	17-Dec-2020 16:29
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	17-Dec-2020 16:29
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 16:29
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	ug/L	1	17-Dec-2020 16:29
Acetone	1.0	U	0.40	1.0	2.0	ug/L	1	17-Dec-2020 16:29
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 16:29
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	17-Dec-2020 16:29
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 16:29
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 16:29
Bromoform	0.50	U	0.40	0.50	1.0	ug/L	1	17-Dec-2020 16:29
Bromomethane	0.50	U	0.40	0.50	1.0	ug/L	1	17-Dec-2020 16:29
Carbon disulfide	1.0	U	0.60	1.0	2.0	ug/L	1	17-Dec-2020 16:29
Carbon tetrachloride	0.50	U	0.50	0.50	1.0	ug/L	1	17-Dec-2020 16:29
Chlorobenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 16:29
Chloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 16:29
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 16:29

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 29-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
Sample ID: 35AWW09_12072020
Collection Date: 07-Dec-2020 10:10

ANALYTICAL REPORT
WorkOrder:HS20120479
Lab ID:HS20120479-06
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 16:29
cis-1,2-Dichloroethene	**1.1**		**0.20**	**0.50**	**1.0**	**ug/L**	1	17-Dec-2020 16:29
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	ug/L	1	17-Dec-2020 16:29
Dibromochloromethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 16:29
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 16:29
Dichlorodifluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 16:29
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 16:29
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	17-Dec-2020 16:29
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 16:29
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	17-Dec-2020 16:29
Methylene chloride	1.0	U	0.40	1.0	2.0	ug/L	1	17-Dec-2020 16:29
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	17-Dec-2020 16:29
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 16:29
Naphthalene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 16:29
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 16:29
sec-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 16:29
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 16:29
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 16:29
Tetrachloroethene	**370**		**1.5**	**2.5**	**5.0**	**ug/L**	5	18-Dec-2020 16:59
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 16:29
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 16:29
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 16:29
Trichloroethene	**140**		**0.20**	**0.50**	**1.0**	**ug/L**	1	17-Dec-2020 16:29
Trichlorofluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 16:29
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 16:29
Surr: 1,2-Dichloroethane-d4	*90.5*			**0**	*81-118*	*%REC*	*1*	*17-Dec-2020 16:29*
Surr: 1,2-Dichloroethane-d4	*87.6*			**0**	*81-118*	*%REC*	*5*	*18-Dec-2020 16:59*
Surr: 4-Bromofluorobenzene	*96.2*			**0**	*85-114*	*%REC*	*1*	*17-Dec-2020 16:29*
Surr: 4-Bromofluorobenzene	*95.8*			**0**	*85-114*	*%REC*	*5*	*18-Dec-2020 16:59*
Surr: Dibromofluoromethane	*90.2*			**0**	*80-119*	*%REC*	*1*	*17-Dec-2020 16:29*
Surr: Dibromofluoromethane	*90.0*			**0**	*80-119*	*%REC*	*5*	*18-Dec-2020 16:59*
Surr: Toluene-d8	*104*			**0**	*89-112*	*%REC*	*1*	*17-Dec-2020 16:29*
Surr: Toluene-d8	*106*			**0**	*89-112*	*%REC*	*5*	*18-Dec-2020 16:59*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 29-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
Sample ID: 35AWW22_12072020
Collection Date: 07-Dec-2020 11:40

ANALYTICAL REPORT
WorkOrder:HS20120479
Lab ID:HS20120479-07
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 22:06
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 22:06
1,1,2,2-Tetrachloroethane	0.50	U	0.50	0.50	1.0	ug/L	1	17-Dec-2020 22:06
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 22:06
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 22:06
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 22:06
1,1-Dichloropropene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 22:06
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	17-Dec-2020 22:06
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	17-Dec-2020 22:06
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	17-Dec-2020 22:06
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 22:06
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 22:06
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 22:06
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	17-Dec-2020 22:06
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 22:06
1,2-Dichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	17-Dec-2020 22:06
1,3,5-Trimethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 22:06
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	17-Dec-2020 22:06
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 22:06
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	17-Dec-2020 22:06
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 22:06
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	17-Dec-2020 22:06
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 22:06
2-Hexanone	2.0	U	1.0	2.0	2.0	ug/L	1	17-Dec-2020 22:06
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	17-Dec-2020 22:06
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 22:06
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	ug/L	1	17-Dec-2020 22:06
Acetone	1.0	U	0.40	1.0	2.0	ug/L	1	17-Dec-2020 22:06
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 22:06
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	17-Dec-2020 22:06
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 22:06
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 22:06
Bromoform	0.50	U	0.40	0.50	1.0	ug/L	1	17-Dec-2020 22:06
Bromomethane	0.50	U	0.40	0.50	1.0	ug/L	1	17-Dec-2020 22:06
Carbon disulfide	1.0	U	0.60	1.0	2.0	ug/L	1	17-Dec-2020 22:06
Carbon tetrachloride	0.50	U	0.50	0.50	1.0	ug/L	1	17-Dec-2020 22:06
Chlorobenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 22:06
Chloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 22:06
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 22:06

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 29-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
Sample ID: 35AWW22_12072020
Collection Date: 07-Dec-2020 11:40

ANALYTICAL REPORT
WorkOrder:HS20120479
Lab ID:HS20120479-07
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 22:06
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 22:06
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	ug/L	1	17-Dec-2020 22:06
Dibromochloromethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 22:06
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 22:06
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 22:06
Ethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 22:06
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	17-Dec-2020 22:06
Isopropylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 22:06
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	17-Dec-2020 22:06
Methylene chloride	1.0	U	0.40	1.0	2.0	ug/L	1	17-Dec-2020 22:06
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	17-Dec-2020 22:06
n-Propylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 22:06
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 22:06
o-Xylene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 22:06
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 22:06
Styrene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 22:06
tert-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 22:06
Tetrachloroethene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 22:06
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 22:06
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 22:06
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 22:06
Trichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 22:06
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 22:06
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 22:06
Surr: 1,2-Dichloroethane-d4	*87.3*			**0**	*81-118*	*%REC*	*1*	*17-Dec-2020 22:06*
Surr: 4-Bromofluorobenzene	*97.1*			**0**	*85-114*	*%REC*	*1*	*17-Dec-2020 22:06*
Surr: Dibromofluoromethane	*89.4*			**0**	*80-119*	*%REC*	*1*	*17-Dec-2020 22:06*
Surr: Toluene-d8	*103*			**0**	*89-112*	*%REC*	*1*	*17-Dec-2020 22:06*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 29-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
Sample ID: 35AWW12_12072020
Collection Date: 07-Dec-2020 12:20

ANALYTICAL REPORT
WorkOrder:HS20120479
Lab ID:HS20120479-08
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 22:27
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 22:27
1,1,2,2-Tetrachloroethane	0.50	U	0.50	0.50	1.0	ug/L	1	17-Dec-2020 22:27
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 22:27
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 22:27
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 22:27
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 22:27
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	17-Dec-2020 22:27
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	17-Dec-2020 22:27
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	17-Dec-2020 22:27
1,2,4-Trimethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 22:27
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 22:27
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 22:27
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	17-Dec-2020 22:27
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 22:27
1,2-Dichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	17-Dec-2020 22:27
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 22:27
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	17-Dec-2020 22:27
1,3-Dichloropropane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 22:27
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	17-Dec-2020 22:27
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 22:27
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	17-Dec-2020 22:27
2-Chlorotoluene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 22:27
2-Hexanone	2.0	U	1.0	2.0	2.0	ug/L	1	17-Dec-2020 22:27
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	17-Dec-2020 22:27
4-Isopropyltoluene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 22:27
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	ug/L	1	17-Dec-2020 22:27
Acetone	1.0	U	0.40	1.0	2.0	ug/L	1	17-Dec-2020 22:27
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 22:27
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	17-Dec-2020 22:27
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 22:27
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 22:27
Bromoform	0.50	U	0.40	0.50	1.0	ug/L	1	17-Dec-2020 22:27
Bromomethane	0.50	U	0.40	0.50	1.0	ug/L	1	17-Dec-2020 22:27
Carbon disulfide	1.0	U	0.60	1.0	2.0	ug/L	1	17-Dec-2020 22:27
Carbon tetrachloride	0.50	U	0.50	0.50	1.0	ug/L	1	17-Dec-2020 22:27
Chlorobenzene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 22:27
Chloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 22:27
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 22:27

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 29-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
Sample ID: 35AWW12_12072020
Collection Date: 07-Dec-2020 12:20

ANALYTICAL REPORT
WorkOrder:HS20120479
Lab ID:HS20120479-08
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 22:27
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 22:27
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	ug/L	1	17-Dec-2020 22:27
Dibromochloromethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 22:27
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 22:27
Dichlorodifluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 22:27
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 22:27
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	17-Dec-2020 22:27
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 22:27
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	17-Dec-2020 22:27
Methylene chloride	1.0	U	0.40	1.0	2.0	ug/L	1	17-Dec-2020 22:27
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	17-Dec-2020 22:27
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 22:27
Naphthalene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 22:27
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 22:27
sec-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 22:27
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 22:27
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Dec-2020 22:27
Tetrachloroethene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 22:27
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 22:27
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 22:27
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 22:27
Trichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 22:27
Trichlorofluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Dec-2020 22:27
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	17-Dec-2020 22:27
Surr: 1,2-Dichloroethane-d4	*85.5*			**0**	*81-118*	*%REC*	*1*	*17-Dec-2020 22:27*
Surr: 4-Bromofluorobenzene	*98.5*			**0**	*85-114*	*%REC*	*1*	*17-Dec-2020 22:27*
Surr: Dibromofluoromethane	*89.5*			**0**	*80-119*	*%REC*	*1*	*17-Dec-2020 22:27*
Surr: Toluene-d8	*102*			**0**	*89-112*	*%REC*	*1*	*17-Dec-2020 22:27*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 29-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
Sample ID: 35AWW14_12072020
Collection Date: 07-Dec-2020 12:30

ANALYTICAL REPORT
WorkOrder:HS20120479
Lab ID:HS20120479-09
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	18-Dec-2020 13:29
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	18-Dec-2020 13:29
1,1,2,2-Tetrachloroethane	0.50	U	0.50	0.50	1.0	ug/L	1	18-Dec-2020 13:29
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	18-Dec-2020 13:29
1,1-Dichloroethane	**13**		**0.20**	**0.50**	**1.0**	**ug/L**	1	18-Dec-2020 13:29
1,1-Dichloroethene	**9.4**		**0.20**	**0.50**	**1.0**	**ug/L**	1	18-Dec-2020 13:29
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	ug/L	1	18-Dec-2020 13:29
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	18-Dec-2020 13:29
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	18-Dec-2020 13:29
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	18-Dec-2020 13:29
1,2,4-Trimethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	18-Dec-2020 13:29
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	18-Dec-2020 13:29
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	18-Dec-2020 13:29
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	18-Dec-2020 13:29
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	18-Dec-2020 13:29
1,2-Dichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	18-Dec-2020 13:29
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	18-Dec-2020 13:29
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	18-Dec-2020 13:29
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	18-Dec-2020 13:29
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	18-Dec-2020 13:29
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	18-Dec-2020 13:29
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	18-Dec-2020 13:29
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	18-Dec-2020 13:29
2-Hexanone	2.0	U	1.0	2.0	2.0	ug/L	1	18-Dec-2020 13:29
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	18-Dec-2020 13:29
4-Isopropyltoluene	0.50	U	0.30	0.50	1.0	ug/L	1	18-Dec-2020 13:29
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	ug/L	1	18-Dec-2020 13:29
Acetone	**12**		**0.40**	**1.0**	**2.0**	**ug/L**	1	18-Dec-2020 13:29
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	18-Dec-2020 13:29
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	18-Dec-2020 13:29
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	18-Dec-2020 13:29
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	18-Dec-2020 13:29
Bromoform	0.50	U	0.40	0.50	1.0	ug/L	1	18-Dec-2020 13:29
Bromomethane	0.50	U	0.40	0.50	1.0	ug/L	1	18-Dec-2020 13:29
Carbon disulfide	1.0	U	0.60	1.0	2.0	ug/L	1	18-Dec-2020 13:29
Carbon tetrachloride	0.50	U	0.50	0.50	1.0	ug/L	1	18-Dec-2020 13:29
Chlorobenzene	1.0	U	0.30	1.0	1.0	ug/L	1	18-Dec-2020 13:29
Chloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	18-Dec-2020 13:29
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	18-Dec-2020 13:29

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 29-Dec-20

Client: Bhate Environmental Associates, Inc. **ANALYTICAL REPORT**
Project: LHAAP-58 WorkOrder:HS20120479
Sample ID: 35AWW14_12072020 Lab ID:HS20120479-09
Collection Date: 07-Dec-2020 12:30 Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	18-Dec-2020 13:29
cis-1,2-Dichloroethene	**4.5**		**0.20**	**0.50**	**1.0**	**ug/L**	1	18-Dec-2020 13:29
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	ug/L	1	18-Dec-2020 13:29
Dibromochloromethane	0.50	U	0.30	0.50	1.0	ug/L	1	18-Dec-2020 13:29
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	18-Dec-2020 13:29
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	18-Dec-2020 13:29
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	18-Dec-2020 13:29
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	18-Dec-2020 13:29
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	18-Dec-2020 13:29
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	18-Dec-2020 13:29
Methylene chloride	1.0	U	0.40	1.0	2.0	ug/L	1	18-Dec-2020 13:29
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	18-Dec-2020 13:29
n-Propylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	18-Dec-2020 13:29
Naphthalene	0.50	U	0.30	0.50	1.0	ug/L	1	18-Dec-2020 13:29
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	18-Dec-2020 13:29
sec-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	18-Dec-2020 13:29
Styrene	0.50	U	0.30	0.50	1.0	ug/L	1	18-Dec-2020 13:29
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	18-Dec-2020 13:29
Tetrachloroethene	0.50	U	0.30	0.50	1.0	ug/L	1	18-Dec-2020 13:29
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	18-Dec-2020 13:29
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	18-Dec-2020 13:29
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	18-Dec-2020 13:29
Trichloroethene	**11**		**0.20**	**0.50**	**1.0**	**ug/L**	1	18-Dec-2020 13:29
Trichlorofluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	18-Dec-2020 13:29
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	18-Dec-2020 13:29
Surr: 1,2-Dichloroethane-d4	*90.2*			**0**	*81-118*	*%REC*	*1*	*18-Dec-2020 13:29*
Surr: 4-Bromofluorobenzene	*90.8*			**0**	*85-114*	*%REC*	*1*	*18-Dec-2020 13:29*
Surr: Dibromofluoromethane	*88.4*			**0**	*80-119*	*%REC*	*1*	*18-Dec-2020 13:29*
Surr: Toluene-d8	*104*			**0**	*89-112*	*%REC*	*1*	*18-Dec-2020 13:29*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 29-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
Sample ID: Trip Blank
Collection Date: 07-Dec-2020 00:00

ANALYTICAL REPORT
WorkOrder:HS20120479
Lab ID:HS20120479-10
Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	18-Dec-2020 13:07
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	18-Dec-2020 13:07
1,1,2,2-Tetrachloroethane	0.50	U	0.50	0.50	1.0	ug/L	1	18-Dec-2020 13:07
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	18-Dec-2020 13:07
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	18-Dec-2020 13:07
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	18-Dec-2020 13:07
1,1-Dichloropropene	0.50	U	0.30	0.50	1.0	ug/L	1	18-Dec-2020 13:07
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	18-Dec-2020 13:07
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	18-Dec-2020 13:07
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	18-Dec-2020 13:07
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	18-Dec-2020 13:07
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	18-Dec-2020 13:07
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	18-Dec-2020 13:07
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	18-Dec-2020 13:07
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	18-Dec-2020 13:07
1,2-Dichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	18-Dec-2020 13:07
1,3,5-Trimethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	18-Dec-2020 13:07
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	18-Dec-2020 13:07
1,3-Dichloropropane	0.50	U	0.30	0.50	1.0	ug/L	1	18-Dec-2020 13:07
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	18-Dec-2020 13:07
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	18-Dec-2020 13:07
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	18-Dec-2020 13:07
2-Chlorotoluene	0.50	U	0.30	0.50	1.0	ug/L	1	18-Dec-2020 13:07
2-Hexanone	2.0	U	1.0	2.0	2.0	ug/L	1	18-Dec-2020 13:07
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	18-Dec-2020 13:07
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	18-Dec-2020 13:07
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	ug/L	1	18-Dec-2020 13:07
Acetone	1.0	U	0.40	1.0	2.0	ug/L	1	18-Dec-2020 13:07
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	18-Dec-2020 13:07
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	18-Dec-2020 13:07
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	18-Dec-2020 13:07
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	18-Dec-2020 13:07
Bromoform	0.50	U	0.40	0.50	1.0	ug/L	1	18-Dec-2020 13:07
Bromomethane	0.50	U	0.40	0.50	1.0	ug/L	1	18-Dec-2020 13:07
Carbon disulfide	1.0	U	0.60	1.0	2.0	ug/L	1	18-Dec-2020 13:07
Carbon tetrachloride	0.50	U	0.50	0.50	1.0	ug/L	1	18-Dec-2020 13:07
Chlorobenzene	0.50	U	0.30	0.50	1.0	ug/L	1	18-Dec-2020 13:07
Chloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	18-Dec-2020 13:07
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	18-Dec-2020 13:07

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 29-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
Sample ID: Trip Blank
Collection Date: 07-Dec-2020 00:00

ANALYTICAL REPORT
WorkOrder:HS20120479
Lab ID:HS20120479-10
Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	18-Dec-2020 13:07
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	18-Dec-2020 13:07
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	ug/L	1	18-Dec-2020 13:07
Dibromochloromethane	0.50	U	0.30	0.50	1.0	ug/L	1	18-Dec-2020 13:07
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	18-Dec-2020 13:07
Dichlorodifluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	18-Dec-2020 13:07
Ethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	18-Dec-2020 13:07
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	18-Dec-2020 13:07
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	18-Dec-2020 13:07
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	18-Dec-2020 13:07
Methylene chloride	1.0	U	0.40	1.0	2.0	ug/L	1	18-Dec-2020 13:07
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	18-Dec-2020 13:07
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	18-Dec-2020 13:07
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	18-Dec-2020 13:07
o-Xylene	0.50	U	0.30	0.50	1.0	ug/L	1	18-Dec-2020 13:07
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	18-Dec-2020 13:07
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	18-Dec-2020 13:07
tert-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	18-Dec-2020 13:07
Tetrachloroethene	0.50	U	0.30	0.50	1.0	ug/L	1	18-Dec-2020 13:07
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	18-Dec-2020 13:07
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	18-Dec-2020 13:07
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	18-Dec-2020 13:07
Trichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	18-Dec-2020 13:07
Trichlorofluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	18-Dec-2020 13:07
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	18-Dec-2020 13:07
Surr: 1,2-Dichloroethane-d4	*90.5*			**0**	*81-118*	*%REC*	*1*	*18-Dec-2020 13:07*
Surr: 4-Bromofluorobenzene	*93.0*			**0**	*85-114*	*%REC*	*1*	*18-Dec-2020 13:07*
Surr: Dibromofluoromethane	*89.0*			**0**	*80-119*	*%REC*	*1*	*18-Dec-2020 13:07*
Surr: Toluene-d8	*107*			**0**	*89-112*	*%REC*	*1*	*18-Dec-2020 13:07*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 29-Dec-20

Weight / Prep Log

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
WorkOrder: HS20120479

Batch ID: 160930 **Start Date:** 21 Dec 2020 13:00 **End Date:** 21 Dec 2020 17:00
Method: WATER - SW3010A **Prep Code:** 3010A

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS20120479-04		10 (mL)	10 (mL)	1

ALS Houston, US Date: 29-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
WorkOrder: HS20120479

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: 160930 (0)	**Test Name :** METALS BY ICPMS BY SW6020A				**Matrix:** Groundwater	
HS20120479-04	35AWW01_12072020	07 Dec 2020 09:25		21 Dec 2020 17:00	24 Dec 2020 11:21	1
Batch ID: R374913 (0)	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C				**Matrix:** Groundwater	
HS20120479-01	35AWW10_12072020	07 Dec 2020 07:50			17 Dec 2020 20:42	1
HS20120479-02	35AWW10_12072020_a	07 Dec 2020 07:50			17 Dec 2020 21:03	1
HS20120479-03	35AWW13_12072020	07 Dec 2020 08:35			17 Dec 2020 15:26	1
HS20120479-04	35AWW01_12072020	07 Dec 2020 09:25			17 Dec 2020 21:24	1
HS20120479-05	35AWW21_12072020	07 Dec 2020 11:00			17 Dec 2020 21:45	1
HS20120479-06	35AWW09_12072020	07 Dec 2020 10:10			17 Dec 2020 16:29	1
HS20120479-07	35AWW22_12072020	07 Dec 2020 11:40			17 Dec 2020 22:06	1
HS20120479-08	35AWW12_12072020	07 Dec 2020 12:20			17 Dec 2020 22:27	1
Batch ID: R375002 (0)	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C				**Matrix:** Water	
HS20120479-10	Trip Blank	07 Dec 2020 00:00			18 Dec 2020 13:07	1
Batch ID: R375002 (0)	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C				**Matrix:** Groundwater	
HS20120479-06	35AWW09_12072020	07 Dec 2020 10:10			18 Dec 2020 16:59	5
HS20120479-09	35AWW14_12072020	07 Dec 2020 12:30			18 Dec 2020 13:29	1

ALS Houston, US Date: 29-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
WorkOrder: HS20120479

QC BATCH REPORT

Batch ID: 160930 (0) **Instrument: ICPMS05** **Method: METALS BY ICPMS BY SW6020A**

MBLK Sample ID: **MBLK-160930** Units: **mg/L** Analysis Date: **24-Dec-2020 10:49**
Client ID: Run ID: **ICPMS05_375348** SeqNo: **5897738** PrepDate: **21-Dec-2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.00100	0.00500								U

LCS Sample ID: **LCS-160930** Units: **mg/L** Analysis Date: **24-Dec-2020 10:51**
Client ID: Run ID: **ICPMS05_375348** SeqNo: **5897739** PrepDate: **21-Dec-2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.05162	0.00500	0.05	0	103	84 - 116				

MS Sample ID: **HS20120486-08MS** Units: **mg/L** Analysis Date: **24-Dec-2020 10:59**
Client ID: Run ID: **ICPMS05_375348** SeqNo: **5897743** PrepDate: **21-Dec-2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.05393	0.00500	0.05	0.000759	106	84 - 116				

MSD Sample ID: **HS20120486-08MSD** Units: **mg/L** Analysis Date: **24-Dec-2020 11:15**
Client ID: Run ID: **ICPMS05_375348** SeqNo: **5897749** PrepDate: **21-Dec-2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.05396	0.00500	0.05	0.000759	106	84 - 116	0.05393	0.0445	20	

PDS Sample ID: **HS20120486-08PDS** Units: **mg/L** Analysis Date: **24-Dec-2020 11:03**
Client ID: Run ID: **ICPMS05_375348** SeqNo: **5897745** PrepDate: **21-Dec-2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.1166	0.00500	0.1	0.000759	116	80 - 120				

SD Sample ID: **HS20120486-08SD** Units: **mg/L** Analysis Date: **24-Dec-2020 16:12**
Client ID: Run ID: **ICPMS05_375348** SeqNo: **5898069** PrepDate: **21-Dec-2020** DF: **5**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Arsenic	0.00500	0.0250					0.000759	0	10	U

The following samples were analyzed in this batch: HS20120479-04

ALS Houston, US Date: 29-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
WorkOrder: HS20120479

QC BATCH REPORT

Batch ID: R374913 (0) **Instrument: VOA6** **Method: VOLATILES ORGANICS BY METHOD 8260C**

MBLK Sample ID: **VBLKW-201217** Units: **ug/L** Analysis Date: **17-Dec-2020 14:02**
Client ID: Run ID: **VOA6_374913** SeqNo: **5887320** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	0.50	1.0								U
1,1,1-Trichloroethane	0.50	1.0								U
1,1,2,2-Tetrachloroethane	0.50	1.0								U
1,1,2-Trichloroethane	0.50	1.0								U
1,1-Dichloroethane	0.50	1.0								U
1,1-Dichloroethene	0.50	1.0								U
1,1-Dichloropropene	0.50	1.0								U
1,2,3-Trichlorobenzene	1.0	1.0								U
1,2,3-Trichloropropane	1.0	1.0								U
1,2,4-Trichlorobenzene	1.0	1.0								U
1,2,4-Trimethylbenzene	1.0	1.0								U
1,2-Dibromo-3-chloropropane	0.50	1.0								U
1,2-Dibromoethane	0.50	1.0								U
1,2-Dichlorobenzene	1.0	1.0								U
1,2-Dichloroethane	0.50	1.0								U
1,2-Dichloropropane	0.50	1.0								U
1,3,5-Trimethylbenzene	0.50	1.0								U
1,3-Dichlorobenzene	1.0	1.0								U
1,3-Dichloropropane	1.0	1.0								U
1,4-Dichlorobenzene	1.0	1.0								U
2,2-Dichloropropane	0.50	1.0								U
2-Butanone	1.0	2.0								U
2-Chlorotoluene	1.0	1.0								U
2-Hexanone	2.0	2.0								U
4-Chlorotoluene	1.0	1.0								U
4-Isopropyltoluene	1.0	1.0								U
4-Methyl-2-pentanone	2.0	2.0								U
Acetone	1.0	2.0								U
Benzene	0.50	1.0								U
Bromobenzene	1.0	1.0								U
Bromochloromethane	0.50	1.0								U
Bromodichloromethane	0.50	1.0								U
Bromoform	0.50	1.0								U
Bromomethane	0.50	1.0								U

ALS Houston, US Date: 29-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
WorkOrder: HS20120479

QC BATCH REPORT

Batch ID: R374913 (0) **Instrument: VOA6** **Method: VOLATILES ORGANICS BY METHOD 8260C**

MBLK Sample ID: **VBLKW-201217** Units: **ug/L** Analysis Date: **17-Dec-2020 14:02**
Client ID: Run ID: **VOA6_374913** SeqNo: **5887320** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Carbon disulfide	1.0	2.0								U
Carbon tetrachloride	0.50	1.0								U
Chlorobenzene	0.50	1.0								U
Chloroethane	0.50	1.0								U
Chloroform	0.50	1.0								U
Chloromethane	0.50	1.0								U
cis-1,2-Dichloroethene	0.50	1.0								U
cis-1,3-Dichloropropene	0.50	1.0								U
Dibromochloromethane	0.50	1.0								U
Dibromomethane	0.50	1.0								U
Dichlorodifluoromethane	0.50	1.0								U
Ethylbenzene	0.50	1.0								U
Hexachlorobutadiene	1.0	1.0								U
Isopropylbenzene	0.50	1.0								U
m,p-Xylene	1.0	2.0								U
Methylene chloride	1.0	2.0								U
Naphthalene	0.50	1.0								U
n-Butylbenzene	1.0	1.0								U
n-Propylbenzene	1.0	1.0								U
o-Xylene	1.0	1.0								U
sec-Butylbenzene	0.50	1.0								U
Styrene	1.0	1.0								U
tert-Butylbenzene	0.50	1.0								U
Tetrachloroethene	0.50	1.0								U
Toluene	0.50	1.0								U
trans-1,2-Dichloroethene	0.50	1.0								U
trans-1,3-Dichloropropene	0.50	1.0								U
Trichloroethene	0.50	1.0								U
Trichlorofluoromethane	0.50	1.0								U
Vinyl chloride	0.50	1.0								U
Surr: 1,2-Dichloroethane-d4	*44*	*1.0*	*50*	*0*	*88.0*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*47.51*	*1.0*	*50*	*0*	*95.0*	*85 - 114*				
Surr: Dibromofluoromethane	*43.93*	*1.0*	*50*	*0*	*87.9*	*80 - 119*				
Surr: Toluene-d8	*50.67*	*1.0*	*50*	*0*	*101*	*89 - 112*				

ALS Houston, US Date: 29-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
WorkOrder: HS20120479

QC BATCH REPORT

Batch ID: R374913 (0) **Instrument: VOA6** **Method: VOLATILES ORGANICS BY METHOD 8260C**

LCS Sample ID: **VLCSW-201217** Units: **ug/L** Analysis Date: **17-Dec-2020 13:20**
Client ID: Run ID: **VOA6_374913** SeqNo: **5887319** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	22.79	1.0	20	0	114	78 - 124				
1,1,1-Trichloroethane	20.92	1.0	20	0	105	74 - 131				
1,1,2,2-Tetrachloroethane	20.17	1.0	20	0	101	71 - 121				
1,1,2-Trichloroethane	21.55	1.0	20	0	108	80 - 119				
1,1-Dichloroethane	21.08	1.0	20	0	105	77 - 125				
1,1-Dichloroethene	18.38	1.0	20	0	91.9	71 - 131				
1,1-Dichloropropene	20.01	1.0	20	0	100	78 - 125				
1,2,3-Trichlorobenzene	26.48	1.0	20	0	132	69 - 129				S
1,2,3-Trichloropropane	20.9	1.0	20	0	104	73 - 122				
1,2,4-Trichlorobenzene	21.82	1.0	20	0	109	69 - 130				
1,2,4-Trimethylbenzene	20.18	1.0	20	0	101	76 - 124				
1,2-Dibromo-3-chloropropane	22.94	1.0	20	0	115	62 - 128				
1,2-Dibromoethane	22.33	1.0	20	0	112	77 - 121				
1,2-Dichlorobenzene	19.88	1.0	20	0	99.4	80 - 119				
1,2-Dichloroethane	22.4	1.0	20	0	112	73 - 128				
1,2-Dichloropropane	22.75	1.0	20	0	114	78 - 122				
1,3,5-Trimethylbenzene	19.23	1.0	20	0	96.2	75 - 124				
1,3-Dichlorobenzene	20.14	1.0	20	0	101	80 - 119				
1,3-Dichloropropane	22.79	1.0	20	0	114	80 - 119				
1,4-Dichlorobenzene	19.76	1.0	20	0	98.8	79 - 118				
2,2-Dichloropropane	21.98	1.0	20	0	110	60 - 139				
2-Butanone	47.85	2.0	40	0	120	56 - 143				
2-Chlorotoluene	20.86	1.0	20	0	104	79 - 122				
2-Hexanone	43.39	2.0	40	0	108	57 - 139				
4-Chlorotoluene	20.41	1.0	20	0	102	78 - 122				
4-Isopropyltoluene	17.79	1.0	20	0	88.9	77 - 127				
4-Methyl-2-pentanone	40.45	2.0	40	0	101	67 - 130				
Acetone	50.48	2.0	40	0	126	39 - 160				
Benzene	21.88	1.0	20	0	109	79 - 120				
Bromobenzene	20.83	1.0	20	0	104	80 - 120				
Bromochloromethane	22.82	1.0	20	0	114	78 - 123				
Bromodichloromethane	23.23	1.0	20	0	116	79 - 125				
Bromoform	22.45	1.0	20	0	112	66 - 130				
Bromomethane	26.18	1.0	20	0	131	53 - 141				

ALS Houston, US Date: 29-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
WorkOrder: HS20120479

QC BATCH REPORT

Batch ID: R374913 (0) **Instrument: VOA6** **Method: VOLATILES ORGANICS BY METHOD 8260C**

LCS Sample ID: **VLCSW-201217** Units: **ug/L** Analysis Date: **17-Dec-2020 13:20**
Client ID: Run ID: **VOA6_374913** SeqNo: **5887319** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Carbon disulfide	43.38	2.0	40	0	108	64 - 133				
Carbon tetrachloride	21.19	1.0	20	0	106	72 - 136				
Chlorobenzene	21.12	1.0	20	0	106	82 - 118				
Chloroethane	20.58	1.0	20	0	103	60 - 138				
Chloroform	21.85	1.0	20	0	109	79 - 124				
Chloromethane	17.73	1.0	20	0	88.6	50 - 139				
cis-1,2-Dichloroethene	22.48	1.0	20	0	112	78 - 123				
cis-1,3-Dichloropropene	22.83	1.0	20	0	114	75 - 124				
Dibromochloromethane	22.02	1.0	20	0	110	74 - 126				
Dibromomethane	23.26	1.0	20	0	116	79 - 123				
Dichlorodifluoromethane	17.23	1.0	20	0	86.2	32 - 152				
Ethylbenzene	21.38	1.0	20	0	107	79 - 121				
Hexachlorobutadiene	20.11	1.0	20	0	101	66 - 134				
Isopropylbenzene	19.78	1.0	20	0	98.9	72 - 131				
m,p-Xylene	41.41	2.0	40	0	104	80 - 121				
Methylene chloride	21.66	2.0	20	0	108	74 - 124				
Naphthalene	24.44	1.0	20	0	122	61 - 128				
n-Butylbenzene	18.62	1.0	20	0	93.1	75 - 128				
n-Propylbenzene	19.49	1.0	20	0	97.5	76 - 126				
o-Xylene	21.18	1.0	20	0	106	78 - 122				
sec-Butylbenzene	17.8	1.0	20	0	89.0	77 - 126				
Styrene	21.51	1.0	20	0	108	78 - 123				
tert-Butylbenzene	17.76	1.0	20	0	88.8	78 - 124				
Tetrachloroethene	19.47	1.0	20	0	97.4	74 - 129				
Toluene	21.6	1.0	20	0	108	80 - 121				
trans-1,2-Dichloroethene	22.25	1.0	20	0	111	75 - 124				
trans-1,3-Dichloropropene	23.81	1.0	20	0	119	73 - 127				
Trichloroethene	21.05	1.0	20	0	105	79 - 123				
Trichlorofluoromethane	17.81	1.0	20	0	89.1	65 - 141				
Vinyl chloride	17.93	1.0	20	0	89.7	58 - 137				
Surr: 1,2-Dichloroethane-d4	*54.7*	*1.0*	*50*	*0*	*109*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*52.81*	*1.0*	*50*	*0*	*106*	*85 - 114*				
Surr: Dibromofluoromethane	*51.83*	*1.0*	*50*	*0*	*104*	*80 - 119*				
Surr: Toluene-d8	*49.75*	*1.0*	*50*	*0*	*99.5*	*89 - 112*				

ALS Houston, US Date: 29-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
WorkOrder: HS20120479

QC BATCH REPORT

Batch ID: R374913 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS20120479-03MS** Units: **ug/L** Analysis Date: **17-Dec-2020 17:33**
Client ID: **35AWW13_12072020** Run ID: **VOA6_374913** SeqNo: **5887329** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	18.1	1.0	20	0	90.5	78 - 124				
1,1,1-Trichloroethane	17.28	1.0	20	0	86.4	74 - 131				
1,1,2,2-Tetrachloroethane	18.29	1.0	20	0	91.4	71 - 121				
1,1,2-Trichloroethane	18.39	1.0	20	0	92.0	80 - 119				
1,1-Dichloroethane	17.56	1.0	20	0	87.8	77 - 125				
1,1-Dichloroethene	15.58	1.0	20	0	77.9	71 - 131				
1,1-Dichloropropene	18.39	1.0	20	0	91.9	78 - 125				
1,2,3-Trichlorobenzene	22.79	1.0	20	0	114	69 - 129				
1,2,3-Trichloropropane	18.29	1.0	20	0	91.4	73 - 122				
1,2,4-Trichlorobenzene	21.24	1.0	20	0	106	69 - 130				
1,2,4-Trimethylbenzene	19.68	1.0	20	0	98.4	76 - 124				
1,2-Dibromo-3-chloropropane	19.53	1.0	20	0	97.6	62 - 128				
1,2-Dibromoethane	18.18	1.0	20	0	90.9	77 - 121				
1,2-Dichlorobenzene	18.88	1.0	20	0	94.4	80 - 119				
1,2-Dichloroethane	18	1.0	20	0	90.0	73 - 128				
1,2-Dichloropropane	18.68	1.0	20	0	93.4	78 - 122				
1,3,5-Trimethylbenzene	19.17	1.0	20	0	95.9	75 - 124				
1,3-Dichlorobenzene	18.98	1.0	20	0	94.9	80 - 119				
1,3-Dichloropropane	18.63	1.0	20	0	93.2	80 - 119				
1,4-Dichlorobenzene	19.44	1.0	20	0	97.2	79 - 118				
2,2-Dichloropropane	17.25	1.0	20	0	86.3	60 - 139				
2-Butanone	32.48	2.0	40	0	81.2	56 - 143				
2-Chlorotoluene	19.6	1.0	20	0	98.0	79 - 122				
2-Hexanone	33.31	2.0	40	0	83.3	57 - 139				
4-Chlorotoluene	19.51	1.0	20	0	97.5	78 - 122				
4-Isopropyltoluene	19.38	1.0	20	0	96.9	77 - 127				
4-Methyl-2-pentanone	35.08	2.0	40	0	87.7	67 - 130				
Acetone	24.02	2.0	40	0	60.1	39 - 160				
Benzene	18.05	1.0	20	0	90.2	79 - 120				
Bromobenzene	18.65	1.0	20	0	93.2	80 - 120				
Bromochloromethane	16.4	1.0	20	0	82.0	78 - 123				
Bromodichloromethane	18.78	1.0	20	0	93.9	79 - 125				
Bromoform	18.74	1.0	20	0	93.7	66 - 130				
Bromomethane	20.62	1.0	20	0	103	53 - 141				

ALS Houston, US Date: 29-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
WorkOrder: HS20120479

QC BATCH REPORT

Batch ID: R374913 (0) **Instrument: VOA6** **Method: VOLATILES ORGANICS BY METHOD 8260C**

MS Sample ID: **HS20120479-03MS** Units: **ug/L** Analysis Date: **17-Dec-2020 17:33**
Client ID: **35AWW13_12072020** Run ID: **VOA6_374913** SeqNo: **5887329** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Carbon disulfide	35.27	2.0	40	0	88.2	64 - 133				
Carbon tetrachloride	20.32	1.0	20	0	102	72 - 136				
Chlorobenzene	18.48	1.0	20	0	92.4	82 - 118				
Chloroethane	20.71	1.0	20	0	104	60 - 138				
Chloroform	17.41	1.0	20	0	87.0	79 - 124				
Chloromethane	14.52	1.0	20	0	72.6	50 - 139				
cis-1,2-Dichloroethene	17.7	1.0	20	0	88.5	78 - 123				
cis-1,3-Dichloropropene	18.33	1.0	20	0	91.6	75 - 124				
Dibromochloromethane	18.27	1.0	20	0	91.4	74 - 126				
Dibromomethane	18.46	1.0	20	0	92.3	79 - 123				
Dichlorodifluoromethane	15.03	1.0	20	0	75.1	32 - 152				
Ethylbenzene	19.68	1.0	20	0	98.4	79 - 121				
Hexachlorobutadiene	19.91	1.0	20	0	99.5	66 - 134				
Isopropylbenzene	19.31	1.0	20	0	96.6	72 - 131				
m,p-Xylene	38.27	2.0	40	0	95.7	80 - 121				
Methylene chloride	17.04	2.0	20	0	85.2	74 - 124				
Naphthalene	21.46	1.0	20	0	107	61 - 128				
n-Butylbenzene	20.48	1.0	20	0	102	75 - 128				
n-Propylbenzene	19.44	1.0	20	0	97.2	76 - 126				
o-Xylene	18.99	1.0	20	0	94.9	78 - 122				
sec-Butylbenzene	19.72	1.0	20	0	98.6	77 - 126				
Styrene	18.4	1.0	20	0	92.0	78 - 123				
tert-Butylbenzene	19.55	1.0	20	0	97.8	78 - 124				
Tetrachloroethene	19.54	1.0	20	0	97.7	74 - 129				
Toluene	18.65	1.0	20	0	93.3	80 - 121				
trans-1,2-Dichloroethene	17.64	1.0	20	0	88.2	75 - 124				
trans-1,3-Dichloropropene	17.95	1.0	20	0	89.7	73 - 127				
Trichloroethene	17.8	1.0	20	0	89.0	79 - 123				
Trichlorofluoromethane	15.36	1.0	20	0	76.8	65 - 141				
Vinyl chloride	16.23	1.0	20	0	81.1	58 - 137				
Surr: 1,2-Dichloroethane-d4	*45.22*	*1.0*	*50*	*0*	*90.4*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*50.25*	*1.0*	*50*	*0*	*100*	*85 - 114*				
Surr: Dibromofluoromethane	*44.98*	*1.0*	*50*	*0*	*90.0*	*80 - 119*				
Surr: Toluene-d8	*51.18*	*1.0*	*50*	*0*	*102*	*89 - 112*				

ALS Houston, US Date: 29-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
WorkOrder: HS20120479

QC BATCH REPORT

Batch ID: R374913 (0) **Instrument: VOA6** **Method: VOLATILES ORGANICS BY METHOD 8260C**

MS Sample ID: **HS20120247-06MS** Units: **ug/L** Analysis Date: **17-Dec-2020 16:50**
Client ID: Run ID: **VOA6_374913** SeqNo: **5887327** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	19.12	1.0	20	0	95.6	78 - 124				
1,1,1-Trichloroethane	18.12	1.0	20	0	90.6	74 - 131				
1,1,2,2-Tetrachloroethane	17.34	1.0	20	0	86.7	71 - 121				
1,1,2-Trichloroethane	18.58	1.0	20	0	92.9	80 - 119				
1,1-Dichloroethane	17.77	1.0	20	0	88.9	77 - 125				
1,1-Dichloroethene	16.77	1.0	20	0	83.9	71 - 131				
1,1-Dichloropropene	19.58	1.0	20	0	97.9	78 - 125				
1,2,3-Trichlorobenzene	16.23	1.0	20	0	81.2	69 - 129				
1,2,3-Trichloropropane	17.15	1.0	20	0	85.8	73 - 122				
1,2,4-Trichlorobenzene	17.46	1.0	20	0	87.3	69 - 130				
1,2,4-Trimethylbenzene	18.82	1.0	20	0	94.1	76 - 124				
1,2-Dibromo-3-chloropropane	16.4	1.0	20	0	82.0	62 - 128				
1,2-Dibromoethane	18.5	1.0	20	0	92.5	77 - 121				
1,2-Dichlorobenzene	17.83	1.0	20	0	89.1	80 - 119				
1,2-Dichloroethane	18.78	1.0	20	0	93.9	73 - 128				
1,2-Dichloropropane	18.87	1.0	20	0	94.4	78 - 122				
1,3,5-Trimethylbenzene	18.37	1.0	20	0	91.8	75 - 124				
1,3-Dichlorobenzene	18.09	1.0	20	0	90.5	80 - 119				
1,3-Dichloropropane	18.92	1.0	20	0	94.6	80 - 119				
1,4-Dichlorobenzene	18.43	1.0	20	0	92.1	79 - 118				
2,2-Dichloropropane	17.98	1.0	20	0	89.9	60 - 139				
2-Butanone	32.47	2.0	40	0	81.2	56 - 143				
2-Chlorotoluene	19.01	1.0	20	0	95.0	79 - 122				
2-Hexanone	32.77	2.0	40	0	81.9	57 - 139				
4-Chlorotoluene	18.33	1.0	20	0	91.6	78 - 122				
4-Isopropyltoluene	18.26	1.0	20	0	91.3	77 - 127				
4-Methyl-2-pentanone	34.06	2.0	40	0	85.2	67 - 130				
Acetone	27.99	2.0	40	0	70.0	39 - 160				
Benzene	19.01	1.0	20	0	95.0	79 - 120				
Bromobenzene	18.06	1.0	20	0	90.3	80 - 120				
Bromochloromethane	17.55	1.0	20	0	87.8	78 - 123				
Bromodichloromethane	18.97	1.0	20	0	94.8	79 - 125				
Bromoform	18.77	1.0	20	0	93.9	66 - 130				
Bromomethane	21.79	1.0	20	0	109	53 - 141				

ALS Houston, US Date: 29-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
WorkOrder: HS20120479

QC BATCH REPORT

Batch ID: R374913 (0) **Instrument: VOA6** **Method: VOLATILES ORGANICS BY METHOD 8260C**

MS Sample ID: **HS20120247-06MS** Units: **ug/L** Analysis Date: **17-Dec-2020 16:50**
Client ID: Run ID: **VOA6_374913** SeqNo: **5887327** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Carbon disulfide	36.56	2.0	40	0	91.4	64 - 133				
Carbon tetrachloride	21.1	1.0	20	0	106	72 - 136				
Chlorobenzene	19.45	1.0	20	0	97.3	82 - 118				
Chloroethane	18.31	1.0	20	0	91.6	60 - 138				
Chloroform	17.93	1.0	20	0	89.6	79 - 124				
Chloromethane	14.14	1.0	20	0	70.7	50 - 139				
cis-1,2-Dichloroethene	18.21	1.0	20	0	91.1	78 - 123				
cis-1,3-Dichloropropene	18.49	1.0	20	0	92.5	75 - 124				
Dibromochloromethane	18.64	1.0	20	0	93.2	74 - 126				
Dibromomethane	18.46	1.0	20	0	92.3	79 - 123				
Dichlorodifluoromethane	15.63	1.0	20	0	78.2	32 - 152				
Ethylbenzene	19.57	1.0	20	0	97.8	79 - 121				
Hexachlorobutadiene	16.89	1.0	20	0	84.4	66 - 134				
Isopropylbenzene	19.77	1.0	20	0	98.8	72 - 131				
m,p-Xylene	38.57	2.0	40	0	96.4	80 - 121				
Methylene chloride	17.03	2.0	20	0	85.1	74 - 124				
Naphthalene	14.76	1.0	20	0	73.8	61 - 128				
n-Butylbenzene	18.86	1.0	20	0	94.3	75 - 128				
n-Propylbenzene	18.96	1.0	20	0	94.8	76 - 126				
o-Xylene	19.21	1.0	20	0	96.0	78 - 122				
sec-Butylbenzene	18.5	1.0	20	0	92.5	77 - 126				
Styrene	19.07	1.0	20	0	95.3	78 - 123				
tert-Butylbenzene	18.97	1.0	20	0	94.8	78 - 124				
Tetrachloroethene	21.73	1.0	20	0	109	74 - 129				
Toluene	19.09	1.0	20	0	95.5	80 - 121				
trans-1,2-Dichloroethene	18	1.0	20	0	90.0	75 - 124				
trans-1,3-Dichloropropene	18.76	1.0	20	0	93.8	73 - 127				
Trichloroethene	18.83	1.0	20	0	94.2	79 - 123				
Trichlorofluoromethane	16.72	1.0	20	0	83.6	65 - 141				
Vinyl chloride	16.8	1.0	20	0	84.0	58 - 137				
Surr: 1,2-Dichloroethane-d4	*44.68*	*1.0*	*50*	*0*	*89.4*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*52.87*	*1.0*	*50*	*0*	*106*	*85 - 114*				
Surr: Dibromofluoromethane	*46.94*	*1.0*	*50*	*0*	*93.9*	*80 - 119*				
Surr: Toluene-d8	*50.86*	*1.0*	*50*	*0*	*102*	*89 - 112*				

ALS Houston, US Date: 29-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
WorkOrder: HS20120479

QC BATCH REPORT

Batch ID: R374913 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS20120479-03MSD** Units: **ug/L** Analysis Date: **17-Dec-2020 17:54**
Client ID: **35AWW13_12072020** Run ID: **VOA6_374913** SeqNo: **5887330** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	17.93	1.0	20	0	89.6	78 - 124	18.1	0.974	20	
1,1,1-Trichloroethane	17.43	1.0	20	0	87.2	74 - 131	17.28	0.866	20	
1,1,2,2-Tetrachloroethane	16.32	1.0	20	0	81.6	71 - 121	18.29	11.4	20	
1,1,2-Trichloroethane	18.14	1.0	20	0	90.7	80 - 119	18.39	1.4	20	
1,1-Dichloroethane	16.27	1.0	20	0	81.4	77 - 125	17.56	7.61	20	
1,1-Dichloroethene	14.85	1.0	20	0	74.2	71 - 131	15.58	4.84	20	
1,1-Dichloropropene	18.24	1.0	20	0	91.2	78 - 125	18.39	0.797	20	
1,2,3-Trichlorobenzene	20.79	1.0	20	0	104	69 - 129	22.79	9.21	20	
1,2,3-Trichloropropane	16.9	1.0	20	0	84.5	73 - 122	18.29	7.86	20	
1,2,4-Trichlorobenzene	19.08	1.0	20	0	95.4	69 - 130	21.24	10.7	20	
1,2,4-Trimethylbenzene	17.58	1.0	20	0	87.9	76 - 124	19.68	11.3	20	
1,2-Dibromo-3-chloropropane	16.15	1.0	20	0	80.8	62 - 128	19.53	18.9	20	
1,2-Dibromoethane	17.15	1.0	20	0	85.7	77 - 121	18.18	5.84	20	
1,2-Dichlorobenzene	17.24	1.0	20	0	86.2	80 - 119	18.88	9.05	20	
1,2-Dichloroethane	18	1.0	20	0	90.0	73 - 128	18	0.00849	20	
1,2-Dichloropropane	18.13	1.0	20	0	90.7	78 - 122	18.68	2.98	20	
1,3,5-Trimethylbenzene	17.25	1.0	20	0	86.2	75 - 124	19.17	10.6	20	
1,3-Dichlorobenzene	16.97	1.0	20	0	84.8	80 - 119	18.98	11.2	20	
1,3-Dichloropropane	17.75	1.0	20	0	88.7	80 - 119	18.63	4.85	20	
1,4-Dichlorobenzene	17.26	1.0	20	0	86.3	79 - 118	19.44	11.9	20	
2,2-Dichloropropane	16.72	1.0	20	0	83.6	60 - 139	17.25	3.12	20	
2-Butanone	30.9	2.0	40	0	77.2	56 - 143	32.48	5.01	20	
2-Chlorotoluene	17.81	1.0	20	0	89.1	79 - 122	19.6	9.55	20	
2-Hexanone	32.91	2.0	40	0	82.3	57 - 139	33.31	1.2	20	
4-Chlorotoluene	17.51	1.0	20	0	87.5	78 - 122	19.51	10.8	20	
4-Isopropyltoluene	17.65	1.0	20	0	88.2	77 - 127	19.38	9.39	20	
4-Methyl-2-pentanone	33.86	2.0	40	0	84.7	67 - 130	35.08	3.53	20	
Acetone	24.68	2.0	40	0	61.7	39 - 160	24.02	2.71	20	
Benzene	17.85	1.0	20	0	89.2	79 - 120	18.05	1.11	20	
Bromobenzene	17.11	1.0	20	0	85.5	80 - 120	18.65	8.63	20	
Bromochloromethane	16.33	1.0	20	0	81.6	78 - 123	16.4	0.423	20	
Bromodichloromethane	18.45	1.0	20	0	92.2	79 - 125	18.78	1.77	20	
Bromoform	18.17	1.0	20	0	90.9	66 - 130	18.74	3.07	20	
Bromomethane	18.97	1.0	20	0	94.9	53 - 141	20.62	8.34	20	

ALS Houston, US Date: 29-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
WorkOrder: HS20120479

QC BATCH REPORT

Batch ID: R374913 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS20120479-03MSD** Units: **ug/L** Analysis Date: **17-Dec-2020 17:54**
Client ID: **35AWW13_12072020** Run ID: **VOA6_374913** SeqNo: **5887330** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Carbon disulfide	33.76	2.0	40	0	84.4	64 - 133	35.27	4.37	20	
Carbon tetrachloride	20.03	1.0	20	0	100	72 - 136	20.32	1.43	20	
Chlorobenzene	17.52	1.0	20	0	87.6	82 - 118	18.48	5.38	20	
Chloroethane	18.07	1.0	20	0	90.3	60 - 138	20.71	13.6	20	
Chloroform	16.55	1.0	20	0	82.8	79 - 124	17.41	5.03	20	
Chloromethane	14.01	1.0	20	0	70.1	50 - 139	14.52	3.55	20	
cis-1,2-Dichloroethene	16.79	1.0	20	0	84.0	78 - 123	17.7	5.24	20	
cis-1,3-Dichloropropene	17.63	1.0	20	0	88.2	75 - 124	18.33	3.87	20	
Dibromochloromethane	17.64	1.0	20	0	88.2	74 - 126	18.27	3.56	20	
Dibromomethane	18.41	1.0	20	0	92.1	79 - 123	18.46	0.233	20	
Dichlorodifluoromethane	14.49	1.0	20	0	72.5	32 - 152	15.03	3.64	20	
Ethylbenzene	18.73	1.0	20	0	93.6	79 - 121	19.68	4.95	20	
Hexachlorobutadiene	18.82	1.0	20	0	94.1	66 - 134	19.91	5.64	20	
Isopropylbenzene	18.2	1.0	20	0	91.0	72 - 131	19.31	5.95	20	
m,p-Xylene	36.2	2.0	40	0	90.5	80 - 121	38.27	5.55	20	
Methylene chloride	16	2.0	20	0	80.0	74 - 124	17.04	6.35	20	
Naphthalene	19.1	1.0	20	0	95.5	61 - 128	21.46	11.6	20	
n-Butylbenzene	18.76	1.0	20	0	93.8	75 - 128	20.48	8.78	20	
n-Propylbenzene	18.18	1.0	20	0	90.9	76 - 126	19.44	6.73	20	
o-Xylene	17.61	1.0	20	0	88.0	78 - 122	18.99	7.56	20	
sec-Butylbenzene	18.02	1.0	20	0	90.1	77 - 126	19.72	9	20	
Styrene	18.32	1.0	20	0	91.6	78 - 123	18.4	0.463	20	
tert-Butylbenzene	17.8	1.0	20	0	89.0	78 - 124	19.55	9.38	20	
Tetrachloroethene	18.94	1.0	20	0	94.7	74 - 129	19.54	3.12	20	
Toluene	17.92	1.0	20	0	89.6	80 - 121	18.65	4.02	20	
trans-1,2-Dichloroethene	16.83	1.0	20	0	84.1	75 - 124	17.64	4.71	20	
trans-1,3-Dichloropropene	17.82	1.0	20	0	89.1	73 - 127	17.95	0.721	20	
Trichloroethene	17.53	1.0	20	0	87.7	79 - 123	17.8	1.52	20	
Trichlorofluoromethane	15.28	1.0	20	0	76.4	65 - 141	15.36	0.519	20	
Vinyl chloride	15.66	1.0	20	0	78.3	58 - 137	16.23	3.58	20	
Surr: 1,2-Dichloroethane-d4	*45.19*	*1.0*	*50*	*0*	*90.4*	*81 - 118*	*45.22*	*0.0792*	*20*	
Surr: 4-Bromofluorobenzene	*51.05*	*1.0*	*50*	*0*	*102*	*85 - 114*	*50.25*	*1.59*	*20*	
Surr: Dibromofluoromethane	*44.39*	*1.0*	*50*	*0*	*88.8*	*80 - 119*	*44.98*	*1.32*	*20*	
Surr: Toluene-d8	*50.05*	*1.0*	*50*	*0*	*100*	*89 - 112*	*51.18*	*2.25*	*20*	

ALS Houston, US Date: 29-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
WorkOrder: HS20120479

QC BATCH REPORT

Batch ID: R374913 (0) **Instrument: VOA6** **Method: VOLATILES ORGANICS BY METHOD 8260C**

MSD Sample ID: **HS20120247-06MSD** Units: **ug/L** Analysis Date: **17-Dec-2020 17:12**
Client ID: Run ID: **VOA6_374913** SeqNo: **5887328** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	18.14	1.0	20	0	90.7	78 - 124	19.12	5.27	20	
1,1,1-Trichloroethane	18.1	1.0	20	0	90.5	74 - 131	18.12	0.149	20	
1,1,2,2-Tetrachloroethane	17.23	1.0	20	0	86.2	71 - 121	17.34	0.653	20	
1,1,2-Trichloroethane	17.84	1.0	20	0	89.2	80 - 119	18.58	4.06	20	
1,1-Dichloroethane	16.78	1.0	20	0	83.9	77 - 125	17.77	5.76	20	
1,1-Dichloroethene	15.24	1.0	20	0	76.2	71 - 131	16.77	9.57	20	
1,1-Dichloropropene	18.65	1.0	20	0	93.3	78 - 125	19.58	4.88	20	
1,2,3-Trichlorobenzene	21.4	1.0	20	0	107	69 - 129	16.23	27.4	20	R
1,2,3-Trichloropropane	16.87	1.0	20	0	84.3	73 - 122	17.15	1.67	20	
1,2,4-Trichlorobenzene	19.52	1.0	20	0	97.6	69 - 130	17.46	11.2	20	
1,2,4-Trimethylbenzene	18.65	1.0	20	0	93.3	76 - 124	18.82	0.906	20	
1,2-Dibromo-3-chloropropane	17.29	1.0	20	0	86.5	62 - 128	16.4	5.29	20	
1,2-Dibromoethane	17.85	1.0	20	0	89.3	77 - 121	18.5	3.54	20	
1,2-Dichlorobenzene	17.76	1.0	20	0	88.8	80 - 119	17.83	0.357	20	
1,2-Dichloroethane	18.26	1.0	20	0	91.3	73 - 128	18.78	2.82	20	
1,2-Dichloropropane	18.02	1.0	20	0	90.1	78 - 122	18.87	4.62	20	
1,3,5-Trimethylbenzene	18.08	1.0	20	0	90.4	75 - 124	18.37	1.57	20	
1,3-Dichlorobenzene	17.87	1.0	20	0	89.4	80 - 119	18.09	1.24	20	
1,3-Dichloropropane	18.21	1.0	20	0	91.0	80 - 119	18.92	3.81	20	
1,4-Dichlorobenzene	18.32	1.0	20	0	91.6	79 - 118	18.43	0.569	20	
2,2-Dichloropropane	17.87	1.0	20	0	89.4	60 - 139	17.98	0.604	20	
2-Butanone	33.93	2.0	40	0	84.8	56 - 143	32.47	4.42	20	
2-Chlorotoluene	18.63	1.0	20	0	93.1	79 - 122	19.01	2.02	20	
2-Hexanone	33.22	2.0	40	0	83.0	57 - 139	32.77	1.36	20	
4-Chlorotoluene	18.52	1.0	20	0	92.6	78 - 122	18.33	1.06	20	
4-Isopropyltoluene	18.39	1.0	20	0	92.0	77 - 127	18.26	0.699	20	
4-Methyl-2-pentanone	33.98	2.0	40	0	84.9	67 - 130	34.06	0.241	20	
Acetone	26.75	2.0	40	0	66.9	39 - 160	27.99	4.55	20	
Benzene	18.07	1.0	20	0	90.4	79 - 120	19.01	5.05	20	
Bromobenzene	17.11	1.0	20	0	85.6	80 - 120	18.06	5.37	20	
Bromochloromethane	16.63	1.0	20	0	83.2	78 - 123	17.55	5.38	20	
Bromodichloromethane	18.75	1.0	20	0	93.8	79 - 125	18.97	1.14	20	
Bromoform	17.47	1.0	20	0	87.3	66 - 130	18.77	7.19	20	
Bromomethane	20.66	1.0	20	0	103	53 - 141	21.79	5.31	20	

ALS Houston, US Date: 29-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
WorkOrder: HS20120479

QC BATCH REPORT

Batch ID: R374913 (0) **Instrument: VOA6** **Method: VOLATILES ORGANICS BY METHOD 8260C**

MSD Sample ID: **HS20120247-06MSD** Units: **ug/L** Analysis Date: **17-Dec-2020 17:12**
Client ID: Run ID: **VOA6_374913** SeqNo: **5887328** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Carbon disulfide	35.85	2.0	40	0	89.6	64 - 133	36.56	1.94	20	
Carbon tetrachloride	20.74	1.0	20	0	104	72 - 136	21.1	1.73	20	
Chlorobenzene	18.03	1.0	20	0	90.2	82 - 118	19.45	7.59	20	
Chloroethane	18.64	1.0	20	0	93.2	60 - 138	18.31	1.81	20	
Chloroform	16.97	1.0	20	0	84.9	79 - 124	17.93	5.5	20	
Chloromethane	14.73	1.0	20	0	73.7	50 - 139	14.14	4.1	20	
cis-1,2-Dichloroethene	17.4	1.0	20	0	87.0	78 - 123	18.21	4.54	20	
cis-1,3-Dichloropropene	17.65	1.0	20	0	88.3	75 - 124	18.49	4.64	20	
Dibromochloromethane	17.69	1.0	20	0	88.4	74 - 126	18.64	5.24	20	
Dibromomethane	18.45	1.0	20	0	92.2	79 - 123	18.46	0.0696	20	
Dichlorodifluoromethane	15.57	1.0	20	0	77.8	32 - 152	15.63	0.421	20	
Ethylbenzene	19.27	1.0	20	0	96.4	79 - 121	19.57	1.52	20	
Hexachlorobutadiene	17.69	1.0	20	0	88.4	66 - 134	16.89	4.65	20	
Isopropylbenzene	19.15	1.0	20	0	95.7	72 - 131	19.77	3.18	20	
m,p-Xylene	37.21	2.0	40	0	93.0	80 - 121	38.57	3.6	20	
Methylene chloride	16.83	2.0	20	0	84.2	74 - 124	17.03	1.13	20	
Naphthalene	19.21	1.0	20	0	96.0	61 - 128	14.76	26.2	20	R
n-Butylbenzene	19.35	1.0	20	0	96.7	75 - 128	18.86	2.57	20	
n-Propylbenzene	19.36	1.0	20	0	96.8	76 - 126	18.96	2.13	20	
o-Xylene	17.94	1.0	20	0	89.7	78 - 122	19.21	6.81	20	
sec-Butylbenzene	18.67	1.0	20	0	93.4	77 - 126	18.5	0.932	20	
Styrene	18.19	1.0	20	0	91.0	78 - 123	19.07	4.69	20	
tert-Butylbenzene	18.63	1.0	20	0	93.2	78 - 124	18.97	1.78	20	
Tetrachloroethene	20.07	1.0	20	0	100	74 - 129	21.73	7.96	20	
Toluene	18.31	1.0	20	0	91.5	80 - 121	19.09	4.18	20	
trans-1,2-Dichloroethene	17.5	1.0	20	0	87.5	75 - 124	18	2.86	20	
trans-1,3-Dichloropropene	18.11	1.0	20	0	90.6	73 - 127	18.76	3.5	20	
Trichloroethene	17.6	1.0	20	0	88.0	79 - 123	18.83	6.76	20	
Trichlorofluoromethane	15.81	1.0	20	0	79.1	65 - 141	16.72	5.61	20	
Vinyl chloride	16.15	1.0	20	0	80.7	58 - 137	16.8	3.99	20	
Surr: 1,2-Dichloroethane-d4	*43.71*	*1.0*	*50*	*0*	*87.4*	*81 - 118*	*44.68*	*2.2*	*20*	
Surr: 4-Bromofluorobenzene	*50.74*	*1.0*	*50*	*0*	*101*	*85 - 114*	*52.87*	*4.11*	*20*	
Surr: Dibromofluoromethane	*44.23*	*1.0*	*50*	*0*	*88.5*	*80 - 119*	*46.94*	*5.95*	*20*	
Surr: Toluene-d8	*49.6*	*1.0*	*50*	*0*	*99.2*	*89 - 112*	*50.86*	*2.51*	*20*	

ALS Houston, US Date: 29-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
WorkOrder: HS20120479

QC BATCH REPORT

Batch ID: R374913 (0)	Instrument: VOA6	Method: VOLATILES ORGANICS BY METHOD 8260C

The following samples were analyzed in this batch:

HS20120479-01	HS20120479-02	HS20120479-03	HS20120479-04
HS20120479-05	HS20120479-06	HS20120479-07	HS20120479-08

ALS Houston, US Date: 29-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
WorkOrder: HS20120479

QC BATCH REPORT

Batch ID: R375002 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MBLK Sample ID: **VBLKW-201218** Units: **ug/L** Analysis Date: **18-Dec-2020 12:46**
Client ID: Run ID: **VOA6_375002** SeqNo: **5889270** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	0.50	1.0								U
1,1,1-Trichloroethane	0.50	1.0								U
1,1,2,2-Tetrachloroethane	0.50	1.0								U
1,1,2-Trichloroethane	0.50	1.0								U
1,1-Dichloroethane	0.50	1.0								U
1,1-Dichloroethene	0.50	1.0								U
1,1-Dichloropropene	0.50	1.0								U
1,2,3-Trichlorobenzene	1.0	1.0								U
1,2,3-Trichloropropane	1.0	1.0								U
1,2,4-Trichlorobenzene	1.0	1.0								U
1,2,4-Trimethylbenzene	1.0	1.0								U
1,2-Dibromo-3-chloropropane	0.50	1.0								U
1,2-Dibromoethane	0.50	1.0								U
1,2-Dichlorobenzene	1.0	1.0								U
1,2-Dichloroethane	0.50	1.0								U
1,2-Dichloropropane	0.50	1.0								U
1,3,5-Trimethylbenzene	0.50	1.0								U
1,3-Dichlorobenzene	1.0	1.0								U
1,3-Dichloropropane	1.0	1.0								U
1,4-Dichlorobenzene	1.0	1.0								U
2,2-Dichloropropane	0.50	1.0								U
2-Butanone	1.0	2.0								U
2-Chlorotoluene	1.0	1.0								U
2-Hexanone	2.0	2.0								U
4-Chlorotoluene	1.0	1.0								U
4-Isopropyltoluene	1.0	1.0								U
4-Methyl-2-pentanone	2.0	2.0								U
Acetone	1.0	2.0								U
Benzene	0.50	1.0								U
Bromobenzene	1.0	1.0								U
Bromochloromethane	0.50	1.0								U
Bromodichloromethane	0.50	1.0								U
Bromoform	0.50	1.0								U
Bromomethane	0.50	1.0								U

ALS Houston, US Date: 29-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
WorkOrder: HS20120479

QC BATCH REPORT

Batch ID: R375002 (0) **Instrument: VOA6** **Method: VOLATILES ORGANICS BY METHOD 8260C**

MBLK Sample ID: **VBLKW-201218** Units: **ug/L** Analysis Date: **18-Dec-2020 12:46**
Client ID: Run ID: **VOA6_375002** SeqNo: **5889270** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Carbon disulfide	1.0	2.0								U
Carbon tetrachloride	0.50	1.0								U
Chlorobenzene	0.50	1.0								U
Chloroethane	0.50	1.0								U
Chloroform	0.50	1.0								U
Chloromethane	0.50	1.0								U
cis-1,2-Dichloroethene	0.50	1.0								U
cis-1,3-Dichloropropene	0.50	1.0								U
Dibromochloromethane	0.50	1.0								U
Dibromomethane	0.50	1.0								U
Dichlorodifluoromethane	0.50	1.0								U
Ethylbenzene	0.50	1.0								U
Hexachlorobutadiene	1.0	1.0								U
Isopropylbenzene	1.0	1.0								U
m,p-Xylene	1.0	2.0								U
Methylene chloride	1.0	2.0								U
Naphthalene	0.50	1.0								U
n-Butylbenzene	1.0	1.0								U
n-Propylbenzene	1.0	1.0								U
o-Xylene	1.0	1.0								U
sec-Butylbenzene	0.50	1.0								U
Styrene	1.0	1.0								U
tert-Butylbenzene	0.50	1.0								U
Tetrachloroethene	0.50	1.0								U
Toluene	0.50	1.0								U
trans-1,2-Dichloroethene	0.50	1.0								U
trans-1,3-Dichloropropene	0.50	1.0								U
Trichloroethene	0.50	1.0								U
Trichlorofluoromethane	0.50	1.0								U
Vinyl chloride	0.50	1.0								U
Surr: 1,2-Dichloroethane-d4	*44.65*	*1.0*	*50*	*0*	*89.3*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*46.53*	*1.0*	*50*	*0*	*93.1*	*85 - 114*				
Surr: Dibromofluoromethane	*43.66*	*1.0*	*50*	*0*	*87.3*	*80 - 119*				
Surr: Toluene-d8	*51.01*	*1.0*	*50*	*0*	*102*	*89 - 112*				

ALS Houston, US Date: 29-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
WorkOrder: HS20120479

QC BATCH REPORT

Batch ID: R375002 (0) **Instrument: VOA6** **Method: VOLATILES ORGANICS BY METHOD 8260C**

LCS Sample ID: **VLCSW-201218** Units: **ug/L** Analysis Date: **18-Dec-2020 12:04**
Client ID: Run ID: **VOA6_375002** SeqNo: **5889269** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	19.81	1.0	20	0	99.0	78 - 124				
1,1,1-Trichloroethane	20.86	1.0	20	0	104	74 - 131				
1,1,2,2-Tetrachloroethane	20.55	1.0	20	0	103	71 - 121				
1,1,2-Trichloroethane	20.74	1.0	20	0	104	80 - 119				
1,1-Dichloroethane	21.36	1.0	20	0	107	77 - 125				
1,1-Dichloroethene	19.61	1.0	20	0	98.1	71 - 131				
1,1-Dichloropropene	20.92	1.0	20	0	105	78 - 125				
1,2,3-Trichlorobenzene	26.4	1.0	20	0	132	69 - 129				S
1,2,3-Trichloropropane	20.56	1.0	20	0	103	73 - 122				
1,2,4-Trichlorobenzene	22.93	1.0	20	0	115	69 - 130				
1,2,4-Trimethylbenzene	19.93	1.0	20	0	99.6	76 - 124				
1,2-Dibromo-3-chloropropane	22.97	1.0	20	0	115	62 - 128				
1,2-Dibromoethane	21.46	1.0	20	0	107	77 - 121				
1,2-Dichlorobenzene	19.45	1.0	20	0	97.3	80 - 119				
1,2-Dichloroethane	21.92	1.0	20	0	110	73 - 128				
1,2-Dichloropropane	21.3	1.0	20	0	106	78 - 122				
1,3,5-Trimethylbenzene	18.94	1.0	20	0	94.7	75 - 124				
1,3-Dichlorobenzene	19.32	1.0	20	0	96.6	80 - 119				
1,3-Dichloropropane	21.36	1.0	20	0	107	80 - 119				
1,4-Dichlorobenzene	19.81	1.0	20	0	99.1	79 - 118				
2,2-Dichloropropane	21.66	1.0	20	0	108	60 - 139				
2-Butanone	47.29	2.0	40	0	118	56 - 143				
2-Chlorotoluene	20.21	1.0	20	0	101	79 - 122				
2-Hexanone	40.39	2.0	40	0	101	57 - 139				
4-Chlorotoluene	19.55	1.0	20	0	97.8	78 - 122				
4-Isopropyltoluene	18.73	1.0	20	0	93.7	77 - 127				
4-Methyl-2-pentanone	41.18	2.0	40	0	103	67 - 130				
Acetone	44.38	2.0	40	0	111	39 - 160				
Benzene	21	1.0	20	0	105	79 - 120				
Bromobenzene	20	1.0	20	0	100.0	80 - 120				
Bromochloromethane	20.27	1.0	20	0	101	78 - 123				
Bromodichloromethane	22.16	1.0	20	0	111	79 - 125				
Bromoform	22.03	1.0	20	0	110	66 - 130				
Bromomethane	21.82	1.0	20	0	109	53 - 141				

ALS Houston, US Date: 29-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
WorkOrder: HS20120479

QC BATCH REPORT

Batch ID: R375002 (0) **Instrument: VOA6** **Method: VOLATILES ORGANICS BY METHOD 8260C**

LCS Sample ID: **VLCSW-201218** Units: **ug/L** Analysis Date: **18-Dec-2020 12:04**
Client ID: Run ID: **VOA6_375002** SeqNo: **5889269** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Carbon disulfide	46.65	2.0	40	0	117	64 - 133				
Carbon tetrachloride	21.32	1.0	20	0	107	72 - 136				
Chlorobenzene	19.89	1.0	20	0	99.5	82 - 118				
Chloroethane	21.78	1.0	20	0	109	60 - 138				
Chloroform	21.05	1.0	20	0	105	79 - 124				
Chloromethane	16.18	1.0	20	0	80.9	50 - 139				
cis-1,2-Dichloroethene	21.03	1.0	20	0	105	78 - 123				
cis-1,3-Dichloropropene	21.64	1.0	20	0	108	75 - 124				
Dibromochloromethane	20.74	1.0	20	0	104	74 - 126				
Dibromomethane	21.79	1.0	20	0	109	79 - 123				
Dichlorodifluoromethane	20.23	1.0	20	0	101	32 - 152				
Ethylbenzene	19.56	1.0	20	0	97.8	79 - 121				
Hexachlorobutadiene	23.8	1.0	20	0	119	66 - 134				
Isopropylbenzene	18.76	1.0	20	0	93.8	72 - 131				
m,p-Xylene	39.11	2.0	40	0	97.8	80 - 121				
Methylene chloride	20.85	2.0	20	0	104	74 - 124				
Naphthalene	23.83	1.0	20	0	119	61 - 128				
n-Butylbenzene	20.43	1.0	20	0	102	75 - 128				
n-Propylbenzene	19.63	1.0	20	0	98.2	76 - 126				
o-Xylene	19.15	1.0	20	0	95.7	78 - 122				
sec-Butylbenzene	18.94	1.0	20	0	94.7	77 - 126				
Styrene	20.16	1.0	20	0	101	78 - 123				
tert-Butylbenzene	18.48	1.0	20	0	92.4	78 - 124				
Tetrachloroethene	19.34	1.0	20	0	96.7	74 - 129				
Toluene	20.4	1.0	20	0	102	80 - 121				
trans-1,2-Dichloroethene	21.25	1.0	20	0	106	75 - 124				
trans-1,3-Dichloropropene	21.36	1.0	20	0	107	73 - 127				
Trichloroethene	20.17	1.0	20	0	101	79 - 123				
Trichlorofluoromethane	19.51	1.0	20	0	97.6	65 - 141				
Vinyl chloride	20.21	1.0	20	0	101	58 - 137				
Surr: 1,2-Dichloroethane-d4	*51.78*	*1.0*	*50*	*0*	*104*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*50.21*	*1.0*	*50*	*0*	*100*	*85 - 114*				
Surr: Dibromofluoromethane	*50.02*	*1.0*	*50*	*0*	*100*	*80 - 119*				
Surr: Toluene-d8	*48.63*	*1.0*	*50*	*0*	*97.3*	*89 - 112*				

ALS Houston, US Date: 29-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
WorkOrder: HS20120479

QC BATCH REPORT

Batch ID: R375002 (0) **Instrument: VOA6** **Method: VOLATILES ORGANICS BY METHOD 8260C**

MS Sample ID: **HS20120486-08MS** Units: **ug/L** Analysis Date: **18-Dec-2020 16:17**
Client ID: Run ID: **VOA6_375002** SeqNo: **5889280** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	19.48	1.0	20	0	97.4	78 - 124				
1,1,1-Trichloroethane	18.94	1.0	20	0	94.7	74 - 131				
1,1,2,2-Tetrachloroethane	18.78	1.0	20	0	93.9	71 - 121				
1,1,2-Trichloroethane	19.24	1.0	20	0	96.2	80 - 119				
1,1-Dichloroethane	17.21	1.0	20	0	86.1	77 - 125				
1,1-Dichloroethene	17.05	1.0	20	0	85.3	71 - 131				
1,1-Dichloropropene	19.6	1.0	20	0	98.0	78 - 125				
1,2,3-Trichlorobenzene	18.62	1.0	20	0	93.1	69 - 129				
1,2,3-Trichloropropane	18.48	1.0	20	0	92.4	73 - 122				
1,2,4-Trichlorobenzene	19.42	1.0	20	0	97.1	69 - 130				
1,2,4-Trimethylbenzene	19.94	1.0	20	0	99.7	76 - 124				
1,2-Dibromo-3-chloropropane	17.29	1.0	20	0	86.5	62 - 128				
1,2-Dibromoethane	18.71	1.0	20	0	93.5	77 - 121				
1,2-Dichlorobenzene	18.64	1.0	20	0	93.2	80 - 119				
1,2-Dichloroethane	18.85	1.0	20	0	94.2	73 - 128				
1,2-Dichloropropane	18.98	1.0	20	0	94.9	78 - 122				
1,3,5-Trimethylbenzene	19.53	1.0	20	0	97.6	75 - 124				
1,3-Dichlorobenzene	19.08	1.0	20	0	95.4	80 - 119				
1,3-Dichloropropane	19.4	1.0	20	0	97.0	80 - 119				
1,4-Dichlorobenzene	19.01	1.0	20	0	95.0	79 - 118				
2,2-Dichloropropane	18.63	1.0	20	0	93.1	60 - 139				
2-Butanone	29.98	2.0	40	0	75.0	56 - 143				
2-Chlorotoluene	20.93	1.0	20	0	105	79 - 122				
2-Hexanone	36.4	2.0	40	0	91.0	57 - 139				
4-Chlorotoluene	20.53	1.0	20	0	103	78 - 122				
4-Isopropyltoluene	19.8	1.0	20	0	99.0	77 - 127				
4-Methyl-2-pentanone	34.28	2.0	40	0	85.7	67 - 130				
Acetone	27.15	2.0	40	0	67.9	39 - 160				
Benzene	19.21	1.0	20	0	96.0	79 - 120				
Bromobenzene	19	1.0	20	0	95.0	80 - 120				
Bromochloromethane	17.93	1.0	20	0	89.7	78 - 123				
Bromodichloromethane	18.82	1.0	20	0	94.1	79 - 125				
Bromoform	18.94	1.0	20	0	94.7	66 - 130				
Bromomethane	19.97	1.0	20	0	99.9	53 - 141				

ALS Houston, US Date: 29-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
WorkOrder: HS20120479

QC BATCH REPORT

Batch ID: R375002 (0) **Instrument: VOA6** **Method: VOLATILES ORGANICS BY METHOD 8260C**

MS Sample ID: **HS20120486-08MS** Units: **ug/L** Analysis Date: **18-Dec-2020 16:17**
Client ID: Run ID: **VOA6_375002** SeqNo: **5889280** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Carbon disulfide	36.42	2.0	40	0	91.0	64 - 133				
Carbon tetrachloride	21.49	1.0	20	0	107	72 - 136				
Chlorobenzene	19.39	1.0	20	0	97.0	82 - 118				
Chloroethane	17.78	1.0	20	0	88.9	60 - 138				
Chloroform	17.61	1.0	20	0	88.0	79 - 124				
Chloromethane	13.56	1.0	20	0	67.8	50 - 139				
cis-1,2-Dichloroethene	17.98	1.0	20	0	89.9	78 - 123				
cis-1,3-Dichloropropene	18.7	1.0	20	0	93.5	75 - 124				
Dibromochloromethane	19.09	1.0	20	0	95.4	74 - 126				
Dibromomethane	19.05	1.0	20	0	95.3	79 - 123				
Dichlorodifluoromethane	15.64	1.0	20	0	78.2	32 - 152				
Ethylbenzene	20.83	1.0	20	0	104	79 - 121				
Hexachlorobutadiene	23.56	1.0	20	0	118	66 - 134				
Isopropylbenzene	20.69	1.0	20	0	103	72 - 131				
m,p-Xylene	41.04	2.0	40	0	103	80 - 121				
Methylene chloride	17.14	2.0	20	0	85.7	74 - 124				
Naphthalene	17.17	1.0	20	0	85.9	61 - 128				
n-Butylbenzene	20.83	1.0	20	0	104	75 - 128				
n-Propylbenzene	20.62	1.0	20	0	103	76 - 126				
o-Xylene	19.53	1.0	20	0	97.7	78 - 122				
sec-Butylbenzene	19.9	1.0	20	0	99.5	77 - 126				
Styrene	19.52	1.0	20	0	97.6	78 - 123				
tert-Butylbenzene	20.1	1.0	20	0	101	78 - 124				
Tetrachloroethene	21.83	1.0	20	0	109	74 - 129				
Toluene	20.21	1.0	20	0	101	80 - 121				
trans-1,2-Dichloroethene	18.57	1.0	20	0	92.8	75 - 124				
trans-1,3-Dichloropropene	19.74	1.0	20	0	98.7	73 - 127				
Trichloroethene	21.45	1.0	20	0	107	79 - 123				
Trichlorofluoromethane	17.38	1.0	20	0	86.9	65 - 141				
Vinyl chloride	16.83	1.0	20	0	84.2	58 - 137				
Surr: 1,2-Dichloroethane-d4	*45.55*	*1.0*	*50*	*0*	*91.1*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*51.25*	*1.0*	*50*	*0*	*103*	*85 - 114*				
Surr: Dibromofluoromethane	*44.43*	*1.0*	*50*	*0*	*88.9*	*80 - 119*				
Surr: Toluene-d8	*51.62*	*1.0*	*50*	*0*	*103*	*89 - 112*				

ALS Houston, US Date: 29-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
WorkOrder: HS20120479

QC BATCH REPORT

Batch ID: R375002 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS20120486-08MSD** Units: **ug/L** Analysis Date: **18-Dec-2020 16:38**
Client ID: Run ID: **VOA6_375002** SeqNo: **5889281** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	18.72	1.0	20	0	93.6	78 - 124	19.48	3.97	20	
1,1,1-Trichloroethane	18.47	1.0	20	0	92.4	74 - 131	18.94	2.48	20	
1,1,2,2-Tetrachloroethane	19.84	1.0	20	0	99.2	71 - 121	18.78	5.5	20	
1,1,2-Trichloroethane	19.16	1.0	20	0	95.8	80 - 119	19.24	0.4	20	
1,1-Dichloroethane	16.88	1.0	20	0	84.4	77 - 125	17.21	1.97	20	
1,1-Dichloroethene	17.08	1.0	20	0	85.4	71 - 131	17.05	0.15	20	
1,1-Dichloropropene	19.57	1.0	20	0	97.9	78 - 125	19.6	0.13	20	
1,2,3-Trichlorobenzene	19.83	1.0	20	0	99.2	69 - 129	18.62	6.32	20	
1,2,3-Trichloropropane	19.16	1.0	20	0	95.8	73 - 122	18.48	3.61	20	
1,2,4-Trichlorobenzene	20.3	1.0	20	0	101	69 - 130	19.42	4.44	20	
1,2,4-Trimethylbenzene	19.84	1.0	20	0	99.2	76 - 124	19.94	0.479	20	
1,2-Dibromo-3-chloropropane	20.24	1.0	20	0	101	62 - 128	17.29	15.7	20	
1,2-Dibromoethane	19.02	1.0	20	0	95.1	77 - 121	18.71	1.69	20	
1,2-Dichlorobenzene	19.14	1.0	20	0	95.7	80 - 119	18.64	2.66	20	
1,2-Dichloroethane	18.71	1.0	20	0	93.5	73 - 128	18.85	0.74	20	
1,2-Dichloropropane	18.87	1.0	20	0	94.3	78 - 122	18.98	0.566	20	
1,3,5-Trimethylbenzene	19.2	1.0	20	0	96.0	75 - 124	19.53	1.7	20	
1,3-Dichlorobenzene	18.98	1.0	20	0	94.9	80 - 119	19.08	0.502	20	
1,3-Dichloropropane	19.29	1.0	20	0	96.4	80 - 119	19.4	0.603	20	
1,4-Dichlorobenzene	19.05	1.0	20	0	95.2	79 - 118	19.01	0.23	20	
2,2-Dichloropropane	18.58	1.0	20	0	92.9	60 - 139	18.63	0.263	20	
2-Butanone	34.24	2.0	40	0	85.6	56 - 143	29.98	13.3	20	
2-Chlorotoluene	20.46	1.0	20	0	102	79 - 122	20.93	2.28	20	
2-Hexanone	35.02	2.0	40	0	87.6	57 - 139	36.4	3.84	20	
4-Chlorotoluene	20.2	1.0	20	0	101	78 - 122	20.53	1.63	20	
4-Isopropyltoluene	18.35	1.0	20	0	91.7	77 - 127	19.8	7.59	20	
4-Methyl-2-pentanone	34.66	2.0	40	0	86.7	67 - 130	34.28	1.12	20	
Acetone	28.74	2.0	40	0	71.8	39 - 160	27.15	5.68	20	
Benzene	18.85	1.0	20	0	94.2	79 - 120	19.21	1.9	20	
Bromobenzene	19.33	1.0	20	0	96.7	80 - 120	19	1.73	20	
Bromochloromethane	17.48	1.0	20	0	87.4	78 - 123	17.93	2.55	20	
Bromodichloromethane	19.78	1.0	20	0	98.9	79 - 125	18.82	5	20	
Bromoform	18.76	1.0	20	0	93.8	66 - 130	18.94	0.975	20	
Bromomethane	19.22	1.0	20	0	96.1	53 - 141	19.97	3.85	20	

ALS Houston, US Date: 29-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
WorkOrder: HS20120479

QC BATCH REPORT

Batch ID: R375002 (0) **Instrument: VOA6** **Method: VOLATILES ORGANICS BY METHOD 8260C**

MSD Sample ID: **HS20120486-08MSD** Units: **ug/L** Analysis Date: **18-Dec-2020 16:38**
Client ID: Run ID: **VOA6_375002** SeqNo: **5889281** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Carbon disulfide	35.75	2.0	40	0	89.4	64 - 133	36.42	1.85	20	
Carbon tetrachloride	21.23	1.0	20	0	106	72 - 136	21.49	1.2	20	
Chlorobenzene	18.38	1.0	20	0	91.9	82 - 118	19.39	5.39	20	
Chloroethane	17.92	1.0	20	0	89.6	60 - 138	17.78	0.797	20	
Chloroform	17.45	1.0	20	0	87.2	79 - 124	17.61	0.907	20	
Chloromethane	13.21	1.0	20	0	66.1	50 - 139	13.56	2.58	20	
cis-1,2-Dichloroethene	17.85	1.0	20	0	89.3	78 - 123	17.98	0.736	20	
cis-1,3-Dichloropropene	18.68	1.0	20	0	93.4	75 - 124	18.7	0.104	20	
Dibromochloromethane	18.34	1.0	20	0	91.7	74 - 126	19.09	4.03	20	
Dibromomethane	19.94	1.0	20	0	99.7	79 - 123	19.05	4.55	20	
Dichlorodifluoromethane	15.93	1.0	20	0	79.7	32 - 152	15.64	1.82	20	
Ethylbenzene	19.75	1.0	20	0	98.7	79 - 121	20.83	5.35	20	
Hexachlorobutadiene	20.2	1.0	20	0	101	66 - 134	23.56	15.4	20	
Isopropylbenzene	19.26	1.0	20	0	96.3	72 - 131	20.69	7.15	20	
m,p-Xylene	38.55	2.0	40	0	96.4	80 - 121	41.04	6.26	20	
Methylene chloride	17.13	2.0	20	0	85.6	74 - 124	17.14	0.0602	20	
Naphthalene	20.84	1.0	20	0	104	61 - 128	17.17	19.3	20	
n-Butylbenzene	19.66	1.0	20	0	98.3	75 - 128	20.83	5.77	20	
n-Propylbenzene	19.99	1.0	20	0	100.0	76 - 126	20.62	3.1	20	
o-Xylene	18.55	1.0	20	0	92.8	78 - 122	19.53	5.17	20	
sec-Butylbenzene	18.88	1.0	20	0	94.4	77 - 126	19.9	5.26	20	
Styrene	18.88	1.0	20	0	94.4	78 - 123	19.52	3.35	20	
tert-Butylbenzene	19.37	1.0	20	0	96.8	78 - 124	20.1	3.72	20	
Tetrachloroethene	20.02	1.0	20	0	100	74 - 129	21.83	8.68	20	
Toluene	19.29	1.0	20	0	96.5	80 - 121	20.21	4.63	20	
trans-1,2-Dichloroethene	17.8	1.0	20	0	89.0	75 - 124	18.57	4.2	20	
trans-1,3-Dichloropropene	18.73	1.0	20	0	93.7	73 - 127	19.74	5.26	20	
Trichloroethene	20.05	1.0	20	0	100	79 - 123	21.45	6.72	20	
Trichlorofluoromethane	17.52	1.0	20	0	87.6	65 - 141	17.38	0.807	20	
Vinyl chloride	17.17	1.0	20	0	85.8	58 - 137	16.83	1.97	20	
Surr: 1,2-Dichloroethane-d4	*44.36*	*1.0*	*50*	*0*	*88.7*	*81 - 118*	*45.55*	*2.64*	*20*	
Surr: 4-Bromofluorobenzene	*50.22*	*1.0*	*50*	*0*	*100*	*85 - 114*	*51.25*	*2.03*	*20*	
Surr: Dibromofluoromethane	*45.19*	*1.0*	*50*	*0*	*90.4*	*80 - 119*	*44.43*	*1.7*	*20*	
Surr: Toluene-d8	*50.42*	*1.0*	*50*	*0*	*101*	*89 - 112*	*51.62*	*2.35*	*20*	

ALS Houston, US Date: 29-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
WorkOrder: HS20120479

QC BATCH REPORT

Batch ID: R375002 (0)	Instrument: VOA6	Method: VOLATILES ORGANICS BY METHOD 8260C

The following samples were analyzed in this batch: HS20120479-06 HS20120479-09 HS20120479-10

ALS Houston, US Date: 29-Dec-20

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
WorkOrder: **HS20120479**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitaion Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

ALS Houston, US Date: 29-Dec-20

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	20-030-0	26-Mar-2021
California	2919, 2020-2021	30-Apr-2021
Dept of Defense	PJLA L20-507	22-Dec-2021
Florida	E87611-30-07/01/2020	30-Jun-2021
Illinois	2000322020-4	09-May-2021
Kansas	E-10352 2020-2021	31-Jul-2021
Kentucky	123043, 2020-2021	30-Apr-2021
Louisiana	03087, 2020-2021	30-Jun-2021
North Carolina	624-2020	31-Dec-2020
North Dakota	R-193 2020-2021	30-Apr-2021
Oklahoma	2020-165	31-Aug-2021
Texas	T104704231-20-26	30-Apr-2021

ALS Houston, US Date: 29-Dec-20

Sample Receipt Checklist

Work Order ID: HS20120479 **Date/Time Received:** **09-Dec-2020 10:50**

Client Name: Bhate Environmental **Received by:** **Jared R. Makan**

Completed By: */S/ Paresh M. Giga* (eSignature) 09-Dec-2020 17:32 (Date/Time) **Reviewed by:** */S/ RJ Modashia* (eSignature) 10-Dec-2020 07:35 (Date/Time)

Matrices: **GW/Water** Carrier name: **FedEx**

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
VOA/TX1005/TX1006 Solids in hermetically sealed vials?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	2 Page(s)
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	COC IDs:None
Samplers name present on COC?	Yes ☐	No ☑	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	3.3C U/C	IR31	
Cooler(s)/Kit(s):	6141		
Date/Time sample(s) sent to storage:	12/9/2020 17:55		
Water - VOA vials have zero headspace?	Yes ☑	No ☐	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☑	No ☐	N/A ☐
pH adjusted?	Yes ☐	No ☑	N/A ☐
pH adjusted by:			

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:

bhate ENVIRONMENTAL ENGINEERING & SCIENCE

1608 13th Avenue South, Suite 300
Birmingham Alabama 35205
Tel: 205-918-4000
Fax: 205-918-4050

Chain of Custody and Analytical Request

Page: _____ of _____

Project/Phase No: NWO1312.0150

COC Number(1): _____

LIMS Number: _____

Facility/Base I.D.: LHAAP

Project/Site Name: LHAAP / Site 58

Client Name:

Collected by: Scott Beesinger

Field Sample ID (30 Characters Max)	Date Collected (dd-mmm-yyyy)	Time Collected (Military) (hhmm)	Sample Depth (beginning - ending)	SA Code (2)	Sample Number (3)	Sample Matrix (4)	Number of containers	VOC	MEE	TOC	Carbon Dioxide	Anions	Arsenic				Ambient Blank Lot Control Number	Equipment Bl: Control Nun
							Sample Analysis Requested (5)										Quality Assurance Samples (6)	
35AWW10_120720	07DEC2020	0750	-	N		WG	3	X										
35AWW10_120720_a	07DEC2020	0750	-	FD		WG	3	X										
35AWW13_120720	07DEC2020	0835	-	N		WG	3	X										
35AWW13_120720_MS	07DEC2020	0835		MS		WG	3	X										
35AWW13_120720_MSD	07DEC2020	0835		SD		WG	3	X										
35AWW01_120720	07DEC2020	0925	-	N		WG	4	X					X					
35AWW21_120720	07DEC2020	1100	-	N		WG	3	X										
35AWW09_120720	07DEC2020	1010	-	N		WG	3	X										
35AWW22_120720	07DEC2020	1140	-	N		WG	3	X										
35AWW12_120720	07DEC2020	1220	-	N		WG	3	X										
35AWW14_120720	07DEC2020	1230	-	N		WG	3	X										

COMMENTS:

Custody Transfers Prior to Receipt by Laboratory

Relinquished By (Signed)	Date	Time	Received by (signed)	Date	Time
1. Scott Beesinger	12/8/20	1430	1. JM PA	12-9-20	10:50
2.			2.		
3.			3.		

Sample Delivery Details / Laboratory Receipt

Delivered Directly to Lab: _____ Shipped No.:

_____ Method of Shipment: _____

_____ Fed Ex _____ Airbill Number:

_____ Analytical Lab: ALS 10450 Stanciff Rd. Suite 210 Houston, TX 77099 (281) 530-5656

ATTN: SONIA WEST Lab Recipient: Delivery Date/Time:

1.) Chain of Custody Number = date collected + custody number (e.g. 09-02-1999-01)

2.) Sample Type (SA) Codes: N = Normal Sample, TB = Trip Blank (-c) Sample, FD = Field Duplicate (-a) Samples, FR = Field Replicate (-b) Samples, EB = Equipment Blank (-d) Samples, MS = Matrix Spike, SD = Matrix Spike Duplicate, AB = Ambient Blank (-e)

3.) Sample Number: Unique sample number collected from a particular location per day. (e.g. Groundwater sample collected from MW-1 on 10/10/99 = 01, if sampled again on 10/10/99 = 02, etc.)

4.) Matrix Codes: GS = Soil Gas, WG = Groundwater, WS = Surface Water, SO = Soil, SE = Sediment, SL = Sludge, SS = Surface Soil Samples, WQ = Aqueous Blank Samples (trip, equipment, ambient, etc), SQ = Soil Blanks

5.) Sample Analysis Requested: Analytical method requested and number of containers provided for each.

6.) Quality assurance samples are assigned by date (ddmmyy) and the sample number associated with the sample (01, 02, etc) (e.g. Equipment blank collected in association with MW-1 on 10/10/99 will be designated 10109901 in the Equipment Blank Lot Control

6141 3.3C IR25 CFC

HS20120479

Bhate Environmental Associates, Inc.
LHAAP-58

bhate
ENVIRONMENTAL CONSTRUCTION LAUNCH

1608 13th Avenue South, Suite 300
Birmingham Alabama 35205
Tel: 205-918-4000
Fax: 205-918-4050

Chain of Custody and Analytical Request

Page: _____ of _____

Project/Phase No: NWO1312.0150

COC Number(1): _____

LIMS Number: _____

Facility/Base I.D.: LHAAP

Project/Site Name: LHAAP / Site 58

Client Name:

Collected by: Scott Beesinger

Field Sample ID (30 Characters Max)	Date Collected (dd-mmm-yyyy)	Time Collected (Military) (hhmm)	Sample Depth (beginning - ending)	SA Code (2)	Sample Number (3)	Sample Matrix (4)	Sample Analysis Requested (5): Number of containers	VOC	MEE	TOC	Carbon Dioxide	Anions					Quality Assurance Samples (6): Ambient Blank Lot Control Number	Equipment Blank Lot Control Number	Trip Blank Lot Control Number	Cooler ID
TRIP BLANK	07 DEC 2020		-	TB		WG	2	X												
			-																	
			-																	
			-																	
			-																	
			-																	
			-																	
			-																	
			-																	

COMMENTS: _____

HS20120479
Bhate Environmental Associates, Inc.
LHAAP-58

Custody Transfers Prior to Receipt by Laboratory

Relinquished By (Signed)	Date	Time	Received by (signed)	Date	Time
1. Scott Beesinger	12/8/20	1430	1. JM PM	12.9.20	10:50
2.			2.		
3.			3.		

Sample Delivery Details / Laboratory Receipt

Delivered Directly to Lab: _____ Shipped No.:

_____ Method of Shipment: _____

_____ Fed Ex _____ Airbill Number:

_____ Analytical Lab: ALS 10450 Stancliff Rd. Suite 210 Houston TX 77099 (281) 530-5656

ATTN: SONIA WEST Lab Recipient: Delivery Date/Time:

1.) Chain of Custody Number = date collected + custody number (e.g. 09-02-1999-01)

2.) Sample Type (SA) Codes: N = Normal Sample, TB = Trip Blank (-c) Sample, FD = Field Duplicate (-a) Samples, FR = Field Replicate (-b) Samples, EB = Equipment Blank (-d) Samples, MS = Matrix Spike, SD = Matrix Spike Duplicate, AB = Ambient Blank (-e)

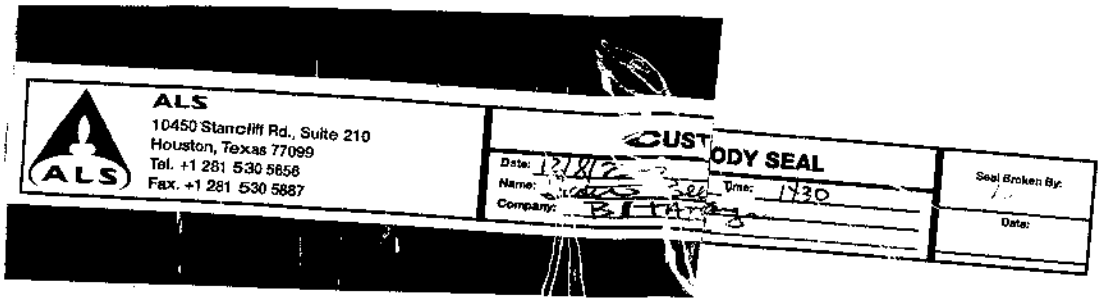
3.) Sample Number: Unique sample number collected from a particular location per day. (e.g. Groundwater sample collected from MW-1 on 10/10/99 = 01, if sampled again on 10/10/99 = 02, etc.)

4.) Matrix Codes: GS = Soil Gas, WG = Groundwater, WS = Surface Water, SO = Soil, SE = Sediment, SL = Sludge, SS = Surface Soil Samples, WQ = Aqueous Blank Samples (trip, equipment, ambient, etc), SQ = Soil Blanks

5.) Sample Analysis Requested: Analytical method requested and number of containers provided for each.

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6141



ALS
10450 Stancliff Rd., Suite 210
Houston, Texas 77099
Tel. +1 281 530 5656
Fax. +1 281 530 5887

CUSTODY SEAL
Date: 12/8/2
Time: 1430
Name:
Company:
Seal Broken By:
Date:

REF: LHAAP-58-BD 74790-RJ
RMA:

FedEx Express

FedEx
TRK# 0221 1891 8882 5703

WED - 09 DEC AA
PRIORITY OVERNIGHT

10450 Stancliff Rd. Suite 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887

July 02, 2021

Marcia Olive
Bhate Environmental Associates, Inc.
445 Union Blvd Ste 129
Lakewood, CO 80228

Work Order: **HS21060181**

Laboratory Results for: **LHAAP-58**

Dear Marcia Olive,

ALS Environmental received 21 sample(s) on Jun 03, 2021 for the analysis presented in the following report.

This is a REVISED REPORT. Please see the Case Narrative for discussion concerning this revision.

Regards,



Generated By: COREY.GRANDITS
Ragen Giga
Project Manager

ALS Houston, US Date: 02-Jul-21

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
Work Order: HS21060181

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS21060181-01	35AWW01_060121	Groundwater		01-Jun-2021 07:45	03-Jun-2021 10:30	☐
HS21060181-02	35AWW01_060121_a	Groundwater		01-Jun-2021 07:45	03-Jun-2021 10:30	☐
HS21060181-03	35AWW13_060121	Groundwater		01-Jun-2021 08:30	03-Jun-2021 10:30	☐
HS21060181-04	35AWW10_060121	Groundwater		01-Jun-2021 09:10	03-Jun-2021 10:30	☐
HS21060181-05	35AWW15_060121	Groundwater		01-Jun-2021 09:55	03-Jun-2021 10:30	☐
HS21060181-06	35AWW16_060121	Groundwater		01-Jun-2021 10:35	03-Jun-2021 10:30	☐
HS21060181-07	35AWW18_060121	Groundwater		01-Jun-2021 11:20	03-Jun-2021 10:30	☐
HS21060181-08	35AWW24_060121	Groundwater		01-Jun-2021 12:05	03-Jun-2021 10:30	☐
HS21060181-09	35AWW24_060121_a	Groundwater		01-Jun-2021 12:05	03-Jun-2021 10:30	☐
HS21060181-10	35AWW21_060121	Groundwater		01-Jun-2021 12:50	03-Jun-2021 10:30	☐
HS21060181-11	35AWW14_060121	Groundwater		01-Jun-2021 13:00	03-Jun-2021 10:30	☐
HS21060181-12	35AWW09_060221	Groundwater		02-Jun-2021 07:10	03-Jun-2021 10:30	☐
HS21060181-13	35AWW09_060221_a	Groundwater		02-Jun-2021 07:10	03-Jun-2021 08:00	☐
HS21060181-14	03WW01_060221	Groundwater		02-Jun-2021 08:05	03-Jun-2021 08:00	☐
HS21060181-15	35AWW08_060221	Groundwater		02-Jun-2021 08:55	03-Jun-2021 08:00	☐
HS21060181-16	35AWW11_060221	Groundwater		02-Jun-2021 09:45	03-Jun-2021 08:00	☐
HS21060181-17	LHSMW07_060221	Groundwater		02-Jun-2021 10:35	03-Jun-2021 08:00	☐
HS21060181-18	35AWW05_060221	Groundwater		02-Jun-2021 11:30	03-Jun-2021 10:30	☐
HS21060181-19	35AWW22_060221	Groundwater		02-Jun-2021 12:25	03-Jun-2021 10:30	☐
HS21060181-20	35AWW12_060221	Groundwater		02-Jun-2021 12:10	03-Jun-2021 10:30	☐
HS21060181-21	Trip Blank	Groundwater	CG 051121 -66	02-Jun-2021 00:00	03-Jun-2021 10:30	☐

Revision:1

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 02-Jul-21

Client: Bhate Environmental Associates, Inc. **CASE NARRATIVE**
Project: LHAAP-58
Work Order: HS21060181

Work Order Comments

• Revision I - This report was revised on July 01, 2021 to include the missing RSK data.

Revision II - This report was revised on July 02, 2021 to include the missing DHC/DHB sub data.

The analysis for RSK/CO2 was subcontracted to ALS Simi Valley, CA. The analysis for VFA subcontracted to ALS Rochester, NY. Final Report attached.

GCMS Volatiles by Method SW8260

Batch ID: R385452

Sample ID: 35AWW08_060221 (HS21060181-15)

• Lowest practical dilution for sample HS21060181-15. Sample is very foamy.

Sample ID: 35AWW16_060121 (HS21060181-06MS)

• The recovery of the Matrix Spike (MS) associated to this analyte was outside of the established control limits. However, the LCS was within control limits. The recovery of the MS may be due to sample matrix interference. Chloroform

Sample ID: 35AWW16_060121 (HS21060181-06MSD)

• The recovery of the Matrix Spike Duplicate (MSD) associated to this analyte was outside of the established control limits. However, the LCS was within control limits. The failed recovery of the MSD may be due to sample matrix interference. Chloroform

• The RPD between the MS and MSD was outside of the control limit. Naphthalene

Batch ID: R385121

Sample ID: 35AWW10_060121 (HS21060181-04MS)

• MS/MSD failed QC limnits for some few compounds

Sample ID: CCV

• Hexachlorobutadiene exceeded %D limits for CCV. Samples are ND for this compound.

Sample ID: VLCSW-210607

• Hexachlorobutadiene, 1,2,3-Trichlorobenzene, 1,2,4-Trichlorobenzene and Naphthalene exceeded QC limits for LCS. Samples are ND for these compounds.

Batch ID: R385224

Sample ID: CCV-END

• The ending CCV for batch R385224 unexpectedly ran outside of tune time. Two samples had insufficient vials remaining to perform reanalysis with a closing CCV within tune time. Tetrachloroethene is reported in samples HS21060181-12 and -13, which are bracketed by this non-conforming closing CCV. All other affected samples were reanalyzed.

Metals by Method SW6020A

Batch ID: 166919

• The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 02-Jul-21

Client: Bhate Environmental Associates, Inc. **CASE NARRATIVE**
Project: LHAAP-58
Work Order: HS21060181

WetChemistry by Method E415.1

Batch ID: R385048,R385254

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

WetChemistry by Method SW9056

Batch ID: R384952

Sample ID: 03WW01_060221 (HS21060181-14)

- Sample ran at 5X due to high concentration of Chloride

Sample ID: 35AWW08_060221 (HS21060181-15)

- Sample ran at 5X due to high concentration of Chloride

Sample ID: 35AWW09_060221 (HS21060181-12)

- Sample ran at 5X due to high concentration of Chloride and Sulfate

Sample ID: 35AWW11_060221 (HS21060181-16)

- Sample ran at 5X due to high concentration of Chloride

Sample ID: LHSMW07_060221 (HS21060181-17)

- Sample ran at 5X due to high concentration of Chloride and Sulfate

Sample ID: 35AWW09_060221_a (HS21060181-13MS)

- The MS and/or MSD recovery was outside of the control limits; however, the result in the parent sample is greater than 4x the spike amount. Sulfate)

Batch ID: R385033

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 02-Jul-21

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
Sample ID: 35AWW01_060121
Collection Date: 01-Jun-2021 07:45

ANALYTICAL REPORT
WorkOrder:HS21060181
Lab ID:HS21060181-01
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 15:26
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 15:26
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	ug/L	1	07-Jun-2021 15:26
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 15:26
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 15:26
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 15:26
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 15:26
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 15:26
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	07-Jun-2021 15:26
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	07-Jun-2021 15:26
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 15:26
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 15:26
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 15:26
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	07-Jun-2021 15:26
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 15:26
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	07-Jun-2021 15:26
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 15:26
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 15:26
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 15:26
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 15:26
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 15:26
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	07-Jun-2021 15:26
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 15:26
2-Hexanone	2.0	U	1.0	2.0	2.0	ug/L	1	07-Jun-2021 15:26
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 15:26
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 15:26
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	ug/L	1	07-Jun-2021 15:26
Acetone	2.0	U	0.40	2.0	2.0	ug/L	1	07-Jun-2021 15:26
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 15:26
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 15:26
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 15:26
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 15:26
Bromoform	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 15:26
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 15:26
Carbon disulfide	2.0	U	0.60	2.0	2.0	ug/L	1	07-Jun-2021 15:26
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	ug/L	1	07-Jun-2021 15:26
Chlorobenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 15:26
Chloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 15:26
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 15:26

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 02-Jul-21

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
Sample ID: 35AWW01_060121
Collection Date: 01-Jun-2021 07:45

ANALYTICAL REPORT
WorkOrder:HS21060181
Lab ID:HS21060181-01
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 15:26
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 15:26
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	ug/L	1	07-Jun-2021 15:26
Dibromochloromethane	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 15:26
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 15:26
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 15:26
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 15:26
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	07-Jun-2021 15:26
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 15:26
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	07-Jun-2021 15:26
Methylene chloride	2.0	U	0.40	2.0	2.0	ug/L	1	07-Jun-2021 15:26
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 15:26
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 15:26
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 15:26
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 15:26
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 15:26
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 15:26
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 15:26
Tetrachloroethene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 15:26
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 15:26
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 15:26
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 15:26
Trichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 15:26
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 15:26
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 15:26
Surr: 1,2-Dichloroethane-d4	*93.8*			**0**	*81-118*	*%REC*	*1*	*07-Jun-2021 15:26*
Surr: 4-Bromofluorobenzene	*95.9*			**0**	*85-114*	*%REC*	*1*	*07-Jun-2021 15:26*
Surr: Dibromofluoromethane	*89.6*			**0**	*80-119*	*%REC*	*1*	*07-Jun-2021 15:26*
Surr: Toluene-d8	*103*			**0**	*89-112*	*%REC*	*1*	*07-Jun-2021 15:26*
METALS BY ICPMS BY SW6020A		**Method:SW6020A**				Prep:SW3010A / 16-Jun-2021		Analyst: JHD
Arsenic	0.00100	U	0.000400	0.00100	0.00500	mg/L	1	17-Jun-2021 11:38

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 02-Jul-21

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
Sample ID: 35AWW01_060121_a
Collection Date: 01-Jun-2021 07:45

ANALYTICAL REPORT
WorkOrder:HS21060181
Lab ID:HS21060181-02
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 15:47
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 15:47
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	ug/L	1	07-Jun-2021 15:47
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 15:47
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 15:47
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 15:47
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 15:47
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 15:47
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	07-Jun-2021 15:47
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	07-Jun-2021 15:47
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 15:47
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 15:47
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 15:47
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	07-Jun-2021 15:47
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 15:47
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	07-Jun-2021 15:47
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 15:47
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 15:47
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 15:47
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 15:47
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 15:47
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	07-Jun-2021 15:47
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 15:47
2-Hexanone	2.0	U	1.0	2.0	2.0	ug/L	1	07-Jun-2021 15:47
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 15:47
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 15:47
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	ug/L	1	07-Jun-2021 15:47
Acetone	2.0	U	0.40	2.0	2.0	ug/L	1	07-Jun-2021 15:47
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 15:47
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 15:47
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 15:47
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 15:47
Bromoform	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 15:47
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 15:47
Carbon disulfide	2.0	U	0.60	2.0	2.0	ug/L	1	07-Jun-2021 15:47
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	ug/L	1	07-Jun-2021 15:47
Chlorobenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 15:47
Chloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 15:47
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 15:47

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 02-Jul-21

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
Sample ID: 35AWW01_060121_a
Collection Date: 01-Jun-2021 07:45

ANALYTICAL REPORT
WorkOrder:HS21060181
Lab ID:HS21060181-02
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 15:47
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 15:47
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	ug/L	1	07-Jun-2021 15:47
Dibromochloromethane	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 15:47
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 15:47
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 15:47
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 15:47
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	07-Jun-2021 15:47
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 15:47
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	07-Jun-2021 15:47
Methylene chloride	2.0	U	0.40	2.0	2.0	ug/L	1	07-Jun-2021 15:47
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 15:47
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 15:47
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 15:47
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 15:47
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 15:47
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 15:47
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 15:47
Tetrachloroethene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 15:47
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 15:47
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 15:47
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 15:47
Trichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 15:47
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 15:47
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 15:47
Surr: 1,2-Dichloroethane-d4	*93.3*			**0**	*81-118*	*%REC*	*1*	*07-Jun-2021 15:47*
Surr: 4-Bromofluorobenzene	*92.7*			**0**	*85-114*	*%REC*	*1*	*07-Jun-2021 15:47*
Surr: Dibromofluoromethane	*89.0*			**0**	*80-119*	*%REC*	*1*	*07-Jun-2021 15:47*
Surr: Toluene-d8	*106*			**0**	*89-112*	*%REC*	*1*	*07-Jun-2021 15:47*
METALS BY ICPMS BY SW6020A		**Method:SW6020A**				Prep:SW3010A / 16-Jun-2021		Analyst: JHD
Arsenic	0.00100	U	0.000400	0.00100	0.00500	mg/L	1	17-Jun-2021 11:40

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 02-Jul-21

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
Sample ID: 35AWW13_060121
Collection Date: 01-Jun-2021 08:30

ANALYTICAL REPORT
WorkOrder:HS21060181
Lab ID:HS21060181-03
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 16:08
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 16:08
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	ug/L	1	07-Jun-2021 16:08
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 16:08
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 16:08
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 16:08
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 16:08
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 16:08
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	07-Jun-2021 16:08
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	07-Jun-2021 16:08
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 16:08
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 16:08
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 16:08
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	07-Jun-2021 16:08
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 16:08
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	07-Jun-2021 16:08
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 16:08
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 16:08
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 16:08
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 16:08
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 16:08
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	07-Jun-2021 16:08
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 16:08
2-Hexanone	2.0	U	1.0	2.0	2.0	ug/L	1	07-Jun-2021 16:08
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 16:08
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 16:08
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	ug/L	1	07-Jun-2021 16:08
Acetone	2.0	U	0.40	2.0	2.0	ug/L	1	07-Jun-2021 16:08
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 16:08
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 16:08
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 16:08
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 16:08
Bromoform	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 16:08
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 16:08
Carbon disulfide	2.0	U	0.60	2.0	2.0	ug/L	1	07-Jun-2021 16:08
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	ug/L	1	07-Jun-2021 16:08
Chlorobenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 16:08
Chloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 16:08
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 16:08

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 02-Jul-21

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
Sample ID: 35AWW13_060121
Collection Date: 01-Jun-2021 08:30

ANALYTICAL REPORT
WorkOrder:HS21060181
Lab ID:HS21060181-03
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 16:08
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 16:08
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	ug/L	1	07-Jun-2021 16:08
Dibromochloromethane	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 16:08
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 16:08
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 16:08
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 16:08
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	07-Jun-2021 16:08
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 16:08
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	07-Jun-2021 16:08
Methylene chloride	2.0	U	0.40	2.0	2.0	ug/L	1	07-Jun-2021 16:08
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 16:08
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 16:08
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 16:08
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 16:08
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 16:08
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 16:08
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 16:08
Tetrachloroethene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 16:08
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 16:08
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 16:08
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 16:08
Trichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 16:08
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 16:08
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 16:08
Surr: 1,2-Dichloroethane-d4	*91.2*			**0**	*81-118*	*%REC*	*1*	*07-Jun-2021 16:08*
Surr: 4-Bromofluorobenzene	*95.7*			**0**	*85-114*	*%REC*	*1*	*07-Jun-2021 16:08*
Surr: Dibromofluoromethane	*88.4*			**0**	*80-119*	*%REC*	*1*	*07-Jun-2021 16:08*
Surr: Toluene-d8	*104*			**0**	*89-112*	*%REC*	*1*	*07-Jun-2021 16:08*

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 02-Jul-21

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
Sample ID: 35AWW10_060121
Collection Date: 01-Jun-2021 09:10

ANALYTICAL REPORT
WorkOrder:HS21060181
Lab ID:HS21060181-04
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 12:59
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 12:59
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	ug/L	1	07-Jun-2021 12:59
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 12:59
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 12:59
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 12:59
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 12:59
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 12:59
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	07-Jun-2021 12:59
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	07-Jun-2021 12:59
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 12:59
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 12:59
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 12:59
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	07-Jun-2021 12:59
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 12:59
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	07-Jun-2021 12:59
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 12:59
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 12:59
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 12:59
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 12:59
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 12:59
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	07-Jun-2021 12:59
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 12:59
2-Hexanone	2.0	U	1.0	2.0	2.0	ug/L	1	07-Jun-2021 12:59
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 12:59
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 12:59
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	ug/L	1	07-Jun-2021 12:59
Acetone	2.0	U	0.40	2.0	2.0	ug/L	1	07-Jun-2021 12:59
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 12:59
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 12:59
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 12:59
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 12:59
Bromoform	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 12:59
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 12:59
Carbon disulfide	2.0	U	0.60	2.0	2.0	ug/L	1	07-Jun-2021 12:59
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	ug/L	1	07-Jun-2021 12:59
Chlorobenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 12:59
Chloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 12:59
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 12:59

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 02-Jul-21

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
Sample ID: 35AWW10_060121
Collection Date: 01-Jun-2021 09:10

ANALYTICAL REPORT
WorkOrder:HS21060181
Lab ID:HS21060181-04
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 12:59
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 12:59
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	ug/L	1	07-Jun-2021 12:59
Dibromochloromethane	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 12:59
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 12:59
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 12:59
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 12:59
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	07-Jun-2021 12:59
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 12:59
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	07-Jun-2021 12:59
Methylene chloride	2.0	U	0.40	2.0	2.0	ug/L	1	07-Jun-2021 12:59
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 12:59
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 12:59
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 12:59
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 12:59
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 12:59
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 12:59
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 12:59
Tetrachloroethene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 12:59
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 12:59
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 12:59
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 12:59
Trichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 12:59
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 12:59
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 12:59
Surr: 1,2-Dichloroethane-d4	*91.0*			**0**	*81-118*	*%REC*	*1*	*07-Jun-2021 12:59*
Surr: 4-Bromofluorobenzene	*93.1*			**0**	*85-114*	*%REC*	*1*	*07-Jun-2021 12:59*
Surr: Dibromofluoromethane	*87.7*			**0**	*80-119*	*%REC*	*1*	*07-Jun-2021 12:59*
Surr: Toluene-d8	*106*			**0**	*89-112*	*%REC*	*1*	*07-Jun-2021 12:59*

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 02-Jul-21

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
Sample ID: 35AWW15_060121
Collection Date: 01-Jun-2021 09:55

ANALYTICAL REPORT
WorkOrder:HS21060181
Lab ID:HS21060181-05
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 16:29
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 16:29
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	ug/L	1	07-Jun-2021 16:29
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 16:29
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 16:29
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 16:29
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 16:29
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 16:29
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	07-Jun-2021 16:29
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	07-Jun-2021 16:29
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 16:29
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 16:29
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 16:29
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	07-Jun-2021 16:29
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 16:29
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	07-Jun-2021 16:29
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 16:29
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 16:29
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 16:29
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 16:29
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 16:29
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	07-Jun-2021 16:29
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 16:29
2-Hexanone	2.0	U	1.0	2.0	2.0	ug/L	1	07-Jun-2021 16:29
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 16:29
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 16:29
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	ug/L	1	07-Jun-2021 16:29
Acetone	2.0	U	0.40	2.0	2.0	ug/L	1	07-Jun-2021 16:29
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 16:29
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 16:29
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 16:29
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 16:29
Bromoform	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 16:29
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 16:29
Carbon disulfide	2.0	U	0.60	2.0	2.0	ug/L	1	07-Jun-2021 16:29
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	ug/L	1	07-Jun-2021 16:29
Chlorobenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 16:29
Chloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 16:29
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 16:29

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 02-Jul-21

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
Sample ID: 35AWW15_060121
Collection Date: 01-Jun-2021 09:55

ANALYTICAL REPORT
WorkOrder:HS21060181
Lab ID:HS21060181-05
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 16:29
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 16:29
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	ug/L	1	07-Jun-2021 16:29
Dibromochloromethane	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 16:29
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 16:29
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 16:29
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 16:29
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	07-Jun-2021 16:29
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 16:29
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	07-Jun-2021 16:29
Methylene chloride	2.0	U	0.40	2.0	2.0	ug/L	1	07-Jun-2021 16:29
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 16:29
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 16:29
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 16:29
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 16:29
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 16:29
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 16:29
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 16:29
Tetrachloroethene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 16:29
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 16:29
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 16:29
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 16:29
Trichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 16:29
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 16:29
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 16:29
Surr: 1,2-Dichloroethane-d4	*95.6*			**0**	*81-118*	*%REC*	*1*	*07-Jun-2021 16:29*
Surr: 4-Bromofluorobenzene	*96.2*			**0**	*85-114*	*%REC*	*1*	*07-Jun-2021 16:29*
Surr: Dibromofluoromethane	*90.1*			**0**	*80-119*	*%REC*	*1*	*07-Jun-2021 16:29*
Surr: Toluene-d8	*105*			**0**	*89-112*	*%REC*	*1*	*07-Jun-2021 16:29*

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 02-Jul-21

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
Sample ID: 35AWW16_060121
Collection Date: 01-Jun-2021 10:35

ANALYTICAL REPORT
WorkOrder:HS21060181
Lab ID:HS21060181-06
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 14:03
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 14:03
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	ug/L	1	11-Jun-2021 14:03
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 14:03
1,1-Dichloroethane	**0.46**	J	**0.20**	**0.50**	**1.0**	**ug/L**	1	11-Jun-2021 14:03
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 14:03
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 14:03
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Jun-2021 14:03
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	11-Jun-2021 14:03
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	11-Jun-2021 14:03
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 14:03
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 14:03
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 14:03
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	11-Jun-2021 14:03
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 14:03
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	11-Jun-2021 14:03
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 14:03
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Jun-2021 14:03
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 14:03
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Jun-2021 14:03
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 14:03
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	11-Jun-2021 14:03
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 14:03
2-Hexanone	2.0	U	1.0	2.0	2.0	ug/L	1	11-Jun-2021 14:03
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Jun-2021 14:03
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 14:03
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	ug/L	1	11-Jun-2021 14:03
Acetone	2.0	U	0.40	2.0	2.0	ug/L	1	11-Jun-2021 14:03
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 14:03
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Jun-2021 14:03
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 14:03
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 14:03
Bromoform	1.0	U	0.40	1.0	1.0	ug/L	1	11-Jun-2021 14:03
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	11-Jun-2021 14:03
Carbon disulfide	2.0	U	0.60	2.0	2.0	ug/L	1	11-Jun-2021 14:03
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	ug/L	1	11-Jun-2021 14:03
Chlorobenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 14:03
Chloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 14:03
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 14:03

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 02-Jul-21

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
Sample ID: 35AWW16_060121
Collection Date: 01-Jun-2021 10:35

ANALYTICAL REPORT
WorkOrder:HS21060181
Lab ID:HS21060181-06
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 14:03
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 14:03
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	ug/L	1	11-Jun-2021 14:03
Dibromochloromethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 14:03
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 14:03
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 14:03
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 14:03
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	11-Jun-2021 14:03
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 14:03
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	11-Jun-2021 14:03
Methylene chloride	2.0	U	0.40	2.0	2.0	ug/L	1	11-Jun-2021 14:03
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Jun-2021 14:03
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 14:03
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 14:03
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 14:03
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 14:03
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 14:03
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 14:03
Tetrachloroethene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 14:03
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 14:03
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 14:03
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 14:03
Trichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 14:03
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 14:03
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 14:03
Surr: 1,2-Dichloroethane-d4	*92.6*			**0**	*81-118*	*%REC*	*1*	*11-Jun-2021 14:03*
Surr: 4-Bromofluorobenzene	*95.9*			**0**	*85-114*	*%REC*	*1*	*11-Jun-2021 14:03*
Surr: Dibromofluoromethane	*88.8*			**0**	*80-119*	*%REC*	*1*	*11-Jun-2021 14:03*
Surr: Toluene-d8	*105*			**0**	*89-112*	*%REC*	*1*	*11-Jun-2021 14:03*

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 02-Jul-21

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
Sample ID: 35AWW18_060121
Collection Date: 01-Jun-2021 11:20

ANALYTICAL REPORT
WorkOrder:HS21060181
Lab ID:HS21060181-07
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 16:51
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 16:51
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	ug/L	1	07-Jun-2021 16:51
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 16:51
1,1-Dichloroethane	**3.1**		**0.20**	**0.50**	**1.0**	**ug/L**	1	07-Jun-2021 16:51
1,1-Dichloroethene	**20**		**0.20**	**0.50**	**1.0**	**ug/L**	1	07-Jun-2021 16:51
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 16:51
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 16:51
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	07-Jun-2021 16:51
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	07-Jun-2021 16:51
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 16:51
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 16:51
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 16:51
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	07-Jun-2021 16:51
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 16:51
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	07-Jun-2021 16:51
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 16:51
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 16:51
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 16:51
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 16:51
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 16:51
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	07-Jun-2021 16:51
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 16:51
2-Hexanone	2.0	U	1.0	2.0	2.0	ug/L	1	07-Jun-2021 16:51
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 16:51
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 16:51
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	ug/L	1	07-Jun-2021 16:51
Acetone	2.0	U	0.40	2.0	2.0	ug/L	1	07-Jun-2021 16:51
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 16:51
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 16:51
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 16:51
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 16:51
Bromoform	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 16:51
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 16:51
Carbon disulfide	2.0	U	0.60	2.0	2.0	ug/L	1	07-Jun-2021 16:51
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	ug/L	1	07-Jun-2021 16:51
Chlorobenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 16:51
Chloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 16:51
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 16:51

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 02-Jul-21

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
Sample ID: 35AWW18_060121
Collection Date: 01-Jun-2021 11:20

ANALYTICAL REPORT
WorkOrder:HS21060181
Lab ID:HS21060181-07
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 16:51
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 16:51
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	ug/L	1	07-Jun-2021 16:51
Dibromochloromethane	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 16:51
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 16:51
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 16:51
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 16:51
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	07-Jun-2021 16:51
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 16:51
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	07-Jun-2021 16:51
Methylene chloride	2.0	U	0.40	2.0	2.0	ug/L	1	07-Jun-2021 16:51
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 16:51
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 16:51
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 16:51
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 16:51
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 16:51
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 16:51
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 16:51
Tetrachloroethene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 16:51
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 16:51
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 16:51
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 16:51
Trichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 16:51
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 16:51
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 16:51
Surr: 1,2-Dichloroethane-d4	*91.7*			**0**	*81-118*	*%REC*	*1*	*07-Jun-2021 16:51*
Surr: 4-Bromofluorobenzene	*95.2*			**0**	*85-114*	*%REC*	*1*	*07-Jun-2021 16:51*
Surr: Dibromofluoromethane	*88.7*			**0**	*80-119*	*%REC*	*1*	*07-Jun-2021 16:51*
Surr: Toluene-d8	*102*			**0**	*89-112*	*%REC*	*1*	*07-Jun-2021 16:51*

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 02-Jul-21

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
Sample ID: 35AWW24_060121
Collection Date: 01-Jun-2021 12:05

ANALYTICAL REPORT
WorkOrder:HS21060181
Lab ID:HS21060181-08
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 17:12
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 17:12
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	ug/L	1	07-Jun-2021 17:12
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 17:12
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 17:12
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 17:12
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 17:12
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 17:12
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	07-Jun-2021 17:12
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	07-Jun-2021 17:12
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 17:12
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 17:12
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 17:12
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	07-Jun-2021 17:12
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 17:12
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	07-Jun-2021 17:12
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 17:12
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 17:12
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 17:12
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 17:12
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 17:12
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	07-Jun-2021 17:12
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 17:12
2-Hexanone	2.0	U	1.0	2.0	2.0	ug/L	1	07-Jun-2021 17:12
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 17:12
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 17:12
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	ug/L	1	07-Jun-2021 17:12
Acetone	2.0	U	0.40	2.0	2.0	ug/L	1	07-Jun-2021 17:12
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 17:12
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 17:12
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 17:12
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 17:12
Bromoform	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 17:12
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 17:12
Carbon disulfide	2.0	U	0.60	2.0	2.0	ug/L	1	07-Jun-2021 17:12
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	ug/L	1	07-Jun-2021 17:12
Chlorobenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 17:12
Chloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 17:12
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 17:12

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

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ALS Houston, US Date: 02-Jul-21

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
Sample ID: 35AWW24_060121
Collection Date: 01-Jun-2021 12:05

ANALYTICAL REPORT
WorkOrder:HS21060181
Lab ID:HS21060181-08
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 17:12
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 17:12
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	ug/L	1	07-Jun-2021 17:12
Dibromochloromethane	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 17:12
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 17:12
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 17:12
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 17:12
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	07-Jun-2021 17:12
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 17:12
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	07-Jun-2021 17:12
Methylene chloride	2.0	U	0.40	2.0	2.0	ug/L	1	07-Jun-2021 17:12
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 17:12
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 17:12
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 17:12
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 17:12
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 17:12
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 17:12
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 17:12
Tetrachloroethene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 17:12
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 17:12
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 17:12
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 17:12
Trichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 17:12
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 17:12
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 17:12
Surr: 1,2-Dichloroethane-d4	*91.8*			**0**	*81-118*	*%REC*	*1*	*07-Jun-2021 17:12*
Surr: 4-Bromofluorobenzene	*99.0*			**0**	*85-114*	*%REC*	*1*	*07-Jun-2021 17:12*
Surr: Dibromofluoromethane	*88.2*			**0**	*80-119*	*%REC*	*1*	*07-Jun-2021 17:12*
Surr: Toluene-d8	*103*			**0**	*89-112*	*%REC*	*1*	*07-Jun-2021 17:12*

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 02-Jul-21

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
Sample ID: 35AWW24_060121_a
Collection Date: 01-Jun-2021 12:05

ANALYTICAL REPORT
WorkOrder:HS21060181
Lab ID:HS21060181-09
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 17:33
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 17:33
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	ug/L	1	07-Jun-2021 17:33
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 17:33
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 17:33
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 17:33
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 17:33
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 17:33
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	07-Jun-2021 17:33
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	07-Jun-2021 17:33
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 17:33
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 17:33
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 17:33
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	07-Jun-2021 17:33
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 17:33
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	07-Jun-2021 17:33
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 17:33
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 17:33
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 17:33
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 17:33
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 17:33
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	07-Jun-2021 17:33
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 17:33
2-Hexanone	2.0	U	1.0	2.0	2.0	ug/L	1	07-Jun-2021 17:33
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 17:33
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 17:33
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	ug/L	1	07-Jun-2021 17:33
Acetone	2.0	U	0.40	2.0	2.0	ug/L	1	07-Jun-2021 17:33
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 17:33
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 17:33
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 17:33
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 17:33
Bromoform	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 17:33
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 17:33
Carbon disulfide	2.0	U	0.60	2.0	2.0	ug/L	1	07-Jun-2021 17:33
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	ug/L	1	07-Jun-2021 17:33
Chlorobenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 17:33
Chloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 17:33
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 17:33

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 02-Jul-21

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
Sample ID: 35AWW24_060121_a
Collection Date: 01-Jun-2021 12:05

ANALYTICAL REPORT
WorkOrder:HS21060181
Lab ID:HS21060181-09
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 17:33
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 17:33
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	ug/L	1	07-Jun-2021 17:33
Dibromochloromethane	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 17:33
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 17:33
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 17:33
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 17:33
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	07-Jun-2021 17:33
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 17:33
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	07-Jun-2021 17:33
Methylene chloride	2.0	U	0.40	2.0	2.0	ug/L	1	07-Jun-2021 17:33
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 17:33
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 17:33
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 17:33
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 17:33
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 17:33
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 17:33
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 17:33
Tetrachloroethene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 17:33
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 17:33
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 17:33
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 17:33
Trichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 17:33
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 17:33
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 17:33
Surr: 1,2-Dichloroethane-d4	*90.8*			**0**	*81-118*	*%REC*	*1*	*07-Jun-2021 17:33*
Surr: 4-Bromofluorobenzene	*96.3*			**0**	*85-114*	*%REC*	*1*	*07-Jun-2021 17:33*
Surr: Dibromofluoromethane	*88.5*			**0**	*80-119*	*%REC*	*1*	*07-Jun-2021 17:33*
Surr: Toluene-d8	*104*			**0**	*89-112*	*%REC*	*1*	*07-Jun-2021 17:33*

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 02-Jul-21

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
Sample ID: 35AWW21_060121
Collection Date: 01-Jun-2021 12:50

ANALYTICAL REPORT
WorkOrder:HS21060181
Lab ID:HS21060181-10
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 17:54
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 17:54
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	ug/L	1	07-Jun-2021 17:54
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 17:54
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 17:54
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 17:54
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 17:54
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 17:54
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	07-Jun-2021 17:54
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	07-Jun-2021 17:54
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 17:54
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 17:54
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 17:54
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	07-Jun-2021 17:54
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 17:54
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	07-Jun-2021 17:54
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 17:54
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 17:54
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 17:54
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 17:54
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 17:54
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	07-Jun-2021 17:54
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 17:54
2-Hexanone	2.0	U	1.0	2.0	2.0	ug/L	1	07-Jun-2021 17:54
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 17:54
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 17:54
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	ug/L	1	07-Jun-2021 17:54
Acetone	2.0	U	0.40	2.0	2.0	ug/L	1	07-Jun-2021 17:54
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 17:54
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 17:54
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 17:54
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 17:54
Bromoform	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 17:54
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 17:54
Carbon disulfide	2.0	U	0.60	2.0	2.0	ug/L	1	07-Jun-2021 17:54
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	ug/L	1	07-Jun-2021 17:54
Chlorobenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 17:54
Chloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 17:54
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 17:54

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 02-Jul-21

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
Sample ID: 35AWW21_060121
Collection Date: 01-Jun-2021 12:50

ANALYTICAL REPORT
WorkOrder:HS21060181
Lab ID:HS21060181-10
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 17:54
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 17:54
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	ug/L	1	07-Jun-2021 17:54
Dibromochloromethane	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 17:54
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 17:54
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 17:54
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 17:54
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	07-Jun-2021 17:54
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 17:54
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	07-Jun-2021 17:54
Methylene chloride	2.0	U	0.40	2.0	2.0	ug/L	1	07-Jun-2021 17:54
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 17:54
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 17:54
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 17:54
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 17:54
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 17:54
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 17:54
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 17:54
Tetrachloroethene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 17:54
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 17:54
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 17:54
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 17:54
Trichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 17:54
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 17:54
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 17:54
Surr: 1,2-Dichloroethane-d4	*93.0*			**0**	*81-118*	*%REC*	*1*	*07-Jun-2021 17:54*
Surr: 4-Bromofluorobenzene	*95.2*			**0**	*85-114*	*%REC*	*1*	*07-Jun-2021 17:54*
Surr: Dibromofluoromethane	*88.7*			**0**	*80-119*	*%REC*	*1*	*07-Jun-2021 17:54*
Surr: Toluene-d8	*104*			**0**	*89-112*	*%REC*	*1*	*07-Jun-2021 17:54*

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 02-Jul-21

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
Sample ID: 35AWW14_060121
Collection Date: 01-Jun-2021 13:00

ANALYTICAL REPORT
WorkOrder:HS21060181
Lab ID:HS21060181-11
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 18:15
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 18:15
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	ug/L	1	07-Jun-2021 18:15
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 18:15
1,1-Dichloroethane	**11**		**0.20**	**0.50**	**1.0**	**ug/L**	1	07-Jun-2021 18:15
1,1-Dichloroethene	**10.0**		**0.20**	**0.50**	**1.0**	**ug/L**	1	07-Jun-2021 18:15
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 18:15
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 18:15
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	07-Jun-2021 18:15
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	07-Jun-2021 18:15
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 18:15
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 18:15
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 18:15
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	07-Jun-2021 18:15
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 18:15
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	07-Jun-2021 18:15
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 18:15
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 18:15
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 18:15
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 18:15
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 18:15
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	07-Jun-2021 18:15
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 18:15
2-Hexanone	2.0	U	1.0	2.0	2.0	ug/L	1	07-Jun-2021 18:15
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 18:15
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 18:15
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	ug/L	1	07-Jun-2021 18:15
Acetone	2.0	U	0.40	2.0	2.0	ug/L	1	07-Jun-2021 18:15
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 18:15
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 18:15
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 18:15
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 18:15
Bromoform	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 18:15
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 18:15
Carbon disulfide	2.0	U	0.60	2.0	2.0	ug/L	1	07-Jun-2021 18:15
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	ug/L	1	07-Jun-2021 18:15
Chlorobenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 18:15
Chloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 18:15
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 18:15

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 02-Jul-21

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
Sample ID: 35AWW14_060121
Collection Date: 01-Jun-2021 13:00

ANALYTICAL REPORT
WorkOrder:HS21060181
Lab ID:HS21060181-11
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 18:15
cis-1,2-Dichloroethene	**5.0**		**0.20**	**0.50**	**1.0**	**ug/L**	1	07-Jun-2021 18:15
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	ug/L	1	07-Jun-2021 18:15
Dibromochloromethane	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 18:15
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 18:15
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 18:15
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 18:15
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	07-Jun-2021 18:15
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 18:15
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	07-Jun-2021 18:15
Methylene chloride	2.0	U	0.40	2.0	2.0	ug/L	1	07-Jun-2021 18:15
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 18:15
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 18:15
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 18:15
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 18:15
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 18:15
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 18:15
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 18:15
Tetrachloroethene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 18:15
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 18:15
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 18:15
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 18:15
Trichloroethene	**14**		**0.20**	**0.50**	**1.0**	**ug/L**	1	07-Jun-2021 18:15
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 18:15
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 18:15
Surr: 1,2-Dichloroethane-d4	*90.5*			**0**	*81-118*	*%REC*	*1*	*07-Jun-2021 18:15*
Surr: 4-Bromofluorobenzene	*94.9*			**0**	*85-114*	*%REC*	*1*	*07-Jun-2021 18:15*
Surr: Dibromofluoromethane	*87.0*			**0**	*80-119*	*%REC*	*1*	*07-Jun-2021 18:15*
Surr: Toluene-d8	*106*			**0**	*89-112*	*%REC*	*1*	*07-Jun-2021 18:15*

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 02-Jul-21

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
Sample ID: 35AWW09_060221
Collection Date: 02-Jun-2021 07:10

ANALYTICAL REPORT
WorkOrder:HS21060181
Lab ID:HS21060181-12
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 13:20
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 13:20
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	ug/L	1	07-Jun-2021 13:20
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 13:20
1,1-Dichloroethane	**0.57**	J	**0.20**	**0.50**	**1.0**	**ug/L**	1	07-Jun-2021 13:20
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 13:20
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 13:20
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 13:20
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	07-Jun-2021 13:20
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	07-Jun-2021 13:20
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 13:20
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 13:20
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 13:20
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	07-Jun-2021 13:20
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 13:20
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	07-Jun-2021 13:20
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 13:20
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 13:20
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 13:20
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 13:20
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 13:20
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	07-Jun-2021 13:20
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 13:20
2-Hexanone	2.0	U	1.0	2.0	2.0	ug/L	1	07-Jun-2021 13:20
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 13:20
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 13:20
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	ug/L	1	07-Jun-2021 13:20
Acetone	2.0	U	0.40	2.0	2.0	ug/L	1	07-Jun-2021 13:20
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 13:20
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 13:20
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 13:20
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 13:20
Bromoform	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 13:20
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 13:20
Carbon disulfide	2.0	U	0.60	2.0	2.0	ug/L	1	07-Jun-2021 13:20
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	ug/L	1	07-Jun-2021 13:20
Chlorobenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 13:20
Chloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 13:20
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 13:20

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 02-Jul-21

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
Sample ID: 35AWW09_060221
Collection Date: 02-Jun-2021 07:10

ANALYTICAL REPORT
WorkOrder:HS21060181
Lab ID:HS21060181-12
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 13:20
cis-1,2-Dichloroethene	**0.88**	J	**0.20**	**0.50**	**1.0**	**ug/L**	1	07-Jun-2021 13:20
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	ug/L	1	07-Jun-2021 13:20
Dibromochloromethane	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 13:20
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 13:20
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 13:20
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 13:20
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	07-Jun-2021 13:20
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 13:20
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	07-Jun-2021 13:20
Methylene chloride	2.0	U	0.40	2.0	2.0	ug/L	1	07-Jun-2021 13:20
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 13:20
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 13:20
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 13:20
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 13:20
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 13:20
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 13:20
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 13:20
Tetrachloroethene	**350**		**3.0**	**10**	**10**	**ug/L**	10	08-Jun-2021 15:49
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 13:20
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 13:20
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 13:20
Trichloroethene	**130**		**0.20**	**0.50**	**1.0**	**ug/L**	1	07-Jun-2021 13:20
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 13:20
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 13:20
Surr: 1,2-Dichloroethane-d4	*91.7*			**0**	*81-118*	*%REC*	*1*	*07-Jun-2021 13:20*
Surr: 1,2-Dichloroethane-d4	*92.3*			**0**	*81-118*	*%REC*	*10*	*08-Jun-2021 15:49*
Surr: 4-Bromofluorobenzene	*95.4*			**0**	*85-114*	*%REC*	*1*	*07-Jun-2021 13:20*
Surr: 4-Bromofluorobenzene	*97.6*			**0**	*85-114*	*%REC*	*10*	*08-Jun-2021 15:49*
Surr: Dibromofluoromethane	*88.7*			**0**	*80-119*	*%REC*	*1*	*07-Jun-2021 13:20*
Surr: Dibromofluoromethane	*88.3*			**0**	*80-119*	*%REC*	*10*	*08-Jun-2021 15:49*
Surr: Toluene-d8	*104*			**0**	*89-112*	*%REC*	*1*	*07-Jun-2021 13:20*
Surr: Toluene-d8	*103*			**0**	*89-112*	*%REC*	*10*	*08-Jun-2021 15:49*
METALS BY ICPMS BY SW6020A		**Method:SW6020A**				Prep:SW3010A / 16-Jun-2021		Analyst: JHD
Arsenic	**0.000987**	J	**0.000400**	**0.00100**	**0.00500**	**mg/L**	1	17-Jun-2021 11:50
TOTAL ORGANIC CARBON BY E415.1		**Method:E415.1**						Analyst: JAC
Organic Carbon, Total	**7.50**		**0.500**	**0.500**	**1.00**	**mg/L**	1	05-Jun-2021 01:57

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 02-Jul-21

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
Sample ID: 35AWW09_060221
Collection Date: 02-Jun-2021 07:10

ANALYTICAL REPORT
WorkOrder:HS21060181
Lab ID:HS21060181-12
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
ANIONS BY SW9056A		**Method:SW9056**						Analyst: YP
Chloride	**1,430**		**10.0**	**25.0**	**25.0**	**mg/L**	50	04-Jun-2021 15:10
Nitrogen, Nitrate (As N)	**0.416**	J	**0.150**	**0.500**	**0.500**	**mg/L**	5	03-Jun-2021 18:03
Nitrogen, Nitrite (As N)	0.500	U	0.150	0.500	0.500	mg/L	5	03-Jun-2021 18:03
Sulfate	**916**		**10.0**	**25.0**	**25.0**	**mg/L**	50	04-Jun-2021 15:10
SUBCONTRACT ANALYSIS - RSK		**Method:NA**						Analyst: SUBCA
Subcontract Analysis	See Attached		0	0		NA	1	01-Jul-2021 09:25
SUBCONTRACT ANALYSIS - VOLATILE FATTY ACIDS		**Method:NA**						Analyst: SUB
Subcontract Analysis	See Attached		0	0		NA	1	25-Jun-2021 17:38

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 02-Jul-21

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
Sample ID: 35AWW09_060221_a
Collection Date: 02-Jun-2021 07:10

ANALYTICAL REPORT
WorkOrder:HS21060181
Lab ID:HS21060181-13
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 13:41
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 13:41
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	ug/L	1	07-Jun-2021 13:41
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 13:41
1,1-Dichloroethane	**0.63**	J	**0.20**	**0.50**	**1.0**	**ug/L**	1	07-Jun-2021 13:41
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 13:41
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 13:41
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 13:41
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	07-Jun-2021 13:41
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	07-Jun-2021 13:41
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 13:41
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 13:41
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 13:41
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	07-Jun-2021 13:41
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 13:41
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	07-Jun-2021 13:41
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 13:41
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 13:41
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 13:41
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 13:41
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 13:41
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	07-Jun-2021 13:41
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 13:41
2-Hexanone	2.0	U	1.0	2.0	2.0	ug/L	1	07-Jun-2021 13:41
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 13:41
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 13:41
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	ug/L	1	07-Jun-2021 13:41
Acetone	2.0	U	0.40	2.0	2.0	ug/L	1	07-Jun-2021 13:41
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 13:41
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 13:41
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 13:41
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 13:41
Bromoform	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 13:41
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 13:41
Carbon disulfide	2.0	U	0.60	2.0	2.0	ug/L	1	07-Jun-2021 13:41
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	ug/L	1	07-Jun-2021 13:41
Chlorobenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 13:41
Chloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 13:41
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 13:41

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 02-Jul-21

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
Sample ID: 35AWW09_060221_a
Collection Date: 02-Jun-2021 07:10

ANALYTICAL REPORT
WorkOrder:HS21060181
Lab ID:HS21060181-13
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 13:41
cis-1,2-Dichloroethene	**0.89**	J	**0.20**	**0.50**	**1.0**	**ug/L**	1	07-Jun-2021 13:41
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	ug/L	1	07-Jun-2021 13:41
Dibromochloromethane	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 13:41
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 13:41
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 13:41
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 13:41
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	07-Jun-2021 13:41
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 13:41
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	07-Jun-2021 13:41
Methylene chloride	2.0	U	0.40	2.0	2.0	ug/L	1	07-Jun-2021 13:41
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 13:41
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 13:41
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 13:41
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 13:41
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 13:41
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 13:41
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 13:41
Tetrachloroethene	**310**		**3.0**	**10**	**10**	**ug/L**	10	08-Jun-2021 16:10
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 13:41
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 13:41
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 13:41
Trichloroethene	**130**		**0.20**	**0.50**	**1.0**	**ug/L**	1	07-Jun-2021 13:41
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 13:41
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 13:41
Surr: 1,2-Dichloroethane-d4	*92.7*			**0**	*81-118*	*%REC*	*1*	*07-Jun-2021 13:41*
Surr: 1,2-Dichloroethane-d4	*94.2*			**0**	*81-118*	*%REC*	*10*	*08-Jun-2021 16:10*
Surr: 4-Bromofluorobenzene	*93.9*			**0**	*85-114*	*%REC*	*1*	*07-Jun-2021 13:41*
Surr: 4-Bromofluorobenzene	*94.7*			**0**	*85-114*	*%REC*	*10*	*08-Jun-2021 16:10*
Surr: Dibromofluoromethane	*88.1*			**0**	*80-119*	*%REC*	*1*	*07-Jun-2021 13:41*
Surr: Dibromofluoromethane	*89.2*			**0**	*80-119*	*%REC*	*10*	*08-Jun-2021 16:10*
Surr: Toluene-d8	*104*			**0**	*89-112*	*%REC*	*1*	*07-Jun-2021 13:41*
Surr: Toluene-d8	*104*			**0**	*89-112*	*%REC*	*10*	*08-Jun-2021 16:10*
METALS BY ICPMS BY SW6020A		**Method:SW6020A**				Prep:SW3010A / 16-Jun-2021		Analyst: JHD
Arsenic	**0.000913**	J	**0.000400**	**0.00100**	**0.00500**	**mg/L**	1	17-Jun-2021 11:52
TOTAL ORGANIC CARBON BY E415.1		**Method:E415.1**						Analyst: JAC
Organic Carbon, Total	**7.68**		**0.500**	**0.500**	**1.00**	**mg/L**	1	05-Jun-2021 02:26

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 02-Jul-21

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
Sample ID: 35AWW09_060221_a
Collection Date: 02-Jun-2021 07:10

ANALYTICAL REPORT
WorkOrder:HS21060181
Lab ID:HS21060181-13
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
ANIONS BY SW9056A		**Method:SW9056**						Analyst: YP
Chloride	**1,420**		**10.0**	**25.0**	**25.0**	**mg/L**	50	04-Jun-2021 15:18
Nitrogen, Nitrate (As N)	0.500	U	0.150	0.500	0.500	mg/L	5	03-Jun-2021 18:11
Nitrogen, Nitrite (As N)	0.500	U	0.150	0.500	0.500	mg/L	5	03-Jun-2021 18:11
Sulfate	**880**		**10.0**	**25.0**	**25.0**	**mg/L**	50	04-Jun-2021 15:18
SUBCONTRACT ANALYSIS - RSK		**Method:NA**						Analyst: SUBCA
Subcontract Analysis	See Attached		0	0		NA	1	01-Jul-2021 09:25
SUBCONTRACT ANALYSIS - VOLATILE FATTY ACIDS		**Method:NA**						Analyst: SUB
Subcontract Analysis	See Attached		0	0		NA	1	25-Jun-2021 17:38

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 02-Jul-21

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
Sample ID: 03WW01_060221
Collection Date: 02-Jun-2021 08:05

ANALYTICAL REPORT
WorkOrder:HS21060181
Lab ID:HS21060181-14
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 18:36
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 18:36
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	ug/L	1	07-Jun-2021 18:36
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 18:36
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 18:36
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 18:36
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 18:36
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 18:36
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	07-Jun-2021 18:36
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	07-Jun-2021 18:36
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 18:36
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 18:36
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 18:36
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	07-Jun-2021 18:36
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 18:36
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	07-Jun-2021 18:36
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 18:36
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 18:36
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 18:36
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 18:36
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 18:36
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	07-Jun-2021 18:36
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 18:36
2-Hexanone	2.0	U	1.0	2.0	2.0	ug/L	1	07-Jun-2021 18:36
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 18:36
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 18:36
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	ug/L	1	07-Jun-2021 18:36
Acetone	2.0	U	0.40	2.0	2.0	ug/L	1	07-Jun-2021 18:36
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 18:36
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 18:36
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 18:36
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 18:36
Bromoform	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 18:36
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 18:36
Carbon disulfide	2.0	U	0.60	2.0	2.0	ug/L	1	07-Jun-2021 18:36
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	ug/L	1	07-Jun-2021 18:36
Chlorobenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 18:36
Chloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 18:36
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 18:36

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 02-Jul-21

Client: Bhate Environmental Associates, Inc. **ANALYTICAL REPORT**
Project: LHAAP-58 WorkOrder:HS21060181
Sample ID: 03WW01_060221 Lab ID:HS21060181-14
Collection Date: 02-Jun-2021 08:05 Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 18:36
cis-1,2-Dichloroethene	**11**		**0.20**	**0.50**	**1.0**	**ug/L**	1	07-Jun-2021 18:36
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	ug/L	1	07-Jun-2021 18:36
Dibromochloromethane	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 18:36
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 18:36
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 18:36
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 18:36
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	07-Jun-2021 18:36
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 18:36
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	07-Jun-2021 18:36
Methylene chloride	2.0	U	0.40	2.0	2.0	ug/L	1	07-Jun-2021 18:36
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 18:36
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 18:36
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 18:36
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 18:36
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 18:36
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 18:36
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 18:36
Tetrachloroethene	**11**		**0.30**	**1.0**	**1.0**	**ug/L**	1	07-Jun-2021 18:36
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 18:36
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 18:36
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 18:36
Trichloroethene	**3.0**		**0.20**	**0.50**	**1.0**	**ug/L**	1	07-Jun-2021 18:36
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 18:36
Vinyl chloride	**1.6**		**0.20**	**0.50**	**1.0**	**ug/L**	1	07-Jun-2021 18:36
Surr: 1,2-Dichloroethane-d4	*92.8*			**0**	*81-118*	*%REC*	*1*	*07-Jun-2021 18:36*
Surr: 4-Bromofluorobenzene	*94.2*			**0**	*85-114*	*%REC*	*1*	*07-Jun-2021 18:36*
Surr: Dibromofluoromethane	*88.6*			**0**	*80-119*	*%REC*	*1*	*07-Jun-2021 18:36*
Surr: Toluene-d8	*104*			**0**	*89-112*	*%REC*	*1*	*07-Jun-2021 18:36*
METALS BY ICPMS BY SW6020A		**Method:SW6020A**				Prep:SW3010A / 16-Jun-2021		Analyst: JHD
Arsenic	**0.0169**	J	**0.00400**	**0.0100**	**0.0500**	**mg/L**	1	17-Jun-2021 11:55
TOTAL ORGANIC CARBON BY E415.1		**Method:E415.1**						Analyst: JAC
Organic Carbon, Total	**103**		**2.50**	**2.50**	**5.00**	**mg/L**	5	08-Jun-2021 18:21
ANIONS BY SW9056A		**Method:SW9056**						Analyst: YP
Chloride	**945**		**10.0**	**25.0**	**25.0**	**mg/L**	50	04-Jun-2021 16:47
Nitrogen, Nitrate (As N)	0.500	U	0.150	0.500	0.500	mg/L	5	03-Jun-2021 18:34
Nitrogen, Nitrite (As N)	0.500	U	0.150	0.500	0.500	mg/L	5	03-Jun-2021 18:34
Sulfate	**180**		**1.00**	**2.50**	**2.50**	**mg/L**	5	03-Jun-2021 18:34

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 02-Jul-21

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
Sample ID: 03WW01_060221
Collection Date: 02-Jun-2021 08:05

ANALYTICAL REPORT
WorkOrder:HS21060181
Lab ID:HS21060181-14
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
SUBCONTRACT ANALYSIS - DHC/DHB		**Method:NA**						Analyst: SUB
Subcontract Analysis	See Attached		0	0		NA	1	02-Jul-2021 17:44
SUBCONTRACT ANALYSIS - RSK		**Method:NA**						Analyst: SUBCA
Subcontract Analysis	See Attached		0	0		NA	1	01-Jul-2021 09:25
SUBCONTRACT ANALYSIS - VOLATILE FATTY ACIDS		**Method:NA**						Analyst: SUB
Subcontract Analysis	See Attached		0	0		NA	1	25-Jun-2021 17:38

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 02-Jul-21

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
Sample ID: 35AWW08_060221
Collection Date: 02-Jun-2021 08:55

ANALYTICAL REPORT
WorkOrder:HS21060181
Lab ID:HS21060181-15
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	25	U	7.5	25	25	ug/L	25	11-Jun-2021 14:24
1,1,1-Trichloroethane	12	U	5.0	12	25	ug/L	25	11-Jun-2021 14:24
1,1,2,2-Tetrachloroethane	25	U	12	25	25	ug/L	25	11-Jun-2021 14:24
1,1,2-Trichloroethane	25	U	7.5	25	25	ug/L	25	11-Jun-2021 14:24
1,1-Dichloroethane	12	U	5.0	12	25	ug/L	25	11-Jun-2021 14:24
1,1-Dichloroethene	12	U	5.0	12	25	ug/L	25	11-Jun-2021 14:24
1,1-Dichloropropene	25	U	7.5	25	25	ug/L	25	11-Jun-2021 14:24
1,2,3-Trichlorobenzene	25	U	10	25	25	ug/L	25	11-Jun-2021 14:24
1,2,3-Trichloropropane	25	U	12	25	25	ug/L	25	11-Jun-2021 14:24
1,2,4-Trichlorobenzene	25	U	12	25	25	ug/L	25	11-Jun-2021 14:24
1,2,4-Trimethylbenzene	25	U	7.5	25	25	ug/L	25	11-Jun-2021 14:24
1,2-Dibromo-3-chloropropane	12	U	5.0	12	25	ug/L	25	11-Jun-2021 14:24
1,2-Dibromoethane	12	U	5.0	12	25	ug/L	25	11-Jun-2021 14:24
1,2-Dichlorobenzene	25	U	12	25	25	ug/L	25	11-Jun-2021 14:24
1,2-Dichloroethane	12	U	5.0	12	25	ug/L	25	11-Jun-2021 14:24
1,2-Dichloropropane	25	U	12	25	25	ug/L	25	11-Jun-2021 14:24
1,3,5-Trimethylbenzene	25	U	7.5	25	25	ug/L	25	11-Jun-2021 14:24
1,3-Dichlorobenzene	25	U	10	25	25	ug/L	25	11-Jun-2021 14:24
1,3-Dichloropropane	25	U	7.5	25	25	ug/L	25	11-Jun-2021 14:24
1,4-Dichlorobenzene	25	U	10	25	25	ug/L	25	11-Jun-2021 14:24
2,2-Dichloropropane	12	U	5.0	12	25	ug/L	25	11-Jun-2021 14:24
2-Butanone	25	U	12	25	50	ug/L	25	11-Jun-2021 14:24
2-Chlorotoluene	25	U	7.5	25	25	ug/L	25	11-Jun-2021 14:24
2-Hexanone	50	U	25	50	50	ug/L	25	11-Jun-2021 14:24
4-Chlorotoluene	25	U	10	25	25	ug/L	25	11-Jun-2021 14:24
4-Isopropyltoluene	25	U	7.5	25	25	ug/L	25	11-Jun-2021 14:24
4-Methyl-2-pentanone	50	U	18	50	50	ug/L	25	11-Jun-2021 14:24
Acetone	50	U	10	50	50	ug/L	25	11-Jun-2021 14:24
Benzene	12	U	5.0	12	25	ug/L	25	11-Jun-2021 14:24
Bromobenzene	25	U	10	25	25	ug/L	25	11-Jun-2021 14:24
Bromochloromethane	12	U	5.0	12	25	ug/L	25	11-Jun-2021 14:24
Bromodichloromethane	12	U	5.0	12	25	ug/L	25	11-Jun-2021 14:24
Bromoform	25	U	10	25	25	ug/L	25	11-Jun-2021 14:24
Bromomethane	25	U	10	25	25	ug/L	25	11-Jun-2021 14:24
Carbon disulfide	50	U	15	50	50	ug/L	25	11-Jun-2021 14:24
Carbon tetrachloride	25	U	12	25	25	ug/L	25	11-Jun-2021 14:24
Chlorobenzene	25	U	7.5	25	25	ug/L	25	11-Jun-2021 14:24
Chloroethane	25	U	7.5	25	25	ug/L	25	11-Jun-2021 14:24
Chloroform	12	U	5.0	12	25	ug/L	25	11-Jun-2021 14:24

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 02-Jul-21

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
Sample ID: 35AWW08_060221
Collection Date: 02-Jun-2021 08:55

ANALYTICAL REPORT
WorkOrder:HS21060181
Lab ID:HS21060181-15
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
Chloromethane	12	U	5.0	12	25	ug/L	25	11-Jun-2021 14:24
cis-1,2-Dichloroethene	**30**		**5.0**	**12**	**25**	**ug/L**	25	11-Jun-2021 14:24
cis-1,3-Dichloropropene	12	U	2.5	12	25	ug/L	25	11-Jun-2021 14:24
Dibromochloromethane	25	U	7.5	25	25	ug/L	25	11-Jun-2021 14:24
Dibromomethane	12	U	5.0	12	25	ug/L	25	11-Jun-2021 14:24
Dichlorodifluoromethane	25	U	7.5	25	25	ug/L	25	11-Jun-2021 14:24
Ethylbenzene	25	U	7.5	25	25	ug/L	25	11-Jun-2021 14:24
Hexachlorobutadiene	25	U	25	25	25	ug/L	25	11-Jun-2021 14:24
Isopropylbenzene	25	U	7.5	25	25	ug/L	25	11-Jun-2021 14:24
m,p-Xylene	25	U	12	25	50	ug/L	25	11-Jun-2021 14:24
Methylene chloride	50	U	10	50	50	ug/L	25	11-Jun-2021 14:24
n-Butylbenzene	25	U	10	25	25	ug/L	25	11-Jun-2021 14:24
n-Propylbenzene	25	U	7.5	25	25	ug/L	25	11-Jun-2021 14:24
Naphthalene	25	U	7.5	25	25	ug/L	25	11-Jun-2021 14:24
o-Xylene	25	U	7.5	25	25	ug/L	25	11-Jun-2021 14:24
sec-Butylbenzene	25	U	7.5	25	25	ug/L	25	11-Jun-2021 14:24
Styrene	25	U	7.5	25	25	ug/L	25	11-Jun-2021 14:24
tert-Butylbenzene	25	U	7.5	25	25	ug/L	25	11-Jun-2021 14:24
Tetrachloroethene	25	U	7.5	25	25	ug/L	25	11-Jun-2021 14:24
Toluene	12	U	5.0	12	25	ug/L	25	11-Jun-2021 14:24
trans-1,2-Dichloroethene	12	U	5.0	12	25	ug/L	25	11-Jun-2021 14:24
trans-1,3-Dichloropropene	12	U	5.0	12	25	ug/L	25	11-Jun-2021 14:24
Trichloroethene	**53**		**5.0**	**12**	**25**	**ug/L**	25	11-Jun-2021 14:24
Trichlorofluoromethane	25	U	7.5	25	25	ug/L	25	11-Jun-2021 14:24
Vinyl chloride	**24**	J	**5.0**	**12**	**25**	**ug/L**	25	11-Jun-2021 14:24
Surr: 1,2-Dichloroethane-d4	*93.6*			**0**	*81-118*	*%REC*	*25*	*11-Jun-2021 14:24*
Surr: 4-Bromofluorobenzene	*95.5*			**0**	*85-114*	*%REC*	*25*	*11-Jun-2021 14:24*
Surr: Dibromofluoromethane	*89.7*			**0**	*80-119*	*%REC*	*25*	*11-Jun-2021 14:24*
Surr: Toluene-d8	*102*			**0**	*89-112*	*%REC*	*25*	*11-Jun-2021 14:24*
METALS BY ICPMS BY SW6020A		**Method:SW6020A**				Prep:SW3010A / 16-Jun-2021		Analyst: JHD
Arsenic	**0.00220**	J	**0.000400**	**0.00100**	**0.00500**	**mg/L**	1	17-Jun-2021 11:56
TOTAL ORGANIC CARBON BY E415.1		**Method:E415.1**						Analyst: JAC
Organic Carbon, Total	**119**		**2.50**	**2.50**	**5.00**	**mg/L**	5	08-Jun-2021 18:33
ANIONS BY SW9056A		**Method:SW9056**						Analyst: YP
Chloride	**2,430**		**10.0**	**25.0**	**25.0**	**mg/L**	50	04-Jun-2021 16:55
Nitrogen, Nitrate (As N)	0.500	U	0.150	0.500	0.500	mg/L	5	03-Jun-2021 18:41
Nitrogen, Nitrite (As N)	0.500	U	0.150	0.500	0.500	mg/L	5	03-Jun-2021 18:41
Sulfate	**148**		**1.00**	**2.50**	**2.50**	**mg/L**	5	03-Jun-2021 18:41

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 02-Jul-21

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
Sample ID: 35AWW08_060221
Collection Date: 02-Jun-2021 08:55

ANALYTICAL REPORT
WorkOrder:HS21060181
Lab ID:HS21060181-15
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
SUBCONTRACT ANALYSIS - DHC/DHB		**Method:NA**						Analyst: SUB
Subcontract Analysis	See Attached		0	0		NA	1	02-Jul-2021 17:44
SUBCONTRACT ANALYSIS - RSK		**Method:NA**						Analyst: SUBCA
Subcontract Analysis	See Attached		0	0		NA	1	01-Jul-2021 09:25
SUBCONTRACT ANALYSIS - VOLATILE FATTY ACIDS		**Method:NA**						Analyst: SUB
Subcontract Analysis	See Attached		0	0		NA	1	25-Jun-2021 17:38

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 02-Jul-21

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
Sample ID: 35AWW11_060221
Collection Date: 02-Jun-2021 09:45

ANALYTICAL REPORT
WorkOrder:HS21060181
Lab ID:HS21060181-16
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 18:57
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 18:57
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	ug/L	1	07-Jun-2021 18:57
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 18:57
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 18:57
1,1-Dichloroethene	**0.62**	J	**0.20**	**0.50**	**1.0**	**ug/L**	1	07-Jun-2021 18:57
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 18:57
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 18:57
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	07-Jun-2021 18:57
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	07-Jun-2021 18:57
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 18:57
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 18:57
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 18:57
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	07-Jun-2021 18:57
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 18:57
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	07-Jun-2021 18:57
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 18:57
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 18:57
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 18:57
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 18:57
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 18:57
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	07-Jun-2021 18:57
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 18:57
2-Hexanone	2.0	U	1.0	2.0	2.0	ug/L	1	07-Jun-2021 18:57
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 18:57
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 18:57
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	ug/L	1	07-Jun-2021 18:57
Acetone	2.0	U	0.40	2.0	2.0	ug/L	1	07-Jun-2021 18:57
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 18:57
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 18:57
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 18:57
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 18:57
Bromoform	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 18:57
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 18:57
Carbon disulfide	2.0	U	0.60	2.0	2.0	ug/L	1	07-Jun-2021 18:57
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	ug/L	1	07-Jun-2021 18:57
Chlorobenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 18:57
Chloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 18:57
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 18:57

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 02-Jul-21

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
Sample ID: 35AWW11_060221
Collection Date: 02-Jun-2021 09:45

ANALYTICAL REPORT
WorkOrder:HS21060181
Lab ID:HS21060181-16
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 18:57
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 18:57
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	ug/L	1	07-Jun-2021 18:57
Dibromochloromethane	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 18:57
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 18:57
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 18:57
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 18:57
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	07-Jun-2021 18:57
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 18:57
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	07-Jun-2021 18:57
Methylene chloride	2.0	U	0.40	2.0	2.0	ug/L	1	07-Jun-2021 18:57
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 18:57
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 18:57
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 18:57
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 18:57
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 18:57
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 18:57
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 18:57
Tetrachloroethene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 18:57
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 18:57
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 18:57
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 18:57
Trichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 18:57
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 18:57
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 18:57
Surr: 1,2-Dichloroethane-d4	*93.3*			**0**	*81-118*	*%REC*	*1*	*07-Jun-2021 18:57*
Surr: 4-Bromofluorobenzene	*94.9*			**0**	*85-114*	*%REC*	*1*	*07-Jun-2021 18:57*
Surr: Dibromofluoromethane	*89.8*			**0**	*80-119*	*%REC*	*1*	*07-Jun-2021 18:57*
Surr: Toluene-d8	*101*			**0**	*89-112*	*%REC*	*1*	*07-Jun-2021 18:57*
TOTAL ORGANIC CARBON BY E415.1		**Method:E415.1**						Analyst: JAC
Organic Carbon, Total	**11.0**		**0.500**	**0.500**	**1.00**	**mg/L**	1	05-Jun-2021 03:08
ANIONS BY SW9056A		**Method:SW9056**						Analyst: YP
Chloride	**1,790**		**10.0**	**25.0**	**25.0**	**mg/L**	50	04-Jun-2021 17:02
Nitrogen, Nitrate (As N)	0.500	U	0.150	0.500	0.500	mg/L	5	03-Jun-2021 18:49
Nitrogen, Nitrite (As N)	0.500	U	0.150	0.500	0.500	mg/L	5	03-Jun-2021 18:49
Sulfate	**460**		**10.0**	**25.0**	**25.0**	**mg/L**	50	04-Jun-2021 17:02
SUBCONTRACT ANALYSIS - DHC/DHB		**Method:NA**						Analyst: SUB
Subcontract Analysis	See Attached		0	0		NA	1	02-Jul-2021 17:44

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 02-Jul-21

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
Sample ID: 35AWW11_060221
Collection Date: 02-Jun-2021 09:45

ANALYTICAL REPORT
WorkOrder:HS21060181
Lab ID:HS21060181-16
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
SUBCONTRACT ANALYSIS - RSK		**Method:NA**						Analyst: SUBCA
Subcontract Analysis	See Attached		0	0		NA	1	01-Jul-2021 09:25
SUBCONTRACT ANALYSIS - VOLATILE FATTY ACIDS		**Method:NA**						Analyst: SUB
Subcontract Analysis	See Attached		0	0		NA	1	25-Jun-2021 17:38

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 02-Jul-21

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
Sample ID: LHSMW07_060221
Collection Date: 02-Jun-2021 10:35

ANALYTICAL REPORT
WorkOrder:HS21060181
Lab ID:HS21060181-17
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 20:21
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 20:21
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	ug/L	1	07-Jun-2021 20:21
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 20:21
1,1-Dichloroethane	**5.7**		**0.20**	**0.50**	**1.0**	**ug/L**	1	07-Jun-2021 20:21
1,1-Dichloroethene	**12**		**0.20**	**0.50**	**1.0**	**ug/L**	1	07-Jun-2021 20:21
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 20:21
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 20:21
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	07-Jun-2021 20:21
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	07-Jun-2021 20:21
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 20:21
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 20:21
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 20:21
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	07-Jun-2021 20:21
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 20:21
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	07-Jun-2021 20:21
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 20:21
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 20:21
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 20:21
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 20:21
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 20:21
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	07-Jun-2021 20:21
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 20:21
2-Hexanone	2.0	U	1.0	2.0	2.0	ug/L	1	07-Jun-2021 20:21
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 20:21
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 20:21
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	ug/L	1	07-Jun-2021 20:21
Acetone	2.0	U	0.40	2.0	2.0	ug/L	1	07-Jun-2021 20:21
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 20:21
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 20:21
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 20:21
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 20:21
Bromoform	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 20:21
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 20:21
Carbon disulfide	2.0	U	0.60	2.0	2.0	ug/L	1	07-Jun-2021 20:21
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	ug/L	1	07-Jun-2021 20:21
Chlorobenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 20:21
Chloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 20:21
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 20:21

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 02-Jul-21

Client: Bhate Environmental Associates, Inc. **ANALYTICAL REPORT**
Project: LHAAP-58 WorkOrder:HS21060181
Sample ID: LHSMW07_060221 Lab ID:HS21060181-17
Collection Date: 02-Jun-2021 10:35 Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 20:21
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 20:21
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	ug/L	1	07-Jun-2021 20:21
Dibromochloromethane	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 20:21
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 20:21
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 20:21
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 20:21
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	07-Jun-2021 20:21
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 20:21
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	07-Jun-2021 20:21
Methylene chloride	2.0	U	0.40	2.0	2.0	ug/L	1	07-Jun-2021 20:21
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 20:21
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 20:21
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 20:21
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 20:21
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 20:21
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 20:21
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 20:21
Tetrachloroethene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 20:21
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 20:21
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 20:21
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 20:21
Trichloroethene	**0.91**	J	**0.20**	**0.50**	**1.0**	**ug/L**	1	07-Jun-2021 20:21
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 20:21
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 20:21
Surr: 1,2-Dichloroethane-d4	*93.0*			**0**	*81-118*	*%REC*	*1*	*07-Jun-2021 20:21*
Surr: 4-Bromofluorobenzene	*97.3*			**0**	*85-114*	*%REC*	*1*	*07-Jun-2021 20:21*
Surr: Dibromofluoromethane	*89.7*			**0**	*80-119*	*%REC*	*1*	*07-Jun-2021 20:21*
Surr: Toluene-d8	*104*			**0**	*89-112*	*%REC*	*1*	*07-Jun-2021 20:21*
TOTAL ORGANIC CARBON BY E415.1		**Method:E415.1**						Analyst: JAC
Organic Carbon, Total	**7.94**		**0.500**	**0.500**	**1.00**	**mg/L**	1	05-Jun-2021 03:23
ANIONS BY SW9056A		**Method:SW9056**						Analyst: YP
Chloride	**1,760**		**10.0**	**25.0**	**25.0**	**mg/L**	50	04-Jun-2021 17:10
Nitrogen, Nitrate (As N)	0.500	U	0.150	0.500	0.500	mg/L	5	03-Jun-2021 18:56
Nitrogen, Nitrite (As N)	0.500	U	0.150	0.500	0.500	mg/L	5	03-Jun-2021 18:56
Sulfate	**2,720**		**10.0**	**25.0**	**25.0**	**mg/L**	50	04-Jun-2021 17:10
SUBCONTRACT ANALYSIS - DHC/DHB		**Method:NA**						Analyst: SUB
Subcontract Analysis	See Attached		0	0		NA	1	02-Jul-2021 17:44

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 02-Jul-21

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
Sample ID: LHSMW07_060221
Collection Date: 02-Jun-2021 10:35

ANALYTICAL REPORT
WorkOrder:HS21060181
Lab ID:HS21060181-17
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
SUBCONTRACT ANALYSIS - RSK		**Method:NA**						Analyst: SUBCA
Subcontract Analysis	See Attached		0	0		NA	1	01-Jul-2021 09:25
SUBCONTRACT ANALYSIS - VOLATILE FATTY ACIDS		**Method:NA**						Analyst: SUB
Subcontract Analysis	See Attached		0	0		NA	1	25-Jun-2021 17:38

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 02-Jul-21

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
Sample ID: 35AWW05_060221
Collection Date: 02-Jun-2021 11:30

ANALYTICAL REPORT
WorkOrder:HS21060181
Lab ID:HS21060181-18
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 19:18
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 19:18
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	ug/L	1	07-Jun-2021 19:18
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 19:18
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 19:18
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 19:18
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 19:18
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 19:18
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	07-Jun-2021 19:18
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	07-Jun-2021 19:18
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 19:18
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 19:18
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 19:18
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	07-Jun-2021 19:18
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 19:18
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	07-Jun-2021 19:18
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 19:18
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 19:18
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 19:18
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 19:18
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 19:18
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	07-Jun-2021 19:18
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 19:18
2-Hexanone	2.0	U	1.0	2.0	2.0	ug/L	1	07-Jun-2021 19:18
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 19:18
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 19:18
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	ug/L	1	07-Jun-2021 19:18
Acetone	2.0	U	0.40	2.0	2.0	ug/L	1	07-Jun-2021 19:18
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 19:18
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 19:18
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 19:18
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 19:18
Bromoform	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 19:18
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 19:18
Carbon disulfide	2.0	U	0.60	2.0	2.0	ug/L	1	07-Jun-2021 19:18
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	ug/L	1	07-Jun-2021 19:18
Chlorobenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 19:18
Chloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 19:18
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 19:18

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 02-Jul-21

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
Sample ID: 35AWW05_060221
Collection Date: 02-Jun-2021 11:30

ANALYTICAL REPORT
WorkOrder:HS21060181
Lab ID:HS21060181-18
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 19:18
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 19:18
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	ug/L	1	07-Jun-2021 19:18
Dibromochloromethane	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 19:18
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 19:18
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 19:18
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 19:18
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	07-Jun-2021 19:18
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 19:18
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	07-Jun-2021 19:18
Methylene chloride	2.0	U	0.40	2.0	2.0	ug/L	1	07-Jun-2021 19:18
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 19:18
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 19:18
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 19:18
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 19:18
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 19:18
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 19:18
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 19:18
Tetrachloroethene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 19:18
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 19:18
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 19:18
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 19:18
Trichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 19:18
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 19:18
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 19:18
Surr: 1,2-Dichloroethane-d4	*91.3*			**0**	*81-118*	*%REC*	*1*	*07-Jun-2021 19:18*
Surr: 4-Bromofluorobenzene	*97.7*			**0**	*85-114*	*%REC*	*1*	*07-Jun-2021 19:18*
Surr: Dibromofluoromethane	*88.2*			**0**	*80-119*	*%REC*	*1*	*07-Jun-2021 19:18*
Surr: Toluene-d8	*104*			**0**	*89-112*	*%REC*	*1*	*07-Jun-2021 19:18*

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 02-Jul-21

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
Sample ID: 35AWW22_060221
Collection Date: 02-Jun-2021 12:25

ANALYTICAL REPORT
WorkOrder:HS21060181
Lab ID:HS21060181-19
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 19:39
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 19:39
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	ug/L	1	07-Jun-2021 19:39
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 19:39
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 19:39
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 19:39
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 19:39
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 19:39
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	07-Jun-2021 19:39
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	07-Jun-2021 19:39
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 19:39
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 19:39
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 19:39
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	07-Jun-2021 19:39
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 19:39
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	07-Jun-2021 19:39
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 19:39
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 19:39
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 19:39
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 19:39
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 19:39
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	07-Jun-2021 19:39
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 19:39
2-Hexanone	2.0	U	1.0	2.0	2.0	ug/L	1	07-Jun-2021 19:39
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 19:39
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 19:39
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	ug/L	1	07-Jun-2021 19:39
Acetone	2.0	U	0.40	2.0	2.0	ug/L	1	07-Jun-2021 19:39
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 19:39
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 19:39
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 19:39
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 19:39
Bromoform	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 19:39
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 19:39
Carbon disulfide	2.0	U	0.60	2.0	2.0	ug/L	1	07-Jun-2021 19:39
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	ug/L	1	07-Jun-2021 19:39
Chlorobenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 19:39
Chloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 19:39
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 19:39

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 02-Jul-21

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
Sample ID: 35AWW22_060221
Collection Date: 02-Jun-2021 12:25

ANALYTICAL REPORT
WorkOrder:HS21060181
Lab ID:HS21060181-19
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 19:39
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 19:39
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	ug/L	1	07-Jun-2021 19:39
Dibromochloromethane	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 19:39
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 19:39
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 19:39
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 19:39
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	07-Jun-2021 19:39
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 19:39
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	07-Jun-2021 19:39
Methylene chloride	2.0	U	0.40	2.0	2.0	ug/L	1	07-Jun-2021 19:39
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 19:39
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 19:39
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 19:39
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 19:39
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 19:39
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 19:39
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 19:39
Tetrachloroethene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 19:39
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 19:39
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 19:39
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 19:39
Trichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 19:39
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 19:39
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 19:39
Surr: 1,2-Dichloroethane-d4	*92.3*			**0**	*81-118*	*%REC*	*1*	*07-Jun-2021 19:39*
Surr: 4-Bromofluorobenzene	*94.5*			**0**	*85-114*	*%REC*	*1*	*07-Jun-2021 19:39*
Surr: Dibromofluoromethane	*89.6*			**0**	*80-119*	*%REC*	*1*	*07-Jun-2021 19:39*
Surr: Toluene-d8	*104*			**0**	*89-112*	*%REC*	*1*	*07-Jun-2021 19:39*

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 02-Jul-21

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
Sample ID: 35AWW12_060221
Collection Date: 02-Jun-2021 12:10

ANALYTICAL REPORT
WorkOrder:HS21060181
Lab ID:HS21060181-20
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 20:00
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 20:00
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	ug/L	1	07-Jun-2021 20:00
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 20:00
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 20:00
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 20:00
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 20:00
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 20:00
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	07-Jun-2021 20:00
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	07-Jun-2021 20:00
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 20:00
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 20:00
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 20:00
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	07-Jun-2021 20:00
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 20:00
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	07-Jun-2021 20:00
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 20:00
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 20:00
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 20:00
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 20:00
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 20:00
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	07-Jun-2021 20:00
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 20:00
2-Hexanone	2.0	U	1.0	2.0	2.0	ug/L	1	07-Jun-2021 20:00
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 20:00
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 20:00
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	ug/L	1	07-Jun-2021 20:00
Acetone	2.0	U	0.40	2.0	2.0	ug/L	1	07-Jun-2021 20:00
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 20:00
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 20:00
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 20:00
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 20:00
Bromoform	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 20:00
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 20:00
Carbon disulfide	2.0	U	0.60	2.0	2.0	ug/L	1	07-Jun-2021 20:00
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	ug/L	1	07-Jun-2021 20:00
Chlorobenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 20:00
Chloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 20:00
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 20:00

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 02-Jul-21

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
Sample ID: 35AWW12_060221
Collection Date: 02-Jun-2021 12:10

ANALYTICAL REPORT
WorkOrder:HS21060181
Lab ID:HS21060181-20
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 20:00
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 20:00
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	ug/L	1	07-Jun-2021 20:00
Dibromochloromethane	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 20:00
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 20:00
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 20:00
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 20:00
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	07-Jun-2021 20:00
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 20:00
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	07-Jun-2021 20:00
Methylene chloride	2.0	U	0.40	2.0	2.0	ug/L	1	07-Jun-2021 20:00
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	07-Jun-2021 20:00
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 20:00
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 20:00
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 20:00
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 20:00
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 20:00
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 20:00
Tetrachloroethene	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 20:00
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 20:00
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 20:00
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 20:00
Trichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 20:00
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	07-Jun-2021 20:00
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	07-Jun-2021 20:00
Surr: 1,2-Dichloroethane-d4	*90.8*			**0**	*81-118*	*%REC*	*1*	*07-Jun-2021 20:00*
Surr: 4-Bromofluorobenzene	*97.6*			**0**	*85-114*	*%REC*	*1*	*07-Jun-2021 20:00*
Surr: Dibromofluoromethane	*88.0*			**0**	*80-119*	*%REC*	*1*	*07-Jun-2021 20:00*
Surr: Toluene-d8	*104*			**0**	*89-112*	*%REC*	*1*	*07-Jun-2021 20:00*

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 02-Jul-21

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
Sample ID: Trip Blank
Collection Date: 02-Jun-2021 00:00

ANALYTICAL REPORT
WorkOrder:HS21060181
Lab ID:HS21060181-21
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 13:42
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 13:42
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	ug/L	1	11-Jun-2021 13:42
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 13:42
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 13:42
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 13:42
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 13:42
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Jun-2021 13:42
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	11-Jun-2021 13:42
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	11-Jun-2021 13:42
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 13:42
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 13:42
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 13:42
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	11-Jun-2021 13:42
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 13:42
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	11-Jun-2021 13:42
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 13:42
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Jun-2021 13:42
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 13:42
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Jun-2021 13:42
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 13:42
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	11-Jun-2021 13:42
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 13:42
2-Hexanone	2.0	U	1.0	2.0	2.0	ug/L	1	11-Jun-2021 13:42
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Jun-2021 13:42
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 13:42
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	ug/L	1	11-Jun-2021 13:42
Acetone	2.0	U	0.40	2.0	2.0	ug/L	1	11-Jun-2021 13:42
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 13:42
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Jun-2021 13:42
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 13:42
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 13:42
Bromoform	1.0	U	0.40	1.0	1.0	ug/L	1	11-Jun-2021 13:42
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	11-Jun-2021 13:42
Carbon disulfide	2.0	U	0.60	2.0	2.0	ug/L	1	11-Jun-2021 13:42
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	ug/L	1	11-Jun-2021 13:42
Chlorobenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 13:42
Chloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 13:42
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 13:42

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 02-Jul-21

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
Sample ID: Trip Blank
Collection Date: 02-Jun-2021 00:00

ANALYTICAL REPORT
WorkOrder:HS21060181
Lab ID:HS21060181-21
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 13:42
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 13:42
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	ug/L	1	11-Jun-2021 13:42
Dibromochloromethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 13:42
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 13:42
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 13:42
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 13:42
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	11-Jun-2021 13:42
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 13:42
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	11-Jun-2021 13:42
Methylene chloride	2.0	U	0.40	2.0	2.0	ug/L	1	11-Jun-2021 13:42
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Jun-2021 13:42
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 13:42
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 13:42
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 13:42
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 13:42
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 13:42
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 13:42
Tetrachloroethene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 13:42
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 13:42
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 13:42
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 13:42
Trichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 13:42
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 13:42
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 13:42
Surr: 1,2-Dichloroethane-d4	*92.1*			**0**	*81-118*	*%REC*	*1*	*11-Jun-2021 13:42*
Surr: 4-Bromofluorobenzene	*96.6*			**0**	*85-114*	*%REC*	*1*	*11-Jun-2021 13:42*
Surr: Dibromofluoromethane	*89.2*			**0**	*80-119*	*%REC*	*1*	*11-Jun-2021 13:42*
Surr: Toluene-d8	*105*			**0**	*89-112*	*%REC*	*1*	*11-Jun-2021 13:42*

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

RIGHT SOLUTIONS | RIGHT PARTNER

Weight / Prep Log

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
WorkOrder: HS21060181

Batch ID: 166919 **Start Date:** 16 Jun 2021 10:00 **End Date:** 16 Jun 2021 14:00
Method: WATER - SW3010A **Prep Code:** 3010A

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS21060181-01		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21060181-02		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21060181-12		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21060181-13		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21060181-14		1 (mL)	10 (mL)	10	120 plastic HNO3
HS21060181-15		10 (mL)	10 (mL)	1	120 plastic HNO3

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 02-Jul-21

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
WorkOrder: HS21060181

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: 166919 (0)	**Test Name :** METALS BY ICPMS BY SW6020A				**Matrix:** Groundwater	
HS21060181-01	35AWW01_060121	01 Jun 2021 07:45		16 Jun 2021 14:00	17 Jun 2021 11:38	1
HS21060181-02	35AWW01_060121_a	01 Jun 2021 07:45		16 Jun 2021 14:00	17 Jun 2021 11:40	1
HS21060181-12	35AWW09_060221	02 Jun 2021 07:10		16 Jun 2021 14:00	17 Jun 2021 11:50	1
HS21060181-13	35AWW09_060221_a	02 Jun 2021 07:10		16 Jun 2021 14:00	17 Jun 2021 11:52	1
HS21060181-14	03WW01_060221	02 Jun 2021 08:05		16 Jun 2021 14:00	17 Jun 2021 11:55	1
HS21060181-15	35AWW08_060221	02 Jun 2021 08:55		16 Jun 2021 14:00	17 Jun 2021 11:56	1
Batch ID: R384952 (0)	**Test Name :** ANIONS BY SW9056A				**Matrix:** Groundwater	
HS21060181-12	35AWW09_060221	02 Jun 2021 07:10			03 Jun 2021 18:03	5
HS21060181-13	35AWW09_060221_a	02 Jun 2021 07:10			03 Jun 2021 18:11	5
HS21060181-14	03WW01_060221	02 Jun 2021 08:05			03 Jun 2021 18:34	5
HS21060181-15	35AWW08_060221	02 Jun 2021 08:55			03 Jun 2021 18:41	5
HS21060181-16	35AWW11_060221	02 Jun 2021 09:45			03 Jun 2021 18:49	5
HS21060181-17	LHSMW07_060221	02 Jun 2021 10:35			03 Jun 2021 18:56	5
Batch ID: R385033 (0)	**Test Name :** ANIONS BY SW9056A				**Matrix:** Groundwater	
HS21060181-12	35AWW09_060221	02 Jun 2021 07:10			04 Jun 2021 15:10	50
HS21060181-13	35AWW09_060221_a	02 Jun 2021 07:10			04 Jun 2021 15:18	50
HS21060181-14	03WW01_060221	02 Jun 2021 08:05			04 Jun 2021 16:47	50
HS21060181-15	35AWW08_060221	02 Jun 2021 08:55			04 Jun 2021 16:55	50
HS21060181-16	35AWW11_060221	02 Jun 2021 09:45			04 Jun 2021 17:02	50
HS21060181-17	LHSMW07_060221	02 Jun 2021 10:35			04 Jun 2021 17:10	50
Batch ID: R385048 (0)	**Test Name :** TOTAL ORGANIC CARBON BY E415.1				**Matrix:** Groundwater	
HS21060181-12	35AWW09_060221	02 Jun 2021 07:10			05 Jun 2021 01:57	1
HS21060181-13	35AWW09_060221_a	02 Jun 2021 07:10			05 Jun 2021 02:26	1
HS21060181-16	35AWW11_060221	02 Jun 2021 09:45			05 Jun 2021 03:08	1
HS21060181-17	LHSMW07_060221	02 Jun 2021 10:35			05 Jun 2021 03:23	1

Revision: 1

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 02-Jul-21

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
WorkOrder: HS21060181

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: R385121 (0)	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C				**Matrix:** Groundwater	
HS21060181-01	35AWW01_060121	01 Jun 2021 07:45			07 Jun 2021 15:26	1
HS21060181-02	35AWW01_060121_a	01 Jun 2021 07:45			07 Jun 2021 15:47	1
HS21060181-03	35AWW13_060121	01 Jun 2021 08:30			07 Jun 2021 16:08	1
HS21060181-04	35AWW10_060121	01 Jun 2021 09:10			07 Jun 2021 12:59	1
HS21060181-05	35AWW15_060121	01 Jun 2021 09:55			07 Jun 2021 16:29	1
HS21060181-07	35AWW18_060121	01 Jun 2021 11:20			07 Jun 2021 16:51	1
HS21060181-08	35AWW24_060121	01 Jun 2021 12:05			07 Jun 2021 17:12	1
HS21060181-09	35AWW24_060121_a	01 Jun 2021 12:05			07 Jun 2021 17:33	1
HS21060181-10	35AWW21_060121	01 Jun 2021 12:50			07 Jun 2021 17:54	1
HS21060181-11	35AWW14_060121	01 Jun 2021 13:00			07 Jun 2021 18:15	1
HS21060181-12	35AWW09_060221	02 Jun 2021 07:10			07 Jun 2021 13:20	1
HS21060181-13	35AWW09_060221_a	02 Jun 2021 07:10			07 Jun 2021 13:41	1
HS21060181-14	03WW01_060221	02 Jun 2021 08:05			07 Jun 2021 18:36	1
HS21060181-16	35AWW11_060221	02 Jun 2021 09:45			07 Jun 2021 18:57	1
HS21060181-17	LHSMW07_060221	02 Jun 2021 10:35			07 Jun 2021 20:21	1
HS21060181-18	35AWW05_060221	02 Jun 2021 11:30			07 Jun 2021 19:18	1
HS21060181-19	35AWW22_060221	02 Jun 2021 12:25			07 Jun 2021 19:39	1
HS21060181-20	35AWW12_060221	02 Jun 2021 12:10			07 Jun 2021 20:00	1
Batch ID: R385224 (0)	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C				**Matrix:** Groundwater	
HS21060181-12	35AWW09_060221	02 Jun 2021 07:10			08 Jun 2021 15:49	10
HS21060181-13	35AWW09_060221_a	02 Jun 2021 07:10			08 Jun 2021 16:10	10
Batch ID: R385254 (0)	**Test Name :** TOTAL ORGANIC CARBON BY E415.1				**Matrix:** Groundwater	
HS21060181-14	03WW01_060221	02 Jun 2021 08:05			08 Jun 2021 18:21	5
HS21060181-15	35AWW08_060221	02 Jun 2021 08:55			08 Jun 2021 18:33	5
Batch ID: R385452 (0)	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C				**Matrix:** Groundwater	
HS21060181-06	35AWW16_060121	01 Jun 2021 10:35			11 Jun 2021 14:03	1
HS21060181-15	35AWW08_060221	02 Jun 2021 08:55			11 Jun 2021 14:24	25
HS21060181-21	Trip Blank	02 Jun 2021 00:00			11 Jun 2021 13:42	1
Batch ID: R386387 (0)	**Test Name :** SUBCONTRACT ANALYSIS - VOLATILE FATTY ACIDS				**Matrix:** Groundwater	
HS21060181-12	35AWW09_060221	02 Jun 2021 07:10			25 Jun 2021 17:38	1
HS21060181-13	35AWW09_060221_a	02 Jun 2021 07:10			25 Jun 2021 17:38	1
HS21060181-14	03WW01_060221	02 Jun 2021 08:05			25 Jun 2021 17:38	1
HS21060181-15	35AWW08_060221	02 Jun 2021 08:55			25 Jun 2021 17:38	1
HS21060181-16	35AWW11_060221	02 Jun 2021 09:45			25 Jun 2021 17:38	1
HS21060181-17	LHSMW07_060221	02 Jun 2021 10:35			25 Jun 2021 17:38	1

Revision: 1

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 02-Jul-21

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
WorkOrder: HS21060181

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: R386731 (0)	**Test Name :** SUBCONTRACT ANALYSIS - RSK				**Matrix:** Groundwater	
HS21060181-12	35AWW09_060221	02 Jun 2021 07:10			01 Jul 2021 09:25	1
HS21060181-13	35AWW09_060221_a	02 Jun 2021 07:10			01 Jul 2021 09:25	1
HS21060181-14	03WW01_060221	02 Jun 2021 08:05			01 Jul 2021 09:25	1
HS21060181-15	35AWW08_060221	02 Jun 2021 08:55			01 Jul 2021 09:25	1
HS21060181-16	35AWW11_060221	02 Jun 2021 09:45			01 Jul 2021 09:25	1
HS21060181-17	LHSMW07_060221	02 Jun 2021 10:35			01 Jul 2021 09:25	1
Batch ID: R386900 (0)	**Test Name :** SUBCONTRACT ANALYSIS - DHC/DHB				**Matrix:** Groundwater	
HS21060181-14	03WW01_060221	02 Jun 2021 08:05			02 Jul 2021 17:44	1
HS21060181-15	35AWW08_060221	02 Jun 2021 08:55			02 Jul 2021 17:44	1
HS21060181-16	35AWW11_060221	02 Jun 2021 09:45			02 Jul 2021 17:44	1
HS21060181-17	LHSMW07_060221	02 Jun 2021 10:35			02 Jul 2021 17:44	1

Revision: 1

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 02-Jul-21

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
WorkOrder: HS21060181

QC BATCH REPORT

Batch ID: 166919 (0) **Instrument: ICPMS06** **Method: METALS BY ICPMS BY SW6020A**

MBLK Sample ID: **MBLK-166919** Units: **mg/L** Analysis Date: **17-Jun-2021 11:22**
Client ID: Run ID: **ICPMS06_385722** SeqNo: **6140506** PrepDate: **16-Jun-2021** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.00100	0.00500								U

LCS Sample ID: **LCS-166919** Units: **mg/L** Analysis Date: **17-Jun-2021 11:24**
Client ID: Run ID: **ICPMS06_385722** SeqNo: **6140507** PrepDate: **16-Jun-2021** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.04696	0.00500	0.05	0	93.9	84 - 116				

MS Sample ID: **HS21060700-02MS** Units: **mg/L** Analysis Date: **17-Jun-2021 11:30**
Client ID: Run ID: **ICPMS06_385722** SeqNo: **6140510** PrepDate: **16-Jun-2021** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.04971	0.00500	0.05	0.000489	98.4	84 - 116				

MSD Sample ID: **HS21060700-02MSD** Units: **mg/L** Analysis Date: **17-Jun-2021 11:32**
Client ID: Run ID: **ICPMS06_385722** SeqNo: **6140511** PrepDate: **16-Jun-2021** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.05209	0.00500	0.05	0.000489	103	84 - 116	0.04971	4.67	20	

PDS Sample ID: **HS21060700-02PDS** Units: **mg/L** Analysis Date: **17-Jun-2021 11:34**
Client ID: Run ID: **ICPMS06_385722** SeqNo: **6140512** PrepDate: **16-Jun-2021** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.1138	0.00500	0.1	0.000489	113	80 - 120				

SD Sample ID: **HS21060700-02SD** Units: **mg/L** Analysis Date: **17-Jun-2021 11:28**
Client ID: Run ID: **ICPMS06_385722** SeqNo: **6140509** PrepDate: **16-Jun-2021** DF: **5**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Arsenic	0.00500	0.0250					0.000489	0	10	U

The following samples were analyzed in this batch: HS21060181-01 HS21060181-02 HS21060181-12 HS21060181-13 HS21060181-14 HS21060181-15

Revision: 1

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ALS Houston, US Date: 02-Jul-21

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
WorkOrder: HS21060181

QC BATCH REPORT

Batch ID: R385121 (0) **Instrument: VOA6** **Method: VOLATILES ORGANICS BY METHOD 8260C**

MBLK Sample ID: **VBLKW-210607** Units: **ug/L** Analysis Date: **07-Jun-2021 12:38**
Client ID: Run ID: **VOA6_385121** SeqNo: **6126488** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	1.0	1.0								U
1,1,1-Trichloroethane	0.50	1.0								U
1,1,2,2-Tetrachloroethane	1.0	1.0								U
1,1,2-Trichloroethane	1.0	1.0								U
1,1-Dichloroethane	0.50	1.0								U
1,1-Dichloroethene	0.50	1.0								U
1,1-Dichloropropene	1.0	1.0								U
1,2,3-Trichlorobenzene	1.0	1.0								U
1,2,3-Trichloropropane	1.0	1.0								U
1,2,4-Trichlorobenzene	1.0	1.0								U
1,2,4-Trimethylbenzene	1.0	1.0								U
1,2-Dibromo-3-chloropropane	0.50	1.0								U
1,2-Dibromoethane	0.50	1.0								U
1,2-Dichlorobenzene	1.0	1.0								U
1,2-Dichloroethane	0.50	1.0								U
1,2-Dichloropropane	1.0	1.0								U
1,3,5-Trimethylbenzene	1.0	1.0								U
1,3-Dichlorobenzene	1.0	1.0								U
1,3-Dichloropropane	1.0	1.0								U
1,4-Dichlorobenzene	1.0	1.0								U
2,2-Dichloropropane	0.50	1.0								U
2-Butanone	1.0	2.0								U
2-Chlorotoluene	1.0	1.0								U
2-Hexanone	2.0	2.0								U
4-Chlorotoluene	1.0	1.0								U
4-Isopropyltoluene	1.0	1.0								U
4-Methyl-2-pentanone	2.0	2.0								U
Acetone	2.0	2.0								U
Benzene	0.50	1.0								U
Bromobenzene	1.0	1.0								U
Bromochloromethane	0.50	1.0								U
Bromodichloromethane	0.50	1.0								U
Bromoform	1.0	1.0								U
Bromomethane	1.0	1.0								U

Revision: 1

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 02-Jul-21

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
WorkOrder: HS21060181

QC BATCH REPORT

Batch ID: R385121 (0) **Instrument: VOA6** **Method: VOLATILES ORGANICS BY METHOD 8260C**

MBLK Sample ID: **VBLKW-210607** Units: **ug/L** Analysis Date: **07-Jun-2021 12:38**
Client ID: Run ID: **VOA6_385121** SeqNo: **6126488** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Carbon disulfide	2.0	2.0								U
Carbon tetrachloride	1.0	1.0								U
Chlorobenzene	1.0	1.0								U
Chloroethane	1.0	1.0								U
Chloroform	0.50	1.0								U
Chloromethane	0.50	1.0								U
cis-1,2-Dichloroethene	0.50	1.0								U
cis-1,3-Dichloropropene	0.50	1.0								U
Dibromochloromethane	1.0	1.0								U
Dibromomethane	0.50	1.0								U
Dichlorodifluoromethane	1.0	1.0								U
Ethylbenzene	1.0	1.0								U
Hexachlorobutadiene	1.0	1.0								U
Isopropylbenzene	1.0	1.0								U
m,p-Xylene	1.0	2.0								U
Methylene chloride	2.0	2.0								U
Naphthalene	1.0	1.0								U
n-Butylbenzene	1.0	1.0								U
n-Propylbenzene	1.0	1.0								U
o-Xylene	1.0	1.0								U
sec-Butylbenzene	1.0	1.0								U
Styrene	1.0	1.0								U
tert-Butylbenzene	1.0	1.0								U
Tetrachloroethene	1.0	1.0								U
Toluene	0.50	1.0								U
trans-1,2-Dichloroethene	0.50	1.0								U
trans-1,3-Dichloropropene	0.50	1.0								U
Trichloroethene	0.50	1.0								U
Trichlorofluoromethane	1.0	1.0								U
Vinyl chloride	0.50	1.0								U
Surr: 1,2-Dichloroethane-d4	*46.46*	*1.0*	*50*	*0*	*92.9*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*50.22*	*1.0*	*50*	*0*	*100*	*85 - 114*				
Surr: Dibromofluoromethane	*44.51*	*1.0*	*50*	*0*	*89.0*	*80 - 119*				
Surr: Toluene-d8	*51.13*	*1.0*	*50*	*0*	*102*	*89 - 112*				

Revision: 1

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 02-Jul-21

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
WorkOrder: HS21060181

QC BATCH REPORT

Batch ID: R385121 (0) **Instrument: VOA6** **Method: VOLATILES ORGANICS BY METHOD 8260C**

LCS Sample ID: **VLCSW-210607** Units: **ug/L** Analysis Date: **07-Jun-2021 11:35**
Client ID: Run ID: **VOA6_385121** SeqNo: **6126487** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	21.42	1.0	20	0	107	78 - 124				
1,1,1-Trichloroethane	20.38	1.0	20	0	102	74 - 131				
1,1,2,2-Tetrachloroethane	23.24	1.0	20	0	116	71 - 121				
1,1,2-Trichloroethane	21.28	1.0	20	0	106	80 - 119				
1,1-Dichloroethane	19.51	1.0	20	0	97.5	77 - 125				
1,1-Dichloroethene	18.24	1.0	20	0	91.2	71 - 131				
1,1-Dichloropropene	22.58	1.0	20	0	113	78 - 125				
1,2,3-Trichlorobenzene	28.27	1.0	20	0	141	69 - 129				S
1,2,3-Trichloropropane	21.81	1.0	20	0	109	73 - 122				
1,2,4-Trichlorobenzene	27.86	1.0	20	0	139	69 - 130				S
1,2,4-Trimethylbenzene	21.44	1.0	20	0	107	76 - 124				
1,2-Dibromo-3-chloropropane	24.8	1.0	20	0	124	62 - 128				
1,2-Dibromoethane	21.35	1.0	20	0	107	77 - 121				
1,2-Dichlorobenzene	21.57	1.0	20	0	108	80 - 119				
1,2-Dichloroethane	22.34	1.0	20	0	112	73 - 128				
1,2-Dichloropropane	21.4	1.0	20	0	107	78 - 122				
1,3,5-Trimethylbenzene	21.28	1.0	20	0	106	75 - 124				
1,3-Dichlorobenzene	22.03	1.0	20	0	110	80 - 119				
1,3-Dichloropropane	21.2	1.0	20	0	106	80 - 119				
1,4-Dichlorobenzene	21.21	1.0	20	0	106	79 - 118				
2,2-Dichloropropane	20.84	1.0	20	0	104	60 - 139				
2-Butanone	38.72	2.0	40	0	96.8	56 - 143				
2-Chlorotoluene	21.67	1.0	20	0	108	79 - 122				
2-Hexanone	42.6	2.0	40	0	106	57 - 139				
4-Chlorotoluene	20.78	1.0	20	0	104	78 - 122				
4-Isopropyltoluene	22.61	1.0	20	0	113	77 - 127				
4-Methyl-2-pentanone	40.94	2.0	40	0	102	67 - 130				
Acetone	33.91	2.0	40	0	84.8	39 - 160				
Benzene	21.39	1.0	20	0	107	79 - 120				
Bromobenzene	22.64	1.0	20	0	113	80 - 120				
Bromochloromethane	20.23	1.0	20	0	101	78 - 123				
Bromodichloromethane	21.29	1.0	20	0	106	79 - 125				
Bromoform	21.84	1.0	20	0	109	66 - 130				
Bromomethane	21.95	1.0	20	0	110	53 - 141				

Revision: 1

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 02-Jul-21

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
WorkOrder: HS21060181

QC BATCH REPORT

Batch ID: R385121 (0) **Instrument: VOA6** **Method: VOLATILES ORGANICS BY METHOD 8260C**

LCS Sample ID: **VLCSW-210607** Units: **ug/L** Analysis Date: **07-Jun-2021 11:35**
Client ID: Run ID: **VOA6_385121** SeqNo: **6126487** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Carbon disulfide	38.14	2.0	40	0	95.3	64 - 133				
Carbon tetrachloride	22.23	1.0	20	0	111	72 - 136				
Chlorobenzene	20.1	1.0	20	0	101	82 - 118				
Chloroethane	21.17	1.0	20	0	106	60 - 138				
Chloroform	19.6	1.0	20	0	98.0	79 - 124				
Chloromethane	20.21	1.0	20	0	101	50 - 139				
cis-1,2-Dichloroethene	20.02	1.0	20	0	100	78 - 123				
cis-1,3-Dichloropropene	21.92	1.0	20	0	110	75 - 124				
Dibromochloromethane	21.46	1.0	20	0	107	74 - 126				
Dibromomethane	21.76	1.0	20	0	109	79 - 123				
Dichlorodifluoromethane	24.42	1.0	20	0	122	32 - 152				
Ethylbenzene	22.15	1.0	20	0	111	79 - 121				
Hexachlorobutadiene	31.58	1.0	20	0	158	66 - 134				S
Isopropylbenzene	21.87	1.0	20	0	109	72 - 131				
m,p-Xylene	42.58	2.0	40	0	106	80 - 121				
Methylene chloride	20.03	2.0	20	0	100	74 - 124				
Naphthalene	26.65	1.0	20	0	133	61 - 128				S
n-Butylbenzene	22.87	1.0	20	0	114	75 - 128				
n-Propylbenzene	21.78	1.0	20	0	109	76 - 126				
o-Xylene	21.06	1.0	20	0	105	78 - 122				
sec-Butylbenzene	22.75	1.0	20	0	114	77 - 126				
Styrene	21.1	1.0	20	0	106	78 - 123				
tert-Butylbenzene	22.2	1.0	20	0	111	78 - 124				
Tetrachloroethene	23.42	1.0	20	0	117	74 - 129				
Toluene	20.21	1.0	20	0	101	80 - 121				
trans-1,2-Dichloroethene	19.42	1.0	20	0	97.1	75 - 124				
trans-1,3-Dichloropropene	22.36	1.0	20	0	112	73 - 127				
Trichloroethene	23	1.0	20	0	115	79 - 123				
Trichlorofluoromethane	19.37	1.0	20	0	96.9	65 - 141				
Vinyl chloride	20.1	1.0	20	0	101	58 - 137				
Surr: 1,2-Dichloroethane-d4	*50.81*	*1.0*	*50*	*0*	*102*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*48.66*	*1.0*	*50*	*0*	*97.3*	*85 - 114*				
Surr: Dibromofluoromethane	*47.32*	*1.0*	*50*	*0*	*94.6*	*80 - 119*				
Surr: Toluene-d8	*46.47*	*1.0*	*50*	*0*	*92.9*	*89 - 112*				

Revision: 1

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 02-Jul-21

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
WorkOrder: HS21060181

QC BATCH REPORT

Batch ID: R385121 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS21060181-04MS** Units: **ug/L** Analysis Date: **07-Jun-2021 14:02**
Client ID: **35AWW10_060121** Run ID: **VOA6_385121** SeqNo: **6126492** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	19.62	1.0	20	0	98.1	78 - 124				
1,1,1-Trichloroethane	16.97	1.0	20	0	84.9	74 - 131				
1,1,2,2-Tetrachloroethane	22.49	1.0	20	0	112	71 - 121				
1,1,2-Trichloroethane	19	1.0	20	0	95.0	80 - 119				
1,1-Dichloroethane	15.55	1.0	20	0	77.8	77 - 125				
1,1-Dichloroethene	15.45	1.0	20	0	77.3	71 - 131				
1,1-Dichloropropene	20.04	1.0	20	0	100	78 - 125				
1,2,3-Trichlorobenzene	23.72	1.0	20	0	119	69 - 129				
1,2,3-Trichloropropane	20.32	1.0	20	0	102	73 - 122				
1,2,4-Trichlorobenzene	25.65	1.0	20	0	128	69 - 130				
1,2,4-Trimethylbenzene	21.72	1.0	20	0	109	76 - 124				
1,2-Dibromo-3-chloropropane	22.53	1.0	20	0	113	62 - 128				
1,2-Dibromoethane	18.79	1.0	20	0	94.0	77 - 121				
1,2-Dichlorobenzene	21	1.0	20	0	105	80 - 119				
1,2-Dichloroethane	18.15	1.0	20	0	90.8	73 - 128				
1,2-Dichloropropane	17.85	1.0	20	0	89.3	78 - 122				
1,3,5-Trimethylbenzene	22.24	1.0	20	0	111	75 - 124				
1,3-Dichlorobenzene	21.67	1.0	20	0	108	80 - 119				
1,3-Dichloropropane	18.89	1.0	20	0	94.5	80 - 119				
1,4-Dichlorobenzene	21.29	1.0	20	0	106	79 - 118				
2,2-Dichloropropane	16.7	1.0	20	0	83.5	60 - 139				
2-Butanone	29.59	2.0	40	0	74.0	56 - 143				
2-Chlorotoluene	22.11	1.0	20	0	111	79 - 122				
2-Hexanone	37.32	2.0	40	0	93.3	57 - 139				
4-Chlorotoluene	20.77	1.0	20	0	104	78 - 122				
4-Isopropyltoluene	23.72	1.0	20	0	119	77 - 127				
4-Methyl-2-pentanone	36.32	2.0	40	0	90.8	67 - 130				
Acetone	25.13	2.0	40	0	62.8	39 - 160				
Benzene	18.25	1.0	20	0	91.2	79 - 120				
Bromobenzene	22.21	1.0	20	0	111	80 - 120				
Bromochloromethane	15.82	1.0	20	0	79.1	78 - 123				
Bromodichloromethane	18.24	1.0	20	0	91.2	79 - 125				
Bromoform	19.13	1.0	20	0	95.6	66 - 130				
Bromomethane	17.55	1.0	20	0	87.7	53 - 141				

Revision: 1

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 02-Jul-21

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
WorkOrder: HS21060181

QC BATCH REPORT

Batch ID: R385121 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS21060181-04MS** Units: **ug/L** Analysis Date: **07-Jun-2021 14:02**
Client ID: **35AWW10_060121** Run ID: **VOA6_385121** SeqNo: **6126492** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Carbon disulfide	30.93	2.0	40	0	77.3	64 - 133				
Carbon tetrachloride	20.4	1.0	20	0	102	72 - 136				
Chlorobenzene	18.77	1.0	20	0	93.9	82 - 118				
Chloroethane	13.8	1.0	20	0	69.0	60 - 138				
Chloroform	15.64	1.0	20	0	78.2	79 - 124				S
Chloromethane	13.14	1.0	20	0	65.7	50 - 139				
cis-1,2-Dichloroethene	15.95	1.0	20	0	79.7	78 - 123				
cis-1,3-Dichloropropene	18.41	1.0	20	0	92.0	75 - 124				
Dibromochloromethane	19.64	1.0	20	0	98.2	74 - 126				
Dibromomethane	18	1.0	20	0	90.0	79 - 123				
Dichlorodifluoromethane	14.31	1.0	20	0	71.6	32 - 152				
Ethylbenzene	20.96	1.0	20	0	105	79 - 121				
Hexachlorobutadiene	30.65	1.0	20	0	153	66 - 134				S
Isopropylbenzene	21.05	1.0	20	0	105	72 - 131				
m,p-Xylene	40.22	2.0	40	0	101	80 - 121				
Methylene chloride	15.21	2.0	20	0	76.1	74 - 124				
Naphthalene	21.8	1.0	20	0	109	61 - 128				
n-Butylbenzene	23.75	1.0	20	0	119	75 - 128				
n-Propylbenzene	22.75	1.0	20	0	114	76 - 126				
o-Xylene	19.71	1.0	20	0	98.5	78 - 122				
sec-Butylbenzene	23.84	1.0	20	0	119	77 - 126				
Styrene	19.39	1.0	20	0	97.0	78 - 123				
tert-Butylbenzene	23.8	1.0	20	0	119	78 - 124				
Tetrachloroethene	24.38	1.0	20	0	122	74 - 129				
Toluene	18.97	1.0	20	0	94.9	80 - 121				
trans-1,2-Dichloroethene	15.77	1.0	20	0	78.8	75 - 124				
trans-1,3-Dichloropropene	18.3	1.0	20	0	91.5	73 - 127				
Trichloroethene	20.88	1.0	20	0	104	79 - 123				
Trichlorofluoromethane	16.17	1.0	20	0	80.9	65 - 141				
Vinyl chloride	14.51	1.0	20	0	72.6	58 - 137				
Surr: 1,2-Dichloroethane-d4	*45.49*	*1.0*	*50*	*0*	*91.0*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*48.34*	*1.0*	*50*	*0*	*96.7*	*85 - 114*				
Surr: Dibromofluoromethane	*44.48*	*1.0*	*50*	*0*	*89.0*	*80 - 119*				
Surr: Toluene-d8	*52.16*	*1.0*	*50*	*0*	*104*	*89 - 112*				

Revision: 1

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 02-Jul-21

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
WorkOrder: HS21060181

QC BATCH REPORT

Batch ID: R385121 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS21060181-04MSD** Units: **ug/L** Analysis Date: **07-Jun-2021 14:23**
Client ID: **35AWW10_060121** Run ID: **VOA6_385121** SeqNo: **6126493** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	18.34	1.0	20	0	91.7	78 - 124	19.62	6.78	20	
1,1,1-Trichloroethane	15.83	1.0	20	0	79.2	74 - 131	16.97	6.95	20	
1,1,2,2-Tetrachloroethane	19.59	1.0	20	0	98.0	71 - 121	22.49	13.8	20	
1,1,2-Trichloroethane	17.75	1.0	20	0	88.7	80 - 119	19	6.82	20	
1,1-Dichloroethane	14.81	1.0	20	0	74.1	77 - 125	15.55	4.87	20	S
1,1-Dichloroethene	14.61	1.0	20	0	73.1	71 - 131	15.45	5.57	20	
1,1-Dichloropropene	18.37	1.0	20	0	91.9	78 - 125	20.04	8.69	20	
1,2,3-Trichlorobenzene	23.51	1.0	20	0	118	69 - 129	23.72	0.889	20	
1,2,3-Trichloropropane	18.12	1.0	20	0	90.6	73 - 122	20.32	11.4	20	
1,2,4-Trichlorobenzene	22.27	1.0	20	0	111	69 - 130	25.65	14.1	20	
1,2,4-Trimethylbenzene	18.48	1.0	20	0	92.4	76 - 124	21.72	16.1	20	
1,2-Dibromo-3-chloropropane	20.57	1.0	20	0	103	62 - 128	22.53	9.11	20	
1,2-Dibromoethane	17.92	1.0	20	0	89.6	77 - 121	18.79	4.72	20	
1,2-Dichlorobenzene	18.17	1.0	20	0	90.9	80 - 119	21	14.4	20	
1,2-Dichloroethane	17.88	1.0	20	0	89.4	73 - 128	18.15	1.48	20	
1,2-Dichloropropane	17.51	1.0	20	0	87.6	78 - 122	17.85	1.91	20	
1,3,5-Trimethylbenzene	18.7	1.0	20	0	93.5	75 - 124	22.24	17.3	20	
1,3-Dichlorobenzene	18.71	1.0	20	0	93.6	80 - 119	21.67	14.7	20	
1,3-Dichloropropane	17.93	1.0	20	0	89.6	80 - 119	18.89	5.25	20	
1,4-Dichlorobenzene	18.58	1.0	20	0	92.9	79 - 118	21.29	13.6	20	
2,2-Dichloropropane	16.23	1.0	20	0	81.1	60 - 139	16.7	2.87	20	
2-Butanone	29.7	2.0	40	0	74.3	56 - 143	29.59	0.379	20	
2-Chlorotoluene	18.67	1.0	20	0	93.4	79 - 122	22.11	16.9	20	
2-Hexanone	36.43	2.0	40	0	91.1	57 - 139	37.32	2.42	20	
4-Chlorotoluene	17.85	1.0	20	0	89.2	78 - 122	20.77	15.1	20	
4-Isopropyltoluene	19.93	1.0	20	0	99.7	77 - 127	23.72	17.3	20	
4-Methyl-2-pentanone	34.9	2.0	40	0	87.3	67 - 130	36.32	3.97	20	
Acetone	24.17	2.0	40	0	60.4	39 - 160	25.13	3.92	20	
Benzene	17.23	1.0	20	0	86.2	79 - 120	18.25	5.73	20	
Bromobenzene	18.95	1.0	20	0	94.7	80 - 120	22.21	15.8	20	
Bromochloromethane	15.31	1.0	20	0	76.5	78 - 123	15.82	3.3	20	S
Bromodichloromethane	17.09	1.0	20	0	85.4	79 - 125	18.24	6.55	20	
Bromoform	18.58	1.0	20	0	92.9	66 - 130	19.13	2.93	20	
Bromomethane	15.96	1.0	20	0	79.8	53 - 141	17.55	9.48	20	

Revision: 1

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 02-Jul-21

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
WorkOrder: HS21060181

QC BATCH REPORT

Batch ID: R385121 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS21060181-04MSD** Units: **ug/L** Analysis Date: **07-Jun-2021 14:23**
Client ID: **35AWW10_060121** Run ID: **VOA6_385121** SeqNo: **6126493** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Carbon disulfide	28.88	2.0	40	0	72.2	64 - 133	30.93	6.84	20	
Carbon tetrachloride	19	1.0	20	0	95.0	72 - 136	20.4	7.1	20	
Chlorobenzene	17.22	1.0	20	0	86.1	82 - 118	18.77	8.62	20	
Chloroethane	13.22	1.0	20	0	66.1	60 - 138	13.8	4.3	20	
Chloroform	14.89	1.0	20	0	74.4	79 - 124	15.64	4.93	20	S
Chloromethane	12.55	1.0	20	0	62.7	50 - 139	13.14	4.6	20	
cis-1,2-Dichloroethene	15.74	1.0	20	0	78.7	78 - 123	15.95	1.32	20	
cis-1,3-Dichloropropene	17.53	1.0	20	0	87.7	75 - 124	18.41	4.85	20	
Dibromochloromethane	18.29	1.0	20	0	91.4	74 - 126	19.64	7.15	20	
Dibromomethane	17.6	1.0	20	0	88.0	79 - 123	18	2.23	20	
Dichlorodifluoromethane	13.06	1.0	20	0	65.3	32 - 152	14.31	9.15	20	
Ethylbenzene	19.36	1.0	20	0	96.8	79 - 121	20.96	7.95	20	
Hexachlorobutadiene	26.38	1.0	20	0	132	66 - 134	30.65	15	20	
Isopropylbenzene	19.6	1.0	20	0	98.0	72 - 131	21.05	7.16	20	
m,p-Xylene	37.05	2.0	40	0	92.6	80 - 121	40.22	8.2	20	
Methylene chloride	14.73	2.0	20	0	73.7	74 - 124	15.21	3.22	20	S
Naphthalene	20.77	1.0	20	0	104	61 - 128	21.8	4.81	20	
n-Butylbenzene	19.98	1.0	20	0	99.9	75 - 128	23.75	17.2	20	
n-Propylbenzene	19.08	1.0	20	0	95.4	76 - 126	22.75	17.6	20	
o-Xylene	18.22	1.0	20	0	91.1	78 - 122	19.71	7.84	20	
sec-Butylbenzene	19.87	1.0	20	0	99.3	77 - 126	23.84	18.2	20	
Styrene	18.13	1.0	20	0	90.6	78 - 123	19.39	6.75	20	
tert-Butylbenzene	20.05	1.0	20	0	100	78 - 124	23.8	17.1	20	
Tetrachloroethene	21.73	1.0	20	0	109	74 - 129	24.38	11.5	20	
Toluene	17.4	1.0	20	0	87.0	80 - 121	18.97	8.64	20	
trans-1,2-Dichloroethene	14.56	1.0	20	0	72.8	75 - 124	15.77	7.94	20	S
trans-1,3-Dichloropropene	17.94	1.0	20	0	89.7	73 - 127	18.3	2	20	
Trichloroethene	18.78	1.0	20	0	93.9	79 - 123	20.88	10.6	20	
Trichlorofluoromethane	14.88	1.0	20	0	74.4	65 - 141	16.17	8.33	20	
Vinyl chloride	13.37	1.0	20	0	66.9	58 - 137	14.51	8.17	20	
Surr: 1,2-Dichloroethane-d4	*45.38*	*1.0*	*50*	*0*	*90.8*	*81 - 118*	*45.49*	*0.24*	*20*	
Surr: 4-Bromofluorobenzene	*50.26*	*1.0*	*50*	*0*	*101*	*85 - 114*	*48.34*	*3.9*	*20*	
Surr: Dibromofluoromethane	*44.23*	*1.0*	*50*	*0*	*88.5*	*80 - 119*	*44.48*	*0.581*	*20*	
Surr: Toluene-d8	*50.68*	*1.0*	*50*	*0*	*101*	*89 - 112*	*52.16*	*2.88*	*20*	

Revision: 1

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 02-Jul-21

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
WorkOrder: HS21060181

QC BATCH REPORT

Batch ID: R385121 (0)	Instrument: VOA6	Method: VOLATILES ORGANICS BY METHOD 8260C

The following samples were analyzed in this batch:

HS21060181-01	HS21060181-02	HS21060181-03	HS21060181-04
HS21060181-05	HS21060181-07	HS21060181-08	HS21060181-09
HS21060181-10	HS21060181-11	HS21060181-12	HS21060181-13
HS21060181-14	HS21060181-16	HS21060181-17	HS21060181-18
HS21060181-19	HS21060181-20		

ALS Houston, US Date: 02-Jul-21

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
WorkOrder: HS21060181

QC BATCH REPORT

Batch ID: R385224 (0) **Instrument: VOA6** **Method: VOLATILES ORGANICS BY METHOD 8260C**

MBLK Sample ID: **VBLKW-210608** Units: **ug/L** Analysis Date: **08-Jun-2021 13:22**
Client ID: Run ID: **VOA6_385224** SeqNo: **6129607** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Tetrachloroethene	1.0	1.0								U
Surr: 1,2-Dichloroethane-d4	*46.33*	*1.0*	*50*	*0*	*92.7*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*48.74*	*1.0*	*50*	*0*	*97.5*	*85 - 114*				
Surr: Dibromofluoromethane	*44.59*	*1.0*	*50*	*0*	*89.2*	*80 - 119*				
Surr: Toluene-d8	*51.63*	*1.0*	*50*	*0*	*103*	*89 - 112*				

LCS Sample ID: **VLCSW-210608** Units: **ug/L** Analysis Date: **08-Jun-2021 12:40**
Client ID: Run ID: **VOA6_385224** SeqNo: **6129606** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Tetrachloroethene	23.07	1.0	20	0	115	74 - 129				
Surr: 1,2-Dichloroethane-d4	*51.75*	*1.0*	*50*	*0*	*103*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*50.69*	*1.0*	*50*	*0*	*101*	*85 - 114*				
Surr: Dibromofluoromethane	*48.21*	*1.0*	*50*	*0*	*96.4*	*80 - 119*				
Surr: Toluene-d8	*47.5*	*1.0*	*50*	*0*	*95.0*	*89 - 112*				

MS Sample ID: **HS21060181-99MS** Units: **ug/L** Analysis Date: **08-Jun-2021 15:07**
Client ID: Run ID: **VOA6_385224** SeqNo: **6132779** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Tetrachloroethene	21.32	1.0	20	0	107	74 - 129				
Surr: 1,2-Dichloroethane-d4	*47.02*	*1.0*	*50*	*0*	*94.0*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*49.83*	*1.0*	*50*	*0*	*99.7*	*85 - 114*				
Surr: Dibromofluoromethane	*44.81*	*1.0*	*50*	*0*	*89.6*	*80 - 119*				
Surr: Toluene-d8	*50.27*	*1.0*	*50*	*0*	*101*	*89 - 112*				

ALS Houston, US Date: 02-Jul-21

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
WorkOrder: HS21060181

QC BATCH REPORT

Batch ID: R385224 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS21060181-99MSD** Units: **ug/L** Analysis Date: **08-Jun-2021 15:28**
Client ID: Run ID: **VOA6_385224** SeqNo: **6132780** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Tetrachloroethene	20.79	1.0	20	0	104	74 - 129	21.32	2.54	20	
Surr: 1,2-Dichloroethane-d4	*47.03*	*1.0*	*50*	*0*	*94.1*	*81 - 118*	*47.02*	*0.0143*	*20*	
Surr: 4-Bromofluorobenzene	*48.79*	*1.0*	*50*	*0*	*97.6*	*85 - 114*	*49.83*	*2.12*	*20*	
Surr: Dibromofluoromethane	*44.6*	*1.0*	*50*	*0*	*89.2*	*80 - 119*	*44.81*	*0.458*	*20*	
Surr: Toluene-d8	*50.54*	*1.0*	*50*	*0*	*101*	*89 - 112*	*50.27*	*0.539*	*20*	

The following samples were analyzed in this batch: HS21060181-12 HS21060181-13

Revision: 1

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ALS Houston, US Date: 02-Jul-21

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
WorkOrder: HS21060181

QC BATCH REPORT

Batch ID: R385452 (0) **Instrument: VOA6** **Method: VOLATILES ORGANICS BY METHOD 8260C**

MBLK Sample ID: **VBLKW-210611** Units: **ug/L** Analysis Date: **11-Jun-2021 13:20**
Client ID: Run ID: **VOA6_385452** SeqNo: **6134131** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	1.0	1.0								U
1,1,1-Trichloroethane	0.50	1.0								U
1,1,2,2-Tetrachloroethane	1.0	1.0								U
1,1,2-Trichloroethane	1.0	1.0								U
1,1-Dichloroethane	0.50	1.0								U
1,1-Dichloroethene	0.50	1.0								U
1,1-Dichloropropene	1.0	1.0								U
1,2,3-Trichlorobenzene	1.0	1.0								U
1,2,3-Trichloropropane	1.0	1.0								U
1,2,4-Trichlorobenzene	1.0	1.0								U
1,2,4-Trimethylbenzene	1.0	1.0								U
1,2-Dibromo-3-chloropropane	0.50	1.0								U
1,2-Dibromoethane	0.50	1.0								U
1,2-Dichlorobenzene	1.0	1.0								U
1,2-Dichloroethane	0.50	1.0								U
1,2-Dichloropropane	1.0	1.0								U
1,3,5-Trimethylbenzene	1.0	1.0								U
1,3-Dichlorobenzene	1.0	1.0								U
1,3-Dichloropropane	1.0	1.0								U
1,4-Dichlorobenzene	1.0	1.0								U
2,2-Dichloropropane	0.50	1.0								U
2-Butanone	1.0	2.0								U
2-Chlorotoluene	1.0	1.0								U
2-Hexanone	2.0	2.0								U
4-Chlorotoluene	1.0	1.0								U
4-Isopropyltoluene	1.0	1.0								U
4-Methyl-2-pentanone	2.0	2.0								U
Acetone	2.0	2.0								U
Benzene	0.50	1.0								U
Bromobenzene	1.0	1.0								U
Bromochloromethane	0.50	1.0								U
Bromodichloromethane	0.50	1.0								U
Bromoform	1.0	1.0								U
Bromomethane	1.0	1.0								U

Revision: 1

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 02-Jul-21

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
WorkOrder: HS21060181

QC BATCH REPORT

Batch ID: R385452 (0) **Instrument: VOA6** **Method: VOLATILES ORGANICS BY METHOD 8260C**

MBLK Sample ID: **VBLKW-210611** Units: **ug/L** Analysis Date: **11-Jun-2021 13:20**
Client ID: Run ID: **VOA6_385452** SeqNo: **6134131** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Carbon disulfide	2.0	2.0								U
Carbon tetrachloride	1.0	1.0								U
Chlorobenzene	1.0	1.0								U
Chloroethane	1.0	1.0								U
Chloroform	0.50	1.0								U
Chloromethane	0.50	1.0								U
cis-1,2-Dichloroethene	0.50	1.0								U
cis-1,3-Dichloropropene	0.50	1.0								U
Dibromochloromethane	1.0	1.0								U
Dibromomethane	0.50	1.0								U
Dichlorodifluoromethane	1.0	1.0								U
Ethylbenzene	1.0	1.0								U
Hexachlorobutadiene	1.0	1.0								U
Isopropylbenzene	1.0	1.0								U
m,p-Xylene	1.0	2.0								U
Methylene chloride	2.0	2.0								U
Naphthalene	1.0	1.0								U
n-Butylbenzene	1.0	1.0								U
n-Propylbenzene	1.0	1.0								U
o-Xylene	1.0	1.0								U
sec-Butylbenzene	1.0	1.0								U
Styrene	1.0	1.0								U
tert-Butylbenzene	1.0	1.0								U
Tetrachloroethene	1.0	1.0								U
Toluene	0.50	1.0								U
trans-1,2-Dichloroethene	0.50	1.0								U
trans-1,3-Dichloropropene	0.50	1.0								U
Trichloroethene	0.50	1.0								U
Trichlorofluoromethane	1.0	1.0								U
Vinyl chloride	0.50	1.0								U
Surr: 1,2-Dichloroethane-d4	*45.71*	*1.0*	*50*	*0*	*91.4*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*47.77*	*1.0*	*50*	*0*	*95.5*	*85 - 114*				
Surr: Dibromofluoromethane	*44.37*	*1.0*	*50*	*0*	*88.7*	*80 - 119*				
Surr: Toluene-d8	*52.28*	*1.0*	*50*	*0*	*105*	*89 - 112*				

Revision: 1

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 02-Jul-21

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
WorkOrder: HS21060181

QC BATCH REPORT

Batch ID: R385452 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

LCS Sample ID: **VLCSW-210611** Units: **ug/L** Analysis Date: **11-Jun-2021 12:38**
Client ID: Run ID: **VOA6_385452** SeqNo: **6134130** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	19.62	1.0	20	0	98.1	78 - 124				
1,1,1-Trichloroethane	17.19	1.0	20	0	86.0	74 - 131				
1,1,2,2-Tetrachloroethane	21.35	1.0	20	0	107	71 - 121				
1,1,2-Trichloroethane	19.35	1.0	20	0	96.7	80 - 119				
1,1-Dichloroethane	17.42	1.0	20	0	87.1	77 - 125				
1,1-Dichloroethene	15.79	1.0	20	0	79.0	71 - 131				
1,1-Dichloropropene	18.4	1.0	20	0	92.0	78 - 125				
1,2,3-Trichlorobenzene	24.78	1.0	20	0	124	69 - 129				
1,2,3-Trichloropropane	19.25	1.0	20	0	96.2	73 - 122				
1,2,4-Trichlorobenzene	24.54	1.0	20	0	123	69 - 130				
1,2,4-Trimethylbenzene	19.06	1.0	20	0	95.3	76 - 124				
1,2-Dibromo-3-chloropropane	22.73	1.0	20	0	114	62 - 128				
1,2-Dibromoethane	19.82	1.0	20	0	99.1	77 - 121				
1,2-Dichlorobenzene	19.59	1.0	20	0	98.0	80 - 119				
1,2-Dichloroethane	20.36	1.0	20	0	102	73 - 128				
1,2-Dichloropropane	19.14	1.0	20	0	95.7	78 - 122				
1,3,5-Trimethylbenzene	18.36	1.0	20	0	91.8	75 - 124				
1,3-Dichlorobenzene	19.85	1.0	20	0	99.2	80 - 119				
1,3-Dichloropropane	19.66	1.0	20	0	98.3	80 - 119				
1,4-Dichlorobenzene	19.18	1.0	20	0	95.9	79 - 118				
2,2-Dichloropropane	17.98	1.0	20	0	89.9	60 - 139				
2-Butanone	37.73	2.0	40	0	94.3	56 - 143				
2-Chlorotoluene	19.09	1.0	20	0	95.5	79 - 122				
2-Hexanone	39.3	2.0	40	0	98.3	57 - 139				
4-Chlorotoluene	18.58	1.0	20	0	92.9	78 - 122				
4-Isopropyltoluene	18.23	1.0	20	0	91.2	77 - 127				
4-Methyl-2-pentanone	37.67	2.0	40	0	94.2	67 - 130				
Acetone	34.2	2.0	40	0	85.5	39 - 160				
Benzene	19.31	1.0	20	0	96.6	79 - 120				
Bromobenzene	20.12	1.0	20	0	101	80 - 120				
Bromochloromethane	18.52	1.0	20	0	92.6	78 - 123				
Bromodichloromethane	19.27	1.0	20	0	96.3	79 - 125				
Bromoform	20.22	1.0	20	0	101	66 - 130				
Bromomethane	19.51	1.0	20	0	97.5	53 - 141				

Revision: 1

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 02-Jul-21

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
WorkOrder: HS21060181

QC BATCH REPORT

Batch ID: R385452 (0) **Instrument: VOA6** **Method: VOLATILES ORGANICS BY METHOD 8260C**

LCS Sample ID: **VLCSW-210611** Units: **ug/L** Analysis Date: **11-Jun-2021 12:38**
Client ID: Run ID: **VOA6_385452** SeqNo: **6134130** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Carbon disulfide	32.75	2.0	40	0	81.9	64 - 133				
Carbon tetrachloride	17.83	1.0	20	0	89.1	72 - 136				
Chlorobenzene	18	1.0	20	0	90.0	82 - 118				
Chloroethane	21.47	1.0	20	0	107	60 - 138				
Chloroform	17.85	1.0	20	0	89.2	79 - 124				
Chloromethane	16.94	1.0	20	0	84.7	50 - 139				
cis-1,2-Dichloroethene	18.59	1.0	20	0	93.0	78 - 123				
cis-1,3-Dichloropropene	20.3	1.0	20	0	102	75 - 124				
Dibromochloromethane	20.21	1.0	20	0	101	74 - 126				
Dibromomethane	19.91	1.0	20	0	99.6	79 - 123				
Dichlorodifluoromethane	17.73	1.0	20	0	88.7	32 - 152				
Ethylbenzene	19.79	1.0	20	0	98.9	79 - 121				
Hexachlorobutadiene	24.14	1.0	20	0	121	66 - 134				
Isopropylbenzene	18.19	1.0	20	0	90.9	72 - 131				
m,p-Xylene	37.46	2.0	40	0	93.7	80 - 121				
Methylene chloride	18.95	2.0	20	0	94.8	74 - 124				
Naphthalene	22.28	1.0	20	0	111	61 - 128				
n-Butylbenzene	18.07	1.0	20	0	90.3	75 - 128				
n-Propylbenzene	18.17	1.0	20	0	90.8	76 - 126				
o-Xylene	19.17	1.0	20	0	95.8	78 - 122				
sec-Butylbenzene	17.36	1.0	20	0	86.8	77 - 126				
Styrene	19.33	1.0	20	0	96.7	78 - 123				
tert-Butylbenzene	17.82	1.0	20	0	89.1	78 - 124				
Tetrachloroethene	19.11	1.0	20	0	95.5	74 - 129				
Toluene	18.09	1.0	20	0	90.5	80 - 121				
trans-1,2-Dichloroethene	17.22	1.0	20	0	86.1	75 - 124				
trans-1,3-Dichloropropene	20.22	1.0	20	0	101	73 - 127				
Trichloroethene	19.82	1.0	20	0	99.1	79 - 123				
Trichlorofluoromethane	15.32	1.0	20	0	76.6	65 - 141				
Vinyl chloride	16.4	1.0	20	0	82.0	58 - 137				
Surr: 1,2-Dichloroethane-d4	*50.92*	*1.0*	*50*	*0*	*102*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*49.28*	*1.0*	*50*	*0*	*98.6*	*85 - 114*				
Surr: Dibromofluoromethane	*48.34*	*1.0*	*50*	*0*	*96.7*	*80 - 119*				
Surr: Toluene-d8	*46.79*	*1.0*	*50*	*0*	*93.6*	*89 - 112*				

Revision: 1

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 02-Jul-21

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
WorkOrder: HS21060181

QC BATCH REPORT

Batch ID: R385452 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS21060181-06MS** Units: **ug/L** Analysis Date: **11-Jun-2021 15:06**
Client ID: **35AWW16_060121** Run ID: **VOA6_385452** SeqNo: **6134136** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	18.86	1.0	20	0	94.3	78 - 124				
1,1,1-Trichloroethane	16.78	1.0	20	0	83.9	74 - 131				
1,1,2,2-Tetrachloroethane	19.99	1.0	20	0	99.9	71 - 121				
1,1,2-Trichloroethane	18.33	1.0	20	0	91.6	80 - 119				
1,1-Dichloroethane	16.09	1.0	20	0.4628	78.1	77 - 125				
1,1-Dichloroethene	15.81	1.0	20	0	79.0	71 - 131				
1,1-Dichloropropene	18.91	1.0	20	0	94.6	78 - 125				
1,2,3-Trichlorobenzene	21.94	1.0	20	0	110	69 - 129				
1,2,3-Trichloropropane	18.52	1.0	20	0	92.6	73 - 122				
1,2,4-Trichlorobenzene	22.2	1.0	20	0	111	69 - 130				
1,2,4-Trimethylbenzene	18.73	1.0	20	0	93.7	76 - 124				
1,2-Dibromo-3-chloropropane	21.39	1.0	20	0	107	62 - 128				
1,2-Dibromoethane	18.18	1.0	20	0	90.9	77 - 121				
1,2-Dichlorobenzene	18.44	1.0	20	0	92.2	80 - 119				
1,2-Dichloroethane	17.91	1.0	20	0	89.5	73 - 128				
1,2-Dichloropropane	17.69	1.0	20	0	88.4	78 - 122				
1,3,5-Trimethylbenzene	19.14	1.0	20	0	95.7	75 - 124				
1,3-Dichlorobenzene	19.04	1.0	20	0	95.2	80 - 119				
1,3-Dichloropropane	18.31	1.0	20	0	91.6	80 - 119				
1,4-Dichlorobenzene	18.42	1.0	20	0	92.1	79 - 118				
2,2-Dichloropropane	16.91	1.0	20	0	84.6	60 - 139				
2-Butanone	31.43	2.0	40	0	78.6	56 - 143				
2-Chlorotoluene	19.2	1.0	20	0	96.0	79 - 122				
2-Hexanone	39.18	2.0	40	0	98.0	57 - 139				
4-Chlorotoluene	18.46	1.0	20	0	92.3	78 - 122				
4-Isopropyltoluene	19.84	1.0	20	0	99.2	77 - 127				
4-Methyl-2-pentanone	37.09	2.0	40	0	92.7	67 - 130				
Acetone	27.14	2.0	40	0	67.9	39 - 160				
Benzene	17.84	1.0	20	0	89.2	79 - 120				
Bromobenzene	19.52	1.0	20	0	97.6	80 - 120				
Bromochloromethane	16	1.0	20	0	80.0	78 - 123				
Bromodichloromethane	17.55	1.0	20	0	87.8	79 - 125				
Bromoform	18.88	1.0	20	0	94.4	66 - 130				
Bromomethane	16.43	1.0	20	0	82.1	53 - 141				

Revision: 1

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 02-Jul-21

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
WorkOrder: HS21060181

QC BATCH REPORT

Batch ID: R385452 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS21060181-06MS** Units: **ug/L** Analysis Date: **11-Jun-2021 15:06**
Client ID: **35AWW16_060121** Run ID: **VOA6_385452** SeqNo: **6134136** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Carbon disulfide	29.31	2.0	40	0	73.3	64 - 133				
Carbon tetrachloride	19.99	1.0	20	0	99.9	72 - 136				
Chlorobenzene	17.7	1.0	20	0	88.5	82 - 118				
Chloroethane	19.34	1.0	20	0	96.7	60 - 138				
Chloroform	15.59	1.0	20	0	77.9	79 - 124				S
Chloromethane	10.21	1.0	20	0	51.1	50 - 139				
cis-1,2-Dichloroethene	16.23	1.0	20	0	81.1	78 - 123				
cis-1,3-Dichloropropene	18.26	1.0	20	0	91.3	75 - 124				
Dibromochloromethane	18.63	1.0	20	0	93.1	74 - 126				
Dibromomethane	17.26	1.0	20	0	86.3	79 - 123				
Dichlorodifluoromethane	10.45	1.0	20	0	52.2	32 - 152				
Ethylbenzene	20	1.0	20	0	100	79 - 121				
Hexachlorobutadiene	23.92	1.0	20	0	120	66 - 134				
Isopropylbenzene	19.77	1.0	20	0	98.9	72 - 131				
m,p-Xylene	37.79	2.0	40	0	94.5	80 - 121				
Methylene chloride	15.4	2.0	20	0	77.0	74 - 124				
Naphthalene	20.42	1.0	20	0	102	61 - 128				
n-Butylbenzene	19.81	1.0	20	0	99.1	75 - 128				
n-Propylbenzene	19.68	1.0	20	0	98.4	76 - 126				
o-Xylene	18.54	1.0	20	0	92.7	78 - 122				
sec-Butylbenzene	20.05	1.0	20	0	100	77 - 126				
Styrene	18.39	1.0	20	0	91.9	78 - 123				
tert-Butylbenzene	19.47	1.0	20	0	97.4	78 - 124				
Tetrachloroethene	21.42	1.0	20	0	107	74 - 129				
Toluene	17.91	1.0	20	0	89.6	80 - 121				
trans-1,2-Dichloroethene	15.55	1.0	20	0	77.7	75 - 124				
trans-1,3-Dichloropropene	18.52	1.0	20	0	92.6	73 - 127				
Trichloroethene	19.89	1.0	20	0	99.4	79 - 123				
Trichlorofluoromethane	15.45	1.0	20	0	77.2	65 - 141				
Vinyl chloride	13.89	1.0	20	0	69.4	58 - 137				
Surr: 1,2-Dichloroethane-d4	*46.25*	*1.0*	*50*	*0*	*92.5*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*50.1*	*1.0*	*50*	*0*	*100*	*85 - 114*				
Surr: Dibromofluoromethane	*45.04*	*1.0*	*50*	*0*	*90.1*	*80 - 119*				
Surr: Toluene-d8	*50.2*	*1.0*	*50*	*0*	*100*	*89 - 112*				

Revision: 1

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 02-Jul-21

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
WorkOrder: HS21060181

QC BATCH REPORT

Batch ID: R385452 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS21060181-06MSD** Units: **ug/L** Analysis Date: **11-Jun-2021 15:27**
Client ID: **35AWW16_060121** Run ID: **VOA6_385452** SeqNo: **6134137** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	18.4	1.0	20	0	92.0	78 - 124	18.86	2.49	20	
1,1,1-Trichloroethane	16.42	1.0	20	0	82.1	74 - 131	16.78	2.19	20	
1,1,2,2-Tetrachloroethane	21.73	1.0	20	0	109	71 - 121	19.99	8.34	20	
1,1,2-Trichloroethane	18.6	1.0	20	0	93.0	80 - 119	18.33	1.49	20	
1,1-Dichloroethane	15.96	1.0	20	0.4628	77.5	77 - 125	16.09	0.834	20	
1,1-Dichloroethene	15.13	1.0	20	0	75.6	71 - 131	15.81	4.41	20	
1,1-Dichloropropene	18.55	1.0	20	0	92.7	78 - 125	18.91	1.94	20	
1,2,3-Trichlorobenzene	25.65	1.0	20	0	128	69 - 129	21.94	15.6	20	
1,2,3-Trichloropropane	20.51	1.0	20	0	103	73 - 122	18.52	10.2	20	
1,2,4-Trichlorobenzene	25.16	1.0	20	0	126	69 - 130	22.2	12.5	20	
1,2,4-Trimethylbenzene	19.94	1.0	20	0	99.7	76 - 124	18.73	6.26	20	
1,2-Dibromo-3-chloropropane	24.36	1.0	20	0	122	62 - 128	21.39	13	20	
1,2-Dibromoethane	18.88	1.0	20	0	94.4	77 - 121	18.18	3.78	20	
1,2-Dichlorobenzene	20.23	1.0	20	0	101	80 - 119	18.44	9.27	20	
1,2-Dichloroethane	17.85	1.0	20	0	89.2	73 - 128	17.91	0.321	20	
1,2-Dichloropropane	17.25	1.0	20	0	86.2	78 - 122	17.69	2.52	20	
1,3,5-Trimethylbenzene	20.2	1.0	20	0	101	75 - 124	19.14	5.41	20	
1,3-Dichlorobenzene	20.44	1.0	20	0	102	80 - 119	19.04	7.05	20	
1,3-Dichloropropane	18.51	1.0	20	0	92.6	80 - 119	18.31	1.09	20	
1,4-Dichlorobenzene	19.9	1.0	20	0	99.5	79 - 118	18.42	7.73	20	
2,2-Dichloropropane	16.49	1.0	20	0	82.5	60 - 139	16.91	2.5	20	
2-Butanone	31.29	2.0	40	0	78.2	56 - 143	31.43	0.441	20	
2-Chlorotoluene	20.32	1.0	20	0	102	79 - 122	19.2	5.64	20	
2-Hexanone	41.57	2.0	40	0	104	57 - 139	39.18	5.92	20	
4-Chlorotoluene	19.67	1.0	20	0	98.3	78 - 122	18.46	6.33	20	
4-Isopropyltoluene	21.2	1.0	20	0	106	77 - 127	19.84	6.65	20	
4-Methyl-2-pentanone	39.32	2.0	40	0	98.3	67 - 130	37.09	5.82	20	
Acetone	27.2	2.0	40	0	68.0	39 - 160	27.14	0.194	20	
Benzene	17.42	1.0	20	0	87.1	79 - 120	17.84	2.44	20	
Bromobenzene	20.44	1.0	20	0	102	80 - 120	19.52	4.62	20	
Bromochloromethane	15.93	1.0	20	0	79.6	78 - 123	16	0.475	20	
Bromodichloromethane	17.22	1.0	20	0	86.1	79 - 125	17.55	1.93	20	
Bromoform	19.32	1.0	20	0	96.6	66 - 130	18.88	2.31	20	
Bromomethane	15.41	1.0	20	0	77.1	53 - 141	16.43	6.4	20	

Revision: 1

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 02-Jul-21

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
WorkOrder: HS21060181

QC BATCH REPORT

Batch ID: R385452 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS21060181-06MSD** Units: **ug/L** Analysis Date: **11-Jun-2021 15:27**
Client ID: **35AWW16_060121** Run ID: **VOA6_385452** SeqNo: **6134137** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Carbon disulfide	28.87	2.0	40	0	72.2	64 - 133	29.31	1.51	20	
Carbon tetrachloride	19.1	1.0	20	0	95.5	72 - 136	19.99	4.52	20	
Chlorobenzene	17.83	1.0	20	0	89.2	82 - 118	17.7	0.739	20	
Chloroethane	19.85	1.0	20	0	99.2	60 - 138	19.34	2.56	20	
Chloroform	15.51	1.0	20	0	77.5	79 - 124	15.59	0.535	20	S
Chloromethane	10.3	1.0	20	0	51.5	50 - 139	10.21	0.805	20	
cis-1,2-Dichloroethene	15.86	1.0	20	0	79.3	78 - 123	16.23	2.27	20	
cis-1,3-Dichloropropene	18.01	1.0	20	0	90.0	75 - 124	18.26	1.4	20	
Dibromochloromethane	19.08	1.0	20	0	95.4	74 - 126	18.63	2.41	20	
Dibromomethane	17.8	1.0	20	0	89.0	79 - 123	17.26	3.06	20	
Dichlorodifluoromethane	9.969	1.0	20	0	49.8	32 - 152	10.45	4.69	20	
Ethylbenzene	19.52	1.0	20	0	97.6	79 - 121	20	2.44	20	
Hexachlorobutadiene	25.68	1.0	20	0	128	66 - 134	23.92	7.12	20	
Isopropylbenzene	19.65	1.0	20	0	98.2	72 - 131	19.77	0.614	20	
m,p-Xylene	37.83	2.0	40	0	94.6	80 - 121	37.79	0.114	20	
Methylene chloride	15.4	2.0	20	0	77.0	74 - 124	15.4	0.0377	20	
Naphthalene	25.54	1.0	20	0	128	61 - 128	20.42	22.3	20	R
n-Butylbenzene	21.41	1.0	20	0	107	75 - 128	19.81	7.76	20	
n-Propylbenzene	20.55	1.0	20	0	103	76 - 126	19.68	4.3	20	
o-Xylene	18.51	1.0	20	0	92.5	78 - 122	18.54	0.138	20	
sec-Butylbenzene	21.2	1.0	20	0	106	77 - 126	20.05	5.57	20	
Styrene	18.66	1.0	20	0	93.3	78 - 123	18.39	1.46	20	
tert-Butylbenzene	20.89	1.0	20	0	104	78 - 124	19.47	7.02	20	
Tetrachloroethene	21.29	1.0	20	0	106	74 - 129	21.42	0.591	20	
Toluene	17.92	1.0	20	0	89.6	80 - 121	17.91	0.0683	20	
trans-1,2-Dichloroethene	15.16	1.0	20	0	75.8	75 - 124	15.55	2.51	20	
trans-1,3-Dichloropropene	18.37	1.0	20	0	91.8	73 - 127	18.52	0.798	20	
Trichloroethene	19.44	1.0	20	0	97.2	79 - 123	19.89	2.26	20	
Trichlorofluoromethane	14.69	1.0	20	0	73.5	65 - 141	15.45	4.98	20	
Vinyl chloride	13.1	1.0	20	0	65.5	58 - 137	13.89	5.83	20	
Surr: 1,2-Dichloroethane-d4	*45.56*	*1.0*	*50*	*0*	*91.1*	*81 - 118*	*46.25*	*1.5*	*20*	
Surr: 4-Bromofluorobenzene	*48.67*	*1.0*	*50*	*0*	*97.3*	*85 - 114*	*50.1*	*2.9*	*20*	
Surr: Dibromofluoromethane	*45.03*	*1.0*	*50*	*0*	*90.1*	*80 - 119*	*45.04*	*0.0349*	*20*	
Surr: Toluene-d8	*50.9*	*1.0*	*50*	*0*	*102*	*89 - 112*	*50.2*	*1.37*	*20*	

Revision: 1

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 02-Jul-21

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
WorkOrder: HS21060181

QC BATCH REPORT

Batch ID: R385452 (0)	Instrument: VOA6	Method: VOLATILES ORGANICS BY METHOD 8260C

The following samples were analyzed in this batch: HS21060181-06 HS21060181-15 HS21060181-21

Revision: 1

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 02-Jul-21

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
WorkOrder: HS21060181

QC BATCH REPORT

Batch ID: R384952 (0) **Instrument: ICS-Integrion** **Method: ANIONS BY SW9056A**

MBLK Sample ID: **MBLK** Units: **mg/L** Analysis Date: **03-Jun-2021 13:51**
Client ID: Run ID: **ICS-Integrion_384952** SeqNo: **6122549** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrogen, Nitrate (As N)	0.100	0.100								U
Nitrogen, Nitrite (As N)	0.100	0.100								U
Sulfate	0.500	0.500								U

LCS Sample ID: **LCS** Units: **mg/L** Analysis Date: **03-Jun-2021 13:58**
Client ID: Run ID: **ICS-Integrion_384952** SeqNo: **6122550** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrogen, Nitrate (As N)	3.715	0.100	4	0	92.9	80 - 120				
Nitrogen, Nitrite (As N)	4.301	0.100	4	0	108	80 - 120				
Sulfate	19.48	0.500	20	0	97.4	80 - 120				

MS Sample ID: **HS21060181-13MS** Units: **mg/L** Analysis Date: **03-Jun-2021 18:19**
Client ID: **35AWW09_060221_a** Run ID: **ICS-Integrion_384952** SeqNo: **6122557** PrepDate: DF: **5**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrogen, Nitrate (As N)	10.04	0.500	10	0.0735	99.6	80 - 120				
Nitrogen, Nitrite (As N)	10.32	0.500	10	0	103	80 - 120				
Sulfate	894.9	2.50	50	898	-6.30	80 - 120				SEO

MS Sample ID: **HS21060150-01MS** Units: **mg/L** Analysis Date: **03-Jun-2021 13:14**
Client ID: Run ID: **ICS-Integrion_384952** SeqNo: **6122546** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrogen, Nitrate (As N)	2.006	0.100	2	0.0136	99.6	80 - 120				
Nitrogen, Nitrite (As N)	2.147	0.100	2	0.0231	106	80 - 120				
Sulfate	26.75	0.500	10	17.05	97.0	80 - 120				

ALS Houston, US Date: 02-Jul-21

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
WorkOrder: HS21060181

QC BATCH REPORT

Batch ID: R384952 (0) **Instrument: ICS-Integrion** **Method: ANIONS BY SW9056A**

MSD Sample ID: **HS21060181-13MSD** Units: **mg/L** Analysis Date: **03-Jun-2021 18:26**
Client ID: **35AWW09_060221_a** Run ID: **ICS-Integrion_384952** SeqNo: **6122558** PrepDate: DF: **5**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrogen, Nitrate (As N)	10.3	0.500	10	0.0735	102	80 - 120	10.04	2.6	20	
Nitrogen, Nitrite (As N)	10.53	0.500	10	0	105	80 - 120	10.32	1.99	20	
Sulfate	925.8	2.50	50	898	55.4	80 - 120	894.9	3.39	20	SEO

MSD Sample ID: **HS21060150-01MSD** Units: **mg/L** Analysis Date: **03-Jun-2021 13:21**
Client ID: Run ID: **ICS-Integrion_384952** SeqNo: **6122547** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrogen, Nitrate (As N)	2.04	0.100	2	0.0136	101	80 - 120	2.006	1.68	20	
Nitrogen, Nitrite (As N)	2.181	0.100	2	0.0231	108	80 - 120	2.147	1.57	20	
Sulfate	27.37	0.500	10	17.05	103	80 - 120	26.75	2.29	20	

The following samples were analyzed in this batch: HS21060181-12 HS21060181-13 HS21060181-14 HS21060181-15 HS21060181-16 HS21060181-17

Revision: 1

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 02-Jul-21

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
WorkOrder: HS21060181

QC BATCH REPORT

Batch ID: R385033 (0) **Instrument: ICS-Integrion** **Method: ANIONS BY SW9056A**

MBLK Sample ID: **MBLK** Units: **mg/L** Analysis Date: **04-Jun-2021 11:25**
Client ID: Run ID: **ICS-Integrion_385033** SeqNo: **6124234** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	0.500	0.500								U
Sulfate	0.500	0.500								U

LCS Sample ID: **LCS** Units: **mg/L** Analysis Date: **04-Jun-2021 11:32**
Client ID: Run ID: **ICS-Integrion_385033** SeqNo: **6124235** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	19.5	0.500	20	0	97.5	80 - 120				
Sulfate	19.45	0.500	20	0	97.2	80 - 120				

MS Sample ID: **HS21060226-05MS** Units: **mg/L** Analysis Date: **04-Jun-2021 14:32**
Client ID: Run ID: **ICS-Integrion_385033** SeqNo: **6124246** PrepDate: DF: **100**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	1946	50.0	1000	940.1	101	80 - 120				
Sulfate	1215	50.0	1000	197	102	80 - 120				

MS Sample ID: **HS21060222-01MS** Units: **mg/L** Analysis Date: **04-Jun-2021 15:33**
Client ID: Run ID: **ICS-Integrion_385033** SeqNo: **6124253** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	35.46	0.500	10	26.62	88.5	80 - 120				
Sulfate	40.47	0.500	10	32.24	82.4	80 - 120				

MSD Sample ID: **HS21060226-05MSD** Units: **mg/L** Analysis Date: **04-Jun-2021 14:39**
Client ID: Run ID: **ICS-Integrion_385033** SeqNo: **6124247** PrepDate: DF: **100**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	1910	50.0	1000	940.1	97.0	80 - 120	1946	1.86	20	
Sulfate	1178	50.0	1000	197	98.1	80 - 120	1215	3.08	20	

ALS Houston, US Date: 02-Jul-21

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
WorkOrder: HS21060181

QC BATCH REPORT

Batch ID: R385033 (0) **Instrument: ICS-Integrion** **Method: ANIONS BY SW9056A**

MSD Sample ID: **HS21060222-01MSD** Units: **mg/L** Analysis Date: **04-Jun-2021 15:40**
Client ID: Run ID: **ICS-Integrion_385033** SeqNo: **6124254** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	36.28	0.500	10	26.62	96.7	80 - 120	35.46	2.28	20	
Sulfate	41.73	0.500	10	32.24	94.9	80 - 120	40.47	3.05	20	

The following samples were analyzed in this batch: HS21060181-12 HS21060181-13 HS21060181-14 HS21060181-15 HS21060181-16 HS21060181-17

Revision: 1

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 02-Jul-21

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
WorkOrder: HS21060181

QC BATCH REPORT

Batch ID: R385048 (0) **Instrument: TOC_04** **Method: TOTAL ORGANIC CARBON BY E415.1**

MBLK Sample ID: **MBLK3-06042021** Units: **mg/L** Analysis Date: **05-Jun-2021 01:21**
Client ID: Run ID: **TOC_04_385048** SeqNo: **6124564** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	0.500	1.00								U

LCS Sample ID: **LCS3-06042021** Units: **mg/L** Analysis Date: **05-Jun-2021 01:33**
Client ID: Run ID: **TOC_04_385048** SeqNo: **6124565** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	10.96	1.00	10	0	110	85 - 115				

LCSD Sample ID: **LCSD3-06042021** Units: **mg/L** Analysis Date: **05-Jun-2021 01:45**
Client ID: Run ID: **TOC_04_385048** SeqNo: **6124566** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	10.84	1.00	10	0	108	85 - 115	10.96	1.1	20	

MS Sample ID: **HS21060181-12MS** Units: **mg/L** Analysis Date: **05-Jun-2021 02:12**
Client ID: **35AWW09_060221** Run ID: **TOC_04_385048** SeqNo: **6124568** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	19.24	1.00	10	7.497	117	80 - 120				

The following samples were analyzed in this batch: HS21060181-12 HS21060181-13 HS21060181-16 HS21060181-17

Revision: 1

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 02-Jul-21

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
WorkOrder: HS21060181

QC BATCH REPORT

Batch ID: R385254 (0) **Instrument: TOC_04** **Method: TOTAL ORGANIC CARBON BY E415.1**

MBLK Sample ID: **MBLK-06082021** Units: **mg/L** Analysis Date: **08-Jun-2021 17:43**
Client ID: Run ID: **TOC_04_385254** SeqNo: **6129899** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	0.500	1.00								U

LCS Sample ID: **LCS-06082021** Units: **mg/L** Analysis Date: **08-Jun-2021 17:55**
Client ID: Run ID: **TOC_04_385254** SeqNo: **6129900** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	11.48	1.00	10	0	115	85 - 115				

LCSD Sample ID: **LCSD-06082021** Units: **mg/L** Analysis Date: **08-Jun-2021 18:09**
Client ID: Run ID: **TOC_04_385254** SeqNo: **6129901** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	10.57	1.00	10	0	106	85 - 115	11.48	8.25	20	

MS Sample ID: **HS21060337-01MS** Units: **mg/L** Analysis Date: **09-Jun-2021 09:52**
Client ID: Run ID: **TOC_04_385254** SeqNo: **6129909** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	16.94	1.00	10	6.919	100	80 - 120				

The following samples were analyzed in this batch: HS21060181-14 HS21060181-15

Revision: 1

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 02-Jul-21

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
WorkOrder: **HS21060181**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitaion Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

Unit Reported	Description
mg/L	Milligrams per Liter

RIGHT SOLUTIONS | RIGHT PARTNER

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	21-022-0	26-Mar-2022
Dept of Defense	PJLA L20-507-R2	22-Dec-2021
Illinois	2000322021-7	09-May-2022
Kansas	E-10352 2020-2021	31-Jul-2021
Kentucky	123043, 2021-2022	30-Apr-2022
Louisiana	03087, 2021-2022	30-Jun-2022
North Carolina	624-2021	31-Dec-2021
Oklahoma	2020-165	31-Aug-2021
Texas	T104704231-21-27	30-Apr-2022
Utah	TX026932021-10	31-Jul-2021

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 02-Jul-21

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
Work Order: HS21060181

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS21060181-01	35AWW01_060121	Login	6/3/2021 5:00:48 PM	JML	MET023
HS21060181-01	35AWW01_060121	Login	6/3/2021 5:00:48 PM	JML	VOA108
HS21060181-02	35AWW01_060121_a	Login	6/3/2021 5:05:53 PM	JML	MET023
HS21060181-02	35AWW01_060121_a	Login	6/3/2021 5:05:53 PM	JML	VOA108
HS21060181-03	35AWW13_060121	Login	6/3/2021 5:06:42 PM	JML	VOA108
HS21060181-04	35AWW10_060121	Login	6/3/2021 5:06:42 PM	JML	VOA108
HS21060181-05	35AWW15_060121	Login	6/3/2021 5:06:42 PM	JML	VOA108
HS21060181-06	35AWW16_060121	Login	6/3/2021 5:06:42 PM	JML	VOA108
HS21060181-07	35AWW18_060121	Login	6/3/2021 5:06:42 PM	JML	VOA108
HS21060181-08	35AWW24_060121	Login	6/3/2021 5:06:42 PM	JML	VOA108
HS21060181-09	35AWW24_060121_a	Login	6/3/2021 5:06:42 PM	JML	VOA108
HS21060181-10	35AWW21_060121	Login	6/3/2021 5:06:42 PM	JML	VOA108
HS21060181-11	35AWW14_060121	Login	6/3/2021 5:06:42 PM	JML	VOA108
HS21060181-12	35AWW09_060221	Login	6/3/2021 5:08:22 PM	JML	MET023
HS21060181-12	35AWW09_060221	Login	6/3/2021 5:08:22 PM	JML	WET104
HS21060181-12	35AWW09_060221	Login	6/3/2021 5:08:22 PM	JML	VOA108
HS21060181-12	35AWW09_060221	Login	6/3/2021 5:08:22 PM	JML	WET104
HS21060181-12	35AWW09_060221	Login	6/3/2021 5:08:22 PM	JML	Sub
HS21060181-12	35AWW09_060221	Login	6/3/2021 5:08:22 PM	JML	Sub
HS21060181-13	35AWW09_060221_a	Login	6/3/2021 5:21:32 PM	JML	MET023
HS21060181-13	35AWW09_060221_a	Login	6/3/2021 5:21:32 PM	JML	WET104
HS21060181-13	35AWW09_060221_a	Login	6/3/2021 5:21:32 PM	JML	VOA108
HS21060181-13	35AWW09_060221_a	Login	6/3/2021 5:21:32 PM	JML	WET104
HS21060181-13	35AWW09_060221_a	Login	6/3/2021 5:21:32 PM	JML	Sub
HS21060181-13	35AWW09_060221_a	Login	6/3/2021 5:21:32 PM	JML	Sub
HS21060181-14	03WW01_060221	Login	6/3/2021 5:21:32 PM	JML	MET023
HS21060181-14	03WW01_060221	Login	6/3/2021 5:21:32 PM	JML	WET104
HS21060181-14	03WW01_060221	Login	6/3/2021 5:21:32 PM	JML	VOA108
HS21060181-14	03WW01_060221	Login	6/3/2021 5:21:32 PM	JML	WET104
HS21060181-14	03WW01_060221	Login	6/3/2021 5:21:32 PM	JML	Sub
HS21060181-14	03WW01_060221	Login	6/3/2021 5:21:32 PM	JML	Sub
HS21060181-15	35AWW08_060221	Login	6/3/2021 5:21:32 PM	JML	MET023
HS21060181-15	35AWW08_060221	Login	6/3/2021 5:21:32 PM	JML	WET104
HS21060181-15	35AWW08_060221	Login	6/3/2021 5:21:32 PM	JML	VOA108
HS21060181-15	35AWW08_060221	Login	6/3/2021 5:21:32 PM	JML	WET104
HS21060181-15	35AWW08_060221	Login	6/3/2021 5:21:32 PM	JML	Sub
HS21060181-15	35AWW08_060221	Login	6/3/2021 5:21:32 PM	JML	Sub
HS21060181-16	35AWW11_060221	Login	6/3/2021 5:21:32 PM	JML	WET104
HS21060181-16	35AWW11_060221	Login	6/3/2021 5:21:32 PM	JML	VOA108

Revision:1

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 02-Jul-21

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
Work Order: HS21060181

SAMPLE TRACKING

HS21060181-16	35AWW11_060221	Login	6/3/2021 5:21:32 PM	JML	WET104
HS21060181-16	35AWW11_060221	Login	6/3/2021 5:21:32 PM	JML	Sub
HS21060181-16	35AWW11_060221	Login	6/3/2021 5:21:32 PM	JML	Sub
HS21060181-17	LHSMW07_060221	Login	6/3/2021 5:21:32 PM	JML	WET104
HS21060181-17	LHSMW07_060221	Login	6/3/2021 5:21:32 PM	JML	VOA108
HS21060181-17	LHSMW07_060221	Login	6/3/2021 5:21:32 PM	JML	WET104
HS21060181-17	LHSMW07_060221	Login	6/3/2021 5:21:32 PM	JML	Sub
HS21060181-17	LHSMW07_060221	Login	6/3/2021 5:21:32 PM	JML	Sub
HS21060181-18	35AWW05_060221	Login	6/3/2021 7:13:15 PM	JML	VOA108
HS21060181-19	35AWW22_060221	Login	6/3/2021 7:13:15 PM	JML	VOA108
HS21060181-20	35AWW12_060221	Login	6/3/2021 7:13:15 PM	JML	VOA108
HS21060181-21	Trip Blank	Login	6/3/2021 7:13:15 PM	JML	VOA108

ALS Houston, US Date: 02-Jul-21

Sample Receipt Checklist

Work Order ID: HS21060181 **Date/Time Received:** **03-Jun-2021 10:30**

Client Name: Bhate Environmental **Received by:** **William Morgan**

Completed By:	/S/ Jared R. Makan	03-Jun-2021 19:54	**Reviewed by:**	/S/ Corey Grandits	04-Jun-2021 15:11
	eSignature	Date/Time		eSignature	Date/Time

Matrices: **Water** Carrier name: **FedEx Priority Overnight**

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
VOA/TX1005/TX1006 Solids in hermetically sealed vials?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	3 Page(s)
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Samplers name present on COC?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☐	No ☑	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	

Temperature(s)/Thermometer(s):	1.2°C UC/C	IR31
Cooler(s)/Kit(s):	46704	
Date/Time sample(s) sent to storage:	06/03/2021 20:00	

Water - VOA vials have zero headspace?	Yes ☑	No ☐	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☑	No ☐	N/A ☐
pH adjusted?	Yes ☐	No ☑	N/A ☐
pH adjusted by:			

Login Notes: Collection time differs for 35AWW12: COC=12:10, Containers=13:10. Sample logged in with time on COC.
One of the three vials for 03WW01 & 35AWW0 contains head-space greater than 6mm; sufficient vials submitted without head space to proceed with analysis.

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:

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bhate

1608 13th Avenue South, Suite 300
Birmingham Alabama 35205
Tel: 205-918-4000
Fax: 205-918-4050

Chain of Custody and Analytical Request

Page: _____ of _____

Project/Phase No: NWO1312.0150

COC Number(1): _____

LIMS Number: _____

Facility/Base I.D.: LHAAP

Project/Site Name: LHAAP / Site 58

Client Name:

Collected by: Scott Beesinger

Field Sample ID (30 Characters Max)	Date Collected (dd-mmm-yyyy)	Time Collected (Military) (hhmm)	Sample Depth (beginning - ending)	SA Code (2)	Sample Number (3)	Sample Matrix (4)	Number of containers	VOC	MEE	TOC	Carbon Dioxide	Anions	Arsenic					Ambient Blank Lot Control Number	Equipment Blank Lot Control Number	Trip Blank Lot Control Number	Cooler ID
35AWW01_060121	01 Jun 2021	0745	-	N		WG	4	X					X								
35AWW01_060121_a	01 Jun 2021	0745	-	FD		WG	4	X					X								
35AWW13_060121	01 Jun 2021	0830	-	N		WG	3	X													
35AWW10_060121	01 Jun 2021	0910		N		WG	3	X													
35AWW10_060121_MS	01 Jun 2021	0910		MS		WG	3	X													
35AWW10_060121_MSD	01 Jun 2021	0910	-	SD		WG	3	X													
35AWW15_060121	01 Jun 2021	0955	-	N		WG	3	X													
35AWW16_060121	01 Jun 2021	1035	-	N		WG	3	X													
35AWW16_060121_MS	01 Jun 2021	1035	-	MS		WG	3	X													
35AWW16_060121_MSD	01 Jun 2021	1035	-	SD		WG	3	X													
35AWW18_060121	01 Jun 2021	1120	-	N		WG	3	X													

Sample Analysis Requested (5) | Quality Assurance Samples (6)

COMMENTS:

Cooler 4C704 Temp 1.2°C 1123I CFO

HS21060181

Bhate Environmental Associates, Inc.
LHAAP-58

Custody Transfers Prior to Receipt by Laboratory

Relinquished By (Signed)	Date	Time	Received by (signed)	Date	Time
1. [signature]	6/2/21	1430	1. [signature]	6/3/21	10:30
2.			2.		
3.			3.		

Sample Delivery Details / Laboratory Receipt

Delivered Directly to Lab: _____ Shipped _____ No.:

Method of Shipment: _____

_____ Fed Ex _____ Airbill Number:

Analytical Lab: ALS 10450 Stanclift Rd, Suite 210 Houston, TX 77099 (281) 530-5656

ATTN: SONIA WEST Lab Recipient: Delivery Date/Time:

1.) Chain of Custody Number = date collected + custody number (e.g. 09-02-1999-01)

2.) Sample Type (SA) Codes: N = Normal Sample, TB = Trip Blank (-c) Sample, FD = Field Duplicate (-a) Samples, FR = Field Replicate (-b) Samples, EB = Equipment Blank (-d) Samples, MS = Matrix Spike, SD = Matrix Spike Duplicate, AB = Ambient Blank (-e)

3.) Sample Number: Unique sample number collected from a particular location per day. (e.g. Groundwater sample collected from MW-1 on 10/10/99 = 01, if sampled again on 10/10/99 = 02, etc.)

4.) Matrix Codes: GS = Soil Gas, WG = Groundwater, WS = Surface Water, SO = Soil, SE = Sediment, SL = Sludge, SS = Surface Soil Samples, WQ = Aqueous Blank Samples (trip, equipment, ambient, etc), SQ = Soil Blanks

5.) Sample Analysis Requested: Analytical method requested and number of containers provided for each.

6.) Quality assurance samples are assigned by date (ddmmyy) and the sample number associated with the sample (01, 02, etc) (e.g. Equipment blank collected in association with MW-1 on 10/10/99 will be designated 10109901 in the Equipment Blank Lot Control

RIGHT SOLUTIONS | RIGHT PARTNER

bhate
ENVIRONMENTAL ASSOCIATES INC.

1608 13th Avenue South, Suite 300
Birmingham Alabama 35205
Tel: 205-918-4000
Fax: 205-918-4050

Chain of Custody and Analytical Request

Page: ____ of ____

Project/Phase No: NWO1312.0150

COC Number(1): ____

UMS Number: ____

Facility/Base I.D.: LHAAP

Project/Site Name: LHAAP / Site 58

Client Name:

Collected by: Scott Beesinger

Field Sample ID (30 Characters Max)	Date Collected (dd-mmm-yyyy)	Time Collected (Military) (hhmm)	Sample Depth (beginning - ending)	SA Code (2)	Sample Number (3)	Sample Matrix (4)	Number of containers	Sample Analysis Requested (5): VOC	MEE	TOC	Carbon Dioxide	Anions	ALSGNLC				Ambient Blank Lot Control Number	Equipment Blank Lot Control Number	Trip Blank Lot Control Number	Cooler ID
35AWW24_060121	01 JUN 2021	1205	-	N		WG	3	X												
35AWW24_060121_a	01 JUN 2021	1205	-	FD		WG	3	X												
35AWW21_060121	01 JUN 2021	1250	-	N		WG	3	X												
35AWW14_060121	01 JUN 2021	1300		N		WG	3	X												
35AWW09_060221	02 JUN 2021	0710		N		WG	12	X	X	X	X	X	X							
35AWW09_060221_a	02 JUN 2021	0710	-	FD		WG	12	X	X	X	X	X	X							
03WW01_060221	02 JUN 2021	0805	-	N		WG	12	X	X	X	X	X	X							
35AWW08_060221	02 JUN 2021	0855	-	N		WG	12	X	X	X	X	X	X							
35AWW11_060221	02 JUN 2021	0945	-	N		WG	11	X	X	X	X	X								
LHSMW07_060221	02 JUN 2021	1035	-	N		WG	11	X	X	X	X	X								
35AWW05_060221	02 JUN 2021	1130	-	N		WG	3	X												

Quality Assurance Samples (6)

COMMENTS:

Cooler 46704 Temp 1.2°C 1231 CFO

HS21060181

Bhate Environmental Associates, Inc.
LHAAP-58

Custody Transfers Prior to Receipt by Laboratory

Relinquished By (Signed)	Date	Time	Received by (signed)	Date	Time
1. Scott Beesinger	6/2/21	1430	1. J. Mueller	6/3/21	10:30
2.			2.		
3.			3.		

Sample Delivery Details / Laboratory Receipt

Delivered Directly to Lab: ____ Shipped ____ No.:

Method of Shipment: ____

Fed ____ Ex ____ Airbill ____ Number:

Analytical Lab: ALS 10450 Stanclift Rd, Suite 210 Houston, TX 77099 (281) 530-5656

ATTN: SONIA WEST Lab Recipient: Delivery Date/Time:

1.) Chain of Custody Number = date collected + custody number (e.g. 09-02-1999-01)

2.) Sample Type (SA) Codes: N = Normal Sample, TB = Trip Blank (-c) Sample, FD = Field Duplicate (-a) Samples, FR = Field Replicate (-b) Samples, EB = Equipment Blank (-d) Samples, MS = Matrix Spike, SD = Matrix Spike Duplicate, AB = Ambient Blank (-e)

3.) Sample Number: Unique sample number collected from a particular location per day. (e.g. Groundwater sample collected from MW-1 on 10/10/99 = 01, if sampled again on 10/10/99 = 02, etc.)

4.) Matrix Codes: GS = Soil Gas, WG = Groundwater, WS = Surface Water, SO = Soil, SE = Sediment, SL = Sludge, SS = Surface Soil Samples, WQ = Aqueous Blank Samples (trip, equipment, ambient, etc), SQ = Soil Blanks

5.) Sample Analysis Requested: Analytical method requested and number of containers provided for each.

6.) Quality assurance samples are assigned by date (ddmmyy) and the sample number associated with the sample (01, 02, etc) (e.g. Equipment blank collected in association with MW-1 on 10/10/99 will be designated 10109901 in the Equipment Blank Lot Control

RIGHT SOLUTIONS | RIGHT PARTNER

bhate

1608 13th Avenue South, Suite 300
Birmingham Alabama 35205
Tel: 205-918-4000
Fax: 205-918-4050

Chain of Custody and Analytical Request

Page: _____ of _____

Project/Phase No: NWO1312.0150

COC Number(1): _____

LIMS Number: _____

Facility/Base I.D.: LHAAP

Project/Site Name: LHAAP / Site 58

Client Name:

Collected by: Scott Beesinger

Field Sample ID (30 Characters Max)	Date Collected (dd-mmm-yyyy)	Time Collected (Military) (hhmm)	Sample Depth (beginning - ending)	SA Code (2)	Sample Number (3)	Sample Matrix (4)	Number of containers	VOC	MEE	TOC	Carbon Dioxide	Anions						Ambient Blank Lot Control Number	Equipment Blank Lot Control Number	Trip Blank Lot Control Number	Cooler ID
35A-WW22-060221	02 Jun 2021	1225	-	N		WG	3	X													
35A-WW12-060221	02 Jun 2021	1210	-	N		WG	3	X													
TR. P BLANK	02 Jun 2021		-	TB		WG	2	X													
			-																		
			-																		
			-																		
			-																		
			-																		
			-																		

Sample Analysis Requested (5) | Quality Assurance Samples (6)

COMMENTS: _____

HS21060181

Bhate Environmental Associates, Inc.
LHAAP-58

Custody Transfers Prior to Receipt by Laboratory

Relinquished By (Signed)	Date	Time	Received by (signed)	Date	Time
1. Scott Beesinger	6/2/21	1430	1. J. Mancuso	6/3/21	07:30
2.			2.		
3.			3.		

Sample Delivery Details / Laboratory Receipt

Delivered Directly to Lab: _____ Shipped No.:

_____ Method of Shipment: _____

_____ Fed Ex _____ Airbill Number:

_____ Analytical Lab: ALS 10450 Stanciff Rd. Suite 210 Houston, TX 77099 (281) 530-5656

ATTN: SONIA WEST Lab Recipient: Delivery Date/Time:

1.) Chain of Custody Number = date collected + custody number (e.g. 09-02-1999-01)

2.) Sample Type (SA) Codes: N = Normal Sample, TB = Trip Blank (-c) Sample, FD = Field Duplicate (-a) Samples, FR = Field Replicate (-b) Samples, EB = Equipment Blank (-d) Samples, MS = Matrix Spike, SD = Matrix Spike Duplicate, AB = Ambient Blank (-e)

3.) Sample Number: Unique sample number collected from a particular location per day. (e.g. Groundwater sample collected from MW-1 on 10/10/99 = 01, if sampled again on 10/10/99 = 02, etc.)

4.) Matrix Codes: GS = Soil Gas, WG = Groundwater, WS = Surface Water, SO = Soil, SE = Sediment, SL = Sludge, SS = Surface Soil Samples, WQ = Aqueous Blank Samples (trip, equipment, ambient, etc), SQ = Soil Blanks

5.) Sample Analysis Requested: Analytical method requested and number of containers provided for each.

6.) Quality assurance samples are assigned by date (ddmmyy) and the sample number associated with the sample (01, 02, etc) (e.g. Equipment blank collected in association with MW-1 on 10/10/99 will be designated 10309901 in the Equipment Blank Lot Control

RIGHT SOLUTIONS | RIGHT PARTNER

ALS
10450 Stancliff Rd., Suite 210
Houston, Texas 77099
Tel. +1 281 530 5656
Fax. +1 281 530 5887

U6704

CUSTODY SEAL
Date: 6/2/21 Time: 1430
Name: Scott Beesinger
Company: BHE-TX

Seal Broken By:
Date: 06/03/21

U6704 JUN 0 3 2021

U6704

ORIGIN ID:SGRA (903) 930-6193
SCOTT BEESINER
BHAIE ENVIRONMENTAL ASSOCIATES
1203-B EAST GRAND AVE. PMB202
MARSHALL, TX 75670
UNITED STATES US

SHIP DATE: 21MAY21
ACTWGT: 1.00 LB MAN
CAD: 0221247/CAFE3409
DIMS: 26x14x14 IN

SHIPPING DEPT
ALS LABORATORY GROUP
10450 STANCLIFF RD
SUITE 210
HOUSTON TX 77099
(281) 530-5656
REF: LHAAP-BO 78338-RJ
RMA:

FedEx Express

FedEx
TRK# 0221 9473 0843 8831

THU - 03 JUN AA
PRIORITY OVERNIGHT

AB SGRA

77099
TX-US
IAH

FED- 0GA 560G3/B387/1A03

RIGHT SOLUTIONS | RIGHT PARTNER

June 22, 2021 Service Request No:R2105466

Ragen Giga
ALS Environmental - US
10450 Stancliff Rd Suite 210
Houston, TX 77099

Laboratory Results for: LHAAP / Site 58

Dear Ragen,

Enclosed are the results of the sample(s) submitted to our laboratory June 04, 2021
For your reference, these analyses have been assigned our service request number **R2105466.**

All testing was performed according to our laboratory's quality assurance program and met the requirements of the TNI standards except as noted in the case narrative report. Any testing not included in the lab's accreditation is identified on a Non-Certified Analytes report. All results are intended to be considered in their entirety. ALS Environmental is not responsible for use of less than the complete report. Results apply only to the individual samples submitted to the lab for analysis, as listed in the report. The measurement uncertainty of the results included in this report is within that expected when using the prescribed method(s), and represented by Laboratory Control Sample control limits. Any events, such as QC failures or Holding Time exceedances, which may add to the uncertainty are explained in the report narrative or are flagged with qualifiers. The flags are explained in the Report Qualifiers and Definitions page of this report.

Please contact me if you have any questions. My extension is 7471. You may also contact me via email at Brady.Kalkman@alsglobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Brady Kalkman
Project Manager

ADDRESS 1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
PHONE +1 585 288 5380 | FAX +1 585 288 8475
ALS Group USA, Corp.
dba ALS Environmental

RIGHT SOLUTIONS | RIGHT PARTNER

Narrative Documents

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

RIGHT SOLUTIONS | RIGHT PARTNER

1565 Jefferson Rd, Building 300, Rochester, NY 14623 | 585-288-5380 | www.alsglobal.com

Client: ALS Environmental - US
Project: LHAAP / Site 58
Sample Matrix: Water

Service Request: R2105466
Date Received: 06/03/2021 - 06/04/2021

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples for the Tier level IV requested by the client.

Sample Receipt:

Ten water samples were received for analysis at ALS Environmental on 06/03/2021 - 06/04/2021. Any discrepancies upon initial sample inspection are annotated on the sample receipt and preservation form included within this report. The samples were stored at minimum in accordance with the analytical method requirements.

Semivoa GC:

No significant anomalies were noted with this analysis.

Approved by _____ Date 06/22/2021

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SAMPLE DETECTION SUMMARY

CLIENT ID: 35AWW09-060221-a			Lab ID: R2105466-002			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Acetic Acid	0.63	J	0.56	4.0	mg/L	Organic Acids

CLIENT ID: 03WW01_060221			Lab ID: R2105466-003			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Acetic Acid	3.3	J	0.56	4.0	mg/L	Organic Acids

CLIENT ID: 35AWW08_060221			Lab ID: R2105466-004			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Acetic Acid	1.2	J	0.56	4.0	mg/L	Organic Acids
Lactic Acid	2.1		0.41	2.0	mg/L	Organic Acids

CLIENT ID: 35AWW11_060221			Lab ID: R2105466-005			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Acetic Acid	0.87	J	0.56	4.0	mg/L	Organic Acids

CLIENT ID: LHSMW07_060221			Lab ID: R2105466-006			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Acetic Acid	0.65	J	0.56	4.0	mg/L	Organic Acids

CLIENT ID: 35AWW19_060321			Lab ID: R2105466-007			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Acetic Acid	0.62	J	0.56	4.0	mg/L	Organic Acids

CLIENT ID: 35AWW23_060321			Lab ID: R2105466-008			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Acetic Acid	9.1		0.56	4.0	mg/L	Organic Acids

CLIENT ID: 35AWW20_060321			Lab ID: R2105466-009			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Acetic Acid	0.61	J	0.56	4.0	mg/L	Organic Acids

CLIENT ID: 35AWW06_060321			Lab ID: R2105466-010			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Acetic Acid	1.3	J	0.56	4.0	mg/L	Organic Acids

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Sample Receipt Information

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

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Client: ALS Environmental - US **Service Request:**R2105466
Project: LHAAP / Site 58/NW01312.0150

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
R2105466-001	35AWW09_060221	6/2/2021	0710
R2105466-002	35AWW09-060221-a	6/2/2021	0710
R2105466-003	03WW01_060221	6/2/2021	0805
R2105466-004	35AWW08_060221	6/2/2021	0855
R2105466-005	35AWW11_060221	6/2/2021	0945
R2105466-006	LHSMW07_060221	6/2/2021	1035
R2105466-007	35AWW19_060321	6/3/2021	0720
R2105466-008	35AWW23_060321	6/3/2021	0810
R2105466-009	35AWW20_060321	6/3/2021	0900
R2105466-010	35AWW06_060321	6/3/2021	1040

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bhate ENVIRONMENTAL CONTRACTING LIMITED

1608 13th Avenue South, Suite 300
Birmingham Alabama 35205
Tel: 205-918-4000
Fax: 205-918-4050

Chain of Custody and Analytical Request

Page: ____ of ____

Project/Phase No: NWO1312.0150

COC Number(1): ____

LIMS Number: ____

Facility/Base I.D.: LHAAP

Project/Site Name: LHAAP / Site 58

Client Name:

Collected by: Scott Beesinger

Field Sample ID (30 Characters Max)	Date Collected (dd-mmm-yyyy)	Time Collected (Military) (hhmm)	Sample Depth (beginning - ending)	SA Code (2)	Sample Number (3)	Sample Matrix (4)	Sample Analysis Requested (5): Number of containers	Volatile Fatty Acids	Quality Assurance Samples (6): Ambient Blank Lot Control Number	Equipment Blank Lot Control Number	Trip Blank Lot Control Number	Cooler ID
35AWW19_060321	03 JUN 2021	0720	-	N		WG	1	X				
35AWW23_060321	03 JUN 2021	0810	-	N		WG	1	X				
35AWW20_060321	03 JUN 2021	0900	-	N		WG	1	X				
35AWW06_060321	03 JUN 2021	1040		N		WG	1	X				
			-									
			-									
			-									
			-									
			-									
			-									

COMMENTS: STANDARD TAT

Custody Transfers Prior to Receipt by Laboratory

Relinquished By (Signed)	Date	Time	Received by (signed)	Date	Time
1. Scott Beesinger	6/3/21	1430	1.	6/4/21	0935
2.			2.		
3.			3.		

Sample Delivery Details / Laboratory Receipt

Delivered Directly to Lab: ____ Shipped ____ No.:

Method of Shipment: ____

Fed Ex ____ Airbill Number: ____

Analytical Lab: ALS 10450 Stanciff Rd. Suite 210 Houston, TX 77099 (281) 530-5656

ATTN: SONIA WEST Lab Recipient: Delivery Date/Time:

1.) Chain of Custody Number = date collected + custody number (e.g. 09-02-1999-01)

2.) Sample Type (SA) Codes: N = Normal Sample, TB = Trip Blank (-c) Sample, FD = Field Duplicate (-a) Samples, FR = Field Replicate (-b) Samples, EB = Equipment Blank (-d) Samples, MS = Matrix Spike, SD = Matrix Spike Duplicate, AB = Ambient Blank (-e)

3.) Sample Number: Unique sample number collected from a particular location per day. (e.g. Groundwater sample collected from MW-1 on 10/10/99 = 01, if sampled again on 10/10/99 = 02, etc.)

4.) Matrix Codes: GS = Soil Gas, WG = Groundwater, WS = Surface Water, SO = Soil, SE = Sediment, SL = Sludge, SS = Surface Soil Samples, WQ = Aqueous Blank Samples (trip, equipment, ambient, etc), SQ = Soil Blanks

5.) Sample Analysis Requested: Analytical method requested and number of containers provided for each.

6.) Quality assurance samples are assigned by date (ddmmyy) and the sample number associated with the sample (01, 02, etc) (e.g. Equipment blank collected in association with MW-1 on 10/10/99 will be designated 10109901 in the Equ

R2105466 5
ALS Laboratory Group
LHAAP / Site 58

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Cooler Receipt and Preservation Check Form

R2105466 5
ALS Laboratory Group
LHAAP / Site 68

Project/Client _____ Folder Number _____

Cooler received on 6/4/21 by: CO

COURIER: ALS UPS (FEDEX) VELOCITY CLIENT

1	Were **Custody seals** on outside of cooler?	(Y) N	5a	**Perchlorate** samples have required headspace?	Y N (NA)
2	**Custody papers** properly completed (ink, signed)?	(Y) N	5b	Did VOA vials, Alk,or Sulfide have sig* **bubbles**?	Y N (NA)
3	Did all bottles arrive in good **condition** (unbroken)?	(Y) N	6	Where did the bottles originate?	(ALS/ROC) CLIENT
4	Circle: **(Wet Ice)** **Dry Ice** **Gel packs** present?	(Y) N	7	Soil VOA received as: Bulk Encore 5035set	(NA)

3. Temperature Readings Date: 6/4/21 Time: 1030 ID: IR#7 (IR#11) From: (Temp Blank) Sample Bottle

Observed Temp (°C)	2.7						
Within 0-6°C?	(Y) N	Y N	Y N	Y N	Y N	Y N	Y N
If <0°C, were samples frozen?	Y N	Y N	Y N	Y N	Y N	Y N	Y N

If out of Temperature, note packing/ice condition: _____ Ice melted Poorly Packed (described below) Same Day Rule

&Client Approval to Run Samples: _____ Standing Approval Client aware at drop-off Client notified by: _____

All samples held in storage location: R-002 by e on 6/4/21 at 1035
5035 samples placed in storage location: _____ by _____ on _____ at _____ within 48 hours of sampling? Y N

Cooler Breakdown/Preservation Check**: Date: 6/7/21 Time: 1115 by: e

9. Were all bottle labels complete (*i.e.* analysis, preservation, etc.)? (YES) NO
10. Did all bottle labels and tags agree with custody papers? (YES) NO
11. Were correct containers used for the tests indicated? (YES) NO
12. Were 5035 vials acceptable (no extra labels, not leaking)? YES NO (N/A)
13. Air Samples: Cassettes / Tubes Intact Y / N with MS Y / N Canisters Pressurized Tedlar® Bags Inflated (N/A)

pH	Lot of test paper	Reagent	Preserved? Yes	Preserved? No	Lot Received	Exp	Sample ID Adjusted	Vol. Added	Lot Added	Final pH
≥12		NaOH								
≤2		HNO_3								
≤2		H_2SO_4								
<4		$NaHSO_4$								
5-9		For 608pest			No=Notify for 3day					
Residual Chlorine (-)		For CN, Phenol, 625, 608pest, 522			If +, contact PM to add $Na_2S_2O_3$ (625, 608, CN), ascorbic (phenol).					
		$Na_2S_2O_3$								
		ZnAcetate	-	-			**VOAs and 1664 Not to be tested before analysis. Otherwise, all bottles of all samples with chemical preservatives are checked (not just representatives).			
		HCl	**	**						

Bottle lot numbers: 90121-06

Explain all Discrepancies/ Other Comments:

H_3PO_4 - 214482
lot

HPROD	BULK
HTR	FLDT
SUB	HGFB
ALS	LL3541

Labels secondary reviewed by: e
PC Secondary Review: _____

* Significant air bubbles: VOA > 5-6 mm : WC >1 in. diameter

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bhate ENVIRONMENTAL CONSTRUCTION EXCELLENCY

1608 13th Avenue South, Suite 300
Birmingham Alabama 35205
Tel: 205-918-4000
Fax: 205-918-4050

Chain of Custody and Analytical Request

Page: _____ of _____

Project/Phase No: NWO1312.0150

COC Number(1): _____

LIMS Number: _____

Facility/Base I.D.: LHAAP

Project/Site Name: LHAAP / Site 58

Client Name:

Collected by: Scott Beesinger

Field Sample ID (30 Characters Max)	Date Collected (dd-mmm-yyyy)	Time Collected (Military) (hhmm)	Sample Depth (beginning - ending)	SA Code (2)	Sample Number (3)	Sample Matrix (4)	Number of containers	Volatile Fatty Acids										Ambient Blank Lot Control Number	Equipment Blank Lot Control Number	Trip Blank Lot Control Number	Cooler ID
							Sample Analysis Requested (5)											Quality Assurance Samples (6)			
35AWW09_060221	02Jun2021	0780	-	N		WG	1	X													
35AWW09_060221_a	02Jun2021	0710	-	FD		WG	1	X													
03WW01_060221	02Jun2021	0805	-	N		WG	1	X													
35AWW08_060221	02Jun2021	0855		N		WG	1	X													
35AWW11_060221	02Jun2021	0945		N		WG	1	X													
LHSMW07_060221	02Jun2021	1035	-	N		WG	1	X													
			-																		
			-																		
			-																		
			-																		
			-																		

COMMENTS: _____

Custody Transfers Prior to Receipt by Laboratory

	Relinquished By (Signed)	Date	Time	Received by (signed)	Date	Time
1.	Scott Beesinger	6/2/21	1430	Mateo Mesa	6/3/21	9:30
2.						
3.						

Sample Delivery Details / Laboratory Receipt

Delivered Directly to Lab: _____ Shipped No.:

_____ Method of Shipment: _____

_____ Fed Ex _____ Airbill Number:

_____ Analytical Lab: ALS 10450 Stancliff Rd. Suite 210 Houston, TX 77099 (281) 530-5656

ATTN: SONIA WEST Lab Recipient: Delivery Date/Time:

1.) Chain of Custody Number = date collected + custody number (e.g. 09-02-1999-01)

2.) Sample Type (SA) Codes: N = Normal Sample, TB = Trip Blank (-c) Sample, FD = Field Duplicate (-a) Samples, FR = Field Replicate (-b) Samples, EB = Equipment Blank (-d) Samples, MS = Matrix Spike, SD = Matrix Spike Duplicate, AB = Ambient Blank (-e)

3.) Sample Number: Unique sample number collected from a particular location per day. (e.g. Groundwater sample collected from MW-1 on 10/10/99 = 01, if sampled again on 10/10/99 = 02, etc.)

4.) Matrix Codes: GS = Soil Gas, WG = Groundwater, WS = Surface Water, SO = Soil, SE = Sediment, SL = Sludge, SS = Surface Soil Samples, WQ = Aqueous Blank Samples (trip, equipment, ambient, etc), SQ = Soil Blanks

5.) Sample Analysis Requested: Analytical method requested and number of containers provided for each.

6.) Quality assurance samples are assigned by date (ddmmyy) and the sample number associated with the sample (01, 02, etc) (e.g. Equipment blank collected in association with MW-1 on 10/10/99 will be designated 10109901 in the Eq

R2105466 5
ALS Laboratory Group
LHAAP / Site 58

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Cooler Receipt and Preservation Check Form

R2105466 5
ALS Laboratory Group
LHAAP / Site 68

Project/Client _____ Folder Number _____

Cooler received on 6/3/21 by: MM

COURIER: ALS UPS (FEDEX) VELOCITY CLIENT

1	Were **Custody seals** on outside of cooler?	(Y)	N
2	**Custody papers** properly completed (ink, signed)?	(Y)	N
3	Did all bottles arrive in good **condition** (unbroken)?	(Y)	N
4	Circle: **Wet Ice** **Dry Ice** **Gel packs** present?	(Y)	N

5a	**Perchlorate** samples have required headspace?	Y	N	(NA)
5b	Did VOA vials, Alk,or Sulfide have sig* **bubbles**?	Y	N	(NA)
6	Where did the bottles originate?	(ALS/ROC)	CLIENT	
7	Soil VOA received as:	Bulk	Encore	5035set (NA)

3. Temperature Readings Date: 6/3/21 Time: 10:03 ID: IR#7 (IR#1) From: Temp Blank Sample Bottle

Observed Temp (°C)	3.6						
Within 0-6°C?	(Y) N	Y N	Y N	Y N	Y N	Y N	Y N
If <0°C, were samples frozen?	Y N	Y N	Y N	Y N	Y N	Y N	Y N

If out of Temperature, note packing/ice condition: _____ Ice melted Poorly Packed (described below) Same Day Rule

&Client Approval to Run Samples: _____ Standing Approval Client aware at drop-off Client notified by: _____

All samples held in storage location: R1002 by MM on 6/3/21 at 10:05

5035 samples placed in storage location: _____ by _____ on _____ at _____ within 48 hours of sampling? Y N

Cooler Breakdown/Preservation Check**: Date: 6/3/21 Time: 1425 by: DM

9. Were all bottle labels complete (*i.e.* analysis, preservation, etc.)? (YES) NO
10. Did all bottle labels and tags agree with custody papers? (YES) NO
11. Were correct containers used for the tests indicated? (YES) NO
12. Were 5035 vials acceptable (no extra labels, not leaking)? YES NO N/A
13. Air Samples: Cassettes / Tubes Intact Y / N with MS Y / N Canisters Pressurized Tedlar® Bags Inflated N/A

pH	Lot of test paper	Reagent	Preserved? Yes	Preserved? No	Lot Received	Exp	Sample ID Adjusted	Vol. Added	Lot Added	Final pH
≥12		NaOH								
≤2		HNO_3								
≤2		H_2SO_4								
<4		$NaHSO_4$								
5-9		For 608pest			No=Notify for 3day					
Residual Chlorine (-)		For CN, Phenol, 625, 608pest, 522			If +, contact PM to add $Na_2S_2O_3$ (625, 608, CN), ascorbic (phenol).					
		$Na_2S_2O_3$								
		ZnAcetate	-	-						
		HCl	**	**						

**VOAs and 1664 Not to be tested before analysis. Otherwise, all bottles of all samples with chemical preservatives are checked (not just representatives).

Bottle lot numbers: 90121-06

Explain all Discrepancies/ Other Comments:

HPROD	BULK
HTR	FLDT
SUB	HGFB
ALS	LL3541

Labels secondary reviewed by: DM

PC Secondary Review: _____

*significant air bubbles: VOA > 5-6 mm : WC >1 in. diameter

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ALS Group USA, Corp.
dba ALS Environmental

Internal Chain of Custody Report

Client: ALS Environmental - US **Service Request:** R2105466
Project: LHAAP / Site 58/NW01312.0150

Bottle ID	Methods	Date	Time	Sample Location / User	Disposed On
R2105466-001.01					
	Organic Acids				
		6/3/2021	1328	SMO / GLAFORCE	
		6/3/2021	1328	R-002 / GLAFORCE	
		6/8/2021	1154	In Lab / AFELSER	
		6/8/2021	1523	R-002 / AFELSER	
R2105466-002.01					
	Organic Acids				
		6/3/2021	1328	SMO / GLAFORCE	
		6/3/2021	1328	R-002 / GLAFORCE	
		6/8/2021	1154	In Lab / AFELSER	
		6/8/2021	1523	R-002 / AFELSER	
		6/17/2021	1444	In Lab / AFELSER	
		6/18/2021	0710	R-002 / AFELSER	
R2105466-003.01					
	Organic Acids				
		6/3/2021	1328	SMO / GLAFORCE	
		6/3/2021	1328	R-002 / GLAFORCE	
		6/8/2021	1154	In Lab / AFELSER	
		6/8/2021	1523	R-002 / AFELSER	
		6/17/2021	1444	In Lab / AFELSER	
		6/18/2021	0710	R-002 / AFELSER	
R2105466-004.01					
	Organic Acids				
		6/3/2021	1328	SMO / GLAFORCE	
		6/3/2021	1328	R-002 / GLAFORCE	
		6/8/2021	1155	In Lab / AFELSER	
		6/8/2021	1523	R-002 / AFELSER	
		6/17/2021	1444	In Lab / AFELSER	
		6/18/2021	0710	R-002 / AFELSER	
R2105466-005.01					
	Organic Acids				
		6/3/2021	1328	SMO / GLAFORCE	
		6/3/2021	1328	R-002 / GLAFORCE	
		6/8/2021	1155	In Lab / AFELSER	
		6/8/2021	1523	R-002 / AFELSER	
R2105466-006.01					
	Organic Acids				
		6/3/2021	1328	SMO / GLAFORCE	
		6/3/2021	1328	R-002 / GLAFORCE	
		6/8/2021	1155	In Lab / AFELSER	

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ALS Group USA, Corp.
dba ALS Environmental

Internal Chain of Custody Report

Client: ALS Environmental - US **Service Request:** R2105466
Project: LHAAP / Site 58/NW01312.0150

Bottle ID	Methods	Date	Time	Sample Location / User	Disposed On
	Organic Acids				
		6/8/2021	1523	R-002 / AFELSER	
R2105466-007.01					
	Organic Acids				
		6/4/2021	1300	SMO / JJANSON	
		6/7/2021	1210	R-002 / GLAFORCE	
		6/8/2021	1155	In Lab / AFELSER	
		6/8/2021	1523	R-002 / AFELSER	
R2105466-008.01					
	Organic Acids				
		6/4/2021	1300	SMO / JJANSON	
		6/7/2021	1210	R-002 / GLAFORCE	
		6/8/2021	1155	In Lab / AFELSER	
		6/8/2021	1523	R-002 / AFELSER	
		6/17/2021	1444	In Lab / AFELSER	
		6/18/2021	0710	R-002 / AFELSER	
R2105466-009.01					
	Organic Acids				
		6/4/2021	1300	SMO / JJANSON	
		6/7/2021	1210	R-002 / GLAFORCE	
		6/8/2021	1155	In Lab / AFELSER	
		6/8/2021	1523	R-002 / AFELSER	
		6/17/2021	1444	In Lab / AFELSER	
		6/18/2021	0710	R-002 / AFELSER	
R2105466-010.01					
	Organic Acids				
		6/4/2021	1300	SMO / JJANSON	
		6/7/2021	1210	R-002 / GLAFORCE	
		6/8/2021	1155	In Lab / AFELSER	
		6/8/2021	1523	R-002 / AFELSER	
		6/17/2021	1444	In Lab / AFELSER	
		6/18/2021	0710	R-002 / AFELSER	

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Miscellaneous Forms

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

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ALS Environmental

REPORT QUALIFIERS AND DEFINITIONS

U	Analyte was analyzed for but not detected. The sample quantitation limit has been corrected for dilution and for percent moisture, unless otherwise noted in the case narrative.
J	Estimated value due to either being a Tentatively Identified Compound (TIC) or that the concentration is between the MRL and the MDL. Concentrations are not verified within the linear range of the calibration. For DoD: concentration >40% difference between two GC columns (pesticides/Arclors).
B	Analyte was also detected in the associated method blank at a concentration that may have contributed to the sample result.
E	Inorganics- Concentration is estimated due to the serial dilution was outside control limits.
E	Organics- Concentration has exceeded the calibration range for that specific analysis.
D	Concentration is a result of a dilution, typically a secondary analysis of the sample due to exceeding the calibration range or that a surrogate has been diluted out of the sample and cannot be assessed.
*	Indicates that a quality control parameter has exceeded laboratory limits. Under the "Notes" column of the Form I, this qualifier denotes analysis was performed out of Holding Time.
H	Analysis was performed out of hold time for tests that have an "immediate" hold time criteria.
#	Spike was diluted out.
+	Correlation coefficient for MSA is <0.995.
N	Inorganics- Matrix spike recovery was outside laboratory limits.
N	Organics- Presumptive evidence of a compound (reported as a TIC) based on the MS library search.
S	Concentration has been determined using Method of Standard Additions (MSA).
W	Post-Digestion Spike recovery is outside control limits and the sample absorbance is <50% of the spike absorbance.
P	Concentration >40% difference between the two GC columns.
C	Confirmed by GC/MS
Q	DoD reports: indicates a pesticide/Aroclor is not confirmed (≥100% Difference between two GC columns).
X	See Case Narrative for discussion.
MRL LOQ	Method Reporting Limit. Also known as: Limit of Quantitation (LOQ) The lowest concentration at which the method analyte may be reliably quantified under the method conditions.
MDL	Method Detection Limit. A statistical value derived from a study designed to provide the lowest concentration that will be detected 99% of the time. Values between the MDL and MRL are estimated (see J qualifier).
LOD	Limit of Detection. A value at or above the MDL which has been verified to be detectable.
ND	Non-Detect. Analyte was not detected at the concentration listed. Same as U qualifier.

ACCREDITED IN ACCORDANCE WITH nelac

Rochester Lab ID # for State Certifications[1]

Connecticut ID # PH0556	Maine ID #NY0032	Pennsylvania ID# 68-786
Delaware Approved	New Hampshire ID # 2941	Rhode Island ID # 158
DoD ELAP #65817	New York ID # 10145	Virginia #460167
Florida ID # E87674	North Carolina #676	

[1] Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state or agency requirements. The test results meet requirements of the current NELAP/TNI standards or state or agency requirements, where applicable, except as noted in the case narrative. Since not all analyte/method/matrix combinations are offered for state/NELAC accreditation, this report may contain results which are not accredited. For a specific list of accredited analytes, contact the laboratory or go to https://www.alsglobal.com/locations/americas/north-america/usa/new-york/rochester-environmental

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ALS Laboratory Group

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

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ALS Group USA, Corp.
dba ALS Environmental

Analyst Summary report

Client: ALS Environmental - US
Project: LHAAP / Site 58/NW01312.0150
Service Request: R2105466

Sample Name: 35AWW09_060221
Lab Code: R2105466-001
Sample Matrix: Water
Date Collected: 06/2/21
Date Received: 06/3/21

Analysis Method	Extracted/Digested By	Analyzed By
Organic Acids		AFELSER

Sample Name: 35AWW09-060221-a
Lab Code: R2105466-002
Sample Matrix: Water
Date Collected: 06/2/21
Date Received: 06/3/21

Analysis Method	Extracted/Digested By	Analyzed By
Organic Acids		AFELSER

Sample Name: 03WW01_060221
Lab Code: R2105466-003
Sample Matrix: Water
Date Collected: 06/2/21
Date Received: 06/3/21

Analysis Method	Extracted/Digested By	Analyzed By
Organic Acids		AFELSER

Sample Name: 35AWW08_060221
Lab Code: R2105466-004
Sample Matrix: Water
Date Collected: 06/2/21
Date Received: 06/3/21

Analysis Method	Extracted/Digested By	Analyzed By
Organic Acids		AFELSER

Sample Name: 35AWW11_060221
Lab Code: R2105466-005
Sample Matrix: Water
Date Collected: 06/2/21
Date Received: 06/3/21

Analysis Method	Extracted/Digested By	Analyzed By
Organic Acids		AFELSER

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Analyst Summary report

Client: ALS Environmental - US
Project: LHAAP / Site 58/NW01312.0150
Service Request: R2105466

Sample Name: LHSMW07_060221
Lab Code: R2105466-006
Sample Matrix: Water
Date Collected: 06/2/21
Date Received: 06/3/21

Analysis Method	Extracted/Digested By	Analyzed By
Organic Acids		AFELSER

Sample Name: 35AWW19_060321
Lab Code: R2105466-007
Sample Matrix: Water
Date Collected: 06/3/21
Date Received: 06/4/21

Analysis Method	Extracted/Digested By	Analyzed By
Organic Acids		AFELSER

Sample Name: 35AWW23_060321
Lab Code: R2105466-008
Sample Matrix: Water
Date Collected: 06/3/21
Date Received: 06/4/21

Analysis Method	Extracted/Digested By	Analyzed By
Organic Acids		AFELSER

Sample Name: 35AWW20_060321
Lab Code: R2105466-009
Sample Matrix: Water
Date Collected: 06/3/21
Date Received: 06/4/21

Analysis Method	Extracted/Digested By	Analyzed By
Organic Acids		AFELSER

Sample Name: 35AWW06_060321
Lab Code: R2105466-010
Sample Matrix: Water
Date Collected: 06/3/21
Date Received: 06/4/21

Analysis Method	Extracted/Digested By	Analyzed By
Organic Acids		AFELSER

INORGANIC PREPARATION METHODS

The preparation methods associated with this report are found in these tables unless discussed in the case narrative.

Water/Liquid Matrix

Analytical Method	Preparation Method
200.7	200.2
200.8	200.2
6010C	3005A/3010A
6020A	ILM05.3
9034 Sulfide Acid Soluble	9030B
SM 4500-CN-E Residual Cyanide	SM 4500-CN-G
SM 4500-CN-E WAD Cyanide	SM 4500-CN-I

Solid/Soil/Non-Aqueous Matrix

Analytical Method	Preparation Method
6010C	3050B
6020A	3050B
6010C TCLP (1311) extract	3005A/3010A
6010 SPLP (1312) extract	3005A/3010A
7199	3060A
300.0 Anions/ 350.1/ 353.2/ SM 2320B/ SM 5210B/ 9056A Anions	DI extraction
For analytical methods not listed, the preparation method is the same as the analytical method reference.	

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Sample Results

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Analytical Report

Client:	ALS Environmental - US	**Service Request:**	R2105466
Project:	LHAAP / Site 58/NW01312.0150	**Date Collected:**	06/02/21 07:10
Sample Matrix:	Water	**Date Received:**	06/03/21 09:30
Sample Name:	35AWW09_060221	**Units:**	mg/L
Lab Code:	R2105466-001	**Basis:**	NA

Organic Acids in Aqueous Matrices by High Performance Liquid Chromatography (HPLC) 28 Day Hold Time

Analysis Method: Organic Acids

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Pyruvic Acid	ND U	0.20	0.10	0.052	1	06/10/21 14:15	
Acetic Acid	ND U	4.0	2.0	0.56	1	06/10/21 14:15	
Butanoic Acid (Butyric Acid)	ND U	2.0	1.0	0.77	1	06/10/21 14:15	
Lactic Acid	ND U	2.0	1.0	0.41	1	06/10/21 14:15	
Propionic Acid	ND U	4.0	1.5	1.1	1	06/10/21 14:15	

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Analytical Report

Client:	ALS Environmental - US	**Service Request:**	R2105466
Project:	LHAAP / Site 58/NW01312.0150	**Date Collected:**	06/02/21 07:10
Sample Matrix:	Water	**Date Received:**	06/03/21 09:30
Sample Name:	35AWW09-060221-a	**Units:**	mg/L
Lab Code:	R2105466-002	**Basis:**	NA

Organic Acids in Aqueous Matrices by High Performance Liquid Chromatography (HPLC) 28 Day Hold Time

Analysis Method: Organic Acids

Analyte Name	Result		LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Pyruvic Acid	ND	U	0.20	0.10	0.052	1	06/18/21 00:51	
Acetic Acid	**0.63**	**J**	4.0	2.0	0.56	1	06/18/21 00:51	
Butanoic Acid (Butyric Acid)	ND	U	2.0	1.0	0.77	1	06/18/21 00:51	
Lactic Acid	ND	U	2.0	1.0	0.41	1	06/18/21 00:51	
Propionic Acid	ND	U	4.0	1.5	1.1	1	06/18/21 00:51	

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Analytical Report

Client:	ALS Environmental - US	**Service Request:**	R2105466
Project:	LHAAP / Site 58/NW01312.0150	**Date Collected:**	06/02/21 08:05
Sample Matrix:	Water	**Date Received:**	06/03/21 09:30
Sample Name:	03WW01_060221	**Units:**	mg/L
Lab Code:	R2105466-003	**Basis:**	NA

Organic Acids in Aqueous Matrices by High Performance Liquid Chromatography (HPLC) 28 Day Hold Time

Analysis Method: Organic Acids

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Pyruvic Acid	ND U	0.20	0.10	0.052	1	06/18/21 01:54	
Acetic Acid	**3.3 J**	4.0	2.0	0.56	1	06/18/21 01:54	
Butanoic Acid (Butyric Acid)	ND U	2.0	1.0	0.77	1	06/18/21 01:54	
Lactic Acid	ND U	2.0	1.0	0.41	1	06/18/21 01:54	
Propionic Acid	ND U	4.0	1.5	1.1	1	06/18/21 01:54	

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Analytical Report

Client:	ALS Environmental - US	**Service Request:**	R2105466
Project:	LHAAP / Site 58/NW01312.0150	**Date Collected:**	06/02/21 08:55
Sample Matrix:	Water	**Date Received:**	06/03/21 09:30
Sample Name:	35AWW08_060221	**Units:**	mg/L
Lab Code:	R2105466-004	**Basis:**	NA

Organic Acids in Aqueous Matrices by High Performance Liquid Chromatography (HPLC) 28 Day Hold Time

Analysis Method: Organic Acids

Analyte Name	Result		LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Pyruvic Acid	ND	U	0.20	0.10	0.052	1	06/18/21 02:56	
Acetic Acid	**1.2**	**J**	4.0	2.0	0.56	1	06/18/21 02:56	
Butanoic Acid (Butyric Acid)	ND	U	2.0	1.0	0.77	1	06/18/21 02:56	
Lactic Acid	**2.1**		2.0	1.0	0.41	1	06/18/21 02:56	
Propionic Acid	ND	U	4.0	1.5	1.1	1	06/18/21 02:56	

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Analytical Report

Client:	ALS Environmental - US	**Service Request:**	R2105466
Project:	LHAAP / Site 58/NW01312.0150	**Date Collected:**	06/02/21 09:45
Sample Matrix:	Water	**Date Received:**	06/03/21 09:30
Sample Name:	35AWW11_060221	**Units:**	mg/L
Lab Code:	R2105466-005	**Basis:**	NA

Organic Acids in Aqueous Matrices by High Performance Liquid Chromatography (HPLC) 28 Day Hold Time

Analysis Method: Organic Acids

Analyte Name	Result		LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Pyruvic Acid	ND	U	0.20	0.10	0.052	1	06/11/21 00:32	
Acetic Acid	**0.87**	**J**	4.0	2.0	0.56	1	06/11/21 00:32	
Butanoic Acid (Butyric Acid)	ND	U	2.0	1.0	0.77	1	06/11/21 00:32	
Lactic Acid	ND	U	2.0	1.0	0.41	1	06/11/21 00:32	
Propionic Acid	ND	U	4.0	1.5	1.1	1	06/11/21 00:32	

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Analytical Report

Client:	ALS Environmental - US	**Service Request:**	R2105466
Project:	LHAAP / Site 58/NW01312.0150	**Date Collected:**	06/02/21 10:35
Sample Matrix:	Water	**Date Received:**	06/03/21 09:30
Sample Name:	LHSMW07_060221	**Units:**	mg/L
Lab Code:	R2105466-006	**Basis:**	NA

Organic Acids in Aqueous Matrices by High Performance Liquid Chromatography (HPLC) 28 Day Hold Time

Analysis Method: Organic Acids

Analyte Name	Result		LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Pyruvic Acid	ND	U	0.20	0.10	0.052	1	06/11/21 01:33	
Acetic Acid	**0.65**	**J**	4.0	2.0	0.56	1	06/11/21 01:33	
Butanoic Acid (Butyric Acid)	ND	U	2.0	1.0	0.77	1	06/11/21 01:33	
Lactic Acid	ND	U	2.0	1.0	0.41	1	06/11/21 01:33	
Propionic Acid	ND	U	4.0	1.5	1.1	1	06/11/21 01:33	

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Analytical Report

Client:	ALS Environmental - US	**Service Request:**	R2105466
Project:	LHAAP / Site 58/NW01312.0150	**Date Collected:**	06/03/21 07:20
Sample Matrix:	Water	**Date Received:**	06/04/21 09:35
Sample Name:	35AWW19_060321	**Units:**	mg/L
Lab Code:	R2105466-007	**Basis:**	NA

Organic Acids in Aqueous Matrices by High Performance Liquid Chromatography (HPLC) 28 Day Hold Time

Analysis Method: Organic Acids

Analyte Name	Result		LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Pyruvic Acid	ND	U	0.20	0.10	0.052	1	06/11/21 02:35	
Acetic Acid	**0.62**	**J**	4.0	2.0	0.56	1	06/11/21 02:35	
Butanoic Acid (Butyric Acid)	ND	U	2.0	1.0	0.77	1	06/11/21 02:35	
Lactic Acid	ND	U	2.0	1.0	0.41	1	06/11/21 02:35	
Propionic Acid	ND	U	4.0	1.5	1.1	1	06/11/21 02:35	

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Analytical Report

Client:	ALS Environmental - US	**Service Request:**	R2105466
Project:	LHAAP / Site 58/NW01312.0150	**Date Collected:**	06/03/21 08:10
Sample Matrix:	Water	**Date Received:**	06/04/21 09:35
Sample Name:	35AWW23_060321	**Units:**	mg/L
Lab Code:	R2105466-008	**Basis:**	NA

Organic Acids in Aqueous Matrices by High Performance Liquid Chromatography (HPLC) 28 Day Hold Time

Analysis Method: Organic Acids

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Pyruvic Acid	ND U	0.20	0.10	0.052	1	06/18/21 06:00	
Acetic Acid	**9.1**	4.0	2.0	0.56	1	06/18/21 06:00	
Butanoic Acid (Butyric Acid)	ND U	2.0	1.0	0.77	1	06/18/21 06:00	
Lactic Acid	ND U	2.0	1.0	0.41	1	06/18/21 06:00	
Propionic Acid	ND U	4.0	1.5	1.1	1	06/18/21 06:00	

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Analytical Report

Client:	ALS Environmental - US	**Service Request:**	R2105466
Project:	LHAAP / Site 58/NW01312.0150	**Date Collected:**	06/03/21 09:00
Sample Matrix:	Water	**Date Received:**	06/04/21 09:35
Sample Name:	35AWW20_060321	**Units:**	mg/L
Lab Code:	R2105466-009	**Basis:**	NA

Organic Acids in Aqueous Matrices by High Performance Liquid Chromatography (HPLC) 28 Day Hold Time

Analysis Method: Organic Acids

Analyte Name	Result		LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Pyruvic Acid	ND	U	0.20	0.10	0.052	1	06/18/21 07:01	
Acetic Acid	**0.61**	**J**	4.0	2.0	0.56	1	06/18/21 07:01	
Butanoic Acid (Butyric Acid)	ND	U	2.0	1.0	0.77	1	06/18/21 07:01	
Lactic Acid	ND	U	2.0	1.0	0.41	1	06/18/21 07:01	
Propionic Acid	ND	U	4.0	1.5	1.1	1	06/18/21 07:01	

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Analytical Report

Client:	ALS Environmental - US	**Service Request:**	R2105466
Project:	LHAAP / Site 58/NW01312.0150	**Date Collected:**	06/03/21 10:40
Sample Matrix:	Water	**Date Received:**	06/04/21 09:35
Sample Name:	35AWW06_060321	**Units:**	mg/L
Lab Code:	R2105466-010	**Basis:**	NA

Organic Acids in Aqueous Matrices by High Performance Liquid Chromatography (HPLC) 28 Day Hold Time

Analysis Method: Organic Acids

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Pyruvic Acid	ND U	0.20	0.10	0.052	1	06/18/21 08:03	
Acetic Acid	**1.3 J**	4.0	2.0	0.56	1	06/18/21 08:03	
Butanoic Acid (Butyric Acid)	ND U	2.0	1.0	0.77	1	06/18/21 08:03	
Lactic Acid	ND U	2.0	1.0	0.41	1	06/18/21 08:03	
Propionic Acid	ND U	4.0	1.5	1.1	1	06/18/21 08:03	

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QC Summary Forms

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QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	R2105466
Project:	LHAAP / Site 58/NW01312.0150	**Date Collected:**	06/02/21
Sample Matrix:	Water	**Date Received:**	06/03/21
		Date Analyzed:	06/10/21

Duplicate Matrix Spike Summary
Organic Acids in Aqueous Matrices by High Performance Liquid Chromatography (HPLC) 28 Day Hold Time

Sample Name:	35AWW09_060221	**Units:**	mg/L
Lab Code:	R2105466-001	**Basis:**	NA
Analysis Method:	Organic Acids		

		Matrix Spike RQ2106667-06			Duplicate Matrix Spike RQ2106667-07					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Pyruvic Acid	ND U	22.2	20.0	111	22.1	20.0	110	73-122	<1	30
Acetic Acid	ND U	23.1	20.0	115	23.1	20.0	116	80-130	<1	30
Butanoic Acid (Butyric Acid)	ND U	20.8	20.0	104	20.5	20.0	103	86-128	1	30
Lactic Acid	ND U	22.8	20.0	114	22.7	20.0	113	81-114	<1	30
Propionic Acid	ND U	23.0	20.0	115	19.8	20.0	99	63-153	15	30

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Matrix Spike and Matrix Spike Duplicate Data is presented for information purposes only. The matrix may or may not be relevant to samples reported in this report. The laboratory evaluates system performance based on the LCS and LCSD control limits.

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QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	R2105466
Project:	LHAAP / Site 58/NW01312.0150	**Date Collected:**	06/03/21
Sample Matrix:	Water	**Date Received:**	06/04/21
		Date Analyzed:	06/18/21

Duplicate Matrix Spike Summary
Organic Acids in Aqueous Matrices by High Performance Liquid Chromatography (HPLC) 28 Day Hold Time

Sample Name:	35AWW06_060321	**Units:**	mg/L
Lab Code:	R2105466-010	**Basis:**	NA
Analysis Method:	Organic Acids		

		Matrix Spike RQ2107066-07			Duplicate Matrix Spike RQ2107066-08					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Pyruvic Acid	ND U	21.3	20.0	106	21.7	20.0	108	73-122	2	30
Acetic Acid	1.3 J	21.3	20.0	100	21.7	20.0	102	80-130	2	30
Butanoic Acid (Butyric Acid)	ND U	20.8	20.0	104	20.9	20.0	104	86-128	<1	30
Lactic Acid	ND U	19.5	20.0	98	19.9	20.0	100	81-114	2	30
Propionic Acid	ND U	19.7	20.0	99	21.3	20.0	106	63-153	8	30

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Matrix Spike and Matrix Spike Duplicate Data is presented for information purposes only. The matrix may or may not be relevant to samples reported in this report. The laboratory evaluates system performance based on the LCS and LCSD control limits.

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Analytical Report

Client:	ALS Environmental - US	**Service Request:**	R2105466
Project:	LHAAP / Site 58/NW01312.0150	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	mg/L
Lab Code:	RQ2106667-02	**Basis:**	NA

Organic Acids in Aqueous Matrices by High Performance Liquid Chromatography (HPLC) 28 Day Hold Time

Analysis Method: Organic Acids

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Pyruvic Acid	ND U	0.20	0.10	0.052	1	06/10/21 09:09	
Acetic Acid	ND U	4.0	2.0	0.56	1	06/10/21 09:09	
Butanoic Acid (Butyric Acid)	ND U	2.0	1.0	0.77	1	06/10/21 09:09	
Lactic Acid	ND U	2.0	1.0	0.41	1	06/10/21 09:09	
Propionic Acid	ND U	4.0	1.5	1.1	1	06/10/21 09:09	

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Analytical Report

Client:	ALS Environmental - US	**Service Request:**	R2105466
Project:	LHAAP / Site 58/NW01312.0150	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	mg/L
Lab Code:	RQ2107066-02	**Basis:**	NA

Organic Acids in Aqueous Matrices by High Performance Liquid Chromatography (HPLC) 28 Day Hold Time

Analysis Method: Organic Acids

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Pyruvic Acid	ND U	0.20	0.10	0.052	1	06/17/21 19:45	
Acetic Acid	ND U	4.0	2.0	0.56	1	06/17/21 19:45	
Butanoic Acid (Butyric Acid)	ND U	2.0	1.0	0.77	1	06/17/21 19:45	
Lactic Acid	ND U	2.0	1.0	0.41	1	06/17/21 19:45	
Propionic Acid	ND U	4.0	1.5	1.1	1	06/17/21 19:45	

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QA/QC Report

Client: ALS Environmental - US
Project: LHAAP / Site 58/NW01312.0150
Sample Matrix: Water

Service Request: R2105466
Date Analyzed: 06/10/21

Duplicate Lab Control Sample Summary
Organic Acids in Aqueous Matrices by High Performance Liquid Chromatography (HPLC) 28 Day Hold Time

Units:mg/L
Basis:NA

		Lab Control Sample			Duplicate Lab Control Sample					
		RQ2106667-03			RQ2106667-04					
Analyte Name	**Analytical Method**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Pyruvic Acid	Organic Acids	21.5	20.0	107	21.0	20.0	105	73-122	2	30
Acetic Acid	Organic Acids	22.2	20.0	111	21.6	20.0	108	80-130	3	30
Butanoic Acid (Butyric Acid)	Organic Acids	20.6	20.0	103	20.7	20.0	104	86-128	<1	30
Lactic Acid	Organic Acids	22.5	20.0	112	22.3	20.0	111	81-114	<1	30
Propionic Acid	Organic Acids	20.1	20.0	101	19.6	20.0	98	63-153	2	30

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QA/QC Report

Client: ALS Environmental - US
Project: LHAAP / Site 58/NW01312.0150
Sample Matrix: Water

Service Request: R2105466
Date Analyzed: 06/17/21

Duplicate Lab Control Sample Summary
Organic Acids in Aqueous Matrices by High Performance Liquid Chromatography (HPLC) 28 Day Hold Time

Units:mg/L
Basis:NA

		Lab Control Sample			Duplicate Lab Control Sample					
		RQ2107066-03			RQ2107066-04					
Analyte Name	**Analytical Method**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Pyruvic Acid	Organic Acids	20.3	20.0	102	20.6	20.0	103	73-122	1	30
Acetic Acid	Organic Acids	21.5	20.0	108	21.8	20.0	109	80-130	1	30
Butanoic Acid (Butyric Acid)	Organic Acids	19.4	20.0	97	20.3	20.0	102	86-128	5	30
Lactic Acid	Organic Acids	21.4	20.0	107	21.6	20.0	108	81-114	1	30
Propionic Acid	Organic Acids	19.2	20.0	96	20.2	20.0	101	63-153	5	30

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ANAB ACCREDITED ISO/IEC 17025 TESTING LABORATORY

Client: RagenP Giga
ALS Laboratory Group
10450 Stancliff Rd
Suite 210
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Phone:

Fax:

Identifier: 011SF **Date Rec:** 06/03/2021 **Report Date:** 06/10/2021

Client Project #: NW01312.0150 **Client Project Name:** LHAAP / Site 58

Purchase Order #:

Test results provided for: CENSUS

Reviewed By:



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Results relate only to the items tested and the sample(s) as received by the laboratory.

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MICROBIAL INSIGHTS, INC.

10515 Research Dr., Knoxville, TN 37932
Tel. (865) 573-8188 Fax. (865) 573-8133

CENSUS

Client: **ALS Laboratory Group**
Project: LHAAP / Site 58

MI Project Number: **011SF**
Date Received: 06/03/2021

Sample Information

Client Sample ID:		**03WW01_06022 1**	**35AWW08_060 221**	**35AWW11_060 221**	**LHSMW07_060 221**
Sample Date:		06/02/2021	06/02/2021	06/02/2021	06/02/2021
Units:		cells/mL	cells/mL	cells/mL	cells/mL
Analyst/Reviewer:		HT/CB	HT/CB	HT/CB	HT/CB
Dechlorinating Bacteria					
Dehalococcoides	*DHC*	**1.96E+02**	**1.22E+05**	**1.70E+02**	**4.43E+03**
tceA Reductase	TCE	**5.42E+01**	**1.64E+04**	**3.00E-01 (J)**	**7.00E-01**
BAV1 Vinyl Chloride Reductase	BVC	**5.00E-01 (J)**	**1.44E+02**	<1.00E+00	<6.00E-01
Vinyl Chloride Reductase	VCR	**1.02E+02**	**1.87E+04**	**3.35E+01**	**8.37E+03**
Dehalobacter spp.	*DHBt*	**2.49E+02**	**4.50E+03**	**5.83E+03**	**3.64E+03**

Legend:
NA = Not Analyzed NS = Not Sampled J = Estimated gene copies below PQL but above LQL I = Inhibited
< = Result not detected

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Quality Assurance/Quality Control Data

Samples Received **6/3/2021**

Component	Date Prepared	Date Analyzed	Arrival Temperature	Positive Control	Extraction Blank	Negative Control
BVC	06/03/2021	06/10/2021	2 °C	106%	non-detect	non-detect
TCE	06/03/2021	06/10/2021	2 °C	105%	non-detect	non-detect
VCR	06/03/2021	06/10/2021	2 °C	110%	non-detect	non-detect
DHBt	06/03/2021	06/10/2021	2 °C	107%	non-detect	non-detect
DHC	06/03/2021	06/10/2021	2 °C	105%	non-detect	non-detect

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2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T: +1 805 526 7161
www.alsglobal.com

LABORATORY REPORT

June 30, 2021

Ragen Giga
ALS Environmental - US
10450 Stancliff Rd Suite 210
Houston, TX 77099

RE: HS21060181

Dear Ragen:

Enclosed are the results of the samples submitted to our laboratory on June 4, 2021. For your reference, these analyses have been assigned our service request number P2103091.

All analyses were performed according to our laboratory's NELAP and DoD-ELAP-approved quality assurance program. The test results meet requirements of the current NELAP and DoD-ELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP and DoD-ELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. Results are intended to be considered in their entirety and apply only to the samples analyzed and reported herein.

If you have any questions, please call me at (805) 526-7161.

Respectfully submitted,

ALS | Environmental

By Sue Anderson at 7:27 pm, Jun 30, 2021

For Hayden Akers
Project Manager

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2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T: +1 805 526 7161
www.alsglobal.com

Client: ALS Environmental - US
Project: HS21060181

Service Request No: P2103091

CASE NARRATIVE

The samples were received intact under chain of custody on June 4, 2021 and were stored in accordance with the analytical method requirements. Please refer to the sample acceptance check form for additional information. The results reported herein are applicable only to the condition of the samples at the time of sample receipt.

Carbon Dioxide Analysis

The samples were analyzed for carbon dioxide using a gas chromatograph equipped with a thermal conductivity detector (TCD). A known amount of liquid was displaced by injecting 8.0 milliliters of helium creating a headspace in the sample vial. Each sample vial was agitated using a sonic disrupter for fifteen minutes and then allowed to equilibrate for at least four hours. A volume of the headspace was withdrawn using a gas-tight syringe and analyzed using a manual injection technique. The amount of dissolved gases (carbon dioxide) in the original sample was calculated using Henry's Law. This method was performed with guidance from RSK 175 as described in laboratory SOP VOA-DISGAS. This analyte is included on the laboratory's NELAP and DoD-ELAP scope of accreditation.

Methane, Ethene and Ethane Analysis

The samples were analyzed for methane, ethene, and ethane using a gas chromatograph equipped with a flame ionization detector (FID). A known amount of liquid was displaced by injecting 8.0 milliliters of helium creating a headspace in the sample vial. Each sample vial was agitated using a sonic disrupter for fifteen minutes and then allowed to equilibrate for at least two hours. A volume of the headspace was withdrawn using a gas-tight syringe and analyzed using a manual injection technique. The amount of dissolved gases (methane, ethene and ethane) in the original sample was calculated using Henry's Law. This method was performed with guidance from RSK 175. This method is included on the laboratory's NELAP and DoD-ELAP scope of accreditation. Any analytes flagged with an X are not included on the laboratory's NELAP or DoD-ELAP accreditation.

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and ALS Environmental (ALS) is not responsible for utilization of less than the complete report.

Use of ALS Environmental (ALS)'s Name. Client shall not use ALS's name or trademark in any marketing or reporting materials, press releases or in any other manner ("Materials") whatsoever and shall not attribute to ALS any test result, tolerance or specification derived from ALS's data ("Attribution") without ALS's prior written consent, which may be withheld by ALS for any reason in its sole discretion. To request ALS's consent, Client shall provide copies of the proposed Materials or Attribution and describe in writing Client's proposed use of such Materials or Attribution. If ALS has not provided written approval of the Materials or Attribution within ten (10) days of receipt from Client, Client's request to use ALS's name or trademark in any Materials or Attribution shall be deemed denied. ALS may, in its discretion, reasonably charge Client for its time in reviewing Materials or Attribution requests. Client acknowledges and agrees that the unauthorized use of ALS's name or trademark may cause ALS to incur irreparable harm for which the recovery of money damages will be inadequate. Accordingly, Client acknowledges and agrees that a violation shall justify preliminary injunctive relief. For questions contact the laboratory.

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2655 Park Center Dr., Suite A
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ALS Environmental – Simi Valley

CERTIFICATIONS, ACCREDITATIONS, AND REGISTRATIONS

Agency	Web Site	Number
Alaska DEC	http://dec.alaska.gov/eh/lab.aspx	17-019
Arizona DHS	http://www.azdhs.gov/preparedness/state-laboratory/lab-licensure-certification/index.php#laboratory-licensure-home	AZ0694
Florida DOH (NELAP)	http://www.floridahealth.gov/licensing-and-regulation/environmental-laboratories/index.html	E871020
Louisiana DEQ (NELAP)	http://www.deq.louisiana.gov/page/la-lab-accreditation	05071
Maine DHHS	http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/professionals/labCert.shtml	2018027
Minnesota DOH (NELAP)	http://www.health.state.mn.us/accreditation	1776326
New Jersey DEP (NELAP)	http://www.nj.gov/dep/enforcement/oqa.html	CA009
New York DOH (NELAP)	http://www.wadsworth.org/labcert/elap/elap.html	11221
Oregon PHD (NELAP)	http://www.oregon.gov/oha/ph/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	4068-008
Pennsylvania DEP	http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx	68-03307 (Registration)
PJLA (DoD ELAP)	http://www.pjlabs.com/search-accredited-labs	65818 (Testing)
Texas CEQ (NELAP)	http://www.tceq.texas.gov/agency/qa/env_lab_accreditation.html	T104704413-19-10
Utah DOH (NELAP)	http://health.utah.gov/lab/lab_cert_env	CA016272019-10
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C946

Analyses were performed according to our laboratory's NELAP and DoD-ELAP approved quality assurance program. A complete listing of specific NELAP and DoD-ELAP certified analytes can be found in the certifications section at www.alsglobal.com, or at the accreditation body's website.

Each of the certifications listed above have an explicit Scope of Accreditation that applies to specific matrices/methods/analytes; therefore, please contact the laboratory for information corresponding to a particular certification.

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ALS ENVIRONMENTAL

DETAIL SUMMARY REPORT

Client: ALS Environmental - US
Service Request: P2103091
Project ID: HS21060181

Date Received: 6/4/2021
Time Received: 09:30

Client Sample ID	Lab Code	Matrix	Date Collected	Time Collected	RSK 175 - CO2	RSK 175 - Gases
35AWW09_060221	P2103091-001	Water	6/2/2021	07:10	X	X
35AWW09_060221_a	P2103091-002	Water	6/2/2021	07:10	X	X
03WW01_060221	P2103091-003	Water	6/2/2021	08:05	X	X
35AWW08_060221	P2103091-004	Water	6/2/2021	08:55	X	X
35AWW11_060221	P2103091-005	Water	6/2/2021	09:45	X	X
LHSMW07-060221	P2103091-006	Water	6/2/2021	10:35	X	X

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R 103091

10450 Stancliff Rd, Ste 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887
www.alsglobal.com

Subcontract Chain of Custody

SAMPLING STATE: **Texas** **COC ID:** **16237**

SUBCONTRACT TO:

ALS Environmental
2655 Park Center Drive, Suite A
Simi Valley, CA 93065 **Phone:** +1 805 526 7161

CUSTOMER INFORMATION:

Company:	ALS Houston
Contact:	Ragen Giga
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Email:	RagenP.Giga@ALSGlobal.com
Alternate Contact:	Jumoke M. Lawal
Email:	jumoke.lawal@alsglobal.com

INVOICE INFORMATION:

Company:	ALS Houston
Contact:	Accounts Payable
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Reference:	HS21060181
TSR:	Sonia West

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS21060181-12**	**35AWW09_060221**	**Groundwater**	**02 Jun 2021 07:10**
	MEE plus CO2. Provide Level II and Level IV reports in separate pdf			17 Jun 2021
2.	**HS21060181-13**	**35AWW09_060221_a**	**Groundwater**	**02 Jun 2021 07:10**
	MEE plus CO2. Provide Level II and Level IV reports in separate pdf			17 Jun 2021
3.	**HS21060181-14**	**03WW01_060221**	**Groundwater**	**02 Jun 2021 08:05**
	MEE plus CO2. Provide Level II and Level IV reports in separate pdf			17 Jun 2021
4.	**HS21060181-15**	**35AWW08_060221**	**Groundwater**	**02 Jun 2021 08:55**
	MEE plus CO2. Provide Level II and Level IV reports in separate pdf			17 Jun 2021
5.	**HS21060181-16**	**35AWW11_060221**	**Groundwater**	**02 Jun 2021 09:45**
	MEE plus CO2. Provide Level II and Level IV reports in separate pdf			17 Jun 2021
6.	**HS21060181-17**	**LHSMW07_060221**	**Groundwater**	**02 Jun 2021 10:35**
	MEE plus CO2. Provide Level II and Level IV reports in separate pdf			17 Jun 2021

Comments: Please analyze for the analysis listed above.
Send report to the emails shown above.

QC Level: DOD IV (DoD Data Package)

R2103091

Subcontract Chain of Custody

SAMPLING STATE: **Texas**

COC ID: **16237**

Relinquished By: [illegible]

Date/Time: 6/3/21 18:00

Received By:

Date/Time: 6-4-21 0930

Cooler ID(s):

Temperature(s): 2° uncr

ALS Environmental
Sample Acceptance Check Form

Client: ALS Environmental - US Work order: P2103091

Project: HS21060181

Sample(s) received on: 6/4/21 Date opened: 6/4/21 by: ADAVID

Note: This form is used for all samples received by ALS. The use of this form for custody seals is strictly meant to indicate presence/absence and not as an indication of compliance or nonconformity. Thermal preservation and pH will only be evaluated either at the request of the client and/or as required by the method/SOP.

		Yes	No	N/A
1	Were **sample containers** properly marked with client sample ID?	☒	☐	☐
2	Did **sample containers** arrive in good condition?	☒	☐	☐
3	Were **chain-of-custody** papers used and filled out?	☒	☐	☐
4	Did **sample container labels** and/or tags agree with custody papers?	☒	☐	☐
5	Was **sample volume** received adequate for analysis?	☒	☐	☐
6	Are samples within specified holding times?	☒	☐	☐
7	Was proper **temperature** (thermal preservation) of cooler at receipt adhered to?	☒	☐	☐
	Cooler Temperature: 2° C Blank Temperature: ° C	Wet Ic		
8	Were **custody seals** on outside of cooler/Box/Container?	☒	☐	☐
	Location of seal(s)? Cooler lid. Sealing Lid?	☒	☐	☐
	Were signature and date included?	☒	☐	☐
	Were seals intact?	☒	☐	☐
9	Do containers have appropriate **preservation**, according to method/SOP or Client specified information?	☒	☐	☐
	Is there a client indication that the submitted samples are **pH** preserved?	☒	☐	☐
	Were **VOA vials** checked for presence/absence of air bubbles?	☒	☐	☐
	Does the client/method/SOP require that the analyst check the sample pH and if necessary alter it?	☐	☒	☐
10	**Tubes:** Are the tubes capped and intact?	☐	☐	☒
11	**Badges:** Are the badges properly capped and intact?	☐	☐	☒
	Are dual bed badges separated and individually capped and intact?	☐	☐	☒

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P2103091-001.01	40mL VOA NP		7		A	cb 6/25/21
P2103091-001.02	40mL VOA NP				A	
P2103091-001.04	40ml VOA HCL				A	
P2103091-001.05	40ml VOA HCL		1		A	cb 6/14/21
P2103091-001.06	40ml VOA HCL				A	
P2103091-002.01	40mL VOA NP		5		A	cb 6/25/21
P2103091-002.02	40mL VOA NP				A	
P2103091-002.04	40ml VOA HCL		1		A	cb 6/14/21
P2103091-002.05	40ml VOA HCL				A	
P2103091-002.06	40ml VOA HCL				A	
P2103091-003.01	40mL VOA NP				A	
P2103091-003.02	40mL VOA NP		6		A	cb 6/25/21
P2103091-003.04	40ml VOA HCL				A	
P2103091-003.05	40ml VOA HCL		1		A	cb 6/14/21
P2103091-003.06	40ml VOA HCL				A	

Explain any discrepancies: (include lab sample ID numbers):

RSK - MEEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

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ALS Environmental
Sample Acceptance Check Form

Client: ALS Environmental - US Work order: P2103091

Project: HS21060181

Sample(s) received on: 6/4/21 Date opened: 6/4/21 by: ADAVID

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P2103091-004.01	40mL VOA NP				A	
P2103091-004.02	40mL VOA NP		7		A	cb 6/25/21
P2103091-004.04	40ml VOA HCL				A	
P2103091-004.05	40ml VOA HCL		1		A	cb 6/14/21
P2103091-004.06	40ml VOA HCL				A	
P2103091-005.01	40mL VOA NP				A	
P2103091-005.02	40mL VOA NP		6		A	cb 6/25/21
P2103091-005.04	40ml VOA HCL				A	
P2103091-005.05	40ml VOA HCL				A	
P2103091-005.06	40ml VOA HCL		1		A	cb 6/14/21
P2103091-006.01	40mL VOA NP				A	
P2103091-006.02	40mL VOA NP		7		A	cb 6/25/21
P2103091-006.04	40ml VOA HCL				A	
P2103091-006.05	40ml VOA HCL				A	
P2103091-006.06	40ml VOA HCL		1		A	cb 6/14/21

Explain any discrepancies: (include lab sample ID numbers):

RSK - MEEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

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ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **ALS Environmental - US**
Client Project ID: **HS21060181** ALS Project ID: P2103091

Carbon Dioxide

Test Code: RSK 175
Instrument ID: HP5890A/GC10/TCD
Analyst: Connor Barrett
Matrix: Liquid
Test Notes:

Date(s) Collected: 6/2/21
Date Received: 6/4/21
Date Analyzed: 6/25/21

Client Sample ID	ALS Sample ID	Injection Volume ml(s)	Result µg/L	LOQ µg/L	LOD µg/L	MDL µg/L	Data Qualifier
35AWW09_060221	P2103091-001	0.05	**650,000**	2,000	1,700	740	
35AWW09_060221_a	P2103091-002	0.05	**540,000**	2,000	1,700	740	
03WW01_060221	P2103091-003	0.05	**830,000**	2,000	1,700	740	
35AWW08_060221	P2103091-004	0.05	**430,000**	2,000	1,700	740	
35AWW11_060221	P2103091-005	0.05	**890,000**	2,000	1,700	740	
LHSMW07-060221	P2103091-006	0.05	**300,000**	2,000	1,700	740	
Method Control Sample	P210625-MB	0.10	860	1,000	860	370	**U**

The Method Control Sample is laboratory water carried through the entire analytical process.
U = Compound was analyzed for, but not detected above the laboratory detection limit.
LOQ = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

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ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **ALS Environmental - US**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2103091
Client Project ID: **HS21060181** ALS Sample ID: P210625-DLCS

Test Code: RSK 175 Date Collected: NA
Instrument ID: HP5890A/GC10/TCD Date Received: NA
Analyst: Connor Barrett Date Analyzed: 6/25/21
Matrix: Liquid Volume(s) Analyzed: NA ml(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS ug/L	Result[1] LCS ug/L	Result[1] DLCS ug/L	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
124-38-9	Carbon Dioxide	22,900	19,000	19,100	**83**	**83**	80-122	0	12	

[1] = The concentration shown includes a subtraction of the Method Control Sample value, even if the result is less than the MRL.

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ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **ALS Environmental - US**
Client Sample ID: **35AWW09_060221**
Client Project ID: **HS21060181**

ALS Project ID: P2103091
ALS Sample ID: P2103091-001

Test Code: RSK 175
Instrument ID: HP5890A/GC10/FID
Analyst: Connor Barrett/Wade Henton
Matrix: Water
Test Notes:

Date Collected: 6/2/21
Date Received: 6/4/21
Date Analyzed: 6/14/21
Volume(s) Analyzed: 0.10 ml(s)

CAS #	Compound	Result µg/L	LOQ µg/L	LOD µg/L	MDL µg/L	Data Qualifier
74-82-8	Methane	**1.6**	1.3	1.0	0.51	
74-85-1	Ethene	0.55	1.0	0.55	0.24	**U**
74-84-0	Ethane	0.47	0.60	0.47	0.16	**U**

U = Compound was analyzed for, but not detected above the laboratory detection limit.
LOQ = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

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ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **ALS Environmental - US**
Client Sample ID: **35AWW09_060221_a**
Client Project ID: **HS21060181**

ALS Project ID: P2103091
ALS Sample ID: P2103091-002

Test Code: RSK 175
Instrument ID: HP5890A/GC10/FID
Analyst: Connor Barrett/Wade Henton
Matrix: Water
Test Notes:

Date Collected: 6/2/21
Date Received: 6/4/21
Date Analyzed: 6/14/21
Volume(s) Analyzed: 0.10 ml(s)

CAS #	Compound	Result µg/L	LOQ µg/L	LOD µg/L	MDL µg/L	Data Qualifier
74-82-8	Methane	**2.9**	1.3	1.0	0.51	
74-85-1	Ethene	0.55	1.0	0.55	0.24	**U**
74-84-0	Ethane	0.47	0.60	0.47	0.16	**U**

U = Compound was analyzed for, but not detected above the laboratory detection limit.
LOQ = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

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ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **ALS Environmental - US**
Client Sample ID: **03WW01_060221**
Client Project ID: **HS21060181**

ALS Project ID: P2103091
ALS Sample ID: P2103091-003

Test Code: RSK 175
Instrument ID: HP5890A/GC10/FID
Analyst: Connor Barrett/Wade Henton
Matrix: Water
Test Notes:

Date Collected: 6/2/21
Date Received: 6/4/21
Date Analyzed: 6/14/21
Volume(s) Analyzed: 0.10 ml(s)

CAS #	Compound	Result µg/L	LOQ µg/L	LOD µg/L	MDL µg/L	Data Qualifier
74-82-8	Methane	**420**	1.3	1.0	0.51	
74-85-1	Ethene	0.55	1.0	0.55	0.24	**U**
74-84-0	Ethane	0.47	0.60	0.47	0.16	**U**

U = Compound was analyzed for, but not detected above the laboratory detection limit.
LOQ = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

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ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **ALS Environmental - US**
Client Sample ID: **35AWW08_060221** ALS Project ID: P2103091
Client Project ID: **HS21060181** ALS Sample ID: P2103091-004

Test Code: RSK 175 Date Collected: 6/2/21
Instrument ID: HP5890A/GC10/FID Date Received: 6/4/21
Analyst: Connor Barrett/Wade Henton Date Analyzed: 6/14/21
Matrix: Water Volume(s) Analyzed: 0.10 ml(s)
Test Notes:

CAS #	Compound	Result µg/L	LOQ µg/L	LOD µg/L	MDL µg/L	Data Qualifier
74-82-8	Methane	**1,600**	1.3	1.0	0.51	
74-85-1	Ethene	**33**	1.0	0.55	0.24	
74-84-0	Ethane	0.47	0.60	0.47	0.16	**U**

U = Compound was analyzed for, but not detected above the laboratory detection limit.
LOQ = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

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ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **ALS Environmental - US**
Client Sample ID: **35AWW11_060221**
Client Project ID: **HS21060181**

ALS Project ID: P2103091
ALS Sample ID: P2103091-005

Test Code: RSK 175
Instrument ID: HP5890A/GC10/FID
Analyst: Connor Barrett/Wade Henton
Matrix: Water
Test Notes:

Date Collected: 6/2/21
Date Received: 6/4/21
Date Analyzed: 6/14/21
Volume(s) Analyzed: 0.10 ml(s)

CAS #	Compound	Result µg/L	LOQ µg/L	LOD µg/L	MDL µg/L	Data Qualifier
74-82-8	Methane	**1,000**	1.3	1.0	0.51	
74-85-1	Ethene	0.55	1.0	0.55	0.24	**U**
74-84-0	Ethane	0.47	0.60	0.47	0.16	**U**

U = Compound was analyzed for, but not detected above the laboratory detection limit.
LOQ = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

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ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **ALS Environmental - US**
Client Sample ID: **LHSMW07-060221**
Client Project ID: **HS21060181**

ALS Project ID: P2103091
ALS Sample ID: P2103091-006

Test Code: RSK 175
Instrument ID: HP5890A/GC10/FID
Analyst: Connor Barrett/Wade Henton
Matrix: Water
Test Notes:

Date Collected: 6/2/21
Date Received: 6/4/21
Date Analyzed: 6/14/21
Volume(s) Analyzed: 0.10 ml(s)

CAS #	Compound	Result µg/L	LOQ µg/L	LOD µg/L	MDL µg/L	Data Qualifier
74-82-8	Methane	**680**	1.3	1.0	0.51	
74-85-1	Ethene	**19**	1.0	0.55	0.24	
74-84-0	Ethane	**0.31**	0.60	0.47	0.16	**J**

U = Compound was analyzed for, but not detected above the laboratory detection limit.
LOQ = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

RIGHT SOLUTIONS | RIGHT PARTNER

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **ALS Environmental - US**
Client Sample ID: **Method Control Sample** ALS Project ID: P2103091
Client Project ID: **HS21060181** ALS Sample ID: P210614-MB

Test Code: RSK 175 Date Collected: NA
Instrument ID: HP5890A/GC10/FID Date Received: NA
Analyst: Connor Barrett/Wade Henton Date Analyzed: 6/14/21
Matrix: Water Volume(s) Analyzed: 0.10 ml(s)
Test Notes:

CAS #	Compound	Result µg/L	LOQ µg/L	LOD µg/L	MDL µg/L	Data Qualifier
74-82-8	Methane	1.0	1.3	1.0	0.51	**U**
74-85-1	Ethene	0.55	1.0	0.55	0.24	**U**
74-84-0	Ethane	0.47	0.60	0.47	0.16	**U**

The Method Control Sample is laboratory water carried through the entire analytical process.
U = Compound was analyzed for, but not detected above the laboratory detection limit.
LOQ = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

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ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **ALS Environmental - US**
Client Sample ID: **Duplicate Lab Control Sample**
Client Project ID: **HS21060181**

ALS Project ID: P2103091
ALS Sample ID: P210614-LCS
P210614-DLCS

Test Code: RSK 175
Instrument ID: HP5890A/GC10/FID
Analyst: Connor Barrett/Wade Henton
Matrix: Water
Test Notes:

Date Collected: NA
Date Received: NA
Date Analyzed: 6/14/21
Volume(s) Analyzed: 0.10 ml(s)

CAS #	Compound	Spike Amount LCS / DLCS µg/L	Result[1] LCS µg/L	Result[1] DLCS µg/L	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
74-82-8	Methane	2.52	2.39	2.74	**95**	**109**	73-125	14	26	
74-85-1	Ethene	4.40	4.53	4.53	**103**	**103**	72-133	0	11	
74-84-0	Ethane	4.72	4.70	4.71	**100**	**100**	74-131	0	10	

[1] = The concentration shown includes a subtraction of the Method Control Sample value, even if the result is less than the MRL.

RIGHT SOLUTIONS | RIGHT PARTNER

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July 02, 2021

Marcia Olive
Bhate Environmental Associates, Inc.
445 Union Blvd Ste 129
Lakewood, CO 80228

Work Order: **HS21060226**

Laboratory Results for: **LHAAP-58**

Dear Marcia Olive,

ALS Environmental received 8 sample(s) on Jun 04, 2021 for the analysis presented in the following report.

This is a REVISED REPORT. Please see the Case Narrative for discussion concerning this revision.

Regards,



Generated By: COREY.GRANDITS
Ragen Giga
Project Manager

ALS Houston, US Date: 02-Jul-21

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
Work Order: HS21060226

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS21060226-01	35AWW19_060321	Groundwater		03-Jun-2021 07:20	04-Jun-2021 09:50	☐
HS21060226-02	35AWW23_060321	Groundwater		03-Jun-2021 08:10	04-Jun-2021 09:50	☐
HS21060226-03	35AWW20_060321	Groundwater		03-Jun-2021 09:00	04-Jun-2021 09:50	☐
HS21060226-04	LHSMW06_060321	Groundwater		03-Jun-2021 09:55	04-Jun-2021 09:50	☐
HS21060226-05	35AWW06_060321	Groundwater		03-Jun-2021 10:40	04-Jun-2021 09:50	☐
HS21060226-06	35AWW17_060321	Groundwater		03-Jun-2021 11:30	04-Jun-2021 09:50	☐
HS21060226-07	35ASW03_060321	Groundwater		03-Jun-2021 11:45	04-Jun-2021 09:50	☐
HS21060226-08	Trip Blank	Water	CG-031621-485	03-Jun-2021 00:00	04-Jun-2021 09:50	☐

Revision:1

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 02-Jul-21

Client: Bhate Environmental Associates, Inc. **CASE NARRATIVE**
Project: LHAAP-58
Work Order: HS21060226

Work Order Comments

• Revision I - This report was revised on July 02, 2021 to include the missing DHC/DHB sub data.

Work Order Comments

• The analysis for RSK/CO2 was subcontracted to ALS Simi Valley, CA. The analysis for VFA subcontracted to ALS Rochester, NY. Final Report attached.

GCMS Volatiles by Method SW8260

Batch ID: R385452

Sample ID: 35AWW20_060321 (HS21060226-03)

• Lowest practical dilution for sample HS2106226-03 due to matrix.

Sample ID: HS21060181-06MS

• MS and MSD are for an unrelated sample

Metals by Method SW6020A

Batch ID: 166919

• The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

Wet Chemistry by Method SW9056

Batch ID: R385033

Sample ID: 35AWW20_060321 (HS21060226-03)

• Sample ran at 2X due to high concentration of Chloride & Sulfate

WetChemistry by Method E415.1

Batch ID: R385048

• The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

WetChemistry by Method SW9056

Batch ID: R385033

Sample ID: 35AWW06_060321 (HS21060226-05)

• Sample ran at 2X due to high concentration of Chloride & Sulfate

Sample ID: 35AWW19_060321 (HS21060226-01)

• Sample ran at 2X due to high concentration of Chloride & Sulfate

Sample ID: 35AWW23_060321 (HS21060226-02)

• Sample ran at 2X due to high concentration of Chloride

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 02-Jul-21

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
Sample ID: 35AWW19_060321
Collection Date: 03-Jun-2021 07:20

ANALYTICAL REPORT
WorkOrder:HS21060226
Lab ID:HS21060226-01
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 17:33
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 17:33
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	ug/L	1	11-Jun-2021 17:33
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 17:33
1,1-Dichloroethane	**0.64**	J	**0.20**	**0.50**	**1.0**	**ug/L**	1	11-Jun-2021 17:33
1,1-Dichloroethene	**2.9**		**0.20**	**0.50**	**1.0**	**ug/L**	1	11-Jun-2021 17:33
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 17:33
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Jun-2021 17:33
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	11-Jun-2021 17:33
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	11-Jun-2021 17:33
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 17:33
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 17:33
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 17:33
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	11-Jun-2021 17:33
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 17:33
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	11-Jun-2021 17:33
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 17:33
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Jun-2021 17:33
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 17:33
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Jun-2021 17:33
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 17:33
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	11-Jun-2021 17:33
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 17:33
2-Hexanone	2.0	U	1.0	2.0	2.0	ug/L	1	11-Jun-2021 17:33
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Jun-2021 17:33
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 17:33
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	ug/L	1	11-Jun-2021 17:33
Acetone	2.0	U	0.40	2.0	2.0	ug/L	1	11-Jun-2021 17:33
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 17:33
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Jun-2021 17:33
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 17:33
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 17:33
Bromoform	1.0	U	0.40	1.0	1.0	ug/L	1	11-Jun-2021 17:33
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	11-Jun-2021 17:33
Carbon disulfide	2.0	U	0.60	2.0	2.0	ug/L	1	11-Jun-2021 17:33
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	ug/L	1	11-Jun-2021 17:33
Chlorobenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 17:33
Chloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 17:33
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 17:33

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 02-Jul-21

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
Sample ID: 35AWW19_060321
Collection Date: 03-Jun-2021 07:20

ANALYTICAL REPORT
WorkOrder:HS21060226
Lab ID:HS21060226-01
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 17:33
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 17:33
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	ug/L	1	11-Jun-2021 17:33
Dibromochloromethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 17:33
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 17:33
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 17:33
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 17:33
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	11-Jun-2021 17:33
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 17:33
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	11-Jun-2021 17:33
Methylene chloride	2.0	U	0.40	2.0	2.0	ug/L	1	11-Jun-2021 17:33
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Jun-2021 17:33
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 17:33
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 17:33
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 17:33
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 17:33
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 17:33
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 17:33
Tetrachloroethene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 17:33
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 17:33
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 17:33
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 17:33
Trichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 17:33
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 17:33
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 17:33
Surr: 1,2-Dichloroethane-d4	*93.1*			**0**	*81-118*	*%REC*	*1*	*11-Jun-2021 17:33*
Surr: 4-Bromofluorobenzene	*96.3*			**0**	*85-114*	*%REC*	*1*	*11-Jun-2021 17:33*
Surr: Dibromofluoromethane	*90.4*			**0**	*80-119*	*%REC*	*1*	*11-Jun-2021 17:33*
Surr: Toluene-d8	*103*			**0**	*89-112*	*%REC*	*1*	*11-Jun-2021 17:33*
TOTAL ORGANIC CARBON BY E415.1		**Method:E415.1**						Analyst: JAC
Organic Carbon, Total	**2.38**		**0.500**	**0.500**	**1.00**	**mg/L**	1	05-Jun-2021 04:01
ANIONS BY SW9056A		**Method:SW9056**						Analyst: YP
Chloride	**746**		**20.0**	**50.0**	**50.0**	**mg/L**	100	04-Jun-2021 14:02
Nitrogen, Nitrate (As N)	0.200	U	0.0600	0.200	0.200	mg/L	2	04-Jun-2021 13:33
Nitrogen, Nitrite (As N)	0.200	U	0.0600	0.200	0.200	mg/L	2	04-Jun-2021 13:33
Sulfate	**857**		**20.0**	**50.0**	**50.0**	**mg/L**	100	04-Jun-2021 14:02
SUBCONTRACT ANALYSIS - DHC/DHB		**Method:NA**						Analyst: SUB
Subcontract Analysis	See Attached		0	0		NA	1	02-Jul-2021 17:44

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 02-Jul-21

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
Sample ID: 35AWW19_060321
Collection Date: 03-Jun-2021 07:20

ANALYTICAL REPORT
WorkOrder:HS21060226
Lab ID:HS21060226-01
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
SUBCONTRACT ANALYSIS - RSK		**Method:NA**						Analyst: SUBCA
Subcontract Analysis	See Attached		0	0		NA	1	01-Jul-2021 09:25
SUBCONTRACT ANALYSIS - VOLATILE FATTY ACIDS		**Method:NA**						Analyst: SUB
Subcontract Analysis	See Attached		0	0		NA	1	25-Jun-2021 17:38

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 02-Jul-21

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
Sample ID: 35AWW23_060321
Collection Date: 03-Jun-2021 08:10

ANALYTICAL REPORT
WorkOrder:HS21060226
Lab ID:HS21060226-02
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 19:18
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 19:18
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	ug/L	1	11-Jun-2021 19:18
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 19:18
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 19:18
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 19:18
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 19:18
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Jun-2021 19:18
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	11-Jun-2021 19:18
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	11-Jun-2021 19:18
1,2,4-Trimethylbenzene	**0.51**	J	**0.30**	**1.0**	**1.0**	**ug/L**	1	11-Jun-2021 19:18
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 19:18
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 19:18
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	11-Jun-2021 19:18
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 19:18
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	11-Jun-2021 19:18
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 19:18
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Jun-2021 19:18
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 19:18
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Jun-2021 19:18
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 19:18
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	11-Jun-2021 19:18
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 19:18
2-Hexanone	2.0	U	1.0	2.0	2.0	ug/L	1	11-Jun-2021 19:18
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Jun-2021 19:18
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 19:18
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	ug/L	1	11-Jun-2021 19:18
Acetone	2.0	U	0.40	2.0	2.0	ug/L	1	11-Jun-2021 19:18
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 19:18
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Jun-2021 19:18
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 19:18
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 19:18
Bromoform	1.0	U	0.40	1.0	1.0	ug/L	1	11-Jun-2021 19:18
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	11-Jun-2021 19:18
Carbon disulfide	2.0	U	0.60	2.0	2.0	ug/L	1	11-Jun-2021 19:18
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	ug/L	1	11-Jun-2021 19:18
Chlorobenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 19:18
Chloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 19:18
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 19:18

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 02-Jul-21

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
Sample ID: 35AWW23_060321
Collection Date: 03-Jun-2021 08:10

ANALYTICAL REPORT
WorkOrder:HS21060226
Lab ID:HS21060226-02
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 19:18
cis-1,2-Dichloroethene	**1.0**		**0.20**	**0.50**	**1.0**	**ug/L**	1	11-Jun-2021 19:18
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	ug/L	1	11-Jun-2021 19:18
Dibromochloromethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 19:18
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 19:18
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 19:18
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 19:18
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	11-Jun-2021 19:18
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 19:18
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	11-Jun-2021 19:18
Methylene chloride	2.0	U	0.40	2.0	2.0	ug/L	1	11-Jun-2021 19:18
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Jun-2021 19:18
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 19:18
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 19:18
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 19:18
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 19:18
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 19:18
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 19:18
Tetrachloroethene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 19:18
Toluene	**14**		**0.20**	**0.50**	**1.0**	**ug/L**	1	11-Jun-2021 19:18
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 19:18
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 19:18
Trichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 19:18
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 19:18
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 19:18
Surr: 1,2-Dichloroethane-d4	*92.4*			**0**	*81-118*	*%REC*	*1*	*11-Jun-2021 19:18*
Surr: 4-Bromofluorobenzene	*97.4*			**0**	*85-114*	*%REC*	*1*	*11-Jun-2021 19:18*
Surr: Dibromofluoromethane	*89.6*			**0**	*80-119*	*%REC*	*1*	*11-Jun-2021 19:18*
Surr: Toluene-d8	*105*			**0**	*89-112*	*%REC*	*1*	*11-Jun-2021 19:18*
TOTAL ORGANIC CARBON BY E415.1		**Method:E415.1**						Analyst: JAC
Organic Carbon, Total	**19.7**		**0.500**	**0.500**	**1.00**	**mg/L**	1	05-Jun-2021 04:15
ANIONS BY SW9056A		**Method:SW9056**						Analyst: YP
Chloride	**846**		**20.0**	**50.0**	**50.0**	**mg/L**	100	04-Jun-2021 14:09
Nitrogen, Nitrate (As N)	0.200	U	0.0600	0.200	0.200	mg/L	2	04-Jun-2021 13:40
Nitrogen, Nitrite (As N)	0.200	U	0.0600	0.200	0.200	mg/L	2	04-Jun-2021 13:40
Sulfate	**0.401**	J	**0.400**	**1.00**	**1.00**	**mg/L**	2	04-Jun-2021 13:40
SUBCONTRACT ANALYSIS - DHC/DHB		**Method:NA**						Analyst: SUB
Subcontract Analysis	See Attached		0	0		NA	1	02-Jul-2021 17:44

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 02-Jul-21

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
Sample ID: 35AWW23_060321
Collection Date: 03-Jun-2021 08:10

ANALYTICAL REPORT
WorkOrder:HS21060226
Lab ID:HS21060226-02
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
SUBCONTRACT ANALYSIS - RSK		**Method:NA**						Analyst: SUBCA
Subcontract Analysis	See Attached		0	0		NA	1	01-Jul-2021 09:25
SUBCONTRACT ANALYSIS - VOLATILE FATTY ACIDS		**Method:NA**						Analyst: SUB
Subcontract Analysis	See Attached		0	0		NA	1	25-Jun-2021 17:38

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 02-Jul-21

Client: Bhate Environmental Associates, Inc. **ANALYTICAL REPORT**
Project: LHAAP-58 WorkOrder:HS21060226
Sample ID: 35AWW20_060321 Lab ID:HS21060226-03
Collection Date: 03-Jun-2021 09:00 Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	10	U	3.0	10	10	ug/L	10	11-Jun-2021 14:45
1,1,1-Trichloroethane	5.0	U	2.0	5.0	10	ug/L	10	11-Jun-2021 14:45
1,1,2,2-Tetrachloroethane	10	U	5.0	10	10	ug/L	10	11-Jun-2021 14:45
1,1,2-Trichloroethane	**73**		**3.0**	**10**	**10**	**ug/L**	10	11-Jun-2021 14:45
1,1-Dichloroethane	**480**		**2.0**	**5.0**	**10**	**ug/L**	10	11-Jun-2021 14:45
1,1-Dichloroethene	**1,600**		**2.0**	**5.0**	**10**	**ug/L**	10	11-Jun-2021 14:45
1,1-Dichloropropene	10	U	3.0	10	10	ug/L	10	11-Jun-2021 14:45
1,2,3-Trichlorobenzene	10	U	4.0	10	10	ug/L	10	11-Jun-2021 14:45
1,2,3-Trichloropropane	10	U	5.0	10	10	ug/L	10	11-Jun-2021 14:45
1,2,4-Trichlorobenzene	10	U	5.0	10	10	ug/L	10	11-Jun-2021 14:45
1,2,4-Trimethylbenzene	10	U	3.0	10	10	ug/L	10	11-Jun-2021 14:45
1,2-Dibromo-3-chloropropane	5.0	U	2.0	5.0	10	ug/L	10	11-Jun-2021 14:45
1,2-Dibromoethane	5.0	U	2.0	5.0	10	ug/L	10	11-Jun-2021 14:45
1,2-Dichlorobenzene	**27**		**5.0**	**10**	**10**	**ug/L**	10	11-Jun-2021 14:45
1,2-Dichloroethane	**17**		**2.0**	**5.0**	**10**	**ug/L**	10	11-Jun-2021 14:45
1,2-Dichloropropane	10	U	5.0	10	10	ug/L	10	11-Jun-2021 14:45
1,3,5-Trimethylbenzene	10	U	3.0	10	10	ug/L	10	11-Jun-2021 14:45
1,3-Dichlorobenzene	10	U	4.0	10	10	ug/L	10	11-Jun-2021 14:45
1,3-Dichloropropane	10	U	3.0	10	10	ug/L	10	11-Jun-2021 14:45
1,4-Dichlorobenzene	10	U	4.0	10	10	ug/L	10	11-Jun-2021 14:45
2,2-Dichloropropane	5.0	U	2.0	5.0	10	ug/L	10	11-Jun-2021 14:45
2-Butanone	10	U	5.0	10	20	ug/L	10	11-Jun-2021 14:45
2-Chlorotoluene	10	U	3.0	10	10	ug/L	10	11-Jun-2021 14:45
2-Hexanone	20	U	10	20	20	ug/L	10	11-Jun-2021 14:45
4-Chlorotoluene	10	U	4.0	10	10	ug/L	10	11-Jun-2021 14:45
4-Isopropyltoluene	10	U	3.0	10	10	ug/L	10	11-Jun-2021 14:45
4-Methyl-2-pentanone	20	U	7.0	20	20	ug/L	10	11-Jun-2021 14:45
Acetone	20	U	4.0	20	20	ug/L	10	11-Jun-2021 14:45
Benzene	**8.9**	J	**2.0**	**5.0**	**10**	**ug/L**	10	11-Jun-2021 14:45
Bromobenzene	10	U	4.0	10	10	ug/L	10	11-Jun-2021 14:45
Bromochloromethane	5.0	U	2.0	5.0	10	ug/L	10	11-Jun-2021 14:45
Bromodichloromethane	5.0	U	2.0	5.0	10	ug/L	10	11-Jun-2021 14:45
Bromoform	10	U	4.0	10	10	ug/L	10	11-Jun-2021 14:45
Bromomethane	10	U	4.0	10	10	ug/L	10	11-Jun-2021 14:45
Carbon disulfide	20	U	6.0	20	20	ug/L	10	11-Jun-2021 14:45
Carbon tetrachloride	10	U	5.0	10	10	ug/L	10	11-Jun-2021 14:45
Chlorobenzene	10	U	3.0	10	10	ug/L	10	11-Jun-2021 14:45
Chloroethane	10	U	3.0	10	10	ug/L	10	11-Jun-2021 14:45
Chloroform	5.0	U	2.0	5.0	10	ug/L	10	11-Jun-2021 14:45

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 02-Jul-21

Client: Bhate Environmental Associates, Inc. **ANALYTICAL REPORT**
Project: LHAAP-58 WorkOrder:HS21060226
Sample ID: 35AWW20_060321 Lab ID:HS21060226-03
Collection Date: 03-Jun-2021 09:00 Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
Chloromethane	5.0	U	2.0	5.0	10	ug/L	10	11-Jun-2021 14:45
cis-1,2-Dichloroethene	**87**		**2.0**	**5.0**	**10**	**ug/L**	10	11-Jun-2021 14:45
cis-1,3-Dichloropropene	5.0	U	1.0	5.0	10	ug/L	10	11-Jun-2021 14:45
Dibromochloromethane	10	U	3.0	10	10	ug/L	10	11-Jun-2021 14:45
Dibromomethane	5.0	U	2.0	5.0	10	ug/L	10	11-Jun-2021 14:45
Dichlorodifluoromethane	10	U	3.0	10	10	ug/L	10	11-Jun-2021 14:45
Ethylbenzene	10	U	3.0	10	10	ug/L	10	11-Jun-2021 14:45
Hexachlorobutadiene	10	U	10	10	10	ug/L	10	11-Jun-2021 14:45
Isopropylbenzene	10	U	3.0	10	10	ug/L	10	11-Jun-2021 14:45
m,p-Xylene	10	U	5.0	10	20	ug/L	10	11-Jun-2021 14:45
Methylene chloride	20	U	4.0	20	20	ug/L	10	11-Jun-2021 14:45
n-Butylbenzene	10	U	4.0	10	10	ug/L	10	11-Jun-2021 14:45
n-Propylbenzene	10	U	3.0	10	10	ug/L	10	11-Jun-2021 14:45
Naphthalene	10	U	3.0	10	10	ug/L	10	11-Jun-2021 14:45
o-Xylene	10	U	3.0	10	10	ug/L	10	11-Jun-2021 14:45
sec-Butylbenzene	10	U	3.0	10	10	ug/L	10	11-Jun-2021 14:45
Styrene	10	U	3.0	10	10	ug/L	10	11-Jun-2021 14:45
tert-Butylbenzene	10	U	3.0	10	10	ug/L	10	11-Jun-2021 14:45
Tetrachloroethene	10	U	3.0	10	10	ug/L	10	11-Jun-2021 14:45
Toluene	5.0	U	2.0	5.0	10	ug/L	10	11-Jun-2021 14:45
trans-1,2-Dichloroethene	5.0	U	2.0	5.0	10	ug/L	10	11-Jun-2021 14:45
trans-1,3-Dichloropropene	5.0	U	2.0	5.0	10	ug/L	10	11-Jun-2021 14:45
Trichloroethene	**190**		**2.0**	**5.0**	**10**	**ug/L**	10	11-Jun-2021 14:45
Trichlorofluoromethane	10	U	3.0	10	10	ug/L	10	11-Jun-2021 14:45
Vinyl chloride	**780**		**2.0**	**5.0**	**10**	**ug/L**	10	11-Jun-2021 14:45
Surr: 1,2-Dichloroethane-d4	*92.9*			**0**	*81-118*	*%REC*	*10*	*11-Jun-2021 14:45*
Surr: 4-Bromofluorobenzene	*97.3*			**0**	*85-114*	*%REC*	*10*	*11-Jun-2021 14:45*
Surr: Dibromofluoromethane	*89.7*			**0**	*80-119*	*%REC*	*10*	*11-Jun-2021 14:45*
Surr: Toluene-d8	*102*			**0**	*89-112*	*%REC*	*10*	*11-Jun-2021 14:45*
METALS BY ICPMS BY SW6020A		**Method:SW6020A**				Prep:SW3010A / 16-Jun-2021		Analyst: JHD
Arsenic	**0.00293**	J	**0.000400**	**0.00100**	**0.00500**	**mg/L**	1	17-Jun-2021 11:58
TOTAL ORGANIC CARBON BY E415.1		**Method:E415.1**						Analyst: JAC
Organic Carbon, Total	**20.5**		**0.500**	**0.500**	**1.00**	**mg/L**	1	05-Jun-2021 04:30
ANIONS BY SW9056A		**Method:SW9056**						Analyst: YP
Chloride	**615**		**20.0**	**50.0**	**50.0**	**mg/L**	100	04-Jun-2021 14:17
Nitrogen, Nitrate (As N)	0.200	U	0.0600	0.200	0.200	mg/L	2	04-Jun-2021 13:47
Nitrogen, Nitrite (As N)	0.200	U	0.0600	0.200	0.200	mg/L	2	04-Jun-2021 13:47
Sulfate	**955**		**20.0**	**50.0**	**50.0**	**mg/L**	100	04-Jun-2021 14:17

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 02-Jul-21

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
Sample ID: 35AWW20_060321
Collection Date: 03-Jun-2021 09:00

ANALYTICAL REPORT
WorkOrder:HS21060226
Lab ID:HS21060226-03
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
SUBCONTRACT ANALYSIS - DHC/DHB		**Method:NA**						Analyst: SUB
Subcontract Analysis	See Attached		0	0		NA	1	02-Jul-2021 17:44
SUBCONTRACT ANALYSIS - RSK		**Method:NA**						Analyst: SUBCA
Subcontract Analysis	See Attached		0	0		NA	1	01-Jul-2021 09:25
SUBCONTRACT ANALYSIS - VOLATILE FATTY ACIDS		**Method:NA**						Analyst: SUB
Subcontract Analysis	See Attached		0	0		NA	1	25-Jun-2021 17:38

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 02-Jul-21

Client: Bhate Environmental Associates, Inc. **ANALYTICAL REPORT**
Project: LHAAP-58 WorkOrder:HS21060226
Sample ID: LHSMW06_060321 Lab ID:HS21060226-04
Collection Date: 03-Jun-2021 09:55 Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 17:54
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 17:54
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	ug/L	1	11-Jun-2021 17:54
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 17:54
1,1-Dichloroethane	**5.3**		**0.20**	**0.50**	**1.0**	**ug/L**	1	11-Jun-2021 17:54
1,1-Dichloroethene	**11**		**0.20**	**0.50**	**1.0**	**ug/L**	1	11-Jun-2021 17:54
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 17:54
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Jun-2021 17:54
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	11-Jun-2021 17:54
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	11-Jun-2021 17:54
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 17:54
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 17:54
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 17:54
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	11-Jun-2021 17:54
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 17:54
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	11-Jun-2021 17:54
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 17:54
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Jun-2021 17:54
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 17:54
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Jun-2021 17:54
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 17:54
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	11-Jun-2021 17:54
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 17:54
2-Hexanone	2.0	U	1.0	2.0	2.0	ug/L	1	11-Jun-2021 17:54
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Jun-2021 17:54
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 17:54
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	ug/L	1	11-Jun-2021 17:54
Acetone	2.0	U	0.40	2.0	2.0	ug/L	1	11-Jun-2021 17:54
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 17:54
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Jun-2021 17:54
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 17:54
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 17:54
Bromoform	1.0	U	0.40	1.0	1.0	ug/L	1	11-Jun-2021 17:54
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	11-Jun-2021 17:54
Carbon disulfide	2.0	U	0.60	2.0	2.0	ug/L	1	11-Jun-2021 17:54
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	ug/L	1	11-Jun-2021 17:54
Chlorobenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 17:54
Chloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 17:54
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 17:54

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 02-Jul-21

Client: Bhate Environmental Associates, Inc. **ANALYTICAL REPORT**
Project: LHAAP-58 WorkOrder:HS21060226
Sample ID: LHSMW06_060321 Lab ID:HS21060226-04
Collection Date: 03-Jun-2021 09:55 Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 17:54
cis-1,2-Dichloroethene	**71**		**0.20**	**0.50**	**1.0**	**ug/L**	1	11-Jun-2021 17:54
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	ug/L	1	11-Jun-2021 17:54
Dibromochloromethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 17:54
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 17:54
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 17:54
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 17:54
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	11-Jun-2021 17:54
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 17:54
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	11-Jun-2021 17:54
Methylene chloride	2.0	U	0.40	2.0	2.0	ug/L	1	11-Jun-2021 17:54
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Jun-2021 17:54
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 17:54
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 17:54
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 17:54
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 17:54
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 17:54
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 17:54
Tetrachloroethene	**2.9**		**0.30**	**1.0**	**1.0**	**ug/L**	1	11-Jun-2021 17:54
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 17:54
trans-1,2-Dichloroethene	**1.2**		**0.20**	**0.50**	**1.0**	**ug/L**	1	11-Jun-2021 17:54
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 17:54
Trichloroethene	**19**		**0.20**	**0.50**	**1.0**	**ug/L**	1	11-Jun-2021 17:54
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 17:54
Vinyl chloride	**3.2**		**0.20**	**0.50**	**1.0**	**ug/L**	1	11-Jun-2021 17:54
Surr: 1,2-Dichloroethane-d4	*92.1*			**0**	*81-118*	*%REC*	*1*	*11-Jun-2021 17:54*
Surr: 4-Bromofluorobenzene	*98.1*			**0**	*85-114*	*%REC*	*1*	*11-Jun-2021 17:54*
Surr: Dibromofluoromethane	*89.9*			**0**	*80-119*	*%REC*	*1*	*11-Jun-2021 17:54*
Surr: Toluene-d8	*103*			**0**	*89-112*	*%REC*	*1*	*11-Jun-2021 17:54*
METALS BY ICPMS BY SW6020A		**Method:SW6020A**				Prep:SW3010A / 16-Jun-2021		Analyst: JHD
Arsenic	**0.000545**	J	**0.000400**	**0.00100**	**0.00500**	**mg/L**	1	17-Jun-2021 12:01

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 02-Jul-21

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
Sample ID: 35AWW06_060321
Collection Date: 03-Jun-2021 10:40

ANALYTICAL REPORT
WorkOrder:HS21060226
Lab ID:HS21060226-05
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 18:15
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 18:15
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	ug/L	1	11-Jun-2021 18:15
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 18:15
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 18:15
1,1-Dichloroethene	**0.90**	J	**0.20**	**0.50**	**1.0**	**ug/L**	1	11-Jun-2021 18:15
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 18:15
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Jun-2021 18:15
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	11-Jun-2021 18:15
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	11-Jun-2021 18:15
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 18:15
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 18:15
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 18:15
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	11-Jun-2021 18:15
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 18:15
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	11-Jun-2021 18:15
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 18:15
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Jun-2021 18:15
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 18:15
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Jun-2021 18:15
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 18:15
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	11-Jun-2021 18:15
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 18:15
2-Hexanone	2.0	U	1.0	2.0	2.0	ug/L	1	11-Jun-2021 18:15
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Jun-2021 18:15
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 18:15
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	ug/L	1	11-Jun-2021 18:15
Acetone	**6.9**		**0.40**	**2.0**	**2.0**	**ug/L**	1	11-Jun-2021 18:15
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 18:15
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Jun-2021 18:15
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 18:15
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 18:15
Bromoform	1.0	U	0.40	1.0	1.0	ug/L	1	11-Jun-2021 18:15
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	11-Jun-2021 18:15
Carbon disulfide	2.0	U	0.60	2.0	2.0	ug/L	1	11-Jun-2021 18:15
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	ug/L	1	11-Jun-2021 18:15
Chlorobenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 18:15
Chloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 18:15
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 18:15

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 02-Jul-21

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
Sample ID: 35AWW06_060321
Collection Date: 03-Jun-2021 10:40

ANALYTICAL REPORT
WorkOrder:HS21060226
Lab ID:HS21060226-05
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 18:15
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 18:15
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	ug/L	1	11-Jun-2021 18:15
Dibromochloromethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 18:15
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 18:15
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 18:15
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 18:15
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	11-Jun-2021 18:15
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 18:15
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	11-Jun-2021 18:15
Methylene chloride	2.0	U	0.40	2.0	2.0	ug/L	1	11-Jun-2021 18:15
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Jun-2021 18:15
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 18:15
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 18:15
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 18:15
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 18:15
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 18:15
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 18:15
Tetrachloroethene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 18:15
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 18:15
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 18:15
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 18:15
Trichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 18:15
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 18:15
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 18:15
Surr: 1,2-Dichloroethane-d4	*94.2*			**0**	*81-118*	*%REC*	*1*	*11-Jun-2021 18:15*
Surr: 4-Bromofluorobenzene	*96.1*			**0**	*85-114*	*%REC*	*1*	*11-Jun-2021 18:15*
Surr: Dibromofluoromethane	*90.1*			**0**	*80-119*	*%REC*	*1*	*11-Jun-2021 18:15*
Surr: Toluene-d8	*106*			**0**	*89-112*	*%REC*	*1*	*11-Jun-2021 18:15*
TOTAL ORGANIC CARBON BY E415.1		**Method:E415.1**						Analyst: JAC
Organic Carbon, Total	**14.4**		**0.500**	**0.500**	**1.00**	**mg/L**	1	05-Jun-2021 04:45
ANIONS BY SW9056A		**Method:SW9056**						Analyst: YP
Chloride	**940**		**20.0**	**50.0**	**50.0**	**mg/L**	100	04-Jun-2021 14:24
Nitrogen, Nitrate (As N)	0.200	U	0.0600	0.200	0.200	mg/L	2	04-Jun-2021 13:55
Nitrogen, Nitrite (As N)	0.200	U	0.0600	0.200	0.200	mg/L	2	04-Jun-2021 13:55
Sulfate	**197**		**20.0**	**50.0**	**50.0**	**mg/L**	100	04-Jun-2021 14:24
SUBCONTRACT ANALYSIS - DHC/DHB		**Method:NA**						Analyst: SUB
Subcontract Analysis	See Attached		0	0		NA	1	02-Jul-2021 17:44

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 02-Jul-21

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
Sample ID: 35AWW06_060321
Collection Date: 03-Jun-2021 10:40

ANALYTICAL REPORT
WorkOrder:HS21060226
Lab ID:HS21060226-05
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
SUBCONTRACT ANALYSIS - RSK		**Method:NA**						Analyst: SUBCA
Subcontract Analysis	See Attached		0	0		NA	1	01-Jul-2021 09:25
SUBCONTRACT ANALYSIS - VOLATILE FATTY ACIDS		**Method:NA**						Analyst: SUB
Subcontract Analysis	See Attached		0	0		NA	1	25-Jun-2021 17:38

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 02-Jul-21

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
Sample ID: 35AWW17_060321
Collection Date: 03-Jun-2021 11:30

ANALYTICAL REPORT
WorkOrder:HS21060226
Lab ID:HS21060226-06
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 18:36
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 18:36
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	ug/L	1	11-Jun-2021 18:36
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 18:36
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 18:36
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 18:36
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 18:36
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Jun-2021 18:36
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	11-Jun-2021 18:36
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	11-Jun-2021 18:36
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 18:36
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 18:36
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 18:36
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	11-Jun-2021 18:36
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 18:36
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	11-Jun-2021 18:36
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 18:36
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Jun-2021 18:36
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 18:36
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Jun-2021 18:36
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 18:36
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	11-Jun-2021 18:36
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 18:36
2-Hexanone	2.0	U	1.0	2.0	2.0	ug/L	1	11-Jun-2021 18:36
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Jun-2021 18:36
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 18:36
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	ug/L	1	11-Jun-2021 18:36
Acetone	2.0	U	0.40	2.0	2.0	ug/L	1	11-Jun-2021 18:36
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 18:36
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Jun-2021 18:36
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 18:36
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 18:36
Bromoform	1.0	U	0.40	1.0	1.0	ug/L	1	11-Jun-2021 18:36
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	11-Jun-2021 18:36
Carbon disulfide	2.0	U	0.60	2.0	2.0	ug/L	1	11-Jun-2021 18:36
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	ug/L	1	11-Jun-2021 18:36
Chlorobenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 18:36
Chloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 18:36
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 18:36

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 02-Jul-21

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
Sample ID: 35AWW17_060321
Collection Date: 03-Jun-2021 11:30

ANALYTICAL REPORT
WorkOrder:HS21060226
Lab ID:HS21060226-06
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 18:36
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 18:36
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	ug/L	1	11-Jun-2021 18:36
Dibromochloromethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 18:36
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 18:36
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 18:36
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 18:36
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	11-Jun-2021 18:36
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 18:36
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	11-Jun-2021 18:36
Methylene chloride	2.0	U	0.40	2.0	2.0	ug/L	1	11-Jun-2021 18:36
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Jun-2021 18:36
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 18:36
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 18:36
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 18:36
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 18:36
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 18:36
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 18:36
Tetrachloroethene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 18:36
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 18:36
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 18:36
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 18:36
Trichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 18:36
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 18:36
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 18:36
Surr: 1,2-Dichloroethane-d4	*92.7*			**0**	*81-118*	*%REC*	*1*	*11-Jun-2021 18:36*
Surr: 4-Bromofluorobenzene	*98.4*			**0**	*85-114*	*%REC*	*1*	*11-Jun-2021 18:36*
Surr: Dibromofluoromethane	*90.7*			**0**	*80-119*	*%REC*	*1*	*11-Jun-2021 18:36*
Surr: Toluene-d8	*103*			**0**	*89-112*	*%REC*	*1*	*11-Jun-2021 18:36*

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 02-Jul-21

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
Sample ID: 35ASW03_060321
Collection Date: 03-Jun-2021 11:45

ANALYTICAL REPORT
WorkOrder:HS21060226
Lab ID:HS21060226-07
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 18:57
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 18:57
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	ug/L	1	11-Jun-2021 18:57
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 18:57
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 18:57
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 18:57
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 18:57
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Jun-2021 18:57
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	11-Jun-2021 18:57
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	11-Jun-2021 18:57
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 18:57
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 18:57
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 18:57
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	11-Jun-2021 18:57
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 18:57
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	11-Jun-2021 18:57
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 18:57
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Jun-2021 18:57
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 18:57
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Jun-2021 18:57
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 18:57
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	11-Jun-2021 18:57
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 18:57
2-Hexanone	2.0	U	1.0	2.0	2.0	ug/L	1	11-Jun-2021 18:57
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Jun-2021 18:57
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 18:57
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	ug/L	1	11-Jun-2021 18:57
Acetone	2.0	U	0.40	2.0	2.0	ug/L	1	11-Jun-2021 18:57
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 18:57
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Jun-2021 18:57
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 18:57
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 18:57
Bromoform	1.0	U	0.40	1.0	1.0	ug/L	1	11-Jun-2021 18:57
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	11-Jun-2021 18:57
Carbon disulfide	2.0	U	0.60	2.0	2.0	ug/L	1	11-Jun-2021 18:57
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	ug/L	1	11-Jun-2021 18:57
Chlorobenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 18:57
Chloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 18:57
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 18:57

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 02-Jul-21

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
Sample ID: 35ASW03_060321
Collection Date: 03-Jun-2021 11:45

ANALYTICAL REPORT
WorkOrder:HS21060226
Lab ID:HS21060226-07
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 18:57
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 18:57
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	ug/L	1	11-Jun-2021 18:57
Dibromochloromethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 18:57
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 18:57
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 18:57
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 18:57
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	11-Jun-2021 18:57
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 18:57
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	11-Jun-2021 18:57
Methylene chloride	2.0	U	0.40	2.0	2.0	ug/L	1	11-Jun-2021 18:57
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Jun-2021 18:57
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 18:57
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 18:57
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 18:57
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 18:57
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 18:57
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 18:57
Tetrachloroethene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 18:57
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 18:57
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 18:57
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 18:57
Trichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 18:57
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 18:57
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 18:57
Surr: 1,2-Dichloroethane-d4	*92.5*			**0**	*81-118*	*%REC*	*1*	*11-Jun-2021 18:57*
Surr: 4-Bromofluorobenzene	*95.4*			**0**	*85-114*	*%REC*	*1*	*11-Jun-2021 18:57*
Surr: Dibromofluoromethane	*89.1*			**0**	*80-119*	*%REC*	*1*	*11-Jun-2021 18:57*
Surr: Toluene-d8	*103*			**0**	*89-112*	*%REC*	*1*	*11-Jun-2021 18:57*

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 02-Jul-21

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
Sample ID: Trip Blank
Collection Date: 03-Jun-2021 00:00

ANALYTICAL REPORT
WorkOrder:HS21060226
Lab ID:HS21060226-08
Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 17:12
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 17:12
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	ug/L	1	11-Jun-2021 17:12
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 17:12
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 17:12
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 17:12
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 17:12
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Jun-2021 17:12
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	11-Jun-2021 17:12
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	11-Jun-2021 17:12
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 17:12
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 17:12
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 17:12
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	11-Jun-2021 17:12
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 17:12
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	11-Jun-2021 17:12
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 17:12
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Jun-2021 17:12
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 17:12
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Jun-2021 17:12
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 17:12
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	11-Jun-2021 17:12
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 17:12
2-Hexanone	2.0	U	1.0	2.0	2.0	ug/L	1	11-Jun-2021 17:12
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Jun-2021 17:12
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 17:12
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	ug/L	1	11-Jun-2021 17:12
Acetone	2.0	U	0.40	2.0	2.0	ug/L	1	11-Jun-2021 17:12
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 17:12
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Jun-2021 17:12
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 17:12
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 17:12
Bromoform	1.0	U	0.40	1.0	1.0	ug/L	1	11-Jun-2021 17:12
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	11-Jun-2021 17:12
Carbon disulfide	2.0	U	0.60	2.0	2.0	ug/L	1	11-Jun-2021 17:12
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	ug/L	1	11-Jun-2021 17:12
Chlorobenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 17:12
Chloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 17:12
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 17:12

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 02-Jul-21

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
Sample ID: Trip Blank
Collection Date: 03-Jun-2021 00:00

ANALYTICAL REPORT
WorkOrder:HS21060226
Lab ID:HS21060226-08
Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 17:12
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 17:12
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	ug/L	1	11-Jun-2021 17:12
Dibromochloromethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 17:12
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 17:12
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 17:12
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 17:12
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	11-Jun-2021 17:12
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 17:12
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	11-Jun-2021 17:12
Methylene chloride	2.0	U	0.40	2.0	2.0	ug/L	1	11-Jun-2021 17:12
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Jun-2021 17:12
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 17:12
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 17:12
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 17:12
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 17:12
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 17:12
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 17:12
Tetrachloroethene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 17:12
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 17:12
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 17:12
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 17:12
Trichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 17:12
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Jun-2021 17:12
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	11-Jun-2021 17:12
Surr: 1,2-Dichloroethane-d4	*94.3*			**0**	*81-118*	*%REC*	*1*	*11-Jun-2021 17:12*
Surr: 4-Bromofluorobenzene	*98.6*			**0**	*85-114*	*%REC*	*1*	*11-Jun-2021 17:12*
Surr: Dibromofluoromethane	*89.9*			**0**	*80-119*	*%REC*	*1*	*11-Jun-2021 17:12*
Surr: Toluene-d8	*103*			**0**	*89-112*	*%REC*	*1*	*11-Jun-2021 17:12*

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

RIGHT SOLUTIONS | RIGHT PARTNER

Weight / Prep Log

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
WorkOrder: HS21060226

Batch ID: 166919 **Start Date:** 16 Jun 2021 10:00 **End Date:** 16 Jun 2021 14:00
Method: WATER - SW3010A **Prep Code:** 3010A

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS21060226-03		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21060226-04		10 (mL)	10 (mL)	1	120 plastic HNO3

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 02-Jul-21

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
WorkOrder: HS21060226

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: 166919 (0)	**Test Name :** METALS BY ICPMS BY SW6020A				**Matrix:** Groundwater	
HS21060226-03	35AWW20_060321	03 Jun 2021 09:00		16 Jun 2021 14:00	17 Jun 2021 11:58	1
HS21060226-04	LHSMW06_060321	03 Jun 2021 09:55		16 Jun 2021 14:00	17 Jun 2021 12:01	1
Batch ID: R385033 (0)	**Test Name :** ANIONS BY SW9056A				**Matrix:** Groundwater	
HS21060226-01	35AWW19_060321	03 Jun 2021 07:20			04 Jun 2021 14:02	100
HS21060226-01	35AWW19_060321	03 Jun 2021 07:20			04 Jun 2021 13:33	2
HS21060226-02	35AWW23_060321	03 Jun 2021 08:10			04 Jun 2021 14:09	100
HS21060226-02	35AWW23_060321	03 Jun 2021 08:10			04 Jun 2021 13:40	2
HS21060226-03	35AWW20_060321	03 Jun 2021 09:00			04 Jun 2021 14:17	100
HS21060226-03	35AWW20_060321	03 Jun 2021 09:00			04 Jun 2021 13:47	2
HS21060226-05	35AWW06_060321	03 Jun 2021 10:40			04 Jun 2021 14:24	100
HS21060226-05	35AWW06_060321	03 Jun 2021 10:40			04 Jun 2021 13:55	2
Batch ID: R385048 (0)	**Test Name :** TOTAL ORGANIC CARBON BY E415.1				**Matrix:** Groundwater	
HS21060226-01	35AWW19_060321	03 Jun 2021 07:20			05 Jun 2021 04:01	1
HS21060226-02	35AWW23_060321	03 Jun 2021 08:10			05 Jun 2021 04:15	1
HS21060226-03	35AWW20_060321	03 Jun 2021 09:00			05 Jun 2021 04:30	1
HS21060226-05	35AWW06_060321	03 Jun 2021 10:40			05 Jun 2021 04:45	1
Batch ID: R385452 (0)	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C				**Matrix:** Water	
HS21060226-08	Trip Blank	03 Jun 2021 00:00			11 Jun 2021 17:12	1
Batch ID: R385452 (0)	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C				**Matrix:** Groundwater	
HS21060226-01	35AWW19_060321	03 Jun 2021 07:20			11 Jun 2021 17:33	1
HS21060226-02	35AWW23_060321	03 Jun 2021 08:10			11 Jun 2021 19:18	1
HS21060226-03	35AWW20_060321	03 Jun 2021 09:00			11 Jun 2021 14:45	10
HS21060226-04	LHSMW06_060321	03 Jun 2021 09:55			11 Jun 2021 17:54	1
HS21060226-05	35AWW06_060321	03 Jun 2021 10:40			11 Jun 2021 18:15	1
HS21060226-06	35AWW17_060321	03 Jun 2021 11:30			11 Jun 2021 18:36	1
HS21060226-07	35ASW03_060321	03 Jun 2021 11:45			11 Jun 2021 18:57	1
Batch ID: R386387 (0)	**Test Name :** SUBCONTRACT ANALYSIS - VOLATILE FATTY ACIDS				**Matrix:** Groundwater	
HS21060226-01	35AWW19_060321	03 Jun 2021 07:20			25 Jun 2021 17:38	1
HS21060226-02	35AWW23_060321	03 Jun 2021 08:10			25 Jun 2021 17:38	1
HS21060226-03	35AWW20_060321	03 Jun 2021 09:00			25 Jun 2021 17:38	1
HS21060226-05	35AWW06_060321	03 Jun 2021 10:40			25 Jun 2021 17:38	1
Batch ID: R386731 (0)	**Test Name :** SUBCONTRACT ANALYSIS - RSK				**Matrix:** Groundwater	
HS21060226-01	35AWW19_060321	03 Jun 2021 07:20			01 Jul 2021 09:25	1
HS21060226-02	35AWW23_060321	03 Jun 2021 08:10			01 Jul 2021 09:25	1
HS21060226-03	35AWW20_060321	03 Jun 2021 09:00			01 Jul 2021 09:25	1
HS21060226-05	35AWW06_060321	03 Jun 2021 10:40			01 Jul 2021 09:25	1

Revision: 1

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 02-Jul-21

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
WorkOrder: HS21060226

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: R386900 (0)	**Test Name :** SUBCONTRACT ANALYSIS - DHC/DHB				**Matrix:** Groundwater	
HS21060226-01	35AWW19_060321	03 Jun 2021 07:20			02 Jul 2021 17:44	1
HS21060226-02	35AWW23_060321	03 Jun 2021 08:10			02 Jul 2021 17:44	1
HS21060226-03	35AWW20_060321	03 Jun 2021 09:00			02 Jul 2021 17:44	1
HS21060226-05	35AWW06_060321	03 Jun 2021 10:40			02 Jul 2021 17:44	1

Revision: 1

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 02-Jul-21

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
WorkOrder: HS21060226

QC BATCH REPORT

Batch ID: 166919 (0) **Instrument: ICPMS06** **Method: METALS BY ICPMS BY SW6020A**

MBLK Sample ID: **MBLK-166919** Units: **mg/L** Analysis Date: **17-Jun-2021 11:22**
Client ID: Run ID: **ICPMS06_385722** SeqNo: **6140506** PrepDate: **16-Jun-2021** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.00100	0.00500								U

LCS Sample ID: **LCS-166919** Units: **mg/L** Analysis Date: **17-Jun-2021 11:24**
Client ID: Run ID: **ICPMS06_385722** SeqNo: **6140507** PrepDate: **16-Jun-2021** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.04696	0.00500	0.05	0	93.9	84 - 116				

MS Sample ID: **HS21060700-02MS** Units: **mg/L** Analysis Date: **17-Jun-2021 11:30**
Client ID: Run ID: **ICPMS06_385722** SeqNo: **6140510** PrepDate: **16-Jun-2021** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.04971	0.00500	0.05	0.000489	98.4	84 - 116				

MSD Sample ID: **HS21060700-02MSD** Units: **mg/L** Analysis Date: **17-Jun-2021 11:32**
Client ID: Run ID: **ICPMS06_385722** SeqNo: **6140511** PrepDate: **16-Jun-2021** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.05209	0.00500	0.05	0.000489	103	84 - 116	0.04971	4.67	20	

PDS Sample ID: **HS21060700-02PDS** Units: **mg/L** Analysis Date: **17-Jun-2021 11:34**
Client ID: Run ID: **ICPMS06_385722** SeqNo: **6140512** PrepDate: **16-Jun-2021** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.1138	0.00500	0.1	0.000489	113	80 - 120				

SD Sample ID: **HS21060700-02SD** Units: **mg/L** Analysis Date: **17-Jun-2021 11:28**
Client ID: Run ID: **ICPMS06_385722** SeqNo: **6140509** PrepDate: **16-Jun-2021** DF: **5**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Arsenic	0.00500	0.0250					0.000489	0	10	U

The following samples were analyzed in this batch: HS21060226-03 HS21060226-04

Revision: 1

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ALS Houston, US Date: 02-Jul-21

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
WorkOrder: HS21060226

QC BATCH REPORT

Batch ID: R385452 (0) **Instrument: VOA6** **Method: VOLATILES ORGANICS BY METHOD 8260C**

MBLK Sample ID: **VBLKW-210611** Units: **ug/L** Analysis Date: **11-Jun-2021 13:20**
Client ID: Run ID: **VOA6_385452** SeqNo: **6134131** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	1.0	1.0								U
1,1,1-Trichloroethane	0.50	1.0								U
1,1,2,2-Tetrachloroethane	1.0	1.0								U
1,1,2-Trichloroethane	1.0	1.0								U
1,1-Dichloroethane	0.50	1.0								U
1,1-Dichloroethene	0.50	1.0								U
1,1-Dichloropropene	1.0	1.0								U
1,2,3-Trichlorobenzene	1.0	1.0								U
1,2,3-Trichloropropane	1.0	1.0								U
1,2,4-Trichlorobenzene	1.0	1.0								U
1,2,4-Trimethylbenzene	1.0	1.0								U
1,2-Dibromo-3-chloropropane	0.50	1.0								U
1,2-Dibromoethane	0.50	1.0								U
1,2-Dichlorobenzene	1.0	1.0								U
1,2-Dichloroethane	0.50	1.0								U
1,2-Dichloropropane	1.0	1.0								U
1,3,5-Trimethylbenzene	1.0	1.0								U
1,3-Dichlorobenzene	1.0	1.0								U
1,3-Dichloropropane	1.0	1.0								U
1,4-Dichlorobenzene	1.0	1.0								U
2,2-Dichloropropane	0.50	1.0								U
2-Butanone	1.0	2.0								U
2-Chlorotoluene	1.0	1.0								U
2-Hexanone	2.0	2.0								U
4-Chlorotoluene	1.0	1.0								U
4-Isopropyltoluene	1.0	1.0								U
4-Methyl-2-pentanone	2.0	2.0								U
Acetone	2.0	2.0								U
Benzene	0.50	1.0								U
Bromobenzene	1.0	1.0								U
Bromochloromethane	0.50	1.0								U
Bromodichloromethane	0.50	1.0								U
Bromoform	1.0	1.0								U
Bromomethane	1.0	1.0								U

Revision: 1

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 02-Jul-21

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
WorkOrder: HS21060226

QC BATCH REPORT

Batch ID: R385452 (0) **Instrument: VOA6** **Method: VOLATILES ORGANICS BY METHOD 8260C**

MBLK Sample ID: **VBLKW-210611** Units: **ug/L** Analysis Date: **11-Jun-2021 13:20**
Client ID: Run ID: **VOA6_385452** SeqNo: **6134131** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Carbon disulfide	2.0	2.0								U
Carbon tetrachloride	1.0	1.0								U
Chlorobenzene	1.0	1.0								U
Chloroethane	1.0	1.0								U
Chloroform	0.50	1.0								U
Chloromethane	0.50	1.0								U
cis-1,2-Dichloroethene	0.50	1.0								U
cis-1,3-Dichloropropene	0.50	1.0								U
Dibromochloromethane	1.0	1.0								U
Dibromomethane	0.50	1.0								U
Dichlorodifluoromethane	1.0	1.0								U
Ethylbenzene	1.0	1.0								U
Hexachlorobutadiene	1.0	1.0								U
Isopropylbenzene	1.0	1.0								U
m,p-Xylene	1.0	2.0								U
Methylene chloride	2.0	2.0								U
Naphthalene	1.0	1.0								U
n-Butylbenzene	1.0	1.0								U
n-Propylbenzene	1.0	1.0								U
o-Xylene	1.0	1.0								U
sec-Butylbenzene	1.0	1.0								U
Styrene	1.0	1.0								U
tert-Butylbenzene	1.0	1.0								U
Tetrachloroethene	1.0	1.0								U
Toluene	0.50	1.0								U
trans-1,2-Dichloroethene	0.50	1.0								U
trans-1,3-Dichloropropene	0.50	1.0								U
Trichloroethene	0.50	1.0								U
Trichlorofluoromethane	1.0	1.0								U
Vinyl chloride	0.50	1.0								U
Surr: 1,2-Dichloroethane-d4	*45.71*	*1.0*	*50*	*0*	*91.4*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*47.77*	*1.0*	*50*	*0*	*95.5*	*85 - 114*				
Surr: Dibromofluoromethane	*44.37*	*1.0*	*50*	*0*	*88.7*	*80 - 119*				
Surr: Toluene-d8	*52.28*	*1.0*	*50*	*0*	*105*	*89 - 112*				

Revision: 1

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 02-Jul-21

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
WorkOrder: HS21060226

QC BATCH REPORT

Batch ID: R385452 (0) **Instrument: VOA6** **Method: VOLATILES ORGANICS BY METHOD 8260C**

LCS Sample ID: **VLCSW-210611** Units: **ug/L** Analysis Date: **11-Jun-2021 12:38**
Client ID: Run ID: **VOA6_385452** SeqNo: **6134130** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	19.62	1.0	20	0	98.1	78 - 124				
1,1,1-Trichloroethane	17.19	1.0	20	0	86.0	74 - 131				
1,1,2,2-Tetrachloroethane	21.35	1.0	20	0	107	71 - 121				
1,1,2-Trichloroethane	19.35	1.0	20	0	96.7	80 - 119				
1,1-Dichloroethane	17.42	1.0	20	0	87.1	77 - 125				
1,1-Dichloroethene	15.79	1.0	20	0	79.0	71 - 131				
1,1-Dichloropropene	18.4	1.0	20	0	92.0	78 - 125				
1,2,3-Trichlorobenzene	24.78	1.0	20	0	124	69 - 129				
1,2,3-Trichloropropane	19.25	1.0	20	0	96.2	73 - 122				
1,2,4-Trichlorobenzene	24.54	1.0	20	0	123	69 - 130				
1,2,4-Trimethylbenzene	19.06	1.0	20	0	95.3	76 - 124				
1,2-Dibromo-3-chloropropane	22.73	1.0	20	0	114	62 - 128				
1,2-Dibromoethane	19.82	1.0	20	0	99.1	77 - 121				
1,2-Dichlorobenzene	19.59	1.0	20	0	98.0	80 - 119				
1,2-Dichloroethane	20.36	1.0	20	0	102	73 - 128				
1,2-Dichloropropane	19.14	1.0	20	0	95.7	78 - 122				
1,3,5-Trimethylbenzene	18.36	1.0	20	0	91.8	75 - 124				
1,3-Dichlorobenzene	19.85	1.0	20	0	99.2	80 - 119				
1,3-Dichloropropane	19.66	1.0	20	0	98.3	80 - 119				
1,4-Dichlorobenzene	19.18	1.0	20	0	95.9	79 - 118				
2,2-Dichloropropane	17.98	1.0	20	0	89.9	60 - 139				
2-Butanone	37.73	2.0	40	0	94.3	56 - 143				
2-Chlorotoluene	19.09	1.0	20	0	95.5	79 - 122				
2-Hexanone	39.3	2.0	40	0	98.3	57 - 139				
4-Chlorotoluene	18.58	1.0	20	0	92.9	78 - 122				
4-Isopropyltoluene	18.23	1.0	20	0	91.2	77 - 127				
4-Methyl-2-pentanone	37.67	2.0	40	0	94.2	67 - 130				
Acetone	34.2	2.0	40	0	85.5	39 - 160				
Benzene	19.31	1.0	20	0	96.6	79 - 120				
Bromobenzene	20.12	1.0	20	0	101	80 - 120				
Bromochloromethane	18.52	1.0	20	0	92.6	78 - 123				
Bromodichloromethane	19.27	1.0	20	0	96.3	79 - 125				
Bromoform	20.22	1.0	20	0	101	66 - 130				
Bromomethane	19.51	1.0	20	0	97.5	53 - 141				

Revision: 1

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 02-Jul-21

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
WorkOrder: HS21060226

QC BATCH REPORT

Batch ID: R385452 (0) **Instrument: VOA6** **Method: VOLATILES ORGANICS BY METHOD 8260C**

LCS Sample ID: **VLCSW-210611** Units: **ug/L** Analysis Date: **11-Jun-2021 12:38**
Client ID: Run ID: **VOA6_385452** SeqNo: **6134130** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Carbon disulfide	32.75	2.0	40	0	81.9	64 - 133				
Carbon tetrachloride	17.83	1.0	20	0	89.1	72 - 136				
Chlorobenzene	18	1.0	20	0	90.0	82 - 118				
Chloroethane	21.47	1.0	20	0	107	60 - 138				
Chloroform	17.85	1.0	20	0	89.2	79 - 124				
Chloromethane	16.94	1.0	20	0	84.7	50 - 139				
cis-1,2-Dichloroethene	18.59	1.0	20	0	93.0	78 - 123				
cis-1,3-Dichloropropene	20.3	1.0	20	0	102	75 - 124				
Dibromochloromethane	20.21	1.0	20	0	101	74 - 126				
Dibromomethane	19.91	1.0	20	0	99.6	79 - 123				
Dichlorodifluoromethane	17.73	1.0	20	0	88.7	32 - 152				
Ethylbenzene	19.79	1.0	20	0	98.9	79 - 121				
Hexachlorobutadiene	24.14	1.0	20	0	121	66 - 134				
Isopropylbenzene	18.19	1.0	20	0	90.9	72 - 131				
m,p-Xylene	37.46	2.0	40	0	93.7	80 - 121				
Methylene chloride	18.95	2.0	20	0	94.8	74 - 124				
Naphthalene	22.28	1.0	20	0	111	61 - 128				
n-Butylbenzene	18.07	1.0	20	0	90.3	75 - 128				
n-Propylbenzene	18.17	1.0	20	0	90.8	76 - 126				
o-Xylene	19.17	1.0	20	0	95.8	78 - 122				
sec-Butylbenzene	17.36	1.0	20	0	86.8	77 - 126				
Styrene	19.33	1.0	20	0	96.7	78 - 123				
tert-Butylbenzene	17.82	1.0	20	0	89.1	78 - 124				
Tetrachloroethene	19.11	1.0	20	0	95.5	74 - 129				
Toluene	18.09	1.0	20	0	90.5	80 - 121				
trans-1,2-Dichloroethene	17.22	1.0	20	0	86.1	75 - 124				
trans-1,3-Dichloropropene	20.22	1.0	20	0	101	73 - 127				
Trichloroethene	19.82	1.0	20	0	99.1	79 - 123				
Trichlorofluoromethane	15.32	1.0	20	0	76.6	65 - 141				
Vinyl chloride	16.4	1.0	20	0	82.0	58 - 137				
Surr: 1,2-Dichloroethane-d4	*50.92*	*1.0*	*50*	*0*	*102*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*49.28*	*1.0*	*50*	*0*	*98.6*	*85 - 114*				
Surr: Dibromofluoromethane	*48.34*	*1.0*	*50*	*0*	*96.7*	*80 - 119*				
Surr: Toluene-d8	*46.79*	*1.0*	*50*	*0*	*93.6*	*89 - 112*				

Revision: 1

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 02-Jul-21

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
WorkOrder: HS21060226

QC BATCH REPORT

Batch ID: R385452 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS21060181-06MS** Units: **ug/L** Analysis Date: **11-Jun-2021 15:06**
Client ID: Run ID: **VOA6_385452** SeqNo: **6134136** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	18.86	1.0	20	0	94.3	78 - 124				
1,1,1-Trichloroethane	16.78	1.0	20	0	83.9	74 - 131				
1,1,2,2-Tetrachloroethane	19.99	1.0	20	0	99.9	71 - 121				
1,1,2-Trichloroethane	18.33	1.0	20	0	91.6	80 - 119				
1,1-Dichloroethane	16.09	1.0	20	0.4628	78.1	77 - 125				
1,1-Dichloroethene	15.81	1.0	20	0	79.0	71 - 131				
1,1-Dichloropropene	18.91	1.0	20	0	94.6	78 - 125				
1,2,3-Trichlorobenzene	21.94	1.0	20	0	110	69 - 129				
1,2,3-Trichloropropane	18.52	1.0	20	0	92.6	73 - 122				
1,2,4-Trichlorobenzene	22.2	1.0	20	0	111	69 - 130				
1,2,4-Trimethylbenzene	18.73	1.0	20	0	93.7	76 - 124				
1,2-Dibromo-3-chloropropane	21.39	1.0	20	0	107	62 - 128				
1,2-Dibromoethane	18.18	1.0	20	0	90.9	77 - 121				
1,2-Dichlorobenzene	18.44	1.0	20	0	92.2	80 - 119				
1,2-Dichloroethane	17.91	1.0	20	0	89.5	73 - 128				
1,2-Dichloropropane	17.69	1.0	20	0	88.4	78 - 122				
1,3,5-Trimethylbenzene	19.14	1.0	20	0	95.7	75 - 124				
1,3-Dichlorobenzene	19.04	1.0	20	0	95.2	80 - 119				
1,3-Dichloropropane	18.31	1.0	20	0	91.6	80 - 119				
1,4-Dichlorobenzene	18.42	1.0	20	0	92.1	79 - 118				
2,2-Dichloropropane	16.91	1.0	20	0	84.6	60 - 139				
2-Butanone	31.43	2.0	40	0	78.6	56 - 143				
2-Chlorotoluene	19.2	1.0	20	0	96.0	79 - 122				
2-Hexanone	39.18	2.0	40	0	98.0	57 - 139				
4-Chlorotoluene	18.46	1.0	20	0	92.3	78 - 122				
4-Isopropyltoluene	19.84	1.0	20	0	99.2	77 - 127				
4-Methyl-2-pentanone	37.09	2.0	40	0	92.7	67 - 130				
Acetone	27.14	2.0	40	0	67.9	39 - 160				
Benzene	17.84	1.0	20	0	89.2	79 - 120				
Bromobenzene	19.52	1.0	20	0	97.6	80 - 120				
Bromochloromethane	16	1.0	20	0	80.0	78 - 123				
Bromodichloromethane	17.55	1.0	20	0	87.8	79 - 125				
Bromoform	18.88	1.0	20	0	94.4	66 - 130				
Bromomethane	16.43	1.0	20	0	82.1	53 - 141				

Revision: 1

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 02-Jul-21

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
WorkOrder: HS21060226

QC BATCH REPORT

Batch ID: R385452 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS21060181-06MS** Units: **ug/L** Analysis Date: **11-Jun-2021 15:06**
Client ID: Run ID: **VOA6_385452** SeqNo: **6134136** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Carbon disulfide	29.31	2.0	40	0	73.3	64 - 133				
Carbon tetrachloride	19.99	1.0	20	0	99.9	72 - 136				
Chlorobenzene	17.7	1.0	20	0	88.5	82 - 118				
Chloroethane	19.34	1.0	20	0	96.7	60 - 138				
Chloroform	15.59	1.0	20	0	77.9	79 - 124				S
Chloromethane	10.21	1.0	20	0	51.1	50 - 139				
cis-1,2-Dichloroethene	16.23	1.0	20	0	81.1	78 - 123				
cis-1,3-Dichloropropene	18.26	1.0	20	0	91.3	75 - 124				
Dibromochloromethane	18.63	1.0	20	0	93.1	74 - 126				
Dibromomethane	17.26	1.0	20	0	86.3	79 - 123				
Dichlorodifluoromethane	10.45	1.0	20	0	52.2	32 - 152				
Ethylbenzene	20	1.0	20	0	100	79 - 121				
Hexachlorobutadiene	23.92	1.0	20	0	120	66 - 134				
Isopropylbenzene	19.77	1.0	20	0	98.9	72 - 131				
m,p-Xylene	37.79	2.0	40	0	94.5	80 - 121				
Methylene chloride	15.4	2.0	20	0	77.0	74 - 124				
Naphthalene	20.42	1.0	20	0	102	61 - 128				
n-Butylbenzene	19.81	1.0	20	0	99.1	75 - 128				
n-Propylbenzene	19.68	1.0	20	0	98.4	76 - 126				
o-Xylene	18.54	1.0	20	0	92.7	78 - 122				
sec-Butylbenzene	20.05	1.0	20	0	100	77 - 126				
Styrene	18.39	1.0	20	0	91.9	78 - 123				
tert-Butylbenzene	19.47	1.0	20	0	97.4	78 - 124				
Tetrachloroethene	21.42	1.0	20	0	107	74 - 129				
Toluene	17.91	1.0	20	0	89.6	80 - 121				
trans-1,2-Dichloroethene	15.55	1.0	20	0	77.7	75 - 124				
trans-1,3-Dichloropropene	18.52	1.0	20	0	92.6	73 - 127				
Trichloroethene	19.89	1.0	20	0	99.4	79 - 123				
Trichlorofluoromethane	15.45	1.0	20	0	77.2	65 - 141				
Vinyl chloride	13.89	1.0	20	0	69.4	58 - 137				
Surr: 1,2-Dichloroethane-d4	*46.25*	*1.0*	*50*	*0*	*92.5*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*50.1*	*1.0*	*50*	*0*	*100*	*85 - 114*				
Surr: Dibromofluoromethane	*45.04*	*1.0*	*50*	*0*	*90.1*	*80 - 119*				
Surr: Toluene-d8	*50.2*	*1.0*	*50*	*0*	*100*	*89 - 112*				

Revision: 1

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 02-Jul-21

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
WorkOrder: HS21060226

QC BATCH REPORT

Batch ID: R385452 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS21060181-06MSD** Units: **ug/L** Analysis Date: **11-Jun-2021 15:27**
Client ID: Run ID: **VOA6_385452** SeqNo: **6134137** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	18.4	1.0	20	0	92.0	78 - 124	18.86	2.49	20	
1,1,1-Trichloroethane	16.42	1.0	20	0	82.1	74 - 131	16.78	2.19	20	
1,1,2,2-Tetrachloroethane	21.73	1.0	20	0	109	71 - 121	19.99	8.34	20	
1,1,2-Trichloroethane	18.6	1.0	20	0	93.0	80 - 119	18.33	1.49	20	
1,1-Dichloroethane	15.96	1.0	20	0.4628	77.5	77 - 125	16.09	0.834	20	
1,1-Dichloroethene	15.13	1.0	20	0	75.6	71 - 131	15.81	4.41	20	
1,1-Dichloropropene	18.55	1.0	20	0	92.7	78 - 125	18.91	1.94	20	
1,2,3-Trichlorobenzene	25.65	1.0	20	0	128	69 - 129	21.94	15.6	20	
1,2,3-Trichloropropane	20.51	1.0	20	0	103	73 - 122	18.52	10.2	20	
1,2,4-Trichlorobenzene	25.16	1.0	20	0	126	69 - 130	22.2	12.5	20	
1,2,4-Trimethylbenzene	19.94	1.0	20	0	99.7	76 - 124	18.73	6.26	20	
1,2-Dibromo-3-chloropropane	24.36	1.0	20	0	122	62 - 128	21.39	13	20	
1,2-Dibromoethane	18.88	1.0	20	0	94.4	77 - 121	18.18	3.78	20	
1,2-Dichlorobenzene	20.23	1.0	20	0	101	80 - 119	18.44	9.27	20	
1,2-Dichloroethane	17.85	1.0	20	0	89.2	73 - 128	17.91	0.321	20	
1,2-Dichloropropane	17.25	1.0	20	0	86.2	78 - 122	17.69	2.52	20	
1,3,5-Trimethylbenzene	20.2	1.0	20	0	101	75 - 124	19.14	5.41	20	
1,3-Dichlorobenzene	20.44	1.0	20	0	102	80 - 119	19.04	7.05	20	
1,3-Dichloropropane	18.51	1.0	20	0	92.6	80 - 119	18.31	1.09	20	
1,4-Dichlorobenzene	19.9	1.0	20	0	99.5	79 - 118	18.42	7.73	20	
2,2-Dichloropropane	16.49	1.0	20	0	82.5	60 - 139	16.91	2.5	20	
2-Butanone	31.29	2.0	40	0	78.2	56 - 143	31.43	0.441	20	
2-Chlorotoluene	20.32	1.0	20	0	102	79 - 122	19.2	5.64	20	
2-Hexanone	41.57	2.0	40	0	104	57 - 139	39.18	5.92	20	
4-Chlorotoluene	19.67	1.0	20	0	98.3	78 - 122	18.46	6.33	20	
4-Isopropyltoluene	21.2	1.0	20	0	106	77 - 127	19.84	6.65	20	
4-Methyl-2-pentanone	39.32	2.0	40	0	98.3	67 - 130	37.09	5.82	20	
Acetone	27.2	2.0	40	0	68.0	39 - 160	27.14	0.194	20	
Benzene	17.42	1.0	20	0	87.1	79 - 120	17.84	2.44	20	
Bromobenzene	20.44	1.0	20	0	102	80 - 120	19.52	4.62	20	
Bromochloromethane	15.93	1.0	20	0	79.6	78 - 123	16	0.475	20	
Bromodichloromethane	17.22	1.0	20	0	86.1	79 - 125	17.55	1.93	20	
Bromoform	19.32	1.0	20	0	96.6	66 - 130	18.88	2.31	20	
Bromomethane	15.41	1.0	20	0	77.1	53 - 141	16.43	6.4	20	

Revision: 1

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 02-Jul-21

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
WorkOrder: HS21060226

QC BATCH REPORT

Batch ID: R385452 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS21060181-06MSD** Units: **ug/L** Analysis Date: **11-Jun-2021 15:27**
Client ID: Run ID: **VOA6_385452** SeqNo: **6134137** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Carbon disulfide	28.87	2.0	40	0	72.2	64 - 133	29.31	1.51	20	
Carbon tetrachloride	19.1	1.0	20	0	95.5	72 - 136	19.99	4.52	20	
Chlorobenzene	17.83	1.0	20	0	89.2	82 - 118	17.7	0.739	20	
Chloroethane	19.85	1.0	20	0	99.2	60 - 138	19.34	2.56	20	
Chloroform	15.51	1.0	20	0	77.5	79 - 124	15.59	0.535	20	S
Chloromethane	10.3	1.0	20	0	51.5	50 - 139	10.21	0.805	20	
cis-1,2-Dichloroethene	15.86	1.0	20	0	79.3	78 - 123	16.23	2.27	20	
cis-1,3-Dichloropropene	18.01	1.0	20	0	90.0	75 - 124	18.26	1.4	20	
Dibromochloromethane	19.08	1.0	20	0	95.4	74 - 126	18.63	2.41	20	
Dibromomethane	17.8	1.0	20	0	89.0	79 - 123	17.26	3.06	20	
Dichlorodifluoromethane	9.969	1.0	20	0	49.8	32 - 152	10.45	4.69	20	
Ethylbenzene	19.52	1.0	20	0	97.6	79 - 121	20	2.44	20	
Hexachlorobutadiene	25.68	1.0	20	0	128	66 - 134	23.92	7.12	20	
Isopropylbenzene	19.65	1.0	20	0	98.2	72 - 131	19.77	0.614	20	
m,p-Xylene	37.83	2.0	40	0	94.6	80 - 121	37.79	0.114	20	
Methylene chloride	15.4	2.0	20	0	77.0	74 - 124	15.4	0.0377	20	
Naphthalene	25.54	1.0	20	0	128	61 - 128	20.42	22.3	20	R
n-Butylbenzene	21.41	1.0	20	0	107	75 - 128	19.81	7.76	20	
n-Propylbenzene	20.55	1.0	20	0	103	76 - 126	19.68	4.3	20	
o-Xylene	18.51	1.0	20	0	92.5	78 - 122	18.54	0.138	20	
sec-Butylbenzene	21.2	1.0	20	0	106	77 - 126	20.05	5.57	20	
Styrene	18.66	1.0	20	0	93.3	78 - 123	18.39	1.46	20	
tert-Butylbenzene	20.89	1.0	20	0	104	78 - 124	19.47	7.02	20	
Tetrachloroethene	21.29	1.0	20	0	106	74 - 129	21.42	0.591	20	
Toluene	17.92	1.0	20	0	89.6	80 - 121	17.91	0.0683	20	
trans-1,2-Dichloroethene	15.16	1.0	20	0	75.8	75 - 124	15.55	2.51	20	
trans-1,3-Dichloropropene	18.37	1.0	20	0	91.8	73 - 127	18.52	0.798	20	
Trichloroethene	19.44	1.0	20	0	97.2	79 - 123	19.89	2.26	20	
Trichlorofluoromethane	14.69	1.0	20	0	73.5	65 - 141	15.45	4.98	20	
Vinyl chloride	13.1	1.0	20	0	65.5	58 - 137	13.89	5.83	20	
Surr: 1,2-Dichloroethane-d4	*45.56*	*1.0*	*50*	*0*	*91.1*	*81 - 118*	*46.25*	*1.5*	*20*	
Surr: 4-Bromofluorobenzene	*48.67*	*1.0*	*50*	*0*	*97.3*	*85 - 114*	*50.1*	*2.9*	*20*	
Surr: Dibromofluoromethane	*45.03*	*1.0*	*50*	*0*	*90.1*	*80 - 119*	*45.04*	*0.0349*	*20*	
Surr: Toluene-d8	*50.9*	*1.0*	*50*	*0*	*102*	*89 - 112*	*50.2*	*1.37*	*20*	

Revision: 1

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 02-Jul-21

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
WorkOrder: HS21060226

QC BATCH REPORT

Batch ID: R385452 (0)	Instrument: VOA6	Method: VOLATILES ORGANICS BY METHOD 8260C

The following samples were analyzed in this batch:

HS21060226-01	HS21060226-02	HS21060226-03	HS21060226-04
HS21060226-05	HS21060226-06	HS21060226-07	HS21060226-08

ALS Houston, US Date: 02-Jul-21

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
WorkOrder: HS21060226

QC BATCH REPORT

Batch ID: R385033 (0) **Instrument: ICS-Integrion** **Method: ANIONS BY SW9056A**

MBLK Sample ID: **MBLK** Units: **mg/L** Analysis Date: **04-Jun-2021 11:25**
Client ID: Run ID: **ICS-Integrion_385033** SeqNo: **6124234** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	0.500	0.500								U
Nitrogen, Nitrate (As N)	0.100	0.100								U
Nitrogen, Nitrite (As N)	0.100	0.100								U
Sulfate	0.500	0.500								U

LCS Sample ID: **LCS** Units: **mg/L** Analysis Date: **04-Jun-2021 11:32**
Client ID: Run ID: **ICS-Integrion_385033** SeqNo: **6124235** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	19.5	0.500	20	0	97.5	80 - 120				
Nitrogen, Nitrate (As N)	3.711	0.100	4	0	92.8	80 - 120				
Nitrogen, Nitrite (As N)	4.266	0.100	4	0	107	80 - 120				
Sulfate	19.45	0.500	20	0	97.2	80 - 120				

MS Sample ID: **HS21060226-05MS** Units: **mg/L** Analysis Date: **04-Jun-2021 14:32**
Client ID: **35AWW06_060321** Run ID: **ICS-Integrion_385033** SeqNo: **6124246** PrepDate: DF: **100**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	1946	50.0	1000	940.1	101	80 - 120				
Nitrogen, Nitrate (As N)	202.7	10.0	200	0	101	80 - 120				
Nitrogen, Nitrite (As N)	225.8	10.0	200	0	113	80 - 120				
Sulfate	1215	50.0	1000	197	102	80 - 120				

MS Sample ID: **HS21060222-01MS** Units: **mg/L** Analysis Date: **04-Jun-2021 15:33**
Client ID: Run ID: **ICS-Integrion_385033** SeqNo: **6124253** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	35.46	0.500	10	26.62	88.5	80 - 120				
Nitrogen, Nitrate (As N)	3.918	0.100	2	1.995	96.1	80 - 120				
Nitrogen, Nitrite (As N)	2.203	0.100	2	0.1352	103	80 - 120				
Sulfate	40.47	0.500	10	32.24	82.4	80 - 120				

Revision: 1

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 02-Jul-21

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
WorkOrder: HS21060226

QC BATCH REPORT

Batch ID: R385033 (0) **Instrument: ICS-Integrion** **Method: ANIONS BY SW9056A**

MSD Sample ID: **HS21060226-05MSD** Units: **mg/L** Analysis Date: **04-Jun-2021 14:39**
Client ID: **35AWW06_060321** Run ID: **ICS-Integrion_385033** SeqNo: **6124247** PrepDate: DF: **100**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	1910	50.0	1000	940.1	97.0	80 - 120	1946	1.86	20	
Nitrogen, Nitrate (As N)	198.9	10.0	200	0	99.4	80 - 120	202.7	1.9	20	
Nitrogen, Nitrite (As N)	221.6	10.0	200	0	111	80 - 120	225.8	1.88	20	
Sulfate	1178	50.0	1000	197	98.1	80 - 120	1215	3.08	20	

MSD Sample ID: **HS21060222-01MSD** Units: **mg/L** Analysis Date: **04-Jun-2021 15:40**
Client ID: Run ID: **ICS-Integrion_385033** SeqNo: **6124254** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	36.28	0.500	10	26.62	96.7	80 - 120	35.46	2.28	20	
Nitrogen, Nitrate (As N)	4.026	0.100	2	1.995	102	80 - 120	3.918	2.73	20	
Nitrogen, Nitrite (As N)	2.252	0.100	2	0.1352	106	80 - 120	2.203	2.19	20	
Sulfate	41.73	0.500	10	32.24	94.9	80 - 120	40.47	3.05	20	

The following samples were analyzed in this batch: HS21060226-01 HS21060226-02 HS21060226-03 HS21060226-05

Revision: 1

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 02-Jul-21

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
WorkOrder: HS21060226

QC BATCH REPORT

Batch ID: R385048 (0) **Instrument: TOC_04** **Method: TOTAL ORGANIC CARBON BY E415.1**

MBLK Sample ID: **MBLK3-06042021** Units: **mg/L** Analysis Date: **05-Jun-2021 01:21**
Client ID: Run ID: **TOC_04_385048** SeqNo: **6124564** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	0.500	1.00								U

LCS Sample ID: **LCS3-06042021** Units: **mg/L** Analysis Date: **05-Jun-2021 01:33**
Client ID: Run ID: **TOC_04_385048** SeqNo: **6124565** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	10.96	1.00	10	0	110	85 - 115				

LCSD Sample ID: **LCSD3-06042021** Units: **mg/L** Analysis Date: **05-Jun-2021 01:45**
Client ID: Run ID: **TOC_04_385048** SeqNo: **6124566** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	10.84	1.00	10	0	108	85 - 115	10.96	1.1	20	

MS Sample ID: **HS21060181-12MS** Units: **mg/L** Analysis Date: **05-Jun-2021 02:12**
Client ID: Run ID: **TOC_04_385048** SeqNo: **6124568** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	19.24	1.00	10	7.497	117	80 - 120				

The following samples were analyzed in this batch: HS21060226-01 HS21060226-02 HS21060226-03 HS21060226-05

Revision: 1

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 02-Jul-21

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
WorkOrder: **HS21060226**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitaion Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

Unit Reported	Description
mg/L	Milligrams per Liter

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CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	21-022-0	26-Mar-2022
Dept of Defense	PJLA L20-507-R2	22-Dec-2021
Illinois	2000322021-7	09-May-2022
Kansas	E-10352 2020-2021	31-Jul-2021
Kentucky	123043, 2021-2022	30-Apr-2022
Louisiana	03087, 2021-2022	30-Jun-2022
North Carolina	624-2021	31-Dec-2021
Oklahoma	2020-165	31-Aug-2021
Texas	T104704231-21-27	30-Apr-2022
Utah	TX026932021-10	31-Jul-2021

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 02-Jul-21

Client: Bhate Environmental Associates, Inc.
Project: LHAAP-58
Work Order: HS21060226

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS21060226-01	35AWW19_060321	Login	6/4/2021 11:10:26 AM	JML	WET104
HS21060226-01	35AWW19_060321	Login	6/4/2021 11:10:26 AM	JML	VOA122
HS21060226-01	35AWW19_060321	Login	6/4/2021 11:10:26 AM	JML	WET104
HS21060226-01	35AWW19_060321	Login	6/4/2021 11:10:26 AM	JML	Sub
HS21060226-02	35AWW23_060321	Login	6/4/2021 11:10:40 AM	JML	WET104
HS21060226-02	35AWW23_060321	Login	6/4/2021 11:10:40 AM	JML	VOA122
HS21060226-02	35AWW23_060321	Login	6/4/2021 11:10:40 AM	JML	WET104
HS21060226-02	35AWW23_060321	Login	6/4/2021 11:10:40 AM	JML	Sub
HS21060226-03	35AWW20_060321	Login	6/4/2021 11:14:56 AM	JML	MET016
HS21060226-03	35AWW20_060321	Login	6/4/2021 11:14:56 AM	JML	WET104
HS21060226-03	35AWW20_060321	Login	6/4/2021 11:14:56 AM	JML	VOA122
HS21060226-03	35AWW20_060321	Login	6/4/2021 11:14:56 AM	JML	WET104
HS21060226-03	35AWW20_060321	Login	6/4/2021 11:14:56 AM	JML	Sub
HS21060226-04	LHSMW06_060321	Login	6/4/2021 11:21:33 AM	JML	MET016
HS21060226-04	LHSMW06_060321	Login	6/4/2021 11:21:33 AM	JML	VOA122
HS21060226-05	35AWW06_060321	Login	6/4/2021 11:28:32 AM	JML	WET104
HS21060226-05	35AWW06_060321	Login	6/4/2021 11:28:32 AM	JML	VOA122
HS21060226-05	35AWW06_060321	Login	6/4/2021 11:28:32 AM	JML	WET104
HS21060226-05	35AWW06_060321	Login	6/4/2021 11:28:32 AM	JML	Sub
HS21060226-06	35AWW17_060321	Login	6/4/2021 11:29:08 AM	JML	VOA122
HS21060226-07	35ASW03_060321	Login	6/4/2021 11:29:48 AM	JML	VOA122
HS21060226-08	Trip Blank	Login	6/4/2021 11:30:19 AM	JML	VOA122

Revision:1

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 02-Jul-21

Sample Receipt Checklist

Work Order ID: HS21060226 **Date/Time Received:** **04-Jun-2021 09:50**

Client Name: Bhate Environmental **Received by:** **Jared R. Makan**

Completed By:	/S/ Paresh M. Giga	04-Jun-2021 11:31	**Reviewed by:**	/S/ Corey Grandits	04-Jun-2021 13:33
	eSignature	Date/Time		eSignature	Date/Time

Matrices: **GW/Water** Carrier name: **FedEx Priority Overnight**

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
VOA/TX1005/TX1006 Solids in hermetically sealed vials?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	1 Page(s)
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	COC IDs:none
Samplers name present on COC?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	

Temperature(s)/Thermometer(s):	1.3C U/C	IR31
Cooler(s)/Kit(s):	45648	
Date/Time sample(s) sent to storage:	6/4/2021 11:50	

Water - VOA vials have zero headspace?	Yes ☑	No ☐	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☑	No ☐	N/A ☐
pH adjusted?	Yes ☐	No ☑	N/A ☐
pH adjusted by:			

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:

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bhate

1608 13th Avenue South, Suite 300
Birmingham Alabama 35205
Tel: 205-918-4000
Fax: 205-918-4050

Chain of Custody and Analytical Request

Page: ____ of ____

Project/Phase No: NWO1312.0150

COC Number(1): ____

LIMS Number: ____

Facility/Base I.D.: LHAAP

Project/Site Name: LHAAP / Site 58

Client Name:

Collected by: Scott Beesinger

Field Sample ID (10 Characters Max)	Date Collected (dd-mmm-yyyy)	Time Collected (Military) (hhmm)	Sample Depth (beginning - ending)	SA Code (2)	Sample Number (3)	Sample Matrix (4)	Number of containers	VOC	MEE	TOC	Carbon Dioxide	Anions	Arsenic	Ambient Blank Lot Control Number	Equipment Blank Lot Control Number	Trip Blank Lot Control Number	Cooler ID
35AWW19_060321	03 Jun 2021	0720	-	N		WG	11	X	X	X	X	X					
35AWW23_060321	03 Jun 2021	0810	-	N		WG	11	X	X	X	X	X					
35AWW20_060321	03 Jun 2021	0900	-	N		WG	12	X	X	X	X	X	X				
LHSMW06_060321	03 Jun 2021	0955		N		WG	4	X					X				
35AWW06_060321	03 Jun 2021	1040		N		WG	11	X	X	X	X	X					
35AWW17_060321	03 Jun 2021	1130	-	N		WG	3	X									
35ASW03_060321	03 Jun 2021	1145	-	N		WG	3	X									
Trip Blank	03 Jun 2021		-	TB		W	2	X									
			-														
			-														
			-														

Sample Analysis Requested (5) | Quality Assurance Samples (6)

HS21060226

Bhate Environmental Associates, Inc.
LHAAP-58

COMMENTS:

STANDARD TAT Cooler 45648 11C31
Temp 1.3°C COC

Custody Transfers Prior to Receipt by Laboratory

Relinquished by (Signed)	Date	Time	Received by (signed)	Date	Time
1. Scott Beesinger	6/3/21	1430	1. J. Mnemni	6/4/21	09:50
2.			2.		
3.			3.		

Sample Delivery Details / Laboratory Receipt

Delivered Directly to Lab: ____ Shipped No.:

Method of Shipment: ____

Fed Ex ____ Airbill Number:

Analytical Lab: ALS 10450 Stanfiff Rd, Suite 210 Houston, TX 77099 (281) 530-5656

ATTN: SONIA WEST Lab Recipient: Delivery Date/Time:

1.) Chain of Custody Number = date collected + custody number (e.g. 09-02-1999-01)

2.) Sample Type (SA) Codes: N = Normal Sample, TB = Trip Blank (-t) Sample, FD = Field Duplicate (-a) Samples, FR = Field Replicate (-b) Samples, EB = Equipment Blank (-d) Samples, MS = Matrix Spike, SD = Matrix Spike Duplicate, AB = Ambient Blank (-e)

3.) Sample Number: Unique sample number collected from a particular location per day. (e.g. Groundwater sample collected from MW-1 on 10/10/99 = 01, if sampled again on 10/10/99 = 02, etc.)

4.) Matrix Codes: GS = Soil Gas, WG = Groundwater, WS = Surface Water, SO = Soil, SE = Sediment, SL = Sludge, SS = Surface Soil Samples, WQ = Aqueous Blank Samples (trip, equipment, ambient, etc), SQ = Soil Blanks

5.) Sample Analysis Requested: Analytical method requested and number of containers provided for each.

6.) Quality assurance samples are assigned by date (ddmmyy) and the sample number associated with the sample (01, 02, etc) (e.g. Equipment blank collected in association with MW-1 on 10/10/99 will be designated 10109901 in the Equipment Blank Lot Control

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ALS
10450 Stancliff Rd., Suite 210
Houston, Texas 77099
Tel. +1 281 530 5656
Fax. +1 281 530 5887

45648

CUSTODY SEAL

Date: 6/3/21 Time: 1730
Name: Sergio Be
Company: BHATE

Seal Broke:
Date: 06/04/21

45648 JUN 04 2021

45648

ORIGIN ID:SGRA (903) 930-6199
SCOTT BEESINER
BHATE ENVIRONMENTAL ASSOCIATES
1203-B EAST GRAND AVE. PMB202

MARSHALL, TX 75670
UNITED STATES US

SHIP DATE: 21MAY21
ACTWGT: 1.00 LB MAN
CAD: 0221247/CAFE3409
DIMS: 26x14x14 IN

TO **SHIPPING DEPT**
ALS LABORATORY GROUP
10450 STANCLIFF RD
SUITE 210
HOUSTON TX 77099
(281) 530-5656
REF: LHAAP-BO 78338-RJ

RMA:

FedEx Express

FedEx
TRK# 0221 9473 0843 8842

FRI - 04 JUN 10:30A
PRIORITY OVERNIGHT

AB SGRA

77099
TX-US IAH

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June 22, 2021 Service Request No:R2105466

Ragen Giga
ALS Environmental - US
10450 Stancliff Rd Suite 210
Houston, TX 77099

Laboratory Results for: LHAAP / Site 58

Dear Ragen,

Enclosed are the results of the sample(s) submitted to our laboratory June 04, 2021
For your reference, these analyses have been assigned our service request number **R2105466.**

All testing was performed according to our laboratory's quality assurance program and met the requirements of the TNI standards except as noted in the case narrative report. Any testing not included in the lab's accreditation is identified on a Non-Certified Analytes report. All results are intended to be considered in their entirety. ALS Environmental is not responsible for use of less than the complete report. Results apply only to the individual samples submitted to the lab for analysis, as listed in the report. The measurement uncertainty of the results included in this report is within that expected when using the prescribed method(s), and represented by Laboratory Control Sample control limits. Any events, such as QC failures or Holding Time exceedances, which may add to the uncertainty are explained in the report narrative or are flagged with qualifiers. The flags are explained in the Report Qualifiers and Definitions page of this report.

Please contact me if you have any questions. My extension is 7471. You may also contact me via email at Brady.Kalkman@alsglobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Brady Kalkman
Project Manager

ADDRESS 1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
PHONE +1 585 288 5380 | FAX +1 585 288 8475
ALS Group USA, Corp.
dba ALS Environmental

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Narrative Documents

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

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1565 Jefferson Rd, Building 300, Rochester, NY 14623 | 585-288-5380 | www.alsglobal.com

Client: ALS Environmental - US
Project: LHAAP / Site 58
Sample Matrix: Water

Service Request: R2105466
Date Received: 06/03/2021 - 06/04/2021

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples for the Tier level IV requested by the client.

Sample Receipt:

Ten water samples were received for analysis at ALS Environmental on 06/03/2021 - 06/04/2021. Any discrepancies upon initial sample inspection are annotated on the sample receipt and preservation form included within this report. The samples were stored at minimum in accordance with the analytical method requirements.

Semivoa GC:

No significant anomalies were noted with this analysis.

Approved by _____ Date 06/22/2021

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SAMPLE DETECTION SUMMARY

CLIENT ID: 35AWW09-060221-a			Lab ID: R2105466-002			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Acetic Acid	0.63	J	0.56	4.0	mg/L	Organic Acids

CLIENT ID: 03WW01_060221			Lab ID: R2105466-003			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Acetic Acid	3.3	J	0.56	4.0	mg/L	Organic Acids

CLIENT ID: 35AWW08_060221			Lab ID: R2105466-004			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Acetic Acid	1.2	J	0.56	4.0	mg/L	Organic Acids
Lactic Acid	2.1		0.41	2.0	mg/L	Organic Acids

CLIENT ID: 35AWW11_060221			Lab ID: R2105466-005			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Acetic Acid	0.87	J	0.56	4.0	mg/L	Organic Acids

CLIENT ID: LHSMW07_060221			Lab ID: R2105466-006			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Acetic Acid	0.65	J	0.56	4.0	mg/L	Organic Acids

CLIENT ID: 35AWW19_060321			Lab ID: R2105466-007			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Acetic Acid	0.62	J	0.56	4.0	mg/L	Organic Acids

CLIENT ID: 35AWW23_060321			Lab ID: R2105466-008			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Acetic Acid	9.1		0.56	4.0	mg/L	Organic Acids

CLIENT ID: 35AWW20_060321			Lab ID: R2105466-009			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Acetic Acid	0.61	J	0.56	4.0	mg/L	Organic Acids

CLIENT ID: 35AWW06_060321			Lab ID: R2105466-010			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Acetic Acid	1.3	J	0.56	4.0	mg/L	Organic Acids

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Sample Receipt Information

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

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Client: ALS Environmental - US **Service Request:**R2105466
Project: LHAAP / Site 58/NW01312.0150

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
R2105466-001	35AWW09_060221	6/2/2021	0710
R2105466-002	35AWW09-060221-a	6/2/2021	0710
R2105466-003	03WW01_060221	6/2/2021	0805
R2105466-004	35AWW08_060221	6/2/2021	0855
R2105466-005	35AWW11_060221	6/2/2021	0945
R2105466-006	LHSMW07_060221	6/2/2021	1035
R2105466-007	35AWW19_060321	6/3/2021	0720
R2105466-008	35AWW23_060321	6/3/2021	0810
R2105466-009	35AWW20_060321	6/3/2021	0900
R2105466-010	35AWW06_060321	6/3/2021	1040

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bhate ENVIRONMENTAL CONTRACTORS LIMITED

1608 13th Avenue South, Suite 300
Birmingham Alabama 35205
Tel: 205-918-4000
Fax: 205-918-4050

Chain of Custody and Analytical Request

Page: ____ of ____

Project/Phase No: NWO1312.0150

COC Number(1): ____

LIMS Number: ____

Facility/Base I.D.: LHAAP

Project/Site Name: LHAAP / Site 58

Client Name:

Collected by: Scott Beesinger

Field Sample ID (30 Characters Max)	Date Collected (dd-mmm-yyyy)	Time Collected (Military) (hhmm)	Sample Depth (beginning - ending)	SA Code (2)	Sample Number (3)	Sample Matrix (4)	Sample Analysis Requested (5): Number of containers	Volatile Fatty Acids	Quality Assurance Samples (6): Ambient Blank Lot Control Number	Equipment Blank Lot Control Number	Trip Blank Lot Control Number	Cooler ID
35AWW19_060321	03 JUN 2021	0720	-	N		WG	1	X				
35AWW23_060321	03 JUN 2021	0810	-	N		WG	1	X				
35AWW20_060321	03 JUN 2021	0900	-	N		WG	1	X				
35AWW06_060321	03 JUN 2021	1040		N		WG	1	X				
			-									
			-									
			-									
			-									
			-									
			-									

COMMENTS: STANDARD TAT

Custody Transfers Prior to Receipt by Laboratory

Relinquished By (Signed)	Date	Time	Received by (signed)	Date	Time
1. Scott Beesinger	6/3/21	1430	1.	6/4/21	0935
2.			2.		
3.			3.		

Sample Delivery Details / Laboratory Receipt

Delivered Directly to Lab: ____ Shipped ____ No.:

Method of Shipment: ____

Fed Ex ____ Airbill Number: ____

Analytical Lab: ALS 10450 Stanciff Rd. Suite 210 Houston, TX 77099 (281) 530-5656

ATTN: SONIA WEST Lab Recipient: Delivery Date/Time:

1.) Chain of Custody Number = date collected + custody number (e.g. 09-02-1999-01)

2.) Sample Type (SA) Codes: N = Normal Sample, TB = Trip Blank (-c) Sample, FD = Field Duplicate (-a) Samples, FR = Field Replicate (-b) Samples, EB = Equipment Blank (-d) Samples, MS = Matrix Spike, SD = Matrix Spike Duplicate, AB = Ambient Blank (-e)

3.) Sample Number: Unique sample number collected from a particular location per day. (e.g. Groundwater sample collected from MW-1 on 10/10/99 = 01, if sampled again on 10/10/99 = 02, etc.)

4.) Matrix Codes: GS = Soil Gas, WG = Groundwater, WS = Surface Water, SO = Soil, SE = Sediment, SL = Sludge, SS = Surface Soil Samples, WQ = Aqueous Blank Samples (trip, equipment, ambient, etc), SQ = Soil Blanks

5.) Sample Analysis Requested: Analytical method requested and number of containers provided for each.

6.) Quality assurance samples are assigned by date (ddmmyy) and the sample number associated with the sample (01, 02, etc) (e.g. Equipment blank collected in association with MW-1 on 10/10/99 will be designated 10109901 in the Equ

R2105466 5
ALS Laboratory Group
LHAAP / Site 58

RIGHT SOLUTIONS | RIGHT PARTNER

Cooler Receipt and Preservation Check Form

R2105466 5
ALS Laboratory Group
LHAAP / Site 68

Project/Client _____ Folder Number _____

Cooler received on 6/4/21 by: @

COURIER: ALS UPS (FEDEX) VELOCITY CLIENT

1	Were **Custody seals** on outside of cooler?	(Y) N	5a	**Perchlorate** samples have required headspace?	Y N (NA)
2	**Custody papers** properly completed (ink, signed)?	(Y) N	5b	Did VOA vials, Alk,or Sulfide have sig* **bubbles**?	Y N (NA)
3	Did all bottles arrive in good **condition** (unbroken)?	(Y) N	6	Where did the bottles originate?	(ALS/ROC) CLIENT
4	Circle: (**Wet Ice**) **Dry Ice** **Gel packs** present?	(Y) N	7	Soil VOA received as: Bulk Encore 5035set	(NA)

3. Temperature Readings Date: 6/4/21 Time: 1030 ID: IR#7 (IR#11) From: (Temp Blank) Sample Bottle

Observed Temp (°C)	2.7						
Within 0-6°C?	(Y) N	Y N	Y N	Y N	Y N	Y N	Y N
If <0°C, were samples frozen?	Y N	Y N	Y N	Y N	Y N	Y N	Y N

If out of Temperature, note packing/ice condition: _____ Ice melted Poorly Packed (described below) Same Day Rule

&Client Approval to Run Samples: _____ Standing Approval Client aware at drop-off Client notified by: _____

All samples held in storage location: R-002 by @ on 6/4/21 at 1035
5035 samples placed in storage location: _____ by _____ on _____ at _____ within 48 hours of sampling? Y N

Cooler Breakdown/Preservation Check**: Date: 6/7/21 Time: 1115 by: @

9. Were all bottle labels complete (*i.e.* analysis, preservation, etc.)? (YES) NO
10. Did all bottle labels and tags agree with custody papers? (YES) NO
11. Were correct containers used for the tests indicated? (YES) NO
12. Were 5035 vials acceptable (no extra labels, not leaking)? YES NO (N/A)
13. Air Samples: Cassettes / Tubes Intact Y / N with MS Y / N Canisters Pressurized Tedlar® Bags Inflated (N/A)

pH	Lot of test paper	Reagent	Preserved? Yes	Preserved? No	Lot Received	Exp	Sample ID Adjusted	Vol. Added	Lot Added	Final pH
≥12		NaOH								
≤2		HNO_3								
≤2		H_2SO_4								
<4		$NaHSO_4$								
5-9		For 608pest			No=Notify for 3day					
Residual Chlorine (-)		For CN, Phenol, 625, 608pest, 522			If +, contact PM to add $Na_2S_2O_3$ (625, 608, CN), ascorbic (phenol).					
		$Na_2S_2O_3$								
		ZnAcetate	-	-			**VOAs and 1664 Not to be tested before analysis. Otherwise, all bottles of all samples with chemical preservatives are checked (not just representatives).			
		HCl	**	**						

Bottle lot numbers: 90121-06

Explain all Discrepancies/ Other Comments:

H_3PO_4 - 214482 Lot

HPROD	BULK
HTR	FLDT
SUB	HGFB
ALS	LL3541

Labels secondary reviewed by: @

PC Secondary Review: _____

*Significant air bubbles: VOA > 5-6 mm : WC >1 in. diameter

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P

bhate ENVIRONMENTAL CONSTRUCTION ENERGY

1608 13th Avenue South, Suite 300
Birmingham Alabama 35205
Tel: 205-918-4000
Fax: 205-918-4050

Page: _____ of _____

Project/Phase No: NWO1312.0150

COC Number(1): _____

LIMS Number: _____

Chain of Custody and Analytical Request

Facility/Base I.D.: LHAAP

Project/Site Name: LHAAP / Site 58

Client Name:

Collected by: Scott Beesinger

Field Sample ID (30 Characters Max)	Date Collected (dd-mmm-yyyy)	Time Collected (Military) (hhmm)	Sample Depth (beginning - ending)	SA Code (2)	Sample Number (3)	Sample Matrix (4)	Number of containers	Volatile Fatty Acids									Ambient Blank Lot Control Number	Equipment Blank Lot Control Number	Trip Blank Lot Control Number	Cooler ID
							Sample Analysis Requested (5)										Quality Assurance Samples (6)			
35AWW09_060221	02Jun2021	0760	-	N		WG	1	X												
35AWW09_060221_a	02Jun2021	0710	-	FD		WG	1	X												
03WW01_060221	02Jun2021	0805	-	N		WG	1	X												
35AWW08_060221	02Jun2021	0855		N		WG	1	X												
35AWW11_060221	02Jun2021	0945		N		WG	1	X												
LHSMW07_060221	02Jun2021	1035	-	N		WG	1	X												
			-																	
			-																	
			-																	
			-																	
			-																	

COMMENTS: _____

Custody Transfers Prior to Receipt by Laboratory

Relinquished By (Signed)	Date	Time	Received by (signed)	Date	Time
1. Scott Beesinger	6/2/21	1430	1. Mike Mund	6/3/21	9:30
2.			2.		
3.			3.		

Sample Delivery Details / Laboratory Receipt

Delivered Directly to Lab: _____ Shipped No.:

_____ Method of Shipment: _____

_____ Fed Ex _____ Airbill Number:

_____ Analytical Lab: ALS 10450 Stancliff Rd. Suite 210 Houston, TX 77099 (281) 530-5656

ATTN: SONIA WEST Lab Recipient: Delivery Date/Time:

1.) Chain of Custody Number = date collected + custody number (e.g. 09-02-1999-01)

2.) Sample Type (SA) Codes: N = Normal Sample, TB = Trip Blank (-c) Sample, FD = Field Duplicate (-a) Samples, FR = Field Replicate (-b) Samples, EB = Equipment Blank (-d) Samples, MS = Matrix Spike, SD = Matrix Spike Duplicate, AB = Ambient Blank (-e)

3.) Sample Number: Unique sample number collected from a particular location per day. (e.g. Groundwater sample collected from MW-1 on 10/10/99 = 01, if sampled again on 10/10/99 = 02, etc.)

4.) Matrix Codes: GS = Soil Gas, WG = Groundwater, WS = Surface Water, SO = Soil, SE = Sediment, SL = Sludge, SS = Surface Soil Samples, WQ = Aqueous Blank Samples (trip, equipment, ambient, etc), SQ = Soil Blanks

5.) Sample Analysis Requested: Analytical method requested and number of containers provided for each.

6.) Quality assurance samples are assigned by date (ddmmyy) and the sample number associated with the sample (01, 02, etc) (e.g. Equipment blank collected in association with MW-1 on 10/10/99 will be designated 10109901 in the Eq

R2105466 5
ALS Laboratory Group
LHAAP / Site 58

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Cooler Receipt and Preservation Check Form

R2105466 5
ALS Laboratory Group
LHAAP / Site 68

Project/Client _____ Folder Number _____

Cooler received on 6/3/21 by: MM

COURIER: ALS UPS (FEDEX) VELOCITY CLIENT

1	Were **Custody seals** on outside of cooler?	(Y)	N
2	**Custody papers** properly completed (ink, signed)?	(Y)	N
3	Did all bottles arrive in good **condition** (unbroken)?	(Y)	N
4	Circle: **Wet Ice** **Dry Ice** **Gel packs** present?	(Y)	N

5a	**Perchlorate** samples have required headspace?	Y	N	(NA)
5b	Did VOA vials, Alk,or Sulfide have sig* **bubbles**?	Y	N	(NA)
6	Where did the bottles originate?	(ALS/ROC)	CLIENT	
7	Soil VOA received as:	Bulk	Encore	5035set (NA)

3. Temperature Readings Date: 6/3/21 Time: 10:03 ID: IR#7 (IR#1) From: Temp Blank Sample Bottle

Observed Temp (°C)	3.6						
Within 0-6°C?	(Y) N	Y N	Y N	Y N	Y N	Y N	Y N
If <0°C, were samples frozen?	Y N	Y N	Y N	Y N	Y N	Y N	Y N

If out of Temperature, note packing/ice condition: _____ Ice melted Poorly Packed (described below) Same Day Rule

&Client Approval to Run Samples: _____ Standing Approval Client aware at drop-off Client notified by: _____

All samples held in storage location: R1002 by MM on 6/3/21 at 10:05

5035 samples placed in storage location: _____ by _____ on _____ at _____ within 48 hours of sampling? Y N

Cooler Breakdown/Preservation Check**: Date: 6/3/21 Time: 1425 by: DM

9. Were all bottle labels complete (*i.e.* analysis, preservation, etc.)? (YES) NO
10. Did all bottle labels and tags agree with custody papers? (YES) NO
11. Were correct containers used for the tests indicated? (YES) NO
12. Were 5035 vials acceptable (no extra labels, not leaking)? YES NO N/A
13. Air Samples: Cassettes / Tubes Intact Y / N with MS Y / N Canisters Pressurized Tedlar® Bags Inflated N/A

pH	Lot of test paper	Reagent	Preserved? Yes	Preserved? No	Lot Received	Exp	Sample ID Adjusted	Vol. Added	Lot Added	Final pH
≥12		NaOH								
≤2		HNO_3								
≤2		H_2SO_4								
<4		$NaHSO_4$								
5-9		For 608pest			No=Notify for 3day					
Residual Chlorine (-)		For CN, Phenol, 625, 608pest, 522			If +, contact PM to add $Na_2S_2O_3$ (625, 608, CN), ascorbic (phenol).					
		$Na_2S_2O_3$								
		ZnAcetate	-	-						
		HCl	**	**						

**VOAs and 1664 Not to be tested before analysis. Otherwise, all bottles of all samples with chemical preservatives are checked (not just representatives).

Bottle lot numbers: 90121-06

Explain all Discrepancies/ Other Comments:

HPROD	BULK
HTR	FLDT
SUB	HGFB
ALS	LL3541

Labels secondary reviewed by: DM

PC Secondary Review: _____

*significant air bubbles: VOA > 5-6 mm : WC >1 in. diameter

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ALS Group USA, Corp.
dba ALS Environmental

Internal Chain of Custody Report

Client: ALS Environmental - US **Service Request:** R2105466
Project: LHAAP / Site 58/NW01312.0150

Bottle ID	Methods	Date	Time	Sample Location / User	Disposed On
R2105466-001.01					
	Organic Acids				
		6/3/2021	1328	SMO / GLAFORCE	
		6/3/2021	1328	R-002 / GLAFORCE	
		6/8/2021	1154	In Lab / AFELSER	
		6/8/2021	1523	R-002 / AFELSER	
R2105466-002.01					
	Organic Acids				
		6/3/2021	1328	SMO / GLAFORCE	
		6/3/2021	1328	R-002 / GLAFORCE	
		6/8/2021	1154	In Lab / AFELSER	
		6/8/2021	1523	R-002 / AFELSER	
		6/17/2021	1444	In Lab / AFELSER	
		6/18/2021	0710	R-002 / AFELSER	
R2105466-003.01					
	Organic Acids				
		6/3/2021	1328	SMO / GLAFORCE	
		6/3/2021	1328	R-002 / GLAFORCE	
		6/8/2021	1154	In Lab / AFELSER	
		6/8/2021	1523	R-002 / AFELSER	
		6/17/2021	1444	In Lab / AFELSER	
		6/18/2021	0710	R-002 / AFELSER	
R2105466-004.01					
	Organic Acids				
		6/3/2021	1328	SMO / GLAFORCE	
		6/3/2021	1328	R-002 / GLAFORCE	
		6/8/2021	1155	In Lab / AFELSER	
		6/8/2021	1523	R-002 / AFELSER	
		6/17/2021	1444	In Lab / AFELSER	
		6/18/2021	0710	R-002 / AFELSER	
R2105466-005.01					
	Organic Acids				
		6/3/2021	1328	SMO / GLAFORCE	
		6/3/2021	1328	R-002 / GLAFORCE	
		6/8/2021	1155	In Lab / AFELSER	
		6/8/2021	1523	R-002 / AFELSER	
R2105466-006.01					
	Organic Acids				
		6/3/2021	1328	SMO / GLAFORCE	
		6/3/2021	1328	R-002 / GLAFORCE	
		6/8/2021	1155	In Lab / AFELSER	

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dba ALS Environmental

Internal Chain of Custody Report

Client: ALS Environmental - US **Service Request:** R2105466
Project: LHAAP / Site 58/NW01312.0150

Bottle ID	Methods	Date	Time	Sample Location / User	Disposed On
	Organic Acids				
		6/8/2021	1523	R-002 / AFELSER	
R2105466-007.01					
	Organic Acids				
		6/4/2021	1300	SMO / JJANSON	
		6/7/2021	1210	R-002 / GLAFORCE	
		6/8/2021	1155	In Lab / AFELSER	
		6/8/2021	1523	R-002 / AFELSER	
R2105466-008.01					
	Organic Acids				
		6/4/2021	1300	SMO / JJANSON	
		6/7/2021	1210	R-002 / GLAFORCE	
		6/8/2021	1155	In Lab / AFELSER	
		6/8/2021	1523	R-002 / AFELSER	
		6/17/2021	1444	In Lab / AFELSER	
		6/18/2021	0710	R-002 / AFELSER	
R2105466-009.01					
	Organic Acids				
		6/4/2021	1300	SMO / JJANSON	
		6/7/2021	1210	R-002 / GLAFORCE	
		6/8/2021	1155	In Lab / AFELSER	
		6/8/2021	1523	R-002 / AFELSER	
		6/17/2021	1444	In Lab / AFELSER	
		6/18/2021	0710	R-002 / AFELSER	
R2105466-010.01					
	Organic Acids				
		6/4/2021	1300	SMO / JJANSON	
		6/7/2021	1210	R-002 / GLAFORCE	
		6/8/2021	1155	In Lab / AFELSER	
		6/8/2021	1523	R-002 / AFELSER	
		6/17/2021	1444	In Lab / AFELSER	
		6/18/2021	0710	R-002 / AFELSER	

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Miscellaneous Forms

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REPORT QUALIFIERS AND DEFINITIONS

U	Analyte was analyzed for but not detected. The sample quantitation limit has been corrected for dilution and for percent moisture, unless otherwise noted in the case narrative.
J	Estimated value due to either being a Tentatively Identified Compound (TIC) or that the concentration is between the MRL and the MDL. Concentrations are not verified within the linear range of the calibration. For DoD: concentration >40% difference between two GC columns (pesticides/Arclors).
B	Analyte was also detected in the associated method blank at a concentration that may have contributed to the sample result.
E	Inorganics- Concentration is estimated due to the serial dilution was outside control limits.
E	Organics- Concentration has exceeded the calibration range for that specific analysis.
D	Concentration is a result of a dilution, typically a secondary analysis of the sample due to exceeding the calibration range or that a surrogate has been diluted out of the sample and cannot be assessed.
*	Indicates that a quality control parameter has exceeded laboratory limits. Under the "Notes" column of the Form I, this qualifier denotes analysis was performed out of Holding Time.
H	Analysis was performed out of hold time for tests that have an "immediate" hold time criteria.
#	Spike was diluted out.
+	Correlation coefficient for MSA is <0.995.
N	Inorganics- Matrix spike recovery was outside laboratory limits.
N	Organics- Presumptive evidence of a compound (reported as a TIC) based on the MS library search.
S	Concentration has been determined using Method of Standard Additions (MSA).
W	Post-Digestion Spike recovery is outside control limits and the sample absorbance is <50% of the spike absorbance.
P	Concentration >40% difference between the two GC columns.
C	Confirmed by GC/MS
Q	DoD reports: indicates a pesticide/Aroclor is not confirmed (≥100% Difference between two GC columns).
X	See Case Narrative for discussion.
MRL LOQ	Method Reporting Limit. Also known as: Limit of Quantitation (LOQ) The lowest concentration at which the method analyte may be reliably quantified under the method conditions.
MDL	Method Detection Limit. A statistical value derived from a study designed to provide the lowest concentration that will be detected 99% of the time. Values between the MDL and MRL are estimated (see J qualifier).
LOD	Limit of Detection. A value at or above the MDL which has been verified to be detectable.
ND	Non-Detect. Analyte was not detected at the concentration listed. Same as U qualifier.

ACCREDITED IN ACCORDANCE WITH nelac

Rochester Lab ID # for State Certifications[1]

Connecticut ID # PH0556	Maine ID #NY0032	Pennsylvania ID# 68-786
Delaware Approved	New Hampshire ID # 2941	Rhode Island ID # 158
DoD ELAP #65817	New York ID # 10145	Virginia #460167
Florida ID # E87674	North Carolina #676	

[1] Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state or agency requirements. The test results meet requirements of the current NELAP/TNI standards or state or agency requirements, where applicable, except as noted in the case narrative. Since not all analyte/method/matrix combinations are offered for state/NELAC accreditation, this report may contain results which are not accredited. For a specific list of accredited analytes, contact the laboratory or go to https://www.alsglobal.com/locations/americas/north-america/usa/new-york/rochester-environmental

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Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

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Analyst Summary report

Client: ALS Environmental - US
Project: LHAAP / Site 58/NW01312.0150
Service Request: R2105466

Sample Name: 35AWW09_060221
Lab Code: R2105466-001
Sample Matrix: Water
Date Collected: 06/2/21
Date Received: 06/3/21

Analysis Method	Extracted/Digested By	Analyzed By
Organic Acids		AFELSER

Sample Name: 35AWW09-060221-a
Lab Code: R2105466-002
Sample Matrix: Water
Date Collected: 06/2/21
Date Received: 06/3/21

Analysis Method	Extracted/Digested By	Analyzed By
Organic Acids		AFELSER

Sample Name: 03WW01_060221
Lab Code: R2105466-003
Sample Matrix: Water
Date Collected: 06/2/21
Date Received: 06/3/21

Analysis Method	Extracted/Digested By	Analyzed By
Organic Acids		AFELSER

Sample Name: 35AWW08_060221
Lab Code: R2105466-004
Sample Matrix: Water
Date Collected: 06/2/21
Date Received: 06/3/21

Analysis Method	Extracted/Digested By	Analyzed By
Organic Acids		AFELSER

Sample Name: 35AWW11_060221
Lab Code: R2105466-005
Sample Matrix: Water
Date Collected: 06/2/21
Date Received: 06/3/21

Analysis Method	Extracted/Digested By	Analyzed By
Organic Acids		AFELSER

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ALS Group USA, Corp.
dba ALS Environmental

Analyst Summary report

Client: ALS Environmental - US
Project: LHAAP / Site 58/NW01312.0150
Service Request: R2105466

Sample Name: LHSMW07_060221
Lab Code: R2105466-006
Sample Matrix: Water
Date Collected: 06/2/21
Date Received: 06/3/21

Analysis Method	Extracted/Digested By	Analyzed By
Organic Acids		AFELSER

Sample Name: 35AWW19_060321
Lab Code: R2105466-007
Sample Matrix: Water
Date Collected: 06/3/21
Date Received: 06/4/21

Analysis Method	Extracted/Digested By	Analyzed By
Organic Acids		AFELSER

Sample Name: 35AWW23_060321
Lab Code: R2105466-008
Sample Matrix: Water
Date Collected: 06/3/21
Date Received: 06/4/21

Analysis Method	Extracted/Digested By	Analyzed By
Organic Acids		AFELSER

Sample Name: 35AWW20_060321
Lab Code: R2105466-009
Sample Matrix: Water
Date Collected: 06/3/21
Date Received: 06/4/21

Analysis Method	Extracted/Digested By	Analyzed By
Organic Acids		AFELSER

Sample Name: 35AWW06_060321
Lab Code: R2105466-010
Sample Matrix: Water
Date Collected: 06/3/21
Date Received: 06/4/21

Analysis Method	Extracted/Digested By	Analyzed By
Organic Acids		AFELSER

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INORGANIC PREPARATION METHODS

The preparation methods associated with this report are found in these tables unless discussed in the case narrative.

Water/Liquid Matrix

Analytical Method	Preparation Method
200.7	200.2
200.8	200.2
6010C	3005A/3010A
6020A	ILM05.3
9034 Sulfide Acid Soluble	9030B
SM 4500-CN-E Residual Cyanide	SM 4500-CN-G
SM 4500-CN-E WAD Cyanide	SM 4500-CN-I

Solid/Soil/Non-Aqueous Matrix

Analytical Method	Preparation Method
6010C	3050B
6020A	3050B
6010C TCLP (1311) extract	3005A/3010A
6010 SPLP (1312) extract	3005A/3010A
7199	3060A
300.0 Anions/ 350.1/ 353.2/ SM 2320B/ SM 5210B/ 9056A Anions	DI extraction
For analytical methods not listed, the preparation method is the same as the analytical method reference.	

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Sample Results

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Semivolatile Organic Compounds by GC

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Analytical Report

Client:	ALS Environmental - US	**Service Request:**	R2105466
Project:	LHAAP / Site 58/NW01312.0150	**Date Collected:**	06/02/21 07:10
Sample Matrix:	Water	**Date Received:**	06/03/21 09:30
Sample Name:	35AWW09_060221	**Units:**	mg/L
Lab Code:	R2105466-001	**Basis:**	NA

Organic Acids in Aqueous Matrices by High Performance Liquid Chromatography (HPLC) 28 Day Hold Time

Analysis Method: Organic Acids

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Pyruvic Acid	ND U	0.20	0.10	0.052	1	06/10/21 14:15	
Acetic Acid	ND U	4.0	2.0	0.56	1	06/10/21 14:15	
Butanoic Acid (Butyric Acid)	ND U	2.0	1.0	0.77	1	06/10/21 14:15	
Lactic Acid	ND U	2.0	1.0	0.41	1	06/10/21 14:15	
Propionic Acid	ND U	4.0	1.5	1.1	1	06/10/21 14:15	

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Analytical Report

Client:	ALS Environmental - US	**Service Request:**	R2105466
Project:	LHAAP / Site 58/NW01312.0150	**Date Collected:**	06/02/21 07:10
Sample Matrix:	Water	**Date Received:**	06/03/21 09:30
Sample Name:	35AWW09-060221-a	**Units:**	mg/L
Lab Code:	R2105466-002	**Basis:**	NA

Organic Acids in Aqueous Matrices by High Performance Liquid Chromatography (HPLC) 28 Day Hold Time

Analysis Method: Organic Acids

Analyte Name	Result		LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Pyruvic Acid	ND	U	0.20	0.10	0.052	1	06/18/21 00:51	
Acetic Acid	**0.63**	**J**	4.0	2.0	0.56	1	06/18/21 00:51	
Butanoic Acid (Butyric Acid)	ND	U	2.0	1.0	0.77	1	06/18/21 00:51	
Lactic Acid	ND	U	2.0	1.0	0.41	1	06/18/21 00:51	
Propionic Acid	ND	U	4.0	1.5	1.1	1	06/18/21 00:51	

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Analytical Report

Client:	ALS Environmental - US	**Service Request:**	R2105466
Project:	LHAAP / Site 58/NW01312.0150	**Date Collected:**	06/02/21 08:05
Sample Matrix:	Water	**Date Received:**	06/03/21 09:30
Sample Name:	03WW01_060221	**Units:**	mg/L
Lab Code:	R2105466-003	**Basis:**	NA

Organic Acids in Aqueous Matrices by High Performance Liquid Chromatography (HPLC) 28 Day Hold Time

Analysis Method: Organic Acids

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Pyruvic Acid	ND U	0.20	0.10	0.052	1	06/18/21 01:54	
Acetic Acid	**3.3 J**	4.0	2.0	0.56	1	06/18/21 01:54	
Butanoic Acid (Butyric Acid)	ND U	2.0	1.0	0.77	1	06/18/21 01:54	
Lactic Acid	ND U	2.0	1.0	0.41	1	06/18/21 01:54	
Propionic Acid	ND U	4.0	1.5	1.1	1	06/18/21 01:54	

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Analytical Report

Client:	ALS Environmental - US	**Service Request:**	R2105466
Project:	LHAAP / Site 58/NW01312.0150	**Date Collected:**	06/02/21 08:55
Sample Matrix:	Water	**Date Received:**	06/03/21 09:30
Sample Name:	35AWW08_060221	**Units:**	mg/L
Lab Code:	R2105466-004	**Basis:**	NA

Organic Acids in Aqueous Matrices by High Performance Liquid Chromatography (HPLC) 28 Day Hold Time

Analysis Method: Organic Acids

Analyte Name	Result		LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Pyruvic Acid	ND	U	0.20	0.10	0.052	1	06/18/21 02:56	
Acetic Acid	**1.2**	**J**	4.0	2.0	0.56	1	06/18/21 02:56	
Butanoic Acid (Butyric Acid)	ND	U	2.0	1.0	0.77	1	06/18/21 02:56	
Lactic Acid	**2.1**		2.0	1.0	0.41	1	06/18/21 02:56	
Propionic Acid	ND	U	4.0	1.5	1.1	1	06/18/21 02:56	

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Analytical Report

Client:	ALS Environmental - US	**Service Request:**	R2105466
Project:	LHAAP / Site 58/NW01312.0150	**Date Collected:**	06/02/21 09:45
Sample Matrix:	Water	**Date Received:**	06/03/21 09:30
Sample Name:	35AWW11_060221	**Units:**	mg/L
Lab Code:	R2105466-005	**Basis:**	NA

Organic Acids in Aqueous Matrices by High Performance Liquid Chromatography (HPLC) 28 Day Hold Time

Analysis Method: Organic Acids

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Pyruvic Acid	ND U	0.20	0.10	0.052	1	06/11/21 00:32	
Acetic Acid	**0.87 J**	4.0	2.0	0.56	1	06/11/21 00:32	
Butanoic Acid (Butyric Acid)	ND U	2.0	1.0	0.77	1	06/11/21 00:32	
Lactic Acid	ND U	2.0	1.0	0.41	1	06/11/21 00:32	
Propionic Acid	ND U	4.0	1.5	1.1	1	06/11/21 00:32	

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Analytical Report

Client:	ALS Environmental - US	**Service Request:**	R2105466
Project:	LHAAP / Site 58/NW01312.0150	**Date Collected:**	06/02/21 10:35
Sample Matrix:	Water	**Date Received:**	06/03/21 09:30
Sample Name:	LHSMW07_060221	**Units:**	mg/L
Lab Code:	R2105466-006	**Basis:**	NA

Organic Acids in Aqueous Matrices by High Performance Liquid Chromatography (HPLC) 28 Day Hold Time

Analysis Method: Organic Acids

Analyte Name	Result		LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Pyruvic Acid	ND	U	0.20	0.10	0.052	1	06/11/21 01:33	
Acetic Acid	**0.65**	**J**	4.0	2.0	0.56	1	06/11/21 01:33	
Butanoic Acid (Butyric Acid)	ND	U	2.0	1.0	0.77	1	06/11/21 01:33	
Lactic Acid	ND	U	2.0	1.0	0.41	1	06/11/21 01:33	
Propionic Acid	ND	U	4.0	1.5	1.1	1	06/11/21 01:33	

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Analytical Report

Client:	ALS Environmental - US	**Service Request:**	R2105466
Project:	LHAAP / Site 58/NW01312.0150	**Date Collected:**	06/03/21 07:20
Sample Matrix:	Water	**Date Received:**	06/04/21 09:35
Sample Name:	35AWW19_060321	**Units:**	mg/L
Lab Code:	R2105466-007	**Basis:**	NA

Organic Acids in Aqueous Matrices by High Performance Liquid Chromatography (HPLC) 28 Day Hold Time

Analysis Method: Organic Acids

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Pyruvic Acid	ND U	0.20	0.10	0.052	1	06/11/21 02:35	
Acetic Acid	**0.62 J**	4.0	2.0	0.56	1	06/11/21 02:35	
Butanoic Acid (Butyric Acid)	ND U	2.0	1.0	0.77	1	06/11/21 02:35	
Lactic Acid	ND U	2.0	1.0	0.41	1	06/11/21 02:35	
Propionic Acid	ND U	4.0	1.5	1.1	1	06/11/21 02:35	

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Analytical Report

Client:	ALS Environmental - US	**Service Request:**	R2105466
Project:	LHAAP / Site 58/NW01312.0150	**Date Collected:**	06/03/21 08:10
Sample Matrix:	Water	**Date Received:**	06/04/21 09:35
Sample Name:	35AWW23_060321	**Units:**	mg/L
Lab Code:	R2105466-008	**Basis:**	NA

Organic Acids in Aqueous Matrices by High Performance Liquid Chromatography (HPLC) 28 Day Hold Time

Analysis Method: Organic Acids

Analyte Name	Result		LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Pyruvic Acid	ND	U	0.20	0.10	0.052	1	06/18/21 06:00	
Acetic Acid	**9.1**		4.0	2.0	0.56	1	06/18/21 06:00	
Butanoic Acid (Butyric Acid)	ND	U	2.0	1.0	0.77	1	06/18/21 06:00	
Lactic Acid	ND	U	2.0	1.0	0.41	1	06/18/21 06:00	
Propionic Acid	ND	U	4.0	1.5	1.1	1	06/18/21 06:00	

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Analytical Report

Client:	ALS Environmental - US	**Service Request:**	R2105466
Project:	LHAAP / Site 58/NW01312.0150	**Date Collected:**	06/03/21 09:00
Sample Matrix:	Water	**Date Received:**	06/04/21 09:35
Sample Name:	35AWW20_060321	**Units:**	mg/L
Lab Code:	R2105466-009	**Basis:**	NA

Organic Acids in Aqueous Matrices by High Performance Liquid Chromatography (HPLC) 28 Day Hold Time

Analysis Method: Organic Acids

Analyte Name	Result		LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Pyruvic Acid	ND	U	0.20	0.10	0.052	1	06/18/21 07:01	
Acetic Acid	**0.61**	**J**	4.0	2.0	0.56	1	06/18/21 07:01	
Butanoic Acid (Butyric Acid)	ND	U	2.0	1.0	0.77	1	06/18/21 07:01	
Lactic Acid	ND	U	2.0	1.0	0.41	1	06/18/21 07:01	
Propionic Acid	ND	U	4.0	1.5	1.1	1	06/18/21 07:01	

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Analytical Report

Client:	ALS Environmental - US	**Service Request:**	R2105466
Project:	LHAAP / Site 58/NW01312.0150	**Date Collected:**	06/03/21 10:40
Sample Matrix:	Water	**Date Received:**	06/04/21 09:35
Sample Name:	35AWW06_060321	**Units:**	mg/L
Lab Code:	R2105466-010	**Basis:**	NA

Organic Acids in Aqueous Matrices by High Performance Liquid Chromatography (HPLC) 28 Day Hold Time

Analysis Method: Organic Acids

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Pyruvic Acid	ND U	0.20	0.10	0.052	1	06/18/21 08:03	
Acetic Acid	**1.3 J**	4.0	2.0	0.56	1	06/18/21 08:03	
Butanoic Acid (Butyric Acid)	ND U	2.0	1.0	0.77	1	06/18/21 08:03	
Lactic Acid	ND U	2.0	1.0	0.41	1	06/18/21 08:03	
Propionic Acid	ND U	4.0	1.5	1.1	1	06/18/21 08:03	

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QC Summary Forms

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Semivolatile Organic Compounds by GC

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QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	R2105466
Project:	LHAAP / Site 58/NW01312.0150	**Date Collected:**	06/02/21
Sample Matrix:	Water	**Date Received:**	06/03/21
		Date Analyzed:	06/10/21

Duplicate Matrix Spike Summary
Organic Acids in Aqueous Matrices by High Performance Liquid Chromatography (HPLC) 28 Day Hold Time

Sample Name:	35AWW09_060221	**Units:**	mg/L
Lab Code:	R2105466-001	**Basis:**	NA
Analysis Method:	Organic Acids		

		Matrix Spike RQ2106667-06			Duplicate Matrix Spike RQ2106667-07					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Pyruvic Acid	ND U	22.2	20.0	111	22.1	20.0	110	73-122	<1	30
Acetic Acid	ND U	23.1	20.0	115	23.1	20.0	116	80-130	<1	30
Butanoic Acid (Butyric Acid)	ND U	20.8	20.0	104	20.5	20.0	103	86-128	1	30
Lactic Acid	ND U	22.8	20.0	114	22.7	20.0	113	81-114	<1	30
Propionic Acid	ND U	23.0	20.0	115	19.8	20.0	99	63-153	15	30

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Matrix Spike and Matrix Spike Duplicate Data is presented for information purposes only. The matrix may or may not be relevant to samples reported in this report. The laboratory evaluates system performance based on the LCS and LCSD control limits.

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	R2105466
Project:	LHAAP / Site 58/NW01312.0150	**Date Collected:**	06/03/21
Sample Matrix:	Water	**Date Received:**	06/04/21
		Date Analyzed:	06/18/21

Duplicate Matrix Spike Summary
Organic Acids in Aqueous Matrices by High Performance Liquid Chromatography (HPLC) 28 Day Hold Time

Sample Name:	35AWW06_060321	**Units:**	mg/L
Lab Code:	R2105466-010	**Basis:**	NA
Analysis Method:	Organic Acids		

		Matrix Spike RQ2107066-07			Duplicate Matrix Spike RQ2107066-08					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Pyruvic Acid	ND U	21.3	20.0	106	21.7	20.0	108	73-122	2	30
Acetic Acid	1.3 J	21.3	20.0	100	21.7	20.0	102	80-130	2	30
Butanoic Acid (Butyric Acid)	ND U	20.8	20.0	104	20.9	20.0	104	86-128	<1	30
Lactic Acid	ND U	19.5	20.0	98	19.9	20.0	100	81-114	2	30
Propionic Acid	ND U	19.7	20.0	99	21.3	20.0	106	63-153	8	30

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Matrix Spike and Matrix Spike Duplicate Data is presented for information purposes only. The matrix may or may not be relevant to samples reported in this report. The laboratory evaluates system performance based on the LCS and LCSD control limits.

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ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	R2105466
Project:	LHAAP / Site 58/NW01312.0150	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	mg/L
Lab Code:	RQ2106667-02	**Basis:**	NA

Organic Acids in Aqueous Matrices by High Performance Liquid Chromatography (HPLC) 28 Day Hold Time

Analysis Method: Organic Acids

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Pyruvic Acid	ND U	0.20	0.10	0.052	1	06/10/21 09:09	
Acetic Acid	ND U	4.0	2.0	0.56	1	06/10/21 09:09	
Butanoic Acid (Butyric Acid)	ND U	2.0	1.0	0.77	1	06/10/21 09:09	
Lactic Acid	ND U	2.0	1.0	0.41	1	06/10/21 09:09	
Propionic Acid	ND U	4.0	1.5	1.1	1	06/10/21 09:09	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	R2105466
Project:	LHAAP / Site 58/NW01312.0150	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	mg/L
Lab Code:	RQ2107066-02	**Basis:**	NA

Organic Acids in Aqueous Matrices by High Performance Liquid Chromatography (HPLC) 28 Day Hold Time

Analysis Method: Organic Acids

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Pyruvic Acid	ND U	0.20	0.10	0.052	1	06/17/21 19:45	
Acetic Acid	ND U	4.0	2.0	0.56	1	06/17/21 19:45	
Butanoic Acid (Butyric Acid)	ND U	2.0	1.0	0.77	1	06/17/21 19:45	
Lactic Acid	ND U	2.0	1.0	0.41	1	06/17/21 19:45	
Propionic Acid	ND U	4.0	1.5	1.1	1	06/17/21 19:45	

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ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: LHAAP / Site 58/NW01312.0150
Sample Matrix: Water

Service Request: R2105466
Date Analyzed: 06/10/21

Duplicate Lab Control Sample Summary
Organic Acids in Aqueous Matrices by High Performance Liquid Chromatography (HPLC) 28 Day Hold Time

Units:mg/L
Basis:NA

		Lab Control Sample			Duplicate Lab Control Sample					
		RQ2106667-03			RQ2106667-04					
Analyte Name	**Analytical Method**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Pyruvic Acid	Organic Acids	21.5	20.0	107	21.0	20.0	105	73-122	2	30
Acetic Acid	Organic Acids	22.2	20.0	111	21.6	20.0	108	80-130	3	30
Butanoic Acid (Butyric Acid)	Organic Acids	20.6	20.0	103	20.7	20.0	104	86-128	<1	30
Lactic Acid	Organic Acids	22.5	20.0	112	22.3	20.0	111	81-114	<1	30
Propionic Acid	Organic Acids	20.1	20.0	101	19.6	20.0	98	63-153	2	30

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ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: LHAAP / Site 58/NW01312.0150
Sample Matrix: Water

Service Request: R2105466
Date Analyzed: 06/17/21

Duplicate Lab Control Sample Summary
Organic Acids in Aqueous Matrices by High Performance Liquid Chromatography (HPLC) 28 Day Hold Time

Units:mg/L
Basis:NA

		Lab Control Sample			Duplicate Lab Control Sample					
		RQ2107066-03			RQ2107066-04					
Analyte Name	**Analytical Method**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Pyruvic Acid	Organic Acids	20.3	20.0	102	20.6	20.0	103	73-122	1	30
Acetic Acid	Organic Acids	21.5	20.0	108	21.8	20.0	109	80-130	1	30
Butanoic Acid (Butyric Acid)	Organic Acids	19.4	20.0	97	20.3	20.0	102	86-128	5	30
Lactic Acid	Organic Acids	21.4	20.0	107	21.6	20.0	108	81-114	1	30
Propionic Acid	Organic Acids	19.2	20.0	96	20.2	20.0	101	63-153	5	30

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microbialinsights
10515 Research Drive
Knoxville, TN 37932
Phone: (865) 573-8188
Fax: (865) 573-8133

ANAB ACCREDITED ISO/IEC 17025 TESTING LABORATORY

Client: RagenP Giga
ALS Laboratory Group
10450 Stancliff Rd
Suite 210
Houston, TX 77040

Phone:

Fax:

Identifier: 017SF **Date Rec:** 06/04/2021 **Report Date:** 06/10/2021

Client Project #: NW01312.0150 **Client Project Name:** LHAAP / Site 58

Purchase Order #:

Test results provided for: CENSUS

Reviewed By:



NOTICE: This report is intended only for the addressee shown above and may contain confidential or privileged information. If the recipient of this material is not the intended recipient or if you have received this in error, please notify Microbial Insights, Inc. immediately. The data and other information in this report represent only the sample(s) analyzed and are rendered upon condition that it is not to be reproduced without approval from Microbial Insights, Inc. Thank you for your cooperation.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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MICROBIAL INSIGHTS, INC.

10515 Research Dr., Knoxville, TN 37932
Tel. (865) 573-8188 Fax. (865) 573-8133

CENSUS

Client: **ALS Laboratory Group**
Project: LHAAP / Site 58

MI Project Number: **017SF**
Date Received: 06/04/2021

Sample Information

Client Sample ID:		**35AWW19_060321**	**35AWW23_060321**	**35AWW20_060321**	**35AWW06_060321**
Sample Date:		06/03/2021	06/03/2021	06/03/2021	06/03/2021
Units:		cells/mL	cells/mL	cells/mL	cells/mL
Analyst/Reviewer:		HT/CB	HT/CB	HT/CB	HT/CB
Dechlorinating Bacteria					
Dehalococcoides	*DHC*	**1.61E+01**	**3.22E+03**	**7.22E+04**	**1.50E+01**
tceA Reductase	TCE	<5.00E-01	**1.43E+02**	**5.00E-01 (J)**	<2.80E+00
BAV1 Vinyl Chloride Reductase	BVC	<5.00E-01	**3.00E-01 (J)**	**5.58E+04**	**1.50E+00 (J)**
Vinyl Chloride Reductase	VCR	<5.00E-01	**4.08E+02**	**2.10E+00**	<2.80E+00
Dehalobacter spp.	*DHBt*	**2.49E+04**	**8.20E+03**	**1.34E+04**	**4.17E+03**

Legend:
NA = Not Analyzed NS = Not Sampled J = Estimated gene copies below PQL but above LQL I = Inhibited
< = Result not detected

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Quality Assurance/Quality Control Data

Samples Received **6/4/2021**

Component	Date Prepared	Date Analyzed	Arrival Temperature	Positive Control	Extraction Blank	Negative Control
DHC	06/04/2021	06/10/2021	4 °C	103%	non-detect	non-detect
DHBt	06/04/2021	06/10/2021	4 °C	107%	non-detect	non-detect
BVC	06/04/2021	06/10/2021	4 °C	106%	non-detect	non-detect
TCE	06/04/2021	06/10/2021	4 °C	105%	non-detect	non-detect
VCR	06/04/2021	06/10/2021	4 °C	110%	non-detect	non-detect

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2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T: +1 805 526 7161
www.alsglobal.com

LABORATORY REPORT

June 30, 2021

Ragen Giga
ALS Environmental - US
10450 Stancliff Rd Suite 210
Houston, TX 77099

RE: HS21060226

Dear Ragen:

Enclosed are the results of the samples submitted to our laboratory on June 8, 2021. For your reference, these analyses have been assigned our service request number P2103109.

All analyses were performed according to our laboratory's NELAP and DoD-ELAP-approved quality assurance program. The test results meet requirements of the current NELAP and DoD-ELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP and DoD-ELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. Results are intended to be considered in their entirety and apply only to the samples analyzed and reported herein.

If you have any questions, please call me at (805) 526-7161.

Respectfully submitted,

ALS | Environmental

By Sue Anderson at 7:34 pm, Jun 30, 2021
For Hayden Akers
Project Manager

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2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T: +1 805 526 7161
www.alsglobal.com

Client: ALS Environmental - US
Project: HS21060226

Service Request No: P2103109

CASE NARRATIVE

The samples were received intact under chain of custody on June 8, 2021 and were stored in accordance with the analytical method requirements. Please refer to the sample acceptance check form for additional information. The results reported herein are applicable only to the condition of the sampleS at the time of sample receipt.

Carbon Dioxide Analysis

The samples were analyzed for carbon dioxide using a gas chromatograph equipped with a thermal conductivity detector (TCD). A known amount of liquid was displaced by injecting 8.0 milliliters of helium creating a headspace in the sample vial. Each sample vial was agitated using a sonic disrupter for fifteen minutes and then allowed to equilibrate for at least four hours. A volume of the headspace was withdrawn using a gas-tight syringe and analyzed using a manual injection technique. The amount of dissolved gases (carbon dioxide) in the original sample was calculated using Henry's Law. This method was performed with guidance from RSK 175 as described in laboratory SOP VOA-DISGAS. This analyte is included on the laboratory's NELAP and DoD-ELAP scope of accreditation.

Methane, Ethene and Ethane Analysis

The samples were analyzed for methane, ethene, and ethane using a gas chromatograph equipped with a flame ionization detector (FID). A known amount of liquid was displaced by injecting 8.0 milliliters of helium creating a headspace in the sample vial. Each sample vial was agitated using a sonic disrupter for fifteen minutes and then allowed to equilibrate for at least two hours. A volume of the headspace was withdrawn using a gas-tight syringe and analyzed using a manual injection technique. The amount of dissolved gases (methane, ethene and ethane) in the original sample was calculated using Henry's Law. This method was performed with guidance from RSK 175. This method is included on the laboratory's NELAP and DoD-ELAP scope of accreditation. Any analytes flagged with an X are not included on the laboratory's NELAP or DoD-ELAP accreditation.

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and ALS Environmental (ALS) is not responsible for utilization of less than the complete report.

Use of ALS Environmental (ALS)'s Name. Client shall not use ALS's name or trademark in any marketing or reporting materials, press releases or in any other manner ("Materials") whatsoever and shall not attribute to ALS any test result, tolerance or specification derived from ALS's data ("Attribution") without ALS's prior written consent, which may be withheld by ALS for any reason in its sole discretion. To request ALS's consent, Client shall provide copies of the proposed Materials or Attribution and describe in writing Client's proposed use of such Materials or Attribution. If ALS has not provided written approval of the Materials or Attribution within ten (10) days of receipt from Client, Client's request to use ALS's name or trademark in any Materials or Attribution shall be deemed denied. ALS may, in its discretion, reasonably charge Client for its time in reviewing Materials or Attribution requests. Client acknowledges and agrees that the unauthorized use of ALS's name or trademark may cause ALS to incur irreparable harm for which the recovery of money damages will be inadequate. Accordingly, Client acknowledges and agrees that a violation shall justify preliminary injunctive relief. For questions contact the laboratory.

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2655 Park Center Dr., Suite A
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ALS Environmental – Simi Valley

CERTIFICATIONS, ACCREDITATIONS, AND REGISTRATIONS

Agency	Web Site	Number
Alaska DEC	http://dec.alaska.gov/eh/lab.aspx	17-019
Arizona DHS	http://www.azdhs.gov/preparedness/state-laboratory/lab-licensure-certification/index.php#laboratory-licensure-home	AZ0694
Florida DOH (NELAP)	http://www.floridahealth.gov/licensing-and-regulation/environmental-laboratories/index.html	E871020
Louisiana DEQ (NELAP)	http://www.deq.louisiana.gov/page/la-lab-accreditation	05071
Maine DHHS	http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/professionals/labCert.shtml	2018027
Minnesota DOH (NELAP)	http://www.health.state.mn.us/accreditation	1776326
New Jersey DEP (NELAP)	http://www.nj.gov/dep/enforcement/oqa.html	CA009
New York DOH (NELAP)	http://www.wadsworth.org/labcert/elap/elap.html	11221
Oregon PHD (NELAP)	http://www.oregon.gov/oha/ph/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	4068-008
Pennsylvania DEP	http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx	68-03307 (Registration)
PJLA (DoD ELAP)	http://www.pjlabs.com/search-accredited-labs	65818 (Testing)
Texas CEQ (NELAP)	http://www.tceq.texas.gov/agency/qa/env_lab_accreditation.html	T104704413-19-10
Utah DOH (NELAP)	http://health.utah.gov/lab/lab_cert_env	CA016272019-10
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C946

Analyses were performed according to our laboratory's NELAP and DoD-ELAP approved quality assurance program. A complete listing of specific NELAP and DoD-ELAP certified analytes can be found in the certifications section at www.alsglobal.com, or at the accreditation body's website.

Each of the certifications listed above have an explicit Scope of Accreditation that applies to specific matrices/methods/analytes; therefore, please contact the laboratory for information corresponding to a particular certification.

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ALS ENVIRONMENTAL

DETAIL SUMMARY REPORT

Client: ALS Environmental - US
Project ID: HS21060226

Service Request: P2103109

Date Received: 6/8/2021
Time Received: 09:30

Client Sample ID	Lab Code	Matrix	Date Collected	Time Collected	RSK 175 - CO2	RSK 175 - Gases
35AWW19_060321	P2103109-001	Water	6/3/2021	07:20	X	X
35AWW23_060321	P2103109-002	Water	6/3/2021	08:10	X	X
35AWW20_060321	P2103109-003	Water	6/3/2021	09:00	X	X
35AWW06_060321	P2103109-004	Water	6/3/2021	10:40	X	X

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R103109

10450 Stancliff Rd, Ste 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887
www.alsglobal.com

Subcontract Chain of Custody

SAMPLING STATE: Texas **COC ID:** 16240

SUBCONTRACT TO:

ALS Environmental
2655 Park Center Drive, Suite A
Simi Valley, CA 93065

Phone: +1 805 526 7161

CUSTOMER INFORMATION:

Company:	ALS Houston
Contact:	Ragen Giga
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Email:	RagenP.Giga@ALSGlobal.com
Alternate Contact:	
Email:	

INVOICE INFORMATION:

Company:	ALS Houston
Contact:	Accounts Payable
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Reference:	HS21060226
TSR:	Sonia West

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS21060226-01**	**35AWW19_060321**	**Groundwater**	**03 Jun 2021 07:20**
	MEE plus CO2. Provide Level II and Level IV reports in separate pdf			18 Jun 2021
2.	**HS21060226-02**	**35AWW23_060321**	**Groundwater**	**03 Jun 2021 08:10**
	MEE plus CO2. Provide Level II and Level IV reports in separate pdf			18 Jun 2021
3.	**HS21060226-03**	**35AWW20_060321**	**Groundwater**	**03 Jun 2021 09:00**
	MEE plus CO2. Provide Level II and Level IV reports in separate pdf			18 Jun 2021
4.	**HS21060226-05**	**35AWW06_060321**	**Groundwater**	**03 Jun 2021 10:40**
	MEE plus CO2. Provide Level II and Level IV reports in separate pdf			18 Jun 2021

Comments: Please analyze for the analysis listed above.
Send report to the emails shown above.
2 x Neat Vials & 3 x HCL Vials per sample

QC Level: DOD IV (DoD Data Package)

P2103109

Subcontract Chain of Custody

SAMPLING STATE: Texas

COC ID: 16240

Relinquished By: [signature]

Date/Time: 6/7/2021 1800

Received By: [signature]

Date/Time: 6-8-21 0930

Cooler ID(s):

Temperature(s):

2° wet

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ALS Environmental
Sample Acceptance Check Form

Client: ALS Environmental - US Work order: P2103109

Project: HS21060226

Sample(s) received on: 6/8/21 Date opened: 6/8/21 by: ADAVID

Note: This form is used for all samples received by ALS. The use of this form for custody seals is strictly meant to indicate presence/absence and not as an indication of compliance or nonconformity. Thermal preservation and pH will only be evaluated either at the request of the client and/or as required by the method/SOP.

		Yes	No	N/A
1	Were **sample containers** properly marked with client sample ID?	☒	☐	☐
2	Did **sample containers** arrive in good condition?	☒	☐	☐
3	Were **chain-of-custody** papers used and filled out?	☒	☐	☐
4	Did **sample container labels** and/or tags agree with custody papers?	☒	☐	☐
5	Was **sample volume** received adequate for analysis?	☒	☐	☐
6	Are samples within specified holding times?	☒	☐	☐
7	Was proper **temperature** (thermal preservation) of cooler at receipt adhered to?	☒	☐	☐
	Cooler Temperature: 2° C Blank Temperature: ° C	Wet Ic		
8	Were **custody seals** on outside of cooler/Box/Container?	☒	☐	☐
	Location of seal(s)? Cooler lid. Sealing Lid?	☒	☐	☐
	Were signature and date included?	☒	☐	☐
	Were seals intact?	☒	☐	☐
9	Do containers have appropriate **preservation**, according to method/SOP or Client specified information?	☒	☐	☐
	Is there a client indication that the submitted samples are **pH** preserved?	☒	☐	☐
	Were **VOA vials** checked for presence/absence of air bubbles?	☒	☐	☐
	Does the client/method/SOP require that the analyst check the sample pH and if necessary alter it?	☐	☒	☐
10	**Tubes:** Are the tubes capped and intact?	☐	☐	☒
11	**Badges:** Are the badges properly capped and intact?	☐	☐	☒
	Are dual bed badges separated and individually capped and intact?	☐	☐	☒

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P2103109-001.01	40mL VOA NP		5		A	CB 06/25/21
P2103109-001.02	40mL VOA NP				A	
P2103109-001.04	40ml VOA HCL				A	
P2103109-001.05	40ml VOA HCL		1		A	CB 06/14/21
P2103109-001.06	40ml VOA HCL				A	
P2103109-002.01	40mL VOA NP				A	
P2103109-002.02	40mL VOA NP		6		A	CB 06/25/21
P2103109-002.04	40ml VOA HCL				A	
P2103109-002.05	40ml VOA HCL		1		A	CB 06/14/21
P2103109-002.06	40ml VOA HCL				A	
P2103109-003.01	40mL VOA NP				A	
P2103109-003.02	40mL VOA NP		6		A	CB 06/25/21
P2103109-003.04	40ml VOA HCL				A	
P2103109-003.05	40ml VOA HCL				A	
P2103109-003.06	40ml VOA HCL		1		A	CB 06/14/21

Explain any discrepancies: (include lab sample ID numbers):

RSK - MEEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

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ALS Environmental
Sample Acceptance Check Form

Client: ALS Environmental - US Work order: P2103109

Project: HS21060226

Sample(s) received on: 6/8/21 Date opened: 6/8/21 by: ADAVID

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P2103109-004.01	40mL VOA NP		7		A	CB 06/25/21
P2103109-004.02	40mL VOA NP				A	
P2103109-004.04	40ml VOA HCL				A	
P2103109-004.05	40ml VOA HCL				A	
P2103109-004.06	40ml VOA HCL		1		A	CB 06/14/21

Explain any discrepancies: (include lab sample ID numbers):

RSK - MEEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

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ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **ALS Environmental - US**
Client Project ID: **HS21060226** ALS Project ID: P2103109

Carbon Dioxide

Test Code: RSK 175
Instrument ID: HP5890A/GC10/TCD Date(s) Collected: 6/3/21
Analyst: Connor Barrett Date Received: 6/8/21
Matrix: Water Date Analyzed: 6/25/21
Test Notes:

Client Sample ID	ALS Sample ID	Injection Volume ml(s)	Result µg/L	LOQ µg/L	LOD µg/L	MDL µg/L	Data Qualifier
35AWW19_060321	P2103109-001	0.05	**670,000**	2,000	1,700	740	
35AWW23_060321	P2103109-002	0.10	**540,000**	1,000	860	370	
35AWW20_060321	P2103109-003	0.05	**690,000**	2,000	1,700	740	
35AWW06_060321	P2103109-004	0.10	**490,000**	1,000	860	370	
Method Control Sample	P210625-MB	0.10	860	1,000	860	370	**U**

The Method Control Sample is laboratory water carried through the entire analytical process.
U = Compound was analyzed for, but not detected above the laboratory detection limit.
LOQ = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

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ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **ALS Environmental - US**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2103109
Client Project ID: **HS21060226** ALS Sample ID: P210625-DLCS

Test Code: RSK 175 Date Collected: NA
Instrument ID: HP5890A/GC10/TCD Date Received: NA
Analyst: Connor Barrett Date Analyzed: 6/25/21
Matrix: Water Volume(s) Analyzed: NA ml(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS ug/L	Result[1] LCS ug/L	Result[1] DLCS ug/L	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
124-38-9	Carbon Dioxide	22,900	19,000	19,100	**83**	**83**	80-122	0	12	

[1] = The concentration shown includes a subtraction of the Method Control Sample value, even if the result is less than the MRL.

RIGHT SOLUTIONS | RIGHT PARTNER

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **ALS Environmental - US**
Client Sample ID: **35AWW19_060321**
Client Project ID: **HS21060226**

ALS Project ID: P2103109
ALS Sample ID: P2103109-001

Test Code: RSK 175
Instrument ID: HP5890A/GC10/FID
Analyst: Connor Barrett/Wade Henton
Matrix: Water
Test Notes:

Date Collected: 6/3/21
Date Received: 6/8/21
Date Analyzed: 6/14/21
Volume(s) Analyzed: 0.10 ml(s)

CAS #	Compound	Result µg/L	LOQ µg/L	LOD µg/L	MDL µg/L	Data Qualifier
74-82-8	Methane	**2.2**	1.3	1.0	0.51	
74-85-1	Ethene	0.55	1.0	0.55	0.24	**U**
74-84-0	Ethane	0.47	0.60	0.47	0.16	**U**

U = Compound was analyzed for, but not detected above the laboratory detection limit.
LOQ = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

RIGHT SOLUTIONS | RIGHT PARTNER

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **ALS Environmental - US**
Client Sample ID: **35AWW23_060321**
Client Project ID: **HS21060226**

ALS Project ID: P2103109
ALS Sample ID: P2103109-002

Test Code: RSK 175
Instrument ID: HP5890A/GC10/FID
Analyst: Connor Barrett/Wade Henton
Matrix: Water
Test Notes:

Date Collected: 6/3/21
Date Received: 6/8/21
Date Analyzed: 6/14/21
Volume(s) Analyzed: 0.10 ml(s)

CAS #	Compound	Result µg/L	LOQ µg/L	LOD µg/L	MDL µg/L	Data Qualifier
74-82-8	Methane	**3,700**	1.3	1.0	0.51	
74-85-1	Ethene	0.55	1.0	0.55	0.24	**U**
74-84-0	Ethane	0.47	0.60	0.47	0.16	**U**

U = Compound was analyzed for, but not detected above the laboratory detection limit.
LOQ = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

RIGHT SOLUTIONS | RIGHT PARTNER

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **ALS Environmental - US**
Client Sample ID: **35AWW20_060321**
Client Project ID: **HS21060226**

ALS Project ID: P2103109
ALS Sample ID: P2103109-003

Test Code: RSK 175
Instrument ID: HP5890A/GC10/FID
Analyst: Connor Barrett/Wade Henton
Matrix: Water
Test Notes:

Date Collected: 6/3/21
Date Received: 6/8/21
Date Analyzed: 6/14/21
Volume(s) Analyzed: 0.10 ml(s)

CAS #	Compound	Result µg/L	LOQ µg/L	LOD µg/L	MDL µg/L	Data Qualifier
74-82-8	Methane	**1,500**	1.3	1.0	0.51	
74-85-1	Ethene	**11**	1.0	0.55	0.24	
74-84-0	Ethane	0.47	0.60	0.47	0.16	**U**

U = Compound was analyzed for, but not detected above the laboratory detection limit.
LOQ = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

RIGHT SOLUTIONS | RIGHT PARTNER

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **ALS Environmental - US**
Client Sample ID: **35AWW06_060321**
Client Project ID: **HS21060226**

ALS Project ID: P2103109
ALS Sample ID: P2103109-004

Test Code: RSK 175
Instrument ID: HP5890A/GC10/FID
Analyst: Connor Barrett/Wade Henton
Matrix: Water
Test Notes:

Date Collected: 6/3/21
Date Received: 6/8/21
Date Analyzed: 6/14/21
Volume(s) Analyzed: 0.10 ml(s)

CAS #	Compound	Result µg/L	LOQ µg/L	LOD µg/L	MDL µg/L	Data Qualifier
74-82-8	Methane	**2,200**	1.3	1.0	0.51	
74-85-1	Ethene	0.55	1.0	0.55	0.24	**U**
74-84-0	Ethane	0.47	0.60	0.47	0.16	**U**

U = Compound was analyzed for, but not detected above the laboratory detection limit.
LOQ = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

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ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **ALS Environmental - US**
Client Sample ID: **Method Control Sample** ALS Project ID: P2103109
Client Project ID: **HS21060226** ALS Sample ID: P210614-MB

Test Code: RSK 175 Date Collected: NA
Instrument ID: HP5890A/GC10/FID Date Received: NA
Analyst: Connor Barrett/Wade Henton Date Analyzed: 6/14/21
Matrix: Water Volume(s) Analyzed: 0.10 ml(s)
Test Notes:

CAS #	Compound	Result µg/L	LOQ µg/L	LOD µg/L	MDL µg/L	Data Qualifier
74-82-8	Methane	1.0	1.3	1.0	0.51	**U**
74-85-1	Ethene	0.55	1.0	0.55	0.24	**U**
74-84-0	Ethane	0.47	0.60	0.47	0.16	**U**

The Method Control Sample is laboratory water carried through the entire analytical process.
U = Compound was analyzed for, but not detected above the laboratory detection limit.
LOQ = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

RIGHT SOLUTIONS | RIGHT PARTNER

QUALITY CONTROL SUMMARY REPORT
LHAAP-58 June 2021
Semi-Annual SAMPLING EVENT
LONGHORN ARMY AMMUNITION PLANT
KARNACK, TEXAS

August 2021

Prepared For:

Longhorn Army Ammunition Plant
Karnack, Texas

Under Contract To:

U.S. Army Corps of Engineers
Tulsa District
Tulsa, Oklahoma

Contract Number: W9128F-13-D-0012
Task Order Number: W912BV17F0150

Prepared By:

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Table 1: Field Sample Identification and Laboratory Packages
Table 2: Qualified Analytical Data
Table 3: Completeness by Method

1 INTRODUCTION

Bhate reviewed two data packages from ALS Environmental, Houston, Texas with the analyses for volatile fatty acids subcontracted to ALS Rochester, New York., and the analyses of dissolved gases to ALS Simi Valley, CA. The dechlorinating bacteria analysis was subcontracted to Microbial Insights in Knoxville, TN. Groundwater samples were collected June 1 - 3, 2021 from Site LHAAP-58 at the Longhorn Army Ammunition Plant (LHAAP), Karnack, Texas. Data were reviewed for conformance to the requirements of the following guidance documents: *USEPA Contract Laboratory Program* [CLP] *National Functional Guidelines for Superfund Organic Methods Data Review* (USEPA, November 2020), *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review* (USEPA, January 2017) and the *Final Basewide Uniform Federal Policy* [UFP] – *Quality Assurance Project Plan* [QAPP] *Longhorn Army Ammunition Plant* which is in Appendix C of the *Final Installation-Wide Work Plan for Longhorn Army Ammunition Plant Karnack, Texas* (Bhate, May 2018).

1.1 Intended Use of Data

The objective of sampling at LHAAP-58 in the second quarter of 2020 was to establish the semi-annual event.

Analyses performed include:

- RSK175 – Dissolved Gases
- SM5310 C/E415.1 – Total Organic Carbon
- SW8260C – Volatiles
- SW9056A – Anions
- HPLC-METACIDS – Volatile Fatty Acids (VFAs)
- CENSUS – Dechlorinating Bacteria (DHC/DHB)
- SW6020A – Arsenic

Table 1 lists the sample identification numbers (IDs) and their associated laboratory package.
Table 2 lists qualified results with the qualification flag and reason code.

The following narrative is a brief synopsis of data that required qualification due to quality control discrepancies.

1.2 Preservation and Holding Time

Sample identification data were evaluated for agreement with the chain-of-custody (COC). All samples were received in appropriate containers, within the proper temperature range, in good condition, and within the required hold time.

1.3 Calibrations

All analytes reported must be present in the initial and continuing calibration. The calibrations must meet the acceptance criteria specified in Worksheet 24 (Analytical Instrument Calibration) of the QAPP. All results reported must be within the calibration range. Samples were diluted, if necessary, to bring analyte responses within the calibration range

1.3.1 Continuing Calibration Verifications

The continuing calibration verification (CCV) must meet the following criteria otherwise the compound is qualified J or UJ: The CCV criteria are 20 percent difference (%D) for VOCs and 50% for closing CCVs. Metals and general chemistry - 10%D; VFAs, Dissolved Gases and TOC - 15%D.

Hexachlorobutadiene was above recovery limits for all samples in package HS21060181 with the exception of 35AWW16_060121 and 35AWW08_060221. The associated samples were flagged estimated "UJ".

The ending CCV for trichloroethene ran out of tune time for samples 35AWW09_060221 and 35AAWW09_060221-a. Trichloroethene was flagged estimated "J".

1.4 Blanks

If the analyte result for an associated sample was less than 5X (10X for common laboratory contaminants) the analyte concentration in the blank, that result was qualified "UB" and considered an artifact of blank contamination. Where the sample result for the affected analyte was non-detect or greater than 5X the amount in the blank, no qualifier was applied.

No compounds warranted blank qualification.

1.5 Surrogates

Surrogates were evaluated using limits defined by each method in the project-specific QAPP Worksheet 28.

No surrogates were reported outside control limits.

1.6 Laboratory Control Sample/Laboratory Control Sample Duplicate

Laboratory control sample/laboratory control sample duplicate (LCS/LCSD) recoveries were evaluated using limits defined in the project-specific QAPP Worksheet 15.

No LCS recoveries warranted qualification.

1.7 Matrix Spike/Matrix Spike Duplicate Sample

Matrix spike/matrix spike duplicate (MS/MSD) recoveries were evaluated using limits defined in Worksheet 15 of the project-specific QAPP. When sample results were greater than 4x the spike amount, control limits were not applicable and require no qualification. Furthermore, if a MS/MSD analyses was performed on a batched (unrelated) sample no qualification was made to the sample data.

1.7.1 SW8260

The MS and/or MSD recoveries of chloroform, 1,1-dichloroethane, bromochloromethane, methylene chloride and trans-1,2-dichloroethene, in spike samples 35AWW10_060121, were below control limits. Additionally, the MS and MSD recoveries for chloroform were below control limits in spiked sample 35AWW16. Due to matrix effect, these non-detected compounds were flagged "UJ".

1.8 Internal Standards

If the %R for an internal standard in a sample is not within the limit, the associated sample is qualified for those analytes associated with the internal standard(s) outside of the limit.

Internal standards were within acceptance criteria for the associated compounds.

1.9 Precision

Precision is the measure of variability of individual sample measurements.

1.9.1 Field Precision

Evaluation of field duplicates for precision was done using the RPD. The relative percent difference (RPD) is defined as the difference between two duplicate samples divided by the mean and expressed as a percent. Field duplicate RPD limits were set at <30% for groundwater matrices.

The RPD for methane was above control limits for parent sample 35AWW09_060221 and duplicate. Methane was flagged estimated "J" in both samples.

1.9.2 Lab Precision

The laboratory RPDs were within control limits.

2.0 DATA USABILITY SUMMARY

The data are usable for the intended purposes of the project (**Table 3**). The data quality objectives have been met for the project.

Table 1: Field Sample Identification and Laboratory Packages

Client Sample ID	Lab Package/ID	SM5310 C E415.1	SW8260C	HPLC-METACIDS	SW9056A	RSK-175	CENSUS	Arsenic 6020A
		TOC	VOCS	VFAs	Anions	Gases	Bac	Ars
35ASW03_060321	HS21060226		X					
03WW01_060221	HS21060181	X	X	X	X	X	X	X
35AWW01_060121	HS21060181		X					X
35AWW01_060121_a	HS21060181		X					X
35AWW05_060221	HS21060181		X					
35AWW06_060321	HS21060226	X	X	X	X	X	X	
35AWW08_060221	HS21060181	X	X	X	X	X	X	X
35AWW09_060221	HS21060181	X	X	X	X	X		X
35AWW09_060221_a	HS21060181	X	X	X	X	X		X
35AWW10_060121	HS21060181		X					
35AWW11_060221	HS21060181	X	X	X	X	X	X	
35AWW12_060221	HS21060181		X					
35AWW13_060121	HS21060181		X					
35aww14_060121	Hs21060181		X					
35AWW15_060121	HS21060181		X					
35AWW16_060121	HS21060181		X					
35AWW17_060321	HS21060226		X					
35AWW18_060121	HS21060181		X					
35AWW19_060321	HS21060226	X	X	X	X	X	X	
35AWW20_060321	HS21060226	X	X	X	X	X	X	X
34AWW21_060121	HS21060181			X				
35AWW22_060221	HS21060181			X				
35AWW23_060321	HS21060226	X	X	X	X	X	X	
35AWW24_060121	HS21060181			X				
35AWW24_060121_a	HS21060181			X				
LHSMW06_060321	HS21060226		X					X
LHSMW07_060221	HS21060181	X	X	X	X	X	X	

Table 2: Qualified Analytical Data

Client Sample ID Laboratory	Laboratory Package	Analyte Name	Data Validation Qualifier	Reason for Qualification
03WW01_060221	HS21060181	Hexachlorobutadiene	< 1.0 UJ	CCV
35AWW01_060121	HS21060181	Hexachlorobutadiene	< 1.0 UJ	CCV
35AWW01_060121_a	HS21060181	Hexachlorobutadiene	< 1.0 UJ	CCV
35AWW05_060221	HS21060181	Hexachlorobutadiene	< 1.0 UJ	CCV
35AWW09_060221	HS21060181	Methane Trichloroethene Hexachlorobutadiene	1.6 J 130 J < 1.0 UJ	FD RPD CCV CCV
35AWW09_060221_a	HS21060181	Methane Trichloroethene Hexachlorobutadiene	2.9 J 130 J < 1.0 UJ	FD RPD CCV CCV
35AWW10_060121	HS21060181	Hexachlorobutadiene 1,1-Dichloroethane Bromochloromethane Methylene Chloride Chloroform Trans-1,2-dichloroethene	< 1.0 UJ < 0.5 UJ < 0.5 UJ < 2.0 UJ < 1.0 UJ < 0.5 UJ	CCV MSD < MSD < MSD < MS/MSD < MSD <
35AWW11_060221	HS21060181	Hexachlorobutadiene	< 1.0 UJ	CCV
35AWW12_060221	HS21060181	Hexachlorobutadiene	< 1.0 UJ	CCV
35AWW13_060121	HS21060181	Hexachlorobutadiene	< 1.0 UJ	CCV
35AWW14_060121	HS21060181	Hexachlorobutadiene	< 1.0 UJ	CCV
35AWW15_060121	HS21060181	Hexachlorobutadiene	< 1.0 UJ	CCV
35AWW16_060121	HS21060181	Chloroform	< 0.5 UJ	MS/MSD <
35AWW18_060121	HS21060181	Hexachlorobutadiene	< 1.0 UJ	CCV
35AWW21_060121	HS21060181	Hexachlorobutadiene	< 1.0 UJ	CCV
35AWW22_060221	HS21060181	Hexachlorobutadiene	< 1.0 UJ	CCV
35AWW24_060121	HS21060181	Hexachlorobutadiene	< 1.0 UJ	CCV
35AWW24_060121_a	HS21060181	Hexachlorobutadiene	< 1.0 UJ	CCV
LHSMW07_060221	HS21060181	Hexachlorobutadiene	< 1.0 UJ	CCV

ID – identification
UJ – The analyte was not detected; however, the result is estimated due to discrepancies in meeting certain analyte-specific quality control criteria.
J – Estimated. The result is estimated due to discrepancies in meeting certain analyte-specific quality control criteria.
MS/MSD< – Matrix spike/duplicate recoveries were below control limits, CCV – continuing calibration verification, FD RPD – field duplicate relative percent difference
HS – Houston

Table 3: Completeness by Method

Method	No. of Rejected Results	% Completeness
SM5310C	0	100
SW8260C	0	100
HPLC-METACIDS	0	100
SW9056A	0	100
RSK-175	0	100
CENSUS	0	100
SW6020A	0	100

E – U.S. Environmental Protection Agency method.
SW-846 - Test Methods for Evaluating Solid Waste, Physical/Chemical Methods
HPLC - High Performance Liquid Chromatography
SM – Standard Method

QUALITY CONTROL SUMMARY REPORT
LHAAP-58 December 2020
SEMI-ANNUAL SAMPLING EVENT
LONGHORN ARMY AMMUNITION PLANT
KARNACK, TEXAS

August 2021

Prepared For:

Longhorn Army Ammunition Plant
Karnack, Texas

Under Contract To:

U.S. Army Corps of Engineers
Tulsa District
Tulsa, Oklahoma

Contract Number: W9128F-13-D-0012
Task Order Number: W912BV17F0150

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Table 1: Field Sample Identification and Laboratory Packages
Table 2: Qualified Analytical Data
Table 3: Completeness by Method

1 INTRODUCTION

Bhate reviewed three data packages from ALS Environmental, Houston, Texas with the analyses for volatile fatty acids subcontracted to ALS Rochester, NY; total organic carbon subcontracted to ALS Kelso, WA; and the analyses of dissolved gases to ALS Simi Valley, CA. The dechlorinating bacteria analysis was subcontracted to Microbial Insights in Knoxville, TN. Groundwater samples were collected on December 1-7, 2020, from Site LHAAP-58 at the Longhorn Army Ammunition Plant (LHAAP), Karnack, Texas. Data were reviewed for conformance to the requirements of the following guidance documents: [United States Environmental Protection Agency] *USEPA Contract Laboratory Program* [CLP] *National Functional Guidelines for Superfund Organic Methods Data Review* (USEPA, January 2017); *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review* (USEPA, January 2017); and the *Final Basewide Uniform Federal Policy (UFP) – Quality Assurance Project Plan (QAPP) Longhorn Army Ammunition Plant* (Bhate, May 2018).

1.2 Intended Use of Data

The objective of sampling at LHAAP-58 in December 2020 was to complete a semi-annual sampling event.

Analyses performed include:

- RSK-175 – Dissolved Gases
- SM5310C – Total Organic Carbon
- SW8260C – Volatile Organic Compounds (VOCs)
- SW9056A – Anions (chloride, nitrate, and sulfate)
- High Performance Liquid Chromatography (HPLC)-METACIDS – Volatile Fatty Acids (VFAs)
- CENSUS – Dechlorinating Bacteria (dehalococcoides [DHC]/dehalobacter [DHB])
- SW6020A – Arsenic

Table 1 lists the sample (ID) identification numbers and their associated laboratory package. **Table 2** lists qualified results with the qualification flag and reason code.

The following narrative is a brief synopsis of data that required qualification due to quality control discrepancies.

1.2 Preservation and Holding Times

Sample identification data were evaluated for agreement with the chain-of-custody (COC). All samples were received in appropriate containers, within the proper temperature range, in good condition, and within the required hold time.

1.3 Calibrations

All analytes reported must be present in the initial and continuing calibration. The calibrations must meet the acceptance criteria specified in Worksheet 24 (Analytical Instrument Calibration) of the QAPP. All results reported must be within the calibration range. Samples were diluted, if necessary, to bring analyte responses within the calibration range.

1.3.1 Continuing Calibration Verifications

The calibrations must meet the following criteria otherwise the compound is qualified J or UJ: The continuing calibration verification (CCV) criteria are 20 percent difference (%D) for VOCs and 50% for closing CCVs. Metals and general chemistry - 10%D; VFAs, dissolved gases, and TOC - 15%D.

The CCV recovery, of all compounds, was within control limits.

1.4 Blanks

If the analyte result for an associated sample was less than 5x (10x for common laboratory contaminants) the analyte concentration in the blank, that result was qualified "UB" and considered an artifact of blank contamination. Where the sample result for the affected analyte was non-detect or greater than 5x (10x) the amount in the blank, no qualifier was applied.

No data required qualification.

1.5 Surrogates

Surrogates were evaluated using limits defined by each method in the project-specific QAPP Worksheet 28.

No surrogates were reported outside control limits.

1.6 Laboratory Control Sample/Laboratory Control Sample Duplicate

The Laboratory control sample/laboratory control sample duplicate (LCSD) recovery of carbon dioxide was below control limits for samples 35AWW19_120320, 35AWW20_120320, 35AWW23_120320 and LHSMW07_120320. This compound was considered estimated and flagged "J".

1.7 Matrix Spike/Matrix Spike Duplicate Sample

Matrix spike/matrix spike duplicate (MS/MSD) recoveries were evaluated using limits defined in Worksheet 15 of the project-specific QAPP. When sample results were greater than 4x the spike amount, control limits were not applicable and require no qualification. Furthermore, if a MS/MSD analyses was performed on a batched (unrelated) sample no qualification was made to the sample data.

The MS recovery of Total Organic Carbon (TOC) was below control limits in the spiked samples 35AWW06_120120 and 35AWW20_120320 and flagged estimated "J". The MS and MSD recoveries of pyruvic acid in spiked sample 35AWW06_120120 were below control limits and flagged "UJ".

1.8 Internal Standards

If the percent recovery (%R) for an internal standard in a sample is not within the limit, the associated sample is qualified for those analytes associated with the internal standard(s) outside of the limit.

Internal standards were within acceptance criteria for the associated compounds.

1.9 Precision

Precision is the measure of variability of individual sample measurements.

1.9.1 Field Precision

Evaluation of field duplicates for precision was done using the relative percent difference (RPD). The RPD is defined as the difference between two duplicate samples divided by the mean and expressed as a percent. Field duplicate RPD limits were set at <30% for groundwater.

The RPD between sample 35AWW11_120120 and its duplicate was above control limits for sulfate and methane. These compounds were considered estimated and flagged "J" in both sample and duplicate.

1.9.2 Lab Precision

The laboratory RPDs were within control limits.

2.0 DATA USABILITY SUMMARY

The data are usable for the intended purposes of the project (**Table 3**). The data quality objectives have been met for the project.

Table 1: Field Sample Identification and Laboratory Packages

Client Sample ID	Lab Package/ID	SM5310C	SW8260C	HPLC-METACIDS	SW9056A	RSK-175	CENSUS	Arsenic 6020A
03WW01_120120	HS20120090	X	X	X	X	X	X	X
35AWW01_120720	HS20120479		X					X
35AWW05 _120320	HS20120247		X					
35AWW06 _120120	HS20120090	X	X	X	X	X	X	
35AWW08 _120120	HS20120090	X	X	X	X	X	X	X
35AWW09 _120720	HS20120479		X					
35AWW10 _120720	HS20120479		X					
35AWW10 _120720_a	HS20120479		X					
35AWW11_120120	HS20120090	X	X	X	X	X	X	
35AWW11_120120-a	HS20120090	X	X	X	X	X	X	
35AWW12_120720	HS20120479		X					
35AWW13_120720	HS20120479		X					
35AWW14_120720	HS20120479		X					
35AWW15_120120	HS20120090		X					
35AWW16 _120120	HS20120090		X					
35AWW17 _120120	HS20120090		X					
35AWW18_120120	HS20120090		X					
35AWW18_120120_a	HS20120090		X					
35AWW19_120320	HS20120247	X	X	X	X	X	X	
35AWW20_120320	HS20120247	X	X	X	X	X	X	
35AWW21_120720	HS20120479		X					
35AWW22_120720	HS20120479		X					
35AWW23_120320	HS20120247	X	X	X	X	X	X	
35AWW24_120320	HS20120247		X					
LHSMW06_120320	HS20120247		X					X
LHSMW07_120320	HS20120247	X	X	X	X	X	X	

Table 2: Qualified Analytical Data

Client Sample ID Laboratory	Laboratory Package	Analyte Name	Result and Qualifier	Reason for Qualification
35AWW06 _120120	HS20120090	TOC Pyruvic Acid	8.67 J 0.10 UJ	MS < MS/MSD <
35AWW11_120120	HS20120090	Methane Sulfate	1,800 J 415 J	FD RPD
35AWW11_120120-a	HS20120090	Methane Sulfate	4,400 J 295 J	FD RPD
35AWW19_120320	HS20120247	Carbon Dioxide	440,000 J	LCSD <
35AWW20_120320	HS20120247	Carbon Dioxide TOC	370,000 J 12 J	LCSD < MS <
35AWW23_120320	HS20120247	Carbon Dioxide	540,000 J	LCSD <
LHSMW07_120320	HS20120247	Carbon Dioxide	260,000 J	LCSD <

Notes
J – Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.
UJ – The analyte was not detected; however, the result is estimated due to discrepancies in meeting certain analyte-specific quality control criteria.
FD RPD – the relative percent difference between sample and field duplicate was outside control limits
LCSD < – laboratory control sample duplicate recoveries were below control limits
MS/MSD <– matrix spike/duplicate recoveries below control limits

Table 3: Completeness by Method

Method	No. of Rejected Results	% Completeness
SM5310C	0	100
SW8260C	0	100
HPLC-METACIDS	0	100
SW9056A	0	100
RSK-175	0	100
CENSUS	0	100
SW6020A	0	100

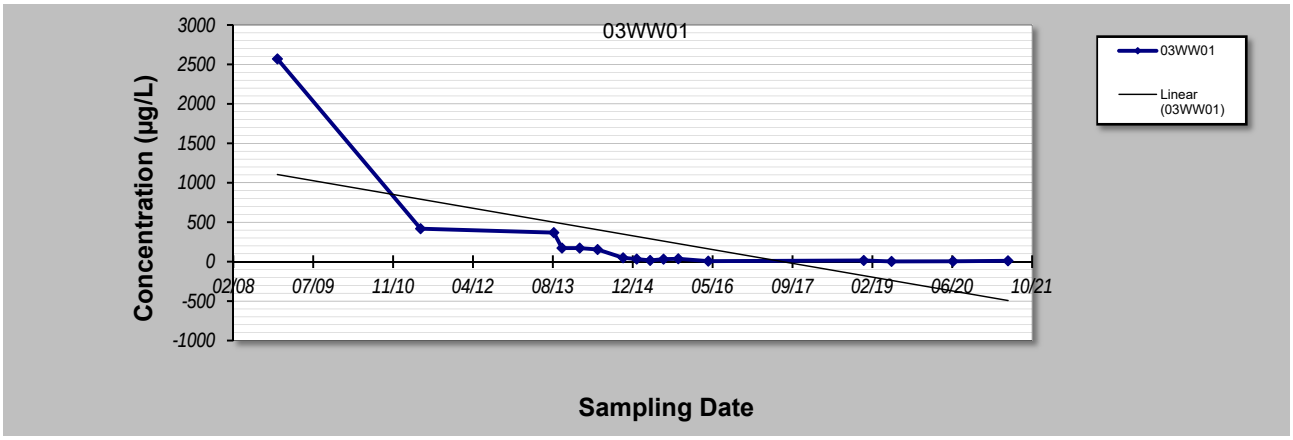
APPENDIX G
MANN-KENDALL TREND TEST RESULTS

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GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	8/3/2021	Job ID:	NWO1312.0150
Facility Name:	LHAAP-58	Constituent:	Tetrachloroethene
Conducted By:	Zachary Beck	Concentration Units:	µg/L
Sampling Point ID:	03WW01		

Sampling Event	Sampling Date	TETRACHLOROETHENE CONCENTRATION (µg/L)
1	24-Nov-08	2570
2	9-May-11	418
3	20-Aug-13	368
4	10-Oct-13	172
5	29-Jan-14	172
6	21-May-14	154
7	28-Oct-14	48.6
8	21-Jan-15	32.8
9	15-Apr-15	15.9
10	8-Jul-15	31.4
11	8-Oct-15	36.4
12	13-Apr-16	6.49
13	12-Dec-18	15
14	4-Jun-19	3.2
15	23-Jun-20	4.5
16	2-Jun-21	11
17		
18		
19		
20		
Coefficient of Variation:		2.49
Mann-Kendall Statistic (S):		-101
Confidence Factor:		>99.9%
Concentration Trend:		Decreasing



Notes:

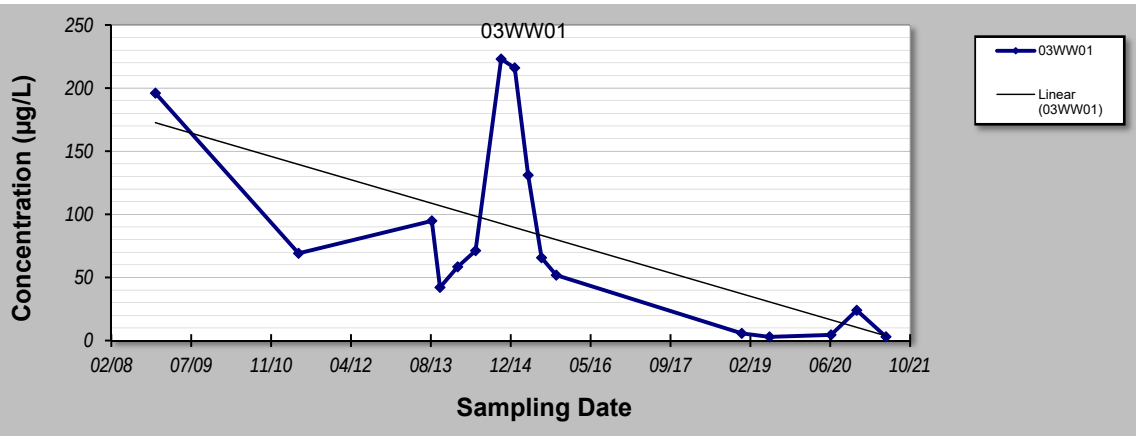
1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water* , 41(3):355-367, 2003.
4. Any ND values <50 have been excluded.

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GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	3-Aug-21	Job ID:	NWO1312.0150
Facility Name:	LHAAP-58	Constituent:	Trichloroethene
Conducted By:	Zachary Beck	Concentration Units:	µg/L
Sampling Point ID:	03WW01		

Sampling Event	Sampling Date	TRICHLOROETHENE CONCENTRATION (µg/L)
1	24-Nov-08	196
2	9-May-11	69.1
3	20-Aug-13	94.8
4	10-Oct-13	42.1
5	29-Jan-14	58.4
6	21-May-14	71.2
7	28-Oct-14	223
8	21-Jan-15	216
9	15-Apr-15	131
10	8-Jul-15	65.6
11	8-Oct-15	51.8
12	12-Dec-18	5.7
13	4-Jun-19	2.9
14	23-Jun-20	4.5
15	1-Dec-20	24
16	2-Jun-21	3
17		
18		
19		
20		
Coefficient of Variation:		0.95
Mann-Kendall Statistic (S):		-60
Confidence Factor:		99.7%
Concentration Trend:		Decreasing



Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
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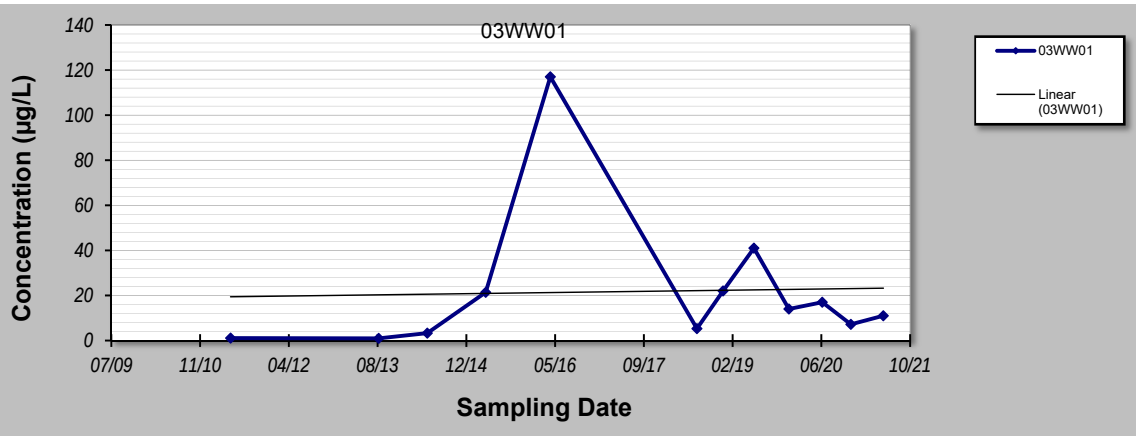
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GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	3-Aug-21	Job ID:	NWO1312.0150
Facility Name:	LHAAP-58	Constituent:	CIS-1,2-DICHLOROETHENE
Conducted By:	Zachary Beck	Concentration Units:	µg/L

Sampling Point ID: **03WW01**

Sampling Event	Sampling Date	CIS-1,2-DICHLOROETHENE CONCENTRATION (µg/L)
1	9-May-11	1.1
2	20-Aug-13	0.978
3	21-May-14	3.3
4	15-Apr-15	21.4
5	13-Apr-16	117
6	18-Jul-18	5.3
7	12-Dec-18	22
8	4-Jun-19	41
9	18-Dec-19	14
10	23-Jun-20	17
11	1-Dec-20	7.2
12	2-Jun-21	11
13		
14		
15		
16		
17		
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19		
20		
Coefficient of Variation:		1.47
Mann-Kendall Statistic (S):		16
Confidence Factor:		84.5%
Concentration Trend:		No Trend



Notes:

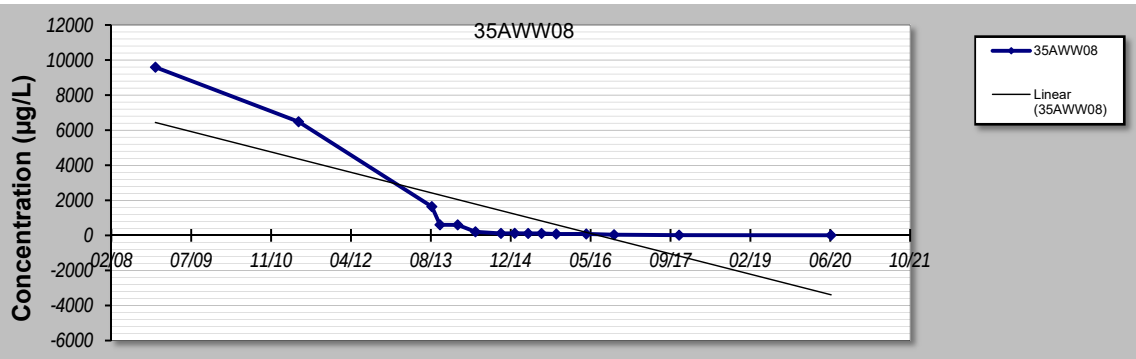
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GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	3-Aug-21	Job ID:	NWO1312.0150
Facility Name:	LHAAP-58	Constituent:	Tetrachloroethene
Conducted By:	Zachary Beck	Concentration Units:	µg/L
Sampling Point ID:	35AWW08		

Sampling Event	Sampling Date	TETRACHLOROETHENE CONCENTRATION (µg/L)
1	24-Nov-08	9590
2	9-May-11	6480
3	20-Aug-13	1640
4	10-Oct-13	603
5	29-Jan-14	599
6	20-May-14	204
7	27-Oct-14	112
8	21-Jan-15	119
9	15-Apr-15	110
10	8-Jul-15	110
11	8-Oct-15	79
12	13-Apr-16	80.1
13	4-Oct-16	36.9
14	15-Nov-17	12
15	23-Jun-20	6.7
16		
17		
18		
19		
20		
Coefficient of Variation:		2.14
Mann-Kendall Statistic (S):		-100
Confidence Factor:		>99.9%
Concentration Trend:		Decreasing



Notes:

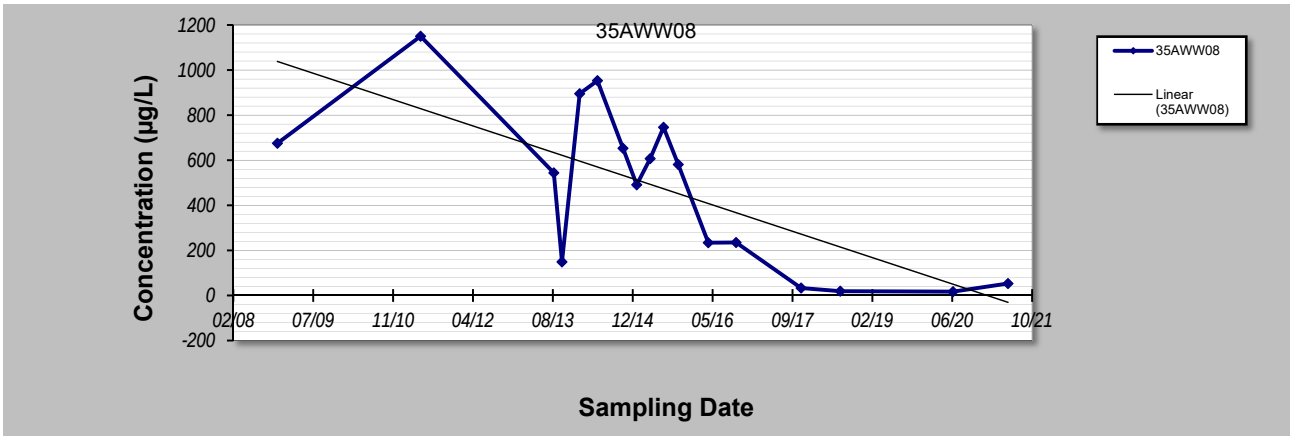
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3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water* , 41(3):355-367, 2003.
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GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	2-Sep-20	Job ID:	NWO1312.0150
Facility Name:	LHAAP-58	Constituent:	Trichloroethene
Conducted By:	Emma Gardner	Concentration Units:	µg/L
Sampling Point ID:	35AWW08		

Sampling Event	Sampling Date	TRICHLOROETHENE CONCENTRATION (µg/L)
1	24-Nov-08	675
2	9-May-11	1150
3	20-Aug-13	544
4	10-Oct-13	149
5	29-Jan-14	895
6	20-May-14	953
7	27-Oct-14	653
8	21-Jan-15	491
9	15-Apr-15	607
10	8-Jul-15	746
11	8-Oct-15	581
12	13-Apr-16	234
13	4-Oct-16	235
14	15-Nov-17	33
15	18-Jul-18	19
16	23-Jun-20	17
17	2-Jun-21	53
18		
19		
20		
Coefficient of Variation:		0.76
Mann-Kendall Statistic (S):		-78
Confidence Factor:		100.0%
Concentration Trend:		Decreasing



Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
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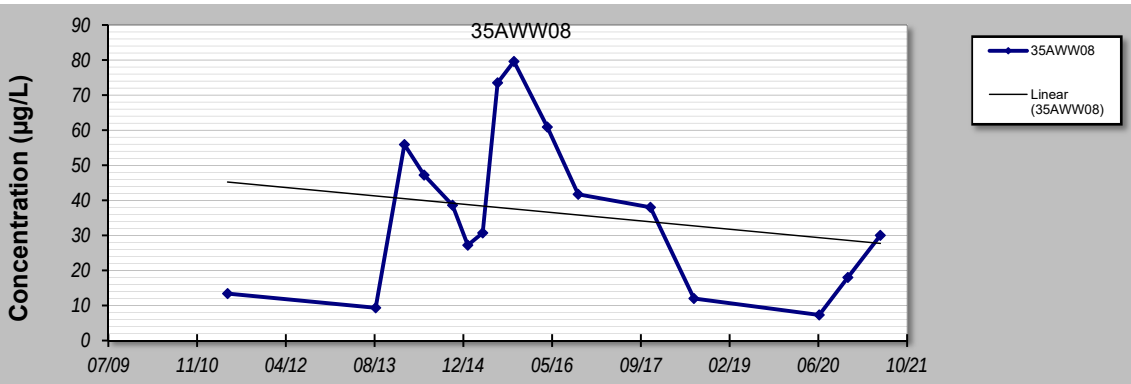
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GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	3-Aug-21	Job ID:	NWO1312.0150
Facility Name:	LHAAP-58	Constituent:	CIS-1,2-DICHLOROETHENE
Conducted By:	Zachary Beck	Concentration Units:	µg/L

Sampling Point ID: **35AWW08**

Sampling Event	Sampling Date	CIS-1,2-DICHLOROETHENE CONCENTRATION (µg/L)
1	9-May-11	13.4
2	20-Aug-13	9.35
3	29-Jan-14	55.9
4	20-May-14	47.2
5	27-Oct-14	38.6
6	21-Jan-15	27.2
7	15-Apr-15	30.7
8	8-Jul-15	73.5
9	8-Oct-15	79.6
10	13-Apr-16	60.9
11	4-Oct-16	41.7
12	15-Nov-17	38
13	18-Jul-18	12
14	23-Jun-20	7.3
15	1-Dec-20	18
16	2-Jun-21	30
17		
18		
19		
20		
Coefficient of Variation:		0.62
Mann-Kendall Statistic (S):		-14
Confidence Factor:		71.8%
Concentration Trend:		Stable



Notes:

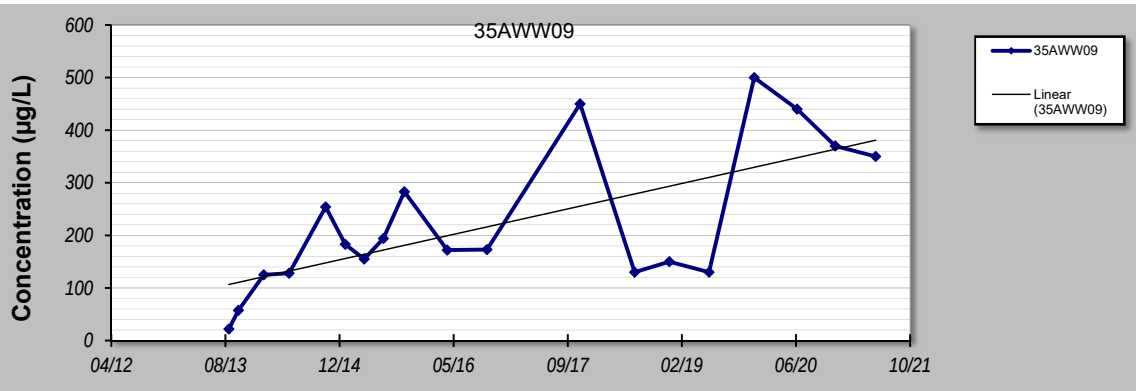
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GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	3-Aug-21	Job ID:	NWO1312.0150
Facility Name:	LHAAP-58	Constituent:	Tetrachloroethene
Conducted By:	Zachary Beck	Concentration Units:	µg/L
Sampling Point ID:	35AWW09		

Sampling Event	Sampling Date	TETRACHLOROETHENE CONCENTRATION (µg/L)
1	29-Aug-13	21.9
2	10-Oct-13	57.6
3	29-Jan-14	125
4	20-May-14	128
5	27-Oct-14	254
6	21-Jan-15	183
7	14-Apr-15	155
8	7-Jul-15	194
9	7-Oct-15	283
10	12-Apr-16	172
11	3-Oct-16	173
12	15-Nov-17	450
13	12-Jul-18	130
14	11-Dec-18	150
15	3-Jun-19	130
16	18-Dec-19	500
17	23-Jun-20	440
18	7-Dec-20	370
19	2-Jun-21	350
20		
Coefficient of Variation:		0.61
Mann-Kendall Statistic (S):		78
Confidence Factor:		99.7%
Concentration Trend:		Increasing



Notes:

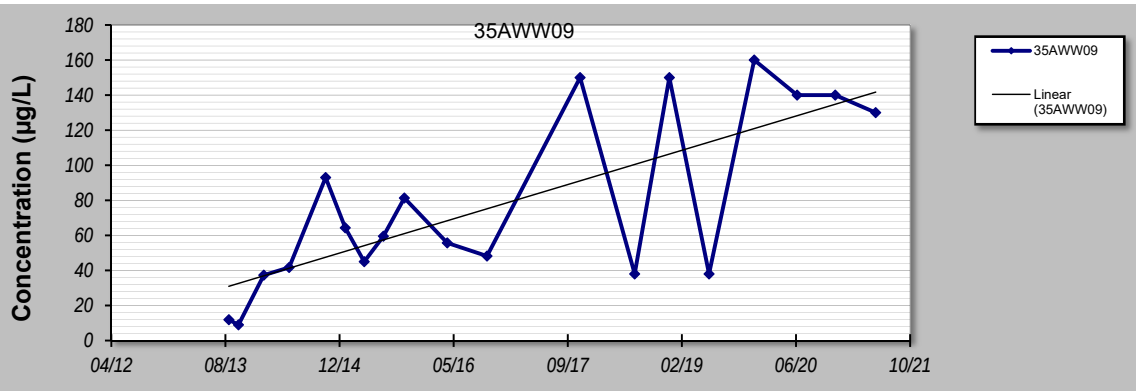
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GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	3-Aug-21	Job ID:	NWO1312.0150
Facility Name:	LHAAP-58	Constituent:	Trichloroethene
Conducted By:	Zachary Beck	Concentration Units:	µg/L
Sampling Point ID:	35AWW09		

Sampling Event	Sampling Date	TRICHLOROETHENE CONCENTRATION (µg/L)
1	29-Aug-13	11.9
2	10-Oct-13	8.97
3	29-Jan-14	37.3
4	20-May-14	41.7
5	27-Oct-14	93
6	21-Jan-15	64.3
7	14-Apr-15	45
8	7-Jul-15	59.5
9	7-Oct-15	81.3
10	12-Apr-16	55.7
11	3-Oct-16	48.2
12	15-Nov-17	150
13	12-Jul-18	38
14	11-Dec-18	150
15	3-Jun-19	38
16	18-Dec-19	160
17	23-Jun-20	140
18	7-Dec-20	140
19	2-Jun-21	130
20		
Coefficient of Variation:		0.64
Mann-Kendall Statistic (S):		76
Confidence Factor:		99.7%
Concentration Trend:		Increasing



Notes:

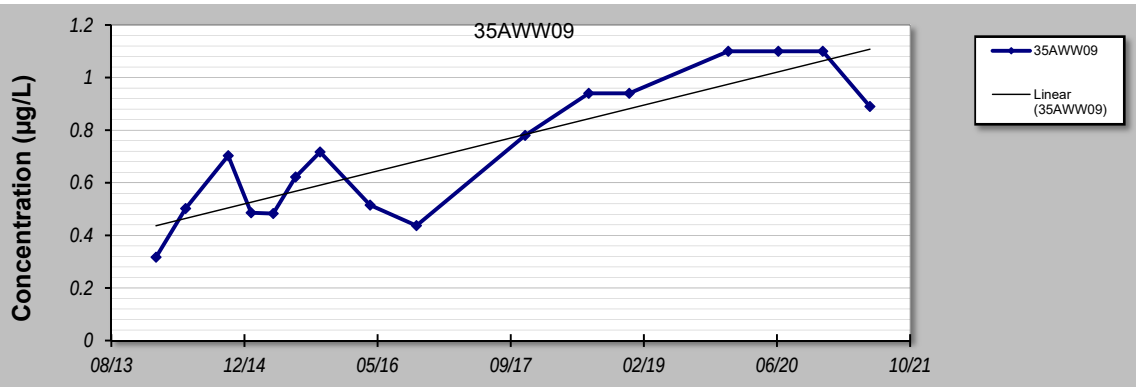
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GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	3-Aug-21	Job ID:	NWO1312.0150
Facility Name:	LHAAP-58	Constituent:	cis-1,2-Dichloroethene
Conducted By:	Zachary Beck	Concentration Units:	µg/L
Sampling Point ID:	35AWW09		

Sampling Event	Sampling Date	CIS-1,2-DICHLOROETHENE CONCENTRATION (µg/L)
1	29-Jan-14	0.317
2	20-May-14	0.502
3	27-Oct-14	0.703
4	21-Jan-15	0.486
5	14-Apr-15	0.483
6	7-Jul-15	0.622
7	7-Oct-15	0.717
8	12-Apr-16	0.515
9	3-Oct-16	0.437
10	15-Nov-17	0.78
11	12-Jul-18	0.94
12	11-Dec-18	0.94
13	18-Dec-19	1.1
14	23-Jun-20	1.1
15	7-Dec-20	1.1
16	2-Jun-21	0.89
17		
18		
19		
20		
Coefficient of Variation:		0.36
Mann-Kendall Statistic (S):		74
Confidence Factor:		>99.9%
Concentration Trend:		Increasing



Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water* , 41(3):355-367, 2003.
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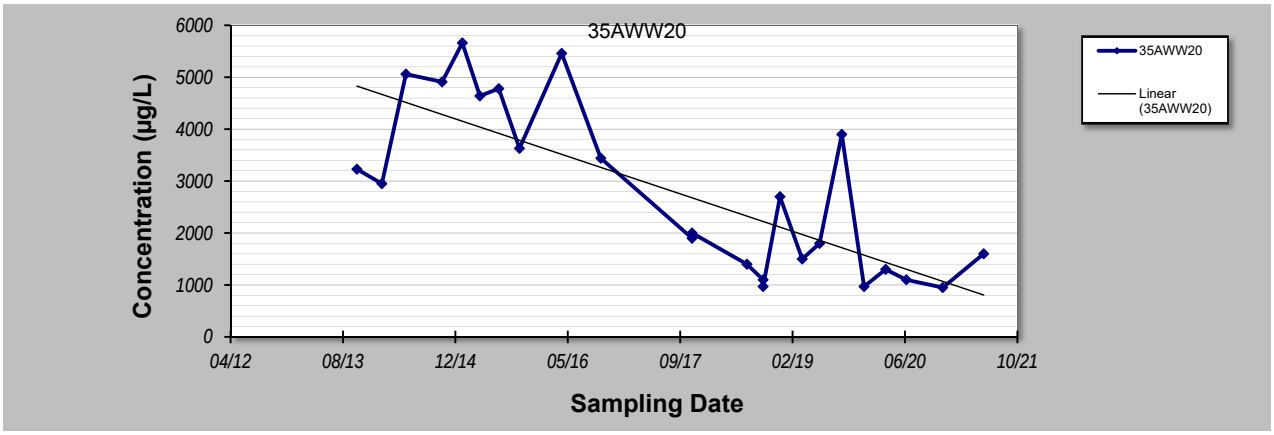
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GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	3-Aug-21	Job ID:	NWO1312.0150
Facility Name:	LHAAP-58	Constituent:	1,1-Dichloroethene
Conducted By:	Zachary Beck	Concentration Units:	µg/L

Sampling Point ID: **35AWW20**

Sampling Event	Sampling Date	1,1-DICHLOROETHENE CONCENTRATION (µg/L)
1	15-Oct-13	3230
2	3-Feb-14	2950
3	21-May-14	5060
4	29-Oct-14	4910
5	27-Jan-15	5660
6	15-Apr-15	4640
7	8-Jul-15	4780
8	8-Oct-15	3630
9	13-Apr-16	5460
10	4-Oct-16	3440
11	14-Nov-17	1900
12	14-Nov-17	2000
13	16-Jul-18	1400
14	26-Sep-18	1100
15	26-Sep-18	970
16	10-Dec-18	2700
17	19-Mar-19	1500
18	4-Jun-19	1800
19	11-Sep-19	3900
20	19-Dec-19	970
21	24-Mar-20	1300
22	24-Jun-20	1100
23	3-Dec-20	950
24	3-Jun-21	1600
25		
Coefficient of Variation:		0.58
Mann-Kendall Statistic (S):		-150
Confidence Factor:		>99.9%
Concentration Trend:		Decreasing



Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water* , 41(3):355-367, 2003.
4. Any ND values <50 have been excluded.

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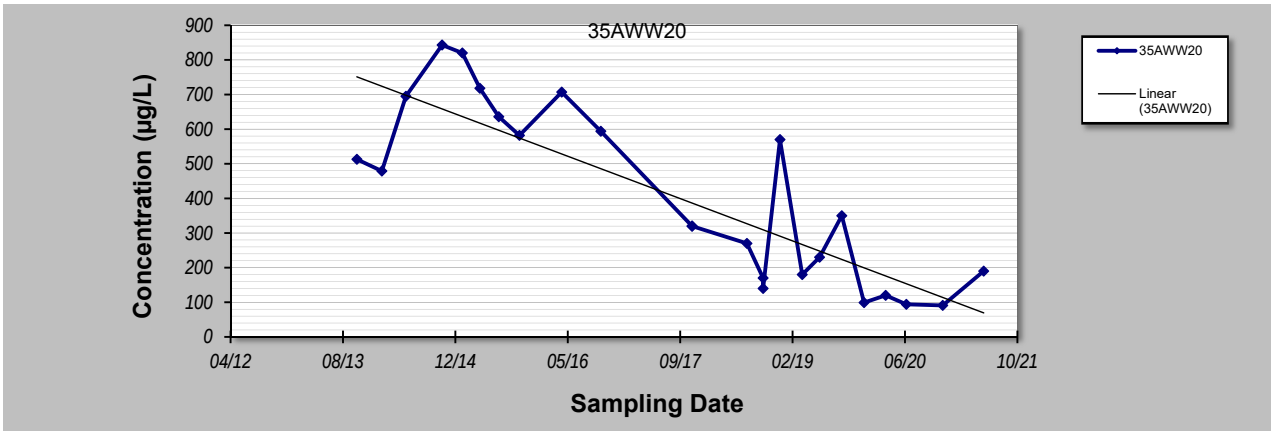
GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date: 3-Aug-21
Facility Name: LHAAP-58
Conducted By: Zachary Beck

Job ID: NWO1312.0150
Constituent: Trichloroethene
Concentration Units: µg/L

Sampling Point ID: 35AWW20

Sampling Event	Sampling Date	TRICHLOROETHENE CONCENTRATION (µg/L)
1	15-Oct-13	513
2	3-Feb-14	479
3	21-May-14	695
4	29-Oct-14	843
5	27-Jan-15	820
6	15-Apr-15	718
7	8-Jul-15	636
8	8-Oct-15	582
9	13-Apr-16	707
10	4-Oct-16	594
11	14-Nov-17	320
12	14-Nov-17	320
13	16-Jul-18	270
14	26-Sep-18	170
15	26-Sep-18	140
16	10-Dec-18	570
17	19-Mar-19	180
18	4-Jun-19	230
19	11-Sep-19	350
20	19-Dec-19	99
21	24-Mar-20	120
22	24-Jun-20	94
23	3-Dec-20	91
24	3-Jun-21	190
25		
Coefficient of Variation:		0.62
Mann-Kendall Statistic (S):		-175
Confidence Factor:		>99.9%
Concentration Trend:		Decreasing



Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water* , 41(3):355-367, 2003.
4. Any ND values <50 have been excluded.

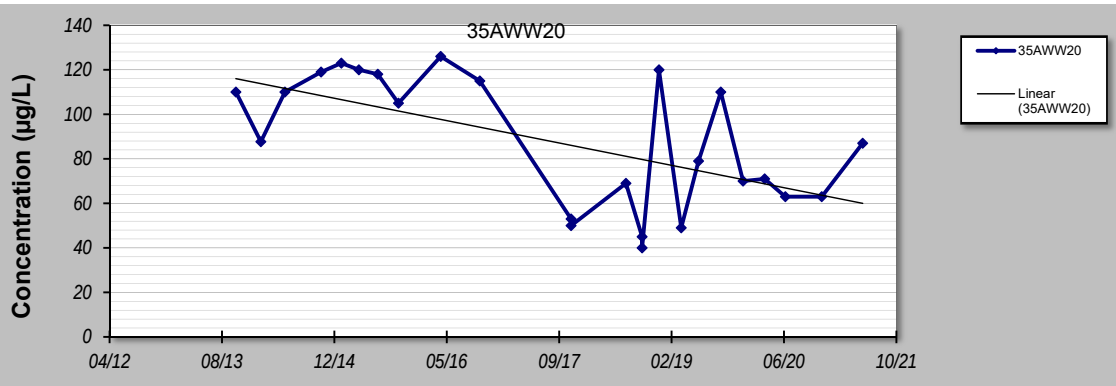
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GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	3-Aug-21	Job ID:	NWO1312.0150
Facility Name:	LHAAP-58	Constituent:	cis-1,2-Dichloroethene
Conducted By:	Zachary Beck	Concentration Units:	µg/L

Sampling Point ID: **35AWW20**

Sampling Event	Sampling Date	CIS-1,2-DICHLOROETHENE CONCENTRATION (µg/L)
1	15-Oct-13	110
2	3-Feb-14	87.7
3	21-May-14	110
4	29-Oct-14	119
5	27-Jan-15	123
6	15-Apr-15	120
7	8-Jul-15	118
8	8-Oct-15	105
9	13-Apr-16	126
10	4-Oct-16	115
11	14-Nov-17	53
12	14-Nov-17	50
13	16-Jul-18	69
14	26-Sep-18	45
15	26-Sep-18	40
16	10-Dec-18	120
17	19-Mar-19	49
18	4-Jun-19	79
19	11-Sep-19	110
20	19-Dec-19	70
21	24-Mar-20	71
22	24-Jun-20	63
23	3-Dec-20	63
24	3-Jun-21	87
25		
Coefficient of Variation:		0.33
Mann-Kendall Statistic (S):		-85
Confidence Factor:		98.2%
Concentration Trend:		Decreasing



Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water* , 41(3):355-367, 2003.
4. Any ND values <50 have been excluded.

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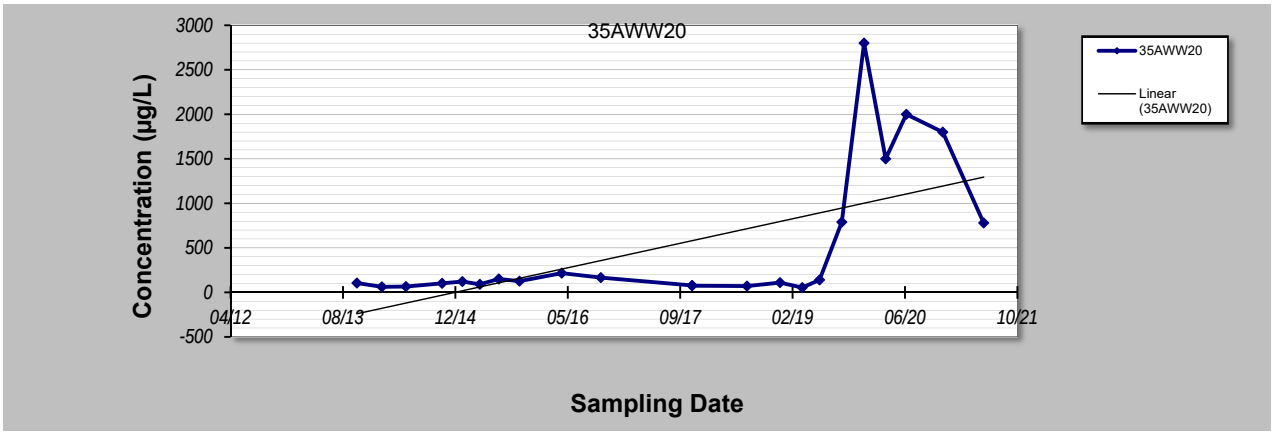
GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date: 3-Aug-21
Facility Name: LHAAP-58
Conducted By: Zachary Beck

Job ID: NWO1312.0150
Constituent: Vinyl Chloride
Concentration Units: µg/L

Sampling Point ID: 35AWW20

Sampling Event	Sampling Date	VINYL CHLORIDE CONCENTRATION (µg/L)
1	15-Oct-13	105
2	3-Feb-14	62.4
3	21-May-14	65.7
4	29-Oct-14	102
5	27-Jan-15	122
6	15-Apr-15	90.6
7	8-Jul-15	151
8	8-Oct-15	126
9	13-Apr-16	216
10	4-Oct-16	166
11	14-Nov-17	78
12	14-Nov-17	75
13	16-Jul-18	71
14	10-Dec-18	110
15	19-Mar-19	54
16	4-Jun-19	140
17	11-Sep-19	790
18	19-Dec-19	2800
19	24-Mar-20	1500
20	24-Jun-20	2000
21	3-Dec-20	1800
22	3-Jun-21	780
23		
24		
25		
Coefficient of Variation:		1.51
Mann-Kendall Statistic (S):		99
Confidence Factor:		99.8%
Concentration Trend:		Increasing



Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water* , 41(3):355-367, 2003.
4. Any ND values <50 have been excluded.

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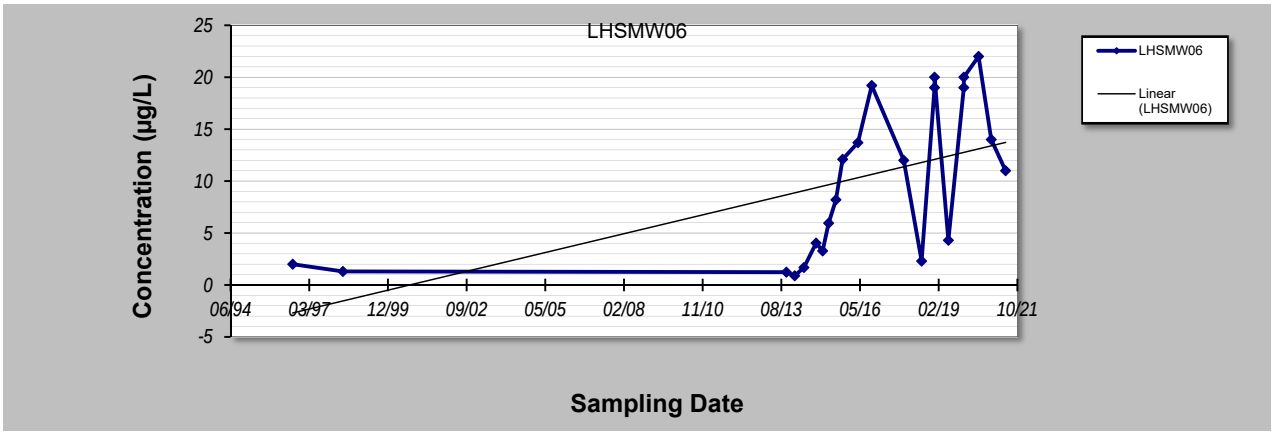
GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date: 3-Aug-21
Facility Name: LHAAP-58
Conducted By: Zachary Beck

Job ID: NWO1312.0150
Constituent: 1,1-Dichloroethene
Concentration Units: µg/L

Sampling Point ID: LHSMW06

Sampling Event	Sampling Date	1,1-DICHLOROETHENE CONCENTRATION (µg/L)
1	13-Aug-96	2
2	13-May-98	1.3
3	17-Oct-13	1.23
4	31-Jan-14	0.884
5	28-May-14	1.68
6	30-Oct-14	4.03
7	21-Jan-15	3.28
8	7-Apr-15	5.95
9	9-Jul-15	8.2
10	2-Oct-15	12.1
11	13-Apr-16	13.7
12	6-Oct-16	19.2
13	17-Nov-17	12
14	2-Jul-18	2.3
15	13-Dec-18	19
16	13-Dec-18	20
17	7-Jun-19	4.3
18	20-Dec-19	19
19	20-Dec-19	20
20	25-Jun-20	22
21	3-Dec-20	14
22	3-Jun-21	11
23		
24		
25		
Coefficient of Variation:		0.76
Mann-Kendall Statistic (S):		137
Confidence Factor:		>99.9%
Concentration Trend:		Increasing



Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water* , 41(3):355-367, 2003.
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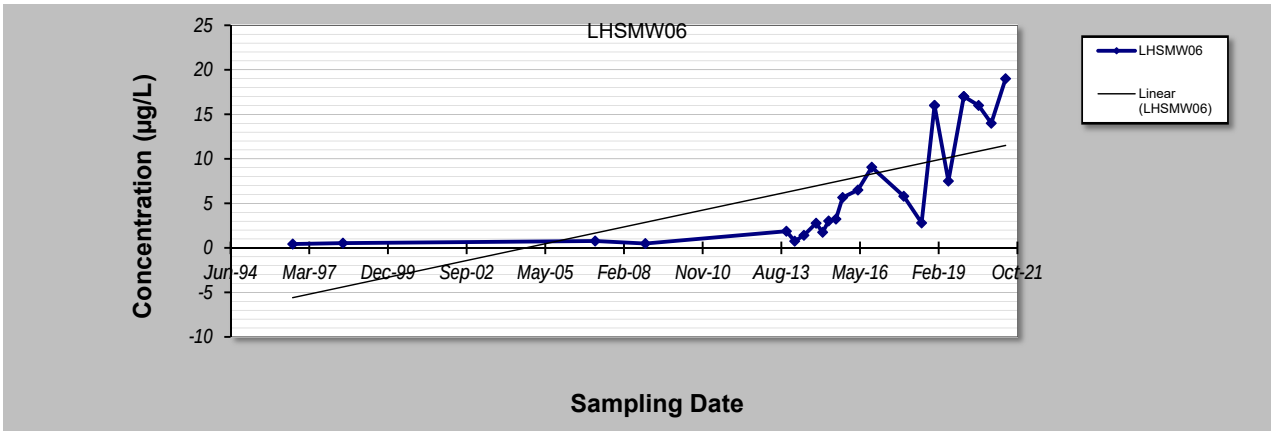
GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date: 3-Aug-21
Facility Name: LHAAP-58
Conducted By: Zachary Beck

Job ID: NWO1312.0150
Constituent: Trichloroethene
Concentration Units: µg/L

Sampling Point ID: LHSMW06

Sampling Event	Sampling Date	TRICHLOROETHENE CONCENTRATION (µg/L)
1	13-Aug-96	0.43
2	13-May-98	0.53
3	21-Feb-07	0.77
4	19-Nov-08	0.486
5	17-Oct-13	1.87
6	31-Jan-14	0.751
7	28-May-14	1.41
8	30-Oct-14	2.77
9	21-Jan-15	1.75
10	7-Apr-15	3.02
11	9-Jul-15	3.23
12	2-Oct-15	5.66
13	13-Apr-16	6.5
14	6-Oct-16	9.06
15	17-Nov-17	5.8
16	2-Jul-18	2.8
17	13-Dec-18	16
18	13-Dec-18	16
19	7-Jun-19	7.5
20	20-Dec-19	17
21	20-Dec-19	17
22	25-Jun-20	16
23	3-Dec-20	14
24	3-Jun-21	19
25		
Coefficient of Variation:		0.93
Mann-Kendall Statistic (S):		222
Confidence Factor:		>99.9%
Concentration Trend:		Increasing



Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water* , 41(3):355-367, 2003.
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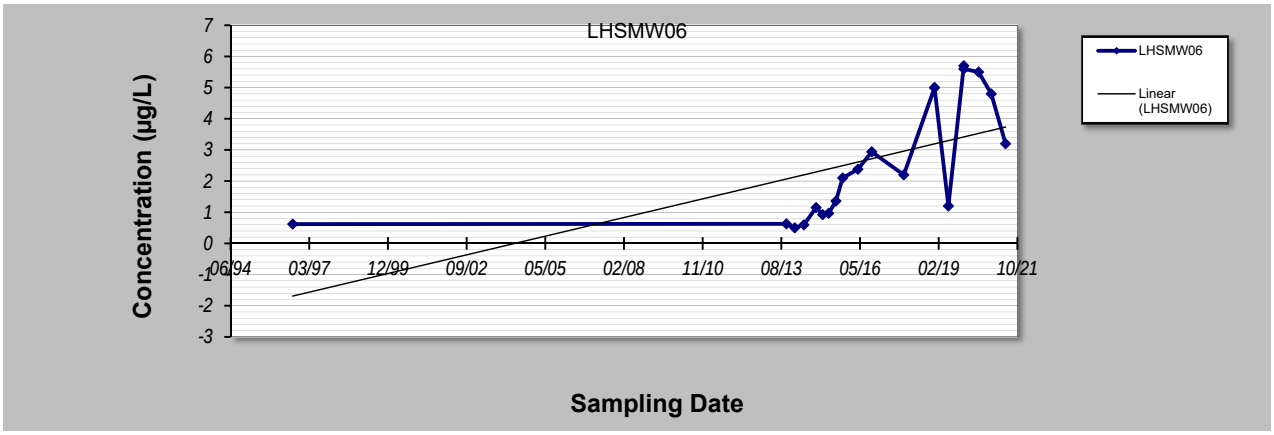
GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date: 3-Aug-21
Facility Name: LHAAP-58
Conducted By: Zachary Beck

Job ID: NWO1312.0150
Constituent: Vinyl Chloride
Concentration Units: µg/L

Sampling Point ID: LHSMW06

Sampling Event	Sampling Date	VINYL CHLORIDE CONCENTRATION (µg/L)
1	13-Aug-96	0.62
2	17-Oct-13	0.627
3	31-Jan-14	0.5
4	28-May-14	0.597
5	30-Oct-14	1.15
6	21-Jan-15	0.924
7	7-Apr-15	0.967
8	9-Jul-15	1.36
9	2-Oct-15	2.1
10	13-Apr-16	2.38
11	6-Oct-16	2.94
12	17-Nov-17	2.2
13	13-Dec-18	5
14	13-Dec-18	5
15	7-Jun-19	1.2
16	20-Dec-19	5.7
17	20-Dec-19	5.6
18	25-Jun-20	5.5
19	3-Dec-20	4.8
20	3-Jun-21	3.2
21		
22		
23		
24		
25		
Coefficient of Variation:		0.74
Mann-Kendall Statistic (S):		131
Confidence Factor:		>99.9%
Concentration Trend:		Increasing



Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water* , 41(3):355-367, 2003.
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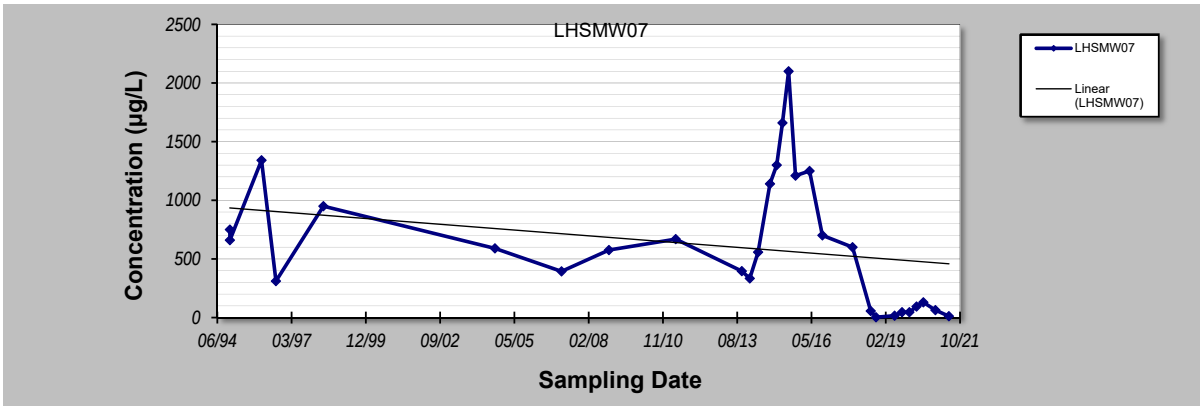
GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date: 3-Aug-21
Facility Name: LHAAP-58
Conducted By: Zachary Beck

Job ID: NWO1312.0150
Constituent: 1,1-Dichloroethene
Concentration Units: µg/L

Sampling Point ID: LHSMW07

Sampling Event	Sampling Date	1,1-DICHLOROETHENE CONCENTRATION (µg/L)
1	1-Dec-94	750
2	1-Dec-94	660
3	31-Jan-96	1341
4	12-Aug-96	311
5	13-May-98	950
6	8-Sep-04	590
7	21-Feb-07	394
8	21-Nov-08	576
9	9-May-11	669
10	15-Oct-13	396
11	30-Jan-14	334
12	22-May-14	558
13	29-Oct-14	1140
14	28-Jan-15	1300
15	15-Apr-15	1660
16	7-Jul-15	2100
17	8-Oct-15	1210
18	14-Apr-16	1250
19	4-Oct-16	701
20	14-Nov-17	600
21	17-Jul-18	56
22	26-Sep-18	3.1
23	3-Jun-19	16
24	11-Sep-19	46
25	19-Dec-19	46
26	24-Mar-20	94
27	24-Jun-20	130
28	3-Dec-20	64
29	3-Jun-21	12
30		
Coefficient of Variation:		0.90
Mann-Kendall Statistic (S):		-133
Confidence Factor:		99.4%
Concentration Trend:		Decreasing



Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water* , 41(3):355-367, 2003.
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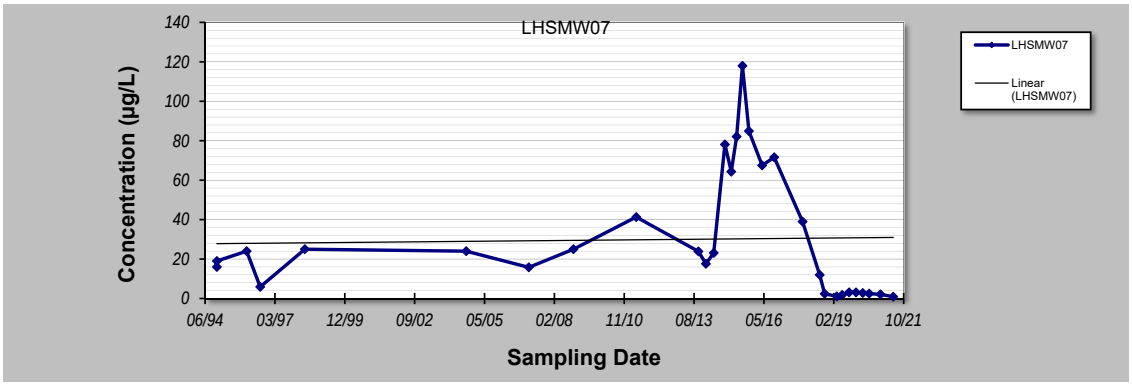
GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date: 3-Aug-21
Facility Name: LHAAP-58
Conducted By: Zachary Beck

Job ID: NWO1312.0150
Constituent: Trichloroethene
Concentration Units: µg/L

Sampling Point ID: LHSMW07

Sampling Event	Sampling Date	TRICHLOROETHENE CONCENTRATION (µg/L)
1	1-Dec-94	16
2	1-Dec-94	19
3	31-Jan-96	24
4	12-Aug-96	5.9
5	13-May-98	25
6	8-Sep-04	24
7	21-Feb-07	15.8
8	21-Nov-08	25
9	9-May-11	41.3
10	15-Oct-13	23.9
11	30-Jan-14	17.6
12	22-May-14	23.1
13	29-Oct-14	78.1
14	28-Jan-15	64.3
15	15-Apr-15	82.1
16	7-Jul-15	118
17	8-Oct-15	84.9
18	14-Apr-16	67.5
19	4-Oct-16	71.6
20	14-Nov-17	39
21	17-Jul-18	12
22	26-Sep-18	2.4
23	19-Mar-19	1.1
24	3-Jun-19	1.8
25	11-Sep-19	3.1
26	19-Dec-19	3.1
27	24-Mar-20	2.8
28	24-Jun-20	2.5
29	3-Dec-20	2.1
30	3-Jun-21	0.91
31		
32		
33		
34		
35		
Coefficient of Variation:		1.06
Mann-Kendall Statistic (S):		-114
Confidence Factor:		97.8%
Concentration Trend:		Decreasing



Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water* , 41(3):355-367, 2003.
4. Any ND values <50 have been excluded.

DISCLAIMER: The GSI Mann-Kendall Toolkit is available "as is". Considerable care has been exercised in preparing this software product; however, no party, including without limitation GSI Environmental Inc., makes any representation or warranty regarding the accuracy, correctness, or completeness of the information contained herein, and no such party shall be liable for any direct, indirect, consequential, incidental or other damages resulting from the use of this product or the information contained herein. Information in this publication is subject to change without notice. GSI Environmental Inc., disclaims any responsibility or obligation to update the information contained herein.

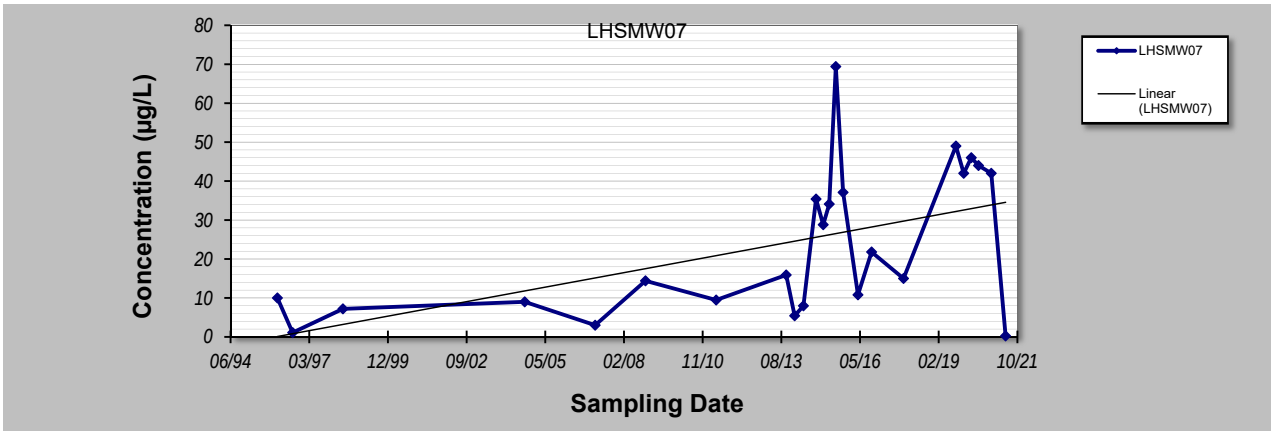
GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date: **3-Aug-21**
Facility Name: **LHAAP-58**
Conducted By: **Zachary Beck**

Job ID: **NWO1312.0150**
Constituent: **Vinyl Chloride**
Concentration Units: **µg/L**

Sampling Point ID: **LHSMW07**

Sampling Event	Sampling Date	VINYL CHLORIDE CONCENTRATION (µg/L)
1	31-Jan-96	10
2	12-Aug-96	1.1
3	13-May-98	7.2
4	8-Sep-04	9
5	21-Feb-07	3
6	21-Nov-08	14.4
7	9-May-11	9.47
8	15-Oct-13	15.9
9	30-Jan-14	5.43
10	22-May-14	7.98
11	29-Oct-14	35.4
12	28-Jan-15	28.8
13	15-Apr-15	34.1
14	7-Jul-15	69.4
15	8-Oct-15	37.1
16	14-Apr-16	10.8
17	4-Oct-16	21.8
18	14-Nov-17	15
19	11-Sep-19	49
20	19-Dec-19	42
21	24-Mar-20	46
22	24-Jun-20	44
23	3-Dec-20	42
24	3-Jun-21	0.25
25		
Coefficient of Variation:		**0.81**
Mann-Kendall Statistic (S):		**123**
Confidence Factor:		**99.9%**
Concentration Trend:		Increasing



Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
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4 Any ND values <50 have been excluded.

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DEPARTMENT OF THE ARMY
LONGHORN ARMY AMMUNITION PLANT
POST OFFICE BOX 220
RATCLIFF, AR 72951

January 27, 2023

DAIN-ODB-LO

Mr. Brian Follin
U.S. Environmental Protection Agency
1201 Elm Street, Suite 500
Dallas, TX 75270-2002

Re: Draft Final Fifth Annual Remedial Action Operation Report, LHAAP-35B (37) (Chemical Laboratory), Longhorn Army Ammunition Plant, Karnack, Texas, January 2023

Dear Mr. Follin,

An electronic copy of the above referenced document has been added to the project portal's "Documents" folder at the following address for your review: (https://docs.cbifederalservices.com/sites/501032/regulators/Shared%20Documents/Forms/AllItems.aspx). An electronic copy of this letter and download instructions for the electronic file have been sent via email. The document includes revisions based upon the Environmental Protection Agency (EPA) comments on the Draft version received on December 27, 2022. This document also includes revisions based upon the Texas Commission on Environmental Quality comments on the Draft version received on December 28, 2022. Tables of responses to the EPA and TCEQ comments on the Draft version are included with this Draft Final document. In accordance with the Federal Facility Agreement, this Draft Final will be considered Final after 30 days without further comment.

The document was prepared by Bhate Environmental Associates, Inc., (Bhate) team, on behalf of the Army as part of Bhate's Performance Based Remediation contract for the facility. I ask that Kim Nemmers, Bhate's Project Manager, be copied on any communications related to the project.

The point of contact for this action is the undersigned. I may be contacted at (571) 403-3232, or by email at rose.m.zeiler.ctr@army.mil.

Sincerely,

Rose M. Zeiler, Ph.D.
Longhorn AAP Site Manager

Electronic Copies furnished:
A. Palmie, TCEQ, Austin, TX
P. Bruckwicki, USFWS, Caddo Lake NWR, TX (1 hard copy and 1 CD)
C. Montoya, USACE, Tulsa District, OK
A. Williams, USACE, Tulsa District, OK
L. Sierocinski, USAEC, San Antonio, TX
K. Nemmers, Bhate, Lakewood, CO
P. Srivastav, APTIM, Houston, TX

DEPARTMENT OF THE ARMY
LONGHORN ARMY AMMUNITION PLANT
POST OFFICE BOX 220
RATCLIFF, AR 72951

January 27, 2023

DAIN-ODB-LO

Ms. April Palmie
Texas Commission on Environmental Quality
Superfund Section, MC-136
12100 Park 35 Circle, Bldg D
Austin, TX 78753

Re: Draft Final Fourth Annual Remedial Action Operation Report, LHAAP-35B (37) (Chemical Laboratory), Longhorn Army Ammunition Plant, Karnack, Texas, January 2023

Dear Ms. Palmie,

An electronic copy of the above referenced document has been added to the project portal's "Documents" folder at the following address for your review: (https://docs.cbifederalservices.com/sites/501032/regulators/Shared%20Documents/Forms/AllItems.aspx). An electronic copy of this letter and download instructions for the electronic file have been sent via email. The document includes revisions based upon the Environmental Protection Agency (EPA) comments on the Draft version received on December 27, 2022. This document also includes revisions based upon the Texas Commission on Environmental Quality comments on the Draft version received on December 28, 2022. Tables of responses to the EPA and TCEQ comments on the Draft version are included with this Draft Final document. In accordance with the Federal Facility Agreement, this Draft Final will be considered Final after 30 days without further comment.

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The point of contact for this action is the undersigned. I may be contacted at (571) 403-3232, or by email at rose.m.zeiler.ctr@army.mil.

Sincerely,

Rose M. Zeiler, Ph.D.
Longhorn AAP Site Manager

Electronic Copies furnished:
B. Follin, USEPA Region 6, Dallas, TX
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Response to Comments on
Draft Fifth Annual Remedial Action Operation Report, LHAAP-35B (37)
(Chemical Laboratory)
Longhorn Army Ammunition Plant, Karnack, Texas

Document Date: 30 November 2022
Comment Date: 27 December 2022

Reviewer: Brian Follin, EPA
Respondent: Dr. Rose Zeiler

1. Respondent Concurs (C), Does Not Concur (D), Takes Exception (E), or Delete (X)
2. Commenter Agrees (A) with response, or Does Not Agree (D) with response

Comment Ref. #	Section, Page Ref.	EPA Comment	C, D, E, or X	Response	A or D[2]
1.	Section 1.4	2nd to last sentence in paragraph. There is an extraneous "s" after 35BWW03.	C	The extraneous "s" has been removed.	
2.	Section 2.2.2	4th sentence. Sentence indicates groundwater level from well 35BWW03 was not used to construct the potentiometric-surface map; however, fig. 2-2 indicates the water level in the well was not measured (using "NM" parenthetical/designation). "Not measured" and "not used" are not equivalent. Consequently, either the text in this sentence or the parenthetical for the well in fig. 2-2 needs revised.	C	Figure 2-2 was revised. At 35BWW03, an asterisk was added to note the data was not used to create the potentiometric surface and elevation (173.40 feet) was added. Section 2.2.2 text modified as follows to clarify that data from the two wells were not used to draw potentiometric maps: "Also, groundwater levels from 35BWW03 were not used because it is an intermediate zone well, and groundwater levels from 35BWW06 were not used because it is screened in the lower shallow zone."	
3.	Section 2.3	Wording and explanation provided to describe potential hydraulic connection between Goose Prairie Creek and likely perched zone in which well 35BWW01 is completed (i.e., indicating/implying groundwater elevations "could influence" the creek) is	C	The text in Section 2.3 has been revised to address the comment as follows: "At monitoring well 35BWW01, groundwater elevations have been observed above the creek bottom during some of the sampling events between 2013 and	

		unusual/awkward/confusing. Should revise the sentences to explain the potential hydraulic connection (or absence of connection, depending on temporally varying groundwater-level elevations in the perched zone) more clearly between the two when groundwater-level elevations measured in well are above or below the creek. This connection would help to explain contribution of GW to surface water contamination, but it would seem beneficial to continue monitoring SW to ensure migration of contamination through SW is not occurring. If contamination is found in surface water, then we would look at other sources or connection to the creek.		2022 (Table 2-2). During the Year 5 RA-O, groundwater levels were observed above the creek bottom in November 2021 and May 2022 sampling events. The noticeably higher groundwater levels observed at 35BWW01, compared to other shallow wells at the site, suggests that the groundwater at 35BWW01 may be perched and could potentially influence the creek. However, no COCs at this well have been detected, and therefore, there will be no migration of contaminants from the perched zone to the creek." Noted. As indicated in Section 2.3, paragraph 1, the creek is being monitored annually until the first Five Year Review. A decision to continue surface water sampling would be made as part of the Five Year Review process.	
4.	Section 2.3	Should cite the sources of info presented in this paragraph at the end of the appropriate sentences, including possibly table 2-2 and/or figs. 2-2 and 2-3. If figs. 2-2 and/or 2-3 are cited here, would need to add the 2 surface-water sites to both figs.	C	Reference to the RACR (AECOM 2016) has been added to the last sentence of the first paragraph. The following sentence has been added as the last sentence in the first paragraph: "Groundwater elevations are presented in **Table 2-2** and on the potentiometric surface figures (**Figures 2-2** and **2-3**)." Surface water sample locations 35BSW01 and 35BSW02 have been added to Figures 2-2 and 2-3.	
5.	Section 3.1	First Line of Evidence: Change in COC Concentrations, 1st sentence. Believe authors mistakenly used "a**b**sorption" instead of "a**d**sorption?"	C	The text has been revised to state "sorption" as discussed in the EPA technical protocol for monitored natural attenuation (USEPA, 1998).	

6.	Section 3.1	First Line of Evidence: Change in COC Concentrations, 2nd sentence. No explanation is provided as to how the observed decrease in COC concentrations potentially may be affected by short-term groundwater-level fluctuations. The same comment applies to wells where the text indicates the observed increase in COC concentrations may be attributable to "fluctuations."	C	The following sentence has been added after the second sentence: "During periods of short-term increases in groundwater, decreases in contaminant concentrations may occur as additional water enters the system and dilutes contaminant concentrations. An increase in contaminant levels may also be observed as groundwater levels decrease and less water is present in the system. Therefore, an evaluation of concentration trends over time is required to determine if MNA is reducing contaminant levels at the site."	
7.	Section 3.1.1	In Well COC Concentrations, 1st paragraph, last sentence. Sentence indicates the highest COC concentrations measured during the year 5 sampling events were at well 35BWW09. Sentence could use some revision because (1) only one COC (TCE) was detected in the well in 11/21 and 5/22; and (2) the comment applies only to the 2nd sampling event in Year 5 (5/22), not the 1st because PCE was detected at a concentration of 24 µg/L in well 35BWW14, which was the highest COC concentration measured during the 1st (11/21) Year 5 sampling event (compared with a TCE concentration of 23 µg/L measured in well 35BWW09). Additionally, should note that "concentrations" are not detected, but are measured-constituents are detected.	C	The sentenced has been revised as follows: "During the Year 5 sampling events, the highest concentrations of COCs were measured in wells 35BWW14 (PCE at 24 µg/L in November 2021) and 35BWW09 (TCE at 34 µg/L in May 2022)."	
8.	Section 3.1	1.The portion of the plume that extends up to 35BWW25 has narrowed in May 2022 compared to the 3 previous plume maps.	C	1.The reason the TCE plume narrowed is due to the decrease in TCE at 35BWW15 from a concentration of 5.1 µg/L (above the MCL of 5.0 µg/L) in November 2021 to 4.9 µg/L (below the MCL) in May 2022. Although this is not much of a change in	

		2.If there are data supporting this “extension” that seems to somewhat contradict groundwater flow directions and the part of the TCE plume near well 35BWW09, it should be provided/discussed in the report. If evidence supporting this extension between the main portion of the plume and well 35BWW25 does not exist, is it possible the TCE contamination at well 35BWW25 is isolated from or not directly connected to/with the “main body” of the TCE plume? Does this indicate that there is a separation of the plume between 35BWW05 and 35BWW15?		concentration, the contour line has to be pulled westward to exclude this well. 2.The baseline 2013-2014 plume shape in Figure 2-4, does not show the plume north to the LUC boundary because monitoring well 35BWW25 had not been installed at that time. Prior to installing 35BWW25, multiple DPT groundwater samples were collected to delineate the plume and to determine where wells were to be installed. The data from these DPT samples are provided in the 2016 RACR (AECOM 2016). Monitoring well 35BWW25 was placed at the location of 37DPT11(1) with a TCE concentration of 1.21 µg/L to delineate the northern edge of the plume. A DPT groundwater sample was also collected at 37DPT09, located south of 37DPT11(1) with a TCE concentration of 34.6 µg/L, showing that this plume is not isolated from the main body of the plume. Once the well 35BWW25 was installed (along with 35BWW24 and 35BWW26), the current plume shape was determined. During the baseline sampling event in 2013-2014, elevated levels of TCE, significantly above the MCL, were observed at wells 35BWW05, 35BWW08 and 35BWW10 (Figure 2-4), and it is possible that TCE migrated north/northeast, along groundwater flow paths from this area towards 35BWW25. However, MNA has since reduced TCE levels at 35BWW05, 35BWW08 and 35BWW10 to concentrations below the MCL, as observed during the Year 5 sampling event. For clarity, the following text was added in Section 3.1.2: “In 2013 TCE was shown to originally migrate north/northeast from contaminated wells 35BWW05, 35BWW08 and 35BWW10 towards 35BWW25;	

				however, MNA processes have decreased the COC concentrations in the three wells to below reporting limits or to low concentrations below MCLs."	
		3.What data shows that the plume stops at 35BWW25 and does not continue to the north/ northeast?		3. As part of the Post Screening Investigation Addendum No. 2 Report for LHAAP-47, Plant 3 Area (HDR 2021), multiple groundwater samples were collected in June 2020 to delineate the plume at LHAAP-47, which is located directly north of LHAAP-37. During this investigation, groundwater samples were collected at DPT-034 (200 feet northwest of 35BWW25) and at monitoring well LHSMW50 (750 feet northeast of 35BWW25). A soil boring (SB-02) was also installed in 2019 to 40 ft bgs (150 feet north/northeast of 35BWW25). The groundwater results from DPT-034, SB-02, and LHSMW50 were nondetect and show that the plume is constrained in the area north/northeast of 35BWW25. Since monitoring well 35BWW25 was installed, TCE levels increased to the highest level of 19 µg/L in November 2018 and have been decreasing via MNA processes since that time. TCE was detected at 10 µg/L in May 2022. To clarify this in the report, the following text has been added in Section 4.0, Summary and Conclusions: "At 35BWW25, located near the northern LUC boundary, TCE concentrations were observed at the highest level of 19 µg/L in November 2018. Since that time TCE levels have been decreasing via MNA processes. Data from monitoring wells located in LHAAP-47(HDR 2021), north of the LHAAP-37 LUC boundary, indicate that the plume is constrained."	
		4.Is there a cross section of the subsurface running west to east along the site, that would cross the northern portion of the TCE plume? It appears that the		4. A cross section has not been produced for this site. A possible cause of elevated levels of TCE observed at	

		TCE plume has separated from the main PCE plume and is migrating northwards and not hitting 35BWW24 or 35BWW15. Could there be a subsurface channel that would explain the flow pattern of contamination and can we be certain that the flow is not migrating past 35BWW25? 5.Has there been consideration for additional monitoring wells in the area between 35BWW25 and 35BWW14?		35BWW25 is discussed above in response to Comment 8, Item #2. 5. See response to Comment 8, Item #2. TCE likely migrated from the area near wells 35BWW05, 35BWW08 and 35BWW10 to 35BWW25. Additionally, a previous DPT groundwater sample in the area south of 35BWW25 (AECOM 2016) indicated the presence of TCE above MCL. Thus additional wells are not being considered between 35BWW25 and 35BWW14.	
9.	Table 2-3	Table 2-3 has well data from 35AWW08. Can you provide the location of this well and a little background?	C	35A wells are not part of this site and were accidently pulled into this table. Data from 35AWW08 has been removed from Table 2-3 (Now Table 2-4).	

Response to Comments on
Draft Fifth Annual Remedial Action Operation Report, LHAAP-35B (37)
(Chemical Laboratory)
Longhorn Army Ammunition Plant, Karnack, Texas

Document Date: 30 November 2022
Comment Date: 28 December 2022

Reviewer: April Palmie, TCEQ
Respondent: Dr. Rose Zeiler

1. Respondent Concurs (C), Does Not Concur (D), Takes Exception (E), or Delete (X)
2. Commenter Agrees (A) with response, or Does Not Agree (D) with response

Comment Ref. #	Section, Page Ref.	TCEQ Comment	C, D, E, or X	Response	A or D[2]
1.	Figure 2-3	35BWW03 NM or not used? See 2.2.2 and revise. 35BWW06 also needs *note	C	For both Figure 2-2 and 2-3, NM has been removed and replaced with the groundwater elevation and an asterisk has been added to 35BWW06 and 35BWW003 to indicate "well was not used to create potentiometric surface." Section 2.2.2 text modified as follows to clarify that data from the two wells were not used to draw potentiometric maps: "Also, groundwater levels from 35BWW03 were not used because it is an intermediate zone well, and groundwater levels from 35BWW06 were not used because it is screened in the lower shallow zone."	
2.	Figures 2-5 and 2-6 (and List of figures)	These should be identified as year 5 (Y5SA1 and Y5SA2). Note the YXSA abbreviation is cryptic, suggest you remove that abbreviation throughout. That abbreviation wasn't used in the last report.	C D	The year has been revised to Year 5. YXSA definition is spelled out in the notes on revised figures for clarity. The abbreviations of YxQx and YxSAx have been used in previous reports for LHAAP-37. Note that figures in the Year 4 Annual	

				RA-O Report used Y4SA1 and Y4SA2 abbreviations. The abbreviation also correlates with Table 2-1	
3.	Figure 2-5	Move the box for 35BWW06 so it doesn't obstruct. On Figures 2-4 and 2-5 you could reduce the boxes to show COCs with detections.	C	The data box has been moved so that it does not obstruct the plume and to keep the same information and the format used on other figures. We typically show all of the COCs for all of the wells on a figure, whether a COC was detected or not. This makes it clear to the reviewer that a sample from a certain well was collected and analyzed for all of the COCs even though the results may be nondetect for some of the COCs. This information will be lost if we only show COCs with detections.	
4.	Tables	Please add a table with only current year results.	C	A table with only the Year 5 RA-O results has been added as a new Table 2-3, and all subsequent table numbers have been updated. Text in Section 2.2.3 was modified to reflect the addition of the new table.	
5.	Table 2-5	35BWW04 Comments – typo "weren". Note C – isn't the annual event November (as noted in summary section)?	C	The text was revised with the word "were". There is not a Note C on Table 2-5, however there is one on Table 2-6 (Now Table 2-7) that was not updated and states that the Year 6 Annual 1 is May 2022. This has been revised for this report and will be revised for clarity for all future reports "[c] Surface water locations to be sampled annually if water meets criteria per the RACR."	
6.	Summary and Conclusions	Please start a new paragraph with the last sentence in this section [begins "The first year…"]	C	A new paragraph has been started with the last sentence in this section.	
7.	35BWW25	Please add some explanation to the conclusions section regarding the northern LUC boundary near this well. Future sampling events will help establish if an additional well is necessary outside the LUC boundary for monitoring purposes. It isn't clear yet if	C	The following text has been added in the conclusions: "At 35BWW25, located near the northern LUC boundary, TCE concentrations were observed at the highest level of 19 µg/L in November 2018. Since that time TCE levels have been decreasing via MNA	

		the results in this well indicate a preferential dispersion/dilution pathway.		processes. Data from monitoring wells located in LHAAP-47 (HDR 2021), north of the LHAAP-37 LUC boundary, indicate that the plume is constrained." Please see response to EPA comment 8, Item #3, which addresses the comment about future potential need for an additional well outside the northern LUC boundary.	

Draft Final
Fifth Annual Remedial Action Operation Report, LHAAP-35B (37) (Chemical Laboratory)
Longhorn Army Ammunition Plant
Karnack, Texas

Prepared for

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Tulsa, Oklahoma 74137–4290

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Contract No. W9128F-13-D-0012
Task Order No. W9128BV17F0150
Project No. 501032
Rev 0
January 2023

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Acronyms and Abbreviations

µg/L	micrograms per liter
J	estimated value
AECOM	AECOM Technical Services, Inc.
Bhate	Bhate Environmental Associates, Inc.
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act of 1980
COC	contaminant of concern
DCE	dichloroethene
DPT	direct-push technology
DO	dissolved oxygen
HDR	HDR, Inc.
ID	identification
LHAAP	Longhorn Army Ammunition Plant
LTM	long-term monitoring
LUC	land use control
MCL	Maximum Contaminant Level
mg/L	milligram(s) per liter
MNA	monitored natural attenuation
MSL	mean sea level
mV	millivolts
No.	number
ORP	oxidation-reduction potential
PCE	tetrachloroethene
RA-O	remedial action operation
RACR	Remedial Action Completion Report
RAWP	Remedial Action Work Plan
RI	remedial investigation
ROD	Record of Decision
SU	standard unit(s)
TCE	trichloroethene
TCEQ	Texas Commission on Environmental Quality
TNT	trinitrotoluene
TOC	total organic carbon
USACE	U.S. Army Corps of Engineers
USEPA	U.S. Environmental Protection Agency
VOC	volatile organic compound

Contract No. W9128F-13-D-0012, Task Order No. W9128BV17F0150• Draft Final • Rev 0 • January 2023

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1.0 INTRODUCTION

The U.S. Army Corps of Engineers (USACE), Tulsa District, contracted with Bhate Environmental Associates, Inc. (Bhate) under the Omaha Multiple Environmental Government Acquisition National Small Business Multiple Award Task Order Contract, Environmental Remediation Services with Military Munitions Response Program, Task Order Number (No.) W9128BV17F0150, to conduct environmental restoration at multiple sites at the former Longhorn Army Ammunition Plant (LHAAP). The Bhate Team consists of Bhate and Aptim Federal Services, LLC.

LHAAP is located in east Texas in the northeastern corner of Harrison County between State Highway 43 in Karnack, Texas, and the western shore of Caddo Lake (**Figure 1-1**). The nearest cities are Marshall, Texas, approximately 14 miles to the southwest, and Shreveport, Louisiana, approximately 40 miles to the east. Caddo Lake is a large freshwater lake that bounds LHAAP to the north and east. The eastern fence of the LHAAP installation is 3.5 miles from the Texas-Louisiana state border.

LHAAP was established in December 1941 with the primary mission of manufacturing trinitrotoluene (TNT). Production of TNT began at Plant 1 in October 1942 and continued through 1945, when the facility was placed on standby status. In February 1952, the facility was reactivated and production of pyrotechnic ammunition, such as photoflash bombs, simulators, hand signals, and tracers for 40-millimeter ammunition continued at Plant 2, northeast of Plant 1, through 1956. In December 1954, a third facility, Plant 3, began production of solid-fuel rocket motors for tactical missiles, which continued until 1965, when Plant 2 was reactivated for the production of pyrotechnic and illuminating ammunition. In the years following the Vietnam conflict, LHAAP continued to produce flares and other basic pyrotechnic or illuminating items for the U.S. Department of Defense inventory. From September 1988 to May 1991, LHAAP was also used for the static firing and elimination of Pershing I and II rocket motors.

The LHAAP-35B (37) site, the former Chemical Laboratory, encompasses approximately 12.2 acres and is located in the north-central portion of LHAAP as shown on **Figure 1-2**. The Chemical Laboratory was built during the construction of Plant 3 (1953–1955) and was originally used to support the production activities at LHAAP. These support activities included research and testing of materials used in the production processes and quality assurance testing. Also, one waste rack sump was located at the site. In 1998, the site was used as a staging area in support of investigation activities (USACE 2010).

Field investigations conducted between 1998 and 2007 identified and evaluated the nature and extent of groundwater contamination at LHAAP-35B (37) site. Investigation results indicated that there was no significant contamination in soil (USACE 2010). The investigation data and the subsequent human health risk assessment indicated that the soil at the LHAAP-35B (37) site does not pose a risk to the environment or to human health under an industrial exposure scenario for a future maintenance worker (USACE 2010). However, groundwater present within the upper shallow zone posed an unacceptable cancer risk and noncancer hazard to a future maintenance worker from hypothetical groundwater consumption. There is no groundwater contamination in the lower shallow groundwater zone or the intermediate zone (USACE 2010).

Remedial action operation (RA-O) activities are required at LHAAP-35B (37) under the Record of Decision (ROD) issued for the site in June 2010 (USACE 2010). The Remedial Action Completion Report (RACR) (AECOM 2016) outlines the implementation of RA-O to address risks associated with contaminated groundwater at the LHAAP-35B (37) site. The RACR (AECOM 2016) was developed using the basis and details of the Remedial Design (USACE 2011) and the Remedial Action Work Plan (RAWP) (AECOM 2013) for LHAAP-35B (37), and included the installation of three wells, 35BWW24, 35BWW25, and 35BWW26, and their inclusion into the monitoring network.

A field demonstration pilot study of the bio-plug technology was conducted at the site during September 2012 through June 2014 (AECOM 2016). The purpose of the pilot study was to determine the feasibility of the bio-plug technology to accelerate the aerobic biological degradation of volatile organic compounds (VOC) in the groundwater at the site. The pilot study commenced in September 2012 and concluded with the final groundwater sampling round in October 2014. Interpretation of data generated through these events indicated reduction of contaminant concentrations was not sufficient to justify continuation of the demonstration.

Groundwater monitoring at LHAAP-35B (37) is ongoing as described in the RACR (AECOM 2016). This report represents Year 5 of the RA-O implementation and summarizes the results of site inspections and sampling activities. Baseline sampling was conducted in October 2013. A Groundwater Geochemistry Rebound Evaluation Memorandum for Record was submitted in February 2017, which determined that the aquifer is sufficiently recovered to its pre-bio-plug study geochemical state to begin implementation of the monitored natural attenuation (MNA) remedy (AECOM 2017). The first year RA-O report, representing sampling events conducted in November 2017 and February, May, and August 2018, was finalized in March 2019 (Bhate 2019a). The second year RA-O report, representing sampling events conducted in November 2018 and February, May, and August 2019, was finalized in April 2020 (Bhate 2020a). The third year RA-O report, representing the first set of

semiannual sampling events conducted in November 2019 and May 2020, was finalized in November 2020 (Bhate 2020b). The fourth year RA-O report, representing the second set of semiannual sampling events conducted in November 2020 and May 2021, was finalized in January 2022 (Bhate 2022). An evaluation of the effectiveness of the selected MNA remedy is presented in this Year 5 report and includes historical data from 1994 through the final year of semiannual sampling in May 2022.

1.1 Remedial Action Objectives

The remedial action objectives at LHAAP-35B (37) are based on protection of human health and meeting of applicable or relevant and appropriate requirements. There are no ecological risks at the LHAAP-35B (37) site (USACE 2010).

The remedial action objectives for the LHAAP-35B (37) site, consistent with the reasonably anticipated future use as a national wildlife refuge, are:

- Ensure protection of human health by preventing human exposure to the contaminated groundwater.
- Ensure protection of human health and the environment by preventing contaminated groundwater from migrating into nearby surface water.
- Ensure return of groundwater to its potential beneficial use as drinking water, wherever practicable.

1.2 Performance Objectives

The remedy selected for LHAAP-37 (USACE 2010) is land use control (LUC), MNA, and long-term monitoring (LTM).

The remedy includes the following components:

- **LUC:** LUC in the impacted area ensures protection of human health by restricting the use of groundwater exceeding the applicable cleanup levels to environmental monitoring and testing only. The LUC will remain in effect until such time as the U.S. Army, U.S. Environmental Protection Agency (USEPA), and Texas Commission on Environmental Quality (TCEQ) agree that contaminant of concern (COC) concentrations have met cleanup levels. As a component of the LUC implementation, the civil survey of the LUC boundary was conducted in January 2015 and recorded in the Harrison County Courthouse in March 2015.
- **RA-O:** An MNA program has been implemented as part of the RA-O to establish attenuation trends and verify that the VOC plume is stable or shrinking and will

not migrate to nearby surface water (Goose Prairie Creek) at levels that may present an unacceptable risk to human health or the environment. Natural attenuation is expected to return groundwater to acceptable quality over time. The MNA program performance objectives have been evaluated after five years of RA-O groundwater monitoring. During those five years, groundwater monitoring was performed on a quarterly basis for the first two years and semiannually for the third, fourth, and fifth years.

- **LTM:** Following the completion of three years of semiannual monitoring, groundwater monitoring will be performed annually until the next Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) Five-Year Review. RA-O associated with this remedy will be used to track the continued effectiveness of MNA. Further reductions in sampling will depend on the Five-Year Reviews, but sampling will be conducted at least once every five years until the cleanup levels are achieved.

According to the RACR (AECOM 2016), groundwater monitoring is being performed to evaluate remedy effectiveness and includes groundwater and surface water monitoring. The groundwater monitoring program is designed to evaluate and monitor natural attenuation of COCs in Shallow Zone groundwater, and the surface water monitoring program is designed to evaluate potential migration of contaminated groundwater to surface water.

The combined monitoring program will meet the following objectives (AECOM 2013):

- Demonstrate that natural attenuation is effectively occurring.
- Detect changes in environmental conditions (e.g., geochemical, hydrogeologic, etc.) that may reduce the efficacy of natural attenuation processes.
- Identify potentially toxic and/or mobile transformation products.
- Verify that the plume(s) is not expanding.
- Verify no unacceptable impact to downgradient receptors.
- Detect new releases of contaminants to the environment that could impact effectiveness of the natural attenuation remedy.
- Verify attainment of the remediation objectives.

Work completed as part of the Year 5 (2021/2022) RA-O consisted of the following:

- November 2021 groundwater monitoring event consisting of 24 planned wells and two planned surface water locations.

- May 2022 groundwater monitoring event consisting of 22 planned wells and two planned surface water locations.
- LUC inspection (May 2022).
- Well maintenance activities including re-installing bollards and painting of bollards and well stickup casings.

This report summarizes the LUC compliance inspection, the results of groundwater sampling, and an evaluation of MNA.

1.3 Site Description

LHAAP-35B (37) is located in the central portion of LHAAP, as shown on **Figure 1-2**, and covers an area of approximately 16.5 acres. The site topography is relatively flat. The nearest significant surface water body is Goose Prairie Creek, which runs through the site. Goose Prairie Creek eventually flows into Caddo Lake; however, it is often dry at LHAAP-35B (37).

At LHAAP-35B (37), a Chemical Laboratory and associated buildings were built during the construction of Plant 3 (1953–1955) and were originally used to support the production activities at LHAAP. These support activities included research and testing of materials used in the production processes and quality assurance testing. Also, one waste rack sump was located at the site. In 1998, the site was used as a staging area in support of investigation activities.

The LUC area associated with the groundwater use restriction at LHAAP-35B (37) encompasses the northern half of the site and extends beyond the historical site boundaries along the western, eastern, and northern boundaries of the site. The LUC area encompasses a total of 16.5 acres and has no known areas of archaeological or historical importance.

1.4 Conceptual Site Model

A detailed Conceptual Site Model of LHAAP-35B (37) was presented in the ROD (USACE 2010). Although the groundwater is not currently being used and is not expected to be used in the future, the groundwater pathway is being considered for remediation because it has the potential to present an unacceptable risk to a maintenance worker.

COCs identified in the ROD for LHAAP-35B (37) groundwater are tetrachloroethene (PCE), trichloroethene (TCE), and 1,1-dichloroethene (DCE). The historical presence of these COCs in the shallow groundwater zone represents the primary driver for remedial action as they are at concentrations above the human health standard for a hypothetical future maintenance worker under a nonresidential exposure scenario. Although 1,1-DCE is a COC,

this compound was not detected above the Maximum Contaminant Level (MCL) of 7.0 micrograms per liter (µg/L) during the Year 2, 3, 4, or 5 RA-O.

Antimony and thallium were detected in groundwater at the LHAAP-35B (37) prior to the remedial investigation (RI) conducted in 2002, and the RI concluded that they are not considered to be COCs at this site (Jacobs Engineering Group, Inc. 2002). The 2016 RACR stated that since the previous detections of antimony and thallium results were estimated value (J)-qualified results, samples were to be collected during the second quarter Year 1 RA-O sampling event to determine the need for further sampling. During the second quarter Year 1 RA-O sampling event in March 2018, concentrations of antimony and thallium were below their respective MCLs, and these analytes were excluded from the future sampling as approved in the Year 1 RA-O report.

Based on groundwater level data collected 2013 through 2022, the dominant Shallow Zone groundwater gradient is to the northeast. However, in 2019, the groundwater elevations increased significantly, and in the area to the west of the site boundary but within the LUC boundary, the groundwater flow direction was to the north-northwest in Year 2. During the Year 5 RA-O, the groundwater flow direction in the area to the west of the site boundary was to the northeast in November 2021 and to the north-northwest in May 2022. During the spring sampling event in May 2022, the groundwater elevations were generally one half to one foot higher than they were in November 2021, which may indicate that the flow direction in the area west of the site boundary is more sensitive to fluctuations than areas to the east. The potentiometric data will continue to be evaluated to determine if this relationship between groundwater elevation and flow direction changes.

Groundwater monitoring has shown that contaminants are confined to the shallow groundwater. Monitoring well 35BWW03 is installed in the Intermediate Zone; and monitoring well 35BWW06 is installed in the lower portion of the Shallow Zone. The continued lack of COC detections in well 35BWW06 in the lower portion of the Shallow Zone and intermediate well 35BWW03 indicate that the plume has been vertically delineated, with no Intermediate Zone impacts identified. As described in the RACR, direct-push technology (DPT) wells DPT-03 and DPT-06 were installed in the Intermediate Zone, and because groundwater samples from these DPT wells did not indicate VOCs exceeding cleanup levels, no additional Intermediate Zone wells were installed. According to the RAWP (AECOM 2013), sampling of these two wells will be performed every five years to support the Five Year Review. Monitoring well 35BWW03 and 35BWW06 were sampled during the Year 5 RA-O in November 2021, and the results showed that COCs at both wells continue to be below detection limits and below MCLs. These two wells will be sampled again in November 2026 to support the next Five Year Review.

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In the ROD (USACE 2010), contamination was known to be present only on the west side of the creek, and modeling calculations were completed (Shaw Environmental & Infrastructure, Inc. 2007) to assess the potential for the COCs present in shallow groundwater at LHAAP-35B (37) to migrate toward and discharge to Goose Prairie Creek. The modeling assumed contaminants were not leaching from vadose zone soil to groundwater. Based on the results of the model, PCE and 1,1-DCE would not appear at detectable levels where groundwater discharges into Goose Prairie Creek. Groundwater contamination was detected to the east of the creek during Year 1 RA-O monitoring. However, contaminants were not detected in the surface water sampling conducted in Year 1, Year 2, or Year 3. During the Years 4 and 5 RA-Os, groundwater elevations in wells designated in the RACR for comparison were below the creek bottom, indicating that contamination cannot impact the surface water. Shallow monitoring well 35BWW01 is the only well where groundwater elevations are consistently observed above the creek bottom. Comparison of this well to others at the site suggests this water is likely to be perched. The continued lack of COCs at this well indicates that even if the groundwater were to reach the creek, the creek will not be impacted by COCs. The groundwater elevations in COC impacted wells near the creek indicate that COC-impacted groundwater is not discharging to Goose Prairie Creek.

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2.0 SITE ACTIVITIES AT LHAAP-35B (37)

This chapter describes the results of the Year 5 RA-O activities including the annual LUC compliance inspection, semiannual groundwater monitoring, and monitoring system repairs and/or maintenance performed at LHAAP-35B (37).

2.1 Annual Land Use Control Compliance Inspection

The annual LUC compliance inspection for LHAAP-35B (37) was performed on May 16, 2022. The LUC for this site is groundwater restriction, which prohibits water well installation for any purpose other than environmental monitoring and testing. Also, the LUC prohibits residential groundwater use until the levels of COCs in the groundwater allow unrestricted use and unlimited exposure. The restriction applies to groundwater underlying an approximately 16.5-acre area defined by the surveyed LUC boundary shown on **Figure 2-1** (AECOM 2016). The Annual LUC Compliance Certification Documentation Form for the Year 5 RA-O monitoring period is included in **Appendix A**. No noncompliance issues or concerns were noted during the annual inspection.

2.2 Groundwater Monitoring

The Year 5 RA-O monitoring is the third of three years of semiannual monitoring. Groundwater sampling events were completed in November 2021 and May 2022 (**Table 2-1**). Prior to Years 3 and 4 RA-O groundwater sampling events, quarterly sampling was conducted. In the RACR (AECOM 2016), 25 wells were selected for sampling. Of the 25 wells selected for sampling in the RACR, 24 were sampled in November 2021 as part of the Year 5 RA-O events, while 35BWW02 was removed from the monitoring program as discussed in **Section 2.2.1**. In May 2022, 22 wells were sampled as monitoring wells 35WWW03 and 35BWW06 are only sampled once every five years and were sampled in November 2021 for the Five Year Review. The next time these two wells will be sampled will be in November 2026. Monitoring well locations sampled for the November 2021 and May 2022 sampling events are depicted on **Figure 2-1**.

Prior to collecting groundwater samples, monitoring wells were gauged using a water level probe, and the depth to water was recorded to the nearest 0.01-foot from the top of casing. Depth-to-water measurements were used to calculate the groundwater elevations presented in **Table 2-2** and on the potentiometric surface figures (**Figures 2-2** and **2-3**).

Water samples were collected using low-flow sampling techniques as described in the groundwater sampling procedures found in the *Final Installation-Wide Work Plan* (Bhate 2018).

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2.2.1 Approved Modifications to the Groundwater Monitoring Program

Minor modifications have been made to the groundwater monitoring program, in coordination with USEPA and the TCEQ, since it was first developed in the RAWP (AECOM 2013):

- Monitoring well 35BWW02 was dry during each quarter of Year 1 RA-O groundwater sampling, and the Year 1 RA-O Report recommended that it be removed from the groundwater-monitoring program for Year 2 RA-O. The Year 1 RA-O Report was approved in March 2019 and monitoring well 35BWW02 was removed from the monitoring program at that time.
- The list of MNA parameters was reduced after the Year 2 RA-O Quarter 2 sampling event. The revised list of parameters includes nitrate, sulfate, chloride, methane, ethane, ethene, carbon dioxide, and total organic carbon (TOC) analyzed in an off-site laboratory, and dissolved iron measured in the field (Bhate 2019b).

2.2.2 Groundwater Elevations and Flow Direction

Potentiometric surfaces drawn based on water level data collected in November 2021 and May 2022 are shown on **Figures 2-2** and **2-3**, respectively. The screened interval at 35BWW01 is located approximately 15 feet higher in elevation than other shallow wells and is not representative of the shallow groundwater. The groundwater at 35BWW01 may represent a perched zone; therefore, the elevations measured there were also not used to create the shallow groundwater potentiometric maps. Also, groundwater levels from 35BWW03 were not used because it is an intermediate zone well, and groundwater levels from 35BWW06 were not used because it is screened in the lower shallow zone. Based on the gauging data from the Year 5 RA-O semiannual sampling events, groundwater within the site boundary flows primarily to the northeast from monitoring well 35BWW11 towards LHSMW58, 35BWW14, and 35BWW24. West of the site boundary, but within in the LUC boundary, the groundwater continues to flow north-northwest when the groundwater levels are higher, as observed in May 2022 and shown on **Figure 2-3**; and to the northeast when water levels are lower, as observed in November 2021 and shown on **Figure 2-2**.

2.2.3 Groundwater Analytical Results

During the Year 5 RA-O, groundwater samples were collected from monitoring wells and analyzed for VOCs according to SW-846 Method 8260. Samples from six monitoring wells were analyzed for MNA geochemical parameters as shown in **Table 2-1**.

During the Year 5 RA-O sampling events, monitoring wells 35BWW04, 35BWW09, 35BWW14, 35BWW15, 35BWW20, 35BWW25, and LHSMW58 contained VOCs above their respective MCLs. This is the first year of RA-O where no VOCs have been above their

respective MCLs at 35BWW05 and 35BWW16 and the second year at 35BWW06. The highest level of TCE was observed again at 35BWW09 at 34 µg/L in May 2022. The highest level of PCE was again observed at 35BWW14 at 24 µg/L in November 2021. Analytical results for Year 5 RA-O sampling activities only are presented in **Table 2-3**. The RA-O data from baseline sampling in 2013 through the Year 5 RA-O 2022 sampling are presented in **Table 2-4**. Historical COC results are presented in **Table 2-5**. **Figures 2-4** through **2-6** depict the VOC data in wells sampled in October 2013, November 2021, and May 2022, respectively. The trends of COC concentrations, in monitoring wells with COC concentrations greater than the MCL in either the November 2021 or May 2022 sampling event, are depicted in graphs presented on **Figures 2-7a** and **2-7b**. An expanded discussion on the VOCs and their distribution, including trend analysis, is included in **Section 3.1**.

Groundwater monitoring well sample collection logs were completed for each monitoring well sampled and are included in **Appendix B**. Laboratory analytical results are included in **Appendix C**.

2.3 Surface Water Sampling

As per the RACR, sampling of surface water from two locations, 35BSW01 and 35BSW02, in Goose Prairie Creek was conducted quarterly for the first year and then to be conducted annually until the first CERCLA Five-Year Review. However, if groundwater elevations are lower than the creek bottom elevation during a particular sampling event, indicating that the groundwater is not influencing the creek, then a surface water sample would not be collected. To determine if groundwater contamination may be contributing to the surface water during the Year 5 RA-O, the groundwater elevations at 35BWW05 and 35BWW12 were compared to the creek bottom elevations at 35BSW01 and 35BSW02, respectively (AECOM 2016). Groundwater elevations are presented in **Table 2-2** and on the potentiometric surface figures (**Figures 2-2** and **2-3**).

During the Year 5 sampling event, the groundwater elevation measured at 35BWW05 was 179.87 feet above mean sea level (MSL) in November 2021 and 180.49 feet above MSL in May 2022, which is below the creek bottom elevation of 191.49 feet above MSL at 35BSW01. The groundwater elevation at 35BWW12 was 180.27 feet above MSL in November 2021 and 181.09 feet above MSL in May 2022, also below the creek bottom elevation of 189.16 feet above MSL at 35BSW02. The groundwater elevations at the two monitoring wells were below those of the creek bottom elevations during each sampling event; therefore, surface water samples were not collected. **Figure 2-1** depicts the locations of the surface water sampling locations and the wells used for groundwater elevation comparison.

At monitoring well 35BWW01, groundwater elevations have been observed above the creek bottom during some of the sampling events between 2013 and 2022 (**Table 2-2**). During the Year 5 RA-O, groundwater levels were observed above the creek bottom in November 2021 and May 2022 sampling events. The noticeably higher groundwater levels observed at 35BWW01, compared to other shallow wells at the site, suggests that the groundwater at 35BWW01 may be perched and could potentially influence the creek. However, no COCs at this well have been detected, and therefore, there will be no migration of contaminants from the perched zone to the creek.

2.4 Groundwater Monitoring System Maintenance

Inspections of the conditions/integrity of monitoring wells were conducted during each sampling event, and the information was recorded on the well inspection forms. **Appendix D** includes a photo log and well inspection forms completed for each sampling event which show the condition of the wells.

During the Year 4 RA-O reporting period, damage to well bollards was reported at 35BWW04. In June 2022, three new bollards were installed, the well was painted, and new ID labels were added to well 35BWW04, as shown in the photo log. Maintenance, such as painting and replacement of well labels, was also required at 35BWW08 and LHSMW58 and conducted during the Year 5 RA-O. During the Year 5 RA-O, it was observed that the paint on the stickup casing and bollards for wells 35BWW02 and 35BWW03 is peeling and the labels need to be repaired. These repairs will be performed during the Year 6 annual sampling event in November 2022.

Only minimal encroachment of weeds or brush on the well pads was observed. Mowing the area to control brush and weeds is conducted to allow access to the wells and was performed at LHAAP-35B (37) on November 2, 2021, and May 4, 2022. **Table 2-6** provides a summary of the maintenance activities that were performed at the site during the fifth annual RA-O period.

No changes to the LHAAP-37 monitoring network are planned for the Year 6 annual sampling to be performed in November 2022. The analyses to be performed at each location for the Year 6 sampling are shown on **Table 2-7** and the monitoring locations are shown on **Figure 2-8**.

3.0 NATURAL ATTENUATION EVALUATION

This chapter presents the results of the natural attenuation evaluation in accordance with the three lines of evidence discussed in the Final RACR for site COCs (AECOM 2016).

3.1 First Line of Evidence: Change in COC Concentrations

Natural attenuation is the combination of multiple mechanisms, including biodegradation, volatilization, dilution, advection, and sorption, that reduce contaminant concentrations. The decrease of COC concentrations over time and distance is evidence of natural attenuation, though the observed decrease may be influenced by potentially short-term fluctuations in groundwater elevations. During periods of short-term increases in groundwater, decreases in contaminant concentrations may occur as additional water enters the system and dilutes contaminant concentrations. An increase in contaminant levels may also be observed as groundwater levels decrease and less water is present in the system. Therefore, an evaluation of concentration trends over time is required to determine if MNA is reducing contaminant levels at the site.

The change in groundwater COC concentrations over time and with distance was evaluated at LHAAP-35B (37). COC concentrations for the fifth year of RA-O sampling events are provided on **Figures 2-5** and **2-6** as well as in **Tables 2-3** and **2-4**. COCs exceeding their respective MCLs are highlighted. To aid in evaluating COCs, concentrations are graphed over time on **Figures 2-7a** and **2-7b**.

3.1.1 In Well COC Concentrations

In the 2016 RACR, six wells were discussed as the primary focus of analysis due to high COC concentrations: 35BWW04, 35BWW05, 35BWW08, 35BWW10, 35BWW14, and 35BWW15. During the Year 5 sampling events, COCs continued to be below the MCLs at 35BWW08 and 35BWW10. At 35BWW05, the COCs were below the MCLs in November 2021 and again in May 2022, for the first time since 2006. At 35BWW04, the COCs were below the MCLs in May 2022 for the first time since 2019. Since 2016, additional wells have been sampled and elevated levels of COCs have also been observed in wells 35BWW09, 35BWW12, 35BWW16, 35BWW20, 35BWW25, and LHSMW58. At monitoring well 35WW12, VOCs were below their respective MCLs during both sampling events for Years 4 and 5. During the Year 5 sampling events, the highest concentrations of COCs were measured in wells 35BWW14 (PCE at 24 µg/L in November 2021) and 35BWW09 (TCE at 34 µg/L in May 2022).

At 35BWW09, the TCE concentration has declined since the highest level was observed in this well at 580 µg/L in November 2018. During the Year 4 RA-O sampling, TCE

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concentrations decreased from 42 µg/L in May 2020 to 13 µg/L in May 2021. However, during the Year 5 RA-O, TCE has slightly increased to 23 µg/L and 34 µg/L in November 2021 and May 2022, respectively. Since August 2018, groundwater elevations have increased from 178.5 ft above MSL to as high as 182.91 ft above MSL in May 2021 as shown on **Figure 2-7a**. During this same time period, TCE has decreased from 580 µg/L in November 2018 to 20 µg/L in May 2019 and has remained at or below 70.0 µg/L since that time. The fluctuating low levels of TCE, ranging from 20 µg/L to 70 µg/L, since 2019 may be due to the increases in groundwater elevations.

At 35BWW04, PCE was detected at 66.5 µg/L and TCE was detected at 11.4 µg/L during the 2013 baseline sampling event. Since the baseline sampling, the only COC above the MCL at this well has been PCE, which was detected at 6.3 µg/L in November 2021 and 3.9 µg/L (below the MCL of 5 µg/L) in May 2022.

At 35BWW05, TCE was detected at 14 µg/L during the 2013 baseline sampling and was below the MCL in November 2021 and then again in May 2022 at 3.5 µg/L and 1.8 µg/L, respectively. Future sampling will determine if the TCE concentrations remain below the MCL.

At 35BWW08, TCE was detected at 150 µg/L in 2007 and declined to 43.8 µg/L in the 2013 baseline event. PCE and TCE concentrations have been below their respective detection limits since February 2018 and remained below these levels during the Year 5 RA-O.

At 35BWW10, PCE and TCE concentrations during the Year 5 RA-O have remained below their respective MCLs, as they have been since August 2019. Future data will determine whether levels remain below the MCLs.

At 35BWW12, PCE concentrations have fluctuated from 15.3 µg/L during the baseline sampling in 2013 to 3.4 µg/L in May 2021, below the MCL of 5 µg/L. During the Year 5 RA-O sampling event, PCE has remained below the MCL, with detections of 2.1 µg/L and 2.0 µg/L in November 2021 and May 2022, respectively.

At 35BWW14, PCE has fluctuated from the 19 µg/L detected during the baseline sampling in 2013. In May 2020 (Year 3 RA-O), PCE concentrations increased to 40 µg/L but have decreased since that time. In November 2021 and May 2022, concentrations of PCE were detected at 24 and 19 µg/L, respectively. TCE concentrations have also decreased since baseline in 2013 from 82.8 µg/L to 6.1 µg/L in November 2021 and 5.1 µg/L in May 2022, as seen on **Figure 2-7a**.

At 35BWW15, PCE concentrations have remained relatively consistent with fluctuations within a range between 8.69 and 14 µg/L since 2014. During the Year 5 RA-O, PCE

concentrations remained within that range at 13 µg/L in November 2021 and 9.8 µg/L in May 2022. TCE has decreased from 43.5 µg/L during baseline in 2014 to 5.1 µg/L in November 2021 and below the MCL at 4.8 µg/L in May 2022.

At 35BWW16, PCE concentrations have fluctuated from below the 5 µg/L MCL during the 2013 baseline to a high of 15 µg/L in November 2018. During the Year 5 RA-O, PCE was detected below the MCL at 4.8 µg/L in November 2021 and 0.5 U µg/L in May 2022.

At 35BWW20, PCE concentrations increased from the 2013 baseline concentration of 31.1 µg/L to a high of 34 µg/L in February 2019 before decreasing to the lowest level observed in this well at 5.4 µg/L in November 2021. The PCE concentration rebounded slightly to 9.4 µg/L in May 2022. The concentrations detected in May 2021 and November 2021 coincide with a period of higher groundwater elevations that began with the May 2020 gauging. This suggests that the higher groundwater elevations may be the cause of the concentration decreases at this location.

The concentrations of TCE in groundwater at the downgradient well 35BWW25 have a somewhat inverse correlation with groundwater elevations. TCE concentrations have increased when groundwater elevations are lower and are lower when the groundwater elevations are higher. Overall, a small increase in TCE has been observed from the 5.55 µg/L concentration detected during the initial sampling in August 2016 to 10 µg/L in both November 2021 and May 2022.

At LHSMW58, PCE concentrations have fluctuated from a high of 20.3 µg/L detected during the baseline sampling event in October 2013 to a low of 4.2 µg/L during the Year 3 RA-O sampling in November 2019. During the Year 4 RA-O, PCE increased to 19 µg/L in May 2021 before subsequently decreasing in the Year 5 RA-O to 13 and 9.5 µg/L in November 2021 and May 2022, respectively.

3.1.2 COC Concentrations Based on Groundwater Flow

Based on the general direction of groundwater flow, monitoring well 35BWW11 is a consistent upgradient background monitoring well, and monitoring wells 35BWW23 and 35BWW24 are downgradient monitoring wells. Site COCs have not been observed above the MCLs in these wells, which aids in delineating the plume configuration to the north-northeast.

Within the site boundary, the groundwater flows primarily to the northeast from monitoring well 35BWW11 towards LHSMW58, 35BWW14, and 35BWW24. However, during the Spring (May sampling events), groundwater elevations are often higher. During this time, in

the area west of the site boundary but within the LUC boundary, groundwater flows slightly north or north-northwest, as observed in May 2022 and shown on **Figure 2-3**.

At LHAAP-35B (37), contaminant concentrations decrease significantly as groundwater moves downgradient from the wells with the highest contaminant levels. In May 2022, PCE and TCE concentrations decreased from 19 µg/L and 5.1 µg/L, respectively, at 35BWW14 to below the MCLs of 5 µg/L at the two downgradient wells 35BWW24 and 35BWW23. Although groundwater flow contours do not show groundwater migrating directly from 35BWW14 to 35BWW25, it is downgradient directionally from 35BWW09 during times when the flow in the western portion of the site is more to the north or north-northwest. In 2013, TCE was shown to originally migrate north/northeast from contaminated wells 35BWW05, 35BWW08 and 35BWW10 towards 35BWW25; however, MNA processes have decreased the COC concentrations in the three wells to below reporting limits or to low levels below MCLs.

In May 2022, a decrease in TCE was observed from the upgradient well 35BWW09 at 34 µg/L to the two clean downgradient wells 35BWW08 and 35BWW10. During the same sampling event, the TCE concentration increased slightly 10 µg/L at the farther downgradient well 35BWW25 but there was an overall decreasing trend between 35BWW09 and 35BWW25 in the direction of the overall groundwater flow (**Figure 2-6**). The decreasing trend was also observed at wells located on the west side of the site near the LUC boundary, as TCE concentrations decreased between 35BWW09 at 23 µg/L to below the detection limit at 35BWW08 in November 2021. In May 2022, TCE concentrations decreased from 34 µg/L at 35BWW09 to below the detection limit of 0.5 µg/L at 35BWW18 when groundwater on the west side was flowing more westerly.

3.1.3 Mann-Kendall Analysis

Mann-Kendall analysis for the Year 5 RA-O monitoring period was completed for PCE and TCE. A summary table of the Mann-Kendall results is presented in **Table 3-1**. The results are presented in **Appendix E** in graphical format with the statistical results presented on the bottom of the page. The GSI Mann-Kendall Tool Kit was used for this analysis. The concentrations of COCs are presented in µg/L. Half the reporting limit was used for samples with no detected concentrations. For locations with duplicate samples, the regular sample was used. The level of statistical significance is calculated for each analysis and provided on the trend analysis sheet. It should be noted that the trends identified in the Mann-Kendall analysis may have been influenced by groundwater elevation increases during Years 4 and 5. During the Years 4 and 5 RA-O, no increasing trend was observed at any well with a COC above their respective MCL.

Significant Decreases

During the Year 5 RA-O, the number of wells with statistically significantly decreasing trends was the same as in Year 4, which increased from four in Year 3 to five; the number of wells in both cases exceeds the number of wells at which a significant decreasing trend was observed during the Year 2 RA-O (one). Mann-Kendall analysis identified statistically significant evidence of decreasing trends at the following locations:

- **Monitoring Well 35BWW05 – TCE.** The TCE trend at this well has changed from stable in the Year 2 RA-O to probably decreasing in Year 3 to decreasing in Years 4 and 5. In November 2021 and May 2022, TCE concentrations were below the MCL for the first time (since 2006); however, Mann-Kendall Analysis was conducted to confirm the trends observed in Year 4. Concentrations of TCE have decreased from 14 µg/L in October 2013 to 1.8 µg/L in May 2022. An overall decreasing trend has been seen at this location and may be the result of natural attenuation (e.g., dilution from clean upgradient groundwater). Results from future sampling events will continue to be evaluated for COC concentration trends.
- **Monitoring Well 35BWW09 – TCE.** The TCE trend at this well has changed from stable in the Year 3 RA-O to decreasing in Years 4 and 5. Concentrations of TCE have decreased from 580 µg/L in November 2018 to 34 µg/L in May 2022. Although the trend is decreasing, the TCE concentration increased from 23 µg/L in May 2021 to 34 µg/L in May 2022. Results from future sampling events will continue to be evaluated for COC concentration trends.
- **Monitoring Well 35BWW14 – TCE.** At this well, the decreasing trend has continued during the Years 3, 4, and 5 RA-Os. Concentrations of TCE have decreased from 82.8 µg/L in October 2013 to 5.1 µg/L in May 2021, near the MCL of 5.0 µg/L. An overall decreasing trend has been seen at this location and may be the result of natural attenuation (e.g., dilution from clean upgradient groundwater). Results from future sampling events will continue to be evaluated for COC concentration trends.
- **Monitoring Well 35BWW15 – TCE.** Concentrations of TCE have continued to decrease since 2014 to below the MCL for the first time (since 2014) at 4.9 µg/L in May 2022. The decreasing trends may be the result of natural attenuation (i.e., dilution from clean upgradient groundwater). Results from future sampling events will continue to be evaluated for COC concentration trends and to determine if the levels remain below the MCL.

- **Monitoring Well 35BWW20 – PCE.** Concentrations of PCE decreased from 34 µg/L in 2018 to its lowest level at 5.4 µg/L in November 2021 and then increased slightly to 9.4 µg/L in May 2022. The decreasing trends may be the result of natural attenuation (e.g., dilution from clean upgradient groundwater). Results from future sampling events will continue to be evaluated for COC concentration trends.

Probably Decreasing

Mann-Kendall analysis identified the following statistically significant evidence of probable decreasing trends:

- **Monitoring Well LHSMW58 – PCE.** The concentrations of PCE have decreased from 20 µg/L in November 2017 to 4.2 µg/L in November 2019, then increased to 19 µg/L in May 2021. During the Year 5 RA-O, PCE decreased to 13 µg/L and then to 9.5 µg/L in November 2021 and May 2022, respectively. Results from future sampling events will continue to be evaluated for COC concentration trends.

3.1.4 Predictive Modeling

Calculation of time-based attenuation rates was performed as required by the RAWP (AECOM 2013). However, the trends for monitoring wells at LHAAP-37 may be skewed by the seasonal fluctuations of groundwater being higher in May (spring) and lower during the November (fall) sampling events. Therefore, although estimates of the time to achieve the MCL have been provided in the discussion below, the current trends may not accurately predict the future declines in COC concentrations.

At 35BWW05, a statistically significant decrease in TCE concentrations was determined by Mann-Kendall analysis during the Year 4 RA-O. At that time, the estimated time to achieve the MCL of 5 µg/L was 2.8 years; however, TCE was observed below the MCL of 5 µg/L in November 2021 and May 2022 at 3.5 and 1.8 µg/L, respectively.

A significant decreasing trend was determined by Mann-Kendall analysis at 35BWW09. A time-dependent attenuation rate was calculated to determine the estimated time to achieve the MCL in the groundwater associated with this well and is provided in **Appendix F**. The first order rate constant for TCE at 35BWW09 was determined to be 0.0007 day^{-1}, and the estimated time to achieve the MCL of 5 µg/L increased slightly from an estimated time of 4.4 years during the Year 4 RA-O to 7.5 years in Year 5.

A significant decreasing trend was determined by Mann-Kendall analysis at 35BWW14. A time-dependent attenuation rate was calculated to determine a time to achieve the MCL in the groundwater associated with this well and is provided in **Appendix F**. The time to achieve the MCL of 5 µg/L during the Year 4 RA-O was estimated to be 1.1 years. During the Year 5 RA-O, the first order rate constant for TCE was determined to be 0.0009 day^{-1} and the estimated time to achieve the MCL of 5 µg/L decreased to 0.1 years.

A significant decreasing trend was determined by Mann-Kendall analysis at 35BWW15. During the Year 4 RA-O, a first order rate constant for TCE was determined and the time to achieve the MCL of 5 µg/L was estimated to be 0.7 years. This estimated time was correct, and TCE was detected below the MCL at 4.9 µg/L in May 2022.

A significant decreasing trend was determined by Mann-Kendall analysis at 35BWW20. A time-dependent attenuation rate was calculated to determine a time to achieve the MCL in the groundwater associated with this well and is provided in **Appendix F**. The first order rate constant for PCE at 35BWW20 continues to be 0.0006 day^{-1}; however, the increase in TCE in May 2022 also increased the time estimate from 0.9 to 2.9 years.

The Mann-Kendall analysis determined that the trend has gone from significantly decreasing to probably decreasing at LHSMW58 during the Year 5 RA-O. A time-dependent attenuation rate was calculated to determine a time to achieve the MCL in the groundwater associated with this well and is provided in **Appendix F**. The first order rate constant for PCE at LHSMW58 was determined to be 0.0002 day^{-1}, and the estimated time to achieve the MCL of 5 µg/L has decreased from an estimated time of 12.2 years to an estimated 8.8 years between the Year 4 and Year 5 RA-Os.

During the Year 5 RA-O, the maximum estimated time for wells with decreasing trends to reach their respective MCLs is 8.8 years based on the value from LHSMW58, which is a decrease from the Year 4 RA-O with a maximum of 12.4 years. While these calculations provide an estimated time to achieve the MCLs, the actual time necessary to achieve the MCLs may vary by an order of magnitude or more given lithologic variability and significant seasonal groundwater elevation fluctuations at the site during Years 2, 3, 4, and 5. Additionally, the rate of reduction could diminish over time as the residual concentrations decrease, and the time to achieve the MCLs may be longer than estimated by these calculations.

3.1.5 Plume Stability

COC plume maps have been completed for the two semi-annual RA-O sampling events and are presented on **Figures 2-5** and **2-6**. COC concentrations at perimeter wells 35BWW07,

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35BWW08, 35BWW11, 35BWW18, 35BWW19, 35BWW23, 35BWW24, and 35BWW26 have remained below their respective MCLs during the Year 5 RA-O.

Monitoring wells 35BWW03 and 35BWW06 are sampled once every five years to support the Five Year Reviews and were sampled in November 2021. Monitoring well 35BWW06 is screened in the shallow intermediate, and COCs were below the detection limits in November 2018 and remain below in November 2021, which indicates that the contaminant plume is not migrating downward. Monitoring well 35BWW03 is screened in the intermediate groundwater zone, and COCs have also remained below the detection limits in November 2018 and in November 2021, also indicating that the contaminant plume is not migrating downward. As discussed above, 35BWW06 and 35BWW03 will be sampled once every five years to support the Five Year Reviews, and the next sampling event for these wells will be in November 2026.

During the Year 5 RA-O, seasonal groundwater level fluctuations were observed as elevations decreased again in November 2021 and then increased in May 2022. Overall, the groundwater elevations were lower in most wells during the Year 5 RA-O compared to the Year 4 RA-O. The water level fluctuations may have aided in the increases and decreases in COC concentrations.

At the northernmost impacted monitoring well, 35BWW25, TCE levels have decreased from the highest level observed, at 19 µg/L in November 2018, to 8.5 µg/L in May 2021. During the Year 5 RA-O, TCE concentrations have remained stable at 10 µg/L during both the November 2021 and May 2022 sampling events, indicating that the plume boundary is likely to be relatively stable.

On the east-southeast side of the plume, TCE concentrations at 35BWW15 have decreased to below the MCL in May 2022, at 4.9 µg/L, suggesting that the plume may be contracting to the west, making the plume narrower as shown on **Figure 2-6**. At 35BWW24, located to the northeast, TCE was observed for the first time during the Year 2 RA-O in November 2018 at 2.9 µg/L, below the MCL of 5 µg/L. TCE continues to be observed at this well and was detected at 2.9 and 3.9 µg/L during the Year 5 RA-O, which is slightly higher than the levels observed during the Year 4 RA-O, at 1.7 and 2.4 µg/L. TCE will continue to be evaluated further during the Year 6 RA-O to determine if the plume is contracting as seen at 35BWW15 or migrating to the northeast, closer to 35BWW24.

At 35WW12, located on the south side of the plume, all VOCs were below their respective MCLs during both sampling events for Year 4 RA-O and again during the Year 5 RA-O sampling, suggesting that the plume may be contracting along the upgradient edge. At 35BWW04, located downgradient of 35WW12, COCs were below the MCLs for the in

May 2022, indicating that the plume may be continuing to contract on the upgradient side of the plume.

On the west side of the plume, COCs were below the MCLs at monitoring well 35BWW05 for the first time since 2006 in November 2021 and again in May 2022, suggesting that the plume may be contracting to the east. Also, on the west side of the plume, at 35BWW10, PCE and TCE have continued to be below their respective MCLs since August 2019.

At 35BWW09, located on the southeast side of the TCE plume, the TCE concentration increased from 49 to 580 µg/L between the 2013 baseline and the November 2018 sampling event; however, concentrations have decreased since November 2018. In May 2021, TCE was detected at the lowest level observed at this well at 13 µg/L and has increased slightly during the Year 5 RA-O to 23 and 44 µg/L in November 2021 and May 2022, respectively. PCE concentrations were detected above the MCL at 41 µg/L in May 2019 but have continued to be below the detection limit since that time during the Years 3, 4, and 5 RA-O sampling events. These data suggest that the plume is not moving farther to the southeast, however the changes in TCE will continue to be evaluated.

3.2 Second Line of Evidence: Geochemical Indicators

Select monitoring wells were sampled for MNA parameters as shown in **Table 2-1**. **Table 2-3** includes the geochemical data used to determine if the site groundwater conditions are favorable for MNA biological degradation processes. The list of MNA parameters was reduced after the Year 2 RA-O Quarter 2 sampling event. The MNA parameters for LHAAP-35B (37) wells include nitrate, sulfate, chloride, methane, ethane, ethene, carbon dioxide, and TOC analyzed in an off-site laboratory, and dissolved iron measured in the field (Bhate 2019b). The field parameters for LHAAP-35B (37) wells include dissolved oxygen (DO), oxidation-reduction potential (ORP), pH, conductivity, turbidity, and temperature.

Dissolved Oxygen

DO is the most thermodynamically favored electron acceptor used by microbes for biodegradation of organic carbon, whether natural or anthropogenic (USEPA 1998). Anaerobic bacteria, which are the primary microbes able to degrade the site COCs, may be inhibited at DO concentrations greater than 0.5 milligram per liter (mg/L). In monitoring wells where COCs were above the MCL, the DO concentrations ranged from 0.50 to 3.29 mg/L, with all locations at or above 0.5 mg/L during the Year 5 RA-O. higher The DO levels in the Year 5 RA-O were higher than those observed during the Year 4 RA-O, where four of nine impacted wells were below 0.5 mg/L and favorable for reductive dechlorination. The DO levels above 0.5 mg/L suggest that the groundwater may not be favorable for the biological reduction of site COCs.

Oxidation-Reduction Potential

The ORP levels indicate the oxidative or reductive potential in the aquifer and provide real-time data to determine if conditions are conducive for biodegradation. ORP values less than 50 millivolts (mV) indicate that the aquifer is reaching anaerobic conditions and are favorable for biological reductive dechlorination of chlorinated ethenes and ethanes (USEPA 1998). During the Year 5 RA-O monitoring, the ORP measurements ranged from 122 mV at LHSMW58 to 276 mV at 35BWW25. These measurements indicate oxidative conditions which are not favorable for reductive dechlorination.

Nitrate

After DO has been depleted by microbes in the treatment zone, nitrate may be used as an electron acceptor and is reduced to nitrite. Nitrate levels above 1.0 mg/L may compete with reductive dechlorination (USEPA 1998). The nitrate and nitrite concentrations continue to be below 1.0 mg/L during the Year 5 RA-O sampling, indicating that nitrate will not inhibit anaerobic degradation of site COCs.

Iron Reduction

After nitrate is utilized, iron (III) (ferric iron) is used as an electron acceptor during anaerobic biodegradation of organic carbon. During this process, iron (III) is reduced to iron (II) (ferrous iron), which is soluble in water, and the presence of ferrous iron can indicate reducing groundwater conditions. During the Year 5 RA-O, ferrous iron continues to be observed at each of the MNA monitoring wells, indicating that iron-reducing conditions exist in the site groundwater.

Sulfate

After DO, nitrate, and iron have been depleted in the groundwater, sulfate is used as an electron acceptor. Concentrations of sulfate greater than 20 mg/L may compete with reductive dechlorination of the site COCs. However, in many plumes with high concentrations of sulfate, reductive dechlorination still occurs (USEPA 1998). Sulfate was sampled in monitoring wells designated for MNA analysis during the Year 5 RA-O and ranged from 27.1 to 61.9 mg/L during the Year 5 RA-O sampling events. Sulfate levels are slightly elevated and may compete as an electron acceptor with site COCs.

Methane

Methanogenesis occurs in highly reducing conditions and generally occurs after oxygen, nitrate, iron, and sulfate have been depleted. Methane levels above 500 µg/L are considered

indicative of methanogenic conditions (USEPA 1998). Methane concentrations ranged from 1.03 to 3.76 µg/L during the Year 5 RA-O in the six wells sampled for MNA parameters, which suggests that methanogenic conditions are not present in the groundwater.

Total Organic Carbon

Regardless of the electron acceptor being used, organic carbon is a required source of reduced carbon and energy to sustain microbial activity. TOC is utilized as an energy and hydrogen source to support the reductive dechlorination of the chlorinated COCs. TOC concentrations greater than 20 mg/L are considered adequate to support microbial activity (USEPA 1998). TOC ranged from an estimated value of 0.68 J to 4.06 mg/L during the Year 5 RA-O sampling. This indicates that carbon concentrations in the groundwater are not supportive of reductive dechlorination.

pH

The pH of the groundwater has an effect on the activity of microbial populations. Microbes capable of degrading chlorinated aliphatic hydrocarbons generally prefer pH values from 6 to 8 standard units (SUs) (USEPA 1998). The Shallow Zone groundwater pH during the Year 5 RA-O period ranged from 5.04 to 6.27 SUs, with an average of value of 5.70 SUs. The data from the Year 5 RA-O indicates that the pH of the groundwater is not supportive of biological activity and reductive dechlorination.

Ethane and Ethene

Ethane and ethene are the two end products of the reductive dechlorination pathways for chlorinated ethanes and ethenes. During the Year 5 RA-O, ethene and ethane concentrations were below or near the laboratory reporting limits, indicating that complete reductive dechlorination is not occurring at LHAAP-35B (37).

Geochemical Indicator MNA Parameter Summary

The qualitative assessment indicates that geochemical indicators during the Year 5 RA-O period in the groundwater at LHAAP-35B (37) are similar to the Year 3 and Year 4 RA-O values and that the current geochemical conditions are not favorable for MNA processes via biological reduction. The presence of the biological degradation product cis-1,2-DCE and the abiotic degradation product 1,1-DCE suggest that limited biological degradation may be occurring; however, the primary MNA processes reducing concentrations are abiotic.

3.3 Third Line of Evidence: Microbial Analysis

Dechlorinating bacteria, *Dehalococcoides sp.*, were not analyzed during the Year 5 RA-O sampling event due to the reduction of MNA parameters after the Year 2 RA-O Quarter 2 sampling event (Bhate 2019b). During the last sampling event in February 2019, *Dehalococcoides sp.* concentrations were 2.3 cells per milliliter and lower, indicating that the population of the species required for complete reductive dechlorination is not present.

4.0 SUMMARY AND CONCLUSIONS

The LUC for LHAAP-35B (37) is a groundwater restriction, which prohibits water well installation for any purpose other than environmental monitoring and testing or the use of residential groundwater until COCs in the groundwater and soil allow unrestricted use and unlimited exposure. The annual LUC compliance inspection for the Year 5 RA-O was conducted on May 16, 2022. No compliance issues or concerns were identified during the annual inspection. No change in land use or groundwater use has occurred at the site during the Year 5 RA-O monitoring period. Inspections of the monitoring wells were conducted during each sampling event. Site monitoring wells were in good condition, and periodic clearing and mowing were conducted, as needed. During the Year 5 RA-O, bollards were replaced along with painting and replacing labels. Additional wells will be painted during the Year 6 annual RA-O sampling event in November 2022.

VOC data and geochemical indicators were collected over the course of the monitoring period to evaluate effectiveness of MNA as a site remedy. A tiered approach was used to evaluate the occurrence of natural attenuation in site groundwater. The first line of evidence evaluated reductions in COC concentrations. The second line of evidence evaluated geochemical indicators to aid in determining favorable groundwater conditions for COC degradation. The third line of evidence evaluates microbial populations in the aquifer.

Groundwater elevations were compared to creek bottom elevations to determine if groundwater could impact the creek. Monitoring well 35BWW01 continues to be the only well that has groundwater elevations above the creek bottom. Comparison to other wells suggests that the water in 35BWW01 may be perched and could potentially influence the creek. The lack of COCs in this well suggests that if this water does reach the creek, the creek will not be impacted by COCs. Groundwater elevations at 35BWW05 and 35BWW12 were below the creek elevation, indicating that shallow groundwater is not influencing the creek; therefore, samples were not collected during the Year 5 RA-O. The most recent sampling at the two surface water locations was conducted in in May 2020, and no VOCs were detected at concentrations exceeding the laboratory reporting limits. In accordance with the RAWP, these locations will not be sampled in the future unless the groundwater elevations are above the creek bottom elevations.

An assessment of the first line of evidence included an evaluation of the groundwater flow and COC degradation trends. Based on the Year 5 RA-O groundwater level measurements, the groundwater primarily flows to the northeast. On the west side of the site, within the LUC boundary, the groundwater flows in a north-northwest direction, primarily during the spring (May) sampling event, when the groundwater elevations are higher.

Reductions in COCs were observed over time during the Year 5 RA-O. The highest levels of VOCs have historically been observed at 35BWW09, and during the Year 5 RA-O, the highest level of TCE was observed at this well again at 34 µg/L in May 2022. The highest level of PCE was observed at 35BWW14 at 24 µg/L in November 2021. At 35BWW10, PCE and TCE decreased to below the MCL in August 2019 and have remained below the MCLs during the Year 4 and Year 5 RA-O monitoring events. At 35BWW12, COCs decreased to below their respective MCLs in November 2020 for the first time since November 2017 and were below the detection limits during the Year 5 RA-O. Decreases in PCE and TCE to levels below the MCL were also seen at both 35BWW04 and 35BWW05. At 35BWW04, the COCs were below the MCLs in May 2022, for the first time since 2019. At monitoring well 35BWW05, COCs were below the MCLs in November 2021 and again in May 2022, for the first time since 2006. TCE concentrations at 35BWW15 have decreased to below the MCL in May 2022, for the first time since 2014.

During the Year 2 RA-O, an inverse relationship between groundwater elevations and COC concentrations was observed at some wells; however, this trend was not observed to the same extent during the Years 3, 4, or 5 RA-Os. The increases in groundwater elevations in the last two years and the seasonal fluctuations may have affected the observed trends in the COC concentration. The MNA mechanism of dilution is expected to continue aiding in the decreases in COC levels, and future sampling events will determine if the downward trends persist.

PCE, TCE, cis-1,2-DCE, and vinyl chloride concentrations at 35BWW14 and 35BWW15, near the center of the plume, have been declining over the five Years of RA-O and conclusively indicate that MNA is operating successfully. The results from the ongoing RA-O monitoring will determine if the trends continue.

Decreases in contaminants continue to be observed along the groundwater flowpath. Concentrations of PCE and TCE have decreased between the locations of 35BWW14 and 35BWW24. On the west side, near the LUC boundary, a decrease in TCE was also observed from elevated levels at 35BWW09 to below the detection limit at 35BWW08. In May 2020, when groundwater on the west side flowed northwesterly, the concentrations also decreased between 35BWW09 and 35BWW18. The PCE concentrations at 35BWW16, located northeast of the main plume, increased from below the MCL (0.447 J µg/L) during the 2013 baseline sampling to a high of 15 µg/L in November 2018. However, PCE concentrations have continued to decrease and during the Year 5 RA-O, levels decreased to below the detection limit of 0.5 µg/L in May 2022. This well is located northeast of the main plume and downgradient of the higher concentration areas of the plume. It is possible that the more northerly flow observed in the area of this well during the Year 2, 3, 4, and 5 RA-O events

may have prevented further plume migration towards this well, or abiotic MNA process have reduced concentrations.

Mann-Kendall analysis for the Year 5 RA-O monitoring period was completed to determine concentration trends. Five wells were determined to have statistically significant decreasing trends, as in Year 4, which increased from the one well during the Year 2 RA-O. The maximum estimated time for any well with a decreasing trend to have COCs below MCLs has decreased from 12.4 to 8.8 years between Year 4 and Year 5 RA-O at LHSMW58. While these calculations provide an estimated time to achieve the MCL, given lithologic variability and significant seasonal groundwater elevation fluctuations at the site, the time necessary to achieve the MCL may vary by an order of magnitude or more.

The COC data from the RA-O monitoring indicate that the plume has been relatively stable during the first five years of RA-O sampling. At 35BWW25, located on the northern side of the plume, TCE concentrations increased from 2016 to November 2018; however, they have decreased slightly and remained stable since February 2019 and were observed at the same level during the Year 5 RA-O sampling events. TCE was observed for the first time at 35BWW24 in November 2018 and has remained below MCL during the Years 2, 3, 4, and 5 RA-O events, suggesting the plume is stable to the northeast. Recent slight increases in concentrations at 35BWW24, while still below the MCL, warrant continued observation to determine if the plume is migrating in this direction. At 35WW12, located on the south side of the plume, all VOCs were below their respective MCLs for the first time since 2018 during the Year 4 RA-O and continued during the Year 5 RA-O. Also, at 35BWW04, located downgradient of 35WW12, all VOCs were below their respective MCLs for the first time since 2018 during the Year 5 RA-O, suggesting that the plume may be contracting upgradient. The PCE and TCE concentrations have also fluctuated in the southwestern part of the plume. At 35BWW10, concentrations of PCE and TCE decreased to below their respective MCLs during the Year 2 RA-O and have remained below the MCL during the Years 4 and 5 RA-O sampling events. At 35BWW09, PCE increased above the MCL in one sampling event during the Year 2 RA-O but has remained below the MCL during the Years 3, 4, and 5 RA-Os. During the Year 3 RA-O, TCE levels decreased to baseline levels and these trends have continued during the Year 5 RA-O, indicating the plume is stable to the southwest. These changes will continue be evaluated during the Year 6 RA-O to determine if the plume continues to be stable.

The qualitative assessment of geochemical indicators performed as the second line of evidence at LHAAP-35B (37) indicates current geochemical conditions continue to be inadequate to support biological degradation MNA processes. Although degradation products cis-1,2-DCE and 1,1-DCE have been detected in certain monitoring wells, groundwater conditions within the impacted area are not reducing, which is not favorable for biological

degradation of site COCs and suggests that reductions in concentrations are due to abiotic MNA processes.

The third line of evidence to assess MNA is to evaluate microorganisms that demonstrate biological degradation. Previous microbial data indicated that the reductive dechlorinating bacteria *Dehalococcoides sp.* are not present at levels expected to aid in biological degradation and were removed from the list of analysis as part of the reduction of MNA parameters after the Year 2 RA-O Quarter 2 sampling event (Bhate 2019b).

The evaluation of MNA at LHAAP-35B (37) indicates that, based on the data collected thus far, decreases observed in COCs are occurring and are primarily due to abiotic MNA processes, including dispersion, dilution, sorption, and volatilization. The data also indicated that decreases in COCs are not likely to be associated with biodegradation. Increases in groundwater elevations during the Year 2 groundwater sampling and continued fluctuations in Year 5 may have potentially affected the observed trends in the COC concentration data. Five years of MNA data for these wells have been collected during a period with significant groundwater elevation fluctuations in Years 2 through 5. Future sampling events will determine if the COC trends continue.

At 35BWW25, located near the northern LUC boundary, TCE concentrations were observed at the highest level of 19 µg/L in November 2018. Since that time TCE levels have been decreasing via MNA processes. Data from monitoring wells located in LHAAP-47 (HDR 2021), north of the LHAAP-37 LUC boundary, indicate that the plume is constrained.

The first year of annual sampling will be implemented during the sixth year of RA-O monitoring (beginning in November 2022) in compliance with the RACR (AECOM 2016) as shown in **Table 2-7** and on **Figure 2-8**.

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Tables

Table 2-1
Groundwater RA-O Sampling – 2021 and 2022

Well ID	Groundwater Unit	Y5SA1 November 2021			Y5SA2 May 2022		
		VOC	Field Parameters	MNA	VOC	Field Parameters	MNA
35BWW01	Shallow	X	X		X	X	
35BWW02	Shallow	Removed from sampling schedule [a]					
35BWW03[b]	Intermediate	X	X				
35BWW04	Shallow	X	X	X	X	X	X
35BWW05	Shallow	X	X		X	X	
35BWW06[b]	Lower Shallow	X	X				
35BWW07	Shallow	X	X		X	X	
35BWW08	Shallow	X	X	X	X	X	X
35BWW09	Shallow	X	X		X	X	
35BWW10	Shallow	X	X		X	X	
35BWW11	Shallow	X	X		X	X	
35BWW12	Shallow	X	X	X	X	X	X
35BWW13	Shallow	X	X		X	X	
35BWW14	Shallow	X	X	X	X	X	X
35BWW15	Shallow	X	X		X	X	
35BWW16	Shallow	X	X		X	X	
35BWW17	Shallow	X	X		X	X	
35BWW18	Shallow	X	X		X	X	
35BWW19	Shallow	X	X		X	X	
35BWW20	Shallow	X	X		X	X	
35BWW23	Shallow	X	X	X	X	X	X
35BWW24	Shallow	X	X		X	X	
35BWW25	Shallow	X	X		X	X	
35BWW26	Shallow	X	X	X	X	X	X
LHSMW58	Shallow	X	X		X	X	
35BSW01	Goose Prairie Creek				X	X	
35BSW02	Goose Prairie Creek				X	X	

Notes:

iron.

MNA parameters include alkalinity, sulfate, sulfide, chloride, TOC, dissolved iron and manganese, total phosphorus, carbon dioxide, dissolved gases (methane, ethane, ethene) and total iron.

[a] Location was removed from sampling list due to being dry during each quarter of Year 1 RA-O groundwater sampling and the first two quarters of Year 2 RA-

[b] Location is sampled for 5 year review - Next sampling will be Year 10 Quarter 1 November 2026.

X - well was analyzed for that parameter.

ID - identifier

MNA - monitored natural attenuation

RA-O - remedial action operation

TOC - total organic carbon

VOC - volatile organic compound

Table 2-2
Groundwater Elevation Data, LHAAP-35B (37)

Well ID	Sampling Date	TOC Elevation (ft MSL)	Depth to Water (ft TOC)	Depth to Water (ft bgs)	Screen Interval (ft bgs) Top	Screen Interval (ft bgs) Bottom	Screen Interval (ft MSL) Top	Screen Interval (ft MSL) Bottom	Water Elevation (ft MSL)
35BWW01	1/1/2013	202.42	Dry	Dry	9	19	191.31	181.31	Dry
	8/18/2016	202.42	17	14.89	9	19	191.31	181.31	185.42
	11/8/2017	202.42	15.42	13.31	9	19	191.31	181.31	187.00
	2/14/2018	202.42	14.8	12.69	9	19	191.31	181.31	187.62
	3/29/2018	202.42	12.94	10.83	9	19	191.31	181.31	189.48
	5/24/2018	202.42	12.28	10.17	9	19	191.31	181.31	190.14
	8/16/2018	202.42	14.22	12.11	9	19	191.31	181.31	188.20
	11/15/2018	202.42	14.15	12.04	9	19	191.31	181.31	188.27
	2/12/2019	202.42	8.11	6.00	9	19	191.31	181.31	194.31
	5/20/2019	202.42	7.18	5.07	9	19	191.31	181.31	195.24
	8/5/2019	202.42	11.93	9.82	9	19	191.31	181.31	190.49
	11/21/2019	202.42	14.35	12.24	9	19	191.31	181.31	188.07
	5/6/2020	202.42	8.28	6.17	9	19	191.31	181.31	194.14
	11/9/2020	202.42	14.18	12.07	9	19	191.31	181.31	188.24
	5/13/2021	202.42	6.97	4.86	9	19	191.31	181.31	195.45
	11/15/2021	202.42	14.58	12.47	9	19	191.31	181.31	187.84
	5/17/2022	202.42	13.14	11.03	9	19	191.31	181.31	189.28
35BWW02	1/1/2013	203.95	Dry	Dry	9	14	192.54	187.54	Dry
	8/16/2015	203.95	Dry	Dry	9	14	192.54	187.54	Dry
	8/19/2016	203.95	Dry	Dry	9	14	192.54	187.54	Dry
	11/7/2017	203.95	Dry	Dry	9	14	192.54	187.54	Dry
	2/13/2018	203.95	Dry	Dry	9	14	192.54	187.54	Dry
	3/29/2018	203.95	Dry	Dry	9	14	192.54	187.54	Dry
	5/24/2018	203.95	Dry	Dry	9	14	192.54	187.54	Dry
	11/16/2018	203.95	Dry	Dry	9	14	192.54	187.54	Dry
	2/14/2019	203.95	Dry	Dry	9	14	192.54	187.54	Dry
	11/17/2021	203.95	Dry	Dry	9	14	192.54	187.54	Dry
	5/16/2022	203.95	Dry	Dry	9	14	192.54	187.54	Dry
35BWW03	11/15/2021	203.55	32.2	29.99	70	80	131.34	121.34	171.35
	5/17/2022	203.55	30.15	27.94	70	80	131.34	121.34	173.40
35BWW04	1/1/2013	202.11	23.5	20.65	20	30	179.26	169.26	178.61
	8/17/2016	202.11	22	19.15	20	30	179.26	169.26	180.11
	11/9/2017	202.11	23.8	20.95	20	30	179.26	169.26	178.31
	2/14/2018	202.11	23.53	20.68	20	30	179.26	169.26	178.58
	5/22/2018	202.11	22.55	19.70	20	30	179.26	169.26	179.56
	8/22/2018	202.11	24.09	21.24	20	30	179.26	169.26	178.02
	11/20/2018	202.11	23.02	20.17	20	30	179.26	169.26	179.09
	2/13/2019	202.11	21.75	18.90	20	30	179.26	169.26	180.36
	5/20/2019	202.11	19.07	16.22	20	30	179.26	169.26	183.04
	8/5/2019	202.11	20.78	17.93	20	30	179.26	169.26	181.33
	11/21/2019	202.11	22.95	20.10	20	30	179.26	169.26	179.16
	5/6/2020	202.11	20.59	17.74	20	30	179.26	169.26	181.52
	11/10/2020	202.11	22.08	19.23	20	30	179.26	169.26	180.03
	5/13/2021	202.11	18.54	15.69	20	30	179.26	169.26	183.57
	11/17/2021	202.11	22	19.15	20	30	179.26	169.26	180.11
	5/17/2022	202.11	21.27	18.42	20	30	179.26	169.26	180.84

Table 2-2
Groundwater Elevation Data, LHAAP-35B (37)

Well ID	Sampling Date	TOC Elevation (ft MSL)	Depth to Water (ft TOC)	Depth to Water (ft bgs)	Screen Interval (ft bgs) Top	Screen Interval (ft bgs) Bottom	Screen Interval (ft MSL) Top	Screen Interval (ft MSL) Bottom	Water Elevation (ft MSL)
35BWW05	1/1/2013	202.57	24.08	21.48	26	36	173.97	163.97	178.49
	8/18/2016	202.57	22.65	20.05	26	36	173.97	163.97	179.92
	11/8/2017	202.57	24.3	21.70	26	36	173.97	163.97	178.27
	2/16/2018	202.57	24	21.40	26	36	173.97	163.97	178.57
	3/27/2018	202.57	23.35	20.75	26	36	173.97	163.97	179.22
	5/21/2018	202.57	23.2	20.60	26	36	173.97	163.97	179.37
	8/21/2018	202.57	24.63	22.03	26	36	173.97	163.97	177.94
	11/18/2018	202.57	23.59	20.99	26	36	173.97	163.97	178.98
	2/13/2019	202.57	22.57	19.97	26	36	173.97	163.97	180.00
	5/21/2019	202.57	20.47	17.87	26	36	173.97	163.97	182.10
	8/6/2019	202.57	21.83	19.23	26	36	173.97	163.97	180.74
	11/25/2019	202.57	23.6	21.00	26	36	173.97	163.97	178.97
	5/6/2020	202.57	21.61	19.01	26	36	173.97	163.97	180.96
	11/9/2020	202.57	22.9	20.30	26	36	173.97	163.97	179.67
	5/13/2021	202.57	19.93	17.33	26	36	173.97	163.97	182.64
	11/15/2021	202.57	22.7	20.10	26	36	173.97	163.97	179.87
	5/16/2022	202.57	22.08	19.48	26	36	173.97	163.97	180.49
35BWW06	1/1/2013	203.04	24.7	21.67	42	52	158.01	148.01	178.34
	8/18/2016	203.04	23.27	20.24	42	52	158.01	148.01	179.77
	11/8/2017	203.04	24.5	21.47	42	52	158.01	148.01	178.54
	2/16/2018	203.04	24.7	21.67	42	52	158.01	148.01	178.34
	3/27/2018	203.04	24.8	21.77	42	52	158.01	148.01	178.24
	5/21/2018	203.04	24.02	20.99	42	52	158.01	148.01	179.02
	8/21/2018	203.04	25.3	22.27	42	52	158.01	148.01	177.74
	11/18/2018	203.04	24.34	21.31	42	52	158.01	148.01	178.70
	11/25/2019	203.04	23.89	20.86	42	52	158.01	148.01	179.15
	11/15/2021	203.04	23.53	20.50	42	52	158.01	148.01	179.51
	5/17/2022	203.04	22.7	19.67	42	52	158.01	148.01	180.34
35BWW07	1/1/2013	203.53	27.85	25.18	18	28	182.86	172.86	175.68
	8/18/2016	203.53	25.5	22.83	18	28	182.86	172.86	178.03
	11/8/2017	203.53	27.94	25.27	18	28	182.86	172.86	175.59
	2/13/2018	203.53	27.25	24.58	18	28	182.86	172.86	176.28
	3/29/2018	203.53	26.52	23.85	18	28	182.86	172.86	177.01
	5/23/2018	203.53	26.11	23.44	18	28	182.86	172.86	177.42
	8/20/2018	203.53	28.05	25.38	18	28	182.86	172.86	175.48
	11/18/2018	203.53	27.45	24.78	18	28	182.86	172.86	176.08
	2/14/2019	203.53	25.76	23.09	18	28	182.86	172.86	177.77
	5/22/2019	203.53	25.11	22.44	18	28	182.86	172.86	178.42
	8/5/2019	203.53	23.9	21.23	18	28	182.86	172.86	179.63
	11/25/2019	203.53	25.97	23.30	18	28	182.86	172.86	177.56
	5/11/2020	203.53	23.95	21.28	18	28	182.86	172.86	179.58
	11/11/2020	203.53	25.2	22.53	18	28	182.86	172.86	178.33
	5/17/2021	203.53	22.73	20.06	18	28	182.86	172.86	180.80
	11/17/2021	203.53	25.09	22.42	18	28	182.86	172.86	178.44
	5/16/2022	203.53	24.39	21.72	18	28	182.86	172.86	179.14

Table 2-2
Groundwater Elevation Data, LHAAP-35B (37)

Well ID	Sampling Date	TOC Elevation (ft MSL)	Depth to Water (ft TOC)	Depth to Water (ft bgs)	Screen Interval (ft bgs) Top	Screen Interval (ft bgs) Bottom	Screen Interval (ft MSL) Top	Screen Interval (ft MSL) Bottom	Water Elevation (ft MSL)
35BWW08	1/1/2013	204.12	25.1	22.38	22	32	179.40	169.40	179.02
	8/17/2016	204.12	23.74	21.02	22	32	179.40	169.40	180.38
	11/7/2017	204.12	25.4	22.68	22	32	179.40	169.40	178.72
	2/14/2018	204.12	25.07	22.35	22	32	179.40	169.40	179.05
	5/23/2018	204.12	24.43	21.71	22	32	179.40	169.40	179.69
	8/22/2018	204.12	25.73	23.01	22	32	179.40	169.40	178.39
	11/20/2018	204.12	24.54	21.82	22	32	179.40	169.40	179.58
	2/12/2019	204.12	23.67	20.95	22	32	179.40	169.40	180.45
	5/20/2019	204.12	21.4	18.68	22	32	179.40	169.40	182.72
	8/5/2019	204.12	20.5	17.78	22	32	179.40	169.40	183.62
	11/21/2019	204.12	24.75	22.03	22	32	179.40	169.40	179.37
	5/6/2020	204.12	22.63	19.91	22	32	179.40	169.40	181.49
	11/11/2020	204.12	24.1	21.38	22	32	179.40	169.40	180.02
	5/13/2021	204.12	20.95	18.23	22	32	179.40	169.40	183.17
	11/17/2021	204.12	23.8	21.08	22	32	179.40	169.40	180.32
	5/17/2022	204.12	23.13	20.41	22	32	179.40	169.40	180.99
35BWW09	1/1/2013	205.16	26.4	24.39	25	35	178.15	168.15	178.76
	8/16/2016	205.16	24.85	22.84	25	35	178.15	168.15	180.31
	11/7/2017	205.16	26.45	24.44	25	35	178.15	168.15	178.71
	2/16/2018	205.16	26.43	24.42	25	35	178.15	168.15	178.73
	3/27/2018	205.16	25.57	23.56	25	35	178.15	168.15	179.59
	5/21/2018	205.16	25.5	23.49	25	35	178.15	168.15	179.66
	8/16/2018	205.16	26.71	24.70	25	35	178.15	168.15	178.45
	11/19/2018	205.16	25.73	23.72	25	35	178.15	168.15	179.43
	2/13/2019	205.16	24.77	22.76	25	35	178.15	168.15	180.39
	5/21/2019	205.16	22.82	20.81	25	35	178.15	168.15	182.34
	8/5/2019	205.16	23.95	21.94	25	35	178.15	168.15	181.21
	11/26/2019	205.16	25.83	23.82	25	35	178.15	168.15	179.33
	5/11/2020	205.16	23.63	21.62	25	35	178.15	168.15	181.53
	11/9/2020	205.16	25.17	23.16	25	35	178.15	168.15	179.99
	5/13/2021	205.16	22.25	20.24	25	35	178.15	168.15	182.91
	11/15/2021	205.16	24.8	22.79	25	35	178.15	168.15	180.36
	5/18/2022	205.16	24.18	22.17	25	35	178.15	168.15	180.98
35BWW10	1/1/2013	203.79	24.97	21.97	18.23	33	182.56	167.79	178.82
	8/18/2016	203.79	23.47	20.47	18.23	33	182.56	167.79	180.32
	11/7/2017	203.79	25.5	22.50	18.23	33	182.56	167.79	178.29
	2/16/2018	203.79	24.87	21.87	18.23	33	182.56	167.79	178.92
	3/27/2018	203.79	24.21	21.21	18.23	33	182.56	167.79	179.58
	5/24/2018	203.79	24.17	21.17	18.23	33	182.56	167.79	179.62
	8/17/2018	203.79	25.43	22.43	18.23	33	182.56	167.79	178.36
	11/18/2018	203.79	24.34	21.34	18.23	33	182.56	167.79	179.45
	2/12/2019	203.79	23.31	20.31	18.23	33	182.56	167.79	180.48
	5/20/2019	203.79	21.02	18.02	18.23	33	182.56	167.79	182.77
	8/6/2019	203.79	22.68	19.68	18.23	33	182.56	167.79	181.11
	11/26/2019	203.79	24.45	21.45	18.23	33	182.56	167.79	179.34
	5/6/2020	203.79	22.3	19.30	18.23	33	182.56	167.79	181.49
	11/9/2020	203.79	23.73	20.73	18.23	33	182.56	167.79	180.06

Table 2-2
Groundwater Elevation Data, LHAAP-35B (37)

Well ID	Sampling Date	TOC Elevation (ft MSL)	Depth to Water (ft TOC)	Depth to Water (ft bgs)	Screen Interval (ft bgs) Top	Screen Interval (ft bgs) Bottom	Screen Interval (ft MSL) Top	Screen Interval (ft MSL) Bottom	Water Elevation (ft MSL)
35BWW10	5/13/2021	203.79	20.45	17.45	18.23	33	182.56	167.79	183.34
	11/15/2021	203.79	23.53	20.53	18.23	33	182.56	167.79	180.26
	5/16/2022	203.79	22.79	19.79	18.23	33	182.56	167.79	181.00
35BWW11	1/1/2013	203.31	24.47	22.06	25	35	175.90	165.90	178.84
	8/18/2016	203.31	22.42	20.01	25	35	175.90	165.90	180.89
	11/8/2017	203.31	24.3	21.89	25	35	175.90	165.90	179.01
	2/12/2018	203.31	24.06	21.65	25	35	175.90	165.90	179.25
	3/27/2018	203.31	23.16	20.75	25	35	175.90	165.90	180.15
	5/21/2018	203.31	22.64	20.23	25	35	175.90	165.90	180.67
	8/17/2018	203.31	24.46	22.05	25	35	175.90	165.90	178.85
	11/18/2018	203.31	22.77	20.36	25	35	175.90	165.90	180.54
	2/13/2019	203.31	21.49	19.08	25	35	175.90	165.90	181.82
	5/21/2019	203.31	18.53	16.12	25	35	175.90	165.90	184.78
	8/7/2019	203.31	19.66	17.25	25	35	175.90	165.90	183.65
	11/21/2019	203.31	23.28	20.87	25	35	175.90	165.90	180.03
	5/6/2020	203.31	20.13	17.72	25	35	175.90	165.90	183.18
	11/9/2020	203.31	22.52	20.11	25	35	175.90	165.90	180.79
	5/17/2021	203.31	18.22	15.81	25	35	175.90	165.90	185.09
	11/17/2021	203.31	22.53	20.12	25	35	175.90	165.90	180.78
	5/17/2022	203.31	21.18	18.77	25	35	175.90	165.90	182.13
35BWW12	1/1/2013	201.17	22.55	19.90	20.3	35	178.22	163.52	178.62
	8/17/2016	201.17	20.86	18.21	20.3	35	178.22	163.52	180.31
	11/9/2017	201.17	22.75	20.10	20.3	35	178.22	163.52	178.42
	2/14/2018	201.17	22.4	19.75	20.3	35	178.22	163.52	178.77
	5/23/2018	201.17	21.34	18.69	20.3	35	178.22	163.52	179.83
	8/22/2018	201.17	22.96	20.31	20.3	35	178.22	163.52	178.21
	11/20/2018	201.17	21.86	19.21	20.3	35	178.22	163.52	179.31
	2/13/2019	201.17	20.52	17.87	20.3	35	178.22	163.52	180.65
	5/21/2019	201.17	17.78	15.13	20.3	35	178.22	163.52	183.39
	8/5/2019	201.17	19.54	16.89	20.3	35	178.22	163.52	181.63
	11/25/2019	201.17	21.74	19.09	20.3	35	178.22	163.52	179.43
	5/6/2020	201.17	20.31	17.66	20.3	35	178.22	163.52	180.86
	11/11/2020	201.17	21	18.35	20.3	35	178.22	163.52	180.17
	5/18/2021	201.17	17.32	14.67	20.3	35	178.22	163.52	183.85
	11/22/2021	201.17	20.9	18.25	20.3	35	178.22	163.52	180.27
	5/18/2022	201.17	20.08	17.43	20.3	35	178.22	163.52	181.09
35BWW13	1/1/2013	203.52	25.55	23.10	19.8	34.5	181.27	166.57	177.97
	8/19/2016	203.52	23.51	21.06	19.8	34.5	181.27	166.57	180.01
	11/7/2017	203.52	25.5	23.05	19.8	34.5	181.27	166.57	178.02
	2/13/2018	203.52	25.36	22.91	19.8	34.5	181.27	166.57	178.16
	3/28/2018	203.52	24.25	21.80	19.8	34.5	181.27	166.57	179.27
	5/24/2018	203.52	24	21.55	19.8	34.5	181.27	166.57	179.52
	8/21/2018	203.52	25.71	23.26	19.8	34.5	181.27	166.57	177.81
	11/16/2018	203.52	25.08	22.63	19.8	34.5	181.27	166.57	178.44
	2/14/2019	203.52	22.75	20.30	19.8	34.5	181.27	166.57	180.77
	5/22/2019	203.52	20.17	17.72	19.8	34.5	181.27	166.57	183.35
	8/6/2019	203.52	22.02	19.57	19.8	34.5	181.27	166.57	181.50

Table 2-2
Groundwater Elevation Data, LHAAP-35B (37)

Well ID	Sampling Date	TOC Elevation (ft MSL)	Depth to Water (ft TOC)	Depth to Water (ft bgs)	Screen Interval (ft bgs) Top	Screen Interval (ft bgs) Bottom	Screen Interval (ft MSL) Top	Screen Interval (ft MSL) Bottom	Water Elevation (ft MSL)
35BWW13	11/25/2019	203.52	24.35	21.90	19.8	34.5	181.27	166.57	179.17
	5/7/2020	203.52	21.65	19.20	19.8	34.5	181.27	166.57	181.87
	5/16/2020	203.52	22.8	20.35	19.8	34.5	181.27	166.57	180.72
	11/11/2020	203.52	23.64	21.19	19.8	34.5	181.27	166.57	179.88
	5/17/2021	203.52	19.8	17.35	19.8	34.5	181.27	166.57	183.72
	11/17/2021	203.52	23.4	20.95	19.8	34.5	181.27	166.57	180.12
	5/16/2022	203.52	22.8	20.35	19.8	34.5	181.27	166.57	180.72
35BWW14	1/1/2013	201.26	23.15	21.44	25	35	174.55	164.55	178.11
	8/17/2016	201.26	21.65	19.94	25	35	174.55	164.55	179.61
	11/7/2017	201.26	23.4	21.69	25	35	174.55	164.55	177.86
	2/15/2018	201.26	23.11	21.40	25	35	174.55	164.55	178.15
	5/22/2018	201.26	22.2	20.49	25	35	174.55	164.55	179.06
	8/22/2018	201.26	23.67	21.96	25	35	174.55	164.55	177.59
	11/20/2018	201.26	22.83	21.12	25	35	174.55	164.55	178.43
	2/12/2019	201.26	21.54	19.83	25	35	174.55	164.55	179.72
	5/21/2019	201.26	19.3	17.59	25	35	174.55	164.55	181.96
	8/6/2019	201.26	20.57	18.86	25	35	174.55	164.55	180.69
	11/25/2019	201.26	22.52	20.81	25	35	174.55	164.55	178.74
	5/7/2020	201.26	20.41	18.70	25	35	174.55	164.55	180.85
	11/10/2020	201.26	21.73	20.02	25	35	174.55	164.55	179.53
	5/18/2021	201.26	18.74	17.03	25	35	174.55	164.55	182.52
	11/22/2021	201.26	21.5	19.79	25	35	174.55	164.55	179.76
	5/18/2022	201.26	21.06	19.35	25	35	174.55	164.55	180.20
35BWW15	1/1/2013	201.75	23.6	21.86	17.6	47.6	182.41	152.41	178.15
	8/19/2016	201.75	22.04	20.30	17.6	47.6	182.41	152.41	179.71
	11/7/2017	201.75	23.77	22.03	17.6	47.6	182.41	152.41	177.98
	2/13/2018	201.75	23.64	21.90	17.6	47.6	182.41	152.41	178.11
	3/29/2018	201.75	22.43	20.69	17.6	47.6	182.41	152.41	179.32
	5/21/2018	201.75	23.65	21.91	17.6	47.6	182.41	152.41	178.10
	8/20/2018	201.75	24.07	22.33	17.6	47.6	182.41	152.41	177.68
	11/16/2018	201.75	23.23	21.49	17.6	47.6	182.41	152.41	178.52
	2/14/2019	201.75	21.81	20.07	17.6	47.6	182.41	152.41	179.94
	5/22/2019	201.75	20.35	18.61	17.6	47.6	182.41	152.41	181.40
	8/7/2019	201.75	21.2	19.46	17.6	47.6	182.41	152.41	180.55
	11/22/2019	201.75	22.98	21.24	17.6	47.6	182.41	152.41	178.77
	5/7/2020	201.75	21.1	19.36	17.6	47.6	182.41	152.41	180.65
	11/10/2020	201.75	22.38	20.64	17.6	47.6	182.41	152.41	179.37
	5/18/2021	201.75	19.65	17.91	17.6	47.6	182.41	152.41	182.10
	11/22/2021	201.75	22	20.26	17.6	47.6	182.41	152.41	179.75
	5/18/2022	201.75	21.53	19.79	17.6	47.6	182.41	152.41	180.22
35BWW16	1/1/2013	201.2	23.36	20.50	18.8	33.5	179.54	164.84	177.84
	8/19/2016	201.2	21.71	18.85	18.8	33.5	179.54	164.84	179.49
	11/7/2017	201.2	23.51	20.65	18.8	33.5	179.54	164.84	177.69
	2/13/2018	201.2	23.33	20.47	18.8	33.5	179.54	164.84	177.87
	3/29/2018	201.2	22.25	19.39	18.8	33.5	179.54	164.84	178.95
	5/24/2018	201.2	22.28	19.42	18.8	33.5	179.54	164.84	178.92
	8/17/2018	201.2	23.7	20.84	18.8	33.5	179.54	164.84	177.50

Table 2-2
Groundwater Elevation Data, LHAAP-35B (37)

Well ID	Sampling Date	TOC Elevation (ft MSL)	Depth to Water (ft TOC)	Depth to Water (ft bgs)	Screen Interval (ft bgs) Top	Screen Interval (ft bgs) Bottom	Screen Interval (ft MSL) Top	Screen Interval (ft MSL) Bottom	Water Elevation (ft MSL)
35BWW16	11/16/2018	201.2	23.09	20.23	18.8	33.5	179.54	164.84	178.11
	2/15/2019	201.2	21.57	18.71	18.8	33.5	179.54	164.84	179.63
	5/23/2019	201.2	20.15	17.29	18.8	33.5	179.54	164.84	181.05
	8/7/2019	201.2	20.86	18.00	18.8	33.5	179.54	164.84	180.34
	11/21/2019	201.2	22.65	19.79	18.8	33.5	179.54	164.84	178.55
	5/7/2020	201.2	20.7	17.84	18.8	33.5	179.54	164.84	180.50
	11/11/2020	201.2	21.89	19.03	18.8	33.5	179.54	164.84	179.31
	5/17/2021	201.2	19.32	16.46	18.8	33.5	179.54	164.84	181.88
	11/17/2021	201.2	21.65	18.79	18.8	33.5	179.54	164.84	179.55
	5/16/2022	201.2	21.21	18.35	18.8	33.5	179.54	164.84	179.99
35BWW17	1/1/2013	201	22.85	20.01	18.3	33	179.86	165.16	178.15
	8/19/2016	201	20.95	18.11	18.3	33	179.86	165.16	180.05
	11/7/2017	201	22.89	20.05	18.3	33	179.86	165.16	178.11
	2/13/2018	201	22.73	19.89	18.3	33	179.86	165.16	178.27
	3/29/2018	201	21.38	18.54	18.3	33	179.86	165.16	179.62
	5/24/2018	201	21.42	18.58	18.3	33	179.86	165.16	179.58
	8/17/2018	201	23.11	20.27	18.3	33	179.86	165.16	177.89
	11/16/2018	201	22.33	19.49	18.3	33	179.86	165.16	178.67
	2/21/2019	201	20.12	17.28	18.3	33	179.86	165.16	180.88
	5/23/2019	201	17.95	15.11	18.3	33	179.86	165.16	183.05
	8/7/2019	201	14.63	11.79	18.3	33	179.86	165.16	186.37
	11/21/2019	201	21.85	19.01	18.3	33	179.86	165.16	179.15
	5/7/2020	201	19.18	16.34	18.3	33	179.86	165.16	181.82
	11/11/2020	201	21.12	18.28	18.3	33	179.86	165.16	179.88
	5/18/2021	201	17.32	14.48	18.3	33	179.86	165.16	183.68
	11/22/2021	201	21.05	18.21	18.3	33	179.86	165.16	179.95
	5/16/2022	201	20.27	17.43	18.3	33	179.86	165.16	180.73
35BWW18	1/1/2013	206.72	27.94	25.02	17.77	32.5	186.03	171.30	178.78
	8/16/2016	206.72	26.24	23.32	17.77	32.5	186.03	171.30	180.48
	11/7/2017	206.72	27.5	24.58	17.77	32.5	186.03	171.30	179.22
	2/13/2018	206.72	27.9	24.98	17.77	32.5	186.03	171.30	178.82
	3/27/2018	206.72	27.18	24.26	17.77	32.5	186.03	171.30	179.54
	5/21/2018	206.72	27	24.08	17.77	32.5	186.03	171.30	179.72
	8/16/2018	206.72	27.95	25.03	17.77	32.5	186.03	171.30	178.77
	11/19/2018	206.72	27.39	24.47	17.77	32.5	186.03	171.30	179.33
	2/14/2019	206.72	26.37	23.45	17.77	32.5	186.03	171.30	180.35
	5/20/2019	206.72	25.6	22.68	17.77	32.5	186.03	171.30	181.12
	8/5/2019	206.72	25.61	22.69	17.77	32.5	186.03	171.30	181.11
	11/26/2019	206.72	26.92	24.00	17.77	32.5	186.03	171.30	179.80
	5/11/2020	206.72	25.7	22.78	17.77	32.5	186.03	171.30	181.02
	11/9/2020	206.72	26.15	23.23	17.77	32.5	186.03	171.30	180.57
	5/18/2021	206.72	24.2	21.28	17.77	32.5	186.03	171.30	182.52
	11/15/2021	206.72	25.78	22.86	17.77	32.5	186.03	171.30	180.94
	5/18/2022	206.72	25.65	22.73	17.77	32.5	186.03	171.30	181.07
35BWW19	1/1/2013	206.66	27.75	25.19	18.75	33.48	185.35	170.62	178.91
	8/16/2016	206.66	25.82	23.26	18.75	33.48	185.35	170.62	180.84
	11/7/2017	206.66	27.2	24.64	18.75	33.48	185.35	170.62	179.46

Table 2-2
Groundwater Elevation Data, LHAAP-35B (37)

Well ID	Sampling Date	TOC Elevation (ft MSL)	Depth to Water (ft TOC)	Depth to Water (ft bgs)	Screen Interval (ft bgs)		Screen Interval (ft MSL)		Water Elevation (ft MSL)
					Top	Bottom	Top	Bottom	
35BWW19	2/13/2018	206.66	27.48	24.92	18.75	33.48	185.35	170.62	179.18
	3/27/2018	206.66	26.99	24.43	18.75	33.48	185.35	170.62	179.67
	5/21/2018	206.66	26.7	24.14	18.75	33.48	185.35	170.62	179.96
	8/16/2018	206.66	27.55	24.99	18.75	33.48	185.35	170.62	179.11
	11/19/2018	206.66	27.21	24.65	18.75	33.48	185.35	170.62	179.45
	2/14/2019	206.66	26.19	23.63	18.75	33.48	185.35	170.62	180.47
	5/20/2019	206.66	25.66	23.10	18.75	33.48	185.35	170.62	181.00
	8/5/2019	206.66	25.42	22.86	18.75	33.48	185.35	170.62	181.24
	11/26/2019	206.66	26.5	23.94	18.75	33.48	185.35	170.62	180.16
	5/11/2020	206.66	25.63	23.07	18.75	33.48	185.35	170.62	181.03
	11/9/2020	206.66	25.75	23.19	18.75	33.48	185.35	170.62	180.91
	5/18/2021	206.66	24.22	21.66	18.75	33.48	185.35	170.62	182.44
	11/15/2021	206.66	25.48	22.92	18.75	33.48	185.35	170.62	181.18
	5/18/2022	206.66	25.24	22.68	18.75	33.48	185.35	170.62	181.42
35BWW20	1/1/2013	205.23	26.3	23.74	15.14	29.9	187.53	172.77	178.93
	8/18/2016	205.23	24.78	22.22	15.14	29.9	187.53	172.77	180.45
	11/8/2017	205.23	26.5	23.94	15.14	29.9	187.53	172.77	178.73
	2/12/2018	205.23	26.35	23.79	15.14	29.9	187.53	172.77	178.88
	3/27/2018	205.23	25.45	22.89	15.14	29.9	187.53	172.77	179.78
	5/24/2018	205.23	25.4	22.84	15.14	29.9	187.53	172.77	179.83
	8/20/2018	205.23	26.8	24.24	15.14	29.9	187.53	172.77	178.43
	11/18/2018	205.23	25.58	23.02	15.14	29.9	187.53	172.77	179.65
	2/13/2019	205.23	24.47	21.91	15.14	29.9	187.53	172.77	180.76
	5/22/2019	205.23	21.95	19.39	15.14	29.9	187.53	172.77	183.28
	8/6/2019	205.23	23.67	21.11	15.14	29.9	187.53	172.77	181.56
	11/22/2019	205.23	25.75	23.19	15.14	29.9	187.53	172.77	179.48
	5/11/2020	205.23	23.05	20.49	15.14	29.9	187.53	172.77	182.18
	11/9/2020	205.23	24.8	22.24	15.14	29.9	187.53	172.77	180.43
	5/18/2021	205.23	21.57	19.01	15.14	29.9	187.53	172.77	183.66
	11/17/2021	205.23	24.82	22.26	15.14	29.9	187.53	172.77	180.41
	5/17/2022	205.23	24.02	21.46	15.14	29.9	187.53	172.77	181.21
35BWW23	1/1/2013	205.37	27.03	24.40	20	30	182.74	172.74	178.34
	8/17/2016	205.37	27.03	24.40	20	30	182.74	172.74	178.34
	11/9/2017	205.37	28.56	25.93	20	30	182.74	172.74	176.81
	2/15/2018	205.37	28.35	25.72	20	30	182.74	172.74	177.02
	5/22/2018	205.37	27.63	25.00	20	30	182.74	172.74	177.74
	8/22/2018	205.37	28.86	26.23	20	30	182.74	172.74	176.51
	11/20/2018	205.37	28.48	25.85	20	30	182.74	172.74	176.89
	11/20/2018	205.37	28.48	25.85	20	30	182.74	172.74	176.89
	2/12/2019	205.37	27.55	24.92	20	30	182.74	172.74	177.82
	2/12/2019	205.37	27.55	24.92	20	30	182.74	172.74	177.82
	5/21/2019	205.37	26.55	23.92	20	30	182.74	172.74	178.82
	5/21/2019	205.37	26.55	23.92	20	30	182.74	172.74	178.82
	8/6/2019	205.37	26.49	23.86	20	30	182.74	172.74	178.88
	8/6/2019	205.37	26.49	23.86	20	30	182.74	172.74	178.88
	11/25/2019	205.37	27.77	25.14	20	30	182.74	172.74	177.60
	5/7/2020	205.37	26.77	24.14	20	30	182.74	172.74	178.60

Table 2-2
Groundwater Elevation Data, LHAAP-35B (37)

Well ID	Sampling Date	TOC Elevation (ft MSL)	Depth to Water (ft TOC)	Depth to Water (ft bgs)	Screen Interval (ft bgs) Top	Screen Interval (ft bgs) Bottom	Screen Interval (ft MSL) Top	Screen Interval (ft MSL) Bottom	Water Elevation (ft MSL)
35BWW23	11/10/2020	205.37	27	24.37	20	30	182.74	172.74	178.37
	5/18/2021	205.37	25.93	23.30	20	30	182.74	172.74	179.44
	11/22/2021	205.37	27	24.37	20	30	182.74	172.74	178.37
	5/18/2022	205.37	26.76	24.13	20	30	182.74	172.74	178.61
35BWW24	8/19/2016	206.64	27.89	25.07	19.9	29.6	183.92	174.22	178.75
	11/8/2017	206.64	Dry	Dry	19.9	29.6	183.92	174.22	Dry
	2/16/2018	206.64	29.37	26.55	19.9	29.6	183.92	174.22	177.27
	3/28/2018	206.64	28.83	26.01	19.9	29.6	183.92	174.22	177.81
	5/24/2018	206.64	28.65	25.83	19.9	29.6	183.92	174.22	177.99
	8/21/2018	206.64	29.8	26.98	19.9	29.6	183.92	174.22	176.84
	11/16/2018	206.64	29.41	26.59	19.9	29.6	183.92	174.22	177.23
	11/16/2018	206.64	29.41	26.59	19.9	29.6	183.92	174.22	177.23
	2/15/2019	206.64	28.27	25.45	19.9	29.6	183.92	174.22	178.37
	2/15/2019	206.64	28.27	25.45	19.9	29.6	183.92	174.22	178.37
	5/22/2019	206.64	27.53	24.71	19.9	29.6	183.92	174.22	179.11
	5/22/2019	206.64	27.53	24.71	19.9	29.6	183.92	174.22	179.11
	8/7/2019	206.64	27.45	24.63	19.9	29.6	183.92	174.22	179.19
	8/7/2019	206.64	27.45	24.63	19.9	29.6	183.92	174.22	179.19
	11/25/2019	206.64	28.77	25.95	19.9	29.6	183.92	174.22	177.87
	5/7/2020	206.64	27.72	24.90	19.9	29.6	183.92	174.22	178.92
	11/11/2020	206.64	28.22	25.40	19.9	29.6	183.92	174.22	178.42
	5/17/2021	206.64	26.82	24.00	19.9	29.6	183.92	174.22	179.82
	11/22/2021	206.64	28	25.18	19.9	29.6	183.92	174.22	178.64
	5/16/2022	206.64	27.75	24.93	19.9	29.6	183.92	174.22	178.89
35BWW25	8/17/2016	204.31	26.13	23.56	19.9	29.6	181.84	172.14	178.18
	8/19/2016	204.31	25.45	22.88	19.9	29.6	181.84	172.14	178.86
	11/8/2017	204.31	27.27	24.7	19.9	29.6	181.84	172.14	177.04
	2/16/2018	204.31	26.92	24.35	19.9	29.6	181.84	172.14	177.39
	3/28/2018	204.31	26.38	23.81	19.9	29.6	181.84	172.14	177.93
	5/23/2018	204.31	26.32	23.75	19.9	29.6	181.84	172.14	177.99
	8/20/2018	204.31	27.31	24.74	19.9	29.6	181.84	172.14	177.00
	11/16/2018	204.31	26.92	24.35	19.9	29.6	181.84	172.14	177.39
	2/15/2019	204.31	25.8	23.23	19.9	29.6	181.84	172.14	178.51
	5/22/2019	204.31	25.23	22.66	19.9	29.6	181.84	172.14	179.08
	8/7/2019	204.31	25.28	22.71	19.9	29.6	181.84	172.14	179.03
	11/22/2019	204.31	26.52	23.95	19.9	29.6	181.84	172.14	177.79
	5/7/2020	204.31	25.36	22.79	19.9	29.6	181.84	172.14	178.95
	11/10/2020	204.31	25.92	23.35	19.9	29.6	181.84	172.14	178.39
	5/17/2021	204.31	24.38	21.81	19.9	29.6	181.84	172.14	179.93
	11/22/2021	204.31	25.77	23.20	19.9	29.6	181.84	172.14	178.54
	5/16/2022	204.31	25.42	22.85	19.9	29.6	181.84	172.14	178.89
35BWW26	11/9/2017	205.86	27.71	25.26	25.2	34.9	178.21	168.51	178.15
	2/14/2018	205.86	27.6	25.15	25.2	34.9	178.21	168.51	178.26
	5/22/2018	205.86	26.97	24.52	25.2	34.9	178.21	168.51	178.89
	8/22/2018	205.86	28.07	25.62	25.2	34.9	178.21	168.51	177.79
	11/20/2018	205.86	27.48	25.03	25.2	34.9	178.21	168.51	178.38
	2/12/2019	205.86	26.5	24.05	25.2	34.9	178.21	168.51	179.36

Table 2-2
Groundwater Elevation Data, LHAAP-35B (37)

Well ID	Sampling Date	TOC Elevation (ft MSL)	Depth to Water (ft TOC)	Depth to Water (ft bgs)	Screen Interval (ft bgs) Top	Screen Interval (ft bgs) Bottom	Screen Interval (ft MSL) Top	Screen Interval (ft MSL) Bottom	Water Elevation (ft MSL)
35BWW26	5/20/2019	205.86	25.31	22.86	25.2	34.9	178.21	168.51	180.55
	8/6/2019	205.86	25.6	23.15	25.2	34.9	178.21	168.51	180.26
	11/21/2019	205.86	27.07	24.62	25.2	34.9	178.21	168.51	178.79
	5/6/2020	205.86	25.75	23.30	25.2	34.9	178.21	168.51	180.11
	11/12/2020	205.86	26.11	23.66	25.2	34.9	178.21	168.51	179.75
	5/13/2021	205.86	25.5	23.05	25.2	34.9	178.21	168.51	180.36
	11/17/2021	205.86	26.05	23.60	25.2	34.9	178.21	168.51	179.81
	5/17/2022	205.86	25.8	23.35	25.2	34.9	178.21	168.51	180.06
LHSMW58	1/1/2013	203.56	24.77	21.99	21.4	31.4	179.38	169.38	178.79
	8/18/2016	203.56	23.26	20.48	21.4	31.4	179.38	169.38	180.30
	11/8/2017	203.56	25.05	22.27	21.4	31.4	179.38	169.38	178.51
	2/12/2018	203.56	24.87	22.09	21.4	31.4	179.38	169.38	178.69
	3/27/2018	203.56	23.95	21.17	21.4	31.4	179.38	169.38	179.61
	5/24/2018	203.56	23.87	21.09	21.4	31.4	179.38	169.38	179.69
	8/20/2018	203.56	25.21	22.43	21.4	31.4	179.38	169.38	178.35
	11/18/2018	203.56	24.13	21.35	21.4	31.4	179.38	169.38	179.43
	2/13/2019	203.56	22.98	20.20	21.4	31.4	179.38	169.38	180.58
	5/22/2019	203.56	20.22	17.44	21.4	31.4	179.38	169.38	183.34
	8/7/2019	203.56	22.12	19.34	21.4	31.4	179.38	169.38	181.44
	11/22/2019	203.56	24.22	21.44	21.4	31.4	179.38	169.38	179.34
	5/11/2020	203.56	21.48	18.70	21.4	31.4	179.38	169.38	182.08
	11/9/2020	203.56	23.4	20.62	21.4	31.4	179.38	169.38	180.16
	5/13/2021	203.56	19.68	16.90	21.4	31.4	179.38	169.38	183.88
	11/15/2021	203.56	23.27	20.49	21.4	31.4	179.38	169.38	180.29
	5/17/2022	203.56	22.5	19.72	21.4	31.4	179.38	169.38	181.06

Notes:

bgs - below ground surface

Dry - insufficient or no water in well

ft - feet

ID - Identifier

MSL - mean sea level

TOC - top of casing

Table 2-3
Year 5 Groundwater RA-O Results

Location Code			35BWW01				35BWW03[a]		35BWW04						35BWW05				35BWW06[a]		35BWW07	
Sample ID			35BWW01-211115		35BWW01-220517		35BWW03-211115		35BWW04-211117		35BWW04-220517		35BWW04-220517-FD		35BWW05-211115		35BWW05-220516		35BWW06-211115		35BWW07-211117	
Sample Date			11/15/2021		5/17/2022		11/15/2021		11/17/2021		5/17/2022		5/17/2022		11/15/2021		5/16/2022		11/15/2021		11/17/2021	
Sample Purpose			REG		REG		REG		REG		REG		FD		REG		REG		REG		REG	
Parameter	Units	MCL/GW-IND	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Field Measurements																						
Dissolved oxygen	mg/L	NV	0.67		0.08		1.57		1.18		3.29		NA		0.35		0.47		0.38		0.44	
Ferrous Iron	mg/L	NV							0		0.09		NA									
Oxidation Reduction Potential	mV	NV	258		51		43		240		228		NA		191		149		109		80	
pH	SU	NV	4.76		4.42		6.02		5.71		5.43		NA		5.35		5.64		5.65		5.52	
Temperature	C	NV	16.53		19.64		20.45		18.68		20.25		NA		14.85		20.36		17.4		19.63	
Dissolved Gases (RSK-175)																						
Carbon dioxide	µg/L	NV	NA		NA		NA		376000		253000	J	215000	J	NA		NA		NA		NA	
Ethane	µg/L	NV	NA		NA		NA		< 0.5	U	< 0.5	U	< 0.5	U	NA		NA		NA		NA	
Ethylene	µg/L	NV	NA		NA		NA		< 0.5	UJ	2.49	J	< 0.5	UJ	NA		NA		NA		NA	
Methane	µg/L	NV	NA		NA		NA		2.55		2.9		2.74		NA		NA		NA		NA	
General Chemistry (SM5310B/SW9056A)																						
Chloride	mg/L	NV	NA		NA		NA		3.56		3.81		3.77		NA		NA		NA		NA	
Nitrate	mg/L	10	NA		NA		NA		0.116		0.0361	J	0.0352	J	NA		NA		NA		NA	
Sulfate	mg/L	NV	NA		NA		NA		27.6		27.1		26.9		NA		NA		NA		NA	
Total organic carbon	mg/L	NV	NA		NA		NA		4.06		0.675	J	0.941	J	NA		NA		NA		NA	
Volatile Organic Compounds (Method SW8260C)																						
cis-1,2-Dichloroethene	µg/L	70	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
Tetrachloroethene	µg/L	5	< 1	U	< 0.5	U	< 1	U	6.3		3.9		3.6		1.8		4.1		< 1	U	< 1	U
Trichloroethene	µg/L	5	< 0.5	U	< 0.5	U	< 0.5	U	0.88	J	< 0.5	U	< 0.5	U	3.5		1.8		< 0.5	U	< 0.5	U
Vinyl chloride	µg/L	2	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U

Notes:

Blue highlighting indicates concentrations above the MCL.

[a] Location was sampled for the 5 year review - Next sampling will be Year 10 Quarter 1 November 2026.

< The analyte was not detected above the concentration shown.

µg/L - micrograms per liter

C - degrees Celsius

J - Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.

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FD - field duplicate

GW-Ind - groundwater medium-specific concentration for industrial use

ID - identification

MCL - Maximum Contaminant Level

mg/L - milligrams per liter

mV - millivolts

NA - not analyzed

NV - no value; MCLs only shown for constituents of concern.

REG - regular sample

Std. Units - standard pH units

Val Qual - validation qualifier

Table 2-3
Year 5 Groundwater RA-O Results

	Location Code		35BWW07				35BWW08				35BWW09				35BWW10				35BWW11			
	Sample ID		35BWW07-211117-FD		35BWW07-220516		35BWW08-211117		35BWW08-220517		35BWW09-211115		35BWW09-220518		35BWW10-211115		35BWW10-220516		35BWW11-211117		35BWW11-220517	
	Sample Date		11/17/2021		5/16/2022		11/7/2021		5/17/2022		11/15/2021		5/18/2022		11/15/2021		5/16/2022		11/17/2021		5/17/2022	
	Sample Purpose		FD		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter	Units	MCL/GW-IND	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Field Measurements																						
Dissolved oxygen	mg/L	NV			0.36		1.33		1.35		0.5		0.54		2.91		1.27		0.49		0.71	
Ferrous Iron	mg/L	NV					0.26		0.05													
Oxidation Reduction Potential	mV	NV			162		260		185		149		242		235		209		119		240	
pH	SU	NV			6.1		5.54		5.89		5.98		5.25		5.55		5.19		5.48		5.18	
Temperature	C	NV			21.28		19.04		21.88		22.12		23.17		16.42		20.49		19.55		24.96	
Dissolved Gases (RSK-175)																						
Carbon dioxide	µg/L	NV	NA		NA		555000		55800	J	NA		NA		NA		NA		NA		NA	
Ethane	µg/L	NV	NA		NA		< 0.5	U	< 0.5	U	NA		NA		NA		NA		NA		NA	
Ethylene	µg/L	NV	NA		NA		0.889	J	< 0.5	UJ	NA		NA		NA		NA		NA		NA	
Methane	µg/L	NV	NA		NA		1.34		1.8	J	NA		NA		NA		NA		NA		NA	
General Chemistry (SM5310B/SW9056A)																						
Chloride	mg/L	NV	NA		NA		3.36		3.15		NA		NA		NA		NA		NA		NA	
Nitrate	mg/L	10	NA		NA		0.27		0.106		NA		NA		NA		NA		NA		NA	
Sulfate	mg/L	NV	NA		NA		22.7		22.5		NA		NA		NA		NA		NA		NA	
Total organic carbon	mg/L	NV	NA		NA		3.36		0.828	J	NA		NA		NA		NA		NA		NA	
Volatile Organic Compounds (Method SW8260C)																						
cis-1,2-Dichloroethene	µg/L	70	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
Tetrachloroethene	µg/L	5	< 1	U	1.1		< 1	U	< 0.5	U	1.1		< 0.5	U	< 1	U	< 0.5	U	< 1	U	< 0.5	U
Trichloroethene	µg/L	5	< 0.5	U	3.7		< 0.5	U	< 0.5	U	23		34		< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
Vinyl chloride	µg/L	2	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U

Notes:

Blue highlighting indicates concentrations above the MCL.

[a] Location was sampled for the 5 year review - Next sampling will be Year 10 Quarter 1 November 2026.

< The analyte was not detected above the concentration shown.

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MCL - Maximum Contaminant Level

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mV - millivolts

NA - not analyzed

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REG - regular sample

Std. Units - standard pH units

Val Qual - validation qualifier

Table 2-3
Year 5 Groundwater RA-O Results

	Location Code		35BWW12				35BWW13				35BWW14				35BWW15							
	Sample ID		35BWW12-211122		35BWW12-220518		35BWW13-211117		35BWW13-220516		35BWW14-211122		35BWW14-220518		35BWW15-211122		35BWW15-211122-FD		35BWW15-220518		35BWW15-220518-FD	
	Sample Date		11/22/2021		5/18/2022		11/17/2021		5/16/2022		11/22/2021		5/18/2022		11/22/2021		11/22/2021		5/18/2022		5/18/2022	
	Sample Purpose		REG		REG		REG		REG		REG		REG		REG		FD		REG		FD	
Parameter	Units	MCL/GW-IND	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Field Measurements																						
Dissolved oxygen	mg/L	NV	0.32		0.03		2.12		2.2		0.53		0.75		0.61				0.55			
Ferrous Iron	mg/L	NV	2.73		0.51						0.48		0.03									
Oxidation Reduction Potential	mV	NV	211		153		342		265		223		246		242				203			
pH	SU	NV	5.25		5.65		4.06		4.05		5.63		6.13		5.47				6.03			
Temperature	C	NV	16.97		20.98		19.34		20.09		17.19		21.42		18.63				20.57			
Dissolved Gases (RSK-175)																						
Carbon dioxide	µg/L	NV	595000		84300	J	NA		NA		535000		86700	J	NA		NA		NA		NA	
Ethane	µg/L	NV	< 0.5	UJ	< 0.5	UJ	NA		NA		< 0.5	U	< 0.5	UJ	NA		NA		NA		NA	
Ethylene	µg/L	NV	0.71	J	1.92	J	NA		NA		1.76	J	1.57	J	NA		NA		NA		NA	
Methane	µg/L	NV	1.18	J	3.76		NA		NA		1.03		2.69		NA		NA		NA		NA	
General Chemistry (SM5310B/SW9056A)																						
Chloride	mg/L	NV	11.6		11.9		NA		NA		16.1		14.6		NA		NA		NA		NA	
Nitrate	mg/L	10	< 0.1	U	< 0.1	U	NA		NA		0.114		0.0502	J	NA		NA		NA		NA	
Sulfate	mg/L	NV	33.5		32.6		NA		NA		61.9		59.2		NA		NA		NA		NA	
Total organic carbon	mg/L	NV	2.14		1.92		NA		NA		1.12		< 1	U	NA		NA		NA		NA	
Volatile Organic Compounds (Method SW8260C)																						
cis-1,2-Dichloroethene	µg/L	70	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	0.5	J	< 0.5	U	< 1	U	< 1	U	< 0.5	U	< 0.5	U
Tetrachloroethene	µg/L	5	2.1		2		< 1	U	< 0.5	U	24		19		13		13		9.8		10	
Trichloroethene	µg/L	5	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	6.1		5.1		5.1		5.2		4.9		4.8	
Vinyl chloride	µg/L	2	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 1	U	< 0.5	U	< 1	U	< 1	U	< 0.5	U	< 0.5	U

Notes:

Blue highlighting indicates concentrations above the MCL.

[a] Location was sampled for the 5 year review - Next sampling will be Year 10 Quarter 1 November 2026.

< The analyte was not detected above the concentration shown.

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REG - regular sample

Std. Units - standard pH units

Val Qual - validation qualifier

Table 2-3
Year 5 Groundwater RA-O Results

Location Code			35BWW16		35BWW16		35BWW17		35BWW17		35BWW18		35BWW18		35BWW19		35BWW19		35BWW20		35BWW20	
Sample ID			35BWW16-211117		35BWW16-220516		35BWW17-211122		35BWW17-220516		35BWW18-211115		35BWW18-220518		35BWW19-211115		35BWW19-220518		35BWW20-211117		35BWW20-220517	
Sample Date			11/17/2021		5/16/2022		11/22/2021		5/16/2022		11/15/2021		5/18/2022		11/15/2021		5/18/2022		11/17/2021		5/17/2022	
Sample Purpose			REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter	Units	MCL/GW-IND	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Field Measurements																						
Dissolved oxygen	mg/L	NV	0.32		0.4		0.32		0.09		0.22		0.17		0.76		0.47		0.99		2.91	
Ferrous Iron	mg/L	NV																				
Oxidation Reduction Potential	mV	NV	310		225		384		264		139		229		168		221		256		216	
pH	SU	NV	4.67		4.54		3.93		4.45		6.29		5.93		6.34		6.16		5.27		6.19	
Temperature	C	NV	19.23		23.2		17.52		25.31		21.2		21.06		21.43		21.3		21.78		27.03	
Dissolved Gases (RSK-175)																						
Carbon dioxide	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethane	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethylene	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Methane	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
General Chemistry (SM5310B/SW9056A)																						
Chloride	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrate	mg/L	10	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Sulfate	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Total organic carbon	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Volatile Organic Compounds (Method SW8260C)																						
cis-1,2-Dichloroethene	µg/L	70	< 0.5	U	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
Tetrachloroethene	µg/L	5	4.8		< 0.5	U	< 1	U	< 0.5	U	< 1	U	< 0.5	U	< 1	U	< 0.5	U	5.4		9.4	
Trichloroethene	µg/L	5	1.7		< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	1.3		1.8	
Vinyl chloride	µg/L	2	< 0.5	U	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U

Notes:

Blue highlighting indicates concentrations above the MCL.

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NA - not analyzed

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Std. Units - standard pH units

Val Qual - validation qualifier

Table 2-3
Year 5 Groundwater RA-O Results

	Location Code		35BWW23				35BWW24						35BWW25				35BWW26					
	Sample ID		35BWW23-211122		35BWW23-220518		35BWW24-211122		35BWW24-220516		35BWW24-220516-FD		35BWW25-211122		35BWW25-220516		35BWW26-211117		35BWW26-211117-FD		35BWW26-220517	
	Sample Date		11/22/2021		5/18/2022		11/22/2021		5/16/2022		5/16/2022		11/22/2021		5/16/2022		11/17/2021		11/17/2021		5/17/2022	
	Sample Purpose		REG		REG		REG		REG		FD		REG		REG		REG		FD		REG	
Parameter	Units	MCL/GW-IND	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Field Measurements																						
Dissolved oxygen	mg/L	NV	1.24		0.59		0.88		0.76				0.95		0.79		0.84				1.5	
Ferrous Iron	mg/L	NV	0.62		0.01												0				0	
Oxidation Reduction Potential	mV	NV	281		334		279		225				276		242		271				227	
pH	SU	NV	5.16		4.91		5.5		5.65				5.41		5.04		5.21				5.25	
Temperature	C	NV	16.83		20.58		17.44		21.49				18.05		22.57		18.92				20.9	
Dissolved Gases (RSK-175)																						
Carbon dioxide	µg/L	NV	1120000		386000	J	NA		NA		NA		NA		NA		552000		557000		149000	J
Ethane	µg/L	NV	< 0.5	U	< 0.5	UJ	NA		NA		NA		NA		NA		< 0.5	U	< 0.5	U	< 0.5	U
Ethylene	µg/L	NV	< 0.5	UJ	1.97	J	NA		NA		NA		NA		NA		0.524	J	< 0.5	UJ	2.58	J
Methane	µg/L	NV	0.779		2.69		NA		NA		NA		NA		NA		1.28	J	2.04	J	3.71	
General Chemistry (SM5310B/SW9056A)																						
Chloride	mg/L	NV	17.3		17		NA		NA		NA		NA		NA		32.2		32.4		33.1	
Nitrate	mg/L	10	0.0865	J	0.031	J	NA		NA		NA		NA		NA		0.13		0.144		0.0881	J
Sulfate	mg/L	NV	77.5		74.6		NA		NA		NA		NA		NA		26.4		24.7		25	
Total organic carbon	mg/L	NV	2.57		0.601	J	NA		NA		NA		NA		NA		2.12	J	3.33	J	1.3	
Volatile Organic Compounds (Method SW8260C)																						
cis-1,2-Dichloroethene	µg/L	70	< 1	U	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
Tetrachloroethene	µg/L	5	< 1	U	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	0.53	J	0.69	J	< 1	U	< 1	U	< 0.5	U
Trichloroethene	µg/L	5	< 1	U	< 0.5	U	2.9		3.9		3.9		10		10		< 0.5	U	< 0.5	U	< 0.5	U
Vinyl chloride	µg/L	2	< 1	U	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U

Notes:

Blue highlighting indicates concentrations above the MCL.

[a] Location was sampled for the 5 year review - Next sampling will be Year 10 Quarter 1 November 2026.

< The analyte was not detected above the concentration shown.

µg/L - micrograms per liter

C - degrees Celsius

J - Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.

U - Undetected: The analyte was analyzed for, but not detected.

UJ - Undetected estimated: The analyte was analyzed for but, was not detected. Even though the analyte was not detected, certain discrepancies in meeting analyte specific quality control were not met.

FD - field duplicate

GW-Ind - groundwater medium-specific concentration for industrial use

ID - identification

MCL - Maximum Contaminant Level

mg/L - milligrams per liter

mV - millivolts

NA - not analyzed

NV - no value; MCLs only shown for constituents of concern.

REG - regular sample

Std. Units - standard pH units

Val Qual - validation qualifier

Table 2-3
Year 5 Groundwater RA-O Results

		Location Code	LHSMW58			
		Sample ID	LHSMW58-211115		LHSMW58-220517	
		Sample Date	11/15/2021		5/17/2022	
		Sample Purpose	REG		REG	
Parameter	Units	MCL/GW-IND	Result	Val Qual	Result	Val Qual
Field Measurements						
Dissolved oxygen	mg/L	NV	2.74		1.39	
Ferrous Iron	mg/L	NV				
Oxidation Reduction Potential	mV	NV	122		216	
pH	SU	NV	6.27		5.96	
Temperature	C	NV	19.78		22.96	
Dissolved Gases (RSK-175)						
Carbon dioxide	µg/L	NV	NA		NA	
Ethane	µg/L	NV	NA		NA	
Ethylene	µg/L	NV	NA		NA	
Methane	µg/L	NV	NA		NA	
General Chemistry (SM5310B/SW9056A)						
Chloride	mg/L	NV	NA		NA	
Nitrate	mg/L	10	NA		NA	
Sulfate	mg/L	NV	NA		NA	
Total organic carbon	mg/L	NV	NA		NA	
Volatile Organic Compounds (Method SW8260C)						
cis-1,2-Dichloroethene	µg/L	70	< 0.5	U	< 0.5	U
Tetrachloroethene	µg/L	5	13		9.5	
Trichloroethene	µg/L	5	1		< 0.5	U
Vinyl chloride	µg/L	2	< 0.5	U	< 0.5	U

Notes:

Blue highlighting indicates concentrations above the MCL.

[a] Location was sampled for the 5 year review - Next sampling will be Year 10 Quarter 1 November 2026.

< The analyte was not detected above the concentration shown.

µg/L - micrograms per liter

C - degrees Celsius

J - Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.

U - Undetected: The analyte was analyzed for, but not detected.

UJ - Undetected estimated: The analyte was analyzed for but, was not detected. Even though the analyte was not detected, certain discrepancies in meeting analyte specific quality control were not met.

FD - field duplicate

GW-Ind - groundwater medium-specific concentration for industrial use

ID - identification

MCL - Maximum Contaminant Level

mg/L - milligrams per liter

mV - millivolts

NA - not analyzed

NV - no value; MCLs only shown for constituents of concern.

REG - regular sample

Std. Units - standard pH units

Val Qual - validation qualifier

Table 2-4
Surface Water and Groundwater Results RA-O 2013–2022

		Location Code	35BSW01										35BSW02										35BWW01					
		Sample ID	35BSW01-101713		35BSW01-021218		35BSW01-180327		35BSW01-181116		35BSW01-200511		35BSW02-101713		35BSW02-021218		35BSW02-180327		35BSW02-181116		35BSW02-200511		35BWW01-131007		35BWW01-151020		35BWW01-102015	
		Sample Date	10/17/2013		2/12/2018		3/27/2018		11/16/2018		5/11/2020		10/17/2013		2/12/2018		3/27/2018		11/16/2018		5/11/2020		10/7/2013		10/20/2015		10/20/2015	
		Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter	Units	MCL/GW-IND	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
ANIONS																												
Bromide	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Chloride	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Fluoride	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrate	mg/L	10	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		< 0.4	U
Nitrite	mg/L	1	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Sulfate	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		25.5	
DHC																												
Dehalococcoides	cells/mL	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
FIELD TESTS																												
Specific conductivity	µmhos/cm	NV	NA		0.110		0.167		0.055		NA		NA		0.105		0.161		0.083		NA		-99	-	0.145		NA	
Dissolved oxygen	mg/L	NV	NA		12.35		7.43		11.5		NA		NA		11.29		7.09		11.14		NA		-	-	-	-	NA	
Oxidation Reduction Potential	mV	NV	NA		92.3		153.6		190.4		NA		NA		108.5		168.9		211.3		NA		-	-	101		NA	
pH	SU	NV	NA		7.2		6.34		5.95		NA		NA		6.78		6.09		5.16		NA		NA		NA		NA	
Temperature	C	NV	NA		5.48		23.95		9.63		NA		NA		5.47		21.17		9.75		NA		-	-	16.79		NA	
Turbidity	NTU	NV	NA		45.5		11.8		30.6		NA		NA		43.6		16.7		29.5		NA		NA		NA		NA	
Water Level at Reading Time	Ft BTOC	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
GASES																												
Carbon dioxide	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethane	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethylene	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Methane	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
GEN CHEMISTRY																												
Ferrous Iron	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		< 0.16	U
TOTAL ORGANIC CARBON																												
Total organic carbon	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Total Inorganic Carbon	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
METALS																												
Antimony	mg/L	0.006	NA		NA		< 0.001	U	NA		NA		NA		NA		< 0.001	U	NA		NA		NA		NA		NA	
Manganese	mg/L	14	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
VOLATILES																												
1,1-Dichloroethene	µg/L	7	< 1	U	< 0.5	U	NA		< 0.5	U	< 0.5	U	< 1	U	< 0.5	U	NA		< 0.5	U	< 0.5	U	NA		NA		NA	
cis-1,2-Dichloroethene	µg/L	70	< 0.5	U	< 0.5	U	NA		< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	NA		< 0.5	U	< 0.5	U	NA		NA		NA	
Tetrachloroethene	µg/L	5	< 0.5	U	< 0.5	U	NA		< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	NA		< 0.5	U	< 1	U	NA		NA		NA	
Trichloroethene	µg/L	5	< 0.5	U	< 0.5	U	NA		< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	NA		< 0.5	U	< 0.5	U	NA		NA		NA	
Vinyl chloride	µg/L	2	< 0.5	U	< 0.5	U	NA		< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	NA		< 0.5	U	< 0.5	U	NA		NA		NA	

Table 2-4
Surface Water and Groundwater Results RA-O 2013–2022

			Location Code		35BWW01																			
			Sample ID	35BWW01F-102015		35BWW01-160217		35BWW01-021716		35BWW01F-021716		35BWW01-160819		35BWW01-081916		35BWW01-110817		35BWW01-021418		35BWW01-180329		35BWW01-180524		35BWW01-180524FD		35BWW01-180816	
			Sample Date	10/20/2015		2/17/2016		2/17/2016		2/17/2016		8/19/2016		8/19/2016		11/8/2017		2/14/2018		3/29/2018		5/24/2018		5/24/2018		8/16/2018	
			Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		FD		REG	
Parameter	Units	MCL/GW-IND		Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
ANIONS																											
Bromide	mg/L	NV		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Chloride	mg/L	NV		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Fluoride	mg/L	NV		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrate	mg/L	10		NA		NA		< 0.2	U	NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrite	mg/L	1		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Sulfate	mg/L	NV		NA		NA		24.7		NA		NA		NA		NA		NA		NA		NA		NA		NA	
DHC																											
Dehalococcoides	cells/mL	NV		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
FIELD TESTS																											
Specific conductivity	µmhos/cm	NV		NA		0.111		NA		NA		0.21		NA		0.201		0.106		0.105		0.082		NA		0.195	
Dissolved oxygen	mg/L	NV		NA		-	-	NA		NA		-	-	NA		2.32		6		5.26		0		NA		1.06	
Oxidation Reduction Potential	mV	NV		NA		251		NA		NA		-	-	NA		204.3		185.6		257.3		491		NA		261	
pH	SU	NV		NA		NA		NA		NA		NA		NA		6.6		5.46		4.49		4.03		NA		4.93	
Temperature	C	NV		NA		13.5		NA		NA		20.77		NA		18.13		15.5		18.21		19.08		NA		24.59	
Turbidity	NTU	NV		NA		NA		NA		NA		NA		NA		140.6		124.7		130.9		59.7		NA		76.4	
Water Level at Reading Time	Ft BTOC	NV		NA		NA		NA		NA		NA		NA		15.6		15.4		13.1		12.53		NA		14.46	
GASES																											
Carbon dioxide	µg/L	NV		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethane	µg/L	NV		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethylene	µg/L	NV		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Methane	µg/L	NV		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
GEN CHEMISTRY																											
Ferrous Iron	mg/L	NV		NA		NA		< 0.2	U	NA		NA		NA		NA		NA		NA		NA		NA		NA	
TOTAL ORGANIC CARBON																											
Total organic carbon	mg/L	NV		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Total Inorganic Carbon	mg/L	NV		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
METALS																											
Antimony	mg/L	0.006		NA		NA		NA		NA		NA		NA		NA		NA		< 0.001	U	NA		NA		NA	
Manganese	mg/L	14		0.179		NA		NA		0.0365		NA		NA		NA		NA		NA		NA		NA		NA	
VOLATILES																											
1,1-Dichloroethene	µg/L	7		NA		NA		NA		NA		NA		< 1	U	< 1	U	< 0.5	U	NA		< 0.5	U	< 0.5	U	< 0.5	U
cis-1,2-Dichloroethene	µg/L	70		NA		NA		NA		NA		NA		< 0.5	U	< 1	U	< 0.5	U	NA		< 0.5	U	< 0.5	U	< 0.5	U
Tetrachloroethene	µg/L	5		NA		NA		NA		NA		NA		< 0.5	U	< 1	U	< 0.5	U	NA		< 0.5	U	< 0.5	U	< 0.5	U
Trichloroethene	µg/L	5		NA		NA		NA		NA		NA		< 0.5	U	< 1	U	< 0.5	U	NA		< 0.5	U	< 0.5	U	< 0.5	U
Vinyl chloride	µg/L	2		NA		NA		NA		NA		NA		< 0.5	U	< 1	U	< 0.5	U	NA		< 0.5	U	< 0.5	U	< 0.5	U

Table 2-4
Surface Water and Groundwater Results RA-O 2013–2022

		Location Code	35BWW01																					
		Sample ID	35BWW01-180816-FD		35BWW01-181115		35BWW01-190212		35BWW01-190212-FD		35BWW01-190520		35BWW01-190520-FD		35BWW01-190805		35BWW01-190805-FD		35BWW01-191121		35BWW01-200506		35BWW01-200506-FD		35BWW01-201109	
		Sample Date	8/16/2018		11/15/2018		2/12/2019		2/12/2019		5/20/2019		5/20/2019		8/5/2019		8/5/2019		11/21/2019		5/6/2020		5/6/2020		11/9/2020	
		Sample Purpose	FD		REG		REG		FD		REG		FD		REG		FD		REG		REG		FD		REG	
Parameter	Units	MCL/GW-IND	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
ANIONS																										
Bromide	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Chloride	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Fluoride	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrate	mg/L	10	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrite	mg/L	1	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Sulfate	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
DHC																										
Dehalococcoides	cells/mL	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
FIELD TESTS																										
Specific conductivity	µmhos/cm	NV	NA		0.089		0.104		NA		0.117		NA		0.113		NA		0.079		0.102		NA		0.076	
Dissolved oxygen	mg/L	NV	NA		2.87		3.91		NA		1.04		NA		0.15		NA		1.29		1.5		NA		0.55	
Oxidation Reduction Potential	mV	NV	NA		240.2		354		NA		357		NA		292		NA		371		238		NA		267	
pH	SU	NV	NA		4.84		5.57		NA		4.06		NA		5.4		NA		5.41		5.1		NA		4.39	
Temperature	C	NV	NA		18.12		15.91		NA		21.6		NA		23.14		NA		20.51		17.46		NA		20.33	
Turbidity	NTU	NV	NA		121.9		33.5		NA		53.1		NA		26.3		NA		37.7		63.1		NA		11.2	
Water Level at Reading Time	Ft BTOC	NV	NA		15.1		8.34		NA		7.4		NA		12.12		NA		14.59		8.51		NA		14.43	
GASES																										
Carbon dioxide	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethane	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethylene	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Methane	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
GEN CHEMISTRY																										
Ferrous Iron	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
TOTAL ORGANIC CARBON																										
Total organic carbon	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Total Inorganic Carbon	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
METALS																										
Antimony	mg/L	0.006	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Manganese	mg/L	14	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
VOLATILES																										
1,1-Dichloroethene	µg/L	7	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
cis-1,2-Dichloroethene	µg/L	70	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
Tetrachloroethene	µg/L	5	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 1	U	< 1	U	< 0.5	U
Trichloroethene	µg/L	5	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
Vinyl chloride	µg/L	2	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U

Table 2-4
Surface Water and Groundwater Results RA-O 2013–2022

		Location Code	35BWW01						35BWW02				35BWW03													
		Sample ID	35BWW01-210513		35BWW01-211115		35BWW01-220517		35BWW02-131004		35BWW02-160819		35BWW03-131005		35BWW03-100513		35BWW03-151020		35BWW03-102015		35BWW03-151222		35BWW03-122215		35BWW03-160217		35BWW03-021716	
		Sample Date	5/13/2021		11/15/2021		5/17/2022		10/4/2013		8/19/2016		10/5/2013		10/5/2013		10/20/2015		10/20/2015		12/22/2015		12/22/2015		2/17/2016		2/17/2016	
		Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter	Units	MCL/GW-IND	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
ANIONS																												
Bromide	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Chloride	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Fluoride	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrate	mg/L	10	NA		NA		NA		NA		NA		NA		NA		NA		0.252	J	NA		< 0.2	U	NA		< 0.2	U
Nitrite	mg/L	1	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Sulfate	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		3.82		NA		3.69		NA		3.43	
DHC																												
Dehalococcoides	cells/mL	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
FIELD TESTS																												
Specific conductivity	µmhos/cm	NV	0.113		0.098		0.114		-99	-	-99	-	0.572		NA		0.675		NA		1.07		NA		0.971		NA	
Dissolved oxygen	mg/L	NV	0.23		0.67		0.08		-	-	-	-	3.87		NA		0.34		NA		0.88		NA		0.61		NA	
Oxidation Reduction Potential	mV	NV	231		258		51		-	-	-	-	-207		NA		-13		NA		-27		NA		-12		NA	
pH	SU	NV	4.63		4.76		4.42		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Temperature	C	NV	16.6		16.53		19.64		-	-	-	-	23.25		NA		21.4		NA		17.35		NA		19.9		NA	
Turbidity	NTU	NV	23.5		16.4		43.1		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Water Level at Reading Time	Ft BTOC	NV	7.04		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
GASES																												
Carbon dioxide	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethane	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethylene	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Methane	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
GEN CHEMISTRY																												
Ferrous Iron	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		< 0.04	U	NA		< 0.04	U	NA		0.0757	
TOTAL ORGANIC CARBON																												
Total organic carbon	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Total Inorganic Carbon	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
METALS																												
Antimony	mg/L	0.006	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Manganese	mg/L	14	NA		NA		NA		NA		NA		NA		NA		NA		0.0183		NA		0.0496		NA		0.0405	
VOLATILES																												
1,1-Dichloroethene	µg/L	7	< 0.5	U	< 0.5	U	< 0.5	U	NA		NA		NA		< 1	U	NA		NA		NA		NA		NA		NA	
cis-1,2-Dichloroethene	µg/L	70	< 0.5	U	< 0.5	U	< 0.5	U	NA		NA		NA		< 0.5	U	NA		NA		NA		NA		NA		NA	
Tetrachloroethene	µg/L	5	< 1	U	< 1	U	< 0.5	U	NA		NA		NA		< 0.5	U	NA		NA		NA		NA		NA		NA	
Trichloroethene	µg/L	5	< 0.5	U	< 0.5	U	< 0.5	U	NA		NA		NA		< 0.5	U	NA		NA		NA		NA		NA		NA	
Vinyl chloride	µg/L	2	< 0.5	U	< 0.5	U	< 0.5	U	NA		NA		NA		< 0.5	U	NA		NA		NA		NA		NA		NA	

Table 2-4
Surface Water and Groundwater Results RA-O 2013–2022

			35BWW03										35BWW04											
Location Code			35BWW03										35BWW04											
Sample ID			35BWW03FD-021716		35BWW03-160818		35BWW03-081816		35BWW03FD-081816		35BWW03-211115		35BWW04-130504		35BWW04-131003		35BWW04-100313		35BWW04-151019		35BWW04-101915		35BWW04F-101915		35BWW04-151221	
Sample Date			2/17/2016		8/18/2016		8/18/2016		8/18/2016		11/15/2021		5/4/2013		10/3/2013		10/3/2013		10/19/2015		10/19/2015		10/19/2015		12/21/2015	
Sample Purpose			FD		REG		REG		FD		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter	Units	MCL/GW-IND	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
ANIONS																										
Bromide	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Chloride	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		11		NA		NA		NA		NA	
Fluoride	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrate	mg/L	10	< 0.2	U	NA		NA		NA		NA		NA		NA		1.06		NA		0.334	J	NA		NA	
Nitrite	mg/L	1	NA		NA		NA		NA		NA		NA		NA		< 0.2	U	NA		NA		NA		NA	
Sulfate	mg/L	NV	3.54		NA		NA		NA		NA		NA		NA		41.6		NA		43.3		NA		NA	
DHC																										
Dehalococcoides	cells/mL	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
FIELD TESTS																										
Specific conductivity	µmhos/cm	NV	NA		1.07		NA		NA		0.787		0.339		0.257		NA		0.261		NA		NA		0.287	
Dissolved oxygen	mg/L	NV	NA		0.74		NA		NA		1.57		3.71		1.08		NA		1.87		NA		NA		1.32	
Oxidation Reduction Potential	mV	NV	NA		-17		NA		NA		43		168		108		NA		170		NA		NA		233	
pH	SU	NV	NA		NA		NA		NA		6.02		NA		NA		NA		NA		NA		NA		NA	
Temperature	C	NV	NA		21.65		NA		NA		20.45		20.22		26.49		NA		22.05		NA		NA		18.84	
Turbidity	NTU	NV	NA		NA		NA		NA		5.3		NA		NA		NA		NA		NA		NA		NA	
Water Level at Reading Time	Ft BTOC	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
GASES																										
Carbon dioxide	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethane	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		< 2	U	NA		NA		NA		NA	
Ethylene	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		< 2	U	NA		NA		NA		NA	
Methane	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		< 3.17	U	NA		NA		NA		NA	
GEN CHEMISTRY																										
Ferrous Iron	mg/L	NV	0.0808		NA		NA		NA		NA		NA		NA		< 0.04	U	NA		< 0.04	U	NA		NA	
TOTAL ORGANIC CARBON																										
Total organic carbon	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		2.01		NA		NA		NA		NA	
Total Inorganic Carbon	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		8.4		NA		NA		NA		NA	
METALS																										
Antimony	mg/L	0.006	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Manganese	mg/L	14	0.0419		NA		NA		NA		NA		NA		NA		NA		NA		NA		0.00111	J	NA	
VOLATILES																										
1,1-Dichloroethene	µg/L	7	NA		NA		< 1	U	< 1	U	< 0.5	U	NA		NA		2.3	J	NA		NA		NA		NA	
cis-1,2-Dichloroethene	µg/L	70	NA		NA		< 0.5	U	< 0.5	U	< 0.5	U	NA		NA		0.673	J	NA		NA		NA		NA	
Tetrachloroethene	µg/L	5	NA		NA		< 0.5	U	< 0.5	U	< 1	U	NA		NA		66.5	J	NA		NA		NA		NA	
Trichloroethene	µg/L	5	NA		NA		< 0.5	U	< 0.5	U	< 0.5	U	NA		NA		11.4	J	NA		NA		NA		NA	
Vinyl chloride	µg/L	2	NA		NA		< 0.5	U	< 0.5	U	< 0.5	U	NA		NA		< 0.5	U	NA		NA		NA		NA	

Table 2-4
Surface Water and Groundwater Results RA-O 2013–2022

		Location Code	35BWW04																					
		Sample ID	35BWW04-122115		35BWW04-160217		35BWW04-021716		35BWW04-160817		35BWW04-081716		35BWW04-110917		35BWW04-110917-FD		35BWW04-021418		35BWW04-021418-FD		35BWW04-180522		35BWW04-180822		35BWW04-181120	
		Sample Date	12/21/2015		2/17/2016		2/17/2016		8/17/2016		8/17/2016		11/9/2017		11/9/2017		2/14/2018		2/14/2018		5/22/2018		8/22/2018		11/20/2018	
		Sample Purpose	REG		REG		REG		REG		REG		REG		FD		REG		FD		REG		REG		REG	
Parameter	Units	MCL/GW-IND	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
ANIONS																								
Bromide	mg/L	NV	NA		NA		NA		NA		NA		< 0.1	U	0.209		NA		NA		NA		NA		NA	
Chloride	mg/L	NV	NA		NA		NA		NA		11.5		5.67		5.82		6.96		7.06		4.87		3.78		3.65	
Fluoride	mg/L	NV	NA		NA		NA		NA		NA		0.244		0.249		NA		NA		NA		NA		NA	
Nitrate	mg/L	10	0.379	J	NA		0.434		NA		0.376	J	0.187		0.173		0.124		0.105		0.099	J	0.049	J	0.1	
Nitrite	mg/L	1	NA		NA		NA		NA		< 0.2	U	< 0.1	U	< 0.1	U	< 0.05	U	< 0.05	U	< 0.1	U	< 0.1	U	< 0.1	U
Sulfate	mg/L	NV	39.6		NA		33.8		NA		35.1		33.1		33.8		31.8		32.2		36.5		26.5		25.1	
DHC																										
Dehalococcoides	cells/mL	NV	NA		NA		NA		NA		NA		< 1.7	U	NA		NA		NA		< 1.2		NA		< 0.5	U
FIELD TESTS																										
Specific conductivity	µmhos/cm	NV	NA		0.309		NA		0.366		NA		0.277		NA		0.312		NA		0.216		0.398		0.330	
Dissolved oxygen	mg/L	NV	NA		2.53		NA		0.84		NA		2.2		NA		3.03		NA		0		0.33		4.73	
Oxidation Reduction Potential	mV	NV	NA		185		NA		449		NA		183.5		NA		126.1		NA		411		281		152.7	
pH	SU	NV	NA		NA		NA		NA		NA		6.5		NA		6.34		NA		5.12		5.17		6.02	
Temperature	C	NV	NA		18		NA		19.21		NA		18.4		NA		17.84		NA		18.87		21.26		19.43	
Turbidity	NTU	NV	NA		NA		NA		NA		NA		0		NA		1.7		NA		58.3		229		0	
Water Level at Reading Time	Ft BTOC	NV	NA		NA		NA		NA		NA		24.25		NA		NA		NA		22.73		24.3		23.8	
GASES																										
Carbon dioxide	µg/L	NV	NA		NA		NA		NA		1,070,000		38,000		35,000		40,000		43,000		770,000		500,000	J	NA	
Ethane	µg/L	NV	NA		NA		NA		NA		< 2	U	< 0.076	U	< 0.076	U	< 0.6	U	< 0.6	U	< 0.47	UJ	< 0.47	U	0.238	J
Ethylene	µg/L	NV	NA		NA		NA		NA		< 2	U	< 0.071	U	< 0.071	U	< 1	U	< 1	U	< 0.55	U	< 0.55	U	0.524	J
Methane	µg/L	NV	NA		NA		NA		NA		< 2	U	0.49	J	< 0.3	U	< 1.3	U	< 1.3	U	< 1	UJ	< 1	U	2.23	
GEN CHEMISTRY																										
Ferrous Iron	mg/L	NV	0.1		NA		< 0.04	U	NA		< 0.04	U	0.18		NA		0.06		NA		0.52		0.52		0.05	
TOTAL ORGANIC CARBON																										
Total organic carbon	mg/L	NV	NA		NA		NA		NA		15.2	J+	1.12		1.21		1.52		1.52		1.7		1.73		2.31	
Total Inorganic Carbon	mg/L	NV	NA		NA		NA		NA		76.4		40		33		NA		NA		NA		NA		NA	
METALS																										
Antimony	mg/L	0.006	NA		NA		NA		NA		NA		NA		NA		0.00187	J	0.000913	J	NA		NA		NA	
Manganese	mg/L	14	0.00594		NA		0.00612		NA		NA		NA		NA		NA		NA		NA		NA		NA	
VOLATILES																										
1,1-Dichloroethene	µg/L	7	NA		NA		NA		NA		< 1	U	< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
cis-1,2-Dichloroethene	µg/L	70	NA		NA		NA		NA		< 0.5	U	< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
Tetrachloroethene	µg/L	5	NA		NA		NA		NA		6.1		7.3		8.2		10		10		5.3		2.2		6.3	
Trichloroethene	µg/L	5	NA		NA		NA		NA		0.786	J	1		1.1		1.3		1.2		< 0.5	U	< 0.5	U	0.95	J
Vinyl chloride	µg/L	2	NA		NA		NA		NA		< 0.5	U	< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U

Table 2-4
Surface Water and Groundwater Results RA-O 2013–2022

			Location Code		35BWW04																			
			Sample ID	35BWW04-181120-FD		35BWW04-190213		35BWW04-190520		35BWW04-190805		35BWW04-191121		35BWW04-191121-FD		35BWW04-200506		35BWW04-201110		35BWW04-210513		35BWW04-211117		35BWW04-220517		35BWW04-220517-FD	
			Sample Date	11/20/2018		2/13/2019		5/20/2019		8/5/2019		11/21/2019		11/21/2019		5/6/2020		11/10/2020		5/13/2021		11/17/2021		5/17/2022		5/17/2022	
			Sample Purpose	FD		REG		REG		REG		REG		FD		REG		REG		REG		REG		REG		FD	
Parameter	Units	MCL/GW-IND		Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
ANIONS																											
Bromide	mg/L	NV		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Chloride	mg/L	NV		3.66		3.24		2.96		3.17		3.51		3.48		4.52		4.01		4.46		3.56		3.81		3.77	
Fluoride	mg/L	NV		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrate	mg/L	10		0.101		0.174		0.174		0.187		0.145		0.132		0.132		0.206		0.135		0.116		0.0361	J	0.0352	J
Nitrite	mg/L	1		< 0.1	U	< 0.1	U	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Sulfate	mg/L	NV		25.5		34.6		22		24		28.9		26.5		26.6		26.1		28.6		27.6		27.1		26.9	
DHC																											
Dehalococcoides	cells/mL	NV		NA		0.4	J	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
FIELD TESTS																											
Specific conductivity	µmhos/cm	NV		NA		0.333		0.327		0.327		0.238		NA		0.289		0.235		0.290		0.277		0.323		NA	
Dissolved oxygen	mg/L	NV		NA		1.16		1.98		0.37		0.03		NA		3.1		1.1		3.88		1.18		3.29		NA	
Oxidation Reduction Potential	mV	NV		NA		364		273		262		296		NA		147		212		170		240		228		NA	
pH	SU	NV		NA		5.43		6.39		5.93		5.82		NA		6.38		5.96		6.54		5.71		5.43		NA	
Temperature	C	NV		NA		15.39		21.46		21.45		19.23		NA		18.36		20.04		17.84		18.68		20.25		NA	
Turbidity	NTU	NV		NA		4.9		3.3		0		39.9		NA		13		1.2		0		2.7		24.2		NA	
Water Level at Reading Time	Ft BTOC	NV		NA		21.97		19.15		20.98		23.19		NA		20.82		22.29		18.6		NA		NA		NA	
GASES																											
Carbon dioxide	µg/L	NV		NA		800,000	J	670,000		280,000		100,000	J	87,000	J	46,000		94,000		150,000		376,000		253,000	J	215,000	J
Ethane	µg/L	NV		0.574	J	< 0.47	UJ	< 0.47	U	< 0.47	U	< 0.47	U	< 0.47	U	< 0.47	U	< 0.47	U	< 0.47	U	< 0.5	U	< 0.5	U	< 0.5	U
Ethylene	µg/L	NV		0.959	J	< 0.55	UJ	< 0.55	U	< 0.55	U	< 0.55	U	< 0.55	U	< 0.55	U	< 0.55	U	< 0.55	U	< 0.5	UJ	2.49	J	< 0.5	UJ
Methane	µg/L	NV		1.82		< 1	UJ	< 1	U	< 1	U	< 1	U	< 1	U	< 1	U	< 1	U	< 1	U	2.55		2.9		2.74	
GEN CHEMISTRY																											
Ferrous Iron	mg/L	NV		NA		0		0.33		0		0.16		NA		0.68		NA		0.36		0		0.09		NA	
TOTAL ORGANIC CARBON																											
Total organic carbon	mg/L	NV		2.23		3.81		3.21		2.66	J	1.17		1.28		1.96		0.76		0.96	J	4.06		0.675	J	0.941	J
Total Inorganic Carbon	mg/L	NV		NA		123		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
METALS																											
Antimony	mg/L	0.006		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Manganese	mg/L	14		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
VOLATILES																											
1,1-Dichloroethene	µg/L	7		< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
cis-1,2-Dichloroethene	µg/L	70		< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
Tetrachloroethene	µg/L	5		5.3		5.3		4.7		7.9		8.3		7.7		6.4		5.2		6.8		6.3		3.9		3.6	
Trichloroethene	µg/L	5		0.73	J	0.59	J	0.58	J	0.93	J	0.93	J	0.93	J	0.71	J	0.72	J	0.61	J	0.88	J	< 0.5	U	< 0.5	U
Vinyl chloride	µg/L	2		< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U

Table 2-4
Surface Water and Groundwater Results RA-O 2013–2022

		Location Code	35BWW05																							
		Sample ID	35BWW05-130504		35BWW05-131004		35BWW05-100413		35BWW05-151019		35BWW05-101915		35BWW05F-101915		35BWW05-151221		35BWW05-122115		35BWW05F-122115		35BWW05-160216		35BWW05-021616		35BWW05F-021616		35BWW05-160818	
		Sample Date	5/4/2013		10/4/2013		10/4/2013		10/19/2015		10/19/2015		10/19/2015		12/21/2015		12/21/2015		12/21/2015		2/16/2016		2/16/2016		2/16/2016		8/18/2016	
		Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter	Units	MCL/GW-IND	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
ANIONS																												
Bromide	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Chloride	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Fluoride	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrate	mg/L	10	NA		NA		NA		NA		0.728		NA		NA		0.897	J	NA		NA		0.862		NA		NA	
Nitrite	mg/L	1	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Sulfate	mg/L	NV	NA		NA		NA		NA		33.4		NA		NA		37.8		NA		NA		41		NA		NA	
DHC																												
Dehalococcoides	cells/mL	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
FIELD TESTS																												
Specific conductivity	µmhos/cm	NV	0.369		0.237		NA		0.328		NA		NA		0.368		NA		NA		0.356		NA		NA		0.379	
Dissolved oxygen	mg/L	NV	0		0.59		NA		0.13		NA		NA		0.36		NA		NA		0.43		NA		NA		0.56	
Oxidation Reduction Potential	mV	NV	-54		-146		NA		75		NA		NA		115		NA		NA		129		NA		NA		283	
pH	SU	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Temperature	C	NV	19.83		25		NA		18.18		NA		NA		19.21		NA		NA		18.39		NA		NA		19.46	
Turbidity	NTU	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Water Level at Reading Time	Ft BTOC	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
GASES																												
Carbon dioxide	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethane	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethylene	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Methane	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
GEN CHEMISTRY																												
Ferrous Iron	mg/L	NV	NA		NA		NA		NA		0.379		NA		NA		0.473		NA		NA		0.559		NA		NA	
TOTAL ORGANIC CARBON																												
Total organic carbon	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Total Inorganic Carbon	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
METALS																												
Antimony	mg/L	0.006	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Manganese	mg/L	14	NA		NA		NA		NA		NA		0.0541		NA		NA		0.0555		NA		NA		0.0505		NA	
VOLATILES																												
1,1-Dichloroethene	µg/L	7	NA		NA		< 1	U	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
cis-1,2-Dichloroethene	µg/L	70	NA		NA		0.295	J	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Tetrachloroethene	µg/L	5	NA		NA		1.57		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Trichloroethene	µg/L	5	NA		NA		14		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Vinyl chloride	µg/L	2	NA		NA		< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	

Table 2-4
Surface Water and Groundwater Results RA-O 2013–2022

		Location Code	35BWW05																							
		Sample ID	35BWW05-081816		35BWW05-110817		35BWW05-021618		35BWW05-180327		35BWW05-180521		35BWW05-180821		35BWW05-181118		35BWW05-190213		35BWW05-190521		35BWW05-190806		35BWW05-191125		35BWW05-200506		35BWW05-201109	
		Sample Date	8/18/2016		11/8/2017		2/16/2018		3/27/2018		5/21/2018		8/21/2018		11/18/2018		2/13/2019		5/21/2019		8/6/2019		11/25/2019		5/6/2020		11/9/2020	
		Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter	Units	MCL/GW-IND	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
ANIONS																										
Bromide	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Chloride	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Fluoride	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrate	mg/L	10	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrite	mg/L	1	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Sulfate	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
DHC																										
Dehalococcoides	cells/mL	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
FIELD TESTS																										
Specific conductivity	µmhos/cm	NV	NA		0.338		0.306		0.317		0.213		0.310		0.270		0.324		0.321		0.317		0.251		0.313		0.293	
Dissolved oxygen	mg/L	NV	NA		0.78		0.65		1.72		0		0.7		1.51		0.56		0.88		0.05		0.03		0.04		0.09	
Oxidation Reduction Potential	mV	NV	NA		-0.3		84.6		125.1		269		111		75.1		168		207		116		150		79		254	
pH	SU	NV	NA		6.8		6.73		6.35		5.14		5.29		6.55		6.5		5.12		5.99		5.29		6.1		4.65	
Temperature	C	NV	NA		18.57		19.51		25.64		23.26		21.27		18.87		18.89		21.94		23.09		20.56		17.51		20.06	
Turbidity	NTU	NV	NA		19		0		0		779		657		0		221		139		225		304		208		317	
Water Level at Reading Time	Ft BTOC	NV	NA		24.55		24.15		23.45		23.41		24.85		23.73		22.82		20.72		22.05		23.82		21.84		23.14	
GASES																										
Carbon dioxide	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethane	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethylene	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Methane	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
GEN CHEMISTRY																										
Ferrous Iron	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
TOTAL ORGANIC CARBON																										
Total organic carbon	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Total Inorganic Carbon	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
METALS																										
Antimony	mg/L	0.006	NA		NA		NA		< 0.001	U	NA		NA		NA		NA		NA		NA		NA		NA		NA	
Manganese	mg/L	14	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
VOLATILES																										
1,1-Dichloroethene	µg/L	7	< 1	U	< 1	U	< 0.5	U	NA		< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
cis-1,2-Dichloroethene	µg/L	70	0.497	J	< 1	U	< 0.5	U	NA		< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
Tetrachloroethene	µg/L	5	1.25		1.5		2.8		NA		2		1.7		2.7		1.9		1.1		1.9		1.4		2.4		2.1	
Trichloroethene	µg/L	5	8.87		7		10		NA		8.5		7.3		12		9.6		5.5		8.6		6		7.3		5.5	
Vinyl chloride	µg/L	2	< 0.5	U	< 1	U	< 0.5	U	NA		< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U

Table 2-4
Surface Water and Groundwater Results RA-O 2013–2022

		Location Code	35BWW05						35BWW06															
		Sample ID	35BWW05-210513		35BWW05-211115		35BWW05-220516		35BWW06-131004		35BWW06-100413		35BWW06-151019		35BWW06-101915		35BWW06FD-101915		35BWW06-151222		35BWW06-122215		35BWW06-160216		35BWW06-021616	
		Sample Date	5/13/2021		11/15/2021		5/16/2022		10/4/2013		10/4/2013		10/19/2015		10/19/2015		10/19/2015		12/22/2015		12/22/2015		2/16/2016		2/16/2016	
		Sample Purpose	REG		REG		REG		REG		REG		REG		REG		FD		REG		REG		REG		REG	
Parameter	Units	MCL/GW-IND	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
ANIONS																										
Bromide	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Chloride	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Fluoride	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrate	mg/L	10	NA		NA		NA		NA		NA		NA		< 0.2	U	< 0.2	U	NA		< 0.2	U	NA		< 0.2	U
Nitrite	mg/L	1	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Sulfate	mg/L	NV	NA		NA		NA		NA		NA		NA		168		161		NA		172		NA		146	J
DHC																										
Dehalococcoides	cells/mL	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
FIELD TESTS																										
Specific conductivity	µmhos/cm	NV	0.330		0.344		0.328		1.09		NA		1.16		NA		NA		1.24		NA		1.04		NA	
Dissolved oxygen	mg/L	NV	0.56		0.35		0.47		0.073		NA		0		NA		NA		0.51		NA		0.71		NA	
Oxidation Reduction Potential	mV	NV	162		191		149		-143		NA		-50		NA		NA		-74		NA		-58		NA	
pH	SU	NV	5.41		5.35		5.64		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Temperature	C	NV	18.34		14.85		20.36		23.9		NA		18.93		NA		NA		23.6		NA		19.28		NA	
Turbidity	NTU	NV	338		517		88.8		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Water Level at Reading Time	Ft BTOC	NV	20		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
GASES																										
Carbon dioxide	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethane	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethylene	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Methane	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
GEN CHEMISTRY																										
Ferrous Iron	mg/L	NV	NA		NA		NA		NA		NA		NA		< 0.04	U	< 0.04	U	NA		< 0.04	U	NA		6.55	
TOTAL ORGANIC CARBON																										
Total organic carbon	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Total Inorganic Carbon	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
METALS																										
Antimony	mg/L	0.006	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Manganese	mg/L	14	NA		NA		NA		NA		NA		NA		0.147		0.148		NA		0.134		NA		0.176	
VOLATILES																										
1,1-Dichloroethene	µg/L	7	< 0.5	U	< 0.5	U	< 0.5	U	NA		< 1	U	NA		NA		NA		NA		NA		NA		NA	
cis-1,2-Dichloroethene	µg/L	70	< 0.5	U	< 0.5	U	< 0.5	U	NA		< 0.5	U	NA		NA		NA		NA		NA		NA		NA	
Tetrachloroethene	µg/L	5	2.5		1.8		4.1		NA		< 0.5	U	NA		NA		NA		NA		NA		NA		NA	
Trichloroethene	µg/L	5	6.3		3.5		1.8		NA		< 0.5	U	NA		NA		NA		NA		NA		NA		NA	
Vinyl chloride	µg/L	2	< 0.5	U	< 0.5	U	< 0.5	U	NA		< 0.5	U	NA		NA		NA		NA		NA		NA		NA	

Table 2-4
Surface Water and Groundwater Results RA-O 2013–2022

		Location Code	35BWW06																				35BWW07	
		Sample ID	35BWW06FD-021616		35BWW06-160818		35BWW06-081816		35BWW06FD-081816		35BWW06-110817		35BWW06-021618		35BWW06-180327		35BWW06-180521		35BWW06-180821		35BWW06-181118		35BWW06-211115		35BWW07-131005	
		Sample Date	2/16/2016		8/18/2016		8/18/2016		8/18/2016		11/8/2017		2/16/2018		3/27/2018		5/21/2018		8/21/2018		11/18/2018		11/15/2021		10/5/2013	
		Sample Purpose	FD		REG		REG		FD		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter	Units	MCL/GW-IND	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
ANIONS																										
Bromide	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Chloride	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Fluoride	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrate	mg/L	10	< 0.2	U	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrite	mg/L	1	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Sulfate	mg/L	NV	142	J	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
DHC																										
Dehalococcoides	cells/mL	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
FIELD TESTS																										
Specific conductivity	µmhos/cm	NV	NA		1.06		NA		NA		0.706		0.763		0.751		0.629		0.911		0.928		0.726		0.837	
Dissolved oxygen	mg/L	NV	NA		0.69		NA		NA		0.8		0.57		0.37		0		0.44		1.15		0.38		10.86	
Oxidation Reduction Potential	mV	NV	NA		215		NA		NA		-11.2		-46.5		-95.6		180		92		-20		109		187	
pH	SU	NV	NA		NA		NA		NA		6.39		7.22		8.34		5.57		5.57		5.82		5.65		NA	
Temperature	C	NV	NA		20.45		NA		NA		18		19.96		23.01		22.85		22.25		18.58		17.4		22.17	
Turbidity	NTU	NV	NA		NA		NA		NA		0		0		0		0		162		0		3.8		NA	
Water Level at Reading Time	Ft BTOC	NV	NA		NA		NA		NA		26.3		26.37		24.9		24.22		25.5		25.51		NA		NA	
GASES																										
Carbon dioxide	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethane	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethylene	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Methane	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
GEN CHEMISTRY																										
Ferrous Iron	mg/L	NV	6.24		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
TOTAL ORGANIC CARBON																										
Total organic carbon	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Total Inorganic Carbon	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
METALS																										
Antimony	mg/L	0.006	NA		NA		NA		NA		NA		NA		0.00128	J	NA		NA		NA		NA		NA	
Manganese	mg/L	14	0.187		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
VOLATILES																										
1,1-Dichloroethene	µg/L	7	NA		NA		< 1	U	< 1	U	< 1	U	< 0.5	U	NA		< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	NA	
cis-1,2-Dichloroethene	µg/L	70	NA		NA		< 0.5	U	< 0.5	U	< 1	U	< 0.5	U	NA		< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	NA	
Tetrachloroethene	µg/L	5	NA		NA		< 0.5	U	< 0.5	U	< 1	U	< 0.5	U	NA		< 0.5	U	< 0.5	U	< 0.5	U	< 1	U	NA	
Trichloroethene	µg/L	5	NA		NA		< 0.5	U	< 0.5	U	< 1	U	< 0.5	U	NA		< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	NA	
Vinyl chloride	µg/L	2	NA		NA		< 0.5	U	< 0.5	U	< 1	U	< 0.5	U	NA		< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	NA	

Table 2-4
Surface Water and Groundwater Results RA-O 2013–2022

		Location Code	35BWW07																							
		Sample ID	35BWW07-100513		35BWW07-151020		35BWW07-102015		35BWW07-151222		35BWW07-122215		35BWW07-160217		35BWW07-021716		35BWW07-160819		35BWW07-081916		35BWW07-110917		35BWW07-021318		35BWW07-180329		35BWW07-180523	
		Sample Date	10/5/2013		10/20/2015		10/20/2015		12/22/2015		12/22/2015		2/17/2016		2/17/2016		8/19/2016		8/19/2016		11/9/2017		2/13/2018		3/29/2018		5/23/2018	
		Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter	Units	MCL/GW-IND	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
ANIONS																												
Bromide	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Chloride	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Fluoride	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrate	mg/L	10	NA		NA		< 0.2	U	NA		< 0.2	U	NA		< 0.2	U	NA		NA		NA		NA		NA		NA	
Nitrite	mg/L	1	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Sulfate	mg/L	NV	NA		NA		94.5		NA		93.1		NA		86.1		NA		NA		NA		NA		NA		NA	
DHC																												
Dehalococcoides	cells/mL	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
FIELD TESTS																												
Specific conductivity	µmhos/cm	NV	NA		0.918		NA		1.02		NA		0.952		NA		0.974		NA		1.112		1.031		0.931		0.613	
Dissolved oxygen	mg/L	NV	NA		-	-	NA		-	-	NA		-	-	NA		-	-	NA		1.86		0.84		0.97		0	
Oxidation Reduction Potential	mV	NV	NA		251		NA		223		NA		258		NA		-	-	NA		135.7		94.7		119.1		364	
pH	SU	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		6.87		6.82		6.16		5.61	
Temperature	C	NV	NA		17.06		NA		14.93		NA		14.94		NA		20.47		NA		17.49		14.43		19		19.78	
Turbidity	NTU	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		5.9		0		0		35.3	
Water Level at Reading Time	Ft BTOC	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		27.9		29.5		28.3		26.33	
GASES																												
Carbon dioxide	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethane	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethylene	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Methane	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
GEN CHEMISTRY																												
Ferrous Iron	mg/L	NV	NA		NA		< 0.04	U	NA		0.0212	J	NA		< 0.04	U	NA		NA		NA		NA		NA		NA	
TOTAL ORGANIC CARBON																												
Total organic carbon	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Total Inorganic Carbon	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
METALS																												
Antimony	mg/L	0.006	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		< 0.001	U	NA	
Manganese	mg/L	14	NA		NA		0.0672		NA		0.0232		NA		0.0641		NA		NA		NA		NA		NA		NA	
VOLATILES																												
1,1-Dichloroethene	µg/L	7	< 1	U	NA		NA		NA		NA		NA		NA		NA		< 1	U	< 1	U	< 0.5	U	NA		< 0.5	U
cis-1,2-Dichloroethene	µg/L	70	< 0.5	U	NA		NA		NA		NA		NA		NA		NA		< 0.5	U	< 1	U	< 0.5	U	NA		< 0.5	U
Tetrachloroethene	µg/L	5	< 0.5	U	NA		NA		NA		NA		NA		NA		NA		< 0.5	U	< 1	U	< 0.5	U	NA		< 0.5	U
Trichloroethene	µg/L	5	< 0.5	U	NA		NA		NA		NA		NA		NA		NA		< 0.5	U	< 1	U	< 0.5	U	NA		< 0.5	U
Vinyl chloride	µg/L	2	< 0.5	U	NA		NA		NA		NA		NA		NA		NA		< 0.5	U	< 1	U	< 0.5	U	NA		< 0.5	U

Table 2-4
Surface Water and Groundwater Results RA-O 2013–2022

			Location Code		35BWW07																			
			Sample ID	35BWW07-180820		35BWW07-181118		35BWW07-190214		35BWW07-190522		35BWW07-190805		35BWW07-191125		35BWW07-200511		35BWW07-201111		35BWW07-210517		35BWW07-211117		35BWW07-211117-FD		35BWW07-220516	
			Sample Date	8/20/2018		11/18/2018		2/14/2019		5/22/2019		8/5/2019		11/25/2019		5/11/2020		11/11/2020		5/17/2021		11/17/2021		11/17/2021		5/16/2022	
			Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		FD		REG	
Parameter	Units	MCL/GW-IND		Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
ANIONS																											
Bromide	mg/L	NV		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Chloride	mg/L	NV		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Fluoride	mg/L	NV		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrate	mg/L	10		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrite	mg/L	1		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Sulfate	mg/L	NV		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
DHC																											
Dehalococcoides	cells/mL	NV		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
FIELD TESTS																											
Specific conductivity	µmhos/cm	NV		0.951		0.938		0.881		0.632		0.659		0.637		0.753		0.689		0.587		0.709		NA		0.772	
Dissolved oxygen	mg/L	NV		0.63		1.18		0.14		0.08		0.11		0.1		0.59		0.16		0.3		0.44		NA		0.36	
Oxidation Reduction Potential	mV	NV		112		77.4		325		268		51		50		158		228		-34		80		NA		162	
pH	SU	NV		6.02		7.01		5.8		5.83		6.89		6.08		6.91		6.54		6.73		5.52		NA		6.1	
Temperature	C	NV		27.94		16.82		16.41		21.21		22.05		16.8		17.07		16.86		20.45		19.63		NA		21.28	
Turbidity	NTU	NV		59.1		0		0		0		0		7.6		16.1		47.4		57.3		20		NA		57.3	
Water Level at Reading Time	Ft BTOC	NV		28.28		29.28		26		25.38		24.12		26.22		24.2		25.42		22.8		NA		NA		NA	
GASES																											
Carbon dioxide	µg/L	NV		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethane	µg/L	NV		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethylene	µg/L	NV		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Methane	µg/L	NV		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
GEN CHEMISTRY																											
Ferrous Iron	mg/L	NV		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
TOTAL ORGANIC CARBON																											
Total organic carbon	mg/L	NV		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Total Inorganic Carbon	mg/L	NV		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
METALS																											
Antimony	mg/L	0.006		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Manganese	mg/L	14		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
VOLATILES																											
1,1-Dichloroethene	µg/L	7		< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
cis-1,2-Dichloroethene	µg/L	70		< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
Tetrachloroethene	µg/L	5		< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 1	U	< 0.5	U	< 1	U	< 1	U	< 1	U	1.1	
Trichloroethene	µg/L	5		< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	3.7	
Vinyl chloride	µg/L	2		< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U

Table 2-4
Surface Water and Groundwater Results RA-O 2013–2022

		Location Code	35BWW08																							
		Sample ID	35BWW08-130504		35BWW08-131009		35BWW08-100913		35BWW08-151020		35BWW08-102015		35BWW08-151221		35BWW08-122115		35BWW08-160216		35BWW08-021616		35BWW08-160817		35BWW08-081716		35BWW08-110717		35BWW08-021418	
		Sample Date	5/4/2013		10/9/2013		10/9/2013		10/20/2015		10/20/2015		12/21/2015		12/21/2015		2/16/2016		2/16/2016		8/17/2016		8/17/2016		11/7/2017		2/14/2018	
		Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter	Units	MCL/GW-IND	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
ANIONS																												
Bromide	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		2.11		NA	
Chloride	mg/L	NV	NA		NA		71.5		NA		NA		NA		NA		NA		NA		NA		20.6		11.3		11.2	
Fluoride	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		0.53		NA	
Nitrate	mg/L	10	NA		NA		2.3		NA		1.22		NA		0.828	J	NA		0.583		NA		0.392	J	< 0.1	U	0.465	
Nitrite	mg/L	1	NA		NA		< 0.2	U	NA		NA		NA		NA		NA		NA		NA		< 0.2	U	< 0.1	U	< 0.05	U
Sulfate	mg/L	NV	NA		NA		115		NA		118		NA		84.1		NA		92.7		NA		73.2		62.3		55.8	
DHC																												
Dehalococcoides	cells/mL	NV	NA		NA		7.1	U	NA		NA		NA		NA		NA		NA		NA		NA		< 0.5	U	NA	
FIELD TESTS																												
Specific conductivity	µmhos/cm	NV	0.884		0.647		NA		0.56		NA		0.512		NA		0.594		NA		0.583		NA		0.408		0.418	
Dissolved oxygen	mg/L	NV	0		1.06		NA		4.05		NA		4.35		NA		1.85		NA		1.81		NA		3.2		3.2	
Oxidation Reduction Potential	mV	NV	170		99		NA		71		NA		57		NA		258		NA		413		NA		176.5		25.5	
pH	SU	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		8		9.06	
Temperature	C	NV	18.62		19.48		NA		25.04		NA		20.31		NA		18.31		NA		19.79		NA		20.51		18.93	
Turbidity	NTU	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		0		0	
Water Level at Reading Time	Ft BTOC	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		26		25.31	
GASES																												
Carbon dioxide	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		767,000		2,200		< 1000	U
Ethane	µg/L	NV	NA		NA		< 2	U	NA		NA		NA		NA		NA		NA		NA		< 2	U	< 0.076	U	< 0.6	U
Ethylene	µg/L	NV	NA		NA		< 2	U	NA		NA		NA		NA		NA		NA		NA		< 2	U	< 0.071	U	< 1	U
Methane	µg/L	NV	NA		NA		< 3.39	U	NA		NA		NA		NA		NA		NA		NA		< 2	U	< 0.3	U	< 1.3	U
GEN CHEMISTRY																												
Ferrous Iron	mg/L	NV	NA		NA		< 0.04	U	NA		< 0.04	U	NA		< 0.04	U	NA		< 0.04	U	NA		< 0.04	U	0.12		0.05	
TOTAL ORGANIC CARBON																												
Total organic carbon	mg/L	NV	NA		NA		4.19		NA		NA		NA		NA		NA		NA		NA		7.18	J	0.875	J	0.87	J
Total Inorganic Carbon	mg/L	NV	NA		NA		28.7		NA		NA		NA		NA		NA		NA		NA		33.1		34		NA	
METALS																												
Antimony	mg/L	0.006	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		< 0.001	U
Manganese	mg/L	14	NA		NA		NA		NA		0.00292	J	NA		0.00277	J	NA		0.00718		NA		NA		NA		NA	
VOLATILES																												
1,1-Dichloroethene	µg/L	7	NA		NA		< 1	U	NA		NA		NA		NA		NA		NA		NA		< 1	U	< 1	U	< 0.5	U
cis-1,2-Dichloroethene	µg/L	70	NA		NA		< 0.5	U	NA		NA		NA		NA		NA		NA		NA		< 0.5	U	< 1	U	< 0.5	U
Tetrachloroethene	µg/L	5	NA		NA		< 0.5	U	NA		NA		NA		NA		NA		NA		NA		< 0.5	U	< 1	U	< 0.5	U
Trichloroethene	µg/L	5	NA		NA		43.8		NA		NA		NA		NA		NA		NA		NA		1.01		0.89	J	< 0.5	U
Vinyl chloride	µg/L	2	NA		NA		< 0.5	U	NA		NA		NA		NA		NA		NA		NA		< 0.5	U	< 1	U	< 0.5	U

Table 2-4
Surface Water and Groundwater Results RA-O 2013–2022

		Location Code	35BWW08																					
		Sample ID	35BWW08-180523		35BWW08-180822		35BWW08-181120		35BWW08-190212		35BWW08-190520		35BWW08-190805		35BWW08-191121		35BWW08-200506		35BWW08-201111		35BWW08-201111-FD		35BWW08-210513		35BWW08-211117	
		Sample Date	5/23/2018		8/22/2018		11/20/2018		2/12/2019		5/20/2019		8/5/2019		11/21/2019		5/6/2020		11/11/2020		11/11/2020		5/13/2021		11/7/2021	
		Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG		REG		FD		REG		REG	
Parameter	Units	MCL/GW-IND	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
ANIONS																										
Bromide	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Chloride	mg/L	NV	12.2		10.3		9.14		7.22		4.57		2.43		6.66		2.38		4.56		4.72		1.25		3.36	
Fluoride	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrate	mg/L	10	0.265		0.311		0.169		0.206		0.185		0.18		0.301		0.137		0.215	J-	0.226	J-	0.0796	J	0.27	
Nitrite	mg/L	1	0.04	J	< 0.1	U	< 0.1	U	< 0.1	U	NA		NA		NA		NA		NA		NA		NA		NA	
Sulfate	mg/L	NV	51		64.4		36.2		27.4		19.3		17		30.1		15.9		24.7		24.9		12.6		22.7	
DHC																										
Dehalococcoides	cells/mL	NV	< 0.5		NA		0.2	J	< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
FIELD TESTS																										
Specific conductivity	µmhos/cm	NV	0.318		0.481		0.343		0.318		0.497		0.391		0.344		0.302		0.313		NA		0.236		0.306	
Dissolved oxygen	mg/L	NV	0.58		1.6		4.57		3.76		1.18		1.65		1.61		4.66		1.2		NA		1.88		1.33	
Oxidation Reduction Potential	mV	NV	380		236		66.5		245		289		212		268		102		277		NA		183		260	
pH	SU	NV	5.53		5.49		9.92		9.54		5.83		7.57		6.84		7.15		5.19		NA		5.19		5.54	
Temperature	C	NV	19.68		22.64		19		18.19		21.98		24.59		20.95		23.76		18.9		NA		17.42		19.04	
Turbidity	NTU	NV	0.8		42.8		0		10.5		0		19.1		44.2		52.4		20.6		NA		15		23.4	
Water Level at Reading Time	Ft BTOC	NV	24.63		25.95		24.7		23.89		21.64		20.72		24.97		22.87		24.34		NA		21.02		NA	
GASES																										
Carbon dioxide	µg/L	NV	580,000		350,000	J	NA		390	J	610,000		15,000		14,000	J	11,000		590,000	J	470,000		680,000		555,000	
Ethane	µg/L	NV	< 0.47	U	< 0.47	U	< 1	U	< 0.16	U	< 0.47	U	< 0.47	U	< 0.47	U	< 0.47	U	< 0.47	U	< 0.47	U	< 0.47	UJ	< 0.5	U
Ethylene	µg/L	NV	< 0.55	U	< 0.55	U	2.31		< 0.24	U	< 0.55	U	< 0.55	U	< 0.55	U	< 0.55	U	< 0.55	U	< 0.55	U	< 0.55	U	0.889	J
Methane	µg/L	NV	< 1	U	< 1	U	1.82		< 0.51	U	< 1	U	< 1	U	< 1	U	< 1	U	< 1	U	< 1	U	< 1	UJ	1.34	
GEN CHEMISTRY																										
Ferrous Iron	mg/L	NV	0		0		0		0.02		0.29		0		0.32		0.81		NA		NA		0.74		0.26	
TOTAL ORGANIC CARBON																										
Total organic carbon	mg/L	NV	0.812	J	0.854	J	0.87		0.86		1.83		2.5		0.73		1.14	J	0.99		0.74		0.928	J	3.36	
Total Inorganic Carbon	mg/L	NV	NA		NA		NA		33		NA		NA		NA		NA		NA		NA		NA		NA	
METALS																										
Antimony	mg/L	0.006	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Manganese	mg/L	14	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
VOLATILES																										
1,1-Dichloroethene	µg/L	7	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
cis-1,2-Dichloroethene	µg/L	70	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
Tetrachloroethene	µg/L	5	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 1	U	< 1	U	< 1	U	< 1	U	< 1	U
Trichloroethene	µg/L	5	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
Vinyl chloride	µg/L	2	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U

Table 2-4
Surface Water and Groundwater Results RA-O 2013–2022

		Location Code	35BWW08		35BWW09																					
		Sample ID	35BWW08-220517		35BWW09-131008		35BWW09-100813		35BWW09-151019		35BWW09-101915		35BWW09-151222		35BWW09-122215		35BWW09-160217		35BWW09-021716		35BWW09-160816		35BWW09-081616		35BWW09-110717		35BWW09-021318	
		Sample Date	5/17/2022		10/8/2013		10/8/2013		10/19/2015		10/19/2015		12/22/2015		12/22/2015		2/17/2016		2/17/2016		8/16/2016		8/16/2016		11/7/2017		2/13/2018	
		Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter	Units	MCL/GW-IND	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
ANIONS																												
Bromide	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Chloride	mg/L	NV	3.15		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Fluoride	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrate	mg/L	10	0.106		NA		NA		NA		< 0.2	U	NA		< 0.2	U	NA		< 0.2	U	NA		NA		NA		NA	
Nitrite	mg/L	1	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Sulfate	mg/L	NV	22.5		NA		NA		NA		148		NA		153	J	NA		165		NA		NA		NA		NA	
DHC																												
Dehalococcoides	cells/mL	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
FIELD TESTS																												
Specific conductivity	µmhos/cm	NV	0.27		1.02		NA		0.779		NA		0.841		NA		0.861		NA		0.927		NA		0.776		0.926	
Dissolved oxygen	mg/L	NV	1.35		0.74		NA		0.23		NA		0.33		NA		0.44		NA		0.62		NA		0.59		0.48	
Oxidation Reduction Potential	mV	NV	185		-13		NA		172		NA		184		NA		135		NA		365		NA		-38.6		41.9	
pH	SU	NV	5.89		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		6.68		7.15	
Temperature	C	NV	21.88		20.45		NA		21.49		NA		21.55		NA		18.75		NA		20.59		NA		19.63		15.12	
Turbidity	NTU	NV	39		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		18.5		0	
Water Level at Reading Time	Ft BTOC	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		26.56		26.53	
GASES																												
Carbon dioxide	µg/L	NV	55,800	J	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethane	µg/L	NV	< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethylene	µg/L	NV	< 0.5	UJ	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Methane	µg/L	NV	1.8	J	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
GEN CHEMISTRY																												
Ferrous Iron	mg/L	NV	0.05		NA		NA		NA		< 0.04	U	NA		0.0222	J	NA		0.116		NA		NA		NA		NA	
TOTAL ORGANIC CARBON																												
Total organic carbon	mg/L	NV	0.828	J	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Total Inorganic Carbon	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
METALS																												
Antimony	mg/L	0.006	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Manganese	mg/L	14	NA		NA		NA		NA		0.146		NA		0.0558		NA		0.0548		NA		NA		NA		NA	
VOLATILES																												
1,1-Dichloroethene	µg/L	7	< 0.5	U	NA		< 1	U	NA		NA		NA		NA		NA		NA		NA		< 1	U	0.84	J	< 0.5	U
cis-1,2-Dichloroethene	µg/L	70	< 0.5	U	NA		0.529	J	NA		NA		NA		NA		NA		NA		NA		0.759	J	1.7		< 0.5	U
Tetrachloroethene	µg/L	5	< 0.5	U	NA		< 0.5	U	NA		NA		NA		NA		NA		NA		NA		< 0.5	U	< 1	U	< 0.5	U
Trichloroethene	µg/L	5	< 0.5	U	NA		49		NA		NA		NA		NA		NA		NA		NA		149		180		180	
Vinyl chloride	µg/L	2	< 0.5	U	NA		< 0.5	U	NA		NA		NA		NA		NA		NA		NA		< 0.5	U	< 1	U	< 0.5	U

Table 2-4
Surface Water and Groundwater Results RA-O 2013–2022

		Location Code	35BWW09																							
		Sample ID	35BWW09-180327		35BWW09-180521		35BWW09-180816		35BWW09-181119		35BWW09-190213		35BWW09-190521		35BWW09-190805		35BWW09-191126		35BWW09-200511		35BWW09-201109		35BWW09-210517		35BWW09-211115		35BWW09-220518	
		Sample Date	3/20/2018		5/21/2018		8/16/2018		11/19/2018		2/13/2019		5/21/2019		8/5/2019		11/26/2019		5/11/2020		11/9/2020		5/17/2021		11/15/2021		5/18/2022	
		Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter	Units	MCL/GW-IND	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
ANIONS																												
Bromide	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Chloride	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Fluoride	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrate	mg/L	10	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrite	mg/L	1	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Sulfate	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
DHC																												
Dehalococcoides	cells/mL	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
FIELD TESTS																												
Specific conductivity	µmhos/cm	NV	0.850		0.591		0.534		0.754		0.693		0.638		0.533		0.437		0.513		0.391		0.463		0.407		0.495	
Dissolved oxygen	mg/L	NV	2.09		0		0.61		1.14		1.01		0.05		0.82		0.69		0.4		0.1		1.06		0.5		0.54	
Oxidation Reduction Potential	mV	NV	139.1		355		214		118		273		296		229		195		151		162		175		149		242	
pH	SU	NV	6.33		5.47		6.02		7.07		6.63		5.6		7.39		6.84		7.65		6.83		6.36		5.98		5.25	
Temperature	C	NV	22.68		19.5		31.29		16.94		18.35		20.88		22.02		19.84		18.38		22.82		20.32		22.12		23.17	
Turbidity	NTU	NV	0		0		72.6		0		0		0		3.3		12.8		2.1		18.6		0		3		26.8	
Water Level at Reading Time	Ft BTOC	NV	22.68		25.75		26.91		25.8		25		23.05		24.14		26.03		23.86		25.39		22.32		NA		NA	
GASES																												
Carbon dioxide	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethane	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethylene	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Methane	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
GEN CHEMISTRY																												
Ferrous Iron	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
TOTAL ORGANIC CARBON																												
Total organic carbon	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Total Inorganic Carbon	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
METALS																												
Antimony	mg/L	0.006	< 0.001	U	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Manganese	mg/L	14	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
VOLATILES																												
1,1-Dichloroethene	µg/L	7	NA		< 0.5	U	< 0.5	U	0.78	J	< 0.5	U	5.5		< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
cis-1,2-Dichloroethene	µg/L	70	NA		0.96	J	0.84	J	1.9		1.1		1.8		< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
Tetrachloroethene	µg/L	5	NA		< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	41		< 0.5	U	< 0.5	U	< 1	U	< 0.5	U	< 1	U	1.1		< 0.5	U
Trichloroethene	µg/L	5	NA		240		180		580		410		20		70	J	47		42		23		13		23		34	
Vinyl chloride	µg/L	2	NA		< 0.5	U	< 0.5	U	0.6	J	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U

Table 2-4
Surface Water and Groundwater Results RA-O 2013–2022

			Location Code		35BWW10																			
			Sample ID		35BWW10-131004		35BWW10-100413		35BWW10FD-100413		35BWW10-160818		35BWW10-081816		35BWW10-110717		35BWW10-021618		35BWW10-180327		35BWW10-180524		35BWW10-180817		35BWW10-181118		35BWW10-190212	
			Sample Date		10/4/2013		10/4/2013		10/4/2013		8/18/2016		8/18/2016		11/7/2017		2/16/2018		3/27/2018		5/24/2018		8/17/2018		11/18/2018		2/12/2019	
			Sample Purpose		REG		REG		FD		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter	Units	MCL/GW-IND	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
ANIONS																												
Bromide	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Chloride	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Fluoride	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrate	mg/L	10	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrite	mg/L	1	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Sulfate	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
DHC																												
Dehalococcoides	cells/mL	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
FIELD TESTS																												
Specific conductivity	µmhos/cm	NV	0.309		NA		NA		0.399		NA		0.318		0.357		0.354		0.245		0.366		0.365		0.370			
Dissolved oxygen	mg/L	NV	1.38		NA		NA		0.52		NA		0.69		0.45		0.5		0		1.11		0.58		0.08			
Oxidation Reduction Potential	mV	NV	96		NA		NA		328		NA		86.2		57.3		118.1		379		208		62.1		312			
pH	SU	NV	NA		NA		NA		NA		NA		7.02		7.18		6.53		5.43		7.16		7.24		7.27			
Temperature	C	NV	26.2		NA		NA		23.33		NA		19.85		20.92		23.12		20.15		26.58		19.33		19.68			
Turbidity	NTU	NV	NA		NA		NA		NA		NA		0		0		0		88.3		277		0		40.7			
Water Level at Reading Time	Ft BTOC	NV	NA		NA		NA		NA		NA		25.5		24.95		24.28		24.38		25.63		24.34		23.55			
GASES																												
Carbon dioxide	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA			
Ethane	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA			
Ethylene	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA			
Methane	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA			
GEN CHEMISTRY																												
Ferrous Iron	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA			
TOTAL ORGANIC CARBON																												
Total organic carbon	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA			
Total Inorganic Carbon	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA			
METALS																												
Antimony	mg/L	0.006	NA		NA		NA		NA		NA		NA		NA		< 0.001	U	NA		NA		NA		NA			
Manganese	mg/L	14	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA			
VOLATILES																												
1,1-Dichloroethene	µg/L	7	NA		< 1	U	< 1	U	NA		< 1	U	< 1	U	< 0.5	U	NA		< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U		
cis-1,2-Dichloroethene	µg/L	70	NA		< 0.5	U	< 0.5	U	NA		< 0.5	U	< 1	U	< 0.5	U	NA		< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U		
Tetrachloroethene	µg/L	5	NA		4.45		4.52		NA		21		31		29		NA		30		24		45		37			
Trichloroethene	µg/L	5	NA		56.3		56.9		NA		23.9		33		39		NA		36		28		53		50			
Vinyl chloride	µg/L	2	NA		< 0.5	U	< 0.5	U	NA		< 0.5	U	< 1	U	< 0.5	U	NA		< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U		

Table 2-4
Surface Water and Groundwater Results RA-O 2013–2022

		Location Code	35BWW10																35BWW11									
		Sample ID	35BWW10-190520		35BWW10-190806		35BWW10-191126		35BWW10-200506		35BWW10-201109		35BWW10-210513		35BWW10-211115		35BWW10-220516		35BWW11-131008		35BWW11-100813		35BWW11-151019		35BWW11-101915		35BWW11-151222	
		Sample Date	5/20/2019		8/6/2019		11/26/2019		5/6/2020		11/9/2020		5/13/2021		11/15/2021		5/16/2022		10/8/2013		10/8/2013		10/19/2015		10/19/2015		12/22/2015	
		Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter	Units	MCL/GW-IND	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
ANIONS																												
Bromide	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Chloride	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Fluoride	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrate	mg/L	10	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		< 0.2	U	NA	
Nitrite	mg/L	1	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Sulfate	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		62.7	J	NA	
DHC																												
Dehalococcoides	cells/mL	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
FIELD TESTS																												
Specific conductivity	µmhos/cm	NV	0.344		0.293		0.258		0.281		0.220		0.215		0.208		0.203		0.518		NA		0.467		NA		0.384	
Dissolved oxygen	mg/L	NV	0.56		1.57		2.51		1.51		0.7		1.17		2.91		1.27		1.3		NA		0.12		NA		1.01	
Oxidation Reduction Potential	mV	NV	283		227		237		101		248		211		235		209		-59		NA		41		NA		197	
pH	SU	NV	5.48		7.26		6.78		6.73		4.84		5.49		5.55		5.19		NA		NA		NA		NA		NA	
Temperature	C	NV	23.47		22.07		20.24		17.72		20.37		18.29		16.42		20.49		19.55		NA		21.53		NA		14.93	
Turbidity	NTU	NV	182		216		153		116		173		167		204		75.2		NA		NA		NA		NA		NA	
Water Level at Reading Time	Ft BTOC	NV	21.26		22.92		24.69		22.53		23.96		20.53		NA		NA		NA		NA		NA		NA		NA	
GASES																												
Carbon dioxide	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethane	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethylene	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Methane	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
GEN CHEMISTRY																												
Ferrous Iron	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		0.0346	J	NA	
TOTAL ORGANIC CARBON																												
Total organic carbon	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Total Inorganic Carbon	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
METALS																												
Antimony	mg/L	0.006	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Manganese	mg/L	14	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		0.226	J	NA	
VOLATILES																												
1,1-Dichloroethene	µg/L	7	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	NA		< 1	U	NA		NA		NA	
cis-1,2-Dichloroethene	µg/L	70	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	NA		< 0.5	U	NA		NA		NA	
Tetrachloroethene	µg/L	5	5.5		1.6		0.84	J	< 1	U	< 0.5	U	< 1	U	< 1	U	< 0.5	U	NA		0.252	J	NA		NA		NA	
Trichloroethene	µg/L	5	9.4		2.6		0.9	J	0.64	J	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	NA		< 0.5	U	NA		NA		NA	
Vinyl chloride	µg/L	2	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	NA		< 0.5	U	NA		NA		NA	

Table 2-4
Surface Water and Groundwater Results RA-O 2013–2022

		Location Code	35BWW11																							
		Sample ID	35BWW11-122215		35BWW11-160216		35BWW11-021616		35BWW11-160818		35BWW11-081816		35BWW11-110817		35BWW11-021218		35BWW11-180327		35BWW11-180521		35BWW11-180817		35BWW11-181118		35BWW11-190213		35BWW11-190521	
		Sample Date	12/22/2015		2/16/2016		2/16/2016		8/18/2016		8/18/2016		11/8/2017		2/12/2018		3/27/2018		5/21/2018		8/17/2018		11/18/2018		2/13/2019		5/21/2019	
		Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter	Units	MCL/GW-IND	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
ANIONS																												
Bromide	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Chloride	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Fluoride	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrate	mg/L	10	< 0.2	U	NA		< 0.2	U	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrite	mg/L	1	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Sulfate	mg/L	NV	36.1		NA		37.6		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
DHC																												
Dehalococcoides	cells/mL	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
FIELD TESTS																												
Specific conductivity	µmhos/cm	NV	NA		0.35		NA		0.477		NA		0.586		0.595		0.471		0.306		0.333		0.446		0.348		0.385	
Dissolved oxygen	mg/L	NV	NA		1.17		NA		0.58		NA		0.77		0.82		1.31		0		0.48		0.68		0.27		0.05	
Oxidation Reduction Potential	mV	NV	NA		204		NA		388		NA		93		20.9		195.8		342		170		103.5		358		220	
pH	SU	NV	NA		NA		NA		NA		NA		6.17		6.95		5.68		5.71		6.33		6.44		5.8		5.86	
Temperature	C	NV	NA		20.42		NA		21.93		NA		17.78		14.99		24.14		23.02		27.66		18.71		17.81		24.08	
Turbidity	NTU	NV	NA		NA		NA		NA		NA		66.8		0		0		0		66.7		0		0		0	
Water Level at Reading Time	Ft BTOC	NV	NA		NA		NA		NA		NA		24.85		24.55		23.16		22.85		24.69		23.38		21.72		18.76	
GASES																												
Carbon dioxide	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethane	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethylene	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Methane	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
GEN CHEMISTRY																												
Ferrous Iron	mg/L	NV	< 0.04	UJ	NA		< 0.04	U	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
TOTAL ORGANIC CARBON																												
Total organic carbon	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Total Inorganic Carbon	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
METALS																												
Antimony	mg/L	0.006	NA		NA		NA		NA		NA		NA		NA		< 0.001	U	NA		NA		NA		NA		NA	
Manganese	mg/L	14	0.0214		NA		0.0148		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
VOLATILES																												
1,1-Dichloroethene	µg/L	7	NA		NA		NA		NA		< 1	U	< 1	U	< 0.5	U	NA		< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
cis-1,2-Dichloroethene	µg/L	70	NA		NA		NA		NA		< 0.5	U	< 1	U	< 0.5	U	NA		< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
Tetrachloroethene	µg/L	5	NA		NA		NA		NA		0.798	J	< 1	U	< 0.5	U	NA		< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
Trichloroethene	µg/L	5	NA		NA		NA		NA		< 0.5	U	< 1	U	< 0.5	U	NA		< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
Vinyl chloride	µg/L	2	NA		NA		NA		NA		< 0.5	U	< 1	U	< 0.5	U	NA		< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U

Table 2-4
Surface Water and Groundwater Results RA-O 2013–2022

		Location Code	35BWW11														35BWW12											
		Sample ID	35BWW11-190807		35BWW11-191121		35BWW11-200506		35BWW11-201109		35BWW11-210517		35BWW11-211117		35BWW11-220517		35BWW12-131003		35BWW12-100313		35BWW12-151019		35BWW12-101915		35BWW12F-101915		35BWW12-151222	
		Sample Date	8/7/2019		11/21/2019		5/6/2020		11/9/2020		5/17/2021		11/17/2021		5/17/2022		10/3/2013		10/3/2013		10/19/2015		10/19/2015		10/19/2015		12/22/2015	
		Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter	Units	MCL/GW-IND	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
ANIONS																												
Bromide	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Chloride	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		10.5		NA		NA		NA		NA	
Fluoride	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrate	mg/L	10	NA		NA		NA		NA		NA		NA		NA		NA		< 0.2	U	NA		< 0.2	U	NA		NA	
Nitrite	mg/L	1	NA		NA		NA		NA		NA		NA		NA		NA		< 0.2	U	NA		NA		NA		NA	
Sulfate	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		38.5		NA		37.5		NA		NA	
DHC																												
Dehalococcoides	cells/mL	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
FIELD TESTS																												
Specific conductivity	µmhos/cm	NV	0.339		0.326		0.381		0.296		0.382		0.351		0.369		0.322		NA		0.349		NA		NA		0.392	
Dissolved oxygen	mg/L	NV	0.04		0.05		0.08		0.15		0.15		0.49		0.71		0.68		NA		0.28		NA		NA		2.65	
Oxidation Reduction Potential	mV	NV	216		116		120		188		217		119		240		119		NA		175		NA		NA		202	
pH	SU	NV	6.46		6.07		6.17		5.85		5.26		5.48		5.18		NA		NA		NA		NA		NA		NA	
Temperature	C	NV	22.21		21.05		19.7		22.38		20.63		19.55		24.96		21.72		NA		21.99		NA		NA		15.3	
Turbidity	NTU	NV	0		5.7		22.8		15.9		0		1		20.3		NA		NA		NA		NA		NA		NA	
Water Level at Reading Time	Ft BTOC	NV	19.88		23.5		20.37		22.75		18.3		NA		NA		NA		NA		NA		NA		NA		NA	
GASES																												
Carbon dioxide	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethane	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		< 2	U	NA		NA		NA		NA	
Ethylene	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		< 2	U	NA		NA		NA		NA	
Methane	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		< 6.83	U	NA		NA		NA		NA	
GEN CHEMISTRY																												
Ferrous Iron	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		< 0.04	U	NA		< 0.04	U	NA		NA	
TOTAL ORGANIC CARBON																												
Total organic carbon	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		3.2		NA		NA		NA		NA	
Total Inorganic Carbon	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		14.9		NA		NA		NA		NA	
METALS																												
Antimony	mg/L	0.006	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Manganese	mg/L	14	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		0.0054		NA	
VOLATILES																												
1,1-Dichloroethene	µg/L	7	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	NA		< 1	U	NA		NA		NA		NA	
cis-1,2-Dichloroethene	µg/L	70	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	NA		< 0.5	U	NA		NA		NA		NA	
Tetrachloroethene	µg/L	5	< 0.5	U	< 0.5	U	< 1	U	< 0.5	U	< 1	U	< 1	U	< 0.5	U	NA		15.3		NA		NA		NA		NA	
Trichloroethene	µg/L	5	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	NA		2.04		NA		NA		NA		NA	
Vinyl chloride	µg/L	2	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	NA		< 0.5	U	NA		NA		NA		NA	

Table 2-4
Surface Water and Groundwater Results RA-O 2013–2022

			Location Code		35BWW12																			
			Sample ID	35BWW12-122215		35BWW12F-122215		35BWW12-160217		35BWW12-021716		35BWW12F-021716		35BWW12-160817		35BWW12-081716		35BWW12-110917		35BWW12-021418		35BWW12-180523		35BWW12-180523FD		35BWW12-180822	
			Sample Date	12/22/2015		12/22/2015		2/17/2016		2/17/2016		2/17/2016		8/17/2016		8/17/2016		11/9/2017		2/14/2018		5/23/2018		5/23/2018		8/22/2018	
			Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG		REG		FD		REG	
Parameter	Units	MCL/GW-IND		Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
ANIONS																											
Bromide	mg/L	NV		NA		NA		NA		NA		NA		NA		NA		0.086	J	NA		NA		NA		NA	
Chloride	mg/L	NV		NA		NA		NA		NA		NA		NA		12.9		10.8		9.3		9.08		9.68		8.4	
Fluoride	mg/L	NV		NA		NA		NA		NA		NA		NA		NA		0.159		NA		NA		NA		NA	
Nitrate	mg/L	10		< 0.2	U	NA		NA		< 0.2	U	NA		NA		< 0.2	U	0.161		< 0.05	U	< 0.1	U	< 0.1	U	< 0.1	U
Nitrite	mg/L	1		NA		NA		NA		NA		NA		NA		< 0.2	U	0.032	J	< 0.05	U	< 0.1	U	< 0.1	U	< 0.1	U
Sulfate	mg/L	NV		38.9		NA		NA		37.4		NA		NA		42		48.5		46.5		48.7		58.6		47.2	
DHC																											
Dehalococcoides	cells/mL	NV		NA		NA		NA		NA		NA		NA		NA		< 0.5	U	NA		< 3.3		NA		NA	
FIELD TESTS																											
Specific conductivity	µmhos/cm	NV		NA		NA		0.363		NA		NA		0.458		NA		0.402		0.431		0.277		NA		0.460	
Dissolved oxygen	mg/L	NV		NA		NA		0.41		NA		NA		0.44		NA		0.79		0.51		0		NA		0.25	
Oxidation Reduction Potential	mV	NV		NA		NA		231		NA		NA		439		NA		151		122.8		374		NA		201	
pH	SU	NV		NA		NA		NA		NA		NA		NA		NA		6		6.39		5.29		NA		5.53	
Temperature	C	NV		NA		NA		19.22		NA		NA		18.85		NA		18.19		17.98		20.41		NA		21.3	
Turbidity	NTU	NV		NA		NA		NA		NA		NA		NA		NA		0		5.4		729		NA		356	
Water Level at Reading Time	Ft BTOC	NV		NA		NA		NA		NA		NA		NA		NA		23.3		22.44		21.55		NA		23.19	
GASES																											
Carbon dioxide	µg/L	NV		NA		NA		NA		NA		NA		NA		723,000		53,000		61,000	J	700,000		570,000		320,000	J
Ethane	µg/L	NV		NA		NA		NA		NA		NA		NA		< 2	U	< 0.076	U	< 0.6	U	< 0.47	U	< 0.47	U	< 0.47	U
Ethylene	µg/L	NV		NA		NA		NA		NA		NA		NA		< 2	U	< 0.071	U	< 1	U	< 0.55	U	< 0.55	U	< 0.55	U
Methane	µg/L	NV		NA		NA		NA		NA		NA		NA		1.11	J	0.91	J	0.52	J	0.83	J	0.8	J	< 0.73	UB
GEN CHEMISTRY																											
Ferrous Iron	mg/L	NV		0.149		NA		NA		< 0.04	U	NA		NA		0.0652		0.24		0.26		3.3		NA		0.91	
TOTAL ORGANIC CARBON																											
Total organic carbon	mg/L	NV		NA		NA		NA		NA		NA		NA		10.7	J+	0.669	J	0.812	J	0.985	J	0.969	J	0.754	J
Total Inorganic Carbon	mg/L	NV		NA		NA		NA		NA		NA		NA		55.1		47	J	NA		NA		NA		NA	
METALS																											
Antimony	mg/L	0.006		NA		NA		NA		NA		NA		NA		NA		NA		< 0.001	U	NA		NA		NA	
Manganese	mg/L	14		NA		0.0219		NA		NA		0.00552		NA		NA		NA		NA		NA		NA		NA	
VOLATILES																											
1,1-Dichloroethene	µg/L	7		NA		NA		NA		NA		NA		NA		< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
cis-1,2-Dichloroethene	µg/L	70		NA		NA		NA		NA		NA		NA		< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
Tetrachloroethene	µg/L	5		NA		NA		NA		NA		NA		NA		4.06		4.8		7.1		6.2		7		7.3	
Trichloroethene	µg/L	5		NA		NA		NA		NA		NA		NA		0.473	J	0.62	J	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
Vinyl chloride	µg/L	2		NA		NA		NA		NA		NA		NA		< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U

Table 2-4
Surface Water and Groundwater Results RA-O 2013–2022

		Location Code	35BWW12																					
		Sample ID	35BWW12-180822FD		35BWW12-181120		35BWW12-190213		35BWW12-190213-FD		35BWW12-190521		35BWW12-190521-FD		35BWW12-190805		35BWW12-190805-FD		35BWW12-191125		35BWW12-200506		35BWW12-200506-FD		35BWW12-201111	
		Sample Date	8/22/2018		11/20/2018		2/13/2019		2/13/2019		5/21/2019		5/21/2019		8/5/2019		8/5/2019		11/25/2019		5/6/2020		5/6/2020		11/11/2020	
		Sample Purpose	FD		REG		REG		FD		REG		FD		REG		FD		REG		REG		FD		REG	
Parameter	Units	MCL/GW-IND	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
ANIONS																										
Bromide	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Chloride	mg/L	NV	8.14		8.19		9.37		9.61		6.61		6.37		5.65		6.1		7.05		7.21		7.23		6.25	
Fluoride	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrate	mg/L	10	< 0.1	U	0.076	J	< 0.1	U	< 0.1	U	0.104		< 0.1	U	< 0.1	U	< 0.1	U	< 0.1	U	< 0.1	U	< 0.1	U	0.0318	J-
Nitrite	mg/L	1	< 0.1	U	< 0.1	U	< 0.1	U	< 0.1	U	NA		NA		NA		NA		NA		NA		NA		NA	
Sulfate	mg/L	NV	44.8		43.6		49.1		47.8		39.9		38.4		33.8		37.6		37.1		41.2		39.4		35.9	
DHC																										
Dehalococcoides	cells/mL	NV	NA		1.3		< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA		NA	
FIELD TESTS																										
Specific conductivity	µmhos/cm	NV	NA		0.414		0.415		NA		0.353		NA		0.296		NA		0.275		0.355		NA		0.263	
Dissolved oxygen	mg/L	NV	NA		1.57		0.1		NA		0.06		NA		0.22		NA		0.03		0.04		NA		0.14	
Oxidation Reduction Potential	mV	NV	NA		140.6		353		NA		256		NA		205		NA		137		142		NA		285	
pH	SU	NV	NA		6.37		5.6		NA		5.35		NA		6.35		NA		6.17		6.19		NA		4.85	
Temperature	C	NV	NA		18.95		15.27		NA		27.98		NA		24.24		NA		20.18		18.59		NA		17.98	
Turbidity	NTU	NV	NA		0		134		NA		134		NA		80.8		NA		158		100		NA		295	
Water Level at Reading Time	Ft BTOC	NV	NA		21.93		20.76		NA		18.02		NA		19.74		NA		21.97		20.53		NA		21.22	
GASES																										
Carbon dioxide	µg/L	NV	340,000	J	NA		570,000		640,000		590,000		580,000		140,000		140,000		73,000	J	94,000		88,000		600,000	J
Ethane	µg/L	NV	< 0.47	U	< 1	U	< 0.47	U	< 0.47	U	< 0.47	U	< 0.47	U	< 0.47	U	< 0.47	U	< 0.47	U	< 0.47	U	< 0.47	U	< 0.47	U
Ethylene	µg/L	NV	< 0.55	U	2		< 0.55	U	< 0.55	U	< 0.55	U	< 0.55	U	< 0.55	U	< 0.55	U	< 0.55	U	< 0.55	U	< 0.55	U	< 0.55	U
Methane	µg/L	NV	< 0.73	UB	1.7		< 1.2	U	< 1.3	U	< 1	U	< 1	U	< 1	U	< 1	U	< 1	U	0.93	J	0.81	J	< 1	UJ
GEN CHEMISTRY																										
Ferrous Iron	mg/L	NV	NA		0		0.78		NA		3.3		NA		0.78		NA		0.66		0.94		NA		NA	
TOTAL ORGANIC CARBON																										
Total organic carbon	mg/L	NV	0.851	J	0.89		1.63		2.48		1.27		1.45		0.85		0.92		0.41	J	1.4		1.25		0.93	J
Total Inorganic Carbon	mg/L	NV	NA		NA		103		132		NA		NA		NA		NA		NA		NA		NA		NA	
METALS																										
Antimony	mg/L	0.006	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Manganese	mg/L	14	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
VOLATILES																										
1,1-Dichloroethene	µg/L	7	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
cis-1,2-Dichloroethene	µg/L	70	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
Tetrachloroethene	µg/L	5	7.6		8.7		8		8.2		6.2		5.7		5.8		6.3		5.8		8.5		8.5		3.1	
Trichloroethene	µg/L	5	< 0.5	U	0.92	J	0.91	J	0.88	J	0.55	J	0.53	J	< 0.5	U	0.53	J	0.55	J	0.61	J	0.72	J	< 0.5	U
Vinyl chloride	µg/L	2	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U

Table 2-4
Surface Water and Groundwater Results RA-O 2013–2022

			Location Code	35BWW12							35BWW13													
			Sample ID	35BWW12-210518		35BWW12-210518-FD		35BWW12-211122		35BWW12-220518		35BWW13-131007		35BWW13-100713		35BWW13-151020		35BWW13-102015		35BWW13F-102015		35BWW13-151221		35BWW13-122115		35BWW13F-122115	
			Sample Date	5/18/2021		5/18/2021		11/22/2021		5/18/2022		10/7/2013		10/7/2013		10/20/2015		10/20/2015		10/20/2015		12/21/2015		12/21/2015		12/21/2015	
			Sample Purpose	REG		FD		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter	Units	MCL/GW-IND		Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
ANIONS																											
Bromide	mg/L	NV		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Chloride	mg/L	NV		6.69		6.61		11.6		11.9		NA		NA		NA		NA		NA		NA		NA		NA	
Fluoride	mg/L	NV		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrate	mg/L	10		< 0.1	UJ	< 0.1	UJ	< 0.1	U	< 0.1	U	NA		NA		NA		3.07		NA		NA		2.07	J	NA	
Nitrite	mg/L	1		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Sulfate	mg/L	NV		34.2		33.8		33.5		32.6		NA		NA		NA		33.3		NA		NA		40.6		NA	
DHC																											
Dehalococcoides	cells/mL	NV		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
FIELD TESTS																											
Specific conductivity	µmhos/cm	NV		0.294		NA		0.293		0.329		0.113		NA		0.112		NA		NA		0.132		NA		NA	
Dissolved oxygen	mg/L	NV		0.42		NA		0.32		0.03		1.18		NA		1.95		NA		NA		4.98		NA		NA	
Oxidation Reduction Potential	mV	NV		228		NA		211		153		230		NA		349		NA		NA		312		NA		NA	
pH	SU	NV		5.57		NA		5.25		5.65		NA		NA		NA		NA		NA		NA		NA		NA	
Temperature	C	NV		18.22		NA		16.97		20.98		18.45		NA		23.62		NA		NA		18.45		NA		NA	
Turbidity	NTU	NV		141		NA		282		67		NA		NA		NA		NA		NA		NA		NA		NA	
Water Level at Reading Time	Ft BTOC	NV		17.4		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
GASES																											
Carbon dioxide	µg/L	NV		480,000		500,000		595,000		84,300	J	NA		NA		NA		NA		NA		NA		NA		NA	
Ethane	µg/L	NV		< 0.47	U	< 0.47	U	< 0.5	UJ	< 0.5	UJ	NA		NA		NA		NA		NA		NA		NA		NA	
Ethylene	µg/L	NV		< 0.55	U	< 0.55	U	0.71	J	1.92	J	NA		NA		NA		NA		NA		NA		NA		NA	
Methane	µg/L	NV		< 1	U	< 1	U	1.18	J	3.76		NA		NA		NA		NA		NA		NA		NA		NA	
GEN CHEMISTRY																											
Ferrous Iron	mg/L	NV		1.22		NA		2.73		0.51		NA		NA		NA		< 0.16	U	NA		NA		0.462		NA	
TOTAL ORGANIC CARBON																											
Total organic carbon	mg/L	NV		0.981	J	1.15		2.14		1.92		NA		NA		NA		NA		NA		NA		NA		NA	
Total Inorganic Carbon	mg/L	NV		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
METALS																											
Antimony	mg/L	0.006		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Manganese	mg/L	14		NA		NA		NA		NA		NA		NA		NA		NA		0.0368		NA		NA		0.0895	
VOLATILES																											
1,1-Dichloroethene	µg/L	7		< 0.5	U	< 0.5	U	< 1	U	< 0.5	U	NA		< 1	U	NA		NA		NA		NA		NA		NA	
cis-1,2-Dichloroethene	µg/L	70		< 0.5	U	< 0.5	U	< 1	U	< 0.5	U	NA		< 0.5	U	NA		NA		NA		NA		NA		NA	
Tetrachloroethene	µg/L	5		3.4		3.6		2.1		2		NA		4.14		NA		NA		NA		NA		NA		NA	
Trichloroethene	µg/L	5		< 0.5	U	< 0.5	U	< 1	U	< 0.5	U	NA		1.84		NA		NA		NA		NA		NA		NA	
Vinyl chloride	µg/L	2		< 0.5	U	< 0.5	U	< 1	U	< 0.5	U	NA		< 0.5	U	NA		NA		NA		NA		NA		NA	

Table 2-4
Surface Water and Groundwater Results RA-O 2013–2022

		Location Code	35BWW13																					
		Sample ID	35BWW13-160216		35BWW13-021616		35BWW13F-021616		35BWW13-160819		35BWW13-081916		35BWW13-110717		35BWW13-110717-FD		35BWW13-021318		35BWW13-021318		35BWW13-021318FD		35BWW13-180328		35BWW13-180328-FD	
		Sample Date	2/16/2016		2/16/2016		2/16/2016		8/19/2016		8/19/2016		11/7/2017		11/7/2017		2/13/2018		2/13/2018		2/13/2018		3/28/2018		3/28/2018	
		Sample Purpose	REG		REG		REG		REG		REG		REG		FD		REG		FD		FD		REG		FD	
Parameter	Units	MCL/GW-IND	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
ANIONS																										
Bromide	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Chloride	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Fluoride	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrate	mg/L	10	NA		2.72		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrite	mg/L	1	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Sulfate	mg/L	NV	NA		103		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
DHC																										
Dehalococcoides	cells/mL	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
FIELD TESTS																										
Specific conductivity	µmhos/cm	NV	0.251		NA		NA		0.306		NA		0.154		NA		0.133		NA		NA		0.141		NA	
Dissolved oxygen	mg/L	NV	2.42		NA		NA		2.55		NA		4.59		NA		5.59		NA		NA		4.84		NA	
Oxidation Reduction Potential	mV	NV	376		NA		NA		496		NA		289.1		NA		213.1		NA		NA		267		NA	
pH	SU	NV	NA		NA		NA		NA		NA		5.27		NA		4.94		NA		NA		4.04		NA	
Temperature	C	NV	18.68		NA		NA		19.19		NA		18.43		NA		15.65		NA		NA		17.73		NA	
Turbidity	NTU	NV	NA		NA		NA		NA		NA		4.9		NA		1.5		NA		NA		0		NA	
Water Level at Reading Time	Ft BTOC	NV	NA		NA		NA		NA		NA		25.65		NA		25.43		NA		NA		24.37		NA	
GASES																										
Carbon dioxide	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethane	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethylene	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Methane	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
GEN CHEMISTRY																										
Ferrous Iron	mg/L	NV	NA		< 0.04	U	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
TOTAL ORGANIC CARBON																										
Total organic carbon	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Total Inorganic Carbon	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
METALS																										
Antimony	mg/L	0.006	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		< 0.001	U	< 0.001	U
Manganese	mg/L	14	NA		NA		0.0938		NA		NA		NA		NA		NA		NA		NA		NA		NA	
VOLATILES																										
1,1-Dichloroethene	µg/L	7	NA		NA		NA		NA		< 1	U	< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	NA		NA	
cis-1,2-Dichloroethene	µg/L	70	NA		NA		NA		NA		< 0.5	U	< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	NA		NA	
Tetrachloroethene	µg/L	5	NA		NA		NA		NA		< 0.5	U	0.99	J	0.84	J	1.9		1.9		1.9		NA		NA	
Trichloroethene	µg/L	5	NA		NA		NA		NA		< 0.5	U	< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	NA		NA	
Vinyl chloride	µg/L	2	NA		NA		NA		NA		< 0.5	U	< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	NA		NA	

Table 2-4
Surface Water and Groundwater Results RA-O 2013–2022

		Location Code	35BWW13																						35BWW14	
		Sample ID	35BWW13-180524		35BWW13-180821		35BWW13-181116		35BWW13-190214		35BWW13-190522		35BWW13-190806		35BWW13-191125		35BWW13-200507		35BWW13-201111		35BWW13-210517		35BWW13-211117		35BWW13-220516		35BWW14-131009	
		Sample Date	5/24/2018		8/21/2018		11/16/2018		2/14/2019		5/22/2019		8/6/2019		11/25/2019		5/7/2020		11/11/2020		5/17/2021		11/17/2021		5/16/2022		10/9/2013	
		Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter	Units	MCL/GW-IND	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
ANIONS																												
Bromide	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Chloride	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Fluoride	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrate	mg/L	10	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrite	mg/L	1	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Sulfate	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
DHC																												
Dehalococcoides	cells/mL	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
FIELD TESTS																												
Specific conductivity	µmhos/cm	NV	0.139		0.152		0.136		0.204		0.185		0.200		0.179		0.204		0.166		0.207		0.182		0.201		0.368	
Dissolved oxygen	mg/L	NV	0		0.95		4.08		0.8		0.08		0.71		3.25		0.08		3.54		0.36		2.12		2.2		0.68	
Oxidation Reduction Potential	mV	NV	538		376		235.5		433		387		324		296		315		275		239		342		265		-52	
pH	SU	NV	3.77		4.58		5.12		4.26		3.93		4.81		4.85		4.59		4.41		4.31		4.06		4.05		NA	
Temperature	C	NV	18.4		22.74		18.72		17.29		21.89		25.21		16.63		17.29		17.86		18.24		19.34		20.09		20.93	
Turbidity	NTU	NV	877		191		0		283		683		146		141		134		49.3		203		44.2		125		NA	
Water Level at Reading Time	Ft BTOC	NV	24.25		25.92		25.18		22.99		20.4		22.23		24.6		21.91		23.83		19.87		NA		NA		NA	
GASES																												
Carbon dioxide	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethane	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethylene	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Methane	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
GEN CHEMISTRY																												
Ferrous Iron	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
TOTAL ORGANIC CARBON																												
Total organic carbon	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Total Inorganic Carbon	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
METALS																												
Antimony	mg/L	0.006	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Manganese	mg/L	14	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
VOLATILES																												
1,1-Dichloroethene	µg/L	7	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	NA	
cis-1,2-Dichloroethene	µg/L	70	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	NA	
Tetrachloroethene	µg/L	5	< 0.5	U	< 0.5	U	1.1		< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 1	U	< 1	U	< 1	U	< 1	U	< 0.5	U	NA	
Trichloroethene	µg/L	5	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	NA	
Vinyl chloride	µg/L	2	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	NA	

Table 2-4
Surface Water and Groundwater Results RA-O 2013–2022

		Location Code	35BWW14																					
		Sample ID	35BWW14-100913		35BWW14-151020		35BWW14-102015		35BWW14-151221		35BWW14-122115		35BWW14FD-122115		35BWW14-160216		35BWW14-021616		35BWW14-160817		35BWW14-081716		35BWW14-110717		35BWW14-021518	
		Sample Date	10/9/2013		10/20/2015		10/20/2015		12/21/2015		12/21/2015		12/21/2015		2/16/2016		2/16/2016		8/17/2016		8/17/2016		11/7/2017		2/15/2018	
		Sample Purpose	REG		REG		REG		REG		REG		FD		REG		REG		REG		REG		REG		REG	
Parameter	Units	MCL/GW-IND	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
ANIONS																										
Bromide	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		1.09		NA	
Chloride	mg/L	NV	16.3		NA		NA		NA		NA		NA		NA		NA		NA		30		11.1		11.9	
Fluoride	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		0.476		NA	
Nitrate	mg/L	10	< 0.2	U	NA		0.161	J	NA		< 0.2	U	< 0.2	U	NA		< 0.2	U	NA		0.537	J	< 0.1	U	0.533	
Nitrite	mg/L	1	< 0.2	U	NA		NA		NA		NA		NA		NA		NA		NA		< 0.2	U	< 0.1	U	< 0.05	U
Sulfate	mg/L	NV	59.5		NA		73.4		NA		71.1		71.4		NA		75.5		NA		91.9		55.6		54.5	
DHC																										
Dehalococcoides	cells/mL	NV	0.3	U	NA		NA		NA		NA		NA		NA		NA		NA		NA		< 0.5	U	NA	
FIELD TESTS																										
Specific conductivity	µmhos/cm	NV	NA		0.446		NA		0.522		NA		NA		0.51		NA		0.647		NA		0.484		0.440	
Dissolved oxygen	mg/L	NV	NA		0		NA		0.65		NA		NA		1.34		NA		0.47		NA		0.56		2.7	
Oxidation Reduction Potential	mV	NV	NA		187		NA		186		NA		NA		254		NA		444		NA		0.56		105.9	
pH	SU	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		7.05		6.76	
Temperature	C	NV	NA		22.6		NA		20.05		NA		NA		20.32		NA		19.78		NA		20		20.38	
Turbidity	NTU	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		0		0	
Water Level at Reading Time	Ft BTOC	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		23.46		23.2	
GASES																										
Carbon dioxide	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		1,020,000		9,400		20,000	
Ethane	µg/L	NV	< 2	U	NA		NA		NA		NA		NA		NA		NA		NA		< 2	U	< 0.076	U	< 0.6	U
Ethylene	µg/L	NV	< 2	U	NA		NA		NA		NA		NA		NA		NA		NA		< 2	U	< 0.071	U	< 1	U
Methane	µg/L	NV	83.6		NA		NA		NA		NA		NA		NA		NA		NA		14.4		1.3		< 1.3	U
GEN CHEMISTRY																										
Ferrous Iron	mg/L	NV	< 0.04	U	NA		< 0.04	U	NA		< 0.04	U	< 0.04	U	NA		< 0.04	U	NA		< 0.04	U	0.35		0	
TOTAL ORGANIC CARBON																										
Total organic carbon	mg/L	NV	3.84		NA		NA		NA		NA		NA		NA		NA		NA		15.5	J+	0.812	J	0.766	J
Total Inorganic Carbon	mg/L	NV	18.3		NA		NA		NA		NA		NA		NA		NA		NA		71.5		43		NA	
METALS																										
Antimony	mg/L	0.006	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		< 0.001	U
Manganese	mg/L	14	NA		NA		0.0276		NA		0.0275		0.0298		NA		0.0211		NA		NA		NA		NA	
VOLATILES																										
1,1-Dichloroethene	µg/L	7	57.2		NA		NA		NA		NA		NA		NA		NA		NA		10		8.4		< 0.5	U
cis-1,2-Dichloroethene	µg/L	70	14.3		NA		NA		NA		NA		NA		NA		NA		NA		3.44		2.4		1.1	
Tetrachloroethene	µg/L	5	19		NA		NA		NA		NA		NA		NA		NA		NA		20.1		53		44	
Trichloroethene	µg/L	5	82.8		NA		NA		NA		NA		NA		NA		NA		NA		39.7		24		20	
Vinyl chloride	µg/L	2	5.09		NA		NA		NA		NA		NA		NA		NA		NA		0.301	J	< 1	U	< 0.5	U

Table 2-4
Surface Water and Groundwater Results RA-O 2013–2022

			Location Code	35BWW14																						35BWW15	
			Sample ID	35BWW14-180522		35BWW14-180822		35BWW14-181120		35BWW14-190212		35BWW14-190521		35BWW14-190806		35BWW14-191125		35BWW14-200507		35BWW14-201110		35BWW14-210518		35BWW14-211122		35BWW14-220518		35BWW15-131008	
			Sample Date	5/22/2018		8/22/2018		11/20/2018		2/12/2019		5/21/2019		8/6/2019		11/25/2019		5/7/2020		11/10/2020		5/18/2021		11/22/2021		5/18/2022		10/8/2013	
			Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter	Units	MCL/GW-IND		Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
ANIONS																											
Bromide	mg/L	NV		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Chloride	mg/L	NV		15.6		10		8.74		12.2		18.4		20.8		16.9		18		16.8		17.3		16.1		14.6		NA	
Fluoride	mg/L	NV		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrate	mg/L	10		0.349		0.423		0.451		0.483		0.368		0.357		0.394		0.394		0.228		0.0589	J	0.114		0.0502	J	NA	
Nitrite	mg/L	1		< 0.1	U	< 0.1	U	< 0.1	U	< 0.1	U	NA		NA		NA		NA		NA		NA		NA		NA		NA	
Sulfate	mg/L	NV		66.7		52.1		46.2		57.1		72.4		81.4		72.7		73.7		73.2		73.3		61.9		59.2		NA	
DHC																													
Dehalococcoides	cells/mL	NV		< 0.5		NA		0.1		0.5		NA		NA		NA		NA		NA		NA		NA		NA		NA	
FIELD TESTS																													
Specific conductivity	µmhos/cm	NV		0.303		0.451		0.409		0.435		0.440		0.430		0.359		0.440		0.372		0.445		0.411		0.439		0.868	
Dissolved oxygen	mg/L	NV		0		0.25		0.73		0.4		0.16		0.05		0.05		0.23		0.06		0.48		0.53		0.75		0.82	
Oxidation Reduction Potential	mV	NV		388		245		113.1		327		219		158		184		157		202		239		223		246		-45	
pH	SU	NV		5.11		5.28		7		5.42		6.35		6.85		6.07		6.58		6.29		5.74		5.63		6.13		NA	
Temperature	C	NV		22.73		25.74		19.27		16.48		22.15		23.39		18.98		17.73		19.77		18.65		17.19		21.42		21.01	
Turbidity	NTU	NV		17.9		66.9		0		0		50.7		37.1		5.1		7		0		0		0.7		31.2		NA	
Water Level at Reading Time	Ft BTOC	NV		22.38		23.89		22.96		21.74		19.54		20.83		27.73		20.65		21.96		18.82		NA		NA		NA	
GASES																													
Carbon dioxide	µg/L	NV		480,000		520,000	J	NA		770,000		160,000		42,000		31,000		29,000		42,000		320,000		535,000		86,700	J	NA	
Ethane	µg/L	NV		< 0.47	U	< 0.47	U	< 1	U	< 0.16	U	< 0.47	U	< 0.47	U	< 0.47	U	< 0.47	U	< 0.47	U	< 0.47	U	< 0.5	U	< 0.5	UJ	NA	
Ethylene	µg/L	NV		< 0.55	U	< 0.55	U	1.31		< 0.24	U	< 0.55	U	< 0.55	U	< 0.55	U	< 0.55	U	< 0.55	U	< 0.55	U	1.76	J	1.57	J	NA	
Methane	µg/L	NV		< 1	U	< 2.2	UB	1.48		6.8		< 1	U	4.6		< 1	U	< 1	U	< 1	U	< 1	U	1.03		2.69		NA	
GEN CHEMISTRY																													
Ferrous Iron	mg/L	NV		0		0		0.02		0.67		0.4		0.45		0.08		0.29		NA		0.16		0.48		0.03		NA	
TOTAL ORGANIC CARBON																													
Total organic carbon	mg/L	NV		1.03		0.961	J	0.89		3.25		0.7		0.93		0.54	J	0.83	J-	0.52		1.49		1.12		< 1	U	NA	
Total Inorganic Carbon	mg/L	NV		NA		NA		NA		137		NA		NA		NA		NA		NA		NA		NA		NA		NA	
METALS																													
Antimony	mg/L	0.006		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Manganese	mg/L	14		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
VOLATILES																													
1,1-Dichloroethene	µg/L	7		5.1		2.2		2.2		5.6		< 0.5	U	4.2		4.6		3.6		2.1		1.8		1.3		1.3		NA	
cis-1,2-Dichloroethene	µg/L	70		2.6		1.4		0.91	J	2.1		0.66	J	1.3		1.5		1.2		0.64	J	< 0.5	U	0.5	J	< 0.5	U	NA	
Tetrachloroethene	µg/L	5		30		31		37		37		< 0.5	U	38		38		40		23		27		24		19		NA	
Trichloroethene	µg/L	5		23		12		9.1		22		110		15		16		14		7.7		6.9		6.1		5.1		NA	
Vinyl chloride	µg/L	2		< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 1	U	< 0.5	U	NA	

Table 2-4
Surface Water and Groundwater Results RA-O 2013–2022

			Location Code		35BWW15																			
			Sample ID	35BWW15-140114		35BWW15-011414		35BWW15-160819		35BWW15-081916		35BWW15-110717		35BWW15-021318		35BWW15-180329		35BWW15-180521		35BWW15-180820		35BWW15-181116		35BWW15-181116-FD		35BWW15-190214	
			Sample Date	1/14/2014		1/14/2014		8/19/2016		8/19/2016		11/7/2017		2/13/2018		3/29/2018		5/21/2018		8/20/2018		11/16/2018		11/16/2018		2/14/2019	
			Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		FD		REG	
Parameter	Units	MCL/GW-IND		Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
ANIONS																											
Bromide	mg/L	NV		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Chloride	mg/L	NV		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Fluoride	mg/L	NV		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrate	mg/L	10		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrite	mg/L	1		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Sulfate	mg/L	NV		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
DHC																											
Dehalococcoides	cells/mL	NV		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
FIELD TESTS																											
Specific conductivity	µmhos/cm	NV		0.519		NA		0.534		NA		0.480		0.519		0.500		0.311		0.431		0.521		NA		0.389	
Dissolved oxygen	mg/L	NV		0.19		NA		0.5		NA		0.8		0.61		0.46		0		0.47		0.69		NA		0.05	
Oxidation Reduction Potential	mV	NV		107		NA		455		NA		226.3		99.3		144.4		328		208		84.3		NA		374	
pH	SU	NV		NA		NA		NA		NA		6.74		6.65		6.28		5.42		5.73		6.98		NA		5.87	
Temperature	C	NV		17.07		NA		19.11		NA		19.09		15.68		20.2		20.37		23.52		19.16		NA		19.2	
Turbidity	NTU	NV		NA		NA		NA		NA		0		0		0		5.4		22.5		0		NA		7.4	
Water Level at Reading Time	Ft BTOC	NV		NA		NA		NA		NA		24.2		24		22.6		23.81		24.26		23.65		NA		22.06	
GASES																											
Carbon dioxide	µg/L	NV		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethane	µg/L	NV		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethylene	µg/L	NV		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Methane	µg/L	NV		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
GEN CHEMISTRY																											
Ferrous Iron	mg/L	NV		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
TOTAL ORGANIC CARBON																											
Total organic carbon	mg/L	NV		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Total Inorganic Carbon	mg/L	NV		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
METALS																											
Antimony	mg/L	0.006		NA		NA		NA		NA		NA		NA		< 0.001	U	NA		NA		NA		NA		NA	
Manganese	mg/L	14		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
VOLATILES																											
1,1-Dichloroethene	µg/L	7		NA		35.5		NA		6.63		4.2		2.2		NA		3.4		1.7		2.6		2.2		1.9	
cis-1,2-Dichloroethene	µg/L	70		NA		6.25		NA		1.73		1.1		< 0.5	U	NA		< 0.5	U	< 0.5	U	0.68	J	< 0.5	U	0.65	J
Tetrachloroethene	µg/L	5		NA		8.69		NA		14.5		12		12		NA		13		11		11		10		12	
Trichloroethene	µg/L	5		NA		43.5		NA		20.5		15		14		NA		13		9.2		12		12		11	
Vinyl chloride	µg/L	2		NA		3.42		NA		< 0.5	U	< 1	U	< 0.5	U	NA		< 0.5	U	< 0.5	U	0.63	J	0.63	J	< 0.5	U

Table 2-4
Surface Water and Groundwater Results RA-O 2013–2022

			Location Code																							
			Sample ID	35BWW15-190522		35BWW15-190807		35BWW15-191122		35BWW15-191122-FD		35BWW15-200507		35BWW15-201110		35BWW15-210518		35BWW15-211122		35BWW15-211122-FD		35BWW15-220518		35BWW15-220518-FD		35BWW16-131007	
			Sample Date	5/22/2019		8/7/2019		11/22/2019		11/22/2019		5/7/2020		11/10/2020		5/18/2021		11/22/2021		11/22/2021		5/18/2022		5/18/2022		10/7/2013	
			Sample Purpose	REG		REG		REG		FD		REG		REG		REG		REG		FD		REG		FD		REG	
Parameter	Units	MCL/GW-IND		Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
ANIONS																											
Bromide	mg/L	NV		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Chloride	mg/L	NV		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Fluoride	mg/L	NV		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrate	mg/L	10		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrite	mg/L	1		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Sulfate	mg/L	NV		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
DHC																											
Dehalococcoides	cells/mL	NV		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
FIELD TESTS																											
Specific conductivity	µmhos/cm	NV		0.457		0.388		0.310		NA		0.405		0.327		0.496		0.429		NA		0.476		NA		0.259	
Dissolved oxygen	mg/L	NV		0.09		0.32		0.49		NA		0.07		0.69		0.66		0.61		NA		0.55		NA		1.35	
Oxidation Reduction Potential	mV	NV		323		218		280		NA		168		238		221		242		NA		203		NA		213	
pH	SU	NV		5.73		6.69		6.37		NA		6.36		5.23		5.92		5.47		NA		6.03		NA		NA	
Temperature	C	NV		21.65		24.68		18.99		NA		17.4		20.04		19.46		18.63		NA		20.57		NA		22.42	
Turbidity	NTU	NV		12.5		152		90.2		NA		44.3		38.2		69.2		13.1		NA		45.3		NA		NA	
Water Level at Reading Time	Ft BTOC	NV		20.56		21.41		23.18		NA		21.33		22.57		19.72		NA		NA		NA		NA		NA	
GASES																											
Carbon dioxide	µg/L	NV		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethane	µg/L	NV		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethylene	µg/L	NV		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Methane	µg/L	NV		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
GEN CHEMISTRY																											
Ferrous Iron	mg/L	NV		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
TOTAL ORGANIC CARBON																											
Total organic carbon	mg/L	NV		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Total Inorganic Carbon	mg/L	NV		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
METALS																											
Antimony	mg/L	0.006		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Manganese	mg/L	14		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
VOLATILES																											
1,1-Dichloroethene	µg/L	7		< 0.5	U	1.1		1.2		1.1		0.87	J	0.74	J	0.63	J	< 1	U	< 1	U	< 0.5	U	< 0.5	U	NA	
cis-1,2-Dichloroethene	µg/L	70		< 0.5	U	0.39	J	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 1	U	< 1	U	< 0.5	U	< 0.5	U	NA	
Tetrachloroethene	µg/L	5		7.8		9.7		11		11		13		11		14		13		13		9.8		10		NA	
Trichloroethene	µg/L	5		7.1		7.6		7.8		7.6		7.7		5.4		6.2		5.1		5.2		4.9		4.8		NA	
Vinyl chloride	µg/L	2		< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 1	U	< 1	U	< 0.5	U	< 0.5	U	NA	

Table 2-4
Surface Water and Groundwater Results RA-O 2013–2022

			Location Code		35BWW16																			
			Sample ID	35BWW16-100713		35BWW16FD-100713		35BWW16-151221		35BWW16-160819		35BWW16-081916		35BWW16-110717		35BWW16-021318		35BWW16-180329		35BWW16-180524		35BWW16-180817		35BWW16-181116		35BWW16-190215	
			Sample Date	10/7/2013		10/7/2013		12/21/2015		8/19/2016		8/19/2016		11/7/2017		2/13/2018		3/29/2018		5/24/2018		8/17/2018		11/16/2018		2/15/2019	
			Sample Purpose	REG		FD		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter	Units	MCL/GW-IND		Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
ANIONS																											
Bromide	mg/L	NV		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Chloride	mg/L	NV		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Fluoride	mg/L	NV		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrate	mg/L	10		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrite	mg/L	1		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Sulfate	mg/L	NV		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
DHC																											
Dehalococcoides	cells/mL	NV		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
FIELD TESTS																											
Specific conductivity	µmhos/cm	NV		NA		NA		0.291		0.353		NA		0.314		0.320		0.295		0.183		0.198		0.298		0.296	
Dissolved oxygen	mg/L	NV		NA		NA		0.56		0.44		NA		1.74		0.65		0.99		0		0.27		0.97		0.08	
Oxidation Reduction Potential	mV	NV		NA		NA		224		467		NA		178.3		155.4		201.3		491		267		152.3		447	
pH	SU	NV		NA		NA		NA		NA		NA		6.24		5.71		5.11		5.02		5.43		6.13		4.61	
Temperature	C	NV		NA		NA		19.19		18.23		NA		18.78		15.24		19.75		23.55		27.97		17.48		16.82	
Turbidity	NTU	NV		NA		NA		NA		NA		NA		5.7		0		30.9		786		600		0		226	
Water Level at Reading Time	Ft BTOC	NV		NA		NA		NA		NA		NA		23.7		23.48		22.5		22.48		23.91		23.3		21.81	
GASES																											
Carbon dioxide	µg/L	NV		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethane	µg/L	NV		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethylene	µg/L	NV		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Methane	µg/L	NV		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
GEN CHEMISTRY																											
Ferrous Iron	mg/L	NV		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
TOTAL ORGANIC CARBON																											
Total organic carbon	mg/L	NV		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Total Inorganic Carbon	mg/L	NV		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
METALS																											
Antimony	mg/L	0.006		NA		NA		NA		NA		NA		NA		NA		< 0.001	U	NA		NA		NA		NA	
Manganese	mg/L	14		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
VOLATILES																											
1,1-Dichloroethene	µg/L	7		0.865	J	0.846	J	NA		NA		0.787	J	1.1		< 0.5	U	NA		< 0.5	U	< 0.5	U	1.5		1	
cis-1,2-Dichloroethene	µg/L	70		< 0.5	U	< 0.5	U	NA		NA		< 0.5	U	< 1	U	< 0.5	U	NA		< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
Tetrachloroethene	µg/L	5		0.447	J	0.447	J	NA		NA		5.13		9.2		12		NA		7.8		6.6		15		11	
Trichloroethene	µg/L	5		2.57		2.45		NA		NA		3.43		4.2		5.8		NA		4		3.3		6.5		4.7	
Vinyl chloride	µg/L	2		< 0.5	U	< 0.5	U	NA		NA		< 0.5	U	< 1	U	< 0.5	U	NA		< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U

Table 2-4
Surface Water and Groundwater Results RA-O 2013–2022

		Location Code	35BWW16																35BWW17									
		Sample ID	35BWW16-190523		35BWW16-190807		35BWW16-191121		35BWW16-200507		35BWW16-201111		35BWW16-210518		35BWW16-211117		35BWW16-220516		35BWW17-131008		35BWW17-140204		35BWW17-020414		35BWW17-160819		35BWW17-081916	
		Sample Date	5/23/2019		8/7/2019		11/21/2019		5/7/2020		11/11/2020		5/18/2021		11/17/2021		5/16/2022		10/8/2013		2/4/2014		2/4/2014		8/19/2016		8/19/2016	
		Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter	Units	MCL/GW-IND	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
ANIONS																												
Bromide	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Chloride	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Fluoride	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrate	mg/L	10	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrite	mg/L	1	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Sulfate	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
DHC																												
Dehalococcoides	cells/mL	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
FIELD TESTS																												
Specific conductivity	µmhos/cm	NV	0.296		0.244		0.206		0.259		0.209		0.253		0.237		0.271		0.259		0.066		NA		0.097		NA	
Dissolved oxygen	mg/L	NV	0.06		0.06		0.23		0.03		0.15		0.23		0.32		0.4		0.6		3.42		NA		1.05		NA	
Oxidation Reduction Potential	mV	NV	343		189		306		198		281		262		310		225		142		256		NA		505		NA	
pH	SU	NV	5.26		5.91		5.5		5.59		4.43		4.99		4.67		4.54		NA		NA		NA		NA		NA	
Temperature	C	NV	21.27		25.67		18.23		17.61		18.06		21.09		19.23		23.2		20.59		15		NA		19.29		NA	
Turbidity	NTU	NV	164		106		128		126		357		165		222		86.4		NA		NA		NA		NA		NA	
Water Level at Reading Time	Ft BTOC	NV	20.4		21.08		22.86		20.95		22.09		19.4		NA		NA		NA		NA		NA		NA		NA	
GASES																												
Carbon dioxide	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethane	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethylene	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Methane	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
GEN CHEMISTRY																												
Ferrous Iron	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
TOTAL ORGANIC CARBON																												
Total organic carbon	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Total Inorganic Carbon	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
METALS																												
Antimony	mg/L	0.006	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Manganese	mg/L	14	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
VOLATILES																												
1,1-Dichloroethene	µg/L	7	< 0.5	U	0.79	J	0.75	J	0.61	J	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	NA		NA		< 1	U	NA		< 1	U
cis-1,2-Dichloroethene	µg/L	70	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	NA		NA		< 0.5	U	NA		< 0.5	U
Tetrachloroethene	µg/L	5	9.5		9.8		8.1		9.9		4.4		6		4.8		< 0.5	U	NA		NA		0.512	J	NA		< 0.5	U
Trichloroethene	µg/L	5	3.6		3.5		3.2		3.3		1.8		2.1		1.7		< 0.5	U	NA		NA		< 0.5	U	NA		< 0.5	U
Vinyl chloride	µg/L	2	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	NA		NA		< 0.5	U	NA		< 0.5	U

Table 2-4
Surface Water and Groundwater Results RA-O 2013–2022

		Location Code	35BWW17																							
		Sample ID	35BWW17-110717		35BWW17-021318		35BWW17-180329		35BWW17-180524		35BWW17-180821		35BWW17-181116		35BWW17-190214		35BWW17-190523		35BWW17-190807		35BWW17-191121		35BWW17-200507		35BWW17-201111		35BWW17-210518	
		Sample Date	11/7/2017		2/13/2018		3/29/2018		5/24/2018		8/21/2018		11/16/2018		2/14/2019		5/22/2019		8/7/2019		11/21/2019		5/7/2020		11/11/2020		5/18/2021	
		Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter	Units	MCL/GW-IND	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
ANIONS																												
Bromide	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Chloride	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Fluoride	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrate	mg/L	10	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrite	mg/L	1	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Sulfate	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
DHC																												
Dehalococcoides	cells/mL	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
FIELD TESTS																												
Specific conductivity	µmhos/cm	NV	0.199		0.234		0.119		0.058		0.085		0.183		0.072		0.080		0.060		0.052		0.062		0.048		0.064	
Dissolved oxygen	mg/L	NV	0.64		0.45		1.55		0		1.1		0.44		1.12		0.22		1.25		1.29		0.07		0.43		0.33	
Oxidation Reduction Potential	mV	NV	125.4		201.3		244.9		540		370		214		410		386		350		385		269		282		224	
pH	SU	NV	6.27		5.15		4.45		3.81		4.74		5.19		4.67		4.08		4.9		5.12		4.98		4.52		4.58	
Temperature	C	NV	19.5		13.93		19.19		19.35		22.37		19.08		18.22		21.02		23.82		18.09		16.76		18.66		18.22	
Turbidity	NTU	NV	0		0.1		10.1		812		639		0		359		687		235		216		368		238		268	
Water Level at Reading Time	Ft BTOC	NV	23		22.93		21.45		21.66		23.35		22.63		20.34		18.2		19.84		22.1		19.42		21.33		17.39	
GASES																												
Carbon dioxide	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethane	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethylene	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Methane	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
GEN CHEMISTRY																												
Ferrous Iron	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
TOTAL ORGANIC CARBON																												
Total organic carbon	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Total Inorganic Carbon	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
METALS																												
Antimony	mg/L	0.006	NA		NA		< 0.001	U	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Manganese	mg/L	14	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
VOLATILES																												
1,1-Dichloroethene	µg/L	7	< 1	U	< 0.5	U	NA		< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	UJ	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
cis-1,2-Dichloroethene	µg/L	70	< 1	U	< 0.5	U	NA		< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	UJ	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
Tetrachloroethene	µg/L	5	2.6		7.5		NA		< 0.5	U	< 0.5	U	5.4		< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 1	U	< 1	U	< 1	U
Trichloroethene	µg/L	5	1.1		2.9		NA		< 0.5	U	< 0.5	U	1.8		< 0.5	U	< 0.5	U	< 0.5	UJ	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
Vinyl chloride	µg/L	2	< 1	UJ	< 0.5	U	NA		< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U

Table 2-4
Surface Water and Groundwater Results RA-O 2013–2022

			Location Code	35BWW17						35BWW18															
			Sample ID	35BWW17-210518-FD		35BWW17-211122		35BWW17-220516		35BWW18-131002		35BWW18-100213		35BWWU18-100213		35BWW18-160816		35BWW18-081616		35BWW18-110717		35BWW18-021318		35BWW18-180327		35BWW18-180521	
			Sample Date	5/18/2021		11/22/2021		5/16/2022		10/2/2013		10/2/2013		10/2/2013		8/16/2016		8/16/2016		11/7/2017		2/13/2018		3/27/2018		5/21/2018	
			Sample Purpose	FD		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter	Units	MCL/GW-IND		Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
ANIONS																											
Bromide	mg/L	NV		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Chloride	mg/L	NV		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Fluoride	mg/L	NV		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrate	mg/L	10		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrite	mg/L	1		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Sulfate	mg/L	NV		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
DHC																											
Dehalococcoides	cells/mL	NV		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
FIELD TESTS																											
Specific conductivity	µmhos/cm	NV		NA		0.061		0.064		2.42		NA		NA		1.12		NA		0.842		0.979		0.842		0.621	
Dissolved oxygen	mg/L	NV		NA		0.32		0.09		1.05		NA		NA		0.84		NA		1.37		0.93		1.73		0	
Oxidation Reduction Potential	mV	NV		NA		384		264		-166		NA		NA		300		NA		205.6		125.3		184.1		363	
pH	SU	NV		NA		3.93		4.45		NA		NA		NA		NA		NA		6.04		6.1		5.59		5.4	
Temperature	C	NV		NA		17.52		25.31		28.79		NA		NA		19.99		NA		19.36		15.29		22.11		19.08	
Turbidity	NTU	NV		NA		778		329		NA		NA		NA		NA		NA		7.3		0		0		312	
Water Level at Reading Time	Ft BTOC	NV		NA		NA		NA		NA		NA		NA		NA		NA		27.88		28.3		27.4		27.24	
GASES																											
Carbon dioxide	µg/L	NV		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethane	µg/L	NV		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethylene	µg/L	NV		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Methane	µg/L	NV		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
GEN CHEMISTRY																											
Ferrous Iron	mg/L	NV		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
TOTAL ORGANIC CARBON																											
Total organic carbon	mg/L	NV		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Total Inorganic Carbon	mg/L	NV		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
METALS																											
Antimony	mg/L	0.006		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		< 0.001	U	NA	
Manganese	mg/L	14		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
VOLATILES																											
1,1-Dichloroethene	µg/L	7		< 0.5	U	< 1	U	< 0.5	U	NA		< 1	U	< 1	U	NA		< 1	U	< 1	U	< 0.5	U	NA		< 0.5	U
cis-1,2-Dichloroethene	µg/L	70		< 0.5	U	< 1	U	< 0.5	U	NA		< 0.5	U	< 0.5	U	NA		< 0.5	U	< 1	U	< 0.5	U	NA		< 0.5	U
Tetrachloroethene	µg/L	5		< 1	U	< 1	U	< 0.5	U	NA		< 0.5	U	< 0.5	U	NA		< 0.5	U	< 1	U	< 0.5	U	NA		< 0.5	U
Trichloroethene	µg/L	5		< 0.5	U	< 1	U	< 0.5	U	NA		< 0.5	U	< 0.5	U	NA		< 0.5	U	< 1	U	< 0.5	U	NA		< 0.5	U
Vinyl chloride	µg/L	2		< 0.5	U	< 1	U	< 0.5	U	NA		< 0.5	U	< 0.5	U	NA		< 0.5	U	< 1	U	< 0.5	U	NA		< 0.5	U

Table 2-4
Surface Water and Groundwater Results RA-O 2013–2022

		Location Code	35BWW18																				35BWW19			
		Sample ID	35BWW18-180816		35BWW18-181119		35BWW18-190214		35BWW18-190520		35BWW18-190805		35BWW18-191126		35BWW18-200511		35BWW18-201109		35BWW18-210518		35BWW18-211115		35BWW18-220518		35BWW19-131007		35BWW19-100713	
		Sample Date	8/16/2018		11/19/2018		2/14/2019		5/20/2019		8/5/2019		11/26/2019		5/11/2020		11/9/2020		5/18/2021		11/15/2021		5/18/2022		10/7/2013		10/7/2013	
		Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter	Units	MCL/GW-IND	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
ANIONS																												
Bromide	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Chloride	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Fluoride	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrate	mg/L	10	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrite	mg/L	1	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Sulfate	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
DHC																												
Dehalococcoides	cells/mL	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
FIELD TESTS																												
Specific conductivity	µmhos/cm	NV	0.865		0.787		0.850		0.988		0.735		0.642		2.29		2.22		1.95		2.33		1.42		2.53		NA	
Dissolved oxygen	mg/L	NV	0.82		1.47		0.09		0.05		1.44		0.88		0.37		0.3		0.35		0.22		0.17		1.62		NA	
Oxidation Reduction Potential	mV	NV	227		151.1		369		263		269		246		177		168		133		139		229		138		NA	
pH	SU	NV	5.59		6.14		5.61		5.77		6.23		6.28		6.6		6.53		6.45		6.29		5.93		NA		NA	
Temperature	C	NV	24.11		17.93		16.89		20.95		20.85		19.88		18.67		20.82		20.75		21.2		21.06		17.7		NA	
Turbidity	NTU	NV	162		0		1.2		44.9		0		8.3		16.4		12.5		12.6		6.9		6.1		NA		NA	
Water Level at Reading Time	Ft BTOC	NV	28.18		27.79		26.63		25.82		25.84		27.17		25.94		26.38		24.27		NA		NA		NA		NA	
GASES																												
Carbon dioxide	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethane	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethylene	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Methane	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
GEN CHEMISTRY																												
Ferrous Iron	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
TOTAL ORGANIC CARBON																												
Total organic carbon	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Total Inorganic Carbon	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
METALS																												
Antimony	mg/L	0.006	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Manganese	mg/L	14	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
VOLATILES																												
1,1-Dichloroethene	µg/L	7	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	NA		< 1	U
cis-1,2-Dichloroethene	µg/L	70	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	NA		< 0.5	U
Tetrachloroethene	µg/L	5	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 1	U	< 0.5	U	< 1	U	< 1	U	< 0.5	U	NA		< 0.5	U
Trichloroethene	µg/L	5	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	NA		< 0.5	U
Vinyl chloride	µg/L	2	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	NA		< 0.5	U

Table 2-4
Surface Water and Groundwater Results RA-O 2013–2022

		Location Code	35BWW19																							
		Sample ID	35BWW19-160816		35BWW19-081616		35BWW19-110717		35BWW19-021318		35BWW19-180327		35BWW19-180521		35BWW19-180816		35BWW19-181119		35BWW19-190214		35BWW19-190520		35BWW19-190805		35BWW19-191126		35BWW19-200511	
		Sample Date	8/16/2016		8/16/2016		11/7/2017		2/13/2018		3/27/2018		5/21/2018		8/16/2018		11/19/2018		2/14/2019		5/20/2019		8/5/2019		11/26/2019		5/11/2020	
		Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter	Units	MCL/GW-IND	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
ANIONS																												
Bromide	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Chloride	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Fluoride	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrate	mg/L	10	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrite	mg/L	1	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Sulfate	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
DHC																												
Dehalococcoides	cells/mL	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
FIELD TESTS																												
Specific conductivity	µmhos/cm	NV	2.64		NA		2.465		3.035		2.675		2.62		1.36		2.723		2.68		2.58		2.60		2.71		2.76	
Dissolved oxygen	mg/L	NV	0.76		NA		0.84		1.34		1.21		0		0.48		1.68		1.08		0.37		1.85		0.84		1.19	
Oxidation Reduction Potential	mV	NV	332		NA		182		114.9		161.2		345		229		144.6		376		263		258		231		183	
pH	SU	NV	NA		NA		6.3		6.3		5.73		5.67		6.18		6.48		6.4		5.83		6.65		6.37		6.62	
Temperature	C	NV	20.93		NA		19.45		14.24		21.49		19.22		28.08		17.45		16.27		21.68		20.59		19.46		18.95	
Turbidity	NTU	NV	NA		NA		12		0.4		0		111		356		0		5.7		66.9		12.4		139		145	
Water Level at Reading Time	Ft BTOC	NV	NA		NA		27.3		27.76		27.3		26.95		27.77		27.52		26.4		25.89		25.63		26.74		25.87	
GASES																												
Carbon dioxide	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethane	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethylene	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Methane	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
GEN CHEMISTRY																												
Ferrous Iron	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
TOTAL ORGANIC CARBON																												
Total organic carbon	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Total Inorganic Carbon	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
METALS																												
Antimony	mg/L	0.006	NA		NA		NA		NA		< 0.001	U	NA		NA		NA		NA		NA		NA		NA		NA	
Manganese	mg/L	14	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
VOLATILES																												
1,1-Dichloroethene	µg/L	7	NA		< 1	U	< 1	U	< 0.5	U	NA		< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
cis-1,2-Dichloroethene	µg/L	70	NA		< 0.5	U	< 1	U	< 0.5	U	NA		< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
Tetrachloroethene	µg/L	5	NA		< 0.5	U	< 1	U	< 0.5	U	NA		< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 1	U
Trichloroethene	µg/L	5	NA		< 0.5	U	< 1	U	< 0.5	U	NA		< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
Vinyl chloride	µg/L	2	NA		< 0.5	U	< 1	U	< 0.5	U	NA		< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U

Table 2-4
Surface Water and Groundwater Results RA-O 2013–2022

		Location Code	35BWW19								35BWW20															
		Sample ID	35BWW19-201109		35BWW19-210518		35BWW19-211115		35BWW19-220518		35BWW20-131004		35BWW20-100413		35BWW20-160818		35BWW20-081816		35BWW20-110817		35BWW20-021218		35BWW20-180327		35BWW20-180524		35BWW20-180820	
		Sample Date	11/9/2020		5/18/2021		11/15/2021		5/18/2022		10/4/2013		10/4/2013		8/18/2016		8/18/2016		11/8/2017		2/12/2018		3/27/2018		5/24/2018		8/20/2018	
		Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter	Units	MCL/GW-IND	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
ANIONS																												
Bromide	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Chloride	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Fluoride	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrate	mg/L	10	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrite	mg/L	1	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Sulfate	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
DHC																												
Dehalococcoides	cells/mL	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
FIELD TESTS																												
Specific conductivity	µmhos/cm	NV	2.83		2.47		2.89		3.17		0.378		NA		0.352		NA		0.328		0.413		0.366		0.240		0.372	
Dissolved oxygen	mg/L	NV	1.03		0.51		0.76		0.47		1.65		NA		2		NA		2.15		3.49		3.97		0.93		1.03	
Oxidation Reduction Potential	mV	NV	177		199		168		221		170		NA		376		NA		136.7		94.3		190.7		366		238	
pH	SU	NV	6.38		6.46		6.34		6.16		NA		NA		NA		NA		6.7		7.09		5.82		5.66		7.13	
Temperature	C	NV	20.79		21.42		21.43		21.3		23.28		NA		22.92		NA		19.3		16.04		23.72		21.6		28.86	
Turbidity	NTU	NV	53		101		20.2		65.2		NA		NA		NA		NA		25		20.3		24.1		272		648	
Water Level at Reading Time	Ft BTOC	NV	25.99		24.3		NA		NA		NA		NA		NA		NA		27.05		26.6		25.78		25.65		27.04	
GASES																												
Carbon dioxide	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethane	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethylene	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Methane	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
GEN CHEMISTRY																												
Ferrous Iron	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
TOTAL ORGANIC CARBON																												
Total organic carbon	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Total Inorganic Carbon	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
METALS																												
Antimony	mg/L	0.006	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		< 0.001	U	NA		NA	
Manganese	mg/L	14	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
VOLATILES																												
1,1-Dichloroethene	µg/L	7	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	NA		< 1	U	NA		< 1	U	< 1	U	< 0.5	U	NA		< 0.5	U	< 0.5	U
cis-1,2-Dichloroethene	µg/L	70	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	NA		< 0.5	U	NA		< 0.5	U	< 1	U	< 0.5	U	NA		< 0.5	U	< 0.5	U
Tetrachloroethene	µg/L	5	< 0.5	U	< 1	U	< 1	U	< 0.5	U	NA		31.1		NA		26.7		25		34		NA		29		19	
Trichloroethene	µg/L	5	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	NA		7.04		NA		6.75		4.7		5.7		NA		6.3		3.6	
Vinyl chloride	µg/L	2	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	NA		< 0.5	U	NA		< 0.5	U	< 1	U	< 0.5	U	NA		< 0.5	U	< 0.5	U

Table 2-4
Surface Water and Groundwater Results RA-O 2013–2022

		Location Code	35BWW20																					
		Sample ID	35BWW20-181118		35BWW20-190213		35BWW20-190522		35BWW20-190522-FD		35BWW20-190806		35BWW20-190806-FD		35BMW20-191122		35BWW20-191122		35BWW20-200511		35BWW20-200511-FD		35BWW20-201109		35BWW20-201109-FD	
		Sample Date	11/18/2018		2/13/2019		5/22/2019		5/22/2019		8/6/2019		8/6/2019		11/22/2019		11/22/2019		5/11/2020		5/11/2020		11/9/2020		11/9/2020	
		Sample Purpose	REG		REG		REG		FD		REG		FD		REG		REG		REG		FD		REG		FD	
Parameter	Units	MCL/GW-IND	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
ANIONS																										
Bromide	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Chloride	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Fluoride	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrate	mg/L	10	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrite	mg/L	1	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Sulfate	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
DHC																										
Dehalococcoides	cells/mL	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
FIELD TESTS																										
Specific conductivity	µmhos/cm	NV	0.376		0.331		0.308		NA		0.175		NA		NA		0.239		0.250		NA		0.238		NA	
Dissolved oxygen	mg/L	NV	3.52		2.08		1.24		NA		3.72		NA		NA		1.88		3.26		NA		1.43		NA	
Oxidation Reduction Potential	mV	NV	130.1		231		285		NA		264		NA		NA		281		190		NA		220		NA	
pH	SU	NV	6.85		6.91		5.65		NA		6.2		NA		NA		6.47		6.37		NA		5.11		NA	
Temperature	C	NV	20.71		20.79		22.88		NA		22.4		NA		NA		20.62		18.53		NA		23.39		NA	
Turbidity	NTU	NV	0		166		92.8		NA		321		NA		NA		437		188		NA		300		NA	
Water Level at Reading Time	Ft BTOC	NV	25.93		24.72		22.21		NA		23.92		NA		NA		26.01		23.29		NA		25.04		NA	
GASES																										
Carbon dioxide	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethane	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethylene	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Methane	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
GEN CHEMISTRY																										
Ferrous Iron	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
TOTAL ORGANIC CARBON																										
Total organic carbon	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Total Inorganic Carbon	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
METALS																										
Antimony	mg/L	0.006	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Manganese	mg/L	14	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
VOLATILES																										
1,1-Dichloroethene	µg/L	7	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	NA		< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
cis-1,2-Dichloroethene	µg/L	70	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	NA		< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
Tetrachloroethene	µg/L	5	34		34		12		12		7.5		7.6		15		NA		12		12		12		13	
Trichloroethene	µg/L	5	6.4		6		2.8		2.9		2.1		2		3.1		NA		2.9		2.9		2.2		2.3	
Vinyl chloride	µg/L	2	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	NA		< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U

Table 2-4
Surface Water and Groundwater Results RA-O 2013–2022

		Location Code	35BWW20						35BWW23																	
		Sample ID	35BWW20-210513		35BWW20-211117		35BWW20-220517		35BWW23-140701		35BWW23-070114		35BWW23-160817		35BWW23-081716		35BWW23-110917		35BWW23-021518		35BWW23-180522		35BWW23-180822		35BWW23-181120		35BWW23-190212	
		Sample Date	5/13/2021		11/17/2021		5/17/2022		7/1/2014		7/1/2014		8/17/2016		8/17/2016		11/9/2017		2/15/2018		5/22/2018		8/22/2018		11/20/2018		2/12/2019	
		Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter	Units	MCL/GW-IND	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
ANIONS																												
Bromide	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		0.469		NA		NA		NA		NA		NA	
Chloride	mg/L	NV	NA		NA		NA		NA		NA		NA		118		89.8		71.1		68.2		58.1		54.5		55.6	
Fluoride	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		0.184		NA		NA		NA		NA		NA	
Nitrate	mg/L	10	NA		NA		NA		NA		NA		NA		< 0.2	U	< 0.1	U	< 0.05	U	< 0.1	U	0.104		0.081	J	< 0.1	U
Nitrite	mg/L	1	NA		NA		NA		NA		NA		NA		0.187	J	< 0.1	U	0.155		< 0.1	U	< 0.1	U	< 0.1	U	< 0.1	U
Sulfate	mg/L	NV	NA		NA		NA		NA		NA		NA		127		123		112		116		102		99.7		96	
DHC																												
Dehalococcoides	cells/mL	NV	NA		NA		NA		NA		NA		NA		NA		2.2		NA		< 0.5		NA		0.4	J	0.3	J
FIELD TESTS																												
Specific conductivity	µmhos/cm	NV	0.267		0.224		0.282		1.01		NA		0.961		NA		0.891		0.782		0.466		0.653		0.670		0.667	
Dissolved oxygen	mg/L	NV	0.85		0.99		2.91		2.72		NA		0.64		NA		4.24		2.83		0		0.59		1.47		0.71	
Oxidation Reduction Potential	mV	NV	172		256		216		40		NA		441		NA		153.1		110.5		393		261		150.6		325	
pH	SU	NV	5.23		5.27		6.19		NA		NA		NA		NA		6.45		6.42		5.19		5.35		6.41		5.38	
Temperature	C	NV	22.61		21.78		27.03		21.29		NA		20.87		NA		17.4		21		23.14		28.91		15.92		15.56	
Turbidity	NTU	NV	174		618		448		NA		NA		NA		NA		0		0		0		3.7		0		0	
Water Level at Reading Time	Ft BTOC	NV	21.65		NA		NA		NA		NA		NA		NA		28.88		28.75		27.86		29.09		29.18		27.8	
GASES																												
Carbon dioxide	µg/L	NV	NA		NA		NA		NA		NA		NA		1,150,000		50,000		63,000		480,000		500,000	J	NA		740,000	
Ethane	µg/L	NV	NA		NA		NA		NA		NA		NA		< 2	U	< 0.076	U	< 0.6	U	< 0.47	U	< 0.47	U	0.859	J	< 0.16	U
Ethylene	µg/L	NV	NA		NA		NA		NA		NA		NA		< 2	U	< 0.071	U	< 1	U	< 0.55	U	< 0.55	U	1.7		< 0.24	U
Methane	µg/L	NV	NA		NA		NA		NA		NA		NA		< 2	U	0.9	J	< 1.3	U	< 1	U	< 1	U	2.65		< 0.51	U
GEN CHEMISTRY																												
Ferrous Iron	mg/L	NV	NA		NA		NA		NA		NA		NA		< 0.04	U	0.16		0.01		0		0		0.01		0.07	
TOTAL ORGANIC CARBON																												
Total organic carbon	mg/L	NV	NA		NA		NA		NA		NA		NA		15.3	J+	1.05		0.946	J	1.19		1.16		1		1.47	
Total Inorganic Carbon	mg/L	NV	NA		NA		NA		NA		NA		NA		76.5		41		NA		NA		NA		NA		141	
METALS																												
Antimony	mg/L	0.006	NA		NA		NA		NA		NA		NA		NA		NA		< 0.001	U	NA		NA		NA		NA	
Manganese	mg/L	14	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
VOLATILES																												
1,1-Dichloroethene	µg/L	7	< 0.5	U	< 0.5	U	< 0.5	U	NA		< 1	U	NA		< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
cis-1,2-Dichloroethene	µg/L	70	< 0.5	U	< 0.5	U	< 0.5	U	NA		< 0.5	U	NA		< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
Tetrachloroethene	µg/L	5	6.1		5.4		9.4		NA		< 0.5	U	NA		< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
Trichloroethene	µg/L	5	1.8		1.3		1.8		NA		< 0.5	U	NA		< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
Vinyl chloride	µg/L	2	< 0.5	U	< 0.5	U	< 0.5	U	NA		< 0.5	U	NA		< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U

Table 2-4
Surface Water and Groundwater Results RA-O 2013–2022

		Location Code	35BWW23																35BWW24									
		Sample ID	35BWW23-190521		35BWW23-190806		35BWW23-191125		35BWW23-200507		35BWW23-201110		35BWW23-210518		35BWW23-211122		35BWW23-220518		35BWW24-160819		35BWW24-081916		35BWW24-110817		35BWW24-021618		35BWW24-180328	
		Sample Date	5/21/2019		8/6/2019		11/25/2019		5/7/2020		11/10/2020		5/18/2021		11/22/2021		5/18/2022		8/19/2016		8/19/2016		11/8/2017		2/16/2018		3/28/2018	
		Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter	Units	MCL/GW-IND	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
ANIONS																												
Bromide	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Chloride	mg/L	NV	39.8		31.7		28.1		21.1		22.8		18		17.3		17		NA		NA		NA		NA		NA	
Fluoride	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrate	mg/L	10	< 0.1	U	< 0.1	U	< 0.1	U	< 0.1	U	0.0485	J	0.0303	J	0.0865	J	0.031	J	NA		NA		NA		NA		NA	
Nitrite	mg/L	1	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Sulfate	mg/L	NV	88.1		86.3		85.9		83.8		86.1		80.7		77.5		74.6		NA		NA		NA		NA		NA	
DHC																												
Dehalococcoides	cells/mL	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
FIELD TESTS																												
Specific conductivity	µmhos/cm	NV	0.516		0.476		0.404		0.466		0.397		0.434		0.4		0.441		1.59		NA		1.717		1.572		1.490	
Dissolved oxygen	mg/L	NV	0.06		1.13		1.31		1.83		0.86		0.67		1.24		0.59		0.58		NA		2.18		1.51		2.95	
Oxidation Reduction Potential	mV	NV	293		228		222		191		250		205		281		334		335		NA		246.9		109.4		164.7	
pH	SU	NV	5.24		6.63		6.11		6.39		5.03		5.32		5.16		4.91		NA		NA		6.49		6.35		5.53	
Temperature	C	NV	23.98		24.69		18.5		19.28		20.3		18.76		16.83		20.58		20.33		NA		16.4		19.99		18.36	
Turbidity	NTU	NV	22.1		18.1		1.6		7.9		0		0		32		22.8		NA		NA		9.8		6.7		0	
Water Level at Reading Time	Ft BTOC	NV	26.82		26.73		28.02		27.04		27.26		26		NA		NA		NA		NA		30.14		30.15		29.61	
GASES																												
Carbon dioxide	µg/L	NV	730,000		73,000		69,000		42,000		630,000		660,000		1,120,000		386,000	J	NA		NA		NA		NA		NA	
Ethane	µg/L	NV	< 0.47	U	< 0.47	U	< 0.47	U	< 0.47	U	< 0.47	U	< 0.47	U	< 0.5	U	< 0.5	UJ	NA		NA		NA		NA		NA	
Ethylene	µg/L	NV	< 0.55		< 0.55	U	< 0.55	U	< 0.55	U	< 0.55	U	< 0.55	U	< 0.5	UJ	1.97	J	NA		NA		NA		NA		NA	
Methane	µg/L	NV	< 1	U	< 1	U	< 1	U	< 1	U	< 1	U	< 1	U	0.779		2.69		NA		NA		NA		NA		NA	
GEN CHEMISTRY																												
Ferrous Iron	mg/L	NV	0.19		1.04		0.06		0.55		NA		0.45		0.62		0.01		NA		NA		NA		NA		NA	
TOTAL ORGANIC CARBON																												
Total organic carbon	mg/L	NV	1.59		0.94		0.47	J	0.52		1.13		1.37		2.57		0.601	J	NA		NA		NA		NA		NA	
Total Inorganic Carbon	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
METALS																												
Antimony	mg/L	0.006	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		< 0.001	U
Manganese	mg/L	14	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
VOLATILES																												
1,1-Dichloroethene	µg/L	7	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 1	U	< 0.5	U	NA		< 1	U	< 1	U	< 0.5	U	NA	
cis-1,2-Dichloroethene	µg/L	70	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 1	U	< 0.5	U	NA		< 0.5	U	< 1	U	< 0.5	U	NA	
Tetrachloroethene	µg/L	5	< 0.5	U	< 0.5	U	< 0.5	U	< 1	U	< 0.5	U	< 1	U	< 1	U	< 0.5	U	NA		< 0.5	U	< 1	U	< 0.5	U	NA	
Trichloroethene	µg/L	5	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 1	U	< 0.5	U	NA		0.415	J	< 1	U	< 0.5	U	NA	
Vinyl chloride	µg/L	2	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 1	U	< 0.5	U	NA		< 0.5	U	< 1	U	< 0.5	U	NA	

Table 2-4
Surface Water and Groundwater Results RA-O 2013–2022

		Location Code	35BWW24																					
		Sample ID	35BWW24-180524		35BWW24-180821		35BWW24-181116		35BWW24-190215		35BWW24-190522		35BWW24-190807		35BWW24-191125		35BWW24-200507		35BWW24-201110		35BWW24-210517		35BWW24-210517-FD		35BWW24-211122	
		Sample Date	5/24/2018		8/21/2018		11/16/2018		2/15/2019		5/22/2019		8/7/2019		11/25/2019		5/7/2020		11/10/2020		5/17/2021		5/17/2021		11/22/2021	
		Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		FD		REG	
Parameter	Units	MCL/GW-IND	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
ANIONS																								
Bromide	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Chloride	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Fluoride	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrate	mg/L	10	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrite	mg/L	1	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Sulfate	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
DHC																								
Dehalococcoides	cells/mL	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
FIELD TESTS																								
Specific conductivity	µmhos/cm	NV	1.01		1.50		1.483		1.47		1.46		1.43		1.10		1.44		1.29		1.33		NA		1.31	
Dissolved oxygen	mg/L	NV	0		0.37		1.69		0.55		1.24		2.23		1.48		3.37		1.68		1.06		NA		0.88	
Oxidation Reduction Potential	mV	NV	424		250		88.9		309		2.86		238		232		182		221		237		NA		279	
pH	SU	NV	5.31		5.69		6.09		5.45		6		6.47		6		6.45		6.04		5.66		NA		5.5	
Temperature	C	NV	20.52		23.33		15		17		23.4		21.61		18.49		18.77		19.63		19.49		NA		17.44	
Turbidity	NTU	NV	114		48		0		3.8		0		16.3		7.5		8.5		8.5		0		NA		8.8	
Water Level at Reading Time	Ft BTOC	NV	28.85		30.02		30.18		28.54		27.77		27.69		29.02		27.99		28.5		26.9		NA		NA	
GASES																								
Carbon dioxide	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethane	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethylene	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Methane	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
GEN CHEMISTRY																								
Ferrous Iron	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
TOTAL ORGANIC CARBON																								
Total organic carbon	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Total Inorganic Carbon	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
METALS																								
Antimony	mg/L	0.006	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Manganese	mg/L	14	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
VOLATILES																								
1,1-Dichloroethene	µg/L	7	< 0.5	U	< 0.5	U	0.67	J	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	0.54	J	< 0.5	U	< 0.5	U	< 0.5	U	< 1	U
cis-1,2-Dichloroethene	µg/L	70	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 1	U
Tetrachloroethene	µg/L	5	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 1	U	< 0.5	U	< 1	U	< 1	U	< 1	U
Trichloroethene	µg/L	5	< 0.5	U	< 0.5	U	2.9		2.6		1.1		1.7		1.8		2.3		1.7		2.4		2.3		2.9	
Vinyl chloride	µg/L	2	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 1	U

Table 2-4
Surface Water and Groundwater Results RA-O 2013–2022

		Location Code	35BWW24				35BWW25																	
		Sample ID	35BWW24-220516		35BWW24-220516-FD		35BWW25-160819		35BWW25-081916		35BWW25FD-081916		35BWW25-110817		35BWW25-110817-FD		35BWW25-021618		35BWW25-021618-FD		35BWW25-180328		35BWW25-180328-FD		35BWW25-180523	
		Sample Date	5/16/2022		5/16/2022		8/19/2016		8/19/2016		8/19/2016		11/8/2017		11/8/2017		2/16/2018		2/16/2018		3/28/2018		3/28/2018		5/23/2018	
		Sample Purpose	REG		FD		REG		REG		FD		REG		FD		REG		FD		REG		FD		REG	
Parameter	Units	MCL/GW-IND	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
ANIONS																										
Bromide	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Chloride	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Fluoride	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrate	mg/L	10	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrite	mg/L	1	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Sulfate	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
DHC																										
Dehalococcoides	cells/mL	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
FIELD TESTS																										
Specific conductivity	µmhos/cm	NV	1.46		NA		1.03		NA		NA		0.974		NA		0.865		NA		0.829		NA		0.563	
Dissolved oxygen	mg/L	NV	0.76		NA		0.51		NA		NA		2.32		NA		0.92		NA		2.38		NA		0	
Oxidation Reduction Potential	mV	NV	225		NA		439		NA		NA		239.2		NA		116.9		NA		167.9		NA		383	
pH	SU	NV	5.65		NA		NA		NA		NA		6.42		NA		6.28		NA		5.51		NA		5.34	
Temperature	C	NV	21.49		NA		21.77		NA		NA		18.41		NA		19.21		NA		17.44		NA		20.81	
Turbidity	NTU	NV	23.2		NA		NA		NA		NA		0		NA		0		NA		0		NA		2.5	
Water Level at Reading Time	Ft BTOC	NV	NA		NA		NA		NA		NA		27.27		NA		27.73		NA		26.6		NA		26.5	
GASES																										
Carbon dioxide	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethane	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethylene	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Methane	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
GEN CHEMISTRY																										
Ferrous Iron	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
TOTAL ORGANIC CARBON																										
Total organic carbon	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Total Inorganic Carbon	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
METALS																										
Antimony	mg/L	0.006	NA		NA		NA		NA		NA		NA		NA		NA		NA		< 0.001	U	< 0.001	U	NA	
Manganese	mg/L	14	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
VOLATILES																										
1,1-Dichloroethene	µg/L	7	< 0.5	U	< 0.5	U	NA		< 1	U	< 1	U	< 1	U	< 1	U	< 0.5	U	< 0.5	U	NA		NA		< 0.5	U
cis-1,2-Dichloroethene	µg/L	70	< 0.5	U	< 0.5	U	NA		< 0.5	U	< 0.5	U	< 1	U	< 1	U	< 0.5	U	< 0.5	U	NA		NA		< 0.5	U
Tetrachloroethene	µg/L	5	< 0.5	U	< 0.5	U	NA		< 0.5	U	< 0.5	U	< 1	U	< 1	U	< 0.5	U	< 0.5	U	NA		NA		< 0.5	U
Trichloroethene	µg/L	5	3.9		3.9		NA		5.55		5.94		7.6		7.5		11		11		NA		NA		5.5	
Vinyl chloride	µg/L	2	< 0.5	U	< 0.5	U	NA		< 0.5	U	< 0.5	U	< 1	U	< 1	U	< 0.5	U	< 0.5	U	NA		NA		< 0.5	U

Table 2-4
Surface Water and Groundwater Results RA-O 2013–2022

			Location Code																							
			Sample ID	35BWW25-180523FD		35BWW25-180820		35BWW25-180820-FD		35BWW25-181116		35BWW25-190215		35BWW25-190215-FD		35BWW25-190522		35BWW25-190807		35BWW25-191122		35BWW25-191122-FD		35BWW25-200507		35BWW25-201110	
			Sample Date	5/23/2018		8/20/2018		8/20/2018		11/16/2018		2/15/2019		2/15/2019		5/22/2019		8/7/2019		11/22/2019		11/22/2019		5/7/2020		11/10/2020	
			Sample Purpose	FD		REG		FD		REG		REG		FD		REG		REG		REG		FD		REG		REG	
Parameter	Units	MCL/GW-IND		Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
ANIONS																											
Bromide	mg/L	NV		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Chloride	mg/L	NV		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Fluoride	mg/L	NV		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrate	mg/L	10		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrite	mg/L	1		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Sulfate	mg/L	NV		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
DHC																											
Dehalococcoides	cells/mL	NV		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
FIELD TESTS																											
Specific conductivity	µmhos/cm	NV		NA		0.697		NA		0.816		0.705		NA		0.746		0.749		0.639		NA		0.762		0.672	
Dissolved oxygen	mg/L	NV		NA		0.36		NA		0.97		0.16		NA		0.82		0.85		0.76		NA		2.55		0.63	
Oxidation Reduction Potential	mV	NV		NA		222		NA		168.5		332		NA		297		253		308		NA		173		241	
pH	SU	NV		NA		5.93		NA		6.23		5.3		NA		5.56		6.34		5.94		NA		6.53		5.26	
Temperature	C	NV		NA		29.33		NA		15.71		16.92		NA		22.7		21.94		18.7		NA		19.65		19.7	
Turbidity	NTU	NV		NA		43.9		NA		0		2		NA		0		0		5.6		NA		8.1		22.2	
Water Level at Reading Time	Ft BTOC	NV		NA		27.53		NA		27.6		26.04		NA		25.46		25.5		26.76		NA		25.58		26.17	
GASES																											
Carbon dioxide	µg/L	NV		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethane	µg/L	NV		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethylene	µg/L	NV		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Methane	µg/L	NV		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
GEN CHEMISTRY																											
Ferrous Iron	mg/L	NV		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
TOTAL ORGANIC CARBON																											
Total organic carbon	mg/L	NV		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Total Inorganic Carbon	mg/L	NV		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
METALS																											
Antimony	mg/L	0.006		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Manganese	mg/L	14		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
VOLATILES																											
1,1-Dichloroethene	µg/L	7		< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
cis-1,2-Dichloroethene	µg/L	70		< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
Tetrachloroethene	µg/L	5		< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	0.33	J	< 0.5	U	< 0.5	U	< 1	U	< 0.5	U
Trichloroethene	µg/L	5		5.1		5.3		5.3		19		14		14		6.3		15		13		13		13		10	
Vinyl chloride	µg/L	2		< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U

Table 2-4
Surface Water and Groundwater Results RA-O 2013–2022

		Location Code	35BWW25						35BWW26																	
		Sample ID	35BWW25-210517		35BWW25-211122		35BWW25-220516		35BWW26-160817		35BWW26-081716		35BWW26-110917		35BWW26-021418		35BWW26-180522		35BWW26-180822		35BWW26-181120		35BWW26-190212		35BWW26-190520		35BWW26-190806	
		Sample Date	5/17/2021		11/22/2021		5/16/2022		8/17/2016		8/17/2016		11/9/2017		2/14/2018		5/22/2018		8/22/2018		11/20/2018		2/12/2019		5/20/2019		8/6/2019	
		Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter	Units	MCL/GW-IND	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
ANIONS																												
Bromide	mg/L	NV	NA		NA		NA		NA		NA		0.169		NA		NA		NA		NA		NA		NA		NA	
Chloride	mg/L	NV	NA		NA		NA		NA		30.2		29.6		30.2		32.2		30.3		30.2		33		30.2		29.3	
Fluoride	mg/L	NV	NA		NA		NA		NA		NA		0.295		NA		NA		NA		NA		NA		NA		NA	
Nitrate	mg/L	10	NA		NA		NA		NA		< 0.2	U	0.12		< 0.05	U	0.093	J	0.036	J	0.086	J	0.146		0.126		< 0.1	U
Nitrite	mg/L	1	NA		NA		NA		NA		< 0.2	U	0.033	J	< 0.05	U	< 0.1	U	< 0.1	U	< 0.1	U	< 0.1	U	NA		NA	
Sulfate	mg/L	NV	NA		NA		NA		NA		28.7		30.2		30.3		31.6		27.6		27.1		30.3		25.7		24.5	
DHC																												
Dehalococcoides	cells/mL	NV	NA		NA		NA		NA		NA		2.2		NA		< 0.5		NA		0.4	J	2.3		NA		NA	
FIELD TESTS																												
Specific conductivity	µmhos/cm	NV	0.750		0.734		0.765		0.354		NA		0.327		0.312		0.222		0.330		0.318		0.330		0.290		0.264	
Dissolved oxygen	mg/L	NV	1.31		0.95		0.79		1.2		NA		1.02		1.78		0		0.42		1.95		0.27		0.69		0.31	
Oxidation Reduction Potential	mV	NV	229		276		242		444		NA		169.6		139.8		418		277		159.6		339		306		202	
pH	SU	NV	5.56		5.41		5.04		NA		NA		6.21		6.1		4.83		4.89		5.87		5.44		5.06		5.95	
Temperature	C	NV	19.53		18.05		22.57		22.53		NA		19.8		17.65		20.62		21.56		18.56		17.83		22.25		22.63	
Turbidity	NTU	NV	0		0.8		22.1		NA		NA		0		0		0		0		0		0		0		0	
Water Level at Reading Time	Ft BTOC	NV	24.45		NA		NA		NA		NA		28.85		28.15		27.19		28.32		28.31		26.77		25.57		25.82	
GASES																												
Carbon dioxide	µg/L	NV	NA		NA		NA		NA		417,000		57,000		57,000		490,000		450,000	J	NA		630,000		580,000		140,000	
Ethane	µg/L	NV	NA		NA		NA		NA		< 2	U	< 0.076	U	< 0.6	U	< 0.47	U	< 0.47	U	< 1	U	< 0.16	U	< 0.47	U	< 0.47	U
Ethylene	µg/L	NV	NA		NA		NA		NA		< 2	U	< 0.071	U	< 1	U	< 0.55	U	< 0.55	U	2.35		< 0.24	U	< 0.55	U	< 0.55	U
Methane	µg/L	NV	NA		NA		NA		NA		< 2	U	< 0.3	U	< 1.3	U	< 1	U	< 1	U	2.16		< 0.51	U	< 1	U	< 1	U
GEN CHEMISTRY																												
Ferrous Iron	mg/L	NV	NA		NA		NA		NA		< 0.04	U	0.03		0		0		0		0.03		0		0.4		0.19	
TOTAL ORGANIC CARBON																												
Total organic carbon	mg/L	NV	NA		NA		NA		NA		18.2	J+	0.861	J	0.762	J	1.08		0.865	J	0.94		2.81		1.82		0.56	
Total Inorganic Carbon	mg/L	NV	NA		NA		NA		NA		112		28		NA		NA		NA		NA		112		NA		NA	
METALS																												
Antimony	mg/L	0.006	NA		NA		NA		NA		NA		NA		< 0.001	U	NA		NA		NA		NA		NA		NA	
Manganese	mg/L	14	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
VOLATILES																												
1,1-Dichloroethene	µg/L	7	< 0.5	U	< 1	U	< 0.5	U	NA		< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
cis-1,2-Dichloroethene	µg/L	70	< 0.5	U	< 1	U	< 0.5	U	NA		< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
Tetrachloroethene	µg/L	5	< 1	U	0.53	J	0.69	J	NA		< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
Trichloroethene	µg/L	5	8.5		10		10		NA		< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
Vinyl chloride	µg/L	2	< 0.5	U	< 1	U	< 0.5	U	NA		< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U

Table 2-4
Surface Water and Groundwater Results RA-O 2013–2022

		Location Code	35BWW26														37DPT01		37DPT02				37DPT03	
		Sample ID	35BWW26-191121		35BWW26-200506		35BWW26-201110		35BWW26-210513		35BWW26-211117		35BWW26-211117-FD		35BWW26-220517		37DPT01(25-29)300713		37DPT02(21-25)290713		37DPT02(21-25)290713D		37DPT03(26-30)300713	
		Sample Date	11/21/2019		5/6/2020		11/10/2020		5/13/2021		11/17/2021		11/17/2021		5/17/2022		7/30/2013		7/29/2013		7/29/2013		7/30/2013	
		Sample Purpose	REG		REG		REG		REG		REG		FD		REG		REG		REG		REG		REG	
Parameter	Units	MCL/GW-IND	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
ANIONS																								
Bromide	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Chloride	mg/L	NV	30.6		31		32.6		32.9		32.2		32.4		33.1		NA		NA		NA		NA	
Fluoride	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrate	mg/L	10	0.0743	J	0.133		0.192		0.0817	J	0.13		0.144		0.0881	J	NA		NA		NA		NA	
Nitrite	mg/L	1	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Sulfate	mg/L	NV	26		25.3		23.7		25		26.4		24.7		25		NA		NA		NA		NA	
DHC																								
Dehalococcoides	cells/mL	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
FIELD TESTS																								
Specific conductivity	µmhos/cm	NV	0.230		0.280		0.231		0.296		0.281		NA		0.298		NA		NA		NA		NA	
Dissolved oxygen	mg/L	NV	0.13		0.35		0.82		1.25		0.84		NA		1.5		NA		NA		NA		NA	
Oxidation Reduction Potential	mV	NV	301		180		237		193		271		NA		227		NA		NA		NA		NA	
pH	SU	NV	5.87		5.83		5.14		5.34		5.21		NA		5.25		NA		NA		NA		NA	
Temperature	C	NV	20.73		19.28		20.59		17.45		18.92		NA		20.9		NA		NA		NA		NA	
Turbidity	NTU	NV	6.7		2.7		0		0		0.6		NA		15.5		NA		NA		NA		NA	
Water Level at Reading Time	Ft BTOC	NV	27.31		26		26.37		25.57		NA		NA		NA		NA		NA		NA		NA	
GASES																								
Carbon dioxide	µg/L	NV	100,000	J	87,000		330,000		330,000		552,000		557,000		149,000	J	NA		NA		NA		NA	
Ethane	µg/L	NV	< 0.47	U	< 0.47	U	< 0.47	U	< 0.47	U	< 0.5	U	< 0.5	U	< 0.5	U	NA		NA		NA		NA	
Ethylene	µg/L	NV	< 0.55	U	< 0.55	U	< 0.55	U	< 0.55	U	0.524	J	< 0.5	UJ	2.58	J	NA		NA		NA		NA	
Methane	µg/L	NV	< 1	U	< 1	U	< 1	U	< 1	U	1.28	J	2.04	J	3.71		NA		NA		NA		NA	
GEN CHEMISTRY																								
Ferrous Iron	mg/L	NV	0.05		0.67		NA		0.53		0		NA		0		NA		NA		NA		NA	
TOTAL ORGANIC CARBON																								
Total organic carbon	mg/L	NV	0.44	J	2.14	J	0.51		0.857	J	2.12	J	3.33	J	1.3		NA		NA		NA		NA	
Total Inorganic Carbon	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
METALS																								
Antimony	mg/L	0.006	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Manganese	mg/L	14	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
VOLATILES																								
1,1-Dichloroethene	µg/L	7	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	11.8		< 1	U	< 1	U	< 1	U
cis-1,2-Dichloroethene	µg/L	70	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	3.3		< 0.5	U	< 0.5	U	< 0.5	U
Tetrachloroethene	µg/L	5	< 0.5	U	< 1	U	< 0.5	U	< 1	U	< 1	U	< 1	U	< 0.5	U	20.9		0.549	J	0.684	J	< 0.5	U
Trichloroethene	µg/L	5	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	41.3		1.17		1.41		< 0.5	U
Vinyl chloride	µg/L	2	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	0.866	J	< 0.5	U	< 0.5	U	< 0.5	U

Table 2-4
Surface Water and Groundwater Results RA-O 2013–2022

		Location Code	37DPT03		37DPT04		37DPT05		37DPT06		37DPT06		37DPT07		37DPT08		37DPT09		37DPT10		37DPT11		37DPT12	
		Sample ID	37DPT03(60-62)-270813		37DPT04(21-25)300713		37DPT05(26-30)310713		37DPT06(26-30)300713		37DPT06(70-72)-260813		37DPT07(26-30)310713		37DPT08(23-28)010514		37DPT09(23-28)020514		37DPT10(23-28)030514		37DPT11(23-28)210514		37DPT12232812051	
		Sample Date	8/27/2013		7/30/2013		7/31/2013		7/30/2013		8/26/2013		7/31/2013		5/1/2014		5/2/2014		5/3/2014		5/21/2014		5/12/2014	
		Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter	Units	MCL/GW-IND	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
ANIONS																								
Bromide	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Chloride	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Fluoride	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrate	mg/L	10	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrite	mg/L	1	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Sulfate	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
DHC																								
Dehalococcoides	cells/mL	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
FIELD TESTS																								
Specific conductivity	µmhos/cm	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Dissolved oxygen	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Oxidation Reduction Potential	mV	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
pH	SU	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Temperature	C	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Turbidity	NTU	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Water Level at Reading Time	Ft BTOC	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
GASES																								
Carbon dioxide	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethane	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethylene	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Methane	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
GEN CHEMISTRY																								
Ferrous Iron	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
TOTAL ORGANIC CARBON																								
Total organic carbon	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Total Inorganic Carbon	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
METALS																								
Antimony	mg/L	0.006	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Manganese	mg/L	14	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
VOLATILES																								
1,1-Dichloroethene	µg/L	7	< 1.3	UV,T	< 1	U	< 1	U	< 1	U	< 1	U	< 1	U	9.14		< 1	U	< 1	U	< 1	U	14.3	
cis-1,2-Dichloroethene	µg/L	70	< 1.3	UV,T	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	1.77		< 0.5	U	< 0.5	U	0.261	J	4.03	
Tetrachloroethene	µg/L	5	< 2.5	UV,T	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	37.6		23		2.41		< 0.5	U	< 0.5	U	< 4.03	UJ
Trichloroethene	µg/L	5	< 1.3	UV,T	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	5.02		45.3		34.6		< 0.5	U	1.31		38.6	
Vinyl chloride	µg/L	2	< 1.3	UV,T	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	0.907	J	< 0.5	U	< 0.5	U	< 0.5	U	1.05	

Table 2-4
Surface Water and Groundwater Results RA-O 2013–2022

		Location Code	LHSMW58																					
		Sample ID	LHSMW58-131003		LHSMW58-100313		LHSMW58-151020		LHSMW58-102015		LHSMW58FD-102015		LHSMW58-151222		LHSMW58-122215		LHSMW58-160217		LHSMW58-021716		LHSMW58-160818		LHSMW58-081816		LHSMW58-110817	
		Sample Date	10/3/2013		10/3/2013		10/20/2015		10/20/2015		10/20/2015		12/22/2015		12/22/2015		2/17/2016		2/17/2016		8/18/2016		8/18/2016		11/8/2017	
		Sample Purpose	REG		REG		REG		REG		FD		REG		REG		REG		REG		REG		REG		REG	
Parameter	Units	MCL/GW-IND	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
ANIONS																										
Bromide	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Chloride	mg/L	NV	NA		9.83		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Fluoride	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrate	mg/L	10	NA		2.32		NA		3.06		3.04		NA		3.07		NA		1.05		NA		NA		NA	
Nitrite	mg/L	1	NA		< 0.2	U	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Sulfate	mg/L	NV	NA		34.9		NA		36.4		36		NA		17.5		NA		12.4		NA		NA		NA	
DHC																										
Dehalococcoides	cells/mL	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
FIELD TESTS																										
Specific conductivity	µmhos/cm	NV	0.232		NA		0.23		NA		NA		0.244		NA		0.189		NA		0.289		NA		0.240	
Dissolved oxygen	mg/L	NV	2.39		NA		2.71		NA		NA		6.41		NA		3.11		NA		2.48		NA		2.6	
Oxidation Reduction Potential	mV	NV	189		NA		159		NA		NA		143		NA		306		NA		440		NA		138.8	
pH	SU	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		5.98	
Temperature	C	NV	22.72		NA		19.23		NA		NA		21.15		NA		17.82		NA		20.43		NA		17.7	
Turbidity	NTU	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		0	
Water Level at Reading Time	Ft BTOC	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		25.2	
GASES																										
Carbon dioxide	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethane	µg/L	NV	NA		< 2	U	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethylene	µg/L	NV	NA		< 2	U	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Methane	µg/L	NV	NA		< 3.1	J	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
GEN CHEMISTRY																										
Ferrous Iron	mg/L	NV	NA		< 0.04	U	NA		< 0.04	U	< 0.04	U	NA		< 0.04	U	NA		< 0.04	U	NA		NA		NA	
TOTAL ORGANIC CARBON																										
Total organic carbon	mg/L	NV	NA		4.43		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Total Inorganic Carbon	mg/L	NV	NA		53.9		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
METALS																										
Antimony	mg/L	0.006	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Manganese	mg/L	14	NA		NA		NA		0.00672		0.00702		NA		0.00822		NA		0.016		NA		NA		NA	
VOLATILES																										
1,1-Dichloroethene	µg/L	7	NA		< 1	U	NA		NA		NA		NA		NA		NA		NA		NA		< 1	U	< 1	U
cis-1,2-Dichloroethene	µg/L	70	NA		< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA		< 0.5	U	< 1	U
Tetrachloroethene	µg/L	5	NA		20.3		NA		NA		NA		NA		NA		NA		NA		NA		19.9		20	
Trichloroethene	µg/L	5	NA		4.26		NA		NA		NA		NA		NA		NA		NA		NA		1.93		1.6	
Vinyl chloride	µg/L	2	NA		< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA		< 0.5	U	< 1	U

Table 2-4
Surface Water and Groundwater Results RA-O 2013–2022

		Location Code	LHSMW58																					
		Sample ID	LHSMW58-021218		LHSMW58-180327		LHSMW58-180524		LHSMW58-180820		LHSMW58-181118		LHSMW58-181118-FD		LHSMW58-190213		LHSMW58-190522		LHSMW58-190807		LHSMW58-191122		LHSMW58-200511		LHSMW58-201109	
		Sample Date	2/12/2018		3/27/2018		5/24/2018		8/20/2018		11/18/2018		11/18/2018		2/13/2019		5/22/2019		8/7/2019		11/22/2019		5/11/2020		11/9/2020	
		Sample Purpose	REG		REG		REG		REG		REG		FD		REG		REG		REG		REG		REG		REG	
Parameter	Units	MCL/GW-IND	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
ANIONS																										
Bromide	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Chloride	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Fluoride	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrate	mg/L	10	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrite	mg/L	1	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Sulfate	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
DHC																										
Dehalococcoides	cells/mL	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
FIELD TESTS																										
Specific conductivity	µmhos/cm	NV	0.241		0.203		0.148		0.257		0.233		NA		0.200		0.235		0.240		0.167		0.219		0.193	
Dissolved oxygen	mg/L	NV	5.8		6.5		2.45		1.37		5.01		NA		6.26		3.25		4.88		5.11		3.02		2.33	
Oxidation Reduction Potential	mV	NV	96.5		213		386		228		143.9		NA		355		302		223		278		207		213	
pH	SU	NV	6.75		5.64		5.14		5.43		6.63		NA		7.02		5.39		6.76		6.63		6.22		5.59	
Temperature	C	NV	15.86		22.76		20.74		25.78		19.56		NA		16.4		21.96		22.29		19.56		17.95		21.15	
Turbidity	NTU	NV	0		0		0		42.3		0		NA		1		0		0		5.5		6.3		3.5	
Water Level at Reading Time	Ft BTOC	NV	24.95		24		24.05		25.43		24.24		NA		23.22		20.45		22.36		24.45		21.72		23.61	
GASES																										
Carbon dioxide	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethane	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethylene	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Methane	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
GEN CHEMISTRY																										
Ferrous Iron	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
TOTAL ORGANIC CARBON																										
Total organic carbon	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Total Inorganic Carbon	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
METALS																										
Antimony	mg/L	0.006	NA		< 0.001	U	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Manganese	mg/L	14	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
VOLATILES																										
1,1-Dichloroethene	µg/L	7	< 0.5	U	NA		< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	UJ	< 0.5	U	< 0.5	U	< 0.5	U
cis-1,2-Dichloroethene	µg/L	70	< 0.5	U	NA		< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	UJ	< 0.5	U	< 0.5	U	< 0.5	U
Tetrachloroethene	µg/L	5	14		NA		12		26		26		25		6.1		3.6		6.8		4.2		14		9.5	
Trichloroethene	µg/L	5	< 0.5	U	NA		1.4		2.2		1.8		1.8		< 0.5	U	< 0.5	U	0.59	J-	< 0.5	U	0.88	J	0.81	J
Vinyl chloride	µg/L	2	< 0.5	U	NA		< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U

Table 2-4
Surface Water and Groundwater Results RA-O 2013–2022

		Location Code	LHSMW58					
		Sample ID	LHSMW58-210513		LHSMW58-211115		LHSMW58-220517	
		Sample Date	5/13/2021		11/15/2021		5/17/2022	
		Sample Purpose	REG		REG		REG	
Parameter	Units	MCL/GW-IND	Result	Val Qual	Result	Val Qual	Result	Val Qual
ANIONS								
Bromide	mg/L	NV	NA		NA		NA	
Chloride	mg/L	NV	NA		NA		NA	
Fluoride	mg/L	NV	NA		NA		NA	
Nitrate	mg/L	10	NA		NA		NA	
Nitrite	mg/L	1	NA		NA		NA	
Sulfate	mg/L	NV	NA		NA		NA	
DHC								
Dehalococcoides	cells/mL	NV	NA		NA		NA	
FIELD TESTS								
Specific conductivity	µmhos/cm	NV	0.233		0.216		0.21	
Dissolved oxygen	mg/L	NV	1.8		2.74		1.39	
Oxidation Reduction Potential	mV	NV	154		122		216	
pH	SU	NV	5.88		6.27		5.96	
Temperature	C	NV	19.21		19.78		22.96	
Turbidity	NTU	NV	0		2		16.2	
Water Level at Reading Time	Ft BTOC	NV	19.75		NA		NA	
GASES								
Carbon dioxide	µg/L	NV	NA		NA		NA	
Ethane	µg/L	NV	NA		NA		NA	
Ethylene	µg/L	NV	NA		NA		NA	
Methane	µg/L	NV	NA		NA		NA	
GEN CHEMISTRY								
Ferrous Iron	mg/L	NV	NA		NA		NA	
TOTAL ORGANIC CARBON								
Total organic carbon	mg/L	NV	NA		NA		NA	
Total Inorganic Carbon	mg/L	NV	NA		NA		NA	
METALS								
Antimony	mg/L	0.006	NA		NA		NA	
Manganese	mg/L	14	NA		NA		NA	
VOLATILES								
1,1-Dichloroethene	µg/L	7	< 0.5	U	< 0.5	U	< 0.5	U
cis-1,2-Dichloroethene	µg/L	70	< 0.5	U	< 0.5	U	< 0.5	U
Tetrachloroethene	µg/L	5	19		13		9.5	
Trichloroethene	µg/L	5	1.1		1		< 0.5	U
Vinyl chloride	µg/L	2	< 0.5	U	< 0.5	U	< 0.5	U

Table 2-4
Surface Water and Groundwater Results RA-O 2013–2022

Notes:

Bold and highlighted values indicate result exceeds the MCL.

µg/L - micrograms per liter

µmhos/cm - micromhos per centimeter

C - degrees Celsius

J - The analyte was positively identified; the reported value is the estimated concentration of the constituent detected in the sample analyzed.

U - Not detected. The analyte was analyzed for, but not detected above the associated reporting limit.

UJ - The analyte was analyzed for, but not detected above the established reporting limit. However, review and evaluation of supporting QC data have indicated that the “non-detect” may be inaccurate or imprecise. The non-detect result should be estimated.

cells/mL - cells per milliliter

DHC - Dehalococcoides

FD - field duplicate

Ft BTOC - feet below top of casing

GW-Ind - groundwater medium-specific concentration for industrial use.

ID - identifier

MCL - maximum contaminant level

mg/L - milligrams per Liter

mS/cm - millisiemens per centimeter

mV - millivolts

NA - not analyzed

NM - not measured

NTU - nephelometric turbidity unit

QC - quality control

RA-O - Remedial Action Operation

REG - regular sample

SIM - selected ion monitoring

STD Unit - standard unit

SVOC - semivolatile organic compound

Val Qual - validation qualifier

VOC - volatile organic compound

Table 2-5
COC Concentrations 1994–2022

Location Code			35BSW01								35BSW02								35BWW01							
Sample ID			35BSW01-101713		35BSW01-021218		35BSW01-181116		35BSW01-200511		35BSW02-101713		35BSW02-021218		35BSW02-181116		35BSW02-200511		35BWW01-981108		35BWW01-040910		35BWW01-060810		35BWW01-061217	
Sample Date			10/17/2013		2/12/2018		11/16/2018		5/11/2020		10/17/2013		2/12/2018		11/16/2018		5/11/2020		11/8/1998		9/10/2004		8/10/2006		12/17/2006	
Sample Purpose			REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Location Description			Surface Water Location, Upgradient		Surface Water Location, Upgradient		Surface Water Location, Upgradient		Surface Water Location, Upgradient		Surface Water Location, Downgradient		Surface Water Location, Downgradient		Surface Water Location, Downgradient		Surface Water Location, Downgradient		Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary	
Parameter	Units	MCL	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Tetrachloroethene	µg/L	5	0.5	U	0.5	U	0.5	U	1	U	0.5	U	0.5	U	0.5	U	1	U	1	U	5	U	5	U	5	U
Trichloroethene	µg/L	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	1	U	5	U	5	U	5	U
1,1-Dichloroethene	µg/L	7	1	U	0.5	U	0.5	U	0.5	U	1	U	0.5	U	0.5	U	0.5	U	1	U	5	U	5	U	5	U
cis-1,2-Dichloroethene	µg/L	70	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	1	U	5	U	10	U	10	U
Vinyl chloride	µg/L	2	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	1	U	5	U	10	U	10	U

Table 2-5
COC Concentrations 1994–2022

Location Code			35BWW01																				
Sample ID			35BWW01-081916		35BWW01-110817		35BWW01-021418		35BWW01-180524		35BWW01-180524FD		35BWW01-180816		35BWW01-180816-FD		35BWW01-181115		35BWW01-190212		35BWW01-190212-FD		35BWW01-190520	
Sample Date			8/19/2016		11/8/2017		2/14/2018		5/24/2018		5/24/2018		8/16/2018		8/16/2018		11/15/2018		2/12/2019		2/12/2019		5/20/2019	
Sample Purpose			REG		REG		REG		REG		FD		REG		FD		REG		REG		FD		REG	
Location Description			Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary	
Parameter	Units	MCL	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Tetrachloroethene	µg/L	5	0.5	U	1	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethene	µg/L	5	0.5	U	1	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethene	µg/L	7	1	U	1	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,2-Dichloroethene	µg/L	70	0.5	U	1	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	µg/L	2	0.5	U	1	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U

Table 2-5
COC Concentrations 1994–2022

Location Code			35BWW01																		35BWW02	
Sample ID			35BWW01-190520-FD		35BWW01-190805		35BWW01-190805-FD		35BWW01-191121		35BWW01-200506		35BWW01-200506-FD		35BWW01-201109		35BWW01-210513		35BWW01-211115		35BWW01-220517		35BWW02-981105FD	
Sample Date			5/20/2019		8/5/2019		8/5/2019		11/21/2019		5/6/2020		5/6/2020		11/9/2020		5/13/2021		11/15/2021		5/17/2022		11/5/1998	
Sample Purpose			FD		REG		FD		REG		REG		FD		REG		REG		REG		REG		FD	
Location Description			Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary			
Parameter	Units	MCL	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Tetrachloroethene	µg/L	5	0.5	U	0.5	U	0.5	U	0.5	U	1	U	1	U	0.5	U	1	U	1	U	0.5	U	1	U
Trichloroethene	µg/L	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	1	U
1,1-Dichloroethene	µg/L	7	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	1	U
cis-1,2-Dichloroethene	µg/L	70	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	1	U
Vinyl chloride	µg/L	2	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	1	U

Table 2-5
COC Concentrations 1994–2022

Location Code			35BWW02		35BWW03														35BWW04					
Sample ID			35BWW02-981108		35BWW03-040910		35BWW03-060809		35BWW03-060809FD		35BWW03-061216		35BWW03-100513		35BWW03-081816		35BWW03FD-081816		35BWW03-211115		35BWW04-061216		35BWW04-100313		35BWW04-081716	
Sample Date			11/8/1998		9/10/2004		8/9/2006		8/9/2006		12/16/2006		10/5/2013		8/18/2016		8/18/2016		11/15/2021		12/16/2006		10/3/2013		8/17/2016	
Sample Purpose			REG		REG		REG		FD		REG		REG		REG		FD		REG		REG		REG		REG	
Location Description					Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary	
Parameter	Units	MCL	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Tetrachloroethene	µg/L	5	1	U	5	U	5	U	5	U	5	U	0.5	U	0.5	U	0.5	U	1	U	30.1		66.5	J	6.1	
Trichloroethene	µg/L	5	1	U	5	U	5	U	5	U	5	U	0.5	U	0.5	U	0.5	U	0.5	U	10.8		11.4	J	0.786	J
1,1-Dichloroethene	µg/L	7	1	U	5	U	5	U	5	U	5	U	1	U	1	U	1	U	0.5	U	3.34	J	2.3	J	1	U
cis-1,2-Dichloroethene	µg/L	70	1	U	5	U	10	U	10	U	10	U	0.5	U	0.5	U	0.5	U	0.5	U	0.846	J	0.673	J	0.5	U
Vinyl chloride	µg/L	2	1	U	5	U	10	U	10	U	10	U	0.5	U	0.5	U	0.5	U	0.5	U	10	U	0.5	U	0.5	U

Table 2-5
COC Concentrations 1994–2022

Location Code			35BWW04																					
Sample ID			35BWW04-110917		35BWW04-110917-FD		35BWW04-021418		35BWW04-021418-FD		35BWW04-180522		35BWW04-180822		35BWW04-181120		35BWW04-181120-FD		35BWW04-190213		35BWW04-190520		35BWW04-190805		35BWW04-191121	
Sample Date			11/9/2017		11/9/2017		2/14/2018		2/14/2018		5/22/2018		8/22/2018		11/20/2018		11/20/2018		2/13/2019		5/20/2019		8/5/2019		11/21/2019	
Sample Purpose			REG		FD		REG		FD		REG		REG		REG		FD		REG		REG		REG		REG	
Location Description			Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary	
Parameter	Units	MCL	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Tetrachloroethene	µg/L	5	7.3		8.2		10		10		5.3		2.2		6.3		5.3		5.3		4.7		7.9		8.3	
Trichloroethene	µg/L	5	1		1.1		1.3		1.2		0.5	U	0.5	U	0.95	J	0.73	J	0.59	J	0.58	J	0.93	J	0.93	J
1,1-Dichloroethene	µg/L	7	1	U	1	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,2-Dichloroethene	µg/L	70	1	U	1	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	µg/L	2	1	U	1	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U

Table 2-5
COC Concentrations 1994–2022

Location Code			35BWW04														35BWW05									
Sample ID			35BWW04-191121-FD		35BWW04-200506		35BWW04-201110		35BWW04-210513		35BWW04-211117		35BWW04-220517		35BWW04-220517-FD		35BWW05-061214		35BWW05-100413		35BWW05-081816		35BWW05-110817		35BWW05-021618	
Sample Date			11/21/2019		5/6/2020		11/10/2020		5/13/2021		11/17/2021		5/17/2022		5/17/2022		12/14/2006		10/4/2013		8/18/2016		11/8/2017		2/16/2018	
Sample Purpose			FD		REG		REG		REG		REG		REG		FD		REG		REG		REG		REG		REG	
Location Description			Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary	
Parameter	Units	MCL	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Tetrachloroethene	µg/L	5	7.7		6.4		5.2		6.8		6.3		3.9		3.6		1	J	1.57		1.25		1.5		2.8	
Trichloroethene	µg/L	5	0.93	J	0.71	J	0.72	J	0.61	J	0.88	J	0.5	U	0.5	U	12.9		14		8.87		7		10	
1,1-Dichloroethene	µg/L	7	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	5	U	1	U	1	U	1	U	0.5	U
cis-1,2-Dichloroethene	µg/L	70	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	10	U	0.295	J	0.497	J	1	U	0.5	U
Vinyl chloride	µg/L	2	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	10	U	0.5	U	0.5	U	1	U	0.5	U

Table 2-5
COC Concentrations 1994–2022

Location Code			35BWW05																					
Sample ID			35BWW05-180521		35BWW05-180821		35BWW05-181118		35BWW05-190213		35BWW05-190521		35BWW05-190806		35BWW05-191125		35BWW05-200506		35BWW05-201109		35BWW05-210513		35BWW05-211115		35BWW05-220516	
Sample Date			5/21/2018		8/21/2018		11/18/2018		2/13/2019		5/21/2019		8/6/2019		11/25/2019		5/6/2020		11/9/2020		5/13/2021		11/15/2021		5/16/2022	
Sample Purpose			REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Location Description			Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary	
Parameter	Units	MCL	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Tetrachloroethene	µg/L	5	2		1.7		2.7		1.9		1.1		1.9		1.4		2.4		2.1		2.5		1.8		4.1	
Trichloroethene	µg/L	5	8.5		7.3		12		9.6		5.5		8.6		6		7.3		5.5		6.3		3.5		1.8	
1,1-Dichloroethene	µg/L	7	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,2-Dichloroethene	µg/L	70	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	µg/L	2	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U

Table 2-5
COC Concentrations 1994–2022

Location Code			35BWW06																		35BWW07			
Sample ID			35BWW06-061214		35BWW06-100413		35BWW06-081816		35BWW06FD-081816		35BWW06-110817		35BWW06-021618		35BWW06-180521		35BWW06-180821		35BWW06-181118		35BWW06-211115		35BWW07-091407		35BWW07-100513	
Sample Date			12/14/2006		10/4/2013		8/18/2016		8/18/2016		11/8/2017		2/16/2018		5/21/2018		8/21/2018		11/18/2018		11/15/2021		9/14/2007		10/5/2013	
Sample Purpose			REG		REG		REG		FD		REG		REG		REG		REG		REG		REG		REG		REG	
Location Description			Lower shallow zone, unimpacted, within site boundary		Lower shallow zone, unimpacted, within site boundary		Lower shallow zone, unimpacted, within site boundary		Lower shallow zone, unimpacted, within site boundary		Lower shallow zone, unimpacted, within site boundary		Lower shallow zone, unimpacted, within site boundary		Lower shallow zone, unimpacted, within site boundary		Lower shallow zone, unimpacted, within site boundary		Lower shallow zone, unimpacted, within site boundary		Lower shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted downgradient		Shallow zone, unimpacted downgradient	
Parameter	Units	MCL	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Tetrachloroethene	µg/L	5	5	U	0.5	U	0.5	U	0.5	U	1	U	0.5	U	0.5	U	0.5	U	0.5	U	1	U	1		0.5	U
Trichloroethene	µg/L	5	5	U	0.5	U	0.5	U	0.5	U	1	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	1		0.5	U
1,1-Dichloroethene	µg/L	7	5	U	1	U	1	U	1	U	1	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	1		1	U
cis-1,2-Dichloroethene	µg/L	70	10	U	0.5	U	0.5	U	0.5	U	1	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	1		0.5	U
Vinyl chloride	µg/L	2	10	U	0.5	U	0.5	U	0.5	U	1	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	1		0.5	U

Table 2-5
COC Concentrations 1994–2022

Location Code			35BWW07																						
Sample ID			35BWW07-081916		35BWW07-110917		35BWW07-021318		35BWW07-180523		35BWW07-180820		35BWW07-181118		35BWW07-190214		35BWW07-190522		35BWW07-190805		35BWW07-191125		35BWW07-200511		35BWW07-201111	
Sample Date			8/19/2016		11/9/2017		2/13/2018		5/23/2018		8/20/2018		11/18/2018		2/14/2019		5/22/2019		8/5/2019		11/25/2019		5/11/2020		11/11/2020	
Sample Purpose			REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Location Description			Shallow zone, unimpacted downgradient		Shallow zone, unimpacted downgradient		Shallow zone, unimpacted downgradient		Shallow zone, unimpacted downgradient		Shallow zone, unimpacted downgradient		Shallow zone, unimpacted downgradient		Shallow zone, unimpacted downgradient		Shallow zone, unimpacted downgradient		Shallow zone, unimpacted downgradient		Shallow zone, unimpacted downgradient		Shallow zone, unimpacted downgradient		Shallow zone, unimpacted downgradient	
Parameter	Units	MCL	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Tetrachloroethene	µg/L	5	0.5	U	1	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	1	U	0.5	U
Trichloroethene	µg/L	5	0.5	U	1	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethene	µg/L	7	1	U	1	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,2-Dichloroethene	µg/L	70	0.5	U	1	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	µg/L	2	0.5	U	1	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U

Table 2-5
COC Concentrations 1994–2022

Location Code			35BWW07								35BWW08													
Sample ID			35BWW07-210517		35BWW07-211117		35BWW07-211117-FD		35BWW07-220516		35BWW08-091407		35BWW08-091407FD		35BWW08-100913		35BWW08-081716		35BWW08-110717		35BWW08-021418		35BWW08-180523		35BWW08-180822	
Sample Date			5/17/2021		11/17/2021		11/17/2021		5/16/2022		9/14/2007		9/14/2007		10/9/2013		8/17/2016		11/7/2017		2/14/2018		5/23/2018		8/22/2018	
Sample Purpose			REG		REG		FD		REG		REG		FD		REG		REG		REG		REG		REG		REG	
Location Description			Shallow zone, unimpacted downgradient		Shallow zone, unimpacted downgradient		Shallow zone, unimpacted downgradient		Shallow zone, unimpacted downgradient		Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary	
Parameter	Units	MCL	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Tetrachloroethene	µg/L	5	1	U	1	U	1	U	1.1		0.981	J	0.955	J	0.5	U	0.5	U	1	U	0.5	U	0.5	U	0.5	U
Trichloroethene	µg/L	5	0.5	U	0.5	U	0.5	U	3.7		150		151		43.8		1.01		0.89	J	0.5	U	0.5	U	0.5	U
1,1-Dichloroethene	µg/L	7	0.5	U	0.5	U	0.5	U	0.5	U	1		1		1	U	1	U	1	U	0.5	U	0.5	U	0.5	U
cis-1,2-Dichloroethene	µg/L	70	0.5	U	0.5	U	0.5	U	0.5	U	0.407		0.388	J	0.5	U	0.5	U	1	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	µg/L	2	0.5	U	0.5	U	0.5	U	0.5	U	1		1		0.5	U	0.5	U	1	U	0.5	U	0.5	U	0.5	U

Table 2-5
COC Concentrations 1994–2022

Location Code			35BWW08																				35BWW09	
Sample ID			35BWW08-181120		35BWW08-190212		35BWW08-190520		35BWW08-190805		35BWW08-191121		35BWW08-200506		35BWW08-201111		35BWW08-201111-FD		35BWW08-210513		35BWW08-211117		35BWW08-220517		35BWW09-100813	
Sample Date			11/20/2018		2/12/2019		5/20/2019		8/5/2019		11/21/2019		5/6/2020		11/11/2020		11/11/2020		5/13/2021		11/7/2021		5/17/2022		10/8/2013	
Sample Purpose			REG		REG		REG		REG		REG		REG		REG		FD		REG		REG		REG		REG	
Location Description			Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary		Shallow zone, impacted outside site boundary	
Parameter	Units	MCL	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Tetrachloroethene	µg/L	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	1	U	1	U	1	U	1	U	1	U	0.5	U	0.5	U
Trichloroethene	µg/L	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	49	
1,1-Dichloroethene	µg/L	7	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	1	U
cis-1,2-Dichloroethene	µg/L	70	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.529	J
Vinyl chloride	µg/L	2	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U

Table 2-5
COC Concentrations 1994–2022

Location Code			35BWW09																						
Sample ID			35BWW09-081616		35BWW09-110717		35BWW09-021318		35BWW09-180521		35BWW09-180816		35BWW09-181119		35BWW09-190213		35BWW09-190521		35BWW09-190805		35BWW09-191126		35BWW09-200511		35BWW09-201109	
Sample Date			8/16/2016		11/7/2017		2/13/2018		5/21/2018		8/16/2018		11/19/2018		2/13/2019		5/21/2019		8/5/2019		11/26/2019		5/11/2020		11/9/2020	
Sample Purpose			REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Location Description			Shallow zone, impacted outside site boundary		Shallow zone, impacted outside site boundary		Shallow zone, impacted outside site boundary		Shallow zone, impacted outside site boundary		Shallow zone, impacted outside site boundary		Shallow zone, impacted outside site boundary		Shallow zone, impacted outside site boundary		Shallow zone, impacted outside site boundary		Shallow zone, impacted outside site boundary		Shallow zone, impacted outside site boundary		Shallow zone, impacted outside site boundary		Shallow zone, impacted outside site boundary	
Parameter	Units	MCL	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Tetrachloroethene	µg/L	5	0.5	U	1	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	41		0.5	U	0.5	U	1	U	0.5	U
Trichloroethene	µg/L	5	149		180		180		240		180		580		410		20		70	J	47		42		23	
1,1-Dichloroethene	µg/L	7	1	U	0.84	J	0.5	U	0.5	U	0.5	U	0.78	J	0.5	U	5.5		0.5	U	0.5	U	0.5	U	0.5	U
cis-1,2-Dichloroethene	µg/L	70	0.759	J	1.7		0.5	U	0.96	J	0.84	J	1.9		1.1		1.8		0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	µg/L	2	0.5	U	1	U	0.5	U	0.5	U	0.5	U	0.6	J	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U

Table 2-5
COC Concentrations 1994–2022

Location Code			35BWW09						35BWW10															
Sample ID			35BWW09-210517		35BWW09-211115		35BWW09-220518		35BWW10-100413		35BWW10FD-100413		35BWW10-081816		35BWW10-110717		35BWW10-021618		35BWW10-180524		35BWW10-180817		35BWW10-181118		35BWW10-190212	
Sample Date			5/17/2021		11/15/2021		5/18/2022		10/4/2013		10/4/2013		8/18/2016		11/7/2017		2/16/2018		5/24/2018		8/17/2018		11/18/2018		2/12/2019	
Sample Purpose			REG		REG		REG		REG		FD		REG		REG		REG		REG		REG		REG		REG	
Location Description			Shallow zone, impacted outside site boundary		Shallow zone, impacted outside site boundary		Shallow zone, impacted outside site boundary		Shallow, impacted, within site boundary		Shallow, impacted, within site boundary		Shallow, impacted, within site boundary		Shallow, impacted, within site boundary		Shallow, impacted, within site boundary		Shallow, impacted, within site boundary		Shallow, impacted, within site boundary		Shallow, impacted, within site boundary		Shallow, impacted, within site boundary	
Parameter	Units	MCL	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Tetrachloroethene	µg/L	5	1	U	1.1		0.5	U	4.45		4.52		21		31		29		30		24		45		37	
Trichloroethene	µg/L	5	13		23		34		56.3		56.9		23.9		33		39		36		28		53		50	
1,1-Dichloroethene	µg/L	7	0.5	U	0.5	U	0.5	U	1	U	1	U	1	U	1	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,2-Dichloroethene	µg/L	70	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	1	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	µg/L	2	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	1	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U

Table 2-5
COC Concentrations 1994–2022

Location Code			35BWW10																35BWW11							
Sample ID			35BWW10-190520		35BWW10-190806		35BWW10-191126		35BWW10-200506		35BWW10-201109		35BWW10-210513		35BWW10-211115		35BWW10-220516		35BWW11-100813		35BWW11-081816		35BWW11-110817		35BWW11-021218	
Sample Date			5/20/2019		8/6/2019		11/26/2019		5/6/2020		11/9/2020		5/13/2021		11/15/2021		5/16/2022		10/8/2013		8/18/2016		11/8/2017		2/12/2018	
Sample Purpose			REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Location Description			Shallow, impacted, within site boundary		Shallow, impacted, within site boundary		Shallow, impacted, within site boundary		Shallow, impacted, within site boundary		Shallow, impacted, within site boundary		Shallow, impacted, within site boundary		Shallow, impacted, within site boundary		Shallow, impacted, within site boundary		Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary	
Parameter	Units	MCL	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Tetrachloroethene	µg/L	5	5.5		1.6		0.84	J	1	U	0.5	U	1	U	1	U	0.5	U	0.252	J	0.798	J	1	U	0.5	U
Trichloroethene	µg/L	5	9.4		2.6		0.9	J	0.64	J	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	1	U	0.5	U
1,1-Dichloroethene	µg/L	7	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	1	U	1	U	1	U	0.5	U
cis-1,2-Dichloroethene	µg/L	70	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	1	U	0.5	U
Vinyl chloride	µg/L	2	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	1	U	0.5	U

Table 2-5
COC Concentrations 1994–2022

Location Code			35BWW11																					
Sample ID			35BWW11-180521		35BWW11-180817		35BWW11-181118		35BWW11-190213		35BWW11-190521		35BWW11-190807		35BWW11-191121		35BWW11-200506		35BWW11-201109		35BWW11-210517		35BWW11-211117		35BWW11-220517	
Sample Date			5/21/2018		8/17/2018		11/18/2018		2/13/2019		5/21/2019		8/7/2019		11/21/2019		5/6/2020		11/9/2020		5/17/2021		11/17/2021		5/17/2022	
Sample Purpose			REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Location Description			Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary	
Parameter	Units	MCL	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Tetrachloroethene	µg/L	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	1	U	0.5	U	1	U	1	U	0.5	U
Trichloroethene	µg/L	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethene	µg/L	7	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,2-Dichloroethene	µg/L	70	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	µg/L	2	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U

Table 2-5
COC Concentrations 1994–2022

Location Code			35BWW12																					
Sample ID			35BWW12-100313		35BWW12-081716		35BWW12-110917		35BWW12-021418		35BWW12-180523		35BWW12-180523FD		35BWW12-180822		35BWW12-180822FD		35BWW12-181120		35BWW12-190213		35BWW12-190213-FD		35BWW12-190521	
Sample Date			10/3/2013		8/17/2016		11/9/2017		2/14/2018		5/23/2018		5/23/2018		8/22/2018		8/22/2018		11/20/2018		2/13/2019		2/13/2019		5/21/2019	
Sample Purpose			REG		REG		REG		REG		REG		FD		REG		FD		REG		REG		FD		REG	
Location Description			Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary	
Parameter	Units	MCL	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Tetrachloroethene	µg/L	5	15.3		4.06		4.8		7.1		6.2		7		7.3		7.6		8.7		8		8.2		6.2	
Trichloroethene	µg/L	5	2.04		0.473	J	0.62	J	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.92	J	0.91	J	0.88	J	0.55	J
1,1-Dichloroethene	µg/L	7	1	U	1	U	1	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,2-Dichloroethene	µg/L	70	0.5	U	0.5	U	1	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	µg/L	2	0.5	U	0.5	U	1	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U

Table 2-5
COC Concentrations 1994–2022

Location Code			35BWW12																			
Sample ID			35BWW12-190521-FD		35BWW12-190805		35BWW12-190805-FD		35BWW12-191125		35BWW12-200506		35BWW12-200506-FD		35BWW12-201111		35BWW12-210518		35BWW12-210518-FD		35BWW12-211122		35BWW12-220518	
Sample Date			5/21/2019		8/5/2019		8/5/2019		11/25/2019		5/6/2020		5/6/2020		11/11/2020		5/18/2021		5/18/2021		11/22/2021		5/18/2022	
Sample Purpose			FD		REG		FD		REG		REG		FD		REG		REG		FD		REG		REG	
Location Description			Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary	
Parameter	Units	MCL	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Tetrachloroethene	µg/L	5	5.7		5.8		6.3		5.8		8.5		8.5		3.1		3.4		3.6		2.1		2	
Trichloroethene	µg/L	5	0.53	J	0.5	U	0.53	J	0.55	J	0.61	J	0.72	J	0.5	U	0.5	U	0.5	U	1	U	0.5	U
1,1-Dichloroethene	µg/L	7	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	1	U	0.5	U
cis-1,2-Dichloroethene	µg/L	70	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	1	U	0.5	U
Vinyl chloride	µg/L	2	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	1	U	0.5	U

Table 2-5
COC Concentrations 1994–2022

Location Code			35BWW13																					
Sample ID			35BWW13-100713		35BWW13-081916		35BWW13-110717		35BWW13-110717-FD		35BWW13-021318		35BWW13-021318		35BWW13-021318FD		35BWW13-180524		35BWW13-180821		35BWW13-181116		35BWW13-190214		35BWW13-190522	
Sample Date			10/7/2013		8/19/2016		11/7/2017		11/7/2017		2/13/2018		2/13/2018		2/13/2018		5/24/2018		8/21/2018		11/16/2018		2/14/2019		5/22/2019	
Sample Purpose			REG		REG		REG		FD		REG		FD		FD		REG		REG		REG		REG		REG	
Location Description			Shallow zone, unimpacted, crossgradient		Shallow zone, unimpacted, crossgradient		Shallow zone, unimpacted, crossgradient		Shallow zone, unimpacted, crossgradient		Shallow zone, unimpacted, crossgradient		Shallow zone, unimpacted, crossgradient		Shallow zone, unimpacted, crossgradient		Shallow zone, unimpacted, crossgradient		Shallow zone, unimpacted, crossgradient		Shallow zone, unimpacted, crossgradient		Shallow zone, unimpacted, crossgradient		Shallow zone, unimpacted, crossgradient	
Parameter	Units	MCL	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Tetrachloroethene	µg/L	5	4.14		0.5	U	0.99	J	0.84	J	1.9		1.9		1.9		0.5	U	0.5	U	1.1		0.5	U	0.5	U
Trichloroethene	µg/L	5	1.84		0.5	U	1	U	1	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethene	µg/L	7	1	U	1	U	1	U	1	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,2-Dichloroethene	µg/L	70	0.5	U	0.5	U	1	U	1	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	µg/L	2	0.5	U	0.5	U	1	U	1	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U

Table 2-5
COC Concentrations 1994–2022

Location Code			35BWW13														35BWW14									
Sample ID			35BWW13-190806		35BWW13-191125		35BWW13-200507		35BWW13-201111		35BWW13-210517		35BWW13-211117		35BWW13-220516		35BWW14-100913		35BWW14-081716		35BWW14-110717		35BWW14-021518		35BWW14-180522	
Sample Date			8/6/2019		11/25/2019		5/7/2020		11/11/2020		5/17/2021		11/17/2021		5/16/2022		10/9/2013		8/17/2016		11/7/2017		2/15/2018		5/22/2018	
Sample Purpose			REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Location Description			Shallow zone, unimpacted, crossgradient		Shallow zone, unimpacted, crossgradient		Shallow zone, unimpacted, crossgradient		Shallow zone, unimpacted, crossgradient		Shallow zone, unimpacted, crossgradient		Shallow zone, unimpacted, crossgradient		Shallow zone, unimpacted, crossgradient		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary	
Parameter	Units	MCL	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Tetrachloroethene	µg/L	5	0.5	U	0.5	U	1	U	1	U	1	U	1	U	0.5	U	19		20.1		53		44		30	
Trichloroethene	µg/L	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	82.8		39.7		24		20		23	
1,1-Dichloroethene	µg/L	7	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	57.2		10		8.4		0.5	U	5.1	
cis-1,2-Dichloroethene	µg/L	70	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	14.3		3.44		2.4		1.1		2.6	
Vinyl chloride	µg/L	2	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	5.09		0.301	J	1	U	0.5	U	0.5	U

Table 2-5
COC Concentrations 1994–2022

Location Code			35BWW14																				35BWW15	
Sample ID			35BWW14-180822		35BWW14-181120		35BWW14-190212		35BWW14-190521		35BWW14-190806		35BWW14-191125		35BWW14-200507		35BWW14-201110		35BWW14-210518		35BWW14-211122		35BWW14-220518		35BWW15-011414	
Sample Date			8/22/2018		11/20/2018		2/12/2019		5/21/2019		8/6/2019		11/25/2019		5/7/2020		11/10/2020		5/18/2021		11/22/2021		5/18/2022		1/14/2014	
Sample Purpose			REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Location Description			Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary	
Parameter	Units	MCL	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Tetrachloroethene	µg/L	5	31		37		37		0.5	U	38		38		40		23		27		24		19		8.69	
Trichloroethene	µg/L	5	12		9.1		22		110		15		16		14		7.7		6.9		6.1		5.1		43.5	
1,1-Dichloroethene	µg/L	7	2.2		2.2		5.6		0.5	U	4.2		4.6		3.6		2.1		1.8		1.3		1.3		35.5	
cis-1,2-Dichloroethene	µg/L	70	1.4		0.91	J	2.1		0.66	J	1.3		1.5		1.2		0.64	J	0.5	U	0.5	J	0.5	U	6.25	
Vinyl chloride	µg/L	2	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	1	U	0.5	U	3.42	

Table 2-5
COC Concentrations 1994–2022

Location Code			35BWW15																					
Sample ID			35BWW15-081916		35BWW15-110717		35BWW15-021318		35BWW15-180521		35BWW15-180820		35BWW15-181116		35BWW15-181116-FD		35BWW15-190214		35BWW15-190522		35BWW15-190807		35BWW15-191122		35BWW15-191122-FD	
Sample Date			8/19/2016		11/7/2017		2/13/2018		5/21/2018		8/20/2018		11/16/2018		11/16/2018		2/14/2019		5/22/2019		8/7/2019		11/22/2019		11/22/2019	
Sample Purpose			REG		REG		REG		REG		REG		REG		FD		REG		REG		REG		REG		FD	
Location Description			Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary	
Parameter	Units	MCL	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Tetrachloroethene	µg/L	5	14.5		12		12		13		11		11		10		12		7.8		9.7		11		11	
Trichloroethene	µg/L	5	20.5		15		14		13		9.2		12		12		11		7.1		7.6		7.8		7.6	
1,1-Dichloroethene	µg/L	7	6.63		4.2		2.2		3.4		1.7		2.6		2.2		1.9		0.5	U	1.1		1.2		1.1	
cis-1,2-Dichloroethene	µg/L	70	1.73		1.1		0.5	U	0.5	U	0.5	U	0.68	J	0.5	U	0.65	J	0.5	U	0.39	J	0.5	U	0.5	U
Vinyl chloride	µg/L	2	0.5	U	1	U	0.5	U	0.5	U	0.5	U	0.63	J	0.63	J	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U

Table 2-5
COC Concentrations 1994–2022

Location Code			35BWW15														35BWW16									
Sample ID			35BWW15-200507		35BWW15-201110		35BWW15-210518		35BWW15-211122		35BWW15-211122-FD		35BWW15-220518		35BWW15-220518-FD		35BWW16-100713		35BWW16FD-100713		35BWW16-081916		35BWW16-110717		35BWW16-021318	
Sample Date			5/7/2020		11/10/2020		5/18/2021		11/22/2021		11/22/2021		5/18/2022		5/18/2022		10/7/2013		10/7/2013		8/19/2016		11/7/2017		2/13/2018	
Sample Purpose			REG		REG		REG		REG		FD		REG		FD		REG		FD		REG		REG		REG	
Location Description			Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, outside site boundary		Shallow zone, impacted, outside site boundary		Shallow zone, impacted, outside site boundary		Shallow zone, impacted, outside site boundary		Shallow zone, impacted, outside site boundary	
Parameter	Units	MCL	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Tetrachloroethene	µg/L	5	13		11		14		13		13		9.8		10		0.447	J	0.447	J	5.13		9.2		12	
Trichloroethene	µg/L	5	7.7		5.4		6.2		5.1		5.2		4.9		4.8		2.57		2.45		3.43		4.2		5.8	
1,1-Dichloroethene	µg/L	7	0.87	J	0.74	J	0.63	J	1	U	1	U	0.5	U	0.5	U	0.865	J	0.846	J	0.787	J	1.1		0.5	U
cis-1,2-Dichloroethene	µg/L	70	0.5	U	0.5	U	0.5	U	1	U	1	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	1	U	0.5	U
Vinyl chloride	µg/L	2	0.5	U	0.5	U	0.5	U	1	U	1	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	1	U	0.5	U

Table 2-5
COC Concentrations 1994–2022

Location Code			35BWW16																						
Sample ID			35BWW16-180524		35BWW16-180817		35BWW16-181116		35BWW16-190215		35BWW16-190523		35BWW16-190807		35BWW16-191121		35BWW16-200507		35BWW16-201111		35BWW16-210518		35BWW16-211117		35BWW16-220516	
Sample Date			5/24/2018		8/17/2018		11/16/2018		2/15/2019		5/23/2019		8/7/2019		11/21/2019		5/7/2020		11/11/2020		5/18/2021		11/17/2021		5/16/2022	
Sample Purpose			REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Location Description			Shallow zone, impacted, outside site boundary		Shallow zone, impacted, outside site boundary		Shallow zone, impacted, outside site boundary		Shallow zone, impacted, outside site boundary		Shallow zone, impacted, outside site boundary		Shallow zone, impacted, outside site boundary		Shallow zone, impacted, outside site boundary		Shallow zone, impacted, outside site boundary		Shallow zone, impacted, outside site boundary		Shallow zone, impacted, outside site boundary		Shallow zone, impacted, outside site boundary		Shallow zone, impacted, outside site boundary	
Parameter	Units	MCL	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Tetrachloroethene	µg/L	5	7.8		6.6		15		11		9.5		9.8		8.1		9.9		4.4		6		4.8		0.5	U
Trichloroethene	µg/L	5	4		3.3		6.5		4.7		3.6		3.5		3.2		3.3		1.8		2.1		1.7		0.5	U
1,1-Dichloroethene	µg/L	7	0.5	U	0.5	U	1.5		1		0.5	U	0.79	J	0.75	J	0.61	J	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,2-Dichloroethene	µg/L	70	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	µg/L	2	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U

Table 2-5
COC Concentrations 1994–2022

Location Code			35BWW17																					
Sample ID			35BWW17-020414		35BWW17-081916		35BWW17-110717		35BWW17-021318		35BWW17-180524		35BWW17-180821		35BWW17-181116		35BWW17-190214		35BWW17-190523		35BWW17-190807		35BWW17-191121		35BWW17-200507	
Sample Date			2/4/2014		8/19/2016		11/7/2017		2/13/2018		5/24/2018		8/21/2018		11/16/2018		2/14/2019		5/22/2019		8/7/2019		11/21/2019		5/7/2020	
Sample Purpose			REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Location Description			Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary	
Parameter	Units	MCL	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Tetrachloroethene	µg/L	5	0.512	J	0.5	U	2.6		7.5		0.5	U	0.5	U	5.4		0.5	U	0.5	U	0.5	U	0.5	U	1	U
Trichloroethene	µg/L	5	0.5	U	0.5	U	1.1		2.9		0.5	U	0.5	U	1.8		0.5	U	0.5	U	0.5	UJ	0.5	U	0.5	U
1,1-Dichloroethene	µg/L	7	1	U	1	U	1	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	UJ	0.5	U	0.5	U
cis-1,2-Dichloroethene	µg/L	70	0.5	U	0.5	U	1	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	UJ	0.5	U	0.5	U
Vinyl chloride	µg/L	2	0.5	U	0.5	U	1	UJ	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U

Table 2-5
COC Concentrations 1994–2022

Location Code			35BWW17										35BWW18												
Sample ID			35BWW17-201111		35BWW17-210518		35BWW17-210518-FD		35BWW17-211122		35BWW17-220516		35BWW18-100213		35BWWU18-100213		35BWW18-081616		35BWW18-110717		35BWW18-021318		35BWW18-180521		35BWW18-180816	
Sample Date			11/11/2020		5/18/2021		5/18/2021		11/22/2021		5/16/2022		10/2/2013		10/2/2013		8/16/2016		11/7/2017		2/13/2018		5/21/2018		8/16/2018	
Sample Purpose			REG		REG		FD		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Location Description			Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, unimpacted, outside site boundary		Shallow zone, unimpacted, outside site boundary		Shallow zone, unimpacted, outside site boundary		Shallow zone, unimpacted, outside site boundary		Shallow zone, unimpacted, outside site boundary		Shallow zone, unimpacted, outside site boundary		Shallow zone, unimpacted, outside site boundary	
Parameter	Units	MCL	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Tetrachloroethene	µg/L	5	1	U	1	U	1	U	1	U	0.5	U	0.5	U	0.5	U	0.5	U	1	U	0.5	U	0.5	U	0.5	U
Trichloroethene	µg/L	5	0.5	U	0.5	U	0.5	U	1	U	0.5	U	0.5	U	0.5	U	0.5	U	1	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethene	µg/L	7	0.5	U	0.5	U	0.5	U	1	U	0.5	U	1	U	1	U	1	U	1	U	0.5	U	0.5	U	0.5	U
cis-1,2-Dichloroethene	µg/L	70	0.5	U	0.5	U	0.5	U	1	U	0.5	U	0.5	U	0.5	U	0.5	U	1	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	µg/L	2	0.5	U	0.5	U	0.5	U	1	U	0.5	U	0.5	U	0.5	U	0.5	U	1	U	0.5	U	0.5	U	0.5	U

Table 2-5
COC Concentrations 1994–2022

Location Code			35BWW18																			35BWW19			
Sample ID			35BWW18-181119		35BWW18-190214		35BWW18-190520		35BWW18-190805		35BWW18-191126		35BWW18-200511		35BWW18-201109		35BWW18-210518		35BWW18-211115		35BWW18-220518		35BWW19-100713		35BWW19-081616	
Sample Date			11/19/2018		2/14/2019		5/20/2019		8/5/2019		11/26/2019		5/11/2020		11/9/2020		5/18/2021		11/15/2021		5/18/2022		10/7/2013		8/16/2016	
Sample Purpose			REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Location Description			Shallow zone, unimpacted, outside site boundary		Shallow zone, unimpacted, outside site boundary		Shallow zone, unimpacted, outside site boundary		Shallow zone, unimpacted, outside site boundary		Shallow zone, unimpacted, outside site boundary		Shallow zone, unimpacted, outside site boundary		Shallow zone, unimpacted, outside site boundary		Shallow zone, unimpacted, outside site boundary		Shallow zone, unimpacted, outside site boundary		Shallow zone, unimpacted, outside site boundary		Shallow zone, unimpacted, outside site boundary		Shallow zone, unimpacted, outside site boundary	
Parameter	Units	MCL	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Tetrachloroethene	µg/L	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	1	U	0.5	U	1	U	1	U	0.5	U	0.5	U	0.5	U
Trichloroethene	µg/L	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethene	µg/L	7	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	1	U	1	U
cis-1,2-Dichloroethene	µg/L	70	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	µg/L	2	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U

Table 2-5
COC Concentrations 1994–2022

Location Code			35BWW19																					
Sample ID			35BWW19-110717		35BWW19-021318		35BWW19-180521		35BWW19-180816		35BWW19-181119		35BWW19-190214		35BWW19-190520		35BWW19-190805		35BWW19-191126		35BWW19-200511		35BWW19-201109		35BWW19-210518	
Sample Date			11/7/2017		2/13/2018		5/21/2018		8/16/2018		11/19/2018		2/14/2019		5/20/2019		8/5/2019		11/26/2019		5/11/2020		11/9/2020		5/18/2021	
Sample Purpose			REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Location Description			Shallow zone, unimpacted, outside site boundary		Shallow zone, unimpacted, outside site boundary		Shallow zone, unimpacted, outside site boundary		Shallow zone, unimpacted, outside site boundary		Shallow zone, unimpacted, outside site boundary		Shallow zone, unimpacted, outside site boundary		Shallow zone, unimpacted, outside site boundary		Shallow zone, unimpacted, outside site boundary		Shallow zone, unimpacted, outside site boundary		Shallow zone, unimpacted, outside site boundary		Shallow zone, unimpacted, outside site boundary		Shallow zone, unimpacted, outside site boundary	
Parameter	Units	MCL	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Tetrachloroethene	µg/L	5	1	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	1	U	0.5	U	1	U
Trichloroethene	µg/L	5	1	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethene	µg/L	7	1	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,2-Dichloroethene	µg/L	70	1	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	µg/L	2	1	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U

Table 2-5
COC Concentrations 1994–2022

Location Code			35BWW19				35BWW20																	
Sample ID			35BWW19-211115		35BWW19-220518		35BWW20-100413		35BWW20-081816		35BWW20-110817		35BWW20-021218		35BWW20-180524		35BWW20-180820		35BWW20-181118		35BWW20-190213		35BWW20-190522		35BWW20-190522-FD	
Sample Date			11/15/2021		5/18/2022		10/4/2013		8/18/2016		11/8/2017		2/12/2018		5/24/2018		8/20/2018		11/18/2018		2/13/2019		5/22/2019		5/22/2019	
Sample Purpose			REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		FD	
Location Description			Shallow zone, unimpacted, outside site boundary		Shallow zone, unimpacted, outside site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary	
Parameter	Units	MCL	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Tetrachloroethene	µg/L	5	1	U	0.5	U	31.1		26.7		25		34		29		19		34		34		12		12	
Trichloroethene	µg/L	5	0.5	U	0.5	U	7.04		6.75		4.7		5.7		6.3		3.6		6.4		6		2.8		2.9	
1,1-Dichloroethene	µg/L	7	0.5	U	0.5	U	1	U	1	U	1	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,2-Dichloroethene	µg/L	70	0.5	U	0.5	U	0.5	U	0.5	U	1	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	µg/L	2	0.5	U	0.5	U	0.5	U	0.5	U	1	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U

Table 2-5
COC Concentrations 1994–2022

Location Code			35BWW20																				35BWW23			
Sample ID			35BWW20-190806		35BWW20-190806-FD		35BMW20-191122		35BWW20-200511		35BWW20-200511-FD		35BWW20-201109		35BWW20-201109-FD		35BWW20-210513		35BWW20-211117		35BWW20-220517		35BWW23-070114		35BWW23-081716	
Sample Date			8/6/2019		8/6/2019		11/22/2019		5/11/2020		5/11/2020		11/9/2020		11/9/2020		5/13/2021		11/17/2021		5/17/2022		7/1/2014		8/17/2016	
Sample Purpose			REG		FD		REG		REG		FD		REG		FD		REG		REG		REG		REG		REG	
Location Description			Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, unimpacted, outside site boundary		Shallow zone, unimpacted, outside site boundary	
Parameter	Units	MCL	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Tetrachloroethene	µg/L	5	7.5		7.6		15		12		12		12		13		6.1		5.4		9.4		0.5	U	0.5	U
Trichloroethene	µg/L	5	2.1		2		3.1		2.9		2.9		2.2		2.3		1.8		1.3		1.8		0.5	U	0.5	U
1,1-Dichloroethene	µg/L	7	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	1	U	1	U
cis-1,2-Dichloroethene	µg/L	70	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	µg/L	2	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U

Table 2-5
COC Concentrations 1994–2022

Location Code			35BWW23																					
Sample ID			35BWW23-110917		35BWW23-021518		35BWW23-180522		35BWW23-180822		35BWW23-181120		35BWW23-190212		35BWW23-190521		35BWW23-190806		35BWW23-191125		35BWW23-200507		35BWW23-201110		35BWW23-210518	
Sample Date			11/9/2017		2/15/2018		5/22/2018		8/22/2018		11/20/2018		2/12/2019		5/21/2019		8/6/2019		11/25/2019		5/7/2020		11/10/2020		5/18/2021	
Sample Purpose			REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Location Description			Shallow zone, unimpacted, outside site boundary		Shallow zone, unimpacted, outside site boundary		Shallow zone, unimpacted, outside site boundary		Shallow zone, unimpacted, outside site boundary		Shallow zone, unimpacted, outside site boundary		Shallow zone, unimpacted, outside site boundary		Shallow zone, unimpacted, outside site boundary		Shallow zone, unimpacted, outside site boundary		Shallow zone, unimpacted, outside site boundary		Shallow zone, unimpacted, outside site boundary		Shallow zone, unimpacted, outside site boundary		Shallow zone, unimpacted, outside site boundary	
Parameter	Units	MCL	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Tetrachloroethene	µg/L	5	1	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	1	U	0.5	U	1	U
Trichloroethene	µg/L	5	1	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethene	µg/L	7	1	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,2-Dichloroethene	µg/L	70	1	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	µg/L	2	1	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U

Table 2-5
COC Concentrations 1994–2022

Location Code			35BWW23				35BWW24																	
Sample ID			35BWW23-211122		35BWW23-220518		35BWW24-081916		35BWW24-110817		35BWW24-021618		35BWW24-180524		35BWW24-180821		35BWW24-181116		35BWW24-190215		35BWW24-190522		35BWW24-190807		35BWW24-191125	
Sample Date			11/22/2021		5/18/2022		8/19/2016		11/8/2017		2/16/2018		5/24/2018		8/21/2018		11/16/2018		2/15/2019		5/22/2019		8/7/2019		11/25/2019	
Sample Purpose			REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Location Description			Shallow zone, unimpacted, outside site boundary		Shallow zone, unimpacted, outside site boundary		Shallow zone, unimpacted, outside site boundary		Shallow zone, unimpacted, outside site boundary		Shallow zone, unimpacted, outside site boundary		Shallow zone, unimpacted, outside site boundary		Shallow zone, unimpacted, outside site boundary		Shallow zone, unimpacted, outside site boundary		Shallow zone, unimpacted, outside site boundary		Shallow zone, unimpacted, outside site boundary		Shallow zone, unimpacted, outside site boundary		Shallow zone, unimpacted, outside site boundary	
Parameter	Units	MCL	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Tetrachloroethene	µg/L	5	1	U	0.5	U	0.5	U	1	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethene	µg/L	5	1	U	0.5	U	0.415	J	1	U	0.5	U	0.5	U	0.5	U	2.9		2.6		1.1		1.7		1.8	
1,1-Dichloroethene	µg/L	7	1	U	0.5	U	1	U	1	U	0.5	U	0.5	U	0.5	U	0.67	J	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,2-Dichloroethene	µg/L	70	1	U	0.5	U	0.5	U	1	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	µg/L	2	1	U	0.5	U	0.5	U	1	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U

Table 2-5
COC Concentrations 1994–2022

Location Code			35BWW24												35BWW25							
Sample ID			35BWW24-200507		35BWW24-201110		35BWW24-210517		35BWW24-210517-FD		35BWW24-211122		35BWW24-220516		35BWW24-220516-FD		35BWW25-081916		35BWW25FD-081916		35BWW25-110817		35BWW25-110817-FD	
Sample Date			5/7/2020		11/10/2020		5/17/2021		5/17/2021		11/22/2021		5/16/2022		5/16/2022		8/19/2016		8/19/2016		11/8/2017		11/8/2017	
Sample Purpose			REG		REG		REG		FD		REG		REG		FD		REG		FD		REG		FD	
Location Description			Shallow zone, unimpacted, outside site boundary		Shallow zone, unimpacted, outside site boundary		Shallow zone, unimpacted, outside site boundary		Shallow zone, unimpacted, outside site boundary		Shallow zone, unimpacted, outside site boundary		Shallow zone, unimpacted, outside site boundary		Shallow zone, unimpacted, outside site boundary		Shallow zone, impacted, outside site boundary		Shallow zone, impacted, outside site boundary		Shallow zone, impacted, outside site boundary		Shallow zone, impacted, outside site boundary	
Parameter	Units	MCL	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Tetrachloroethene	µg/L	5	1	U	0.5	U	1	U	1	U	1	U	0.5	U	0.5	U	0.5	U	0.5	U	1	U	1	U
Trichloroethene	µg/L	5	2.3		1.7		2.4		2.3		2.9		3.9		3.9		5.55		5.94		7.6		7.5	
1,1-Dichloroethene	µg/L	7	0.54	J	0.5	U	0.5	U	0.5	U	1	U	0.5	U	0.5	U	1	U	1	U	1	U	1	U
cis-1,2-Dichloroethene	µg/L	70	0.5	U	0.5	U	0.5	U	0.5	U	1	U	0.5	U	0.5	U	0.5	U	0.5	U	1	U	1	U
Vinyl chloride	µg/L	2	0.5	U	0.5	U	0.5	U	0.5	U	1	U	0.5	U	0.5	U	0.5	U	0.5	U	1	U	1	U

Table 2-5
COC Concentrations 1994–2022

Location Code			35BWW25																				
Sample ID			35BWW25-021618		35BWW25-021618-FD		35BWW25-180523		35BWW25-180523FD		35BWW25-180820		35BWW25-180820-FD		35BWW25-181116		35BWW25-190215		35BWW25-190215-FD		35BWW25-190522		35BWW25-190807	
Sample Date			2/16/2018		2/16/2018		5/23/2018		5/23/2018		8/20/2018		8/20/2018		11/16/2018		2/15/2019		2/15/2019		5/22/2019		8/7/2019	
Sample Purpose			REG		FD		REG		FD		REG		FD		REG		REG		FD		REG		REG	
Location Description			Shallow zone, impacted, outside site boundary		Shallow zone, impacted, outside site boundary		Shallow zone, impacted, outside site boundary		Shallow zone, impacted, outside site boundary		Shallow zone, impacted, outside site boundary		Shallow zone, impacted, outside site boundary		Shallow zone, impacted, outside site boundary		Shallow zone, impacted, outside site boundary		Shallow zone, impacted, outside site boundary		Shallow zone, impacted, outside site boundary		Shallow zone, impacted, outside site boundary	
Parameter	Units	MCL	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Tetrachloroethene	µg/L	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.33	J
Trichloroethene	µg/L	5	11		11		5.5		5.1		5.3		5.3		19		14		14		6.3		15	
1,1-Dichloroethene	µg/L	7	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,2-Dichloroethene	µg/L	70	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	µg/L	2	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U

Table 2-5
COC Concentrations 1994–2022

Location Code			35BWW25														35BWW26									
Sample ID			35BWW25-191122		35BWW25-191122-FD		35BWW25-200507		35BWW25-201110		35BWW25-210517		35BWW25-211122		35BWW25-220516		35BWW26-081716		35BWW26-110917		35BWW26-021418		35BWW26-180522		35BWW26-180822	
Sample Date			11/22/2019		11/22/2019		5/7/2020		11/10/2020		5/17/2021		11/22/2021		5/16/2022		8/17/2016		11/9/2017		2/14/2018		5/22/2018		8/22/2018	
Sample Purpose			REG		FD		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Location Description			Shallow zone, impacted, outside site boundary		Shallow zone, impacted, outside site boundary		Shallow zone, impacted, outside site boundary		Shallow zone, impacted, outside site boundary		Shallow zone, impacted, outside site boundary		Shallow zone, impacted, outside site boundary		Shallow zone, impacted, outside site boundary		Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary	
Parameter	Units	MCL	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Tetrachloroethene	µg/L	5	0.5	U	0.5	U	1	U	0.5	U	1	U	0.53	J	0.69	J	0.5	U	1	U	0.5	U	0.5	U	0.5	U
Trichloroethene	µg/L	5	13		13		13		10		8.5		10		10		0.5	U	1	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethene	µg/L	7	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	1	U	0.5	U	1	U	1	U	0.5	U	0.5	U	0.5	U
cis-1,2-Dichloroethene	µg/L	70	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	1	U	0.5	U	0.5	U	1	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	µg/L	2	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	1	U	0.5	U	0.5	U	1	U	0.5	U	0.5	U	0.5	U

Table 2-5
COC Concentrations 1994–2022

Location Code			35BWW26																				
Sample ID			35BWW26-181120		35BWW26-190212		35BWW26-190520		35BWW26-190806		35BWW26-191121		35BWW26-200506		35BWW26-201110		35BWW26-210513		35BWW26-211117		35BWW26-211117-FD		35BWW26-220517	
Sample Date			11/20/2018		2/12/2019		5/20/2019		8/6/2019		11/21/2019		5/6/2020		11/10/2020		5/13/2021		11/17/2021		11/17/2021		5/17/2022	
Sample Purpose			REG		REG		REG		REG		REG		REG		REG		REG		REG		FD		REG	
Location Description			Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary	
Parameter	Units	MCL	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Tetrachloroethene	µg/L	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	1	U	0.5	U	1	U	1	U	1	U	0.5	U
Trichloroethene	µg/L	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethene	µg/L	7	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,2-Dichloroethene	µg/L	70	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	µg/L	2	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U

Table 2-5
COC Concentrations 1994–2022

Location Code			LHSMW58																						
Sample ID			LHSMW58-941211		LHSMW58-941211FD		LHSMW58-960210		LHSMW58-960821		LHSMW58-980520		LHSMW58-040910		LHSMW58-060809		LHSMW58-061216		LHSMW58-100313		LHSMW58-081816		LHSMW58-110817		LHSMW58-021218	
Sample Date			12/11/1994		12/11/1994		2/10/1996		8/21/1996		5/20/1998		9/10/2004		8/9/2006		12/16/2006		10/3/2013		8/18/2016		11/8/2017		2/12/2018	
Sample Purpose			REG		FD		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Location Description			Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary	
Parameter	Units	MCL	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Tetrachloroethene	µg/L	5	21		34		8		7.9		9.5		20		21.8	J	9.01		20.3		19.9		20		14	
Trichloroethene	µg/L	5	26				9		11.5		9.4		33		21.8	J	13.7		4.26		1.93		1.6		0.5	U
1,1-Dichloroethene	µg/L	7	58		53		18		25.4		4.2		4	J	2.11	JH	3.17	J	1	U	1	U	1	U	0.5	U
cis-1,2-Dichloroethene	µg/L	70					1.8		2.1		0.53	J	5	U	0.716	JH	0.629	J	0.5	U	0.5	U	1	U	0.5	U
Vinyl chloride	µg/L	2							0.24	U	1	U	5	U	10	U	10	U	0.5	U	0.5	U	1	U	0.5	U

Table 2-5
COC Concentrations 1994–2022

Location Code			LHSMW58																						
Sample ID			LHSMW58-180524		LHSMW58-180820		LHSMW58-181118		LHSMW58-181118-FD		LHSMW58-190213		LHSMW58-190522		LHSMW58-190807		LHSMW58-191122		LHSMW58-200511		LHSMW58-201109		LHSMW58-210513		LHSMW58-211115	
Sample Date			5/24/2018		8/20/2018		11/18/2018		11/18/2018		2/13/2019		5/22/2019		8/7/2019		11/22/2019		5/11/2020		11/9/2020		5/13/2021		11/15/2021	
Sample Purpose			REG		REG		REG		FD		REG		REG		REG		REG		REG		REG		REG		REG	
Location Description			Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary	
Parameter	Units	MCL	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Tetrachloroethene	µg/L	5	12		26		26		25		6.1		3.6		6.8		4.2		14		9.5		19		13	
Trichloroethene	µg/L	5	1.4		2.2		1.8		1.8		0.5	U	0.5	U	0.59	J-	0.5	U	0.88	J	0.81	J	1.1		1	
1,1-Dichloroethene	µg/L	7	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	UJ	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,2-Dichloroethene	µg/L	70	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	UJ	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	µg/L	2	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U

Table 2-5
COC Concentrations 1994–2022

Location Code			LHSMW58		LHSMW59														
Sample ID			LHSMW58-220517		LHSMW59-941211		LHSMW59-941211FD		LHSMW59-960210		LHSMW59-960821		LHSMW59-980520		LHSMW59-040910		LHSMW59-060810		LHSMW59-061213	
Sample Date			5/17/2022		12/11/1994		12/11/1994		2/10/1996		8/21/1996		5/20/1998		9/10/2004		8/10/2006		12/13/2006	
Sample Purpose			REG		REG		FD		REG		REG		REG		REG		REG		REG	
Location Description			Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary	
Parameter	Units	MCL	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Tetrachloroethene	µg/L	5	9.5		11		11		16		16.9		7		3	J	1.19	J	1.15	J
Trichloroethene	µg/L	5	0.5	U	120				249		327		330		180		135		166	
1,1-Dichloroethene	µg/L	7	0.5	U	5	U	5	U	1	U	2.2		1	U	5	U	5	U	5	U
cis-1,2-Dichloroethene	µg/L	70	0.5	U					1	U	0.2	U	1	U	5	U	0.521	J	0.463	J
Vinyl chloride	µg/L	2	0.5	U							0.24	U	1	U	5	U	10	U	10	U

Table 2-4
COC Concentrations 1994–2022

Notes:

Blue highlighting indicates concentrations above the MCL.

Some samples may have been diluted due to the concentration(s) of one or more analytes exceeding the upper limit of the calibration curve.

µg/L - micrograms per liter

J - Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.

U - Undetected: The analyte was analyzed for, but not detected.

COC - contaminant of concern

FD - field duplicate

ID - identifier

MCL - Maximum Contaminant Limit

NR - not reported by laboratory

REG - regular sample

Val Qual - validation qualifier

Table 2-6
Well Maintenance Activities, Year 5 RA-O

Well ID	Date Inspected	Pads	Bollards	Protective Casings	Locks	Date Mowed	Photos	Comments
35BWW01	11/15/2021	Good	Good	Good	In Place	11/2/2021	Yes	
	5/17/2022	Good	Good	Good	In Place	5/4/2022	Yes	
35BWW02	11/17/2021	Good	Good	Good	In Place	11/2/2021	Yes	Needs paint.
	5/16/2022	Good	Good	Good	In Place	5/4/2022	Yes	Needs paint.
35BWW03	11/127/2021	Good	Good	Good	In Place	11/2/2021	Yes	Needs paint.
	5/17/2022	Good	Good	Good	In Place	5/4/2022	Yes	Needs paint.
35BWW04	11/17/2021	Good	Good	Good	In Place	11/2/2021	Yes	Missing three bollards.
	5/17/2022	Good	Good	Good	In Place	5/4/2022	Yes	Three bollards were replaced and well was painted.
35BWW05	11/15/2021	Good	Good	Good	In Place	11/2/2021	Yes	
	5/16/2022	Good	Good	Good	In Place	5/4/2022	Yes	
35BWW06	11/15/2021	Good	Good	Good	In Place	11/2/2021	Yes	Painted.
	5/16/2022	Good	Good	Good	In Place	5/4/2022	Yes	
35BWW07	11/17/2021	Good	Good	Good	In Place	11/2/2021	Yes	
	5/16/2022	Good	Good	Good	In Place	5/4/2022	Yes	
35BWW08	11/17/2021	Good	Good	Good	In Place	11/2/2021	Yes	
	5/17/2022	Good	Good	Good	In Place	5/4/2022	Yes	
35BWW09	11/15/2021	Good	Good	Good	In Place	11/2/2021	Yes	
	5/18/2022	Good	Good	Good	In Place	5/4/2022	Yes	
35BWW10	11/15/2021	Good	Good	Good	In Place	11/2/2021	Yes	
	5/16/2022	Good	Good	Good	In Place	5/4/2022	Yes	
35BWW11	11/17/2021	Good	Good	Good	In Place	11/2/2021	Yes	
	5/17/2022	Good	Good	Good	In Place	5/4/2022	Yes	
35BWW12	11/22/2021	Good	Good	Good	In Place	11/2/2021	Yes	
	5/18/2022	Good	Good	Good	In Place	5/4/2022	Yes	
35BWW13	11/17/2021	Good	Good	Good	In Place	11/2/2021	Yes	
	5/16/2022	Good	Good	Good	In Place	5/4/2022	Yes	
35BWW14	11/22/2021	Good	Good	Good	In Place	11/2/2021	Yes	
	5/18/2022	Good	Good	Good	In Place	5/4/2022	Yes	
35BWW15	11/22/2021	Good	Good	Good	In Place	11/2/2021	Yes	
	5/18/2022	Good	Good	Good	In Place	5/4/2022	Yes	
35BWW16	11/17/2021	Good	Good	Good	In Place	11/2/2021	Yes	Hinge is more than 50% rusted.
	5/16/2022	Good	Good	Good	In Place	5/4/2022	Yes	Hinge is more than 50% rusted.
35BWW17	11/22/2021	Good	Good	Good	In Place	11/2/2021	Yes	
	5/16/2022	Good	Good	Good	In Place	5/4/2022	Yes	Hinge is more than 50% rusted.
35BWW18	11/15/2021	Good	Good	Good	In Place	11/2/2021	Yes	
	5/18/2022	Good	Good	Good	In Place	5/4/2022	Yes	
35BWW19	11/15/2021	Good	Good	Good	In Place	11/2/2021	Yes	Hinge is more than 50% rusted.
	5/18/2022	Good	Good	Good	In Place	5/4/2022	Yes	Hinge is more than 50% rusted.
35BWW20	11/17/2021	Good	Good	Good	In Place	11/2/2021	Yes	
	5/17/2022	Good	Good	Good	In Place	5/4/2022	Yes	
35BWW23	11/22/2021	Good	Good	Good	In Place	11/2/2021	Yes	
	5/18/2022	Good	Good	Good	In Place	5/4/2022	Yes	
35BWW24	11/22/2021	Good	Good	Good	In Place	11/2/2021	Yes	
	5/16/2022	Good	Good	Good	In Place	5/4/2022	Yes	
35BWW25	11/22/2021	Good	Good	Good	In Place	11/2/2021	Yes	
	5/16/2022	Good	Good	Good	In Place	5/4/2022	Yes	
35BWW26	11/17/2021	Good	Good	Good	In Place	11/2/2021	Yes	
	5/17/2022	Good	Good	Good	In Place	5/4/2022	Yes	
LHSMW58	11/15/2021	Good	Good	Good	In Place	11/2/2021	Yes	
	5/17/2022	Good	Good	Good	In Place	5/4/2022	Yes	

Notes:

ID - identifier

RA-O - remedial action operation

Table 2-7
Year 6 RA-O Annual Sampling

Well ID	VOC	Field Parameters	MNA Parameters	Water Levels
35BWW01	X	X		X
35BWW02 [a]				
35BWW03 [b]				X
35BWW04	X	X	X	X
35BWW05	X	X		X
35BWW06 [b]				X
35BWW07	X	X		X
35BWW08	X	X	X	X
35BWW09	X	X		X
35BWW10	X	X		X
35BWW11	X	X		X
35BWW12	X	X	X	X
35BWW13	X	X		X
35BWW14	X	X	X	X
35BWW15	X	X		X
35BWW16	X	X		X
35BWW17	X	X		X
35BWW18	X	X		X
35BWW19	X	X		X
35BWW20	X	X		X
35BWW23	X	X	X	X
35BWW24	X	X		X
35BWW25	X	X		X
35BWW26	X	X	X	X
LHSMW58	X	X		X
35BSW01 [c]	X	X		X
35BSW02 [c]	X	X		X

Notes:

MNA parameters include nitrate, sulfate, chloride, TOC, carbon dioxide, and dissolved gases (methane, ethane, ethene).

Field parameters to be monitored for all wells: pH, temperature, conductivity, turbidity, oxidation-reduction potential (ORP), dissolved oxygen (DO), and ferrous iron.

[a] Well was removed from the sampling list.

[b] Monitoring wells 35BWW03 and 35BWW06 will continue to be sampled once every five years to support the Five Year Reviews, and the next sampling event for these wells will be in November 2026.

[c] Surface water locations to be sampled annually if water meets criteria per the RACR.

X - well will be analyzed for that parameter.

ID - identifier

MNA - monitored natural attenuation

RA-O - remedial action operation

RACR - Response Action Completion Report

TOC - total organic carbon

VOC - volatile organic compound

Table 3-1
RA-O Mann-Kendall Trend Summary, LHAAP-35B (37)

Monitoring Well	PCE	TCE
35BWW04	No Trend	NA
35BWW05	NA	Decreasing
35BWW09	NA	Decreasing
35BWW14	Stable	Decreasing
35BWW15	Stable	Decreasing
35BWW16	Stable	NA
35BWW20	Decreasing	NA
35BWW25	NA	No Trend
LHSMW58	Probably Decreasing	NA

Notes:

MCL - maximum contaminant level

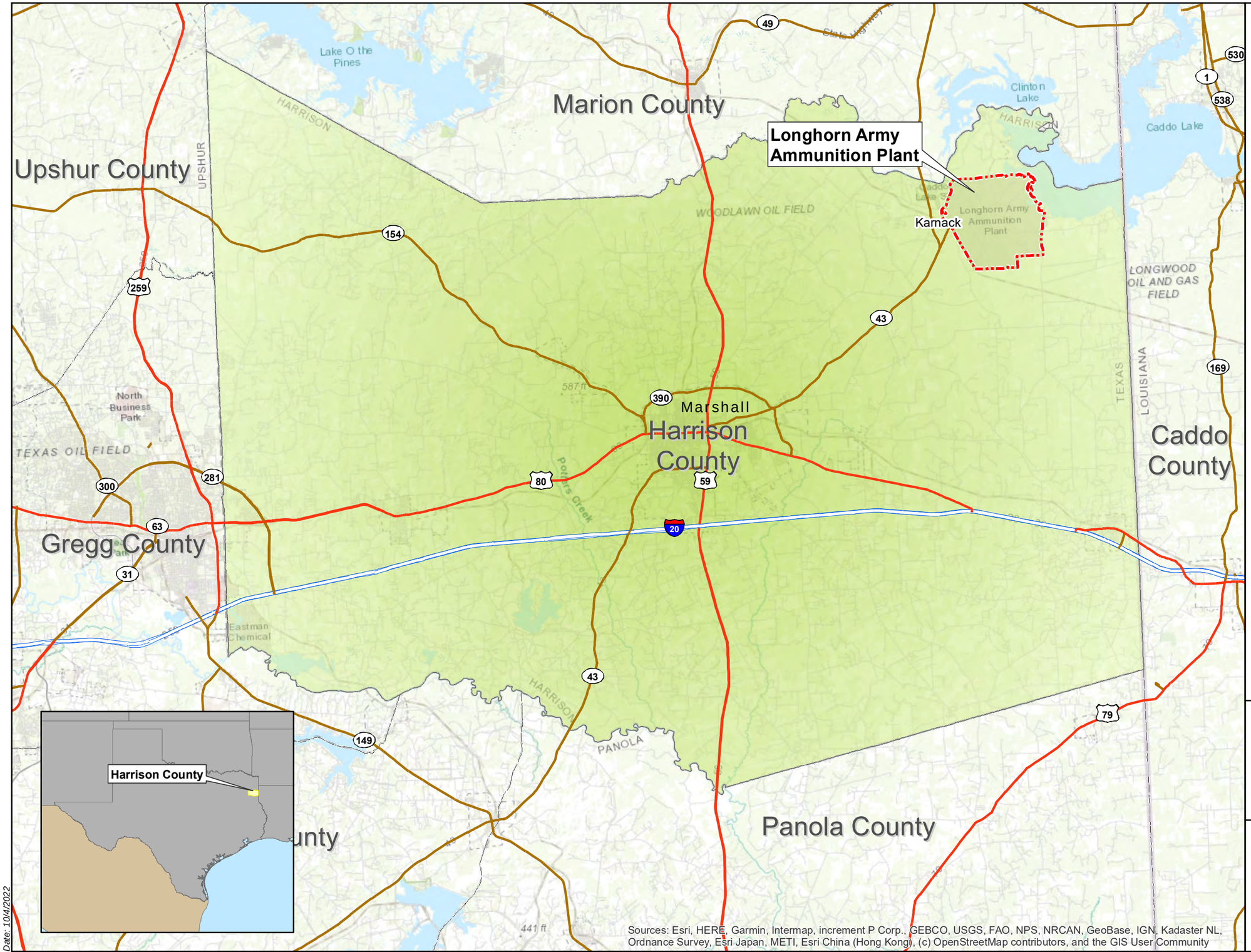
NA - Not analyzed due to concentrations below the MCL.

PCE - tetrachloroethene

RA-O - remedial action operation

TCE - trichloroethene

Figures



Note:
1. RA-O = Remedial Action Operations
2. LHAAP = Longhorn Army Ammunition Plant

N

0 2 4 Miles

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Figure 1-1

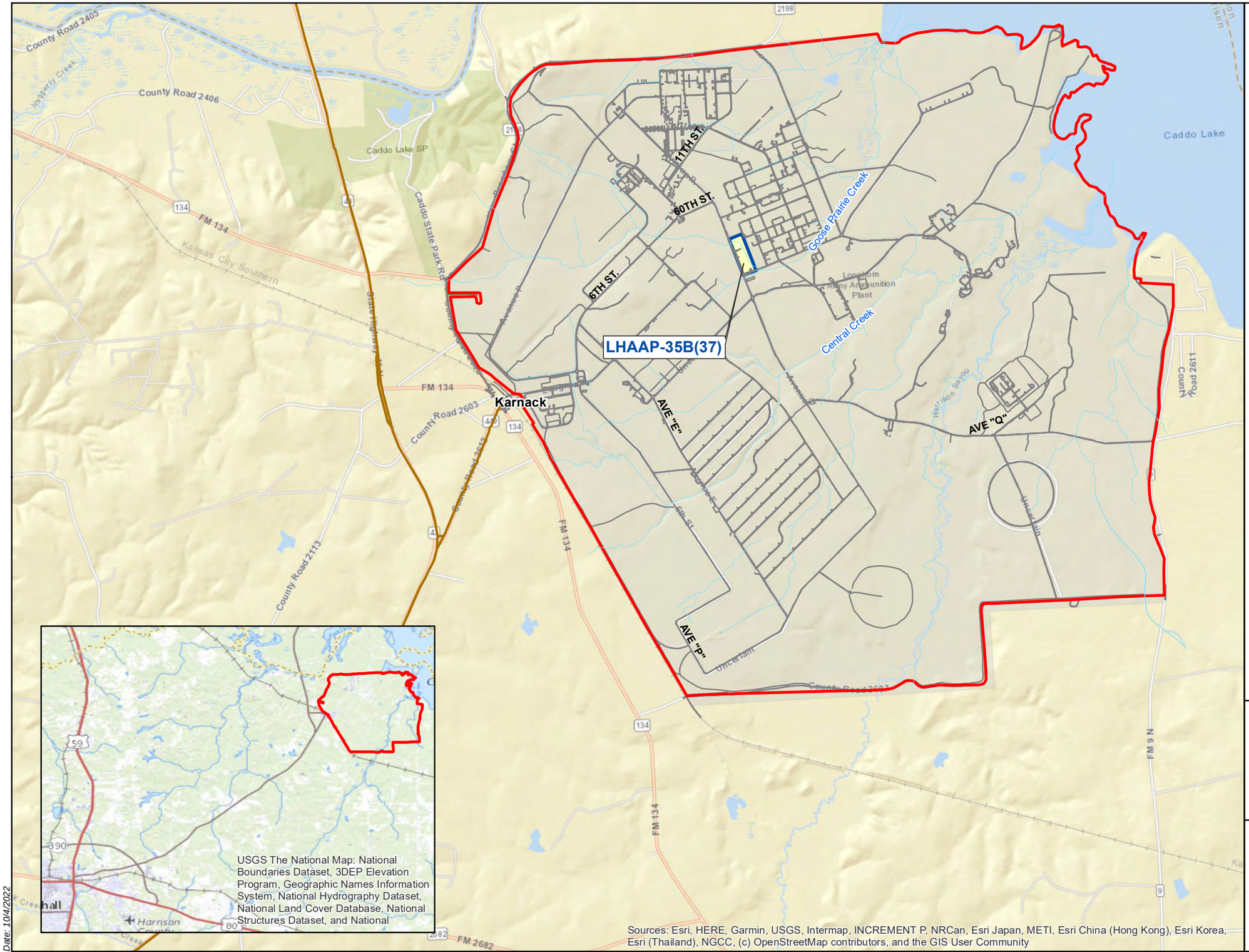
LHAAP Location Map
Fifth Annual RA-O Report
LHAAP-35B(37)

LONGHORN ARMY AMMUNITION PLANT
KARNACK, TEXAS

Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

Date: 10/4/2022

Document Path: F:\Projects\Longhorn\LHAAP\Documents\Mxd\LHAAP37\RAO\Year5\LHAAP37_LocationMap.mxd



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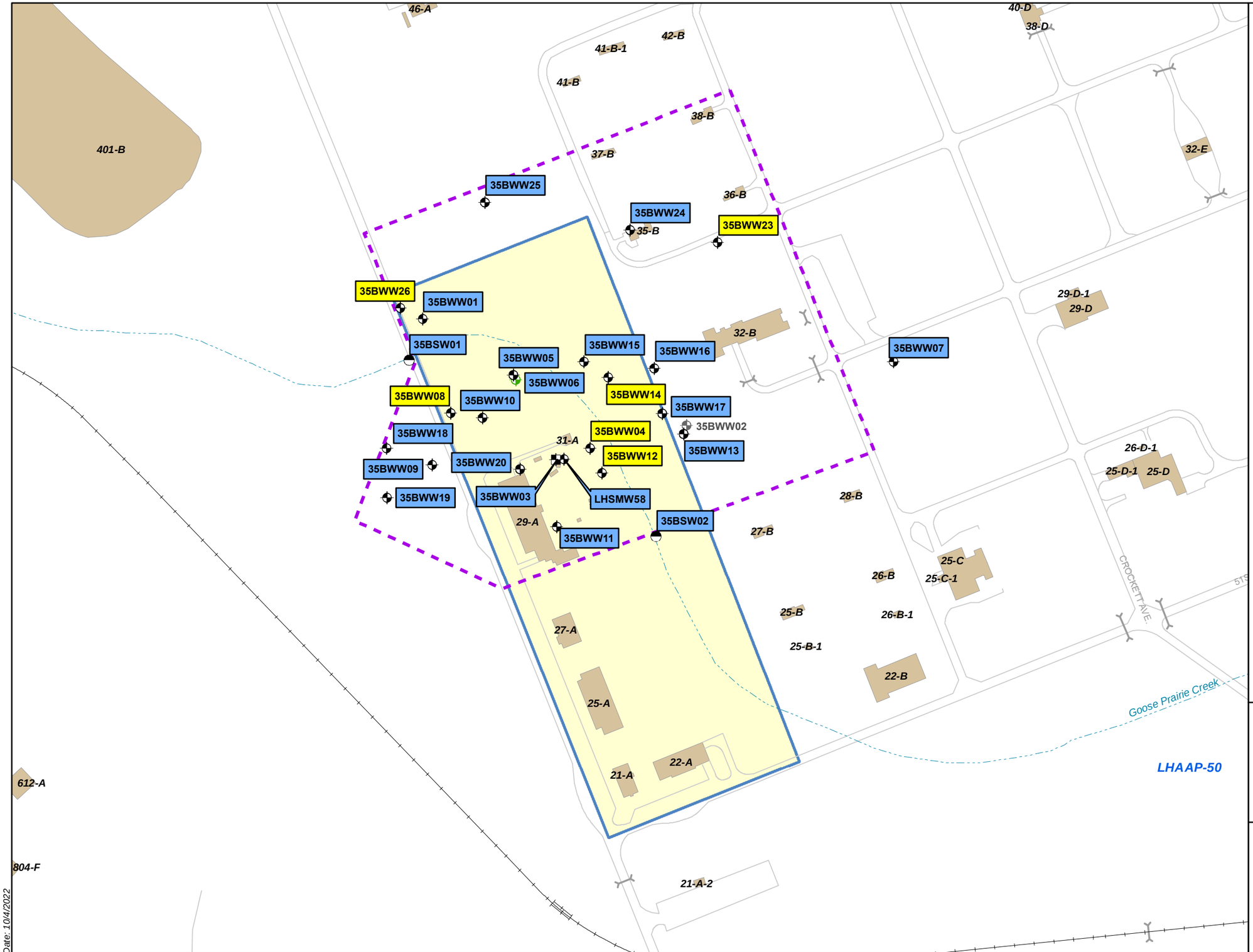
Figure 1-2

LHAAP Site Vicinity Map
Fifth Annual RA-O Report
LHAAP-35B(37)

LONGHORN ARMY AMMUNITION PLANT
KARNACK, TEXAS

Date: 10/4/2022

Document Path: F:\Projects\Longhorn\LHAAP\Documents\Mxd\LHAAP37\RAO\Year5\LHAAP37_SiteLocationMap.mxd



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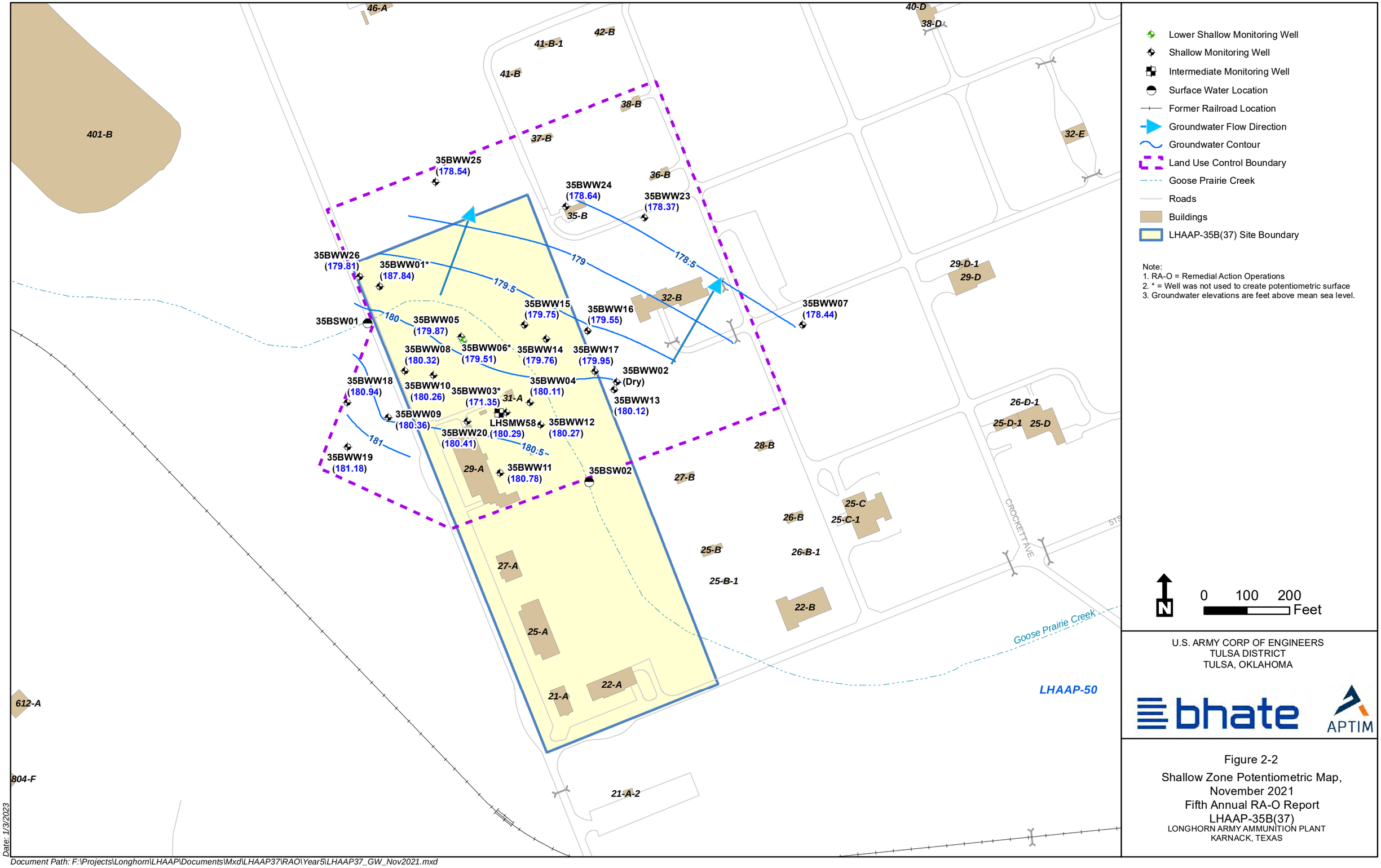
Figure 2-1

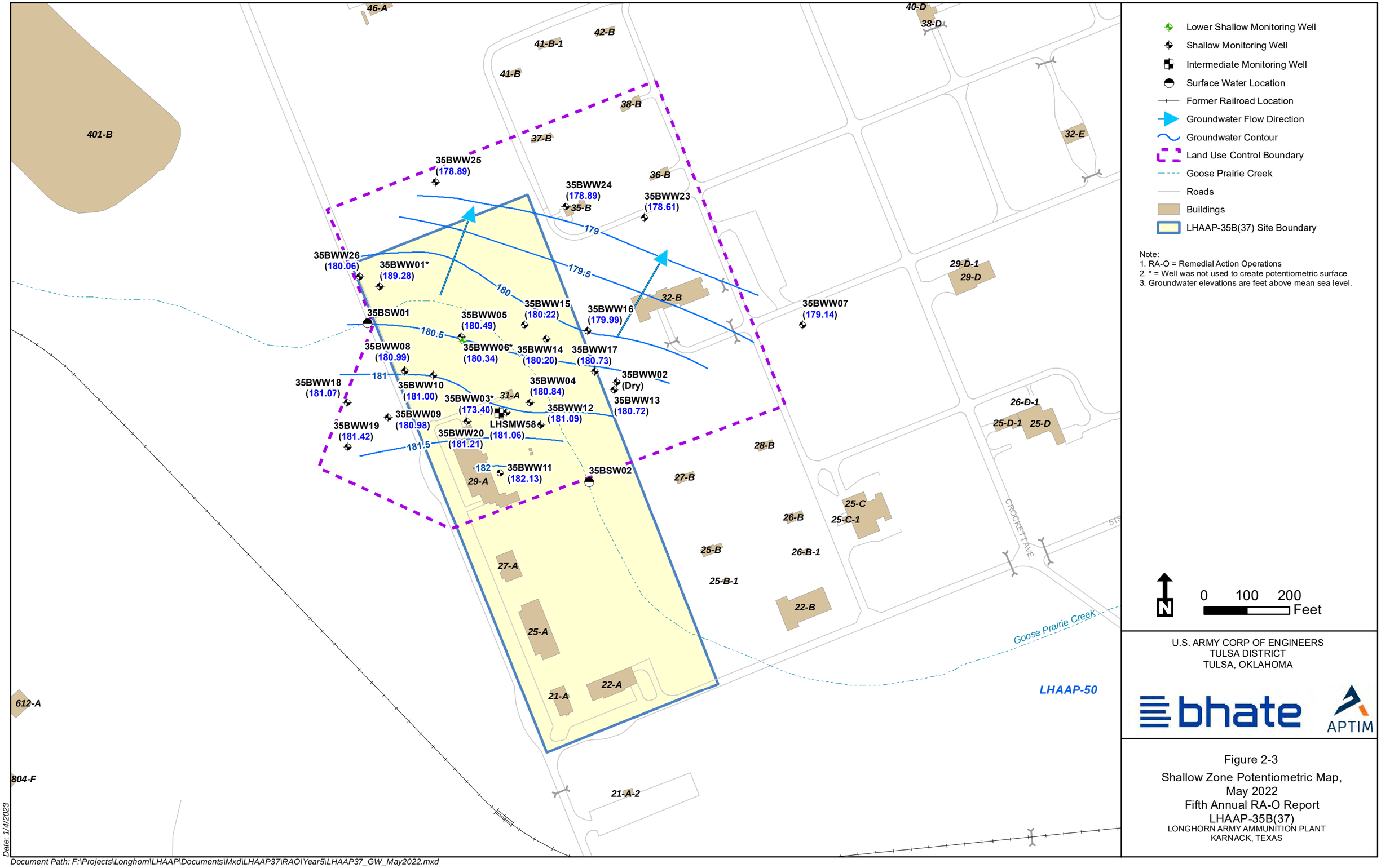
Groundwater Monitoring Well Locations
Fifth Annual RA-O Report
LHAAP-35B(37)

LONGHORN ARMY AMMUNITION PLANT
KARNACK, TEXAS

Date: 10/4/2022

Document Path: F:\Projects\Longhorn\LHAAP\Documents\Mxd\LHAAP37\RAO\Year5\LHAAP37_GWMonitoringLocations.mxd


35BWW25 (178.54)
35BWW24 (178.64)
35BWW23 (178.37)
35BWW26 (179.81)
35BWW01* (187.84)
35BSW01
35BWW05 (179.87)
35BWW15 (179.75)
35BWW16 (179.55)
35BWW07 (178.44)
35BWW08 (180.32)
35BWW06* (179.51)
35BWW14 (179.76)
35BWW17 (179.95)
35BWW02 (Dry)
35BWW18 (180.94)
35BWW10 (180.26)
35BWW03* (171.35)
35BWW04 (180.11)
35BWW13 (180.12)
35BWW09 (180.36)
LHSMW58
35BWW12 (180.27)
35BWW20 (180.41)
35BWW19 (181.18)
35BWW11 (180.78)
35BSW02
179
178.5
179.5
180
181
180.5
401-B
46-A
42-B
41-B-1
41-B
38-B
37-B
36-B
35-B
32-B
31-A
29-A
27-A
25-A
22-A
21-A
21-A-2
612-A
804-F
40-D
38-D
32-E
29-D-1
29-D
28-B
27-B
26-D-1
25-D-1
25-D
25-C
25-C-1
26-B
26-B-1
25-B
25-B-1
22-B
CROCKETT AVE.
Goose Prairie Creek
LHAAP-50
Lower Shallow Monitoring Well
Shallow Monitoring Well
Intermediate Monitoring Well
Surface Water Location
Former Railroad Location
Groundwater Flow Direction
Groundwater Contour
Land Use Control Boundary
Goose Prairie Creek
Roads
Buildings
LHAAP-35B(37) Site Boundary
Note:
1. RA-O = Remedial Action Operations
2. * = Well was not used to create potentiometric surface
3. Groundwater elevations are feet above mean sea level.
N
0 100 200
Feet
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Figure 2-2
Shallow Zone Potentiometric Map, November 2021
Fifth Annual RA-O Report
LHAAP-35B(37)
LONGHORN ARMY AMMUNITION PLANT
KARNACK, TEXAS
Date: 1/3/2023
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Note:
1. RA-O = Remedial Action Operations
2. * = Well was not used to create potentiometric surface
3. Groundwater elevations are feet above mean sea level.

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Figure 2-3
Shallow Zone Potentiometric Map,
May 2022
Fifth Annual RA-O Report
LHAAP-35B(37)
LONGHORN ARMY AMMUNITION PLANT
KARNACK, TEXAS

Date: 1/4/2023

Document Path: F:\Projects\Longhorn\LHAAP\Documents\Mxd\LHAAP37\RAO\Year5\LHAAP37_GW_May2022.mxd

35BWW05		
Analyte	MCL	Oct-13
Tetrachloroethene	5	1.57
Trichloroethene	5	**14**
1,1-Dichloroethene	7	1 U
cis-1,2-Dichloroethene	70	0.295 J
Vinyl Chloride	2	0.5 U

35BWW06		
Analyte	MCL	Oct-13
Tetrachloroethene	5	0.5 U
Trichloroethene	5	0.5 U
1,1-Dichloroethene	7	1 U
cis-1,2-Dichloroethene	70	0.5 U
Vinyl Chloride	2	0.5 U

35BWW08		
Analyte	MCL	Oct-13
Tetrachloroethene	5	0.5 U
Trichloroethene	5	**43.8**
1,1-Dichloroethene	7	1 U
cis-1,2-Dichloroethene	70	0.5 U
Vinyl Chloride	2	0.5 U

35BWW18		
Analyte	MCL	Oct-13
Tetrachloroethene	5	0.5 U
Trichloroethene	5	0.5 U
1,1-Dichloroethene	7	1 U
cis-1,2-Dichloroethene	70	0.5 U
Vinyl Chloride	2	0.5 U

35BWW10		
Analyte	MCL	Oct-13
Tetrachloroethene	5	4.45
Trichloroethene	5	**56.3**
1,1-Dichloroethene	7	1 U
cis-1,2-Dichloroethene	70	0.5 U
Vinyl Chloride	2	0.5 U

35BWW19		
Analyte	MCL	Oct-13
Tetrachloroethene	5	0.5 U
Trichloroethene	5	0.5 U
1,1-Dichloroethene	7	1 U
cis-1,2-Dichloroethene	70	0.5 U
Vinyl Chloride	2	0.5 U

35BWW09		
Analyte	MCL	Oct-13
Tetrachloroethene	5	0.5 U
Trichloroethene	5	**49**
1,1-Dichloroethene	7	1 U
cis-1,2-Dichloroethene	70	0.529 J
Vinyl Chloride	2	0.5 U

35BWW03		
Analyte	MCL	Oct-13
Tetrachloroethene	5	0.5 U
Trichloroethene	5	0.5 U
1,1-Dichloroethene	7	1 U
cis-1,2-Dichloroethene	70	0.5 U
Vinyl Chloride	2	0.5 U

35BWW23		
Analyte	MCL	Jul-14
Tetrachloroethene	5	0.5 U
Trichloroethene	5	0.5 U
1,1-Dichloroethene	7	1 U
cis-1,2-Dichloroethene	70	0.5 U
Vinyl Chloride	2	0.5 U

35BWW15		
Analyte	MCL	Jan-14
Tetrachloroethene	5	**8.69**
Trichloroethene	5	**43.5**
1,1-Dichloroethene	7	**35.5**
cis-1,2-Dichloroethene	70	6.25
Vinyl Chloride	2	**3.42**

35BWW07		
Analyte	MCL	Oct-13
Tetrachloroethene	5	0.5 U
Trichloroethene	5	0.5 U
1,1-Dichloroethene	7	1 U
cis-1,2-Dichloroethene	70	0.5 U
Vinyl Chloride	2	0.5 U

35BWW16		
Analyte	MCL	Oct-13
Tetrachloroethene	5	0.447 J
Trichloroethene	5	2.57
1,1-Dichloroethene	7	0.865 J
cis-1,2-Dichloroethene	70	0.5 U
Vinyl Chloride	2	0.5 U

35BWW14		
Analyte	MCL	Oct-13
Tetrachloroethene	5	**19**
Trichloroethene	5	**82.8**
1,1-Dichloroethene	7	**57.2**
cis-1,2-Dichloroethene	70	14.3
Vinyl Chloride	2	**5.09**

35BWW13		
Analyte	MCL	Oct-13
Tetrachloroethene	5	4.14
Trichloroethene	5	1.84
1,1-Dichloroethene	7	1 U
cis-1,2-Dichloroethene	70	0.5 U
Vinyl Chloride	2	0.5 U

35BWW17		
Analyte	MCL	Feb-14
Tetrachloroethene	5	0.512 J
Trichloroethene	5	0.5 U
1,1-Dichloroethene	7	1 U
cis-1,2-Dichloroethene	70	0.5 U
Vinyl Chloride	2	0.5 U

35BWW04		
Analyte	MCL	Oct-13
Tetrachloroethene	5	**66.5 J**
Trichloroethene	5	**11.4 J**
1,1-Dichloroethene	7	2.3 J
cis-1,2-Dichloroethene	70	0.673 J
Vinyl Chloride	2	0.5 U

LHSMW58		
Analyte	MCL	Oct-13
Tetrachloroethene	5	**20.3**
Trichloroethene	5	4.26
1,1-Dichloroethene	7	1 U
cis-1,2-Dichloroethene	70	0.5 U
Vinyl Chloride	2	0.5 U

35BWW20		
Analyte	MCL	Oct-13
Tetrachloroethene	5	**31.1**
Trichloroethene	5	**7.04**
1,1-Dichloroethene	7	1 U
cis-1,2-Dichloroethene	70	0.5 U
Vinyl Chloride	2	0.5 U

35BWW11		
Analyte	MCL	Oct-13
Tetrachloroethene	5	0.252 J
Trichloroethene	5	0.5 U
1,1-Dichloroethene	7	1 U
cis-1,2-Dichloroethene	70	0.5 U
Vinyl Chloride	2	0.5 U

35BWW12		
Analyte	MCL	Oct-13
Tetrachloroethene	5	**15.3**
Trichloroethene	5	2.04
1,1-Dichloroethene	7	1 U
cis-1,2-Dichloroethene	70	0.5 U
Vinyl Chloride	2	0.5 U

401-B
46-A
38-B
37-B
37-E
40-D
38-D
804-E
35BWW01
35BSW01
35BSW02
5 µg/L
5 µg/L

- Shallow Monitoring Well
- Lower Shallow Monitoring Well
- Intermediate Monitoring Well
- Surface Water Location
- Groundwater Flow Direction
- Tetrachloroethene Contour
- Trichloroethene Contour
- 1,1-Dichloroethene Contour
- Vinyl Chloride Contour
- Former Railroad Location
- Land Use Control Boundary
- Goose Prairie Creek
- Roads
- Buildings
- LHAAP-35B(37) Site Boundary

Note:
1. RA-O = Remedial Action Operations
2. MCL = Maximum Contaminant Level
3. J = estimated level
4. U = below detection limit
5. Groundwater flow arrows are from October 2013.

N
0 100 200 Feet

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TULSA DISTRICT
TULSA, OKLAHOMA

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Figure 2-4
Groundwater Results
Baseline 2013-2014
Fifth Annual RA-O Report
LHAAP-35B(37)
LONGHORN ARMY AMMUNITION PLANT
KARNACK, TEXAS

Date: 10/5/2022
Document Path: F:\Projects\Longhorn\LHAAP\Documents\Mxd\LHAAP37\RAO\Year5\LHAAP37_GW_Results_Oct2013.mxd

35BWW26		
Analyte	MCL	11/17/2021
Tetrachloroethene	5	1 U
Trichloroethene	5	0.5 U
1,1-Dichloroethene	7	0.5 U
cis-1,2-Dichloroethene	70	0.5 U
Vinyl chloride	2	0.5 U

35BWW01		
Analyte	MCL	11/15/2021
Tetrachloroethene	5	1 U
Trichloroethene	5	0.5 U
1,1-Dichloroethene	7	0.5 U
cis-1,2-Dichloroethene	70	0.5 U
Vinyl chloride	2	0.5 U

35BWW25		
Analyte	MCL	11/22/2021
Tetrachloroethene	5	0.53 J
Trichloroethene	5	**10**
1,1-Dichloroethene	7	1 U
cis-1,2-Dichloroethene	70	1 U
Vinyl chloride	2	1 U

35BWW24		
Analyte	MCL	11/22/2021
Tetrachloroethene	5	1 U
Trichloroethene	5	2.9
1,1-Dichloroethene	7	1 U
cis-1,2-Dichloroethene	70	1 U
Vinyl chloride	2	1 U

35BWW23		
Analyte	MCL	11/22/2021
Tetrachloroethene	5	1 U
Trichloroethene	5	1 U
1,1-Dichloroethene	7	1 U
cis-1,2-Dichloroethene	70	1 U
Vinyl chloride	2	1 U

35BWW05		
Analyte	MCL	11/15/2021
Tetrachloroethene	5	1.8
Trichloroethene	5	3.5
1,1-Dichloroethene	7	0.5 U
cis-1,2-Dichloroethene	70	0.5 U
Vinyl chloride	2	0.5 U

35BWW16		
Analyte	MCL	11/17/2021
Tetrachloroethene	5	4.8
Trichloroethene	5	1.7
1,1-Dichloroethene	7	0.5 U
cis-1,2-Dichloroethene	70	0.5 U
Vinyl chloride	2	0.5 U

35BWW06		
Analyte	MCL	11/15/2021
Tetrachloroethene	5	1 U
Trichloroethene	5	0.5 U
1,1-Dichloroethene	7	0.5 U
cis-1,2-Dichloroethene	70	0.5 U
Vinyl chloride	2	0.5 U

35BWW07		
Analyte	MCL	11/17/2021
Tetrachloroethene	5	1 U
Trichloroethene	5	0.5 U
1,1-Dichloroethene	7	0.5 U
cis-1,2-Dichloroethene	70	0.5 U
Vinyl chloride	2	0.5 U

35BWW08		
Analyte	MCL	11/7/2021
Tetrachloroethene	5	1 U
Trichloroethene	5	0.5 U
1,1-Dichloroethene	7	0.5 U
cis-1,2-Dichloroethene	70	0.5 U
Vinyl chloride	2	0.5 U

35BWW15		
Analyte	MCL	11/22/2021
Tetrachloroethene	5	**13**
Trichloroethene	5	**5.1**
1,1-Dichloroethene	7	1 U
cis-1,2-Dichloroethene	70	1 U
Vinyl chloride	2	1 U

35BWW18		
Analyte	MCL	11/15/2021
Tetrachloroethene	5	1 U
Trichloroethene	5	0.5 U
1,1-Dichloroethene	7	0.5 U
cis-1,2-Dichloroethene	70	0.5 U
Vinyl chloride	2	0.5 U

35BWW14		
Analyte	MCL	11/22/2021
Tetrachloroethene	5	**24**
Trichloroethene	5	**6.1**
1,1-Dichloroethene	7	1.3
cis-1,2-Dichloroethene	70	0.5 J
Vinyl chloride	2	1 U

35BWW10		
Analyte	MCL	11/15/2021
Tetrachloroethene	5	1 U
Trichloroethene	5	0.5 U
1,1-Dichloroethene	7	0.5 U
cis-1,2-Dichloroethene	70	0.5 U
Vinyl chloride	2	0.5 U

35BWW13		
Analyte	MCL	11/17/2021
Tetrachloroethene	5	1 U
Trichloroethene	5	0.5 U
1,1-Dichloroethene	7	0.5 U
cis-1,2-Dichloroethene	70	0.5 U
Vinyl chloride	2	0.5 U

35BWW19		
Analyte	MCL	11/15/2021
Tetrachloroethene	5	1 U
Trichloroethene	5	0.5 U
1,1-Dichloroethene	7	0.5 U
cis-1,2-Dichloroethene	70	0.5 U
Vinyl chloride	2	0.5 U

35BWW17		
Analyte	MCL	11/22/2021
Tetrachloroethene	5	1 U
Trichloroethene	5	1 U
1,1-Dichloroethene	7	1 U
cis-1,2-Dichloroethene	70	1 U
Vinyl chloride	2	1 U

35BWW09		
Analyte	MCL	11/15/2021
Tetrachloroethene	5	1.1
Trichloroethene	5	**23**
1,1-Dichloroethene	7	0.5 U
cis-1,2-Dichloroethene	70	0.5 U
Vinyl chloride	2	0.5 U

35BWW20		
Analyte	MCL	11/17/2021
Tetrachloroethene	5	**5.4**
Trichloroethene	5	1.3
1,1-Dichloroethene	7	0.5 U
cis-1,2-Dichloroethene	70	0.5 U
Vinyl chloride	2	0.5 U

35BWW11		
Analyte	MCL	11/17/2021
Tetrachloroethene	5	1 U
Trichloroethene	5	0.5 U
1,1-Dichloroethene	7	0.5 U
cis-1,2-Dichloroethene	70	0.5 U
Vinyl chloride	2	0.5 U

35BWW12		
Analyte	MCL	11/22/2021
Tetrachloroethene	5	2.1
Trichloroethene	5	1 U
1,1-Dichloroethene	7	1 U
cis-1,2-Dichloroethene	70	1 U
Vinyl chloride	2	1 U

35BWW04		
Analyte	MCL	11/17/2021
Tetrachloroethene	5	**6.3**
Trichloroethene	5	0.88 J
1,1-Dichloroethene	7	0.5 U
cis-1,2-Dichloroethene	70	0.5 U
Vinyl chloride	2	0.5 U

35BWW03		
Analyte	MCL	11/15/2021
Tetrachloroethene	5	1 U
Trichloroethene	5	0.5 U
1,1-Dichloroethene	7	0.5 U
cis-1,2-Dichloroethene	70	0.5 U
Vinyl chloride	2	0.5 U

LHSMW58		
Analyte	MCL	11/15/2021
Tetrachloroethene	5	**13**
Trichloroethene	5	1
1,1-Dichloroethene	7	0.5 U
cis-1,2-Dichloroethene	70	0.5 U
Vinyl chloride	2	0.5 U

35BSW01
35BSW02
35BWW02
35-B
31-A
804-E
5 µg/L
1 µg/L

- Shallow Monitoring Well
- Shallow Monitoring Well - Not Sampled
- Lower Shallow Monitoring Well
- Intermediate Monitoring Well
- Surface Water Location
- Groundwater Flow Direction
- Tetrachloroethene Contour
- Trichloroethene Contour (*Dashed where inferred*)
- Former Railroad Location
- Land Use Control Boundary
- Goose Prairie Creek
- Roads
- Buildings
- LHAAP-35B(37) Site Boundary

Note:
1. RA-O = Remedial Action Operations
2. MCL = Maximum Contaminant Level
3. J = estimated level
4. U = below detection limit
5. Y5SA1 = Year 5 Semiannual 1

N
0 100 200 Feet

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TULSA DISTRICT
TULSA, OKLAHOMA

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Figure 2-5
Groundwater Results
November 2021 Y5SA1
Fifth Annual RA-O Report
LHAAP-35B(37)
LONGHORN ARMY AMMUNITION PLANT
KARNACK, TEXAS

Date: 1/4/2023
Document Path: F:\Projects\Longhorn\LHAAP\Documents\Mxd\LHAAP37\RAO\Year5\LHAAP37_GW_Results_Nov2021.mxd

35BWW26		
Analyte	MCL	5/17/2022
Tetrachloroethene	5	0.5 U
Trichloroethene	5	0.5 U
1,1-Dichloroethene	7	0.5 U
cis-1,2-Dichloroethene	70	0.5 U
Vinyl chloride	2	0.5 U

35BWW01		
Analyte	MCL	5/17/2022
Tetrachloroethene	5	0.5 U
Trichloroethene	5	0.5 U
1,1-Dichloroethene	7	0.5 U
cis-1,2-Dichloroethene	70	0.5 U
Vinyl chloride	2	0.5 U

35BWW25		
Analyte	MCL	5/16/2022
Tetrachloroethene	5	0.69 J
Trichloroethene	5	**10**
1,1-Dichloroethene	7	0.5 U
cis-1,2-Dichloroethene	70	0.5 U
Vinyl chloride	2	0.5 U

35BWW24		
Analyte	MCL	5/16/2022
Tetrachloroethene	5	0.5 U
Trichloroethene	5	3.9
1,1-Dichloroethene	7	0.5 U
cis-1,2-Dichloroethene	70	0.5 U
Vinyl chloride	2	0.5 U

35BWW23		
Analyte	MCL	5/18/2022
Tetrachloroethene	5	0.5 U
Trichloroethene	5	0.5 U
1,1-Dichloroethene	7	0.5 U
cis-1,2-Dichloroethene	70	0.5 U
Vinyl chloride	2	0.5 U

35BWW05		
Analyte	MCL	5/16/2022
Tetrachloroethene	5	4.1
Trichloroethene	5	1.8
1,1-Dichloroethene	7	0.5 U
cis-1,2-Dichloroethene	70	0.5 U
Vinyl chloride	2	0.5 U

35BWW15		
Analyte	MCL	5/18/2022
Tetrachloroethene	5	**9.8**
Trichloroethene	5	4.9
1,1-Dichloroethene	7	0.5 U
cis-1,2-Dichloroethene	70	0.5 U
Vinyl chloride	2	0.5 U

35BWW07		
Analyte	MCL	5/16/2022
Tetrachloroethene	5	1.1
Trichloroethene	5	3.7
1,1-Dichloroethene	7	0.5 U
cis-1,2-Dichloroethene	70	0.5 U
Vinyl chloride	2	0.5 U

35BWW08		
Analyte	MCL	5/17/2022
Tetrachloroethene	5	0.5 U
Trichloroethene	5	0.5 U
1,1-Dichloroethene	7	0.5 U
cis-1,2-Dichloroethene	70	0.5 U
Vinyl chloride	2	0.5 U

35BWW16		
Analyte	MCL	5/16/2022
Tetrachloroethene	5	0.5 U
Trichloroethene	5	0.5 U
1,1-Dichloroethene	7	0.5 U
cis-1,2-Dichloroethene	70	0.5 U
Vinyl chloride	2	0.5 U

35BWW18		
Analyte	MCL	5/18/2022
Tetrachloroethene	5	0.5 U
Trichloroethene	5	0.5 U
1,1-Dichloroethene	7	0.5 U
cis-1,2-Dichloroethene	70	0.5 U
Vinyl chloride	2	0.5 U

35BWW14		
Analyte	MCL	5/18/2022
Tetrachloroethene	5	**19**
Trichloroethene	5	**5.1**
1,1-Dichloroethene	7	1.3
cis-1,2-Dichloroethene	70	0.5 U
Vinyl chloride	2	0.5 U

35BWW10		
Analyte	MCL	5/16/2022
Tetrachloroethene	5	0.5 U
Trichloroethene	5	0.5 U
1,1-Dichloroethene	7	0.5 U
cis-1,2-Dichloroethene	70	0.5 U
Vinyl chloride	2	0.5 U

35BWW13		
Analyte	MCL	5/16/2022
Tetrachloroethene	5	0.5 U
Trichloroethene	5	0.5 U
1,1-Dichloroethene	7	0.5 U
cis-1,2-Dichloroethene	70	0.5 U
Vinyl chloride	2	0.5 U

35BWW19		
Analyte	MCL	5/18/2022
Tetrachloroethene	5	0.5 U
Trichloroethene	5	0.5 U
1,1-Dichloroethene	7	0.5 U
cis-1,2-Dichloroethene	70	0.5 U
Vinyl chloride	2	0.5 U

LHSMW58		
Analyte	MCL	5/17/2022
Tetrachloroethene	5	**9.5**
Trichloroethene	5	0.5 U
1,1-Dichloroethene	7	0.5 U
cis-1,2-Dichloroethene	70	0.5 U
Vinyl chloride	2	0.5 U

35BWW17		
Analyte	MCL	5/16/2022
Tetrachloroethene	5	0.5 U
Trichloroethene	5	0.5 U
1,1-Dichloroethene	7	0.5 U
cis-1,2-Dichloroethene	70	0.5 U
Vinyl chloride	2	0.5 U

35BWW09		
Analyte	MCL	5/18/2022
Tetrachloroethene	5	0.5 U
Trichloroethene	5	**34**
1,1-Dichloroethene	7	0.5 U
cis-1,2-Dichloroethene	70	0.5 U
Vinyl chloride	2	0.5 U

35BWW20		
Analyte	MCL	5/17/2022
Tetrachloroethene	5	**9.4**
Trichloroethene	5	1.8
1,1-Dichloroethene	7	0.5 U
cis-1,2-Dichloroethene	70	0.5 U
Vinyl chloride	2	0.5 U

35BWW11		
Analyte	MCL	5/17/2022
Tetrachloroethene	5	0.5 U
Trichloroethene	5	0.5 U
1,1-Dichloroethene	7	0.5 U
cis-1,2-Dichloroethene	70	0.5 U
Vinyl chloride	2	0.5 U

35BWW12		
Analyte	MCL	5/18/2022
Tetrachloroethene	5	2
Trichloroethene	5	0.5 U
1,1-Dichloroethene	7	0.5 U
cis-1,2-Dichloroethene	70	0.5 U
Vinyl chloride	2	0.5 U

35BWW04		
Analyte	MCL	5/17/2022
Tetrachloroethene	5	3.9
Trichloroethene	5	0.5 U
1,1-Dichloroethene	7	0.5 U
cis-1,2-Dichloroethene	70	0.5 U
Vinyl chloride	2	0.5 U

35BSW01
35BWW06
35BWW02
35BWW03
31-A
35BSW02
40-D
38-
804-E
5·µg/L
5·µg/L
5·µg/L

- Shallow Monitoring Well
- Shallow Monitoring Well - Not Sampled
- Lower Shallow Monitoring Well - Not Sampled
- Intermediate Monitoring Well - Not Sampled
- Surface Water Location
- Groundwater Flow Direction
- Tetrachloroethene Contour
- Trichloroethene Contour (*Dashed where inferred*)
- Former Railroad Location
- Land Use Control Boundary
- Goose Prairie Creek
- Roads
- Buildings
- LHAAP-35B(37) Site Boundary

Note:
1. RA-O = Remedial Action Operations
2. MCL = Maximum Contaminant Level
3. J = estimated level
4. U = below detection limit
5. Y5SA2 = Year 5 Semiannual 2

N

0 100 200 Feet

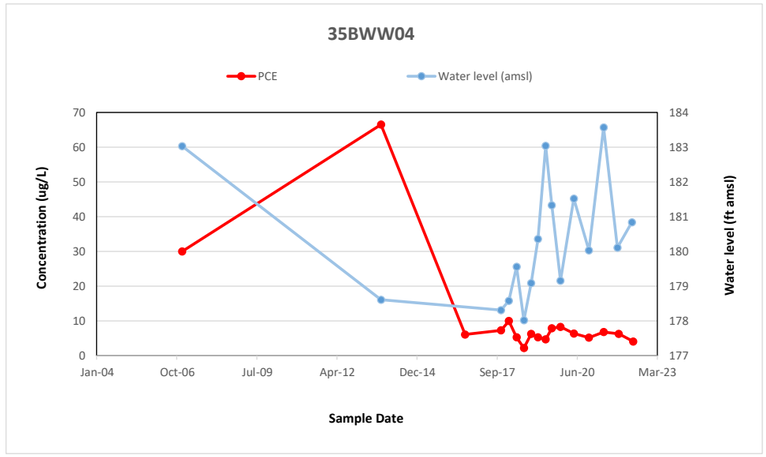
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TULSA DISTRICT
TULSA, OKLAHOMA

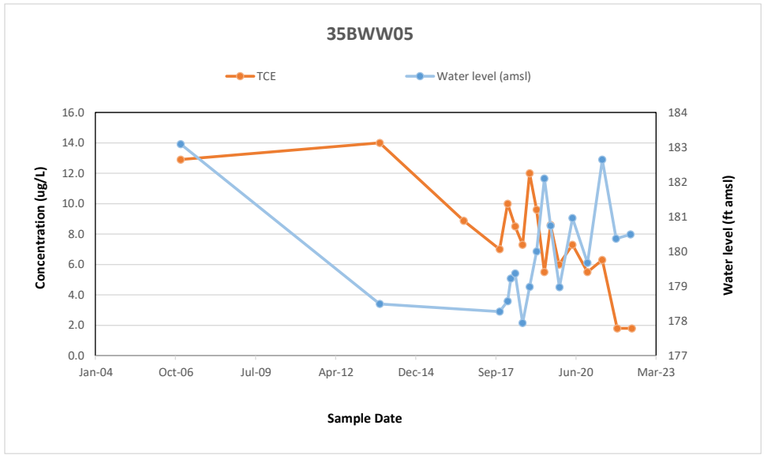
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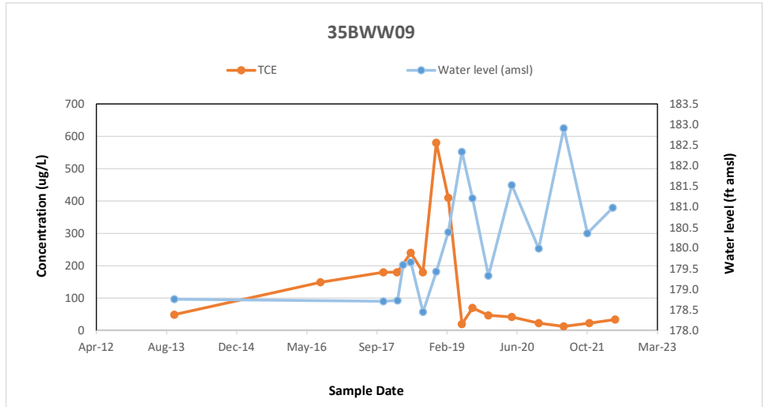
Figure 2-6
Groundwater Results
May 2022 Y5SA2
Fifth Annual RA-O Report
LHAAP-35B(37)
LONGHORN ARMY AMMUNITION PLANT
KARNACK, TEXAS

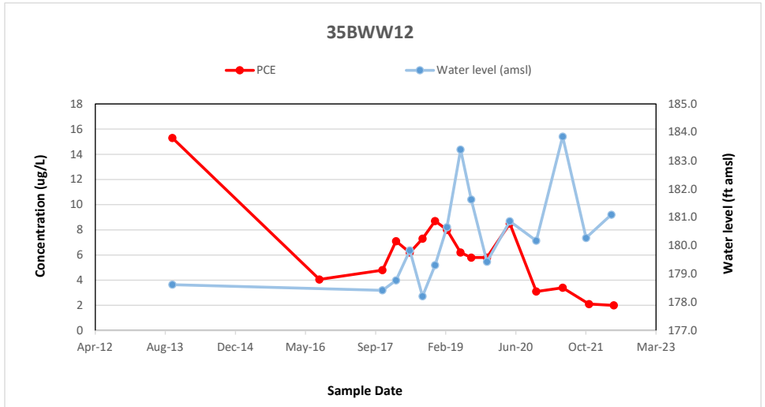
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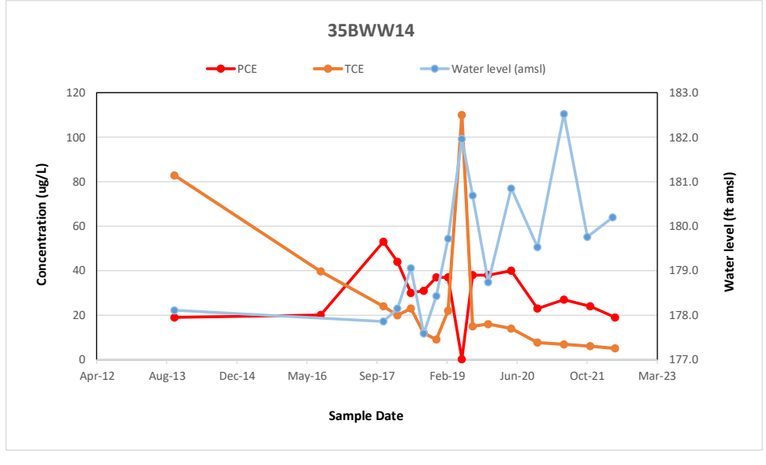
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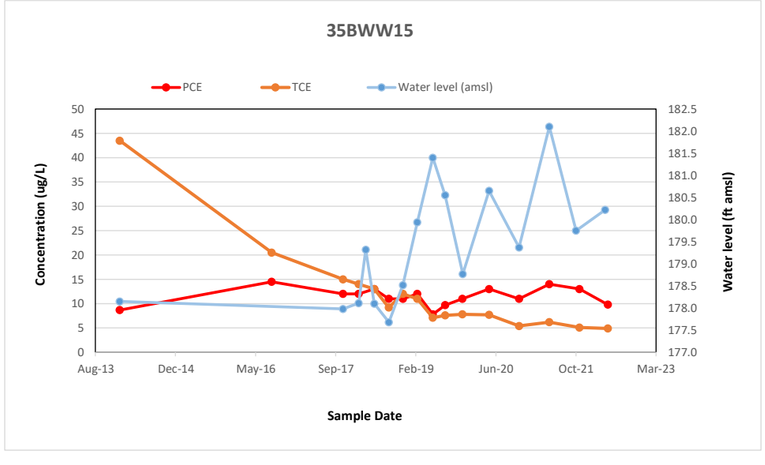












Cleanup Levels:
Tetrachloroethene = 5 µg/L
Trichloroethene = 5 µg/L

Notes:
1. RA-O = Remedial Action Operations
2. PCE = Tetrachloroethene
3. TCE = Trichloroethene
4. µg/L = microgram per liter
5. ft = feet
6. amsl = above mean sea level
7. COC = contaminant of concern

U.S. ARMY CORP OF ENGINEERS
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TULSA, OKLAHOMA

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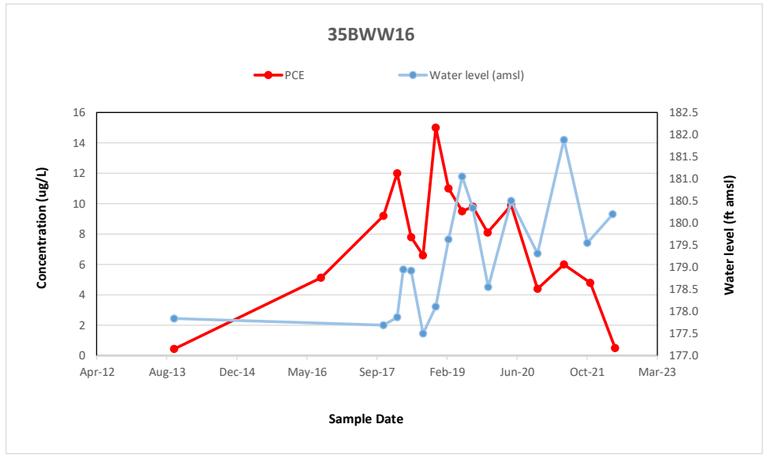
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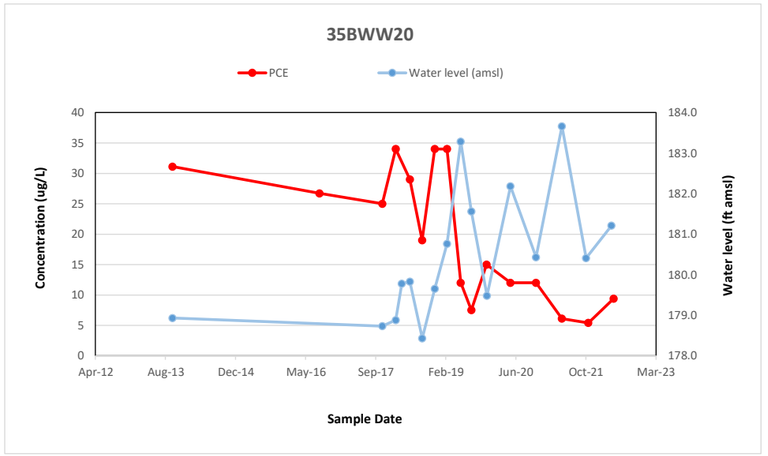
COC Concentrations
Fifth Annual RA-O Report
LHAAP-35B(37)

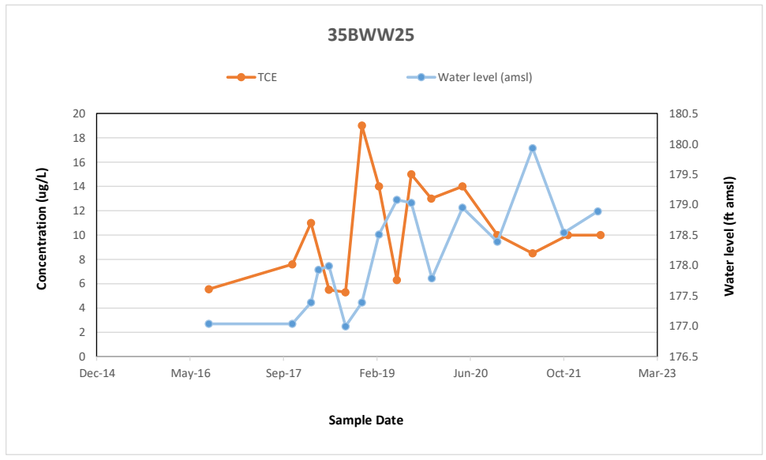
LONGHORN ARMY AMMUNITION PLANT
KARNACK, TEXAS

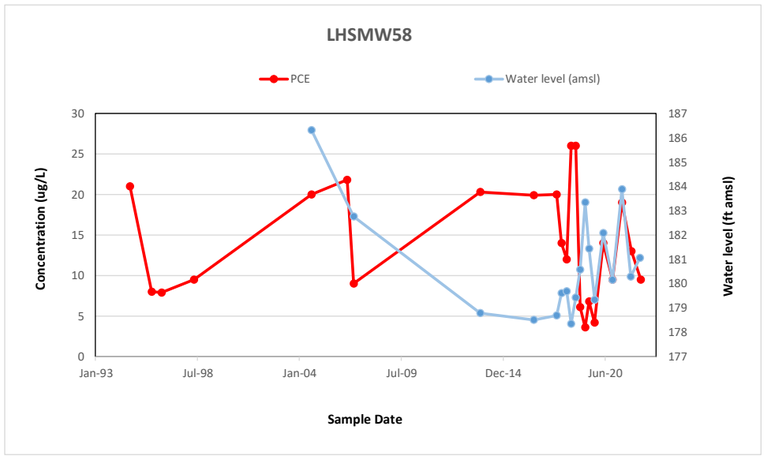
Date: 10/5/2022

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Cleanup Levels:
Tetrachloroethene = 5 µg/L
Trichloroethene = 5 µg/L

Notes:
1. RA-O = Remedial Action Operations
2. PCE = Tetrachloroethene
3. TCE = Trichloroethene
4. Groundwater elevations at LHSMW58 were not available for all sampling events prior to 2013.
5. µg/L = microgram per liter
6. ft = feet
7. amsl = above mean sea level
8. COC = contaminant of concern

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TULSA DISTRICT
TULSA, OKLAHOMA

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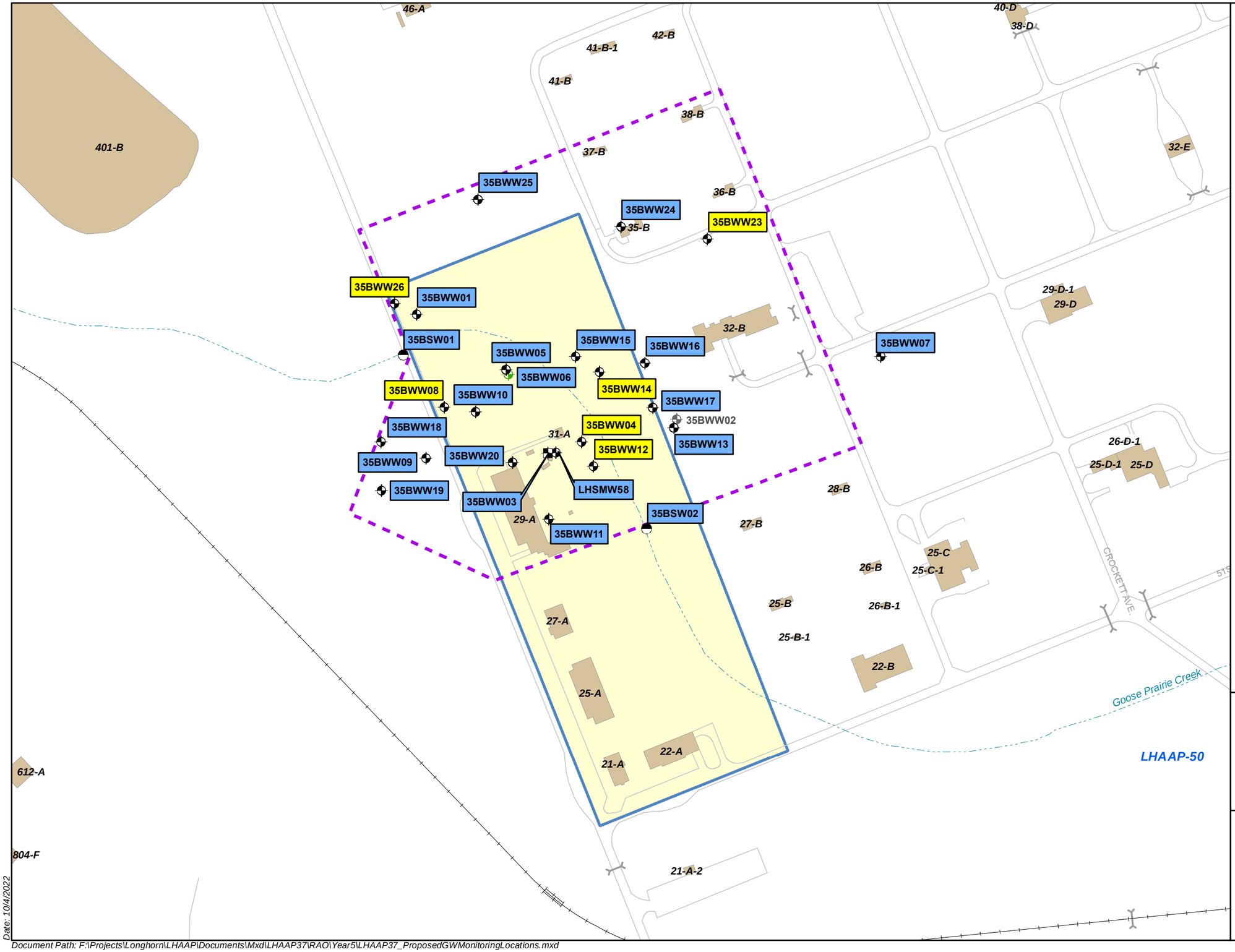
Figure 2-7b

COC Concentrations
Fifth Annual RA-O Report
LHAAP-35B(37)

LONGHORN ARMY AMMUNITION PLANT
KARNACK, TEXAS

Date: 10/4/2022

Document Path: F:\Projects\Longhorn\LHAAP\Documents\Mxd\LHAAP37\RAO\Year5\LHAAP37_COC_Concentrations_2.mxd



- Shallow Monitoring Well
- Lower Shallow Monitoring Well
- Intermediate Monitoring Well
- Surface Water Location
- Shallow Monitoring Well - Not Sampled
- Former Railroad Location
- Land Use Control Boundary
- Goose Prairie Creek
- Roads
- Buildings
- LHAAP-35B(37) Site Boundary

Note:
1. RA-O = Remedial Action Operations

35BWW15 Proposed Sampling Location

35BWW14 Proposed Sampling Location including Monitored Natural Attenuation (MNA) Parameters

2. Monitoring wells 35BWW03 and 35BWW06 will continue to be sampled once every five years to support the Five Year Reviews. The next sampling event for these wells will be in 2021.

N

0 100 200 Feet

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TULSA DISTRICT
TULSA, OKLAHOMA

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Figure 2-8

Year 6 Sampling Locations
Fifth Annual RA-O Report
LHAAP-35B(37)

LONGHORN ARMY AMMUNITION PLANT
KARNACK, TEXAS

Date: 10/4/2022

Document Path: F:\Projects\Longhorn\LHAAP\Documents\Mxd\LHAAP37\RAO\Year5\LHAAP37_ProposedGWMonitoringLocations.mxd

Appendix A

Annual Land Use Control Compliance Certification and Documentation

Annual Land Use Control Compliance Certification Documentation

In accordance with the Remedial Action Work Plan dated June 2013 for LHAAP-35B (37) a certification of site was conducted by Aptim [indicate transferee] on 5/16/22.

A summary of land use control mechanism is as follows:

Groundwater restriction – restriction of the use of groundwater to environmental monitoring and testing until cleanup levels are met. A restriction against residential use of groundwater will remain in effect until the levels of the COCs in groundwater and soil allow unrestricted use and unlimited exposure (UUUE).

[Indicate whether groundwater restrictions are still required at LHAAP-35B (37)]

A summary of compliance with land use and restriction covenants is as follows:

No use of groundwater, installation of new groundwater wells, or tampering with existing wells at LHAAP-35B (37).

I, the undersigned, do document that the certification was performed as indicated above, and that the above information is true and correct to the best of my knowledge, information, and belief. I also certify that the non-residential use assumption that forms the basis of the remedy remains the same.

Date: MAY 16, 2022

Name/Title: Scott Beesinger Senior Field Tech

Signature: Scott Beesinger

Annual compliance certification forms shall be completed no later than March 1 of each year for the previous calendar year.

Appendix B

Groundwater Sampling Forms

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **35BSW01**

Sampler(s): Scott Baggenger

FIELD CONDITIONS CLEAR

SAMPLING INFORMATION

Sample No: 35BSW01-211122 **DATE/TIME:** 11/22/21 1143 **Sample Depth:** NA

Sampling Method: GRAB **Sample Purpose:** REG **Sample Matrix:** SW

Appearance of Sample **Assoc. QC Samples** **Decontamination Procedures**

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

NO SAMPLE COLLECTED

THERE IS NO FLOW AT THIS LOCATION

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **35BSW02**

Sampler(s): Scott Baginger

FIELD CONDITIONS CLEAR

SAMPLING INFORMATION

Sample No: 35BSW02-211122 **DATE/TIME:** 11/22/21 1145 **Sample Depth** NA

Sampling Method: GRAB **Sample Purpose:** REG **Sample Matrix:** SW

Appearance of Sample | **Assoc. QC Samples** | **Decontamination Procedures**

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

NO Sample Collected

THERE IS NO Flow AT THIS Location

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **35BWW01**

Sampler(s): Scott Beesinger

FIELD CONDITIONS CLEAR

SAMPLING INFORMATION

Sample No: 35BWW01-211115 **DATE/TIME:** 11/15/21 0633 **Pump Inlet Depth:** 16.11

Sampling Method: LF **Sample Purpose:** REG **Sample Matrix:** GW

Appearance of Sample **Assoc. QC Samples** **Decontamination Procedures**

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Low flow/Bladder Pump

Casing ID (in.): 4"

Purge Start Date/Time: 11/15/21 0645

Depth to Water - Initial (DTWi) (ft) 14.58

Purge End Date/Time: 11/15/21 0715

Depth to Well Bottom (ft) 20.67

Discharge Tube Length: NA PID Reading: NA

Screen Interval (ft): 11.11 - 21.11

Discharge Tube Diameter: 1/4" Immersible Layer: Y / N

Approximate depth of pump inlet*(ft): 16.11

Pump Start Time: 0645

Ferrous Iron (Required Y or N) _____ mg/L

2ND DTW - 14.58

APTIM

Sample Collection Log

Location ID: 35BWW01 Sample No: 35BWW01-211115

Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
11/15/21	0650	100	.5	14.65	0.092	14.83	6.84	12.8	211	1.07
	0655	100	1.0	14.71	0.117	15.31	5.12	14.6	230	0.80
	0700	100	1.5	14.75	0.099	16.39	4.78	15.3	255	0.70
	0705	100	2.0	14.78	0.099	16.44	4.77	15.7	256	0.69
	0710	100	2.5	14.80	0.098	16.48	4.77	16.0	257	0.68
	0715	100	3.0	14.82	0.098	16.53	4.76	16.4	258	0.67

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **35BWW02**

Sampler(s): Scott Beesinger

FIELD CONDITIONS Clear

SAMPLING INFORMATION

Sample No: 35BWW02-211117 **DATE/TIME:** 11/17/21 **Pump Inlet Depth:** 13.86

Sampling Method: LF **Sample Purpose:** REG **Sample Matrix:** GW

Appearance of Sample	Assoc. QC Samples	Decontamination Procedures

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Low Flow/Bladder Pump

Casing ID (in.): 4"

Purge Start Date/Time: 11/17/21 NA

Depth to Water - Initial (DTWi) (ft) DRY

Purge End Date/Time: 11/17/21 NA

Depth to Well Bottom (ft) ~~16.88~~

Discharge Tube Length: NA

PID Reading: NA

Screen Interval (ft): 11.36 - 16.36

Discharge Tube Diameter: 1/4"

Immersible Layer: Y / (N)

Approximate depth of pump inlet*(ft): 13.86

Pump Start Time: NA

Ferrous Iron (Required Y or (N)) _____ mg/L

2ND DTW - DRY

APTIM

Sample Collection Log

Location ID: 35BWW02		Sample No: 35BWW02-211117								
Date of Reading	**Time of Reading**	**Purge Rate**	**Total Purge**	**DTW**	**Cond.**	**Temp.**	**pH**	**Turbidity**	**ORP**	**DO**
		(ml/min)	**(L)**	**(ft)**	**(mS/cm)**	**(°C)**		**(NTU)**	**(mV)**	**(mg/L)**
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
11/17/21										
			Dry Well							

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **35BWW03**

Sampler(s): Scott Beesinger

FIELD CONDITIONS Clear

SAMPLING INFORMATION

Sample No: 35BWW03-211115 **DATE/TIME:** 11/15/21 1010 **Pump Inlet Depth:** 77.21

Sampling Method: LF **Sample Purpose:** REG **Sample Matrix:** GW

Appearance of Sample | **Assoc. QC Samples** | **Decontamination Procedures**

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Low flow/BLADDER Pump

Casing ID (in.): 4"

Purge Start Date/Time: 11/15/21 1020

Depth to Water - Initial (DTWi) (ft) 32.20

Purge End Date/Time: 11/15/21 1050

Depth to Well Bottom (ft) 82.55

Discharge Tube Length: NA PID Reading: NA

Screen Interval (ft): 72.21 - 82.21

Discharge Tube Diameter: 1/4" Immersible Layer: Y / (N)

Approximate depth of pump inlet*(ft): 77.21

Pump Start Time: 1020

Ferrous Iron (Required Y or (N)) _____ mg/L

2ND DTW - 32.20

APTIM

Sample Collection Log

Location ID: 35BWW03		Sample No: 35BWW03-211115								
Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
11/15/21	1025	100	.5	33.26	0.675	20.89	7.01	12.7	52	1.91
	1030	100	1.0	33.30	0.763	20.74	6.19	9.3	35	1.70
	1035	100	1.5	33.33	0.786	20.58	6.04	7.9	41	1.63
	1040	100	2.0	33.35	0.786	20.52	6.03	6.8	42	1.61
	1045	100	2.5	33.37	0.787	20.48	6.03	6.0	43	1.59
	1050	100	3.0	33.38	0.787	20.45	6.02	5.3	43	1.57

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **35BWW04**

Sampler(s): Scott Beesinger

FIELD CONDITIONS Clear

SAMPLING INFORMATION

Sample No: 35BWW04-211117 **DATE/TIME:** 11/17/21 0815 **Pump Inlet Depth:** 27.85

Sampling Method: LF **Sample Purpose:** REG **Sample Matrix:** GW

Appearance of Sample | **Assoc. QC Samples** | **Decontamination Procedures**

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	Anions (chloride/nitrate/sulfate) in Water by SW9056	1 x 125 mL HPDE	Cool 4C
		ALSHT	Carbon Dioxide in Water by RSK175	3 x 40 mL Glass	Cool 4C
		ALSHT	Dissolved Gases in Water by RSK175	3 x 40 mL Glass	HCL<pH2
		ALSHT	TOC in Water by SM5310C	2 x 40 mL Amber	H2SO4
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Low Flow/Bladder Pump

Casing ID (in.): 4"

Purge Start Date/Time: 11/17/21 0820

Depth to Water - Initial (DTWi) (ft) 22.00

Purge End Date/Time: 11/17/21 0850

Depth to Well Bottom (ft) 33.30

Discharge Tube Length: NA PID Reading: NA

Screen Interval (ft): 22.85-32.85

Discharge Tube Diameter: 1/4" Immersible Layer: Y / (N)

Approximate depth of pump inlet*(ft): 27.85

Pump Start Time: 0820

Ferrous Iron (Required (Y) or N) 0.00 mg/L

2ND DTW - 22.00

APTIM

Sample Collection Log

Location ID: 35BWW04 Sample No: 35BWW04-211117

Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
11/17/24	0825	100	.5	22.07	0.267	18.50	6.55	6.3	218	1.63
	0830	100	1.0	22.13	0.273	18.61	6.01	4.5	227	1.39
	0835	100	1.5	22.16	0.277	18.63	5.73	4.0	238	1.24
	0840	100	2.0	22.19	0.277	18.65	5.72	3.6	239	1.22
	0845	100	2.5	22.21	0.277	18.67	5.71	3.2	240	1.20
	0850	100	3.0	22.23	0.277	18.68	5.71	2.7	240	1.18

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **35BWW05**

Sampler(s): Scott Beasinger

FIELD CONDITIONS Clear

SAMPLING INFORMATION

Sample No: 35BWW05-211115 **DATE/TIME:** 11/15/21 0803 **Pump Inlet Depth:** 33.60

Sampling Method: LF **Sample Purpose:** REG **Sample Matrix:** GW

Appearance of Sample | **Assoc. QC Samples** | **Decontamination Procedures**

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Casing ID (in.): ~~4~~ 2"

Depth to Water - Initial (DTWi) (ft) 22.70

Depth to Well Bottom (ft) 37.90

Screen Interval (ft): 28.60 - 38.60

Approximate depth of pump inlet*(ft): 33.60

Ferrous Iron (Required Y or (N) _____ mg/L

Purging Method/Equipment: Low flow/BLADDER Pump

Purge Start Date/Time: 11/15/21 0810

Purge End Date/Time: 11/15/21 0840

Discharge Tube Length: NA PID Reading: NA

Discharge Tube Diameter: 1/4" Immersible Layer: Y (N)

Pump Start Time: 0810

2ND DTW - 22.70

APTIM

Sample Collection Log

Location ID: 35BWW05		Sample No: 35BWW05-211115								
Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
11/15/21	0815	100	.5	22.78	0.347	15.25	5.85	544	194	0.77
	0820	100	1.0	22.64	0.351	14.81	5.53	533	192	0.48
	0825	100	1.5	22.68	0.345	14.82	5.37	520	192	0.36
	0830	100	2.0	22.71	0.344	14.83	5.36	519	191	0.35
	0835	100	2.5	22.73	0.344	14.84	5.35	518	191	0.35
	0840	100	3.0	22.75	0.344	14.85	5.35	517	191	0.35

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **35BWW06**

Sampler(s): Scott Berginger

FIELD CONDITIONS Clear

SAMPLING INFORMATION

Sample No: 35BWW06-211115 **DATE/TIME:** 11/15/21 0846 **Pump Inlet Depth:** 50.03

Sampling Method: LF **Sample Purpose:** REG **Sample Matrix:** GW

Appearance of Sample **Assoc. QC Samples** **Decontamination Procedures**

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Low flow/BLADDER Pump

Casing ID (in.): 4"

Purge Start Date/Time: 11/15/21 0850

Depth to Water - Initial (DTWi) (ft) 23.53

Purge End Date/Time: 11/15/21 0920

Depth to Well Bottom (ft) 54.51

Discharge Tube Length: NA PID Reading: NA

Screen Interval (ft): 45.03 - 55.03

Discharge Tube Diameter: 1/4" Immersible Layer: Y (N)

Approximate depth of pump inlet*(ft): 50.03

Pump Start Time: 0850

Ferrous Iron (Required Y or (N) _____ mg/L

2ND DTW - 23.53

APTIM

Sample Collection Log

Location ID: 35BWW06		Sample No: 35BWW06-2111_15								
Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
11/15/21	0855	100	.5	23.60	0.830	15.42	6.61	10.2	52	0.93
	0900	100	1.0	23.66	0.793	16.57	5.95	7.3	88	0.72
	0905	100	1.5	23.70	0.727	17.25	5.66	5.7	107	0.41
	0910	100	2.0	23.72	0.727	17.31	5.66	5.0	108	~~0.41~~ 0.40
	0915	100	2.5	23.74	0.727	17.36	5.65	4.4	109	0.39
	0920	100	3.0	23.75	0.726	17.40	5.65	3.8	109	0.38

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **35BWW07**

Sampler(s): Scott Beegi, NGER

FIELD CONDITIONS Clear

SAMPLING INFORMATION

Sample No: 35BWW07-211117 **DATE/TIME:** 11/17/21 1028 **Pump Inlet Depth:** 25.67

Sampling Method: LF **Sample Purpose:** REG **Sample Matrix:** GW

Appearance of Sample	Assoc. QC Samples	Decontamination Procedures

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Low Flow/Bladder Pump

Casing ID (in.): 2"

Purge Start Date/Time: 11/17/21 1030

Depth to Water - Initial (DTWi) (ft) 25.09

Purge End Date/Time: 11/17/21 1100

Depth to Well Bottom (ft) 31.29

Discharge Tube Length: NA PID Reading: NA

Screen Interval (ft): 20.67-30.67

Discharge Tube Diameter: 1/4" Immersible Layer: Y / (N)

Approximate depth of pump inlet*(ft): 25.67

Pump Start Time: 1030

Ferrous Iron (Required Y or (N) _____ mg/L

2ND DTW - 25.09

APTIM

Sample Collection Log

Location ID: 35BWW07 Sample No: 35BWW07-211117

Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
11/17/21	1035	100	.5	25.17	0.691	21.08	6.27	31.2	171	0.81
	1040	100	1.0	25.23	0.708	19.95	5.67	25.7	117	0.65
	1045	100	1.5	25.27	0.708	19.77	5.53	21.8	82	0.46
	1050	100	2.0	25.30	0.709	19.72	5.53	21.2	81	0.45
	1055	100	2.5	25.33	0.709	19.68	5.53	20.5	81	0.45
	1100	100	3.0	25.35	0.709	19.63	5.52	20.0	80	0.44

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Location ID: **35BWW07**

Project No: **501032**

Sampler(s): Scott Baggi NGER

FIELD CONDITIONS Clear

SAMPLING INFORMATION

Sample No: 35BWW07-211117-FD **DATE/TIME:** 11/17/21 1026 **Pump Inlet Depth:** 25.67

Sampling Method: LF **Sample Purpose:** FD **Sample Matrix:** GW

Appearance of Sample	Assoc. QC Samples	Decontamination Procedures

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Low Flow Bladder Pump

Casing ID (in.): 2"

Purge Start Date/Time: 11/17/21 1030

Depth to Water - Initial (DTWi) (ft) 25.09

Purge End Date/Time: 11/17/21 1100

Depth to Well Bottom (ft) 31.29

Discharge Tube Length: NA

PID Reading: NA

Screen Interval (ft): 20.67 - 30.67

Discharge Tube Diameter: 1/4"

Immersible Layer: Y / (N)

Approximate depth of pump inlet*(ft): 25.67

Pump Start Time: 1030

Ferrous Iron (Required Y or (N) _____ mg/L

2ND DTW - 25.09

APTIM

Sample Collection Log

Location ID: 35BWW07				Sample No: 35BWW07-211117-FD						
Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
11/17/21	1035	100	.5	25.17	0.691	21.08	6.27	31.2	171	0.81
	1040	100	1.0	25.23	0.708	19.95	5.67	25.7	117	0.65
	1045	100	1.5	~~25.21~~	0.708	19.77	5.53	21.8	82	0.46
	1050	100	2.0	25.30	0.709	19.72	5.53	21.2	81	0.45
	1055	100	2.5	25.33	0.709	19.68	5.53	20.5	81	0.45
	1100	100	3.0	25.35	0.709	19.63	5.52	20.0	80	0.44

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **35BWW08**

Sampler(s): Scott Beesinger

FIELD CONDITIONS Clear

SAMPLING INFORMATION

Sample No: 35BWW08-211117 **DATE/TIME:** 11/17/21 0730 **Pump Inlet Depth:** 29.72

Sampling Method: LF **Sample Purpose:** REG **Sample Matrix:** GW

Appearance of Sample **Assoc. QC Samples** **Decontamination Procedures**

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	Anions (chloride/nitrate/sulfate) in Water by SW9056	1 x 125 mL HPDE	Cool 4C
		ALSHT	Carbon Dioxide in Water by RSK175	3 x 40 mL Glass	Cool 4C
		ALSHT	Dissolved Gases in Water by RSK175	3 x 40 mL Glass	HCL<pH2
		ALSHT	TOC in Water by SM5310C	2 x 40 mL Amber	H2SO4
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Low flow/Bladder Pump

Casing ID (in.): 2"

Purge Start Date/Time: 11/17/21 0735

Depth to Water - Initial (DTWi) (ft) 23.80

Purge End Date/Time: 11/17/21 0805

Depth to Well Bottom (ft) 34.12

Discharge Tube Length: NA PID Reading: NA

Screen Interval (ft): 24.72-34.72

Discharge Tube Diameter: 1/4" Immersible Layer: Y / (N)

Approximate depth of pump inlet*(ft): 29.72

Pump Start Time: 0735

Ferrous Iron (Required (Y) or N) 0.26 mg/L

2ND DTW- 23.80

APTIM

Sample Collection Log

Location ID: 35BWW08		Sample No: 35BWW08-211117								
Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
11/17/24	0740	100	.5	23.88	0.277	18.10	5.87	30.7	245	1.70
	0745	100	1.0	23.94	0.285	18.61	5.69	26.2	250	1.49
	0750	100	1.5	23.98	0.305	18.91	5.57	24.9	259	1.37
	0755	100	2.0	24.01	0.305	18.96	5.56	24.3	260	1.35
	0800	100	2.5	24.03	0.306	19.00	5.55	23.7	260	1.34
↓	0805	100	3.0	24.05	0.306	19.04	5.54	23.4	260	1.33

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **35BWW09**

Sampler(s): Scott Beggs, Meg R

FIELD CONDITIONS Clear

SAMPLING INFORMATION

Sample No: 35BWW09-211115 **DATE/TIME:** 11/15/21 1056 **Pump Inlet Depth:** 32.01

Sampling Method: LF **Sample Purpose:** REG **Sample Matrix:** GW

Appearance of Sample	Assoc. QC Samples	Decontamination Procedures

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Low Flow/Bladder Pump

Casing ID (in.): 4"

Purge Start Date/Time: 11/15/21 1100

Depth to Water - Initial (DTWi) (ft) 24.80

Purge End Date/Time: 11/15/21 1130

Depth to Well Bottom (ft) 37.01

Discharge Tube Length: NA PID Reading: NA

Screen Interval (ft): 27.01 - 37.01

Discharge Tube Diameter: 1/4" Immersible Layer: Y / (N)

Approximate depth of pump inlet*(ft): 32.01

Pump Start Time: 1100

Ferrous Iron (Required Y or (N)) _____ mg/L

2ND DTW - 24.80

APTIM

Sample Collection Log

Location ID: 35BWW09				Sample No: 35BWW09-2111/5						
Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
11/15/21	1105	100	.5	24.87	0.416	23.16	7.10	3.2	88	0.95
	1110	100	1.0	24.94	0.410	22.47	6.33	3.6	108	0.78
	1115	100	1.5	24.98	0.407	22.27	6.00	3.5	146	0.53
	1120	100	2.0	25.01	0.407	22.20	5.99	3.3	147	0.52
	1125	100	2.5	25.03	0.407	22.16	5.98	3.1	148	0.51
↓	1130	100	3.0	25.05	0.407	22.12	5.98	3.0	149	0.50

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **35BWW10**

Sampler(s): Scott Baggenger

FIELD CONDITIONS Clear

SAMPLING INFORMATION

Sample No: 35BWW10-211115 **DATE/TIME:** 11/15/21 0721 **Pump Inlet Depth:** 28.62

Sampling Method: LF **Sample Purpose:** REG **Sample Matrix:** GW

Appearance of Sample	Assoc. QC Samples	Decontamination Procedures

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Low flow/BLADDER Pump

Casing ID (in.): 2"

Purge Start Date/Time: 11/15/21 0725

Depth to Water - Initial (DTWi) (ft) 23.53

Purge End Date/Time: 11/15/21 0755

Depth to Well Bottom (ft) 36.32

Discharge Tube Length: NA PID Reading: NA

Screen Interval (ft): 21.23 - 36.00

Discharge Tube Diameter: 1/4" Immersible Layer: Y / (N)

Approximate depth of pump inlet*(ft): 28.62

Pump Start Time: 0725

Ferrous Iron (Required Y or (N) _____ mg/L

2ND DTW - 23.53

APTIM

Sample Collection Log

Location ID: 35BWW10		Sample No: 35BWW10-2111 15								
Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
11/15/21	0730	100	.5	23.60	0.191	15.27	5.47	241	191	3.51
	0735	100	1.0	23.66	0.200	16.29	5.33	219	220	3.20
	0740	100	1.5	23.70	0.207	16.33	5.53	207	233	2.98
	0745	100	2.0	23.72	0.208	16.36	5.54	206	234	2.95
	0750	100	2.5	23.74	0.208	16.39	5.54	205	235	2.93
↓	0755	100	3.0	23.75	0.208	16.42	5.55	204	235	2.91

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **35BWW11**

Sampler(s): Scott Beasinger

FIELD CONDITIONS CLEAR

SAMPLING INFORMATION

Sample No: 35BWW11-2111_17 **DATE/TIME:** 11/17/21 0902 **Pump Inlet Depth:** 32.41

Sampling Method: LF **Sample Purpose:** REG **Sample Matrix:** GW

Appearance of Sample	Assoc. QC Samples	Decontamination Procedures

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Low Flow/Bladder Pump

Casing ID (in.): 4"

Purge Start Date/Time: 11/17/21 0910

Depth to Water - Initial (DTWi) (ft) 22.53

Purge End Date/Time: 11/17/21 0940

Depth to Well Bottom (ft) 37.64

Discharge Tube Length: NA PID Reading: NA

Screen Interval (ft): 27.41-37.41

Discharge Tube Diameter: 1/4" Immersible Layer: Y / (N)

Approximate depth of pump inlet*(ft): 32.41

Pump Start Time: 0910

Ferrous Iron (Required Y or (N)) _____ mg/L

2ND DTW - 22.53

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **35BWW12**

Sampler(s): Scott Beesinger

FIELD CONDITIONS

Clear

SAMPLING INFORMATION

Sample No: 35BWW12-211122 **DATE/TIME:** 11/22/21 0655 **Pump Inlet Depth:** 30.30

Sampling Method: LF **Sample Purpose:** REG **Sample Matrix:** GW

Appearance of Sample | **Assoc. QC Samples** | **Decontamination Procedures**

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	Anions (chloride/nitrate/sulfate) in Water by SW9056	1 x 125 mL HPDE	Cool 4C
		ALSHT	Carbon Dioxide in Water by RSK175	3 x 40 mL Glass	Cool 4C
		ALSHT	Dissolved Gases in Water by RSK175	3 x 40 mL Glass	HCL<pH2
		ALSHT	TOC in Water by SM5310C	2 x 40 mL Amber	H2SO4
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Low flow/Bladder Pump

Casing ID (in.): 2"

Purge Start Date/Time: 11/22/21 0705

Depth to Water - Initial (DTWi) (ft) 20.90

Purge End Date/Time: 11/22/21 0735

Depth to Well Bottom (ft) 38.29

Discharge Tube Length: NA PID Reading: NA

Screen Interval (ft): 22.95 - 37.65

Discharge Tube Diameter: 1/4" Immersible Layer: Y / (N)

Approximate depth of pump inlet*(ft): 30.30

Pump Start Time: 0705

Ferrous Iron (Required (Y) or N) 2.73 mg/L

2ND Depth TO WATER - 20.90

APTIM

Sample Collection Log

Location ID: 35BWW12 Sample No: 35BWW12-2111 22

Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
11/22/21	0710	100	.5	20.97	0.265	15.28	5.57	317	248	0.84
	0715	100	1.0	21.03	0.280	16.80	5.27	295	233	0.65
	0720	100	1.5	21.07	0.292	16.84	5.26	284	214	0.34
	0725	100	2.0	21.09	0.292	16.88	5.25	283	213	0.33
	0730	100	2.5	21.11	0.293	16.93	5.25	283	212	0.32
↓	0735	100	3.0	21.12	0.293	16.97	5.25	282	211	0.32

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **35BWW12**

Sampler(s): Scott Bressinger

FIELD CONDITIONS Clear

SAMPLING INFORMATION

Sample No: 35BWW12-211122-MS. **DATE/TIME:** 11/22/21 0655 **Pump Inlet Depth:** 30.30

Sampling Method: L **Sample Purpose:** MS. **Sample Matrix:** GW

Appearance of Sample	Assoc. QC Samples	Decontamination Procedures

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	Anions (chloride/nitrate/sulfate) in Water by SW9056	1 x 125 mL HPDE	Cool 4C
		ALSHT	Carbon Dioxide in Water by RSK175	3 x 40 mL Glass	Cool 4C
		ALSHT	Dissolved Gases in Water by RSK175	3 x 40 mL Glass	HCL<pH2
		ALSHT	TOC in Water by SM5310C	2 x 40 mL Amber	H2SO4
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Low flow/Bladder Pump

Casing ID (in.): 2"

Purge Start Date/Time: 11/22/21 0705

Depth to Water - Initial (DTWi) (ft) 20.90

Purge End Date/Time: 11/22/21 0735

Depth to Well Bottom (ft) 38.29

Discharge Tube Length: NA

PID Reading: NA

Screen Interval (ft): 22.95-37.65

Discharge Tube Diameter: 1/4"

Immersible Layer: Y / N

Approximate depth of pump inlet*(ft): 30.30

Pump Start Time: 0705

Ferrous Iron (Required (Y) or N) 2.73 mg/L

2ND DTW - 20.90

APTIM

Sample Collection Log

Location ID: 35BWW12 Sample No: 35BWW12-2111**22**-MS

Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
11/22/21	0710	100	.5	20.97	0.265	15.28	5.57	317	248	0.84
	0715	100	1.0	21.03	0.280	16.80	5.27	295	233	0.65
	0720	100	1.5	21.07	0.292	16.84	5.26	284	214	0.34
	0725	100	2.0	21.09	0.292	16.88	5.25	283	213	0.33
	0730	100	2.5	21.11	0.293	16.93	5.25	283	212	0.32
	0735	100	3.0	21.12	0.293	16.97	5.25	282	211	0.32

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **35BWW12**

Sampler(s): Scott Beesinger

FIELD CONDITIONS Clear

SAMPLING INFORMATION

Sample No: 35BWW12-211122-MSD **DATE/TIME:** 11/22/21 0655 **Pump Inlet Depth:** 30.30

Sampling Method: L **Sample Purpose:** MSD **Sample Matrix:** GW

Appearance of Sample	Assoc. QC Samples	Decontamination Procedures

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	Anions (chloride/nitrate/sulfate) in Water by SW9056	1 x 125 mL HPDE	Cool 4C
		ALSHT	Carbon Dioxide in Water by RSK175	3 x 40 mL Glass	Cool 4C
		ALSHT	Dissolved Gases in Water by RSK175	3 x 40 mL Glass	HCL<pH2
		ALSHT	TOC in Water by SM5310C	2 x 40 mL Amber	H2SO4
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Low flow/Bladder Pump

Casing ID (in.): 2"

Purge Start Date/Time: 11/22/21 0705

Depth to Water - Initial (DTWi) (ft) 20.90

Purge End Date/Time: 11/22/21 0735

Depth to Well Bottom (ft) 38.29

Discharge Tube Length: NA

PID Reading: NA

Screen Interval (ft): 22.95 - 37.65

Discharge Tube Diameter: 1/4"

Immersible Layer: Y / (N)

Approximate depth of pump inlet*(ft): 30.30

Pump Start Time: 0705

Ferrous Iron (Required) (Y or N) 2.73 mg/L

2ND DTW - 20.90

APTIM

Sample Collection Log

Location ID: 35BWW12				Sample No: 35BWW12-211122-MSD						
Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
11/22/21	0710	100	.5	20.97	0.265	15.28	5.57	317	248	0.84
	0715	100	1.0	21.03	0.280	16.80	5.27	295	233	0.65
	0720	100	1.5	21.07	0.292	16.84	5.26	284	214	0.34
	0725	100	2.0	21.09	0.292	16.88	5.25	283	213	0.33
	0730	100	2.5	21.11	0.293	16.93	5.25	283	212	0.32
	0735	100	3.0	21.12	0.293	16.97	5.25	282	211	0.32

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **35BWW13**

Sampler(s): Scott Beesinger

FIELD CONDITIONS Clear

SAMPLING INFORMATION

Sample No: 35BWW13-211117 **DATE/TIME:** 11/17/21 1106 **Pump Inlet Depth:** 29.60

Sampling Method: LF **Sample Purpose:** REG **Sample Matrix:** GW

Appearance of Sample | **Assoc. QC Samples** | **Decontamination Procedures**

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Low Flow/Bladder Pump

Casing ID (in.): 2"

Purge Start Date/Time: 11/17/21 1115

Depth to Water - Initial (DTWi) (ft) 23.40

Purge End Date/Time: 11/17/21 1145

Depth to Well Bottom (ft) 37.68

Discharge Tube Length: NA PID Reading: NA

Screen Interval (ft): 22.25-36.95

Discharge Tube Diameter: 1/4" Immersible Layer: Y / (N)

Approximate depth of pump inlet*(ft): 29.60

Pump Start Time: 1115

Ferrous Iron (Required Y or (N)) _____ mg/L

2ND DTW- 23.40

APTIM

Sample Collection Log

Location ID: 35BWW13 Sample No: 35BWW13-211117

Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
11/17/21	1120	100	.5	23.47	0.203	21.13	5.29	55.5	229	2.49
	1125	100	1.0	23.52	0.195	19.88	4.21	49.7	308	2.23
	1130	100	1.5	23.55	0.183	19.48	4.07	45.8	340	2.17
	1135	100	2.0	23.58	0.183	19.43	4.06	45.3	341	2.15
	1140	100	2.5	23.60	0.182	19.39	4.06	44.7	342	2.13
↓	1145	100	3.0	23.62	0.182	19.34	4.06	44.2	342	2.12

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **35BWW14**

Sampler(s): Scott Bassinger

FIELD CONDITIONS Clear

SAMPLING INFORMATION

Sample No: 35BWW14-211122 **DATE/TIME:** 11/22/21 0828 **Pump Inlet Depth:** 31.71

Sampling Method: LF **Sample Purpose:** REG **Sample Matrix:** GW

Appearance of Sample **Assoc. QC Samples** **Decontamination Procedures**

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	Anions (chloride/nitrate/sulfate) in Water by SW9056	1 x 125 mL HPDE	Cool 4C
		ALSHT	Carbon Dioxide in Water by RSK175	3 x 40 mL Glass	Cool 4C
		ALSHT	Dissolved Gases in Water by RSK175	3 x 40 mL Glass	HCL<pH2
		ALSHT	TOC in Water by SM5310C	2 x 40 mL Amber	H2SO4
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Low flow/BLADDER Pump

Casing ID (in.): 4"

Purge Start Date/Time: 11/22/21 0825

Depth to Water - Initial (DTWi) (ft) 21.50

Purge End Date/Time: 11/22/21 0855

Depth to Well Bottom (ft) 37.32

Discharge Tube Length: NA PID Reading: NA

Screen Interval (ft): 26.71-36.71

Discharge Tube Diameter: 1/4" Immersible Layer: Y / (N)

Approximate depth of pump inlet*(ft): 31.71

Pump Start Time: 0825

Ferrous Iron (Required (Y) or N) 0.48 mg/L

2ND DTW - 21.50

APTIM

Sample Collection Log

Location ID: 35BWW14 Sample No: 35BWW14-211122

Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
11/22/21	0830	100	.5	21.58	0.405	16.29	6.48	15.6	197	0.95
	0835	100	1.0	21.64	0.409	16.81	5.89	9.0	215	0.78
	0840	100	1.5	21.68	0.410	16.97	5.65	3.5	222	0.55
	0845	100	2.0	21.70	0.411	17.07	5.64	2.4	222	0.54
	0850	100	2.5	21.72	0.411	17.14	5.63	1.1	223	0.54
↓	0855	100	3.0	21.73	0.411	17.19	5.63	0.7	223	0.53

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **35BWW15**

Sampler(s): Scott Beesinger

FIELD CONDITIONS

Clear

SAMPLING INFORMATION

Sample No: 35BWW15-211122 **DATE/TIME:** 11/22/21 0905 **Pump Inlet Depth:** 34.34

Sampling Method: LF **Sample Purpose:** REG **Sample Matrix:** GW

Appearance of Sample | **Assoc. QC Samples** | **Decontamination Procedures**

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Low flow/BLADDER Pump

Casing ID (in.): 2"

Purge Start Date/Time: 11/22/21 0910

Depth to Water - Initial (DTWi) (ft) 22.06

Purge End Date/Time: 11/22/21 0940

Depth to Well Bottom (ft) 50.11

Discharge Tube Length: NA PID Reading: NA

Screen Interval (ft): 19.34-49.34

Discharge Tube Diameter: 1/4" Immersible Layer: Y / (N)

Approximate depth of pump inlet*(ft): 34.34

Pump Start Time: 0910

Ferrous Iron (Required Y or (N) _____ mg/L

2ND DTW- [redacted] 22.00

APTIM

Sample Collection Log

Location ID: 35BWW15 Sample No: 35BWW15-211122

Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
11/22/21	0915	100	.5	22.07	0.455	16.98	6.53	20.9	189	1.19
	0920	100	1.0	22.12	0.430	18.13	5.77	14.8	220	0.94
	0925	100	1.5	22.15	0.430	18.49	5.49	14.4	240	0.64
	0930	100	2.0	22.17	0.429	18.55	5.49	13.9	241	0.63
	0935	100	2.5	22.18	0.429	18.59	5.48	13.5	242	0.62
↓	0940	100	3.0	22.19	0.429	18.63	5.47	13.1	242	0.61

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **35BWW15**

Sampler(s): Scott Beesinger

FIELD CONDITIONS Clear

SAMPLING INFORMATION

Sample No: 35BWW15-211122-FD **DATE/TIME:** 11/22/21 0905 **Pump Inlet Depth:** 34.34

Sampling Method: LF **Sample Purpose:** FD **Sample Matrix:** GW

Appearance of Sample	Assoc. QC Samples	Decontamination Procedures

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Low flow/Bladder Pump

Casing ID (in.): 2"

Purge Start Date/Time: 11/22/21 0910

Depth to Water - Initial (DTWi) (ft) 22.00

Purge End Date/Time: 11/22/21 0940

Depth to Well Bottom (ft) 50.11

Discharge Tube Length: NA PID Reading: NA

Screen Interval (ft): 19.34 - 49.34

Discharge Tube Diameter: 1/4" Immersible Layer: Y / N

Approximate depth of pump inlet*(ft): 34.34

Pump Start Time: 0910

Ferrous Iron (Required Y or N) _____ mg/L

2ND DTW - 22.00

APTIM

Sample Collection Log

Location ID: 35BWW15		Sample No: 35BWW15-211122-FD								
Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
11/22/21	0915	100	.5	22.07	0.455	16.98	6.53	20.9	189	1.19
	0920	100	1.0	22.18	0.430	18.13	5.77	14.8	220	0.94
	0925	100	1.5	22.15	0.430	18.49	5.49	14.4	240	0.64
	0930	100	2.0	22.17	0.429	18.55	5.49	13.9	241	0.63
	0935	100	2.5	22.18	0.429	18.59	5.48	13.5	242	0.62
	0940	100	3.0	22.19	0.429	18.63	5.47	13.1	242	0.61

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **35BWW16**

Sampler(s): Scott Beesinger

FIELD CONDITIONS Clear

SAMPLING INFORMATION

Sample No: 35BWW16-211117 **DATE/TIME:** 11/17/21 1153 **Pump Inlet Depth:** 29.01

Sampling Method: LF **Sample Purpose:** REG **Sample Matrix:** GW

Appearance of Sample **Assoc. QC Samples** **Decontamination Procedures**

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Low Flow/Bladder Pump

Casing ID (in.): 2"

Purge Start Date/Time: 11/17/21 1200

Depth to Water - Initial (DTWi) (ft) 21.65

Purge End Date/Time: 11/17/21 1230

Depth to Well Bottom (ft) 36.89

Discharge Tube Length: NA

PID Reading: NA

Screen Interval (ft): 21.66 - 36.36

Discharge Tube Diameter: 1/4"

Immersible Layer: Y / (N)

Approximate depth of pump inlet*(ft): 29.01

Pump Start Time: 1200

Ferrous Iron (Required Y or (N) _____ mg/L

2ND DTW - 21.65

APTIM

Sample Collection Log

Location ID: 35BWW16		Sample No: 35BWW16-211117								
Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
11/17/21	1200	100	.5	21.72	0.231	20.71	4.94	249	263	0.70
	1205	100	1.0	21.77	0.233	19.55	4.75	236	297	0.46
	1210	100	1.5	21.80	0.236	19.38	4.68	224	308	0.34
	~~1220~~ 1215	100	2.0	21.82	0.237	19.32	4.67	223	309	0.33
	1220	100	2.5	21.83	0.237	19.27	4.67	223	309	0.32
↓	1230	100	3.0	21.84	0.237	19.23	4.67	222	310	0.32

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **35BWW17**

Sampler(s): Scott Beesinger

FIELD CONDITIONS Clear

SAMPLING INFORMATION

Sample No: 35BWW17-211122 **DATE/TIME:** 11/22/21 0947 **Pump Inlet Depth:** 28.49

Sampling Method: LF **Sample Purpose:** REG **Sample Matrix:** GW

Appearance of Sample	Assoc. QC Samples	Decontamination Procedures

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Low flow/Bladder Pump

Casing ID (in.): 2"

Purge Start Date/Time: 11/22/21 0950

Depth to Water - Initial (DTWi) (ft) 21.05

Purge End Date/Time: 11/22/21 1020

Depth to Well Bottom (ft) 36.20

Discharge Tube Length: NA PID Reading: NA

Screen Interval (ft): 21.14 - 35.84

Discharge Tube Diameter: 1/4" Immersible Layer: Y / (N)

Approximate depth of pump inlet*(ft): 28.49

Pump Start Time: 0950

Ferrous Iron (Required Y or (N) _____ mg/L

2ND DTW - 21.05

APTIM

Sample Collection Log

Location ID: 35BWW17		Sample No: 35BWW17-211122								
Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
11/22/21	0955	100	1.5	21.12	0.075	17.06	4.60	821	294	0.68
	1000	100	1.0	21.17	0.065	17.33	4.08	799	355	0.39
	1005	100	1.5	21.20	0.062	17.40	3.95	780	380	0.33
	1010	100	2.0	21.22	0.061	17.44	3.94	780	382	0.33
	1015	100	2.5	21.24	0.061	17.48	3.93	779	383	0.32
↓	1020	100	3.0	21.25	0.061	17.52	3.93	778	384	0.32

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **35BWW18**

Sampler(s): Scott Bergsinger

FIELD CONDITIONS Clear

SAMPLING INFORMATION

Sample No: 35BWW18-211115 **DATE/TIME:** 11/15/21 **Pump Inlet Depth:** 28.06

Sampling Method: LF **Sample Purpose:** REG **Sample Matrix:** GW

Appearance of Sample	Assoc. QC Samples	Decontamination Procedures

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Low flow/Bladder Pump

Casing ID (in.): 2"

Purge Start Date/Time: 11/15/21 1230

Depth to Water - Initial (DTWi) (ft) 25.78

Purge End Date/Time: 11/15/21 1300

Depth to Well Bottom (ft) 35.43

Discharge Tube Length: NA PID Reading: NA

Screen Interval (ft): 20.69 - 35.42

Discharge Tube Diameter: 1/4" Immersible Layer: Y / (N)

Approximate depth of pump inlet*(ft): 28.06

Pump Start Time: 1230

Ferrous Iron (Required Y or (N) _____ mg/L

2ND DTW - 25.78

APTIM

Sample Collection Log

Location ID: 35BWW18		Sample No: 35BWW18-211115								
Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
11/15/21	1235	100	.5	25.85	2.17	21.77	6.69	12.7	107	0.77
	1240	100	1.0	25.91	2.25	21.51	6.43	10.5	121	0.41
	1245	100	1.5	25.95	2.31	21.32	6.31	8.9	137	0.23
	1250	100	2.0	25.98	2.32	21.28	6.30	8.3	138	0.23
	1255	100	2.5	26.00	2.32	21.24	6.29	7.5	139	0.22
↓	1300	100	3.0	26.02	2.33	21.20	6.29	6.9	139	0.22

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **35BWW19**

Sampler(s): Scott Baggenstoss

FIELD CONDITIONS Clear

SAMPLING INFORMATION

Sample No: 35BWW19-211115 **DATE/TIME:** 11/15/21 **Pump Inlet Depth:** 28.68

Sampling Method: LF **Sample Purpose:** REG **Sample Matrix:** GW

Appearance of Sample **Assoc. QC Samples** **Decontamination Procedures**

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Low flow/Bladder Pump

Casing ID (in.): 2"

Purge Start Date/Time: 11/15/21 1140

Depth to Water - Initial (DTWi) (ft) 25.48

Purge End Date/Time: 11/15/21 1215

Depth to Well Bottom (ft) 36.62

Discharge Tube Length: NA PID Reading: NA

Screen Interval (ft): 21.31 - 36.04

Discharge Tube Diameter: 1/4" Immersible Layer: Y (N)

Approximate depth of pump inlet*(ft): 28.68

Pump Start Time: 1140

Ferrous Iron (Required Y or (N) _____ mg/L

2ND DTW - 25.48

APTIM

Sample Collection Log

Location ID: 35BWW19		Sample No: 35BWW19-2111_15								
Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
11/15/21	1145	100	.5	25.55	2.76	22.41	6.70	37.7	128	1.33
	1150	100	1.0	25.61	2.78	22.12	6.61	32.5	130	1.09
	1155	100	1.5	25.65	2.86	21.70	6.49	25.6	145	0.91
	1200	100	2.0	25.68	2.88	21.57	6.35	21.9	166	0.78
	1205	100	2.5	25.70	2.89	21.52	6.34	21.4	166	0.77
	1210	100	3.0	25.72	2.89	21.47	6.34	20.7	167	0.77
↓	1215	100	3.5	25.73	2.89	21.43	6.34	20.2	168	0.76

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **35BWW20**

Sampler(s): Scott Beesinger

FIELD CONDITIONS Clear

SAMPLING INFORMATION

Sample No: 35BWW20-211117 **DATE/TIME:** 11/17/21 0946 **Pump Inlet Depth:** 25.75

Sampling Method: LF **Sample Purpose:** REG **Sample Matrix:** GW

Appearance of Sample	Assoc. QC Samples	Decontamination Procedures

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Low Flow/Bladder Pump

Casing ID (in.): 2"

Purge Start Date/Time: 11/17/21 0950

Depth to Water - Initial (DTWi) (ft) 24.82

Purge End Date/Time: 11/17/21 1020

Depth to Well Bottom (ft) 32.95

Discharge Tube Length: NA PID Reading: NA

Screen Interval (ft): 17.70-32.46

Discharge Tube Diameter: 1/4" Immersible Layer: Y / (N)

Approximate depth of pump inlet*(ft): 25.75

Pump Start Time: 0950

Ferrous Iron (Required Y or (N)) _____ mg/L

2ND DTW - 24.82

APTIM

Sample Collection Log

Location ID: 35BWW20		Sample No: 35BWW20-211117								
Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
11/17/21	0955	100	.5	24.90	0.241	20.92	5.63	673	157	1.41
	1000	100	1.0	24.96	0.229	21.20	5.35	641	220	1.22
	1005	100	1.5	25.00	0.225	21.59	5.28	620	253	1.05
	1010	100	2.0	25.03	0.224	21.66	5.28	619	254	1.03
	1015	100	2.5	25.06	0.224	21.72	5.27	619	255	1.01
↓	1020	100	3.0	25.08	0.224	21.78	5.27	618	256	0.99

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **35BWW23**

Sampler(s): Scott Beesinger

FIELD CONDITIONS Clear

SAMPLING INFORMATION

Sample No: 35BWW23-211122 **DATE/TIME:** 11/22/21 1027 **Pump Inlet Depth:** ~~28.50~~

Sampling Method: LF **Sample Purpose:** REG **Sample Matrix:** GW

Appearance of Sample **Assoc. QC Samples** **Decontamination Procedures**

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	Anions (chloride/nitrate/sulfate) in Water by SW9056	1 x 125 mL HPDE	Cool 4C
		ALSHT	Carbon Dioxide in Water by RSK175	3 x 40 mL Glass	Cool 4C
		ALSHT	Dissolved Gases in Water by RSK175	3 x 40 mL Glass	HCL<pH2
		ALSHT	TOC in Water by SM5310C	2 x 40 mL Amber	H2SO4
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Low Flow/Bladder Pump

Casing ID (in.): 4"

Purge Start Date/Time: 11/22/21 1030

Depth to Water - Initial (DTWi) (ft) 27.00

Purge End Date/Time: 11/22/21 1100

Depth to Well Bottom (ft) 33.27

Discharge Tube Length: NA PID Reading: NA

Screen Interval (ft): 22.63-32.63

Discharge Tube Diameter: 1/4" Immersible Layer: Y / (N)

Approximate depth of pump inlet*(ft): ~~28.50~~ 28.50 Pump Start Time: 1030

Ferrous Iron (Required (Y) or N) 0.62 mg/L

2ND DTW - 27.00

APTIM

Sample Collection Log

Location ID: 35BWW23 Sample No: 35BWW23-211122

Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
11/22/21	1035	100	.5	27.08	0.358	16.90	5.56	37.8	270	1.77
	1040	100	1.0	27.14	0.370	16.75	5.50	34.5	266	1.41
	1045	100	1.5	27.18	0.399	16.77	5.19	33.7	278	1.29
	1050	100	2.0	27.21	0.399	16.79	5.18	33.1	279	1.27
	1055	100	2.5	27.24	0.400	16.81	5.17	32.5	280	1.25
↓	1100	100	3.0	27.27	0.400	16.83	5.16	32.0	281	1.24

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **35BWW24**

Sampler(s): Scott Beesinger

FIELD CONDITIONS Clear

SAMPLING INFORMATION

Sample No: 35BWW24-211122 **DATE/TIME:** 11/22/21 1109 **Pump Inlet Depth:** 28.75

Sampling Method: LF **Sample Purpose:** REG **Sample Matrix:** GW

Appearance of Sample | **Assoc. QC Samples** | **Decontamination Procedures**

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Low flow/Bladder Pump

Casing ID (in.): 4"

Purge Start Date/Time: 11/22/21 1115

Depth to Water - Initial (DTWi) (ft) 28.00

Purge End Date/Time: 11/22/21 1145

Depth to Well Bottom (ft) 32.71

Discharge Tube Length: NA PID Reading: NA

Screen Interval (ft): 22.72 - 32.42

Discharge Tube Diameter: 1/4" Immersible Layer: Y (N)

Approximate depth of pump inlet*(ft): 28.75

Pump Start Time: 1115

Ferrous Iron (Required Y or (N) _____ mg/L

2ND DTW - 28.00

APTIM

Sample Collection Log

Location ID: 35BWW24		Sample No: 35BWW24-2111_22								
Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
11/22/21	1120	100	.5	28.08	1.25	16.57	6.20	5.5	259	1.21
	1125	100	1.0	28.14	1.27	17.22	5.79	8.4	261	1.00
	1130	100	1.5	28.19	1.30	17.32	5.52	8.5	277	0.91
	1135	100	2.0	28.22	1.30	17.35	5.51	8.6	278	0.90
	1140	100	2.5	28.25	1.31	17.40	5.50	8.7	279	0.89
↓	1145	100	3.0	28.28	1.31	17.44	5.50	8.8	279	0.88

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **35BWW24**

Sampler(s): Scott Beesinger

FIELD CONDITIONS Clear

SAMPLING INFORMATION

Sample No: 35BWW24-211122-MS **DATE/TIME:** 11/22/21 1109 **Pump Inlet Depth:** 28.75

Sampling Method: L **Sample Purpose:** MS **Sample Matrix:** GW

Appearance of Sample | **Assoc. QC Samples** | **Decontamination Procedures**

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Low Flow/Bladder Pump

Casing ID (in.): 4"

Purge Start Date/Time: 11/22/21 1115

Depth to Water - Initial (DTWi) (ft) 28.00

Purge End Date/Time: 11/22/21 1145

Depth to Well Bottom (ft) 32.71

Discharge Tube Length: NA PID Reading: NA

Screen Interval (ft): 22.72 - 32.42

Discharge Tube Diameter: 1/4" Immersible Layer: Y / (N)

Approximate depth of pump inlet*(ft): 28.75

Pump Start Time: 1115

Ferrous Iron (Required Y or (N) _____ mg/L

2ND DTW - 28.00

APTIM

Sample Collection Log

Location ID: 35BWW24 Sample No: 35BWW24-211122-MS

Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
11/22/21	1120	100	.5	28.08	1.25	16.57	6.20	5.5	259	1.21
	1125	100	1.0	28.14	1.27	17.22	5.79	8.4	261	1.00
	1130	100	1.5	28.19	1.30	17.32	5.52	8.5	277	0.91
	1135	100	2.0	28.22	1.30	17.35	5.51	8.6	278	0.90
	1140	100	2.5	28.25	1.31	17.40	5.50	8.7	279	0.89
	1145	100	3.0	28.28	1.31	17.44	5.50	8.8	279	0.88

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **35BWW24**

Sampler(s): Scott Beesinger

FIELD CONDITIONS Clear

SAMPLING INFORMATION

Sample No: 35BWW24-211122-MSD **DATE/TIME:** 11/22/21 1109 **Pump Inlet Depth:** 28.75

Sampling Method: L **Sample Purpose:** MSD **Sample Matrix:** GW

Appearance of Sample	Assoc. QC Samples	Decontamination Procedures

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Low Flow/Bladder Pump

Casing ID (in.): 4"

Purge Start Date/Time: 11/22/21 1115

Depth to Water - Initial (DTWi) (ft) 28.00

Purge End Date/Time: 11/22/21 1145

Depth to Well Bottom (ft) 32.71

Discharge Tube Length: NA

PID Reading: NA

Screen Interval (ft): 22.72 - 32.42

Discharge Tube Diameter: 1/4"

Immersible Layer: Y / (N)

Approximate depth of pump inlet*(ft): 28.75

Pump Start Time: 1115

Ferrous Iron (Required Y or (N)) _____ mg/L

2ND DTW - 2800

APTIM

Sample Collection Log

Location ID: 35BWW24		Sample No: 35BWW24-2111_22-MSD								
Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
11/22/21	1120	100	.5	28.08	1.25	16.57	6.20	5.5	259	1.21
	1125	100	1.0	28.14	1.27	17.22	5.79	8.4	261	1.00
	1130	100	1.5	28.19	1.30	17.32	5.52	8.5	277	0.91
	1135	100	2.0	28.22	1.30	17.35	5.51	8.6	278	0.90
	1140	100	2.5	28.25	1.31	17.40	5.50	8.7	279	0.89
↓	1145	100	3.0	28.28	1.31	17.44	5.50	8.8	279	0.88

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **35BWW25**

Sampler(s): Scott Beggs, Inger

FIELD CONDITIONS Clear

SAMPLING INFORMATION

Sample No: 35BWW25-211122 **DATE/TIME:** 11/22/21 1159 **Pump Inlet Depth:** 27.32

Sampling Method: LF **Sample Purpose:** REG **Sample Matrix:** GW

Appearance of Sample	Assoc. QC Samples	Decontamination Procedures

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Low flow/Bladder Pump

Casing ID (in.): 4"

Purge Start Date/Time: 11/22/21 1205

Depth to Water - Initial (DTWi) (ft) 25.77

Purge End Date/Time: 11/22/21 1235

Depth to Well Bottom (ft) 32.50

Discharge Tube Length: NA PID Reading: NA

Screen Interval (ft): 22.47 - 32.17

Discharge Tube Diameter: 1/4" Immersible Layer: Y / (N)

Approximate depth of pump inlet*(ft): 27.32

Pump Start Time: 1205

Ferrous Iron (Required Y or (N)) _____ mg/L

2nd DTW - 25.77

APTIM

Sample Collection Log

Location ID: 35BWW25 Sample No: 35BWW25-2111_22

Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
11/22/21	1210	100	.5	25.85	0.750	16.72	6.43	8.3	24	1.37
	1215	100	1.0	25.91	0.740	17.51	5.61	5.5	265	1.16
	1220	100	1.5	25.95	0.735	17.85	5.43	2.1	275	1.01
	1225	100	2.0	25.97	0.734	17.93	5.42	1.8	275	0.99
	1230	100	2.5	25.99	0.734	17.99	5.41	1.1	276	0.97
↓	1235	100	3.0	26.00	0.734	18.05	5.41	0.8	276	0.95

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **35BWW26**

Sampler(s): Scott Beggs.nger

FIELD CONDITIONS CLEAR

SAMPLING INFORMATION

Sample No: 35BWW26-211117 **DATE/TIME:** 11/17/21 0636 **Pump Inlet Depth:** 32.50

Sampling Method: LF **Sample Purpose:** REG **Sample Matrix:** GW

Appearance of Sample **Assoc. QC Samples** **Decontamination Procedures**

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	Anions (chloride/nitrate/sulfate) in Water by SW9056	1 x 125 mL HPDE	Cool 4C
		ALSHT	Carbon Dioxide in Water by RSK175	3 x 40 mL Glass	Cool 4C
		ALSHT	Dissolved Gases in Water by RSK175	3 x 40 mL Glass	HCL<pH2
		ALSHT	TOC in Water by SM5310C	2 x 40 mL Amber	H2SO4
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Low Flow/Bladder Pump

Casing ID (in.): 4"

Purge Start Date/Time: 11/17/21 0645

Depth to Water - Initial (DTWi) (ft) 26.05

Purge End Date/Time: 11/17/21 0715

Depth to Well Bottom (ft) 37.70

Discharge Tube Length: NA

PID Reading: NA

Screen Interval (ft): 27.65-37.35

Discharge Tube Diameter: 1/4"

Immersible Layer: Y / (N)

Approximate depth of pump inlet*(ft): 32.50

Pump Start Time: 0645

Ferrous Iron (Required (Y) or N) 0.00 mg/L

2ND DTW-26.05

APTIM

Sample Collection Log

Location ID: 35BWW26		Sample No: 35BWW26-211117								
Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
11/17/21	0650	100	.5	26.12	0.369	18.88	5.69	9.4	230	1.12
	0655	100	1.0	26.18	0.290	18.87	5.45	5.3	241	0.95
	0700	100	1.5	26.22	0.282	18.88	5.24	2.9	269	0.87
	0705	100	2.0	26.25	0.282	18.90	5.23	1.5	270	0.96
	0710	100	2.5	26.28	0.281	18.91	5.22	1.0	270	0.85
↓	0715	100	3.0	26.30	0.281	18.92	5.21	0.6	271	0.84

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **35BWW26**

Sampler(s): Scott Beesinger

FIELD CONDITIONS Clear

SAMPLING INFORMATION

Sample No: 35BWW26-211117-FD **DATE/TIME:** 11/17/21 0636 **Pump Inlet Depth:** 32.50

Sampling Method: LF **Sample Purpose:** FD **Sample Matrix:** GW

Appearance of Sample	Assoc. QC Samples	Decontamination Procedures

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	Anions (chloride/nitrate/sulfate) in Water by SW9056	1 x 125 mL HPDE	Cool 4C
		ALSHT	Carbon Dioxide in Water by RSK175	3 x 40 mL Glass	Cool 4C
		ALSHT	Dissolved Gases in Water by RSK175	3 x 40 mL Glass	HCL<pH2
		ALSHT	TOC in Water by SM5310C	2 x 40 mL Amber	H2SO4
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Low flow/Bladder Pump

Casing ID (in.): 4"

Purge Start Date/Time: 11/17/21 0645

Depth to Water - Initial (DTWi) (ft) 26.05

Purge End Date/Time: 11/17/21 0715

Depth to Well Bottom (ft) 37.70

Discharge Tube Length: NA

PID Reading: NA

Screen Interval (ft): 27.65-37.35

Discharge Tube Diameter: 1/4"

Immersible Layer: Y / (N)

Approximate depth of pump inlet*(ft): 32.50

Pump Start Time: 0645

Ferrous Iron (Required (Y) or N) _____ mg/L

2nd DTW - 26.05

APTIM

Sample Collection Log

Location ID: 35BWW26 Sample No: 35BWW26-211112-FD

Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
11/17/21	0650	100	.5	26.12	0.369	18.88	5.69	9.4	230	1.12
	0655	100	1.0	26.18	0.290	18.87	5.45	5.3	241	0.95
	0700	100	1.5	26.22	0.282	18.88	5.24	2.9	269	0.87
	0705	100	2.0	26.25	0.282	18.90	5.23	1.5	270	0.86
	0710	100	2.5	26.28	0.281	18.91	5.22	1.0	270	0.85
↓	0715	100	3.0	26.30	0.281	18.92	5.21	0.6	271	0.84

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **LHSMW58**

Sampler(s): Scott Beesinger

FIELD CONDITIONS Clear

SAMPLING INFORMATION

Sample No: LHSMW58-211115 **DATE/TIME:** 11/15/21 0926 **Pump Inlet Depth:** 29.18

Sampling Method: LF **Sample Purpose:** REG **Sample Matrix:** GW

Appearance of Sample | **Assoc. QC Samples** | **Decontamination Procedures**

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Low flow/Bladder Pump

Casing ID (in.): 4"

Purge Start Date/Time: 11/15/21 0935

Depth to Water - Initial (DTWi) (ft) 23.27

Purge End Date/Time: 11/15/21 1005

Depth to Well Bottom (ft) 35.15

Discharge Tube Length: NA PID Reading: NA

Screen Interval (ft): 24.18 - 34.18

Discharge Tube Diameter: 1/4" Immersible Layer: Y / (N)

Approximate depth of pump inlet*(ft): 29.18

Pump Start Time: 0935

Ferrous Iron (Required Y or (N)) _____ mg/L

2ND DTW - 23.27

APTIM

Sample Collection Log

Location ID: LHSMW58		Sample No: LHSMW58-2111/5								
Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
11/15/21	0940	100	.5	23.35	0.239	19.10	6.48	2.8	56	3.17
	0945	100	1.0	23.40	0.222	19.45	6.41	2.4	89	2.95
	0950	100	1.5	23.43	0.217	19.63	6.30	2.3	120	2.79
	0955	100	2.0	23.45	0.217	19.68	6.29	2.2	121	2.77
	1000	100	2.5	23.46	0.216	19.74	6.28	2.1	122	2.75
↓	1005	100	3.0	23.47	0.216	19.78	6.27	2.0	122	2.74

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **35BSW01**

Sampler(s): Scott Beesinger

FIELD CONDITIONS Clear

SAMPLING INFORMATION

Sample No: 35BSW01-220518 **DATE/TIME:** 5/18/22 1238 **Pump Inlet Depth:** NA

Sampling Method: GRAB **Sample Purpose:** REG **Sample Matrix:** SW

Appearance of Sample **Assoc. QC Samples** **Decontamination Procedures**

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

NO Flow AT THIS LOCATION

NO Samples Collected

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **35BSW02**

Sampler(s): Scott Beesingame

FIELD CONDITIONS Clear

SAMPLING INFORMATION

Sample No: 35BSW02-220518 **DATE/TIME:** 5/18/22 1242 **Pump Inlet Depth:** NA

Sampling Method: GRAB **Sample Purpose:** REG **Sample Matrix:** SW

Appearance of Sample **Assoc. QC Samples** **Decontamination Procedures**

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

NO FLOW AT THIS LOCATION

NO SAMPLES COLLECTED

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **35BWW02**

Sampler(s): Scott Beesinger

FIELD CONDITIONS CLEAR

SAMPLING INFORMATION

Sample No: 35BWW02-220516 **DATE/TIME:** 5/16/22 1011 **Pump Inlet Depth:** 13.86

Sampling Method: LF **Sample Purpose:** REG **Sample Matrix:** GW

Appearance of Sample	Assoc. QC Samples	Decontamination Procedures

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Low Flow/Bladder Pump

Casing ID (in.): 4"

Purge Start Date/Time: 5/16/22 NA

Depth to Water - Initial (DTWi) (ft) DRY

Purge End Date/Time: 5/16/22 NA

Depth to Well Bottom (ft) 16.89

Discharge Tube Length: NA

PID Reading: NA

Screen Interval (ft): 11.36 - 16.36

Discharge Tube Diameter: 1/4"

Immersible Layer: Y / (N)

Approximate depth of pump inlet*(ft): 13.86

Pump Start Time: NA

Ferrous Iron (Required Y or (N)) _____ mg/L

2ND DTW- DRY

APTIM

Sample Collection Log

Location ID: 35BWW02		Sample No: 35BWW02-220516								
Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
		DRY		WELL						

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **35BWW04**

Sampler(s): Scott Beesinger

FIELD CONDITIONS CLEAR

SAMPLING INFORMATION

Sample No: 35BWW04-220517 **DATE/TIME:** 5/17/22 0925 **Pump Inlet Depth:** 27.85

Sampling Method: LF **Sample Purpose:** REG **Sample Matrix:** GW

Appearance of Sample | **Assoc. QC Samples** | **Decontamination Procedures**

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	Anions (chloride/nitrate/sulfate) in Water by SW9056	1 x 125 mL HPDE	Cool 4C
		ALSHT	Carbon Dioxide in Water by RSK175	3 x 40 mL Glass	Cool 4C
		ALSHT	Dissolved Gases in Water by RSK175	3 x 40 mL Glass	HCL<pH2
		ALSHT	TOC in Water by SM5310C	2 x 40 mL Amber	H2SO4
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Low Flow/Bladder Pump

Casing ID (in.): 4"

Purge Start Date/Time: 5/17/22 0930

Depth to Water - Initial (DTWi) (ft) 21.27

Purge End Date/Time: 5/17/22 1000

Depth to Well Bottom (ft) 33.31

Discharge Tube Length: NA PID Reading: NA

Screen Interval (ft): 22.85-32.85

Discharge Tube Diameter: 1/4" Immersible Layer: Y / (N)

Approximate depth of pump inlet*(ft): 27.85

Pump Start Time: 0930

Ferrous Iron (Required (Y) or N) 0.09 mg/L

2ND DTW - 21.27

APTIM

Sample Collection Log

Location ID: 35BWW04		Sample No: 35BWW04-220517								
Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
5/17/22	0935	100	.5	21.35	0.310	22.00	6.53	29.7	169	3.79
	0940	100	1.0	21.40	0.320	20.59	5.95	28.1	197	3.58
	0945	100	1.5	21.43	0.323	20.39	5.45	25.8	225	3.36
	0950	100	2.0	21.45	0.323	20.35	5.44	25.3	226	3.34
	0955	100	2.5	21.46	0.323	20.30	5.44	24.7	227	3.31
	1000	100	3.0	21.47	0.323	20.25	5.43	24.2	228	3.29

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **35BWW04**

Sampler(s): Scott Beesinger

FIELD CONDITIONS Clear

SAMPLING INFORMATION

Sample No: 35BWW04-220517-FD **DATE/TIME:** 5/17/22 0925 **Pump Inlet Depth:** 27.85

Sampling Method: LF **Sample Purpose:** FD **Sample Matrix:** GW

Appearance of Sample	Assoc. QC Samples	Decontamination Procedures

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	Anions (chloride/nitrate/sulfate) in Water by SW9056	1 x 125 mL HPDE	Cool 4C
		ALSHT	Carbon Dioxide in Water by RSK175	3 x 40 mL Glass	Cool 4C
		ALSHT	Dissolved Gases in Water by RSK175	3 x 40 mL Glass	HCL<pH2
		ALSHT	TOC in Water by SM5310C	2 x 40 mL Amber	H2SO4
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Low flow/BLADDER Pump

Casing ID (in.): 4"

Purge Start Date/Time: 5/17/22 0430

Depth to Water - Initial (DTWi) (ft) 21.27

Purge End Date/Time: 5/17/22 1000

Depth to Well Bottom (ft) 33.31

Discharge Tube Length: NA

PID Reading: NA

Screen Interval (ft): 22.85-32.85

Discharge Tube Diameter: 1/4"

Immersible Layer: Y (N)

Approximate depth of pump inlet*(ft): 27.85

Pump Start Time: 0930

Ferrous Iron (Required (Y) or N) 0.09 mg/L

2ND DTW - 21.27

APTIM

Sample Collection Log

Location ID: 35BWW04		Sample No: 35BWW04-220517-FD								
Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
5/17/22	0935	100	.5	21.35	0.310	22.00	6.53	29.7	169	3.79
	0940	100	1.0	21.40	0.320	20.59	5.95	28.1	197	3.58
	0945	100	1.5	21.43	0.323	20.34	5.45	25.8	225	3.36
	0950	100	2.0	21.45	0.323	20.35	5.44	25.3	226	3.34
	0955	100	2.5	21.46	0.323	20.30	5.44	24.7	227	3.31
↓	1000	100	3.0	21.47	0.323	20.25	5.43	24.2	228	3.29

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **35BWW05**

Sampler(s): Scott Beesinger

FIELD CONDITIONS CLEAR

SAMPLING INFORMATION

Sample No: 35BWW05-220516 **DATE/TIME:** 5/16/22 0741 **Pump Inlet Depth:** 33.60

Sampling Method: LF **Sample Purpose:** REG **Sample Matrix:** GW

Appearance of Sample	Assoc. QC Samples	Decontamination Procedures

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Low flow/Bladder Pump

Casing ID (in.): 2"

Purge Start Date/Time: 5/16/22 0750

Depth to Water - Initial (DTWi) (ft) 22.08

Purge End Date/Time: 5/16/22 0820

Depth to Well Bottom (ft) 37.95

Discharge Tube Length: NA PID Reading: NA

Screen Interval (ft): 28.60 - 38.60

Discharge Tube Diameter: 1/4" Immersible Layer: Y / (N)

Approximate depth of pump inlet*(ft): 33.60

Pump Start Time: 0750

Ferrous Iron (Required Y or (N)) _____ mg/L

2ND DTW - 22.08

APTIM

Sample Collection Log

Location ID: 35BWW05 Sample No: 35BWW05-220516

Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
5/16/22	0755	100	.5	22.15	0.393	21.22	6.02	122	172	0.47
	0800	100	1.0	22.21	0.342	20.87	5.85	97.3	163	0.73
	0805	100	1.5	22.25	0.329	20.51	5.65	90.7	151	0.49
	0810	100	2.0	22.28	0.329	20.45	5.65	90.1	150	0.48
	0815	100	2.5	22.30	0.328	20.40	5.65	89.4	150	0.47
	0820	100	3.0	22.32	0.328	20.36	5.64	88.8	149	0.47

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **35BWW07**

Sampler(s): Scott Beesinger

FIELD CONDITIONS CLEAR

SAMPLING INFORMATION

Sample No: 35BWW07-220516 **DATE/TIME:** 5/16/22 0842 **Pump Inlet Depth:** 25.67

Sampling Method: LF **Sample Purpose:** REG **Sample Matrix:** GW

Appearance of Sample	Assoc. QC Samples	Decontamination Procedures

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Low flow/Bladder Pump

Casing ID (in.): 2"

Purge Start Date/Time: 5/16/22 0850

Depth to Water - Initial (DTWi) (ft) 24.39

Purge End Date/Time: 5/16/22 0920

Depth to Well Bottom (ft) 31.30

Discharge Tube Length: NA PID Reading: NA

Screen Interval (ft): 20.67 - 30.67

Discharge Tube Diameter: 1/4" Immersible Layer: Y (N)

Approximate depth of pump inlet*(ft): 25.67

Pump Start Time: 0850

Ferrous Iron (Required Y or (N) _____ mg/L

2ND DTW - 24.39

APTIM

Sample Collection Log

Location ID: 35BWW07		Sample No: 35BWW07-2205 16								
Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
5/16/22	0855	100	.5	24.47	0.722	23.12	6.51	66.5	169	0.87
	0900	100	1.0	24.53	0.767	21.47	6.17	61.7	160	0.51
	0905	100	1.5	24.57	0.771	21.40	6.11	58.9	160	0.38
	0910	100	2.0	24.60	0.772	21.36	6.10	58.4	161	0.37
	0915	100	2.5	24.63	0.772	21.32	6.10	57.6	161	0.37
	0920	100	3.0	24.65	0.772	21.28	6.10	57.3	162	0.36

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **35BWW08**

Sampler(s): Scott Beasinger

FIELD CONDITIONS

Clear

SAMPLING INFORMATION

Sample No: 35BWW08-220517 **DATE/TIME:** 5/17/22 0826 **Pump Inlet Depth:** 29.72

Sampling Method: LF **Sample Purpose:** REG **Sample Matrix:** GW

Appearance of Sample **Assoc. QC Samples** **Decontamination Procedures**

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	Anions (chloride/nitrate/sulfate) in Water by SW9056	1 x 125 mL HPDE	Cool 4C
		ALSHT	Carbon Dioxide in Water by RSK175	3 x 40 mL Glass	Cool 4C
		ALSHT	Dissolved Gases in Water by RSK175	3 x 40 mL Glass	HCL<pH2
		ALSHT	TOC in Water by SM5310C	2 x 40 mL Amber	H2SO4
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Low flow/BLADDER Pump

Casing ID (in.): 2"

Purge Start Date/Time: 5/17/22 0835

Depth to Water - Initial (DTWi) (ft) 23.13

Purge End Date/Time: 5/17/22 0905

Depth to Well Bottom (ft) 34.01

Discharge Tube Length: NA PID Reading: NA

Screen Interval (ft): 24.72 - 34.72

Discharge Tube Diameter: 1/4" Immersible Layer: Y / (N)

Approximate depth of pump inlet*(ft): 29.72

Pump Start Time: 0835

Ferrous Iron (Required (Y) or N) 0.05 mg/L

2ND DTW - 23.13

APTIM

Sample Collection Log

Location ID: 35BWW08		Sample No: 35BWW08-220517								
Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
5/17/22	0840	100	.5	23.20	0.268	22.47	6.04	45.7	88	1.77
	0845	100	1.0	23.26	0.269	22.29	6.00	42.2	147	1.51
	0850	100	1.5	23.30	0.269	22.02	5.90	41.2	181	1.41
	0855	100	2.0	23.32	0.270	21.96	5.90	40.5	182	1.39
	0900	100	2.5	23.34	0.270	21.91	5.89	39.6	184	1.37
↓	0905	100	3.0	23.35	0.270	21.88	5.89	39.0	185	1.35

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **35BWW08**

Sampler(s): Scott Beesinger

FIELD CONDITIONS Clear

SAMPLING INFORMATION

Sample No: 35BWW08-220517-MS **DATE/TIME:** 5/17/22 0826 **Pump Inlet Depth:** 29.72

Sampling Method: LF **Sample Purpose:** MS **Sample Matrix:** GW

Appearance of Sample	Assoc. QC Samples	Decontamination Procedures

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	Anions (chloride/nitrate/sulfate) in Water by SW9056	1 x 125 mL HPDE	Cool 4C
		ALSHT	Carbon Dioxide in Water by RSK175	3 x 40 mL Glass	Cool 4C
		ALSHT	Dissolved Gases in Water by RSK175	3 x 40 mL Glass	HCL<pH2
		ALSHT	TOC in Water by SM5310C	2 x 40 mL Amber	H2SO4
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Casing ID (in.): 2"

Depth to Water - Initial (DTWi) (ft) 23.13

Depth to Well Bottom (ft) 34.01

Screen Interval (ft): 24.72-34.72

Approximate depth of pump inlet*(ft): 29.72

Ferrous Iron (Required Y or N) 0.05 mg/L

Purging Method/Equipment: Low flow/BLADDER Pump

Purge Start Date/Time: 5/17/22 0835

Purge End Date/Time: 5/17/22 0905

Discharge Tube Length: NA PID Reading: NA

Discharge Tube Diameter: 1/4" Immersible Layer: Y (N)

Pump Start Time: 0835

2ND DTW- 23.13

APTIM

Sample Collection Log

Location ID: 35BWW08		Sample No: 35BWW08-220517-MS								
Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
5/17/22	0840	100	.5	23.20	0.268	22.47	6.04	45.7	88	1.77
	0845	100	1.0	23.26	0.269	22.29	6.00	42.2	147	1.51
	0850	100	1.5	23.30	0.269	22.02	5.90	41.2	181	1.41
	0855	100	2.0	23.32	0.270	21.96	5.90	40.5	182	1.39
	0900	100	2.5	23.34	0.270	21.91	5.89	39.6	184	1.37
	0905	100	3.0	23.35	0.270	21.88	5.89	39.0	185	1.35

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **35BWW08**

Sampler(s): Scott Baesinger

FIELD CONDITIONS Clear

SAMPLING INFORMATION

Sample No: 35BWW08-220517-MSD **DATE/TIME:** 5/17/22 0826 **Pump Inlet Depth:** 29.72

Sampling Method: LF **Sample Purpose:** MSD **Sample Matrix:** GW

Appearance of Sample	Assoc. QC Samples	Decontamination Procedures

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	Anions (chloride/nitrate/sulfate) in Water by SW9056	1 x 125 mL HPDE	Cool 4C
		ALSHT	Carbon Dioxide in Water by RSK175	3 x 40 mL Glass	Cool 4C
		ALSHT	Dissolved Gases in Water by RSK175	3 x 40 mL Glass	HCL<pH2
		ALSHT	TOC in Water by SM5310C	2 x 40 mL Amber	H2SO4
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Low flow/Bladder Pump

Casing ID (in.): 2"

Purge Start Date/Time: 5/17/22 0835

Depth to Water - Initial (DTWi) (ft) 23.13

Purge End Date/Time: 5/17/22 0905

Depth to Well Bottom (ft) 34.01

Discharge Tube Length: NA PID Reading: NA

Screen Interval (ft): 24.72 - 34.72

Discharge Tube Diameter: 1/4" Immersible Layer: Y / (N)

Approximate depth of pump inlet*(ft): 29.72

Pump Start Time: 0835

Ferrous Iron (Required (Y) or N) 0.05 mg/L

2ND DTW - 23.13

APTIM

Sample Collection Log

Location ID: 35BWW08 Sample No: 35BWW08-220517-MSD

Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
5/17/22	0840	100	.5	23.20	0.268	22.47	6.04	45.7	88	1.77
	0845	100	1.0	23.26	0.269	22.29	6.00	42.2	147	1.51
	0850	100	1.5	23.30	0.269	22.02	5.90	41.2	181	1.41
	0855	100	2.0	23.32	0.270	21.96	5.90	40.5	182	1.39
	0900	100	2.5	23.34	0.270	21.91	5.89	39.6	183	1.37
↓	0905	100	3.0	23.35	0.270	21.88	5.89	39.0	184	1.35

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **35BWW09**

Sampler(s): Scott Beesinger

FIELD CONDITIONS Clear

SAMPLING INFORMATION

Sample No: 35BWW09-220518 **DATE/TIME:** 5/18/22 1022 **Pump Inlet Depth:** 32.01

Sampling Method: LF **Sample Purpose:** REG **Sample Matrix:** GW

Appearance of Sample **Assoc. QC Samples** **Decontamination Procedures**

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Casing ID (in.): 4"

Depth to Water - Initial (DTWi) (ft) 24.18

Depth to Well Bottom (ft) 37.05

Screen Interval (ft): 27.01 - 37.01

Approximate depth of pump inlet*(ft): 32.01

Ferrous Iron (Required Y or (N) _____ mg/L

Purging Method/Equipment: Low flow/Bladder Pump

Purge Start Date/Time: 5/18/22 1030

Purge End Date/Time: 5/18/22 1100

Discharge Tube Length: NA PID Reading: NA

Discharge Tube Diameter: 1/4" Immersible Layer: Y / (N)

Pump Start Time: 1030

2ND DTW - 24.18

APTIM

Sample Collection Log

Location ID: 35BWW09		Sample No: 35BWW09-220518								
Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
5/18/22	1035	100	.5	24.25	0.511	23.22	6.52	35.7	162	1.11
	1040	100	1.0	24.31	0.502	23.12	5.65	31.4	212	0.87
	1045	100	1.5	24.35	0.496	23.13	5.27	28.0	240	0.56
	1050	100	2.0	24.37	0.495	23.15	5.26	27.7	241	0.55
	1055	100	2.5	24.39	0.495	23.16	5.26	27.3	242	0.55
	1100	100	3.0	24.41	0.495	23.17	5.25	26.8	242	0.54

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **35BWW10**

Sampler(s): Scott Bees : NG4R

FIELD CONDITIONS CLEAR

SAMPLING INFORMATION

Sample No: 35BWW10-220516 **DATE/TIME:** 5/16/22 0656 **Pump Inlet Depth:** 28.62

Sampling Method: LF **Sample Purpose:** REG **Sample Matrix:** GW

Appearance of Sample | **Assoc. QC Samples** | **Decontamination Procedures**

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Low Flow/BLADDER Pump

Casing ID (in.): 2"

Purge Start Date/Time: 5/16/22 0705

Depth to Water - Initial (DTWi) (ft) 22.79

Purge End Date/Time: 5/16/22 0735

Depth to Well Bottom (ft) 36.32

Discharge Tube Length: NA PID Reading: NA

Screen Interval (ft): 21.23-36.00

Discharge Tube Diameter: 1/4" Immersible Layer: Y (N)

Approximate depth of pump inlet*(ft): 28.62

Pump Start Time: 0705

Ferrous Iron (Required Y or (N)) _____ mg/L

2ND DTW - 22.79

APTIM

Sample Collection Log

Location ID: 35BWW10				Sample No: 35BWW10-220516						
Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
5/16/22	0710	100	.5	22.86	0.256	21.86	6.85	89.7	181	1.88
	0715	100	1.0	22.92	0.221	21.04	5.61	80.3	191	1.45
	0720	100	1.5	22.96	0.204	20.63	5.21	77.1	207	1.32
	0725	100	2.0	22.99	0.204	20.58	5.20	76.5	208	1.30
	0730	100	2.5	23.01	0.203	20.53	5.19	75.8	208	1.29
	0735	100	3.0	23.03	0.203	20.49	5.19	75.2	209	1.27

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **35BWW11**

Sampler(s): Scott Beesinger

FIELD CONDITIONS Clear

SAMPLING INFORMATION

Sample No: 35BWW11-220517 **DATE/TIME:** 5/17/22 1103 **Pump Inlet Depth:** 32.41

Sampling Method: LF **Sample Purpose:** REG **Sample Matrix:** GW

Appearance of Sample	Assoc. QC Samples	Decontamination Procedures

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Low Flow/Bladder Pump

Casing ID (in.): 4"

Purge Start Date/Time: 5/17/22 1110

Depth to Water - Initial (DTWi) (ft) 21.18

Purge End Date/Time: 5/17/22 1140

Depth to Well Bottom (ft) 37.62

Discharge Tube Length: NA PID Reading: NA

Screen Interval (ft): 27.41-37.41

Discharge Tube Diameter: 1/4" Immersible Layer: Y / (N)

Approximate depth of pump inlet*(ft): 32.41

Pump Start Time: 1110

Ferrous Iron (Required Y or (N) _____ mg/L

2ND DTW - 21.18

APTIM

Sample Collection Log

Location ID: 35BWW11		Sample No: 35BWW11-2205 17								
Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
5/17/22	1115	100	.5	21.25	0.362	25.70	6.10	21.1	201	1.07
↓	1120	100	1.0	21.30	0.367	25.23	5.39	22.2	224	0.84
	1125	100	1.5	21.33	0.369	25.11	5.20	21.7	237	0.74
	1130	100	2.0	21.34	0.369	25.06	5.19	21.4	238	0.73
	1135	100	2.5	21.38	0.369	25.02	5.18	20.6	239	0.72
↓	1140	100	3.0	21.40	0.369	24.96	5.18	20.3	240	0.71

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **35BWW12**

Sampler(s): Scott Bassinger

FIELD CONDITIONS

CLEAR

SAMPLING INFORMATION

Sample No: 35BWW12-220518 **DATE/TIME:** 5/18/22 0932 **Pump Inlet Depth:** 30.30

Sampling Method: LF **Sample Purpose:** REG **Sample Matrix:** GW

Appearance of Sample **Assoc. QC Samples** **Decontamination Procedures**

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	Anions (chloride/nitrate/sulfate) in Water by SW9056	1 x 125 mL HPDE	Cool 4C
		ALSHT	Carbon Dioxide in Water by RSK175	3 x 40 mL Glass	Cool 4C
		ALSHT	Dissolved Gases in Water by RSK175	3 x 40 mL Glass	HCL<pH2
		ALSHT	TOC in Water by SM5310C	2 x 40 mL Amber	H2SO4
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Low flow/BLADDER Pump

Casing ID (in.): 2"

Purge Start Date/Time: 5/18/22 0940

Depth to Water - Initial (DTWi) (ft) 20.08

Purge End Date/Time: 5/18/22 1010

Depth to Well Bottom (ft) 38.30

Discharge Tube Length: NA PID Reading: NA

Screen Interval (ft): 22.95-37.65

Discharge Tube Diameter: 1/4" Immersible Layer: Y / (N)

Approximate depth of pump inlet*(ft): 30.30

Pump Start Time: 0940

Ferrous Iron (Required (Y) or N) 0.51 mg/L

2ND DTW- 20.08

APTIM

Sample Collection Log

Location ID: 35BWW12 Sample No: 35BWW12-220518

Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
5/18/22	0945	100	.5	20.15	0.322	21.91	6.04	90.5	240	0.61
	0950	100	1.0	20.20	0.326	21.22	5.75	77.3	175	0.22
	0955	100	1.5	20.23	0.329	21.10	5.66	69.1	156	0.04
	1000	100	2.0	20.25	0.329	21.06	5.66	68.5	154	0.04
	1005	100	2.5	20.27	0.329	21.02	5.65	67.8	153	0.03
↓	1010	100	3.0	20.28	0.329	20.98	5.65	67.0	153	0.03

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **35BWW13**

Sampler(s): Scott Beesinger

FIELD CONDITIONS Clear

SAMPLING INFORMATION

Sample No: 35BWW13-220516 **DATE/TIME:** 5/16/22 0930 **Pump Inlet Depth:** 29.60

Sampling Method: LF **Sample Purpose:** REG **Sample Matrix:** GW

Appearance of Sample	Assoc. QC Samples	Decontamination Procedures

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Low flow/Bladder Pump

Casing ID (in.): 2"

Purge Start Date/Time: 5/16/22 0935

Depth to Water - Initial (DTWi) (ft) 22.80

Purge End Date/Time: 5/16/22 1005

Depth to Well Bottom (ft) 37.68

Discharge Tube Length: NA PID Reading: NA

Screen Interval (ft): 22.25-36.95

Discharge Tube Diameter: 1/4" Immersible Layer: Y / (N)

Approximate depth of pump inlet*(ft): 29.60

Pump Start Time: 0935

Ferrous Iron (Required Y or (N) _____ mg/L

2ND DTW - 22.80

APTIM

Sample Collection Log

Location ID: 35BWW13 Sample No: 35BWW13-220516

Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
5/16/22	0940	100	.5	22.87	0.226	20.88	4.30	141	233	2.75
	0945	100	1.0	22.93	0.212	20.28	4.10	134	256	2.41
	0950	100	1.5	22.97	0.202	20.19	4.06	127	262	2.27
	0955	100	2.0	22.99	0.201	20.15	4.05	126	263	2.25
	1000	100	2.5	23.01	0.201	20.12	4.05	126	264	2.22
	1005	100	3.0	23.02	0.201	20.09	4.05	125	265	2.20

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **35BWW14**

Sampler(s): Scott Beesinger

FIELD CONDITIONS CLEAR

SAMPLING INFORMATION

Sample No: 35BWW14-220518 **DATE/TIME:** 5/18/22 0715 **Pump Inlet Depth:** 31.71

Sampling Method: LF **Sample Purpose:** REG **Sample Matrix:** GW

Appearance of Sample **Assoc. QC Samples** **Decontamination Procedures**

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	Anions (chloride/nitrate/sulfate) in Water by SW9056	1 x 125 mL HPDE	Cool 4C
		ALSHT	Carbon Dioxide in Water by RSK175	3 x 40 mL Glass	Cool 4C
		ALSHT	Dissolved Gases in Water by RSK175	3 x 40 mL Glass	HCL<pH2
		ALSHT	TOC in Water by SM5310C	2 x 40 mL Amber	H2SO4
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Low Flow/Bladder Pump

Casing ID (in.): 4"

Purge Start Date/Time: 5/18/22 0720

Depth to Water - Initial (DTWi) (ft) 21.06

Purge End Date/Time: 5/18/22 0750

Depth to Well Bottom (ft) 37.35

Discharge Tube Length: NA PID Reading: NA

Screen Interval (ft): 26.71-36.71

Discharge Tube Diameter: 1/4" Immersible Layer: Y / (N)

Approximate depth of pump inlet*(ft): 31.71

Pump Start Time: 0720

Ferrous Iron (Required (Y) or N) 0.03 mg/L

2ND DTW - 21.06

APTIM

Sample Collection Log

Location ID: 35BWW14 Sample No: 35BWW14-220518

Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
5/18/22	0725	100	.5	21.13	0.432	22.44	7.00	39.7	236	1.09
	0730	100	1.0	21.18	0.438	21.85	6.51	34.4	240	0.88
	0735	100	1.5	21.22	0.438	21.58	6.15	32.7	245	0.77
	0740	100	2.0	21.24	0.439	21.53	6.14	32.3	246	0.76
	0745	100	2.5	21.26	0.439	21.47	6.13	31.5	246	0.76
↓	0750	100	3.0	21.27	0.439	21.42	6.13	31.2	246	0.75

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **35BWW15**

Sampler(s): Scott Beesinger

FIELD CONDITIONS CLEAR

SAMPLING INFORMATION

Sample No: 35BWW15-220518 **DATE/TIME:** 5/18/22 0800 **Pump Inlet Depth:** 34.34

Sampling Method: LF **Sample Purpose:** REG **Sample Matrix:** GW

Appearance of Sample	Assoc. QC Samples	Decontamination Procedures

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Low flow/Bladder Pump

Casing ID (in.): 2"

Purge Start Date/Time: 5/18/22 0805

Depth to Water - Initial (DTWi) (ft) 21.53

Purge End Date/Time: 5/18/22 0835

Depth to Well Bottom (ft) 50.11

Discharge Tube Length: NA PID Reading: NA

Screen Interval (ft): 19.34 - 49.34

Discharge Tube Diameter: 1/4" Immersible Layer: Y / N

Approximate depth of pump inlet*(ft): 34.34

Pump Start Time: 0805

Ferrous Iron (Required Y or N) _____ mg/L

2ND DTW - 21.53

APTIM

Sample Collection Log

Location ID: 35BWW15		Sample No: 35BWW15-220518								
Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
5/18/22	0810	100	.5	21.60	0.456	22.11	6.50	49.7	239	0.93
	0815	100	1.0	21.65	0.463	20.77	6.08	47.3	224	0.77
	0820	100	1.5	21.68	0.475	20.70	6.03	46.8	206	0.58
	0825	100	2.0	21.70	0.475	20.66	6.03	46.2	205	0.57
	0830	100	2.5	21.72	0.476	20.62	6.03	45.7	204	0.56
	0835	100	3.0	21.73	0.476	20.57	6.03	45.3	203	0.55

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **35BWW15**

Sampler(s): Scott Beesinger

FIELD CONDITIONS Clear

SAMPLING INFORMATION

Sample No: 37LHAAP-2205~~18~~FD **DATE/TIME:** 5/18/22 0800 **Pump Inlet Depth:** 34.34

Sampling Method: LF **Sample Purpose:** FD **Sample Matrix:** GW

Appearance of Sample	Assoc. QC Samples	Decontamination Procedures

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Low flow/Bladder Pump

Casing ID (in.): 2"

Purge Start Date/Time: 5/18/22 0805

Depth to Water - Initial (DTWi) (ft) 21.53

Purge End Date/Time: 5/18/22 0835

Depth to Well Bottom (ft) 50.11

Discharge Tube Length: NA PID Reading: NA

Screen Interval (ft): 19.34-~~49~~.34

Discharge Tube Diameter: 1/4" Immersible Layer: Y / (N)

Approximate depth of pump inlet*(ft): 34.34

Pump Start Time: 0805

Ferrous Iron (Required Y or (N) _____ mg/L

2ND DTW - 21.53

APTIM

Sample Collection Log

Location ID: 35BWW15		Sample No: 37LHAAP-220518-FD								
Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
5/18/22	0810	100	.5	21.60	0.456	22.11	6.50	49.7	239	0.93
	0815	100	1.0	21.65	0.463	20.77	6.08	47.3	224	0.77
	0820	100	1.5	21.68	0.475	20.70	6.03	46.8	206	0.58
	0825	100	2.0	21.70	0.475	20.66	6.03	46.2	205	0.57
	0830	100	2.5	21.72	0.476	20.62	6.03	45.7	204	0.56
↓	0835	100	3.0	21.73	0.476	20.57	6.03	45.3	203	0.55

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **35BWW16**

Sampler(s): Scott Beesinger

FIELD CONDITIONS Clear

SAMPLING INFORMATION

Sample No: 35BWW16-220516 **DATE/TIME:** 5/16/22 1014 **Pump Inlet Depth:** 29.01

Sampling Method: LF **Sample Purpose:** REG **Sample Matrix:** GW

Appearance of Sample	Assoc. QC Samples	Decontamination Procedures

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Low flow/Bladder Pump

Casing ID (in.): 2"

Purge Start Date/Time: 5/16/22 1020

Depth to Water - Initial (DTWi) (ft) 21.21

Purge End Date/Time: 5/16/22 1050

Depth to Well Bottom (ft) 36.88

Discharge Tube Length: NA PID Reading: NA

Screen Interval (ft): 21.66-36.36

Discharge Tube Diameter: 1/4" Immersible Layer: Y / (N)

Approximate depth of pump inlet*(ft): 29.01

Pump Start Time: 1020

Ferrous Iron (Required Y or (N) _____ mg/L

2ND DTW - 21.21

APTIM

Sample Collection Log

Location ID: 35BWW16		Sample No: 35BWW16-220516								
Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
5/16/22	1025	100	.5	21.28	0.271	22.85	5.09	101	202	0.87
	1030	100	1.0	21.33	0.273	22.86	4.58	92.5	223	0.60
	1035	100	1.5	21.37	0.272	23.05	4.55	88.1	224	0.42
	1040	100	2.0	21.39	0.271	23.11	4.54	87.6	224	0.41
	1045	100	2.5	21.40	0.271	23.16	4.54	86.9	225	0.41
	1050	100	3.0	21.41	0.271	23.20	4.54	86.4	225	0.40

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **35BWW17**

Sampler(s): Scott Beesinger

FIELD CONDITIONS Clear

SAMPLING INFORMATION

Sample No: 35BWW17-220516 **DATE/TIME:** 5/16/22 1056 **Pump Inlet Depth:** 28.49

Sampling Method: LF **Sample Purpose:** REG **Sample Matrix:** GW

Appearance of Sample	Assoc. QC Samples	Decontamination Procedures

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Low Flow/Bladder Pump

Casing ID (in.): 2"

Purge Start Date/Time: 5/16/22 1105

Depth to Water - Initial (DTWi) (ft) 20.27

Purge End Date/Time: 5/16/22 1135

Depth to Well Bottom (ft) 36.19

Discharge Tube Length: NA

PID Reading: NA

Screen Interval (ft): 21.14-35.84

Discharge Tube Diameter: 1/4"

Immersible Layer: Y/(N)

Approximate depth of pump inlet*(ft): 28.49

Pump Start Time: 1105

Ferrous Iron (Required Y or (N)) _____ mg/L

2ND DTW - 20.27

APTIM

Sample Collection Log

Location ID: 35BWW17		Sample No: 35BWW17-220516								
Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
5/16/22	1110	100	.5	20.34	0.066	26.12	5.06	371	215	0.59
	1115	100	1.0	20.39	0.065	25.75	4.51	340	250	0.25
	1120	100	1.5	20.42	0.065	25.48	4.46	332	261	0.10
	1125	100	2.0	20.44	0.064	25.43	4.45	331	262	0.09
	1130	100	2.5	20.45	0.064	25.37	4.45	330	263	0.09
↓	1135	100	3.0	20.46	0.064	25.31	4.45	329	264	0.09

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **35BWW18**

Sampler(s): Scott Beesinger

FIELD CONDITIONS Clear

SAMPLING INFORMATION

Sample No: 35BWW18-220518 **DATE/TIME:** 5/18/22 1157 **Pump Inlet Depth:** 28.06

Sampling Method: LF **Sample Purpose:** REG **Sample Matrix:** GW

Appearance of Sample	Assoc. QC Samples	Decontamination Procedures

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Low flow/Bladder Pump

Casing ID (in.): 2"

Purge Start Date/Time: 5/18/22 1200

Depth to Water - Initial (DTWi) (ft) 25.65

Purge End Date/Time: 5/18/22 1230

Depth to Well Bottom (ft) 35.54

Discharge Tube Length: NA PID Reading: NA

Screen Interval (ft): 20.64-35.42

Discharge Tube Diameter: 1/4" Immersible Layer: Y / (N)

Approximate depth of pump inlet*(ft): 28.06

Pump Start Time: 1200

Ferrous Iron (Required Y or (N)) _____ mg/L

2ND DTW - 25.65

APTIM

Sample Collection Log

Location ID: 35BWW18		Sample No: 35BWW18-220518								
Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
5/18/22	1205	100	.5	25.72	1.22	21.93	6.17	15.1	251	0.71
	1210	100	1.0	25.78	1.33	21.41	6.03	12.3	238	0.31
	1215	100	1.5	25.82	1.40	21.17	5.95	8.6	231	0.18
	1220	100	2.0	25.85	1.41	21.14	5.94	7.5	230	0.18
	1225	100	2.5	25.87	1.41	21.10	5.93	6.7	229	0.17
↓	1230	100	3.0	25.89	1.42	21.06	5.93	6.1	229	0.17

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **35BWW19**

Sampler(s): Scott Bassinger

FIELD CONDITIONS Clear

SAMPLING INFORMATION

Sample No: 35BWW19-220518 **DATE/TIME:** 5/18/22 1106 **Pump Inlet Depth:** 28.68

Sampling Method: LF **Sample Purpose:** REG **Sample Matrix:** GW

Appearance of Sample	Assoc. QC Samples	Decontamination Procedures

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Low flow/Bladder Pump

Casing ID (in.): 2"

Purge Start Date/Time: 5/18/22 1115

Depth to Water - Initial (DTWi) (ft) 25.24

Purge End Date/Time: 5/18/22 1145

Depth to Well Bottom (ft) 36.59

Discharge Tube Length: NA PID Reading: NA

Screen Interval (ft): 21.31 - 36.04

Discharge Tube Diameter: 1/4" Immersible Layer: Y (N)

Approximate depth of pump inlet*(ft): 28.68

Pump Start Time: 1115

Ferrous Iron (Required Y or (N) _____ mg/L

2ND DTW - 25.24

APTIM

Sample Collection Log

Location ID: 35BWW19		Sample No: 35BWW19-220518								
Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
5/18/22	1120	100	1.5	25.31	2.99	21.38	6.05	81.3	236	0.53
	1125	100	1.0	25.37	3.08	21.40	6.08	70.5	231	0.68
	1130	100	1.5	25.41	3.15	21.38	6.14	67.1	222	0.49
	1135	100	2.0	25.44	3.16	21.36	6.15	66.5	222	0.48
	1140	100	2.5	25.46	3.17	21.33	6.15	65.8	221	0.47
↓	1145	100	3.0	25.46	3.17	21.30	6.16	65.2	221	0.47

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **35BWW20**

Sampler(s): Scott Baesinger

FIELD CONDITIONS Clear

SAMPLING INFORMATION

Sample No: 35BWW20-220517 **DATE/TIME:** 5/17/22 1146 **Pump Inlet Depth:** 25.08

Sampling Method: LF **Sample Purpose:** REG **Sample Matrix:** GW

Appearance of Sample	Assoc. QC Samples	Decontamination Procedures

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Low Flow/Bladder Pump

Casing ID (in.): 2"

Purge Start Date/Time: 5/17/22 1155

Depth to Water - Initial (DTWi) (ft) 24.02

Purge End Date/Time: 5/17/22 1225

Depth to Well Bottom (ft) 32.98

Discharge Tube Length: NA PID Reading: NA

Screen Interval (ft): 17.70 - 32.46

Discharge Tube Diameter: 1/4" Immersible Layer: Y / (N)

Approximate depth of pump inlet*(ft): 25.08

Pump Start Time: 1155

Ferrous Iron (Required Y or (N)) _____ mg/L

2ND DTW - 24.02

APTIM

Sample Collection Log

Location ID: 35BWW20		Sample No: 35BWW20-220517								
Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
5/17/22	1200	100	.5	24.10	0.272	27.79	6.36	500	192	3.45
	1205	100	1.0	24.16	0.274	27.45	6.21	460	215	3.17
	1210	100	1.5	24.20	0.281	27.19	6.20	452	215	2.97
	1215	100	2.0	24.23	0.282	27.13	6.20	450	216	2.95
	1220	100	2.5	24.25	0.282	27.07	6.19	449	216	2.93
	1225	100	3.0	24.27	0.282	27.03	6.19	448	216	2.91

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **35BWW20**

Sampler(s): Scott Beasinger

FIELD CONDITIONS CLEAR

SAMPLING INFORMATION

Sample No: 35BWW20-220517-MS **DATE/TIME:** 5/17/22 1146 **Pump Inlet Depth:** 25.08

Sampling Method: LF **Sample Purpose:** MS **Sample Matrix:** GW

Appearance of Sample	Assoc. QC Samples	Decontamination Procedures

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Low flow/BLADDER Pump

Casing ID (in.): 2"

Purge Start Date/Time: 5/17/22 1155

Depth to Water - Initial (DTWi) (ft) 24.02

Purge End Date/Time: 5/17/22 1225

Depth to Well Bottom (ft) 32.98

Discharge Tube Length: NA PID Reading: NA

Screen Interval (ft): 17.70 - 32.46

Discharge Tube Diameter: 1/4" Immersible Layer: Y / (N)

Approximate depth of pump inlet*(ft): 25.08

Pump Start Time: 1155

Ferrous Iron (Required Y or (N) _____ mg/L

2ND DTW - 24.02

APTIM

Sample Collection Log

Location ID: 35BWW20		Sample No: 35BWW20-220517-MS								
Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
5/17/22	1200	100	.5	24.10	0.272	27.79	6.36	500	192	3.45
	1205	100	1.0	24.16	0.274	27.45	6.21	460	215	3.17
	1210	100	1.5	24.20	0.281	27.19	6.20	452	215	2.97
	1215	100	2.0	24.23	0.282	27.13	6.20	450	216	2.95
	1220	100	2.5	24.25	0.282	27.07	6.19	449	216	2.93
↓	1225	100	3.0	24.27	0.282	27.03	6.19	448	216	2.91

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **35BWW20**

Sampler(s): Scott Beesinger

FIELD CONDITIONS Clear

SAMPLING INFORMATION

Sample No: 35BWW20-220517-MSD **DATE/TIME:** 5/17/22 1146 **Pump Inlet Depth:** 25.08

Sampling Method: LF **Sample Purpose:** MSD **Sample Matrix:** GW

Appearance of Sample	Assoc. QC Samples	Decontamination Procedures

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Casing ID (in.): 2"

Depth to Water - Initial (DTWi) (ft) 24.02

Depth to Well Bottom (ft) 32.98

Screen Interval (ft): 17.70 - 32.46

Approximate depth of pump inlet*(ft): 25.08

Ferrous Iron (Required Y or (N)) _____ mg/L

Purging Method/Equipment: Low flow/BLADDER Pump

Purge Start Date/Time: 5/17/22 1155

Purge End Date/Time: 5/17/22 1225

Discharge Tube Length: NA PID Reading: NA

Discharge Tube Diameter: 1/4" Immersible Layer: Y /(N)

Pump Start Time: 1155

2ND DTW - 24.02

APTIM

Sample Collection Log

Location ID: 35BWW20		Sample No: 35BWW20-220517-MSD								
Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
5/17/22	1200	100	.5	24.10	0.272	27.79	6.36	500	192	3.45
	1205	100	1.0	24.16	0.274	27.45	6.21	460	215	3.17
	1210	100	1.5	24.20	0.281	27.19	6.20	452	215	2.97
	1215	100	2.0	24.23	0.282	27.13	6.20	450	216	2.95
	1220	100	2.5	24.25	0.282	27.07	6.19	449	216	2.93
↓	1225	100	3.0	24.27	0.282	27.03	6.19	448	216	2.91

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **35BWW23**

Sampler(s): Scott Beasinger

FIELD CONDITIONS Clear

SAMPLING INFORMATION

Sample No: 35BWW23-220518 **DATE/TIME:** 5/18/22 0842 **Pump Inlet Depth:** 27.63

Sampling Method: LF **Sample Purpose:** REG **Sample Matrix:** GW

Appearance of Sample | **Assoc. QC Samples** | **Decontamination Procedures**

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	Anions (chloride/nitrate/sulfate) in Water by SW9056	1 x 125 mL HPDE	Cool 4C
		ALSHT	Carbon Dioxide in Water by RSK175	3 x 40 mL Glass	Cool 4C
		ALSHT	Dissolved Gases in Water by RSK175	3 x 40 mL Glass	HCL<pH2
		ALSHT	TOC in Water by SM5310C	2 x 40 mL Amber	H2SO4
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Lowflow/Bladder Pump

Casing ID (in.): 4"

Purge Start Date/Time: 5/18/22 0850

Depth to Water - Initial (DTWi) (ft) 26.76

Purge End Date/Time: 5/18/22 0920

Depth to Well Bottom (ft) 33.67

Discharge Tube Length: NA PID Reading: NA

Screen Interval (ft): 22.63 - 32.63

Discharge Tube Diameter: 1/4" Immersible Layer: Y / (N)

Approximate depth of pump inlet*(ft): 27.63

Pump Start Time: 0850

Ferrous Iron (Required (Y) or N) 0.01 mg/L

2ND DTW - 26.76

APTIM

Sample Collection Log

Location ID: 35BWW23 Sample No: 35BWW23-220518

Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
5/18/22	0855	100	.5	26.83	0.434	21.85	6.34	22.4	275	1.18
	0900	100	1.0	26.89	0.438	20.80	5.19	21.0	315	0.93
	0905	100	1.5	26.93	0.440	20.73	4.94	21.5	330	0.62
	0910	100	2.0	26.96	0.441	20.67	4.93	22.0	331	0.61
	0915	100	2.5	26.99	0.441	20.63	4.92	22.4	333	0.60
↓	0920	100	3.0	~~27.0~~	0.441	20.58	4.91	22.8	334	0.59

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **35BWW24**

Sampler(s): Scott Beesinger

FIELD CONDITIONS Clear

SAMPLING INFORMATION

Sample No: 35BWW24-220516 **DATE/TIME:** 5/16/22 1142 **Pump Inlet Depth:** 28.50

Sampling Method: LF **Sample Purpose:** REG **Sample Matrix:** GW

Appearance of Sample | **Assoc. QC Samples** | **Decontamination Procedures**

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: LowFlow/Bladder Pump

Casing ID (in.): 4"

Purge Start Date/Time: 5/16/22 1150

Depth to Water - Initial (DTWi) (ft) 27.75

Purge End Date/Time: 5/16/22 1220

Depth to Well Bottom (ft) 32.71

Discharge Tube Length: NA PID Reading: NA

Screen Interval (ft): 22.72 - 32.42

Discharge Tube Diameter: 1/4" Immersible Layer: Y (N)

Approximate depth of pump inlet*(ft): 28.50

Pump Start Time: 1150

Ferrous Iron (Required Y or (N)) _____ mg/L

2ND DTW - 27.75

APTIM

Sample Collection Log

Location ID: 35BWW24		Sample No: 35BWW24-220516								
Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
5/16/22	1155	100	.5	27.82	1.35	23.74	5.66	33.1	244	1.07
	1200	100	1.0	27.88	1.41	22.01	5.69	26.5	231	0.88
	1205	100	1.5	27.92	1.44	21.62	5.65	24.8	227	0.78
	1210	100	2.0	27.95	1.45	21.56	5.65	24.3	226	0.77
	1215	100	2.5	27.98	1.46	21.52	5.65	23.7	225	0.76
↓	1220	100	3.0	28.00	1.46	21.49	5.65	23.2	225	0.76

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **35BWW24**

Sampler(s): Scott Beesinger

FIELD CONDITIONS Clear

SAMPLING INFORMATION

Sample No: 35BWW24-220516-FD **DATE/TIME:** 5/16/22 1142 **Pump Inlet Depth:** 28.50

Sampling Method: LF **Sample Purpose:** FD **Sample Matrix:** GW

Appearance of Sample	Assoc. QC Samples	Decontamination Procedures

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Low Flow/Bladder Pump

Casing ID (in.): 4"

Purge Start Date/Time: 5/16/22 1150

Depth to Water - Initial (DTWi) (ft) 27.75

Purge End Date/Time: 5/16/22 1220

Depth to Well Bottom (ft) 32.71

Discharge Tube Length: NA

PID Reading: NA

Screen Interval (ft): 22.72 - 32.42

Discharge Tube Diameter: 1/4"

Immersible Layer: Y (N)

Approximate depth of pump inlet*(ft): 28.50

Pump Start Time: 1150

Ferrous Iron (Required Y or (N)) _____ mg/L

2ND DTW - 27.75

APTIM

Sample Collection Log

Location ID: 35BWW24				Sample No: 35BWW24-220516-FD						
Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
5/16/22	1155	100	.5	27.82	1.35	23.74	5.66	33.1	244	1.07
	1200	100	1.0	27.88	1.41	22.01	5.69	26.5	231	0.88
	1205	100	1.5	27.92	1.44	21.62	5.65	24.8	227	0.78
	1210	100	2.0	27.95	1.45	21.56	5.65	24.3	226	0.77
	1215	100	2.5	27.98	1.46	21.52	5.65	23.7	225	0.76
↓	1220	100	3.0	28.00	1.46	21.49	5.65	23.2	225	0.76

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **35BWW25**

Sampler(s): Scott Beesinger

FIELD CONDITIONS Clear

SAMPLING INFORMATION

Sample No: 35BWW25-220516 **DATE/TIME:** 5/16/22 1232 **Pump Inlet Depth:** 27.32

Sampling Method: LF **Sample Purpose:** REG **Sample Matrix:** GW

Appearance of Sample | **Assoc. QC Samples** | **Decontamination Procedures**

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Low Flow/Bladder Pump

Casing ID (in.): 4"

Purge Start Date/Time: 5/16/22 1250

Depth to Water - Initial (DTWi) (ft) 25.42

Purge End Date/Time: 5/16/22 1310

Depth to Well Bottom (ft) 32.50

Discharge Tube Length: NA PID Reading: NA

Screen Interval (ft): 22.47-32.17

Discharge Tube Diameter: 1/4" Immersible Layer: Y / (N)

Approximate depth of pump inlet*(ft): 27.32

Pump Start Time: 1250

Ferrous Iron (Required Y or (N) _____ mg/L

2ND DTW- 25.42

APTIM

Sample Collection Log

Location ID: 35BWW25		Sample No: 35BWW25-220516								
Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
5/16/22	1245	100	.5	25.50	0.767	25.57	5.83	29.7	218	1.10
	1250	100	1.0	25.56	0.764	22.77	5.12	24.3	230	0.85
	1255	100	1.5	25.60	0.764	22.70	5.05	23.8	240	0.81
	1300	100	2.0	25.62	0.765	22.66	5.05	23.4	241	0.80
	1305	100	2.5	25.64	0.765	22.62	5.04	22.6	241	0.79
	1310	100	3.0	25.65	0.765	22.57	5.04	22.1	242	0.79

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **35BWW26**

Sampler(s): Scott Beegs'inger

FIELD CONDITIONS CLEAR

SAMPLING INFORMATION

Sample No: 35BWW26-220517 **DATE/TIME:** 5/17/22 0650 **Pump Inlet Depth:** 32.50

Sampling Method: LF **Sample Purpose:** REG **Sample Matrix:** GW

Appearance of Sample **Assoc. QC Samples** **Decontamination Procedures**

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	Anions (chloride/nitrate/sulfate) in Water by SW9056	1 x 125 mL HPDE	Cool 4C
		ALSHT	Carbon Dioxide in Water by RSK175	3 x 40 mL Glass	Cool 4C
		ALSHT	Dissolved Gases in Water by RSK175	3 x 40 mL Glass	HCL<pH2
		ALSHT	TOC in Water by SM5310C	2 x 40 mL Amber	H2SO4
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Low flow/BLADDER Pump

Casing ID (in.): 4"

Purge Start Date/Time: 5/17/22 0700

Depth to Water - Initial (DTWi) (ft) 25.80

Purge End Date/Time: 5/17/22 0730

Depth to Well Bottom (ft) 38.02

Discharge Tube Length: NA PID Reading: NA

Screen Interval (ft): 27.65-37.35

Discharge Tube Diameter: 1/4" Immersible Layer: Y / (N)

Approximate depth of pump inlet*(ft): 32.50

Pump Start Time: 0700

Ferrous Iron (Required (Y) or N) 0.00 mg/L

2ND DTW - 25.80

APTIM

Sample Collection Log

Location ID: 35BWW26		Sample No: 35BWW26-2205_17								
Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
5/17/22	0705	100	.5	25.87	0.312	22.39	6.19	17.5	202	1.93
	0710	100	1.0	25.93	0.304	21.20	5.58	14.3	217	1.72
	0715	100	1.5	25.97	0.299	21.07	5.27	14.5	225	1.57
	0720	100	2.0	26.00	0.298	21.01	5.26	14.8	226	1.54
	0725	100	2.5	26.02	0.298	20.95	5.26	15.2	227	1.52
	0730	100	3.0	26.04	0.298	20.90	5.25	15.5	227	1.50

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **LHSMW58**

Sampler(s): Scott Beesinger

FIELD CONDITIONS Clear

SAMPLING INFORMATION

Sample No: LHSMW58-220517 **DATE/TIME:** 5/17/22 1016 **Pump Inlet Depth:** 29.18

Sampling Method: LF **Sample Purpose:** REG **Sample Matrix:** GW

Appearance of Sample | **Assoc. QC Samples** | **Decontamination Procedures**

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Casing ID (in.): 4"

Depth to Water - Initial (DTWi) (ft) 22.50

Depth to Well Bottom (ft) 34.16

Screen Interval (ft): 24.18 - 34.18

Approximate depth of pump inlet*(ft): 29.18

Ferrous Iron (Required Y or (N) _____ mg/L

Purging Method/Equipment: Low Flow / Bladder Pump

Purge Start Date/Time: 5/17/22 1025

Purge End Date/Time: 5/17/22 1055

Discharge Tube Length: NA PID Reading: NA

Discharge Tube Diameter: 1/4" Immersible Layer: Y (N)

Pump Start Time: 1025

2ND DTW - 22.50

APTIM

Sample Collection Log

Location ID: LHSMW58 Sample No: LHSMW58-2205_17

Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
5/17/22	1030	100	.5	22.57	0.216	23.85	6.52	21.2	177	1.87
	1035	100	1.0	22.63	0.213	23.41	6.08	16.4	207	1.52
	1040	100	1.5	22.65	0.210	23.12	5.97	16.4	215	1.45
	1045	100	2.0	22.67	0.210	23.06	5.96	16.3	215	1.43
	1050	100	2.5	22.68	0.210	23.01	5.96	16.2	216	1.41
	1055	100	3.0	22.69	0.210	22.96	5.96	16.2	216	1.39

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

Appendix C

Laboratory Analytical Data Package

(Provided electronically on CD and the Portal)

10450 Stancliff Rd. Suite 210
Houston, TX 77099
T: +1 281 530 5656
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November 30, 2021

Vicki Graves
Aptim Environmental & Infrastucture, Inc.
10333 Richmond Ave
Ste 1030
Houston, TX 77042

Work Order: **HS21110968**

Laboratory Results for: **Longhorn Army Ammunition Plant 37 November 2021**

Dear Vicki Graves ,

ALS Environmental received 10 sample(s) on Nov 16, 2021 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Generated By: DAYNA.FISHER
Ragen Giga
Project Manager

ALS Houston, US Date: 30-Nov-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 37 November 2021
Work Order: HS21110968

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS21110968-01	35BWW01-211115	Groundwater		15-Nov-2021 07:15	16-Nov-2021 11:00	☐
HS21110968-02	35BWW10-211115	Groundwater		15-Nov-2021 07:55	16-Nov-2021 11:00	☐
HS21110968-03	35BWW05-211115	Groundwater		15-Nov-2021 08:40	16-Nov-2021 11:00	☐
HS21110968-04	35BWW06-211115	Groundwater		15-Nov-2021 09:20	16-Nov-2021 11:00	☐
HS21110968-05	35BWW03-211115	Groundwater		15-Nov-2021 10:50	16-Nov-2021 11:00	☐
HS21110968-06	LHSMW58-211115	Groundwater		15-Nov-2021 10:05	16-Nov-2021 11:00	☐
HS21110968-07	35BWW09-211115	Groundwater		15-Nov-2021 11:30	16-Nov-2021 11:00	☐
HS21110968-08	35BWW19-211115	Groundwater		15-Nov-2021 12:15	16-Nov-2021 11:00	☐
HS21110968-09	35BWW18-211115	Groundwater		15-Nov-2021 13:00	16-Nov-2021 11:00	☐
HS21110968-10	Trip Blank-211115	Water	CG-101321-158	15-Nov-2021 00:00	16-Nov-2021 11:00	☐

ALS Houston, US Date: 30-Nov-21

Client: Aptim Environmental & Infrastucture, Inc. **CASE NARRATIVE**
Project: Longhorn Army Ammunition Plant 37 November 2021
Work Order: HS21110968

GCMS Volatiles by Method SW8260

Batch ID: R396597

Sample ID: 35BWW01-211115 (HS21110968-01)

- Sample HS21110968-01 re-ran out of hold for one compound.

Sample ID: 35BWW03-211115 (HS21110968-05)

- Sample HS21110968-05 re-ran out of hold for one compound. .

Sample ID: 35BWW05-211115 (HS21110968-03)

- Sample HS21110968-03 re-ran out of hold for one compound. .

Sample ID: 35BWW06-211115 (HS21110968-04)

- Sample HS21110968-04 re-ran out of hold for one compound.

Sample ID: 35BWW10-211115 (HS21110968-02)

- Sample HS21110968-02 re-ran out of hold for one compound.

Sample ID: Trip Blank-211115 (HS21110968-10)

- Sample HS21110968-10 (TB) run out of hold due to Lab. Error.

Sample ID: VLCSW-211124

- Bromomethane is also high for LCS.

Sample ID: VSTD050

- Bromomethane exceeded %D limits for CCV. Samples are ND for this compound.

Batch ID: R396588

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

Batch ID: R396510

Sample ID: VLCSW-211125

- Bromochloromethane, Bromomethane exceeded %D limits for LCS .Samples are ND for these compounds.

Sample ID: VSTD050

- Bromochloromethane, Bromomethane exceeded %D limits for CCV .Samples are ND for these compounds.

Sample ID: HS21111309-13MS

- MS and MSD are for an unrelated sample

ALS Houston, US Date: 30-Nov-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 37 November 2021
Sample ID: 35BWW01-211115
Collection Date: 15-Nov-2021 07:15

ANALYTICAL REPORT
WorkOrder:HS21110968
Lab ID:HS21110968-01
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: QX
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	25-Nov-2021 19:49
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	25-Nov-2021 19:49
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	ug/L	1	25-Nov-2021 19:49
1,1,2-Trichlor-1,2,2-trifluoroethane	1.0	U	0.50	1.0	1.0	ug/L	1	25-Nov-2021 19:49
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	25-Nov-2021 19:49
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	25-Nov-2021 19:49
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	25-Nov-2021 19:49
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	ug/L	1	25-Nov-2021 19:49
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	25-Nov-2021 19:49
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	25-Nov-2021 19:49
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	25-Nov-2021 19:49
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	25-Nov-2021 19:49
1,2-Dibromo-3-chloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	25-Nov-2021 19:49
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	25-Nov-2021 19:49
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	25-Nov-2021 19:49
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	25-Nov-2021 19:49
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	25-Nov-2021 19:49
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	25-Nov-2021 19:49
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	25-Nov-2021 19:49
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	25-Nov-2021 19:49
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	25-Nov-2021 19:49
2,2-Dichloropropane	0.50	HU	0.20	0.50	1.0	ug/L	1	30-Nov-2021 05:52
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	25-Nov-2021 19:49
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	25-Nov-2021 19:49
2-Hexanone	2.0	U	1.0	2.0	2.0	ug/L	1	25-Nov-2021 19:49
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	25-Nov-2021 19:49
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	25-Nov-2021 19:49
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	ug/L	1	25-Nov-2021 19:49
Acetone	2.0	U	0.40	2.0	2.0	ug/L	1	25-Nov-2021 19:49
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	25-Nov-2021 19:49
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	25-Nov-2021 19:49
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	25-Nov-2021 19:49
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	25-Nov-2021 19:49
Bromoform	1.0	U	0.40	1.0	1.0	ug/L	1	25-Nov-2021 19:49
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	25-Nov-2021 19:49
Carbon disulfide	2.0	U	0.60	2.0	2.0	ug/L	1	25-Nov-2021 19:49
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	ug/L	1	25-Nov-2021 19:49
Chlorobenzene	1.0	U	0.30	1.0	1.0	ug/L	1	25-Nov-2021 19:49
Chloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	25-Nov-2021 19:49

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 30-Nov-21

Client: Aptim Environmental & Infrastructure, Inc. **ANALYTICAL REPORT**
Project: Longhorn Army Ammunition Plant 37 November 2021 WorkOrder:HS21110968
Sample ID: 35BWW01-211115 Lab ID:HS21110968-01
Collection Date: 15-Nov-2021 07:15 Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: QX
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	25-Nov-2021 19:49
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	25-Nov-2021 19:49
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	25-Nov-2021 19:49
cis-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	25-Nov-2021 19:49
Dibromochloromethane	1.0	U	0.30	1.0	1.0	ug/L	1	25-Nov-2021 19:49
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	25-Nov-2021 19:49
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	25-Nov-2021 19:49
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	25-Nov-2021 19:49
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	25-Nov-2021 19:49
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	25-Nov-2021 19:49
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	25-Nov-2021 19:49
Methylene chloride	1.0	U	0.40	1.0	2.0	ug/L	1	25-Nov-2021 19:49
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	25-Nov-2021 19:49
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	25-Nov-2021 19:49
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	25-Nov-2021 19:49
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	25-Nov-2021 19:49
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	25-Nov-2021 19:49
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	25-Nov-2021 19:49
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	25-Nov-2021 19:49
Tetrachloroethene	1.0	U	0.30	1.0	1.0	ug/L	1	25-Nov-2021 19:49
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	25-Nov-2021 19:49
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	25-Nov-2021 19:49
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	25-Nov-2021 19:49
Trichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	25-Nov-2021 19:49
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	25-Nov-2021 19:49
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	25-Nov-2021 19:49
Surr: 1,2-Dichloroethane-d4	*89.4*			**0**	*81-118*	*%REC*	*1*	*25-Nov-2021 19:49*
Surr: 1,2-Dichloroethane-d4	*90.0*			**0**	*81-118*	*%REC*	*1*	*30-Nov-2021 05:52*
Surr: 4-Bromofluorobenzene	*97.8*			**0**	*85-114*	*%REC*	*1*	*25-Nov-2021 19:49*
Surr: 4-Bromofluorobenzene	*96.6*			**0**	*85-114*	*%REC*	*1*	*30-Nov-2021 05:52*
Surr: Dibromofluoromethane	*86.3*			**0**	*80-119*	*%REC*	*1*	*25-Nov-2021 19:49*
Surr: Dibromofluoromethane	*88.9*			**0**	*80-119*	*%REC*	*1*	*30-Nov-2021 05:52*
Surr: Toluene-d8	*101*			**0**	*89-112*	*%REC*	*1*	*25-Nov-2021 19:49*
Surr: Toluene-d8	*102*			**0**	*89-112*	*%REC*	*1*	*30-Nov-2021 05:52*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 30-Nov-21

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: Longhorn Army Ammunition Plant 37 November 2021 WorkOrder:HS21110968
Sample ID: 35BWW10-211115 Lab ID:HS21110968-02
Collection Date: 15-Nov-2021 07:55 Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: QX
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	25-Nov-2021 20:11
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	25-Nov-2021 20:11
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	ug/L	1	25-Nov-2021 20:11
1,1,2-Trichlor-1,2,2-trifluoroethane	1.0	U	0.50	1.0	1.0	ug/L	1	25-Nov-2021 20:11
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	25-Nov-2021 20:11
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	25-Nov-2021 20:11
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	25-Nov-2021 20:11
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	ug/L	1	25-Nov-2021 20:11
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	25-Nov-2021 20:11
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	25-Nov-2021 20:11
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	25-Nov-2021 20:11
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	25-Nov-2021 20:11
1,2-Dibromo-3-chloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	25-Nov-2021 20:11
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	25-Nov-2021 20:11
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	25-Nov-2021 20:11
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	25-Nov-2021 20:11
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	25-Nov-2021 20:11
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	25-Nov-2021 20:11
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	25-Nov-2021 20:11
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	25-Nov-2021 20:11
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	25-Nov-2021 20:11
2,2-Dichloropropane	0.50	HU	0.20	0.50	1.0	ug/L	1	30-Nov-2021 06:15
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	25-Nov-2021 20:11
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	25-Nov-2021 20:11
2-Hexanone	2.0	U	1.0	2.0	2.0	ug/L	1	25-Nov-2021 20:11
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	25-Nov-2021 20:11
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	25-Nov-2021 20:11
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	ug/L	1	25-Nov-2021 20:11
Acetone	2.0	U	0.40	2.0	2.0	ug/L	1	25-Nov-2021 20:11
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	25-Nov-2021 20:11
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	25-Nov-2021 20:11
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	25-Nov-2021 20:11
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	25-Nov-2021 20:11
Bromoform	1.0	U	0.40	1.0	1.0	ug/L	1	25-Nov-2021 20:11
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	25-Nov-2021 20:11
Carbon disulfide	2.0	U	0.60	2.0	2.0	ug/L	1	25-Nov-2021 20:11
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	ug/L	1	25-Nov-2021 20:11
Chlorobenzene	1.0	U	0.30	1.0	1.0	ug/L	1	25-Nov-2021 20:11
Chloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	25-Nov-2021 20:11

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 30-Nov-21

Client: Aptim Environmental & Infrastructure, Inc. **ANALYTICAL REPORT**
Project: Longhorn Army Ammunition Plant 37 November 2021 WorkOrder:HS21110968
Sample ID: 35BWW10-211115 Lab ID:HS21110968-02
Collection Date: 15-Nov-2021 07:55 Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: QX
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	25-Nov-2021 20:11
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	25-Nov-2021 20:11
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	25-Nov-2021 20:11
cis-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	25-Nov-2021 20:11
Dibromochloromethane	1.0	U	0.30	1.0	1.0	ug/L	1	25-Nov-2021 20:11
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	25-Nov-2021 20:11
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	25-Nov-2021 20:11
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	25-Nov-2021 20:11
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	25-Nov-2021 20:11
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	25-Nov-2021 20:11
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	25-Nov-2021 20:11
Methylene chloride	2.0	U	0.40	2.0	2.0	ug/L	1	25-Nov-2021 20:11
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	25-Nov-2021 20:11
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	25-Nov-2021 20:11
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	25-Nov-2021 20:11
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	25-Nov-2021 20:11
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	25-Nov-2021 20:11
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	25-Nov-2021 20:11
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	25-Nov-2021 20:11
Tetrachloroethene	1.0	U	0.30	1.0	1.0	ug/L	1	25-Nov-2021 20:11
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	25-Nov-2021 20:11
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	25-Nov-2021 20:11
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	25-Nov-2021 20:11
Trichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	25-Nov-2021 20:11
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	25-Nov-2021 20:11
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	25-Nov-2021 20:11
Surr: 1,2-Dichloroethane-d4	*91.3*			**0**	*81-118*	*%REC*	*1*	*25-Nov-2021 20:11*
Surr: 1,2-Dichloroethane-d4	*92.1*			**0**	*81-118*	*%REC*	*1*	*30-Nov-2021 06:15*
Surr: 4-Bromofluorobenzene	*98.0*			**0**	*85-114*	*%REC*	*1*	*25-Nov-2021 20:11*
Surr: 4-Bromofluorobenzene	*98.1*			**0**	*85-114*	*%REC*	*1*	*30-Nov-2021 06:15*
Surr: Dibromofluoromethane	*88.0*			**0**	*80-119*	*%REC*	*1*	*25-Nov-2021 20:11*
Surr: Dibromofluoromethane	*90.5*			**0**	*80-119*	*%REC*	*1*	*30-Nov-2021 06:15*
Surr: Toluene-d8	*100*			**0**	*89-112*	*%REC*	*1*	*25-Nov-2021 20:11*
Surr: Toluene-d8	*100*			**0**	*89-112*	*%REC*	*1*	*30-Nov-2021 06:15*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 30-Nov-21

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: Longhorn Army Ammunition Plant 37 November 2021 WorkOrder:HS21110968
Sample ID: 35BWW05-211115 Lab ID:HS21110968-03
Collection Date: 15-Nov-2021 08:40 Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: QX
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	25-Nov-2021 20:33
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	25-Nov-2021 20:33
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	ug/L	1	25-Nov-2021 20:33
1,1,2-Trichlor-1,2,2-trifluoroethane	1.0	U	0.50	1.0	1.0	ug/L	1	25-Nov-2021 20:33
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	25-Nov-2021 20:33
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	25-Nov-2021 20:33
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	25-Nov-2021 20:33
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	ug/L	1	25-Nov-2021 20:33
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	25-Nov-2021 20:33
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	25-Nov-2021 20:33
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	25-Nov-2021 20:33
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	25-Nov-2021 20:33
1,2-Dibromo-3-chloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	25-Nov-2021 20:33
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	25-Nov-2021 20:33
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	25-Nov-2021 20:33
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	25-Nov-2021 20:33
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	25-Nov-2021 20:33
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	25-Nov-2021 20:33
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	25-Nov-2021 20:33
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	25-Nov-2021 20:33
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	25-Nov-2021 20:33
2,2-Dichloropropane	0.50	HU	0.20	0.50	1.0	ug/L	1	30-Nov-2021 06:37
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	25-Nov-2021 20:33
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	25-Nov-2021 20:33
2-Hexanone	2.0	U	1.0	2.0	2.0	ug/L	1	25-Nov-2021 20:33
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	25-Nov-2021 20:33
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	25-Nov-2021 20:33
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	ug/L	1	25-Nov-2021 20:33
Acetone	2.0	U	0.40	2.0	2.0	ug/L	1	25-Nov-2021 20:33
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	25-Nov-2021 20:33
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	25-Nov-2021 20:33
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	25-Nov-2021 20:33
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	25-Nov-2021 20:33
Bromoform	1.0	U	0.40	1.0	1.0	ug/L	1	25-Nov-2021 20:33
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	25-Nov-2021 20:33
Carbon disulfide	2.0	U	0.60	2.0	2.0	ug/L	1	25-Nov-2021 20:33
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	ug/L	1	25-Nov-2021 20:33
Chlorobenzene	1.0	U	0.30	1.0	1.0	ug/L	1	25-Nov-2021 20:33
Chloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	25-Nov-2021 20:33

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 30-Nov-21

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: Longhorn Army Ammunition Plant 37 November 2021 WorkOrder:HS21110968
Sample ID: 35BWW05-211115 Lab ID:HS21110968-03
Collection Date: 15-Nov-2021 08:40 Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: QX
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	25-Nov-2021 20:33
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	25-Nov-2021 20:33
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	25-Nov-2021 20:33
cis-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	25-Nov-2021 20:33
Dibromochloromethane	1.0	U	0.30	1.0	1.0	ug/L	1	25-Nov-2021 20:33
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	25-Nov-2021 20:33
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	25-Nov-2021 20:33
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	25-Nov-2021 20:33
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	25-Nov-2021 20:33
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	25-Nov-2021 20:33
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	25-Nov-2021 20:33
Methylene chloride	1.0	U	0.40	1.0	2.0	ug/L	1	25-Nov-2021 20:33
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	25-Nov-2021 20:33
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	25-Nov-2021 20:33
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	25-Nov-2021 20:33
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	25-Nov-2021 20:33
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	25-Nov-2021 20:33
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	25-Nov-2021 20:33
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	25-Nov-2021 20:33
Tetrachloroethene	**1.8**		**0.30**	**1.0**	**1.0**	**ug/L**	1	25-Nov-2021 20:33
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	25-Nov-2021 20:33
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	25-Nov-2021 20:33
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	25-Nov-2021 20:33
Trichloroethene	**3.5**		**0.20**	**0.50**	**1.0**	**ug/L**	1	25-Nov-2021 20:33
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	25-Nov-2021 20:33
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	25-Nov-2021 20:33
Surr: 1,2-Dichloroethane-d4	*90.5*			**0**	*81-118*	*%REC*	*1*	*25-Nov-2021 20:33*
Surr: 1,2-Dichloroethane-d4	*90.9*			**0**	*81-118*	*%REC*	*1*	*30-Nov-2021 06:37*
Surr: 4-Bromofluorobenzene	*99.2*			**0**	*85-114*	*%REC*	*1*	*25-Nov-2021 20:33*
Surr: 4-Bromofluorobenzene	*99.0*			**0**	*85-114*	*%REC*	*1*	*30-Nov-2021 06:37*
Surr: Dibromofluoromethane	*87.4*			**0**	*80-119*	*%REC*	*1*	*25-Nov-2021 20:33*
Surr: Dibromofluoromethane	*88.7*			**0**	*80-119*	*%REC*	*1*	*30-Nov-2021 06:37*
Surr: Toluene-d8	*101*			**0**	*89-112*	*%REC*	*1*	*25-Nov-2021 20:33*
Surr: Toluene-d8	*101*			**0**	*89-112*	*%REC*	*1*	*30-Nov-2021 06:37*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 30-Nov-21

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: Longhorn Army Ammunition Plant 37 November 2021 WorkOrder:HS21110968
Sample ID: 35BWW06-211115 Lab ID:HS21110968-04
Collection Date: 15-Nov-2021 09:20 Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: QX
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	25-Nov-2021 20:56
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	25-Nov-2021 20:56
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	ug/L	1	25-Nov-2021 20:56
1,1,2-Trichlor-1,2,2-trifluoroethane	1.0	U	0.50	1.0	1.0	ug/L	1	25-Nov-2021 20:56
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	25-Nov-2021 20:56
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	25-Nov-2021 20:56
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	25-Nov-2021 20:56
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	ug/L	1	25-Nov-2021 20:56
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	25-Nov-2021 20:56
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	25-Nov-2021 20:56
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	25-Nov-2021 20:56
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	25-Nov-2021 20:56
1,2-Dibromo-3-chloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	25-Nov-2021 20:56
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	25-Nov-2021 20:56
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	25-Nov-2021 20:56
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	25-Nov-2021 20:56
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	25-Nov-2021 20:56
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	25-Nov-2021 20:56
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	25-Nov-2021 20:56
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	25-Nov-2021 20:56
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	25-Nov-2021 20:56
2,2-Dichloropropane	0.50	HU	0.20	0.50	1.0	ug/L	1	30-Nov-2021 06:59
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	25-Nov-2021 20:56
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	25-Nov-2021 20:56
2-Hexanone	2.0	U	1.0	2.0	2.0	ug/L	1	25-Nov-2021 20:56
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	25-Nov-2021 20:56
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	25-Nov-2021 20:56
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	ug/L	1	25-Nov-2021 20:56
Acetone	2.0	U	0.40	2.0	2.0	ug/L	1	25-Nov-2021 20:56
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	25-Nov-2021 20:56
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	25-Nov-2021 20:56
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	25-Nov-2021 20:56
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	25-Nov-2021 20:56
Bromoform	1.0	U	0.40	1.0	1.0	ug/L	1	25-Nov-2021 20:56
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	25-Nov-2021 20:56
Carbon disulfide	2.0	U	0.60	2.0	2.0	ug/L	1	25-Nov-2021 20:56
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	ug/L	1	25-Nov-2021 20:56
Chlorobenzene	1.0	U	0.30	1.0	1.0	ug/L	1	25-Nov-2021 20:56
Chloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	25-Nov-2021 20:56

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 30-Nov-21

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: Longhorn Army Ammunition Plant 37 November 2021 WorkOrder:HS21110968
Sample ID: 35BWW06-211115 Lab ID:HS21110968-04
Collection Date: 15-Nov-2021 09:20 Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: QX
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	25-Nov-2021 20:56
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	25-Nov-2021 20:56
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	25-Nov-2021 20:56
cis-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	25-Nov-2021 20:56
Dibromochloromethane	1.0	U	0.30	1.0	1.0	ug/L	1	25-Nov-2021 20:56
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	25-Nov-2021 20:56
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	25-Nov-2021 20:56
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	25-Nov-2021 20:56
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	25-Nov-2021 20:56
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	25-Nov-2021 20:56
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	25-Nov-2021 20:56
Methylene chloride	2.0	U	0.40	2.0	2.0	ug/L	1	25-Nov-2021 20:56
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	25-Nov-2021 20:56
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	25-Nov-2021 20:56
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	25-Nov-2021 20:56
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	25-Nov-2021 20:56
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	25-Nov-2021 20:56
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	25-Nov-2021 20:56
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	25-Nov-2021 20:56
Tetrachloroethene	1.0	U	0.30	1.0	1.0	ug/L	1	25-Nov-2021 20:56
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	25-Nov-2021 20:56
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	25-Nov-2021 20:56
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	25-Nov-2021 20:56
Trichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	25-Nov-2021 20:56
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	25-Nov-2021 20:56
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	25-Nov-2021 20:56
Surr: 1,2-Dichloroethane-d4	*90.7*			**0**	*81-118*	*%REC*	*1*	*25-Nov-2021 20:56*
Surr: 1,2-Dichloroethane-d4	*89.3*			**0**	*81-118*	*%REC*	*1*	*30-Nov-2021 06:59*
Surr: 4-Bromofluorobenzene	*99.1*			**0**	*85-114*	*%REC*	*1*	*25-Nov-2021 20:56*
Surr: 4-Bromofluorobenzene	*98.1*			**0**	*85-114*	*%REC*	*1*	*30-Nov-2021 06:59*
Surr: Dibromofluoromethane	*87.3*			**0**	*80-119*	*%REC*	*1*	*25-Nov-2021 20:56*
Surr: Dibromofluoromethane	*92.4*			**0**	*80-119*	*%REC*	*1*	*30-Nov-2021 06:59*
Surr: Toluene-d8	*101*			**0**	*89-112*	*%REC*	*1*	*25-Nov-2021 20:56*
Surr: Toluene-d8	*101*			**0**	*89-112*	*%REC*	*1*	*30-Nov-2021 06:59*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 30-Nov-21

Client: Aptim Environmental & Infrastucture, Inc.
ANALYTICAL REPORT
Project: Longhorn Army Ammunition Plant 37 November 2021 WorkOrder:HS21110968
Sample ID: 35BWW03-211115 Lab ID:HS21110968-05
Collection Date: 15-Nov-2021 10:50 Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: QX
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	25-Nov-2021 21:18
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	25-Nov-2021 21:18
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	ug/L	1	25-Nov-2021 21:18
1,1,2-Trichlor-1,2,2-trifluoroethane	1.0	U	0.50	1.0	1.0	ug/L	1	25-Nov-2021 21:18
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	25-Nov-2021 21:18
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	25-Nov-2021 21:18
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	25-Nov-2021 21:18
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	ug/L	1	25-Nov-2021 21:18
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	25-Nov-2021 21:18
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	25-Nov-2021 21:18
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	25-Nov-2021 21:18
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	25-Nov-2021 21:18
1,2-Dibromo-3-chloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	25-Nov-2021 21:18
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	25-Nov-2021 21:18
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	25-Nov-2021 21:18
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	25-Nov-2021 21:18
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	25-Nov-2021 21:18
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	25-Nov-2021 21:18
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	25-Nov-2021 21:18
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	25-Nov-2021 21:18
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	25-Nov-2021 21:18
2,2-Dichloropropane	0.50	HU	0.20	0.50	1.0	ug/L	1	30-Nov-2021 07:22
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	25-Nov-2021 21:18
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	25-Nov-2021 21:18
2-Hexanone	2.0	U	1.0	2.0	2.0	ug/L	1	25-Nov-2021 21:18
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	25-Nov-2021 21:18
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	25-Nov-2021 21:18
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	ug/L	1	25-Nov-2021 21:18
Acetone	2.0	U	0.40	2.0	2.0	ug/L	1	25-Nov-2021 21:18
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	25-Nov-2021 21:18
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	25-Nov-2021 21:18
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	25-Nov-2021 21:18
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	25-Nov-2021 21:18
Bromoform	1.0	U	0.40	1.0	1.0	ug/L	1	25-Nov-2021 21:18
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	25-Nov-2021 21:18
Carbon disulfide	2.0	U	0.60	2.0	2.0	ug/L	1	25-Nov-2021 21:18
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	ug/L	1	25-Nov-2021 21:18
Chlorobenzene	1.0	U	0.30	1.0	1.0	ug/L	1	25-Nov-2021 21:18
Chloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	25-Nov-2021 21:18

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 30-Nov-21

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: Longhorn Army Ammunition Plant 37 November 2021 WorkOrder:HS21110968
Sample ID: 35BWW03-211115 Lab ID:HS21110968-05
Collection Date: 15-Nov-2021 10:50 Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: QX
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	25-Nov-2021 21:18
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	25-Nov-2021 21:18
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	25-Nov-2021 21:18
cis-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	25-Nov-2021 21:18
Dibromochloromethane	1.0	U	0.30	1.0	1.0	ug/L	1	25-Nov-2021 21:18
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	25-Nov-2021 21:18
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	25-Nov-2021 21:18
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	25-Nov-2021 21:18
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	25-Nov-2021 21:18
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	25-Nov-2021 21:18
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	25-Nov-2021 21:18
Methylene chloride	1.0	U	0.40	1.0	2.0	ug/L	1	25-Nov-2021 21:18
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	25-Nov-2021 21:18
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	25-Nov-2021 21:18
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	25-Nov-2021 21:18
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	25-Nov-2021 21:18
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	25-Nov-2021 21:18
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	25-Nov-2021 21:18
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	25-Nov-2021 21:18
Tetrachloroethene	1.0	U	0.30	1.0	1.0	ug/L	1	25-Nov-2021 21:18
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	25-Nov-2021 21:18
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	25-Nov-2021 21:18
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	25-Nov-2021 21:18
Trichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	25-Nov-2021 21:18
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	25-Nov-2021 21:18
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	25-Nov-2021 21:18
Surr: 1,2-Dichloroethane-d4	*90.5*			**0**	*81-118*	*%REC*	*1*	*25-Nov-2021 21:18*
Surr: 1,2-Dichloroethane-d4	*90.4*			**0**	*81-118*	*%REC*	*1*	*30-Nov-2021 07:22*
Surr: 4-Bromofluorobenzene	*99.0*			**0**	*85-114*	*%REC*	*1*	*25-Nov-2021 21:18*
Surr: 4-Bromofluorobenzene	*98.5*			**0**	*85-114*	*%REC*	*1*	*30-Nov-2021 07:22*
Surr: Dibromofluoromethane	*87.4*			**0**	*80-119*	*%REC*	*1*	*25-Nov-2021 21:18*
Surr: Dibromofluoromethane	*88.7*			**0**	*80-119*	*%REC*	*1*	*30-Nov-2021 07:22*
Surr: Toluene-d8	*102*			**0**	*89-112*	*%REC*	*1*	*25-Nov-2021 21:18*
Surr: Toluene-d8	*102*			**0**	*89-112*	*%REC*	*1*	*30-Nov-2021 07:22*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 30-Nov-21

Client: Aptim Environmental & Infrastructure, Inc. **ANALYTICAL REPORT**
Project: Longhorn Army Ammunition Plant 37 November 2021 WorkOrder:HS21110968
Sample ID: LHSMW58-211115 Lab ID:HS21110968-06
Collection Date: 15-Nov-2021 10:05 Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	29-Nov-2021 20:57
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	29-Nov-2021 20:57
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	ug/L	1	29-Nov-2021 20:57
1,1,2-Trichlor-1,2,2-trifluoroethane	**0.63**	J	**0.50**	**1.0**	**1.0**	**ug/L**	1	29-Nov-2021 20:57
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	29-Nov-2021 20:57
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	29-Nov-2021 20:57
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	29-Nov-2021 20:57
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	ug/L	1	29-Nov-2021 20:57
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	29-Nov-2021 20:57
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	29-Nov-2021 20:57
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	29-Nov-2021 20:57
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	29-Nov-2021 20:57
1,2-Dibromo-3-chloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	29-Nov-2021 20:57
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	29-Nov-2021 20:57
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	29-Nov-2021 20:57
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	29-Nov-2021 20:57
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	29-Nov-2021 20:57
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	29-Nov-2021 20:57
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	29-Nov-2021 20:57
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	29-Nov-2021 20:57
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	29-Nov-2021 20:57
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	29-Nov-2021 20:57
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	29-Nov-2021 20:57
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	29-Nov-2021 20:57
2-Hexanone	2.0	U	1.0	2.0	2.0	ug/L	1	29-Nov-2021 20:57
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	29-Nov-2021 20:57
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	29-Nov-2021 20:57
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	ug/L	1	29-Nov-2021 20:57
Acetone	2.0	U	0.40	2.0	2.0	ug/L	1	29-Nov-2021 20:57
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	29-Nov-2021 20:57
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	29-Nov-2021 20:57
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	29-Nov-2021 20:57
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	29-Nov-2021 20:57
Bromoform	1.0	U	0.40	1.0	1.0	ug/L	1	29-Nov-2021 20:57
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	29-Nov-2021 20:57
Carbon disulfide	2.0	U	0.60	2.0	2.0	ug/L	1	29-Nov-2021 20:57
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	ug/L	1	29-Nov-2021 20:57
Chlorobenzene	1.0	U	0.30	1.0	1.0	ug/L	1	29-Nov-2021 20:57

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 30-Nov-21

Client: Aptim Environmental & Infrastructure, Inc. **ANALYTICAL REPORT**
Project: Longhorn Army Ammunition Plant 37 November 2021 WorkOrder:HS21110968
Sample ID: LHSMW58-211115 Lab ID:HS21110968-06
Collection Date: 15-Nov-2021 10:05 Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
Chloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	29-Nov-2021 20:57
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	29-Nov-2021 20:57
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	29-Nov-2021 20:57
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	29-Nov-2021 20:57
cis-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	29-Nov-2021 20:57
Dibromochloromethane	1.0	U	0.30	1.0	1.0	ug/L	1	29-Nov-2021 20:57
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	29-Nov-2021 20:57
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	29-Nov-2021 20:57
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	29-Nov-2021 20:57
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	29-Nov-2021 20:57
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	29-Nov-2021 20:57
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	29-Nov-2021 20:57
Methylene chloride	2.0	U	0.40	2.0	2.0	ug/L	1	29-Nov-2021 20:57
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	29-Nov-2021 20:57
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	29-Nov-2021 20:57
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	29-Nov-2021 20:57
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	29-Nov-2021 20:57
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	29-Nov-2021 20:57
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	29-Nov-2021 20:57
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	29-Nov-2021 20:57
Tetrachloroethene	**13**		**0.30**	**1.0**	**1.0**	**ug/L**	1	29-Nov-2021 20:57
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	29-Nov-2021 20:57
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	29-Nov-2021 20:57
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	29-Nov-2021 20:57
Trichloroethene	**1.0**		**0.20**	**0.50**	**1.0**	**ug/L**	1	29-Nov-2021 20:57
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	29-Nov-2021 20:57
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	29-Nov-2021 20:57
Surr: 1,2-Dichloroethane-d4	*91.7*			**0**	*81-118*	*%REC*	*1*	*29-Nov-2021 20:57*
Surr: 4-Bromofluorobenzene	*97.6*			**0**	*85-114*	*%REC*	*1*	*29-Nov-2021 20:57*
Surr: Dibromofluoromethane	*88.8*			**0**	*80-119*	*%REC*	*1*	*29-Nov-2021 20:57*
Surr: Toluene-d8	*100*			**0**	*89-112*	*%REC*	*1*	*29-Nov-2021 20:57*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 30-Nov-21

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: Longhorn Army Ammunition Plant 37 November 2021 WorkOrder:HS21110968
Sample ID: 35BWW09-211115 Lab ID:HS21110968-07
Collection Date: 15-Nov-2021 11:30 Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	29-Nov-2021 21:20
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	29-Nov-2021 21:20
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	ug/L	1	29-Nov-2021 21:20
1,1,2-Trichlor-1,2,2-trifluoroethane	**2.2**		**0.50**	**1.0**	**1.0**	**ug/L**	1	29-Nov-2021 21:20
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	29-Nov-2021 21:20
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	29-Nov-2021 21:20
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	29-Nov-2021 21:20
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	ug/L	1	29-Nov-2021 21:20
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	29-Nov-2021 21:20
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	29-Nov-2021 21:20
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	29-Nov-2021 21:20
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	29-Nov-2021 21:20
1,2-Dibromo-3-chloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	29-Nov-2021 21:20
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	29-Nov-2021 21:20
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	29-Nov-2021 21:20
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	29-Nov-2021 21:20
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	29-Nov-2021 21:20
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	29-Nov-2021 21:20
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	29-Nov-2021 21:20
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	29-Nov-2021 21:20
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	29-Nov-2021 21:20
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	29-Nov-2021 21:20
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	29-Nov-2021 21:20
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	29-Nov-2021 21:20
2-Hexanone	2.0	U	1.0	2.0	2.0	ug/L	1	29-Nov-2021 21:20
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	29-Nov-2021 21:20
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	29-Nov-2021 21:20
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	ug/L	1	29-Nov-2021 21:20
Acetone	2.0	U	0.40	2.0	2.0	ug/L	1	29-Nov-2021 21:20
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	29-Nov-2021 21:20
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	29-Nov-2021 21:20
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	29-Nov-2021 21:20
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	29-Nov-2021 21:20
Bromoform	1.0	U	0.40	1.0	1.0	ug/L	1	29-Nov-2021 21:20
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	29-Nov-2021 21:20
Carbon disulfide	2.0	U	0.60	2.0	2.0	ug/L	1	29-Nov-2021 21:20
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	ug/L	1	29-Nov-2021 21:20
Chlorobenzene	1.0	U	0.30	1.0	1.0	ug/L	1	29-Nov-2021 21:20

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 30-Nov-21

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: Longhorn Army Ammunition Plant 37 November 2021 WorkOrder:HS21110968
Sample ID: 35BWW09-211115 Lab ID:HS21110968-07
Collection Date: 15-Nov-2021 11:30 Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
Chloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	29-Nov-2021 21:20
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	29-Nov-2021 21:20
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	29-Nov-2021 21:20
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	29-Nov-2021 21:20
cis-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	29-Nov-2021 21:20
Dibromochloromethane	1.0	U	0.30	1.0	1.0	ug/L	1	29-Nov-2021 21:20
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	29-Nov-2021 21:20
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	29-Nov-2021 21:20
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	29-Nov-2021 21:20
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	29-Nov-2021 21:20
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	29-Nov-2021 21:20
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	29-Nov-2021 21:20
Methylene chloride	1.0	U	0.40	1.0	2.0	ug/L	1	29-Nov-2021 21:20
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	29-Nov-2021 21:20
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	29-Nov-2021 21:20
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	29-Nov-2021 21:20
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	29-Nov-2021 21:20
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	29-Nov-2021 21:20
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	29-Nov-2021 21:20
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	29-Nov-2021 21:20
Tetrachloroethene	**1.1**		**0.30**	**1.0**	**1.0**	**ug/L**	1	29-Nov-2021 21:20
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	29-Nov-2021 21:20
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	29-Nov-2021 21:20
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	29-Nov-2021 21:20
Trichloroethene	**23**		**0.20**	**0.50**	**1.0**	**ug/L**	1	29-Nov-2021 21:20
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	29-Nov-2021 21:20
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	29-Nov-2021 21:20
Surr: 1,2-Dichloroethane-d4	*91.2*			**0**	*81-118*	*%REC*	*1*	*29-Nov-2021 21:20*
Surr: 4-Bromofluorobenzene	*97.7*			**0**	*85-114*	*%REC*	*1*	*29-Nov-2021 21:20*
Surr: Dibromofluoromethane	*90.2*			**0**	*80-119*	*%REC*	*1*	*29-Nov-2021 21:20*
Surr: Toluene-d8	*102*			**0**	*89-112*	*%REC*	*1*	*29-Nov-2021 21:20*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 30-Nov-21

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: Longhorn Army Ammunition Plant 37 November 2021 WorkOrder:HS21110968
Sample ID: 35BWW19-211115 Lab ID:HS21110968-08
Collection Date: 15-Nov-2021 12:15 Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	29-Nov-2021 21:42
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	29-Nov-2021 21:42
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	ug/L	1	29-Nov-2021 21:42
1,1,2-Trichlor-1,2,2-trifluoroethane	1.0	U	0.50	1.0	1.0	ug/L	1	29-Nov-2021 21:42
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	29-Nov-2021 21:42
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	29-Nov-2021 21:42
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	29-Nov-2021 21:42
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	ug/L	1	29-Nov-2021 21:42
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	29-Nov-2021 21:42
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	29-Nov-2021 21:42
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	29-Nov-2021 21:42
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	29-Nov-2021 21:42
1,2-Dibromo-3-chloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	29-Nov-2021 21:42
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	29-Nov-2021 21:42
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	29-Nov-2021 21:42
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	29-Nov-2021 21:42
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	29-Nov-2021 21:42
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	29-Nov-2021 21:42
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	29-Nov-2021 21:42
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	29-Nov-2021 21:42
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	29-Nov-2021 21:42
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	29-Nov-2021 21:42
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	29-Nov-2021 21:42
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	29-Nov-2021 21:42
2-Hexanone	2.0	U	1.0	2.0	2.0	ug/L	1	29-Nov-2021 21:42
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	29-Nov-2021 21:42
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	29-Nov-2021 21:42
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	ug/L	1	29-Nov-2021 21:42
Acetone	2.0	U	0.40	2.0	2.0	ug/L	1	29-Nov-2021 21:42
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	29-Nov-2021 21:42
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	29-Nov-2021 21:42
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	29-Nov-2021 21:42
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	29-Nov-2021 21:42
Bromoform	1.0	U	0.40	1.0	1.0	ug/L	1	29-Nov-2021 21:42
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	29-Nov-2021 21:42
Carbon disulfide	2.0	U	0.60	2.0	2.0	ug/L	1	29-Nov-2021 21:42
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	ug/L	1	29-Nov-2021 21:42
Chlorobenzene	1.0	U	0.30	1.0	1.0	ug/L	1	29-Nov-2021 21:42
Chloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	29-Nov-2021 21:42

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 30-Nov-21

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: Longhorn Army Ammunition Plant 37 November 2021 WorkOrder:HS21110968
Sample ID: 35BWW19-211115 Lab ID:HS21110968-08
Collection Date: 15-Nov-2021 12:15 Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	29-Nov-2021 21:42
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	29-Nov-2021 21:42
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	29-Nov-2021 21:42
cis-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	29-Nov-2021 21:42
Dibromochloromethane	1.0	U	0.30	1.0	1.0	ug/L	1	29-Nov-2021 21:42
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	29-Nov-2021 21:42
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	29-Nov-2021 21:42
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	29-Nov-2021 21:42
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	29-Nov-2021 21:42
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	29-Nov-2021 21:42
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	29-Nov-2021 21:42
Methylene chloride	2.0	U	0.40	2.0	2.0	ug/L	1	29-Nov-2021 21:42
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	29-Nov-2021 21:42
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	29-Nov-2021 21:42
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	29-Nov-2021 21:42
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	29-Nov-2021 21:42
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	29-Nov-2021 21:42
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	29-Nov-2021 21:42
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	29-Nov-2021 21:42
Tetrachloroethene	1.0	U	0.30	1.0	1.0	ug/L	1	29-Nov-2021 21:42
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	29-Nov-2021 21:42
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	29-Nov-2021 21:42
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	29-Nov-2021 21:42
Trichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	29-Nov-2021 21:42
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	29-Nov-2021 21:42
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	29-Nov-2021 21:42
Surr: 1,2-Dichloroethane-d4	*91.3*			**0**	*81-118*	*%REC*	*1*	*29-Nov-2021 21:42*
Surr: 4-Bromofluorobenzene	*96.6*			**0**	*85-114*	*%REC*	*1*	*29-Nov-2021 21:42*
Surr: Dibromofluoromethane	*88.4*			**0**	*80-119*	*%REC*	*1*	*29-Nov-2021 21:42*
Surr: Toluene-d8	*101*			**0**	*89-112*	*%REC*	*1*	*29-Nov-2021 21:42*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 30-Nov-21

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: Longhorn Army Ammunition Plant 37 November 2021 WorkOrder:HS21110968
Sample ID: 35BWW18-211115 Lab ID:HS21110968-09
Collection Date: 15-Nov-2021 13:00 Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	29-Nov-2021 22:04
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	29-Nov-2021 22:04
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	ug/L	1	29-Nov-2021 22:04
1,1,2-Trichlor-1,2,2-trifluoroethane	1.0	U	0.50	1.0	1.0	ug/L	1	29-Nov-2021 22:04
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	29-Nov-2021 22:04
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	29-Nov-2021 22:04
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	29-Nov-2021 22:04
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	ug/L	1	29-Nov-2021 22:04
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	29-Nov-2021 22:04
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	29-Nov-2021 22:04
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	29-Nov-2021 22:04
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	29-Nov-2021 22:04
1,2-Dibromo-3-chloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	29-Nov-2021 22:04
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	29-Nov-2021 22:04
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	29-Nov-2021 22:04
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	29-Nov-2021 22:04
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	29-Nov-2021 22:04
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	29-Nov-2021 22:04
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	29-Nov-2021 22:04
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	29-Nov-2021 22:04
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	29-Nov-2021 22:04
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	29-Nov-2021 22:04
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	29-Nov-2021 22:04
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	29-Nov-2021 22:04
2-Hexanone	2.0	U	1.0	2.0	2.0	ug/L	1	29-Nov-2021 22:04
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	29-Nov-2021 22:04
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	29-Nov-2021 22:04
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	ug/L	1	29-Nov-2021 22:04
Acetone	2.0	U	0.40	2.0	2.0	ug/L	1	29-Nov-2021 22:04
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	29-Nov-2021 22:04
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	29-Nov-2021 22:04
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	29-Nov-2021 22:04
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	29-Nov-2021 22:04
Bromoform	1.0	U	0.40	1.0	1.0	ug/L	1	29-Nov-2021 22:04
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	29-Nov-2021 22:04
Carbon disulfide	2.0	U	0.60	2.0	2.0	ug/L	1	29-Nov-2021 22:04
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	ug/L	1	29-Nov-2021 22:04
Chlorobenzene	1.0	U	0.30	1.0	1.0	ug/L	1	29-Nov-2021 22:04
Chloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	29-Nov-2021 22:04

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 30-Nov-21

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: Longhorn Army Ammunition Plant 37 November 2021 WorkOrder:HS21110968
Sample ID: 35BWW18-211115 Lab ID:HS21110968-09
Collection Date: 15-Nov-2021 13:00 Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	29-Nov-2021 22:04
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	29-Nov-2021 22:04
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	29-Nov-2021 22:04
cis-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	29-Nov-2021 22:04
Dibromochloromethane	1.0	U	0.30	1.0	1.0	ug/L	1	29-Nov-2021 22:04
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	29-Nov-2021 22:04
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	29-Nov-2021 22:04
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	29-Nov-2021 22:04
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	29-Nov-2021 22:04
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	29-Nov-2021 22:04
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	29-Nov-2021 22:04
Methylene chloride	1.0	U	0.40	1.0	2.0	ug/L	1	29-Nov-2021 22:04
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	29-Nov-2021 22:04
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	29-Nov-2021 22:04
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	29-Nov-2021 22:04
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	29-Nov-2021 22:04
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	29-Nov-2021 22:04
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	29-Nov-2021 22:04
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	29-Nov-2021 22:04
Tetrachloroethene	1.0	U	0.30	1.0	1.0	ug/L	1	29-Nov-2021 22:04
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	29-Nov-2021 22:04
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	29-Nov-2021 22:04
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	29-Nov-2021 22:04
Trichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	29-Nov-2021 22:04
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	29-Nov-2021 22:04
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	29-Nov-2021 22:04
Surr: 1,2-Dichloroethane-d4	*90.9*			**0**	*81-118*	*%REC*	*1*	*29-Nov-2021 22:04*
Surr: 4-Bromofluorobenzene	*98.5*			**0**	*85-114*	*%REC*	*1*	*29-Nov-2021 22:04*
Surr: Dibromofluoromethane	*89.4*			**0**	*80-119*	*%REC*	*1*	*29-Nov-2021 22:04*
Surr: Toluene-d8	*102*			**0**	*89-112*	*%REC*	*1*	*29-Nov-2021 22:04*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 30-Nov-21

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: Longhorn Army Ammunition Plant 37 November 2021 WorkOrder:HS21110968
Sample ID: Trip Blank-211115 Lab ID:HS21110968-10
Collection Date: 15-Nov-2021 00:00 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	HU	0.30	1.0	1.0	ug/L	1	30-Nov-2021 01:24
1,1,1-Trichloroethane	0.50	HU	0.20	0.50	1.0	ug/L	1	30-Nov-2021 01:24
1,1,2,2-Tetrachloroethane	1.0	HU	0.50	1.0	1.0	ug/L	1	30-Nov-2021 01:24
1,1,2-Trichlor-1,2,2-trifluoroethane	1.0	HU	0.50	1.0	1.0	ug/L	1	30-Nov-2021 01:24
1,1,2-Trichloroethane	1.0	HU	0.30	1.0	1.0	ug/L	1	30-Nov-2021 01:24
1,1-Dichloroethane	0.50	HU	0.20	0.50	1.0	ug/L	1	30-Nov-2021 01:24
1,1-Dichloroethene	0.50	HU	0.20	0.50	1.0	ug/L	1	30-Nov-2021 01:24
1,1-Dichloropropene	1.0	HU	0.30	1.0	1.0	ug/L	1	30-Nov-2021 01:24
1,2,3-Trichlorobenzene	1.0	HU	0.40	1.0	1.0	ug/L	1	30-Nov-2021 01:24
1,2,3-Trichloropropane	1.0	HU	0.50	1.0	1.0	ug/L	1	30-Nov-2021 01:24
1,2,4-Trichlorobenzene	1.0	HU	0.50	1.0	1.0	ug/L	1	30-Nov-2021 01:24
1,2,4-Trimethylbenzene	1.0	HU	0.30	1.0	1.0	ug/L	1	30-Nov-2021 01:24
1,2-Dibromo-3-chloropropane	1.0	HU	0.20	1.0	1.0	ug/L	1	30-Nov-2021 01:24
1,2-Dibromoethane	0.50	HU	0.20	0.50	1.0	ug/L	1	30-Nov-2021 01:24
1,2-Dichlorobenzene	1.0	HU	0.50	1.0	1.0	ug/L	1	30-Nov-2021 01:24
1,2-Dichloroethane	0.50	HU	0.20	0.50	1.0	ug/L	1	30-Nov-2021 01:24
1,2-Dichloropropane	1.0	HU	0.50	1.0	1.0	ug/L	1	30-Nov-2021 01:24
1,3,5-Trimethylbenzene	1.0	HU	0.30	1.0	1.0	ug/L	1	30-Nov-2021 01:24
1,3-Dichlorobenzene	1.0	HU	0.40	1.0	1.0	ug/L	1	30-Nov-2021 01:24
1,3-Dichloropropane	1.0	HU	0.30	1.0	1.0	ug/L	1	30-Nov-2021 01:24
1,4-Dichlorobenzene	1.0	HU	0.40	1.0	1.0	ug/L	1	30-Nov-2021 01:24
2,2-Dichloropropane	0.50	HU	0.20	0.50	1.0	ug/L	1	30-Nov-2021 01:24
2-Butanone	1.0	HU	0.50	1.0	2.0	ug/L	1	30-Nov-2021 01:24
2-Chlorotoluene	1.0	HU	0.30	1.0	1.0	ug/L	1	30-Nov-2021 01:24
2-Hexanone	2.0	HU	1.0	2.0	2.0	ug/L	1	30-Nov-2021 01:24
4-Chlorotoluene	1.0	HU	0.40	1.0	1.0	ug/L	1	30-Nov-2021 01:24
4-Isopropyltoluene	1.0	HU	0.30	1.0	1.0	ug/L	1	30-Nov-2021 01:24
4-Methyl-2-pentanone	2.0	HU	0.70	2.0	2.0	ug/L	1	30-Nov-2021 01:24
Acetone	2.0	HU	0.40	2.0	2.0	ug/L	1	30-Nov-2021 01:24
Benzene	0.50	HU	0.20	0.50	1.0	ug/L	1	30-Nov-2021 01:24
Bromobenzene	1.0	HU	0.40	1.0	1.0	ug/L	1	30-Nov-2021 01:24
Bromochloromethane	0.50	HU	0.20	0.50	1.0	ug/L	1	30-Nov-2021 01:24
Bromodichloromethane	0.50	HU	0.20	0.50	1.0	ug/L	1	30-Nov-2021 01:24
Bromoform	1.0	HU	0.40	1.0	1.0	ug/L	1	30-Nov-2021 01:24
Bromomethane	1.0	HU	0.40	1.0	1.0	ug/L	1	30-Nov-2021 01:24
Carbon disulfide	2.0	HU	0.60	2.0	2.0	ug/L	1	30-Nov-2021 01:24
Carbon tetrachloride	1.0	HU	0.50	1.0	1.0	ug/L	1	30-Nov-2021 01:24
Chlorobenzene	1.0	HU	0.30	1.0	1.0	ug/L	1	30-Nov-2021 01:24
Chloroethane	1.0	HU	0.30	1.0	1.0	ug/L	1	30-Nov-2021 01:24

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 30-Nov-21

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: Longhorn Army Ammunition Plant 37 November 2021 WorkOrder:HS21110968
Sample ID: Trip Blank-211115 Lab ID:HS21110968-10
Collection Date: 15-Nov-2021 00:00 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
Chloroform	0.50	HU	0.20	0.50	1.0	ug/L	1	30-Nov-2021 01:24
Chloromethane	0.50	HU	0.20	0.50	1.0	ug/L	1	30-Nov-2021 01:24
cis-1,2-Dichloroethene	0.50	HU	0.20	0.50	1.0	ug/L	1	30-Nov-2021 01:24
cis-1,3-Dichloropropene	0.50	HU	0.20	0.50	1.0	ug/L	1	30-Nov-2021 01:24
Dibromochloromethane	1.0	HU	0.30	1.0	1.0	ug/L	1	30-Nov-2021 01:24
Dibromomethane	0.50	HU	0.20	0.50	1.0	ug/L	1	30-Nov-2021 01:24
Dichlorodifluoromethane	1.0	HU	0.30	1.0	1.0	ug/L	1	30-Nov-2021 01:24
Ethylbenzene	1.0	HU	0.30	1.0	1.0	ug/L	1	30-Nov-2021 01:24
Hexachlorobutadiene	1.0	HU	1.0	1.0	1.0	ug/L	1	30-Nov-2021 01:24
Isopropylbenzene	1.0	HU	0.30	1.0	1.0	ug/L	1	30-Nov-2021 01:24
m,p-Xylene	1.0	HU	0.50	1.0	2.0	ug/L	1	30-Nov-2021 01:24
Methylene chloride	1.0	HU	0.40	1.0	2.0	ug/L	1	30-Nov-2021 01:24
n-Butylbenzene	1.0	HU	0.40	1.0	1.0	ug/L	1	30-Nov-2021 01:24
n-Propylbenzene	1.0	HU	0.30	1.0	1.0	ug/L	1	30-Nov-2021 01:24
Naphthalene	1.0	HU	0.30	1.0	1.0	ug/L	1	30-Nov-2021 01:24
o-Xylene	1.0	HU	0.30	1.0	1.0	ug/L	1	30-Nov-2021 01:24
sec-Butylbenzene	1.0	HU	0.30	1.0	1.0	ug/L	1	30-Nov-2021 01:24
Styrene	1.0	HU	0.30	1.0	1.0	ug/L	1	30-Nov-2021 01:24
tert-Butylbenzene	1.0	HU	0.30	1.0	1.0	ug/L	1	30-Nov-2021 01:24
Tetrachloroethene	1.0	HU	0.30	1.0	1.0	ug/L	1	30-Nov-2021 01:24
Toluene	0.50	HU	0.20	0.50	1.0	ug/L	1	30-Nov-2021 01:24
trans-1,2-Dichloroethene	0.50	HU	0.20	0.50	1.0	ug/L	1	30-Nov-2021 01:24
trans-1,3-Dichloropropene	0.50	HU	0.20	0.50	1.0	ug/L	1	30-Nov-2021 01:24
Trichloroethene	0.50	HU	0.20	0.50	1.0	ug/L	1	30-Nov-2021 01:24
Trichlorofluoromethane	1.0	HU	0.30	1.0	1.0	ug/L	1	30-Nov-2021 01:24
Vinyl chloride	0.50	HU	0.20	0.50	1.0	ug/L	1	30-Nov-2021 01:24
Surr: 1,2-Dichloroethane-d4	*89.0*			**0**	*81-118*	*%REC*	*1*	*30-Nov-2021 01:24*
Surr: 4-Bromofluorobenzene	*99.5*			**0**	*85-114*	*%REC*	*1*	*30-Nov-2021 01:24*
Surr: Dibromofluoromethane	*87.9*			**0**	*80-119*	*%REC*	*1*	*30-Nov-2021 01:24*
Surr: Toluene-d8	*102*			**0**	*89-112*	*%REC*	*1*	*30-Nov-2021 01:24*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 30-Nov-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 37 November 2021
WorkOrder: HS21110968

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: R396510 (0)	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C				**Matrix:** Groundwater	
HS21110968-01	35BWW01-211115	15 Nov 2021 07:15			25 Nov 2021 19:49	1
HS21110968-02	35BWW10-211115	15 Nov 2021 07:55			25 Nov 2021 20:11	1
HS21110968-03	35BWW05-211115	15 Nov 2021 08:40			25 Nov 2021 20:33	1
HS21110968-04	35BWW06-211115	15 Nov 2021 09:20			25 Nov 2021 20:56	1
HS21110968-05	35BWW03-211115	15 Nov 2021 10:50			25 Nov 2021 21:18	1
Batch ID: R396588 (0)	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C				**Matrix:** Groundwater	
HS21110968-06	LHSMW58-211115	15 Nov 2021 10:05			29 Nov 2021 20:57	1
HS21110968-07	35BWW09-211115	15 Nov 2021 11:30			29 Nov 2021 21:20	1
HS21110968-08	35BWW19-211115	15 Nov 2021 12:15			29 Nov 2021 21:42	1
HS21110968-09	35BWW18-211115	15 Nov 2021 13:00			29 Nov 2021 22:04	1
Batch ID: R396597 (0)	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C				**Matrix:** Water	
HS21110968-10	Trip Blank-211115	15 Nov 2021 00:00			30 Nov 2021 01:24	1
Batch ID: R396597 (0)	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C				**Matrix:** Groundwater	
HS21110968-01	35BWW01-211115	15 Nov 2021 07:15			30 Nov 2021 05:52	1
HS21110968-02	35BWW10-211115	15 Nov 2021 07:55			30 Nov 2021 06:15	1
HS21110968-03	35BWW05-211115	15 Nov 2021 08:40			30 Nov 2021 06:37	1
HS21110968-04	35BWW06-211115	15 Nov 2021 09:20			30 Nov 2021 06:59	1
HS21110968-05	35BWW03-211115	15 Nov 2021 10:50			30 Nov 2021 07:22	1

ALS Houston, US Date: 30-Nov-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 37 November 2021
WorkOrder: HS21110968

QC BATCH REPORT

Batch ID: R396510 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MBLK Sample ID: **VBLKW-211125** Units: **ug/L** Analysis Date: **25-Nov-2021 12:45**
Client ID: Run ID: **VOA9_396510** SeqNo: **6394892** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	1.0	1.0								U
1,1,1-Trichloroethane	0.50	1.0								U
1,1,2,2-Tetrachloroethane	1.0	1.0								U
1,1,2-Trichlor-1,2,2-trifluoroethane	1.0	1.0								U
1,1,2-Trichloroethane	1.0	1.0								U
1,1-Dichloroethane	0.50	1.0								U
1,1-Dichloroethene	0.50	1.0								U
1,1-Dichloropropene	1.0	1.0								U
1,2,3-Trichlorobenzene	1.0	1.0								U
1,2,3-Trichloropropane	1.0	1.0								U
1,2,4-Trichlorobenzene	1.0	1.0								U
1,2,4-Trimethylbenzene	1.0	1.0								U
1,2-Dibromo-3-chloropropane	1.0	1.0								U
1,2-Dibromoethane	0.50	1.0								U
1,2-Dichlorobenzene	1.0	1.0								U
1,2-Dichloroethane	0.50	1.0								U
1,2-Dichloropropane	1.0	1.0								U
1,3,5-Trimethylbenzene	1.0	1.0								U
1,3-Dichlorobenzene	1.0	1.0								U
1,3-Dichloropropane	1.0	1.0								U
1,4-Dichlorobenzene	1.0	1.0								U
2-Butanone	1.0	2.0								U
2-Chlorotoluene	1.0	1.0								U
2-Hexanone	2.0	2.0								U
4-Chlorotoluene	1.0	1.0								U
4-Isopropyltoluene	1.0	1.0								U
4-Methyl-2-pentanone	2.0	2.0								U
Acetone	2.0	2.0								U
Benzene	0.50	1.0								U
Bromobenzene	1.0	1.0								U
Bromochloromethane	0.50	1.0								U
Bromodichloromethane	0.50	1.0								U
Bromoform	1.0	1.0								U
Bromomethane	1.0	1.0								U

ALS Houston, US Date: 30-Nov-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 37 November 2021
WorkOrder: HS21110968

QC BATCH REPORT

Batch ID: R396510 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MBLK Sample ID: **VBLKW-211125** Units: **ug/L** Analysis Date: **25-Nov-2021 12:45**
Client ID: Run ID: **VOA9_396510** SeqNo: **6394892** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Carbon disulfide	2.0	2.0								U
Carbon tetrachloride	1.0	1.0								U
Chlorobenzene	1.0	1.0								U
Chloroethane	1.0	1.0								U
Chloroform	0.50	1.0								U
Chloromethane	0.50	1.0								U
cis-1,2-Dichloroethene	0.50	1.0								U
cis-1,3-Dichloropropene	0.50	1.0								U
Dibromochloromethane	1.0	1.0								U
Dibromomethane	0.50	1.0								U
Dichlorodifluoromethane	1.0	1.0								U
Ethylbenzene	1.0	1.0								U
Hexachlorobutadiene	1.0	1.0								U
Isopropylbenzene	1.0	1.0								U
m,p-Xylene	1.0	2.0								U
Methylene chloride	2.0	2.0								U
Naphthalene	1.0	1.0								U
n-Butylbenzene	1.0	1.0								U
n-Propylbenzene	1.0	1.0								U
o-Xylene	1.0	1.0								U
sec-Butylbenzene	1.0	1.0								U
Styrene	1.0	1.0								U
tert-Butylbenzene	1.0	1.0								U
Tetrachloroethene	1.0	1.0								U
Toluene	0.50	1.0								U
trans-1,2-Dichloroethene	0.50	1.0								U
trans-1,3-Dichloropropene	0.50	1.0								U
Trichloroethene	0.50	1.0								U
Trichlorofluoromethane	1.0	1.0								U
Vinyl chloride	0.50	1.0								U
Surr: 1,2-Dichloroethane-d4	*44.42*	*1.0*	*50*	*0*	*88.8*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*49.27*	*1.0*	*50*	*0*	*98.5*	*85 - 114*				
Surr: Dibromofluoromethane	*43.45*	*1.0*	*50*	*0*	*86.9*	*80 - 119*				
Surr: Toluene-d8	*50.45*	*1.0*	*50*	*0*	*101*	*89 - 112*				

ALS Houston, US Date: 30-Nov-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 37 November 2021
WorkOrder: HS21110968

QC BATCH REPORT

Batch ID: R396510 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

LCS Sample ID: **VLCSW-211125** Units: **ug/L** Analysis Date: **25-Nov-2021 12:01**
Client ID: Run ID: **VOA9_396510** SeqNo: **6394930** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	20.23	1.0	20	0	101	78 - 124				
1,1,1-Trichloroethane	22.3	1.0	20	0	111	74 - 131				
1,1,2,2-Tetrachloroethane	18.19	1.0	20	0	91.0	71 - 121				
1,1,2-Trichlor-1,2,2-trifluoroethane	22.15	1.0	20	0	111	70 - 136				
1,1,2-Trichloroethane	22.74	1.0	20	0	114	80 - 119				
1,1-Dichloroethane	22.5	1.0	20	0	113	77 - 125				
1,1-Dichloroethene	23.02	1.0	20	0	115	71 - 131				
1,1-Dichloropropene	22.51	1.0	20	0	113	78 - 125				
1,2,3-Trichlorobenzene	21.31	1.0	20	0	107	69 - 129				
1,2,3-Trichloropropane	20.99	1.0	20	0	105	73 - 122				
1,2,4-Trichlorobenzene	20.96	1.0	20	0	105	69 - 130				
1,2,4-Trimethylbenzene	22.75	1.0	20	0	114	76 - 124				
1,2-Dibromo-3-chloropropane	17.65	1.0	20	0	88.2	62 - 128				
1,2-Dibromoethane	22.9	1.0	20	0	114	77 - 121				
1,2-Dichlorobenzene	22.62	1.0	20	0	113	80 - 119				
1,2-Dichloroethane	21.77	1.0	20	0	109	73 - 128				
1,2-Dichloropropane	22.66	1.0	20	0	113	78 - 122				
1,3,5-Trimethylbenzene	22.67	1.0	20	0	113	75 - 124				
1,3-Dichlorobenzene	22.09	1.0	20	0	110	80 - 119				
1,3-Dichloropropane	22.59	1.0	20	0	113	80 - 119				
1,4-Dichlorobenzene	21.78	1.0	20	0	109	79 - 118				
2-Butanone	44.57	2.0	40	0	111	56 - 143				
2-Chlorotoluene	22.48	1.0	20	0	112	79 - 122				
2-Hexanone	45	2.0	40	0	112	57 - 139				
4-Chlorotoluene	22.58	1.0	20	0	113	78 - 122				
4-Isopropyltoluene	22.68	1.0	20	0	113	77 - 127				
4-Methyl-2-pentanone	41.56	2.0	40	0	104	67 - 130				
Acetone	53.41	2.0	40	0	134	39 - 160				
Benzene	22.37	1.0	20	0	112	79 - 120				
Bromobenzene	22.7	1.0	20	0	114	80 - 120				
Bromochloromethane	25.11	1.0	20	0	126	78 - 123				S
Bromodichloromethane	19.13	1.0	20	0	95.7	79 - 125				
Bromoform	16.89	1.0	20	0	84.5	66 - 130				
Bromomethane	29.67	1.0	20	0	148	53 - 141				S

ALS Houston, US Date: 30-Nov-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 37 November 2021
WorkOrder: HS21110968

QC BATCH REPORT

Batch ID: R396510 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

LCS Sample ID: **VLCSW-211125** Units: **ug/L** Analysis Date: **25-Nov-2021 12:01**
Client ID: Run ID: **VOA9_396510** SeqNo: **6394930** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Carbon disulfide	40.65	2.0	40	0	102	64 - 133				
Carbon tetrachloride	19.17	1.0	20	0	95.9	72 - 136				
Chlorobenzene	21.95	1.0	20	0	110	82 - 118				
Chloroethane	21.6	1.0	20	0	108	60 - 138				
Chloroform	23.38	1.0	20	0	117	79 - 124				
Chloromethane	23.54	1.0	20	0	118	50 - 139				
cis-1,2-Dichloroethene	23.71	1.0	20	0	119	78 - 123				
cis-1,3-Dichloropropene	17.16	1.0	20	0	85.8	75 - 124				
Dibromochloromethane	18.53	1.0	20	0	92.6	74 - 126				
Dibromomethane	21.85	1.0	20	0	109	79 - 123				
Dichlorodifluoromethane	15.98	1.0	20	0	79.9	32 - 152				
Ethylbenzene	22.23	1.0	20	0	111	79 - 121				
Hexachlorobutadiene	21.37	1.0	20	0	107	66 - 134				
Isopropylbenzene	22.57	1.0	20	0	113	72 - 131				
m,p-Xylene	45.7	2.0	40	0	114	80 - 121				
Methylene chloride	22.15	2.0	20	0	111	74 - 124				
Naphthalene	20.98	1.0	20	0	105	61 - 128				
n-Butylbenzene	21.34	1.0	20	0	107	75 - 128				
n-Propylbenzene	22.94	1.0	20	0	115	76 - 126				
o-Xylene	22.31	1.0	20	0	112	78 - 122				
sec-Butylbenzene	22.96	1.0	20	0	115	77 - 126				
Styrene	23.08	1.0	20	0	115	78 - 123				
tert-Butylbenzene	22.81	1.0	20	0	114	78 - 124				
Tetrachloroethene	20.92	1.0	20	0	105	74 - 129				
Toluene	21.87	1.0	20	0	109	80 - 121				
trans-1,2-Dichloroethene	22.28	1.0	20	0	111	75 - 124				
trans-1,3-Dichloropropene	16.22	1.0	20	0	81.1	73 - 127				
Trichloroethene	24.44	1.0	20	0	122	79 - 123				
Trichlorofluoromethane	22.14	1.0	20	0	111	65 - 141				
Vinyl chloride	21.41	1.0	20	0	107	58 - 137				
Surr: 1,2-Dichloroethane-d4	*58.18*	*1.0*	*50*	*0*	*116*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*51.76*	*1.0*	*50*	*0*	*104*	*85 - 114*				
Surr: Dibromofluoromethane	*53.96*	*1.0*	*50*	*0*	*108*	*80 - 119*				
Surr: Toluene-d8	*51.06*	*1.0*	*50*	*0*	*102*	*89 - 112*				

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Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 37 November 2021
WorkOrder: HS21110968

QC BATCH REPORT

Batch ID: R396510 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS21111309-13MS** Units: **ug/L** Analysis Date: **25-Nov-2021 14:59**
Client ID: Run ID: **VOA9_396510** SeqNo: **6394898** PrepDate: DF: **100**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	2062	100	2000	0	103	78 - 124				
1,1,1-Trichloroethane	2056	100	2000	0	103	74 - 131				
1,1,2,2-Tetrachloroethane	2127	100	2000	0	106	71 - 121				
1,1,2-Trichlor-1,2,2-trifluoroethane	2155	100	2000	0	108	70 - 136				
1,1,2-Trichloroethane	2282	100	2000	0	114	80 - 119				
1,1-Dichloroethane	2023	100	2000	0	101	77 - 125				
1,1-Dichloroethene	2189	100	2000	0	109	71 - 131				
1,1-Dichloropropene	2395	100	2000	0	120	78 - 125				
1,2,3-Trichlorobenzene	2010	100	2000	0	100	69 - 129				
1,2,3-Trichloropropane	1967	100	2000	0	98.4	73 - 122				
1,2,4-Trichlorobenzene	1997	100	2000	0	99.8	69 - 130				
1,2,4-Trimethylbenzene	2266	100	2000	0	113	76 - 124				
1,2-Dibromo-3-chloropropane	1620	100	2000	0	81.0	62 - 128				
1,2-Dibromoethane	2262	100	2000	0	113	77 - 121				
1,2-Dichlorobenzene	2175	100	2000	0	109	80 - 119				
1,2-Dichloroethane	2176	100	2000	0	109	73 - 128				
1,2-Dichloropropane	2297	100	2000	0	115	78 - 122				
1,3,5-Trimethylbenzene	2271	100	2000	0	114	75 - 124				
1,3-Dichlorobenzene	2157	100	2000	0	108	80 - 119				
1,3-Dichloropropane	2323	100	2000	0	116	80 - 119				
1,4-Dichlorobenzene	2132	100	2000	0	107	79 - 118				
2-Butanone	3583	200	4000	0	89.6	56 - 143				
2-Chlorotoluene	2265	100	2000	0	113	79 - 122				
2-Hexanone	4552	200	4000	0	114	57 - 139				
4-Chlorotoluene	2274	100	2000	0	114	78 - 122				
4-Isopropyltoluene	2350	100	2000	0	118	77 - 127				
4-Methyl-2-pentanone	4196	200	4000	0	105	67 - 130				
Acetone	3790	200	4000	0	94.8	39 - 160				
Benzene	2352	100	2000	0	118	79 - 120				
Bromobenzene	2237	100	2000	0	112	80 - 120				
Bromochloromethane	2163	100	2000	0	108	78 - 123				
Bromodichloromethane	1926	100	2000	0	96.3	79 - 125				
Bromoform	1664	100	2000	0	83.2	66 - 130				
Bromomethane	2618	100	2000	0	131	53 - 141				

ALS Houston, US Date: 30-Nov-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 37 November 2021
WorkOrder: HS21110968

QC BATCH REPORT

Batch ID: R396510 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS21111309-13MS** Units: **ug/L** Analysis Date: **25-Nov-2021 14:59**
Client ID: Run ID: **VOA9_396510** SeqNo: **6394898** PrepDate: DF: **100**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Carbon disulfide	3715	200	4000	0	92.9	64 - 133				
Carbon tetrachloride	2068	100	2000	0	103	72 - 136				
Chlorobenzene	2261	100	2000	0	113	82 - 118				
Chloroethane	2022	100	2000	0	101	60 - 138				
Chloroform	2121	100	2000	0	106	79 - 124				
Chloromethane	2368	100	2000	0	118	50 - 139				
cis-1,2-Dichloroethene	6151	100	2000	5215	46.8	78 - 123				S
cis-1,3-Dichloropropene	1667	100	2000	0	83.4	75 - 124				
Dibromochloromethane	1826	100	2000	0	91.3	74 - 126				
Dibromomethane	2197	100	2000	0	110	79 - 123				
Dichlorodifluoromethane	1781	100	2000	0	89.1	32 - 152				
Ethylbenzene	2403	100	2000	0	120	79 - 121				
Hexachlorobutadiene	2149	100	2000	0	107	66 - 134				
Isopropylbenzene	2402	100	2000	0	120	72 - 131				
m,p-Xylene	4784	200	4000	0	120	80 - 121				
Methylene chloride	1929	200	2000	0	96.5	74 - 124				
Naphthalene	1944	100	2000	0	97.2	61 - 128				
n-Butylbenzene	2171	100	2000	0	109	75 - 128				
n-Propylbenzene	2365	100	2000	0	118	76 - 126				
o-Xylene	2339	100	2000	0	117	78 - 122				
sec-Butylbenzene	2353	100	2000	0	118	77 - 126				
Styrene	2371	100	2000	0	119	78 - 123				
tert-Butylbenzene	2344	100	2000	0	117	78 - 124				
Tetrachloroethene	2286	100	2000	0	114	74 - 129				
Toluene	2343	100	2000	0	117	80 - 121				
trans-1,2-Dichloroethene	2077	100	2000	0	104	75 - 124				
trans-1,3-Dichloropropene	1517	100	2000	0	75.8	73 - 127				
Trichloroethene	3055	100	2000	846.1	110	79 - 123				
Trichlorofluoromethane	2138	100	2000	0	107	65 - 141				
Vinyl chloride	2147	100	2000	0	107	58 - 137				
Surr: 1,2-Dichloroethane-d4	*4454*	*100*	*5000*	*0*	*89.1*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*5125*	*100*	*5000*	*0*	*103*	*85 - 114*				
Surr: Dibromofluoromethane	*4509*	*100*	*5000*	*0*	*90.2*	*80 - 119*				
Surr: Toluene-d8	*5143*	*100*	*5000*	*0*	*103*	*89 - 112*				

ALS Houston, US Date: 30-Nov-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 37 November 2021
WorkOrder: HS21110968

QC BATCH REPORT

Batch ID: R396510 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS21111309-13MSD** Units: **ug/L** Analysis Date: **25-Nov-2021 15:21**
Client ID: Run ID: **VOA9_396510** SeqNo: **6394899** PrepDate: DF: **100**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	1962	100	2000	0	98.1	78 - 124	2062	4.97	20	
1,1,1-Trichloroethane	1937	100	2000	0	96.8	74 - 131	2056	5.95	20	
1,1,2,2-Tetrachloroethane	2094	100	2000	0	105	71 - 121	2127	1.55	20	
1,1,2-Trichlor-1,2,2-trifluoroethane	2022	100	2000	0	101	70 - 136	2155	6.38	20	
1,1,2-Trichloroethane	2232	100	2000	0	112	80 - 119	2282	2.22	20	
1,1-Dichloroethane	1916	100	2000	0	95.8	77 - 125	2023	5.42	20	
1,1-Dichloroethene	2049	100	2000	0	102	71 - 131	2189	6.64	20	
1,1-Dichloropropene	2219	100	2000	0	111	78 - 125	2395	7.63	20	
1,2,3-Trichlorobenzene	2035	100	2000	0	102	69 - 129	2010	1.24	20	
1,2,3-Trichloropropane	1911	100	2000	0	95.6	73 - 122	1967	2.87	20	
1,2,4-Trichlorobenzene	2008	100	2000	0	100	69 - 130	1997	0.545	20	
1,2,4-Trimethylbenzene	2222	100	2000	0	111	76 - 124	2266	1.95	20	
1,2-Dibromo-3-chloropropane	1545	100	2000	0	77.3	62 - 128	1620	4.71	20	
1,2-Dibromoethane	2204	100	2000	0	110	77 - 121	2262	2.58	20	
1,2-Dichlorobenzene	2133	100	2000	0	107	80 - 119	2175	1.92	20	
1,2-Dichloroethane	2098	100	2000	0	105	73 - 128	2176	3.68	20	
1,2-Dichloropropane	2195	100	2000	0	110	78 - 122	2297	4.57	20	
1,3,5-Trimethylbenzene	2210	100	2000	0	110	75 - 124	2271	2.76	20	
1,3-Dichlorobenzene	2081	100	2000	0	104	80 - 119	2157	3.59	20	
1,3-Dichloropropane	2217	100	2000	0	111	80 - 119	2323	4.69	20	
1,4-Dichlorobenzene	2108	100	2000	0	105	79 - 118	2132	1.14	20	
2-Butanone	3501	200	4000	0	87.5	56 - 143	3583	2.3	20	
2-Chlorotoluene	2221	100	2000	0	111	79 - 122	2265	1.95	20	
2-Hexanone	4254	200	4000	0	106	57 - 139	4552	6.76	20	
4-Chlorotoluene	2195	100	2000	0	110	78 - 122	2274	3.54	20	
4-Isopropyltoluene	2228	100	2000	0	111	77 - 127	2350	5.36	20	
4-Methyl-2-pentanone	3993	200	4000	0	99.8	67 - 130	4196	4.95	20	
Acetone	3723	200	4000	0	93.1	39 - 160	3790	1.79	20	
Benzene	2207	100	2000	0	110	79 - 120	2352	6.38	20	
Bromobenzene	2195	100	2000	0	110	80 - 120	2237	1.93	20	
Bromochloromethane	2037	100	2000	0	102	78 - 123	2163	6.02	20	
Bromodichloromethane	1844	100	2000	0	92.2	79 - 125	1926	4.35	20	
Bromoform	1613	100	2000	0	80.7	66 - 130	1664	3.09	20	
Bromomethane	2443	100	2000	0	122	53 - 141	2618	6.91	20	

ALS Houston, US Date: 30-Nov-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 37 November 2021
WorkOrder: HS21110968

QC BATCH REPORT

Batch ID: R396510 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS21111309-13MSD** Units: **ug/L** Analysis Date: **25-Nov-2021 15:21**
Client ID: Run ID: **VOA9_396510** SeqNo: **6394899** PrepDate: DF: **100**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Carbon disulfide	3488	200	4000	0	87.2	64 - 133	3715	6.3	20	
Carbon tetrachloride	1945	100	2000	0	97.2	72 - 136	2068	6.16	20	
Chlorobenzene	2135	100	2000	0	107	82 - 118	2261	5.76	20	
Chloroethane	1872	100	2000	0	93.6	60 - 138	2022	7.69	20	
Chloroform	1997	100	2000	0	99.9	79 - 124	2121	6.03	20	
Chloromethane	2181	100	2000	0	109	50 - 139	2368	8.23	20	
cis-1,2-Dichloroethene	5838	100	2000	5215	31.2	78 - 123	6151	5.22	20	S
cis-1,3-Dichloropropene	1591	100	2000	0	79.6	75 - 124	1667	4.66	20	
Dibromochloromethane	1781	100	2000	0	89.1	74 - 126	1826	2.47	20	
Dibromomethane	2051	100	2000	0	103	79 - 123	2197	6.86	20	
Dichlorodifluoromethane	1668	100	2000	0	83.4	32 - 152	1781	6.59	20	
Ethylbenzene	2221	100	2000	0	111	79 - 121	2403	7.9	20	
Hexachlorobutadiene	2098	100	2000	0	105	66 - 134	2149	2.39	20	
Isopropylbenzene	2302	100	2000	0	115	72 - 131	2402	4.28	20	
m,p-Xylene	4508	200	4000	0	113	80 - 121	4784	5.95	20	
Methylene chloride	1849	200	2000	0	92.5	74 - 124	1929	4.22	20	
Naphthalene	1935	100	2000	0	96.8	61 - 128	1944	0.433	20	
n-Butylbenzene	2134	100	2000	0	107	75 - 128	2171	1.71	20	
n-Propylbenzene	2268	100	2000	0	113	76 - 126	2365	4.17	20	
o-Xylene	2219	100	2000	0	111	78 - 122	2339	5.28	20	
sec-Butylbenzene	2263	100	2000	0	113	77 - 126	2353	3.92	20	
Styrene	2250	100	2000	0	112	78 - 123	2371	5.25	20	
tert-Butylbenzene	2244	100	2000	0	112	78 - 124	2344	4.34	20	
Tetrachloroethene	2124	100	2000	0	106	74 - 129	2286	7.33	20	
Toluene	2192	100	2000	0	110	80 - 121	2343	6.64	20	
trans-1,2-Dichloroethene	1929	100	2000	0	96.4	75 - 124	2077	7.38	20	
trans-1,3-Dichloropropene	1484	100	2000	0	74.2	73 - 127	1517	2.2	20	
Trichloroethene	2875	100	2000	846.1	101	79 - 123	3055	6.06	20	
Trichlorofluoromethane	2037	100	2000	0	102	65 - 141	2138	4.88	20	
Vinyl chloride	1968	100	2000	0	98.4	58 - 137	2147	8.69	20	
Surr: 1,2-Dichloroethane-d4	*4374*	*100*	*5000*	*0*	*87.5*	*81 - 118*	*4454*	*1.82*	*20*	
Surr: 4-Bromofluorobenzene	*5054*	*100*	*5000*	*0*	*101*	*85 - 114*	*5125*	*1.41*	*20*	
Surr: Dibromofluoromethane	*4536*	*100*	*5000*	*0*	*90.7*	*80 - 119*	*4509*	*0.588*	*20*	
Surr: Toluene-d8	*5106*	*100*	*5000*	*0*	*102*	*89 - 112*	*5143*	*0.731*	*20*	

ALS Houston, US Date: 30-Nov-21

Client:	Aptim Environmental & Infrastucture, Inc.
Project:	Longhorn Army Ammunition Plant 37 November 2021
WorkOrder:	HS21110968

QC BATCH REPORT

Batch ID:	**R396510 (0)**	**Instrument:**	**VOA9**	**Method:**	**VOLATILES ORGANICS BY METHOD 8260C**

The following samples were analyzed in this batch:	HS21110968-01	HS21110968-02	HS21110968-03	HS21110968-04
	HS21110968-05			

ALS Houston, US Date: 30-Nov-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 37 November 2021
WorkOrder: HS21110968

QC BATCH REPORT

Batch ID: R396588 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MBLK Sample ID: **VBLKW-211129** Units: **ug/L** Analysis Date: **29-Nov-2021 13:31**
Client ID: Run ID: **VOA9_396588** SeqNo: **6397048** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	1.0	1.0								U
1,1,1-Trichloroethane	0.50	1.0								U
1,1,2,2-Tetrachloroethane	1.0	1.0								U
1,1,2-Trichlor-1,2,2-trifluoroethane	1.0	1.0								U
1,1,2-Trichloroethane	1.0	1.0								U
1,1-Dichloroethane	0.50	1.0								U
1,1-Dichloroethene	0.50	1.0								U
1,1-Dichloropropene	1.0	1.0								U
1,2,3-Trichlorobenzene	1.0	1.0								U
1,2,3-Trichloropropane	1.0	1.0								U
1,2,4-Trichlorobenzene	1.0	1.0								U
1,2,4-Trimethylbenzene	1.0	1.0								U
1,2-Dibromo-3-chloropropane	1.0	1.0								U
1,2-Dibromoethane	0.50	1.0								U
1,2-Dichlorobenzene	1.0	1.0								U
1,2-Dichloroethane	0.50	1.0								U
1,2-Dichloropropane	1.0	1.0								U
1,3,5-Trimethylbenzene	1.0	1.0								U
1,3-Dichlorobenzene	1.0	1.0								U
1,3-Dichloropropane	1.0	1.0								U
1,4-Dichlorobenzene	1.0	1.0								U
2,2-Dichloropropane	0.50	1.0								U
2-Butanone	1.0	2.0								U
2-Chlorotoluene	1.0	1.0								U
2-Hexanone	2.0	2.0								U
4-Chlorotoluene	1.0	1.0								U
4-Isopropyltoluene	1.0	1.0								U
4-Methyl-2-pentanone	2.0	2.0								U
Acetone	2.0	2.0								U
Benzene	0.50	1.0								U
Bromobenzene	1.0	1.0								U
Bromochloromethane	0.50	1.0								U
Bromodichloromethane	0.50	1.0								U
Bromoform	1.0	1.0								U

ALS Houston, US Date: 30-Nov-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 37 November 2021
WorkOrder: HS21110968

QC BATCH REPORT

Batch ID: R396588 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MBLK Sample ID: **VBLKW-211129** Units: **ug/L** Analysis Date: **29-Nov-2021 13:31**
Client ID: Run ID: **VOA9_396588** SeqNo: **6397048** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromomethane	1.0	1.0								U
Carbon disulfide	2.0	2.0								U
Carbon tetrachloride	1.0	1.0								U
Chlorobenzene	1.0	1.0								U
Chloroethane	1.0	1.0								U
Chloroform	0.50	1.0								U
Chloromethane	0.50	1.0								U
cis-1,2-Dichloroethene	0.50	1.0								U
cis-1,3-Dichloropropene	0.50	1.0								U
Dibromochloromethane	1.0	1.0								U
Dibromomethane	0.50	1.0								U
Dichlorodifluoromethane	1.0	1.0								U
Ethylbenzene	1.0	1.0								U
Hexachlorobutadiene	1.0	1.0								U
Isopropylbenzene	1.0	1.0								U
m,p-Xylene	1.0	2.0								U
Methylene chloride	2.0	2.0								U
Naphthalene	1.0	1.0								U
n-Butylbenzene	1.0	1.0								U
n-Propylbenzene	1.0	1.0								U
o-Xylene	1.0	1.0								U
sec-Butylbenzene	1.0	1.0								U
Styrene	1.0	1.0								U
tert-Butylbenzene	1.0	1.0								U
Tetrachloroethene	1.0	1.0								U
Toluene	0.50	1.0								U
trans-1,2-Dichloroethene	0.50	1.0								U
trans-1,3-Dichloropropene	0.50	1.0								U
Trichloroethene	0.50	1.0								U
Trichlorofluoromethane	1.0	1.0								U
Vinyl chloride	0.50	1.0								U
Surr: 1,2-Dichloroethane-d4	*43.5*	*1.0*	*50*	*0*	*87.0*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*48.79*	*1.0*	*50*	*0*	*97.6*	*85 - 114*				
Surr: Dibromofluoromethane	*43.02*	*1.0*	*50*	*0*	*86.0*	*80 - 119*				

ALS Houston, US Date: 30-Nov-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 37 November 2021
WorkOrder: HS21110968

QC BATCH REPORT

Batch ID: R396588 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MBLK Sample ID: **VBLKW-211129** Units: **ug/L** Analysis Date: **29-Nov-2021 13:31**
Client ID: Run ID: **VOA9_396588** SeqNo: **6397048** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Surr: Toluene-d8	*51.1*	*1.0*	*50*	*0*	*102*	*89 - 112*				

ALS Houston, US Date: 30-Nov-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 37 November 2021
WorkOrder: HS21110968

QC BATCH REPORT

Batch ID: R396588 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

LCS Sample ID: **VLCSW-211129** Units: **ug/L** Analysis Date: **29-Nov-2021 12:46**
Client ID: Run ID: **VOA9_396588** SeqNo: **6397047** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	20.73	1.0	20	0	104	78 - 124				
1,1,1-Trichloroethane	21.03	1.0	20	0	105	74 - 131				
1,1,2,2-Tetrachloroethane	21.79	1.0	20	0	109	71 - 121				
1,1,2-Trichlor-1,2,2-trifluoroethane	20.49	1.0	20	0	102	70 - 136				
1,1,2-Trichloroethane	22.98	1.0	20	0	115	80 - 119				
1,1-Dichloroethane	20.12	1.0	20	0	101	77 - 125				
1,1-Dichloroethene	20.92	1.0	20	0	105	71 - 131				
1,1-Dichloropropene	22.47	1.0	20	0	112	78 - 125				
1,2,3-Trichlorobenzene	20.76	1.0	20	0	104	69 - 129				
1,2,3-Trichloropropane	21.61	1.0	20	0	108	73 - 122				
1,2,4-Trichlorobenzene	21.17	1.0	20	0	106	69 - 130				
1,2,4-Trimethylbenzene	21.72	1.0	20	0	109	76 - 124				
1,2-Dibromo-3-chloropropane	17.86	1.0	20	0	89.3	62 - 128				
1,2-Dibromoethane	23.23	1.0	20	0	116	77 - 121				
1,2-Dichlorobenzene	21.56	1.0	20	0	108	80 - 119				
1,2-Dichloroethane	21.31	1.0	20	0	107	73 - 128				
1,2-Dichloropropane	23.48	1.0	20	0	117	78 - 122				
1,3,5-Trimethylbenzene	21.07	1.0	20	0	105	75 - 124				
1,3-Dichlorobenzene	21.33	1.0	20	0	107	80 - 119				
1,3-Dichloropropane	22.91	1.0	20	0	115	80 - 119				
1,4-Dichlorobenzene	21.65	1.0	20	0	108	79 - 118				
2,2-Dichloropropane	22.83	1.0	20	0	114	60 - 139				
2-Butanone	41.93	2.0	40	0	105	56 - 143				
2-Chlorotoluene	21.33	1.0	20	0	107	79 - 122				
2-Hexanone	46.62	2.0	40	0	117	57 - 139				
4-Chlorotoluene	21.61	1.0	20	0	108	78 - 122				
4-Isopropyltoluene	21.68	1.0	20	0	108	77 - 127				
4-Methyl-2-pentanone	43.87	2.0	40	0	110	67 - 130				
Acetone	39.95	2.0	40	0	99.9	39 - 160				
Benzene	22.61	1.0	20	0	113	79 - 120				
Bromobenzene	22.58	1.0	20	0	113	80 - 120				
Bromochloromethane	22.86	1.0	20	0	114	78 - 123				
Bromodichloromethane	19.73	1.0	20	0	98.7	79 - 125				
Bromoform	18.66	1.0	20	0	93.3	66 - 130				

ALS Houston, US Date: 30-Nov-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 37 November 2021
WorkOrder: HS21110968

QC BATCH REPORT

Batch ID: R396588 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

LCS Sample ID: **VLCSW-211129** Units: **ug/L** Analysis Date: **29-Nov-2021 12:46**
Client ID: Run ID: **VOA9_396588** SeqNo: **6397047** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromomethane	27.89	1.0	20	0	139	53 - 141				
Carbon disulfide	41.43	2.0	40	0	104	64 - 133				
Carbon tetrachloride	19.49	1.0	20	0	97.5	72 - 136				
Chlorobenzene	21.81	1.0	20	0	109	82 - 118				
Chloroethane	20.17	1.0	20	0	101	60 - 138				
Chloroform	21.73	1.0	20	0	109	79 - 124				
Chloromethane	25.71	1.0	20	0	129	50 - 139				
cis-1,2-Dichloroethene	21.78	1.0	20	0	109	78 - 123				
cis-1,3-Dichloropropene	20.46	1.0	20	0	102	75 - 124				
Dibromochloromethane	19.25	1.0	20	0	96.2	74 - 126				
Dibromomethane	21.96	1.0	20	0	110	79 - 123				
Dichlorodifluoromethane	20.38	1.0	20	0	102	32 - 152				
Ethylbenzene	21.79	1.0	20	0	109	79 - 121				
Hexachlorobutadiene	25.37	1.0	20	0	127	66 - 134				
Isopropylbenzene	21.43	1.0	20	0	107	72 - 131				
m,p-Xylene	45.31	2.0	40	0	113	80 - 121				
Methylene chloride	19.87	2.0	20	0	99.3	74 - 124				
Naphthalene	19.71	1.0	20	0	98.5	61 - 128				
n-Butylbenzene	21.48	1.0	20	0	107	75 - 128				
n-Propylbenzene	21.5	1.0	20	0	107	76 - 126				
o-Xylene	22.26	1.0	20	0	111	78 - 122				
sec-Butylbenzene	21.19	1.0	20	0	106	77 - 126				
Styrene	23.16	1.0	20	0	116	78 - 123				
tert-Butylbenzene	20.88	1.0	20	0	104	78 - 124				
Tetrachloroethene	21.68	1.0	20	0	108	74 - 129				
Toluene	22.23	1.0	20	0	111	80 - 121				
trans-1,2-Dichloroethene	20.86	1.0	20	0	104	75 - 124				
trans-1,3-Dichloropropene	19.94	1.0	20	0	99.7	73 - 127				
Trichloroethene	22.86	1.0	20	0	114	79 - 123				
Trichlorofluoromethane	20.1	1.0	20	0	100	65 - 141				
Vinyl chloride	20.88	1.0	20	0	104	58 - 137				
Surr: 1,2-Dichloroethane-d4	*50.1*	*1.0*	*50*	*0*	*100*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*52.3*	*1.0*	*50*	*0*	*105*	*85 - 114*				
Surr: Dibromofluoromethane	*50.9*	*1.0*	*50*	*0*	*102*	*80 - 119*				

ALS Houston, US Date: 30-Nov-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 37 November 2021
WorkOrder: HS21110968

QC BATCH REPORT

Batch ID: R396588 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

LCS Sample ID: **VLCSW-211129** Units: **ug/L** Analysis Date: **29-Nov-2021 12:46**
Client ID: Run ID: **VOA9_396588** SeqNo: **6397047** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Surr: Toluene-d8	*50.98*	*1.0*	*50*	*0*	*102*	*89 - 112*				

ALS Houston, US Date: 30-Nov-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 37 November 2021
WorkOrder: HS21110968

QC BATCH REPORT

Batch ID: R396588 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS21111410-04MS** Units: **ug/L** Analysis Date: **29-Nov-2021 17:36**
Client ID: Run ID: **VOA9_396588** SeqNo: **6397059** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	20.14	1.0	20	0	101	78 - 124				
1,1,1-Trichloroethane	20.75	1.0	20	0	104	74 - 131				
1,1,2,2-Tetrachloroethane	21.31	1.0	20	0	107	71 - 121				
1,1,2-Trichlor-1,2,2-trifluoroethane	22.41	1.0	20	0	112	70 - 136				
1,1,2-Trichloroethane	22.25	1.0	20	0	111	80 - 119				
1,1-Dichloroethane	21.55	1.0	20	0	108	77 - 125				
1,1-Dichloroethene	21.09	1.0	20	0	105	71 - 131				
1,1-Dichloropropene	23.1	1.0	20	0	115	78 - 125				
1,2,3-Trichlorobenzene	20.48	1.0	20	0	102	69 - 129				
1,2,3-Trichloropropane	20.43	1.0	20	0	102	73 - 122				
1,2,4-Trichlorobenzene	20.54	1.0	20	0	103	69 - 130				
1,2,4-Trimethylbenzene	22.51	1.0	20	0	113	76 - 124				
1,2-Dibromo-3-chloropropane	16.65	1.0	20	0	83.3	62 - 128				
1,2-Dibromoethane	22.14	1.0	20	0	111	77 - 121				
1,2-Dichlorobenzene	21.57	1.0	20	0	108	80 - 119				
1,2-Dichloroethane	20.49	1.0	20	0	102	73 - 128				
1,2-Dichloropropane	22.25	1.0	20	0	111	78 - 122				
1,3,5-Trimethylbenzene	22.59	1.0	20	0	113	75 - 124				
1,3-Dichlorobenzene	21.84	1.0	20	0	109	80 - 119				
1,3-Dichloropropane	22.11	1.0	20	0	111	80 - 119				
1,4-Dichlorobenzene	22.09	1.0	20	0	110	79 - 118				
2,2-Dichloropropane	19	1.0	20	0	95.0	60 - 139				
2-Butanone	36.11	2.0	40	0	90.3	56 - 143				
2-Chlorotoluene	22.51	1.0	20	0	113	79 - 122				
2-Hexanone	43.79	2.0	40	0	109	57 - 139				
4-Chlorotoluene	22.51	1.0	20	0	113	78 - 122				
4-Isopropyltoluene	23.54	1.0	20	0	118	77 - 127				
4-Methyl-2-pentanone	40.8	2.0	40	0	102	67 - 130				
Acetone	36.49	2.0	40	0	91.2	39 - 160				
Benzene	22.64	1.0	20	0	113	79 - 120				
Bromobenzene	21.92	1.0	20	0	110	80 - 120				
Bromochloromethane	20.76	1.0	20	0	104	78 - 123				
Bromodichloromethane	18.8	1.0	20	0	94.0	79 - 125				
Bromoform	16.61	1.0	20	0	83.1	66 - 130				

ALS Houston, US Date: 30-Nov-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 37 November 2021
WorkOrder: HS21110968

QC BATCH REPORT

Batch ID: R396588 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS21111410-04MS** Units: **ug/L** Analysis Date: **29-Nov-2021 17:36**
Client ID: Run ID: **VOA9_396588** SeqNo: **6397059** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromomethane	26.24	1.0	20	0	131	53 - 141				
Carbon disulfide	37.27	2.0	40	0	93.2	64 - 133				
Carbon tetrachloride	20.42	1.0	20	0	102	72 - 136				
Chlorobenzene	21.99	1.0	20	0	110	82 - 118				
Chloroethane	19.32	1.0	20	0	96.6	60 - 138				
Chloroform	20.68	1.0	20	0	103	79 - 124				
Chloromethane	21.7	1.0	20	0	108	50 - 139				
cis-1,2-Dichloroethene	20.66	1.0	20	0	103	78 - 123				
cis-1,3-Dichloropropene	18.56	1.0	20	0	92.8	75 - 124				
Dibromochloromethane	18.04	1.0	20	0	90.2	74 - 126				
Dibromomethane	20.57	1.0	20	0	103	79 - 123				
Dichlorodifluoromethane	16.82	1.0	20	0	84.1	32 - 152				
Ethylbenzene	23.37	1.0	20	0	117	79 - 121				
Hexachlorobutadiene	23.99	1.0	20	0	120	66 - 134				
Isopropylbenzene	23.55	1.0	20	0	118	72 - 131				
m,p-Xylene	46.46	2.0	40	0	116	80 - 121				
Methylene chloride	18.85	2.0	20	0	94.2	74 - 124				
Naphthalene	18.81	1.0	20	0	94.1	61 - 128				
n-Butylbenzene	22.99	1.0	20	0	115	75 - 128				
n-Propylbenzene	23.56	1.0	20	0	118	76 - 126				
o-Xylene	22.91	1.0	20	0	115	78 - 122				
sec-Butylbenzene	23.69	1.0	20	0	118	77 - 126				
Styrene	23.27	1.0	20	0	116	78 - 123				
tert-Butylbenzene	22.82	1.0	20	0	114	78 - 124				
Tetrachloroethene	22.8	1.0	20	0	114	74 - 129				
Toluene	22.8	1.0	20	0	114	80 - 121				
trans-1,2-Dichloroethene	21.82	1.0	20	0	109	75 - 124				
trans-1,3-Dichloropropene	17.45	1.0	20	0	87.2	73 - 127				
Trichloroethene	23.35	1.0	20	0	117	79 - 123				
Trichlorofluoromethane	20.94	1.0	20	0	105	65 - 141				
Vinyl chloride	20.25	1.0	20	0	101	58 - 137				
Surr: 1,2-Dichloroethane-d4	*43.9*	*1.0*	*50*	*0*	*87.8*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*50.46*	*1.0*	*50*	*0*	*101*	*85 - 114*				
Surr: Dibromofluoromethane	*45.87*	*1.0*	*50*	*0*	*91.7*	*80 - 119*				

ALS Houston, US Date: 30-Nov-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 37 November 2021
WorkOrder: HS21110968

QC BATCH REPORT

Batch ID: R396588 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS21111410-04MS** Units: **ug/L** Analysis Date: **29-Nov-2021 17:36**
Client ID: Run ID: **VOA9_396588** SeqNo: **6397059** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Surr: Toluene-d8	*51.16*	*1.0*	*50*	*0*	*102*	*89 - 112*				

ALS Houston, US Date: 30-Nov-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 37 November 2021
WorkOrder: HS21110968

QC BATCH REPORT

Batch ID: R396588 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS21111410-04MSD** Units: **ug/L** Analysis Date: **29-Nov-2021 17:59**
Client ID: Run ID: **VOA9_396588** SeqNo: **6397060** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	19.51	1.0	20	0	97.5	78 - 124	20.14	3.2	20	
1,1,1-Trichloroethane	20.04	1.0	20	0	100	74 - 131	20.75	3.48	20	
1,1,2,2-Tetrachloroethane	20.55	1.0	20	0	103	71 - 121	21.31	3.61	20	
1,1,2-Trichlor-1,2,2-trifluoroethane	21.25	1.0	20	0	106	70 - 136	22.41	5.34	20	
1,1,2-Trichloroethane	21.49	1.0	20	0	107	80 - 119	22.25	3.51	20	
1,1-Dichloroethane	20.67	1.0	20	0	103	77 - 125	21.55	4.15	20	
1,1-Dichloroethene	20.31	1.0	20	0	102	71 - 131	21.09	3.76	20	
1,1-Dichloropropene	22.21	1.0	20	0	111	78 - 125	23.1	3.92	20	
1,2,3-Trichlorobenzene	20.47	1.0	20	0	102	69 - 129	20.48	0.0513	20	
1,2,3-Trichloropropane	19.54	1.0	20	0	97.7	73 - 122	20.43	4.45	20	
1,2,4-Trichlorobenzene	20.65	1.0	20	0	103	69 - 130	20.54	0.555	20	
1,2,4-Trimethylbenzene	21.68	1.0	20	0	108	76 - 124	22.51	3.79	20	
1,2-Dibromo-3-chloropropane	16.67	1.0	20	0	83.3	62 - 128	16.65	0.103	20	
1,2-Dibromoethane	21.19	1.0	20	0	106	77 - 121	22.14	4.39	20	
1,2-Dichlorobenzene	21	1.0	20	0	105	80 - 119	21.57	2.67	20	
1,2-Dichloroethane	20.13	1.0	20	0	101	73 - 128	20.49	1.78	20	
1,2-Dichloropropane	21.64	1.0	20	0	108	78 - 122	22.25	2.79	20	
1,3,5-Trimethylbenzene	21.78	1.0	20	0	109	75 - 124	22.59	3.68	20	
1,3-Dichlorobenzene	20.89	1.0	20	0	104	80 - 119	21.84	4.42	20	
1,3-Dichloropropane	21.49	1.0	20	0	107	80 - 119	22.11	2.83	20	
1,4-Dichlorobenzene	21.24	1.0	20	0	106	79 - 118	22.09	3.93	20	
2,2-Dichloropropane	17.76	1.0	20	0	88.8	60 - 139	19	6.75	20	
2-Butanone	36.02	2.0	40	0	90.0	56 - 143	36.11	0.244	20	
2-Chlorotoluene	21.38	1.0	20	0	107	79 - 122	22.51	5.13	20	
2-Hexanone	43.46	2.0	40	0	109	57 - 139	43.79	0.757	20	
4-Chlorotoluene	21.47	1.0	20	0	107	78 - 122	22.51	4.72	20	
4-Isopropyltoluene	22.5	1.0	20	0	112	77 - 127	23.54	4.54	20	
4-Methyl-2-pentanone	39.97	2.0	40	0	99.9	67 - 130	40.8	2.04	20	
Acetone	33.52	2.0	40	0	83.8	39 - 160	36.49	8.5	20	
Benzene	21.91	1.0	20	0	110	79 - 120	22.64	3.27	20	
Bromobenzene	21.21	1.0	20	0	106	80 - 120	21.92	3.31	20	
Bromochloromethane	20.61	1.0	20	0	103	78 - 123	20.76	0.726	20	
Bromodichloromethane	18.25	1.0	20	0	91.3	79 - 125	18.8	2.95	20	
Bromoform	16.27	1.0	20	0	81.3	66 - 130	16.61	2.1	20	

ALS Houston, US Date: 30-Nov-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 37 November 2021
WorkOrder: HS21110968

QC BATCH REPORT

Batch ID: R396588 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS21111410-04MSD** Units: **ug/L** Analysis Date: **29-Nov-2021 17:59**
Client ID: Run ID: **VOA9_396588** SeqNo: **6397060** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Bromomethane	24.25	1.0	20	0	121	53 - 141	26.24	7.91	20	
Carbon disulfide	35.69	2.0	40	0	89.2	64 - 133	37.27	4.31	20	
Carbon tetrachloride	19.75	1.0	20	0	98.7	72 - 136	20.42	3.36	20	
Chlorobenzene	21.36	1.0	20	0	107	82 - 118	21.99	2.9	20	
Chloroethane	20.69	1.0	20	0	103	60 - 138	19.32	6.84	20	
Chloroform	20	1.0	20	0	100	79 - 124	20.68	3.35	20	
Chloromethane	20.97	1.0	20	0	105	50 - 139	21.7	3.42	20	
cis-1,2-Dichloroethene	19.79	1.0	20	0	99.0	78 - 123	20.66	4.27	20	
cis-1,3-Dichloropropene	18.47	1.0	20	0	92.4	75 - 124	18.56	0.492	20	
Dibromochloromethane	17.56	1.0	20	0	87.8	74 - 126	18.04	2.7	20	
Dibromomethane	20.23	1.0	20	0	101	79 - 123	20.57	1.64	20	
Dichlorodifluoromethane	15.84	1.0	20	0	79.2	32 - 152	16.82	5.97	20	
Ethylbenzene	22.04	1.0	20	0	110	79 - 121	23.37	5.89	20	
Hexachlorobutadiene	23.2	1.0	20	0	116	66 - 134	23.99	3.35	20	
Isopropylbenzene	22.5	1.0	20	0	112	72 - 131	23.55	4.54	20	
m,p-Xylene	44.73	2.0	40	0	112	80 - 121	46.46	3.8	20	
Methylene chloride	19.57	2.0	20	0	97.8	74 - 124	18.85	3.76	20	
Naphthalene	19.03	1.0	20	0	95.2	61 - 128	18.81	1.18	20	
n-Butylbenzene	22.29	1.0	20	0	111	75 - 128	22.99	3.11	20	
n-Propylbenzene	22.5	1.0	20	0	112	76 - 126	23.56	4.62	20	
o-Xylene	21.54	1.0	20	0	108	78 - 122	22.91	6.13	20	
sec-Butylbenzene	22.67	1.0	20	0	113	77 - 126	23.69	4.42	20	
Styrene	22.09	1.0	20	0	110	78 - 123	23.27	5.22	20	
tert-Butylbenzene	22.13	1.0	20	0	111	78 - 124	22.82	3.07	20	
Tetrachloroethene	21.98	1.0	20	0	110	74 - 129	22.8	3.67	20	
Toluene	21.68	1.0	20	0	108	80 - 121	22.8	5.05	20	
trans-1,2-Dichloroethene	20.69	1.0	20	0	103	75 - 124	21.82	5.31	20	
trans-1,3-Dichloropropene	17.16	1.0	20	0	85.8	73 - 127	17.45	1.67	20	
Trichloroethene	21.96	1.0	20	0	110	79 - 123	23.35	6.18	20	
Trichlorofluoromethane	19.76	1.0	20	0	98.8	65 - 141	20.94	5.82	20	
Vinyl chloride	19.07	1.0	20	0	95.4	58 - 137	20.25	5.99	20	
Surr: 1,2-Dichloroethane-d4	*44.04*	*1.0*	*50*	*0*	*88.1*	*81 - 118*	*43.9*	*0.337*	*20*	
Surr: 4-Bromofluorobenzene	*50.32*	*1.0*	*50*	*0*	*101*	*85 - 114*	*50.46*	*0.277*	*20*	
Surr: Dibromofluoromethane	*45.63*	*1.0*	*50*	*0*	*91.3*	*80 - 119*	*45.87*	*0.533*	*20*	

ALS Houston, US Date: 30-Nov-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 37 November 2021
WorkOrder: HS21110968

QC BATCH REPORT

Batch ID: R396588 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS21111410-04MSD** Units: **ug/L** Analysis Date: **29-Nov-2021 17:59**
Client ID: Run ID: **VOA9_396588** SeqNo: **6397060** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Surr: Toluene-d8	*50.41*	*1.0*	*50*	*0*	*101*	*89 - 112*	*51.16*	*1.48*	*20*	

The following samples were analyzed in this batch: HS21110968-06 HS21110968-07 HS21110968-08 HS21110968-09

ALS Houston, US Date: 30-Nov-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 37 November 2021
WorkOrder: HS21110968

QC BATCH REPORT

Batch ID: R396597 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MBLK Sample ID: **VBLKW-211124** Units: **ug/L** Analysis Date: **30-Nov-2021 01:02**
Client ID: Run ID: **VOA9_396597** SeqNo: **6397210** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	1.0	1.0								U
1,1,1-Trichloroethane	0.50	1.0								U
1,1,2,2-Tetrachloroethane	1.0	1.0								U
1,1,2-Trichlor-1,2,2-trifluoroethane	1.0	1.0								U
1,1,2-Trichloroethane	1.0	1.0								U
1,1-Dichloroethane	0.50	1.0								U
1,1-Dichloroethene	0.50	1.0								U
1,1-Dichloropropene	1.0	1.0								U
1,2,3-Trichlorobenzene	1.0	1.0								U
1,2,3-Trichloropropane	1.0	1.0								U
1,2,4-Trichlorobenzene	1.0	1.0								U
1,2,4-Trimethylbenzene	1.0	1.0								U
1,2-Dibromo-3-chloropropane	1.0	1.0								U
1,2-Dibromoethane	0.50	1.0								U
1,2-Dichlorobenzene	1.0	1.0								U
1,2-Dichloroethane	0.50	1.0								U
1,2-Dichloropropane	1.0	1.0								U
1,3,5-Trimethylbenzene	1.0	1.0								U
1,3-Dichlorobenzene	1.0	1.0								U
1,3-Dichloropropane	1.0	1.0								U
1,4-Dichlorobenzene	1.0	1.0								U
2,2-Dichloropropane	0.50	1.0								U
2-Butanone	1.0	2.0								U
2-Chlorotoluene	1.0	1.0								U
2-Hexanone	2.0	2.0								U
4-Chlorotoluene	1.0	1.0								U
4-Isopropyltoluene	1.0	1.0								U
4-Methyl-2-pentanone	2.0	2.0								U
Acetone	2.0	2.0								U
Benzene	0.50	1.0								U
Bromobenzene	1.0	1.0								U
Bromochloromethane	0.50	1.0								U
Bromodichloromethane	0.50	1.0								U
Bromoform	1.0	1.0								U

ALS Houston, US Date: 30-Nov-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 37 November 2021
WorkOrder: HS21110968

QC BATCH REPORT

Batch ID: R396597 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MBLK Sample ID: **VBLKW-211124** Units: **ug/L** Analysis Date: **30-Nov-2021 01:02**
Client ID: Run ID: **VOA9_396597** SeqNo: **6397210** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromomethane	1.0	1.0								U
Carbon disulfide	2.0	2.0								U
Carbon tetrachloride	1.0	1.0								U
Chlorobenzene	1.0	1.0								U
Chloroethane	1.0	1.0								U
Chloroform	0.50	1.0								U
Chloromethane	0.50	1.0								U
cis-1,2-Dichloroethene	0.50	1.0								U
cis-1,3-Dichloropropene	0.50	1.0								U
Dibromochloromethane	1.0	1.0								U
Dibromomethane	0.50	1.0								U
Dichlorodifluoromethane	1.0	1.0								U
Ethylbenzene	1.0	1.0								U
Hexachlorobutadiene	1.0	1.0								U
Isopropylbenzene	1.0	1.0								U
m,p-Xylene	1.0	2.0								U
Methylene chloride	2.0	2.0								U
Naphthalene	1.0	1.0								U
n-Butylbenzene	1.0	1.0								U
n-Propylbenzene	1.0	1.0								U
o-Xylene	1.0	1.0								U
sec-Butylbenzene	1.0	1.0								U
Styrene	1.0	1.0								U
tert-Butylbenzene	1.0	1.0								U
Tetrachloroethene	1.0	1.0								U
Toluene	0.50	1.0								U
trans-1,2-Dichloroethene	0.50	1.0								U
trans-1,3-Dichloropropene	0.50	1.0								U
Trichloroethene	0.50	1.0								U
Trichlorofluoromethane	1.0	1.0								U
Vinyl chloride	0.50	1.0								U
Surr: 1,2-Dichloroethane-d4	*44.06*	*1.0*	*50*	*0*	*88.1*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*49.52*	*1.0*	*50*	*0*	*99.0*	*85 - 114*				
Surr: Dibromofluoromethane	*43.77*	*1.0*	*50*	*0*	*87.5*	*80 - 119*				

ALS Houston, US Date: 30-Nov-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 37 November 2021
WorkOrder: HS21110968

QC BATCH REPORT

Batch ID: R396597 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MBLK Sample ID: **VBLKW-211124** Units: **ug/L** Analysis Date: **30-Nov-2021 01:02**
Client ID: Run ID: **VOA9_396597** SeqNo: **6397210** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Surr: Toluene-d8	*50.92*	*1.0*	*50*	*0*	*102*	*89 - 112*				

ALS Houston, US Date: 30-Nov-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 37 November 2021
WorkOrder: HS21110968

QC BATCH REPORT

Batch ID: R396597 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

LCS Sample ID: **VLCSW-211124** Units: **ug/L** Analysis Date: **30-Nov-2021 00:17**
Client ID: Run ID: **VOA9_396597** SeqNo: **6397209** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	20.36	1.0	20	0	102	78 - 124				
1,1,1-Trichloroethane	22.01	1.0	20	0	110	74 - 131				
1,1,2,2-Tetrachloroethane	20.75	1.0	20	0	104	71 - 121				
1,1,2-Trichlor-1,2,2-trifluoroethane	21.64	1.0	20	0	108	70 - 136				
1,1,2-Trichloroethane	22.12	1.0	20	0	111	80 - 119				
1,1-Dichloroethane	24.5	1.0	20	0	122	77 - 125				
1,1-Dichloroethene	21.91	1.0	20	0	110	71 - 131				
1,1-Dichloropropene	22.01	1.0	20	0	110	78 - 125				
1,2,3-Trichlorobenzene	20.43	1.0	20	0	102	69 - 129				
1,2,3-Trichloropropane	20.78	1.0	20	0	104	73 - 122				
1,2,4-Trichlorobenzene	20.61	1.0	20	0	103	69 - 130				
1,2,4-Trimethylbenzene	22.04	1.0	20	0	110	76 - 124				
1,2-Dibromo-3-chloropropane	17.13	1.0	20	0	85.7	62 - 128				
1,2-Dibromoethane	22.26	1.0	20	0	111	77 - 121				
1,2-Dichlorobenzene	21.46	1.0	20	0	107	80 - 119				
1,2-Dichloroethane	20.76	1.0	20	0	104	73 - 128				
1,2-Dichloropropane	22	1.0	20	0	110	78 - 122				
1,3,5-Trimethylbenzene	21.58	1.0	20	0	108	75 - 124				
1,3-Dichlorobenzene	21.11	1.0	20	0	106	80 - 119				
1,3-Dichloropropane	22.07	1.0	20	0	110	80 - 119				
1,4-Dichlorobenzene	21.48	1.0	20	0	107	79 - 118				
2,2-Dichloropropane	16.34	1.0	20	0	81.7	60 - 139				
2-Butanone	41.8	2.0	40	0	105	56 - 143				
2-Chlorotoluene	21.83	1.0	20	0	109	79 - 122				
2-Hexanone	43.45	2.0	40	0	109	57 - 139				
4-Chlorotoluene	21.67	1.0	20	0	108	78 - 122				
4-Isopropyltoluene	22.27	1.0	20	0	111	77 - 127				
4-Methyl-2-pentanone	40.6	2.0	40	0	102	67 - 130				
Acetone	42.51	2.0	40	0	106	39 - 160				
Benzene	21.97	1.0	20	0	110	79 - 120				
Bromobenzene	21.73	1.0	20	0	109	80 - 120				
Bromochloromethane	23.32	1.0	20	0	117	78 - 123				
Bromodichloromethane	18.68	1.0	20	0	93.4	79 - 125				
Bromoform	16.84	1.0	20	0	84.2	66 - 130				

ALS Houston, US Date: 30-Nov-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 37 November 2021
WorkOrder: HS21110968

QC BATCH REPORT

Batch ID: R396597 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

LCS Sample ID: **VLCSW-211124** Units: **ug/L** Analysis Date: **30-Nov-2021 00:17**
Client ID: Run ID: **VOA9_396597** SeqNo: **6397209** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromomethane	29	1.0	20	0	145	53 - 141				S
Carbon disulfide	41.61	2.0	40	0	104	64 - 133				
Carbon tetrachloride	19.36	1.0	20	0	96.8	72 - 136				
Chlorobenzene	21.24	1.0	20	0	106	82 - 118				
Chloroethane	23.29	1.0	20	0	116	60 - 138				
Chloroform	22.62	1.0	20	0	113	79 - 124				
Chloromethane	24.85	1.0	20	0	124	50 - 139				
cis-1,2-Dichloroethene	22.63	1.0	20	0	113	78 - 123				
cis-1,3-Dichloropropene	18.25	1.0	20	0	91.3	75 - 124				
Dibromochloromethane	18.55	1.0	20	0	92.7	74 - 126				
Dibromomethane	21.58	1.0	20	0	108	79 - 123				
Dichlorodifluoromethane	21.75	1.0	20	0	109	32 - 152				
Ethylbenzene	21.6	1.0	20	0	108	79 - 121				
Hexachlorobutadiene	22.3	1.0	20	0	112	66 - 134				
Isopropylbenzene	22.06	1.0	20	0	110	72 - 131				
m,p-Xylene	44.42	2.0	40	0	111	80 - 121				
Methylene chloride	22.46	2.0	20	0	112	74 - 124				
Naphthalene	19.44	1.0	20	0	97.2	61 - 128				
n-Butylbenzene	21.22	1.0	20	0	106	75 - 128				
n-Propylbenzene	22.38	1.0	20	0	112	76 - 126				
o-Xylene	21.71	1.0	20	0	109	78 - 122				
sec-Butylbenzene	22.37	1.0	20	0	112	77 - 126				
Styrene	22.55	1.0	20	0	113	78 - 123				
tert-Butylbenzene	22.15	1.0	20	0	111	78 - 124				
Tetrachloroethene	21.12	1.0	20	0	106	74 - 129				
Toluene	21.71	1.0	20	0	109	80 - 121				
trans-1,2-Dichloroethene	23.69	1.0	20	0	118	75 - 124				
trans-1,3-Dichloropropene	17.48	1.0	20	0	87.4	73 - 127				
Trichloroethene	22.85	1.0	20	0	114	79 - 123				
Trichlorofluoromethane	21.22	1.0	20	0	106	65 - 141				
Vinyl chloride	21.92	1.0	20	0	110	58 - 137				
Surr: 1,2-Dichloroethane-d4	*52.57*	*1.0*	*50*	*0*	*105*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*50.52*	*1.0*	*50*	*0*	*101*	*85 - 114*				
Surr: Dibromofluoromethane	*52.72*	*1.0*	*50*	*0*	*105*	*80 - 119*				

ALS Houston, US Date: 30-Nov-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 37 November 2021
WorkOrder: HS21110968

QC BATCH REPORT

Batch ID: R396597 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

LCS Sample ID: **VLCSW-211124** Units: **ug/L** Analysis Date: **30-Nov-2021 00:17**
Client ID: Run ID: **VOA9_396597** SeqNo: **6397209** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Surr: Toluene-d8	*50.39*	*1.0*	*50*	*0*	*101*	*89 - 112*				

ALS Houston, US Date: 30-Nov-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 37 November 2021
WorkOrder: HS21110968

QC BATCH REPORT

Batch ID: R396597 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS21111149-01MS** Units: **ug/L** Analysis Date: **30-Nov-2021 02:09**
Client ID: Run ID: **VOA9_396597** SeqNo: **6397213** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	20.24	1.0	20	0	101	78 - 124				
1,1,1-Trichloroethane	20.98	1.0	20	0	105	74 - 131				
1,1,2,2-Tetrachloroethane	21.37	1.0	20	0	107	71 - 121				
1,1,2-Trichlor-1,2,2-trifluoroethane	23.39	1.0	20	0	117	70 - 136				
1,1,2-Trichloroethane	22.23	1.0	20	0	111	80 - 119				
1,1-Dichloroethane	19.76	1.0	20	0	98.8	77 - 125				
1,1-Dichloroethene	23	1.0	20	0	115	71 - 131				
1,1-Dichloropropene	23.26	1.0	20	0	116	78 - 125				
1,2,3-Trichlorobenzene	19.96	1.0	20	0	99.8	69 - 129				
1,2,3-Trichloropropane	20.78	1.0	20	0	104	73 - 122				
1,2,4-Trichlorobenzene	20.12	1.0	20	0	101	69 - 130				
1,2,4-Trimethylbenzene	22.2	1.0	20	0	111	76 - 124				
1,2-Dibromo-3-chloropropane	16.47	1.0	20	0	82.3	62 - 128				
1,2-Dibromoethane	22.8	1.0	20	0	114	77 - 121				
1,2-Dichlorobenzene	21.66	1.0	20	0	108	80 - 119				
1,2-Dichloroethane	21.09	1.0	20	0	105	73 - 128				
1,2-Dichloropropane	22.8	1.0	20	0	114	78 - 122				
1,3,5-Trimethylbenzene	22.21	1.0	20	0	111	75 - 124				
1,3-Dichlorobenzene	21.19	1.0	20	0	106	80 - 119				
1,3-Dichloropropane	22.46	1.0	20	0	112	80 - 119				
1,4-Dichlorobenzene	21.65	1.0	20	0	108	79 - 118				
2,2-Dichloropropane	14.68	1.0	20	0	73.4	60 - 139				
2-Butanone	36.13	2.0	40	0	90.3	56 - 143				
2-Chlorotoluene	22.3	1.0	20	0	112	79 - 122				
2-Hexanone	43.77	2.0	40	0	109	57 - 139				
4-Chlorotoluene	22.4	1.0	20	0	112	78 - 122				
4-Isopropyltoluene	22.64	1.0	20	0	113	77 - 127				
4-Methyl-2-pentanone	41.97	2.0	40	0	105	67 - 130				
Acetone	40.08	2.0	40	0	100	39 - 160				
Benzene	23.11	1.0	20	0	116	79 - 120				
Bromobenzene	21.82	1.0	20	0	109	80 - 120				
Bromochloromethane	21.76	1.0	20	0	109	78 - 123				
Bromodichloromethane	19.27	1.0	20	0	96.4	79 - 125				
Bromoform	16.74	1.0	20	0	83.7	66 - 130				

ALS Houston, US Date: 30-Nov-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 37 November 2021
WorkOrder: HS21110968

QC BATCH REPORT

Batch ID: R396597 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS21111149-01MS** Units: **ug/L** Analysis Date: **30-Nov-2021 02:09**
Client ID: Run ID: **VOA9_396597** SeqNo: **6397213** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromomethane	25.26	1.0	20	0	126	53 - 141				
Carbon disulfide	41.74	2.0	40	0	104	64 - 133				
Carbon tetrachloride	20.17	1.0	20	0	101	72 - 136				
Chlorobenzene	22.16	1.0	20	0	111	82 - 118				
Chloroethane	19.06	1.0	20	0	95.3	60 - 138				
Chloroform	20.93	1.0	20	0	105	79 - 124				
Chloromethane	21.18	1.0	20	0	106	50 - 139				
cis-1,2-Dichloroethene	20.93	1.0	20	0	105	78 - 123				
cis-1,3-Dichloropropene	17.85	1.0	20	0	89.3	75 - 124				
Dibromochloromethane	18.57	1.0	20	0	92.8	74 - 126				
Dibromomethane	20.56	1.0	20	0	103	79 - 123				
Dichlorodifluoromethane	14.98	1.0	20	0	74.9	32 - 152				
Ethylbenzene	23.29	1.0	20	0	116	79 - 121				
Hexachlorobutadiene	21.87	1.0	20	0	109	66 - 134				
Isopropylbenzene	23.3	1.0	20	0	116	72 - 131				
m,p-Xylene	47.24	2.0	40	0	118	80 - 121				
Methylene chloride	18.94	2.0	20	0	94.7	74 - 124				
Naphthalene	19.1	1.0	20	0	95.5	61 - 128				
n-Butylbenzene	21.82	1.0	20	0	109	75 - 128				
n-Propylbenzene	22.75	1.0	20	0	114	76 - 126				
o-Xylene	22.94	1.0	20	0	115	78 - 122				
sec-Butylbenzene	22.95	1.0	20	0	115	77 - 126				
Styrene	23.18	1.0	20	0	116	78 - 123				
tert-Butylbenzene	22.63	1.0	20	0	113	78 - 124				
Tetrachloroethene	22.32	1.0	20	0	112	74 - 129				
Toluene	23.14	1.0	20	0	116	80 - 121				
trans-1,2-Dichloroethene	20.49	1.0	20	0	102	75 - 124				
trans-1,3-Dichloropropene	16.76	1.0	20	0	83.8	73 - 127				
Trichloroethene	22.52	1.0	20	0	113	79 - 123				
Trichlorofluoromethane	21.46	1.0	20	0	107	65 - 141				
Vinyl chloride	19.44	1.0	20	0	97.2	58 - 137				
Surr: 1,2-Dichloroethane-d4	*44.5*	*1.0*	*50*	*0*	*89.0*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*50.92*	*1.0*	*50*	*0*	*102*	*85 - 114*				
Surr: Dibromofluoromethane	*45.97*	*1.0*	*50*	*0*	*91.9*	*80 - 119*				

ALS Houston, US Date: 30-Nov-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 37 November 2021
WorkOrder: HS21110968

QC BATCH REPORT

Batch ID: R396597 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS21111149-01MS** Units: **ug/L** Analysis Date: **30-Nov-2021 02:09**
Client ID: Run ID: **VOA9_396597** SeqNo: **6397213** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Surr: Toluene-d8	*51.27*	*1.0*	*50*	*0*	*103*	*89 - 112*				

ALS Houston, US Date: 30-Nov-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 37 November 2021
WorkOrder: HS21110968

QC BATCH REPORT

Batch ID: R396597 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS21111149-01MSD** Units: **ug/L** Analysis Date: **30-Nov-2021 02:31**
Client ID: Run ID: **VOA9_396597** SeqNo: **6397214** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	20.16	1.0	20	0	101	78 - 124	20.24	0.412	20	
1,1,1-Trichloroethane	19.83	1.0	20	0	99.1	74 - 131	20.98	5.64	20	
1,1,2,2-Tetrachloroethane	21.33	1.0	20	0	107	71 - 121	21.37	0.202	20	
1,1,2-Trichlor-1,2,2-trifluoroethane	21.6	1.0	20	0	108	70 - 136	23.39	7.95	20	
1,1,2-Trichloroethane	21.73	1.0	20	0	109	80 - 119	22.23	2.3	20	
1,1-Dichloroethane	22.3	1.0	20	0	112	77 - 125	19.76	12.1	20	
1,1-Dichloroethene	21.49	1.0	20	0	107	71 - 131	23	6.76	20	
1,1-Dichloropropene	22.3	1.0	20	0	112	78 - 125	23.26	4.2	20	
1,2,3-Trichlorobenzene	20.25	1.0	20	0	101	69 - 129	19.96	1.47	20	
1,2,3-Trichloropropane	20.04	1.0	20	0	100	73 - 122	20.78	3.66	20	
1,2,4-Trichlorobenzene	20.41	1.0	20	0	102	69 - 130	20.12	1.4	20	
1,2,4-Trimethylbenzene	21.96	1.0	20	0	110	76 - 124	22.2	1.08	20	
1,2-Dibromo-3-chloropropane	16.94	1.0	20	0	84.7	62 - 128	16.47	2.81	20	
1,2-Dibromoethane	22.33	1.0	20	0	112	77 - 121	22.8	2.08	20	
1,2-Dichlorobenzene	21.48	1.0	20	0	107	80 - 119	21.66	0.798	20	
1,2-Dichloroethane	20.16	1.0	20	0	101	73 - 128	21.09	4.51	20	
1,2-Dichloropropane	21.94	1.0	20	0	110	78 - 122	22.8	3.87	20	
1,3,5-Trimethylbenzene	21.49	1.0	20	0	107	75 - 124	22.21	3.29	20	
1,3-Dichlorobenzene	20.92	1.0	20	0	105	80 - 119	21.19	1.32	20	
1,3-Dichloropropane	22.06	1.0	20	0	110	80 - 119	22.46	1.82	20	
1,4-Dichlorobenzene	21.15	1.0	20	0	106	79 - 118	21.65	2.34	20	
2,2-Dichloropropane	15.02	1.0	20	0	75.1	60 - 139	14.68	2.29	20	
2-Butanone	38.06	2.0	40	0	95.1	56 - 143	36.13	5.19	20	
2-Chlorotoluene	21.92	1.0	20	0	110	79 - 122	22.3	1.71	20	
2-Hexanone	44.02	2.0	40	0	110	57 - 139	43.77	0.56	20	
4-Chlorotoluene	21.93	1.0	20	0	110	78 - 122	22.4	2.1	20	
4-Isopropyltoluene	22.1	1.0	20	0	111	77 - 127	22.64	2.42	20	
4-Methyl-2-pentanone	41.41	2.0	40	0	104	67 - 130	41.97	1.35	20	
Acetone	39.92	2.0	40	0	99.8	39 - 160	40.08	0.387	20	
Benzene	22.07	1.0	20	0	110	79 - 120	23.11	4.64	20	
Bromobenzene	21.61	1.0	20	0	108	80 - 120	21.82	0.973	20	
Bromochloromethane	20.83	1.0	20	0	104	78 - 123	21.76	4.35	20	
Bromodichloromethane	18.64	1.0	20	0	93.2	79 - 125	19.27	3.35	20	
Bromoform	16.62	1.0	20	0	83.1	66 - 130	16.74	0.737	20	

ALS Houston, US Date: 30-Nov-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 37 November 2021
WorkOrder: HS21110968

QC BATCH REPORT

Batch ID: R396597 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS21111149-01MSD** Units: **ug/L** Analysis Date: **30-Nov-2021 02:31**
Client ID: Run ID: **VOA9_396597** SeqNo: **6397214** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Bromomethane	23.52	1.0	20	0	118	53 - 141	25.26	7.14	20	
Carbon disulfide	39.45	2.0	40	0	98.6	64 - 133	41.74	5.64	20	
Carbon tetrachloride	19.64	1.0	20	0	98.2	72 - 136	20.17	2.65	20	
Chlorobenzene	21.71	1.0	20	0	109	82 - 118	22.16	2.07	20	
Chloroethane	19.15	1.0	20	0	95.8	60 - 138	19.06	0.475	20	
Chloroform	19.87	1.0	20	0	99.4	79 - 124	20.93	5.19	20	
Chloromethane	19.64	1.0	20	0	98.2	50 - 139	21.18	7.53	20	
cis-1,2-Dichloroethene	21.67	1.0	20	0	108	78 - 123	20.93	3.49	20	
cis-1,3-Dichloropropene	17.31	1.0	20	0	86.6	75 - 124	17.85	3.07	20	
Dibromochloromethane	18.29	1.0	20	0	91.4	74 - 126	18.57	1.52	20	
Dibromomethane	20.83	1.0	20	0	104	79 - 123	20.56	1.28	20	
Dichlorodifluoromethane	14.07	1.0	20	0	70.3	32 - 152	14.98	6.27	20	
Ethylbenzene	22.27	1.0	20	0	111	79 - 121	23.29	4.46	20	
Hexachlorobutadiene	21.85	1.0	20	0	109	66 - 134	21.87	0.0877	20	
Isopropylbenzene	22.77	1.0	20	0	114	72 - 131	23.3	2.28	20	
m,p-Xylene	45.62	2.0	40	0	114	80 - 121	47.24	3.48	20	
Methylene chloride	20.02	2.0	20	0	100	74 - 124	18.94	5.57	20	
Naphthalene	19.56	1.0	20	0	97.8	61 - 128	19.1	2.42	20	
n-Butylbenzene	21.37	1.0	20	0	107	75 - 128	21.82	2.12	20	
n-Propylbenzene	22.58	1.0	20	0	113	76 - 126	22.75	0.754	20	
o-Xylene	22.11	1.0	20	0	111	78 - 122	22.94	3.7	20	
sec-Butylbenzene	22.43	1.0	20	0	112	77 - 126	22.95	2.29	20	
Styrene	22.61	1.0	20	0	113	78 - 123	23.18	2.46	20	
tert-Butylbenzene	22.43	1.0	20	0	112	78 - 124	22.63	0.897	20	
Tetrachloroethene	21.77	1.0	20	0	109	74 - 129	22.32	2.48	20	
Toluene	22.13	1.0	20	0	111	80 - 121	23.14	4.47	20	
trans-1,2-Dichloroethene	21.18	1.0	20	0	106	75 - 124	20.49	3.3	20	
trans-1,3-Dichloropropene	16.75	1.0	20	0	83.7	73 - 127	16.76	0.0507	20	
Trichloroethene	21.76	1.0	20	0	109	79 - 123	22.52	3.45	20	
Trichlorofluoromethane	20.72	1.0	20	0	104	65 - 141	21.46	3.5	20	
Vinyl chloride	18.46	1.0	20	0	92.3	58 - 137	19.44	5.13	20	
Surr: 1,2-Dichloroethane-d4	*44.08*	*1.0*	*50*	*0*	*88.2*	*81 - 118*	*44.5*	*0.928*	*20*	
Surr: 4-Bromofluorobenzene	*50.79*	*1.0*	*50*	*0*	*102*	*85 - 114*	*50.92*	*0.26*	*20*	
Surr: Dibromofluoromethane	*46.1*	*1.0*	*50*	*0*	*92.2*	*80 - 119*	*45.97*	*0.273*	*20*	

ALS Houston, US Date: 30-Nov-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 37 November 2021
WorkOrder: HS21110968

QC BATCH REPORT

Batch ID: R396597 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS21111149-01MSD** Units: **ug/L** Analysis Date: **30-Nov-2021 02:31**
Client ID: Run ID: **VOA9_396597** SeqNo: **6397214** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Surr: Toluene-d8	*51.54*	*1.0*	*50*	*0*	*103*	*89 - 112*	*51.27*	*0.539*	*20*	

The following samples were analyzed in this batch: HS21110968-01 HS21110968-02 HS21110968-03 HS21110968-04 HS21110968-05 HS21110968-10

ALS Houston, US Date: 30-Nov-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 37 November 2021
WorkOrder: **HS21110968**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitaion Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

ALS Houston, US Date: 30-Nov-21

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	21-022-0	26-Mar-2022
Dept of Defense	PJLA L20-507-R2	22-Dec-2021
Florida	E87611-33	30-Jun-2022
Illinois	2000322021-7	09-May-2022
Kansas	E-10352 2021-2022	31-Jul-2022
Kentucky	123043, 2021-2022	30-Apr-2022
Louisiana	03087, 2021-2022	30-Jun-2022
North Carolina	624-2021	31-Dec-2021
Texas	T104704231-21-28	30-Apr-2022

ALS Houston, US Date: 30-Nov-21

Sample Receipt Checklist

Work Order ID: HS21110968 **Date/Time Received:** **16-Nov-2021 11:00**

Client Name: CBI-Houston **Received by:** **Pablo Marinez**

Completed By:	/S/ Paresh M. Giga	16-Nov-2021 14:27	**Reviewed by:**	/S/ Ragen Giga	17-Nov-2021 16:25
	eSignature	Date/Time		eSignature	Date/Time

Matrices: **GW/Water** Carrier name: **FedEx Priority Overnight**

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
VOA/TX1005/TX1006 Solids in hermetically sealed vials?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Samplers name present on COC?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	

Temperature(s)/Thermometer(s):	1.1C U/C	IR31
Cooler(s)/Kit(s):	47939	
Date/Time sample(s) sent to storage:	11/16/2021 14:40	

Water - VOA vials have zero headspace?	Yes ☑	No ☐	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑
pH adjusted?	Yes ☐	No ☐	N/A ☑
pH adjusted by:			

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:

01151046

CHAIN OF CUSTODY

Name Of Lab Shipping To: ALS 10450 Stancliff Rd. Suite 210 Houston, TX. 77099 (281)530-5656 ATTN: Ragen Giga

Project: APTIM LONGHORN
ARMY AMMN. PLANT (LHAAP)
GROUNDWATER TREATMENT PLANT (GWTP)
KARNACK, TEXAS

Project No. 501032

Job: **LHAAP 37 November 2021**

Prepared By: Scott Beesinger

P.O. Number

Field Sample I.D.	Sample Matrix	Date / Time	MS / MSD	No. OF CONTAINERS	Analyses: VOC by SW 8260B	TOC by SM5310C	MEE by RSK 175	Anions (chloride sulfate, nitrate) by SW9056	CO2 by RSK 175	Remarks (Preservatives, etc.)	Lab I.D.#
35Bwwo1-211115	WG	11/15/21 0715		3	X						
35Bwwio-211115	WG	11/15/21 0755		3	X						
35Bwwo5-211115	WG	11/15/21 0840		3	X						
35Bwwo6-211115	WG	11/15/21 0920		3	X						
35Bwwo3-211115	WG	11/15/21 1050		3	X						
LHSmwS8-211115	WG	11/15/21 1005		3	X						
35Bwwo9-211115	WG	11/15/21 1130		3	X						
35Bwwi9-211115	WG	11/15/21 1215		3	X						

HS21110968

Aptim Environmental & Infrastucture, Inc.
Longhorn Army Ammunition Plant 37 November 20:

Additional Remarks: **Standard TAT on all parameters. Please email results to Vicki.Graves@aptim.com and invoices to fedinvoices@aptim.com**

Relinquished By:	Date	Time	Received By:	Date	Time	Relinquished By:	Date	Time	Received By:	Date	Time
Scott Beesinger	11/15/21	1430	Paul [illegible]	11/16/21	0900						

For Lab Use Only

Received At Lab By:	Date	Time	Airbill No.	Opened By:	Date	Time	Temp of Container	Seal No.	Condition

Remarks:

47939 NIC
123 CFO

CHAIN OF CUSTODY

Name Of Lab Shipping To: ALS 10450 Stancliff Rd. Suite 210 Houston, TX. 77099 (281) 530-5656 ATTN: Ragen Giga

Page 1 of 1

Project: APTIM / ARMY AMMN. PLANT (LHAAP) / GROUNDWATER TREATMENT PLANT (GWTP) / KARNACK, TEXAS	LONGHORN	Project No. 501032
Job: **LHAAP 37 November 2021**		
Prepared By: Scott Beesinger		P.O. Number

Field Sample I.D.	Sample Matrix	Date / Time	MS / MSD	No. OF CONTAINERS	VOC by SW 8260B	TOC by SM5310C	MEE by RSK 175	Anions (chloride sulfate, nitrate) by SW9056	CO2 by RSK 175	Remarks (Preservatives, etc.)	Lab I.D.#
35BMW18-211115	WG	11/15/21 1300		3	X	SB					
TRIP BLANK-211115	W	11/15/21		2	X						

HS21110968

Aptim Environmental & Infrastucture, Inc.

Longhorn Army Ammunition Plant 37 November 20:

Additional Remarks: **Standard TAT on all parameters. Please email results to Vicki.Graves@aptim.com and invoices to fedinvoices@aptim.com**

Relinquished By:	Date	Time	Received By:	Date	Time	Relinquished By:	Date	Time	Received By:	Date	Time
Scott Beesinger	11/15/21	1430	Paul [illegible]	11/16/21	11:20						

For Lab Use Only

Received At Lab By:	Date	Time	Airbill No.	Opened By:	Date	Time	Temp of Container	Seal No.	Condition

Remarks:

17939 1.1C

R31 CR

(Word) S:\I-ces\Forms\Chain of Custody - BiWeekly

ALS
10450 Stancliff Rd., Suite 210
Houston, Texas 77099
Tel. +1 281 530 5656
Fax. +1 281 530 5887

47939

CUSTODY SEAL

Date: 11/15/21 Time: 1430
Name: Scott Beesinger
Company: Battelle

Seal Broken By: JM
Date: 11/16/21

47939

NOV 1 5 2021

ALS

47939

ORIGIN ID:SGRA (903) 930-6193
SCOTT BEESINGER
APTIM ENVIROMENTAL & INFASTRUCTURE
1203-B EAST GRAND AVE
PMB 202
MARSHALL, TX 75670
UNITED STATES US

SHIP DATE: 28OCT21
ACTWGT: 1.00 LB MAN
CAD: 0221247/CAFE3502
DIMS: 19x18x13 IN

TO SHIPPING DEPT
ALS LABORATORY GROUP
10450 STANCLIFF RD
SUITE 210
HOUSTON TX 77099
(281) 530-5656
REF: LHAAP-67-8081554-RG
RMA:

FedEx Express

TRK# 5300 5224 2256

PRIORITY OVERNIGHT

XA SGRA

77099
TX-US
IAH

4238674 15Nov2021 0GCA 560C2/9A7C/1D93

10450 Stancliff Rd. Suite 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887

January 20, 2022

Vicki Graves
Aptim Environmental & Infrastucture, Inc.
10333 Richmond Ave
Ste 1030
Houston, TX 77042

Work Order: **HS21111149**

Laboratory Results for: **LHAAP 37 November 2021**

Dear Vicki Graves ,

ALS Environmental received 11 sample(s) on Nov 18, 2021 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Generated By: JUMOKE.LAWAL
Ragen Giga
Project Manager

ALS Houston, US Date: 20-Jan-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2021
Work Order: HS21111149

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS21111149-01	35BWW26-211117	Groundwater		17-Nov-2021 07:15	18-Nov-2021 11:00	☐
HS21111149-02	35BWW26-211117-FD	Groundwater		17-Nov-2021 07:15	18-Nov-2021 11:00	☐
HS21111149-03	35BWW08-211117	Groundwater		17-Nov-2021 08:05	18-Nov-2021 11:00	☐
HS21111149-04	35BWW04-211117	Groundwater		17-Nov-2021 08:50	18-Nov-2021 11:00	☐
HS21111149-05	35BWW11-211117	Groundwater		17-Nov-2021 09:40	18-Nov-2021 11:00	☐
HS21111149-06	35BWW20-211117	Groundwater		17-Nov-2021 10:20	18-Nov-2021 11:00	☐
HS21111149-07	35BWW07-211117	Groundwater		17-Nov-2021 11:00	18-Nov-2021 11:00	☐
HS21111149-08	35BWW07-211117-FD	Groundwater		17-Nov-2021 11:00	18-Nov-2021 11:00	☐
HS21111149-09	35BWW13-211117	Groundwater		17-Nov-2021 11:45	18-Nov-2021 11:00	☐
HS21111149-10	35BWW16-211117	Groundwater		17-Nov-2021 12:30	18-Nov-2021 11:00	☐
HS21111149-11	Trip Blank-211117	Water		17-Nov-2021 00:00	18-Nov-2021 11:00	☐

ALS Houston, US Date: 20-Jan-22

Client: Aptim Environmental & Infrastucture, Inc. **CASE NARRATIVE**
Project: LHAAP 37 November 2021
Work Order: HS21111149

Work Order Comments

• The analysis for CO2 by RSK175 was subcontracted to A Pace Analytical Gulf Coast in Baton Rouge LA. Final report attached.

GC Semivolatiles by Method RSK-175

Batch ID: R396437

Sample ID: HS21111269-01MS

• MS and MSD are for an unrelated sample

GCMS Volatiles by Method SW8260

Batch ID: R396597

Sample ID: VLCSW-211124

• Bromomethane high for LCS. Samples are ND for the compound.

Sample ID: VSTD050

• Bromomethane exceeded %D limits for CCV. Samples are ND for the compound.

Batch ID: R396691

Sample ID: VSTD050

• Bromomethane and Hexachlorobutadiene exceeded %D limits for CCV .Samples are ND for these compounds.

Sample ID: HS21111162-29MS

• MS and MSD are for an unrelated sample

WetChemistry by Method SW9056

Batch ID: R397047

• The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

WetChemistry by Method SM5310B

Batch ID: R396754

• The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

ALS Houston, US Date: 20-Jan-22

Client: Aptim Environmental & Infrastructure, Inc. **ANALYTICAL REPORT**
Project: LHAAP 37 November 2021 WorkOrder:HS21111149
Sample ID: 35BWW26-211117 Lab ID:HS21111149-01
Collection Date: 17-Nov-2021 07:15 Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 01:47
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 01:47
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	ug/L	1	30-Nov-2021 01:47
1,1,2-Trichlor-1,2,2-trifluoroethane	1.0	U	0.50	1.0	1.0	ug/L	1	30-Nov-2021 01:47
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 01:47
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 01:47
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 01:47
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 01:47
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	30-Nov-2021 01:47
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	30-Nov-2021 01:47
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	30-Nov-2021 01:47
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 01:47
1,2-Dibromo-3-chloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	30-Nov-2021 01:47
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 01:47
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	30-Nov-2021 01:47
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 01:47
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	30-Nov-2021 01:47
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 01:47
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	30-Nov-2021 01:47
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 01:47
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	30-Nov-2021 01:47
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 01:47
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	30-Nov-2021 01:47
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 01:47
2-Hexanone	2.0	U	1.0	2.0	2.0	ug/L	1	30-Nov-2021 01:47
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	30-Nov-2021 01:47
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 01:47
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	ug/L	1	30-Nov-2021 01:47
Acetone	2.0	U	0.40	2.0	2.0	ug/L	1	30-Nov-2021 01:47
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 01:47
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	30-Nov-2021 01:47
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 01:47
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 01:47
Bromoform	1.0	U	0.40	1.0	1.0	ug/L	1	30-Nov-2021 01:47
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	30-Nov-2021 01:47
Carbon disulfide	2.0	U	0.60	2.0	2.0	ug/L	1	30-Nov-2021 01:47
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	ug/L	1	30-Nov-2021 01:47
Chlorobenzene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 01:47
Chloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 01:47

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 20-Jan-22

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: LHAAP 37 November 2021 WorkOrder:HS21111149
Sample ID: 35BWW26-211117 Lab ID:HS21111149-01
Collection Date: 17-Nov-2021 07:15 Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 01:47
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 01:47
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 01:47
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	ug/L	1	30-Nov-2021 01:47
Dibromochloromethane	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 01:47
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 01:47
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 01:47
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 01:47
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	30-Nov-2021 01:47
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 01:47
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	30-Nov-2021 01:47
Methylene chloride	2.0	U	0.40	2.0	2.0	ug/L	1	30-Nov-2021 01:47
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	30-Nov-2021 01:47
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 01:47
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 01:47
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 01:47
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 01:47
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 01:47
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 01:47
Tetrachloroethene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 01:47
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 01:47
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 01:47
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 01:47
Trichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 01:47
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 01:47
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 01:47
Surr: 1,2-Dichloroethane-d4	*90.7*			**0**	*81-118*	*%REC*	*1*	*30-Nov-2021 01:47*
Surr: 4-Bromofluorobenzene	*98.6*			**0**	*85-114*	*%REC*	*1*	*30-Nov-2021 01:47*
Surr: Dibromofluoromethane	*88.6*			**0**	*80-119*	*%REC*	*1*	*30-Nov-2021 01:47*
Surr: Toluene-d8	*102*			**0**	*89-112*	*%REC*	*1*	*30-Nov-2021 01:47*
DISSOLVED GASES BY RSK-175		**Method:RSK-175**						Analyst: PPM
Ethane	0.000500	U	0.000144	0.000500	0.00100	mg/L	1	24-Nov-2021 11:26
Ethene	**0.000524**	J	**0.000234**	**0.000500**	**0.00100**	**mg/L**	1	24-Nov-2021 11:26
Methane	**0.00128**		**0.000107**	**0.000250**	**0.000500**	**mg/L**	1	24-Nov-2021 11:26
TOTAL ORGANIC CARBON - SM5310B-2011		**Method:SM5310B**						Analyst: JAC
Organic Carbon, Total	**2.12**		**0.500**	**1.00**	**1.00**	**mg/L**	1	01-Dec-2021 03:09

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 20-Jan-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2021
Sample ID: 35BWW26-211117
Collection Date: 17-Nov-2021 07:15

ANALYTICAL REPORT
WorkOrder:HS21111149
Lab ID:HS21111149-01
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
ANIONS BY SW9056A		**Method:SW9056**						Analyst: YP
Chloride	**32.2**		**0.200**	**0.500**	**0.500**	**mg/L**	1	18-Nov-2021 17:42
Nitrogen, Nitrate (As N)	**0.130**		**0.0300**	**0.100**	**0.100**	**mg/L**	1	18-Nov-2021 17:42
Sulfate	**26.4**		**0.200**	**0.500**	**0.500**	**mg/L**	1	18-Nov-2021 17:42
SUBCONTRACTED ANALYSIS		**Method:NA**						Analyst: SUB
Miscellaneous Analysis	See Attached		0	0		NA	1	20-Jan-2022 09:09

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 20-Jan-22

Client: Aptim Environmental & Infrastructure, Inc. **ANALYTICAL REPORT**
Project: LHAAP 37 November 2021 WorkOrder:HS21111149
Sample ID: 35BWW26-211117-FD Lab ID:HS21111149-02
Collection Date: 17-Nov-2021 07:15 Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 03:16
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 03:16
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	ug/L	1	30-Nov-2021 03:16
1,1,2-Trichlor-1,2,2-trifluoroethane	1.0	U	0.50	1.0	1.0	ug/L	1	30-Nov-2021 03:16
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 03:16
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 03:16
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 03:16
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 03:16
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	30-Nov-2021 03:16
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	30-Nov-2021 03:16
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	30-Nov-2021 03:16
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 03:16
1,2-Dibromo-3-chloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	30-Nov-2021 03:16
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 03:16
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	30-Nov-2021 03:16
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 03:16
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	30-Nov-2021 03:16
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 03:16
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	30-Nov-2021 03:16
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 03:16
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	30-Nov-2021 03:16
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 03:16
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	30-Nov-2021 03:16
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 03:16
2-Hexanone	2.0	U	1.0	2.0	2.0	ug/L	1	30-Nov-2021 03:16
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	30-Nov-2021 03:16
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 03:16
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	ug/L	1	30-Nov-2021 03:16
Acetone	2.0	U	0.40	2.0	2.0	ug/L	1	30-Nov-2021 03:16
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 03:16
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	30-Nov-2021 03:16
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 03:16
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 03:16
Bromoform	1.0	U	0.40	1.0	1.0	ug/L	1	30-Nov-2021 03:16
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	30-Nov-2021 03:16
Carbon disulfide	2.0	U	0.60	2.0	2.0	ug/L	1	30-Nov-2021 03:16
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	ug/L	1	30-Nov-2021 03:16
Chlorobenzene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 03:16
Chloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 03:16

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 20-Jan-22

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: LHAAP 37 November 2021 WorkOrder:HS21111149
Sample ID: 35BWW26-211117-FD Lab ID:HS21111149-02
Collection Date: 17-Nov-2021 07:15 Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 03:16
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 03:16
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 03:16
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	ug/L	1	30-Nov-2021 03:16
Dibromochloromethane	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 03:16
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 03:16
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 03:16
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 03:16
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	30-Nov-2021 03:16
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 03:16
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	30-Nov-2021 03:16
Methylene chloride	2.0	U	0.40	2.0	2.0	ug/L	1	30-Nov-2021 03:16
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	30-Nov-2021 03:16
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 03:16
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 03:16
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 03:16
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 03:16
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 03:16
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 03:16
Tetrachloroethene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 03:16
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 03:16
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 03:16
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 03:16
Trichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 03:16
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 03:16
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 03:16
Surr: 1,2-Dichloroethane-d4	*90.9*			**0**	*81-118*	*%REC*	*1*	*30-Nov-2021 03:16*
Surr: 4-Bromofluorobenzene	*96.9*			**0**	*85-114*	*%REC*	*1*	*30-Nov-2021 03:16*
Surr: Dibromofluoromethane	*87.4*			**0**	*80-119*	*%REC*	*1*	*30-Nov-2021 03:16*
Surr: Toluene-d8	*101*			**0**	*89-112*	*%REC*	*1*	*30-Nov-2021 03:16*
DISSOLVED GASES BY RSK-175		**Method:RSK-175**						Analyst: PPM
Ethane	0.000500	U	0.000144	0.000500	0.00100	mg/L	1	24-Nov-2021 11:41
Ethene	0.000500	U	0.000234	0.000500	0.00100	mg/L	1	24-Nov-2021 11:41
Methane	**0.00204**		**0.000107**	**0.000500**	**0.000500**	**mg/L**	1	24-Nov-2021 11:41
TOTAL ORGANIC CARBON - SM5310B-2011		**Method:SM5310B**						Analyst: JAC
Organic Carbon, Total	**3.33**		**0.500**	**1.00**	**1.00**	**mg/L**	1	01-Dec-2021 03:24

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 20-Jan-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2021
Sample ID: 35BWW26-211117-FD
Collection Date: 17-Nov-2021 07:15

ANALYTICAL REPORT
WorkOrder:HS21111149
Lab ID:HS21111149-02
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
ANIONS BY SW9056A		**Method:SW9056**						Analyst: YP
Chloride	**32.4**		**0.200**	**0.500**	**0.500**	**mg/L**	1	18-Nov-2021 18:05
Nitrogen, Nitrate (As N)	**0.144**		**0.0300**	**0.100**	**0.100**	**mg/L**	1	18-Nov-2021 18:05
Sulfate	**24.7**		**0.200**	**0.500**	**0.500**	**mg/L**	1	18-Nov-2021 18:05
SUBCONTRACTED ANALYSIS		**Method:NA**						Analyst: SUB
Miscellaneous Analysis	See Attached		0	0		NA	1	20-Jan-2022 09:09

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 20-Jan-22

Client: Aptim Environmental & Infrastructure, Inc.
Project: LHAAP 37 November 2021
Sample ID: 35BWW08-211117
Collection Date: 17-Nov-2021 08:05

ANALYTICAL REPORT
WorkOrder:HS21111149
Lab ID:HS21111149-03
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 03:38
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 03:38
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	ug/L	1	30-Nov-2021 03:38
1,1,2-Trichlor-1,2,2-trifluoroethane	1.0	U	0.50	1.0	1.0	ug/L	1	30-Nov-2021 03:38
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 03:38
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 03:38
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 03:38
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 03:38
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	30-Nov-2021 03:38
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	30-Nov-2021 03:38
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	30-Nov-2021 03:38
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 03:38
1,2-Dibromo-3-chloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	30-Nov-2021 03:38
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 03:38
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	30-Nov-2021 03:38
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 03:38
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	30-Nov-2021 03:38
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 03:38
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	30-Nov-2021 03:38
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 03:38
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	30-Nov-2021 03:38
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 03:38
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	30-Nov-2021 03:38
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 03:38
2-Hexanone	2.0	U	1.0	2.0	2.0	ug/L	1	30-Nov-2021 03:38
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	30-Nov-2021 03:38
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 03:38
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	ug/L	1	30-Nov-2021 03:38
Acetone	2.0	U	0.40	2.0	2.0	ug/L	1	30-Nov-2021 03:38
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 03:38
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	30-Nov-2021 03:38
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 03:38
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 03:38
Bromoform	1.0	U	0.40	1.0	1.0	ug/L	1	30-Nov-2021 03:38
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	30-Nov-2021 03:38
Carbon disulfide	2.0	U	0.60	2.0	2.0	ug/L	1	30-Nov-2021 03:38
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	ug/L	1	30-Nov-2021 03:38
Chlorobenzene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 03:38
Chloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 03:38

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 20-Jan-22

Client: Aptim Environmental & Infrastructure, Inc. **ANALYTICAL REPORT**
Project: LHAAP 37 November 2021 WorkOrder:HS21111149
Sample ID: 35BWW08-211117 Lab ID:HS21111149-03
Collection Date: 17-Nov-2021 08:05 Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 03:38
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 03:38
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 03:38
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	ug/L	1	30-Nov-2021 03:38
Dibromochloromethane	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 03:38
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 03:38
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 03:38
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 03:38
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	30-Nov-2021 03:38
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 03:38
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	30-Nov-2021 03:38
Methylene chloride	1.0	U	0.40	1.0	2.0	ug/L	1	30-Nov-2021 03:38
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	30-Nov-2021 03:38
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 03:38
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 03:38
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 03:38
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 03:38
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 03:38
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 03:38
Tetrachloroethene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 03:38
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 03:38
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 03:38
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 03:38
Trichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 03:38
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 03:38
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 03:38
Surr: 1,2-Dichloroethane-d4	*96.8*			**0**	*81-118*	*%REC*	*1*	*30-Nov-2021 03:38*
Surr: 4-Bromofluorobenzene	*98.7*			**0**	*85-114*	*%REC*	*1*	*30-Nov-2021 03:38*
Surr: Dibromofluoromethane	*93.4*			**0**	*80-119*	*%REC*	*1*	*30-Nov-2021 03:38*
Surr: Toluene-d8	*99.9*			**0**	*89-112*	*%REC*	*1*	*30-Nov-2021 03:38*
DISSOLVED GASES BY RSK-175		**Method:RSK-175**						Analyst: PPM
Ethane	0.000500	U	0.000144	0.000500	0.00100	mg/L	1	24-Nov-2021 11:50
Ethene	**0.000889**	J	**0.000234**	**0.000500**	**0.00100**	**mg/L**	1	24-Nov-2021 11:50
Methane	**0.00134**		**0.000107**	**0.000250**	**0.000500**	**mg/L**	1	24-Nov-2021 11:50
TOTAL ORGANIC CARBON - SM5310B-2011		**Method:SM5310B**						Analyst: JAC
Organic Carbon, Total	**3.36**		**0.500**	**1.00**	**1.00**	**mg/L**	1	01-Dec-2021 03:40

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 20-Jan-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2021
Sample ID: 35BWW08-211117
Collection Date: 17-Nov-2021 08:05

ANALYTICAL REPORT
WorkOrder:HS21111149
Lab ID:HS21111149-03
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
ANIONS BY SW9056A		**Method:SW9056**						Analyst: YP
Chloride	**3.36**		**0.200**	**0.500**	**0.500**	**mg/L**	1	18-Nov-2021 18:12
Nitrogen, Nitrate (As N)	**0.270**		**0.0300**	**0.100**	**0.100**	**mg/L**	1	18-Nov-2021 18:12
Sulfate	**22.7**		**0.200**	**0.500**	**0.500**	**mg/L**	1	18-Nov-2021 18:12
SUBCONTRACTED ANALYSIS		**Method:NA**						Analyst: SUB
Miscellaneous Analysis	See Attached		0	0		NA	1	20-Jan-2022 09:09

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 20-Jan-22

Client: Aptim Environmental & Infrastructure, Inc. **ANALYTICAL REPORT**
Project: LHAAP 37 November 2021 WorkOrder:HS21111149
Sample ID: 35BWW04-211117 Lab ID:HS21111149-04
Collection Date: 17-Nov-2021 08:50 Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 04:01
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 04:01
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	ug/L	1	30-Nov-2021 04:01
1,1,2-Trichlor-1,2,2-trifluoroethane	1.0	U	0.50	1.0	1.0	ug/L	1	30-Nov-2021 04:01
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 04:01
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 04:01
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 04:01
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 04:01
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	30-Nov-2021 04:01
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	30-Nov-2021 04:01
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	30-Nov-2021 04:01
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 04:01
1,2-Dibromo-3-chloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	30-Nov-2021 04:01
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 04:01
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	30-Nov-2021 04:01
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 04:01
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	30-Nov-2021 04:01
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 04:01
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	30-Nov-2021 04:01
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 04:01
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	30-Nov-2021 04:01
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 04:01
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	30-Nov-2021 04:01
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 04:01
2-Hexanone	2.0	U	1.0	2.0	2.0	ug/L	1	30-Nov-2021 04:01
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	30-Nov-2021 04:01
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 04:01
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	ug/L	1	30-Nov-2021 04:01
Acetone	2.0	U	0.40	2.0	2.0	ug/L	1	30-Nov-2021 04:01
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 04:01
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	30-Nov-2021 04:01
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 04:01
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 04:01
Bromoform	1.0	U	0.40	1.0	1.0	ug/L	1	30-Nov-2021 04:01
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	30-Nov-2021 04:01
Carbon disulfide	2.0	U	0.60	2.0	2.0	ug/L	1	30-Nov-2021 04:01
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	ug/L	1	30-Nov-2021 04:01
Chlorobenzene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 04:01
Chloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 04:01

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 20-Jan-22

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: LHAAP 37 November 2021 WorkOrder:HS21111149
Sample ID: 35BWW04-211117 Lab ID:HS21111149-04
Collection Date: 17-Nov-2021 08:50 Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 04:01
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 04:01
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 04:01
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	ug/L	1	30-Nov-2021 04:01
Dibromochloromethane	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 04:01
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 04:01
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 04:01
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 04:01
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	30-Nov-2021 04:01
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 04:01
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	30-Nov-2021 04:01
Methylene chloride	2.0	U	0.40	2.0	2.0	ug/L	1	30-Nov-2021 04:01
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	30-Nov-2021 04:01
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 04:01
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 04:01
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 04:01
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 04:01
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 04:01
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 04:01
Tetrachloroethene	**6.3**		**0.30**	**1.0**	**1.0**	**ug/L**	1	30-Nov-2021 04:01
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 04:01
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 04:01
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 04:01
Trichloroethene	**0.88**	J	**0.20**	**0.50**	**1.0**	**ug/L**	1	30-Nov-2021 04:01
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 04:01
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 04:01
Surr: 1,2-Dichloroethane-d4	*90.6*			**0**	*81-118*	*%REC*	*1*	*30-Nov-2021 04:01*
Surr: 4-Bromofluorobenzene	*98.5*			**0**	*85-114*	*%REC*	*1*	*30-Nov-2021 04:01*
Surr: Dibromofluoromethane	*88.0*			**0**	*80-119*	*%REC*	*1*	*30-Nov-2021 04:01*
Surr: Toluene-d8	*101*			**0**	*89-112*	*%REC*	*1*	*30-Nov-2021 04:01*
DISSOLVED GASES BY RSK-175		**Method:RSK-175**						Analyst: PPM
Ethane	0.000500	U	0.000144	0.000500	0.00100	mg/L	1	24-Nov-2021 11:59
Ethene	0.000500	U	0.000234	0.000500	0.00100	mg/L	1	24-Nov-2021 11:59
Methane	**0.00255**		**0.000107**	**0.000500**	**0.000500**	**mg/L**	1	24-Nov-2021 11:59
TOTAL ORGANIC CARBON - SM5310B-2011		**Method:SM5310B**						Analyst: JAC
Organic Carbon, Total	**4.06**		**0.500**	**1.00**	**1.00**	**mg/L**	1	01-Dec-2021 03:56

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 20-Jan-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2021
Sample ID: 35BWW04-211117
Collection Date: 17-Nov-2021 08:50

ANALYTICAL REPORT
WorkOrder:HS21111149
Lab ID:HS21111149-04
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
ANIONS BY SW9056A		**Method:SW9056**						Analyst: YP
Chloride	**3.56**		**0.200**	**0.500**	**0.500**	**mg/L**	1	18-Nov-2021 18:19
Nitrogen, Nitrate (As N)	**0.116**		**0.0300**	**0.100**	**0.100**	**mg/L**	1	18-Nov-2021 18:19
Sulfate	**27.6**		**0.200**	**0.500**	**0.500**	**mg/L**	1	18-Nov-2021 18:19
SUBCONTRACTED ANALYSIS		**Method:NA**						Analyst: SUB
Miscellaneous Analysis	See Attached		0	0		NA	1	20-Jan-2022 09:09

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 20-Jan-22

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: LHAAP 37 November 2021 WorkOrder:HS21111149
Sample ID: 35BWW11-211117 Lab ID:HS21111149-05
Collection Date: 17-Nov-2021 09:40 Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 04:23
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 04:23
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	ug/L	1	30-Nov-2021 04:23
1,1,2-Trichlor-1,2,2-trifluoroethane	1.0	U	0.50	1.0	1.0	ug/L	1	30-Nov-2021 04:23
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 04:23
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 04:23
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 04:23
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 04:23
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	30-Nov-2021 04:23
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	30-Nov-2021 04:23
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	30-Nov-2021 04:23
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 04:23
1,2-Dibromo-3-chloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	30-Nov-2021 04:23
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 04:23
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	30-Nov-2021 04:23
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 04:23
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	30-Nov-2021 04:23
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 04:23
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	30-Nov-2021 04:23
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 04:23
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	30-Nov-2021 04:23
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 04:23
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	30-Nov-2021 04:23
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 04:23
2-Hexanone	2.0	U	1.0	2.0	2.0	ug/L	1	30-Nov-2021 04:23
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	30-Nov-2021 04:23
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 04:23
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	ug/L	1	30-Nov-2021 04:23
Acetone	2.0	U	0.40	2.0	2.0	ug/L	1	30-Nov-2021 04:23
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 04:23
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	30-Nov-2021 04:23
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 04:23
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 04:23
Bromoform	1.0	U	0.40	1.0	1.0	ug/L	1	30-Nov-2021 04:23
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	30-Nov-2021 04:23
Carbon disulfide	2.0	U	0.60	2.0	2.0	ug/L	1	30-Nov-2021 04:23
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	ug/L	1	30-Nov-2021 04:23
Chlorobenzene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 04:23
Chloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 04:23

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 20-Jan-22

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: LHAAP 37 November 2021 WorkOrder:HS21111149
Sample ID: 35BWW11-211117 Lab ID:HS21111149-05
Collection Date: 17-Nov-2021 09:40 Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 04:23
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 04:23
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 04:23
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	ug/L	1	30-Nov-2021 04:23
Dibromochloromethane	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 04:23
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 04:23
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 04:23
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 04:23
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	30-Nov-2021 04:23
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 04:23
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	30-Nov-2021 04:23
Methylene chloride	1.0	U	0.40	1.0	2.0	ug/L	1	30-Nov-2021 04:23
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	30-Nov-2021 04:23
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 04:23
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 04:23
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 04:23
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 04:23
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 04:23
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 04:23
Tetrachloroethene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 04:23
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 04:23
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 04:23
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 04:23
Trichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 04:23
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 04:23
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 04:23
Surr: 1,2-Dichloroethane-d4	*91.7*			**0**	*81-118*	*%REC*	*1*	*30-Nov-2021 04:23*
Surr: 4-Bromofluorobenzene	*99.7*			**0**	*85-114*	*%REC*	*1*	*30-Nov-2021 04:23*
Surr: Dibromofluoromethane	*90.0*			**0**	*80-119*	*%REC*	*1*	*30-Nov-2021 04:23*
Surr: Toluene-d8	*101*			**0**	*89-112*	*%REC*	*1*	*30-Nov-2021 04:23*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 20-Jan-22

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: LHAAP 37 November 2021 WorkOrder:HS21111149
Sample ID: 35BWW20-211117 Lab ID:HS21111149-06
Collection Date: 17-Nov-2021 10:20 Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 04:45
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 04:45
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	ug/L	1	30-Nov-2021 04:45
1,1,2-Trichlor-1,2,2-trifluoroethane	**0.90**	J	**0.50**	**1.0**	**1.0**	**ug/L**	1	30-Nov-2021 04:45
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 04:45
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 04:45
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 04:45
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 04:45
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	30-Nov-2021 04:45
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	30-Nov-2021 04:45
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	30-Nov-2021 04:45
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 04:45
1,2-Dibromo-3-chloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	30-Nov-2021 04:45
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 04:45
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	30-Nov-2021 04:45
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 04:45
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	30-Nov-2021 04:45
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 04:45
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	30-Nov-2021 04:45
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 04:45
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	30-Nov-2021 04:45
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 04:45
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	30-Nov-2021 04:45
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 04:45
2-Hexanone	2.0	U	1.0	2.0	2.0	ug/L	1	30-Nov-2021 04:45
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	30-Nov-2021 04:45
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 04:45
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	ug/L	1	30-Nov-2021 04:45
Acetone	2.0	U	0.40	2.0	2.0	ug/L	1	30-Nov-2021 04:45
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 04:45
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	30-Nov-2021 04:45
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 04:45
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 04:45
Bromoform	1.0	U	0.40	1.0	1.0	ug/L	1	30-Nov-2021 04:45
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	30-Nov-2021 04:45
Carbon disulfide	2.0	U	0.60	2.0	2.0	ug/L	1	30-Nov-2021 04:45
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	ug/L	1	30-Nov-2021 04:45
Chlorobenzene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 04:45

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 20-Jan-22

Client: Aptim Environmental & Infrastructure, Inc. **ANALYTICAL REPORT**
Project: LHAAP 37 November 2021 WorkOrder:HS21111149
Sample ID: 35BWW20-211117 Lab ID:HS21111149-06
Collection Date: 17-Nov-2021 10:20 Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
Chloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 04:45
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 04:45
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 04:45
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 04:45
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	ug/L	1	30-Nov-2021 04:45
Dibromochloromethane	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 04:45
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 04:45
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 04:45
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 04:45
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	30-Nov-2021 04:45
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 04:45
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	30-Nov-2021 04:45
Methylene chloride	2.0	U	0.40	2.0	2.0	ug/L	1	30-Nov-2021 04:45
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	30-Nov-2021 04:45
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 04:45
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 04:45
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 04:45
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 04:45
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 04:45
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 04:45
Tetrachloroethene	**5.4**		**0.30**	**1.0**	**1.0**	**ug/L**	1	30-Nov-2021 04:45
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 04:45
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 04:45
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 04:45
Trichloroethene	**1.3**		**0.20**	**0.50**	**1.0**	**ug/L**	1	30-Nov-2021 04:45
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 04:45
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 04:45
Surr: 1,2-Dichloroethane-d4	*91.4*			**0**	*81-118*	*%REC*	*1*	*30-Nov-2021 04:45*
Surr: 4-Bromofluorobenzene	*99.1*			**0**	*85-114*	*%REC*	*1*	*30-Nov-2021 04:45*
Surr: Dibromofluoromethane	*87.9*			**0**	*80-119*	*%REC*	*1*	*30-Nov-2021 04:45*
Surr: Toluene-d8	*102*			**0**	*89-112*	*%REC*	*1*	*30-Nov-2021 04:45*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 20-Jan-22

Client: Aptim Environmental & Infrastructure, Inc. **ANALYTICAL REPORT**
Project: LHAAP 37 November 2021 WorkOrder:HS21111149
Sample ID: 35BWW07-211117 Lab ID:HS21111149-07
Collection Date: 17-Nov-2021 11:00 Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 05:08
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 05:08
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	ug/L	1	30-Nov-2021 05:08
1,1,2-Trichlor-1,2,2-trifluoroethane	1.0	U	0.50	1.0	1.0	ug/L	1	30-Nov-2021 05:08
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 05:08
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 05:08
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 05:08
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 05:08
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	30-Nov-2021 05:08
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	30-Nov-2021 05:08
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	30-Nov-2021 05:08
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 05:08
1,2-Dibromo-3-chloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	30-Nov-2021 05:08
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 05:08
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	30-Nov-2021 05:08
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 05:08
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	30-Nov-2021 05:08
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 05:08
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	30-Nov-2021 05:08
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 05:08
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	30-Nov-2021 05:08
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 05:08
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	30-Nov-2021 05:08
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 05:08
2-Hexanone	2.0	U	1.0	2.0	2.0	ug/L	1	30-Nov-2021 05:08
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	30-Nov-2021 05:08
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 05:08
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	ug/L	1	30-Nov-2021 05:08
Acetone	2.0	U	0.40	2.0	2.0	ug/L	1	30-Nov-2021 05:08
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 05:08
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	30-Nov-2021 05:08
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 05:08
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 05:08
Bromoform	1.0	U	0.40	1.0	1.0	ug/L	1	30-Nov-2021 05:08
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	30-Nov-2021 05:08
Carbon disulfide	2.0	U	0.60	2.0	2.0	ug/L	1	30-Nov-2021 05:08
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	ug/L	1	30-Nov-2021 05:08
Chlorobenzene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 05:08
Chloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 05:08

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 20-Jan-22

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: LHAAP 37 November 2021 WorkOrder:HS21111149
Sample ID: 35BWW07-211117 Lab ID:HS21111149-07
Collection Date: 17-Nov-2021 11:00 Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 05:08
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 05:08
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 05:08
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	ug/L	1	30-Nov-2021 05:08
Dibromochloromethane	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 05:08
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 05:08
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 05:08
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 05:08
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	30-Nov-2021 05:08
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 05:08
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	30-Nov-2021 05:08
Methylene chloride	2.0	U	0.40	2.0	2.0	ug/L	1	30-Nov-2021 05:08
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	30-Nov-2021 05:08
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 05:08
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 05:08
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 05:08
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 05:08
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 05:08
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 05:08
Tetrachloroethene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 05:08
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 05:08
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 05:08
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 05:08
Trichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 05:08
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 05:08
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 05:08
Surr: 1,2-Dichloroethane-d4	*91.4*			**0**	*81-118*	*%REC*	*1*	*30-Nov-2021 05:08*
Surr: 4-Bromofluorobenzene	*97.5*			**0**	*85-114*	*%REC*	*1*	*30-Nov-2021 05:08*
Surr: Dibromofluoromethane	*90.4*			**0**	*80-119*	*%REC*	*1*	*30-Nov-2021 05:08*
Surr: Toluene-d8	*100*			**0**	*89-112*	*%REC*	*1*	*30-Nov-2021 05:08*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 20-Jan-22

Client: Aptim Environmental & Infrastructure, Inc. **ANALYTICAL REPORT**
Project: LHAAP 37 November 2021 WorkOrder:HS21111149
Sample ID: 35BWW07-211117-FD Lab ID:HS21111149-08
Collection Date: 17-Nov-2021 11:00 Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 05:30
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 05:30
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	ug/L	1	30-Nov-2021 05:30
1,1,2-Trichlor-1,2,2-trifluoroethane	1.0	U	0.50	1.0	1.0	ug/L	1	30-Nov-2021 05:30
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 05:30
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 05:30
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 05:30
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 05:30
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	30-Nov-2021 05:30
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	30-Nov-2021 05:30
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	30-Nov-2021 05:30
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 05:30
1,2-Dibromo-3-chloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	30-Nov-2021 05:30
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 05:30
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	30-Nov-2021 05:30
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 05:30
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	30-Nov-2021 05:30
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 05:30
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	30-Nov-2021 05:30
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 05:30
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	30-Nov-2021 05:30
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 05:30
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	30-Nov-2021 05:30
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 05:30
2-Hexanone	2.0	U	1.0	2.0	2.0	ug/L	1	30-Nov-2021 05:30
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	30-Nov-2021 05:30
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 05:30
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	ug/L	1	30-Nov-2021 05:30
Acetone	2.0	U	0.40	2.0	2.0	ug/L	1	30-Nov-2021 05:30
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 05:30
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	30-Nov-2021 05:30
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 05:30
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 05:30
Bromoform	1.0	U	0.40	1.0	1.0	ug/L	1	30-Nov-2021 05:30
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	30-Nov-2021 05:30
Carbon disulfide	2.0	U	0.60	2.0	2.0	ug/L	1	30-Nov-2021 05:30
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	ug/L	1	30-Nov-2021 05:30
Chlorobenzene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 05:30
Chloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 05:30

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 20-Jan-22

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: LHAAP 37 November 2021 WorkOrder:HS21111149
Sample ID: 35BWW07-211117-FD Lab ID:HS21111149-08
Collection Date: 17-Nov-2021 11:00 Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 05:30
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 05:30
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 05:30
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	ug/L	1	30-Nov-2021 05:30
Dibromochloromethane	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 05:30
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 05:30
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 05:30
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 05:30
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	30-Nov-2021 05:30
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 05:30
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	30-Nov-2021 05:30
Methylene chloride	1.0	U	0.40	1.0	2.0	ug/L	1	30-Nov-2021 05:30
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	30-Nov-2021 05:30
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 05:30
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 05:30
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 05:30
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 05:30
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 05:30
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 05:30
Tetrachloroethene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 05:30
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 05:30
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 05:30
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 05:30
Trichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 05:30
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 05:30
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 05:30
Surr: 1,2-Dichloroethane-d4	*91.2*			**0**	*81-118*	*%REC*	*1*	*30-Nov-2021 05:30*
Surr: 4-Bromofluorobenzene	*98.7*			**0**	*85-114*	*%REC*	*1*	*30-Nov-2021 05:30*
Surr: Dibromofluoromethane	*88.6*			**0**	*80-119*	*%REC*	*1*	*30-Nov-2021 05:30*
Surr: Toluene-d8	*101*			**0**	*89-112*	*%REC*	*1*	*30-Nov-2021 05:30*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 20-Jan-22

Client: Aptim Environmental & Infrastructure, Inc. **ANALYTICAL REPORT**
Project: LHAAP 37 November 2021 WorkOrder:HS21111149
Sample ID: 35BWW13-211117 Lab ID:HS21111149-09
Collection Date: 17-Nov-2021 11:45 Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 13:31
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 13:31
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	ug/L	1	30-Nov-2021 13:31
1,1,2-Trichlor-1,2,2-trifluoroethane	1.0	U	0.50	1.0	1.0	ug/L	1	30-Nov-2021 13:31
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 13:31
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 13:31
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 13:31
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 13:31
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	30-Nov-2021 13:31
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	30-Nov-2021 13:31
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	30-Nov-2021 13:31
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 13:31
1,2-Dibromo-3-chloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	30-Nov-2021 13:31
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 13:31
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	30-Nov-2021 13:31
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 13:31
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	30-Nov-2021 13:31
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 13:31
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	30-Nov-2021 13:31
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 13:31
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	30-Nov-2021 13:31
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 13:31
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	30-Nov-2021 13:31
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 13:31
2-Hexanone	2.0	U	1.0	2.0	2.0	ug/L	1	30-Nov-2021 13:31
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	30-Nov-2021 13:31
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 13:31
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	ug/L	1	30-Nov-2021 13:31
Acetone	2.0	U	0.40	2.0	2.0	ug/L	1	30-Nov-2021 13:31
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 13:31
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	30-Nov-2021 13:31
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 13:31
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 13:31
Bromoform	1.0	U	0.40	1.0	1.0	ug/L	1	30-Nov-2021 13:31
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	30-Nov-2021 13:31
Carbon disulfide	2.0	U	0.60	2.0	2.0	ug/L	1	30-Nov-2021 13:31
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	ug/L	1	30-Nov-2021 13:31
Chlorobenzene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 13:31
Chloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 13:31

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 20-Jan-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2021
Sample ID: 35BWW13-211117
Collection Date: 17-Nov-2021 11:45

ANALYTICAL REPORT
WorkOrder:HS21111149
Lab ID:HS21111149-09
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 13:31
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 13:31
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 13:31
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	ug/L	1	30-Nov-2021 13:31
Dibromochloromethane	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 13:31
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 13:31
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 13:31
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 13:31
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	30-Nov-2021 13:31
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 13:31
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	30-Nov-2021 13:31
Methylene chloride	2.0	U	0.40	2.0	2.0	ug/L	1	30-Nov-2021 13:31
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	30-Nov-2021 13:31
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 13:31
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 13:31
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 13:31
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 13:31
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 13:31
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 13:31
Tetrachloroethene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 13:31
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 13:31
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 13:31
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 13:31
Trichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 13:31
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 13:31
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 13:31
Surr: 1,2-Dichloroethane-d4	*89.0*			**0**	*81-118*	*%REC*	*1*	*30-Nov-2021 13:31*
Surr: 4-Bromofluorobenzene	*98.1*			**0**	*85-114*	*%REC*	*1*	*30-Nov-2021 13:31*
Surr: Dibromofluoromethane	*86.5*			**0**	*80-119*	*%REC*	*1*	*30-Nov-2021 13:31*
Surr: Toluene-d8	*100*			**0**	*89-112*	*%REC*	*1*	*30-Nov-2021 13:31*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 20-Jan-22

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: LHAAP 37 November 2021 WorkOrder:HS21111149
Sample ID: 35BWW16-211117 Lab ID:HS21111149-10
Collection Date: 17-Nov-2021 12:30 Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 13:53
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 13:53
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	ug/L	1	30-Nov-2021 13:53
1,1,2-Trichlor-1,2,2-trifluoroethane	**3.2**		**0.50**	**1.0**	**1.0**	**ug/L**	1	30-Nov-2021 13:53
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 13:53
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 13:53
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 13:53
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 13:53
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	30-Nov-2021 13:53
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	30-Nov-2021 13:53
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	30-Nov-2021 13:53
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 13:53
1,2-Dibromo-3-chloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	30-Nov-2021 13:53
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 13:53
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	30-Nov-2021 13:53
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 13:53
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	30-Nov-2021 13:53
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 13:53
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	30-Nov-2021 13:53
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 13:53
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	30-Nov-2021 13:53
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 13:53
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	30-Nov-2021 13:53
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 13:53
2-Hexanone	2.0	U	1.0	2.0	2.0	ug/L	1	30-Nov-2021 13:53
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	30-Nov-2021 13:53
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 13:53
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	ug/L	1	30-Nov-2021 13:53
Acetone	2.0	U	0.40	2.0	2.0	ug/L	1	30-Nov-2021 13:53
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 13:53
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	30-Nov-2021 13:53
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 13:53
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 13:53
Bromoform	1.0	U	0.40	1.0	1.0	ug/L	1	30-Nov-2021 13:53
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	30-Nov-2021 13:53
Carbon disulfide	2.0	U	0.60	2.0	2.0	ug/L	1	30-Nov-2021 13:53
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	ug/L	1	30-Nov-2021 13:53
Chlorobenzene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 13:53

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 20-Jan-22

Client: Aptim Environmental & Infrastructure, Inc. **ANALYTICAL REPORT**
Project: LHAAP 37 November 2021 WorkOrder:HS21111149
Sample ID: 35BWW16-211117 Lab ID:HS21111149-10
Collection Date: 17-Nov-2021 12:30 Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
Chloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 13:53
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 13:53
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 13:53
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 13:53
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	ug/L	1	30-Nov-2021 13:53
Dibromochloromethane	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 13:53
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 13:53
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 13:53
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 13:53
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	30-Nov-2021 13:53
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 13:53
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	30-Nov-2021 13:53
Methylene chloride	1.0	U	0.40	1.0	2.0	ug/L	1	30-Nov-2021 13:53
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	30-Nov-2021 13:53
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 13:53
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 13:53
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 13:53
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 13:53
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 13:53
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 13:53
Tetrachloroethene	**4.8**		**0.30**	**1.0**	**1.0**	**ug/L**	1	30-Nov-2021 13:53
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 13:53
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 13:53
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 13:53
Trichloroethene	**1.7**		**0.20**	**0.50**	**1.0**	**ug/L**	1	30-Nov-2021 13:53
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 13:53
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 13:53
Surr: 1,2-Dichloroethane-d4	*90.5*			**0**	*81-118*	*%REC*	*1*	*30-Nov-2021 13:53*
Surr: 4-Bromofluorobenzene	*99.0*			**0**	*85-114*	*%REC*	*1*	*30-Nov-2021 13:53*
Surr: Dibromofluoromethane	*88.3*			**0**	*80-119*	*%REC*	*1*	*30-Nov-2021 13:53*
Surr: Toluene-d8	*100*			**0**	*89-112*	*%REC*	*1*	*30-Nov-2021 13:53*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 20-Jan-22

Client: Aptim Environmental & Infrastructure, Inc. **ANALYTICAL REPORT**
Project: LHAAP 37 November 2021 WorkOrder:HS21111149
Sample ID: Trip Blank-211117 Lab ID:HS21111149-11
Collection Date: 17-Nov-2021 00:00 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 13:09
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 13:09
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	ug/L	1	30-Nov-2021 13:09
1,1,2-Trichlor-1,2,2-trifluoroethane	1.0	U	0.50	1.0	1.0	ug/L	1	30-Nov-2021 13:09
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 13:09
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 13:09
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 13:09
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 13:09
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	30-Nov-2021 13:09
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	30-Nov-2021 13:09
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	30-Nov-2021 13:09
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 13:09
1,2-Dibromo-3-chloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	30-Nov-2021 13:09
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 13:09
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	30-Nov-2021 13:09
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 13:09
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	30-Nov-2021 13:09
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 13:09
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	30-Nov-2021 13:09
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 13:09
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	30-Nov-2021 13:09
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 13:09
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	30-Nov-2021 13:09
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 13:09
2-Hexanone	2.0	U	1.0	2.0	2.0	ug/L	1	30-Nov-2021 13:09
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	30-Nov-2021 13:09
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 13:09
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	ug/L	1	30-Nov-2021 13:09
Acetone	2.0	U	0.40	2.0	2.0	ug/L	1	30-Nov-2021 13:09
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 13:09
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	30-Nov-2021 13:09
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 13:09
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 13:09
Bromoform	1.0	U	0.40	1.0	1.0	ug/L	1	30-Nov-2021 13:09
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	30-Nov-2021 13:09
Carbon disulfide	2.0	U	0.60	2.0	2.0	ug/L	1	30-Nov-2021 13:09
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	ug/L	1	30-Nov-2021 13:09
Chlorobenzene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 13:09
Chloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 13:09

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 20-Jan-22

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: LHAAP 37 November 2021 WorkOrder:HS21111149
Sample ID: Trip Blank-211117 Lab ID:HS21111149-11
Collection Date: 17-Nov-2021 00:00 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 13:09
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 13:09
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 13:09
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	ug/L	1	30-Nov-2021 13:09
Dibromochloromethane	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 13:09
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 13:09
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 13:09
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 13:09
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	30-Nov-2021 13:09
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 13:09
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	30-Nov-2021 13:09
Methylene chloride	1.0	U	0.40	1.0	2.0	ug/L	1	30-Nov-2021 13:09
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	30-Nov-2021 13:09
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 13:09
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 13:09
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 13:09
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 13:09
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 13:09
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 13:09
Tetrachloroethene	1.0	U	0.30	1.0	1.0	ug/L	1	30-Nov-2021 13:09
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 13:09
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 13:09
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 13:09
Trichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 13:09
Trichlorofluoromethane	**1.3**		**0.30**	**1.0**	**1.0**	**ug/L**	1	30-Nov-2021 13:09
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	30-Nov-2021 13:09
Surr: 1,2-Dichloroethane-d4	*90.0*			**0**	*81-118*	*%REC*	*1*	*30-Nov-2021 13:09*
Surr: 4-Bromofluorobenzene	*98.8*			**0**	*85-114*	*%REC*	*1*	*30-Nov-2021 13:09*
Surr: Dibromofluoromethane	*86.8*			**0**	*80-119*	*%REC*	*1*	*30-Nov-2021 13:09*
Surr: Toluene-d8	*102*			**0**	*89-112*	*%REC*	*1*	*30-Nov-2021 13:09*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 20-Jan-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2021 **DATES REPORT**
WorkOrder: HS21111149

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: R396437 (0)	**Test Name :** DISSOLVED GASES BY RSK-175				**Matrix:** Groundwater	
HS21111149-01	35BWW26-211117	17 Nov 2021 07:15			24 Nov 2021 11:26	1
HS21111149-02	35BWW26-211117-FD	17 Nov 2021 07:15			24 Nov 2021 11:41	1
HS21111149-03	35BWW08-211117	17 Nov 2021 08:05			24 Nov 2021 11:50	1
HS21111149-04	35BWW04-211117	17 Nov 2021 08:50			24 Nov 2021 11:59	1
Batch ID: R396597 (0)	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C				**Matrix:** Groundwater	
HS21111149-01	35BWW26-211117	17 Nov 2021 07:15			30 Nov 2021 01:47	1
HS21111149-02	35BWW26-211117-FD	17 Nov 2021 07:15			30 Nov 2021 03:16	1
HS21111149-03	35BWW08-211117	17 Nov 2021 08:05			30 Nov 2021 03:38	1
HS21111149-04	35BWW04-211117	17 Nov 2021 08:50			30 Nov 2021 04:01	1
HS21111149-05	35BWW11-211117	17 Nov 2021 09:40			30 Nov 2021 04:23	1
HS21111149-06	35BWW20-211117	17 Nov 2021 10:20			30 Nov 2021 04:45	1
HS21111149-07	35BWW07-211117	17 Nov 2021 11:00			30 Nov 2021 05:08	1
HS21111149-08	35BWW07-211117-FD	17 Nov 2021 11:00			30 Nov 2021 05:30	1
Batch ID: R396691 (0)	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C				**Matrix:** Water	
HS21111149-11	Trip Blank-211117	17 Nov 2021 00:00			30 Nov 2021 13:09	1
Batch ID: R396691 (0)	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C				**Matrix:** Groundwater	
HS21111149-09	35BWW13-211117	17 Nov 2021 11:45			30 Nov 2021 13:31	1
HS21111149-10	35BWW16-211117	17 Nov 2021 12:30			30 Nov 2021 13:53	1
Batch ID: R396754 (0)	**Test Name :** TOTAL ORGANIC CARBON - SM5310B-2011				**Matrix:** Groundwater	
HS21111149-01	35BWW26-211117	17 Nov 2021 07:15			01 Dec 2021 03:09	1
HS21111149-02	35BWW26-211117-FD	17 Nov 2021 07:15			01 Dec 2021 03:24	1
HS21111149-03	35BWW08-211117	17 Nov 2021 08:05			01 Dec 2021 03:40	1
HS21111149-04	35BWW04-211117	17 Nov 2021 08:50			01 Dec 2021 03:56	1
Batch ID: R397047 (0)	**Test Name :** ANIONS BY SW9056A				**Matrix:** Groundwater	
HS21111149-01	35BWW26-211117	17 Nov 2021 07:15			18 Nov 2021 17:42	1
HS21111149-02	35BWW26-211117-FD	17 Nov 2021 07:15			18 Nov 2021 18:05	1
HS21111149-03	35BWW08-211117	17 Nov 2021 08:05			18 Nov 2021 18:12	1
HS21111149-04	35BWW04-211117	17 Nov 2021 08:50			18 Nov 2021 18:19	1
Batch ID: R400655 (0)	**Test Name :** SUBCONTRACTED ANALYSIS				**Matrix:** Groundwater	
HS21111149-01	35BWW26-211117	17 Nov 2021 07:15			20 Jan 2022 09:09	1
HS21111149-02	35BWW26-211117-FD	17 Nov 2021 07:15			20 Jan 2022 09:09	1
HS21111149-03	35BWW08-211117	17 Nov 2021 08:05			20 Jan 2022 09:09	1
HS21111149-04	35BWW04-211117	17 Nov 2021 08:50			20 Jan 2022 09:09	1

ALS Houston, US Date: 20-Jan-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2021
WorkOrder: HS21111149

QC BATCH REPORT

Batch ID: R396437 (0) **Instrument: FID-4** **Method: DISSOLVED GASES BY RSK-175**

MBLK Sample ID: **MBLK-211124** Units: **mg/L** Analysis Date: **24-Nov-2021 09:36**
Client ID: Run ID: **FID-4_396437** SeqNo: **6392822** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethane	0.000500	0.00100								U
Ethene	0.000500	0.00100								U
Methane	0.000500	0.000500								U

LCS Sample ID: **LCS-211124** Units: **mg/L** Analysis Date: **24-Nov-2021 09:47**
Client ID: Run ID: **FID-4_396437** SeqNo: **6392823** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethane	0.0194	0.00100	0.01804	0	108	75 - 125				
Ethene	0.0164	0.00100	0.0168	0	97.6	75 - 125				
Methane	0.00986	0.000500	0.009647	0	102	75 - 125				

MS Sample ID: **HS21111269-01MS** Units: **mg/L** Analysis Date: **24-Nov-2021 12:54**
Client ID: Run ID: **FID-4_396437** SeqNo: **6392837** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethane	0.0532	0.00100	0.01804	0.003532	276	75 - 125				S
Ethene	0.0498	0.00100	0.0168	0	296	75 - 125				S
Methane	0.792	0.000500	0.009647	0.8008	-86.4	75 - 125				SEO

MSD Sample ID: **HS21111269-01MSD** Units: **mg/L** Analysis Date: **24-Nov-2021 13:11**
Client ID: Run ID: **FID-4_396437** SeqNo: **6392847** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethane	0.0547	0.00100	0.01804	0.003532	284	75 - 125	0.05325	2.76	30	S
Ethene	0.0511	0.00100	0.0168	0	304	75 - 125	0.04981	2.5	30	S
Methane	0.802	0.000500	0.009647	0.8008	15.9	75 - 125	0.7925	1.24	30	SEO

The following samples were analyzed in this batch: HS21111149-01 HS21111149-02 HS21111149-03 HS21111149-04

ALS Houston, US Date: 20-Jan-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2021
WorkOrder: HS21111149

QC BATCH REPORT

Batch ID: R396597 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MBLK Sample ID: **VBLKW-211124** Units: **ug/L** Analysis Date: **30-Nov-2021 01:02**
Client ID: Run ID: **VOA9_396597** SeqNo: **6397210** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	1.0	1.0								U
1,1,1-Trichloroethane	0.50	1.0								U
1,1,2,2-Tetrachloroethane	1.0	1.0								U
1,1,2-Trichlor-1,2,2-trifluoroethane	1.0	1.0								U
1,1,2-Trichloroethane	1.0	1.0								U
1,1-Dichloroethane	0.50	1.0								U
1,1-Dichloroethene	0.50	1.0								U
1,1-Dichloropropene	1.0	1.0								U
1,2,3-Trichlorobenzene	1.0	1.0								U
1,2,3-Trichloropropane	1.0	1.0								U
1,2,4-Trichlorobenzene	1.0	1.0								U
1,2,4-Trimethylbenzene	1.0	1.0								U
1,2-Dibromo-3-chloropropane	1.0	1.0								U
1,2-Dibromoethane	0.50	1.0								U
1,2-Dichlorobenzene	1.0	1.0								U
1,2-Dichloroethane	0.50	1.0								U
1,2-Dichloropropane	1.0	1.0								U
1,3,5-Trimethylbenzene	1.0	1.0								U
1,3-Dichlorobenzene	1.0	1.0								U
1,3-Dichloropropane	1.0	1.0								U
1,4-Dichlorobenzene	1.0	1.0								U
2,2-Dichloropropane	0.50	1.0								U
2-Butanone	1.0	2.0								U
2-Chlorotoluene	1.0	1.0								U
2-Hexanone	2.0	2.0								U
4-Chlorotoluene	1.0	1.0								U
4-Isopropyltoluene	1.0	1.0								U
4-Methyl-2-pentanone	2.0	2.0								U
Acetone	2.0	2.0								U
Benzene	0.50	1.0								U
Bromobenzene	1.0	1.0								U
Bromochloromethane	0.50	1.0								U
Bromodichloromethane	0.50	1.0								U
Bromoform	1.0	1.0								U

ALS Houston, US Date: 20-Jan-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2021
WorkOrder: HS21111149

QC BATCH REPORT

Batch ID: R396597 (0) **Instrument: VOA9** **Method: VOLATILES ORGANICS BY METHOD 8260C**

MBLK Sample ID: **VBLKW-211124** Units: **ug/L** Analysis Date: **30-Nov-2021 01:02**
Client ID: Run ID: **VOA9_396597** SeqNo: **6397210** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromomethane	1.0	1.0								U
Carbon disulfide	2.0	2.0								U
Carbon tetrachloride	1.0	1.0								U
Chlorobenzene	1.0	1.0								U
Chloroethane	1.0	1.0								U
Chloroform	0.50	1.0								U
Chloromethane	0.50	1.0								U
cis-1,2-Dichloroethene	0.50	1.0								U
cis-1,3-Dichloropropene	0.50	1.0								U
Dibromochloromethane	1.0	1.0								U
Dibromomethane	0.50	1.0								U
Dichlorodifluoromethane	1.0	1.0								U
Ethylbenzene	1.0	1.0								U
Hexachlorobutadiene	1.0	1.0								U
Isopropylbenzene	1.0	1.0								U
m,p-Xylene	1.0	2.0								U
Methylene chloride	1.0	2.0								U
Naphthalene	1.0	1.0								U
n-Butylbenzene	1.0	1.0								U
n-Propylbenzene	1.0	1.0								U
o-Xylene	1.0	1.0								U
sec-Butylbenzene	1.0	1.0								U
Styrene	1.0	1.0								U
tert-Butylbenzene	1.0	1.0								U
Tetrachloroethene	1.0	1.0								U
Toluene	0.50	1.0								U
trans-1,2-Dichloroethene	0.50	1.0								U
trans-1,3-Dichloropropene	0.50	1.0								U
Trichloroethene	0.50	1.0								U
Trichlorofluoromethane	1.0	1.0								U
Vinyl chloride	0.50	1.0								U
Surr: 1,2-Dichloroethane-d4	*44.06*	*1.0*	*50*	*0*	*88.1*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*49.52*	*1.0*	*50*	*0*	*99.0*	*85 - 114*				
Surr: Dibromofluoromethane	*43.77*	*1.0*	*50*	*0*	*87.5*	*80 - 119*				

ALS Houston, US Date: 20-Jan-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2021
WorkOrder: HS21111149

QC BATCH REPORT

Batch ID: R396597 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MBLK Sample ID: **VBLKW-211124** Units: **ug/L** Analysis Date: **30-Nov-2021 01:02**
Client ID: Run ID: **VOA9_396597** SeqNo: **6397210** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Surr: Toluene-d8	*50.92*	*1.0*	*50*	*0*	*102*	*89 - 112*				

ALS Houston, US Date: 20-Jan-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2021
WorkOrder: HS21111149

QC BATCH REPORT

Batch ID: R396597 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

LCS Sample ID: **VLCSW-211124** Units: **ug/L** Analysis Date: **30-Nov-2021 00:17**
Client ID: Run ID: **VOA9_396597** SeqNo: **6397209** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	20.36	1.0	20	0	102	78 - 124				
1,1,1-Trichloroethane	22.01	1.0	20	0	110	74 - 131				
1,1,2,2-Tetrachloroethane	20.75	1.0	20	0	104	71 - 121				
1,1,2-Trichlor-1,2,2-trifluoroethane	21.64	1.0	20	0	108	70 - 136				
1,1,2-Trichloroethane	22.12	1.0	20	0	111	80 - 119				
1,1-Dichloroethane	24.5	1.0	20	0	122	77 - 125				
1,1-Dichloroethene	21.91	1.0	20	0	110	71 - 131				
1,1-Dichloropropene	22.01	1.0	20	0	110	78 - 125				
1,2,3-Trichlorobenzene	20.43	1.0	20	0	102	69 - 129				
1,2,3-Trichloropropane	20.78	1.0	20	0	104	73 - 122				
1,2,4-Trichlorobenzene	20.61	1.0	20	0	103	69 - 130				
1,2,4-Trimethylbenzene	22.04	1.0	20	0	110	76 - 124				
1,2-Dibromo-3-chloropropane	17.13	1.0	20	0	85.7	62 - 128				
1,2-Dibromoethane	22.26	1.0	20	0	111	77 - 121				
1,2-Dichlorobenzene	21.46	1.0	20	0	107	80 - 119				
1,2-Dichloroethane	20.76	1.0	20	0	104	73 - 128				
1,2-Dichloropropane	22	1.0	20	0	110	78 - 122				
1,3,5-Trimethylbenzene	21.58	1.0	20	0	108	75 - 124				
1,3-Dichlorobenzene	21.11	1.0	20	0	106	80 - 119				
1,3-Dichloropropane	22.07	1.0	20	0	110	80 - 119				
1,4-Dichlorobenzene	21.48	1.0	20	0	107	79 - 118				
2,2-Dichloropropane	16.34	1.0	20	0	81.7	60 - 139				
2-Butanone	41.8	2.0	40	0	105	56 - 143				
2-Chlorotoluene	21.83	1.0	20	0	109	79 - 122				
2-Hexanone	43.45	2.0	40	0	109	57 - 139				
4-Chlorotoluene	21.67	1.0	20	0	108	78 - 122				
4-Isopropyltoluene	22.27	1.0	20	0	111	77 - 127				
4-Methyl-2-pentanone	40.6	2.0	40	0	102	67 - 130				
Acetone	42.51	2.0	40	0	106	39 - 160				
Benzene	21.97	1.0	20	0	110	79 - 120				
Bromobenzene	21.73	1.0	20	0	109	80 - 120				
Bromochloromethane	23.32	1.0	20	0	117	78 - 123				
Bromodichloromethane	18.68	1.0	20	0	93.4	79 - 125				
Bromoform	16.84	1.0	20	0	84.2	66 - 130				

ALS Houston, US Date: 20-Jan-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2021
WorkOrder: HS21111149

QC BATCH REPORT

Batch ID: R396597 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

LCS Sample ID: **VLCSW-211124** Units: **ug/L** Analysis Date: **30-Nov-2021 00:17**
Client ID: Run ID: **VOA9_396597** SeqNo: **6397209** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromomethane	29	1.0	20	0	145	53 - 141				S
Carbon disulfide	41.61	2.0	40	0	104	64 - 133				
Carbon tetrachloride	19.36	1.0	20	0	96.8	72 - 136				
Chlorobenzene	21.24	1.0	20	0	106	82 - 118				
Chloroethane	23.29	1.0	20	0	116	60 - 138				
Chloroform	22.62	1.0	20	0	113	79 - 124				
Chloromethane	24.85	1.0	20	0	124	50 - 139				
cis-1,2-Dichloroethene	22.63	1.0	20	0	113	78 - 123				
cis-1,3-Dichloropropene	18.25	1.0	20	0	91.3	75 - 124				
Dibromochloromethane	18.55	1.0	20	0	92.7	74 - 126				
Dibromomethane	21.58	1.0	20	0	108	79 - 123				
Dichlorodifluoromethane	21.75	1.0	20	0	109	32 - 152				
Ethylbenzene	21.6	1.0	20	0	108	79 - 121				
Hexachlorobutadiene	22.3	1.0	20	0	112	66 - 134				
Isopropylbenzene	22.06	1.0	20	0	110	72 - 131				
m,p-Xylene	44.42	2.0	40	0	111	80 - 121				
Methylene chloride	22.46	2.0	20	0	112	74 - 124				
Naphthalene	19.44	1.0	20	0	97.2	61 - 128				
n-Butylbenzene	21.22	1.0	20	0	106	75 - 128				
n-Propylbenzene	22.38	1.0	20	0	112	76 - 126				
o-Xylene	21.71	1.0	20	0	109	78 - 122				
sec-Butylbenzene	22.37	1.0	20	0	112	77 - 126				
Styrene	22.55	1.0	20	0	113	78 - 123				
tert-Butylbenzene	22.15	1.0	20	0	111	78 - 124				
Tetrachloroethene	21.12	1.0	20	0	106	74 - 129				
Toluene	21.71	1.0	20	0	109	80 - 121				
trans-1,2-Dichloroethene	23.69	1.0	20	0	118	75 - 124				
trans-1,3-Dichloropropene	17.48	1.0	20	0	87.4	73 - 127				
Trichloroethene	22.85	1.0	20	0	114	79 - 123				
Trichlorofluoromethane	21.22	1.0	20	0	106	65 - 141				
Vinyl chloride	21.92	1.0	20	0	110	58 - 137				
Surr: 1,2-Dichloroethane-d4	*52.57*	*1.0*	*50*	*0*	*105*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*50.52*	*1.0*	*50*	*0*	*101*	*85 - 114*				
Surr: Dibromofluoromethane	*52.72*	*1.0*	*50*	*0*	*105*	*80 - 119*				

ALS Houston, US Date: 20-Jan-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2021
WorkOrder: HS21111149

QC BATCH REPORT

Batch ID: R396597 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

LCS Sample ID: **VLCSW-211124** Units: **ug/L** Analysis Date: **30-Nov-2021 00:17**
Client ID: Run ID: **VOA9_396597** SeqNo: **6397209** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Surr: Toluene-d8	*50.39*	*1.0*	*50*	*0*	*101*	*89 - 112*				

ALS Houston, US Date: 20-Jan-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2021
WorkOrder: HS21111149

QC BATCH REPORT

Batch ID: R396597 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS21111149-01MS** Units: **ug/L** Analysis Date: **30-Nov-2021 02:09**
Client ID: **35BWW26-211117** Run ID: **VOA9_396597** SeqNo: **6397213** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	20.24	1.0	20	0	101	78 - 124				
1,1,1-Trichloroethane	20.98	1.0	20	0	105	74 - 131				
1,1,2,2-Tetrachloroethane	21.37	1.0	20	0	107	71 - 121				
1,1,2-Trichlor-1,2,2-trifluoroethane	23.39	1.0	20	0	117	70 - 136				
1,1,2-Trichloroethane	22.23	1.0	20	0	111	80 - 119				
1,1-Dichloroethane	19.76	1.0	20	0	98.8	77 - 125				
1,1-Dichloroethene	23	1.0	20	0	115	71 - 131				
1,1-Dichloropropene	23.26	1.0	20	0	116	78 - 125				
1,2,3-Trichlorobenzene	19.96	1.0	20	0	99.8	69 - 129				
1,2,3-Trichloropropane	20.78	1.0	20	0	104	73 - 122				
1,2,4-Trichlorobenzene	20.12	1.0	20	0	101	69 - 130				
1,2,4-Trimethylbenzene	22.2	1.0	20	0	111	76 - 124				
1,2-Dibromo-3-chloropropane	16.47	1.0	20	0	82.3	62 - 128				
1,2-Dibromoethane	22.8	1.0	20	0	114	77 - 121				
1,2-Dichlorobenzene	21.66	1.0	20	0	108	80 - 119				
1,2-Dichloroethane	21.09	1.0	20	0	105	73 - 128				
1,2-Dichloropropane	22.8	1.0	20	0	114	78 - 122				
1,3,5-Trimethylbenzene	22.21	1.0	20	0	111	75 - 124				
1,3-Dichlorobenzene	21.19	1.0	20	0	106	80 - 119				
1,3-Dichloropropane	22.46	1.0	20	0	112	80 - 119				
1,4-Dichlorobenzene	21.65	1.0	20	0	108	79 - 118				
2,2-Dichloropropane	14.68	1.0	20	0	73.4	60 - 139				
2-Butanone	36.13	2.0	40	0	90.3	56 - 143				
2-Chlorotoluene	22.3	1.0	20	0	112	79 - 122				
2-Hexanone	43.77	2.0	40	0	109	57 - 139				
4-Chlorotoluene	22.4	1.0	20	0	112	78 - 122				
4-Isopropyltoluene	22.64	1.0	20	0	113	77 - 127				
4-Methyl-2-pentanone	41.97	2.0	40	0	105	67 - 130				
Acetone	40.08	2.0	40	0	100	39 - 160				
Benzene	23.11	1.0	20	0	116	79 - 120				
Bromobenzene	21.82	1.0	20	0	109	80 - 120				
Bromochloromethane	21.76	1.0	20	0	109	78 - 123				
Bromodichloromethane	19.27	1.0	20	0	96.4	79 - 125				
Bromoform	16.74	1.0	20	0	83.7	66 - 130				

ALS Houston, US Date: 20-Jan-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2021
WorkOrder: HS21111149

QC BATCH REPORT

Batch ID: R396597 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS21111149-01MS** Units: **ug/L** Analysis Date: **30-Nov-2021 02:09**
Client ID: **35BWW26-211117** Run ID: **VOA9_396597** SeqNo: **6397213** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromomethane	25.26	1.0	20	0	126	53 - 141				
Carbon disulfide	41.74	2.0	40	0	104	64 - 133				
Carbon tetrachloride	20.17	1.0	20	0	101	72 - 136				
Chlorobenzene	22.16	1.0	20	0	111	82 - 118				
Chloroethane	19.06	1.0	20	0	95.3	60 - 138				
Chloroform	20.93	1.0	20	0	105	79 - 124				
Chloromethane	21.18	1.0	20	0	106	50 - 139				
cis-1,2-Dichloroethene	20.93	1.0	20	0	105	78 - 123				
cis-1,3-Dichloropropene	17.85	1.0	20	0	89.3	75 - 124				
Dibromochloromethane	18.57	1.0	20	0	92.8	74 - 126				
Dibromomethane	20.56	1.0	20	0	103	79 - 123				
Dichlorodifluoromethane	14.98	1.0	20	0	74.9	32 - 152				
Ethylbenzene	23.29	1.0	20	0	116	79 - 121				
Hexachlorobutadiene	21.87	1.0	20	0	109	66 - 134				
Isopropylbenzene	23.3	1.0	20	0	116	72 - 131				
m,p-Xylene	47.24	2.0	40	0	118	80 - 121				
Methylene chloride	18.94	2.0	20	0	94.7	74 - 124				
Naphthalene	19.1	1.0	20	0	95.5	61 - 128				
n-Butylbenzene	21.82	1.0	20	0	109	75 - 128				
n-Propylbenzene	22.75	1.0	20	0	114	76 - 126				
o-Xylene	22.94	1.0	20	0	115	78 - 122				
sec-Butylbenzene	22.95	1.0	20	0	115	77 - 126				
Styrene	23.18	1.0	20	0	116	78 - 123				
tert-Butylbenzene	22.63	1.0	20	0	113	78 - 124				
Tetrachloroethene	22.32	1.0	20	0	112	74 - 129				
Toluene	23.14	1.0	20	0	116	80 - 121				
trans-1,2-Dichloroethene	20.49	1.0	20	0	102	75 - 124				
trans-1,3-Dichloropropene	16.76	1.0	20	0	83.8	73 - 127				
Trichloroethene	22.52	1.0	20	0	113	79 - 123				
Trichlorofluoromethane	21.46	1.0	20	0	107	65 - 141				
Vinyl chloride	19.44	1.0	20	0	97.2	58 - 137				
Surr: 1,2-Dichloroethane-d4	*44.5*	*1.0*	*50*	*0*	*89.0*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*50.92*	*1.0*	*50*	*0*	*102*	*85 - 114*				
Surr: Dibromofluoromethane	*45.97*	*1.0*	*50*	*0*	*91.9*	*80 - 119*				

ALS Houston, US Date: 20-Jan-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2021
WorkOrder: HS21111149

QC BATCH REPORT

Batch ID: R396597 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS21111149-01MS** Units: **ug/L** Analysis Date: **30-Nov-2021 02:09**
Client ID: **35BWW26-211117** Run ID: **VOA9_396597** SeqNo: **6397213** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Surr: Toluene-d8	*51.27*	*1.0*	*50*	*0*	*103*	*89 - 112*				

ALS Houston, US Date: 20-Jan-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2021
WorkOrder: HS21111149

QC BATCH REPORT

Batch ID: R396597 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS21111149-01MSD** Units: **ug/L** Analysis Date: **30-Nov-2021 02:31**
Client ID: **35BWW26-211117** Run ID: **VOA9_396597** SeqNo: **6397214** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	20.16	1.0	20	0	101	78 - 124	20.24	0.412	20	
1,1,1-Trichloroethane	19.83	1.0	20	0	99.1	74 - 131	20.98	5.64	20	
1,1,2,2-Tetrachloroethane	21.33	1.0	20	0	107	71 - 121	21.37	0.202	20	
1,1,2-Trichlor-1,2,2-trifluoroethane	21.6	1.0	20	0	108	70 - 136	23.39	7.95	20	
1,1,2-Trichloroethane	21.73	1.0	20	0	109	80 - 119	22.23	2.3	20	
1,1-Dichloroethane	22.3	1.0	20	0	112	77 - 125	19.76	12.1	20	
1,1-Dichloroethene	21.49	1.0	20	0	107	71 - 131	23	6.76	20	
1,1-Dichloropropene	22.3	1.0	20	0	112	78 - 125	23.26	4.2	20	
1,2,3-Trichlorobenzene	20.25	1.0	20	0	101	69 - 129	19.96	1.47	20	
1,2,3-Trichloropropane	20.04	1.0	20	0	100	73 - 122	20.78	3.66	20	
1,2,4-Trichlorobenzene	20.41	1.0	20	0	102	69 - 130	20.12	1.4	20	
1,2,4-Trimethylbenzene	21.96	1.0	20	0	110	76 - 124	22.2	1.08	20	
1,2-Dibromo-3-chloropropane	16.94	1.0	20	0	84.7	62 - 128	16.47	2.81	20	
1,2-Dibromoethane	22.33	1.0	20	0	112	77 - 121	22.8	2.08	20	
1,2-Dichlorobenzene	21.48	1.0	20	0	107	80 - 119	21.66	0.798	20	
1,2-Dichloroethane	20.16	1.0	20	0	101	73 - 128	21.09	4.51	20	
1,2-Dichloropropane	21.94	1.0	20	0	110	78 - 122	22.8	3.87	20	
1,3,5-Trimethylbenzene	21.49	1.0	20	0	107	75 - 124	22.21	3.29	20	
1,3-Dichlorobenzene	20.92	1.0	20	0	105	80 - 119	21.19	1.32	20	
1,3-Dichloropropane	22.06	1.0	20	0	110	80 - 119	22.46	1.82	20	
1,4-Dichlorobenzene	21.15	1.0	20	0	106	79 - 118	21.65	2.34	20	
2,2-Dichloropropane	15.02	1.0	20	0	75.1	60 - 139	14.68	2.29	20	
2-Butanone	38.06	2.0	40	0	95.1	56 - 143	36.13	5.19	20	
2-Chlorotoluene	21.92	1.0	20	0	110	79 - 122	22.3	1.71	20	
2-Hexanone	44.02	2.0	40	0	110	57 - 139	43.77	0.56	20	
4-Chlorotoluene	21.93	1.0	20	0	110	78 - 122	22.4	2.1	20	
4-Isopropyltoluene	22.1	1.0	20	0	111	77 - 127	22.64	2.42	20	
4-Methyl-2-pentanone	41.41	2.0	40	0	104	67 - 130	41.97	1.35	20	
Acetone	39.92	2.0	40	0	99.8	39 - 160	40.08	0.387	20	
Benzene	22.07	1.0	20	0	110	79 - 120	23.11	4.64	20	
Bromobenzene	21.61	1.0	20	0	108	80 - 120	21.82	0.973	20	
Bromochloromethane	20.83	1.0	20	0	104	78 - 123	21.76	4.35	20	
Bromodichloromethane	18.64	1.0	20	0	93.2	79 - 125	19.27	3.35	20	
Bromoform	16.62	1.0	20	0	83.1	66 - 130	16.74	0.737	20	

ALS Houston, US Date: 20-Jan-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2021
WorkOrder: HS21111149

QC BATCH REPORT

Batch ID: R396597 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS21111149-01MSD** Units: **ug/L** Analysis Date: **30-Nov-2021 02:31**
Client ID: **35BWW26-211117** Run ID: **VOA9_396597** SeqNo: **6397214** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Bromomethane	23.52	1.0	20	0	118	53 - 141	25.26	7.14	20	
Carbon disulfide	39.45	2.0	40	0	98.6	64 - 133	41.74	5.64	20	
Carbon tetrachloride	19.64	1.0	20	0	98.2	72 - 136	20.17	2.65	20	
Chlorobenzene	21.71	1.0	20	0	109	82 - 118	22.16	2.07	20	
Chloroethane	19.15	1.0	20	0	95.8	60 - 138	19.06	0.475	20	
Chloroform	19.87	1.0	20	0	99.4	79 - 124	20.93	5.19	20	
Chloromethane	19.64	1.0	20	0	98.2	50 - 139	21.18	7.53	20	
cis-1,2-Dichloroethene	21.67	1.0	20	0	108	78 - 123	20.93	3.49	20	
cis-1,3-Dichloropropene	17.31	1.0	20	0	86.6	75 - 124	17.85	3.07	20	
Dibromochloromethane	18.29	1.0	20	0	91.4	74 - 126	18.57	1.52	20	
Dibromomethane	20.83	1.0	20	0	104	79 - 123	20.56	1.28	20	
Dichlorodifluoromethane	14.07	1.0	20	0	70.3	32 - 152	14.98	6.27	20	
Ethylbenzene	22.27	1.0	20	0	111	79 - 121	23.29	4.46	20	
Hexachlorobutadiene	21.85	1.0	20	0	109	66 - 134	21.87	0.0877	20	
Isopropylbenzene	22.77	1.0	20	0	114	72 - 131	23.3	2.28	20	
m,p-Xylene	45.62	2.0	40	0	114	80 - 121	47.24	3.48	20	
Methylene chloride	20.02	2.0	20	0	100	74 - 124	18.94	5.57	20	
Naphthalene	19.56	1.0	20	0	97.8	61 - 128	19.1	2.42	20	
n-Butylbenzene	21.37	1.0	20	0	107	75 - 128	21.82	2.12	20	
n-Propylbenzene	22.58	1.0	20	0	113	76 - 126	22.75	0.754	20	
o-Xylene	22.11	1.0	20	0	111	78 - 122	22.94	3.7	20	
sec-Butylbenzene	22.43	1.0	20	0	112	77 - 126	22.95	2.29	20	
Styrene	22.61	1.0	20	0	113	78 - 123	23.18	2.46	20	
tert-Butylbenzene	22.43	1.0	20	0	112	78 - 124	22.63	0.897	20	
Tetrachloroethene	21.77	1.0	20	0	109	74 - 129	22.32	2.48	20	
Toluene	22.13	1.0	20	0	111	80 - 121	23.14	4.47	20	
trans-1,2-Dichloroethene	21.18	1.0	20	0	106	75 - 124	20.49	3.3	20	
trans-1,3-Dichloropropene	16.75	1.0	20	0	83.7	73 - 127	16.76	0.0507	20	
Trichloroethene	21.76	1.0	20	0	109	79 - 123	22.52	3.45	20	
Trichlorofluoromethane	20.72	1.0	20	0	104	65 - 141	21.46	3.5	20	
Vinyl chloride	18.46	1.0	20	0	92.3	58 - 137	19.44	5.13	20	
Surr: 1,2-Dichloroethane-d4	*44.08*	*1.0*	*50*	*0*	*88.2*	*81 - 118*	*44.5*	*0.928*	*20*	
Surr: 4-Bromofluorobenzene	*50.79*	*1.0*	*50*	*0*	*102*	*85 - 114*	*50.92*	*0.26*	*20*	
Surr: Dibromofluoromethane	*46.1*	*1.0*	*50*	*0*	*92.2*	*80 - 119*	*45.97*	*0.273*	*20*	

ALS Houston, US Date: 20-Jan-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2021
WorkOrder: HS21111149

QC BATCH REPORT

Batch ID: R396597 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS21111149-01MSD** Units: **ug/L** Analysis Date: **30-Nov-2021 02:31**
Client ID: **35BWW26-211117** Run ID: **VOA9_396597** SeqNo: **6397214** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Surr: Toluene-d8	*51.54*	*1.0*	*50*	*0*	*103*	*89 - 112*	*51.27*	*0.539*	*20*	

The following samples were analyzed in this batch:

HS21111149-01	HS21111149-02	HS21111149-03	HS21111149-04
HS21111149-05	HS21111149-06	HS21111149-07	HS21111149-08

ALS Houston, US Date: 20-Jan-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2021
WorkOrder: HS21111149

QC BATCH REPORT

Batch ID: R396691 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MBLK Sample ID: **VBLKW-211130** Units: **ug/L** Analysis Date: **30-Nov-2021 12:42**
Client ID: Run ID: **VOA9_396691** SeqNo: **6399425** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	1.0	1.0								U
1,1,1-Trichloroethane	0.50	1.0								U
1,1,2,2-Tetrachloroethane	1.0	1.0								U
1,1,2-Trichlor-1,2,2-trifluoroethane	1.0	1.0								U
1,1,2-Trichloroethane	1.0	1.0								U
1,1-Dichloroethane	0.50	1.0								U
1,1-Dichloroethene	0.50	1.0								U
1,1-Dichloropropene	1.0	1.0								U
1,2,3-Trichlorobenzene	1.0	1.0								U
1,2,3-Trichloropropane	1.0	1.0								U
1,2,4-Trichlorobenzene	1.0	1.0								U
1,2,4-Trimethylbenzene	1.0	1.0								U
1,2-Dibromo-3-chloropropane	1.0	1.0								U
1,2-Dibromoethane	0.50	1.0								U
1,2-Dichlorobenzene	1.0	1.0								U
1,2-Dichloroethane	0.50	1.0								U
1,2-Dichloropropane	1.0	1.0								U
1,3,5-Trimethylbenzene	1.0	1.0								U
1,3-Dichlorobenzene	1.0	1.0								U
1,3-Dichloropropane	1.0	1.0								U
1,4-Dichlorobenzene	1.0	1.0								U
2,2-Dichloropropane	0.50	1.0								U
2-Butanone	1.0	2.0								U
2-Chlorotoluene	1.0	1.0								U
2-Hexanone	2.0	2.0								U
4-Chlorotoluene	1.0	1.0								U
4-Isopropyltoluene	1.0	1.0								U
4-Methyl-2-pentanone	2.0	2.0								U
Acetone	2.0	2.0								U
Benzene	0.50	1.0								U
Bromobenzene	1.0	1.0								U
Bromochloromethane	0.50	1.0								U
Bromodichloromethane	0.50	1.0								U
Bromoform	1.0	1.0								U

ALS Houston, US Date: 20-Jan-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2021
WorkOrder: HS21111149

QC BATCH REPORT

Batch ID: R396691 (0) **Instrument: VOA9** **Method: VOLATILES ORGANICS BY METHOD 8260C**

MBLK Sample ID: **VBLKW-211130** Units: **ug/L** Analysis Date: **30-Nov-2021 12:42**
Client ID: Run ID: **VOA9_396691** SeqNo: **6399425** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromomethane	1.0	1.0								U
Carbon disulfide	2.0	2.0								U
Carbon tetrachloride	1.0	1.0								U
Chlorobenzene	1.0	1.0								U
Chloroethane	1.0	1.0								U
Chloroform	0.50	1.0								U
Chloromethane	0.50	1.0								U
cis-1,2-Dichloroethene	0.50	1.0								U
cis-1,3-Dichloropropene	0.50	1.0								U
Dibromochloromethane	1.0	1.0								U
Dibromomethane	0.50	1.0								U
Dichlorodifluoromethane	1.0	1.0								U
Ethylbenzene	1.0	1.0								U
Hexachlorobutadiene	1.0	1.0								U
Isopropylbenzene	1.0	1.0								U
m,p-Xylene	1.0	2.0								U
Methylene chloride	1.0	2.0								U
Naphthalene	1.0	1.0								U
n-Butylbenzene	1.0	1.0								U
n-Propylbenzene	1.0	1.0								U
o-Xylene	1.0	1.0								U
sec-Butylbenzene	1.0	1.0								U
Styrene	1.0	1.0								U
tert-Butylbenzene	1.0	1.0								U
Tetrachloroethene	1.0	1.0								U
Toluene	0.50	1.0								U
trans-1,2-Dichloroethene	0.50	1.0								U
trans-1,3-Dichloropropene	0.50	1.0								U
Trichloroethene	0.50	1.0								U
Trichlorofluoromethane	1.0	1.0								U
Vinyl chloride	0.50	1.0								U
Surr: 1,2-Dichloroethane-d4	*44.48*	*1.0*	*50*	*0*	*89.0*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*49.65*	*1.0*	*50*	*0*	*99.3*	*85 - 114*				
Surr: Dibromofluoromethane	*43.57*	*1.0*	*50*	*0*	*87.1*	*80 - 119*				

ALS Houston, US Date: 20-Jan-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2021
WorkOrder: HS21111149

QC BATCH REPORT

Batch ID: R396691 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MBLK Sample ID: **VBLKW-211130** Units: **ug/L** Analysis Date: **30-Nov-2021 12:42**
Client ID: Run ID: **VOA9_396691** SeqNo: **6399425** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Surr: Toluene-d8	*50.52*	*1.0*	*50*	*0*	*101*	*89 - 112*				

ALS Houston, US Date: 20-Jan-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2021
WorkOrder: HS21111149

QC BATCH REPORT

Batch ID: R396691 (0) **Instrument: VOA9** **Method: VOLATILES ORGANICS BY METHOD 8260C**

LCS Sample ID: **VLCSW-211130** Units: **ug/L** Analysis Date: **30-Nov-2021 11:57**
Client ID: Run ID: **VOA9_396691** SeqNo: **6399424** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	19.99	1.0	20	0	100.0	78 - 124				
1,1,1-Trichloroethane	20.12	1.0	20	0	101	74 - 131				
1,1,2,2-Tetrachloroethane	20.99	1.0	20	0	105	71 - 121				
1,1,2-Trichlor-1,2,2-trifluoroethane	21.64	1.0	20	0	108	70 - 136				
1,1,2-Trichloroethane	21.74	1.0	20	0	109	80 - 119				
1,1-Dichloroethane	22.74	1.0	20	0	114	77 - 125				
1,1-Dichloroethene	22.07	1.0	20	0	110	71 - 131				
1,1-Dichloropropene	21.36	1.0	20	0	107	78 - 125				
1,2,3-Trichlorobenzene	20.44	1.0	20	0	102	69 - 129				
1,2,3-Trichloropropane	20.42	1.0	20	0	102	73 - 122				
1,2,4-Trichlorobenzene	21.06	1.0	20	0	105	69 - 130				
1,2,4-Trimethylbenzene	21.2	1.0	20	0	106	76 - 124				
1,2-Dibromo-3-chloropropane	16.55	1.0	20	0	82.8	62 - 128				
1,2-Dibromoethane	22.18	1.0	20	0	111	77 - 121				
1,2-Dichlorobenzene	21.19	1.0	20	0	106	80 - 119				
1,2-Dichloroethane	20.58	1.0	20	0	103	73 - 128				
1,2-Dichloropropane	22.12	1.0	20	0	111	78 - 122				
1,3,5-Trimethylbenzene	20.78	1.0	20	0	104	75 - 124				
1,3-Dichlorobenzene	20.61	1.0	20	0	103	80 - 119				
1,3-Dichloropropane	22.24	1.0	20	0	111	80 - 119				
1,4-Dichlorobenzene	20.99	1.0	20	0	105	79 - 118				
2,2-Dichloropropane	19.74	1.0	20	0	98.7	60 - 139				
2-Butanone	38.35	2.0	40	0	95.9	56 - 143				
2-Chlorotoluene	20.91	1.0	20	0	105	79 - 122				
2-Hexanone	44.01	2.0	40	0	110	57 - 139				
4-Chlorotoluene	21.34	1.0	20	0	107	78 - 122				
4-Isopropyltoluene	21.05	1.0	20	0	105	77 - 127				
4-Methyl-2-pentanone	41.22	2.0	40	0	103	67 - 130				
Acetone	43.75	2.0	40	0	109	39 - 160				
Benzene	21.66	1.0	20	0	108	79 - 120				
Bromobenzene	21.61	1.0	20	0	108	80 - 120				
Bromochloromethane	22.34	1.0	20	0	112	78 - 123				
Bromodichloromethane	18.69	1.0	20	0	93.5	79 - 125				
Bromoform	16.53	1.0	20	0	82.7	66 - 130				

ALS Houston, US Date: 20-Jan-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2021
WorkOrder: HS21111149

QC BATCH REPORT

Batch ID: R396691 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

LCS Sample ID: **VLCSW-211130** Units: **ug/L** Analysis Date: **30-Nov-2021 11:57**
Client ID: Run ID: **VOA9_396691** SeqNo: **6399424** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromomethane	27.42	1.0	20	0	137	53 - 141				
Carbon disulfide	43.14	2.0	40	0	108	64 - 133				
Carbon tetrachloride	18.11	1.0	20	0	90.6	72 - 136				
Chlorobenzene	21.06	1.0	20	0	105	82 - 118				
Chloroethane	19.88	1.0	20	0	99.4	60 - 138				
Chloroform	21.33	1.0	20	0	107	79 - 124				
Chloromethane	24.33	1.0	20	0	122	50 - 139				
cis-1,2-Dichloroethene	21.26	1.0	20	0	106	78 - 123				
cis-1,3-Dichloropropene	18.51	1.0	20	0	92.6	75 - 124				
Dibromochloromethane	18.06	1.0	20	0	90.3	74 - 126				
Dibromomethane	20.99	1.0	20	0	105	79 - 123				
Dichlorodifluoromethane	20.52	1.0	20	0	103	32 - 152				
Ethylbenzene	21.34	1.0	20	0	107	79 - 121				
Hexachlorobutadiene	22.37	1.0	20	0	112	66 - 134				
Isopropylbenzene	21.1	1.0	20	0	105	72 - 131				
m,p-Xylene	43.49	2.0	40	0	109	80 - 121				
Methylene chloride	20.58	2.0	20	0	103	74 - 124				
Naphthalene	19.2	1.0	20	0	96.0	61 - 128				
n-Butylbenzene	21	1.0	20	0	105	75 - 128				
n-Propylbenzene	21.16	1.0	20	0	106	76 - 126				
o-Xylene	21.78	1.0	20	0	109	78 - 122				
sec-Butylbenzene	20.5	1.0	20	0	102	77 - 126				
Styrene	22.2	1.0	20	0	111	78 - 123				
tert-Butylbenzene	20.34	1.0	20	0	102	78 - 124				
Tetrachloroethene	20.37	1.0	20	0	102	74 - 129				
Toluene	21.48	1.0	20	0	107	80 - 121				
trans-1,2-Dichloroethene	21.36	1.0	20	0	107	75 - 124				
trans-1,3-Dichloropropene	17.98	1.0	20	0	89.9	73 - 127				
Trichloroethene	21.27	1.0	20	0	106	79 - 123				
Trichlorofluoromethane	19.67	1.0	20	0	98.4	65 - 141				
Vinyl chloride	20.45	1.0	20	0	102	58 - 137				
Surr: 1,2-Dichloroethane-d4	*49.06*	*1.0*	*50*	*0*	*98.1*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*50.47*	*1.0*	*50*	*0*	*101*	*85 - 114*				
Surr: Dibromofluoromethane	*50.06*	*1.0*	*50*	*0*	*100*	*80 - 119*				

ALS Houston, US Date: 20-Jan-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2021
WorkOrder: HS21111149

QC BATCH REPORT

Batch ID: R396691 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

LCS Sample ID: **VLCSW-211130** Units: **ug/L** Analysis Date: **30-Nov-2021 11:57**
Client ID: Run ID: **VOA9_396691** SeqNo: **6399424** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Surr: Toluene-d8	*49.81*	*1.0*	*50*	*0*	*99.6*	*89 - 112*				

ALS Houston, US Date: 20-Jan-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2021
WorkOrder: HS21111149

QC BATCH REPORT

Batch ID: R396691 (0) **Instrument: VOA9** **Method: VOLATILES ORGANICS BY METHOD 8260C**

MS Sample ID: **HS21111162-29MS** Units: **ug/L** Analysis Date: **30-Nov-2021 15:00**
Client ID: Run ID: **VOA9_396691** SeqNo: **6399431** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	19.69	1.0	20	0	98.4	78 - 124				
1,1,1-Trichloroethane	20.07	1.0	20	0	100	74 - 131				
1,1,2,2-Tetrachloroethane	20.79	1.0	20	0	104	71 - 121				
1,1,2-Trichlor-1,2,2-trifluoroethane	22.66	1.0	20	0	113	70 - 136				
1,1,2-Trichloroethane	21.66	1.0	20	0	108	80 - 119				
1,1-Dichloroethane	21.15	1.0	20	0	106	77 - 125				
1,1-Dichloroethene	21.98	1.0	20	0	110	71 - 131				
1,1-Dichloropropene	23.16	1.0	20	0	116	78 - 125				
1,2,3-Trichlorobenzene	19.43	1.0	20	0	97.2	69 - 129				
1,2,3-Trichloropropane	20.05	1.0	20	0	100	73 - 122				
1,2,4-Trichlorobenzene	19.97	1.0	20	0	99.8	69 - 130				
1,2,4-Trimethylbenzene	21.55	1.0	20	0	108	76 - 124				
1,2-Dibromo-3-chloropropane	16.44	1.0	20	0	82.2	62 - 128				
1,2-Dibromoethane	21.53	1.0	20	0	108	77 - 121				
1,2-Dichlorobenzene	20.93	1.0	20	0	105	80 - 119				
1,2-Dichloroethane	20.38	1.0	20	0	102	73 - 128				
1,2-Dichloropropane	21.8	1.0	20	0	109	78 - 122				
1,3,5-Trimethylbenzene	21.83	1.0	20	0	109	75 - 124				
1,3-Dichlorobenzene	20.71	1.0	20	0	104	80 - 119				
1,3-Dichloropropane	21.59	1.0	20	0	108	80 - 119				
1,4-Dichlorobenzene	21.18	1.0	20	0	106	79 - 118				
2,2-Dichloropropane	18.81	1.0	20	0	94.1	60 - 139				
2-Butanone	35.6	2.0	40	0	89.0	56 - 143				
2-Chlorotoluene	21.61	1.0	20	0	108	79 - 122				
2-Hexanone	42.19	2.0	40	0	105	57 - 139				
4-Chlorotoluene	21.83	1.0	20	0	109	78 - 122				
4-Isopropyltoluene	22.03	1.0	20	0	110	77 - 127				
4-Methyl-2-pentanone	39.47	2.0	40	0	98.7	67 - 130				
Acetone	34.34	2.0	40	0	85.9	39 - 160				
Benzene	22.4	1.0	20	0	112	79 - 120				
Bromobenzene	21.26	1.0	20	0	106	80 - 120				
Bromochloromethane	20.56	1.0	20	0	103	78 - 123				
Bromodichloromethane	18.54	1.0	20	0	92.7	79 - 125				
Bromoform	15.97	1.0	20	0	79.9	66 - 130				

ALS Houston, US Date: 20-Jan-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2021
WorkOrder: HS21111149

QC BATCH REPORT

Batch ID: R396691 (0) **Instrument: VOA9** **Method: VOLATILES ORGANICS BY METHOD 8260C**

MS Sample ID: **HS21111162-29MS** Units: **ug/L** Analysis Date: **30-Nov-2021 15:00**
Client ID: Run ID: **VOA9_396691** SeqNo: **6399431** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromomethane	25.24	1.0	20	0	126	53 - 141				
Carbon disulfide	39.99	2.0	40	0	100.0	64 - 133				
Carbon tetrachloride	20.09	1.0	20	0	100	72 - 136				
Chlorobenzene	21.55	1.0	20	0	108	82 - 118				
Chloroethane	18.91	1.0	20	0	94.5	60 - 138				
Chloroform	20.11	1.0	20	0	101	79 - 124				
Chloromethane	21.37	1.0	20	0	107	50 - 139				
cis-1,2-Dichloroethene	20.16	1.0	20	0	101	78 - 123				
cis-1,3-Dichloropropene	17.59	1.0	20	0	88.0	75 - 124				
Dibromochloromethane	17.63	1.0	20	0	88.2	74 - 126				
Dibromomethane	20.41	1.0	20	0	102	79 - 123				
Dichlorodifluoromethane	15.35	1.0	20	0	76.8	32 - 152				
Ethylbenzene	22.49	1.0	20	0	112	79 - 121				
Hexachlorobutadiene	22.53	1.0	20	0	113	66 - 134				
Isopropylbenzene	22.75	1.0	20	0	114	72 - 131				
m,p-Xylene	46.13	2.0	40	0	115	80 - 121				
Methylene chloride	19.65	2.0	20	0	98.2	74 - 124				
Naphthalene	18.38	1.0	20	0	91.9	61 - 128				
n-Butylbenzene	21.73	1.0	20	0	109	75 - 128				
n-Propylbenzene	22.21	1.0	20	0	111	76 - 126				
o-Xylene	22.05	1.0	20	0	110	78 - 122				
sec-Butylbenzene	22.04	1.0	20	0	110	77 - 126				
Styrene	4.568	1.0	20	0	22.8	78 - 123				S
tert-Butylbenzene	21.65	1.0	20	0	108	78 - 124				
Tetrachloroethene	22.16	1.0	20	0	111	74 - 129				
Toluene	22.23	1.0	20	0	111	80 - 121				
trans-1,2-Dichloroethene	21.31	1.0	20	0	107	75 - 124				
trans-1,3-Dichloropropene	16.84	1.0	20	0	84.2	73 - 127				
Trichloroethene	22.39	1.0	20	0	112	79 - 123				
Trichlorofluoromethane	20.15	1.0	20	0	101	65 - 141				
Vinyl chloride	19.4	1.0	20	0	97.0	58 - 137				
Surr: 1,2-Dichloroethane-d4	*44.23*	*1.0*	*50*	*0*	*88.5*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*50.9*	*1.0*	*50*	*0*	*102*	*85 - 114*				
Surr: Dibromofluoromethane	*46.25*	*1.0*	*50*	*0*	*92.5*	*80 - 119*				

ALS Houston, US Date: 20-Jan-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2021
WorkOrder: HS21111149

QC BATCH REPORT

Batch ID: R396691 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS21111162-29MS** Units: **ug/L** Analysis Date: **30-Nov-2021 15:00**
Client ID: Run ID: **VOA9_396691** SeqNo: **6399431** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Surr: Toluene-d8	*50.78*	*1.0*	*50*	*0*	*102*	*89 - 112*				

ALS Houston, US Date: 20-Jan-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2021
WorkOrder: HS21111149

QC BATCH REPORT

Batch ID: R396691 (0) **Instrument: VOA9** **Method: VOLATILES ORGANICS BY METHOD 8260C**

MSD Sample ID: **HS21111162-29MSD** Units: **ug/L** Analysis Date: **30-Nov-2021 15:23**
Client ID: Run ID: **VOA9_396691** SeqNo: **6399432** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	19.68	1.0	20	0	98.4	78 - 124	19.69	0.0343	20	
1,1,1-Trichloroethane	19.29	1.0	20	0	96.4	74 - 131	20.07	3.99	20	
1,1,2,2-Tetrachloroethane	20.87	1.0	20	0	104	71 - 121	20.79	0.371	20	
1,1,2-Trichlor-1,2,2-trifluoroethane	22.18	1.0	20	0	111	70 - 136	22.66	2.14	20	
1,1,2-Trichloroethane	22	1.0	20	0	110	80 - 119	21.66	1.57	20	
1,1-Dichloroethane	20.29	1.0	20	0	101	77 - 125	21.15	4.17	20	
1,1-Dichloroethene	21.4	1.0	20	0	107	71 - 131	21.98	2.64	20	
1,1-Dichloropropene	22.59	1.0	20	0	113	78 - 125	23.16	2.5	20	
1,2,3-Trichlorobenzene	20.04	1.0	20	0	100	69 - 129	19.43	3.06	20	
1,2,3-Trichloropropane	19.94	1.0	20	0	99.7	73 - 122	20.05	0.571	20	
1,2,4-Trichlorobenzene	20.09	1.0	20	0	100	69 - 130	19.97	0.609	20	
1,2,4-Trimethylbenzene	21.67	1.0	20	0	108	76 - 124	21.55	0.537	20	
1,2-Dibromo-3-chloropropane	15.86	1.0	20	0	79.3	62 - 128	16.44	3.57	20	
1,2-Dibromoethane	22.08	1.0	20	0	110	77 - 121	21.53	2.56	20	
1,2-Dichlorobenzene	21.12	1.0	20	0	106	80 - 119	20.93	0.916	20	
1,2-Dichloroethane	20.16	1.0	20	0	101	73 - 128	20.38	1.09	20	
1,2-Dichloropropane	21.85	1.0	20	0	109	78 - 122	21.8	0.187	20	
1,3,5-Trimethylbenzene	21.63	1.0	20	0	108	75 - 124	21.83	0.943	20	
1,3-Dichlorobenzene	21.07	1.0	20	0	105	80 - 119	20.71	1.76	20	
1,3-Dichloropropane	21.62	1.0	20	0	108	80 - 119	21.59	0.147	20	
1,4-Dichlorobenzene	20.97	1.0	20	0	105	79 - 118	21.18	1	20	
2,2-Dichloropropane	18.25	1.0	20	0	91.2	60 - 139	18.81	3.04	20	
2-Butanone	34.35	2.0	40	0	85.9	56 - 143	35.6	3.58	20	
2-Chlorotoluene	21.76	1.0	20	0	109	79 - 122	21.61	0.717	20	
2-Hexanone	43.4	2.0	40	0	109	57 - 139	42.19	2.84	20	
4-Chlorotoluene	21.66	1.0	20	0	108	78 - 122	21.83	0.749	20	
4-Isopropyltoluene	21.77	1.0	20	0	109	77 - 127	22.03	1.17	20	
4-Methyl-2-pentanone	40.25	2.0	40	0	101	67 - 130	39.47	1.95	20	
Acetone	36.01	2.0	40	0	90.0	39 - 160	34.34	4.75	20	
Benzene	21.77	1.0	20	0	109	79 - 120	22.4	2.85	20	
Bromobenzene	21.44	1.0	20	0	107	80 - 120	21.26	0.861	20	
Bromochloromethane	19.88	1.0	20	0	99.4	78 - 123	20.56	3.34	20	
Bromodichloromethane	18.31	1.0	20	0	91.5	79 - 125	18.54	1.25	20	
Bromoform	16.11	1.0	20	0	80.6	66 - 130	15.97	0.894	20	

ALS Houston, US Date: 20-Jan-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2021
WorkOrder: HS21111149

QC BATCH REPORT

Batch ID: R396691 (0) **Instrument: VOA9** **Method: VOLATILES ORGANICS BY METHOD 8260C**

MSD Sample ID: **HS21111162-29MSD** Units: **ug/L** Analysis Date: **30-Nov-2021 15:23**
Client ID: Run ID: **VOA9_396691** SeqNo: **6399432** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Bromomethane	23.59	1.0	20	0	118	53 - 141	25.24	6.76	20	
Carbon disulfide	39.78	2.0	40	0	99.4	64 - 133	39.99	0.527	20	
Carbon tetrachloride	19.6	1.0	20	0	98.0	72 - 136	20.09	2.49	20	
Chlorobenzene	21.47	1.0	20	0	107	82 - 118	21.55	0.383	20	
Chloroethane	19.59	1.0	20	0	98.0	60 - 138	18.91	3.55	20	
Chloroform	19.69	1.0	20	0	98.4	79 - 124	20.11	2.11	20	
Chloromethane	20.96	1.0	20	0	105	50 - 139	21.37	1.92	20	
cis-1,2-Dichloroethene	19.39	1.0	20	0	97.0	78 - 123	20.16	3.87	20	
cis-1,3-Dichloropropene	17.61	1.0	20	0	88.1	75 - 124	17.59	0.102	20	
Dibromochloromethane	17.58	1.0	20	0	87.9	74 - 126	17.63	0.275	20	
Dibromomethane	20.2	1.0	20	0	101	79 - 123	20.41	1.02	20	
Dichlorodifluoromethane	14.58	1.0	20	0	72.9	32 - 152	15.35	5.17	20	
Ethylbenzene	22.53	1.0	20	0	113	79 - 121	22.49	0.191	20	
Hexachlorobutadiene	22.96	1.0	20	0	115	66 - 134	22.53	1.87	20	
Isopropylbenzene	22.63	1.0	20	0	113	72 - 131	22.75	0.561	20	
m,p-Xylene	46.27	2.0	40	0	116	80 - 121	46.13	0.291	20	
Methylene chloride	19.03	2.0	20	0	95.1	74 - 124	19.65	3.23	20	
Naphthalene	19.24	1.0	20	0	96.2	61 - 128	18.38	4.59	20	
n-Butylbenzene	21.66	1.0	20	0	108	75 - 128	21.73	0.324	20	
n-Propylbenzene	22.67	1.0	20	0	113	76 - 126	22.21	2.07	20	
o-Xylene	22.18	1.0	20	0	111	78 - 122	22.05	0.578	20	
sec-Butylbenzene	21.91	1.0	20	0	110	77 - 126	22.04	0.589	20	
Styrene	4.561	1.0	20	0	22.8	78 - 123	4.568	0.158	20	S
tert-Butylbenzene	21.42	1.0	20	0	107	78 - 124	21.65	1.07	20	
Tetrachloroethene	22.06	1.0	20	0	110	74 - 129	22.16	0.41	20	
Toluene	22.16	1.0	20	0	111	80 - 121	22.23	0.311	20	
trans-1,2-Dichloroethene	20.84	1.0	20	0	104	75 - 124	21.31	2.26	20	
trans-1,3-Dichloropropene	16.71	1.0	20	0	83.5	73 - 127	16.84	0.787	20	
Trichloroethene	21.93	1.0	20	0	110	79 - 123	22.39	2.07	20	
Trichlorofluoromethane	21.47	1.0	20	0	107	65 - 141	20.15	6.33	20	
Vinyl chloride	18.49	1.0	20	0	92.4	58 - 137	19.4	4.83	20	
Surr: 1,2-Dichloroethane-d4	*43.39*	*1.0*	*50*	*0*	*86.8*	*81 - 118*	*44.23*	*1.91*	*20*	
Surr: 4-Bromofluorobenzene	*51.36*	*1.0*	*50*	*0*	*103*	*85 - 114*	*50.9*	*0.898*	*20*	
Surr: Dibromofluoromethane	*45.5*	*1.0*	*50*	*0*	*91.0*	*80 - 119*	*46.25*	*1.62*	*20*	

ALS Houston, US Date: 20-Jan-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2021
WorkOrder: HS21111149

QC BATCH REPORT

Batch ID: R396691 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS21111162-29MSD** Units: **ug/L** Analysis Date: **30-Nov-2021 15:23**
Client ID: Run ID: **VOA9_396691** SeqNo: **6399432** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Surr: Toluene-d8	*51.5*	*1.0*	*50*	*0*	*103*	*89 - 112*	*50.78*	*1.42*	*20*	

The following samples were analyzed in this batch: HS21111149-09 HS21111149-10 HS21111149-11

ALS Houston, US Date: 20-Jan-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2021
WorkOrder: HS21111149

QC BATCH REPORT

Batch ID: R396754 (0) **Instrument: TOC_04** **Method: TOTAL ORGANIC CARBON - SM5310B-2011**

MBLK Sample ID: **MBLK-11302021** Units: **mg/L** Analysis Date: **01-Dec-2021 01:32**
Client ID: Run ID: **TOC_04_396754** SeqNo: **6400820** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	1.00	1.00								U

LCS Sample ID: **LCS-11302021** Units: **mg/L** Analysis Date: **01-Dec-2021 01:48**
Client ID: Run ID: **TOC_04_396754** SeqNo: **6400821** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	10.43	1.00	10	0	104	85 - 115				

LCSD Sample ID: **LCSD-11302021** Units: **mg/L** Analysis Date: **01-Dec-2021 02:04**
Client ID: Run ID: **TOC_04_396754** SeqNo: **6400822** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	10.53	1.00	10	0	105	85 - 115	10.43	0.954	20	

MS Sample ID: **HS21111144-02MS** Units: **mg/L** Analysis Date: **01-Dec-2021 02:37**
Client ID: Run ID: **TOC_04_396754** SeqNo: **6400824** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	16.71	1.00	10	5.641	111	80 - 120				

The following samples were analyzed in this batch: HS21111149-01 HS21111149-02 HS21111149-03 HS21111149-04

ALS Houston, US Date: 20-Jan-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2021
WorkOrder: HS21111149

QC BATCH REPORT

Batch ID: R397047 (0) **Instrument: ICS-Integrion** **Method: ANIONS BY SW9056A**

MBLK Sample ID: **MBLK** Units: **mg/L** Analysis Date: **18-Nov-2021 20:55**
Client ID: Run ID: **ICS-Integrion_397047** SeqNo: **6407512** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	0.500	0.500								U
Nitrogen, Nitrate (As N)	0.100	0.100								U
Sulfate	0.2031	0.500								J

LCS Sample ID: **LCS** Units: **mg/L** Analysis Date: **18-Nov-2021 21:02**
Client ID: Run ID: **ICS-Integrion_397047** SeqNo: **6407513** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	20.92	0.500	20	0	105	80 - 120				
Nitrogen, Nitrate (As N)	4.272	0.100	4	0	107	80 - 120				
Sulfate	21.11	0.500	20	0	106	80 - 120				

MS Sample ID: **HS21111149-01MS** Units: **mg/L** Analysis Date: **18-Nov-2021 17:50**
Client ID: **35BWW26-211117** Run ID: **ICS-Integrion_397047** SeqNo: **6407503** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	41.94	0.500	10	32.22	97.2	80 - 120				
Nitrogen, Nitrate (As N)	2.317	0.100	2	0.1297	109	80 - 120				
Sulfate	36.23	0.500	10	26.41	98.2	80 - 120				

MSD Sample ID: **HS21111149-01MSD** Units: **mg/L** Analysis Date: **18-Nov-2021 17:57**
Client ID: **35BWW26-211117** Run ID: **ICS-Integrion_397047** SeqNo: **6407504** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	41.87	0.500	10	32.22	96.5	80 - 120	41.94	0.174	20	
Nitrogen, Nitrate (As N)	2.312	0.100	2	0.1297	109	80 - 120	2.317	0.207	20	
Sulfate	36.24	0.500	10	26.41	98.2	80 - 120	36.23	0.016	20	

The following samples were analyzed in this batch: HS21111149-01 HS21111149-02 HS21111149-03 HS21111149-04

ALS Houston, US Date: 20-Jan-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2021
WorkOrder: **HS21111149**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitaion Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

Unit Reported	Description
mg/L	Milligrams per Liter

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	21-022-0	26-Mar-2022
Florida	E87611-33	30-Jun-2022
Illinois	2000322021-7	09-May-2022
Kansas	E-10352 2021-2022	31-Jul-2022
Kentucky	123043, 2021-2022	30-Apr-2022
Louisiana	03087, 2021-2022	30-Jun-2022
Texas	T104704231-21-28	30-Apr-2022

ALS Houston, US Date: 20-Jan-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2021
Work Order: HS21111149

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS21111149-01	35BWW26-211117	Login	11/18/2021 4:25:04 PM	NDR	Disposed
HS21111149-01	35BWW26-211117	Login	11/18/2021 4:25:04 PM	NDR	Disposed
HS21111149-01	35BWW26-211117	Login	11/18/2021 4:25:04 PM	NDR	Disposed
HS21111149-01	35BWW26-211117	Login	11/18/2021 4:25:04 PM	NDR	Sub

ALS Houston, US Date: 20-Jan-22

Sample Receipt Checklist

Work Order ID: HS21111149 **Date/Time Received:** 18-Nov-2021 11:00

Client Name: CBI-Houston **Received by:** Pablo Marinez

Completed By: /S/ Nilesh D. Ranchod (eSignature) 18-Nov-2021 16:43 (Date/Time) **Reviewed by:** /S/ Ragen Giga (eSignature) 21-Nov-2021 21:45 (Date/Time)

Matrices: **WATER** Carrier name: **FedEx Priority Overnight**

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
VOA/TX1005/TX1006 Solids in hermetically sealed vials?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	2 Page(s)
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	COC IDs:CLIENT
Samplers name present on COC?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	

Temperature(s)/Thermometer(s):	0.9°C UC/C	IR 31
Cooler(s)/Kit(s):	47147	
Date/Time sample(s) sent to storage:	11/18/2021 17:00	

Water - VOA vials have zero headspace?	Yes ☑	No ☐	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑
pH adjusted?	Yes ☐	No ☐	N/A ☑

pH adjusted by:

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:

CHAIN OF CUSTODY

Name Of Lab Shipping To: ALS 10450 Stancliff Rd. Suite 210 Houston, TX. 77099 (281) 530-5656 ATTN: Ragen Giga

Project: APTIM — LONGHORN
ARMY AMMN. PLANT (LHAAP)
GROUNDWATER TREATMENT PLANT (GWTP)
KARNACK, TEXAS

Project No. 501032

Job: LHAAP 37 November 2021

Prepared By: Scott Beesinger

P.O. Number

Field Sample I.D.	Sample Matrix	Date / Time	MS / MSD	No. OF CONTAINERS	VOC by SW 8260B	TOC by SM5310C	MEE by RSK 175	Anions (chloride sulfate, nitrate) by SW9056	CO2 by RSK 175					Remarks (Preservatives, etc.)
					Analyses									
35Bww26-211117	wG	11/17/21 0715		12	X	X	X	X	X					
35Bww26-211117-FD	wG	11/17/21 0715		12	X	X	X	X	X					
35Bww08-211117	wG	11/17/21 0805		12	X	X	X	X	X					
35Bww04-211117	wG	11/17/21 0850		12	X	X	X	X	X					
35Bww11-211117	wG	11/17/21 0940		3	X									
35Bww20-211117	wG	11/17/21 1020		3	X									
35Bww07-211117	wG	11/17/21 1100		3	X									
35Bww07-211117-FD	wG	11/17/21 1100		3	X									

Additional Remarks: **Standard TAT on all parameters. Please email results to Vicki.Graves@aptim.com and invoices to fedinvoices@aptim.com**

Relinquished By:	Date	Time	Received By:	Date	Time	Relinquished By:	Date	Time	Received By:	Date	Time
Scott Beesinger	11/17/21	1430	Paul	11/18/21	1120						

For Lab Use Only

Received At Lab By:	Date	Time	Airbill No.	Opened By:	Date	Time	Temp of Container	Seal No.	Condition

Remarks:

47147 0.9C
IR31 CU

(Word) S:\1-ces\Forms\Chain of Custody - BiWeekly

Aptim Environmental & Infrastructure, Inc.
LHAAP 37 November 2021

HS21111149

CHAIN OF CUSTODY

Name Of Lab Shipping To: ALS 10450 Stancliff Rd. Suite 210 Houston, TX. 77099 (281) 530-5656 ATTN: Ragen Giga

Page 1 of 1

Project: APTIM / ARMY AMMN. PLANT (LHAAP) / GROUNDWATER TREATMENT PLANT (GWTP) / KARNACK, TEXAS	LONGHORN	Project No. 501032
Job: **LHAAP 37 November 2021**		
Prepared By: Scott Beesinger		P.O. Number

Field Sample I.D.	Sample Matrix	Date / Time	MS / MSD	No. OF CONTAINERS	VOC by SW 8260B	TOC by SM5310C	MEE by RSK 175	Anions (chloride sulfate, nitrate) by SW9056	CO2 by RSK 175						Remarks (Preservatives, etc.)
35Bww13-211117	wb	11/17/21 1145		3	X										
35Bwwlb-211117	wb	11/17/21 1230		3	X										
Trip Blank-211117	w	11/17/21		2	X										

Analyses

Additional Remarks: **Standard TAT on all parameters. Please email results to Vicki.Graves@aptim.com and invoices to fedinvoices@aptim.com**

Relinquished By:	Date	Time	Received By:	Date	Time	Relinquished By:	Date	Time	Received By:	Date	Time
Scott Beesinger	11/17/21	1430	Pat	11/18/21	11:40						

For Lab Use Only

Received At Lab By:	Date	Time	Airbill No.	Opened By:	Date	Time	Temp of Container	Seal No.	Condition

Remarks:

47147 0.ac
IR31 CPL

(Word) S:\1-ces\Forms\Chain of Custody - BiWeekly

Aptim Environmental & Infrastucture, Inc.
LHAAP 37 November 2021

HS21111149

ALS
10450 Stancliff Rd., Suite 210
Houston, Texas 77099
Tel. +1 281 530 5656
Fax. +1 281 530 5887

47147

CUSTODY SEAL

Date: 11/17/21 Time: 1430
Name: Scott Beesinger
Company: Zhatt

Seal Broken By:
Date: 11/18/21

47147 NOV

47147

ORIGIN ID:SGRA (903) 930-6183
SCOTT BEESINGER
APTIM ENVIROMENTAL & INFASTRUCTURE
1203-B EAST GRAND AVE
PMB 202
MARSHALL, TX 75670
UNITED STATES US

SHIP DATE: 28OCT21
ACTWGT: 1.00 LB MAN
CAD: 0221247/CAFE3500
DIMS: 19x16x13 IN

TO SHIPPING DEPT
ALS LABORATORY GROUP
10450 STANCLIFF RD
SUITE 210
HOUSTON TX 77099
(281) 530-6866
REF: LHAAP-67-B081554-RG
RMA:

FedEx Express

TRK# 5224 2201

PRIORITY OVERNIGHT

AB SGRA

77099
TX-US
IAH

4230674 12Nov2021 GGGA 56D67/9A7E/1B73

Pace Analytical®

LELAP CERTIFICATE NUMBER: 01955
DOD-ELAP ACCREDITATION NUMBER: 74960

ANALYTICAL RESULTS

PERFORMED BY

Pace Analytical Gulf Coast
7979 Innovation Park Dr.
Baton Rouge, LA 70820
(225) 769-4900

Report Date 01/19/2022

Report # 221112128

Project HS21111149

Samples Collected 11/17/21

Deliver To	***Additional Recipients***
Ragen Giga ALS Houston 10450 Stancliff Rd Suite 210 Houston, TX 77099 281-530-5656	Jumoke Lawal, ALS Houston

PJLA Testing DoD ELAP

ISO 17025

NELAP ACCREDITED TNI LABORATORY

Laboratory Endorsement

Sample analysis was performed in accordance with approved methodologies provided by the Environmental Protection Agency or other recognized agencies. The samples and their corresponding extracts will be maintained for a period of 30 days unless otherwise arranged. Following this retention period the samples will be disposed in accordance with Pace Gulf Coast's Standard Operating Procedures.

Common Abbreviations that may be Utilized in this Report

ND	Indicates the result was Not Detected at the specified reporting limit
NO	Indicates the sample did not ignite when preliminary test performed for EPA Method 1030
DO	Indicates the result was Diluted Out
MI	Indicates the result was subject to Matrix Interference
TNTC	Indicates the result was Too Numerous To Count
SUBC	Indicates the analysis was Sub-Contracted
FLD	Indicates the analysis was performed in the Field
DL	Detection Limit
LOD	Limit of Detection
LOQ	Limit of Quantitation
RE	Re-analysis
CF	HPLC or GC Confirmation
00:01	Reported as a time equivalent to 12:00 AM

Reporting Flags that may be Utilized in this Report

J or I	Indicates the result is between the MDL and LOQ
J	DOD flag on analyte in the parent sample for MS/MSD outside acceptance criteria
U	Indicates the compound was analyzed for but not detected
B or V	Indicates the analyte was detected in the associated Method Blank
Q	Indicates a non-compliant QC Result (See Q Flag Application Report)
*****	Indicates a non-compliant or not applicable QC recovery or RPD – see narrative
E	Organics - The result is estimated because it exceeded the instrument calibration range
E	Metals - % diference for the serial dilution is > 10%
L	Reporting Limits adjusted to meet risk-based limit.
P	RPD between primary and confirmation result is greater than 40
DL	Diluted analysis – when appended to Client Sample ID

Sample receipt at Pace Gulf Coast is documented through the attached chain of custody. In accordance with NELAC, this report shall be reproduced only in full and with the written permission of Pace Gulf Coast. The results contained within this report relate only to the samples reported. The documented results are presented within this report.

This report pertains only to the samples listed in the Report Sample Summary and should be retained as a permanent record thereof. The results contained within this report are intended for the use of the client. Any unauthorized use of the information contained in this report is prohibited.

I certify that this data package is in compliance with The NELAC Institute (TNI) Standard 2009 and terms and conditions of the contract and Statement of Work both technically and for completeness, for other than the conditions in the case narrative. Release of the data contained in this hardcopy data package and in the computer readable data submitted has been authorized by the Quality Assurance Manager or his/her designee, as verified by the following signature.

Estimated uncertainty of measurement is available upon request. This report is in compliance with the DOD QSM as specified in the contract if applicable.



Authorized Signature
Pace Gulf Coast Report 221112128

Certifications

Certification	Certification Number
DOD ELAP	74960
Alabama	01955
Arkansas	88-0655
Colorado	01955
Delaware	01955
Florida	E87854
Georgia	01955
Hawaii	01955
Idaho	01955
Illinois	200048
Indiana	01955
Kansas	E-10354
Kentucky	95
Louisiana	01955
Maryland	01955
Massachusetts	01955
Michigan	01955
Mississippi	01955
Missouri	01955
Montana	N/A
Nebraska	01955
New Mexico	01955
North Carolina	618
North Dakota	R-195
Oklahoma	9403
South Carolina	73006001
South Dakota	01955
Tennessee	01955
Texas	T104704178
Vermont	01955
Virginia	460215
Washington	C929
USDA Soil Permit	P330-16-00234

Case Narrative

Client: ALS Environmental - Houston, TX **Report:** 221112128

Pace Analytical Gulf Coast received and analyzed the sample(s) listed
on the Report Sample Summary page of this report. Receipt of the sample(s) is documented
by the attached chain of custody. This applies only to the sample(s) listed in this report.
No sample integrity or quality control exceptions were identified unless noted below.

No anomalies were found for the analyzed sample(s).

Sample Summary

Lab ID	Client ID	Matrix	Collect Date	Receive Date
22111212801	HS21111149-01	Water	11/17/21 07:15	11/20/21 11:46
22111212802	HS21111149-02	Water	11/17/21 07:15	11/20/21 11:46
22111212803	HS21111149-03	Water	11/17/21 08:05	11/20/21 11:46
22111212804	HS21111149-04	Water	11/17/21 08:50	11/20/21 11:46

Test Summary

EPA RSK-175					
Lab ID	**Client ID**	**Matrix**	**Batch**	**Instru**	**RunDate**
22111212801	HS21111149-01	Water	728243	GCV8B	12/01/21 12:00
22111212802	HS21111149-02	Water	728243	GCV8B	12/01/21 12:06
22111212803	HS21111149-03	Water	728243	GCV8B	12/01/21 12:12
22111212804	HS21111149-04	Water	728243	GCV8B	12/01/21 12:24

Manual Integrations

Manual Integrations for LC and IC (if performed) are documented in the raw data.
No other manual integrations were performed by Pace Gulf Coast.

Detect Summary

Results and Detection Limits are adjusted for dilution and moisture when applicable

EPA RSK-175						
Lab ID	**Client ID**	**Parameter**	**Units**	**Result**	**Dil.**	**%Moist**
22111212801	HS21111149-01	Carbon Dioxide	ug/L	552000	100	NA
22111212802	HS21111149-02	Carbon Dioxide	ug/L	557000	100	NA
22111212803	HS21111149-03	Carbon Dioxide	ug/L	555000	100	NA
22111212804	HS21111149-04	Carbon Dioxide	ug/L	376000	100	NA

EPA RSK-175

Form 1D

Results

1D

ORGANICS ANALYSIS DATA SHEET

Report No:	221112128	Client Sample ID:	HS21111149-01
Collect Date:	11/17/21 Time: 0715	GCAL Sample ID:	22111212801
Matrix:	Water % Moisture: NA	Instrument ID:	GCV8B
Sample Amt:	5 mL	Lab File ID:	2211201/v8020
Injection Vol.:	1 (µL)	GC Column:	GS-Q-30 ID .53 (mm)
Prep Final Vol.:	NA (µL)	Dilution Factor:	100 Analyst: BMR
Prep Date:	NA	Analysis Date:	12/01/21 Time: 1200
Prep Batch:	NA	Analytical Batch:	728243
Prep Method:	NA	Analytical Method:	RSK-175

CONCENTRATION UNITS: ug/L

CAS	ANALYTE	RESULT	Q	DL	LOD	LOQ
124-38-9	Carbon Dioxide	552000		12700	38600	90000

FORM I ORG-1

Data File: /var/chem/gcv8b.i/2211201.b/v8020.d Page 1
Report Date: 01-Dec-2021 14:14

GCAL, Inc.

Data file : /var/chem/gcv8b.i/2211201.b/v8020.d
Lab Smp Id: 22111212801 Client Smp ID: 22111212801
Inj Date : 01-DEC-2021 12:00
Operator : BMR Inst ID: gcv8b.i
Smp Info : 22111212801
Misc Info : 2125155
Comment :
Method : /var/chem/gcv8b.i/2211201.b/CO2h.m
Meth Date : 01-Dec-2021 14:14 bmr Quant Type: ESTD
Cal Date : 21-SEP-2021 12:18 Cal File: v8007.d
Als bottle: 1
Dil Factor: 100.00000
Integrator: HP Genie Compound Sublist: co2.sub
Target Version: 3.50
Processing Host: org.gcal.com

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

					CONCENTRATIONS	
					ON-COLUMN	FINAL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/L)	(ug/L)
1 Carbon Dioxide	1.411	1.402	0.009	16440882	5519.91	552000

Data File: /var/chem/gcv8b.i/2211201.b/v8020.d

Date : 01-DEC-2021 12:00

Client ID: 22111212801

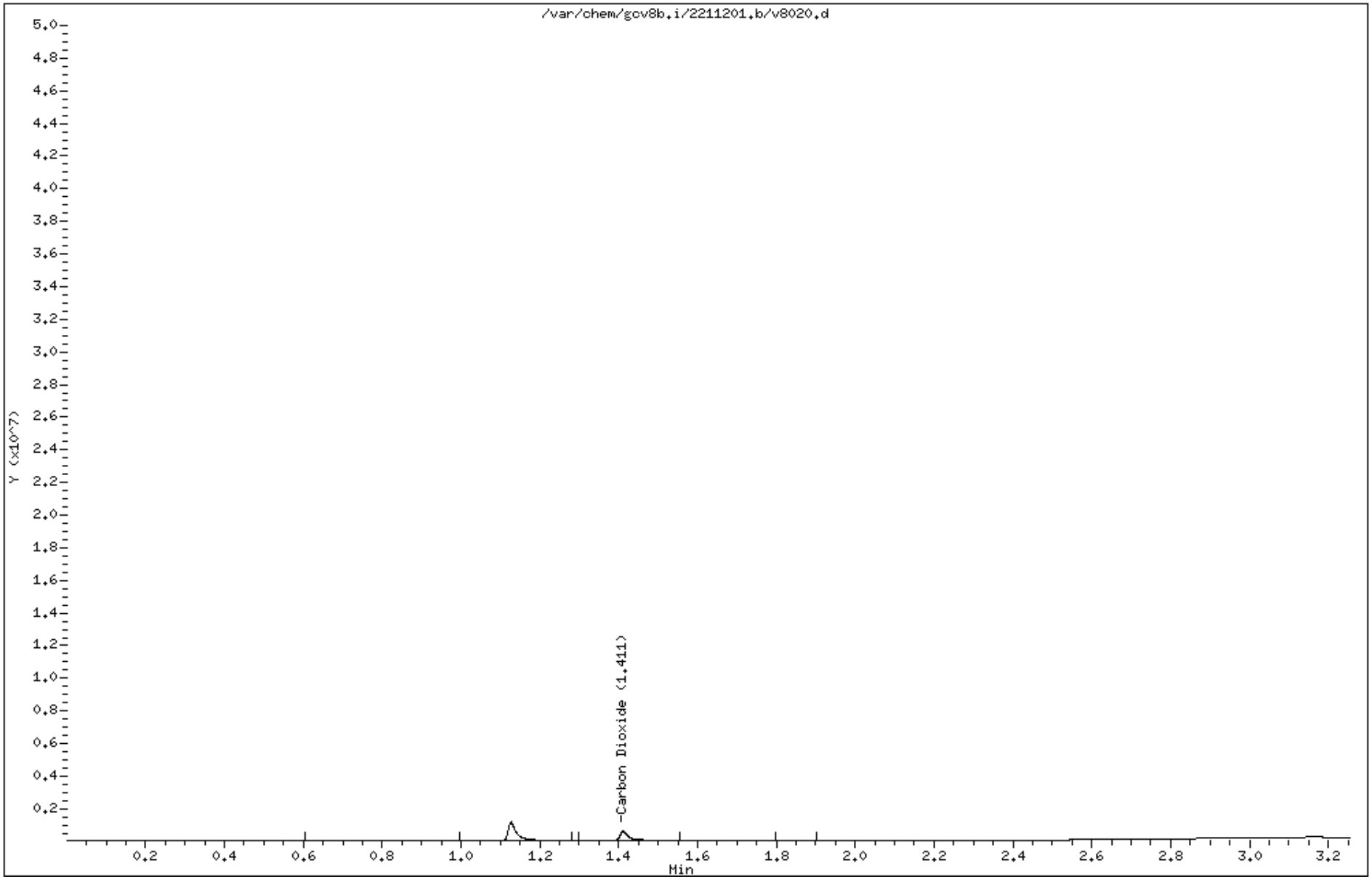
Instrument: gcv8b.i

Sample Info: 22111212801

Operator: BMR

Column phase: GS-Q-30

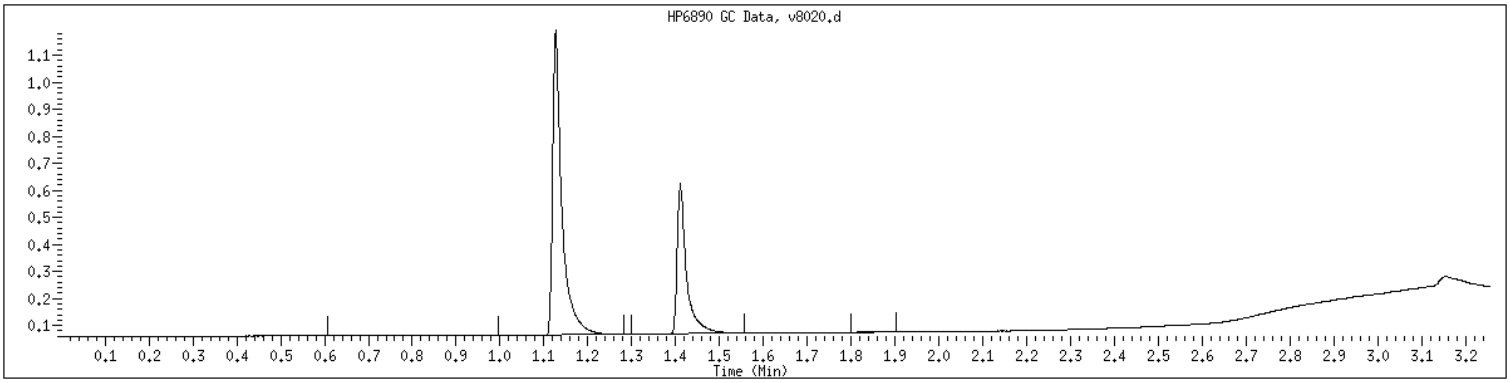
Column diameter: 0.53



Data file : /var/chem/gcv8b.i/2211201.b/v8020.d Page: 1
Report Date: 12/01/2021 14:14

MANUAL INTEGRATION GRAPHIC REPORT

Lab ID : 22111212801 SampleType : SAMPLE
Injection Date: 12/01/2021 12:00 Instrument : gcv8b.i
Operator : BMR
Sample Info : 22111212801
Misc Info : 2125155
Method : /var/chem/gcv8b.i/2211201.b/CO2h.m
Dilution : 100
Matrix : WATER
Integrator : HP Genie Compound Sublist: co2



NO MANUAL INTEGRATIONS

1D
ORGANICS ANALYSIS DATA SHEET

Report No:	221112128	Client Sample ID:	HS21111149-02
Collect Date:	11/17/21 Time: 0715	GCAL Sample ID:	22111212802
Matrix:	Water % Moisture: NA	Instrument ID:	GCV8B
Sample Amt:	5 mL	Lab File ID:	2211201/v8021
Injection Vol.:	1 (µL)	GC Column:	GS-Q-30 ID .53 (mm)
Prep Final Vol.:	NA (µL)	Dilution Factor:	100 Analyst: BMR
Prep Date:	NA	Analysis Date:	12/01/21 Time: 1206
Prep Batch:	NA	Analytical Batch:	728243
Prep Method:	NA	Analytical Method:	RSK-175

CONCENTRATION UNITS: ug/L

CAS	ANALYTE	RESULT	Q	DL	LOD	LOQ
124-38-9	Carbon Dioxide	557000		12700	38600	90000

FORM I ORG-1

Data File: /var/chem/gcv8b.i/2211201.b/v8021.d Page 1
Report Date: 01-Dec-2021 14:14

GCAL, Inc.

Data file : /var/chem/gcv8b.i/2211201.b/v8021.d
Lab Smp Id: 22111212802 Client Smp ID: 22111212802
Inj Date : 01-DEC-2021 12:06
Operator : BMR Inst ID: gcv8b.i
Smp Info : 22111212802
Misc Info : 2125155
Comment :
Method : /var/chem/gcv8b.i/2211201.b/CO2h.m
Meth Date : 01-Dec-2021 14:14 bmr Quant Type: ESTD
Cal Date : 21-SEP-2021 12:18 Cal File: v8007.d
Als bottle: 1
Dil Factor: 100.00000
Integrator: HP Genie Compound Sublist: co2.sub
Target Version: 3.50
Processing Host: org.gcal.com

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

					CONCENTRATIONS	
					ON-COLUMN	FINAL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/L)	(ug/L)
1 Carbon Dioxide	1.405	1.402	0.003	16584090	5567.99	557000

Data File: /var/chem/gcv8b.i/2211201.b/v8021.d

Date : 01-DEC-2021 12:06

Client ID: 22111212802

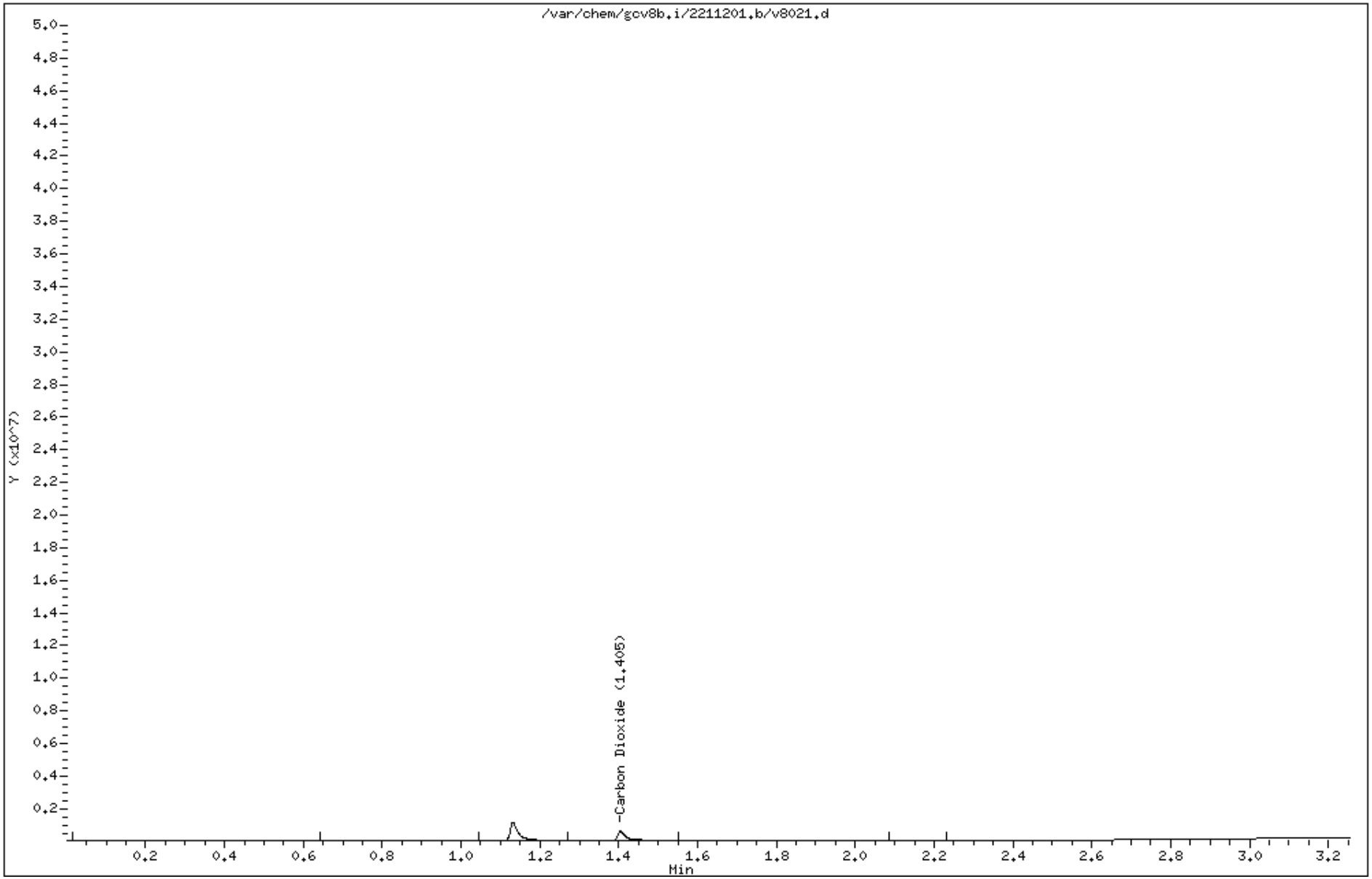
Instrument: gcv8b.i

Sample Info: 22111212802

Operator: BMR

Column phase: GS-Q-30

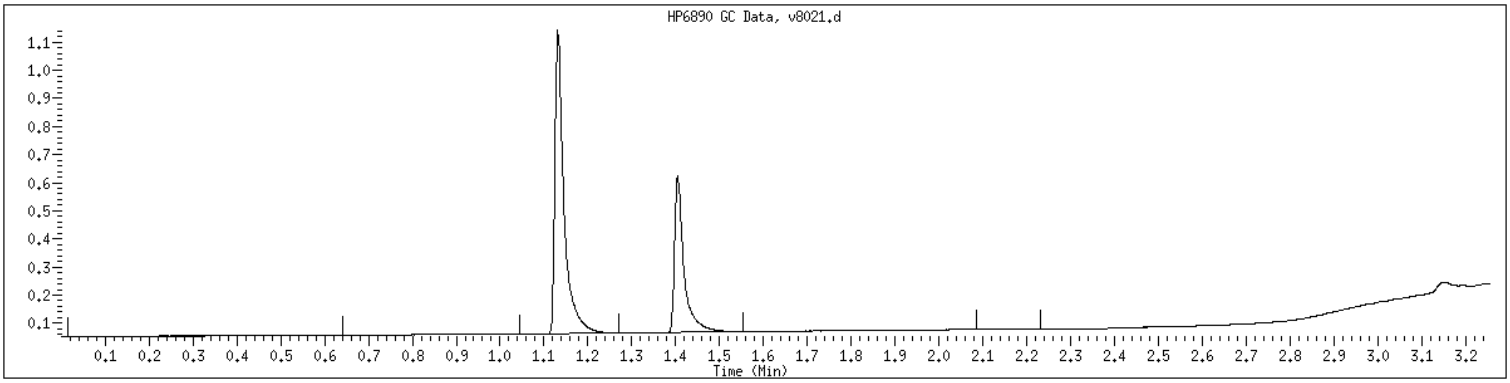
Column diameter: 0.53



Data file : /var/chem/gcv8b.i/2211201.b/v8021.d Page: 1
Report Date: 12/01/2021 14:14

MANUAL INTEGRATION GRAPHIC REPORT

Lab ID	: 22111212802	SampleType	: SAMPLE
Injection Date	: 12/01/2021 12:06	Instrument	: gcv8b.i
Operator	: BMR		
Sample Info	: 22111212802		
Misc Info	: 2125155		
Method	: /var/chem/gcv8b.i/2211201.b/CO2h.m		
Dilution	: 100		
Matrix	: WATER		
Integrator	: HP Genie	Compound Sublist	: co2



NO MANUAL INTEGRATIONS

1D

ORGANICS ANALYSIS DATA SHEET

Report No:	221112128	Client Sample ID:	HS21111149-03
Collect Date:	11/17/21 Time: 0805	GCAL Sample ID:	22111212803
Matrix:	Water % Moisture: NA	Instrument ID:	GCV8B
Sample Amt:	5 mL	Lab File ID:	2211201/v8022
Injection Vol.:	1 (µL)	GC Column:	GS-Q-30 ID .53 (mm)
Prep Final Vol.:	NA (µL)	Dilution Factor:	100 Analyst: BMR
Prep Date:	NA	Analysis Date:	12/01/21 Time: 1212
Prep Batch:	NA	Analytical Batch:	728243
Prep Method:	NA	Analytical Method:	RSK-175

CONCENTRATION UNITS: ug/L

CAS	ANALYTE	RESULT	Q	DL	LOD	LOQ
124-38-9	Carbon Dioxide	555000		12700	38600	90000

FORM I ORG-1

Data File: /var/chem/gcv8b.i/2211201.b/v8022.d Page 1
Report Date: 01-Dec-2021 14:14

GCAL, Inc.

Data file : /var/chem/gcv8b.i/2211201.b/v8022.d
Lab Smp Id: 22111212803 Client Smp ID: 22111212803
Inj Date : 01-DEC-2021 12:12
Operator : BMR Inst ID: gcv8b.i
Smp Info : 22111212803
Misc Info : 2125155
Comment :
Method : /var/chem/gcv8b.i/2211201.b/CO2h.m
Meth Date : 01-Dec-2021 14:14 bmr Quant Type: ESTD
Cal Date : 21-SEP-2021 12:18 Cal File: v8007.d
Als bottle: 1
Dil Factor: 100.00000
Integrator: HP Genie Compound Sublist: co2.sub
Target Version: 3.50
Processing Host: org.gcal.com

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

					CONCENTRATIONS	
					ON-COLUMN	FINAL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/L)	(ug/L)
1 Carbon Dioxide	1.414	1.402	0.012	16538909	5552.82	555000

Data File: /var/chem/gcv8b.i/2211201.b/v8022.d

Date : 01-DEC-2021 12:12

Client ID: 22111212803

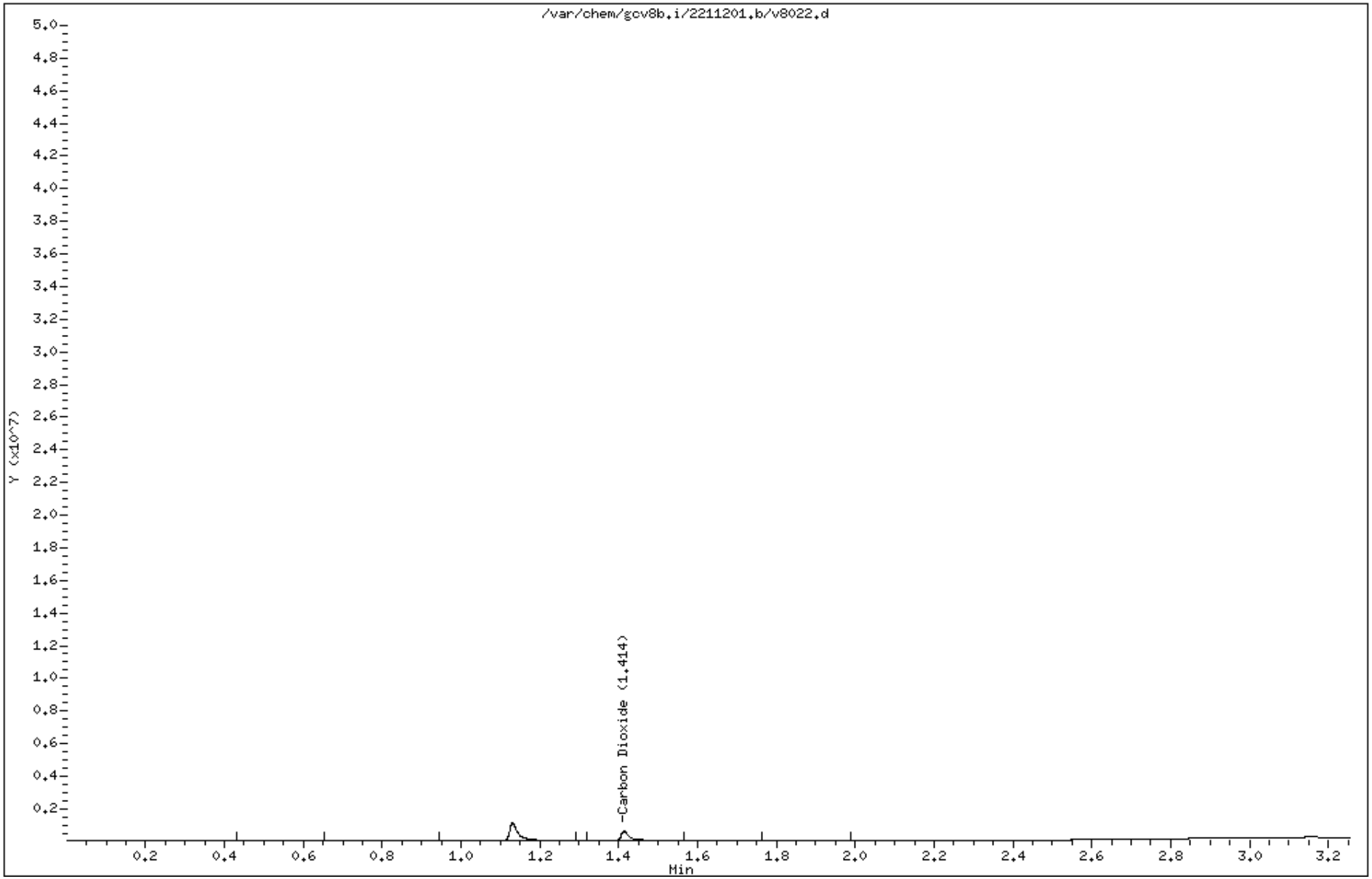
Instrument: gcv8b.i

Sample Info: 22111212803

Operator: BMR

Column phase: GS-Q-30

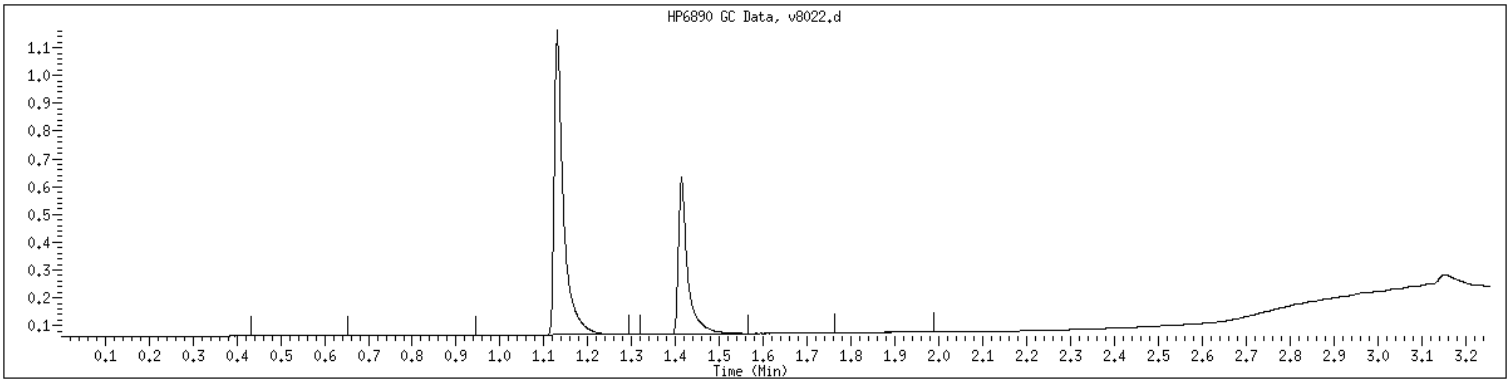
Column diameter: 0.53



Data file : /var/chem/gcv8b.i/2211201.b/v8022.d Page: 1
Report Date: 12/01/2021 14:14

MANUAL INTEGRATION GRAPHIC REPORT

Lab ID	: 22111212803	SampleType	: SAMPLE
Injection Date	: 12/01/2021 12:12	Instrument	: gcv8b.i
Operator	: BMR		
Sample Info	: 22111212803		
Misc Info	: 2125155		
Method	: /var/chem/gcv8b.i/2211201.b/CO2h.m		
Dilution	: 100		
Matrix	: WATER		
Integrator	: HP Genie	Compound Sublist	: co2



NO MANUAL INTEGRATIONS

1D

ORGANICS ANALYSIS DATA SHEET

Report No:	221112128	Client Sample ID:	HS21111149-04
Collect Date:	11/17/21 Time: 0850	GCAL Sample ID:	22111212804
Matrix:	Water % Moisture: NA	Instrument ID:	GCV8B
Sample Amt:	5 mL	Lab File ID:	2211201/v8023
Injection Vol.:	1 (µL)	GC Column:	GS-Q-30 ID .53 (mm)
Prep Final Vol.:	NA (µL)	Dilution Factor:	100 Analyst: BMR
Prep Date:	NA	Analysis Date:	12/01/21 Time: 1224
Prep Batch:	NA	Analytical Batch:	728243
Prep Method:	NA	Analytical Method:	RSK-175

CONCENTRATION UNITS: ug/L

CAS	ANALYTE	RESULT	Q	DL	LOD	LOQ
124-38-9	Carbon Dioxide	376000		12700	38600	90000

FORM I ORG-1

Data File: /var/chem/gcv8b.i/2211201.b/v8023.d Page 1
Report Date: 01-Dec-2021 14:14

GCAL, Inc.

Data file : /var/chem/gcv8b.i/2211201.b/v8023.d
Lab Smp Id: 22111212804 Client Smp ID: 22111212804
Inj Date : 01-DEC-2021 12:24
Operator : BMR Inst ID: gcv8b.i
Smp Info : 22111212804
Misc Info : 2125155
Comment :
Method : /var/chem/gcv8b.i/2211201.b/CO2h.m
Meth Date : 01-Dec-2021 14:14 bmr Quant Type: ESTD
Cal Date : 21-SEP-2021 12:18 Cal File: v8007.d
Als bottle: 1
Dil Factor: 100.00000
Integrator: HP Genie Compound Sublist: co2.sub
Target Version: 3.50
Processing Host: org.gcal.com

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

					CONCENTRATIONS	
					ON-COLUMN	FINAL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/L)	(ug/L)
1 Carbon Dioxide	1.409	1.402	0.007	11211409	3764.15	376000

Data File: /var/chem/gcv8b.i/2211201.b/v8023.d

Date : 01-DEC-2021 12:24

Client ID: 22111212804

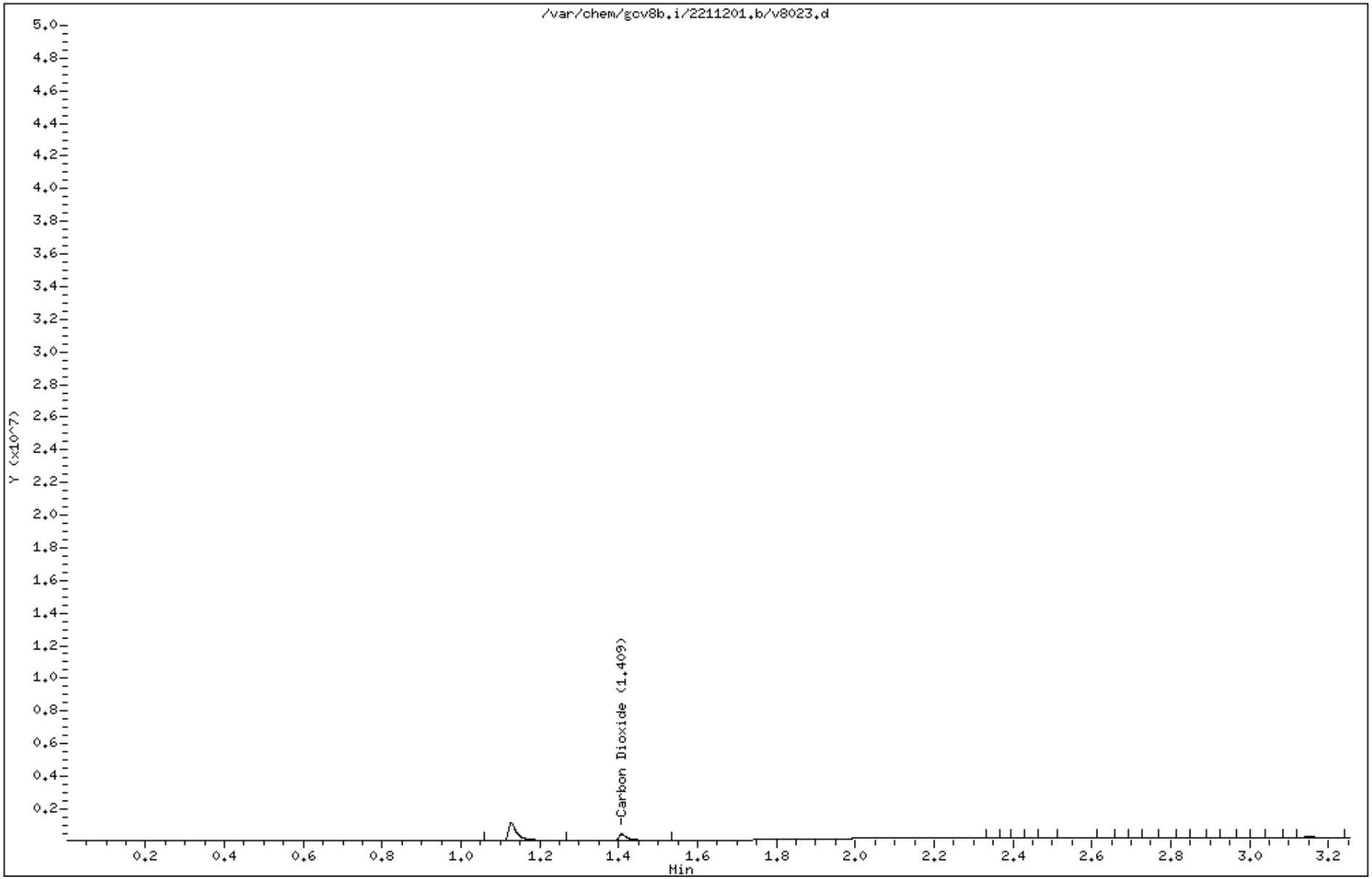
Instrument: gcv8b.i

Sample Info: 22111212804

Operator: BMR

Column phase: GS-Q-30

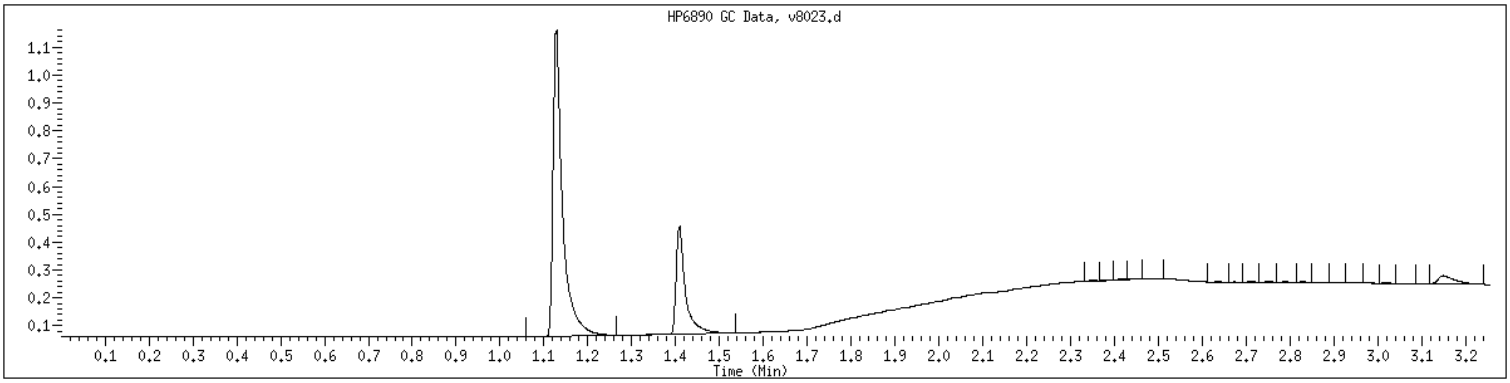
Column diameter: 0.53



Data file : /var/chem/gcv8b.i/2211201.b/v8023.d Page: 1
Report Date: 12/01/2021 14:14

MANUAL INTEGRATION GRAPHIC REPORT

Lab ID	: 22111212804	SampleType	: SAMPLE
Injection Date	: 12/01/2021 12:24	Instrument	: gcv8b.i
Operator	: BMR		
Sample Info	: 22111212804		
Misc Info	: 2125155		
Method	: /var/chem/gcv8b.i/2211201.b/CO2h.m		
Dilution	: 100		
Matrix	: WATER		
Integrator	: HP Genie	Compound Sublist	: co2



NO MANUAL INTEGRATIONS

1D
ORGANICS ANALYSIS DATA SHEET

Report No:	221112128	Client Sample ID:	MB2279843
Collect Date:	NA Time: NA	GCAL Sample ID:	2279843
Matrix:	Water % Moisture: NA	Instrument ID:	GCV8B
Sample Amt:	5 mL	Lab File ID:	2211201/v8002
Injection Vol.:	1 (µL)	GC Column:	GS-Q-30 ID .53 (mm)
Prep Final Vol.:	NA (µL)	Dilution Factor:	1 Analyst: BMR
Prep Date:	NA	Analysis Date:	12/01/21 Time: 1010
Prep Batch:	NA	Analytical Batch:	728243
Prep Method:	NA	Analytical Method:	RSK-175

CONCENTRATION UNITS: ug/L

CAS	ANALYTE	RESULT	Q	DL	LOD	LOQ
124-38-9	Carbon Dioxide	900	U	127	386	900

FORM I ORG-1

Data File: /var/chem/gcv8b.i/2211201.b/v8002.d Page 1
Report Date: 01-Dec-2021 14:14

GCAL, Inc.

Data file : /var/chem/gcv8b.i/2211201.b/v8002.d
Lab Smp Id: 2279843 Client Smp ID: 2279843
Inj Date : 01-DEC-2021 10:10
Operator : BMR Inst ID: gcv8b.i
Smp Info : 2279843
Misc Info : 2125155
Comment :
Method : /var/chem/gcv8b.i/2211201.b/CO2h.m
Meth Date : 01-Dec-2021 14:14 bmr Quant Type: ESTD
Cal Date : 21-SEP-2021 12:18 Cal File: v8007.d
Als bottle: 1 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: co2.sub
Target Version: 3.50
Processing Host: org.gcal.com

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)

Data File: /var/chem/gcv8b.i/2211201.b/v8002.d

Page 1

Date : 01-DEC-2021 10:10

Client ID: 2279843

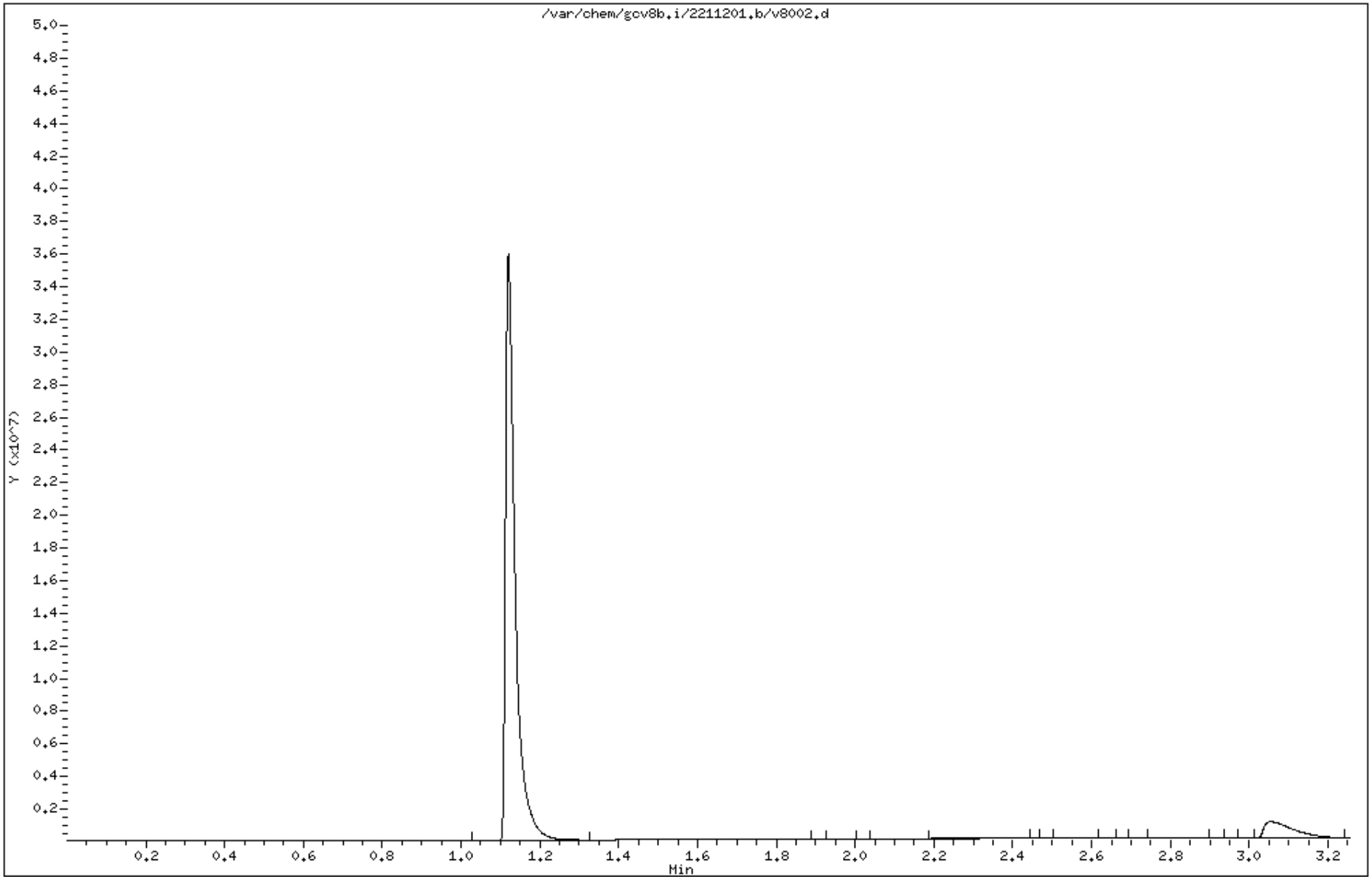
Instrument: gcv8b.i

Sample Info: 2279843

Operator: BMR

Column phase: GS-Q-30

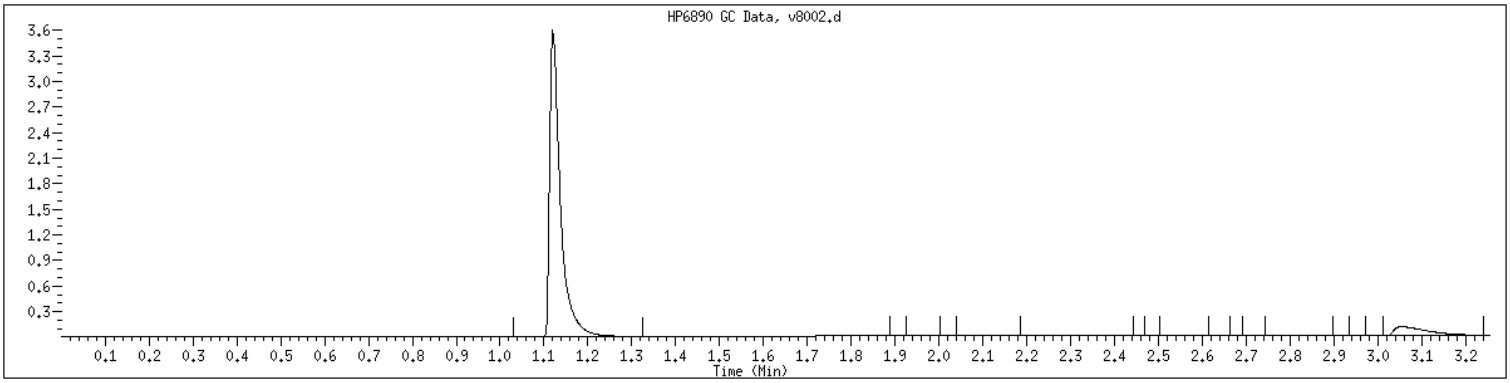
Column diameter: 0.53



Data file : /var/chem/gcv8b.i/2211201.b/v8002.d Page: 1
Report Date: 12/01/2021 14:14

MANUAL INTEGRATION GRAPHIC REPORT

Lab ID	: 2279843	SampleType	: BLANK
Injection Date	: 12/01/2021 10:10	Instrument	: gcv8b.i
Operator	: BMR		
Sample Info	: 2279843		
Misc Info	: 2125155		
Method	: /var/chem/gcv8b.i/2211201.b/CO2h.m		
Dilution	: 1.0		
Matrix	: WATER		
Integrator	: HP Genie	Compound Sublist	: co2



NO MANUAL INTEGRATIONS

1D
ORGANICS ANALYSIS DATA SHEET

Report No:	221112128	Client Sample ID:	LCS2279844
Collect Date:	NA Time: NA	GCAL Sample ID:	2279844
Matrix:	Water % Moisture: NA	Instrument ID:	GCV8B
Sample Amt:	5 mL	Lab File ID:	2211201/v8003
Injection Vol.:	1 (µL)	GC Column:	GS-Q-30 ID .53 (mm)
Prep Final Vol.:	NA (µL)	Dilution Factor:	1 Analyst: BMR
Prep Date:	NA	Analysis Date:	12/01/21 Time: 1018
Prep Batch:	NA	Analytical Batch:	728243
Prep Method:	NA	Analytical Method:	RSK-175

CONCENTRATION UNITS: ug/L

CAS	ANALYTE	RESULT	Q	DL	LOD	LOQ
124-38-9	Carbon Dioxide	9140		127	386	900

FORM I ORG-1

Data File: /var/chem/gcv8b.i/2211201.b/v8003.d Page 1
Report Date: 01-Dec-2021 14:14

GCAL, Inc.

Data file : /var/chem/gcv8b.i/2211201.b/v8003.d
Lab Smp Id: 2279844 Client Smp ID: 2279844
Inj Date : 01-DEC-2021 10:18
Operator : BMR Inst ID: gcv8b.i
Smp Info : 2279844
Misc Info : 2125155
Comment :
Method : /var/chem/gcv8b.i/2211201.b/CO2h.m
Meth Date : 01-Dec-2021 14:14 bmr Quant Type: ESTD
Cal Date : 21-SEP-2021 12:18 Cal File: v8007.d
Als bottle: 1 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: co2.sub
Target Version: 3.50
Processing Host: org.gcal.com

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

					CONCENTRATIONS	
					ON-COLUMN	FINAL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/L)	(ug/L)
1 Carbon Dioxide	1.407	1.402	0.005	27232383	9143.08	9140

Data File: /var/chem/gcv8b.i/2211201.b/v8003.d

Date : 01-DEC-2021 10:18

Client ID: 2279844

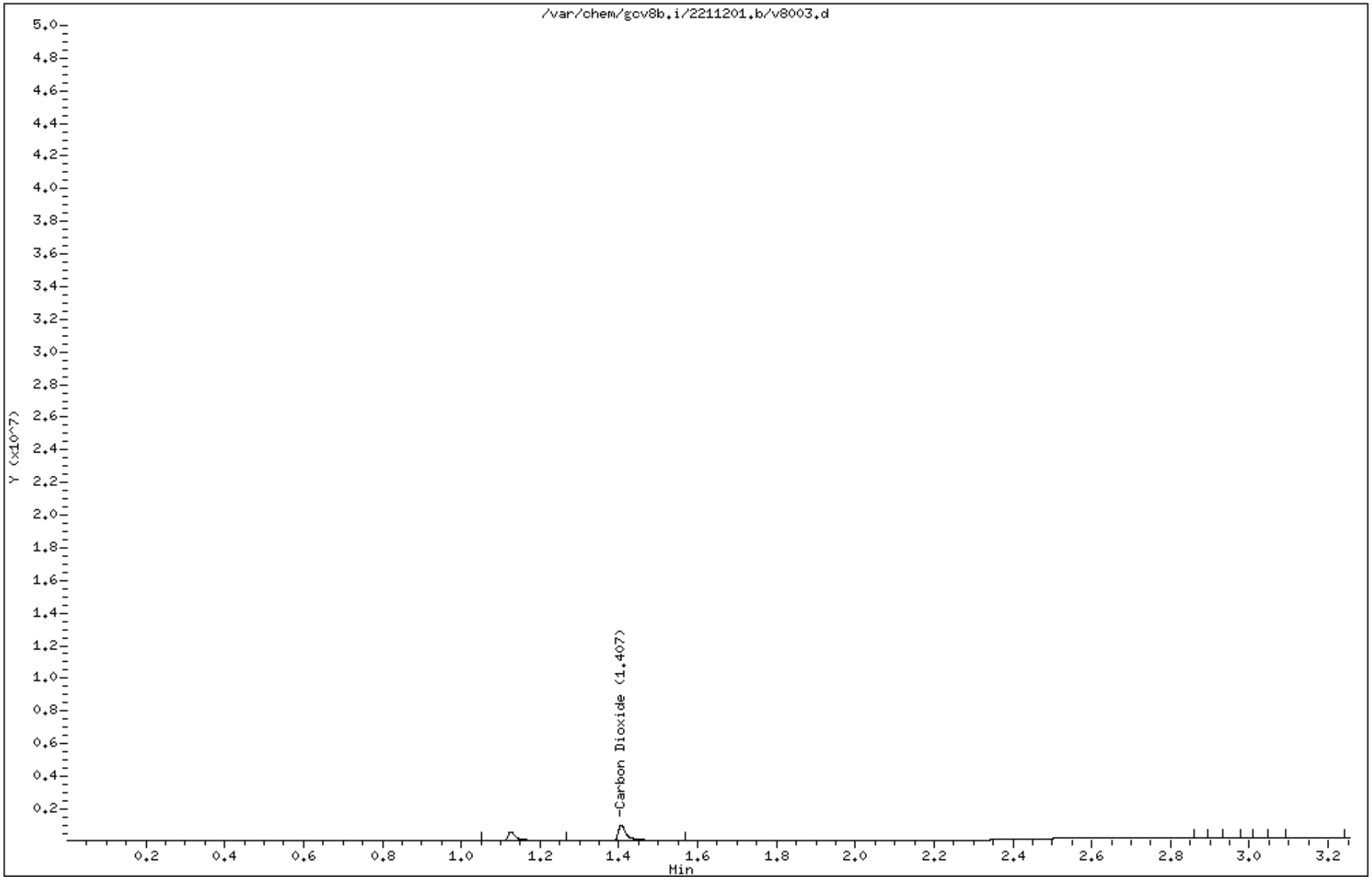
Instrument: gcv8b.i

Sample Info: 2279844

Operator: BMR

Column phase: GS-Q-30

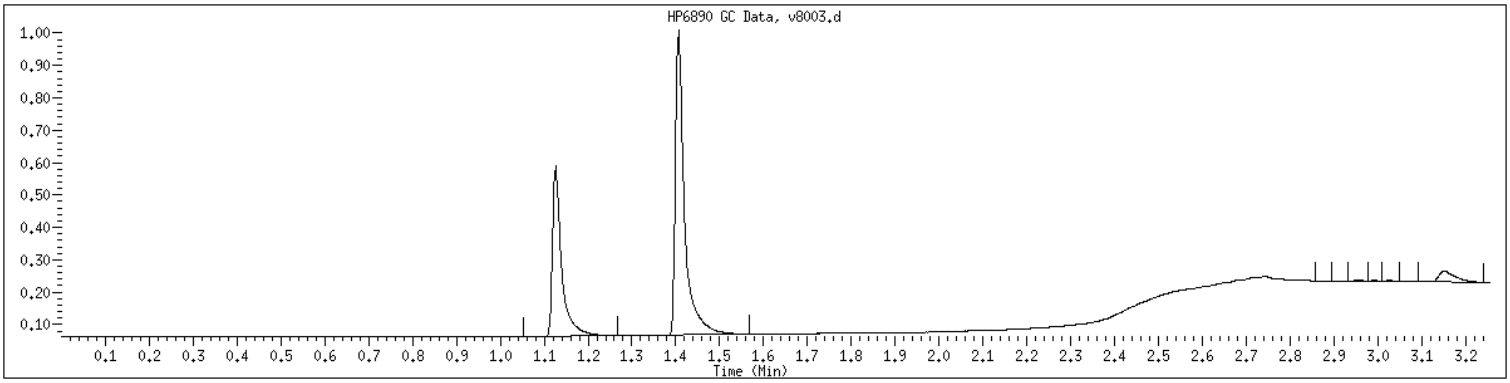
Column diameter: 0.53



Data file : /var/chem/gcv8b.i/2211201.b/v8003.d Page: 1
Report Date: 12/01/2021 14:14

MANUAL INTEGRATION GRAPHIC REPORT

Lab ID : 2279844 SampleType : LCS
Injection Date: 12/01/2021 10:18 Instrument : gcv8b.i
Operator : BMR
Sample Info : 2279844
Misc Info : 2125155
Method : /var/chem/gcv8b.i/2211201.b/CO2h.m
Dilution : 1.0
Matrix : WATER
Integrator : HP Genie Compound Sublist: co2



NO MANUAL INTEGRATIONS

1D
ORGANICS ANALYSIS DATA SHEET

Report No:	221112128	Client Sample ID:	LCSD2279845
Collect Date:	NA Time: NA	GCAL Sample ID:	2279845
Matrix:	Water % Moisture: NA	Instrument ID:	GCV8B
Sample Amt:	5 mL	Lab File ID:	2211201/v8004
Injection Vol.:	1 (µL)	GC Column:	GS-Q-30 ID .53 (mm)
Prep Final Vol.:	NA (µL)	Dilution Factor:	1 Analyst: BMR
Prep Date:	NA	Analysis Date:	12/01/21 Time: 1025
Prep Batch:	NA	Analytical Batch:	728243
Prep Method:	NA	Analytical Method:	RSK-175

CONCENTRATION UNITS: ug/L

CAS	ANALYTE	RESULT	Q	DL	LOD	LOQ
124-38-9	Carbon Dioxide	9190		127	386	900

FORM I ORG-1

Data File: /var/chem/gcv8b.i/2211201.b/v8004.d Page 1
Report Date: 01-Dec-2021 14:14

GCAL, Inc.

Data file : /var/chem/gcv8b.i/2211201.b/v8004.d
Lab Smp Id: 2279845 Client Smp ID: 2279845
Inj Date : 01-DEC-2021 10:25
Operator : BMR Inst ID: gcv8b.i
Smp Info : 2279845
Misc Info : 2125155
Comment :
Method : /var/chem/gcv8b.i/2211201.b/CO2h.m
Meth Date : 01-Dec-2021 14:14 bmr Quant Type: ESTD
Cal Date : 21-SEP-2021 12:18 Cal File: v8007.d
Als bottle: 1 QC Sample: LCSD
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: co2.sub
Target Version: 3.50
Processing Host: org.gcal.com

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

					CONCENTRATIONS	
					ON-COLUMN	FINAL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/L)	(ug/L)
1 Carbon Dioxide	1.410	1.402	0.008	27362263	9186.68	9190

Data File: /var/chem/gcv8b.i/2211201.b/v8004.d

Date : 01-DEC-2021 10:25

Client ID: 2279845

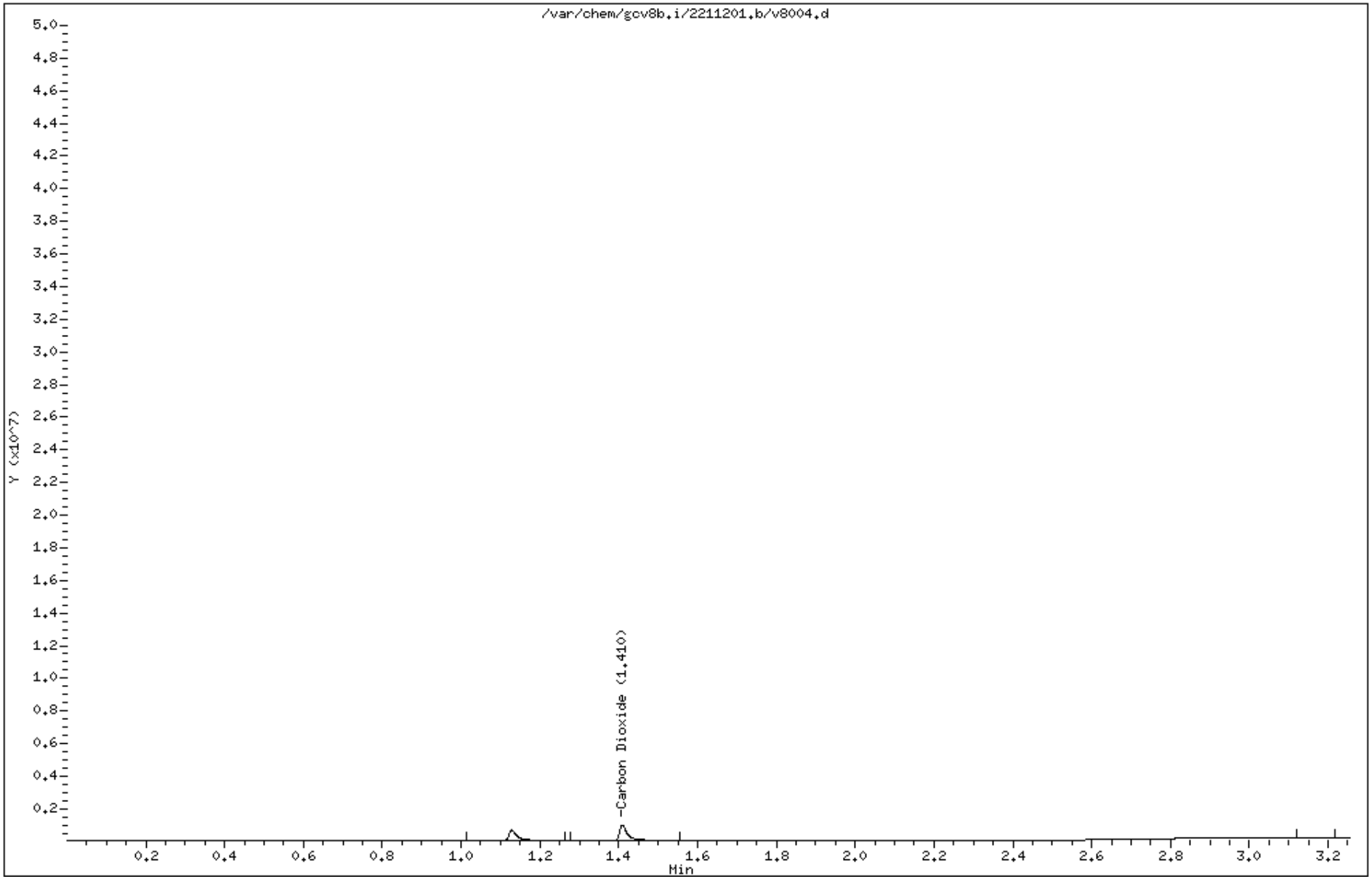
Instrument: gcv8b.i

Sample Info: 2279845

Operator: BMR

Column phase: GS-Q-30

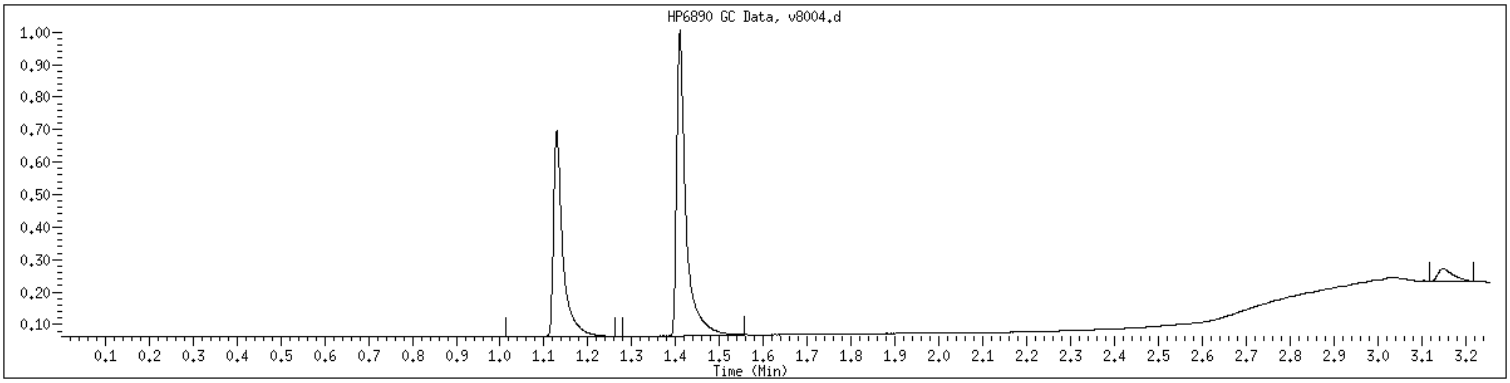
Column diameter: 0.53



Data file : /var/chem/gcv8b.i/2211201.b/v8004.d Page: 1
Report Date: 12/01/2021 14:14

MANUAL INTEGRATION GRAPHIC REPORT

Lab ID	: 2279845	SampleType	: LCSD
Injection Date	: 12/01/2021 10:25	Instrument	: gcv8b.i
Operator	: BMR		
Sample Info	: 2279845		
Misc Info	: 2125155		
Method	: /var/chem/gcv8b.i/2211201.b/CO2h.m		
Dilution	: 1.0		
Matrix	: WATER		
Integrator	: HP Genie	Compound Sublist	: co2



NO MANUAL INTEGRATIONS

EPA RSK-175

Form 3E

Spikes

3E
WATER ORGANICS LCS/LCSD RECOVERY

Report No: 221112128

Prep Method: NA Prep Batch: NA

Analytical Method: RSK-175 Analytical Batch: 728243

GCAL QC ID: 2279844

ANALYTE	*UNITS*	*SPIKE ADDED*	*SAMPLE RESULT*	*LCS RESULT*	*LCS % REC*	#	*QC LIMITS*
Carbon Dioxide	ug/L	8700	0	9140	105		38 - 147

GCAL QC ID: 2279845

ANALYTE	*UNITS*	*SPIKE ADDED*	*LCSD RESULT*	*LCSD % REC*	#	*% RPD*	#	*QC LIMITS REC*	*QC LIMITS RPD*
Carbon Dioxide	ug/L	8700	9190	106		.5		38 - 147	0 - 40

RPD : 0 out of 1 outside limits

Spike Recovery: 0 out of 2 outside limits

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

FORM III ORG-1

EPA RSK-175

Form 4C

Method Blanks

4C
ORGANIC METHOD BLANK SUMMARY

Report No:	221112128	Method Blank ID:	2279843
Matrix:	Water	Instrument ID:	GCV8B
Sample Amt:	5 mL	Lab File ID:	2211201/v8002
Injection Vol.:	(µL)	GC Column:	GS-Q-30 ID .53 (mm)
Prep Final Vol.:	NA (µL)	Dilution Factor:	1 Analyst: BMR
Prep Date:	NA	Analysis Date:	12/01/21 Time: 1010
Prep Batch:	NA	Analytical Batch:	728243
Prep Method:	NA	Analytical Method:	RSK-175

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD

	CLIENT SAMPLE ID	GCAL SAMPLE ID	DATE ANALYZED	TIME ANALYZED	INSTRUMENT ID
1.	LCS2279844	2279844	12/01/21	1018	GCV8B
2.	LCSD2279845	2279845	12/01/21	1025	GCV8B
3.	HS21111149-01	22111212801	12/01/21	1200	GCV8B
4.	HS21111149-02	22111212802	12/01/21	1206	GCV8B
5.	HS21111149-03	22111212803	12/01/21	1212	GCV8B
6.	HS21111149-04	22111212804	12/01/21	1224	GCV8B

Client ID: ALS Env - ALS Environmental
SDG: 221112128
PM: RWe

10450 Stancliff Rd, Ste 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887
www.alsglobal.com

Subcontract Chain of Custody

SAMPLING STATE: **Dept of Defense** **COC ID:** **17421**

SUBCONTRACT TO:

Pace Analytical
7979 Innovation Park Drive
Baton Rouge, LA 70820

Phone: +1 225 769 4900

CUSTOMER INFORMATION:

Company:	ALS Houston
Contact:	Ragen Giga
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Email:	RagenP.Giga@ALSGlobal.com
Alternate Contact:	Jumoke M. Lawal
Email:	jumoke.lawal@alsglobal.com

INVOICE INFORMATION:

Company:	ALS Houston
Contact:	Accounts Payable
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Reference:	HS21111149
TSR:	Sonia West

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS21111149-01**	**35BWW26-211117**	**Groundwater**	**17 Nov 2021 07:15**
	SUB_RSK			06 Dec 2021
	XXX SUB			06 Dec 2021
2.	**HS21111149-02**	**35BWW26-211117-FD**	**Groundwater**	**17 Nov 2021 07:15**
	SUB_RSK			06 Dec 2021
	XXX SUB			06 Dec 2021
3.	**HS21111149-03**	**35BWW08-211117**	**Groundwater**	**17 Nov 2021 08:05**
	SUB_RSK			06 Dec 2021
	XXX SUB			06 Dec 2021
4.	**HS21111149-04**	**35BWW04-211117**	**Groundwater**	**17 Nov 2021 08:50**
	SUB_RSK			06 Dec 2021
	XXX SUB			06 Dec 2021

Comments: Please analyze for the analysis listed above.
Send report to the emails shown above.
RSK 175 CO2

QC Level: DOD IV (DoD Data Package)

294928, 4 28

Subcontract Chain of Custody

SAMPLING STATE: **Dept of Defense** **COC ID:** **17421**

Relinquished By: J. Mahaffey Date/Time: 11/19/21 18:00

Received By: _____ Date/Time: _____

Cooler ID(s): _____ Temperature(s): _____

Relinquished by: FedEx Date/Time: 11/20/21 1146

Received by: Carmen Maloy Date/Time: 11/20/21 1146

3.5 E3F 5300 5225 2132

Client ID: ALS Env - ALS Environmental

SDG: 221112128

PM: RWe

Pace Analytical®

SAMPLE RECEIVING CHECKLIST

221112128

SAMPLE DELIVERY GROUP 221112128	
Client **PM** RWe ALS Env - ALS Environmental	**Transport Method** FEDEX
Profile Number 294928	**Received By** Roberts, George S.
Line Item(s) 1 - Acetylene, hydrogen	**Receive Date(s)** 11/20/21

CHECKLIST	YES	NO
Samples received with proper thermal preservation?	☑	☐
Radioactivity is <1600 cpm? If no, record cpm value in notes section.	☑	☐
COC relinquished and complete (including sampleIDs, collect times, and sampler)?	☑	☐
All containers received in good condition and within hold time?	☑	☐
All sample labels and containers received match the chain of custody?	☑	☐
Preservative added to any containers?	☐	☑
If received, was headspace for VOC water containers < 6mm?	☑	☐
Samples collected in containers provided by Pace Gulf Coast?	☑	☐

COOLERS

Airbill	Thermometer ID: E34	Temp °C
530052252132		3.5

DISCREPANCIES

None

LAB PRESERVATIONS

None

NOTES

Revision 1.6

Page 1 of 1

10450 Stancliff Rd. Suite 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887

January 20, 2022

Vicki Graves
Aptim Environmental & Infrastucture, Inc.
10333 Richmond Ave
Ste 1030
Houston, TX 77042

Work Order: **HS21111412**

Laboratory Results for: **Longhorn Army Ammunition Plant 37 November 2021**

Dear Vicki Graves ,

ALS Environmental received 3 sample(s) on Nov 23, 2021 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Generated By: JUMOKE.LAWAL
Ragen Giga
Project Manager

ALS Houston, US Date: 20-Jan-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 37 November 2021
Work Order: HS21111412

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS21111412-01	35BWW12-211122	Groundwater		22-Nov-2021 07:35	23-Nov-2021 10:50	☐
HS21111412-02	35BWW14-211122	Groundwater		22-Nov-2021 08:55	23-Nov-2021 10:50	☐
HS21111412-03	35BWW23-211122	Groundwater		22-Nov-2021 11:00	23-Nov-2021 10:50	☐

ALS Houston, US Date: 20-Jan-22

Client: Aptim Environmental & Infrastucture, Inc. **CASE NARRATIVE**
Project: Longhorn Army Ammunition Plant 37 November 2021
Work Order: HS21111412

Work Order Comments

• The analysis for CO2 by RSK175 was subcontracted to A Pace Analytical Gulf Coast in Baton Rouge LA. Final report attached.

Work Order Comments

• VOC 8260 logged in on separate work order HS21111367 - shipped directly to ALS Fort Collins for analyses

Work Order Comments

•

GC Semivolatiles by Method RSK-175

Batch ID: R397115

Sample ID: 35BWW12-211122 (HS21111412-01MS)

• The recovery of the Matrix Spike (MS) associated to this analyte was outside of the established control limits. However, the LCS was within control limits. The recovery of the MS may be due to sample matrix interference.

Sample ID: 35BWW12-211122 (HS21111412-01MSD)

• The recovery of the Matrix Spike Duplicate (MSD) associated to this analyte was outside of the established control limits. However, the LCS was within control limits. The failed recovery of the MSD may be due to sample matrix interference.

Sample ID: HS21111498-11MS

• MS and MSD are for an unrelated sample

WetChemistry by Method SM5310B

Batch ID: R397191

• The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

WetChemistry by Method SW9056

Batch ID: R396401

Sample ID: HS21111356-01MS

• MS and MSD are for an unrelated sample

ALS Houston, US Date: 20-Jan-22

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**

Project: Longhorn Army Ammunition Plant 37 November 2021 WorkOrder:HS21111412

Sample ID: 35BWW12-211122 Lab ID:HS21111412-01

Collection Date: 22-Nov-2021 07:35 Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
DISSOLVED GASES BY RSK-175		**Method:RSK-175**						Analyst: PPM
Ethane	0.000500	U	0.000144	0.000500	0.00100	mg/L	1	06-Dec-2021 09:46
Ethene	**0.000710**	J	**0.000234**	**0.000500**	**0.00100**	**mg/L**	1	06-Dec-2021 09:46
Methane	**0.00118**		**0.000107**	**0.000500**	**0.000500**	**mg/L**	1	06-Dec-2021 09:46
TOTAL ORGANIC CARBON - SM5310B-2011		**Method:SM5310B**						Analyst: JAC
Organic Carbon, Total	**2.14**		**0.500**	**1.00**	**1.00**	**mg/L**	1	07-Dec-2021 15:28
ANIONS BY SW9056A		**Method:SW9056**						Analyst: YP
Chloride	**11.6**		**0.200**	**0.500**	**0.500**	**mg/L**	1	23-Nov-2021 16:41
Nitrogen, Nitrate (As N)	0.100	U	0.0300	0.100	0.100	mg/L	1	23-Nov-2021 16:41
Sulfate	**33.5**		**0.200**	**0.500**	**0.500**	**mg/L**	1	23-Nov-2021 16:41
SUBCONTRACT ANALYSIS - RSK		**Method:NA**						Analyst: SUB
Subcontract Analysis	See Attached		0	0		NA	1	20-Jan-2022 09:09

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 20-Jan-22

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**

Project: Longhorn Army Ammunition Plant 37 November 2021 WorkOrder:HS21111412

Sample ID: 35BWW14-211122 Lab ID:HS21111412-02

Collection Date: 22-Nov-2021 08:55 Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
DISSOLVED GASES BY RSK-175		**Method:RSK-175**						Analyst: PPM
Ethane	0.000500	U	0.000144	0.000500	0.00100	mg/L	1	06-Dec-2021 10:19
Ethene	**0.00176**		**0.000234**	**0.000500**	**0.00100**	**mg/L**	1	06-Dec-2021 10:19
Methane	**0.00103**		**0.000107**	**0.000500**	**0.000500**	**mg/L**	1	06-Dec-2021 10:19
TOTAL ORGANIC CARBON - SM5310B-2011		**Method:SM5310B**						Analyst: JAC
Organic Carbon, Total	**1.12**		**0.500**	**1.00**	**1.00**	**mg/L**	1	07-Dec-2021 16:49
ANIONS BY SW9056A		**Method:SW9056**						Analyst: YP
Chloride	**16.1**		**0.200**	**0.500**	**0.500**	**mg/L**	1	23-Nov-2021 17:03
Nitrogen, Nitrate (As N)	**0.114**		**0.0300**	**0.100**	**0.100**	**mg/L**	1	23-Nov-2021 17:03
Sulfate	**61.9**		**0.200**	**0.500**	**0.500**	**mg/L**	1	23-Nov-2021 17:03
SUBCONTRACT ANALYSIS - RSK		**Method:NA**						Analyst: SUB
Subcontract Analysis	See Attached		0	0		NA	1	20-Jan-2022 09:09

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 20-Jan-22

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**

Project: Longhorn Army Ammunition Plant 37 November 2021 WorkOrder:HS21111412

Sample ID: 35BWW23-211122 Lab ID:HS21111412-03

Collection Date: 22-Nov-2021 11:00 Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
DISSOLVED GASES BY RSK-175		**Method:RSK-175**						Analyst: PPM
Ethane	0.000500	U	0.000144	0.000500	0.00100	mg/L	1	06-Dec-2021 10:29
Ethene	0.000500	U	0.000234	0.000500	0.00100	mg/L	1	06-Dec-2021 10:29
Methane	**0.000779**		**0.000107**	**0.000500**	**0.000500**	**mg/L**	1	06-Dec-2021 10:29
TOTAL ORGANIC CARBON - SM5310B-2011		**Method:SM5310B**						Analyst: JAC
Organic Carbon, Total	**2.57**		**0.500**	**1.00**	**1.00**	**mg/L**	1	07-Dec-2021 17:05
ANIONS BY SW9056A		**Method:SW9056**						Analyst: YP
Chloride	**17.3**		**0.200**	**0.500**	**0.500**	**mg/L**	1	23-Nov-2021 17:11
Nitrogen, Nitrate (As N)	**0.0865**	J	**0.0300**	**0.100**	**0.100**	**mg/L**	1	23-Nov-2021 17:11
Sulfate	**77.5**		**0.200**	**0.500**	**0.500**	**mg/L**	1	23-Nov-2021 17:11
SUBCONTRACT ANALYSIS - RSK		**Method:NA**						Analyst: SUB
Subcontract Analysis	See Attached		0	0		NA	1	20-Jan-2022 09:09

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 20-Jan-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 37 November 2021 **DATES REPORT**
WorkOrder: HS21111412

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: R396401 (0)	**Test Name :** ANIONS BY SW9056A				**Matrix:** Groundwater	
HS21111412-01	35BWW12-211122	22 Nov 2021 07:35			23 Nov 2021 16:41	1
HS21111412-02	35BWW14-211122	22 Nov 2021 08:55			23 Nov 2021 17:03	1
HS21111412-03	35BWW23-211122	22 Nov 2021 11:00			23 Nov 2021 17:11	1
Batch ID: R397115 (0)	**Test Name :** DISSOLVED GASES BY RSK-175				**Matrix:** Groundwater	
HS21111412-01	35BWW12-211122	22 Nov 2021 07:35			06 Dec 2021 09:46	1
HS21111412-02	35BWW14-211122	22 Nov 2021 08:55			06 Dec 2021 10:19	1
HS21111412-03	35BWW23-211122	22 Nov 2021 11:00			06 Dec 2021 10:29	1
Batch ID: R397191 (0)	**Test Name :** TOTAL ORGANIC CARBON - SM5310B-2011				**Matrix:** Groundwater	
HS21111412-01	35BWW12-211122	22 Nov 2021 07:35			07 Dec 2021 15:28	1
HS21111412-02	35BWW14-211122	22 Nov 2021 08:55			07 Dec 2021 16:49	1
HS21111412-03	35BWW23-211122	22 Nov 2021 11:00			07 Dec 2021 17:05	1
Batch ID: R400655 (0)	**Test Name :** SUBCONTRACT ANALYSIS - RSK				**Matrix:** Groundwater	
HS21111412-01	35BWW12-211122	22 Nov 2021 07:35			20 Jan 2022 09:09	1
HS21111412-02	35BWW14-211122	22 Nov 2021 08:55			20 Jan 2022 09:09	1
HS21111412-03	35BWW23-211122	22 Nov 2021 11:00			20 Jan 2022 09:09	1

ALS Houston, US Date: 20-Jan-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 37 November 2021
WorkOrder: HS21111412

QC BATCH REPORT

Batch ID: R397115 (0) **Instrument: FID-4** **Method: DISSOLVED GASES BY RSK-175**

MBLK Sample ID: **MBLK-211206** Units: **mg/L** Analysis Date: **06-Dec-2021 09:25**
Client ID: Run ID: **FID-4_397115** SeqNo: **6409002** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethane	0.000500	0.00100								U
Ethene	0.000500	0.00100								U
Methane	0.000500	0.000500								U

LCS Sample ID: **LCS-211206** Units: **mg/L** Analysis Date: **06-Dec-2021 09:34**
Client ID: Run ID: **FID-4_397115** SeqNo: **6409003** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethane	0.0194	0.00100	0.01804	0	107	75 - 125				
Ethene	0.0182	0.00100	0.0168	0	108	75 - 125				
Methane	0.00869	0.000500	0.009647	0	90.1	75 - 125				

MS Sample ID: **HS21111498-11MS** Units: **mg/L** Analysis Date: **06-Dec-2021 11:27**
Client ID: Run ID: **FID-4_397115** SeqNo: **6409014** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethane	0.0186	0.00100	0.01804	0.002341	90.3	75 - 125				
Ethene	0.0196	0.00100	0.0168	0	117	75 - 125				
Methane	0.942	0.000500	0.009647	0.9345	74.6	75 - 125				SEO

MS Sample ID: **HS21111412-01MS** Units: **mg/L** Analysis Date: **06-Dec-2021 09:58**
Client ID: **35BWW12-211122** Run ID: **FID-4_397115** SeqNo: **6409245** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethane	0.0133	0.00100	0.01804	0	73.5	75 - 125				S
Ethene	0.0135	0.00100	0.0168	0.0007102	76.3	75 - 125				
Methane	0.00610	0.000500	0.009647	0.001177	51.0	75 - 125				S

ALS Houston, US Date: 20-Jan-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 37 November 2021
WorkOrder: HS21111412

QC BATCH REPORT

Batch ID: R397115 (0) **Instrument: FID-4** **Method: DISSOLVED GASES BY RSK-175**

MSD Sample ID: **HS21111498-11MSD** Units: **mg/L** Analysis Date: **06-Dec-2021 11:37**
Client ID: Run ID: **FID-4_397115** SeqNo: **6409015** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethane	0.0185	0.00100	0.01804	0.002341	89.4	75 - 125	0.01863	0.884	30	
Ethene	0.0189	0.00100	0.0168	0	112	75 - 125	0.01961	3.88	30	
Methane	0.944	0.000500	0.009647	0.9345	101	75 - 125	0.9417	0.274	30	EO

MSD Sample ID: **HS21111412-01MSD** Units: **mg/L** Analysis Date: **06-Dec-2021 10:11**
Client ID: **35BWW12-211122** Run ID: **FID-4_397115** SeqNo: **6409246** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethane	0.0142	0.00100	0.01804	0	78.6	75 - 125	0.01326	6.78	30	
Ethene	0.0125	0.00100	0.0168	0.0007102	70.4	75 - 125	0.01352	7.55	30	S
Methane	0.00688	0.000500	0.009647	0.001177	59.1	75 - 125	0.006099	12	30	S

The following samples were analyzed in this batch: HS21111412-01 HS21111412-02 HS21111412-03

ALS Houston, US Date: 20-Jan-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 37 November 2021
WorkOrder: HS21111412

QC BATCH REPORT

Batch ID: R396401 (0) **Instrument: ICS-Integrion** **Method: ANIONS BY SW9056A**

MBLK Sample ID: **MBLK** Units: **mg/L** Analysis Date: **23-Nov-2021 09:18**
Client ID: Run ID: **ICS-Integrion_396401** SeqNo: **6391903** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	0.500	0.500								U
Nitrogen, Nitrate (As N)	0.100	0.100								U
Sulfate	0.500	0.500								U

LCS Sample ID: **LCS** Units: **mg/L** Analysis Date: **23-Nov-2021 09:25**
Client ID: Run ID: **ICS-Integrion_396401** SeqNo: **6391904** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	20.36	0.500	20	0	102	80 - 120				
Nitrogen, Nitrate (As N)	4.161	0.100	4	0	104	80 - 120				
Sulfate	20.6	0.500	20	0	103	80 - 120				

MS Sample ID: **HS21111412-01MS** Units: **mg/L** Analysis Date: **23-Nov-2021 16:48**
Client ID: **35BWW12-211122** Run ID: **ICS-Integrion_396401** SeqNo: **6391916** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	21.67	0.500	10	11.58	101	80 - 120				
Nitrogen, Nitrate (As N)	2.12	0.100	2	0	106	80 - 120				
Sulfate	43.43	0.500	10	33.53	99.0	80 - 120				

MS Sample ID: **HS21111356-01MS** Units: **mg/L** Analysis Date: **23-Nov-2021 11:37**
Client ID: Run ID: **ICS-Integrion_396401** SeqNo: **6391908** PrepDate: DF: **5**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	3493	2.50	50	3619	-252	80 - 120				SEO
Nitrogen, Nitrate (As N)	10.68	0.500	10	0.908	97.7	80 - 120				
Sulfate	53.88	2.50	50	3.431	101	80 - 120				

ALS Houston, US Date: 20-Jan-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 37 November 2021
WorkOrder: HS21111412

QC BATCH REPORT

Batch ID: R396401 (0) **Instrument: ICS-Integrion** **Method: ANIONS BY SW9056A**

MSD Sample ID: **HS21111412-01MSD** Units: **mg/L** Analysis Date: **23-Nov-2021 16:56**
Client ID: **35BWW12-211122** Run ID: **ICS-Integrion_396401** SeqNo: **6391917** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	21.71	0.500	10	11.58	101	80 - 120	21.67	0.161	20	
Nitrogen, Nitrate (As N)	2.124	0.100	2	0	106	80 - 120	2.12	0.212	20	
Sulfate	43.35	0.500	10	33.53	98.2	80 - 120	43.43	0.195	20	

MSD Sample ID: **HS21111356-01MSD** Units: **mg/L** Analysis Date: **23-Nov-2021 11:44**
Client ID: Run ID: **ICS-Integrion_396401** SeqNo: **6391909** PrepDate: DF: **5**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	3535	2.50	50	3619	-167	80 - 120	3493	1.21	20	SEO
Nitrogen, Nitrate (As N)	10.71	0.500	10	0.908	98.0	80 - 120	10.68	0.29	20	
Sulfate	54.73	2.50	50	3.431	103	80 - 120	53.88	1.57	20	

The following samples were analyzed in this batch: HS21111412-01 HS21111412-02 HS21111412-03

ALS Houston, US Date: 20-Jan-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 37 November 2021
WorkOrder: HS21111412

QC BATCH REPORT

Batch ID: R397191 (0) **Instrument: TOC_04** **Method: TOTAL ORGANIC CARBON - SM5310B-2011**

MBLK Sample ID: **MBLK-12062021** Units: **mg/L** Analysis Date: **07-Dec-2021 13:17**
Client ID: Run ID: **TOC_04_397191** SeqNo: **6411100** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	1.00	1.00								U

LCS Sample ID: **LCS-12062021** Units: **mg/L** Analysis Date: **07-Dec-2021 13:33**
Client ID: Run ID: **TOC_04_397191** SeqNo: **6411101** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	10.68	1.00	10	0	107	85 - 115				

LCSD Sample ID: **LCSD-12062021** Units: **mg/L** Analysis Date: **07-Dec-2021 13:49**
Client ID: Run ID: **TOC_04_397191** SeqNo: **6411102** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	10.77	1.00	10	0	108	85 - 115	10.68	0.839	20	

MS Sample ID: **HS21111412-01MS** Units: **mg/L** Analysis Date: **07-Dec-2021 15:44**
Client ID: **35BWW12-211122** Run ID: **TOC_04_397191** SeqNo: **6411109** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	12.59	1.00	10	2.141	104	80 - 120				

The following samples were analyzed in this batch: HS21111412-01 HS21111412-02 HS21111412-03

ALS Houston, US Date: 20-Jan-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 37 November 2021
WorkOrder: **HS21111412**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitaion Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

Unit Reported	Description
mg/L	Milligrams per Liter

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	21-022-0	26-Mar-2022
Florida	E87611-33	30-Jun-2022
Illinois	2000322021-7	09-May-2022
Kansas	E-10352 2021-2022	31-Jul-2022
Kentucky	123043, 2021-2022	30-Apr-2022
Louisiana	03087, 2021-2022	30-Jun-2022
Texas	T104704231-21-28	30-Apr-2022

ALS Houston, US Date: 20-Jan-22

Sample Receipt Checklist

Work Order ID: HS21111412 **Date/Time Received:** 23-Nov-2021 10:50

Client Name: CBI-Houston **Received by:** Jared R. Makan

Completed By: /S/ Paresh M. Giga (eSignature) 23-Nov-2021 13:51 (Date/Time) **Reviewed by:** /S/ Ragen Giga (eSignature) 24-Nov-2021 18:27 (Date/Time)

Matrices: GW Carrier name: FedEx Priority Overnight

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
VOA/TX1005/TX1006 Solids in hermetically sealed vials?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	1 Page(s)
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	COC IDs:none
Samplers name present on COC?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	1.3C U/C	IR31	
Cooler(s)/Kit(s):	47250		
Date/Time sample(s) sent to storage:	11/23/2021 14:05		
Water - VOA vials have zero headspace?	Yes ☑	No ☐	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑
pH adjusted?	Yes ☐	No ☐	N/A ☑
pH adjusted by:			

Login Notes: VOCs logged in on a separate W/O by Jared

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:

CHAIN OF CUSTODY

Name Of Lab Shipping To: ALS 10450 Stancliff Rd. Suite 210 Houston, TX. 77099 (281) 530-5656 ATTN: Ragen Giga

Page 1 of 1

Project: APTIM LONGHORN
ARMY AMMN. PLANT (LHAAP)
GROUNDWATER TREATMENT PLANT (GWTP)
KARNACK, TEXAS

Project No. 501032

Job: **LHAAP 37 November 2021**

Prepared By: Scott Beesinger

P.O. Number

Field Sample I.D.	Sample Matrix	Date / Time	MS / MSD	No. OF CONTAINERS	VOC by SW 8260B	TOC by SM5310C	MEE by RSK 175	Anions (chloride sulfate, nitrate) by SW9056	CO2 by RSK 175					Remarks (Preservatives, etc.)	Lab I.D.#
35BWW12-211122	WG	11/22/21 0735		12	X	X	X	X	X						
35BWW12-211122-MS	WG	11/22/21 0735		12	X	X	X	X	X						
35BWW12-211122-MSD	WG	11/22/21 0735		12	X	X	X	X	X						
35BWW14-211122	WG	11/22/21 0855		12	X	X	X	X	X						
35BWW23-211122	WG	11/22/21 1100		12	X	X	X	X	X						

Additional Remarks: **Standard TAT on all parameters. Please email results to** Vicki.Graves@aptim.com **and invoices to** fedinvoices@aptim.com

Relinquished By:	Date	Time	Received By:	Date	Time	Relinquished By:	Date	Time	Received By:	Date	Time
Scott Beesinger	11/22/21	1430									

For Lab Use Only

Received At Lab By:	Date	Time	Airbill No.	Opened By:	Date	Time	Temp of Container	Seal No.	Condition
J. Mercurio	11/23/21	10:50							

Remarks: Cooler 47250 IR01
Temp 1.3C CF0

HS21111412

Aptim Environmental & Infrastucture, Inc.
Longhorn Army Ammunition Plant 37 November 20

(Word) S:\1-ces\Forms\Chain of Custody - BiWeekly

ALS
10450 Stancliff Rd., Suite 210
Houston, Texas 77099
Tel. +1 281 530 5656
Fax. +1 281 530 5887

47250

CUSTODY SEAL

Date: 11/22/21 Time: 1430
Name: Scott Beesinger
Company: Battelle

Seal Broken By:
Date: 11/23/21

47250

47250

ORIGIN ID:SGRA (903) 930-6193
SCOTT BEESINGER
APTIM ENVIROMENTAL & INFRASTRUCTURE
1203-B EAST GRAND AVE
PMB 202
MARSHALL, TX 75670
UNITED STATES US

SHIP DATE: 28OCT21
ACTWGT: 1.00 LB MAN
CAD: 0221247/CAFE3507
DIMS: 19x16x13 IN

TO SHIPPING DEPT
ALS LABORATORY GROUP
10450 STANCLIFF RD
SUITE 210
HOUSTON TX 77099
(281) 530-5656
REF: LHAAP-67-B081554-RG
RMA:

FedEx Express

TRK# 5300 5224 2197
PRIORITY OVERNIGHT

XA SGRA
77099
TX-US
IAH

4738674 22Nov2021 SGRA SHOO2/9A7E/1023

LELAP CERTIFICATE NUMBER: 01955
DOD-ELAP ACCREDITATION NUMBER: 74960

ANALYTICAL RESULTS

PERFORMED BY

Pace Analytical Gulf Coast
7979 Innovation Park Dr.
Baton Rouge, LA 70820
(225) 769-4900

Report Date 01/19/2022

Report # 221112534

Project HS21111412

Samples Collected 11/22/21

Deliver To	***Additional Recipients***
Ragen Giga ALS Houston 10450 Stancliff Rd Suite 210 Houston, TX 77099 281-530-5656	Jumoke Lawal, ALS Houston

Laboratory Endorsement

Sample analysis was performed in accordance with approved methodologies provided by the Environmental Protection Agency or other recognized agencies. The samples and their corresponding extracts will be maintained for a period of 30 days unless otherwise arranged. Following this retention period the samples will be disposed in accordance with Pace Gulf Coast's Standard Operating Procedures.

Common Abbreviations that may be Utilized in this Report

ND	Indicates the result was Not Detected at the specified reporting limit
NO	Indicates the sample did not ignite when preliminary test performed for EPA Method 1030
DO	Indicates the result was Diluted Out
MI	Indicates the result was subject to Matrix Interference
TNTC	Indicates the result was Too Numerous To Count
SUBC	Indicates the analysis was Sub-Contracted
FLD	Indicates the analysis was performed in the Field
DL	Detection Limit
LOD	Limit of Detection
LOQ	Limit of Quantitation
RE	Re-analysis
CF	HPLC or GC Confirmation
00:01	Reported as a time equivalent to 12:00 AM

Reporting Flags that may be Utilized in this Report

J or I	Indicates the result is between the MDL and LOQ
J	DOD flag on analyte in the parent sample for MS/MSD outside acceptance criteria
U	Indicates the compound was analyzed for but not detected
B or V	Indicates the analyte was detected in the associated Method Blank
Q	Indicates a non-compliant QC Result (See Q Flag Application Report)
*****	Indicates a non-compliant or not applicable QC recovery or RPD – see narrative
E	Organics - The result is estimated because it exceeded the instrument calibration range
E	Metals - % diference for the serial dilution is > 10%
L	Reporting Limits adjusted to meet risk-based limit.
P	RPD between primary and confirmation result is greater than 40
DL	Diluted analysis – when appended to Client Sample ID

Sample receipt at Pace Gulf Coast is documented through the attached chain of custody. In accordance with NELAC, this report shall be reproduced only in full and with the written permission of Pace Gulf Coast. The results contained within this report relate only to the samples reported. The documented results are presented within this report.

This report pertains only to the samples listed in the Report Sample Summary and should be retained as a permanent record thereof. The results contained within this report are intended for the use of the client. Any unauthorized use of the information contained in this report is prohibited.

I certify that this data package is in compliance with The NELAC Institute (TNI) Standard 2009 and terms and conditions of the contract and Statement of Work both technically and for completeness, for other than the conditions in the case narrative. Release of the data contained in this hardcopy data package and in the computer readable data submitted has been authorized by the Quality Assurance Manager or his/her designee, as verified by the following signature.

Estimated uncertainty of measurement is available upon request. This report is in compliance with the DOD QSM as specified in the contract if applicable.



Authorized Signature
Pace Gulf Coast Report 221112534

Certifications

Certification	Certification Number
DOD ELAP	74960
Alabama	01955
Arkansas	88-0655
Colorado	01955
Delaware	01955
Florida	E87854
Georgia	01955
Hawaii	01955
Idaho	01955
Illinois	200048
Indiana	01955
Kansas	E-10354
Kentucky	95
Louisiana	01955
Maryland	01955
Massachusetts	01955
Michigan	01955
Mississippi	01955
Missouri	01955
Montana	N/A
Nebraska	01955
New Mexico	01955
North Carolina	618
North Dakota	R-195
Oklahoma	9403
South Carolina	73006001
South Dakota	01955
Tennessee	01955
Texas	T104704178
Vermont	01955
Virginia	460215
Washington	C929
USDA Soil Permit	P330-16-00234

Case Narrative

Client: ALS Environmental - Houston, TX **Report:** 221112534

Pace Analytical Gulf Coast received and analyzed the sample(s) listed
on the Report Sample Summary page of this report. Receipt of the sample(s) is documented
by the attached chain of custody. This applies only to the sample(s) listed in this report.
No sample integrity or quality control exceptions were identified unless noted below.

This report was completed in accordance with DOD QSM 5.3 as specified in the contract.

VOLATILES GAS CHROMATOGRAPHY

In the EPA RSK-175 analysis for analytical batch 728379, the MS/MSD recoveries and RPDs are not applicable to Carbon Dioxide because the spike was diluted out of the samples. The LCS recovery is acceptable.

Sample Summary

Lab ID	Client ID	Matrix	Collect Date	Receive Date
22111253401	HS21111412-01	Water	11/22/21 07:35	11/24/21 10:24
22111253402	HS21111412-02	Water	11/22/21 08:55	11/24/21 10:24
22111253403	HS21111412-03	Water	11/22/21 11:00	11/24/21 10:24
22111253404	HS21111412-01-MS	Water	11/22/21 07:35	11/24/21 10:24
22111253405	HS21111412-01-MSD	Water	11/22/21 07:35	11/24/21 10:24

Test Summary

EPA RSK-175					
Lab ID	**Client ID**	**Matrix**	**Batch**	**Instru**	**RunDate**
22111253401	HS21111412-01	Water	728379	GCV8B	12/02/21 13:26
22111253402	HS21111412-02	Water	728379	GCV8B	12/02/21 13:37
22111253403	HS21111412-03	Water	728379	GCV8B	12/02/21 13:47
22111253404	HS21111412-01-MS	Water	728379	GCV8B	12/02/21 13:54
22111253405	HS21111412-01-MSD	Water	728379	GCV8B	12/02/21 14:00

Manual Integrations

Lab ID	Client ID	Matrix	Method	Parameter
22111253403	HS21111412-03	Water	EPA RSK-175	Carbon Dioxide

Q Flag Summary

NO Q FLAGS FOR THIS WORKORDER

Detect Summary

Results and Detection Limits are adjusted for dilution and moisture when applicable

EPA RSK-175						
Lab ID	**Client ID**	**Parameter**	**Units**	**Result**	**Dil.**	**%Moist**
22111253401	HS21111412-01	Carbon Dioxide	ug/L	595000J	50	NA
22111253402	HS21111412-02	Carbon Dioxide	ug/L	535000	50	NA
22111253403	HS21111412-03	Carbon Dioxide	ug/L	1120000	600	NA

EPA RSK-175

Form 1D

Results

1D

ORGANICS ANALYSIS DATA SHEET

Report No:	221112534	Client Sample ID:	HS21111412-01
Collect Date:	11/22/21 Time: 0735	GCAL Sample ID:	22111253401
Matrix:	Water % Moisture: NA	Instrument ID:	GCV8B
Sample Amt:	5 mL	Lab File ID:	2211202p/v8010
Injection Vol.:	1 (µL)	GC Column:	GS-Q-30 ID .53 (mm)
Prep Final Vol.:	NA (µL)	Dilution Factor:	50 Analyst: BMR
Prep Date:	NA	Analysis Date:	12/02/21 Time: 1326
Prep Batch:	NA	Analytical Batch:	728379
Prep Method:	NA	Analytical Method:	RSK-175

CONCENTRATION UNITS: ug/L

CAS	ANALYTE	RESULT	Q	DL	LOD	LOQ
124-38-9	Carbon Dioxide	595000	J	6350	19300	45000

FORM I ORG-1

Data File: /var/chem/gcv8b.i/2211202p.b/v8010.d Page 1
Report Date: 02-Dec-2021 16:05

GCAL, Inc.

Data file : /var/chem/gcv8b.i/2211202p.b/v8010.d
Lab Smp Id: 22111253401 Client Smp ID: 22111253401
Inj Date : 02-DEC-2021 13:26
Operator : BMR Inst ID: gcv8b.i
Smp Info : 22111253401
Misc Info : 2125155
Comment :
Method : /var/chem/gcv8b.i/2211202p.b/CO2h.m
Meth Date : 02-Dec-2021 16:05 bmr Quant Type: ESTD
Cal Date : 21-SEP-2021 12:18 Cal File: v8007.d
Als bottle: 1
Dil Factor: 50.00000
Integrator: HP Genie Compound Sublist: co2.sub
Target Version: 3.50
Processing Host: org.gcal.com

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

					CONCENTRATIONS	
					ON-COLUMN	FINAL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/L)	(ug/L)
1 Carbon Dioxide	1.409	1.405	0.004	35461012	11905.8	595000

Data File: /var/chem/gcv8b.i/2211202p.b/v8010.d

Date : 02-DEC-2021 13:26

Client ID: 22111253401

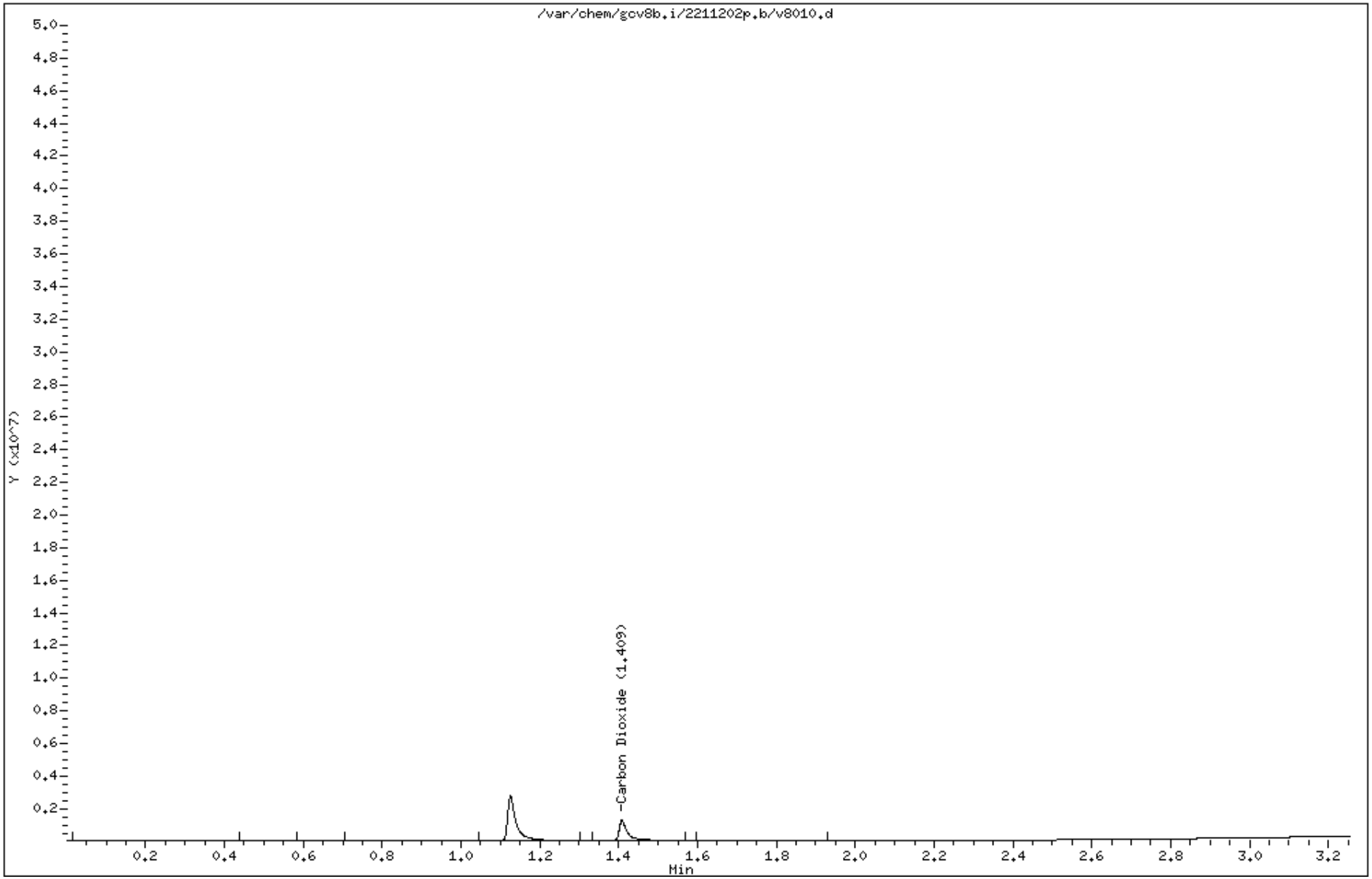
Instrument: gcv8b.i

Sample Info: 22111253401

Operator: BMR

Column phase: GS-Q-30

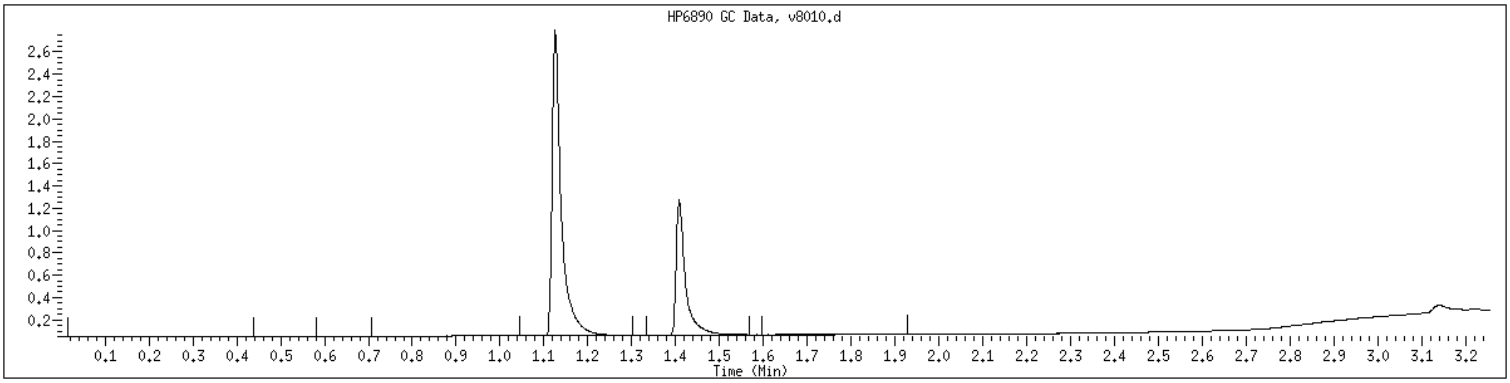
Column diameter: 0.53



Data file : /var/chem/gcv8b.i/2211202p.b/v8010.d Page: 1
Report Date: 12/02/2021 16:05

MANUAL INTEGRATION GRAPHIC REPORT

Lab ID : 22111253401 SampleType : SAMPLE
Injection Date: 12/02/2021 13:26 Instrument : gcv8b.i
Operator : BMR
Sample Info : 22111253401
Misc Info : 2125155
Method : /var/chem/gcv8b.i/2211202p.b/CO2h.m
Dilution : 50.0
Matrix : WATER
Integrator : HP Genie Compound Sublist: co2



NO MANUAL INTEGRATIONS

1D
ORGANICS ANALYSIS DATA SHEET

Report No:	221112534	Client Sample ID:	HS21111412-02
Collect Date:	11/22/21 Time: 0855	GCAL Sample ID:	22111253402
Matrix:	Water % Moisture: NA	Instrument ID:	GCV8B
Sample Amt:	5 mL	Lab File ID:	2211202p/v8012
Injection Vol.:	1 (µL)	GC Column:	GS-Q-30 ID .53 (mm)
Prep Final Vol.:	NA (µL)	Dilution Factor:	50 Analyst: BMR
Prep Date:	NA	Analysis Date:	12/02/21 Time: 1337
Prep Batch:	NA	Analytical Batch:	728379
Prep Method:	NA	Analytical Method:	RSK-175

CONCENTRATION UNITS: ug/L

CAS	ANALYTE	RESULT	Q	DL	LOD	LOQ
124-38-9	Carbon Dioxide	535000		6350	19300	45000

FORM I ORG-1

Data File: /var/chem/gcv8b.i/2211202p.b/v8012.d Page 1
Report Date: 02-Dec-2021 16:05

GCAL, Inc.

Data file : /var/chem/gcv8b.i/2211202p.b/v8012.d
Lab Smp Id: 22111253402 Client Smp ID: 22111253402
Inj Date : 02-DEC-2021 13:37
Operator : BMR Inst ID: gcv8b.i
Smp Info : 22111253402
Misc Info : 2125155
Comment :
Method : /var/chem/gcv8b.i/2211202p.b/CO2h.m
Meth Date : 02-Dec-2021 16:05 bmr Quant Type: ESTD
Cal Date : 21-SEP-2021 12:18 Cal File: v8007.d
Als bottle: 1
Dil Factor: 50.00000
Integrator: HP Genie Compound Sublist: co2.sub
Target Version: 3.50
Processing Host: org.gcal.com

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

					CONCENTRATIONS	
					ON-COLUMN	FINAL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/L)	(ug/L)
1 Carbon Dioxide	1.395	1.405	-0.010	31845293	10691.8	534000

Data File: /var/chem/gcv8b.i/2211202p.b/v8012.d

Date : 02-DEC-2021 13:37

Client ID: 22111253402

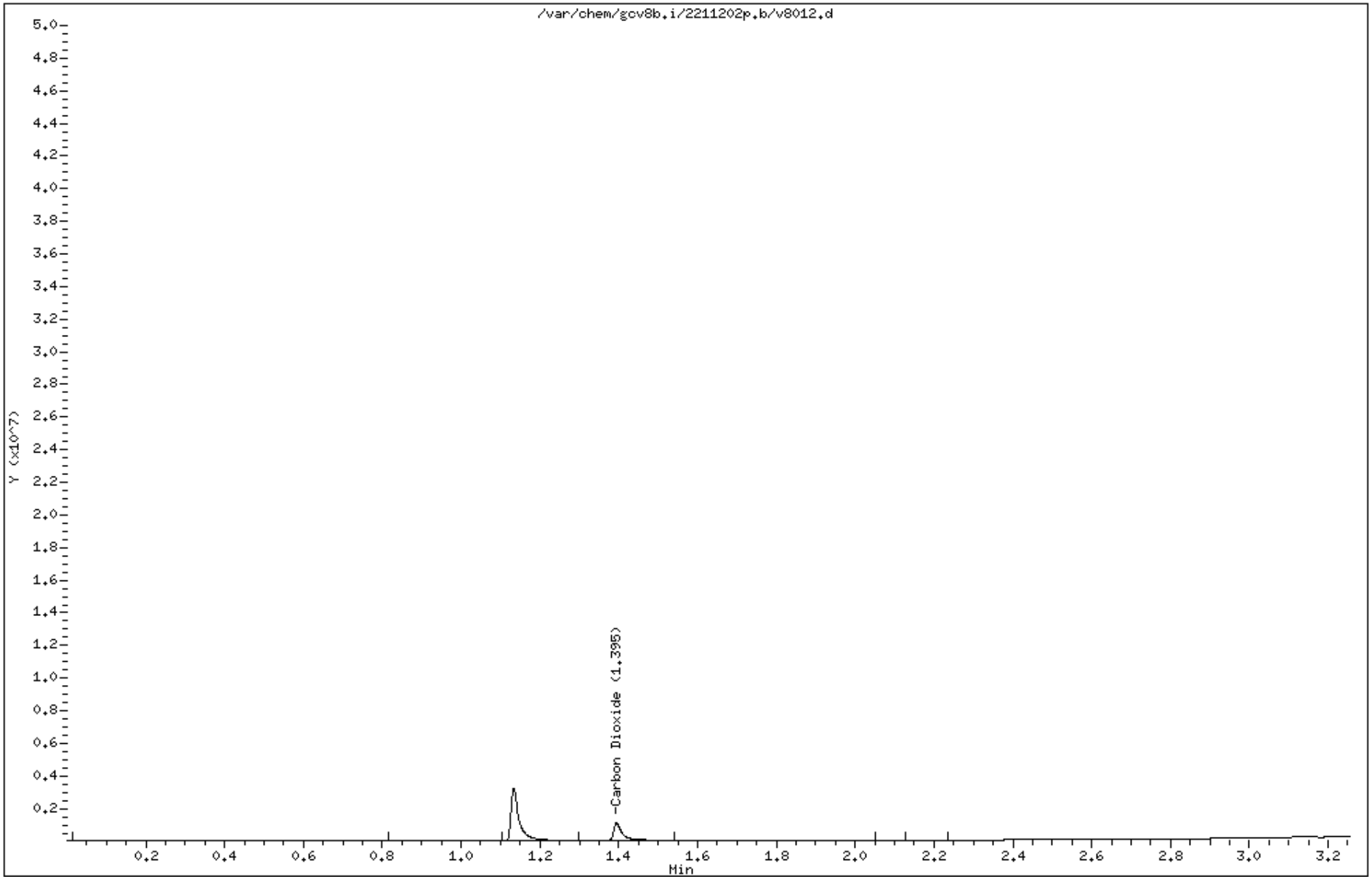
Instrument: gcv8b.i

Sample Info: 22111253402

Operator: BMR

Column phase: GS-Q-30

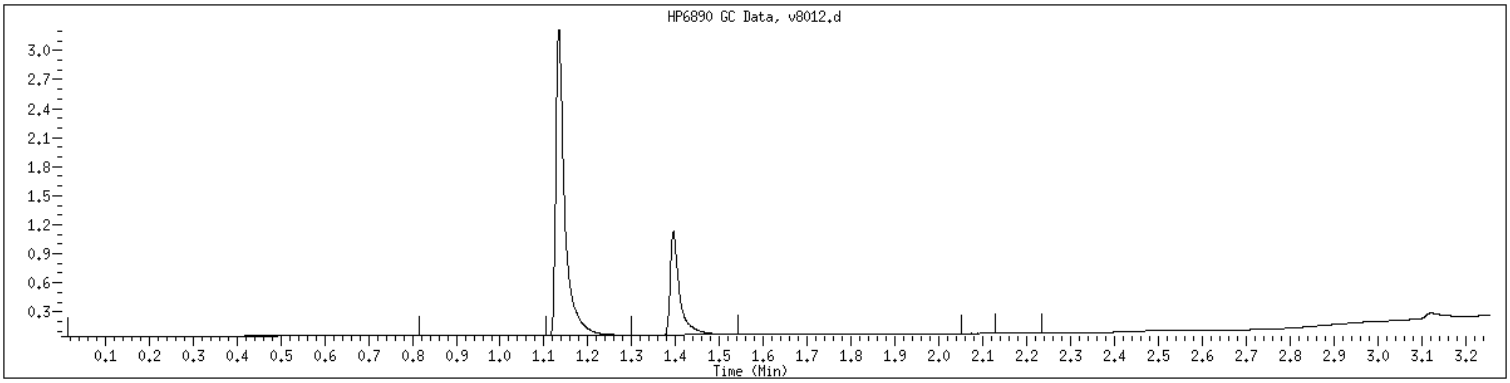
Column diameter: 0.53



Data file : /var/chem/gcv8b.i/2211202p.b/v8012.d Page: 1
Report Date: 12/02/2021 16:05

MANUAL INTEGRATION GRAPHIC REPORT

Lab ID	: 22111253402	SampleType	: SAMPLE
Injection Date	: 12/02/2021 13:37	Instrument	: gcv8b.i
Operator	: BMR		
Sample Info	: 22111253402		
Misc Info	: 2125155		
Method	: /var/chem/gcv8b.i/2211202p.b/CO2h.m		
Dilution	: 50.0		
Matrix	: WATER		
Integrator	: HP Genie	Compound Sublist	: co2



NO MANUAL INTEGRATIONS

1D
ORGANICS ANALYSIS DATA SHEET

Report No:	221112534	Client Sample ID:	HS21111412-03
Collect Date:	11/22/21 Time: 1100	GCAL Sample ID:	22111253403
Matrix:	Water % Moisture: NA	Instrument ID:	GCV8B
Sample Amt:	5 mL	Lab File ID:	2211202p/v8014
Injection Vol.:	1 (µL)	GC Column:	GS-Q-30 ID .53 (mm)
Prep Final Vol.:	NA (µL)	Dilution Factor:	600 Analyst: BMR
Prep Date:	NA	Analysis Date:	12/02/21 Time: 1347
Prep Batch:	NA	Analytical Batch:	728379
Prep Method:	NA	Analytical Method:	RSK-175

CONCENTRATION UNITS: ug/L

CAS	ANALYTE	RESULT	Q	DL	LOD	LOQ
124-38-9	Carbon Dioxide	1120000		76200	232000	540000

FORM I ORG-1

Data File: /var/chem/gcv8b.i/2211202p.b/v8014.d Page 1
Report Date: 02-Dec-2021 16:05

GCAL, Inc.

Data file : /var/chem/gcv8b.i/2211202p.b/v8014.d
Lab Smp Id: 22111253403 Client Smp ID: 22111253403
Inj Date : 02-DEC-2021 13:47
Operator : BMR Inst ID: gcv8b.i
Smp Info : 22111253403
Misc Info : 2125155
Comment :
Method : /var/chem/gcv8b.i/2211202p.b/CO2h.m
Meth Date : 02-Dec-2021 16:05 bmr Quant Type: ESTD
Cal Date : 21-SEP-2021 12:18 Cal File: v8007.d
Als bottle: 1
Dil Factor: 600.00000
Integrator: HP Genie Compound Sublist: co2.sub
Target Version: 3.50
Processing Host: org.gcal.com

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

					CONCENTRATIONS	
					ON-COLUMN	FINAL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/L)	(ug/L)
1 Carbon Dioxide	1.414	1.405	0.009	5560369	1866.85	1120000(M2)

QC Flag Legend

M2- Compound response manually integrated because
Target system integrated incorrectly.

Data File: /var/chem/gcv8b.i/2211202p.b/v8014.d

Date : 02-DEC-2021 13:47

Client ID: 22111253403

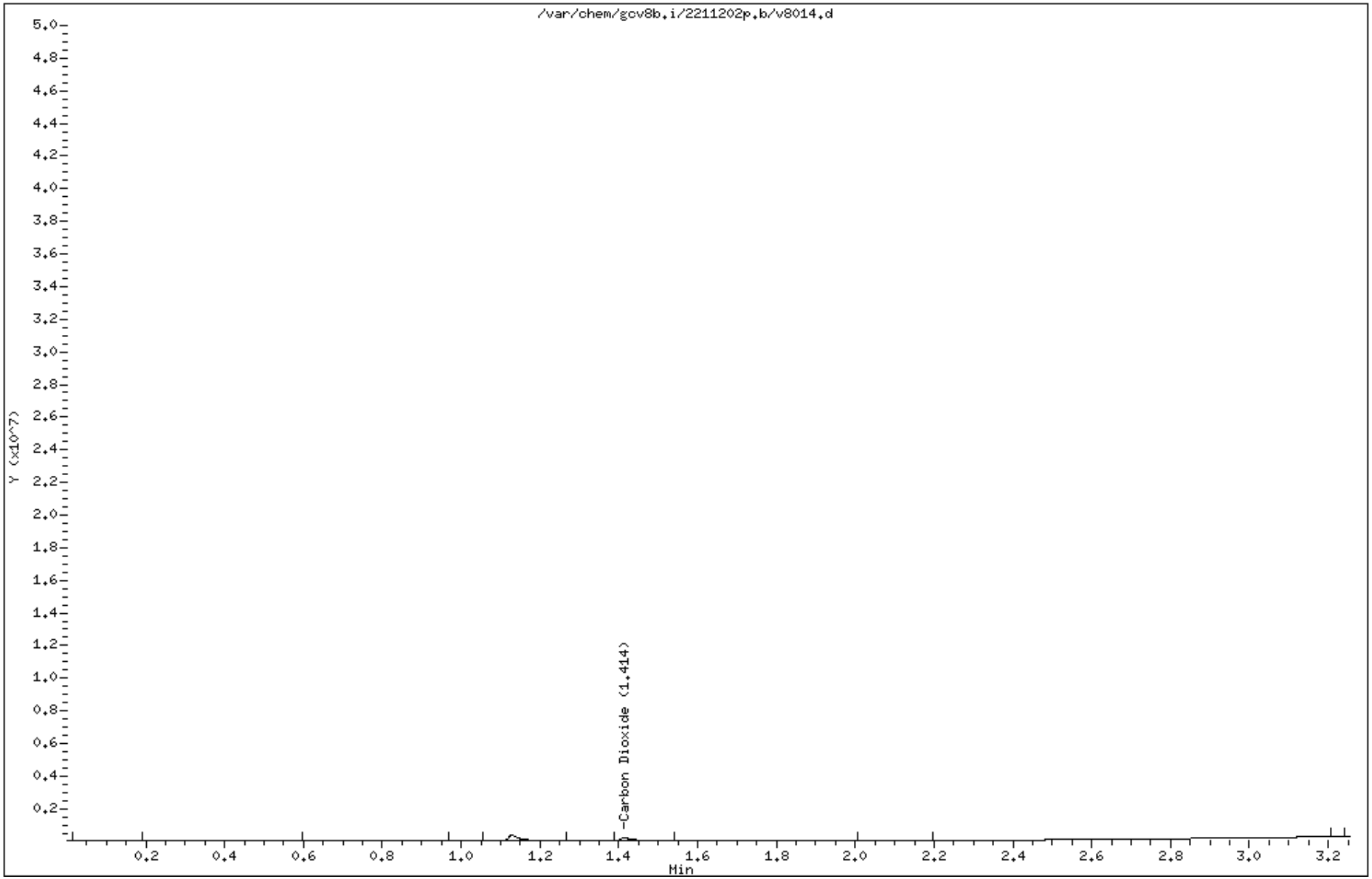
Instrument: gcv8b.i

Sample Info: 22111253403

Operator: BMR

Column phase: GS-Q-30

Column diameter: 0.53

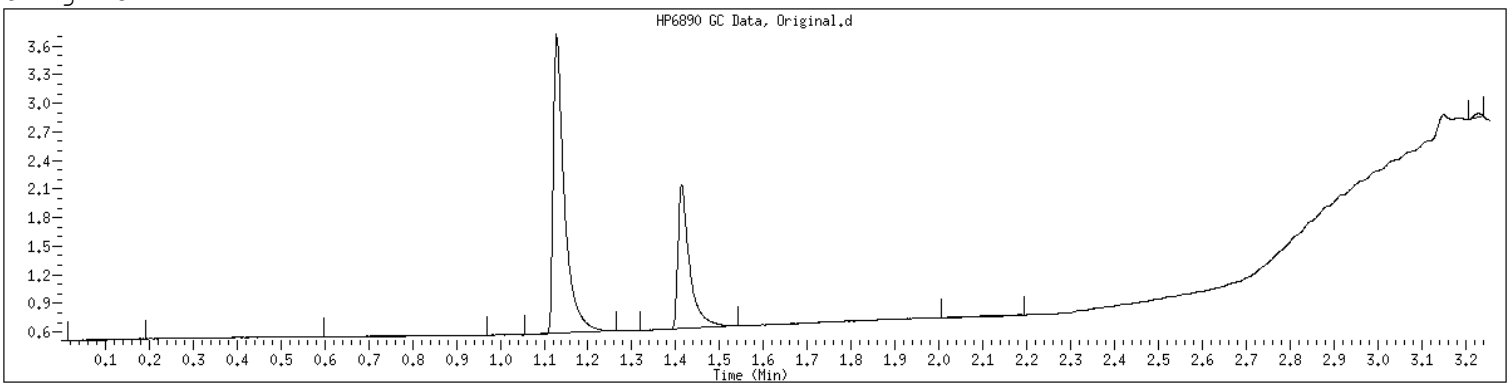


Data file : /var/chem/gcv8b.i/2211202p.b/v8014.d Page: 1
Report Date: 12/02/2021 16:05

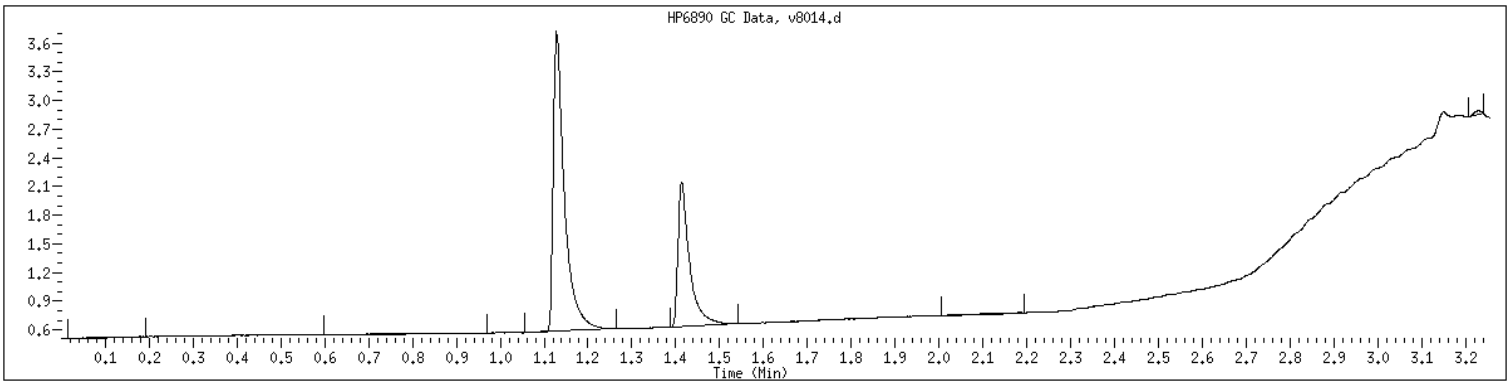
MANUAL INTEGRATION GRAPHIC REPORT

Lab ID	: 22111253403	SampleType	: SAMPLE
Injection Date	: 12/02/2021 13:47	Instrument	: gcv8b.i
Operator	: BMR		
Sample Info	: 22111253403		
Misc Info	: 2125155		
Method	: /var/chem/gcv8b.i/2211202p.b/CO2h.m		
Dilution	: 600		
Matrix	: WATER		
Integrator	: HP Genie	Compound Sublist	: co2

Original



Final



1D

ORGANICS ANALYSIS DATA SHEET

Report No:	221112534	Client Sample ID:	HS21111412-01-MS
Collect Date:	11/22/21 Time: 0735	GCAL Sample ID:	22111253404
Matrix:	Water % Moisture: NA	Instrument ID:	GCV8B
Sample Amt:	5 mL	Lab File ID:	2211202p/v8015
Injection Vol.:	1 (µL)	GC Column:	GS-Q-30 ID .53 (mm)
Prep Final Vol.:	NA (µL)	Dilution Factor:	50 Analyst: BMR
Prep Date:	NA	Analysis Date:	12/02/21 Time: 1354
Prep Batch:	NA	Analytical Batch:	728379
Prep Method:	NA	Analytical Method:	RSK-175

CONCENTRATION UNITS: ug/L

CAS	*ANALYTE*	*RESULT*	*Q*	*DL*	*LOD*	*LOQ*
124-38-9	Carbon Dioxide	546000		6350	19300	45000

FORM I ORG-1

Data File: /var/chem/gcv8b.i/2211202p.b/v8015.d Page 1
Report Date: 02-Dec-2021 16:10

GCAL, Inc.

Data file : /var/chem/gcv8b.i/2211202p.b/v8015.d
Lab Smp Id: 22111253404 Client Smp ID: 22111253404
Inj Date : 02-DEC-2021 13:54
Operator : BMR Inst ID: gcv8b.i
Smp Info : 22111253404
Misc Info : 2125155
Comment :
Method : /var/chem/gcv8b.i/2211202p.b/CO2h.m
Meth Date : 02-Dec-2021 16:06 bmr Quant Type: ESTD
Cal Date : 21-SEP-2021 12:18 Cal File: v8007.d
Als bottle: 1 QC Sample: MS
Dil Factor: 50.00000
Integrator: HP Genie Compound Sublist: co2.sub
Target Version: 3.50
Processing Host: org.gcal.com

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

					CONCENTRATIONS	
					ON-COLUMN	FINAL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/L)	(ug/L)
1 Carbon Dioxide	1.407	1.410	-0.003	32530436	10921.9	546000(R)

QC Flag Legend

R - Spike/Surrogate failed recovery limits.

Data File: /var/chem/gcv8b.i/2211202p.b/v8015.d

Date : 02-DEC-2021 13:54

Client ID: 22111253404

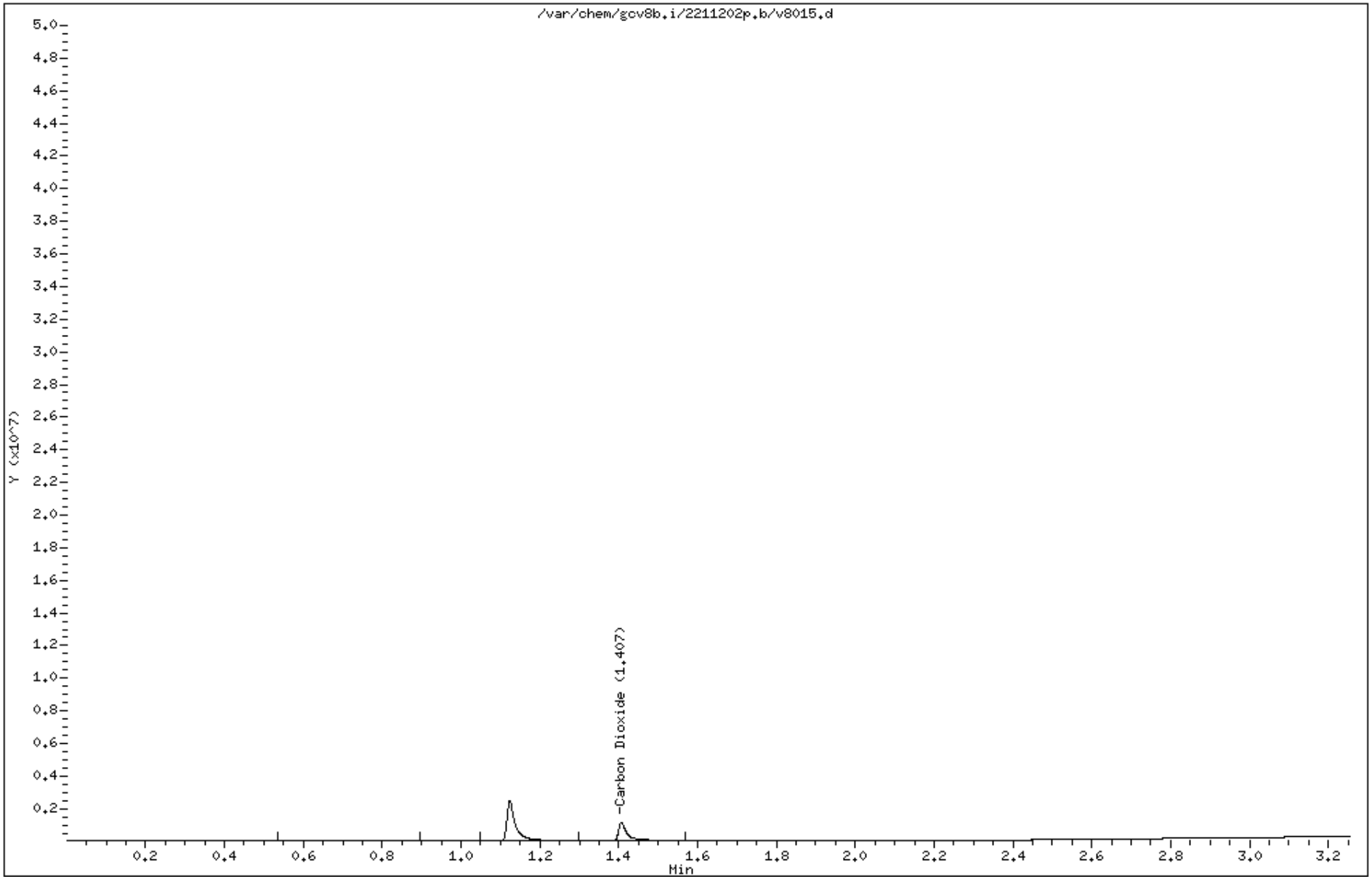
Instrument: gcv8b.i

Sample Info: 22111253404

Operator: BMR

Column phase: GS-Q-30

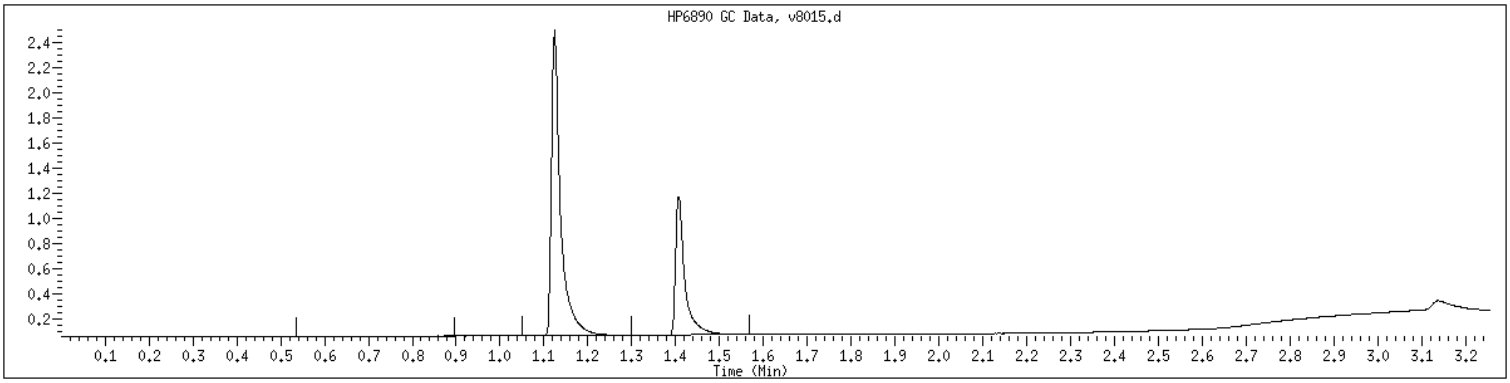
Column diameter: 0.53



Data file : /var/chem/gcv8b.i/2211202p.b/v8015.d Page: 1
Report Date: 12/02/2021 16:10

MANUAL INTEGRATION GRAPHIC REPORT

Lab ID	: 22111253404	SampleType	: MS
Injection Date	: 12/02/2021 13:54	Instrument	: gcv8b.i
Operator	: BMR		
Sample Info	: 22111253404		
Misc Info	: 2125155		
Method	: /var/chem/gcv8b.i/2211202p.b/CO2h.m		
Dilution	: 50.0		
Matrix	: WATER		
Integrator	: HP Genie	Compound Sublist	: co2



NO MANUAL INTEGRATIONS

1D

ORGANICS ANALYSIS DATA SHEET

Report No:	221112534	Client Sample ID:	HS21111412-01-MSD
Collect Date:	11/22/21 Time: 0735	GCAL Sample ID:	22111253405
Matrix:	Water % Moisture: NA	Instrument ID:	GCV8B
Sample Amt:	5 mL	Lab File ID:	2211202p/v8016
Injection Vol.:	1 (µL)	GC Column:	GS-Q-30 ID .53 (mm)
Prep Final Vol.:	NA (µL)	Dilution Factor:	50 Analyst: BMR
Prep Date:	NA	Analysis Date:	12/02/21 Time: 1400
Prep Batch:	NA	Analytical Batch:	728379
Prep Method:	NA	Analytical Method:	RSK-175

CONCENTRATION UNITS: ug/L

CAS	ANALYTE	RESULT	Q	DL	LOD	LOQ
124-38-9	Carbon Dioxide	601000		6350	19300	45000

FORM I ORG-1

Data File: /var/chem/gcv8b.i/2211202p.b/v8016.d Page 1
Report Date: 02-Dec-2021 16:05

GCAL, Inc.

Data file : /var/chem/gcv8b.i/2211202p.b/v8016.d
Lab Smp Id: 22111253405 Client Smp ID: 22111253405
Inj Date : 02-DEC-2021 14:00
Operator : BMR Inst ID: gcv8b.i
Smp Info : 22111253405
Misc Info : 2125155
Comment :
Method : /var/chem/gcv8b.i/2211202p.b/CO2h.m
Meth Date : 02-Dec-2021 16:05 bmr Quant Type: ESTD
Cal Date : 21-SEP-2021 12:18 Cal File: v8007.d
Als bottle: 1 QC Sample: MSD
Dil Factor: 50.00000
Integrator: HP Genie Compound Sublist: co2.sub
Target Version: 3.50
Processing Host: org.gcal.com

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

					CONCENTRATIONS	
					ON-COLUMN	FINAL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/L)	(ug/L)
1 Carbon Dioxide	1.410	1.405	0.005	35775422	12011.3	600000(R)

QC Flag Legend

R - Spike/Surrogate failed recovery limits.

Data File: /var/chem/gcv8b.i/2211202p.b/v8016.d

Date : 02-DEC-2021 14:00

Client ID: 22111253405

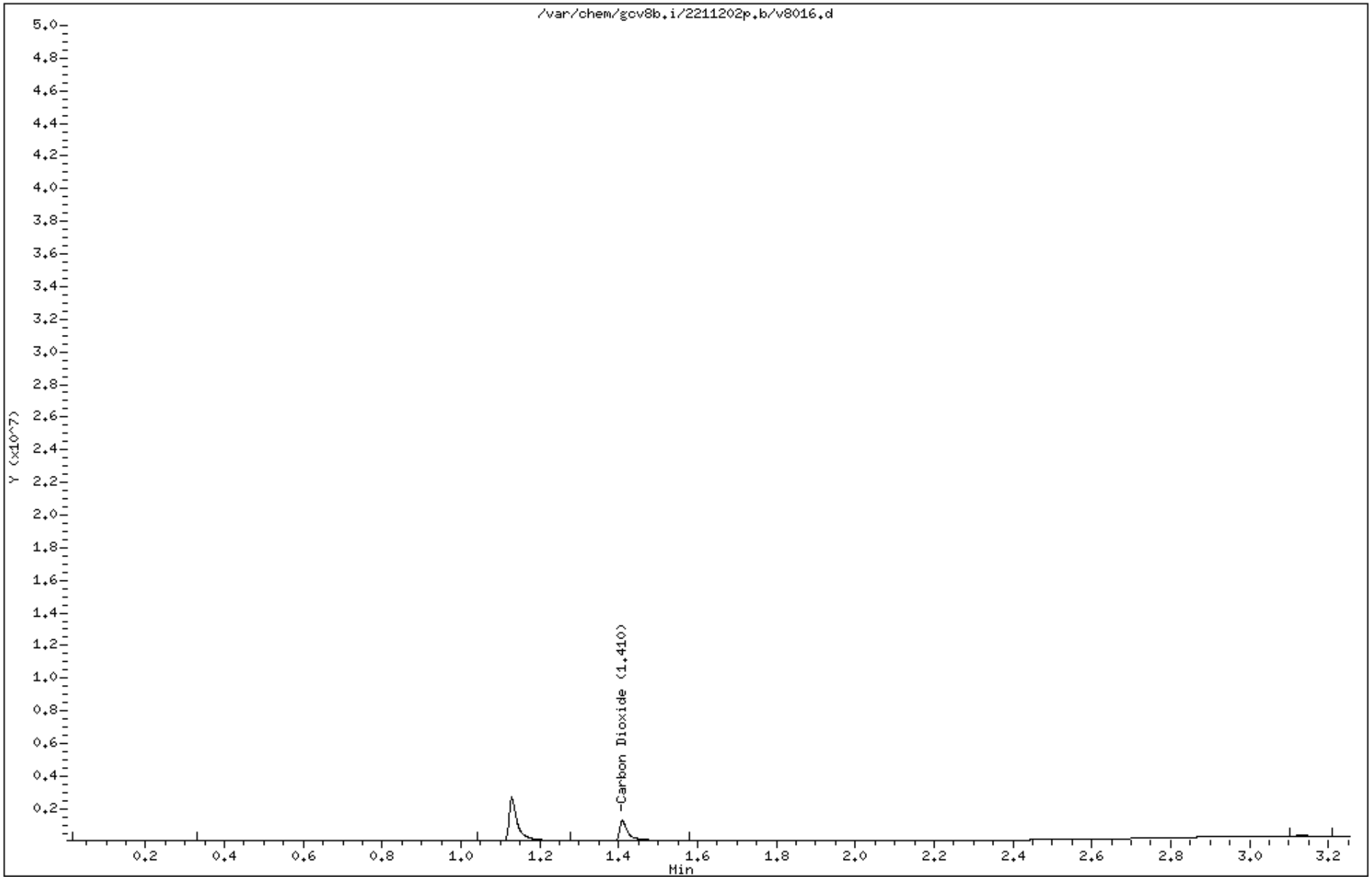
Instrument: gcv8b.i

Sample Info: 22111253405

Operator: BMR

Column phase: GS-Q-30

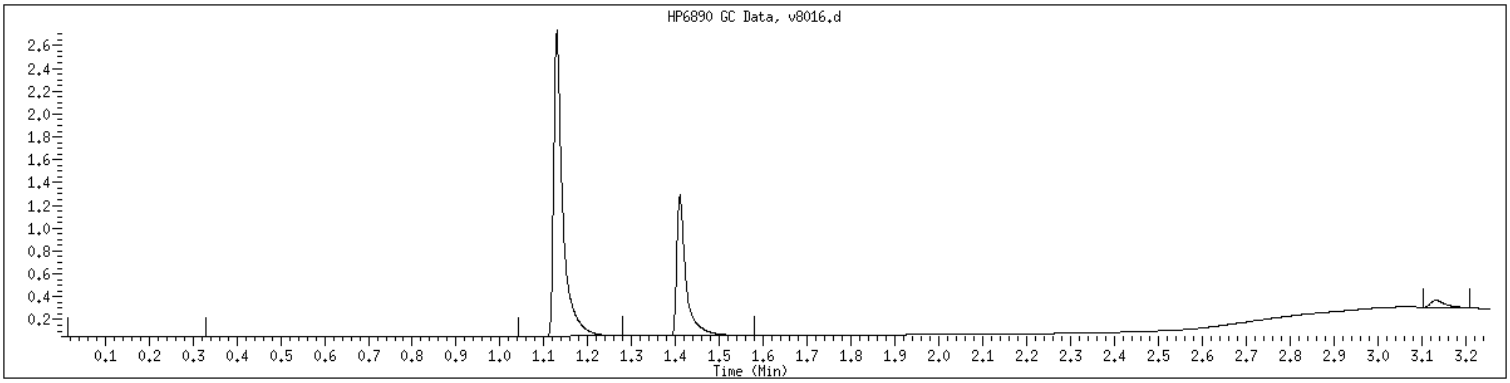
Column diameter: 0.53



Data file : /var/chem/gcv8b.i/2211202p.b/v8016.d Page: 1
Report Date: 12/02/2021 16:05

MANUAL INTEGRATION GRAPHIC REPORT

Lab ID	: 22111253405	SampleType	: MSD
Injection Date	: 12/02/2021 14:00	Instrument	: gcv8b.i
Operator	: BMR		
Sample Info	: 22111253405		
Misc Info	: 2125155		
Method	: /var/chem/gcv8b.i/2211202p.b/CO2h.m		
Dilution	: 50.0		
Matrix	: WATER		
Integrator	: HP Genie	Compound Sublist	: co2



NO MANUAL INTEGRATIONS

1D
ORGANICS ANALYSIS DATA SHEET

Report No:	221112534	Client Sample ID:	MB2280401
Collect Date:	NA Time: NA	GCAL Sample ID:	2280401
Matrix:	Water % Moisture: NA	Instrument ID:	GCV8B
Sample Amt:	5 mL	Lab File ID:	2211202p/v8002
Injection Vol.:	1 (µL)	GC Column:	GS-Q-30 ID .53 (mm)
Prep Final Vol.:	NA (µL)	Dilution Factor:	1 Analyst: BMR
Prep Date:	NA	Analysis Date:	12/02/21 Time: 1209
Prep Batch:	NA	Analytical Batch:	728379
Prep Method:	NA	Analytical Method:	RSK-175

CONCENTRATION UNITS: ug/L

CAS	ANALYTE	RESULT	Q	DL	LOD	LOQ
124-38-9	Carbon Dioxide	900	U	127	386	900

FORM I ORG-1

Data File: /var/chem/gcv8b.i/2211202p.b/v8002.d Page 1
Report Date: 02-Dec-2021 16:05

GCAL, Inc.

Data file : /var/chem/gcv8b.i/2211202p.b/v8002.d
Lab Smp Id: 2280401 Client Smp ID: 2280401
Inj Date : 02-DEC-2021 12:09
Operator : BMR Inst ID: gcv8b.i
Smp Info : 2280401
Misc Info : 2125155
Comment :
Method : /var/chem/gcv8b.i/2211202p.b/CO2h.m
Meth Date : 02-Dec-2021 16:05 bmr Quant Type: ESTD
Cal Date : 21-SEP-2021 12:18 Cal File: v8007.d
Als bottle: 1 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: co2.sub
Target Version: 3.50
Processing Host: org.gcal.com

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

					CONCENTRATIONS	
					ON-COLUMN	FINAL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/L)	(ug/L)
==========	==	======	======	========	=======	=======

Data File: /var/chem/gcv8b.i/2211202p.b/v8002.d

Date : 02-DEC-2021 12:09

Client ID: 2280401

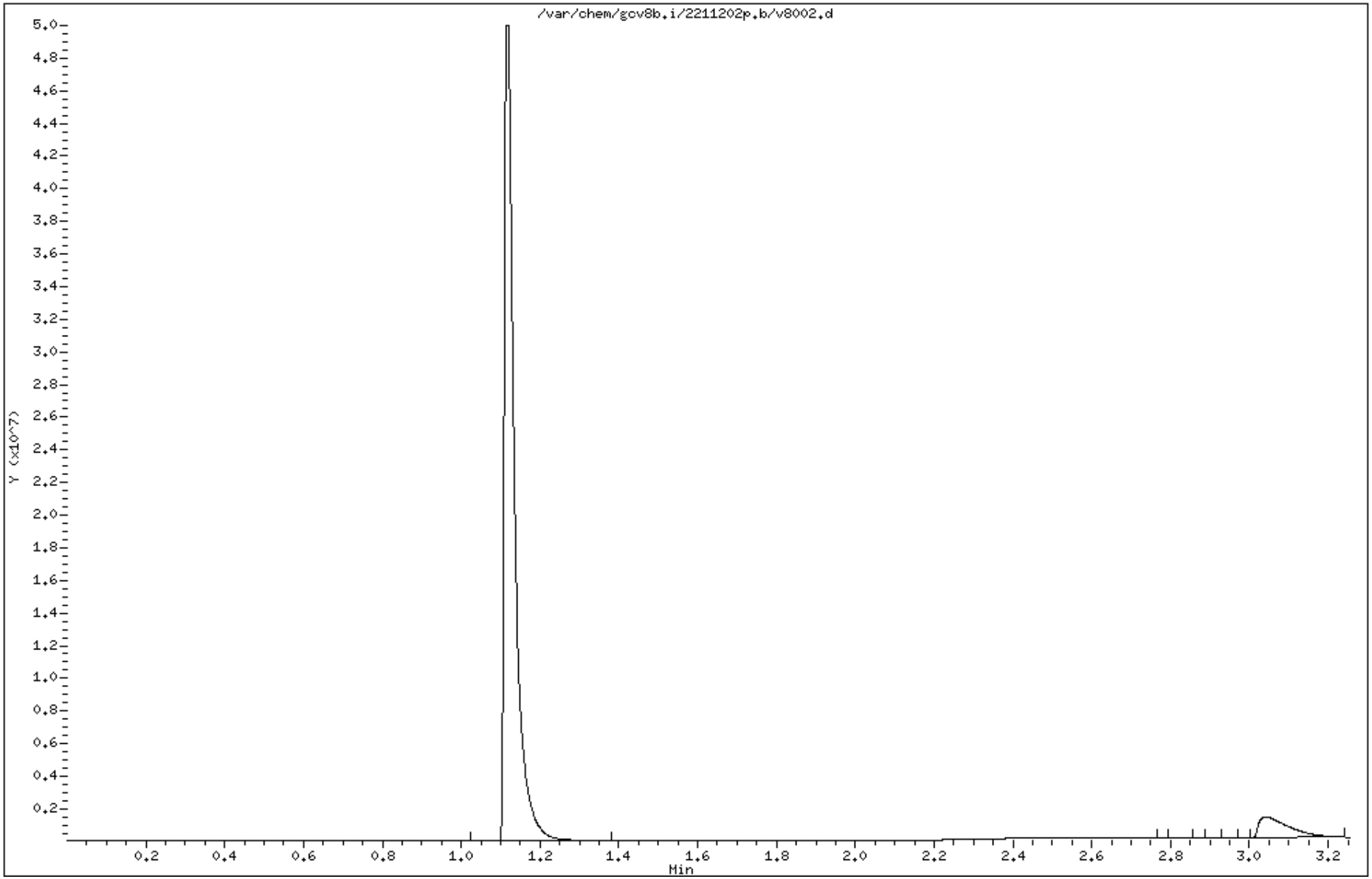
Instrument: gcv8b.i

Sample Info: 2280401

Operator: BMR

Column phase: GS-Q-30

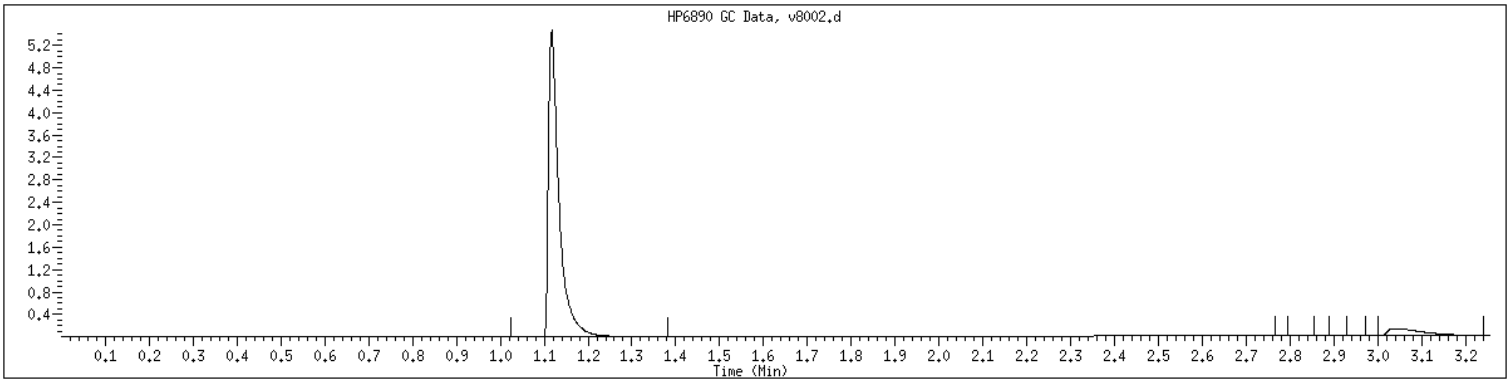
Column diameter: 0.53



Data file : /var/chem/gcv8b.i/2211202p.b/v8002.d Page: 1
Report Date: 12/02/2021 16:05

MANUAL INTEGRATION GRAPHIC REPORT

Lab ID	: 2280401	SampleType	: BLANK
Injection Date	: 12/02/2021 12:09	Instrument	: gcv8b.i
Operator	: BMR		
Sample Info	: 2280401		
Misc Info	: 2125155		
Method	: /var/chem/gcv8b.i/2211202p.b/CO2h.m		
Dilution	: 1.0		
Matrix	: WATER		
Integrator	: HP Genie	Compound Sublist	: co2



NO MANUAL INTEGRATIONS

1D

ORGANICS ANALYSIS DATA SHEET

Report No:	221112534	Client Sample ID:	LCS2280402
Collect Date:	NA Time: NA	GCAL Sample ID:	2280402
Matrix:	Water % Moisture: NA	Instrument ID:	GCV8B
Sample Amt:	5 mL	Lab File ID:	2211202p/v8003
Injection Vol.:	1 (µL)	GC Column:	GS-Q-30 ID .53 (mm)
Prep Final Vol.:	NA (µL)	Dilution Factor:	1 Analyst: BMR
Prep Date:	NA	Analysis Date:	12/02/21 Time: 1214
Prep Batch:	NA	Analytical Batch:	728379
Prep Method:	NA	Analytical Method:	RSK-175

CONCENTRATION UNITS: ug/L

CAS	ANALYTE	RESULT	Q	DL	LOD	LOQ
124-38-9	Carbon Dioxide	9050		127	386	900

FORM I ORG-1

Data File: /var/chem/gcv8b.i/2211202p.b/v8003.d Page 1
Report Date: 02-Dec-2021 16:05

GCAL, Inc.

Data file : /var/chem/gcv8b.i/2211202p.b/v8003.d
Lab Smp Id: 2280402 Client Smp ID: 2280402
Inj Date : 02-DEC-2021 12:14
Operator : BMR Inst ID: gcv8b.i
Smp Info : 2280402
Misc Info : 2125155
Comment :
Method : /var/chem/gcv8b.i/2211202p.b/CO2h.m
Meth Date : 02-Dec-2021 16:05 bmr Quant Type: ESTD
Cal Date : 21-SEP-2021 12:18 Cal File: v8007.d
Als bottle: 1 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: co2.sub
Target Version: 3.50
Processing Host: org.gcal.com

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

					CONCENTRATIONS	
					ON-COLUMN	FINAL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/L)	(ug/L)
1 Carbon Dioxide	1.398	1.405	-0.007	26959492	9051.46	9050(M2)

QC Flag Legend

M2- Compound response manually integrated because
Target system integrated incorrectly.

Data File: /var/chem/gcv8b.i/2211202p.b/v8003.d

Date : 02-DEC-2021 12:14

Client ID: 2280402

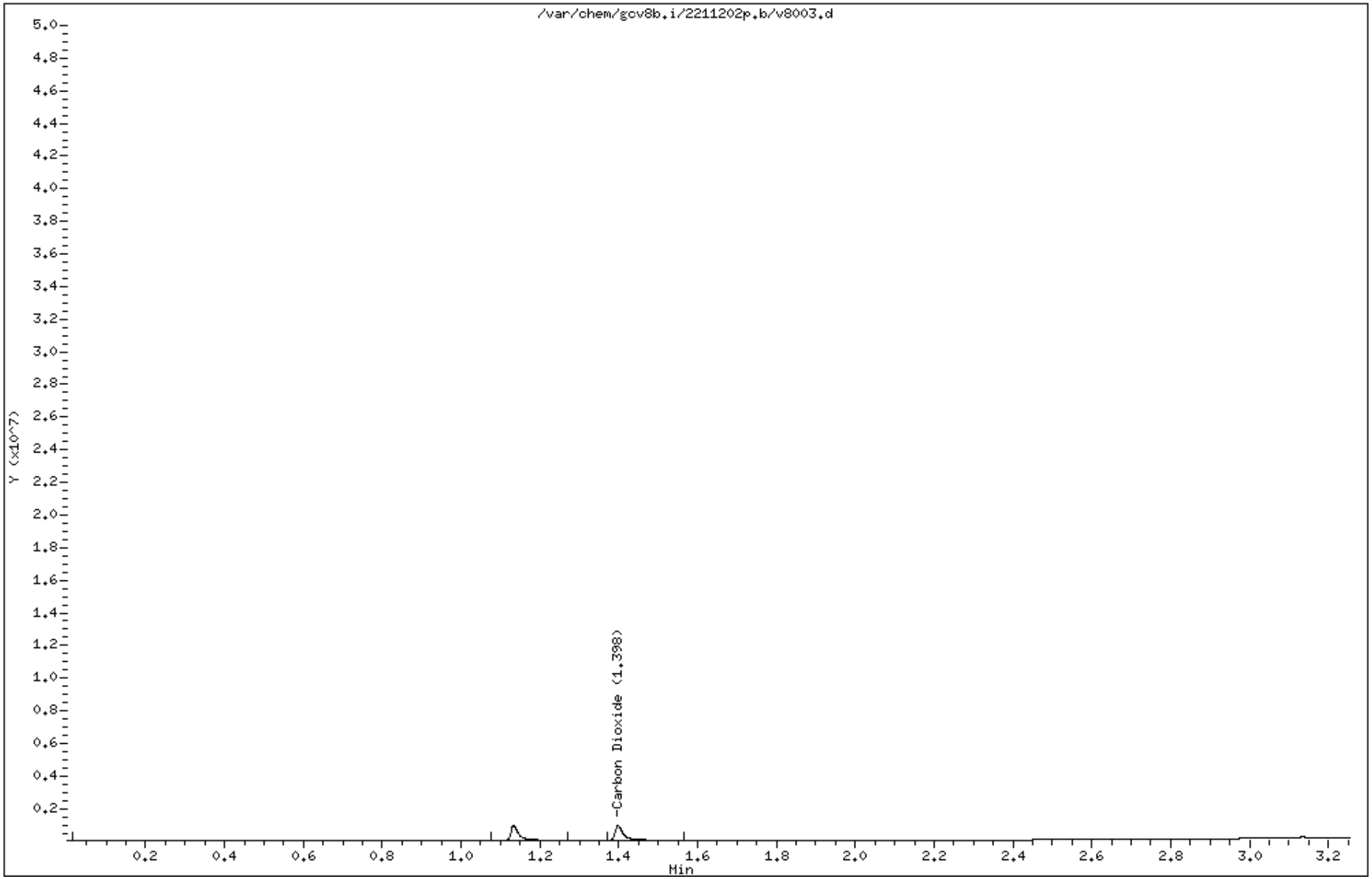
Instrument: gcv8b.i

Sample Info: 2280402

Operator: BMR

Column phase: GS-Q-30

Column diameter: 0.53

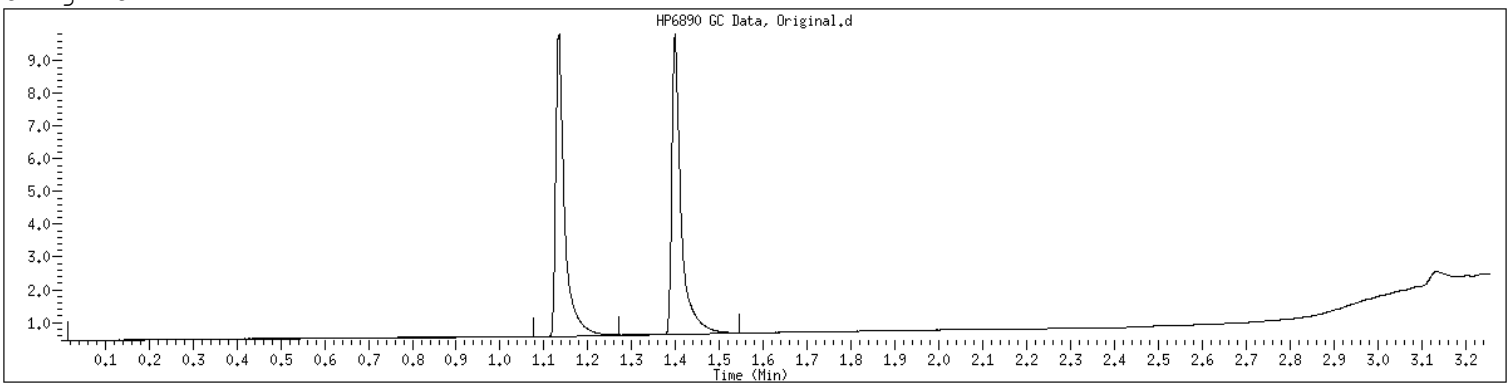


Data file : /var/chem/gcv8b.i/2211202p.b/v8003.d Page: 1
Report Date: 12/02/2021 16:05

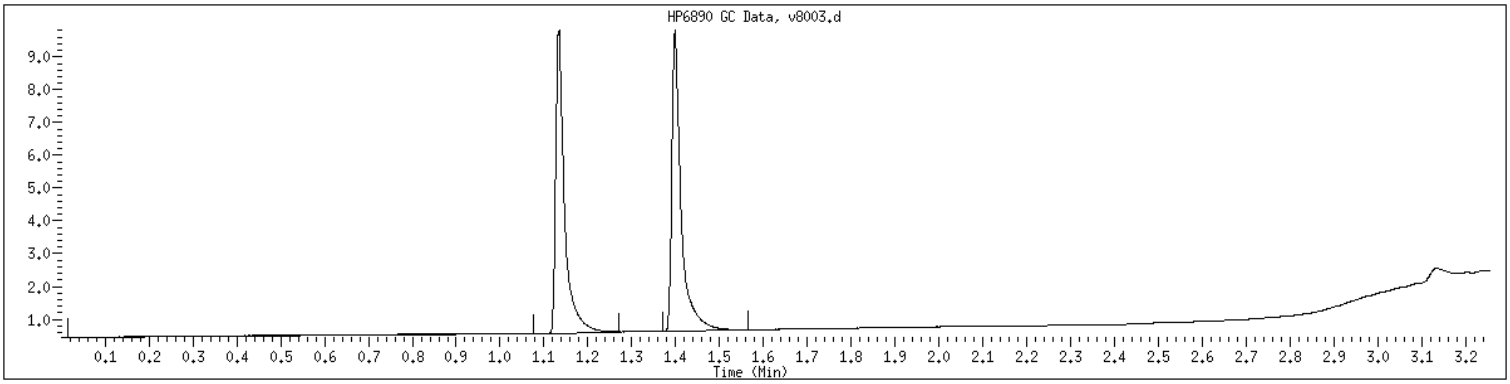
MANUAL INTEGRATION GRAPHIC REPORT

Lab ID	: 2280402	SampleType	: LCS
Injection Date	: 12/02/2021 12:14	Instrument	: gcv8b.i
Operator	: BMR		
Sample Info	: 2280402		
Misc Info	: 2125155		
Method	: /var/chem/gcv8b.i/2211202p.b/CO2h.m		
Dilution	: 1.0		
Matrix	: WATER		
Integrator	: HP Genie	Compound Sublist	: co2

Original



Final



1D
ORGANICS ANALYSIS DATA SHEET

Report No:	221112534	Client Sample ID:	LCSD2280403
Collect Date:	NA Time: NA	GCAL Sample ID:	2280403
Matrix:	Water % Moisture: NA	Instrument ID:	GCV8B
Sample Amt:	5 mL	Lab File ID:	2211202p/v8004
Injection Vol.:	1 (µL)	GC Column:	GS-Q-30 ID .53 (mm)
Prep Final Vol.:	NA (µL)	Dilution Factor:	1 Analyst: BMR
Prep Date:	NA	Analysis Date:	12/02/21 Time: 1221
Prep Batch:	NA	Analytical Batch:	728379
Prep Method:	NA	Analytical Method:	RSK-175

CONCENTRATION UNITS: ug/L

CAS	ANALYTE	RESULT	Q	DL	LOD	LOQ
124-38-9	Carbon Dioxide	8080		127	386	900

FORM I ORG-1

Data File: /var/chem/gcv8b.i/2211202p.b/v8004.d Page 1
Report Date: 02-Dec-2021 16:05

GCAL, Inc.

Data file : /var/chem/gcv8b.i/2211202p.b/v8004.d
Lab Smp Id: 2280403 Client Smp ID: 2280403
Inj Date : 02-DEC-2021 12:21
Operator : BMR Inst ID: gcv8b.i
Smp Info : 2280403
Misc Info : 2125155
Comment :
Method : /var/chem/gcv8b.i/2211202p.b/CO2h.m
Meth Date : 02-Dec-2021 16:05 bmr Quant Type: ESTD
Cal Date : 21-SEP-2021 12:18 Cal File: v8007.d
Als bottle: 1 QC Sample: LCSD
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: co2.sub
Target Version: 3.50
Processing Host: org.gcal.com

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

					CONCENTRATIONS	
					ON-COLUMN	FINAL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/L)	(ug/L)
1 Carbon Dioxide	1.407	1.405	0.002	24051848	8075.24	8080

Data File: /var/chem/gcv8b.i/2211202p.b/v8004.d

Date : 02-DEC-2021 12:21

Client ID: 2280403

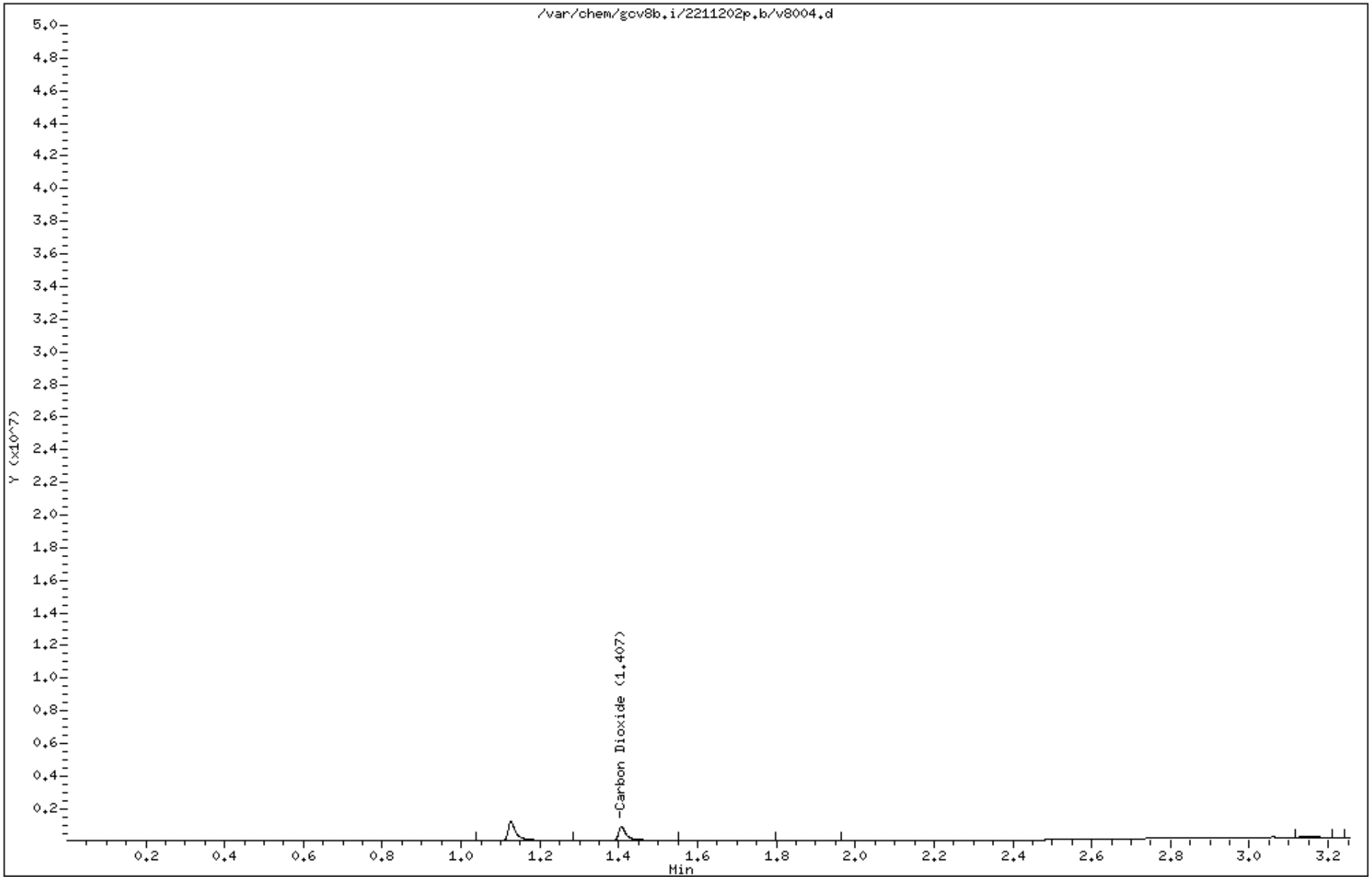
Instrument: gcv8b.i

Sample Info: 2280403

Operator: BMR

Column phase: GS-Q-30

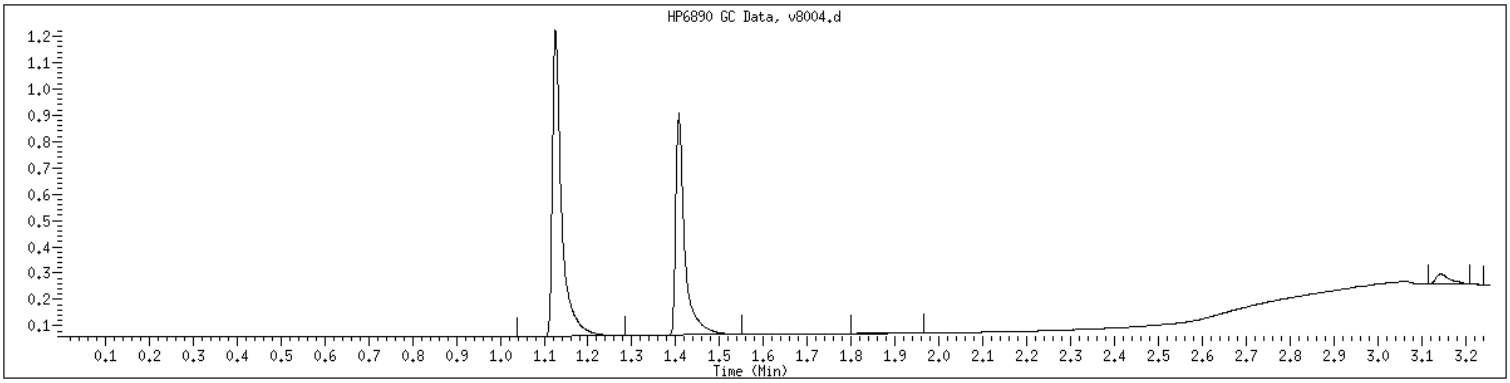
Column diameter: 0.53



Data file : /var/chem/gcv8b.i/2211202p.b/v8004.d Page: 1
Report Date: 12/02/2021 16:05

MANUAL INTEGRATION GRAPHIC REPORT

Lab ID	: 2280403	SampleType	: LCSD
Injection Date	: 12/02/2021 12:21	Instrument	: gcv8b.i
Operator	: BMR		
Sample Info	: 2280403		
Misc Info	: 2125155		
Method	: /var/chem/gcv8b.i/2211202p.b/CO2h.m		
Dilution	: 1.0		
Matrix	: WATER		
Integrator	: HP Genie	Compound Sublist	: co2



NO MANUAL INTEGRATIONS

EPA RSK-175

Form 3E

Spikes

3E

WATER ORGANICS MS/MSD RECOVERY

Report No:	221112534	Parent Sample ID:	HS21111412-01
Prep Method:	NA	Prep Batch:	NA
Analytical Method:	RSK-175	Analytical Batch:	728379

GCAL QC ID: 22111253404

ANALYTE	UNITS	SPIKE ADDED	SAMPLE RESULT	MS RESULT	MS % REC	#	QC LIMITS
Carbon Dioxide	ug/L	8700	595000	546000	-563	*	38 - 147

GCAL QC ID: 22111253405

ANALYTE	UNITS	SPIKE ADDED	MSD RESULT	MSD % REC	#	% RPD	#	QC LIMITS REC	QC LIMITS RPD
Carbon Dioxide	ug/L	8700	601000	69		10		38 - 147	0 - 40

RPD : 0 out of 1 outside limits

Spike Recovery: 1 out of 2 outside limits

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

FORM III ORG-1

3E

WATER ORGANICS LCS/LCSD RECOVERY

Report No: 221112534

Prep Method: NA

Prep Batch: NA

Analytical Method: RSK-175

Analytical Batch: 728379

GCAL QC ID: 2280402

ANALYTE	*UNITS*	*SPIKE ADDED*	*SAMPLE RESULT*	*LCS RESULT*	*LCS % REC*	#	*QC LIMITS*
Carbon Dioxide	ug/L	8700	0	9050	104		38 - 147

GCAL QC ID: 2280403

ANALYTE	*UNITS*	*SPIKE ADDED*	*LCSD RESULT*	*LCSD % REC*	#	*% RPD*	#	*QC LIMITS REC*	*RPD*
Carbon Dioxide	ug/L	8700	8080	93		11		38 - 147	0 - 40

RPD : 0 out of 1 outside limits

Spike Recovery: 0 out of 2 outside limits

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

FORM III ORG-1

EPA RSK-175

Form 4C

Method Blanks

4C
ORGANIC METHOD BLANK SUMMARY

Report No:	221112534	Method Blank ID:	2280401
Matrix:	Water	Instrument ID:	GCV8B
Sample Amt:	5 mL	Lab File ID:	2211202p/v8002
Injection Vol.:	(µL)	GC Column:	GS-Q-30 ID .53 (mm)
Prep Final Vol.:	NA (µL)	Dilution Factor:	1 Analyst: BMR
Prep Date:	NA	Analysis Date:	12/02/21 Time: 1209
Prep Batch:	NA	Analytical Batch:	728379
Prep Method:	NA	Analytical Method:	RSK-175

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD

	CLIENT SAMPLE ID	GCAL SAMPLE ID	DATE ANALYZED	TIME ANALYZED	INSTRUMENT ID
1.	LCS2280402	2280402	12/02/21	1214	GCV8B
2.	LCSD2280403	2280403	12/02/21	1221	GCV8B
3.	HS21111412-01	22111253401	12/02/21	1326	GCV8B
4.	HS21111412-02	22111253402	12/02/21	1337	GCV8B
5.	HS21111412-03	22111253403	12/02/21	1347	GCV8B
6.	HS21111412-01-MS	22111253404	12/02/21	1354	GCV8B
7.	HS21111412-01-MSD	22111253405	12/02/21	1400	GCV8B

Client ID: ALS Houston - ALS Environmental - Houston, TX

SDG: 221112534

PM: RWe

F: +1 281 530 5887

www.alsglobal.com

Subcontract Chain of Custody

SAMPLING STATE: Dept of Defense **COC ID:** 17452

SUBCONTRACT TO:

Pace Analytical
7979 Innovation Park Drive
Baton Rouge, LA 70820

Phone: +1 225 769 4900

CUSTOMER INFORMATION:

Company:	ALS Houston
Contact:	Ragen Giga
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Email:	RagenP.Giga@ALSGlobal.com
Alternate Contact:	Jumoke M. Lawal
Email:	jumoke.lawal@alsglobal.com

INVOICE INFORMATION:

Company:	ALS Houston
Contact:	Accounts Payable
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Reference:	HS21111412
TSR:	Ron Martino

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS21111412-01**	**35BWW12-211122**	**Groundwater**	**22 Nov 2021 07:35** -1-4.5
	SUB_RSK			09 Dec 2021
2.	**HS21111412-02**	**35BWW14-211122**	**Groundwater**	**22 Nov 2021 08:55**-2
	SUB_RSK			09 Dec 2021
3.	**HS21111412-03**	**35BWW23-211122**	**Groundwater**	**22 Nov 2021 11:00** -3
	SUB_RSK			09 Dec 2021

Comments: Please analyze for the analysis listed above.
Send report to the emails shown above.
HS21111412-01 = MS/MSD

QC Level: DOD IV (DoD Data Package)

Relinquished By: _____ Date/Time: 11/23/2021 1500

Received By: ~~Comma Malon~~ CM Date/Time: ~~11/24/2~~ CM

Cooler ID(s): _____ Temperature(s): _____

0.4 E38
5300 5225 3713

Relinquished by: Fedex 11/24/21 1024
Received by: Comma Malon 11/24/21 1024

Pace Analytical®

SAMPLE RECEIVING CHECKLIST



SAMPLE DELIVERY GROUP 221112534	
Client **PM** RWe ALS Houston - ALS Environmental - Houston, TX	**Transport Method** FEDEX
Profile Number 294458	**Received By** McCune, Dodie N.
Line Item(s) 1 - CO2	**Receive Date(s)** 11/24/21

CHECKLIST	YES	NO
Samples received with proper thermal preservation?	☑	☐
Radioactivity is <1600 cpm? If no, record cpm value in notes section.	☑	☐
COC relinquished and complete (including sampleIDs, collect times, and sampler)?	☑	☐
All containers received in good condition and within hold time?	☑	☐
All sample labels and containers received match the chain of custody?	☑	☐
Preservative added to any containers?	☐	☑
If received, was headspace for VOC water containers < 6mm?	☑	☐
Samples collected in containers provided by Pace Gulf Coast?	☑	☐

COOLERS

Airbill	Thermometer ID: E38	Temp °C
530052253713		0.4

DISCREPANCIES

None

LAB PRESERVATIONS

None

NOTES

Revision 1.6

10450 Stancliff Rd. Suite 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887

June 06, 2022

Vicki Graves
Aptim Environmental & Infrastucture, Inc.
10333 Richmond Ave
Ste 1030
Houston, TX 77042

Work Order: **HS22050805**

Laboratory Results for: **LHAAP37 May 2022**

Dear Vicki Graves ,

ALS Environmental received 6 sample(s) on May 18, 2022 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Generated By: DAYNA.FISHER
Dane J. Wacasey

ALS Houston, US Date: 06-Jun-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP37 May 2022
Work Order: HS22050805

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS22050805-01	35BWW25-220516	Water		16-May-2022 13:10	18-May-2022 09:40	☐
HS22050805-02	35BWW26-220517	Water		17-May-2022 07:30	18-May-2022 09:40	☐
HS22050805-03	35BWW01-220517	Water		17-May-2022 08:20	18-May-2022 09:40	☐
HS22050805-04	35BWW08-220517	Water		17-May-2022 09:05	18-May-2022 09:40	☐
HS22050805-05	35BWW04-220517	Water		17-May-2022 10:00	18-May-2022 09:40	☐
HS22050805-06	35BWW04-220517-FD	Water		17-May-2022 10:00	18-May-2022 09:40	☐

ALS Houston, US Date: 06-Jun-22

Client: Aptim Environmental & Infrastucture, Inc. **CASE NARRATIVE**
Project: LHAAP37 May 2022
Work Order: HS22050805

Work Order Comments

- The analysis CO2 by RSK175 was subcontracted to Pace Analytical in Baton Rouge, LA. Final report attached.

GC Semivolatiles by Method RSK-175

Batch ID: R409660

Sample ID: 35BWW08-220517 (HS22050805-04MS)

- The recovery of the Matrix Spike (MS) associated to this analyte was outside of the established control limits. However, the LCS was within control limits. The recovery of the MS may be due to sample matrix interference.

Sample ID: 35BWW08-220517 (HS22050805-04MSD)

- The recovery of the Matrix Spike Duplicate (MSD) associated to this analyte was outside of the established control limits. However, the LCS was within control limits. The failed recovery of the MSD may be due to sample matrix interference.

GCMS Volatiles by Method SW8260

Batch ID: R409090

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

Batch ID: R409050

Sample ID: 35BWW08-220517 (HS22050805-04MS)

- MS and/or MSD recovered outside control limits for multiple compounds

WetChemistry by Method SW9060

Batch ID: R410004

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

WetChemistry by Method SW9056

Batch ID: R408908

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

ALS Houston, US Date: 06-Jun-22

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: LHAAP37 May 2022 WorkOrder:HS22050805
Sample ID: 35BWW25-220516 Lab ID:HS22050805-01
Collection Date: 16-May-2022 13:10 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 15:14
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 15:14
1,1,2,2-Tetrachloroethane	0.50	U	0.50	0.50	1.0	ug/L	1	21-May-2022 15:14
1,1,2-Trichlor-1,2,2-trifluoroethane	0.50	U	0.50	0.50	1.0	ug/L	1	21-May-2022 15:14
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 15:14
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 15:14
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 15:14
1,1-Dichloropropene	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 15:14
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	21-May-2022 15:14
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	21-May-2022 15:14
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	21-May-2022 15:14
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 15:14
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 15:14
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 15:14
1,2-Dichlorobenzene	0.50	U	0.50	0.50	1.0	ug/L	1	21-May-2022 15:14
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 15:14
1,2-Dichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	21-May-2022 15:14
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 15:14
1,3-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	21-May-2022 15:14
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 15:14
1,4-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	21-May-2022 15:14
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 15:14
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	21-May-2022 15:14
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 15:14
2-Hexanone	2.0	U	1.0	2.0	2.0	ug/L	1	21-May-2022 15:14
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	21-May-2022 15:14
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 15:14
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	ug/L	1	21-May-2022 15:14
Acetone	2.0	U	0.40	2.0	2.0	ug/L	1	21-May-2022 15:14
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 15:14
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	21-May-2022 15:14
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 15:14
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 15:14
Bromoform	0.50	U	0.40	0.50	1.0	ug/L	1	21-May-2022 15:14
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	21-May-2022 15:14
Carbon disulfide	2.0	U	0.60	2.0	2.0	ug/L	1	21-May-2022 15:14
Carbon tetrachloride	0.50	U	0.50	0.50	1.0	ug/L	1	21-May-2022 15:14
Chlorobenzene	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 15:14
Chloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 15:14

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 06-Jun-22

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: LHAAP37 May 2022 WorkOrder:HS22050805
Sample ID: 35BWW25-220516 Lab ID:HS22050805-01
Collection Date: 16-May-2022 13:10 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 15:14
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 15:14
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 15:14
cis-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 15:14
Dibromochloromethane	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 15:14
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 15:14
Dichlorodifluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 15:14
Ethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 15:14
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	21-May-2022 15:14
Isopropylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 15:14
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	21-May-2022 15:14
Methylene chloride	2.0	U	0.40	2.0	2.0	ug/L	1	21-May-2022 15:14
n-Butylbenzene	**2.4**		**0.40**	**1.0**	**1.0**	**ug/L**	1	21-May-2022 15:14
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 15:14
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 15:14
o-Xylene	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 15:14
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 15:14
Styrene	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 15:14
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 15:14
Tetrachloroethene	**0.69**	J	**0.30**	**0.50**	**1.0**	**ug/L**	1	21-May-2022 15:14
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 15:14
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 15:14
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 15:14
Trichloroethene	**10**		**0.20**	**0.50**	**1.0**	**ug/L**	1	21-May-2022 15:14
Trichlorofluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 15:14
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 15:14
Surr: 1,2-Dichloroethane-d4	*102*			**0**	*81-118*	*%REC*	*1*	*21-May-2022 15:14*
Surr: 4-Bromofluorobenzene	*87.6*			**0**	*85-114*	*%REC*	*1*	*21-May-2022 15:14*
Surr: Dibromofluoromethane	*94.8*			**0**	*80-119*	*%REC*	*1*	*21-May-2022 15:14*
Surr: Toluene-d8	*109*			**0**	*89-112*	*%REC*	*1*	*21-May-2022 15:14*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 06-Jun-22

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: LHAAP37 May 2022 WorkOrder:HS22050805
Sample ID: 35BWW26-220517 Lab ID:HS22050805-02
Collection Date: 17-May-2022 07:30 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 15:36
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 15:36
1,1,2,2-Tetrachloroethane	0.50	U	0.50	0.50	1.0	ug/L	1	21-May-2022 15:36
1,1,2-Trichlor-1,2,2-trifluoroethane	0.50	U	0.50	0.50	1.0	ug/L	1	21-May-2022 15:36
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 15:36
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 15:36
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 15:36
1,1-Dichloropropene	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 15:36
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	21-May-2022 15:36
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	21-May-2022 15:36
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	21-May-2022 15:36
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 15:36
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 15:36
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 15:36
1,2-Dichlorobenzene	0.50	U	0.50	0.50	1.0	ug/L	1	21-May-2022 15:36
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 15:36
1,2-Dichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	21-May-2022 15:36
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 15:36
1,3-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	21-May-2022 15:36
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 15:36
1,4-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	21-May-2022 15:36
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 15:36
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	21-May-2022 15:36
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 15:36
2-Hexanone	2.0	U	1.0	2.0	2.0	ug/L	1	21-May-2022 15:36
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	21-May-2022 15:36
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 15:36
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	ug/L	1	21-May-2022 15:36
Acetone	2.0	U	0.40	2.0	2.0	ug/L	1	21-May-2022 15:36
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 15:36
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	21-May-2022 15:36
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 15:36
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 15:36
Bromoform	0.50	U	0.40	0.50	1.0	ug/L	1	21-May-2022 15:36
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	21-May-2022 15:36
Carbon disulfide	2.0	U	0.60	2.0	2.0	ug/L	1	21-May-2022 15:36
Carbon tetrachloride	0.50	U	0.50	0.50	1.0	ug/L	1	21-May-2022 15:36
Chlorobenzene	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 15:36
Chloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 15:36

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 06-Jun-22

Client: Aptim Environmental & Infrastructure, Inc. **ANALYTICAL REPORT**
Project: LHAAP37 May 2022 WorkOrder:HS22050805
Sample ID: 35BWW26-220517 Lab ID:HS22050805-02
Collection Date: 17-May-2022 07:30 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 15:36
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 15:36
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 15:36
cis-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 15:36
Dibromochloromethane	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 15:36
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 15:36
Dichlorodifluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 15:36
Ethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 15:36
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	21-May-2022 15:36
Isopropylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 15:36
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	21-May-2022 15:36
Methylene chloride	2.0	U	0.40	2.0	2.0	ug/L	1	21-May-2022 15:36
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	21-May-2022 15:36
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 15:36
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 15:36
o-Xylene	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 15:36
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 15:36
Styrene	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 15:36
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 15:36
Tetrachloroethene	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 15:36
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 15:36
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 15:36
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 15:36
Trichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 15:36
Trichlorofluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 15:36
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 15:36
Surr: 1,2-Dichloroethane-d4	*102*			**0**	*81-118*	*%REC*	*1*	*21-May-2022 15:36*
Surr: 4-Bromofluorobenzene	*87.6*			**0**	*85-114*	*%REC*	*1*	*21-May-2022 15:36*
Surr: Dibromofluoromethane	*94.9*			**0**	*80-119*	*%REC*	*1*	*21-May-2022 15:36*
Surr: Toluene-d8	*110*			**0**	*89-112*	*%REC*	*1*	*21-May-2022 15:36*
DISSOLVED GASES BY RSK-175		**Method:RSK-175**						Analyst: PPM
Ethane	0.000500	U	0.000144	0.000500	0.00100	mg/L	1	27-May-2022 12:20
Ethene	**0.00258**		**0.000234**	**0.000500**	**0.00100**	**mg/L**	1	27-May-2022 12:20
Methane	**0.00371**		**0.000107**	**0.000500**	**0.000500**	**mg/L**	1	27-May-2022 12:20
ANIONS BY SW9056A		**Method:SW9056**						Analyst: YP
Chloride	**33.1**		**0.200**	**0.500**	**0.500**	**mg/L**	1	18-May-2022 20:00
Nitrogen, Nitrate (As N)	**0.0881**	J	**0.0300**	**0.100**	**0.100**	**mg/L**	1	18-May-2022 20:00
Sulfate	**25.0**		**0.200**	**0.500**	**0.500**	**mg/L**	1	18-May-2022 20:00

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 06-Jun-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP37 May 2022
Sample ID: 35BWW26-220517
Collection Date: 17-May-2022 07:30

ANALYTICAL REPORT
WorkOrder:HS22050805
Lab ID:HS22050805-02
Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
TOTAL ORGANIC CARBON BY SW9060A		**Method:SW9060**						Analyst: SB
Organic Carbon, Total	**1.30**		**0.500**	**1.00**	**1.00**	**mg/L**	1	04-Jun-2022 09:28
SUBCONTRACT ANALYSIS - RSK		**Method:NA**						Analyst: SUB
Subcontract Analysis	See Attached		0	0		NA	1	06-Jun-2022 10:40

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 06-Jun-22

Client: Aptim Environmental & Infrastructure, Inc. **ANALYTICAL REPORT**
Project: LHAAP37 May 2022 WorkOrder:HS22050805
Sample ID: 35BWW01-220517 Lab ID:HS22050805-03
Collection Date: 17-May-2022 08:20 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 15:58
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 15:58
1,1,2,2-Tetrachloroethane	0.50	U	0.50	0.50	1.0	ug/L	1	21-May-2022 15:58
1,1,2-Trichlor-1,2,2-trifluoroethane	0.50	U	0.50	0.50	1.0	ug/L	1	21-May-2022 15:58
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 15:58
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 15:58
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 15:58
1,1-Dichloropropene	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 15:58
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	21-May-2022 15:58
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	21-May-2022 15:58
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	21-May-2022 15:58
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 15:58
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 15:58
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 15:58
1,2-Dichlorobenzene	0.50	U	0.50	0.50	1.0	ug/L	1	21-May-2022 15:58
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 15:58
1,2-Dichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	21-May-2022 15:58
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 15:58
1,3-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	21-May-2022 15:58
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 15:58
1,4-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	21-May-2022 15:58
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 15:58
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	21-May-2022 15:58
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 15:58
2-Hexanone	2.0	U	1.0	2.0	2.0	ug/L	1	21-May-2022 15:58
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	21-May-2022 15:58
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 15:58
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	ug/L	1	21-May-2022 15:58
Acetone	2.0	U	0.40	2.0	2.0	ug/L	1	21-May-2022 15:58
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 15:58
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	21-May-2022 15:58
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 15:58
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 15:58
Bromoform	0.50	U	0.40	0.50	1.0	ug/L	1	21-May-2022 15:58
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	21-May-2022 15:58
Carbon disulfide	2.0	U	0.60	2.0	2.0	ug/L	1	21-May-2022 15:58
Carbon tetrachloride	0.50	U	0.50	0.50	1.0	ug/L	1	21-May-2022 15:58
Chlorobenzene	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 15:58
Chloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 15:58

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 06-Jun-22

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: LHAAP37 May 2022 WorkOrder:HS22050805
Sample ID: 35BWW01-220517 Lab ID:HS22050805-03
Collection Date: 17-May-2022 08:20 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 15:58
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 15:58
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 15:58
cis-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 15:58
Dibromochloromethane	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 15:58
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 15:58
Dichlorodifluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 15:58
Ethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 15:58
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	21-May-2022 15:58
Isopropylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 15:58
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	21-May-2022 15:58
Methylene chloride	2.0	U	0.40	2.0	2.0	ug/L	1	21-May-2022 15:58
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	21-May-2022 15:58
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 15:58
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 15:58
o-Xylene	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 15:58
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 15:58
Styrene	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 15:58
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 15:58
Tetrachloroethene	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 15:58
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 15:58
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 15:58
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 15:58
Trichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 15:58
Trichlorofluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 15:58
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 15:58
Surr: 1,2-Dichloroethane-d4	*102*			**0**	*81-118*	*%REC*	*1*	*21-May-2022 15:58*
Surr: 4-Bromofluorobenzene	*87.3*			**0**	*85-114*	*%REC*	*1*	*21-May-2022 15:58*
Surr: Dibromofluoromethane	*95.4*			**0**	*80-119*	*%REC*	*1*	*21-May-2022 15:58*
Surr: Toluene-d8	*111*			**0**	*89-112*	*%REC*	*1*	*21-May-2022 15:58*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 06-Jun-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP37 May 2022
Sample ID: 35BWW08-220517
Collection Date: 17-May-2022 09:05

ANALYTICAL REPORT
WorkOrder:HS22050805
Lab ID:HS22050805-04
Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	20-May-2022 12:53
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	20-May-2022 12:53
1,1,2,2-Tetrachloroethane	0.50	U	0.50	0.50	1.0	ug/L	1	20-May-2022 12:53
1,1,2-Trichlor-1,2,2-trifluoroethane	0.50	U	0.50	0.50	1.0	ug/L	1	20-May-2022 12:53
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	20-May-2022 12:53
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	20-May-2022 12:53
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	20-May-2022 12:53
1,1-Dichloropropene	0.50	U	0.30	0.50	1.0	ug/L	1	20-May-2022 12:53
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	20-May-2022 12:53
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	20-May-2022 12:53
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	20-May-2022 12:53
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	20-May-2022 12:53
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	20-May-2022 12:53
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	20-May-2022 12:53
1,2-Dichlorobenzene	0.50	U	0.50	0.50	1.0	ug/L	1	20-May-2022 12:53
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	20-May-2022 12:53
1,2-Dichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	20-May-2022 12:53
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	20-May-2022 12:53
1,3-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	20-May-2022 12:53
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	20-May-2022 12:53
1,4-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	20-May-2022 12:53
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	20-May-2022 12:53
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	20-May-2022 12:53
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	20-May-2022 12:53
2-Hexanone	2.0	U	1.0	2.0	2.0	ug/L	1	20-May-2022 12:53
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	20-May-2022 12:53
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	20-May-2022 12:53
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	ug/L	1	20-May-2022 12:53
Acetone	2.0	U	0.40	2.0	2.0	ug/L	1	20-May-2022 12:53
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	20-May-2022 12:53
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	20-May-2022 12:53
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	20-May-2022 12:53
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	20-May-2022 12:53
Bromoform	0.50	U	0.40	0.50	1.0	ug/L	1	20-May-2022 12:53
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	20-May-2022 12:53
Carbon disulfide	2.0	U	0.60	2.0	2.0	ug/L	1	20-May-2022 12:53
Carbon tetrachloride	0.50	U	0.50	0.50	1.0	ug/L	1	20-May-2022 12:53
Chlorobenzene	0.50	U	0.30	0.50	1.0	ug/L	1	20-May-2022 12:53
Chloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	20-May-2022 12:53

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 06-Jun-22

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: LHAAP37 May 2022 WorkOrder:HS22050805
Sample ID: 35BWW08-220517 Lab ID:HS22050805-04
Collection Date: 17-May-2022 09:05 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	20-May-2022 12:53
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	20-May-2022 12:53
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	20-May-2022 12:53
cis-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	20-May-2022 12:53
Dibromochloromethane	0.50	U	0.30	0.50	1.0	ug/L	1	20-May-2022 12:53
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	20-May-2022 12:53
Dichlorodifluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	20-May-2022 12:53
Ethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	20-May-2022 12:53
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	20-May-2022 12:53
Isopropylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	20-May-2022 12:53
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	20-May-2022 12:53
Methylene chloride	2.0	U	0.40	2.0	2.0	ug/L	1	20-May-2022 12:53
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	20-May-2022 12:53
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	20-May-2022 12:53
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	20-May-2022 12:53
o-Xylene	0.50	U	0.30	0.50	1.0	ug/L	1	20-May-2022 12:53
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	20-May-2022 12:53
Styrene	0.50	U	0.30	0.50	1.0	ug/L	1	20-May-2022 12:53
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	20-May-2022 12:53
Tetrachloroethene	0.50	U	0.30	0.50	1.0	ug/L	1	20-May-2022 12:53
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	20-May-2022 12:53
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	20-May-2022 12:53
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	20-May-2022 12:53
Trichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	20-May-2022 12:53
Trichlorofluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	20-May-2022 12:53
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	20-May-2022 12:53
Surr: 1,2-Dichloroethane-d4	*100*			**0**	*81-118*	*%REC*	*1*	*20-May-2022 12:53*
Surr: 4-Bromofluorobenzene	*88.1*			**0**	*85-114*	*%REC*	*1*	*20-May-2022 12:53*
Surr: Dibromofluoromethane	*95.1*			**0**	*80-119*	*%REC*	*1*	*20-May-2022 12:53*
Surr: Toluene-d8	*111*			**0**	*89-112*	*%REC*	*1*	*20-May-2022 12:53*
DISSOLVED GASES BY RSK-175		**Method:RSK-175**						Analyst: PPM
Ethane	0.000500	U	0.000144	0.000500	0.00100	mg/L	1	27-May-2022 12:30
Ethene	0.000500	U	0.000234	0.000500	0.00100	mg/L	1	27-May-2022 12:30
Methane	**0.00180**		**0.000107**	**0.000500**	**0.000500**	**mg/L**	1	27-May-2022 12:30
ANIONS BY SW9056A		**Method:SW9056**						Analyst: YP
Chloride	**3.15**		**0.200**	**0.500**	**0.500**	**mg/L**	1	18-May-2022 20:05
Nitrogen, Nitrate (As N)	**0.106**		**0.0300**	**0.100**	**0.100**	**mg/L**	1	18-May-2022 20:05
Sulfate	**22.5**		**0.200**	**0.500**	**0.500**	**mg/L**	1	18-May-2022 20:05

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 06-Jun-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP37 May 2022
Sample ID: 35BWW08-220517
Collection Date: 17-May-2022 09:05

ANALYTICAL REPORT
WorkOrder:HS22050805
Lab ID:HS22050805-04
Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
TOTAL ORGANIC CARBON BY SW9060A		**Method:SW9060**						Analyst: SB
Organic Carbon, Total	**0.828**	J	**0.500**	**1.00**	**1.00**	**mg/L**	1	04-Jun-2022 09:42
SUBCONTRACT ANALYSIS - RSK		**Method:NA**						Analyst: SUB
Subcontract Analysis	See Attached		0	0		NA	1	06-Jun-2022 10:40

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 06-Jun-22

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: LHAAP37 May 2022 WorkOrder:HS22050805
Sample ID: 35BWW04-220517 Lab ID:HS22050805-05
Collection Date: 17-May-2022 10:00 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 16:21
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 16:21
1,1,2,2-Tetrachloroethane	0.50	U	0.50	0.50	1.0	ug/L	1	21-May-2022 16:21
1,1,2-Trichlor-1,2,2-trifluoroethane	0.50	U	0.50	0.50	1.0	ug/L	1	21-May-2022 16:21
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 16:21
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 16:21
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 16:21
1,1-Dichloropropene	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 16:21
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	21-May-2022 16:21
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	21-May-2022 16:21
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	21-May-2022 16:21
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 16:21
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 16:21
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 16:21
1,2-Dichlorobenzene	0.50	U	0.50	0.50	1.0	ug/L	1	21-May-2022 16:21
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 16:21
1,2-Dichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	21-May-2022 16:21
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 16:21
1,3-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	21-May-2022 16:21
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 16:21
1,4-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	21-May-2022 16:21
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 16:21
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	21-May-2022 16:21
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 16:21
2-Hexanone	2.0	U	1.0	2.0	2.0	ug/L	1	21-May-2022 16:21
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	21-May-2022 16:21
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 16:21
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	ug/L	1	21-May-2022 16:21
Acetone	2.0	U	0.40	2.0	2.0	ug/L	1	21-May-2022 16:21
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 16:21
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	21-May-2022 16:21
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 16:21
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 16:21
Bromoform	0.50	U	0.40	0.50	1.0	ug/L	1	21-May-2022 16:21
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	21-May-2022 16:21
Carbon disulfide	2.0	U	0.60	2.0	2.0	ug/L	1	21-May-2022 16:21
Carbon tetrachloride	0.50	U	0.50	0.50	1.0	ug/L	1	21-May-2022 16:21
Chlorobenzene	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 16:21
Chloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 16:21

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 06-Jun-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP37 May 2022
Sample ID: 35BWW04-220517
Collection Date: 17-May-2022 10:00

ANALYTICAL REPORT
WorkOrder:HS22050805
Lab ID:HS22050805-05
Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 16:21
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 16:21
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 16:21
cis-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 16:21
Dibromochloromethane	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 16:21
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 16:21
Dichlorodifluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 16:21
Ethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 16:21
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	21-May-2022 16:21
Isopropylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 16:21
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	21-May-2022 16:21
Methylene chloride	2.0	U	0.40	2.0	2.0	ug/L	1	21-May-2022 16:21
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	21-May-2022 16:21
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 16:21
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 16:21
o-Xylene	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 16:21
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 16:21
Styrene	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 16:21
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 16:21
Tetrachloroethene	**3.9**		**0.30**	**0.50**	**1.0**	**ug/L**	1	21-May-2022 16:21
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 16:21
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 16:21
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 16:21
Trichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 16:21
Trichlorofluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 16:21
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 16:21
Surr: 1,2-Dichloroethane-d4	*105*			**0**	*81-118*	*%REC*	*1*	*21-May-2022 16:21*
Surr: 4-Bromofluorobenzene	*86.4*			**0**	*85-114*	*%REC*	*1*	*21-May-2022 16:21*
Surr: Dibromofluoromethane	*98.1*			**0**	*80-119*	*%REC*	*1*	*21-May-2022 16:21*
Surr: Toluene-d8	*111*			**0**	*89-112*	*%REC*	*1*	*21-May-2022 16:21*
DISSOLVED GASES BY RSK-175		**Method:RSK-175**						Analyst: PPM
Ethane	0.000500	U	0.000144	0.000500	0.00100	mg/L	1	27-May-2022 14:06
Ethene	**0.00249**		**0.000234**	**0.000500**	**0.00100**	**mg/L**	1	27-May-2022 14:06
Methane	**0.00290**		**0.000107**	**0.000500**	**0.000500**	**mg/L**	1	27-May-2022 14:06
ANIONS BY SW9056A		**Method:SW9056**						Analyst: YP
Chloride	**3.81**		**0.200**	**0.500**	**0.500**	**mg/L**	1	18-May-2022 20:37
Nitrogen, Nitrate (As N)	**0.0361**	J	**0.0300**	**0.100**	**0.100**	**mg/L**	1	18-May-2022 20:37
Sulfate	**27.1**		**0.200**	**0.500**	**0.500**	**mg/L**	1	18-May-2022 20:37

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 06-Jun-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP37 May 2022
Sample ID: 35BWW04-220517
Collection Date: 17-May-2022 10:00

ANALYTICAL REPORT
WorkOrder:HS22050805
Lab ID:HS22050805-05
Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
TOTAL ORGANIC CARBON BY SW9060A		**Method:SW9060**						Analyst: SB
Organic Carbon, Total	**0.675**	J	**0.500**	**1.00**	**1.00**	**mg/L**	1	04-Jun-2022 10:13
SUBCONTRACT ANALYSIS - RSK		**Method:NA**						Analyst: SUB
Subcontract Analysis	See Attached		0	0		NA	1	06-Jun-2022 10:40

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 06-Jun-22

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: LHAAP37 May 2022 WorkOrder:HS22050805
Sample ID: 35BWW04-220517-FD Lab ID:HS22050805-06
Collection Date: 17-May-2022 10:00 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 16:43
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 16:43
1,1,2,2-Tetrachloroethane	0.50	U	0.50	0.50	1.0	ug/L	1	21-May-2022 16:43
1,1,2-Trichlor-1,2,2-trifluoroethane	0.50	U	0.50	0.50	1.0	ug/L	1	21-May-2022 16:43
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 16:43
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 16:43
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 16:43
1,1-Dichloropropene	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 16:43
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	21-May-2022 16:43
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	21-May-2022 16:43
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	21-May-2022 16:43
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 16:43
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 16:43
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 16:43
1,2-Dichlorobenzene	0.50	U	0.50	0.50	1.0	ug/L	1	21-May-2022 16:43
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 16:43
1,2-Dichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	21-May-2022 16:43
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 16:43
1,3-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	21-May-2022 16:43
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 16:43
1,4-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	21-May-2022 16:43
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 16:43
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	21-May-2022 16:43
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 16:43
2-Hexanone	2.0	U	1.0	2.0	2.0	ug/L	1	21-May-2022 16:43
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	21-May-2022 16:43
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 16:43
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	ug/L	1	21-May-2022 16:43
Acetone	2.0	U	0.40	2.0	2.0	ug/L	1	21-May-2022 16:43
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 16:43
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	21-May-2022 16:43
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 16:43
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 16:43
Bromoform	0.50	U	0.40	0.50	1.0	ug/L	1	21-May-2022 16:43
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	21-May-2022 16:43
Carbon disulfide	2.0	U	0.60	2.0	2.0	ug/L	1	21-May-2022 16:43
Carbon tetrachloride	0.50	U	0.50	0.50	1.0	ug/L	1	21-May-2022 16:43
Chlorobenzene	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 16:43
Chloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 16:43

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 06-Jun-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP37 May 2022
Sample ID: 35BWW04-220517-FD
Collection Date: 17-May-2022 10:00

ANALYTICAL REPORT
WorkOrder:HS22050805
Lab ID:HS22050805-06
Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 16:43
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 16:43
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 16:43
cis-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 16:43
Dibromochloromethane	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 16:43
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 16:43
Dichlorodifluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 16:43
Ethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 16:43
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	21-May-2022 16:43
Isopropylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 16:43
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	21-May-2022 16:43
Methylene chloride	2.0	U	0.40	2.0	2.0	ug/L	1	21-May-2022 16:43
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	21-May-2022 16:43
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 16:43
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 16:43
o-Xylene	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 16:43
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 16:43
Styrene	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 16:43
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 16:43
Tetrachloroethene	**3.6**		**0.30**	**0.50**	**1.0**	**ug/L**	1	21-May-2022 16:43
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 16:43
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 16:43
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 16:43
Trichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 16:43
Trichlorofluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 16:43
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 16:43
Surr: 1,2-Dichloroethane-d4	*101*			**0**	*81-118*	*%REC*	*1*	*21-May-2022 16:43*
Surr: 4-Bromofluorobenzene	*86.9*			**0**	*85-114*	*%REC*	*1*	*21-May-2022 16:43*
Surr: Dibromofluoromethane	*95.3*			**0**	*80-119*	*%REC*	*1*	*21-May-2022 16:43*
Surr: Toluene-d8	*112*			**0**	*89-112*	*%REC*	*1*	*21-May-2022 16:43*
DISSOLVED GASES BY RSK-175		**Method:RSK-175**						Analyst: PPM
Ethane	0.000500	U	0.000144	0.000500	0.00100	mg/L	1	27-May-2022 14:37
Ethene	0.000500	U	0.000234	0.000500	0.00100	mg/L	1	27-May-2022 14:37
Methane	**0.00274**		**0.000107**	**0.000500**	**0.000500**	**mg/L**	1	27-May-2022 14:37
ANIONS BY SW9056A		**Method:SW9056**						Analyst: YP
Chloride	**3.77**		**0.200**	**0.500**	**0.500**	**mg/L**	1	18-May-2022 20:42
Nitrogen, Nitrate (As N)	**0.0352**	J	**0.0300**	**0.100**	**0.100**	**mg/L**	1	18-May-2022 20:42
Sulfate	**26.9**		**0.200**	**0.500**	**0.500**	**mg/L**	1	18-May-2022 20:42

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 06-Jun-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP37 May 2022
Sample ID: 35BWW04-220517-FD
Collection Date: 17-May-2022 10:00

ANALYTICAL REPORT
WorkOrder:HS22050805
Lab ID:HS22050805-06
Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
TOTAL ORGANIC CARBON BY SW9060A		**Method:SW9060**						Analyst: SB
Organic Carbon, Total	**0.941**	J	**0.500**	**1.00**	**1.00**	**mg/L**	1	04-Jun-2022 10:27
SUBCONTRACT ANALYSIS - RSK		**Method:NA**						Analyst: SUB
Subcontract Analysis	See Attached		0	0		NA	1	06-Jun-2022 10:40

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 06-Jun-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP37 May 2022
WorkOrder: HS22050805

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: R408908 (0)	**Test Name :** ANIONS BY SW9056A				**Matrix:** Water	
HS22050805-02	35BWW26-220517	17 May 2022 07:30			18 May 2022 20:00	1
HS22050805-04	35BWW08-220517	17 May 2022 09:05			18 May 2022 20:05	1
HS22050805-05	35BWW04-220517	17 May 2022 10:00			18 May 2022 20:37	1
HS22050805-06	35BWW04-220517-FD	17 May 2022 10:00			18 May 2022 20:42	1
Batch ID: R409050 (0)	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C				**Matrix:** Water	
HS22050805-04	35BWW08-220517	17 May 2022 09:05			20 May 2022 12:53	1
Batch ID: R409090 (0)	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C				**Matrix:** Water	
HS22050805-01	35BWW25-220516	16 May 2022 13:10			21 May 2022 15:14	1
HS22050805-02	35BWW26-220517	17 May 2022 07:30			21 May 2022 15:36	1
HS22050805-03	35BWW01-220517	17 May 2022 08:20			21 May 2022 15:58	1
HS22050805-05	35BWW04-220517	17 May 2022 10:00			21 May 2022 16:21	1
HS22050805-06	35BWW04-220517-FD	17 May 2022 10:00			21 May 2022 16:43	1
Batch ID: R409660 (0)	**Test Name :** DISSOLVED GASES BY RSK-175				**Matrix:** Water	
HS22050805-02	35BWW26-220517	17 May 2022 07:30			27 May 2022 12:20	1
HS22050805-04	35BWW08-220517	17 May 2022 09:05			27 May 2022 12:30	1
HS22050805-05	35BWW04-220517	17 May 2022 10:00			27 May 2022 14:06	1
HS22050805-06	35BWW04-220517-FD	17 May 2022 10:00			27 May 2022 14:37	1
Batch ID: R410004 (0)	**Test Name :** TOTAL ORGANIC CARBON BY SW9060A				**Matrix:** Water	
HS22050805-02	35BWW26-220517	17 May 2022 07:30			04 Jun 2022 09:28	1
HS22050805-04	35BWW08-220517	17 May 2022 09:05			04 Jun 2022 09:42	1
HS22050805-05	35BWW04-220517	17 May 2022 10:00			04 Jun 2022 10:13	1
HS22050805-06	35BWW04-220517-FD	17 May 2022 10:00			04 Jun 2022 10:27	1
Batch ID: R410022 (0)	**Test Name :** SUBCONTRACT ANALYSIS - RSK				**Matrix:** Water	
HS22050805-02	35BWW26-220517	17 May 2022 07:30			06 Jun 2022 10:40	1
HS22050805-04	35BWW08-220517	17 May 2022 09:05			06 Jun 2022 10:40	1
HS22050805-05	35BWW04-220517	17 May 2022 10:00			06 Jun 2022 10:40	1
HS22050805-06	35BWW04-220517-FD	17 May 2022 10:00			06 Jun 2022 10:40	1

ALS Houston, US Date: 06-Jun-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP37 May 2022
WorkOrder: HS22050805

QC BATCH REPORT

Batch ID: R409660 (0) **Instrument:** FID-4 **Method:** DISSOLVED GASES BY RSK-175

MBLK Sample ID: **MBLK-220527** Units: **mg/L** Analysis Date: **27-May-2022 09:21**
Client ID: Run ID: **FID-4_409660** SeqNo: **6670836** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethane	0.000500	0.00100								U
Ethene	0.000500	0.00100								U
Methane	0.000500	0.000500								U

LCS Sample ID: **LCS-220527** Units: **mg/L** Analysis Date: **27-May-2022 09:34**
Client ID: Run ID: **FID-4_409660** SeqNo: **6670837** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethane	0.0188	0.00100	0.01804	0	104	75 - 125				
Ethene	0.0183	0.00100	0.0168	0	109	75 - 125				
Methane	0.00984	0.000500	0.009647	0	102	75 - 125				

MS Sample ID: **HS22050805-04MS** Units: **mg/L** Analysis Date: **27-May-2022 12:46**
Client ID: **35BWW08-220517** Run ID: **FID-4_409660** SeqNo: **6670854** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethane	0.0164	0.00100	0.01804	0	90.7	75 - 125				
Ethene	0.0166	0.00100	0.0168	0	99.0	75 - 125				
Methane	0.00765	0.000500	0.009647	0.001800	60.7	75 - 125				S

MSD Sample ID: **HS22050805-04MSD** Units: **mg/L** Analysis Date: **27-May-2022 13:00**
Client ID: **35BWW08-220517** Run ID: **FID-4_409660** SeqNo: **6670855** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethane	0.0178	0.00100	0.01804	0	98.4	75 - 125	0.01636	8.2	30	
Ethene	0.0180	0.00100	0.0168	0	107	75 - 125	0.01663	7.7	30	
Methane	0.00865	0.000500	0.009647	0.001800	71.1	75 - 125	0.007651	12.3	30	S

The following samples were analyzed in this batch: HS22050805-02 HS22050805-04 HS22050805-05 HS22050805-06

ALS Houston, US Date: 06-Jun-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP37 May 2022
WorkOrder: HS22050805

QC BATCH REPORT

Batch ID: R409050 (0) **Instrument: VOA9** **Method: VOLATILES ORGANICS BY METHOD 8260C**

MBLK Sample ID: **VBLKW-220520** Units: **ug/L** Analysis Date: **20-May-2022 12:08**
Client ID: Run ID: **VOA9_409050** SeqNo: **6656989** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	0.50	1.0								U
1,1,1-Trichloroethane	0.50	1.0								U
1,1,2,2-Tetrachloroethane	0.50	1.0								U
1,1,2-Trichlor-1,2,2-trifluoroethane	0.50	1.0								U
1,1,2-Trichloroethane	0.50	1.0								U
1,1-Dichloroethane	0.50	1.0								U
1,1-Dichloroethene	0.50	1.0								U
1,1-Dichloropropene	0.50	1.0								U
1,2,3-Trichlorobenzene	1.0	1.0								U
1,2,3-Trichloropropane	1.0	1.0								U
1,2,4-Trichlorobenzene	1.0	1.0								U
1,2,4-Trimethylbenzene	1.0	1.0								U
1,2-Dibromo-3-chloropropane	0.50	1.0								U
1,2-Dibromoethane	0.50	1.0								U
1,2-Dichlorobenzene	0.50	1.0								U
1,2-Dichloroethane	0.50	1.0								U
1,2-Dichloropropane	0.50	1.0								U
1,3,5-Trimethylbenzene	1.0	1.0								U
1,3-Dichlorobenzene	0.50	1.0								U
1,3-Dichloropropane	1.0	1.0								U
1,4-Dichlorobenzene	0.50	1.0								U
2,2-Dichloropropane	0.50	1.0								U
2-Butanone	1.0	2.0								U
2-Chlorotoluene	1.0	1.0								U
2-Hexanone	2.0	2.0								U
4-Chlorotoluene	1.0	1.0								U
4-Isopropyltoluene	1.0	1.0								U
4-Methyl-2-pentanone	2.0	2.0								U
Acetone	2.0	2.0								U
Benzene	0.50	1.0								U
Bromobenzene	1.0	1.0								U
Bromochloromethane	0.50	1.0								U
Bromodichloromethane	0.50	1.0								U
Bromoform	0.50	1.0								U

ALS Houston, US Date: 06-Jun-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP37 May 2022
WorkOrder: HS22050805

QC BATCH REPORT

Batch ID: R409050 (0) **Instrument: VOA9** **Method: VOLATILES ORGANICS BY METHOD 8260C**

MBLK Sample ID: **VBLKW-220520** Units: **ug/L** Analysis Date: **20-May-2022 12:08**
Client ID: Run ID: **VOA9_409050** SeqNo: **6656989** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromomethane	1.0	1.0								U
Carbon disulfide	2.0	2.0								U
Carbon tetrachloride	0.50	1.0								U
Chlorobenzene	0.50	1.0								U
Chloroethane	0.50	1.0								U
Chloroform	0.50	1.0								U
Chloromethane	0.50	1.0								U
cis-1,2-Dichloroethene	0.50	1.0								U
cis-1,3-Dichloropropene	0.50	1.0								U
Dibromochloromethane	0.50	1.0								U
Dibromomethane	0.50	1.0								U
Dichlorodifluoromethane	0.50	1.0								U
Ethylbenzene	0.50	1.0								U
Hexachlorobutadiene	1.0	1.0								U
Isopropylbenzene	0.50	1.0								U
m,p-Xylene	1.0	2.0								U
Methylene chloride	2.0	2.0								U
Naphthalene	1.0	1.0								U
n-Butylbenzene	1.0	1.0								U
n-Propylbenzene	1.0	1.0								U
o-Xylene	0.50	1.0								U
sec-Butylbenzene	1.0	1.0								U
Styrene	0.50	1.0								U
tert-Butylbenzene	1.0	1.0								U
Tetrachloroethene	0.50	1.0								U
Toluene	0.50	1.0								U
trans-1,2-Dichloroethene	0.50	1.0								U
trans-1,3-Dichloropropene	0.50	1.0								U
Trichloroethene	0.50	1.0								U
Trichlorofluoromethane	0.50	1.0								U
Vinyl chloride	0.50	1.0								U
Surr: 1,2-Dichloroethane-d4	*49.33*	*1.0*	*50*	*0*	*98.7*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*44.61*	*1.0*	*50*	*0*	*89.2*	*85 - 114*				
Surr: Dibromofluoromethane	*46.48*	*1.0*	*50*	*0*	*93.0*	*80 - 119*				

ALS Houston, US Date: 06-Jun-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP37 May 2022
WorkOrder: HS22050805

QC BATCH REPORT

Batch ID: R409050 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MBLK Sample ID: **VBLKW-220520** Units: **ug/L** Analysis Date: **20-May-2022 12:08**
Client ID: Run ID: **VOA9_409050** SeqNo: **6656989** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Surr: Toluene-d8	*55.38*	*1.0*	*50*	*0*	*111*	*89 - 112*				

ALS Houston, US Date: 06-Jun-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP37 May 2022
WorkOrder: HS22050805

QC BATCH REPORT

Batch ID: R409050 (0) **Instrument: VOA9** **Method: VOLATILES ORGANICS BY METHOD 8260C**

LCS Sample ID: **VLCSW-220520** Units: **ug/L** Analysis Date: **20-May-2022 11:23**
Client ID: Run ID: **VOA9_409050** SeqNo: **6656988** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	17.9	1.0	20	0	89.5	78 - 124				
1,1,1-Trichloroethane	18.05	1.0	20	0	90.2	74 - 131				
1,1,2,2-Tetrachloroethane	20.47	1.0	20	0	102	71 - 121				
1,1,2-Trichlor-1,2,2-trifluoroethane	19.03	1.0	20	0	95.1	70 - 136				
1,1,2-Trichloroethane	18.93	1.0	20	0	94.7	80 - 119				
1,1-Dichloroethane	17.87	1.0	20	0	89.3	77 - 125				
1,1-Dichloroethene	17.78	1.0	20	0	88.9	71 - 131				
1,1-Dichloropropene	18.21	1.0	20	0	91.0	78 - 125				
1,2,3-Trichlorobenzene	17.19	1.0	20	0	86.0	69 - 129				
1,2,3-Trichloropropane	18.21	1.0	20	0	91.0	73 - 122				
1,2,4-Trichlorobenzene	16.17	1.0	20	0	80.8	69 - 130				
1,2,4-Trimethylbenzene	17.84	1.0	20	0	89.2	76 - 124				
1,2-Dibromo-3-chloropropane	15.56	1.0	20	0	77.8	62 - 128				
1,2-Dibromoethane	18.98	1.0	20	0	94.9	77 - 121				
1,2-Dichlorobenzene	18.41	1.0	20	0	92.0	80 - 119				
1,2-Dichloroethane	18.59	1.0	20	0	92.9	73 - 128				
1,2-Dichloropropane	19.39	1.0	20	0	96.9	78 - 122				
1,3,5-Trimethylbenzene	17.46	1.0	20	0	87.3	75 - 124				
1,3-Dichlorobenzene	18.44	1.0	20	0	92.2	80 - 119				
1,3-Dichloropropane	19.21	1.0	20	0	96.0	80 - 119				
1,4-Dichlorobenzene	17.71	1.0	20	0	88.5	79 - 118				
2,2-Dichloropropane	18.79	1.0	20	0	94.0	60 - 139				
2-Butanone	36.67	2.0	40	0	91.7	56 - 143				
2-Chlorotoluene	20.53	1.0	20	0	103	79 - 122				
2-Hexanone	35.86	2.0	40	0	89.6	57 - 139				
4-Chlorotoluene	19.77	1.0	20	0	98.9	78 - 122				
4-Isopropyltoluene	15.54	1.0	20	0	77.7	77 - 127				
4-Methyl-2-pentanone	37.27	2.0	40	0	93.2	67 - 130				
Acetone	40.32	2.0	40	0	101	39 - 160				
Benzene	19.24	1.0	20	0	96.2	79 - 120				
Bromobenzene	19.22	1.0	20	0	96.1	80 - 120				
Bromochloromethane	18.28	1.0	20	0	91.4	78 - 123				
Bromodichloromethane	18.76	1.0	20	0	93.8	79 - 125				
Bromoform	14.72	1.0	20	0	73.6	66 - 130				

ALS Houston, US Date: 06-Jun-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP37 May 2022
WorkOrder: HS22050805

QC BATCH REPORT

Batch ID: R409050 (0) **Instrument: VOA9** **Method: VOLATILES ORGANICS BY METHOD 8260C**

LCS Sample ID: **VLCSW-220520** Units: **ug/L** Analysis Date: **20-May-2022 11:23**
Client ID: Run ID: **VOA9_409050** SeqNo: **6656988** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromomethane	22.65	1.0	20	0	113	53 - 141				
Carbon disulfide	37.21	2.0	40	0	93.0	64 - 133				
Carbon tetrachloride	15.69	1.0	20	0	78.5	72 - 136				
Chlorobenzene	18.73	1.0	20	0	93.7	82 - 118				
Chloroethane	17.89	1.0	20	0	89.4	60 - 138				
Chloroform	18.25	1.0	20	0	91.2	79 - 124				
Chloromethane	18.73	1.0	20	0	93.7	50 - 139				
cis-1,2-Dichloroethene	18.25	1.0	20	0	91.2	78 - 123				
cis-1,3-Dichloropropene	17.17	1.0	20	0	85.8	75 - 124				
Dibromochloromethane	16.45	1.0	20	0	82.3	74 - 126				
Dibromomethane	19.04	1.0	20	0	95.2	79 - 123				
Dichlorodifluoromethane	19.26	1.0	20	0	96.3	32 - 152				
Ethylbenzene	19.03	1.0	20	0	95.2	79 - 121				
Hexachlorobutadiene	18.44	1.0	20	0	92.2	66 - 134				
Isopropylbenzene	18.6	1.0	20	0	93.0	72 - 131				
m,p-Xylene	38.45	2.0	40	0	96.1	80 - 121				
Methylene chloride	18.68	2.0	20	0	93.4	74 - 124				
Naphthalene	16.48	1.0	20	0	82.4	61 - 128				
n-Butylbenzene	16.8	1.0	20	0	84.0	75 - 128				
n-Propylbenzene	18.62	1.0	20	0	93.1	76 - 126				
o-Xylene	19.97	1.0	20	0	99.9	78 - 122				
sec-Butylbenzene	15.46	1.0	20	0	77.3	77 - 126				
Styrene	17.46	1.0	20	0	87.3	78 - 123				
tert-Butylbenzene	17.59	1.0	20	0	88.0	78 - 124				
Tetrachloroethene	19.56	1.0	20	0	97.8	74 - 129				
Toluene	20.62	1.0	20	0	103	80 - 121				
trans-1,2-Dichloroethene	17.69	1.0	20	0	88.4	75 - 124				
trans-1,3-Dichloropropene	16.57	1.0	20	0	82.8	73 - 127				
Trichloroethene	18.54	1.0	20	0	92.7	79 - 123				
Trichlorofluoromethane	17.67	1.0	20	0	88.4	65 - 141				
Vinyl chloride	18.96	1.0	20	0	94.8	58 - 137				
Surr: 1,2-Dichloroethane-d4	*50.26*	*1.0*	*50*	*0*	*101*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*49.33*	*1.0*	*50*	*0*	*98.7*	*85 - 114*				
Surr: Dibromofluoromethane	*48.96*	*1.0*	*50*	*0*	*97.9*	*80 - 119*				

ALS Houston, US Date: 06-Jun-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP37 May 2022
WorkOrder: HS22050805

QC BATCH REPORT

Batch ID: R409050 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

LCS Sample ID: **VLCSW-220520** Units: **ug/L** Analysis Date: **20-May-2022 11:23**
Client ID: Run ID: **VOA9_409050** SeqNo: **6656988** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Surr: Toluene-d8	*51.83*	*1.0*	*50*	*0*	*104*	*89 - 112*				

ALS Houston, US Date: 06-Jun-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP37 May 2022
WorkOrder: HS22050805

QC BATCH REPORT

Batch ID: R409050 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS22050805-04MS** Units: **ug/L** Analysis Date: **20-May-2022 13:37**
Client ID: **35BWW08-220517** Run ID: **VOA9_409050** SeqNo: **6656993** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	17.37	1.0	20	0	86.9	78 - 124				
1,1,1-Trichloroethane	16.7	1.0	20	0	83.5	74 - 131				
1,1,2,2-Tetrachloroethane	18.74	1.0	20	0	93.7	71 - 121				
1,1,2-Trichlor-1,2,2-trifluoroethane	18.54	1.0	20	0	92.7	70 - 136				
1,1,2-Trichloroethane	17.28	1.0	20	0	86.4	80 - 119				
1,1-Dichloroethane	16	1.0	20	0	80.0	77 - 125				
1,1-Dichloroethene	16.44	1.0	20	0	82.2	71 - 131				
1,1-Dichloropropene	17.72	1.0	20	0	88.6	78 - 125				
1,2,3-Trichlorobenzene	14.56	1.0	20	0	72.8	69 - 129				
1,2,3-Trichloropropane	16.42	1.0	20	0	82.1	73 - 122				
1,2,4-Trichlorobenzene	14.12	1.0	20	0	70.6	69 - 130				
1,2,4-Trimethylbenzene	16.68	1.0	20	0	83.4	76 - 124				
1,2-Dibromo-3-chloropropane	14.41	1.0	20	0	72.1	62 - 128				
1,2-Dibromoethane	17.65	1.0	20	0	88.3	77 - 121				
1,2-Dichlorobenzene	17.03	1.0	20	0	85.2	80 - 119				
1,2-Dichloroethane	16.79	1.0	20	0	84.0	73 - 128				
1,2-Dichloropropane	17.36	1.0	20	0	86.8	78 - 122				
1,3,5-Trimethylbenzene	16.97	1.0	20	0	84.8	75 - 124				
1,3-Dichlorobenzene	17.38	1.0	20	0	86.9	80 - 119				
1,3-Dichloropropane	17.79	1.0	20	0	88.9	80 - 119				
1,4-Dichlorobenzene	16.6	1.0	20	0	83.0	79 - 118				
2,2-Dichloropropane	16.77	1.0	20	0	83.8	60 - 139				
2-Butanone	27.85	2.0	40	0	69.6	56 - 143				
2-Chlorotoluene	19.54	1.0	20	0	97.7	79 - 122				
2-Hexanone	32.12	2.0	40	0	80.3	57 - 139				
4-Chlorotoluene	19.01	1.0	20	0	95.0	78 - 122				
4-Isopropyltoluene	15.45	1.0	20	0	77.2	77 - 127				
4-Methyl-2-pentanone	32.6	2.0	40	0	81.5	67 - 130				
Acetone	26.17	2.0	40	0	65.4	39 - 160				
Benzene	17.41	1.0	20	0	87.0	79 - 120				
Bromobenzene	17.89	1.0	20	0	89.5	80 - 120				
Bromochloromethane	15.69	1.0	20	0	78.4	78 - 123				
Bromodichloromethane	16.74	1.0	20	0	83.7	79 - 125				
Bromoform	13.99	1.0	20	0	70.0	66 - 130				

ALS Houston, US Date: 06-Jun-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP37 May 2022
WorkOrder: HS22050805

QC BATCH REPORT

Batch ID: R409050 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS22050805-04MS** Units: **ug/L** Analysis Date: **20-May-2022 13:37**
Client ID: **35BWW08-220517** Run ID: **VOA9_409050** SeqNo: **6656993** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromomethane	18.99	1.0	20	0	94.9	53 - 141				
Carbon disulfide	32.44	2.0	40	0	81.1	64 - 133				
Carbon tetrachloride	16.12	1.0	20	0	80.6	72 - 136				
Chlorobenzene	17.82	1.0	20	0	89.1	82 - 118				
Chloroethane	15.69	1.0	20	0	78.5	60 - 138				
Chloroform	16.12	1.0	20	0	80.6	79 - 124				
Chloromethane	15.39	1.0	20	0	76.9	50 - 139				
cis-1,2-Dichloroethene	15.78	1.0	20	0	78.9	78 - 123				
cis-1,3-Dichloropropene	14.66	1.0	20	0	73.3	75 - 124				S
Dibromochloromethane	15.38	1.0	20	0	76.9	74 - 126				
Dibromomethane	16.62	1.0	20	0	83.1	79 - 123				
Dichlorodifluoromethane	13.13	1.0	20	0	65.6	32 - 152				
Ethylbenzene	18.53	1.0	20	0	92.6	79 - 121				
Hexachlorobutadiene	17.51	1.0	20	0	87.5	66 - 134				
Isopropylbenzene	19.05	1.0	20	0	95.2	72 - 131				
m,p-Xylene	38.15	2.0	40	0	95.4	80 - 121				
Methylene chloride	15.64	2.0	20	0	78.2	74 - 124				
Naphthalene	13.65	1.0	20	0	68.2	61 - 128				
n-Butylbenzene	16.44	1.0	20	0	82.2	75 - 128				
n-Propylbenzene	18.21	1.0	20	0	91.0	76 - 126				
o-Xylene	19.13	1.0	20	0	95.7	78 - 122				
sec-Butylbenzene	15.35	1.0	20	0	76.7	77 - 126				S
Styrene	16.58	1.0	20	0	82.9	78 - 123				
tert-Butylbenzene	17.27	1.0	20	0	86.3	78 - 124				
Tetrachloroethene	19.33	1.0	20	0	96.6	74 - 129				
Toluene	19.75	1.0	20	0	98.8	80 - 121				
trans-1,2-Dichloroethene	16.02	1.0	20	0	80.1	75 - 124				
trans-1,3-Dichloropropene	14.89	1.0	20	0	74.4	73 - 127				
Trichloroethene	18.75	1.0	20	0	93.7	79 - 123				
Trichlorofluoromethane	16.76	1.0	20	0	83.8	65 - 141				
Vinyl chloride	16.24	1.0	20	0	81.2	58 - 137				
Surr: 1,2-Dichloroethane-d4	*45.5*	*1.0*	*50*	*0*	*91.0*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*50.87*	*1.0*	*50*	*0*	*102*	*85 - 114*				
Surr: Dibromofluoromethane	*44.61*	*1.0*	*50*	*0*	*89.2*	*80 - 119*				

ALS Houston, US Date: 06-Jun-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP37 May 2022
WorkOrder: HS22050805

QC BATCH REPORT

Batch ID: R409050 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS22050805-04MS** Units: **ug/L** Analysis Date: **20-May-2022 13:37**
Client ID: **35BWW08-220517** Run ID: **VOA9_409050** SeqNo: **6656993** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Surr: Toluene-d8	*54.9*	*1.0*	*50*	*0*	*110*	*89 - 112*				

ALS Houston, US Date: 06-Jun-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP37 May 2022
WorkOrder: HS22050805

QC BATCH REPORT

Batch ID: R409050 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS22050805-04MSD** Units: **ug/L** Analysis Date: **20-May-2022 14:00**
Client ID: **35BWW08-220517** Run ID: **VOA9_409050** SeqNo: **6656994** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	16.79	1.0	20	0	83.9	78 - 124	17.37	3.44	20	
1,1,1-Trichloroethane	16.48	1.0	20	0	82.4	74 - 131	16.7	1.33	20	
1,1,2,2-Tetrachloroethane	19.01	1.0	20	0	95.0	71 - 121	18.74	1.41	20	
1,1,2-Trichlor-1,2,2-trifluoroethane	17.96	1.0	20	0	89.8	70 - 136	18.54	3.2	20	
1,1,2-Trichloroethane	17.69	1.0	20	0	88.4	80 - 119	17.28	2.33	20	
1,1-Dichloroethane	15.48	1.0	20	0	77.4	77 - 125	16	3.31	20	
1,1-Dichloroethene	15.81	1.0	20	0	79.1	71 - 131	16.44	3.89	20	
1,1-Dichloropropene	17.63	1.0	20	0	88.2	78 - 125	17.72	0.491	20	
1,2,3-Trichlorobenzene	17.22	1.0	20	0	86.1	69 - 129	14.56	16.8	20	
1,2,3-Trichloropropane	17.11	1.0	20	0	85.5	73 - 122	16.42	4.11	20	
1,2,4-Trichlorobenzene	16.13	1.0	20	0	80.7	69 - 130	14.12	13.3	20	
1,2,4-Trimethylbenzene	17.5	1.0	20	0	87.5	76 - 124	16.68	4.75	20	
1,2-Dibromo-3-chloropropane	15.11	1.0	20	0	75.5	62 - 128	14.41	4.73	20	
1,2-Dibromoethane	17.53	1.0	20	0	87.7	77 - 121	17.65	0.676	20	
1,2-Dichlorobenzene	17.55	1.0	20	0	87.7	80 - 119	17.03	2.98	20	
1,2-Dichloroethane	16.91	1.0	20	0	84.5	73 - 128	16.79	0.668	20	
1,2-Dichloropropane	17.3	1.0	20	0	86.5	78 - 122	17.36	0.369	20	
1,3,5-Trimethylbenzene	17.46	1.0	20	0	87.3	75 - 124	16.97	2.86	20	
1,3-Dichlorobenzene	17.89	1.0	20	0	89.4	80 - 119	17.38	2.89	20	
1,3-Dichloropropane	17.61	1.0	20	0	88.0	80 - 119	17.79	1.03	20	
1,4-Dichlorobenzene	17.15	1.0	20	0	85.7	79 - 118	16.6	3.28	20	
2,2-Dichloropropane	16.38	1.0	20	0	81.9	60 - 139	16.77	2.3	20	
2-Butanone	28.54	2.0	40	0	71.4	56 - 143	27.85	2.46	20	
2-Chlorotoluene	19.79	1.0	20	0	99.0	79 - 122	19.54	1.29	20	
2-Hexanone	33.36	2.0	40	0	83.4	57 - 139	32.12	3.78	20	
4-Chlorotoluene	19.41	1.0	20	0	97.1	78 - 122	19.01	2.12	20	
4-Isopropyltoluene	16.32	1.0	20	0	81.6	77 - 127	15.45	5.5	20	
4-Methyl-2-pentanone	34.73	2.0	40	0	86.8	67 - 130	32.6	6.34	20	
Acetone	26.05	2.0	40	0	65.1	39 - 160	26.17	0.487	20	
Benzene	17.52	1.0	20	0	87.6	79 - 120	17.41	0.647	20	
Bromobenzene	18.34	1.0	20	0	91.7	80 - 120	17.89	2.49	20	
Bromochloromethane	15.42	1.0	20	0	77.1	78 - 123	15.69	1.73	20	S
Bromodichloromethane	16.3	1.0	20	0	81.5	79 - 125	16.74	2.69	20	
Bromoform	14.03	1.0	20	0	70.1	66 - 130	13.99	0.254	20	

ALS Houston, US Date: 06-Jun-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP37 May 2022
WorkOrder: HS22050805

QC BATCH REPORT

Batch ID: R409050 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS22050805-04MSD** Units: **ug/L** Analysis Date: **20-May-2022 14:00**
Client ID: **35BWW08-220517** Run ID: **VOA9_409050** SeqNo: **6656994** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Bromomethane	18.26	1.0	20	0	91.3	53 - 141	18.99	3.88	20	
Carbon disulfide	32.27	2.0	40	0	80.7	64 - 133	32.44	0.532	20	
Carbon tetrachloride	16.1	1.0	20	0	80.5	72 - 136	16.12	0.131	20	
Chlorobenzene	17.34	1.0	20	0	86.7	82 - 118	17.82	2.74	20	
Chloroethane	15.28	1.0	20	0	76.4	60 - 138	15.69	2.63	20	
Chloroform	15.72	1.0	20	0	78.6	79 - 124	16.12	2.48	20	S
Chloromethane	15.03	1.0	20	0	75.2	50 - 139	15.39	2.34	20	
cis-1,2-Dichloroethene	15.64	1.0	20	0	78.2	78 - 123	15.78	0.893	20	
cis-1,3-Dichloropropene	14.89	1.0	20	0	74.4	75 - 124	14.66	1.52	20	S
Dibromochloromethane	15.22	1.0	20	0	76.1	74 - 126	15.38	1.02	20	
Dibromomethane	16.53	1.0	20	0	82.7	79 - 123	16.62	0.555	20	
Dichlorodifluoromethane	12.68	1.0	20	0	63.4	32 - 152	13.13	3.46	20	
Ethylbenzene	18.55	1.0	20	0	92.7	79 - 121	18.53	0.103	20	
Hexachlorobutadiene	18.3	1.0	20	0	91.5	66 - 134	17.51	4.44	20	
Isopropylbenzene	19.07	1.0	20	0	95.4	72 - 131	19.05	0.144	20	
m,p-Xylene	37.55	2.0	40	0	93.9	80 - 121	38.15	1.58	20	
Methylene chloride	15.08	2.0	20	0	75.4	74 - 124	15.64	3.6	20	
Naphthalene	16.58	1.0	20	0	82.9	61 - 128	13.65	19.4	20	
n-Butylbenzene	17.95	1.0	20	0	89.8	75 - 128	16.44	8.83	20	
n-Propylbenzene	19.29	1.0	20	0	96.5	76 - 126	18.21	5.79	20	
o-Xylene	19.02	1.0	20	0	95.1	78 - 122	19.13	0.593	20	
sec-Butylbenzene	16.62	1.0	20	0	83.1	77 - 126	15.35	8	20	
Styrene	16.87	1.0	20	0	84.3	78 - 123	16.58	1.75	20	
tert-Butylbenzene	18.53	1.0	20	0	92.6	78 - 124	17.27	7.03	20	
Tetrachloroethene	19.39	1.0	20	0	96.9	74 - 129	19.33	0.303	20	
Toluene	19.4	1.0	20	0	97.0	80 - 121	19.75	1.8	20	
trans-1,2-Dichloroethene	15.7	1.0	20	0	78.5	75 - 124	16.02	2.05	20	
trans-1,3-Dichloropropene	15.19	1.0	20	0	76.0	73 - 127	14.89	2.03	20	
Trichloroethene	17.92	1.0	20	0	89.6	79 - 123	18.75	4.52	20	
Trichlorofluoromethane	16.2	1.0	20	0	81.0	65 - 141	16.76	3.36	20	
Vinyl chloride	15.85	1.0	20	0	79.3	58 - 137	16.24	2.43	20	
Surr: 1,2-Dichloroethane-d4	*45.06*	*1.0*	*50*	*0*	*90.1*	*81 - 118*	*45.5*	*0.984*	*20*	
Surr: 4-Bromofluorobenzene	*49.86*	*1.0*	*50*	*0*	*99.7*	*85 - 114*	*50.87*	*2.01*	*20*	
Surr: Dibromofluoromethane	*44.44*	*1.0*	*50*	*0*	*88.9*	*80 - 119*	*44.61*	*0.375*	*20*	

ALS Houston, US Date: 06-Jun-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP37 May 2022
WorkOrder: HS22050805

QC BATCH REPORT

Batch ID: R409050 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS22050805-04MSD** Units: **ug/L** Analysis Date: **20-May-2022 14:00**
Client ID: **35BWW08-220517** Run ID: **VOA9_409050** SeqNo: **6656994** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Surr: Toluene-d8	*54.85*	*1.0*	*50*	*0*	*110*	*89 - 112*	*54.9*	*0.0857*	*20*	

The following samples were analyzed in this batch: HS22050805-04

ALS Houston, US Date: 06-Jun-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP37 May 2022
WorkOrder: HS22050805

QC BATCH REPORT

Batch ID: R409090 (0) **Instrument: VOA9** **Method: VOLATILES ORGANICS BY METHOD 8260C**

MBLK Sample ID: **VBLKW-220521** Units: **ug/L** Analysis Date: **21-May-2022 12:59**
Client ID: Run ID: **VOA9_409090** SeqNo: **6657864** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	0.50	1.0								U
1,1,1-Trichloroethane	0.50	1.0								U
1,1,2,2-Tetrachloroethane	0.50	1.0								U
1,1,2-Trichlor-1,2,2-trifluoroethane	0.50	1.0								U
1,1,2-Trichloroethane	0.50	1.0								U
1,1-Dichloroethane	0.50	1.0								U
1,1-Dichloroethene	0.50	1.0								U
1,1-Dichloropropene	0.50	1.0								U
1,2,3-Trichlorobenzene	1.0	1.0								U
1,2,3-Trichloropropane	1.0	1.0								U
1,2,4-Trichlorobenzene	1.0	1.0								U
1,2,4-Trimethylbenzene	1.0	1.0								U
1,2-Dibromo-3-chloropropane	0.50	1.0								U
1,2-Dibromoethane	0.50	1.0								U
1,2-Dichlorobenzene	0.50	1.0								U
1,2-Dichloroethane	0.50	1.0								U
1,2-Dichloropropane	0.50	1.0								U
1,3,5-Trimethylbenzene	1.0	1.0								U
1,3-Dichlorobenzene	0.50	1.0								U
1,3-Dichloropropane	1.0	1.0								U
1,4-Dichlorobenzene	0.50	1.0								U
2,2-Dichloropropane	0.50	1.0								U
2-Butanone	1.0	2.0								U
2-Chlorotoluene	1.0	1.0								U
2-Hexanone	2.0	2.0								U
4-Chlorotoluene	1.0	1.0								U
4-Isopropyltoluene	1.0	1.0								U
4-Methyl-2-pentanone	2.0	2.0								U
Acetone	2.0	2.0								U
Benzene	0.50	1.0								U
Bromobenzene	1.0	1.0								U
Bromochloromethane	0.50	1.0								U
Bromodichloromethane	0.50	1.0								U
Bromoform	0.50	1.0								U

ALS Houston, US Date: 06-Jun-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP37 May 2022
WorkOrder: HS22050805

QC BATCH REPORT

Batch ID: R409090 (0) **Instrument: VOA9** **Method: VOLATILES ORGANICS BY METHOD 8260C**

MBLK Sample ID: **VBLKW-220521** Units: **ug/L** Analysis Date: **21-May-2022 12:59**
Client ID: Run ID: **VOA9_409090** SeqNo: **6657864** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromomethane	1.0	1.0								U
Carbon disulfide	2.0	2.0								U
Carbon tetrachloride	0.50	1.0								U
Chlorobenzene	0.50	1.0								U
Chloroethane	0.50	1.0								U
Chloroform	0.50	1.0								U
Chloromethane	0.50	1.0								U
cis-1,2-Dichloroethene	0.50	1.0								U
cis-1,3-Dichloropropene	0.50	1.0								U
Dibromochloromethane	0.50	1.0								U
Dibromomethane	0.50	1.0								U
Dichlorodifluoromethane	0.50	1.0								U
Ethylbenzene	0.50	1.0								U
Hexachlorobutadiene	1.0	1.0								U
Isopropylbenzene	0.50	1.0								U
m,p-Xylene	1.0	2.0								U
Methylene chloride	2.0	2.0								U
Naphthalene	1.0	1.0								U
n-Butylbenzene	1.0	1.0								U
n-Propylbenzene	1.0	1.0								U
o-Xylene	0.50	1.0								U
sec-Butylbenzene	1.0	1.0								U
Styrene	0.50	1.0								U
tert-Butylbenzene	1.0	1.0								U
Tetrachloroethene	0.50	1.0								U
Toluene	0.50	1.0								U
trans-1,2-Dichloroethene	0.50	1.0								U
trans-1,3-Dichloropropene	0.50	1.0								U
Trichloroethene	0.50	1.0								U
Trichlorofluoromethane	0.50	1.0								U
Vinyl chloride	0.50	1.0								U
Surr: 1,2-Dichloroethane-d4	*49.01*	*1.0*	*50*	*0*	*98.0*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*44.41*	*1.0*	*50*	*0*	*88.8*	*85 - 114*				
Surr: Dibromofluoromethane	*46.17*	*1.0*	*50*	*0*	*92.3*	*80 - 119*				

ALS Houston, US Date: 06-Jun-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP37 May 2022
WorkOrder: HS22050805

QC BATCH REPORT

Batch ID: R409090 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MBLK Sample ID: **VBLKW-220521** Units: **ug/L** Analysis Date: **21-May-2022 12:59**
Client ID: Run ID: **VOA9_409090** SeqNo: **6657864** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Surr: Toluene-d8	*55.65*	*1.0*	*50*	*0*	*111*	*89 - 112*				

ALS Houston, US Date: 06-Jun-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP37 May 2022
WorkOrder: HS22050805

QC BATCH REPORT

Batch ID: R409090 (0) **Instrument: VOA9** **Method: VOLATILES ORGANICS BY METHOD 8260C**

LCS Sample ID: **VLCSW-220521** Units: **ug/L** Analysis Date: **21-May-2022 12:15**
Client ID: Run ID: **VOA9_409090** SeqNo: **6657863** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	18.36	1.0	20	0	91.8	78 - 124				
1,1,1-Trichloroethane	19.31	1.0	20	0	96.6	74 - 131				
1,1,2,2-Tetrachloroethane	20.71	1.0	20	0	104	71 - 121				
1,1,2-Trichlor-1,2,2-trifluoroethane	21.29	1.0	20	0	106	70 - 136				
1,1,2-Trichloroethane	19.25	1.0	20	0	96.2	80 - 119				
1,1-Dichloroethane	19.42	1.0	20	0	97.1	77 - 125				
1,1-Dichloroethene	18.87	1.0	20	0	94.3	71 - 131				
1,1-Dichloropropene	19.34	1.0	20	0	96.7	78 - 125				
1,2,3-Trichlorobenzene	18.47	1.0	20	0	92.4	69 - 129				
1,2,3-Trichloropropane	18.11	1.0	20	0	90.6	73 - 122				
1,2,4-Trichlorobenzene	18.02	1.0	20	0	90.1	69 - 130				
1,2,4-Trimethylbenzene	19.1	1.0	20	0	95.5	76 - 124				
1,2-Dibromo-3-chloropropane	16.53	1.0	20	0	82.6	62 - 128				
1,2-Dibromoethane	19.35	1.0	20	0	96.8	77 - 121				
1,2-Dichlorobenzene	19.47	1.0	20	0	97.4	80 - 119				
1,2-Dichloroethane	19.63	1.0	20	0	98.2	73 - 128				
1,2-Dichloropropane	19.98	1.0	20	0	99.9	78 - 122				
1,3,5-Trimethylbenzene	19.03	1.0	20	0	95.2	75 - 124				
1,3-Dichlorobenzene	19.64	1.0	20	0	98.2	80 - 119				
1,3-Dichloropropane	19.55	1.0	20	0	97.7	80 - 119				
1,4-Dichlorobenzene	18.49	1.0	20	0	92.5	79 - 118				
2,2-Dichloropropane	19.53	1.0	20	0	97.6	60 - 139				
2-Butanone	40.06	2.0	40	0	100	56 - 143				
2-Chlorotoluene	21.98	1.0	20	0	110	79 - 122				
2-Hexanone	38.1	2.0	40	0	95.2	57 - 139				
4-Chlorotoluene	21.04	1.0	20	0	105	78 - 122				
4-Isopropyltoluene	17.23	1.0	20	0	86.2	77 - 127				
4-Methyl-2-pentanone	38.19	2.0	40	0	95.5	67 - 130				
Acetone	49.09	2.0	40	0	123	39 - 160				
Benzene	20.02	1.0	20	0	100	79 - 120				
Bromobenzene	20.13	1.0	20	0	101	80 - 120				
Bromochloromethane	19.27	1.0	20	0	96.4	78 - 123				
Bromodichloromethane	18.7	1.0	20	0	93.5	79 - 125				
Bromoform	14.85	1.0	20	0	74.2	66 - 130				

ALS Houston, US Date: 06-Jun-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP37 May 2022
WorkOrder: HS22050805

QC BATCH REPORT

Batch ID: R409090 (0) **Instrument: VOA9** **Method: VOLATILES ORGANICS BY METHOD 8260C**

LCS Sample ID: **VLCSW-220521** Units: **ug/L** Analysis Date: **21-May-2022 12:15**
Client ID: Run ID: **VOA9_409090** SeqNo: **6657863** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromomethane	24.33	1.0	20	0	122	53 - 141				
Carbon disulfide	39.19	2.0	40	0	98.0	64 - 133				
Carbon tetrachloride	16.55	1.0	20	0	82.7	72 - 136				
Chlorobenzene	19.24	1.0	20	0	96.2	82 - 118				
Chloroethane	19.51	1.0	20	0	97.5	60 - 138				
Chloroform	19.15	1.0	20	0	95.7	79 - 124				
Chloromethane	19.37	1.0	20	0	96.8	50 - 139				
cis-1,2-Dichloroethene	19.24	1.0	20	0	96.2	78 - 123				
cis-1,3-Dichloropropene	17.15	1.0	20	0	85.7	75 - 124				
Dibromochloromethane	16.1	1.0	20	0	80.5	74 - 126				
Dibromomethane	19.17	1.0	20	0	95.9	79 - 123				
Dichlorodifluoromethane	20.41	1.0	20	0	102	32 - 152				
Ethylbenzene	20.28	1.0	20	0	101	79 - 121				
Hexachlorobutadiene	21.15	1.0	20	0	106	66 - 134				
Isopropylbenzene	20.47	1.0	20	0	102	72 - 131				
m,p-Xylene	40.93	2.0	40	0	102	80 - 121				
Methylene chloride	19.05	2.0	20	0	95.2	74 - 124				
Naphthalene	17.62	1.0	20	0	88.1	61 - 128				
n-Butylbenzene	19.06	1.0	20	0	95.3	75 - 128				
n-Propylbenzene	20.48	1.0	20	0	102	76 - 126				
o-Xylene	21.11	1.0	20	0	106	78 - 122				
sec-Butylbenzene	17.13	1.0	20	0	85.7	77 - 126				
Styrene	18.27	1.0	20	0	91.4	78 - 123				
tert-Butylbenzene	19.38	1.0	20	0	96.9	78 - 124				
Tetrachloroethene	20.64	1.0	20	0	103	74 - 129				
Toluene	21.4	1.0	20	0	107	80 - 121				
trans-1,2-Dichloroethene	18.86	1.0	20	0	94.3	75 - 124				
trans-1,3-Dichloropropene	16.15	1.0	20	0	80.7	73 - 127				
Trichloroethene	19.26	1.0	20	0	96.3	79 - 123				
Trichlorofluoromethane	19.1	1.0	20	0	95.5	65 - 141				
Vinyl chloride	19.54	1.0	20	0	97.7	58 - 137				
Surr: 1,2-Dichloroethane-d4	*52.03*	*1.0*	*50*	*0*	*104*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*49.22*	*1.0*	*50*	*0*	*98.4*	*85 - 114*				
Surr: Dibromofluoromethane	*50.02*	*1.0*	*50*	*0*	*100*	*80 - 119*				

ALS Houston, US Date: 06-Jun-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP37 May 2022
WorkOrder: HS22050805

QC BATCH REPORT

Batch ID: R409090 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

LCS Sample ID: **VLCSW-220521** Units: **ug/L** Analysis Date: **21-May-2022 12:15**
Client ID: Run ID: **VOA9_409090** SeqNo: **6657863** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Surr: Toluene-d8	*52.36*	*1.0*	*50*	*0*	*105*	*89 - 112*				

ALS Houston, US Date: 06-Jun-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP37 May 2022
WorkOrder: HS22050805

QC BATCH REPORT

Batch ID: R409090 (0) **Instrument: VOA9** **Method: VOLATILES ORGANICS BY METHOD 8260C**

MS Sample ID: **HS22050828-03MS** Units: **ug/L** Analysis Date: **21-May-2022 14:07**
Client ID: Run ID: **VOA9_409090** SeqNo: **6657867** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	17.79	1.0	20	0	89.0	78 - 124				
1,1,1-Trichloroethane	17.08	1.0	20	0	85.4	74 - 131				
1,1,2,2-Tetrachloroethane	19.48	1.0	20	0	97.4	71 - 121				
1,1,2-Trichlor-1,2,2-trifluoroethane	20.53	1.0	20	0	103	70 - 136				
1,1,2-Trichloroethane	18.2	1.0	20	0	91.0	80 - 119				
1,1-Dichloroethane	16.39	1.0	20	0	81.9	77 - 125				
1,1-Dichloroethene	16.75	1.0	20	0	83.8	71 - 131				
1,1-Dichloropropene	18.18	1.0	20	0	90.9	78 - 125				
1,2,3-Trichlorobenzene	15.95	1.0	20	0	79.8	69 - 129				
1,2,3-Trichloropropane	17.09	1.0	20	0	85.5	73 - 122				
1,2,4-Trichlorobenzene	14.99	1.0	20	0	75.0	69 - 130				
1,2,4-Trimethylbenzene	17.86	1.0	20	0	89.3	76 - 124				
1,2-Dibromo-3-chloropropane	15	1.0	20	0	75.0	62 - 128				
1,2-Dibromoethane	18.29	1.0	20	0	91.4	77 - 121				
1,2-Dichlorobenzene	18.1	1.0	20	0	90.5	80 - 119				
1,2-Dichloroethane	17.25	1.0	20	0	86.3	73 - 128				
1,2-Dichloropropane	18.42	1.0	20	0	92.1	78 - 122				
1,3,5-Trimethylbenzene	18.22	1.0	20	0	91.1	75 - 124				
1,3-Dichlorobenzene	18.52	1.0	20	0	92.6	80 - 119				
1,3-Dichloropropane	18.35	1.0	20	0	91.8	80 - 119				
1,4-Dichlorobenzene	17.68	1.0	20	0	88.4	79 - 118				
2,2-Dichloropropane	17.08	1.0	20	0	85.4	60 - 139				
2-Butanone	27.93	2.0	40	0	69.8	56 - 143				
2-Chlorotoluene	20.65	1.0	20	0	103	79 - 122				
2-Hexanone	32.68	2.0	40	0	81.7	57 - 139				
4-Chlorotoluene	20.05	1.0	20	0	100	78 - 122				
4-Isopropyltoluene	16.61	1.0	20	0	83.1	77 - 127				
4-Methyl-2-pentanone	33.88	2.0	40	0	84.7	67 - 130				
Acetone	27.91	2.0	40	0	69.8	39 - 160				
Benzene	18.63	1.0	20	0	93.1	79 - 120				
Bromobenzene	18.57	1.0	20	0	92.9	80 - 120				
Bromochloromethane	16.28	1.0	20	0	81.4	78 - 123				
Bromodichloromethane	17.01	1.0	20	0	85.1	79 - 125				
Bromoform	14.2	1.0	20	0	71.0	66 - 130				

ALS Houston, US Date: 06-Jun-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP37 May 2022
WorkOrder: HS22050805

QC BATCH REPORT

Batch ID: R409090 (0) **Instrument: VOA9** **Method: VOLATILES ORGANICS BY METHOD 8260C**

MS Sample ID: **HS22050828-03MS** Units: **ug/L** Analysis Date: **21-May-2022 14:07**
Client ID: Run ID: **VOA9_409090** SeqNo: **6657867** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromomethane	19.57	1.0	20	0	97.8	53 - 141				
Carbon disulfide	32.95	2.0	40	0	82.4	64 - 133				
Carbon tetrachloride	16.72	1.0	20	0	83.6	72 - 136				
Chlorobenzene	18.43	1.0	20	0	92.1	82 - 118				
Chloroethane	16.49	1.0	20	0	82.4	60 - 138				
Chloroform	16.4	1.0	20	0	82.0	79 - 124				
Chloromethane	15.32	1.0	20	0	76.6	50 - 139				
cis-1,2-Dichloroethene	16.22	1.0	20	0	81.1	78 - 123				
cis-1,3-Dichloropropene	15.22	1.0	20	0	76.1	75 - 124				
Dibromochloromethane	15.72	1.0	20	0	78.6	74 - 126				
Dibromomethane	17.13	1.0	20	0	85.6	79 - 123				
Dichlorodifluoromethane	12.83	1.0	20	0	64.1	32 - 152				
Ethylbenzene	19.46	1.0	20	0	97.3	79 - 121				
Hexachlorobutadiene	18.85	1.0	20	0	94.2	66 - 134				
Isopropylbenzene	19.87	1.0	20	0	99.4	72 - 131				
m,p-Xylene	39.62	2.0	40	0	99.0	80 - 121				
Methylene chloride	15.83	2.0	20	0	79.1	74 - 124				
Naphthalene	14.38	1.0	20	0	71.9	61 - 128				
n-Butylbenzene	17.35	1.0	20	0	86.8	75 - 128				
n-Propylbenzene	19.91	1.0	20	0	99.6	76 - 126				
o-Xylene	20.22	1.0	20	0	101	78 - 122				
sec-Butylbenzene	16.57	1.0	20	0	82.9	77 - 126				
Styrene	17.56	1.0	20	0	87.8	78 - 123				
tert-Butylbenzene	18.7	1.0	20	0	93.5	78 - 124				
Tetrachloroethene	30.39	1.0	20	9.363	105	74 - 129				
Toluene	20.56	1.0	20	0	103	80 - 121				
trans-1,2-Dichloroethene	16.44	1.0	20	0	82.2	75 - 124				
trans-1,3-Dichloropropene	15.04	1.0	20	0	75.2	73 - 127				
Trichloroethene	19.85	1.0	20	1.773	90.4	79 - 123				
Trichlorofluoromethane	16.96	1.0	20	0	84.8	65 - 141				
Vinyl chloride	16.23	1.0	20	0	81.2	58 - 137				
Surr: 1,2-Dichloroethane-d4	*45.45*	*1.0*	*50*	*0*	*90.9*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*51.16*	*1.0*	*50*	*0*	*102*	*85 - 114*				
Surr: Dibromofluoromethane	*44.33*	*1.0*	*50*	*0*	*88.7*	*80 - 119*				

ALS Houston, US Date: 06-Jun-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP37 May 2022
WorkOrder: HS22050805

QC BATCH REPORT

Batch ID: R409090 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS22050828-03MS** Units: **ug/L** Analysis Date: **21-May-2022 14:07**
Client ID: Run ID: **VOA9_409090** SeqNo: **6657867** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Surr: Toluene-d8	*55.61*	*1.0*	*50*	*0*	*111*	*89 - 112*				

ALS Houston, US Date: 06-Jun-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP37 May 2022
WorkOrder: HS22050805

QC BATCH REPORT

Batch ID: R409090 (0) **Instrument: VOA9** **Method: VOLATILES ORGANICS BY METHOD 8260C**

MSD Sample ID: **HS22050828-03MSD** Units: **ug/L** Analysis Date: **21-May-2022 14:29**
Client ID: Run ID: **VOA9_409090** SeqNo: **6657868** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	17.7	1.0	20	0	88.5	78 - 124	17.79	0.549	20	
1,1,1-Trichloroethane	16.8	1.0	20	0	84.0	74 - 131	17.08	1.67	20	
1,1,2,2-Tetrachloroethane	19.74	1.0	20	0	98.7	71 - 121	19.48	1.34	20	
1,1,2-Trichlor-1,2,2-trifluoroethane	20.03	1.0	20	0	100	70 - 136	20.53	2.48	20	
1,1,2-Trichloroethane	18.24	1.0	20	0	91.2	80 - 119	18.2	0.208	20	
1,1-Dichloroethane	16.3	1.0	20	0	81.5	77 - 125	16.39	0.549	20	
1,1-Dichloroethene	16.67	1.0	20	0	83.3	71 - 131	16.75	0.492	20	
1,1-Dichloropropene	18.07	1.0	20	0	90.4	78 - 125	18.18	0.588	20	
1,2,3-Trichlorobenzene	18.2	1.0	20	0	91.0	69 - 129	15.95	13.2	20	
1,2,3-Trichloropropane	16.76	1.0	20	0	83.8	73 - 122	17.09	2	20	
1,2,4-Trichlorobenzene	17.17	1.0	20	0	85.8	69 - 130	14.99	13.5	20	
1,2,4-Trimethylbenzene	18.29	1.0	20	0	91.5	76 - 124	17.86	2.38	20	
1,2-Dibromo-3-chloropropane	15.41	1.0	20	0	77.1	62 - 128	15	2.71	20	
1,2-Dibromoethane	18	1.0	20	0	90.0	77 - 121	18.29	1.57	20	
1,2-Dichlorobenzene	18.39	1.0	20	0	91.9	80 - 119	18.1	1.6	20	
1,2-Dichloroethane	17.53	1.0	20	0	87.7	73 - 128	17.25	1.61	20	
1,2-Dichloropropane	18.06	1.0	20	0	90.3	78 - 122	18.42	1.98	20	
1,3,5-Trimethylbenzene	18.4	1.0	20	0	92.0	75 - 124	18.22	1.01	20	
1,3-Dichlorobenzene	18.82	1.0	20	0	94.1	80 - 119	18.52	1.58	20	
1,3-Dichloropropane	18.18	1.0	20	0	90.9	80 - 119	18.35	0.939	20	
1,4-Dichlorobenzene	17.97	1.0	20	0	89.8	79 - 118	17.68	1.61	20	
2,2-Dichloropropane	16.81	1.0	20	0	84.1	60 - 139	17.08	1.6	20	
2-Butanone	29.34	2.0	40	0	73.3	56 - 143	27.93	4.91	20	
2-Chlorotoluene	20.94	1.0	20	0	105	79 - 122	20.65	1.38	20	
2-Hexanone	34.67	2.0	40	0	86.7	57 - 139	32.68	5.9	20	
4-Chlorotoluene	20.39	1.0	20	0	102	78 - 122	20.05	1.65	20	
4-Isopropyltoluene	17.19	1.0	20	0	85.9	77 - 127	16.61	3.41	20	
4-Methyl-2-pentanone	35.79	2.0	40	0	89.5	67 - 130	33.88	5.46	20	
Acetone	27.79	2.0	40	0	69.5	39 - 160	27.91	0.45	20	
Benzene	18.62	1.0	20	0	93.1	79 - 120	18.63	0.0326	20	
Bromobenzene	18.81	1.0	20	0	94.1	80 - 120	18.57	1.27	20	
Bromochloromethane	15.94	1.0	20	0	79.7	78 - 123	16.28	2.15	20	
Bromodichloromethane	17.05	1.0	20	0	85.2	79 - 125	17.01	0.192	20	
Bromoform	14.21	1.0	20	0	71.0	66 - 130	14.2	0.0283	20	

ALS Houston, US Date: 06-Jun-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP37 May 2022
WorkOrder: HS22050805

QC BATCH REPORT

Batch ID: R409090 (0) **Instrument: VOA9** **Method: VOLATILES ORGANICS BY METHOD 8260C**

MSD Sample ID: **HS22050828-03MSD** Units: **ug/L** Analysis Date: **21-May-2022 14:29**
Client ID: Run ID: **VOA9_409090** SeqNo: **6657868** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Bromomethane	19.02	1.0	20	0	95.1	53 - 141	19.57	2.83	20	
Carbon disulfide	32.94	2.0	40	0	82.3	64 - 133	32.95	0.0278	20	
Carbon tetrachloride	16.87	1.0	20	0	84.3	72 - 136	16.72	0.862	20	
Chlorobenzene	18.26	1.0	20	0	91.3	82 - 118	18.43	0.921	20	
Chloroethane	16.01	1.0	20	0	80.0	60 - 138	16.49	2.96	20	
Chloroform	16.39	1.0	20	0	82.0	79 - 124	16.4	0.0392	20	
Chloromethane	15.45	1.0	20	0	77.2	50 - 139	15.32	0.827	20	
cis-1,2-Dichloroethene	16.05	1.0	20	0	80.3	78 - 123	16.22	1.06	20	
cis-1,3-Dichloropropene	15.12	1.0	20	0	75.6	75 - 124	15.22	0.679	20	
Dibromochloromethane	15.87	1.0	20	0	79.4	74 - 126	15.72	0.955	20	
Dibromomethane	17.13	1.0	20	0	85.6	79 - 123	17.13	0.00714	20	
Dichlorodifluoromethane	12.67	1.0	20	0	63.4	32 - 152	12.83	1.2	20	
Ethylbenzene	19.75	1.0	20	0	98.8	79 - 121	19.46	1.49	20	
Hexachlorobutadiene	18.92	1.0	20	0	94.6	66 - 134	18.85	0.378	20	
Isopropylbenzene	20.12	1.0	20	0	101	72 - 131	19.87	1.21	20	
m,p-Xylene	39.57	2.0	40	0	98.9	80 - 121	39.62	0.125	20	
Methylene chloride	15.65	2.0	20	0	78.3	74 - 124	15.83	1.11	20	
Naphthalene	17.23	1.0	20	0	86.1	61 - 128	14.38	18	20	
n-Butylbenzene	18.86	1.0	20	0	94.3	75 - 128	17.35	8.3	20	
n-Propylbenzene	20.1	1.0	20	0	101	76 - 126	19.91	0.948	20	
o-Xylene	20.1	1.0	20	0	101	78 - 122	20.22	0.577	20	
sec-Butylbenzene	17.62	1.0	20	0	88.1	77 - 126	16.57	6.16	20	
Styrene	17.57	1.0	20	0	87.9	78 - 123	17.56	0.0477	20	
tert-Butylbenzene	19.35	1.0	20	0	96.7	78 - 124	18.7	3.4	20	
Tetrachloroethene	30.92	1.0	20	9.363	108	74 - 129	30.39	1.71	20	
Toluene	20.62	1.0	20	0	103	80 - 121	20.56	0.299	20	
trans-1,2-Dichloroethene	15.96	1.0	20	0	79.8	75 - 124	16.44	2.98	20	
trans-1,3-Dichloropropene	14.96	1.0	20	0	74.8	73 - 127	15.04	0.474	20	
Trichloroethene	19.37	1.0	20	1.773	88.0	79 - 123	19.85	2.47	20	
Trichlorofluoromethane	16.81	1.0	20	0	84.0	65 - 141	16.96	0.942	20	
Vinyl chloride	16.16	1.0	20	0	80.8	58 - 137	16.23	0.445	20	
Surr: 1,2-Dichloroethane-d4	*45.14*	*1.0*	*50*	*0*	*90.3*	*81 - 118*	*45.45*	*0.669*	*20*	
Surr: 4-Bromofluorobenzene	*50.75*	*1.0*	*50*	*0*	*102*	*85 - 114*	*51.16*	*0.793*	*20*	
Surr: Dibromofluoromethane	*43.88*	*1.0*	*50*	*0*	*87.8*	*80 - 119*	*44.33*	*1.01*	*20*	

ALS Houston, US Date: 06-Jun-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP37 May 2022
WorkOrder: HS22050805

QC BATCH REPORT

Batch ID: R409090 (0) **Instrument: VOA9** **Method: VOLATILES ORGANICS BY METHOD 8260C**

MSD Sample ID: **HS22050828-03MSD** Units: **ug/L** Analysis Date: **21-May-2022 14:29**
Client ID: Run ID: **VOA9_409090** SeqNo: **6657868** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Surr: Toluene-d8	*54.7*	*1.0*	*50*	*0*	*109*	*89 - 112*	*55.61*	*1.64*	*20*	

The following samples were analyzed in this batch: HS22050805-01 HS22050805-02 HS22050805-03 HS22050805-05 HS22050805-06

ALS Houston, US Date: 06-Jun-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP37 May 2022
WorkOrder: HS22050805

QC BATCH REPORT

Batch ID: R408908 (0) **Instrument: ICS-Integrion** **Method: ANIONS BY SW9056A**

MBLK Sample ID: **MBLK** Units: **mg/L** Analysis Date: **18-May-2022 18:20**
Client ID: Run ID: **ICS-Integrion_408908** SeqNo: **6653603** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	0.500	0.500								U
Nitrogen, Nitrate (As N)	0.100	0.100								U
Sulfate	0.500	0.500								U

LCS Sample ID: **LCS** Units: **mg/L** Analysis Date: **18-May-2022 18:25**
Client ID: Run ID: **ICS-Integrion_408908** SeqNo: **6653604** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	20.81	0.500	20	0	104	80 - 120				
Nitrogen, Nitrate (As N)	4.181	0.100	4	0	105	80 - 120				
Sulfate	20.59	0.500	20	0	103	80 - 120				

MS Sample ID: **HS22050805-04MS** Units: **mg/L** Analysis Date: **18-May-2022 20:11**
Client ID: **35BWW08-220517** Run ID: **ICS-Integrion_408908** SeqNo: **6653619** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	13.92	0.500	10	3.146	108	80 - 120				
Nitrogen, Nitrate (As N)	2.225	0.100	2	0.1065	106	80 - 120				
Sulfate	32.73	0.500	10	22.53	102	80 - 120				

MSD Sample ID: **HS22050805-04MSD** Units: **mg/L** Analysis Date: **18-May-2022 20:16**
Client ID: **35BWW08-220517** Run ID: **ICS-Integrion_408908** SeqNo: **6653620** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	13.91	0.500	10	3.146	108	80 - 120	13.92	0.0503	20	
Nitrogen, Nitrate (As N)	2.23	0.100	2	0.1065	106	80 - 120	2.225	0.233	20	
Sulfate	32.77	0.500	10	22.53	102	80 - 120	32.73	0.104	20	

The following samples were analyzed in this batch: HS22050805-02 HS22050805-04 HS22050805-05 HS22050805-06

ALS Houston, US Date: 06-Jun-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP37 May 2022
WorkOrder: HS22050805

QC BATCH REPORT

Batch ID: R410004 (0) **Instrument: TOC_04** **Method: TOTAL ORGANIC CARBON BY SW9060A**

MBLK Sample ID: **MBLK-06032022** Units: **mg/L** Analysis Date: **04-Jun-2022 07:57**
Client ID: Run ID: **TOC_04_410004** SeqNo: **6678290** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	1.00	1.00								U

LCS Sample ID: **LCS-06032022** Units: **mg/L** Analysis Date: **04-Jun-2022 08:12**
Client ID: Run ID: **TOC_04_410004** SeqNo: **6678291** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	9.292	1.00	10	0	92.9	85 - 115				

LCSD Sample ID: **LCSD-06032022** Units: **mg/L** Analysis Date: **04-Jun-2022 08:27**
Client ID: Run ID: **TOC_04_410004** SeqNo: **6678292** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	9.522	1.00	10	0	95.2	85 - 115	9.292	2.44	20	

MS Sample ID: **HS22050805-04MS** Units: **mg/L** Analysis Date: **04-Jun-2022 09:58**
Client ID: **35BWW08-220517** Run ID: **TOC_04_410004** SeqNo: **6678298** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	9.499	1.00	10	0.828	86.7	80 - 120				

The following samples were analyzed in this batch: HS22050805-02 HS22050805-04 HS22050805-05 HS22050805-06

ALS Houston, US Date: 06-Jun-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP37 May 2022
WorkOrder: **HS22050805**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitaion Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

Unit Reported	Description
mg/L	Milligrams per Liter

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Dept of Defense	L21-682	31-Dec-2023
Florida	E87611-34	30-Jun-2022
Illinois	2000322022-9	09-May-2023
Kansas	E-10352 2021-2022	31-Jul-2022
Louisiana	03087, 2021-2022	30-Jun-2022
Maryland	343, 2021-2022	30-Jun-2022
North Carolina	624-2022	31-Dec-2022
Oklahoma	2021-080	31-Aug-2022
Texas	T104704231-22-29	30-Apr-2023
Utah	TX026932021-12	30-Jul-2022

ALS Houston, US Date: 06-Jun-22

Sample Receipt Checklist

Work Order ID: HS22050805 **Date/Time Received:** **18-May-2022 09:40**

Client Name: CBI-Houston **Received by:** **Corey Grandits**

Completed By: /S/ Corey Grandits (eSignature) 18-May-2022 14:14 (Date/Time) **Reviewed by:** /S/ Dane J. Wacasey (eSignature) 20-May-2022 08:57 (Date/Time)

Matrices: **W** Carrier name: **FedEx**

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
VOA/TX1005/TX1006 Solids in hermetically sealed vials?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	1 Page(s)
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Samplers name present on COC?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	

Temperature(s)/Thermometer(s):	4.0uc/4.5c	IR31
Cooler(s)/Kit(s):	47487	
Date/Time sample(s) sent to storage:	5/18/2022	

Water - VOA vials have zero headspace?	Yes ☑	No ☐	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☑	No ☐	N/A ☐
pH adjusted?	Yes ☐	No ☑	N/A ☐
pH adjusted by:			

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:

CHAIN OF CUSTODY

Name Of Lab Shipping To: ALS 10450 Stancliff Rd. Suite 210 Houston, TX. 77099 (281) 530-5656 ATTN: Ragen Giga

Project: APTIM LONGHORN
ARMY AMMN. PLANT (LHAAP)
GROUNDWATER TREATMENT PLANT (GWTP)
KARNACK, TEXAS

Project No. 501032

Job: **LHAAP 37 May 2022**

Prepared By: Scott Beesinger

P.O. Number

Field Sample I.D.	Sample Matrix	Date / Time	MS / MSD	No. OF CONTAINERS	Analyses: VOC by SW 8260B	TOC by SM5310C	MEE by RSK 175	Anions (chloride sulfate, nitrate) by SW9056	CO2 by RSK 175	Remarks (Preservatives, etc.)	Lab I.D.#
35BWW25-220516	WG	5/16/22 1310		3	X						
35BWW26-220517	WG	5/17/22 0730		12	X	X	X	X	X		
35BWW01-220517	WG	5/17/22 0820		3	X						
35BWW08-220517	WG	5/17/22 0905		12	X	X	X	X	X		
35BWW08-220517-MS	WG	5/17/22 0905		12	X	X	X	X	X		
35BWW08-220517-MSD	WG	5/17/22 0905		12	X	X	X	X	X		
35BWW04-220517	WG	5/17/22 1000		12	X	X	X	X	X		
35BWW04-220517-FD	WG	5/17/22 1000		12	X	X	X	X	X		

HS22050805

Aptim Environmental & Infrastucture, Inc.
LHAAP37 May 2022

Additional Remarks: **Standard TAT on all parameters. Please email results to Vicki.Graves@aptim.com and invoices to fedinvoices@aptim.com**

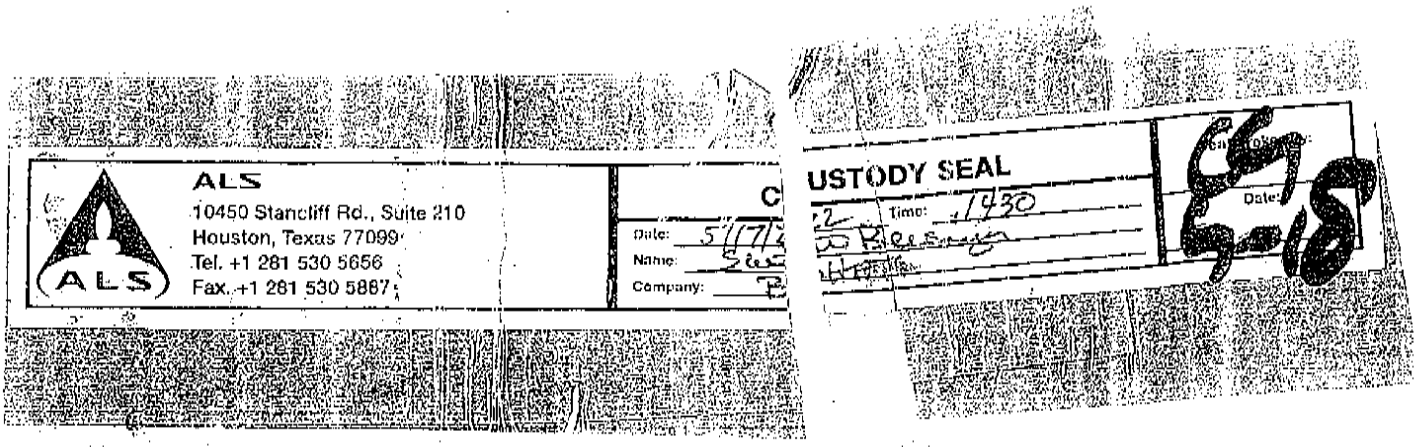
Relinquished By:	Date	Time	Received By:	Date	Time	Relinquished By:	Date	Time	Received By:	Date	Time
Scott Beesinger	5/17/22	1430	FEDEX	5-18-22	0945						

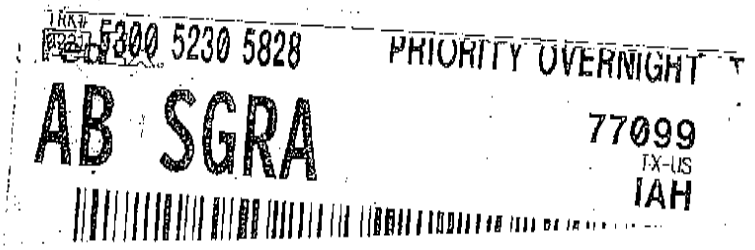
For Lab Use Only

Received At Lab By:	Date	Time	Airbill No.	Opened By:	Date	Time	Temp of Container	Seal No.	Condition
							4.0°C		

Remarks: IR#1 47487 4°C-6°C

(Word) S:\U-ces\Forms\Chain of Custody - BiWeekly


ALS
10450 Stancliff Rd., Suite 210
Houston, Texas 77099
Tel. +1 281 530 5656
Fax. +1 281 530 5887
Date:
Name:
Company:
USTODY SEAL
Time:
Date:


5300 5230 5828
PRIORITY OVERNIGHT
AB SGRA
77099
TX-US
IAH

Pace Analytical®

LELAP CERTIFICATE NUMBER: 01955
DOD-ELAP ACCREDITATION NUMBER: 74960

ANALYTICAL RESULTS

PERFORMED BY

Pace Analytical Gulf Coast
7979 Innovation Park Dr.
Baton Rouge, LA 70820
(225) 769-4900

Report Date 06/05/2022

Report # 222052003

Project HS-22050805HS

Samples Collected 5/17/22

Deliver To	***Additional Recipients***
Dane Wacasey ALS 10450 Stancliff Rd., Ste 210 Houston, TX 770994338	Jumoke Lawal, ALS Houston

PJLA Testing DoD ELAP

ISO 17025

NELAP ACCREDITED TNI LABORATORY

Laboratory Endorsement

Sample analysis was performed in accordance with approved methodologies provided by the Environmental Protection Agency or other recognized agencies. The samples and their corresponding extracts will be maintained for a period of 30 days unless otherwise arranged. Following this retention period the samples will be disposed in accordance with Pace Gulf Coast's Standard Operating Procedures.

Common Abbreviations that may be Utilized in this Report

ND	Indicates the result was Not Detected at the specified reporting limit
NO	Indicates the sample did not ignite when preliminary test performed for EPA Method 1030
DO	Indicates the result was Diluted Out
MI	Indicates the result was subject to Matrix Interference
TNTC	Indicates the result was Too Numerous To Count
SUBC	Indicates the analysis was Sub-Contracted
FLD	Indicates the analysis was performed in the Field
DL	Detection Limit
LOD	Limit of Detection
LOQ	Limit of Quantitation
RE	Re-analysis
CF	HPLC or GC Confirmation
00:01	Reported as a time equivalent to 12:00 AM

Reporting Flags that may be Utilized in this Report

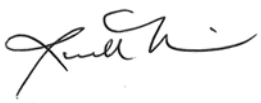
J or I	Indicates the result is between the MDL and LOQ
J	DOD flag on analyte in the parent sample for MS/MSD outside acceptance criteria
U	Indicates the compound was analyzed for but not detected
B or V	Indicates the analyte was detected in the associated Method Blank
Q	Indicates a non-compliant QC Result (See Q Flag Application Report)
*****	Indicates a non-compliant or not applicable QC recovery or RPD – see narrative
E	Organics - The result is estimated because it exceeded the instrument calibration range
E	Metals - % diference for the serial dilution is > 10%
L	Reporting Limits adjusted to meet risk-based limit.
P	RPD between primary and confirmation result is greater than 40
DL	Diluted analysis – when appended to Client Sample ID

Sample receipt at Pace Gulf Coast is documented through the attached chain of custody. In accordance with NELAC, this report shall be reproduced only in full and with the written permission of Pace Gulf Coast. The results contained within this report relate only to the samples reported. The documented results are presented within this report.

This report pertains only to the samples listed in the Report Sample Summary and should be retained as a permanent record thereof. The results contained within this report are intended for the use of the client. Any unauthorized use of the information contained in this report is prohibited.

I certify that this data package is in compliance with The NELAC Institute (TNI) Standard 2009 and terms and conditions of the contract and Statement of Work both technically and for completeness, for other than the conditions in the case narrative. Release of the data contained in this hardcopy data package and in the computer readable data submitted has been authorized by the Quality Assurance Manager or his/her designee, as verified by the following signature.

Estimated uncertainty of measurement is available upon request. This report is in compliance with the DOD QSM as specified in the contract if applicable.



Authorized Signature
Pace Gulf Coast Report 222052003

Certifications

Certification	Certification Number
DOD ELAP	74960
Alabama	01955
Arkansas	88-0655
Colorado	01955
Delaware	01955
Florida	E87854
Georgia	01955
Hawaii	01955
Idaho	01955
Illinois	200048
Indiana	01955
Kansas	E-10354
Kentucky	95
Louisiana	01955
Maryland	01955
Massachusetts	01955
Michigan	01955
Mississippi	01955
Missouri	01955
Montana	N/A
Nebraska	01955
New Mexico	01955
North Carolina	618
North Dakota	R-195
Oklahoma	9403
South Carolina	73006001
South Dakota	01955
Tennessee	01955
Texas	T104704178
Vermont	01955
Virginia	460215
Washington	C929
USDA Soil Permit	P330-16-00234

Case Narrative

Client: ALS Environmental - Houston, TX **Report:** 222052003

Pace Analytical Gulf Coast received and analyzed the sample(s) listed
on the Report Sample Summary page of this report. Receipt of the sample(s) is documented
by the attached chain of custody. This applies only to the sample(s) listed in this report.
No sample integrity or quality control exceptions were identified unless noted below.

This report was completed in accordance with DOD QSM 5.3 as specified in the contract.

VOLATILES GAS CHROMATOGRAPHY

In the EPA RSK-175 analysis for analytical batch 742104, the MS/MSD recoveries and RPDs are not applicable to Carbon Dioxide because the spike was diluted out of the samples. The LCS recovery is acceptable.

Pace Analytical

Report#: 222052003
Project ID: HS-22050805HS **Report Date:** 06/05/2022

Sample Summary

Lab ID	Client ID	Matrix	Collect Date	Receive Date
22205200301	35BWW26-220517	Water	5/17/22 07:30	5/19/22 09:48
22205200302	35BWW08-220517	Water	5/17/22 09:05	5/19/22 09:48
22205200303	35BWW08-220517-MS	Water	5/17/22 09:05	5/19/22 09:48
22205200304	35BWW08-220517-MSD	Water	5/17/22 09:05	5/19/22 09:48
22205200305	35BWW04-220517	Water	5/17/22 10:00	5/19/22 09:48
22205200306	35BWW04-220517-FD	Water	5/17/22 10:00	5/19/22 09:48

Pace Analytical

Report#: 222052003
Project ID: HS-22050805HS **Report Date:** 06/05/2022

Test Summary

EPA RSK-175					
Lab ID	**Client ID**	**Matrix**	**Batch**	**Instru**	**RunDate**
22205200301	35BWW26-220517	Water	742104	GCV8B	5/31/22 10:40
22205200302	35BWW08-220517	Water	742104	GCV8B	5/31/22 10:49
22205200303	35BWW08-220517-MS	Water	742104	GCV8B	5/31/22 11:00
22205200304	35BWW08-220517-MSD	Water	742104	GCV8B	5/31/22 11:10
22205200305	35BWW04-220517	Water	742104	GCV8B	5/31/22 11:18
22205200306	35BWW04-220517-FD	Water	742104	GCV8B	5/31/22 11:23

Manual Integrations

Manual Integrations for LC and IC (if performed) are documented in the raw data.
No other manual integrations were performed by Pace Gulf Coast.

Q Flag Summary

NO Q FLAGS FOR THIS WORKORDER

Detect Summary

Results and Detection Limits are adjusted for dilution and moisture when applicable

EPA RSK-175						
Lab ID	**Client ID**	**Parameter**	**Units**	**Result**	**Dil.**	**%Moist**
22205200301	35BWW26-220517	Carbon Dioxide	ug/L	149000	20	NA
22205200302	35BWW08-220517	Carbon Dioxide	ug/L	55800J	20	NA
22205200305	35BWW04-220517	Carbon Dioxide	ug/L	253000	20	NA
22205200306	35BWW04-220517-FD	Carbon Dioxide	ug/L	215000	20	NA

Pace Analytical

Report#: 222052003
Project ID: HS-22050805HS **Report Date:** 06/05/2022

Sample Results

35BWW26-220517

Collect Date	05/17/2022 07:30	**Lab ID**	22205200301
Receive Date	05/19/2022 09:48	**Matrix**	Water

EPA RSK-175 *Results and limits are adjusted for dilution.

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
NA	NA	NA	20	05/31/22 10:40	742104	AWE	NA

CAS#	Parameter	Result	DL	LOD	LOQ	Units
124-38-9	Carbon Dioxide	149000	2540	7720	18000	ug/L

35BWW08-220517

Collect Date	05/17/2022 09:05	**Lab ID**	22205200302
Receive Date	05/19/2022 09:48	**Matrix**	Water

EPA RSK-175 *Results and limits are adjusted for dilution.

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
NA	NA	NA	20	05/31/22 10:49	742104	AWE	NA

CAS#	Parameter	Result	DL	LOD	LOQ	Units
124-38-9	Carbon Dioxide	55800J	2540	7720	18000	ug/L

35BWW08-220517-MS

Collect Date	05/17/2022 09:05	**Lab ID**	22205200303
Receive Date	05/19/2022 09:48	**Matrix**	Water

EPA RSK-175 *Results and limits are adjusted for dilution.

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
NA	NA	NA	20	05/31/22 11:00	742104	AWE	NA

CAS#	Parameter	Result	DL	LOD	LOQ	Units
124-38-9	Carbon Dioxide	98800	2540	7720	18000	ug/L

35BWW08-220517-MSD

Collect Date	05/17/2022 09:05	**Lab ID**	22205200304
Receive Date	05/19/2022 09:48	**Matrix**	Water

EPA RSK-175 *Results and limits are adjusted for dilution.

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
NA	NA	NA	20	05/31/22 11:10	742104	AWE	NA

CAS#	Parameter	Result	DL	LOD	LOQ	Units
124-38-9	Carbon Dioxide	123000	2540	7720	18000	ug/L

Pace Analytical

Report#: 222052003
Project ID: HS-22050805HS **Report Date:** 06/05/2022

Sample Results

35BWW04-220517

Collect Date 05/17/2022 10:00 **Lab ID** 22205200305
Receive Date 05/19/2022 09:48 **Matrix** Water

EPA RSK-175

*Results and limits are adjusted for dilution.

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
NA	NA	NA	20	05/31/22 11:18	742104	AWE	NA

CAS#	Parameter	Result	DL	LOD	LOQ	Units
124-38-9	Carbon Dioxide	253000	2540	7720	18000	ug/L

35BWW04-220517-FD

Collect Date 05/17/2022 10:00 **Lab ID** 22205200306
Receive Date 05/19/2022 09:48 **Matrix** Water

EPA RSK-175

*Results and limits are adjusted for dilution.

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
NA	NA	NA	20	05/31/22 11:23	742104	AWE	NA

CAS#	Parameter	Result	DL	LOD	LOQ	Units
124-38-9	Carbon Dioxide	215000	2540	7720	18000	ug/L

Pace Analytical

Report#: 222052003
Project ID: HS-22050805HS **Report Date:** 06/05/2022

GC Volatiles QC Summary

Analytical Batch 742104	Client ID	MB742104		LCS742104				LCSD742104				
	Lab ID	2353316		2353317				2353318				
	Sample Type	MB		LCS				LCSD				
	Prep Date	NA		NA				NA				
	Analysis Date	05/31/22 10:26		05/31/22 10:10				05/31/22 10:17				
	Matrix	Water		Water				Water				
EPA RSK-175		Units Result	ug/L LOD	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
Carbon Dioxide	124-38-9	386U	386	8700	7880	91	38 - 147	8700	7640	88	3	40

Analytical Batch 742104	Client ID	35BWW08-220517		35BWW08-220517-MS				35BWW08-220517-MSD				
	Lab ID	22205200302		22205200303				22205200304				
	Sample Type	SAMPLE		MS				MSD				
	Prep Date	NA		NA				NA				
	Analysis Date	05/31/2022 10:49		05/31/22 11:00				05/31/22 11:10				
	Matrix	Water		Water				Water				
EPA RSK-175		Units Result	ug/L LOD	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
Carbon Dioxide	124-38-9	55800	7720	5800	98800	**741***	38 - 147	5800	123000	**1160***	22	40

Client ID: ALS Houston - ALS Environmental - Houston, TX

SDG: 222052003

PM: RWe

F: +1 281 530 5887
www.alsglobal.com

Subcontract Chain of Custody

SAMPLING STATE: Dept of Defense **COC ID:** 18792

SUBCONTRACT TO:

Pace Analytical
7979 Innovation Park Drive
Baton Rouge, LA 70820

Phone: +1 225 769 4900

CUSTOMER INFORMATION:

Company:	ALS Houston
Contact:	Ragen Giga
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Email:	RagenP.Giga@ALSGlobal.com
Alternate Contact:	Jumoke M. Lawal
Email:	jumoke.lawal@alsglobal.com

INVOICE INFORMATION:

Company:	ALS Houston
Contact:	Accounts Payable
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Reference:	HS22050805
TSR:	Ron Martino

	LAB SAMPLE ID / ANALYSIS REQUESTED	CLIENT SAMPLE ID	MATRIX	COLLECT DATE / DUE DATE	
1.	**HS22050805-02**	**35BWW26-220517**	**Water**	**17 May 2022 07:30**	1
	SUB_RSK			02 Jun 2022	
2.	**HS22050805-04**	**35BWW08-220517**	**Water**	**17 May 2022 09:05**	2
	SUB_RSK			02 Jun 2022	
3.	**HS22050805-05**	**35BWW04-220517**	**Water**	**17 May 2022 10:00**	3,4,5
	SUB_RSK			02 Jun 2022	
4.	**HS22050805-06**	**35BWW04-220517-FD**	**Water**	**17 May 2022 10:00**	6
	SUB_RSK			02 Jun 2022	

Comments: Please analyze for the analysis listed above.
Send report to the emails shown above.
HS22050805-04 MS/MSD

QC Level: DOD IV (DoD Data Package)

Relinquished By: _____ Date/Time: 5.12.22 18.00

Received By: _____ Date/Time: _____

Cooler ID(s): _____ Temperature(s): _____

5300
5231
6608

Fed Ex

5/19/22 0948

5/19/22 0948

E30
0.3

Pace Analytical®

SAMPLE RECEIVING CHECKLIST

222052003

SAMPLE DELIVERY GROUP 222052003	
Client **PM** RWe ALS Houston - ALS Environmental - Houston, TX	**Transport Method** FEDEX
Profile Number 294458	**Received By** Perkins, Brennan Perkins, Brennan
Line Item(s) 1 - CO2	**Receive Date(s)** 05/19/22

CHECKLIST	YES	NO
Samples received with proper thermal preservation?	☑	☐
Radioactivity is <1600 cpm? If no, record cpm value in notes section.	☑	☐
COC relinquished and complete (including sampleIDs, collect times, and sampler)?	☑	☐
All containers received in good condition and within hold time?	☑	☐
All sample labels and containers received match the chain of custody?	☑	☐
Preservative added to any containers?	☐	☑
If received, was headspace for VOC water containers < 6mm?	☑	☐
Samples collected in containers provided by Pace Gulf Coast?	☑	☐

COOLERS

Airbill	Thermometer ID: E38	Temp °C
530052316608		0.3

DISCREPANCIES

None

LAB PRESERVATIONS

None

NOTES

Revision 1.6

10450 Stancliff Rd. Suite 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887

May 23, 2022

Vicki Graves
Aptim Environmental & Infrastucture, Inc.
10333 Richmond Ave
Ste 1030
Houston, TX 77042

Work Order: **HS22050827**

Laboratory Results for: **LHAAP37 May 2022**

Dear Vicki Graves ,

ALS Environmental received 8 sample(s) on May 18, 2022 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Generated By: JUMOKE.LAWAL
Dane J. Wacasey

ALS Houston, US Date: 23-May-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP37 May 2022
Work Order: HS22050827

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS22050827-01	35BWW10-220516	Water		16-May-2022 07:35	18-May-2022 09:40	☐
HS22050827-02	35BWW05-220516	Water		16-May-2022 08:20	18-May-2022 09:40	☐
HS22050827-03	35BWW07-220516	Water		16-May-2022 09:20	18-May-2022 09:40	☐
HS22050827-04	35BWW13-220516	Water		16-May-2022 10:05	18-May-2022 09:40	☐
HS22050827-05	35BWW16-220516	Water		16-May-2022 10:50	18-May-2022 09:40	☐
HS22050827-06	35BWW17-220516	Water		16-May-2022 11:35	18-May-2022 09:40	☐
HS22050827-07	35BWW24-220516	Water		16-May-2022 12:20	18-May-2022 09:40	☐
HS22050827-08	35BWW24-220516-FD	Water		16-May-2022 12:20	18-May-2022 09:40	☐

ALS Houston, US Date: 23-May-22

Client: Aptim Environmental & Infrastucture, Inc. **CASE NARRATIVE**
Project: LHAAP37 May 2022
Work Order: HS22050827

GCMS Volatiles by Method SW8260

Batch ID: R409090

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

Batch ID: R409050

Sample ID: VSTD050

- Iodomethane exceeded %D limits for CCV .Samples are ND for this compound.

Sample ID: HS22050805-04MS

- MS and MSD are for an unrelated sample

ALS Houston, US Date: 23-May-22

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: LHAAP37 May 2022 WorkOrder:HS22050827
Sample ID: 35BWW10-220516 Lab ID:HS22050827-01
Collection Date: 16-May-2022 07:35 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	20-May-2022 18:50
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	20-May-2022 18:50
1,1,2,2-Tetrachloroethane	0.50	U	0.50	0.50	1.0	ug/L	1	20-May-2022 18:50
1,1,2-Trichlor-1,2,2-trifluoroethane	0.50	U	0.50	0.50	1.0	ug/L	1	20-May-2022 18:50
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	20-May-2022 18:50
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	20-May-2022 18:50
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	20-May-2022 18:50
1,1-Dichloropropene	0.50	U	0.30	0.50	1.0	ug/L	1	20-May-2022 18:50
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	20-May-2022 18:50
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	20-May-2022 18:50
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	20-May-2022 18:50
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	20-May-2022 18:50
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	20-May-2022 18:50
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	20-May-2022 18:50
1,2-Dichlorobenzene	0.50	U	0.50	0.50	1.0	ug/L	1	20-May-2022 18:50
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	20-May-2022 18:50
1,2-Dichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	20-May-2022 18:50
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	20-May-2022 18:50
1,3-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	20-May-2022 18:50
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	20-May-2022 18:50
1,4-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	20-May-2022 18:50
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	20-May-2022 18:50
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	20-May-2022 18:50
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	20-May-2022 18:50
2-Hexanone	2.0	U	1.0	2.0	2.0	ug/L	1	20-May-2022 18:50
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	20-May-2022 18:50
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	20-May-2022 18:50
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	ug/L	1	20-May-2022 18:50
Acetone	2.0	U	0.40	2.0	2.0	ug/L	1	20-May-2022 18:50
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	20-May-2022 18:50
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	20-May-2022 18:50
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	20-May-2022 18:50
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	20-May-2022 18:50
Bromoform	0.50	U	0.40	0.50	1.0	ug/L	1	20-May-2022 18:50
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	20-May-2022 18:50
Carbon disulfide	2.0	U	0.60	2.0	2.0	ug/L	1	20-May-2022 18:50
Carbon tetrachloride	0.50	U	0.50	0.50	1.0	ug/L	1	20-May-2022 18:50
Chlorobenzene	0.50	U	0.30	0.50	1.0	ug/L	1	20-May-2022 18:50
Chloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	20-May-2022 18:50

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 23-May-22

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: LHAAP37 May 2022 WorkOrder:HS22050827
Sample ID: 35BWW10-220516 Lab ID:HS22050827-01
Collection Date: 16-May-2022 07:35 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	20-May-2022 18:50
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	20-May-2022 18:50
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	20-May-2022 18:50
cis-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	20-May-2022 18:50
Dibromochloromethane	0.50	U	0.30	0.50	1.0	ug/L	1	20-May-2022 18:50
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	20-May-2022 18:50
Dichlorodifluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	20-May-2022 18:50
Ethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	20-May-2022 18:50
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	20-May-2022 18:50
Isopropylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	20-May-2022 18:50
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	20-May-2022 18:50
Methylene chloride	2.0	U	0.40	2.0	2.0	ug/L	1	20-May-2022 18:50
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	20-May-2022 18:50
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	20-May-2022 18:50
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	20-May-2022 18:50
o-Xylene	0.50	U	0.30	0.50	1.0	ug/L	1	20-May-2022 18:50
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	20-May-2022 18:50
Styrene	0.50	U	0.30	0.50	1.0	ug/L	1	20-May-2022 18:50
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	20-May-2022 18:50
Tetrachloroethene	0.50	U	0.30	0.50	1.0	ug/L	1	20-May-2022 18:50
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	20-May-2022 18:50
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	20-May-2022 18:50
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	20-May-2022 18:50
Trichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	20-May-2022 18:50
Trichlorofluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	20-May-2022 18:50
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	20-May-2022 18:50
Surr: 1,2-Dichloroethane-d4	*104*			**0**	*81-118*	*%REC*	*1*	*20-May-2022 18:50*
Surr: 4-Bromofluorobenzene	*86.2*			**0**	*85-114*	*%REC*	*1*	*20-May-2022 18:50*
Surr: Dibromofluoromethane	*96.8*			**0**	*80-119*	*%REC*	*1*	*20-May-2022 18:50*
Surr: Toluene-d8	*111*			**0**	*89-112*	*%REC*	*1*	*20-May-2022 18:50*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 23-May-22

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: LHAAP37 May 2022 WorkOrder:HS22050827
Sample ID: 35BWW05-220516 Lab ID:HS22050827-02
Collection Date: 16-May-2022 08:20 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	20-May-2022 20:19
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	20-May-2022 20:19
1,1,2,2-Tetrachloroethane	0.50	U	0.50	0.50	1.0	ug/L	1	20-May-2022 20:19
1,1,2-Trichlor-1,2,2-trifluoroethane	**2.8**		**0.50**	**0.50**	**1.0**	**ug/L**	1	20-May-2022 20:19
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	20-May-2022 20:19
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	20-May-2022 20:19
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	20-May-2022 20:19
1,1-Dichloropropene	0.50	U	0.30	0.50	1.0	ug/L	1	20-May-2022 20:19
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	20-May-2022 20:19
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	20-May-2022 20:19
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	20-May-2022 20:19
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	20-May-2022 20:19
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	20-May-2022 20:19
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	20-May-2022 20:19
1,2-Dichlorobenzene	0.50	U	0.50	0.50	1.0	ug/L	1	20-May-2022 20:19
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	20-May-2022 20:19
1,2-Dichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	20-May-2022 20:19
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	20-May-2022 20:19
1,3-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	20-May-2022 20:19
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	20-May-2022 20:19
1,4-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	20-May-2022 20:19
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	20-May-2022 20:19
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	20-May-2022 20:19
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	20-May-2022 20:19
2-Hexanone	2.0	U	1.0	2.0	2.0	ug/L	1	20-May-2022 20:19
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	20-May-2022 20:19
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	20-May-2022 20:19
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	ug/L	1	20-May-2022 20:19
Acetone	2.0	U	0.40	2.0	2.0	ug/L	1	20-May-2022 20:19
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	20-May-2022 20:19
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	20-May-2022 20:19
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	20-May-2022 20:19
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	20-May-2022 20:19
Bromoform	0.50	U	0.40	0.50	1.0	ug/L	1	20-May-2022 20:19
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	20-May-2022 20:19
Carbon disulfide	2.0	U	0.60	2.0	2.0	ug/L	1	20-May-2022 20:19
Carbon tetrachloride	0.50	U	0.50	0.50	1.0	ug/L	1	20-May-2022 20:19
Chlorobenzene	0.50	U	0.30	0.50	1.0	ug/L	1	20-May-2022 20:19

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 23-May-22

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: LHAAP37 May 2022 WorkOrder:HS22050827
Sample ID: 35BWW05-220516 Lab ID:HS22050827-02
Collection Date: 16-May-2022 08:20 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
Chloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	20-May-2022 20:19
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	20-May-2022 20:19
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	20-May-2022 20:19
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	20-May-2022 20:19
cis-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	20-May-2022 20:19
Dibromochloromethane	0.50	U	0.30	0.50	1.0	ug/L	1	20-May-2022 20:19
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	20-May-2022 20:19
Dichlorodifluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	20-May-2022 20:19
Ethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	20-May-2022 20:19
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	20-May-2022 20:19
Isopropylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	20-May-2022 20:19
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	20-May-2022 20:19
Methylene chloride	2.0	U	0.40	2.0	2.0	ug/L	1	20-May-2022 20:19
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	20-May-2022 20:19
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	20-May-2022 20:19
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	20-May-2022 20:19
o-Xylene	0.50	U	0.30	0.50	1.0	ug/L	1	20-May-2022 20:19
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	20-May-2022 20:19
Styrene	0.50	U	0.30	0.50	1.0	ug/L	1	20-May-2022 20:19
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	20-May-2022 20:19
Tetrachloroethene	**4.1**		**0.30**	**0.50**	**1.0**	**ug/L**	1	20-May-2022 20:19
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	20-May-2022 20:19
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	20-May-2022 20:19
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	20-May-2022 20:19
Trichloroethene	**1.8**		**0.20**	**0.50**	**1.0**	**ug/L**	1	20-May-2022 20:19
Trichlorofluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	20-May-2022 20:19
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	20-May-2022 20:19
Surr: 1,2-Dichloroethane-d4	*103*			**0**	*81-118*	*%REC*	*1*	*20-May-2022 20:19*
Surr: 4-Bromofluorobenzene	*85.6*			**0**	*85-114*	*%REC*	*1*	*20-May-2022 20:19*
Surr: Dibromofluoromethane	*94.6*			**0**	*80-119*	*%REC*	*1*	*20-May-2022 20:19*
Surr: Toluene-d8	*111*			**0**	*89-112*	*%REC*	*1*	*20-May-2022 20:19*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 23-May-22

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: LHAAP37 May 2022 WorkOrder:HS22050827
Sample ID: 35BWW07-220516 Lab ID:HS22050827-03
Collection Date: 16-May-2022 09:20 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	20-May-2022 19:12
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	20-May-2022 19:12
1,1,2,2-Tetrachloroethane	0.50	U	0.50	0.50	1.0	ug/L	1	20-May-2022 19:12
1,1,2-Trichlor-1,2,2-trifluoroethane	0.50	U	0.50	0.50	1.0	ug/L	1	20-May-2022 19:12
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	20-May-2022 19:12
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	20-May-2022 19:12
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	20-May-2022 19:12
1,1-Dichloropropene	0.50	U	0.30	0.50	1.0	ug/L	1	20-May-2022 19:12
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	20-May-2022 19:12
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	20-May-2022 19:12
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	20-May-2022 19:12
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	20-May-2022 19:12
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	20-May-2022 19:12
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	20-May-2022 19:12
1,2-Dichlorobenzene	0.50	U	0.50	0.50	1.0	ug/L	1	20-May-2022 19:12
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	20-May-2022 19:12
1,2-Dichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	20-May-2022 19:12
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	20-May-2022 19:12
1,3-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	20-May-2022 19:12
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	20-May-2022 19:12
1,4-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	20-May-2022 19:12
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	20-May-2022 19:12
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	20-May-2022 19:12
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	20-May-2022 19:12
2-Hexanone	2.0	U	1.0	2.0	2.0	ug/L	1	20-May-2022 19:12
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	20-May-2022 19:12
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	20-May-2022 19:12
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	ug/L	1	20-May-2022 19:12
Acetone	2.0	U	0.40	2.0	2.0	ug/L	1	20-May-2022 19:12
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	20-May-2022 19:12
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	20-May-2022 19:12
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	20-May-2022 19:12
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	20-May-2022 19:12
Bromoform	0.50	U	0.40	0.50	1.0	ug/L	1	20-May-2022 19:12
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	20-May-2022 19:12
Carbon disulfide	2.0	U	0.60	2.0	2.0	ug/L	1	20-May-2022 19:12
Carbon tetrachloride	0.50	U	0.50	0.50	1.0	ug/L	1	20-May-2022 19:12
Chlorobenzene	0.50	U	0.30	0.50	1.0	ug/L	1	20-May-2022 19:12
Chloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	20-May-2022 19:12

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 23-May-22

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: LHAAP37 May 2022 WorkOrder:HS22050827
Sample ID: 35BWW07-220516 Lab ID:HS22050827-03
Collection Date: 16-May-2022 09:20 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	20-May-2022 19:12
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	20-May-2022 19:12
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	20-May-2022 19:12
cis-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	20-May-2022 19:12
Dibromochloromethane	0.50	U	0.30	0.50	1.0	ug/L	1	20-May-2022 19:12
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	20-May-2022 19:12
Dichlorodifluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	20-May-2022 19:12
Ethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	20-May-2022 19:12
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	20-May-2022 19:12
Isopropylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	20-May-2022 19:12
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	20-May-2022 19:12
Methylene chloride	2.0	U	0.40	2.0	2.0	ug/L	1	20-May-2022 19:12
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	20-May-2022 19:12
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	20-May-2022 19:12
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	20-May-2022 19:12
o-Xylene	0.50	U	0.30	0.50	1.0	ug/L	1	20-May-2022 19:12
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	20-May-2022 19:12
Styrene	0.50	U	0.30	0.50	1.0	ug/L	1	20-May-2022 19:12
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	20-May-2022 19:12
Tetrachloroethene	**1.1**		**0.30**	**0.50**	**1.0**	**ug/L**	1	20-May-2022 19:12
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	20-May-2022 19:12
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	20-May-2022 19:12
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	20-May-2022 19:12
Trichloroethene	**3.7**		**0.20**	**0.50**	**1.0**	**ug/L**	1	20-May-2022 19:12
Trichlorofluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	20-May-2022 19:12
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	20-May-2022 19:12
Surr: 1,2-Dichloroethane-d4	*104*			**0**	*81-118*	*%REC*	*1*	*20-May-2022 19:12*
Surr: 4-Bromofluorobenzene	*85.2*			**0**	*85-114*	*%REC*	*1*	*20-May-2022 19:12*
Surr: Dibromofluoromethane	*97.4*			**0**	*80-119*	*%REC*	*1*	*20-May-2022 19:12*
Surr: Toluene-d8	*111*			**0**	*89-112*	*%REC*	*1*	*20-May-2022 19:12*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 23-May-22

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: LHAAP37 May 2022 WorkOrder:HS22050827
Sample ID: 35BWW13-220516 Lab ID:HS22050827-04
Collection Date: 16-May-2022 10:05 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	20-May-2022 19:35
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	20-May-2022 19:35
1,1,2,2-Tetrachloroethane	0.50	U	0.50	0.50	1.0	ug/L	1	20-May-2022 19:35
1,1,2-Trichlor-1,2,2-trifluoroethane	0.50	U	0.50	0.50	1.0	ug/L	1	20-May-2022 19:35
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	20-May-2022 19:35
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	20-May-2022 19:35
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	20-May-2022 19:35
1,1-Dichloropropene	0.50	U	0.30	0.50	1.0	ug/L	1	20-May-2022 19:35
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	20-May-2022 19:35
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	20-May-2022 19:35
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	20-May-2022 19:35
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	20-May-2022 19:35
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	20-May-2022 19:35
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	20-May-2022 19:35
1,2-Dichlorobenzene	0.50	U	0.50	0.50	1.0	ug/L	1	20-May-2022 19:35
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	20-May-2022 19:35
1,2-Dichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	20-May-2022 19:35
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	20-May-2022 19:35
1,3-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	20-May-2022 19:35
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	20-May-2022 19:35
1,4-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	20-May-2022 19:35
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	20-May-2022 19:35
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	20-May-2022 19:35
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	20-May-2022 19:35
2-Hexanone	2.0	U	1.0	2.0	2.0	ug/L	1	20-May-2022 19:35
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	20-May-2022 19:35
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	20-May-2022 19:35
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	ug/L	1	20-May-2022 19:35
Acetone	2.0	U	0.40	2.0	2.0	ug/L	1	20-May-2022 19:35
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	20-May-2022 19:35
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	20-May-2022 19:35
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	20-May-2022 19:35
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	20-May-2022 19:35
Bromoform	0.50	U	0.40	0.50	1.0	ug/L	1	20-May-2022 19:35
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	20-May-2022 19:35
Carbon disulfide	2.0	U	0.60	2.0	2.0	ug/L	1	20-May-2022 19:35
Carbon tetrachloride	0.50	U	0.50	0.50	1.0	ug/L	1	20-May-2022 19:35
Chlorobenzene	0.50	U	0.30	0.50	1.0	ug/L	1	20-May-2022 19:35
Chloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	20-May-2022 19:35

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 23-May-22

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: LHAAP37 May 2022 WorkOrder:HS22050827
Sample ID: 35BWW13-220516 Lab ID:HS22050827-04
Collection Date: 16-May-2022 10:05 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	20-May-2022 19:35
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	20-May-2022 19:35
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	20-May-2022 19:35
cis-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	20-May-2022 19:35
Dibromochloromethane	0.50	U	0.30	0.50	1.0	ug/L	1	20-May-2022 19:35
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	20-May-2022 19:35
Dichlorodifluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	20-May-2022 19:35
Ethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	20-May-2022 19:35
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	20-May-2022 19:35
Isopropylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	20-May-2022 19:35
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	20-May-2022 19:35
Methylene chloride	2.0	U	0.40	2.0	2.0	ug/L	1	20-May-2022 19:35
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	20-May-2022 19:35
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	20-May-2022 19:35
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	20-May-2022 19:35
o-Xylene	0.50	U	0.30	0.50	1.0	ug/L	1	20-May-2022 19:35
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	20-May-2022 19:35
Styrene	0.50	U	0.30	0.50	1.0	ug/L	1	20-May-2022 19:35
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	20-May-2022 19:35
Tetrachloroethene	0.50	U	0.30	0.50	1.0	ug/L	1	20-May-2022 19:35
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	20-May-2022 19:35
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	20-May-2022 19:35
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	20-May-2022 19:35
Trichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	20-May-2022 19:35
Trichlorofluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	20-May-2022 19:35
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	20-May-2022 19:35
Surr: 1,2-Dichloroethane-d4	*102*			**0**	*81-118*	*%REC*	*1*	*20-May-2022 19:35*
Surr: 4-Bromofluorobenzene	*86.1*			**0**	*85-114*	*%REC*	*1*	*20-May-2022 19:35*
Surr: Dibromofluoromethane	*98.0*			**0**	*80-119*	*%REC*	*1*	*20-May-2022 19:35*
Surr: Toluene-d8	*111*			**0**	*89-112*	*%REC*	*1*	*20-May-2022 19:35*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 23-May-22

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: LHAAP37 May 2022 WorkOrder:HS22050827
Sample ID: 35BWW16-220516 Lab ID:HS22050827-05
Collection Date: 16-May-2022 10:50 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	20-May-2022 19:57
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	20-May-2022 19:57
1,1,2,2-Tetrachloroethane	0.50	U	0.50	0.50	1.0	ug/L	1	20-May-2022 19:57
1,1,2-Trichlor-1,2,2-trifluoroethane	0.50	U	0.50	0.50	1.0	ug/L	1	20-May-2022 19:57
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	20-May-2022 19:57
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	20-May-2022 19:57
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	20-May-2022 19:57
1,1-Dichloropropene	0.50	U	0.30	0.50	1.0	ug/L	1	20-May-2022 19:57
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	20-May-2022 19:57
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	20-May-2022 19:57
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	20-May-2022 19:57
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	20-May-2022 19:57
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	20-May-2022 19:57
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	20-May-2022 19:57
1,2-Dichlorobenzene	0.50	U	0.50	0.50	1.0	ug/L	1	20-May-2022 19:57
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	20-May-2022 19:57
1,2-Dichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	20-May-2022 19:57
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	20-May-2022 19:57
1,3-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	20-May-2022 19:57
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	20-May-2022 19:57
1,4-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	20-May-2022 19:57
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	20-May-2022 19:57
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	20-May-2022 19:57
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	20-May-2022 19:57
2-Hexanone	2.0	U	1.0	2.0	2.0	ug/L	1	20-May-2022 19:57
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	20-May-2022 19:57
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	20-May-2022 19:57
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	ug/L	1	20-May-2022 19:57
Acetone	2.0	U	0.40	2.0	2.0	ug/L	1	20-May-2022 19:57
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	20-May-2022 19:57
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	20-May-2022 19:57
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	20-May-2022 19:57
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	20-May-2022 19:57
Bromoform	0.50	U	0.40	0.50	1.0	ug/L	1	20-May-2022 19:57
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	20-May-2022 19:57
Carbon disulfide	2.0	U	0.60	2.0	2.0	ug/L	1	20-May-2022 19:57
Carbon tetrachloride	0.50	U	0.50	0.50	1.0	ug/L	1	20-May-2022 19:57
Chlorobenzene	0.50	U	0.30	0.50	1.0	ug/L	1	20-May-2022 19:57
Chloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	20-May-2022 19:57

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 23-May-22

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: LHAAP37 May 2022 WorkOrder:HS22050827
Sample ID: 35BWW16-220516 Lab ID:HS22050827-05
Collection Date: 16-May-2022 10:50 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	20-May-2022 19:57
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	20-May-2022 19:57
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	20-May-2022 19:57
cis-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	20-May-2022 19:57
Dibromochloromethane	0.50	U	0.30	0.50	1.0	ug/L	1	20-May-2022 19:57
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	20-May-2022 19:57
Dichlorodifluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	20-May-2022 19:57
Ethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	20-May-2022 19:57
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	20-May-2022 19:57
Isopropylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	20-May-2022 19:57
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	20-May-2022 19:57
Methylene chloride	2.0	U	0.40	2.0	2.0	ug/L	1	20-May-2022 19:57
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	20-May-2022 19:57
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	20-May-2022 19:57
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	20-May-2022 19:57
o-Xylene	0.50	U	0.30	0.50	1.0	ug/L	1	20-May-2022 19:57
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	20-May-2022 19:57
Styrene	0.50	U	0.30	0.50	1.0	ug/L	1	20-May-2022 19:57
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	20-May-2022 19:57
Tetrachloroethene	0.50	U	0.30	0.50	1.0	ug/L	1	20-May-2022 19:57
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	20-May-2022 19:57
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	20-May-2022 19:57
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	20-May-2022 19:57
Trichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	20-May-2022 19:57
Trichlorofluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	20-May-2022 19:57
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	20-May-2022 19:57
Surr: 1,2-Dichloroethane-d4	*103*			**0**	*81-118*	*%REC*	*1*	*20-May-2022 19:57*
Surr: 4-Bromofluorobenzene	*86.7*			**0**	*85-114*	*%REC*	*1*	*20-May-2022 19:57*
Surr: Dibromofluoromethane	*96.9*			**0**	*80-119*	*%REC*	*1*	*20-May-2022 19:57*
Surr: Toluene-d8	*112*			**0**	*89-112*	*%REC*	*1*	*20-May-2022 19:57*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 23-May-22

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: LHAAP37 May 2022 WorkOrder:HS22050827
Sample ID: 35BWW17-220516 Lab ID:HS22050827-06
Collection Date: 16-May-2022 11:35 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 17:50
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 17:50
1,1,2,2-Tetrachloroethane	0.50	U	0.50	0.50	1.0	ug/L	1	21-May-2022 17:50
1,1,2-Trichlor-1,2,2-trifluoroethane	0.50	U	0.50	0.50	1.0	ug/L	1	21-May-2022 17:50
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 17:50
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 17:50
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 17:50
1,1-Dichloropropene	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 17:50
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	21-May-2022 17:50
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	21-May-2022 17:50
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	21-May-2022 17:50
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 17:50
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 17:50
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 17:50
1,2-Dichlorobenzene	0.50	U	0.50	0.50	1.0	ug/L	1	21-May-2022 17:50
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 17:50
1,2-Dichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	21-May-2022 17:50
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 17:50
1,3-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	21-May-2022 17:50
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 17:50
1,4-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	21-May-2022 17:50
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 17:50
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	21-May-2022 17:50
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 17:50
2-Hexanone	2.0	U	1.0	2.0	2.0	ug/L	1	21-May-2022 17:50
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	21-May-2022 17:50
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 17:50
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	ug/L	1	21-May-2022 17:50
Acetone	2.0	U	0.40	2.0	2.0	ug/L	1	21-May-2022 17:50
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 17:50
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	21-May-2022 17:50
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 17:50
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 17:50
Bromoform	0.50	U	0.40	0.50	1.0	ug/L	1	21-May-2022 17:50
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	21-May-2022 17:50
Carbon disulfide	2.0	U	0.60	2.0	2.0	ug/L	1	21-May-2022 17:50
Carbon tetrachloride	0.50	U	0.50	0.50	1.0	ug/L	1	21-May-2022 17:50
Chlorobenzene	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 17:50
Chloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 17:50

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 23-May-22

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: LHAAP37 May 2022 WorkOrder:HS22050827
Sample ID: 35BWW17-220516 Lab ID:HS22050827-06
Collection Date: 16-May-2022 11:35 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 17:50
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 17:50
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 17:50
cis-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 17:50
Dibromochloromethane	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 17:50
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 17:50
Dichlorodifluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 17:50
Ethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 17:50
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	21-May-2022 17:50
Isopropylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 17:50
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	21-May-2022 17:50
Methylene chloride	2.0	U	0.40	2.0	2.0	ug/L	1	21-May-2022 17:50
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	21-May-2022 17:50
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 17:50
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 17:50
o-Xylene	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 17:50
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 17:50
Styrene	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 17:50
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 17:50
Tetrachloroethene	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 17:50
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 17:50
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 17:50
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 17:50
Trichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 17:50
Trichlorofluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 17:50
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 17:50
Surr: 1,2-Dichloroethane-d4	*105*			**0**	*81-118*	*%REC*	*1*	*21-May-2022 17:50*
Surr: 4-Bromofluorobenzene	*85.5*			**0**	*85-114*	*%REC*	*1*	*21-May-2022 17:50*
Surr: Dibromofluoromethane	*97.9*			**0**	*80-119*	*%REC*	*1*	*21-May-2022 17:50*
Surr: Toluene-d8	*112*			**0**	*89-112*	*%REC*	*1*	*21-May-2022 17:50*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 23-May-22

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: LHAAP37 May 2022 WorkOrder:HS22050827
Sample ID: 35BWW24-220516 Lab ID:HS22050827-07
Collection Date: 16-May-2022 12:20 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 18:12
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 18:12
1,1,2,2-Tetrachloroethane	0.50	U	0.50	0.50	1.0	ug/L	1	21-May-2022 18:12
1,1,2-Trichlor-1,2,2-trifluoroethane	**5.8**		**0.50**	**0.50**	**1.0**	**ug/L**	1	21-May-2022 18:12
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 18:12
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 18:12
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 18:12
1,1-Dichloropropene	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 18:12
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	21-May-2022 18:12
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	21-May-2022 18:12
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	21-May-2022 18:12
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 18:12
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 18:12
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 18:12
1,2-Dichlorobenzene	0.50	U	0.50	0.50	1.0	ug/L	1	21-May-2022 18:12
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 18:12
1,2-Dichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	21-May-2022 18:12
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 18:12
1,3-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	21-May-2022 18:12
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 18:12
1,4-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	21-May-2022 18:12
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 18:12
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	21-May-2022 18:12
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 18:12
2-Hexanone	2.0	U	1.0	2.0	2.0	ug/L	1	21-May-2022 18:12
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	21-May-2022 18:12
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 18:12
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	ug/L	1	21-May-2022 18:12
Acetone	2.0	U	0.40	2.0	2.0	ug/L	1	21-May-2022 18:12
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 18:12
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	21-May-2022 18:12
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 18:12
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 18:12
Bromoform	0.50	U	0.40	0.50	1.0	ug/L	1	21-May-2022 18:12
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	21-May-2022 18:12
Carbon disulfide	2.0	U	0.60	2.0	2.0	ug/L	1	21-May-2022 18:12
Carbon tetrachloride	0.50	U	0.50	0.50	1.0	ug/L	1	21-May-2022 18:12
Chlorobenzene	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 18:12

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 23-May-22

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: LHAAP37 May 2022 WorkOrder:HS22050827
Sample ID: 35BWW24-220516 Lab ID:HS22050827-07
Collection Date: 16-May-2022 12:20 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
Chloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 18:12
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 18:12
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 18:12
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 18:12
cis-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 18:12
Dibromochloromethane	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 18:12
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 18:12
Dichlorodifluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 18:12
Ethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 18:12
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	21-May-2022 18:12
Isopropylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 18:12
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	21-May-2022 18:12
Methylene chloride	2.0	U	0.40	2.0	2.0	ug/L	1	21-May-2022 18:12
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	21-May-2022 18:12
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 18:12
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 18:12
o-Xylene	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 18:12
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 18:12
Styrene	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 18:12
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 18:12
Tetrachloroethene	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 18:12
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 18:12
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 18:12
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 18:12
Trichloroethene	**3.9**		**0.20**	**0.50**	**1.0**	**ug/L**	1	21-May-2022 18:12
Trichlorofluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 18:12
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 18:12
Surr: 1,2-Dichloroethane-d4	*104*			**0**	*81-118*	*%REC*	*1*	*21-May-2022 18:12*
Surr: 4-Bromofluorobenzene	*85.7*			**0**	*85-114*	*%REC*	*1*	*21-May-2022 18:12*
Surr: Dibromofluoromethane	*98.1*			**0**	*80-119*	*%REC*	*1*	*21-May-2022 18:12*
Surr: Toluene-d8	*111*			**0**	*89-112*	*%REC*	*1*	*21-May-2022 18:12*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 23-May-22

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: LHAAP37 May 2022 WorkOrder:HS22050827
Sample ID: 35BWW24-220516-FD Lab ID:HS22050827-08
Collection Date: 16-May-2022 12:20 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 18:35
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 18:35
1,1,2,2-Tetrachloroethane	0.50	U	0.50	0.50	1.0	ug/L	1	21-May-2022 18:35
1,1,2-Trichlor-1,2,2-trifluoroethane	**5.6**		**0.50**	**0.50**	**1.0**	**ug/L**	1	21-May-2022 18:35
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 18:35
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 18:35
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 18:35
1,1-Dichloropropene	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 18:35
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	21-May-2022 18:35
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	21-May-2022 18:35
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	21-May-2022 18:35
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 18:35
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 18:35
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 18:35
1,2-Dichlorobenzene	0.50	U	0.50	0.50	1.0	ug/L	1	21-May-2022 18:35
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 18:35
1,2-Dichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	21-May-2022 18:35
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 18:35
1,3-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	21-May-2022 18:35
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 18:35
1,4-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	21-May-2022 18:35
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 18:35
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	21-May-2022 18:35
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 18:35
2-Hexanone	2.0	U	1.0	2.0	2.0	ug/L	1	21-May-2022 18:35
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	21-May-2022 18:35
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 18:35
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	ug/L	1	21-May-2022 18:35
Acetone	2.0	U	0.40	2.0	2.0	ug/L	1	21-May-2022 18:35
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 18:35
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	21-May-2022 18:35
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 18:35
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 18:35
Bromoform	0.50	U	0.40	0.50	1.0	ug/L	1	21-May-2022 18:35
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	21-May-2022 18:35
Carbon disulfide	2.0	U	0.60	2.0	2.0	ug/L	1	21-May-2022 18:35
Carbon tetrachloride	0.50	U	0.50	0.50	1.0	ug/L	1	21-May-2022 18:35
Chlorobenzene	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 18:35

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 23-May-22

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: LHAAP37 May 2022 WorkOrder:HS22050827
Sample ID: 35BWW24-220516-FD Lab ID:HS22050827-08
Collection Date: 16-May-2022 12:20 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
Chloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 18:35
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 18:35
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 18:35
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 18:35
cis-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 18:35
Dibromochloromethane	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 18:35
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 18:35
Dichlorodifluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 18:35
Ethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 18:35
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	21-May-2022 18:35
Isopropylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 18:35
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	21-May-2022 18:35
Methylene chloride	2.0	U	0.40	2.0	2.0	ug/L	1	21-May-2022 18:35
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	21-May-2022 18:35
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 18:35
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 18:35
o-Xylene	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 18:35
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 18:35
Styrene	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 18:35
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 18:35
Tetrachloroethene	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 18:35
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 18:35
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 18:35
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 18:35
Trichloroethene	**3.9**		**0.20**	**0.50**	**1.0**	**ug/L**	1	21-May-2022 18:35
Trichlorofluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 18:35
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 18:35
Surr: 1,2-Dichloroethane-d4	*104*			**0**	*81-118*	*%REC*	*1*	*21-May-2022 18:35*
Surr: 4-Bromofluorobenzene	*85.0*			**0**	*85-114*	*%REC*	*1*	*21-May-2022 18:35*
Surr: Dibromofluoromethane	*96.5*			**0**	*80-119*	*%REC*	*1*	*21-May-2022 18:35*
Surr: Toluene-d8	*112*			**0**	*89-112*	*%REC*	*1*	*21-May-2022 18:35*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 23-May-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP37 May 2022
WorkOrder: HS22050827

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: R409050 (0)	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C				**Matrix:** Water	
HS22050827-01	35BWW10-220516	16 May 2022 07:35			20 May 2022 18:50	1
HS22050827-02	35BWW05-220516	16 May 2022 08:20			20 May 2022 20:19	1
HS22050827-03	35BWW07-220516	16 May 2022 09:20			20 May 2022 19:12	1
HS22050827-04	35BWW13-220516	16 May 2022 10:05			20 May 2022 19:35	1
HS22050827-05	35BWW16-220516	16 May 2022 10:50			20 May 2022 19:57	1
Batch ID: R409090 (0)	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C				**Matrix:** Water	
HS22050827-06	35BWW17-220516	16 May 2022 11:35			21 May 2022 17:50	1
HS22050827-07	35BWW24-220516	16 May 2022 12:20			21 May 2022 18:12	1
HS22050827-08	35BWW24-220516-FD	16 May 2022 12:20			21 May 2022 18:35	1

ALS Houston, US Date: 23-May-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP37 May 2022
WorkOrder: HS22050827

QC BATCH REPORT

Batch ID: R409050 (0) **Instrument: VOA9** **Method: VOLATILES ORGANICS BY METHOD 8260C**

MBLK Sample ID: **VBLKW-220520** Units: **ug/L** Analysis Date: **20-May-2022 12:08**
Client ID: Run ID: **VOA9_409050** SeqNo: **6656989** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	0.50	1.0								U
1,1,1-Trichloroethane	0.50	1.0								U
1,1,2,2-Tetrachloroethane	0.50	1.0								U
1,1,2-Trichlor-1,2,2-trifluoroethane	0.50	1.0								U
1,1,2-Trichloroethane	0.50	1.0								U
1,1-Dichloroethane	0.50	1.0								U
1,1-Dichloroethene	0.50	1.0								U
1,1-Dichloropropene	0.50	1.0								U
1,2,3-Trichlorobenzene	1.0	1.0								U
1,2,3-Trichloropropane	1.0	1.0								U
1,2,4-Trichlorobenzene	1.0	1.0								U
1,2,4-Trimethylbenzene	1.0	1.0								U
1,2-Dibromo-3-chloropropane	0.50	1.0								U
1,2-Dibromoethane	0.50	1.0								U
1,2-Dichlorobenzene	0.50	1.0								U
1,2-Dichloroethane	0.50	1.0								U
1,2-Dichloropropane	0.50	1.0								U
1,3,5-Trimethylbenzene	1.0	1.0								U
1,3-Dichlorobenzene	0.50	1.0								U
1,3-Dichloropropane	1.0	1.0								U
1,4-Dichlorobenzene	0.50	1.0								U
2,2-Dichloropropane	0.50	1.0								U
2-Butanone	1.0	2.0								U
2-Chlorotoluene	1.0	1.0								U
2-Hexanone	2.0	2.0								U
4-Chlorotoluene	1.0	1.0								U
4-Isopropyltoluene	1.0	1.0								U
4-Methyl-2-pentanone	2.0	2.0								U
Acetone	2.0	2.0								U
Benzene	0.50	1.0								U
Bromobenzene	1.0	1.0								U
Bromochloromethane	0.50	1.0								U
Bromodichloromethane	0.50	1.0								U
Bromoform	0.50	1.0								U

ALS Houston, US Date: 23-May-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP37 May 2022
WorkOrder: HS22050827

QC BATCH REPORT

Batch ID: R409050 (0) **Instrument: VOA9** **Method: VOLATILES ORGANICS BY METHOD 8260C**

MBLK Sample ID: **VBLKW-220520** Units: **ug/L** Analysis Date: **20-May-2022 12:08**
Client ID: Run ID: **VOA9_409050** SeqNo: **6656989** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromomethane	1.0	1.0								U
Carbon disulfide	2.0	2.0								U
Carbon tetrachloride	0.50	1.0								U
Chlorobenzene	0.50	1.0								U
Chloroethane	0.50	1.0								U
Chloroform	0.50	1.0								U
Chloromethane	0.50	1.0								U
cis-1,2-Dichloroethene	0.50	1.0								U
cis-1,3-Dichloropropene	0.50	1.0								U
Dibromochloromethane	0.50	1.0								U
Dibromomethane	0.50	1.0								U
Dichlorodifluoromethane	0.50	1.0								U
Ethylbenzene	0.50	1.0								U
Hexachlorobutadiene	1.0	1.0								U
Isopropylbenzene	0.50	1.0								U
m,p-Xylene	1.0	2.0								U
Methylene chloride	2.0	2.0								U
Naphthalene	1.0	1.0								U
n-Butylbenzene	1.0	1.0								U
n-Propylbenzene	1.0	1.0								U
o-Xylene	0.50	1.0								U
sec-Butylbenzene	1.0	1.0								U
Styrene	0.50	1.0								U
tert-Butylbenzene	1.0	1.0								U
Tetrachloroethene	0.50	1.0								U
Toluene	0.50	1.0								U
trans-1,2-Dichloroethene	0.50	1.0								U
trans-1,3-Dichloropropene	0.50	1.0								U
Trichloroethene	0.50	1.0								U
Trichlorofluoromethane	0.50	1.0								U
Vinyl chloride	0.50	1.0								U
Surr: 1,2-Dichloroethane-d4	*49.33*	*1.0*	*50*	*0*	*98.7*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*44.61*	*1.0*	*50*	*0*	*89.2*	*85 - 114*				
Surr: Dibromofluoromethane	*46.48*	*1.0*	*50*	*0*	*93.0*	*80 - 119*				

ALS Houston, US Date: 23-May-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP37 May 2022
WorkOrder: HS22050827

QC BATCH REPORT

Batch ID: R409050 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MBLK Sample ID: **VBLKW-220520** Units: **ug/L** Analysis Date: **20-May-2022 12:08**
Client ID: Run ID: **VOA9_409050** SeqNo: **6656989** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Surr: Toluene-d8	*55.38*	*1.0*	*50*	*0*	*111*	*89 - 112*				

ALS Houston, US Date: 23-May-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP37 May 2022
WorkOrder: HS22050827

QC BATCH REPORT

Batch ID: R409050 (0) **Instrument: VOA9** **Method: VOLATILES ORGANICS BY METHOD 8260C**

LCS Sample ID: **VLCSW-220520** Units: **ug/L** Analysis Date: **20-May-2022 11:23**
Client ID: Run ID: **VOA9_409050** SeqNo: **6656988** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	17.9	1.0	20	0	89.5	78 - 124				
1,1,1-Trichloroethane	18.05	1.0	20	0	90.2	74 - 131				
1,1,2,2-Tetrachloroethane	20.47	1.0	20	0	102	71 - 121				
1,1,2-Trichlor-1,2,2-trifluoroethane	19.03	1.0	20	0	95.1	70 - 136				
1,1,2-Trichloroethane	18.93	1.0	20	0	94.7	80 - 119				
1,1-Dichloroethane	17.87	1.0	20	0	89.3	77 - 125				
1,1-Dichloroethene	17.78	1.0	20	0	88.9	71 - 131				
1,1-Dichloropropene	18.21	1.0	20	0	91.0	78 - 125				
1,2,3-Trichlorobenzene	17.19	1.0	20	0	86.0	69 - 129				
1,2,3-Trichloropropane	18.21	1.0	20	0	91.0	73 - 122				
1,2,4-Trichlorobenzene	16.17	1.0	20	0	80.8	69 - 130				
1,2,4-Trimethylbenzene	17.84	1.0	20	0	89.2	76 - 124				
1,2-Dibromo-3-chloropropane	15.56	1.0	20	0	77.8	62 - 128				
1,2-Dibromoethane	18.98	1.0	20	0	94.9	77 - 121				
1,2-Dichlorobenzene	18.41	1.0	20	0	92.0	80 - 119				
1,2-Dichloroethane	18.59	1.0	20	0	92.9	73 - 128				
1,2-Dichloropropane	19.39	1.0	20	0	96.9	78 - 122				
1,3,5-Trimethylbenzene	17.46	1.0	20	0	87.3	75 - 124				
1,3-Dichlorobenzene	18.44	1.0	20	0	92.2	80 - 119				
1,3-Dichloropropane	19.21	1.0	20	0	96.0	80 - 119				
1,4-Dichlorobenzene	17.71	1.0	20	0	88.5	79 - 118				
2,2-Dichloropropane	18.79	1.0	20	0	94.0	60 - 139				
2-Butanone	36.67	2.0	40	0	91.7	56 - 143				
2-Chlorotoluene	20.53	1.0	20	0	103	79 - 122				
2-Hexanone	35.86	2.0	40	0	89.6	57 - 139				
4-Chlorotoluene	19.77	1.0	20	0	98.9	78 - 122				
4-Isopropyltoluene	15.54	1.0	20	0	77.7	77 - 127				
4-Methyl-2-pentanone	37.27	2.0	40	0	93.2	67 - 130				
Acetone	40.32	2.0	40	0	101	39 - 160				
Benzene	19.24	1.0	20	0	96.2	79 - 120				
Bromobenzene	19.22	1.0	20	0	96.1	80 - 120				
Bromochloromethane	18.28	1.0	20	0	91.4	78 - 123				
Bromodichloromethane	18.76	1.0	20	0	93.8	79 - 125				
Bromoform	14.72	1.0	20	0	73.6	66 - 130				

ALS Houston, US Date: 23-May-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP37 May 2022
WorkOrder: HS22050827

QC BATCH REPORT

Batch ID: R409050 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

LCS Sample ID: **VLCSW-220520** Units: **ug/L** Analysis Date: **20-May-2022 11:23**
Client ID: Run ID: **VOA9_409050** SeqNo: **6656988** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromomethane	22.65	1.0	20	0	113	53 - 141				
Carbon disulfide	37.21	2.0	40	0	93.0	64 - 133				
Carbon tetrachloride	15.69	1.0	20	0	78.5	72 - 136				
Chlorobenzene	18.73	1.0	20	0	93.7	82 - 118				
Chloroethane	17.89	1.0	20	0	89.4	60 - 138				
Chloroform	18.25	1.0	20	0	91.2	79 - 124				
Chloromethane	18.73	1.0	20	0	93.7	50 - 139				
cis-1,2-Dichloroethene	18.25	1.0	20	0	91.2	78 - 123				
cis-1,3-Dichloropropene	17.17	1.0	20	0	85.8	75 - 124				
Dibromochloromethane	16.45	1.0	20	0	82.3	74 - 126				
Dibromomethane	19.04	1.0	20	0	95.2	79 - 123				
Dichlorodifluoromethane	19.26	1.0	20	0	96.3	32 - 152				
Ethylbenzene	19.03	1.0	20	0	95.2	79 - 121				
Hexachlorobutadiene	18.44	1.0	20	0	92.2	66 - 134				
Isopropylbenzene	18.6	1.0	20	0	93.0	72 - 131				
m,p-Xylene	38.45	2.0	40	0	96.1	80 - 121				
Methylene chloride	18.68	2.0	20	0	93.4	74 - 124				
Naphthalene	16.48	1.0	20	0	82.4	61 - 128				
n-Butylbenzene	16.8	1.0	20	0	84.0	75 - 128				
n-Propylbenzene	18.62	1.0	20	0	93.1	76 - 126				
o-Xylene	19.97	1.0	20	0	99.9	78 - 122				
sec-Butylbenzene	15.46	1.0	20	0	77.3	77 - 126				
Styrene	17.46	1.0	20	0	87.3	78 - 123				
tert-Butylbenzene	17.59	1.0	20	0	88.0	78 - 124				
Tetrachloroethene	19.56	1.0	20	0	97.8	74 - 129				
Toluene	20.62	1.0	20	0	103	80 - 121				
trans-1,2-Dichloroethene	17.69	1.0	20	0	88.4	75 - 124				
trans-1,3-Dichloropropene	16.57	1.0	20	0	82.8	73 - 127				
Trichloroethene	18.54	1.0	20	0	92.7	79 - 123				
Trichlorofluoromethane	17.67	1.0	20	0	88.4	65 - 141				
Vinyl chloride	18.96	1.0	20	0	94.8	58 - 137				
Surr: 1,2-Dichloroethane-d4	*50.26*	*1.0*	*50*	*0*	*101*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*49.33*	*1.0*	*50*	*0*	*98.7*	*85 - 114*				
Surr: Dibromofluoromethane	*48.96*	*1.0*	*50*	*0*	*97.9*	*80 - 119*				

ALS Houston, US Date: 23-May-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP37 May 2022
WorkOrder: HS22050827

QC BATCH REPORT

Batch ID: R409050 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

LCS Sample ID: **VLCSW-220520** Units: **ug/L** Analysis Date: **20-May-2022 11:23**
Client ID: Run ID: **VOA9_409050** SeqNo: **6656988** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Surr: Toluene-d8	*51.83*	*1.0*	*50*	*0*	*104*	*89 - 112*				

ALS Houston, US Date: 23-May-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP37 May 2022
WorkOrder: HS22050827

QC BATCH REPORT

Batch ID: R409050 (0) **Instrument: VOA9** **Method: VOLATILES ORGANICS BY METHOD 8260C**

MS Sample ID: **HS22050805-04MS** Units: **ug/L** Analysis Date: **20-May-2022 13:37**
Client ID: Run ID: **VOA9_409050** SeqNo: **6656993** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	17.37	1.0	20	0	86.9	78 - 124				
1,1,1-Trichloroethane	16.7	1.0	20	0	83.5	74 - 131				
1,1,2,2-Tetrachloroethane	18.74	1.0	20	0	93.7	71 - 121				
1,1,2-Trichlor-1,2,2-trifluoroethane	18.54	1.0	20	0	92.7	70 - 136				
1,1,2-Trichloroethane	17.28	1.0	20	0	86.4	80 - 119				
1,1-Dichloroethane	16	1.0	20	0	80.0	77 - 125				
1,1-Dichloroethene	16.44	1.0	20	0	82.2	71 - 131				
1,1-Dichloropropene	17.72	1.0	20	0	88.6	78 - 125				
1,2,3-Trichlorobenzene	14.56	1.0	20	0	72.8	69 - 129				
1,2,3-Trichloropropane	16.42	1.0	20	0	82.1	73 - 122				
1,2,4-Trichlorobenzene	14.12	1.0	20	0	70.6	69 - 130				
1,2,4-Trimethylbenzene	16.68	1.0	20	0	83.4	76 - 124				
1,2-Dibromo-3-chloropropane	14.41	1.0	20	0	72.1	62 - 128				
1,2-Dibromoethane	17.65	1.0	20	0	88.3	77 - 121				
1,2-Dichlorobenzene	17.03	1.0	20	0	85.2	80 - 119				
1,2-Dichloroethane	16.79	1.0	20	0	84.0	73 - 128				
1,2-Dichloropropane	17.36	1.0	20	0	86.8	78 - 122				
1,3,5-Trimethylbenzene	16.97	1.0	20	0	84.8	75 - 124				
1,3-Dichlorobenzene	17.38	1.0	20	0	86.9	80 - 119				
1,3-Dichloropropane	17.79	1.0	20	0	88.9	80 - 119				
1,4-Dichlorobenzene	16.6	1.0	20	0	83.0	79 - 118				
2,2-Dichloropropane	16.77	1.0	20	0	83.8	60 - 139				
2-Butanone	27.85	2.0	40	0	69.6	56 - 143				
2-Chlorotoluene	19.54	1.0	20	0	97.7	79 - 122				
2-Hexanone	32.12	2.0	40	0	80.3	57 - 139				
4-Chlorotoluene	19.01	1.0	20	0	95.0	78 - 122				
4-Isopropyltoluene	15.45	1.0	20	0	77.2	77 - 127				
4-Methyl-2-pentanone	32.6	2.0	40	0	81.5	67 - 130				
Acetone	26.17	2.0	40	0	65.4	39 - 160				
Benzene	17.41	1.0	20	0	87.0	79 - 120				
Bromobenzene	17.89	1.0	20	0	89.5	80 - 120				
Bromochloromethane	15.69	1.0	20	0	78.4	78 - 123				
Bromodichloromethane	16.74	1.0	20	0	83.7	79 - 125				
Bromoform	13.99	1.0	20	0	70.0	66 - 130				

ALS Houston, US Date: 23-May-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP37 May 2022
WorkOrder: HS22050827

QC BATCH REPORT

Batch ID: R409050 (0) **Instrument: VOA9** **Method: VOLATILES ORGANICS BY METHOD 8260C**

MS Sample ID: **HS22050805-04MS** Units: **ug/L** Analysis Date: **20-May-2022 13:37**
Client ID: Run ID: **VOA9_409050** SeqNo: **6656993** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromomethane	18.99	1.0	20	0	94.9	53 - 141				
Carbon disulfide	32.44	2.0	40	0	81.1	64 - 133				
Carbon tetrachloride	16.12	1.0	20	0	80.6	72 - 136				
Chlorobenzene	17.82	1.0	20	0	89.1	82 - 118				
Chloroethane	15.69	1.0	20	0	78.5	60 - 138				
Chloroform	16.12	1.0	20	0	80.6	79 - 124				
Chloromethane	15.39	1.0	20	0	76.9	50 - 139				
cis-1,2-Dichloroethene	15.78	1.0	20	0	78.9	78 - 123				
cis-1,3-Dichloropropene	14.66	1.0	20	0	73.3	75 - 124				S
Dibromochloromethane	15.38	1.0	20	0	76.9	74 - 126				
Dibromomethane	16.62	1.0	20	0	83.1	79 - 123				
Dichlorodifluoromethane	13.13	1.0	20	0	65.6	32 - 152				
Ethylbenzene	18.53	1.0	20	0	92.6	79 - 121				
Hexachlorobutadiene	17.51	1.0	20	0	87.5	66 - 134				
Isopropylbenzene	19.05	1.0	20	0	95.2	72 - 131				
m,p-Xylene	38.15	2.0	40	0	95.4	80 - 121				
Methylene chloride	15.64	2.0	20	0	78.2	74 - 124				
Naphthalene	13.65	1.0	20	0	68.2	61 - 128				
n-Butylbenzene	16.44	1.0	20	0	82.2	75 - 128				
n-Propylbenzene	18.21	1.0	20	0	91.0	76 - 126				
o-Xylene	19.13	1.0	20	0	95.7	78 - 122				
sec-Butylbenzene	15.35	1.0	20	0	76.7	77 - 126				S
Styrene	16.58	1.0	20	0	82.9	78 - 123				
tert-Butylbenzene	17.27	1.0	20	0	86.3	78 - 124				
Tetrachloroethene	19.33	1.0	20	0	96.6	74 - 129				
Toluene	19.75	1.0	20	0	98.8	80 - 121				
trans-1,2-Dichloroethene	16.02	1.0	20	0	80.1	75 - 124				
trans-1,3-Dichloropropene	14.89	1.0	20	0	74.4	73 - 127				
Trichloroethene	18.75	1.0	20	0	93.7	79 - 123				
Trichlorofluoromethane	16.76	1.0	20	0	83.8	65 - 141				
Vinyl chloride	16.24	1.0	20	0	81.2	58 - 137				
Surr: 1,2-Dichloroethane-d4	*45.5*	*1.0*	*50*	*0*	*91.0*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*50.87*	*1.0*	*50*	*0*	*102*	*85 - 114*				
Surr: Dibromofluoromethane	*44.61*	*1.0*	*50*	*0*	*89.2*	*80 - 119*				

ALS Houston, US Date: 23-May-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP37 May 2022
WorkOrder: HS22050827

QC BATCH REPORT

Batch ID: R409050 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS22050805-04MS** Units: **ug/L** Analysis Date: **20-May-2022 13:37**
Client ID: Run ID: **VOA9_409050** SeqNo: **6656993** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Surr: Toluene-d8	*54.9*	*1.0*	*50*	*0*	*110*	*89 - 112*				

ALS Houston, US Date: 23-May-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP37 May 2022
WorkOrder: HS22050827

QC BATCH REPORT

Batch ID: R409050 (0) **Instrument: VOA9** **Method: VOLATILES ORGANICS BY METHOD 8260C**

MSD Sample ID: **HS22050805-04MSD** Units: **ug/L** Analysis Date: **20-May-2022 14:00**
Client ID: Run ID: **VOA9_409050** SeqNo: **6656994** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	16.79	1.0	20	0	83.9	78 - 124	17.37	3.44	20	
1,1,1-Trichloroethane	16.48	1.0	20	0	82.4	74 - 131	16.7	1.33	20	
1,1,2,2-Tetrachloroethane	19.01	1.0	20	0	95.0	71 - 121	18.74	1.41	20	
1,1,2-Trichlor-1,2,2-trifluoroethane	17.96	1.0	20	0	89.8	70 - 136	18.54	3.2	20	
1,1,2-Trichloroethane	17.69	1.0	20	0	88.4	80 - 119	17.28	2.33	20	
1,1-Dichloroethane	15.48	1.0	20	0	77.4	77 - 125	16	3.31	20	
1,1-Dichloroethene	15.81	1.0	20	0	79.1	71 - 131	16.44	3.89	20	
1,1-Dichloropropene	17.63	1.0	20	0	88.2	78 - 125	17.72	0.491	20	
1,2,3-Trichlorobenzene	17.22	1.0	20	0	86.1	69 - 129	14.56	16.8	20	
1,2,3-Trichloropropane	17.11	1.0	20	0	85.5	73 - 122	16.42	4.11	20	
1,2,4-Trichlorobenzene	16.13	1.0	20	0	80.7	69 - 130	14.12	13.3	20	
1,2,4-Trimethylbenzene	17.5	1.0	20	0	87.5	76 - 124	16.68	4.75	20	
1,2-Dibromo-3-chloropropane	15.11	1.0	20	0	75.5	62 - 128	14.41	4.73	20	
1,2-Dibromoethane	17.53	1.0	20	0	87.7	77 - 121	17.65	0.676	20	
1,2-Dichlorobenzene	17.55	1.0	20	0	87.7	80 - 119	17.03	2.98	20	
1,2-Dichloroethane	16.91	1.0	20	0	84.5	73 - 128	16.79	0.668	20	
1,2-Dichloropropane	17.3	1.0	20	0	86.5	78 - 122	17.36	0.369	20	
1,3,5-Trimethylbenzene	17.46	1.0	20	0	87.3	75 - 124	16.97	2.86	20	
1,3-Dichlorobenzene	17.89	1.0	20	0	89.4	80 - 119	17.38	2.89	20	
1,3-Dichloropropane	17.61	1.0	20	0	88.0	80 - 119	17.79	1.03	20	
1,4-Dichlorobenzene	17.15	1.0	20	0	85.7	79 - 118	16.6	3.28	20	
2,2-Dichloropropane	16.38	1.0	20	0	81.9	60 - 139	16.77	2.3	20	
2-Butanone	28.54	2.0	40	0	71.4	56 - 143	27.85	2.46	20	
2-Chlorotoluene	19.79	1.0	20	0	99.0	79 - 122	19.54	1.29	20	
2-Hexanone	33.36	2.0	40	0	83.4	57 - 139	32.12	3.78	20	
4-Chlorotoluene	19.41	1.0	20	0	97.1	78 - 122	19.01	2.12	20	
4-Isopropyltoluene	16.32	1.0	20	0	81.6	77 - 127	15.45	5.5	20	
4-Methyl-2-pentanone	34.73	2.0	40	0	86.8	67 - 130	32.6	6.34	20	
Acetone	26.05	2.0	40	0	65.1	39 - 160	26.17	0.487	20	
Benzene	17.52	1.0	20	0	87.6	79 - 120	17.41	0.647	20	
Bromobenzene	18.34	1.0	20	0	91.7	80 - 120	17.89	2.49	20	
Bromochloromethane	15.42	1.0	20	0	77.1	78 - 123	15.69	1.73	20	S
Bromodichloromethane	16.3	1.0	20	0	81.5	79 - 125	16.74	2.69	20	
Bromoform	14.03	1.0	20	0	70.1	66 - 130	13.99	0.254	20	

ALS Houston, US Date: 23-May-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP37 May 2022
WorkOrder: HS22050827

QC BATCH REPORT

Batch ID: R409050 (0) **Instrument: VOA9** **Method: VOLATILES ORGANICS BY METHOD 8260C**

MSD Sample ID: **HS22050805-04MSD** Units: **ug/L** Analysis Date: **20-May-2022 14:00**
Client ID: Run ID: **VOA9_409050** SeqNo: **6656994** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Bromomethane	18.26	1.0	20	0	91.3	53 - 141	18.99	3.88	20	
Carbon disulfide	32.27	2.0	40	0	80.7	64 - 133	32.44	0.532	20	
Carbon tetrachloride	16.1	1.0	20	0	80.5	72 - 136	16.12	0.131	20	
Chlorobenzene	17.34	1.0	20	0	86.7	82 - 118	17.82	2.74	20	
Chloroethane	15.28	1.0	20	0	76.4	60 - 138	15.69	2.63	20	
Chloroform	15.72	1.0	20	0	78.6	79 - 124	16.12	2.48	20	S
Chloromethane	15.03	1.0	20	0	75.2	50 - 139	15.39	2.34	20	
cis-1,2-Dichloroethene	15.64	1.0	20	0	78.2	78 - 123	15.78	0.893	20	
cis-1,3-Dichloropropene	14.89	1.0	20	0	74.4	75 - 124	14.66	1.52	20	S
Dibromochloromethane	15.22	1.0	20	0	76.1	74 - 126	15.38	1.02	20	
Dibromomethane	16.53	1.0	20	0	82.7	79 - 123	16.62	0.555	20	
Dichlorodifluoromethane	12.68	1.0	20	0	63.4	32 - 152	13.13	3.46	20	
Ethylbenzene	18.55	1.0	20	0	92.7	79 - 121	18.53	0.103	20	
Hexachlorobutadiene	18.3	1.0	20	0	91.5	66 - 134	17.51	4.44	20	
Isopropylbenzene	19.07	1.0	20	0	95.4	72 - 131	19.05	0.144	20	
m,p-Xylene	37.55	2.0	40	0	93.9	80 - 121	38.15	1.58	20	
Methylene chloride	15.08	2.0	20	0	75.4	74 - 124	15.64	3.6	20	
Naphthalene	16.58	1.0	20	0	82.9	61 - 128	13.65	19.4	20	
n-Butylbenzene	17.95	1.0	20	0	89.8	75 - 128	16.44	8.83	20	
n-Propylbenzene	19.29	1.0	20	0	96.5	76 - 126	18.21	5.79	20	
o-Xylene	19.02	1.0	20	0	95.1	78 - 122	19.13	0.593	20	
sec-Butylbenzene	16.62	1.0	20	0	83.1	77 - 126	15.35	8	20	
Styrene	16.87	1.0	20	0	84.3	78 - 123	16.58	1.75	20	
tert-Butylbenzene	18.53	1.0	20	0	92.6	78 - 124	17.27	7.03	20	
Tetrachloroethene	19.39	1.0	20	0	96.9	74 - 129	19.33	0.303	20	
Toluene	19.4	1.0	20	0	97.0	80 - 121	19.75	1.8	20	
trans-1,2-Dichloroethene	15.7	1.0	20	0	78.5	75 - 124	16.02	2.05	20	
trans-1,3-Dichloropropene	15.19	1.0	20	0	76.0	73 - 127	14.89	2.03	20	
Trichloroethene	17.92	1.0	20	0	89.6	79 - 123	18.75	4.52	20	
Trichlorofluoromethane	16.2	1.0	20	0	81.0	65 - 141	16.76	3.36	20	
Vinyl chloride	15.85	1.0	20	0	79.3	58 - 137	16.24	2.43	20	
Surr: 1,2-Dichloroethane-d4	*45.06*	*1.0*	*50*	*0*	*90.1*	*81 - 118*	*45.5*	*0.984*	*20*	
Surr: 4-Bromofluorobenzene	*49.86*	*1.0*	*50*	*0*	*99.7*	*85 - 114*	*50.87*	*2.01*	*20*	
Surr: Dibromofluoromethane	*44.44*	*1.0*	*50*	*0*	*88.9*	*80 - 119*	*44.61*	*0.375*	*20*	

ALS Houston, US Date: 23-May-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP37 May 2022
WorkOrder: HS22050827

QC BATCH REPORT

Batch ID: R409050 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS22050805-04MSD** Units: **ug/L** Analysis Date: **20-May-2022 14:00**
Client ID: Run ID: **VOA9_409050** SeqNo: **6656994** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Surr: Toluene-d8	*54.85*	*1.0*	*50*	*0*	*110*	*89 - 112*	*54.9*	*0.0857*	*20*	

The following samples were analyzed in this batch: HS22050827-01 HS22050827-02 HS22050827-03 HS22050827-04 HS22050827-05

ALS Houston, US Date: 23-May-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP37 May 2022
WorkOrder: HS22050827

QC BATCH REPORT

Batch ID: R409090 (0) **Instrument: VOA9** **Method: VOLATILES ORGANICS BY METHOD 8260C**

MBLK Sample ID: **VBLKW-220521** Units: **ug/L** Analysis Date: **21-May-2022 12:59**
Client ID: Run ID: **VOA9_409090** SeqNo: **6657864** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	0.50	1.0								U
1,1,1-Trichloroethane	0.50	1.0								U
1,1,2,2-Tetrachloroethane	0.50	1.0								U
1,1,2-Trichlor-1,2,2-trifluoroethane	0.50	1.0								U
1,1,2-Trichloroethane	0.50	1.0								U
1,1-Dichloroethane	0.50	1.0								U
1,1-Dichloroethene	0.50	1.0								U
1,1-Dichloropropene	0.50	1.0								U
1,2,3-Trichlorobenzene	1.0	1.0								U
1,2,3-Trichloropropane	1.0	1.0								U
1,2,4-Trichlorobenzene	1.0	1.0								U
1,2,4-Trimethylbenzene	1.0	1.0								U
1,2-Dibromo-3-chloropropane	0.50	1.0								U
1,2-Dibromoethane	0.50	1.0								U
1,2-Dichlorobenzene	0.50	1.0								U
1,2-Dichloroethane	0.50	1.0								U
1,2-Dichloropropane	0.50	1.0								U
1,3,5-Trimethylbenzene	1.0	1.0								U
1,3-Dichlorobenzene	0.50	1.0								U
1,3-Dichloropropane	1.0	1.0								U
1,4-Dichlorobenzene	0.50	1.0								U
2,2-Dichloropropane	0.50	1.0								U
2-Butanone	1.0	2.0								U
2-Chlorotoluene	1.0	1.0								U
2-Hexanone	2.0	2.0								U
4-Chlorotoluene	1.0	1.0								U
4-Isopropyltoluene	1.0	1.0								U
4-Methyl-2-pentanone	2.0	2.0								U
Acetone	2.0	2.0								U
Benzene	0.50	1.0								U
Bromobenzene	1.0	1.0								U
Bromochloromethane	0.50	1.0								U
Bromodichloromethane	0.50	1.0								U
Bromoform	0.50	1.0								U

ALS Houston, US Date: 23-May-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP37 May 2022
WorkOrder: HS22050827

QC BATCH REPORT

Batch ID: R409090 (0) **Instrument: VOA9** **Method: VOLATILES ORGANICS BY METHOD 8260C**

MBLK Sample ID: **VBLKW-220521** Units: **ug/L** Analysis Date: **21-May-2022 12:59**
Client ID: Run ID: **VOA9_409090** SeqNo: **6657864** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromomethane	1.0	1.0								U
Carbon disulfide	2.0	2.0								U
Carbon tetrachloride	0.50	1.0								U
Chlorobenzene	0.50	1.0								U
Chloroethane	0.50	1.0								U
Chloroform	0.50	1.0								U
Chloromethane	0.50	1.0								U
cis-1,2-Dichloroethene	0.50	1.0								U
cis-1,3-Dichloropropene	0.50	1.0								U
Dibromochloromethane	0.50	1.0								U
Dibromomethane	0.50	1.0								U
Dichlorodifluoromethane	0.50	1.0								U
Ethylbenzene	0.50	1.0								U
Hexachlorobutadiene	1.0	1.0								U
Isopropylbenzene	0.50	1.0								U
m,p-Xylene	1.0	2.0								U
Methylene chloride	2.0	2.0								U
Naphthalene	1.0	1.0								U
n-Butylbenzene	1.0	1.0								U
n-Propylbenzene	1.0	1.0								U
o-Xylene	0.50	1.0								U
sec-Butylbenzene	1.0	1.0								U
Styrene	0.50	1.0								U
tert-Butylbenzene	1.0	1.0								U
Tetrachloroethene	0.50	1.0								U
Toluene	0.50	1.0								U
trans-1,2-Dichloroethene	0.50	1.0								U
trans-1,3-Dichloropropene	0.50	1.0								U
Trichloroethene	0.50	1.0								U
Trichlorofluoromethane	0.50	1.0								U
Vinyl chloride	0.50	1.0								U
Surr: 1,2-Dichloroethane-d4	*49.01*	*1.0*	*50*	*0*	*98.0*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*44.41*	*1.0*	*50*	*0*	*88.8*	*85 - 114*				
Surr: Dibromofluoromethane	*46.17*	*1.0*	*50*	*0*	*92.3*	*80 - 119*				

ALS Houston, US Date: 23-May-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP37 May 2022
WorkOrder: HS22050827

QC BATCH REPORT

Batch ID: R409090 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MBLK Sample ID: **VBLKW-220521** Units: **ug/L** Analysis Date: **21-May-2022 12:59**
Client ID: Run ID: **VOA9_409090** SeqNo: **6657864** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Surr: Toluene-d8	*55.65*	*1.0*	*50*	*0*	*111*	*89 - 112*				

ALS Houston, US Date: 23-May-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP37 May 2022
WorkOrder: HS22050827

QC BATCH REPORT

Batch ID: R409090 (0) **Instrument: VOA9** **Method: VOLATILES ORGANICS BY METHOD 8260C**

LCS Sample ID: **VLCSW-220521** Units: **ug/L** Analysis Date: **21-May-2022 12:15**
Client ID: Run ID: **VOA9_409090** SeqNo: **6657863** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	18.36	1.0	20	0	91.8	78 - 124				
1,1,1-Trichloroethane	19.31	1.0	20	0	96.6	74 - 131				
1,1,2,2-Tetrachloroethane	20.71	1.0	20	0	104	71 - 121				
1,1,2-Trichlor-1,2,2-trifluoroethane	21.29	1.0	20	0	106	70 - 136				
1,1,2-Trichloroethane	19.25	1.0	20	0	96.2	80 - 119				
1,1-Dichloroethane	19.42	1.0	20	0	97.1	77 - 125				
1,1-Dichloroethene	18.87	1.0	20	0	94.3	71 - 131				
1,1-Dichloropropene	19.34	1.0	20	0	96.7	78 - 125				
1,2,3-Trichlorobenzene	18.47	1.0	20	0	92.4	69 - 129				
1,2,3-Trichloropropane	18.11	1.0	20	0	90.6	73 - 122				
1,2,4-Trichlorobenzene	18.02	1.0	20	0	90.1	69 - 130				
1,2,4-Trimethylbenzene	19.1	1.0	20	0	95.5	76 - 124				
1,2-Dibromo-3-chloropropane	16.53	1.0	20	0	82.6	62 - 128				
1,2-Dibromoethane	19.35	1.0	20	0	96.8	77 - 121				
1,2-Dichlorobenzene	19.47	1.0	20	0	97.4	80 - 119				
1,2-Dichloroethane	19.63	1.0	20	0	98.2	73 - 128				
1,2-Dichloropropane	19.98	1.0	20	0	99.9	78 - 122				
1,3,5-Trimethylbenzene	19.03	1.0	20	0	95.2	75 - 124				
1,3-Dichlorobenzene	19.64	1.0	20	0	98.2	80 - 119				
1,3-Dichloropropane	19.55	1.0	20	0	97.7	80 - 119				
1,4-Dichlorobenzene	18.49	1.0	20	0	92.5	79 - 118				
2,2-Dichloropropane	19.53	1.0	20	0	97.6	60 - 139				
2-Butanone	40.06	2.0	40	0	100	56 - 143				
2-Chlorotoluene	21.98	1.0	20	0	110	79 - 122				
2-Hexanone	38.1	2.0	40	0	95.2	57 - 139				
4-Chlorotoluene	21.04	1.0	20	0	105	78 - 122				
4-Isopropyltoluene	17.23	1.0	20	0	86.2	77 - 127				
4-Methyl-2-pentanone	38.19	2.0	40	0	95.5	67 - 130				
Acetone	49.09	2.0	40	0	123	39 - 160				
Benzene	20.02	1.0	20	0	100	79 - 120				
Bromobenzene	20.13	1.0	20	0	101	80 - 120				
Bromochloromethane	19.27	1.0	20	0	96.4	78 - 123				
Bromodichloromethane	18.7	1.0	20	0	93.5	79 - 125				
Bromoform	14.85	1.0	20	0	74.2	66 - 130				

ALS Houston, US Date: 23-May-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP37 May 2022
WorkOrder: HS22050827

QC BATCH REPORT

Batch ID: R409090 (0) **Instrument: VOA9** **Method: VOLATILES ORGANICS BY METHOD 8260C**

LCS Sample ID: **VLCSW-220521** Units: **ug/L** Analysis Date: **21-May-2022 12:15**
Client ID: Run ID: **VOA9_409090** SeqNo: **6657863** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromomethane	24.33	1.0	20	0	122	53 - 141				
Carbon disulfide	39.19	2.0	40	0	98.0	64 - 133				
Carbon tetrachloride	16.55	1.0	20	0	82.7	72 - 136				
Chlorobenzene	19.24	1.0	20	0	96.2	82 - 118				
Chloroethane	19.51	1.0	20	0	97.5	60 - 138				
Chloroform	19.15	1.0	20	0	95.7	79 - 124				
Chloromethane	19.37	1.0	20	0	96.8	50 - 139				
cis-1,2-Dichloroethene	19.24	1.0	20	0	96.2	78 - 123				
cis-1,3-Dichloropropene	17.15	1.0	20	0	85.7	75 - 124				
Dibromochloromethane	16.1	1.0	20	0	80.5	74 - 126				
Dibromomethane	19.17	1.0	20	0	95.9	79 - 123				
Dichlorodifluoromethane	20.41	1.0	20	0	102	32 - 152				
Ethylbenzene	20.28	1.0	20	0	101	79 - 121				
Hexachlorobutadiene	21.15	1.0	20	0	106	66 - 134				
Isopropylbenzene	20.47	1.0	20	0	102	72 - 131				
m,p-Xylene	40.93	2.0	40	0	102	80 - 121				
Methylene chloride	19.05	2.0	20	0	95.2	74 - 124				
Naphthalene	17.62	1.0	20	0	88.1	61 - 128				
n-Butylbenzene	19.06	1.0	20	0	95.3	75 - 128				
n-Propylbenzene	20.48	1.0	20	0	102	76 - 126				
o-Xylene	21.11	1.0	20	0	106	78 - 122				
sec-Butylbenzene	17.13	1.0	20	0	85.7	77 - 126				
Styrene	18.27	1.0	20	0	91.4	78 - 123				
tert-Butylbenzene	19.38	1.0	20	0	96.9	78 - 124				
Tetrachloroethene	20.64	1.0	20	0	103	74 - 129				
Toluene	21.4	1.0	20	0	107	80 - 121				
trans-1,2-Dichloroethene	18.86	1.0	20	0	94.3	75 - 124				
trans-1,3-Dichloropropene	16.15	1.0	20	0	80.7	73 - 127				
Trichloroethene	19.26	1.0	20	0	96.3	79 - 123				
Trichlorofluoromethane	19.1	1.0	20	0	95.5	65 - 141				
Vinyl chloride	19.54	1.0	20	0	97.7	58 - 137				
Surr: 1,2-Dichloroethane-d4	*52.03*	*1.0*	*50*	*0*	*104*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*49.22*	*1.0*	*50*	*0*	*98.4*	*85 - 114*				
Surr: Dibromofluoromethane	*50.02*	*1.0*	*50*	*0*	*100*	*80 - 119*				

ALS Houston, US Date: 23-May-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP37 May 2022
WorkOrder: HS22050827

QC BATCH REPORT

Batch ID: R409090 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

LCS Sample ID: **VLCSW-220521** Units: **ug/L** Analysis Date: **21-May-2022 12:15**
Client ID: Run ID: **VOA9_409090** SeqNo: **6657863** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Surr: Toluene-d8	*52.36*	*1.0*	*50*	*0*	*105*	*89 - 112*				

ALS Houston, US Date: 23-May-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP37 May 2022
WorkOrder: HS22050827

QC BATCH REPORT

Batch ID: R409090 (0) **Instrument: VOA9** **Method: VOLATILES ORGANICS BY METHOD 8260C**

MS Sample ID: **HS22050828-03MS** Units: **ug/L** Analysis Date: **21-May-2022 14:07**
Client ID: Run ID: **VOA9_409090** SeqNo: **6657867** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	17.79	1.0	20	0	89.0	78 - 124				
1,1,1-Trichloroethane	17.08	1.0	20	0	85.4	74 - 131				
1,1,2,2-Tetrachloroethane	19.48	1.0	20	0	97.4	71 - 121				
1,1,2-Trichlor-1,2,2-trifluoroethane	20.53	1.0	20	0	103	70 - 136				
1,1,2-Trichloroethane	18.2	1.0	20	0	91.0	80 - 119				
1,1-Dichloroethane	16.39	1.0	20	0	81.9	77 - 125				
1,1-Dichloroethene	16.75	1.0	20	0	83.8	71 - 131				
1,1-Dichloropropene	18.18	1.0	20	0	90.9	78 - 125				
1,2,3-Trichlorobenzene	15.95	1.0	20	0	79.8	69 - 129				
1,2,3-Trichloropropane	17.09	1.0	20	0	85.5	73 - 122				
1,2,4-Trichlorobenzene	14.99	1.0	20	0	75.0	69 - 130				
1,2,4-Trimethylbenzene	17.86	1.0	20	0	89.3	76 - 124				
1,2-Dibromo-3-chloropropane	15	1.0	20	0	75.0	62 - 128				
1,2-Dibromoethane	18.29	1.0	20	0	91.4	77 - 121				
1,2-Dichlorobenzene	18.1	1.0	20	0	90.5	80 - 119				
1,2-Dichloroethane	17.25	1.0	20	0	86.3	73 - 128				
1,2-Dichloropropane	18.42	1.0	20	0	92.1	78 - 122				
1,3,5-Trimethylbenzene	18.22	1.0	20	0	91.1	75 - 124				
1,3-Dichlorobenzene	18.52	1.0	20	0	92.6	80 - 119				
1,3-Dichloropropane	18.35	1.0	20	0	91.8	80 - 119				
1,4-Dichlorobenzene	17.68	1.0	20	0	88.4	79 - 118				
2,2-Dichloropropane	17.08	1.0	20	0	85.4	60 - 139				
2-Butanone	27.93	2.0	40	0	69.8	56 - 143				
2-Chlorotoluene	20.65	1.0	20	0	103	79 - 122				
2-Hexanone	32.68	2.0	40	0	81.7	57 - 139				
4-Chlorotoluene	20.05	1.0	20	0	100	78 - 122				
4-Isopropyltoluene	16.61	1.0	20	0	83.1	77 - 127				
4-Methyl-2-pentanone	33.88	2.0	40	0	84.7	67 - 130				
Acetone	27.91	2.0	40	0	69.8	39 - 160				
Benzene	18.63	1.0	20	0	93.1	79 - 120				
Bromobenzene	18.57	1.0	20	0	92.9	80 - 120				
Bromochloromethane	16.28	1.0	20	0	81.4	78 - 123				
Bromodichloromethane	17.01	1.0	20	0	85.1	79 - 125				
Bromoform	14.2	1.0	20	0	71.0	66 - 130				

ALS Houston, US Date: 23-May-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP37 May 2022
WorkOrder: HS22050827

QC BATCH REPORT

Batch ID: R409090 (0) **Instrument: VOA9** **Method: VOLATILES ORGANICS BY METHOD 8260C**

MS Sample ID: **HS22050828-03MS** Units: **ug/L** Analysis Date: **21-May-2022 14:07**
Client ID: Run ID: **VOA9_409090** SeqNo: **6657867** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromomethane	19.57	1.0	20	0	97.8	53 - 141				
Carbon disulfide	32.95	2.0	40	0	82.4	64 - 133				
Carbon tetrachloride	16.72	1.0	20	0	83.6	72 - 136				
Chlorobenzene	18.43	1.0	20	0	92.1	82 - 118				
Chloroethane	16.49	1.0	20	0	82.4	60 - 138				
Chloroform	16.4	1.0	20	0	82.0	79 - 124				
Chloromethane	15.32	1.0	20	0	76.6	50 - 139				
cis-1,2-Dichloroethene	16.22	1.0	20	0	81.1	78 - 123				
cis-1,3-Dichloropropene	15.22	1.0	20	0	76.1	75 - 124				
Dibromochloromethane	15.72	1.0	20	0	78.6	74 - 126				
Dibromomethane	17.13	1.0	20	0	85.6	79 - 123				
Dichlorodifluoromethane	12.83	1.0	20	0	64.1	32 - 152				
Ethylbenzene	19.46	1.0	20	0	97.3	79 - 121				
Hexachlorobutadiene	18.85	1.0	20	0	94.2	66 - 134				
Isopropylbenzene	19.87	1.0	20	0	99.4	72 - 131				
m,p-Xylene	39.62	2.0	40	0	99.0	80 - 121				
Methylene chloride	15.83	2.0	20	0	79.1	74 - 124				
Naphthalene	14.38	1.0	20	0	71.9	61 - 128				
n-Butylbenzene	17.35	1.0	20	0	86.8	75 - 128				
n-Propylbenzene	19.91	1.0	20	0	99.6	76 - 126				
o-Xylene	20.22	1.0	20	0	101	78 - 122				
sec-Butylbenzene	16.57	1.0	20	0	82.9	77 - 126				
Styrene	17.56	1.0	20	0	87.8	78 - 123				
tert-Butylbenzene	18.7	1.0	20	0	93.5	78 - 124				
Tetrachloroethene	30.39	1.0	20	9.363	105	74 - 129				
Toluene	20.56	1.0	20	0	103	80 - 121				
trans-1,2-Dichloroethene	16.44	1.0	20	0	82.2	75 - 124				
trans-1,3-Dichloropropene	15.04	1.0	20	0	75.2	73 - 127				
Trichloroethene	19.85	1.0	20	1.773	90.4	79 - 123				
Trichlorofluoromethane	16.96	1.0	20	0	84.8	65 - 141				
Vinyl chloride	16.23	1.0	20	0	81.2	58 - 137				
Surr: 1,2-Dichloroethane-d4	*45.45*	*1.0*	*50*	*0*	*90.9*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*51.16*	*1.0*	*50*	*0*	*102*	*85 - 114*				
Surr: Dibromofluoromethane	*44.33*	*1.0*	*50*	*0*	*88.7*	*80 - 119*				

ALS Houston, US Date: 23-May-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP37 May 2022
WorkOrder: HS22050827

QC BATCH REPORT

Batch ID: R409090 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS22050828-03MS** Units: **ug/L** Analysis Date: **21-May-2022 14:07**
Client ID: Run ID: **VOA9_409090** SeqNo: **6657867** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Surr: Toluene-d8	*55.61*	*1.0*	*50*	*0*	*111*	*89 - 112*				

ALS Houston, US Date: 23-May-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP37 May 2022
WorkOrder: HS22050827

QC BATCH REPORT

Batch ID: R409090 (0) **Instrument: VOA9** **Method: VOLATILES ORGANICS BY METHOD 8260C**

MSD Sample ID: **HS22050828-03MSD** Units: **ug/L** Analysis Date: **21-May-2022 14:29**
Client ID: Run ID: **VOA9_409090** SeqNo: **6657868** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	17.7	1.0	20	0	88.5	78 - 124	17.79	0.549	20	
1,1,1-Trichloroethane	16.8	1.0	20	0	84.0	74 - 131	17.08	1.67	20	
1,1,2,2-Tetrachloroethane	19.74	1.0	20	0	98.7	71 - 121	19.48	1.34	20	
1,1,2-Trichlor-1,2,2-trifluoroethane	20.03	1.0	20	0	100	70 - 136	20.53	2.48	20	
1,1,2-Trichloroethane	18.24	1.0	20	0	91.2	80 - 119	18.2	0.208	20	
1,1-Dichloroethane	16.3	1.0	20	0	81.5	77 - 125	16.39	0.549	20	
1,1-Dichloroethene	16.67	1.0	20	0	83.3	71 - 131	16.75	0.492	20	
1,1-Dichloropropene	18.07	1.0	20	0	90.4	78 - 125	18.18	0.588	20	
1,2,3-Trichlorobenzene	18.2	1.0	20	0	91.0	69 - 129	15.95	13.2	20	
1,2,3-Trichloropropane	16.76	1.0	20	0	83.8	73 - 122	17.09	2	20	
1,2,4-Trichlorobenzene	17.17	1.0	20	0	85.8	69 - 130	14.99	13.5	20	
1,2,4-Trimethylbenzene	18.29	1.0	20	0	91.5	76 - 124	17.86	2.38	20	
1,2-Dibromo-3-chloropropane	15.41	1.0	20	0	77.1	62 - 128	15	2.71	20	
1,2-Dibromoethane	18	1.0	20	0	90.0	77 - 121	18.29	1.57	20	
1,2-Dichlorobenzene	18.39	1.0	20	0	91.9	80 - 119	18.1	1.6	20	
1,2-Dichloroethane	17.53	1.0	20	0	87.7	73 - 128	17.25	1.61	20	
1,2-Dichloropropane	18.06	1.0	20	0	90.3	78 - 122	18.42	1.98	20	
1,3,5-Trimethylbenzene	18.4	1.0	20	0	92.0	75 - 124	18.22	1.01	20	
1,3-Dichlorobenzene	18.82	1.0	20	0	94.1	80 - 119	18.52	1.58	20	
1,3-Dichloropropane	18.18	1.0	20	0	90.9	80 - 119	18.35	0.939	20	
1,4-Dichlorobenzene	17.97	1.0	20	0	89.8	79 - 118	17.68	1.61	20	
2,2-Dichloropropane	16.81	1.0	20	0	84.1	60 - 139	17.08	1.6	20	
2-Butanone	29.34	2.0	40	0	73.3	56 - 143	27.93	4.91	20	
2-Chlorotoluene	20.94	1.0	20	0	105	79 - 122	20.65	1.38	20	
2-Hexanone	34.67	2.0	40	0	86.7	57 - 139	32.68	5.9	20	
4-Chlorotoluene	20.39	1.0	20	0	102	78 - 122	20.05	1.65	20	
4-Isopropyltoluene	17.19	1.0	20	0	85.9	77 - 127	16.61	3.41	20	
4-Methyl-2-pentanone	35.79	2.0	40	0	89.5	67 - 130	33.88	5.46	20	
Acetone	27.79	2.0	40	0	69.5	39 - 160	27.91	0.45	20	
Benzene	18.62	1.0	20	0	93.1	79 - 120	18.63	0.0326	20	
Bromobenzene	18.81	1.0	20	0	94.1	80 - 120	18.57	1.27	20	
Bromochloromethane	15.94	1.0	20	0	79.7	78 - 123	16.28	2.15	20	
Bromodichloromethane	17.05	1.0	20	0	85.2	79 - 125	17.01	0.192	20	
Bromoform	14.21	1.0	20	0	71.0	66 - 130	14.2	0.0283	20	

ALS Houston, US Date: 23-May-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP37 May 2022
WorkOrder: HS22050827

QC BATCH REPORT

Batch ID: R409090 (0) **Instrument: VOA9** **Method: VOLATILES ORGANICS BY METHOD 8260C**

MSD Sample ID: **HS22050828-03MSD** Units: **ug/L** Analysis Date: **21-May-2022 14:29**
Client ID: Run ID: **VOA9_409090** SeqNo: **6657868** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Bromomethane	19.02	1.0	20	0	95.1	53 - 141	19.57	2.83	20	
Carbon disulfide	32.94	2.0	40	0	82.3	64 - 133	32.95	0.0278	20	
Carbon tetrachloride	16.87	1.0	20	0	84.3	72 - 136	16.72	0.862	20	
Chlorobenzene	18.26	1.0	20	0	91.3	82 - 118	18.43	0.921	20	
Chloroethane	16.01	1.0	20	0	80.0	60 - 138	16.49	2.96	20	
Chloroform	16.39	1.0	20	0	82.0	79 - 124	16.4	0.0392	20	
Chloromethane	15.45	1.0	20	0	77.2	50 - 139	15.32	0.827	20	
cis-1,2-Dichloroethene	16.05	1.0	20	0	80.3	78 - 123	16.22	1.06	20	
cis-1,3-Dichloropropene	15.12	1.0	20	0	75.6	75 - 124	15.22	0.679	20	
Dibromochloromethane	15.87	1.0	20	0	79.4	74 - 126	15.72	0.955	20	
Dibromomethane	17.13	1.0	20	0	85.6	79 - 123	17.13	0.00714	20	
Dichlorodifluoromethane	12.67	1.0	20	0	63.4	32 - 152	12.83	1.2	20	
Ethylbenzene	19.75	1.0	20	0	98.8	79 - 121	19.46	1.49	20	
Hexachlorobutadiene	18.92	1.0	20	0	94.6	66 - 134	18.85	0.378	20	
Isopropylbenzene	20.12	1.0	20	0	101	72 - 131	19.87	1.21	20	
m,p-Xylene	39.57	2.0	40	0	98.9	80 - 121	39.62	0.125	20	
Methylene chloride	15.65	2.0	20	0	78.3	74 - 124	15.83	1.11	20	
Naphthalene	17.23	1.0	20	0	86.1	61 - 128	14.38	18	20	
n-Butylbenzene	18.86	1.0	20	0	94.3	75 - 128	17.35	8.3	20	
n-Propylbenzene	20.1	1.0	20	0	101	76 - 126	19.91	0.948	20	
o-Xylene	20.1	1.0	20	0	101	78 - 122	20.22	0.577	20	
sec-Butylbenzene	17.62	1.0	20	0	88.1	77 - 126	16.57	6.16	20	
Styrene	17.57	1.0	20	0	87.9	78 - 123	17.56	0.0477	20	
tert-Butylbenzene	19.35	1.0	20	0	96.7	78 - 124	18.7	3.4	20	
Tetrachloroethene	30.92	1.0	20	9.363	108	74 - 129	30.39	1.71	20	
Toluene	20.62	1.0	20	0	103	80 - 121	20.56	0.299	20	
trans-1,2-Dichloroethene	15.96	1.0	20	0	79.8	75 - 124	16.44	2.98	20	
trans-1,3-Dichloropropene	14.96	1.0	20	0	74.8	73 - 127	15.04	0.474	20	
Trichloroethene	19.37	1.0	20	1.773	88.0	79 - 123	19.85	2.47	20	
Trichlorofluoromethane	16.81	1.0	20	0	84.0	65 - 141	16.96	0.942	20	
Vinyl chloride	16.16	1.0	20	0	80.8	58 - 137	16.23	0.445	20	
Surr: 1,2-Dichloroethane-d4	*45.14*	*1.0*	*50*	*0*	*90.3*	*81 - 118*	*45.45*	*0.669*	*20*	
Surr: 4-Bromofluorobenzene	*50.75*	*1.0*	*50*	*0*	*102*	*85 - 114*	*51.16*	*0.793*	*20*	
Surr: Dibromofluoromethane	*43.88*	*1.0*	*50*	*0*	*87.8*	*80 - 119*	*44.33*	*1.01*	*20*	

ALS Houston, US Date: 23-May-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP37 May 2022
WorkOrder: HS22050827

QC BATCH REPORT

Batch ID: R409090 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS22050828-03MSD** Units: **ug/L** Analysis Date: **21-May-2022 14:29**
Client ID: Run ID: **VOA9_409090** SeqNo: **6657868** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Surr: Toluene-d8	*54.7*	*1.0*	*50*	*0*	*109*	*89 - 112*	*55.61*	*1.64*	*20*	

The following samples were analyzed in this batch: HS22050827-06 HS22050827-07 HS22050827-08

ALS Houston, US Date: 23-May-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP37 May 2022
WorkOrder: **HS22050827**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitaion Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Dept of Defense	L21-682	31-Dec-2023
Florida	E87611-34	30-Jun-2022
Illinois	2000322022-9	09-May-2023
Kansas	E-10352 2021-2022	31-Jul-2022
Louisiana	03087, 2021-2022	30-Jun-2022
Maryland	343, 2021-2022	30-Jun-2022
North Carolina	624-2022	31-Dec-2022
Oklahoma	2021-080	31-Aug-2022
Texas	T104704231-22-29	30-Apr-2023
Utah	TX026932021-12	30-Jul-2022

ALS Houston, US Date: 23-May-22

Sample Receipt Checklist

Work Order ID: HS22050827 **Date/Time Received:** 18-May-2022 09:40

Client Name: CBI-Houston **Received by:** Corey Grandits

Completed By: /S/ Corey Grandits (eSignature) 18-May-2022 17:22 (Date/Time) **Reviewed by:** /S/ Dane J. Wacasey (eSignature) 23-May-2022 09:30 (Date/Time)

Matrices: w Carrier name: FedEx

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
VOA/TX1005/TX1006 Solids in hermetically sealed vials?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	1 Page(s)
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Samplers name present on COC?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	

Temperature(s)/Thermometer(s):	4.0uc/4.5c	IR31
Cooler(s)/Kit(s):	47487	
Date/Time sample(s) sent to storage:	5/18/2022	

Water - VOA vials have zero headspace?	Yes ☑	No ☐	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☑	No ☐	N/A ☐
pH adjusted?	Yes ☐	No ☑	N/A ☐
pH adjusted by:			

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:

CHAIN OF CUSTODY

Name Of Lab Shipping To: ALS 10450 Stancliff Rd. Suite 210 Houston, TX. 77099 (281) 530-5656 ATTN: Ragen Giga

HS22050827

Aptim Environmental & Infrastucture, Inc.

LHAAP37 May 2022

Project: APTIM LONGHORN
ARMY AMMN. PLANT (LHAAP)
GROUNDWATER TREATMENT PLANT (GWTP)
KARNACK, TEXAS

Project No. 501032

Job: **LHAAP 37 May 2022**

Prepared By: Scott Beesinger

P.O. Number

Field Sample I.D.	Sample Matrix	Date / Time	MS / MSD	No. OF CONTAINERS	Analyses: VOC by SW 8260B	TOC by SM5310C	MEE by RSK 175	Anions (chloride sulfate, nitrate) by SW9056	CO2 by RSK 175	Remarks (Preservatives, etc.)	Lab I.D.#
35BWW10-220516	W6	5/16/22 0735		3	X						
35BWW05-220516	W6	5/16/22 0820		3	X						
35BWW07-220516	W6	5/16/22 0920		3	X						
35BWW13-220516	W6	5/16/22 1005		3	X						
35BWW16-220516	W6	5/16/22 1050		3	X						
35BWW17-220516	W6	5/16/22 1135		3	X						
35BWW24-220516	W6	5/16/22 1220		3	X						
35BWW24-220516-FD	W6	5/16/22 1220		3	X						

Additional Remarks: **Standard TAT on all parameters. Please email results to Vicki.Graves@aptim.com and invoices to fedinvoices@aptim.com**

Relinquished By:	Date	Time	Received By:	Date	Time	Relinquished By:	Date	Time	Received By:	Date	Time
Scott Beesinger	5/17/22	1430	FedEx	5/17/22	0900						

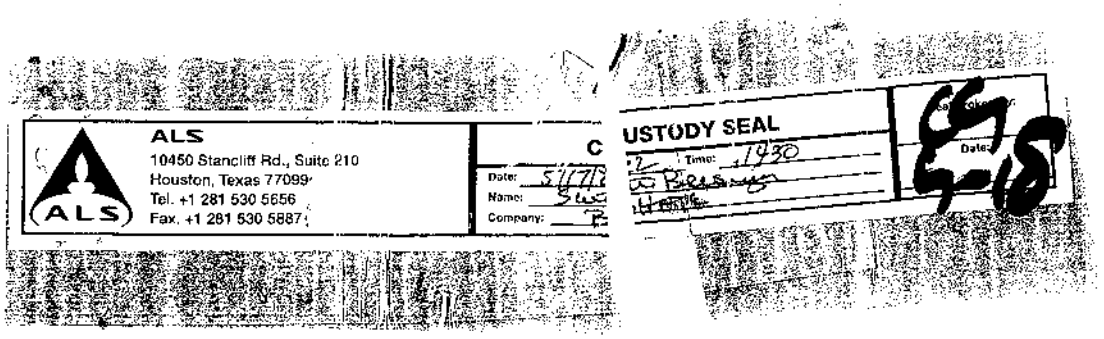
For Lab Use Only

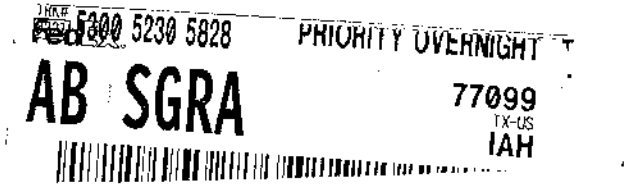
Received At Lab By:	Date	Time	Airbill No.	Opened By:	Date	Time	Temp of Container	Seal No.	Condition
							4.0°C		

Remarks:

1631 47487
CF=0.5

(Word) S:\I-ces\Forms\Chain of Custody - BiWeekly


ALS
10450 Stancliff Rd., Suite 210
Houston, Texas 77099
Tel. +1 281 530 5656
Fax. +1 281 530 5887
USTODY SEAL
Time: 1730


5200 5230 5828
PRIORITY OVERNIGHT
AB SGRA
77099
TX-US
IAH

10450 Stancliff Rd. Suite 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887

May 23, 2022

Vicki Graves
Aptim Environmental & Infrastucture, Inc.
10333 Richmond Ave
Ste 1030
Houston, TX 77042

Work Order: **HS22050828**

Laboratory Results for: **LHAAP37 May 2022**

Dear Vicki Graves ,

ALS Environmental received 4 sample(s) on May 18, 2022 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Generated By: JUMOKE.LAWAL
Dane J. Wacasey

ALS Houston, US Date: 23-May-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP37 May 2022
Work Order: HS22050828

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS22050828-01	LHSMW58-220517	Water		17-May-2022 10:55	18-May-2022 09:40	☐
HS22050828-02	35BWW11-220517	Water		17-May-2022 11:40	18-May-2022 09:40	☐
HS22050828-03	35BWW20-220517	Water		17-May-2022 12:25	18-May-2022 09:40	☐
HS22050828-04	Trip Blank-220517	Water	cg-020822-748	17-May-2022 00:00	18-May-2022 09:40	☐

ALS Houston, US Date: 23-May-22

Client: Aptim Environmental & Infrastucture, Inc. **CASE NARRATIVE**
Project: LHAAP37 May 2022
Work Order: HS22050828

GCMS Volatiles by Method SW8260

Batch ID: R409090

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

ALS Houston, US Date: 23-May-22

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: LHAAP37 May 2022 WorkOrder:HS22050828
Sample ID: LHSMW58-220517 Lab ID:HS22050828-01
Collection Date: 17-May-2022 10:55 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 17:05
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 17:05
1,1,2,2-Tetrachloroethane	0.50	U	0.50	0.50	1.0	ug/L	1	21-May-2022 17:05
1,1,2-Trichlor-1,2,2-trifluoroethane	0.50	U	0.50	0.50	1.0	ug/L	1	21-May-2022 17:05
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 17:05
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 17:05
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 17:05
1,1-Dichloropropene	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 17:05
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	21-May-2022 17:05
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	21-May-2022 17:05
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	21-May-2022 17:05
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 17:05
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 17:05
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 17:05
1,2-Dichlorobenzene	0.50	U	0.50	0.50	1.0	ug/L	1	21-May-2022 17:05
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 17:05
1,2-Dichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	21-May-2022 17:05
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 17:05
1,3-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	21-May-2022 17:05
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 17:05
1,4-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	21-May-2022 17:05
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 17:05
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	21-May-2022 17:05
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 17:05
2-Hexanone	2.0	U	1.0	2.0	2.0	ug/L	1	21-May-2022 17:05
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	21-May-2022 17:05
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 17:05
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	ug/L	1	21-May-2022 17:05
Acetone	2.0	U	0.40	2.0	2.0	ug/L	1	21-May-2022 17:05
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 17:05
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	21-May-2022 17:05
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 17:05
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 17:05
Bromoform	0.50	U	0.40	0.50	1.0	ug/L	1	21-May-2022 17:05
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	21-May-2022 17:05
Carbon disulfide	2.0	U	0.60	2.0	2.0	ug/L	1	21-May-2022 17:05
Carbon tetrachloride	0.50	U	0.50	0.50	1.0	ug/L	1	21-May-2022 17:05
Chlorobenzene	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 17:05
Chloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 17:05

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 23-May-22

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: LHAAP37 May 2022 WorkOrder:HS22050828
Sample ID: LHSMW58-220517 Lab ID:HS22050828-01
Collection Date: 17-May-2022 10:55 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 17:05
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 17:05
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 17:05
cis-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 17:05
Dibromochloromethane	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 17:05
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 17:05
Dichlorodifluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 17:05
Ethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 17:05
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	21-May-2022 17:05
Isopropylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 17:05
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	21-May-2022 17:05
Methylene chloride	2.0	U	0.40	2.0	2.0	ug/L	1	21-May-2022 17:05
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	21-May-2022 17:05
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 17:05
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 17:05
o-Xylene	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 17:05
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 17:05
Styrene	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 17:05
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 17:05
Tetrachloroethene	**9.5**		**0.30**	**0.50**	**1.0**	**ug/L**	1	21-May-2022 17:05
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 17:05
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 17:05
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 17:05
Trichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 17:05
Trichlorofluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 17:05
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 17:05
Surr: 1,2-Dichloroethane-d4	*104*			**0**	*81-118*	*%REC*	*1*	*21-May-2022 17:05*
Surr: 4-Bromofluorobenzene	*87.1*			**0**	*85-114*	*%REC*	*1*	*21-May-2022 17:05*
Surr: Dibromofluoromethane	*97.0*			**0**	*80-119*	*%REC*	*1*	*21-May-2022 17:05*
Surr: Toluene-d8	*111*			**0**	*89-112*	*%REC*	*1*	*21-May-2022 17:05*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 23-May-22

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: LHAAP37 May 2022 WorkOrder:HS22050828
Sample ID: 35BWW11-220517 Lab ID:HS22050828-02
Collection Date: 17-May-2022 11:40 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 17:28
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 17:28
1,1,2,2-Tetrachloroethane	0.50	U	0.50	0.50	1.0	ug/L	1	21-May-2022 17:28
1,1,2-Trichlor-1,2,2-trifluoroethane	0.50	U	0.50	0.50	1.0	ug/L	1	21-May-2022 17:28
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 17:28
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 17:28
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 17:28
1,1-Dichloropropene	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 17:28
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	21-May-2022 17:28
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	21-May-2022 17:28
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	21-May-2022 17:28
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 17:28
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 17:28
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 17:28
1,2-Dichlorobenzene	0.50	U	0.50	0.50	1.0	ug/L	1	21-May-2022 17:28
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 17:28
1,2-Dichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	21-May-2022 17:28
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 17:28
1,3-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	21-May-2022 17:28
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 17:28
1,4-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	21-May-2022 17:28
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 17:28
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	21-May-2022 17:28
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 17:28
2-Hexanone	2.0	U	1.0	2.0	2.0	ug/L	1	21-May-2022 17:28
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	21-May-2022 17:28
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 17:28
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	ug/L	1	21-May-2022 17:28
Acetone	2.0	U	0.40	2.0	2.0	ug/L	1	21-May-2022 17:28
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 17:28
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	21-May-2022 17:28
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 17:28
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 17:28
Bromoform	0.50	U	0.40	0.50	1.0	ug/L	1	21-May-2022 17:28
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	21-May-2022 17:28
Carbon disulfide	2.0	U	0.60	2.0	2.0	ug/L	1	21-May-2022 17:28
Carbon tetrachloride	0.50	U	0.50	0.50	1.0	ug/L	1	21-May-2022 17:28
Chlorobenzene	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 17:28
Chloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 17:28

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 23-May-22

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: LHAAP37 May 2022 WorkOrder:HS22050828
Sample ID: 35BWW11-220517 Lab ID:HS22050828-02
Collection Date: 17-May-2022 11:40 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 17:28
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 17:28
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 17:28
cis-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 17:28
Dibromochloromethane	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 17:28
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 17:28
Dichlorodifluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 17:28
Ethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 17:28
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	21-May-2022 17:28
Isopropylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 17:28
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	21-May-2022 17:28
Methylene chloride	2.0	U	0.40	2.0	2.0	ug/L	1	21-May-2022 17:28
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	21-May-2022 17:28
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 17:28
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 17:28
o-Xylene	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 17:28
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 17:28
Styrene	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 17:28
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 17:28
Tetrachloroethene	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 17:28
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 17:28
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 17:28
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 17:28
Trichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 17:28
Trichlorofluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 17:28
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 17:28
Surr: 1,2-Dichloroethane-d4	*103*			**0**	*81-118*	*%REC*	*1*	*21-May-2022 17:28*
Surr: 4-Bromofluorobenzene	*86.1*			**0**	*85-114*	*%REC*	*1*	*21-May-2022 17:28*
Surr: Dibromofluoromethane	*97.7*			**0**	*80-119*	*%REC*	*1*	*21-May-2022 17:28*
Surr: Toluene-d8	*110*			**0**	*89-112*	*%REC*	*1*	*21-May-2022 17:28*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 23-May-22

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: LHAAP37 May 2022 WorkOrder:HS22050828
Sample ID: 35BWW20-220517 Lab ID:HS22050828-03
Collection Date: 17-May-2022 12:25 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 13:22
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 13:22
1,1,2,2-Tetrachloroethane	0.50	U	0.50	0.50	1.0	ug/L	1	21-May-2022 13:22
1,1,2-Trichlor-1,2,2-trifluoroethane	0.50	U	0.50	0.50	1.0	ug/L	1	21-May-2022 13:22
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 13:22
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 13:22
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 13:22
1,1-Dichloropropene	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 13:22
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	21-May-2022 13:22
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	21-May-2022 13:22
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	21-May-2022 13:22
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 13:22
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 13:22
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 13:22
1,2-Dichlorobenzene	0.50	U	0.50	0.50	1.0	ug/L	1	21-May-2022 13:22
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 13:22
1,2-Dichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	21-May-2022 13:22
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 13:22
1,3-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	21-May-2022 13:22
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 13:22
1,4-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	21-May-2022 13:22
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 13:22
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	21-May-2022 13:22
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 13:22
2-Hexanone	2.0	U	1.0	2.0	2.0	ug/L	1	21-May-2022 13:22
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	21-May-2022 13:22
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 13:22
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	ug/L	1	21-May-2022 13:22
Acetone	2.0	U	0.40	2.0	2.0	ug/L	1	21-May-2022 13:22
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 13:22
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	21-May-2022 13:22
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 13:22
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 13:22
Bromoform	0.50	U	0.40	0.50	1.0	ug/L	1	21-May-2022 13:22
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	21-May-2022 13:22
Carbon disulfide	2.0	U	0.60	2.0	2.0	ug/L	1	21-May-2022 13:22
Carbon tetrachloride	0.50	U	0.50	0.50	1.0	ug/L	1	21-May-2022 13:22
Chlorobenzene	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 13:22
Chloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 13:22

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 23-May-22

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: LHAAP37 May 2022 WorkOrder:HS22050828
Sample ID: 35BWW20-220517 Lab ID:HS22050828-03
Collection Date: 17-May-2022 12:25 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 13:22
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 13:22
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 13:22
cis-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 13:22
Dibromochloromethane	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 13:22
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 13:22
Dichlorodifluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 13:22
Ethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 13:22
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	21-May-2022 13:22
Isopropylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 13:22
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	21-May-2022 13:22
Methylene chloride	2.0	U	0.40	2.0	2.0	ug/L	1	21-May-2022 13:22
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	21-May-2022 13:22
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 13:22
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 13:22
o-Xylene	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 13:22
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 13:22
Styrene	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 13:22
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 13:22
Tetrachloroethene	**9.4**		**0.30**	**0.50**	**1.0**	**ug/L**	1	21-May-2022 13:22
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 13:22
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 13:22
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 13:22
Trichloroethene	**1.8**		**0.20**	**0.50**	**1.0**	**ug/L**	1	21-May-2022 13:22
Trichlorofluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 13:22
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 13:22
Surr: 1,2-Dichloroethane-d4	*99.7*			**0**	*81-118*	*%REC*	*1*	*21-May-2022 13:22*
Surr: 4-Bromofluorobenzene	*88.2*			**0**	*85-114*	*%REC*	*1*	*21-May-2022 13:22*
Surr: Dibromofluoromethane	*94.6*			**0**	*80-119*	*%REC*	*1*	*21-May-2022 13:22*
Surr: Toluene-d8	*109*			**0**	*89-112*	*%REC*	*1*	*21-May-2022 13:22*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 23-May-22

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: LHAAP37 May 2022 WorkOrder:HS22050828
Sample ID: Trip Blank-220517 Lab ID:HS22050828-04
Collection Date: 17-May-2022 00:00 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 13:44
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 13:44
1,1,2,2-Tetrachloroethane	0.50	U	0.50	0.50	1.0	ug/L	1	21-May-2022 13:44
1,1,2-Trichlor-1,2,2-trifluoroethane	0.50	U	0.50	0.50	1.0	ug/L	1	21-May-2022 13:44
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 13:44
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 13:44
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 13:44
1,1-Dichloropropene	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 13:44
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	21-May-2022 13:44
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	21-May-2022 13:44
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	21-May-2022 13:44
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 13:44
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 13:44
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 13:44
1,2-Dichlorobenzene	0.50	U	0.50	0.50	1.0	ug/L	1	21-May-2022 13:44
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 13:44
1,2-Dichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	21-May-2022 13:44
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 13:44
1,3-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	21-May-2022 13:44
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 13:44
1,4-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	21-May-2022 13:44
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 13:44
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	21-May-2022 13:44
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 13:44
2-Hexanone	2.0	U	1.0	2.0	2.0	ug/L	1	21-May-2022 13:44
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	21-May-2022 13:44
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 13:44
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	ug/L	1	21-May-2022 13:44
Acetone	2.0	U	0.40	2.0	2.0	ug/L	1	21-May-2022 13:44
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 13:44
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	21-May-2022 13:44
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 13:44
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 13:44
Bromoform	0.50	U	0.40	0.50	1.0	ug/L	1	21-May-2022 13:44
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	21-May-2022 13:44
Carbon disulfide	2.0	U	0.60	2.0	2.0	ug/L	1	21-May-2022 13:44
Carbon tetrachloride	0.50	U	0.50	0.50	1.0	ug/L	1	21-May-2022 13:44
Chlorobenzene	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 13:44
Chloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 13:44

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 23-May-22

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: LHAAP37 May 2022 WorkOrder:HS22050828
Sample ID: Trip Blank-220517 Lab ID:HS22050828-04
Collection Date: 17-May-2022 00:00 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 13:44
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 13:44
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 13:44
cis-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 13:44
Dibromochloromethane	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 13:44
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 13:44
Dichlorodifluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 13:44
Ethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 13:44
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	21-May-2022 13:44
Isopropylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 13:44
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	21-May-2022 13:44
Methylene chloride	2.0	U	0.40	2.0	2.0	ug/L	1	21-May-2022 13:44
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	21-May-2022 13:44
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 13:44
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 13:44
o-Xylene	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 13:44
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 13:44
Styrene	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 13:44
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 13:44
Tetrachloroethene	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 13:44
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 13:44
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 13:44
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 13:44
Trichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 13:44
Trichlorofluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 13:44
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 13:44
Surr: 1,2-Dichloroethane-d4	*102*			**0**	*81-118*	*%REC*	*1*	*21-May-2022 13:44*
Surr: 4-Bromofluorobenzene	*87.3*			**0**	*85-114*	*%REC*	*1*	*21-May-2022 13:44*
Surr: Dibromofluoromethane	*95.4*			**0**	*80-119*	*%REC*	*1*	*21-May-2022 13:44*
Surr: Toluene-d8	*111*			**0**	*89-112*	*%REC*	*1*	*21-May-2022 13:44*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 23-May-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP37 May 2022
WorkOrder: HS22050828

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: R409090 (0)	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C				**Matrix:** Water	
HS22050828-01	LHSMW58-220517	17 May 2022 10:55			21 May 2022 17:05	1
HS22050828-02	35BWW11-220517	17 May 2022 11:40			21 May 2022 17:28	1
HS22050828-03	35BWW20-220517	17 May 2022 12:25			21 May 2022 13:22	1
HS22050828-04	Trip Blank-220517	17 May 2022 00:00			21 May 2022 13:44	1

ALS Houston, US Date: 23-May-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP37 May 2022
WorkOrder: HS22050828

QC BATCH REPORT

Batch ID: R409090 (0) **Instrument: VOA9** **Method: VOLATILES ORGANICS BY METHOD 8260C**

MBLK Sample ID: **VBLKW-220521** Units: **ug/L** Analysis Date: **21-May-2022 12:59**
Client ID: Run ID: **VOA9_409090** SeqNo: **6657864** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	0.50	1.0								U
1,1,1-Trichloroethane	0.50	1.0								U
1,1,2,2-Tetrachloroethane	0.50	1.0								U
1,1,2-Trichlor-1,2,2-trifluoroethane	0.50	1.0								U
1,1,2-Trichloroethane	0.50	1.0								U
1,1-Dichloroethane	0.50	1.0								U
1,1-Dichloroethene	0.50	1.0								U
1,1-Dichloropropene	0.50	1.0								U
1,2,3-Trichlorobenzene	1.0	1.0								U
1,2,3-Trichloropropane	1.0	1.0								U
1,2,4-Trichlorobenzene	1.0	1.0								U
1,2,4-Trimethylbenzene	1.0	1.0								U
1,2-Dibromo-3-chloropropane	0.50	1.0								U
1,2-Dibromoethane	0.50	1.0								U
1,2-Dichlorobenzene	0.50	1.0								U
1,2-Dichloroethane	0.50	1.0								U
1,2-Dichloropropane	0.50	1.0								U
1,3,5-Trimethylbenzene	1.0	1.0								U
1,3-Dichlorobenzene	0.50	1.0								U
1,3-Dichloropropane	1.0	1.0								U
1,4-Dichlorobenzene	0.50	1.0								U
2,2-Dichloropropane	0.50	1.0								U
2-Butanone	1.0	2.0								U
2-Chlorotoluene	1.0	1.0								U
2-Hexanone	2.0	2.0								U
4-Chlorotoluene	1.0	1.0								U
4-Isopropyltoluene	1.0	1.0								U
4-Methyl-2-pentanone	2.0	2.0								U
Acetone	2.0	2.0								U
Benzene	0.50	1.0								U
Bromobenzene	1.0	1.0								U
Bromochloromethane	0.50	1.0								U
Bromodichloromethane	0.50	1.0								U
Bromoform	0.50	1.0								U

ALS Houston, US Date: 23-May-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP37 May 2022
WorkOrder: HS22050828

QC BATCH REPORT

Batch ID: R409090 (0) **Instrument: VOA9** **Method: VOLATILES ORGANICS BY METHOD 8260C**

MBLK Sample ID: **VBLKW-220521** Units: **ug/L** Analysis Date: **21-May-2022 12:59**
Client ID: Run ID: **VOA9_409090** SeqNo: **6657864** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromomethane	1.0	1.0								U
Carbon disulfide	2.0	2.0								U
Carbon tetrachloride	0.50	1.0								U
Chlorobenzene	0.50	1.0								U
Chloroethane	0.50	1.0								U
Chloroform	0.50	1.0								U
Chloromethane	0.50	1.0								U
cis-1,2-Dichloroethene	0.50	1.0								U
cis-1,3-Dichloropropene	0.50	1.0								U
Dibromochloromethane	0.50	1.0								U
Dibromomethane	0.50	1.0								U
Dichlorodifluoromethane	0.50	1.0								U
Ethylbenzene	0.50	1.0								U
Hexachlorobutadiene	1.0	1.0								U
Isopropylbenzene	0.50	1.0								U
m,p-Xylene	1.0	2.0								U
Methylene chloride	2.0	2.0								U
Naphthalene	1.0	1.0								U
n-Butylbenzene	1.0	1.0								U
n-Propylbenzene	1.0	1.0								U
o-Xylene	0.50	1.0								U
sec-Butylbenzene	1.0	1.0								U
Styrene	0.50	1.0								U
tert-Butylbenzene	1.0	1.0								U
Tetrachloroethene	0.50	1.0								U
Toluene	0.50	1.0								U
trans-1,2-Dichloroethene	0.50	1.0								U
trans-1,3-Dichloropropene	0.50	1.0								U
Trichloroethene	0.50	1.0								U
Trichlorofluoromethane	0.50	1.0								U
Vinyl chloride	0.50	1.0								U
Surr: 1,2-Dichloroethane-d4	*49.01*	*1.0*	*50*	*0*	*98.0*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*44.41*	*1.0*	*50*	*0*	*88.8*	*85 - 114*				
Surr: Dibromofluoromethane	*46.17*	*1.0*	*50*	*0*	*92.3*	*80 - 119*				

ALS Houston, US Date: 23-May-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP37 May 2022
WorkOrder: HS22050828

QC BATCH REPORT

Batch ID: R409090 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MBLK Sample ID: **VBLKW-220521** Units: **ug/L** Analysis Date: **21-May-2022 12:59**
Client ID: Run ID: **VOA9_409090** SeqNo: **6657864** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Surr: Toluene-d8	*55.65*	*1.0*	*50*	*0*	*111*	*89 - 112*				

ALS Houston, US Date: 23-May-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP37 May 2022
WorkOrder: HS22050828

QC BATCH REPORT

Batch ID: R409090 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

LCS Sample ID: **VLCSW-220521** Units: **ug/L** Analysis Date: **21-May-2022 12:15**
Client ID: Run ID: **VOA9_409090** SeqNo: **6657863** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	18.36	1.0	20	0	91.8	78 - 124				
1,1,1-Trichloroethane	19.31	1.0	20	0	96.6	74 - 131				
1,1,2,2-Tetrachloroethane	20.71	1.0	20	0	104	71 - 121				
1,1,2-Trichlor-1,2,2-trifluoroethane	21.29	1.0	20	0	106	70 - 136				
1,1,2-Trichloroethane	19.25	1.0	20	0	96.2	80 - 119				
1,1-Dichloroethane	19.42	1.0	20	0	97.1	77 - 125				
1,1-Dichloroethene	18.87	1.0	20	0	94.3	71 - 131				
1,1-Dichloropropene	19.34	1.0	20	0	96.7	78 - 125				
1,2,3-Trichlorobenzene	18.47	1.0	20	0	92.4	69 - 129				
1,2,3-Trichloropropane	18.11	1.0	20	0	90.6	73 - 122				
1,2,4-Trichlorobenzene	18.02	1.0	20	0	90.1	69 - 130				
1,2,4-Trimethylbenzene	19.1	1.0	20	0	95.5	76 - 124				
1,2-Dibromo-3-chloropropane	16.53	1.0	20	0	82.6	62 - 128				
1,2-Dibromoethane	19.35	1.0	20	0	96.8	77 - 121				
1,2-Dichlorobenzene	19.47	1.0	20	0	97.4	80 - 119				
1,2-Dichloroethane	19.63	1.0	20	0	98.2	73 - 128				
1,2-Dichloropropane	19.98	1.0	20	0	99.9	78 - 122				
1,3,5-Trimethylbenzene	19.03	1.0	20	0	95.2	75 - 124				
1,3-Dichlorobenzene	19.64	1.0	20	0	98.2	80 - 119				
1,3-Dichloropropane	19.55	1.0	20	0	97.7	80 - 119				
1,4-Dichlorobenzene	18.49	1.0	20	0	92.5	79 - 118				
2,2-Dichloropropane	19.53	1.0	20	0	97.6	60 - 139				
2-Butanone	40.06	2.0	40	0	100	56 - 143				
2-Chlorotoluene	21.98	1.0	20	0	110	79 - 122				
2-Hexanone	38.1	2.0	40	0	95.2	57 - 139				
4-Chlorotoluene	21.04	1.0	20	0	105	78 - 122				
4-Isopropyltoluene	17.23	1.0	20	0	86.2	77 - 127				
4-Methyl-2-pentanone	38.19	2.0	40	0	95.5	67 - 130				
Acetone	49.09	2.0	40	0	123	39 - 160				
Benzene	20.02	1.0	20	0	100	79 - 120				
Bromobenzene	20.13	1.0	20	0	101	80 - 120				
Bromochloromethane	19.27	1.0	20	0	96.4	78 - 123				
Bromodichloromethane	18.7	1.0	20	0	93.5	79 - 125				
Bromoform	14.85	1.0	20	0	74.2	66 - 130				

ALS Houston, US Date: 23-May-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP37 May 2022
WorkOrder: HS22050828

QC BATCH REPORT

Batch ID: R409090 (0) **Instrument: VOA9** **Method: VOLATILES ORGANICS BY METHOD 8260C**

LCS Sample ID: **VLCSW-220521** Units: **ug/L** Analysis Date: **21-May-2022 12:15**
Client ID: Run ID: **VOA9_409090** SeqNo: **6657863** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromomethane	24.33	1.0	20	0	122	53 - 141				
Carbon disulfide	39.19	2.0	40	0	98.0	64 - 133				
Carbon tetrachloride	16.55	1.0	20	0	82.7	72 - 136				
Chlorobenzene	19.24	1.0	20	0	96.2	82 - 118				
Chloroethane	19.51	1.0	20	0	97.5	60 - 138				
Chloroform	19.15	1.0	20	0	95.7	79 - 124				
Chloromethane	19.37	1.0	20	0	96.8	50 - 139				
cis-1,2-Dichloroethene	19.24	1.0	20	0	96.2	78 - 123				
cis-1,3-Dichloropropene	17.15	1.0	20	0	85.7	75 - 124				
Dibromochloromethane	16.1	1.0	20	0	80.5	74 - 126				
Dibromomethane	19.17	1.0	20	0	95.9	79 - 123				
Dichlorodifluoromethane	20.41	1.0	20	0	102	32 - 152				
Ethylbenzene	20.28	1.0	20	0	101	79 - 121				
Hexachlorobutadiene	21.15	1.0	20	0	106	66 - 134				
Isopropylbenzene	20.47	1.0	20	0	102	72 - 131				
m,p-Xylene	40.93	2.0	40	0	102	80 - 121				
Methylene chloride	19.05	2.0	20	0	95.2	74 - 124				
Naphthalene	17.62	1.0	20	0	88.1	61 - 128				
n-Butylbenzene	19.06	1.0	20	0	95.3	75 - 128				
n-Propylbenzene	20.48	1.0	20	0	102	76 - 126				
o-Xylene	21.11	1.0	20	0	106	78 - 122				
sec-Butylbenzene	17.13	1.0	20	0	85.7	77 - 126				
Styrene	18.27	1.0	20	0	91.4	78 - 123				
tert-Butylbenzene	19.38	1.0	20	0	96.9	78 - 124				
Tetrachloroethene	20.64	1.0	20	0	103	74 - 129				
Toluene	21.4	1.0	20	0	107	80 - 121				
trans-1,2-Dichloroethene	18.86	1.0	20	0	94.3	75 - 124				
trans-1,3-Dichloropropene	16.15	1.0	20	0	80.7	73 - 127				
Trichloroethene	19.26	1.0	20	0	96.3	79 - 123				
Trichlorofluoromethane	19.1	1.0	20	0	95.5	65 - 141				
Vinyl chloride	19.54	1.0	20	0	97.7	58 - 137				
Surr: 1,2-Dichloroethane-d4	*52.03*	*1.0*	*50*	*0*	*104*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*49.22*	*1.0*	*50*	*0*	*98.4*	*85 - 114*				
Surr: Dibromofluoromethane	*50.02*	*1.0*	*50*	*0*	*100*	*80 - 119*				

ALS Houston, US Date: 23-May-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP37 May 2022
WorkOrder: HS22050828

QC BATCH REPORT

Batch ID: R409090 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

LCS Sample ID: **VLCSW-220521** Units: **ug/L** Analysis Date: **21-May-2022 12:15**
Client ID: Run ID: **VOA9_409090** SeqNo: **6657863** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Surr: Toluene-d8	*52.36*	*1.0*	*50*	*0*	*105*	*89 - 112*				

ALS Houston, US Date: 23-May-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP37 May 2022
WorkOrder: HS22050828

QC BATCH REPORT

Batch ID: R409090 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS22050828-03MS** Units: **ug/L** Analysis Date: **21-May-2022 14:07**
Client ID: **35BWW20-220517** Run ID: **VOA9_409090** SeqNo: **6657867** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	17.79	1.0	20	0	89.0	78 - 124				
1,1,1-Trichloroethane	17.08	1.0	20	0	85.4	74 - 131				
1,1,2,2-Tetrachloroethane	19.48	1.0	20	0	97.4	71 - 121				
1,1,2-Trichlor-1,2,2-trifluoroethane	20.53	1.0	20	0	103	70 - 136				
1,1,2-Trichloroethane	18.2	1.0	20	0	91.0	80 - 119				
1,1-Dichloroethane	16.39	1.0	20	0	81.9	77 - 125				
1,1-Dichloroethene	16.75	1.0	20	0	83.8	71 - 131				
1,1-Dichloropropene	18.18	1.0	20	0	90.9	78 - 125				
1,2,3-Trichlorobenzene	15.95	1.0	20	0	79.8	69 - 129				
1,2,3-Trichloropropane	17.09	1.0	20	0	85.5	73 - 122				
1,2,4-Trichlorobenzene	14.99	1.0	20	0	75.0	69 - 130				
1,2,4-Trimethylbenzene	17.86	1.0	20	0	89.3	76 - 124				
1,2-Dibromo-3-chloropropane	15	1.0	20	0	75.0	62 - 128				
1,2-Dibromoethane	18.29	1.0	20	0	91.4	77 - 121				
1,2-Dichlorobenzene	18.1	1.0	20	0	90.5	80 - 119				
1,2-Dichloroethane	17.25	1.0	20	0	86.3	73 - 128				
1,2-Dichloropropane	18.42	1.0	20	0	92.1	78 - 122				
1,3,5-Trimethylbenzene	18.22	1.0	20	0	91.1	75 - 124				
1,3-Dichlorobenzene	18.52	1.0	20	0	92.6	80 - 119				
1,3-Dichloropropane	18.35	1.0	20	0	91.8	80 - 119				
1,4-Dichlorobenzene	17.68	1.0	20	0	88.4	79 - 118				
2,2-Dichloropropane	17.08	1.0	20	0	85.4	60 - 139				
2-Butanone	27.93	2.0	40	0	69.8	56 - 143				
2-Chlorotoluene	20.65	1.0	20	0	103	79 - 122				
2-Hexanone	32.68	2.0	40	0	81.7	57 - 139				
4-Chlorotoluene	20.05	1.0	20	0	100	78 - 122				
4-Isopropyltoluene	16.61	1.0	20	0	83.1	77 - 127				
4-Methyl-2-pentanone	33.88	2.0	40	0	84.7	67 - 130				
Acetone	27.91	2.0	40	0	69.8	39 - 160				
Benzene	18.63	1.0	20	0	93.1	79 - 120				
Bromobenzene	18.57	1.0	20	0	92.9	80 - 120				
Bromochloromethane	16.28	1.0	20	0	81.4	78 - 123				
Bromodichloromethane	17.01	1.0	20	0	85.1	79 - 125				
Bromoform	14.2	1.0	20	0	71.0	66 - 130				

ALS Houston, US Date: 23-May-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP37 May 2022
WorkOrder: HS22050828

QC BATCH REPORT

Batch ID: R409090 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS22050828-03MS** Units: **ug/L** Analysis Date: **21-May-2022 14:07**
Client ID: **35BWW20-220517** Run ID: **VOA9_409090** SeqNo: **6657867** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromomethane	19.57	1.0	20	0	97.8	53 - 141				
Carbon disulfide	32.95	2.0	40	0	82.4	64 - 133				
Carbon tetrachloride	16.72	1.0	20	0	83.6	72 - 136				
Chlorobenzene	18.43	1.0	20	0	92.1	82 - 118				
Chloroethane	16.49	1.0	20	0	82.4	60 - 138				
Chloroform	16.4	1.0	20	0	82.0	79 - 124				
Chloromethane	15.32	1.0	20	0	76.6	50 - 139				
cis-1,2-Dichloroethene	16.22	1.0	20	0	81.1	78 - 123				
cis-1,3-Dichloropropene	15.22	1.0	20	0	76.1	75 - 124				
Dibromochloromethane	15.72	1.0	20	0	78.6	74 - 126				
Dibromomethane	17.13	1.0	20	0	85.6	79 - 123				
Dichlorodifluoromethane	12.83	1.0	20	0	64.1	32 - 152				
Ethylbenzene	19.46	1.0	20	0	97.3	79 - 121				
Hexachlorobutadiene	18.85	1.0	20	0	94.2	66 - 134				
Isopropylbenzene	19.87	1.0	20	0	99.4	72 - 131				
m,p-Xylene	39.62	2.0	40	0	99.0	80 - 121				
Methylene chloride	15.83	2.0	20	0	79.1	74 - 124				
Naphthalene	14.38	1.0	20	0	71.9	61 - 128				
n-Butylbenzene	17.35	1.0	20	0	86.8	75 - 128				
n-Propylbenzene	19.91	1.0	20	0	99.6	76 - 126				
o-Xylene	20.22	1.0	20	0	101	78 - 122				
sec-Butylbenzene	16.57	1.0	20	0	82.9	77 - 126				
Styrene	17.56	1.0	20	0	87.8	78 - 123				
tert-Butylbenzene	18.7	1.0	20	0	93.5	78 - 124				
Tetrachloroethene	30.39	1.0	20	9.363	105	74 - 129				
Toluene	20.56	1.0	20	0	103	80 - 121				
trans-1,2-Dichloroethene	16.44	1.0	20	0	82.2	75 - 124				
trans-1,3-Dichloropropene	15.04	1.0	20	0	75.2	73 - 127				
Trichloroethene	19.85	1.0	20	1.773	90.4	79 - 123				
Trichlorofluoromethane	16.96	1.0	20	0	84.8	65 - 141				
Vinyl chloride	16.23	1.0	20	0	81.2	58 - 137				
Surr: 1,2-Dichloroethane-d4	*45.45*	*1.0*	*50*	*0*	*90.9*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*51.16*	*1.0*	*50*	*0*	*102*	*85 - 114*				
Surr: Dibromofluoromethane	*44.33*	*1.0*	*50*	*0*	*88.7*	*80 - 119*				

ALS Houston, US Date: 23-May-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP37 May 2022
WorkOrder: HS22050828

QC BATCH REPORT

Batch ID: R409090 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS22050828-03MS** Units: **ug/L** Analysis Date: **21-May-2022 14:07**
Client ID: **35BWW20-220517** Run ID: **VOA9_409090** SeqNo: **6657867** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Surr: Toluene-d8	*55.61*	*1.0*	*50*	*0*	*111*	*89 - 112*				

ALS Houston, US Date: 23-May-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP37 May 2022
WorkOrder: HS22050828

QC BATCH REPORT

Batch ID: R409090 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS22050828-03MSD** Units: **ug/L** Analysis Date: **21-May-2022 14:29**
Client ID: **35BWW20-220517** Run ID: **VOA9_409090** SeqNo: **6657868** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	17.7	1.0	20	0	88.5	78 - 124	17.79	0.549	20	
1,1,1-Trichloroethane	16.8	1.0	20	0	84.0	74 - 131	17.08	1.67	20	
1,1,2,2-Tetrachloroethane	19.74	1.0	20	0	98.7	71 - 121	19.48	1.34	20	
1,1,2-Trichlor-1,2,2-trifluoroethane	20.03	1.0	20	0	100	70 - 136	20.53	2.48	20	
1,1,2-Trichloroethane	18.24	1.0	20	0	91.2	80 - 119	18.2	0.208	20	
1,1-Dichloroethane	16.3	1.0	20	0	81.5	77 - 125	16.39	0.549	20	
1,1-Dichloroethene	16.67	1.0	20	0	83.3	71 - 131	16.75	0.492	20	
1,1-Dichloropropene	18.07	1.0	20	0	90.4	78 - 125	18.18	0.588	20	
1,2,3-Trichlorobenzene	18.2	1.0	20	0	91.0	69 - 129	15.95	13.2	20	
1,2,3-Trichloropropane	16.76	1.0	20	0	83.8	73 - 122	17.09	2	20	
1,2,4-Trichlorobenzene	17.17	1.0	20	0	85.8	69 - 130	14.99	13.5	20	
1,2,4-Trimethylbenzene	18.29	1.0	20	0	91.5	76 - 124	17.86	2.38	20	
1,2-Dibromo-3-chloropropane	15.41	1.0	20	0	77.1	62 - 128	15	2.71	20	
1,2-Dibromoethane	18	1.0	20	0	90.0	77 - 121	18.29	1.57	20	
1,2-Dichlorobenzene	18.39	1.0	20	0	91.9	80 - 119	18.1	1.6	20	
1,2-Dichloroethane	17.53	1.0	20	0	87.7	73 - 128	17.25	1.61	20	
1,2-Dichloropropane	18.06	1.0	20	0	90.3	78 - 122	18.42	1.98	20	
1,3,5-Trimethylbenzene	18.4	1.0	20	0	92.0	75 - 124	18.22	1.01	20	
1,3-Dichlorobenzene	18.82	1.0	20	0	94.1	80 - 119	18.52	1.58	20	
1,3-Dichloropropane	18.18	1.0	20	0	90.9	80 - 119	18.35	0.939	20	
1,4-Dichlorobenzene	17.97	1.0	20	0	89.8	79 - 118	17.68	1.61	20	
2,2-Dichloropropane	16.81	1.0	20	0	84.1	60 - 139	17.08	1.6	20	
2-Butanone	29.34	2.0	40	0	73.3	56 - 143	27.93	4.91	20	
2-Chlorotoluene	20.94	1.0	20	0	105	79 - 122	20.65	1.38	20	
2-Hexanone	34.67	2.0	40	0	86.7	57 - 139	32.68	5.9	20	
4-Chlorotoluene	20.39	1.0	20	0	102	78 - 122	20.05	1.65	20	
4-Isopropyltoluene	17.19	1.0	20	0	85.9	77 - 127	16.61	3.41	20	
4-Methyl-2-pentanone	35.79	2.0	40	0	89.5	67 - 130	33.88	5.46	20	
Acetone	27.79	2.0	40	0	69.5	39 - 160	27.91	0.45	20	
Benzene	18.62	1.0	20	0	93.1	79 - 120	18.63	0.0326	20	
Bromobenzene	18.81	1.0	20	0	94.1	80 - 120	18.57	1.27	20	
Bromochloromethane	15.94	1.0	20	0	79.7	78 - 123	16.28	2.15	20	
Bromodichloromethane	17.05	1.0	20	0	85.2	79 - 125	17.01	0.192	20	
Bromoform	14.21	1.0	20	0	71.0	66 - 130	14.2	0.0283	20	

ALS Houston, US Date: 23-May-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP37 May 2022
WorkOrder: HS22050828

QC BATCH REPORT

Batch ID: R409090 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS22050828-03MSD** Units: **ug/L** Analysis Date: **21-May-2022 14:29**
Client ID: **35BWW20-220517** Run ID: **VOA9_409090** SeqNo: **6657868** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Bromomethane	19.02	1.0	20	0	95.1	53 - 141	19.57	2.83	20	
Carbon disulfide	32.94	2.0	40	0	82.3	64 - 133	32.95	0.0278	20	
Carbon tetrachloride	16.87	1.0	20	0	84.3	72 - 136	16.72	0.862	20	
Chlorobenzene	18.26	1.0	20	0	91.3	82 - 118	18.43	0.921	20	
Chloroethane	16.01	1.0	20	0	80.0	60 - 138	16.49	2.96	20	
Chloroform	16.39	1.0	20	0	82.0	79 - 124	16.4	0.0392	20	
Chloromethane	15.45	1.0	20	0	77.2	50 - 139	15.32	0.827	20	
cis-1,2-Dichloroethene	16.05	1.0	20	0	80.3	78 - 123	16.22	1.06	20	
cis-1,3-Dichloropropene	15.12	1.0	20	0	75.6	75 - 124	15.22	0.679	20	
Dibromochloromethane	15.87	1.0	20	0	79.4	74 - 126	15.72	0.955	20	
Dibromomethane	17.13	1.0	20	0	85.6	79 - 123	17.13	0.00714	20	
Dichlorodifluoromethane	12.67	1.0	20	0	63.4	32 - 152	12.83	1.2	20	
Ethylbenzene	19.75	1.0	20	0	98.8	79 - 121	19.46	1.49	20	
Hexachlorobutadiene	18.92	1.0	20	0	94.6	66 - 134	18.85	0.378	20	
Isopropylbenzene	20.12	1.0	20	0	101	72 - 131	19.87	1.21	20	
m,p-Xylene	39.57	2.0	40	0	98.9	80 - 121	39.62	0.125	20	
Methylene chloride	15.65	2.0	20	0	78.3	74 - 124	15.83	1.11	20	
Naphthalene	17.23	1.0	20	0	86.1	61 - 128	14.38	18	20	
n-Butylbenzene	18.86	1.0	20	0	94.3	75 - 128	17.35	8.3	20	
n-Propylbenzene	20.1	1.0	20	0	101	76 - 126	19.91	0.948	20	
o-Xylene	20.1	1.0	20	0	101	78 - 122	20.22	0.577	20	
sec-Butylbenzene	17.62	1.0	20	0	88.1	77 - 126	16.57	6.16	20	
Styrene	17.57	1.0	20	0	87.9	78 - 123	17.56	0.0477	20	
tert-Butylbenzene	19.35	1.0	20	0	96.7	78 - 124	18.7	3.4	20	
Tetrachloroethene	30.92	1.0	20	9.363	108	74 - 129	30.39	1.71	20	
Toluene	20.62	1.0	20	0	103	80 - 121	20.56	0.299	20	
trans-1,2-Dichloroethene	15.96	1.0	20	0	79.8	75 - 124	16.44	2.98	20	
trans-1,3-Dichloropropene	14.96	1.0	20	0	74.8	73 - 127	15.04	0.474	20	
Trichloroethene	19.37	1.0	20	1.773	88.0	79 - 123	19.85	2.47	20	
Trichlorofluoromethane	16.81	1.0	20	0	84.0	65 - 141	16.96	0.942	20	
Vinyl chloride	16.16	1.0	20	0	80.8	58 - 137	16.23	0.445	20	
Surr: 1,2-Dichloroethane-d4	*45.14*	*1.0*	*50*	*0*	*90.3*	*81 - 118*	*45.45*	*0.669*	*20*	
Surr: 4-Bromofluorobenzene	*50.75*	*1.0*	*50*	*0*	*102*	*85 - 114*	*51.16*	*0.793*	*20*	
Surr: Dibromofluoromethane	*43.88*	*1.0*	*50*	*0*	*87.8*	*80 - 119*	*44.33*	*1.01*	*20*	

ALS Houston, US Date: 23-May-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP37 May 2022
WorkOrder: HS22050828

QC BATCH REPORT

Batch ID: R409090 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS22050828-03MSD** Units: **ug/L** Analysis Date: **21-May-2022 14:29**
Client ID: **35BWW20-220517** Run ID: **VOA9_409090** SeqNo: **6657868** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Surr: Toluene-d8	*54.7*	*1.0*	*50*	*0*	*109*	*89 - 112*	*55.61*	*1.64*	*20*	

The following samples were analyzed in this batch: HS22050828-01 HS22050828-02 HS22050828-03 HS22050828-04

ALS Houston, US Date: 23-May-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP37 May 2022
WorkOrder: **HS22050828**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitaion Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Dept of Defense	L21-682	31-Dec-2023
Florida	E87611-34	30-Jun-2022
Illinois	2000322022-9	09-May-2023
Kansas	E-10352 2021-2022	31-Jul-2022
Louisiana	03087, 2021-2022	30-Jun-2022
Maryland	343, 2021-2022	30-Jun-2022
North Carolina	624-2022	31-Dec-2022
Oklahoma	2021-080	31-Aug-2022
Texas	T104704231-22-29	30-Apr-2023
Utah	TX026932021-12	30-Jul-2022

ALS Houston, US Date: 23-May-22

Sample Receipt Checklist

Work Order ID: HS22050828 **Date/Time Received:** **18-May-2022 09:40**

Client Name: CBI-Houston **Received by:** **Corey Grandits**

Completed By: */S/ Corey Grandits* (eSignature) 18-May-2022 17:22 (Date/Time) **Reviewed by:** */S/ Dane J. Wacasey* (eSignature) 23-May-2022 09:32 (Date/Time)

Matrices: **w** Carrier name: **FedEx**

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
VOA/TX1005/TX1006 Solids in hermetically sealed vials?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	1 Page(s)
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Samplers name present on COC?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	

Temperature(s)/Thermometer(s):	4.0uc/4.5c	IR31
Cooler(s)/Kit(s):	47487	
Date/Time sample(s) sent to storage:	5/18/2022	

Water - VOA vials have zero headspace?	Yes ☑	No ☐	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☑	No ☐	N/A ☐
pH adjusted?	Yes ☐	No ☑	N/A ☐
pH adjusted by:			

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:

CHAIN OF CUSTODY

Name Of Lab Shipping To: ALS 10450 Stancliff Rd. Suite 210 Houston, TX. 77099 (281) 530-5656 ATTN: Ragen Giga

HS22050828

Aptim Environmental & Infrastructure, Inc.

LHAAP37 May 2022

Project: APTIM LONGHORN
ARMY AMMN. PLANT (LHAAP)
GROUNDWATER TREATMENT PLANT (GWTP)
KARNACK, TEXAS

Project No. 501032

Job: **LHAAP 37 May 2022**

Prepared By: Scott Beesinger

P.O. Number

Field Sample I.D.	Sample Matrix	Date / Time	MS / MSD	No. OF CONTAINERS	Analyses: VOC by SW 8260B	TOC by SM5310C	MEE by RSK 175	Anions (chloride sulfate, nitrate) by SW9056	CO2 by RSK 175	Remarks (Preservatives, etc.)	Lab I.D.#
LHSmw58-220517	wG	5/17/22 1055		3	X						
35BwW11-220517	wG	5/17/22 1140		3	X						
35BwW20-220517	wG	5/17/22 1225		3	X						
35BwW20-220517-MS	wG	5/17/22 1225		3	X						
35BwW20-220517-MSD	wG	5/17/22 1225		3	X						
TRIP BLANK-220517	W	5/17/22		2	X						

Additional Remarks: **Standard TAT on all parameters. Please email results to Vicki.Graves@aptim.com and invoices to fedinvoices@aptim.com**

Relinquished By:	Date	Time	Received By:	Date	Time	Relinquished By:	Date	Time	Received By:	Date	Time
Scott Beesinger	5/17/22	1430									

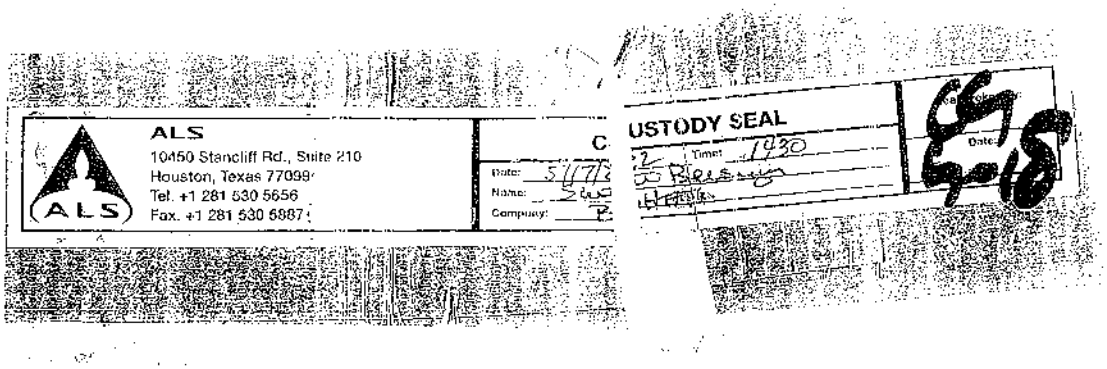
For Lab Use Only

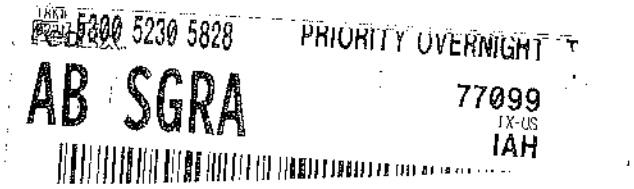
Received At Lab By:	Date	Time	Airbill No.	Opened By:	Date	Time	Temp of Container	Seal No.	Condition
							4.0°C		

Remarks:

IR-1 CF=0.5 93487

(Word) S:\I-ces\Forms\Chain of Custody - BiWeekly


ALS
10450 Stancliff Rd., Suite 210
Houston, Texas 77099
Tel. +1 281 530 5656
Fax. +1 281 530 6887
USTODY SEAL
Time: 1430


7900 5230 5828
PRIORITY OVERNIGHT
AB SGRA
77099
TX-US
IAH

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June 13, 2022

Vicki Graves
Aptim Environmental & Infrastucture, Inc.
10333 Richmond Ave
Ste 1030
Houston, TX 77042

Work Order: **HS22050854**

Laboratory Results for: **LHAAP 37 May 2022**

Dear Vicki Graves ,

ALS Environmental received 9 sample(s) on May 19, 2022 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Generated By: JUMOKE.LAWAL
Dane J. Wacasey

ALS Houston, US Date: 13-Jun-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 May 2022
Work Order: HS22050854

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS22050854-01	35BWW14-220518	Water		18-May-2022 07:50	19-May-2022 09:40	☐
HS22050854-02	35BWW15-220518	Water		18-May-2022 08:35	19-May-2022 09:40	☐
HS22050854-03	35BWW15-220518-FD	Water		18-May-2022 08:35	19-May-2022 09:40	☐
HS22050854-04	35BWW23-220518	Water		18-May-2022 09:20	19-May-2022 09:40	☐
HS22050854-05	35BWW12-220518	Water		18-May-2022 10:10	19-May-2022 09:40	☐
HS22050854-06	35BWW09-220518	Water		18-May-2022 11:00	19-May-2022 09:40	☐
HS22050854-07	35BWW19-220518	Water		18-May-2022 11:45	19-May-2022 09:40	☐
HS22050854-08	35BWW18-220518	Water		18-May-2022 12:30	19-May-2022 09:40	☐
HS22050854-09	Trip Blank-220518	Water	CG-020822-747	18-May-2022 00:00	19-May-2022 09:40	☐

ALS Houston, US Date: 13-Jun-22

Client: Aptim Environmental & Infrastucture, Inc. **CASE NARRATIVE**
Project: LHAAP 37 May 2022
Work Order: HS22050854

Work Order Comments

• The analysis for CO2 by RSK175 was subcontracted to Pace located in Baton Rouge, LA. Final report attached.

GC Semivolatiles by Method RSK-175

Batch ID: R409770

• The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

GCMS Volatiles by Method SW8260

Batch ID: R409090

• The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

Batch ID: R409170

Sample ID: HS22050829-11MS

• MS and MSD are for an unrelated sample

WetChemistry by Method SM5310B

Batch ID: R410018

• The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

WetChemistry by Method SW9056

Batch ID: R409032

• The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

ALS Houston, US Date: 13-Jun-22

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: LHAAP 37 May 2022 WorkOrder:HS22050854
Sample ID: 35BWW14-220518 Lab ID:HS22050854-01
Collection Date: 18-May-2022 07:50 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 18:57
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 18:57
1,1,2,2-Tetrachloroethane	0.50	U	0.50	0.50	1.0	ug/L	1	21-May-2022 18:57
1,1,2-Trichlor-1,2,2-trifluoroethane	**5.9**		**0.50**	**0.50**	**1.0**	**ug/L**	1	21-May-2022 18:57
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 18:57
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 18:57
1,1-Dichloroethene	**1.3**		**0.20**	**0.50**	**1.0**	**ug/L**	1	21-May-2022 18:57
1,1-Dichloropropene	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 18:57
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	21-May-2022 18:57
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	21-May-2022 18:57
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	21-May-2022 18:57
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 18:57
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 18:57
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 18:57
1,2-Dichlorobenzene	0.50	U	0.50	0.50	1.0	ug/L	1	21-May-2022 18:57
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 18:57
1,2-Dichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	21-May-2022 18:57
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 18:57
1,3-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	21-May-2022 18:57
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 18:57
1,4-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	21-May-2022 18:57
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 18:57
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	21-May-2022 18:57
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 18:57
2-Hexanone	2.0	U	1.0	2.0	2.0	ug/L	1	21-May-2022 18:57
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	21-May-2022 18:57
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 18:57
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	ug/L	1	21-May-2022 18:57
Acetone	2.0	U	0.40	2.0	2.0	ug/L	1	21-May-2022 18:57
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 18:57
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	21-May-2022 18:57
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 18:57
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 18:57
Bromoform	0.50	U	0.40	0.50	1.0	ug/L	1	21-May-2022 18:57
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	21-May-2022 18:57
Carbon disulfide	2.0	U	0.60	2.0	2.0	ug/L	1	21-May-2022 18:57
Carbon tetrachloride	0.50	U	0.50	0.50	1.0	ug/L	1	21-May-2022 18:57
Chlorobenzene	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 18:57

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 13-Jun-22

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: LHAAP 37 May 2022 WorkOrder:HS22050854
Sample ID: 35BWW14-220518 Lab ID:HS22050854-01
Collection Date: 18-May-2022 07:50 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
Chloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 18:57
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 18:57
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 18:57
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 18:57
cis-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 18:57
Dibromochloromethane	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 18:57
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 18:57
Dichlorodifluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 18:57
Ethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 18:57
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	21-May-2022 18:57
Isopropylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 18:57
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	21-May-2022 18:57
Methylene chloride	2.0	U	0.40	2.0	2.0	ug/L	1	21-May-2022 18:57
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	21-May-2022 18:57
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 18:57
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 18:57
o-Xylene	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 18:57
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 18:57
Styrene	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 18:57
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 18:57
Tetrachloroethene	**19**		**0.30**	**0.50**	**1.0**	**ug/L**	1	21-May-2022 18:57
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 18:57
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 18:57
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 18:57
Trichloroethene	**5.1**		**0.20**	**0.50**	**1.0**	**ug/L**	1	21-May-2022 18:57
Trichlorofluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 18:57
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 18:57
Surr: 1,2-Dichloroethane-d4	*103*			**0**	*81-118*	*%REC*	*1*	*21-May-2022 18:57*
Surr: 4-Bromofluorobenzene	*85.0*			**0**	*85-114*	*%REC*	*1*	*21-May-2022 18:57*
Surr: Dibromofluoromethane	*97.8*			**0**	*80-119*	*%REC*	*1*	*21-May-2022 18:57*
Surr: Toluene-d8	*111*			**0**	*89-112*	*%REC*	*1*	*21-May-2022 18:57*
DISSOLVED GASES BY RSK-175		**Method:RSK-175**						Analyst: PPM
Ethane	0.000500	U	0.000144	0.000500	0.00100	mg/L	1	31-May-2022 11:40
Ethene	**0.00157**		**0.000234**	**0.000500**	**0.00100**	**mg/L**	1	31-May-2022 11:40
Methane	**0.00269**		**0.000107**	**0.000500**	**0.000500**	**mg/L**	1	31-May-2022 11:40
TOTAL ORGANIC CARBON - SM5310B-2011		**Method:SM5310B**						Analyst: SB
Organic Carbon, Total	1.00	U	0.500	1.00	1.00	mg/L	1	04-Jun-2022 04:01

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 13-Jun-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 May 2022
Sample ID: 35BWW14-220518
Collection Date: 18-May-2022 07:50

ANALYTICAL REPORT
WorkOrder:HS22050854
Lab ID:HS22050854-01
Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
ANIONS BY SW9056A		**Method:SW9056**						Analyst: YP
Chloride	**14.6**		**0.200**	**0.500**	**0.500**	**mg/L**	1	19-May-2022 14:25
Nitrogen, Nitrate (As N)	**0.0502**	J	**0.0300**	**0.100**	**0.100**	**mg/L**	1	19-May-2022 14:25
Sulfate	**59.2**		**0.200**	**0.500**	**0.500**	**mg/L**	1	19-May-2022 14:25
SUBCONTRACT ANALYSIS - RSK		**Method:NA**						Analyst: SUB
Subcontract Analysis	See Attached		0	0		NA	1	13-Jun-2022 09:10

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 13-Jun-22

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: LHAAP 37 May 2022 WorkOrder:HS22050854
Sample ID: 35BWW15-220518 Lab ID:HS22050854-02
Collection Date: 18-May-2022 08:35 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 19:19
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 19:19
1,1,2,2-Tetrachloroethane	0.50	U	0.50	0.50	1.0	ug/L	1	21-May-2022 19:19
1,1,2-Trichlor-1,2,2-trifluoroethane	0.50	U	0.50	0.50	1.0	ug/L	1	21-May-2022 19:19
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 19:19
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 19:19
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 19:19
1,1-Dichloropropene	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 19:19
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	21-May-2022 19:19
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	21-May-2022 19:19
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	21-May-2022 19:19
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 19:19
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 19:19
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 19:19
1,2-Dichlorobenzene	0.50	U	0.50	0.50	1.0	ug/L	1	21-May-2022 19:19
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 19:19
1,2-Dichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	21-May-2022 19:19
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 19:19
1,3-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	21-May-2022 19:19
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 19:19
1,4-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	21-May-2022 19:19
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 19:19
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	21-May-2022 19:19
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 19:19
2-Hexanone	2.0	U	1.0	2.0	2.0	ug/L	1	21-May-2022 19:19
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	21-May-2022 19:19
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 19:19
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	ug/L	1	21-May-2022 19:19
Acetone	2.0	U	0.40	2.0	2.0	ug/L	1	21-May-2022 19:19
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 19:19
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	21-May-2022 19:19
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 19:19
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 19:19
Bromoform	0.50	U	0.40	0.50	1.0	ug/L	1	21-May-2022 19:19
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	21-May-2022 19:19
Carbon disulfide	2.0	U	0.60	2.0	2.0	ug/L	1	21-May-2022 19:19
Carbon tetrachloride	0.50	U	0.50	0.50	1.0	ug/L	1	21-May-2022 19:19
Chlorobenzene	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 19:19
Chloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 19:19

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 13-Jun-22

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: LHAAP 37 May 2022 WorkOrder:HS22050854
Sample ID: 35BWW15-220518 Lab ID:HS22050854-02
Collection Date: 18-May-2022 08:35 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 19:19
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 19:19
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 19:19
cis-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 19:19
Dibromochloromethane	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 19:19
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 19:19
Dichlorodifluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 19:19
Ethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 19:19
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	21-May-2022 19:19
Isopropylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 19:19
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	21-May-2022 19:19
Methylene chloride	2.0	U	0.40	2.0	2.0	ug/L	1	21-May-2022 19:19
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	21-May-2022 19:19
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 19:19
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 19:19
o-Xylene	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 19:19
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 19:19
Styrene	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 19:19
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 19:19
Tetrachloroethene	**9.8**		**0.30**	**0.50**	**1.0**	**ug/L**	1	21-May-2022 19:19
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 19:19
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 19:19
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 19:19
Trichloroethene	**4.9**		**0.20**	**0.50**	**1.0**	**ug/L**	1	21-May-2022 19:19
Trichlorofluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 19:19
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 19:19
Surr: 1,2-Dichloroethane-d4	*104*			**0**	*81-118*	*%REC*	*1*	*21-May-2022 19:19*
Surr: 4-Bromofluorobenzene	*85.2*			**0**	*85-114*	*%REC*	*1*	*21-May-2022 19:19*
Surr: Dibromofluoromethane	*97.9*			**0**	*80-119*	*%REC*	*1*	*21-May-2022 19:19*
Surr: Toluene-d8	*112*			**0**	*89-112*	*%REC*	*1*	*21-May-2022 19:19*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 13-Jun-22

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: LHAAP 37 May 2022 WorkOrder:HS22050854
Sample ID: 35BWW15-220518-FD Lab ID:HS22050854-03
Collection Date: 18-May-2022 08:35 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 19:42
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 19:42
1,1,2,2-Tetrachloroethane	0.50	U	0.50	0.50	1.0	ug/L	1	21-May-2022 19:42
1,1,2-Trichlor-1,2,2-trifluoroethane	0.50	U	0.50	0.50	1.0	ug/L	1	21-May-2022 19:42
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 19:42
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 19:42
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 19:42
1,1-Dichloropropene	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 19:42
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	21-May-2022 19:42
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	21-May-2022 19:42
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	21-May-2022 19:42
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 19:42
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 19:42
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 19:42
1,2-Dichlorobenzene	0.50	U	0.50	0.50	1.0	ug/L	1	21-May-2022 19:42
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 19:42
1,2-Dichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	21-May-2022 19:42
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 19:42
1,3-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	21-May-2022 19:42
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 19:42
1,4-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	21-May-2022 19:42
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 19:42
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	21-May-2022 19:42
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 19:42
2-Hexanone	2.0	U	1.0	2.0	2.0	ug/L	1	21-May-2022 19:42
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	21-May-2022 19:42
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 19:42
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	ug/L	1	21-May-2022 19:42
Acetone	2.0	U	0.40	2.0	2.0	ug/L	1	21-May-2022 19:42
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 19:42
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	21-May-2022 19:42
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 19:42
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 19:42
Bromoform	0.50	U	0.40	0.50	1.0	ug/L	1	21-May-2022 19:42
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	21-May-2022 19:42
Carbon disulfide	2.0	U	0.60	2.0	2.0	ug/L	1	21-May-2022 19:42
Carbon tetrachloride	0.50	U	0.50	0.50	1.0	ug/L	1	21-May-2022 19:42
Chlorobenzene	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 19:42
Chloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 19:42

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 13-Jun-22

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: LHAAP 37 May 2022 WorkOrder:HS22050854
Sample ID: 35BWW15-220518-FD Lab ID:HS22050854-03
Collection Date: 18-May-2022 08:35 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 19:42
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 19:42
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 19:42
cis-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 19:42
Dibromochloromethane	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 19:42
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 19:42
Dichlorodifluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 19:42
Ethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 19:42
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	21-May-2022 19:42
Isopropylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 19:42
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	21-May-2022 19:42
Methylene chloride	2.0	U	0.40	2.0	2.0	ug/L	1	21-May-2022 19:42
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	21-May-2022 19:42
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 19:42
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 19:42
o-Xylene	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 19:42
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 19:42
Styrene	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 19:42
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 19:42
Tetrachloroethene	**10**		**0.30**	**0.50**	**1.0**	**ug/L**	1	21-May-2022 19:42
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 19:42
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 19:42
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 19:42
Trichloroethene	**4.8**		**0.20**	**0.50**	**1.0**	**ug/L**	1	21-May-2022 19:42
Trichlorofluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 19:42
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 19:42
Surr: 1,2-Dichloroethane-d4	*105*			**0**	*81-118*	*%REC*	*1*	*21-May-2022 19:42*
Surr: 4-Bromofluorobenzene	*85.0*			**0**	*85-114*	*%REC*	*1*	*21-May-2022 19:42*
Surr: Dibromofluoromethane	*98.1*			**0**	*80-119*	*%REC*	*1*	*21-May-2022 19:42*
Surr: Toluene-d8	*112*			**0**	*89-112*	*%REC*	*1*	*21-May-2022 19:42*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 13-Jun-22

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: LHAAP 37 May 2022 WorkOrder:HS22050854
Sample ID: 35BWW23-220518 Lab ID:HS22050854-04
Collection Date: 18-May-2022 09:20 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 20:04
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 20:04
1,1,2,2-Tetrachloroethane	0.50	U	0.50	0.50	1.0	ug/L	1	21-May-2022 20:04
1,1,2-Trichlor-1,2,2-trifluoroethane	0.50	U	0.50	0.50	1.0	ug/L	1	21-May-2022 20:04
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 20:04
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 20:04
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 20:04
1,1-Dichloropropene	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 20:04
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	21-May-2022 20:04
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	21-May-2022 20:04
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	21-May-2022 20:04
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 20:04
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 20:04
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 20:04
1,2-Dichlorobenzene	0.50	U	0.50	0.50	1.0	ug/L	1	21-May-2022 20:04
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 20:04
1,2-Dichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	21-May-2022 20:04
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 20:04
1,3-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	21-May-2022 20:04
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 20:04
1,4-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	21-May-2022 20:04
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 20:04
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	21-May-2022 20:04
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 20:04
2-Hexanone	2.0	U	1.0	2.0	2.0	ug/L	1	21-May-2022 20:04
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	21-May-2022 20:04
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 20:04
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	ug/L	1	21-May-2022 20:04
Acetone	2.0	U	0.40	2.0	2.0	ug/L	1	21-May-2022 20:04
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 20:04
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	21-May-2022 20:04
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 20:04
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 20:04
Bromoform	0.50	U	0.40	0.50	1.0	ug/L	1	21-May-2022 20:04
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	21-May-2022 20:04
Carbon disulfide	2.0	U	0.60	2.0	2.0	ug/L	1	21-May-2022 20:04
Carbon tetrachloride	0.50	U	0.50	0.50	1.0	ug/L	1	21-May-2022 20:04
Chlorobenzene	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 20:04
Chloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 20:04

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 13-Jun-22

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: LHAAP 37 May 2022 WorkOrder:HS22050854
Sample ID: 35BWW23-220518 Lab ID:HS22050854-04
Collection Date: 18-May-2022 09:20 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 20:04
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 20:04
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 20:04
cis-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 20:04
Dibromochloromethane	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 20:04
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 20:04
Dichlorodifluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 20:04
Ethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 20:04
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	21-May-2022 20:04
Isopropylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 20:04
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	21-May-2022 20:04
Methylene chloride	2.0	U	0.40	2.0	2.0	ug/L	1	21-May-2022 20:04
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	21-May-2022 20:04
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 20:04
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 20:04
o-Xylene	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 20:04
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 20:04
Styrene	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 20:04
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 20:04
Tetrachloroethene	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 20:04
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 20:04
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 20:04
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 20:04
Trichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 20:04
Trichlorofluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 20:04
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 20:04
Surr: 1,2-Dichloroethane-d4	*106*			**0**	*81-118*	*%REC*	*1*	*21-May-2022 20:04*
Surr: 4-Bromofluorobenzene	*85.7*			**0**	*85-114*	*%REC*	*1*	*21-May-2022 20:04*
Surr: Dibromofluoromethane	*98.0*			**0**	*80-119*	*%REC*	*1*	*21-May-2022 20:04*
Surr: Toluene-d8	*111*			**0**	*89-112*	*%REC*	*1*	*21-May-2022 20:04*
DISSOLVED GASES BY RSK-175		**Method:RSK-175**						Analyst: PPM
Ethane	0.000500	U	0.000144	0.000500	0.00100	mg/L	1	31-May-2022 11:49
Ethene	**0.00197**		**0.000234**	**0.000500**	**0.00100**	**mg/L**	1	31-May-2022 11:49
Methane	**0.00269**		**0.000107**	**0.000500**	**0.000500**	**mg/L**	1	31-May-2022 11:49
TOTAL ORGANIC CARBON - SM5310B-2011		**Method:SM5310B**						Analyst: SB
Organic Carbon, Total	**0.601**	J	**0.500**	**1.00**	**1.00**	**mg/L**	1	04-Jun-2022 04:27

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 13-Jun-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 May 2022
Sample ID: 35BWW23-220518
Collection Date: 18-May-2022 09:20

ANALYTICAL REPORT
WorkOrder:HS22050854
Lab ID:HS22050854-04
Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
ANIONS BY SW9056A		**Method:SW9056**						Analyst: YP
Chloride	**17.0**		**0.200**	**0.500**	**0.500**	**mg/L**	1	19-May-2022 14:30
Nitrogen, Nitrate (As N)	**0.0310**	J	**0.0300**	**0.100**	**0.100**	**mg/L**	1	19-May-2022 14:30
Sulfate	**74.6**		**0.200**	**0.500**	**0.500**	**mg/L**	1	19-May-2022 14:30
SUBCONTRACT ANALYSIS - RSK		**Method:NA**						Analyst: SUB
Subcontract Analysis	See Attached		0	0		NA	1	13-Jun-2022 09:10

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 13-Jun-22

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: LHAAP 37 May 2022 WorkOrder:HS22050854
Sample ID: 35BWW12-220518 Lab ID:HS22050854-05
Collection Date: 18-May-2022 10:10 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 20:26
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 20:26
1,1,2,2-Tetrachloroethane	0.50	U	0.50	0.50	1.0	ug/L	1	21-May-2022 20:26
1,1,2-Trichlor-1,2,2-trifluoroethane	0.50	U	0.50	0.50	1.0	ug/L	1	21-May-2022 20:26
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 20:26
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 20:26
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 20:26
1,1-Dichloropropene	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 20:26
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	21-May-2022 20:26
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	21-May-2022 20:26
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	21-May-2022 20:26
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 20:26
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 20:26
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 20:26
1,2-Dichlorobenzene	0.50	U	0.50	0.50	1.0	ug/L	1	21-May-2022 20:26
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 20:26
1,2-Dichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	21-May-2022 20:26
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 20:26
1,3-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	21-May-2022 20:26
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 20:26
1,4-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	21-May-2022 20:26
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 20:26
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	21-May-2022 20:26
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 20:26
2-Hexanone	2.0	U	1.0	2.0	2.0	ug/L	1	21-May-2022 20:26
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	21-May-2022 20:26
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 20:26
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	ug/L	1	21-May-2022 20:26
Acetone	2.0	U	0.40	2.0	2.0	ug/L	1	21-May-2022 20:26
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 20:26
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	21-May-2022 20:26
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 20:26
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 20:26
Bromoform	0.50	U	0.40	0.50	1.0	ug/L	1	21-May-2022 20:26
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	21-May-2022 20:26
Carbon disulfide	2.0	U	0.60	2.0	2.0	ug/L	1	21-May-2022 20:26
Carbon tetrachloride	0.50	U	0.50	0.50	1.0	ug/L	1	21-May-2022 20:26
Chlorobenzene	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 20:26
Chloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 20:26

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 13-Jun-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 May 2022
Sample ID: 35BWW12-220518
Collection Date: 18-May-2022 10:10

ANALYTICAL REPORT
WorkOrder:HS22050854
Lab ID:HS22050854-05
Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 20:26
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 20:26
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 20:26
cis-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 20:26
Dibromochloromethane	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 20:26
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 20:26
Dichlorodifluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 20:26
Ethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 20:26
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	21-May-2022 20:26
Isopropylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 20:26
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	21-May-2022 20:26
Methylene chloride	2.0	U	0.40	2.0	2.0	ug/L	1	21-May-2022 20:26
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	21-May-2022 20:26
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 20:26
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 20:26
o-Xylene	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 20:26
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 20:26
Styrene	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 20:26
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 20:26
Tetrachloroethene	**2.0**		**0.30**	**0.50**	**1.0**	**ug/L**	1	21-May-2022 20:26
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 20:26
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 20:26
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 20:26
Trichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 20:26
Trichlorofluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 20:26
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 20:26
Surr: 1,2-Dichloroethane-d4	*105*			**0**	*81-118*	*%REC*	*1*	*21-May-2022 20:26*
Surr: 4-Bromofluorobenzene	*85.7*			**0**	*85-114*	*%REC*	*1*	*21-May-2022 20:26*
Surr: Dibromofluoromethane	*97.6*			**0**	*80-119*	*%REC*	*1*	*21-May-2022 20:26*
Surr: Toluene-d8	*111*			**0**	*89-112*	*%REC*	*1*	*21-May-2022 20:26*
DISSOLVED GASES BY RSK-175		**Method:RSK-175**						Analyst: PPM
Ethane	0.000500	U	0.000144	0.000500	0.00100	mg/L	1	31-May-2022 12:01
Ethene	**0.00192**		**0.000234**	**0.000500**	**0.00100**	**mg/L**	1	31-May-2022 12:01
Methane	**0.00376**		**0.000107**	**0.000500**	**0.000500**	**mg/L**	1	31-May-2022 12:01
TOTAL ORGANIC CARBON - SM5310B-2011		**Method:SM5310B**						Analyst: SB
Organic Carbon, Total	**1.92**		**0.500**	**1.00**	**1.00**	**mg/L**	1	04-Jun-2022 04:39

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 13-Jun-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 May 2022
Sample ID: 35BWW12-220518
Collection Date: 18-May-2022 10:10

ANALYTICAL REPORT
WorkOrder:HS22050854
Lab ID:HS22050854-05
Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
ANIONS BY SW9056A		**Method:SW9056**						Analyst: YP
Chloride	**11.9**		**0.200**	**0.500**	**0.500**	**mg/L**	1	19-May-2022 14:36
Nitrogen, Nitrate (As N)	0.100	U	0.0300	0.100	0.100	mg/L	1	19-May-2022 14:36
Sulfate	**32.6**		**0.200**	**0.500**	**0.500**	**mg/L**	1	19-May-2022 14:36
SUBCONTRACT ANALYSIS - RSK		**Method:NA**						Analyst: SUB
Subcontract Analysis	See Attached		0	0		NA	1	13-Jun-2022 09:10

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 13-Jun-22

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: LHAAP 37 May 2022 WorkOrder:HS22050854
Sample ID: 35BWW09-220518 Lab ID:HS22050854-06
Collection Date: 18-May-2022 11:00 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 20:49
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 20:49
1,1,2,2-Tetrachloroethane	0.50	U	0.50	0.50	1.0	ug/L	1	21-May-2022 20:49
1,1,2-Trichlor-1,2,2-trifluoroethane	**0.86**	J	**0.50**	**0.50**	**1.0**	**ug/L**	1	21-May-2022 20:49
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 20:49
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 20:49
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 20:49
1,1-Dichloropropene	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 20:49
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	21-May-2022 20:49
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	21-May-2022 20:49
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	21-May-2022 20:49
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 20:49
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 20:49
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 20:49
1,2-Dichlorobenzene	0.50	U	0.50	0.50	1.0	ug/L	1	21-May-2022 20:49
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 20:49
1,2-Dichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	21-May-2022 20:49
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 20:49
1,3-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	21-May-2022 20:49
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 20:49
1,4-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	21-May-2022 20:49
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 20:49
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	21-May-2022 20:49
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 20:49
2-Hexanone	2.0	U	1.0	2.0	2.0	ug/L	1	21-May-2022 20:49
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	21-May-2022 20:49
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 20:49
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	ug/L	1	21-May-2022 20:49
Acetone	2.0	U	0.40	2.0	2.0	ug/L	1	21-May-2022 20:49
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 20:49
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	21-May-2022 20:49
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 20:49
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 20:49
Bromoform	0.50	U	0.40	0.50	1.0	ug/L	1	21-May-2022 20:49
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	21-May-2022 20:49
Carbon disulfide	2.0	U	0.60	2.0	2.0	ug/L	1	21-May-2022 20:49
Carbon tetrachloride	0.50	U	0.50	0.50	1.0	ug/L	1	21-May-2022 20:49
Chlorobenzene	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 20:49

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 13-Jun-22

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: LHAAP 37 May 2022 WorkOrder:HS22050854
Sample ID: 35BWW09-220518 Lab ID:HS22050854-06
Collection Date: 18-May-2022 11:00 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
Chloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 20:49
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 20:49
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 20:49
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 20:49
cis-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 20:49
Dibromochloromethane	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 20:49
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 20:49
Dichlorodifluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 20:49
Ethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 20:49
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	21-May-2022 20:49
Isopropylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 20:49
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	21-May-2022 20:49
Methylene chloride	2.0	U	0.40	2.0	2.0	ug/L	1	21-May-2022 20:49
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	21-May-2022 20:49
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 20:49
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 20:49
o-Xylene	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 20:49
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 20:49
Styrene	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 20:49
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 20:49
Tetrachloroethene	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 20:49
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 20:49
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 20:49
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 20:49
Trichloroethene	**34**		**0.20**	**0.50**	**1.0**	**ug/L**	1	21-May-2022 20:49
Trichlorofluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 20:49
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 20:49
Surr: 1,2-Dichloroethane-d4	*105*			**0**	*81-118*	*%REC*	*1*	*21-May-2022 20:49*
Surr: 4-Bromofluorobenzene	*85.5*			**0**	*85-114*	*%REC*	*1*	*21-May-2022 20:49*
Surr: Dibromofluoromethane	*98.2*			**0**	*80-119*	*%REC*	*1*	*21-May-2022 20:49*
Surr: Toluene-d8	*111*			**0**	*89-112*	*%REC*	*1*	*21-May-2022 20:49*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 13-Jun-22

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: LHAAP 37 May 2022 WorkOrder:HS22050854
Sample ID: 35BWW19-220518 Lab ID:HS22050854-07
Collection Date: 18-May-2022 11:45 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 21:11
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 21:11
1,1,2,2-Tetrachloroethane	0.50	U	0.50	0.50	1.0	ug/L	1	21-May-2022 21:11
1,1,2-Trichlor-1,2,2-trifluoroethane	0.50	U	0.50	0.50	1.0	ug/L	1	21-May-2022 21:11
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 21:11
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 21:11
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 21:11
1,1-Dichloropropene	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 21:11
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	21-May-2022 21:11
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	21-May-2022 21:11
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	21-May-2022 21:11
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 21:11
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 21:11
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 21:11
1,2-Dichlorobenzene	0.50	U	0.50	0.50	1.0	ug/L	1	21-May-2022 21:11
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 21:11
1,2-Dichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	21-May-2022 21:11
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 21:11
1,3-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	21-May-2022 21:11
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 21:11
1,4-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	21-May-2022 21:11
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 21:11
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	21-May-2022 21:11
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 21:11
2-Hexanone	2.0	U	1.0	2.0	2.0	ug/L	1	21-May-2022 21:11
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	21-May-2022 21:11
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 21:11
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	ug/L	1	21-May-2022 21:11
Acetone	2.0	U	0.40	2.0	2.0	ug/L	1	21-May-2022 21:11
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 21:11
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	21-May-2022 21:11
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 21:11
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 21:11
Bromoform	0.50	U	0.40	0.50	1.0	ug/L	1	21-May-2022 21:11
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	21-May-2022 21:11
Carbon disulfide	2.0	U	0.60	2.0	2.0	ug/L	1	21-May-2022 21:11
Carbon tetrachloride	0.50	U	0.50	0.50	1.0	ug/L	1	21-May-2022 21:11
Chlorobenzene	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 21:11
Chloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 21:11

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 13-Jun-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 May 2022
Sample ID: 35BWW19-220518
Collection Date: 18-May-2022 11:45

ANALYTICAL REPORT
WorkOrder:HS22050854
Lab ID:HS22050854-07
Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 21:11
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 21:11
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 21:11
cis-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 21:11
Dibromochloromethane	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 21:11
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 21:11
Dichlorodifluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 21:11
Ethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 21:11
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	21-May-2022 21:11
Isopropylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 21:11
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	21-May-2022 21:11
Methylene chloride	2.0	U	0.40	2.0	2.0	ug/L	1	21-May-2022 21:11
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	21-May-2022 21:11
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 21:11
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 21:11
o-Xylene	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 21:11
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 21:11
Styrene	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 21:11
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 21:11
Tetrachloroethene	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 21:11
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 21:11
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 21:11
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 21:11
Trichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 21:11
Trichlorofluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 21:11
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 21:11
Surr: 1,2-Dichloroethane-d4	*107*			**0**	*81-118*	*%REC*	*1*	*21-May-2022 21:11*
Surr: 4-Bromofluorobenzene	*85.9*			**0**	*85-114*	*%REC*	*1*	*21-May-2022 21:11*
Surr: Dibromofluoromethane	*98.3*			**0**	*80-119*	*%REC*	*1*	*21-May-2022 21:11*
Surr: Toluene-d8	*112*			**0**	*89-112*	*%REC*	*1*	*21-May-2022 21:11*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 13-Jun-22

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: LHAAP 37 May 2022 WorkOrder:HS22050854
Sample ID: 35BWW18-220518 Lab ID:HS22050854-08
Collection Date: 18-May-2022 12:30 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 21:33
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 21:33
1,1,2,2-Tetrachloroethane	0.50	U	0.50	0.50	1.0	ug/L	1	21-May-2022 21:33
1,1,2-Trichlor-1,2,2-trifluoroethane	0.50	U	0.50	0.50	1.0	ug/L	1	21-May-2022 21:33
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 21:33
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 21:33
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 21:33
1,1-Dichloropropene	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 21:33
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	21-May-2022 21:33
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	21-May-2022 21:33
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	21-May-2022 21:33
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 21:33
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 21:33
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 21:33
1,2-Dichlorobenzene	0.50	U	0.50	0.50	1.0	ug/L	1	21-May-2022 21:33
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 21:33
1,2-Dichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	21-May-2022 21:33
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 21:33
1,3-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	21-May-2022 21:33
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 21:33
1,4-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	21-May-2022 21:33
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 21:33
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	21-May-2022 21:33
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 21:33
2-Hexanone	2.0	U	1.0	2.0	2.0	ug/L	1	21-May-2022 21:33
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	21-May-2022 21:33
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 21:33
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	ug/L	1	21-May-2022 21:33
Acetone	2.0	U	0.40	2.0	2.0	ug/L	1	21-May-2022 21:33
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 21:33
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	21-May-2022 21:33
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 21:33
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 21:33
Bromoform	0.50	U	0.40	0.50	1.0	ug/L	1	21-May-2022 21:33
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	21-May-2022 21:33
Carbon disulfide	2.0	U	0.60	2.0	2.0	ug/L	1	21-May-2022 21:33
Carbon tetrachloride	0.50	U	0.50	0.50	1.0	ug/L	1	21-May-2022 21:33
Chlorobenzene	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 21:33
Chloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 21:33

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 13-Jun-22

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: LHAAP 37 May 2022 WorkOrder:HS22050854
Sample ID: 35BWW18-220518 Lab ID:HS22050854-08
Collection Date: 18-May-2022 12:30 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 21:33
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 21:33
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 21:33
cis-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 21:33
Dibromochloromethane	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 21:33
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 21:33
Dichlorodifluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 21:33
Ethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 21:33
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	21-May-2022 21:33
Isopropylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 21:33
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	21-May-2022 21:33
Methylene chloride	2.0	U	0.40	2.0	2.0	ug/L	1	21-May-2022 21:33
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	21-May-2022 21:33
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 21:33
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 21:33
o-Xylene	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 21:33
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 21:33
Styrene	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 21:33
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	21-May-2022 21:33
Tetrachloroethene	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 21:33
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 21:33
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 21:33
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 21:33
Trichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 21:33
Trichlorofluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	21-May-2022 21:33
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	21-May-2022 21:33
Surr: 1,2-Dichloroethane-d4	*105*			**0**	*81-118*	*%REC*	*1*	*21-May-2022 21:33*
Surr: 4-Bromofluorobenzene	*85.6*			**0**	*85-114*	*%REC*	*1*	*21-May-2022 21:33*
Surr: Dibromofluoromethane	*97.9*			**0**	*80-119*	*%REC*	*1*	*21-May-2022 21:33*
Surr: Toluene-d8	*111*			**0**	*89-112*	*%REC*	*1*	*21-May-2022 21:33*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 13-Jun-22

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: LHAAP 37 May 2022 WorkOrder:HS22050854
Sample ID: Trip Blank-220518 Lab ID:HS22050854-09
Collection Date: 18-May-2022 00:00 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	23-May-2022 15:16
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	23-May-2022 15:16
1,1,2,2-Tetrachloroethane	0.50	U	0.50	0.50	1.0	ug/L	1	23-May-2022 15:16
1,1,2-Trichlor-1,2,2-trifluoroethane	0.50	U	0.50	0.50	1.0	ug/L	1	23-May-2022 15:16
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	23-May-2022 15:16
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	23-May-2022 15:16
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	23-May-2022 15:16
1,1-Dichloropropene	0.50	U	0.30	0.50	1.0	ug/L	1	23-May-2022 15:16
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	23-May-2022 15:16
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	23-May-2022 15:16
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	23-May-2022 15:16
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	23-May-2022 15:16
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	23-May-2022 15:16
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	23-May-2022 15:16
1,2-Dichlorobenzene	0.50	U	0.50	0.50	1.0	ug/L	1	23-May-2022 15:16
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	23-May-2022 15:16
1,2-Dichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	23-May-2022 15:16
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	23-May-2022 15:16
1,3-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	23-May-2022 15:16
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	23-May-2022 15:16
1,4-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	23-May-2022 15:16
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	23-May-2022 15:16
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	23-May-2022 15:16
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	23-May-2022 15:16
2-Hexanone	2.0	U	1.0	2.0	2.0	ug/L	1	23-May-2022 15:16
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	23-May-2022 15:16
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	23-May-2022 15:16
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	ug/L	1	23-May-2022 15:16
Acetone	2.0	U	0.40	2.0	2.0	ug/L	1	23-May-2022 15:16
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	23-May-2022 15:16
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	23-May-2022 15:16
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	23-May-2022 15:16
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	23-May-2022 15:16
Bromoform	0.50	U	0.40	0.50	1.0	ug/L	1	23-May-2022 15:16
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	23-May-2022 15:16
Carbon disulfide	2.0	U	0.60	2.0	2.0	ug/L	1	23-May-2022 15:16
Carbon tetrachloride	0.50	U	0.50	0.50	1.0	ug/L	1	23-May-2022 15:16
Chlorobenzene	0.50	U	0.30	0.50	1.0	ug/L	1	23-May-2022 15:16
Chloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	23-May-2022 15:16

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 13-Jun-22

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: LHAAP 37 May 2022 WorkOrder:HS22050854
Sample ID: Trip Blank-220518 Lab ID:HS22050854-09
Collection Date: 18-May-2022 00:00 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	23-May-2022 15:16
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	23-May-2022 15:16
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	23-May-2022 15:16
cis-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	23-May-2022 15:16
Dibromochloromethane	0.50	U	0.30	0.50	1.0	ug/L	1	23-May-2022 15:16
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	23-May-2022 15:16
Dichlorodifluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	23-May-2022 15:16
Ethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	23-May-2022 15:16
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	23-May-2022 15:16
Isopropylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	23-May-2022 15:16
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	23-May-2022 15:16
Methylene chloride	2.0	U	0.40	2.0	2.0	ug/L	1	23-May-2022 15:16
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	23-May-2022 15:16
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	23-May-2022 15:16
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	23-May-2022 15:16
o-Xylene	0.50	U	0.30	0.50	1.0	ug/L	1	23-May-2022 15:16
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	23-May-2022 15:16
Styrene	0.50	U	0.30	0.50	1.0	ug/L	1	23-May-2022 15:16
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	23-May-2022 15:16
Tetrachloroethene	0.50	U	0.30	0.50	1.0	ug/L	1	23-May-2022 15:16
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	23-May-2022 15:16
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	23-May-2022 15:16
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	23-May-2022 15:16
Trichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	23-May-2022 15:16
Trichlorofluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	23-May-2022 15:16
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	23-May-2022 15:16
Surr: 1,2-Dichloroethane-d4	*104*			**0**	*81-118*	*%REC*	*1*	*23-May-2022 15:16*
Surr: 4-Bromofluorobenzene	*86.6*			**0**	*85-114*	*%REC*	*1*	*23-May-2022 15:16*
Surr: Dibromofluoromethane	*96.8*			**0**	*80-119*	*%REC*	*1*	*23-May-2022 15:16*
Surr: Toluene-d8	*112*	*S*		**0**	*89-112*	*%REC*	*1*	*23-May-2022 15:16*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 13-Jun-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 May 2022
WorkOrder: HS22050854

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: R409032 (0)	**Test Name :** ANIONS BY SW9056A				**Matrix:** Water	
HS22050854-01	35BWW14-220518	18 May 2022 07:50			19 May 2022 14:25	1
HS22050854-04	35BWW23-220518	18 May 2022 09:20			19 May 2022 14:30	1
HS22050854-05	35BWW12-220518	18 May 2022 10:10			19 May 2022 14:36	1
Batch ID: R409090 (0)	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C				**Matrix:** Water	
HS22050854-01	35BWW14-220518	18 May 2022 07:50			21 May 2022 18:57	1
HS22050854-02	35BWW15-220518	18 May 2022 08:35			21 May 2022 19:19	1
HS22050854-03	35BWW15-220518-FD	18 May 2022 08:35			21 May 2022 19:42	1
HS22050854-04	35BWW23-220518	18 May 2022 09:20			21 May 2022 20:04	1
HS22050854-05	35BWW12-220518	18 May 2022 10:10			21 May 2022 20:26	1
HS22050854-06	35BWW09-220518	18 May 2022 11:00			21 May 2022 20:49	1
HS22050854-07	35BWW19-220518	18 May 2022 11:45			21 May 2022 21:11	1
HS22050854-08	35BWW18-220518	18 May 2022 12:30			21 May 2022 21:33	1
Batch ID: R409170 (0)	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C				**Matrix:** Water	
HS22050854-09	Trip Blank-220518	18 May 2022 00:00			23 May 2022 15:16	1
Batch ID: R409770 (0)	**Test Name :** DISSOLVED GASES BY RSK-175				**Matrix:** Water	
HS22050854-01	35BWW14-220518	18 May 2022 07:50			31 May 2022 11:40	1
HS22050854-04	35BWW23-220518	18 May 2022 09:20			31 May 2022 11:49	1
HS22050854-05	35BWW12-220518	18 May 2022 10:10			31 May 2022 12:01	1
Batch ID: R410018 (0)	**Test Name :** TOTAL ORGANIC CARBON - SM5310B-2011				**Matrix:** Water	
HS22050854-01	35BWW14-220518	18 May 2022 07:50			04 Jun 2022 04:01	1
HS22050854-04	35BWW23-220518	18 May 2022 09:20			04 Jun 2022 04:27	1
HS22050854-05	35BWW12-220518	18 May 2022 10:10			04 Jun 2022 04:39	1
Batch ID: R410469 (0)	**Test Name :** SUBCONTRACT ANALYSIS - RSK				**Matrix:** Water	
HS22050854-01	35BWW14-220518	18 May 2022 07:50			13 Jun 2022 09:10	1
HS22050854-04	35BWW23-220518	18 May 2022 09:20			13 Jun 2022 09:10	1
HS22050854-05	35BWW12-220518	18 May 2022 10:10			13 Jun 2022 09:10	1

ALS Houston, US Date: 13-Jun-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 May 2022
WorkOrder: HS22050854

QC BATCH REPORT

Batch ID: R409770 (0) **Instrument: FID-4** **Method: DISSOLVED GASES BY RSK-175**

MBLK Sample ID: **MBLK-220531** Units: **mg/L** Analysis Date: **31-May-2022 09:53**
Client ID: Run ID: **FID-4_409770** SeqNo: **6673264** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethane	0.000500	0.00100								U
Ethene	0.000500	0.00100								U
Methane	0.000500	0.000500								U

LCS Sample ID: **LCS-220531** Units: **mg/L** Analysis Date: **31-May-2022 10:01**
Client ID: Run ID: **FID-4_409770** SeqNo: **6673265** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethane	0.0147	0.00100	0.01804	0	81.4	75 - 125				
Ethene	0.0141	0.00100	0.0168	0	83.9	75 - 125				
Methane	0.00905	0.000500	0.009647	0	93.8	75 - 125				

LCSD Sample ID: **LCSD-220531** Units: **mg/L** Analysis Date: **31-May-2022 10:11**
Client ID: Run ID: **FID-4_409770** SeqNo: **6673266** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethane	0.0155	0.00100	0.01804	0	86.1	75 - 125	0.01469	5.53	30	
Ethene	0.0138	0.00100	0.0168	0	82.0	75 - 125	0.01409	2.33	30	
Methane	0.0100	0.000500	0.009647	0	104	75 - 125	0.009052	10.1	30	

The following samples were analyzed in this batch: HS22050854-01 HS22050854-04 HS22050854-05

ALS Houston, US Date: 13-Jun-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 May 2022
WorkOrder: HS22050854

QC BATCH REPORT

Batch ID: R409090 (0) **Instrument: VOA9** **Method: VOLATILES ORGANICS BY METHOD 8260C**

MBLK Sample ID: **VBLKW-220521** Units: **ug/L** Analysis Date: **21-May-2022 12:59**
Client ID: Run ID: **VOA9_409090** SeqNo: **6657864** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	0.50	1.0								U
1,1,1-Trichloroethane	0.50	1.0								U
1,1,2,2-Tetrachloroethane	0.50	1.0								U
1,1,2-Trichlor-1,2,2-trifluoroethane	0.50	1.0								U
1,1,2-Trichloroethane	0.50	1.0								U
1,1-Dichloroethane	0.50	1.0								U
1,1-Dichloroethene	0.50	1.0								U
1,1-Dichloropropene	0.50	1.0								U
1,2,3-Trichlorobenzene	1.0	1.0								U
1,2,3-Trichloropropane	1.0	1.0								U
1,2,4-Trichlorobenzene	1.0	1.0								U
1,2,4-Trimethylbenzene	1.0	1.0								U
1,2-Dibromo-3-chloropropane	0.50	1.0								U
1,2-Dibromoethane	0.50	1.0								U
1,2-Dichlorobenzene	0.50	1.0								U
1,2-Dichloroethane	0.50	1.0								U
1,2-Dichloropropane	0.50	1.0								U
1,3,5-Trimethylbenzene	1.0	1.0								U
1,3-Dichlorobenzene	0.50	1.0								U
1,3-Dichloropropane	1.0	1.0								U
1,4-Dichlorobenzene	0.50	1.0								U
2,2-Dichloropropane	0.50	1.0								U
2-Butanone	1.0	2.0								U
2-Chlorotoluene	1.0	1.0								U
2-Hexanone	2.0	2.0								U
4-Chlorotoluene	1.0	1.0								U
4-Isopropyltoluene	1.0	1.0								U
4-Methyl-2-pentanone	2.0	2.0								U
Acetone	2.0	2.0								U
Benzene	0.50	1.0								U
Bromobenzene	1.0	1.0								U
Bromochloromethane	0.50	1.0								U
Bromodichloromethane	0.50	1.0								U
Bromoform	0.50	1.0								U

ALS Houston, US Date: 13-Jun-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 May 2022
WorkOrder: HS22050854

QC BATCH REPORT

Batch ID: R409090 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MBLK Sample ID: **VBLKW-220521** Units: **ug/L** Analysis Date: **21-May-2022 12:59**
Client ID: Run ID: **VOA9_409090** SeqNo: **6657864** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromomethane	1.0	1.0								U
Carbon disulfide	2.0	2.0								U
Carbon tetrachloride	0.50	1.0								U
Chlorobenzene	0.50	1.0								U
Chloroethane	0.50	1.0								U
Chloroform	0.50	1.0								U
Chloromethane	0.50	1.0								U
cis-1,2-Dichloroethene	0.50	1.0								U
cis-1,3-Dichloropropene	0.50	1.0								U
Dibromochloromethane	0.50	1.0								U
Dibromomethane	0.50	1.0								U
Dichlorodifluoromethane	0.50	1.0								U
Ethylbenzene	0.50	1.0								U
Hexachlorobutadiene	1.0	1.0								U
Isopropylbenzene	0.50	1.0								U
m,p-Xylene	1.0	2.0								U
Methylene chloride	2.0	2.0								U
Naphthalene	1.0	1.0								U
n-Butylbenzene	1.0	1.0								U
n-Propylbenzene	1.0	1.0								U
o-Xylene	0.50	1.0								U
sec-Butylbenzene	1.0	1.0								U
Styrene	0.50	1.0								U
tert-Butylbenzene	1.0	1.0								U
Tetrachloroethene	0.50	1.0								U
Toluene	0.50	1.0								U
trans-1,2-Dichloroethene	0.50	1.0								U
trans-1,3-Dichloropropene	0.50	1.0								U
Trichloroethene	0.50	1.0								U
Trichlorofluoromethane	0.50	1.0								U
Vinyl chloride	0.50	1.0								U
Surr: 1,2-Dichloroethane-d4	*49.01*	*1.0*	*50*	*0*	*98.0*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*44.41*	*1.0*	*50*	*0*	*88.8*	*85 - 114*				
Surr: Dibromofluoromethane	*46.17*	*1.0*	*50*	*0*	*92.3*	*80 - 119*				

ALS Houston, US Date: 13-Jun-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 May 2022
WorkOrder: HS22050854

QC BATCH REPORT

Batch ID: R409090 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MBLK Sample ID: **VBLKW-220521** Units: **ug/L** Analysis Date: **21-May-2022 12:59**
Client ID: Run ID: **VOA9_409090** SeqNo: **6657864** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Surr: Toluene-d8	*55.65*	*1.0*	*50*	*0*	*111*	*89 - 112*				

ALS Houston, US Date: 13-Jun-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 May 2022
WorkOrder: HS22050854

QC BATCH REPORT

Batch ID: R409090 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

LCS Sample ID: **VLCSW-220521** Units: **ug/L** Analysis Date: **21-May-2022 12:15**
Client ID: Run ID: **VOA9_409090** SeqNo: **6657863** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	18.36	1.0	20	0	91.8	78 - 124				
1,1,1-Trichloroethane	19.31	1.0	20	0	96.6	74 - 131				
1,1,2,2-Tetrachloroethane	20.71	1.0	20	0	104	71 - 121				
1,1,2-Trichlor-1,2,2-trifluoroethane	21.29	1.0	20	0	106	70 - 136				
1,1,2-Trichloroethane	19.25	1.0	20	0	96.2	80 - 119				
1,1-Dichloroethane	19.42	1.0	20	0	97.1	77 - 125				
1,1-Dichloroethene	18.87	1.0	20	0	94.3	71 - 131				
1,1-Dichloropropene	19.34	1.0	20	0	96.7	78 - 125				
1,2,3-Trichlorobenzene	18.47	1.0	20	0	92.4	69 - 129				
1,2,3-Trichloropropane	18.11	1.0	20	0	90.6	73 - 122				
1,2,4-Trichlorobenzene	18.02	1.0	20	0	90.1	69 - 130				
1,2,4-Trimethylbenzene	19.1	1.0	20	0	95.5	76 - 124				
1,2-Dibromo-3-chloropropane	16.53	1.0	20	0	82.6	62 - 128				
1,2-Dibromoethane	19.35	1.0	20	0	96.8	77 - 121				
1,2-Dichlorobenzene	19.47	1.0	20	0	97.4	80 - 119				
1,2-Dichloroethane	19.63	1.0	20	0	98.2	73 - 128				
1,2-Dichloropropane	19.98	1.0	20	0	99.9	78 - 122				
1,3,5-Trimethylbenzene	19.03	1.0	20	0	95.2	75 - 124				
1,3-Dichlorobenzene	19.64	1.0	20	0	98.2	80 - 119				
1,3-Dichloropropane	19.55	1.0	20	0	97.7	80 - 119				
1,4-Dichlorobenzene	18.49	1.0	20	0	92.5	79 - 118				
2,2-Dichloropropane	19.53	1.0	20	0	97.6	60 - 139				
2-Butanone	40.06	2.0	40	0	100	56 - 143				
2-Chlorotoluene	21.98	1.0	20	0	110	79 - 122				
2-Hexanone	38.1	2.0	40	0	95.2	57 - 139				
4-Chlorotoluene	21.04	1.0	20	0	105	78 - 122				
4-Isopropyltoluene	17.23	1.0	20	0	86.2	77 - 127				
4-Methyl-2-pentanone	38.19	2.0	40	0	95.5	67 - 130				
Acetone	49.09	2.0	40	0	123	39 - 160				
Benzene	20.02	1.0	20	0	100	79 - 120				
Bromobenzene	20.13	1.0	20	0	101	80 - 120				
Bromochloromethane	19.27	1.0	20	0	96.4	78 - 123				
Bromodichloromethane	18.7	1.0	20	0	93.5	79 - 125				
Bromoform	14.85	1.0	20	0	74.2	66 - 130				

ALS Houston, US Date: 13-Jun-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 May 2022
WorkOrder: HS22050854

QC BATCH REPORT

Batch ID: R409090 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

LCS Sample ID: **VLCSW-220521** Units: **ug/L** Analysis Date: **21-May-2022 12:15**
Client ID: Run ID: **VOA9_409090** SeqNo: **6657863** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromomethane	24.33	1.0	20	0	122	53 - 141				
Carbon disulfide	39.19	2.0	40	0	98.0	64 - 133				
Carbon tetrachloride	16.55	1.0	20	0	82.7	72 - 136				
Chlorobenzene	19.24	1.0	20	0	96.2	82 - 118				
Chloroethane	19.51	1.0	20	0	97.5	60 - 138				
Chloroform	19.15	1.0	20	0	95.7	79 - 124				
Chloromethane	19.37	1.0	20	0	96.8	50 - 139				
cis-1,2-Dichloroethene	19.24	1.0	20	0	96.2	78 - 123				
cis-1,3-Dichloropropene	17.15	1.0	20	0	85.7	75 - 124				
Dibromochloromethane	16.1	1.0	20	0	80.5	74 - 126				
Dibromomethane	19.17	1.0	20	0	95.9	79 - 123				
Dichlorodifluoromethane	20.41	1.0	20	0	102	32 - 152				
Ethylbenzene	20.28	1.0	20	0	101	79 - 121				
Hexachlorobutadiene	21.15	1.0	20	0	106	66 - 134				
Isopropylbenzene	20.47	1.0	20	0	102	72 - 131				
m,p-Xylene	40.93	2.0	40	0	102	80 - 121				
Methylene chloride	19.05	2.0	20	0	95.2	74 - 124				
Naphthalene	17.62	1.0	20	0	88.1	61 - 128				
n-Butylbenzene	19.06	1.0	20	0	95.3	75 - 128				
n-Propylbenzene	20.48	1.0	20	0	102	76 - 126				
o-Xylene	21.11	1.0	20	0	106	78 - 122				
sec-Butylbenzene	17.13	1.0	20	0	85.7	77 - 126				
Styrene	18.27	1.0	20	0	91.4	78 - 123				
tert-Butylbenzene	19.38	1.0	20	0	96.9	78 - 124				
Tetrachloroethene	20.64	1.0	20	0	103	74 - 129				
Toluene	21.4	1.0	20	0	107	80 - 121				
trans-1,2-Dichloroethene	18.86	1.0	20	0	94.3	75 - 124				
trans-1,3-Dichloropropene	16.15	1.0	20	0	80.7	73 - 127				
Trichloroethene	19.26	1.0	20	0	96.3	79 - 123				
Trichlorofluoromethane	19.1	1.0	20	0	95.5	65 - 141				
Vinyl chloride	19.54	1.0	20	0	97.7	58 - 137				
Surr: 1,2-Dichloroethane-d4	*52.03*	*1.0*	*50*	*0*	*104*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*49.22*	*1.0*	*50*	*0*	*98.4*	*85 - 114*				
Surr: Dibromofluoromethane	*50.02*	*1.0*	*50*	*0*	*100*	*80 - 119*				

ALS Houston, US Date: 13-Jun-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 May 2022
WorkOrder: HS22050854

QC BATCH REPORT

Batch ID: R409090 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

LCS Sample ID: **VLCSW-220521** Units: **ug/L** Analysis Date: **21-May-2022 12:15**
Client ID: Run ID: **VOA9_409090** SeqNo: **6657863** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Surr: Toluene-d8	*52.36*	*1.0*	*50*	*0*	*105*	*89 - 112*				

ALS Houston, US Date: 13-Jun-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 May 2022
WorkOrder: HS22050854

QC BATCH REPORT

Batch ID: R409090 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS22050828-03MS** Units: **ug/L** Analysis Date: **21-May-2022 14:07**
Client ID: Run ID: **VOA9_409090** SeqNo: **6657867** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	17.79	1.0	20	0	89.0	78 - 124				
1,1,1-Trichloroethane	17.08	1.0	20	0	85.4	74 - 131				
1,1,2,2-Tetrachloroethane	19.48	1.0	20	0	97.4	71 - 121				
1,1,2-Trichlor-1,2,2-trifluoroethane	20.53	1.0	20	0	103	70 - 136				
1,1,2-Trichloroethane	18.2	1.0	20	0	91.0	80 - 119				
1,1-Dichloroethane	16.39	1.0	20	0	81.9	77 - 125				
1,1-Dichloroethene	16.75	1.0	20	0	83.8	71 - 131				
1,1-Dichloropropene	18.18	1.0	20	0	90.9	78 - 125				
1,2,3-Trichlorobenzene	15.95	1.0	20	0	79.8	69 - 129				
1,2,3-Trichloropropane	17.09	1.0	20	0	85.5	73 - 122				
1,2,4-Trichlorobenzene	14.99	1.0	20	0	75.0	69 - 130				
1,2,4-Trimethylbenzene	17.86	1.0	20	0	89.3	76 - 124				
1,2-Dibromo-3-chloropropane	15	1.0	20	0	75.0	62 - 128				
1,2-Dibromoethane	18.29	1.0	20	0	91.4	77 - 121				
1,2-Dichlorobenzene	18.1	1.0	20	0	90.5	80 - 119				
1,2-Dichloroethane	17.25	1.0	20	0	86.3	73 - 128				
1,2-Dichloropropane	18.42	1.0	20	0	92.1	78 - 122				
1,3,5-Trimethylbenzene	18.22	1.0	20	0	91.1	75 - 124				
1,3-Dichlorobenzene	18.52	1.0	20	0	92.6	80 - 119				
1,3-Dichloropropane	18.35	1.0	20	0	91.8	80 - 119				
1,4-Dichlorobenzene	17.68	1.0	20	0	88.4	79 - 118				
2,2-Dichloropropane	17.08	1.0	20	0	85.4	60 - 139				
2-Butanone	27.93	2.0	40	0	69.8	56 - 143				
2-Chlorotoluene	20.65	1.0	20	0	103	79 - 122				
2-Hexanone	32.68	2.0	40	0	81.7	57 - 139				
4-Chlorotoluene	20.05	1.0	20	0	100	78 - 122				
4-Isopropyltoluene	16.61	1.0	20	0	83.1	77 - 127				
4-Methyl-2-pentanone	33.88	2.0	40	0	84.7	67 - 130				
Acetone	27.91	2.0	40	0	69.8	39 - 160				
Benzene	18.63	1.0	20	0	93.1	79 - 120				
Bromobenzene	18.57	1.0	20	0	92.9	80 - 120				
Bromochloromethane	16.28	1.0	20	0	81.4	78 - 123				
Bromodichloromethane	17.01	1.0	20	0	85.1	79 - 125				
Bromoform	14.2	1.0	20	0	71.0	66 - 130				

ALS Houston, US Date: 13-Jun-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 May 2022
WorkOrder: HS22050854

QC BATCH REPORT

Batch ID: R409090 (0) **Instrument: VOA9** **Method: VOLATILES ORGANICS BY METHOD 8260C**

MS Sample ID: **HS22050828-03MS** Units: **ug/L** Analysis Date: **21-May-2022 14:07**
Client ID: Run ID: **VOA9_409090** SeqNo: **6657867** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromomethane	19.57	1.0	20	0	97.8	53 - 141				
Carbon disulfide	32.95	2.0	40	0	82.4	64 - 133				
Carbon tetrachloride	16.72	1.0	20	0	83.6	72 - 136				
Chlorobenzene	18.43	1.0	20	0	92.1	82 - 118				
Chloroethane	16.49	1.0	20	0	82.4	60 - 138				
Chloroform	16.4	1.0	20	0	82.0	79 - 124				
Chloromethane	15.32	1.0	20	0	76.6	50 - 139				
cis-1,2-Dichloroethene	16.22	1.0	20	0	81.1	78 - 123				
cis-1,3-Dichloropropene	15.22	1.0	20	0	76.1	75 - 124				
Dibromochloromethane	15.72	1.0	20	0	78.6	74 - 126				
Dibromomethane	17.13	1.0	20	0	85.6	79 - 123				
Dichlorodifluoromethane	12.83	1.0	20	0	64.1	32 - 152				
Ethylbenzene	19.46	1.0	20	0	97.3	79 - 121				
Hexachlorobutadiene	18.85	1.0	20	0	94.2	66 - 134				
Isopropylbenzene	19.87	1.0	20	0	99.4	72 - 131				
m,p-Xylene	39.62	2.0	40	0	99.0	80 - 121				
Methylene chloride	15.83	2.0	20	0	79.1	74 - 124				
Naphthalene	14.38	1.0	20	0	71.9	61 - 128				
n-Butylbenzene	17.35	1.0	20	0	86.8	75 - 128				
n-Propylbenzene	19.91	1.0	20	0	99.6	76 - 126				
o-Xylene	20.22	1.0	20	0	101	78 - 122				
sec-Butylbenzene	16.57	1.0	20	0	82.9	77 - 126				
Styrene	17.56	1.0	20	0	87.8	78 - 123				
tert-Butylbenzene	18.7	1.0	20	0	93.5	78 - 124				
Tetrachloroethene	30.39	1.0	20	9.363	105	74 - 129				
Toluene	20.56	1.0	20	0	103	80 - 121				
trans-1,2-Dichloroethene	16.44	1.0	20	0	82.2	75 - 124				
trans-1,3-Dichloropropene	15.04	1.0	20	0	75.2	73 - 127				
Trichloroethene	19.85	1.0	20	1.773	90.4	79 - 123				
Trichlorofluoromethane	16.96	1.0	20	0	84.8	65 - 141				
Vinyl chloride	16.23	1.0	20	0	81.2	58 - 137				
Surr: 1,2-Dichloroethane-d4	*45.45*	*1.0*	*50*	*0*	*90.9*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*51.16*	*1.0*	*50*	*0*	*102*	*85 - 114*				
Surr: Dibromofluoromethane	*44.33*	*1.0*	*50*	*0*	*88.7*	*80 - 119*				

ALS Houston, US Date: 13-Jun-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 May 2022
WorkOrder: HS22050854

QC BATCH REPORT

Batch ID: R409090 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS22050828-03MS** Units: **ug/L** Analysis Date: **21-May-2022 14:07**
Client ID: Run ID: **VOA9_409090** SeqNo: **6657867** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Surr: Toluene-d8	*55.61*	*1.0*	*50*	*0*	*111*	*89 - 112*				

ALS Houston, US Date: 13-Jun-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 May 2022
WorkOrder: HS22050854

QC BATCH REPORT

Batch ID: R409090 (0) **Instrument: VOA9** **Method: VOLATILES ORGANICS BY METHOD 8260C**

MSD Sample ID: **HS22050828-03MSD** Units: **ug/L** Analysis Date: **21-May-2022 14:29**
Client ID: Run ID: **VOA9_409090** SeqNo: **6657868** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	17.7	1.0	20	0	88.5	78 - 124	17.79	0.549	20	
1,1,1-Trichloroethane	16.8	1.0	20	0	84.0	74 - 131	17.08	1.67	20	
1,1,2,2-Tetrachloroethane	19.74	1.0	20	0	98.7	71 - 121	19.48	1.34	20	
1,1,2-Trichlor-1,2,2-trifluoroethane	20.03	1.0	20	0	100	70 - 136	20.53	2.48	20	
1,1,2-Trichloroethane	18.24	1.0	20	0	91.2	80 - 119	18.2	0.208	20	
1,1-Dichloroethane	16.3	1.0	20	0	81.5	77 - 125	16.39	0.549	20	
1,1-Dichloroethene	16.67	1.0	20	0	83.3	71 - 131	16.75	0.492	20	
1,1-Dichloropropene	18.07	1.0	20	0	90.4	78 - 125	18.18	0.588	20	
1,2,3-Trichlorobenzene	18.2	1.0	20	0	91.0	69 - 129	15.95	13.2	20	
1,2,3-Trichloropropane	16.76	1.0	20	0	83.8	73 - 122	17.09	2	20	
1,2,4-Trichlorobenzene	17.17	1.0	20	0	85.8	69 - 130	14.99	13.5	20	
1,2,4-Trimethylbenzene	18.29	1.0	20	0	91.5	76 - 124	17.86	2.38	20	
1,2-Dibromo-3-chloropropane	15.41	1.0	20	0	77.1	62 - 128	15	2.71	20	
1,2-Dibromoethane	18	1.0	20	0	90.0	77 - 121	18.29	1.57	20	
1,2-Dichlorobenzene	18.39	1.0	20	0	91.9	80 - 119	18.1	1.6	20	
1,2-Dichloroethane	17.53	1.0	20	0	87.7	73 - 128	17.25	1.61	20	
1,2-Dichloropropane	18.06	1.0	20	0	90.3	78 - 122	18.42	1.98	20	
1,3,5-Trimethylbenzene	18.4	1.0	20	0	92.0	75 - 124	18.22	1.01	20	
1,3-Dichlorobenzene	18.82	1.0	20	0	94.1	80 - 119	18.52	1.58	20	
1,3-Dichloropropane	18.18	1.0	20	0	90.9	80 - 119	18.35	0.939	20	
1,4-Dichlorobenzene	17.97	1.0	20	0	89.8	79 - 118	17.68	1.61	20	
2,2-Dichloropropane	16.81	1.0	20	0	84.1	60 - 139	17.08	1.6	20	
2-Butanone	29.34	2.0	40	0	73.3	56 - 143	27.93	4.91	20	
2-Chlorotoluene	20.94	1.0	20	0	105	79 - 122	20.65	1.38	20	
2-Hexanone	34.67	2.0	40	0	86.7	57 - 139	32.68	5.9	20	
4-Chlorotoluene	20.39	1.0	20	0	102	78 - 122	20.05	1.65	20	
4-Isopropyltoluene	17.19	1.0	20	0	85.9	77 - 127	16.61	3.41	20	
4-Methyl-2-pentanone	35.79	2.0	40	0	89.5	67 - 130	33.88	5.46	20	
Acetone	27.79	2.0	40	0	69.5	39 - 160	27.91	0.45	20	
Benzene	18.62	1.0	20	0	93.1	79 - 120	18.63	0.0326	20	
Bromobenzene	18.81	1.0	20	0	94.1	80 - 120	18.57	1.27	20	
Bromochloromethane	15.94	1.0	20	0	79.7	78 - 123	16.28	2.15	20	
Bromodichloromethane	17.05	1.0	20	0	85.2	79 - 125	17.01	0.192	20	
Bromoform	14.21	1.0	20	0	71.0	66 - 130	14.2	0.0283	20	

ALS Houston, US Date: 13-Jun-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 May 2022
WorkOrder: HS22050854

QC BATCH REPORT

Batch ID: R409090 (0) **Instrument: VOA9** **Method: VOLATILES ORGANICS BY METHOD 8260C**

MSD Sample ID: **HS22050828-03MSD** Units: **ug/L** Analysis Date: **21-May-2022 14:29**
Client ID: Run ID: **VOA9_409090** SeqNo: **6657868** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Bromomethane	19.02	1.0	20	0	95.1	53 - 141	19.57	2.83	20	
Carbon disulfide	32.94	2.0	40	0	82.3	64 - 133	32.95	0.0278	20	
Carbon tetrachloride	16.87	1.0	20	0	84.3	72 - 136	16.72	0.862	20	
Chlorobenzene	18.26	1.0	20	0	91.3	82 - 118	18.43	0.921	20	
Chloroethane	16.01	1.0	20	0	80.0	60 - 138	16.49	2.96	20	
Chloroform	16.39	1.0	20	0	82.0	79 - 124	16.4	0.0392	20	
Chloromethane	15.45	1.0	20	0	77.2	50 - 139	15.32	0.827	20	
cis-1,2-Dichloroethene	16.05	1.0	20	0	80.3	78 - 123	16.22	1.06	20	
cis-1,3-Dichloropropene	15.12	1.0	20	0	75.6	75 - 124	15.22	0.679	20	
Dibromochloromethane	15.87	1.0	20	0	79.4	74 - 126	15.72	0.955	20	
Dibromomethane	17.13	1.0	20	0	85.6	79 - 123	17.13	0.00714	20	
Dichlorodifluoromethane	12.67	1.0	20	0	63.4	32 - 152	12.83	1.2	20	
Ethylbenzene	19.75	1.0	20	0	98.8	79 - 121	19.46	1.49	20	
Hexachlorobutadiene	18.92	1.0	20	0	94.6	66 - 134	18.85	0.378	20	
Isopropylbenzene	20.12	1.0	20	0	101	72 - 131	19.87	1.21	20	
m,p-Xylene	39.57	2.0	40	0	98.9	80 - 121	39.62	0.125	20	
Methylene chloride	15.65	2.0	20	0	78.3	74 - 124	15.83	1.11	20	
Naphthalene	17.23	1.0	20	0	86.1	61 - 128	14.38	18	20	
n-Butylbenzene	18.86	1.0	20	0	94.3	75 - 128	17.35	8.3	20	
n-Propylbenzene	20.1	1.0	20	0	101	76 - 126	19.91	0.948	20	
o-Xylene	20.1	1.0	20	0	101	78 - 122	20.22	0.577	20	
sec-Butylbenzene	17.62	1.0	20	0	88.1	77 - 126	16.57	6.16	20	
Styrene	17.57	1.0	20	0	87.9	78 - 123	17.56	0.0477	20	
tert-Butylbenzene	19.35	1.0	20	0	96.7	78 - 124	18.7	3.4	20	
Tetrachloroethene	30.92	1.0	20	9.363	108	74 - 129	30.39	1.71	20	
Toluene	20.62	1.0	20	0	103	80 - 121	20.56	0.299	20	
trans-1,2-Dichloroethene	15.96	1.0	20	0	79.8	75 - 124	16.44	2.98	20	
trans-1,3-Dichloropropene	14.96	1.0	20	0	74.8	73 - 127	15.04	0.474	20	
Trichloroethene	19.37	1.0	20	1.773	88.0	79 - 123	19.85	2.47	20	
Trichlorofluoromethane	16.81	1.0	20	0	84.0	65 - 141	16.96	0.942	20	
Vinyl chloride	16.16	1.0	20	0	80.8	58 - 137	16.23	0.445	20	
Surr: 1,2-Dichloroethane-d4	*45.14*	*1.0*	*50*	*0*	*90.3*	*81 - 118*	*45.45*	*0.669*	*20*	
Surr: 4-Bromofluorobenzene	*50.75*	*1.0*	*50*	*0*	*102*	*85 - 114*	*51.16*	*0.793*	*20*	
Surr: Dibromofluoromethane	*43.88*	*1.0*	*50*	*0*	*87.8*	*80 - 119*	*44.33*	*1.01*	*20*	

ALS Houston, US Date: 13-Jun-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 May 2022
WorkOrder: HS22050854

QC BATCH REPORT

Batch ID: R409090 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS22050828-03MSD** Units: **ug/L** Analysis Date: **21-May-2022 14:29**
Client ID: Run ID: **VOA9_409090** SeqNo: **6657868** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Surr: Toluene-d8	*54.7*	*1.0*	*50*	*0*	*109*	*89 - 112*	*55.61*	*1.64*	*20*	

The following samples were analyzed in this batch:

HS22050854-01	HS22050854-02	HS22050854-03	HS22050854-04
HS22050854-05	HS22050854-06	HS22050854-07	HS22050854-08

ALS Houston, US Date: 13-Jun-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 May 2022
WorkOrder: HS22050854

QC BATCH REPORT

Batch ID: R409170 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MBLK Sample ID: **VBLKW-220523** Units: **ug/L** Analysis Date: **23-May-2022 14:32**
Client ID: Run ID: **VOA9_409170** SeqNo: **6659642** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	0.50	1.0								U
1,1,1-Trichloroethane	0.50	1.0								U
1,1,2,2-Tetrachloroethane	0.50	1.0								U
1,1,2-Trichlor-1,2,2-trifluoroethane	0.50	1.0								U
1,1,2-Trichloroethane	0.50	1.0								U
1,1-Dichloroethane	0.50	1.0								U
1,1-Dichloroethene	0.50	1.0								U
1,1-Dichloropropene	0.50	1.0								U
1,2,3-Trichlorobenzene	1.0	1.0								U
1,2,3-Trichloropropane	1.0	1.0								U
1,2,4-Trichlorobenzene	1.0	1.0								U
1,2,4-Trimethylbenzene	1.0	1.0								U
1,2-Dibromo-3-chloropropane	0.50	1.0								U
1,2-Dibromoethane	0.50	1.0								U
1,2-Dichlorobenzene	0.50	1.0								U
1,2-Dichloroethane	0.50	1.0								U
1,2-Dichloropropane	0.50	1.0								U
1,3,5-Trimethylbenzene	1.0	1.0								U
1,3-Dichlorobenzene	0.50	1.0								U
1,3-Dichloropropane	1.0	1.0								U
1,4-Dichlorobenzene	0.50	1.0								U
2,2-Dichloropropane	0.50	1.0								U
2-Butanone	1.0	2.0								U
2-Chlorotoluene	1.0	1.0								U
2-Hexanone	2.0	2.0								U
4-Chlorotoluene	1.0	1.0								U
4-Isopropyltoluene	1.0	1.0								U
4-Methyl-2-pentanone	2.0	2.0								U
Acetone	2.0	2.0								U
Benzene	0.50	1.0								U
Bromobenzene	1.0	1.0								U
Bromochloromethane	0.50	1.0								U
Bromodichloromethane	0.50	1.0								U
Bromoform	0.50	1.0								U

ALS Houston, US Date: 13-Jun-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 May 2022
WorkOrder: HS22050854

QC BATCH REPORT

Batch ID: R409170 (0) **Instrument: VOA9** **Method: VOLATILES ORGANICS BY METHOD 8260C**

MBLK Sample ID: **VBLKW-220523** Units: **ug/L** Analysis Date: **23-May-2022 14:32**
Client ID: Run ID: **VOA9_409170** SeqNo: **6659642** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromomethane	1.0	1.0								U
Carbon disulfide	2.0	2.0								U
Carbon tetrachloride	0.50	1.0								U
Chlorobenzene	0.50	1.0								U
Chloroethane	0.50	1.0								U
Chloroform	0.50	1.0								U
Chloromethane	0.50	1.0								U
cis-1,2-Dichloroethene	0.50	1.0								U
cis-1,3-Dichloropropene	0.50	1.0								U
Dibromochloromethane	0.50	1.0								U
Dibromomethane	0.50	1.0								U
Dichlorodifluoromethane	0.50	1.0								U
Ethylbenzene	0.50	1.0								U
Hexachlorobutadiene	1.0	1.0								U
Isopropylbenzene	0.50	1.0								U
m,p-Xylene	1.0	2.0								U
Methylene chloride	2.0	2.0								U
Naphthalene	1.0	1.0								U
n-Butylbenzene	1.0	1.0								U
n-Propylbenzene	1.0	1.0								U
o-Xylene	0.50	1.0								U
sec-Butylbenzene	1.0	1.0								U
Styrene	0.50	1.0								U
tert-Butylbenzene	1.0	1.0								U
Tetrachloroethene	0.50	1.0								U
Toluene	0.50	1.0								U
trans-1,2-Dichloroethene	0.50	1.0								U
trans-1,3-Dichloropropene	0.50	1.0								U
Trichloroethene	0.50	1.0								U
Trichlorofluoromethane	0.50	1.0								U
Vinyl chloride	0.50	1.0								U
Surr: 1,2-Dichloroethane-d4	*50.91*	*1.0*	*50*	*0*	*102*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*43.97*	*1.0*	*50*	*0*	*87.9*	*85 - 114*				
Surr: Dibromofluoromethane	*47.73*	*1.0*	*50*	*0*	*95.5*	*80 - 119*				

ALS Houston, US Date: 13-Jun-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 May 2022
WorkOrder: HS22050854

QC BATCH REPORT

Batch ID: R409170 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MBLK Sample ID: **VBLKW-220523** Units: **ug/L** Analysis Date: **23-May-2022 14:32**
Client ID: Run ID: **VOA9_409170** SeqNo: **6659642** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Surr: Toluene-d8	*55.58*	*1.0*	*50*	*0*	*111*	*89 - 112*				

ALS Houston, US Date: 13-Jun-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 May 2022
WorkOrder: HS22050854

QC BATCH REPORT

Batch ID: R409170 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

LCS Sample ID: **VLCSW-220523** Units: **ug/L** Analysis Date: **23-May-2022 13:25**
Client ID: Run ID: **VOA9_409170** SeqNo: **6659641** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	18.49	1.0	20	0	92.5	78 - 124				
1,1,1-Trichloroethane	18.31	1.0	20	0	91.5	74 - 131				
1,1,2,2-Tetrachloroethane	21.28	1.0	20	0	106	71 - 121				
1,1,2-Trichlor-1,2,2-trifluoroethane	19.06	1.0	20	0	95.3	70 - 136				
1,1,2-Trichloroethane	18.78	1.0	20	0	93.9	80 - 119				
1,1-Dichloroethane	18.15	1.0	20	0	90.8	77 - 125				
1,1-Dichloroethene	17.81	1.0	20	0	89.1	71 - 131				
1,1-Dichloropropene	18.45	1.0	20	0	92.2	78 - 125				
1,2,3-Trichlorobenzene	17.52	1.0	20	0	87.6	69 - 129				
1,2,3-Trichloropropane	18.8	1.0	20	0	94.0	73 - 122				
1,2,4-Trichlorobenzene	16.45	1.0	20	0	82.2	69 - 130				
1,2,4-Trimethylbenzene	18.42	1.0	20	0	92.1	76 - 124				
1,2-Dibromo-3-chloropropane	15.96	1.0	20	0	79.8	62 - 128				
1,2-Dibromoethane	18.92	1.0	20	0	94.6	77 - 121				
1,2-Dichlorobenzene	18.33	1.0	20	0	91.6	80 - 119				
1,2-Dichloroethane	18.91	1.0	20	0	94.5	73 - 128				
1,2-Dichloropropane	19.26	1.0	20	0	96.3	78 - 122				
1,3,5-Trimethylbenzene	17.91	1.0	20	0	89.6	75 - 124				
1,3-Dichlorobenzene	18.72	1.0	20	0	93.6	80 - 119				
1,3-Dichloropropane	19.44	1.0	20	0	97.2	80 - 119				
1,4-Dichlorobenzene	18.04	1.0	20	0	90.2	79 - 118				
2,2-Dichloropropane	18.31	1.0	20	0	91.6	60 - 139				
2-Butanone	38.74	2.0	40	0	96.9	56 - 143				
2-Chlorotoluene	20.9	1.0	20	0	104	79 - 122				
2-Hexanone	37.27	2.0	40	0	93.2	57 - 139				
4-Chlorotoluene	20.22	1.0	20	0	101	78 - 122				
4-Isopropyltoluene	16.29	1.0	20	0	81.5	77 - 127				
4-Methyl-2-pentanone	37.6	2.0	40	0	94.0	67 - 130				
Acetone	46.62	2.0	40	0	117	39 - 160				
Benzene	19.59	1.0	20	0	97.9	79 - 120				
Bromobenzene	19.71	1.0	20	0	98.5	80 - 120				
Bromochloromethane	18.66	1.0	20	0	93.3	78 - 123				
Bromodichloromethane	18.48	1.0	20	0	92.4	79 - 125				
Bromoform	15.02	1.0	20	0	75.1	66 - 130				

ALS Houston, US Date: 13-Jun-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 May 2022
WorkOrder: HS22050854

QC BATCH REPORT

Batch ID: R409170 (0) **Instrument: VOA9** **Method: VOLATILES ORGANICS BY METHOD 8260C**

LCS Sample ID: **VLCSW-220523** Units: **ug/L** Analysis Date: **23-May-2022 13:25**
Client ID: Run ID: **VOA9_409170** SeqNo: **6659641** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromomethane	22.68	1.0	20	0	113	53 - 141				
Carbon disulfide	36.87	2.0	40	0	92.2	64 - 133				
Carbon tetrachloride	15.63	1.0	20	0	78.1	72 - 136				
Chlorobenzene	18.65	1.0	20	0	93.2	82 - 118				
Chloroethane	18.45	1.0	20	0	92.2	60 - 138				
Chloroform	18.36	1.0	20	0	91.8	79 - 124				
Chloromethane	18.47	1.0	20	0	92.4	50 - 139				
cis-1,2-Dichloroethene	18.26	1.0	20	0	91.3	78 - 123				
cis-1,3-Dichloropropene	16.86	1.0	20	0	84.3	75 - 124				
Dibromochloromethane	16.2	1.0	20	0	81.0	74 - 126				
Dibromomethane	18.34	1.0	20	0	91.7	79 - 123				
Dichlorodifluoromethane	19.07	1.0	20	0	95.4	32 - 152				
Ethylbenzene	19.05	1.0	20	0	95.3	79 - 121				
Hexachlorobutadiene	18.59	1.0	20	0	92.9	66 - 134				
Isopropylbenzene	18.83	1.0	20	0	94.1	72 - 131				
m,p-Xylene	39.04	2.0	40	0	97.6	80 - 121				
Methylene chloride	18	2.0	20	0	90.0	74 - 124				
Naphthalene	16.71	1.0	20	0	83.5	61 - 128				
n-Butylbenzene	17.68	1.0	20	0	88.4	75 - 128				
n-Propylbenzene	18.92	1.0	20	0	94.6	76 - 126				
o-Xylene	19.94	1.0	20	0	99.7	78 - 122				
sec-Butylbenzene	15.67	1.0	20	0	78.4	77 - 126				
Styrene	17.58	1.0	20	0	87.9	78 - 123				
tert-Butylbenzene	17.68	1.0	20	0	88.4	78 - 124				
Tetrachloroethene	19.87	1.0	20	0	99.4	74 - 129				
Toluene	20.48	1.0	20	0	102	80 - 121				
trans-1,2-Dichloroethene	17.38	1.0	20	0	86.9	75 - 124				
trans-1,3-Dichloropropene	16.13	1.0	20	0	80.7	73 - 127				
Trichloroethene	18.46	1.0	20	0	92.3	79 - 123				
Trichlorofluoromethane	17.66	1.0	20	0	88.3	65 - 141				
Vinyl chloride	19	1.0	20	0	95.0	58 - 137				
Surr: 1,2-Dichloroethane-d4	*50.5*	*1.0*	*50*	*0*	*101*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*48.6*	*1.0*	*50*	*0*	*97.2*	*85 - 114*				
Surr: Dibromofluoromethane	*48.56*	*1.0*	*50*	*0*	*97.1*	*80 - 119*				

ALS Houston, US Date: 13-Jun-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 May 2022
WorkOrder: HS22050854

QC BATCH REPORT

Batch ID: R409170 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

LCS Sample ID: **VLCSW-220523** Units: **ug/L** Analysis Date: **23-May-2022 13:25**
Client ID: Run ID: **VOA9_409170** SeqNo: **6659641** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Surr: Toluene-d8	*51.71*	*1.0*	*50*	*0*	*103*	*89 - 112*				

ALS Houston, US Date: 13-Jun-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 May 2022
WorkOrder: HS22050854

QC BATCH REPORT

Batch ID: R409170 (0) **Instrument: VOA9** **Method: VOLATILES ORGANICS BY METHOD 8260C**

MS Sample ID: **HS22050829-11MS** Units: **ug/L** Analysis Date: **23-May-2022 17:53**
Client ID: Run ID: **VOA9_409170** SeqNo: **6659645** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	16.4	1.0	20	0	82.0	78 - 124				
1,1,1-Trichloroethane	15.65	1.0	20	0	78.2	74 - 131				
1,1,2,2-Tetrachloroethane	18.69	1.0	20	0	93.5	71 - 121				
1,1,2-Trichlor-1,2,2-trifluoroethane	16.27	1.0	20	0	81.3	70 - 136				
1,1,2-Trichloroethane	17.2	1.0	20	0	86.0	80 - 119				
1,1-Dichloroethane	14.8	1.0	20	0	74.0	77 - 125				S
1,1-Dichloroethene	15.21	1.0	20	0	76.1	71 - 131				
1,1-Dichloropropene	18.4	1.0	20	0	92.0	78 - 125				
1,2,3-Trichlorobenzene	16.65	1.0	20	0	83.2	69 - 129				
1,2,3-Trichloropropane	16.06	1.0	20	0	80.3	73 - 122				
1,2,4-Trichlorobenzene	16.56	1.0	20	0	82.8	69 - 130				
1,2,4-Trimethylbenzene	17.76	1.0	20	0	88.8	76 - 124				
1,2-Dibromo-3-chloropropane	14.43	1.0	20	0	72.2	62 - 128				
1,2-Dibromoethane	17.19	1.0	20	0	86.0	77 - 121				
1,2-Dichlorobenzene	17.51	1.0	20	0	87.6	80 - 119				
1,2-Dichloroethane	16.37	1.0	20	0	81.8	73 - 128				
1,2-Dichloropropane	16.83	1.0	20	0	84.2	78 - 122				
1,3,5-Trimethylbenzene	18.16	1.0	20	0	90.8	75 - 124				
1,3-Dichlorobenzene	18.17	1.0	20	0	90.9	80 - 119				
1,3-Dichloropropane	17.28	1.0	20	0	86.4	80 - 119				
1,4-Dichlorobenzene	16.82	1.0	20	0	84.1	79 - 118				
2,2-Dichloropropane	15.97	1.0	20	0	79.9	60 - 139				
2-Butanone	36.5	2.0	40	0	91.2	56 - 143				
2-Chlorotoluene	20.44	1.0	20	0	102	79 - 122				
2-Hexanone	32.4	2.0	40	0	81.0	57 - 139				
4-Chlorotoluene	19.32	1.0	20	0	96.6	78 - 122				
4-Isopropyltoluene	16.6	1.0	20	0	83.0	77 - 127				
4-Methyl-2-pentanone	33.72	2.0	40	0	84.3	67 - 130				
Acetone	27.72	2.0	40	0	69.3	39 - 160				
Benzene	17.51	1.0	20	0	87.5	79 - 120				
Bromobenzene	18.79	1.0	20	0	93.9	80 - 120				
Bromochloromethane	14.96	1.0	20	0	74.8	78 - 123				S
Bromodichloromethane	14.51	1.0	20	0	72.5	79 - 125				S
Bromoform	12.26	1.0	20	0	61.3	66 - 130				S

ALS Houston, US Date: 13-Jun-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 May 2022
WorkOrder: HS22050854

QC BATCH REPORT

Batch ID: R409170 (0) **Instrument: VOA9** **Method: VOLATILES ORGANICS BY METHOD 8260C**

MS Sample ID: **HS22050829-11MS** Units: **ug/L** Analysis Date: **23-May-2022 17:53**
Client ID: Run ID: **VOA9_409170** SeqNo: **6659645** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromomethane	17.56	1.0	20	0	87.8	53 - 141				
Carbon disulfide	26.28	2.0	40	0	65.7	64 - 133				
Carbon tetrachloride	14.9	1.0	20	0	74.5	72 - 136				
Chlorobenzene	17.49	1.0	20	0	87.5	82 - 118				
Chloroethane	14.57	1.0	20	0	72.9	60 - 138				
Chloroform	15.03	1.0	20	0	75.1	79 - 124				S
Chloromethane	13.62	1.0	20	0	68.1	50 - 139				
cis-1,2-Dichloroethene	15.73	1.0	20	0	78.7	78 - 123				
cis-1,3-Dichloropropene	14.79	1.0	20	0	73.9	75 - 124				S
Dibromochloromethane	13.8	1.0	20	0	69.0	74 - 126				S
Dibromomethane	16.01	1.0	20	0	80.0	79 - 123				
Dichlorodifluoromethane	11.07	1.0	20	0	55.3	32 - 152				
Ethylbenzene	19.14	1.0	20	0	95.7	79 - 121				
Hexachlorobutadiene	17.84	1.0	20	0	89.2	66 - 134				
Isopropylbenzene	19.73	1.0	20	0	98.7	72 - 131				
m,p-Xylene	38.29	2.0	40	0	95.7	80 - 121				
Methylene chloride	13.86	2.0	20	0	69.3	74 - 124				S
Naphthalene	16.42	1.0	20	0	82.1	61 - 128				
n-Butylbenzene	17.35	1.0	20	0	86.7	75 - 128				
n-Propylbenzene	19.27	1.0	20	0	96.3	76 - 126				
o-Xylene	19.12	1.0	20	0	95.6	78 - 122				
sec-Butylbenzene	16.73	1.0	20	0	83.6	77 - 126				
Styrene	16.61	1.0	20	0	83.0	78 - 123				
tert-Butylbenzene	18.63	1.0	20	0	93.2	78 - 124				
Tetrachloroethene	19.46	1.0	20	0	97.3	74 - 129				
Toluene	19.27	1.0	20	0	96.3	80 - 121				
trans-1,2-Dichloroethene	14.47	1.0	20	0	72.3	75 - 124				S
trans-1,3-Dichloropropene	14.13	1.0	20	0	70.7	73 - 127				S
Trichloroethene	17.57	1.0	20	0	87.9	79 - 123				
Trichlorofluoromethane	14.99	1.0	20	0	74.9	65 - 141				
Vinyl chloride	14.07	1.0	20	0	70.4	58 - 137				
Surr: 1,2-Dichloroethane-d4	*42.97*	*1.0*	*50*	*0*	*85.9*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*50.89*	*1.0*	*50*	*0*	*102*	*85 - 114*				
Surr: Dibromofluoromethane	*42.44*	*1.0*	*50*	*0*	*84.9*	*80 - 119*				

ALS Houston, US Date: 13-Jun-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 May 2022
WorkOrder: HS22050854

QC BATCH REPORT

Batch ID: R409170 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS22050829-11MS** Units: **ug/L** Analysis Date: **23-May-2022 17:53**
Client ID: Run ID: **VOA9_409170** SeqNo: **6659645** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Surr: Toluene-d8	*54.93*	*1.0*	*50*	*0*	*110*	*89 - 112*				

ALS Houston, US Date: 13-Jun-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 May 2022
WorkOrder: HS22050854

QC BATCH REPORT

Batch ID: R409170 (0) **Instrument: VOA9** **Method: VOLATILES ORGANICS BY METHOD 8260C**

MSD Sample ID: **HS22050829-11MSD** Units: **ug/L** Analysis Date: **23-May-2022 18:15**
Client ID: Run ID: **VOA9_409170** SeqNo: **6659646** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	15.91	1.0	20	0	79.5	78 - 124	16.4	3.07	20	
1,1,1-Trichloroethane	15.17	1.0	20	0	75.8	74 - 131	15.65	3.12	20	
1,1,2,2-Tetrachloroethane	18.36	1.0	20	0	91.8	71 - 121	18.69	1.78	20	
1,1,2-Trichlor-1,2,2-trifluoroethane	15.94	1.0	20	0	79.7	70 - 136	16.27	2.02	20	
1,1,2-Trichloroethane	16.65	1.0	20	0	83.3	80 - 119	17.2	3.26	20	
1,1-Dichloroethane	14.34	1.0	20	0	71.7	77 - 125	14.8	3.15	20	S
1,1-Dichloroethene	14.72	1.0	20	0	73.6	71 - 131	15.21	3.32	20	
1,1-Dichloropropene	17.23	1.0	20	0	86.2	78 - 125	18.4	6.54	20	
1,2,3-Trichlorobenzene	17.91	1.0	20	0	89.6	69 - 129	16.65	7.33	20	
1,2,3-Trichloropropane	16.61	1.0	20	0	83.0	73 - 122	16.06	3.35	20	
1,2,4-Trichlorobenzene	17.47	1.0	20	0	87.3	69 - 130	16.56	5.32	20	
1,2,4-Trimethylbenzene	17.43	1.0	20	0	87.1	76 - 124	17.76	1.91	20	
1,2-Dibromo-3-chloropropane	15.32	1.0	20	0	76.6	62 - 128	14.43	5.94	20	
1,2-Dibromoethane	16.69	1.0	20	0	83.4	77 - 121	17.19	3	20	
1,2-Dichlorobenzene	17.08	1.0	20	0	85.4	80 - 119	17.51	2.49	20	
1,2-Dichloroethane	15.94	1.0	20	0	79.7	73 - 128	16.37	2.65	20	
1,2-Dichloropropane	16.3	1.0	20	0	81.5	78 - 122	16.83	3.2	20	
1,3,5-Trimethylbenzene	17.44	1.0	20	0	87.2	75 - 124	18.16	4.04	20	
1,3-Dichlorobenzene	17.61	1.0	20	0	88.0	80 - 119	18.17	3.14	20	
1,3-Dichloropropane	16.95	1.0	20	0	84.7	80 - 119	17.28	1.98	20	
1,4-Dichlorobenzene	16.93	1.0	20	0	84.6	79 - 118	16.82	0.669	20	
2,2-Dichloropropane	15.08	1.0	20	0	75.4	60 - 139	15.97	5.76	20	
2-Butanone	29.55	2.0	40	0	73.9	56 - 143	36.5	21.1	20	R
2-Chlorotoluene	19.58	1.0	20	0	97.9	79 - 122	20.44	4.3	20	
2-Hexanone	32.59	2.0	40	0	81.5	57 - 139	32.4	0.582	20	
4-Chlorotoluene	18.8	1.0	20	0	94.0	78 - 122	19.32	2.7	20	
4-Isopropyltoluene	16.51	1.0	20	0	82.6	77 - 127	16.6	0.536	20	
4-Methyl-2-pentanone	33.62	2.0	40	0	84.0	67 - 130	33.72	0.319	20	
Acetone	27.82	2.0	40	0	69.5	39 - 160	27.72	0.353	20	
Benzene	16.56	1.0	20	0	82.8	79 - 120	17.51	5.57	20	
Bromobenzene	18.57	1.0	20	0	92.8	80 - 120	18.79	1.19	20	
Bromochloromethane	14.75	1.0	20	0	73.8	78 - 123	14.96	1.37	20	S
Bromodichloromethane	14.49	1.0	20	0	72.5	79 - 125	14.51	0.102	20	S
Bromoform	12.46	1.0	20	0	62.3	66 - 130	12.26	1.61	20	S

ALS Houston, US Date: 13-Jun-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 May 2022
WorkOrder: HS22050854

QC BATCH REPORT

Batch ID: R409170 (0) **Instrument: VOA9** **Method: VOLATILES ORGANICS BY METHOD 8260C**

MSD Sample ID: **HS22050829-11MSD** Units: **ug/L** Analysis Date: **23-May-2022 18:15**
Client ID: Run ID: **VOA9_409170** SeqNo: **6659646** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Bromomethane	16.27	1.0	20	0	81.3	53 - 141	17.56	7.65	20	
Carbon disulfide	26.38	2.0	40	0	65.9	64 - 133	26.28	0.387	20	
Carbon tetrachloride	14.79	1.0	20	0	74.0	72 - 136	14.9	0.708	20	
Chlorobenzene	16.93	1.0	20	0	84.6	82 - 118	17.49	3.28	20	
Chloroethane	13.66	1.0	20	0	68.3	60 - 138	14.57	6.44	20	
Chloroform	14.61	1.0	20	0	73.1	79 - 124	15.03	2.78	20	S
Chloromethane	13	1.0	20	0	65.0	50 - 139	13.62	4.6	20	
cis-1,2-Dichloroethene	15.31	1.0	20	0	76.6	78 - 123	15.73	2.69	20	S
cis-1,3-Dichloropropene	14.44	1.0	20	0	72.2	75 - 124	14.79	2.38	20	S
Dibromochloromethane	13.94	1.0	20	0	69.7	74 - 126	13.8	1.02	20	S
Dibromomethane	15.87	1.0	20	0	79.3	79 - 123	16.01	0.879	20	
Dichlorodifluoromethane	10.63	1.0	20	0	53.1	32 - 152	11.07	4.06	20	
Ethylbenzene	18.13	1.0	20	0	90.6	79 - 121	19.14	5.44	20	
Hexachlorobutadiene	17.57	1.0	20	0	87.9	66 - 134	17.84	1.47	20	
Isopropylbenzene	18.81	1.0	20	0	94.1	72 - 131	19.73	4.77	20	
m,p-Xylene	36.28	2.0	40	0	90.7	80 - 121	38.29	5.38	20	
Methylene chloride	13.64	2.0	20	0	68.2	74 - 124	13.86	1.57	20	S
Naphthalene	18.13	1.0	20	0	90.6	61 - 128	16.42	9.87	20	
n-Butylbenzene	17.81	1.0	20	0	89.1	75 - 128	17.35	2.65	20	
n-Propylbenzene	18.6	1.0	20	0	93.0	76 - 126	19.27	3.51	20	
o-Xylene	18.43	1.0	20	0	92.1	78 - 122	19.12	3.66	20	
sec-Butylbenzene	16.73	1.0	20	0	83.6	77 - 126	16.73	0.0206	20	
Styrene	16.04	1.0	20	0	80.2	78 - 123	16.61	3.5	20	
tert-Butylbenzene	18.54	1.0	20	0	92.7	78 - 124	18.63	0.484	20	
Tetrachloroethene	18.29	1.0	20	0	91.5	74 - 129	19.46	6.17	20	
Toluene	18.51	1.0	20	0	92.6	80 - 121	19.27	3.99	20	
trans-1,2-Dichloroethene	14.23	1.0	20	0	71.2	75 - 124	14.47	1.64	20	S
trans-1,3-Dichloropropene	14.1	1.0	20	0	70.5	73 - 127	14.13	0.264	20	S
Trichloroethene	17.19	1.0	20	0	86.0	79 - 123	17.57	2.2	20	
Trichlorofluoromethane	14.5	1.0	20	0	72.5	65 - 141	14.99	3.31	20	
Vinyl chloride	12.9	1.0	20	0	64.5	58 - 137	14.07	8.71	20	
Surr: 1,2-Dichloroethane-d4	*42.94*	*1.0*	*50*	*0*	*85.9*	*81 - 118*	*42.97*	*0.0588*	*20*	
Surr: 4-Bromofluorobenzene	*49.52*	*1.0*	*50*	*0*	*99.0*	*85 - 114*	*50.89*	*2.73*	*20*	
Surr: Dibromofluoromethane	*41.56*	*1.0*	*50*	*0*	*83.1*	*80 - 119*	*42.44*	*2.1*	*20*	

ALS Houston, US Date: 13-Jun-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 May 2022
WorkOrder: HS22050854

QC BATCH REPORT

Batch ID: R409170 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS22050829-11MSD** Units: **ug/L** Analysis Date: **23-May-2022 18:15**
Client ID: Run ID: **VOA9_409170** SeqNo: **6659646** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Surr: Toluene-d8	*54.15*	*1.0*	*50*	*0*	*108*	*89 - 112*	*54.93*	*1.43*	*20*	

The following samples were analyzed in this batch: HS22050854-09

ALS Houston, US Date: 13-Jun-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 May 2022
WorkOrder: HS22050854

QC BATCH REPORT

Batch ID: R409032 (0) **Instrument: ICS-Integrion** **Method: ANIONS BY SW9056A**

MBLK Sample ID: **MBLK** Units: **mg/L** Analysis Date: **20-May-2022 00:21**
Client ID: Run ID: **ICS-Integrion_409032** SeqNo: **6656608** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	0.500	0.500								U
Nitrogen, Nitrate (As N)	0.100	0.100								U
Sulfate	0.500	0.500								U

LCS Sample ID: **LCS** Units: **mg/L** Analysis Date: **20-May-2022 00:27**
Client ID: Run ID: **ICS-Integrion_409032** SeqNo: **6656609** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	20.91	0.500	20	0	105	80 - 120				
Nitrogen, Nitrate (As N)	4.185	0.100	4	0	105	80 - 120				
Sulfate	20.62	0.500	20	0	103	80 - 120				

MS Sample ID: **HS22050216-27MS** Units: **mg/L** Analysis Date: **19-May-2022 22:41**
Client ID: Run ID: **ICS-Integrion_409032** SeqNo: **6656596** PrepDate: DF: **20**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	999.7	10.0	200	828.5	85.6	80 - 120				O
Nitrogen, Nitrate (As N)	41.32	2.00	40	0.336	102	80 - 120				
Sulfate	525	10.0	200	332.8	96.1	80 - 120				

MSD Sample ID: **HS22050216-27MSD** Units: **mg/L** Analysis Date: **19-May-2022 22:46**
Client ID: Run ID: **ICS-Integrion_409032** SeqNo: **6656597** PrepDate: DF: **20**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	997	10.0	200	828.5	84.2	80 - 120	999.7	0.272	20	O
Nitrogen, Nitrate (As N)	41.22	2.00	40	0.336	102	80 - 120	41.32	0.228	20	
Sulfate	523.7	10.0	200	332.8	95.5	80 - 120	525	0.253	20	

The following samples were analyzed in this batch: HS22050854-01 HS22050854-04 HS22050854-05

ALS Houston, US Date: 13-Jun-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 May 2022
WorkOrder: HS22050854

QC BATCH REPORT

Batch ID: R410018 (0) **Instrument: TOC_04** **Method: TOTAL ORGANIC CARBON - SM5310B-2011**

MBLK Sample ID: **MBLK-06032022** Units: **mg/L** Analysis Date: **04-Jun-2022 03:20**
Client ID: Run ID: **TOC_04_410018** SeqNo: **6678644** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	1.00	1.00								U

LCS Sample ID: **LCS-06032022** Units: **mg/L** Analysis Date: **04-Jun-2022 03:34**
Client ID: Run ID: **TOC_04_410018** SeqNo: **6678645** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	9.169	1.00	10	0	91.7	85 - 115				

LCSD Sample ID: **LCSD-06032022** Units: **mg/L** Analysis Date: **04-Jun-2022 03:48**
Client ID: Run ID: **TOC_04_410018** SeqNo: **6678646** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	9.517	1.00	10	0	95.2	85 - 115	9.169	3.72	20	

MS Sample ID: **HS22050854-01MS** Units: **mg/L** Analysis Date: **04-Jun-2022 04:14**
Client ID: **35BWW14-220518** Run ID: **TOC_04_410018** SeqNo: **6678648** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	9.548	1.00	10	0.4808	90.7	80 - 120				

The following samples were analyzed in this batch: HS22050854-01 HS22050854-04 HS22050854-05

ALS Houston, US Date: 13-Jun-22

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 May 2022
WorkOrder: **HS22050854**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitaion Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

Unit Reported	Description
mg/L	Milligrams per Liter

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Dept of Defense	L21-682	31-Dec-2023
Florida	E87611-34	30-Jun-2022
Illinois	2000322022-9	09-May-2023
Kansas	E-10352 2021-2022	31-Jul-2022
Louisiana	03087, 2021-2022	30-Jun-2022
Maryland	343, 2021-2022	30-Jun-2022
North Carolina	624-2022	31-Dec-2022
Oklahoma	2021-080	31-Aug-2022
Texas	T104704231-22-29	30-Apr-2023
Utah	TX026932021-12	30-Jul-2022

ALS Houston, US Date: 13-Jun-22

Sample Receipt Checklist

Work Order ID: HS22050854 **Date/Time Received:** 19-May-2022 09:40

Client Name: CBI-Houston **Received by:** Nilesh D. Ranchod

Completed By: /S/ Corey Grandits (eSignature) 19-May-2022 10:34 (Date/Time) **Reviewed by:** (eSignature) (Date/Time)

Matrices: w Carrier name: FedEx

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
VOA/TX1005/TX1006 Solids in hermetically sealed vials?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	2 Page(s)
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Samplers name present on COC?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	

Temperature(s)/Thermometer(s):	1.8uc/2.3c	IR31
Cooler(s)/Kit(s):	46470	
Date/Time sample(s) sent to storage:	5/19/2022	

Water - VOA vials have zero headspace?	Yes ☑	No ☐	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☑	No ☐	N/A ☐
pH adjusted?	Yes ☐	No ☐	N/A ☑
pH adjusted by:			

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:

CHAIN OF CUSTODY

Name Of Lab Shipping To: ALS 10450 Stancliff Rd. Suite 210 Houston, TX. 77099 (281) 530-5656 ATTN: Ragen Giga

Project: APTIM LONGHORN
ARMY AMMN. PLANT (LHAAP)
GROUNDWATER TREATMENT PLANT (GWTP)
KARNACK, TEXAS

Project No. 501032

Job: **LHAAP 37 May 2022**

Prepared By: Scott Beesinger

P.O. Number

HS22050854

Aptim Environmental & Infrastucture, Inc.
LHAAP 37 May 2022

Field Sample I.D.	Sample Matrix	Date / Time	MS / MSD	No. OF CONTAINERS	VOC by SW 8260B	TOC by SM5310C	MEE by RSK 175	Anions (chloride sulfate, nitrate) by SW9056	CO2 by RSK 175					Remarks (Preservatives, etc.)	Lab I.D.#
35BwW14-220518	W6	5/18/22 0750		12	X	X	X	X	X						
35BwW15-220518	W6	5/18/22 0835		3	X										
35BwW15-220518-FD	W6	5/18/22 0835		3	X										
35BwW23-220518	W6	5/18/22 0920		12	X	X	X	X	X						
35BwW12-220518	W6	5/18/22 1010		12	X	X	X	X	X						
35BwW09-220518	W6	5/18/22 1107		3	X										
35BwW19-220518	W6	5/18/22 1145		3	X										
35BwW18-2208	W6	5/18/22 1230		3	X										

Additional Remarks: **Standard TAT on all parameters. Please email results to Vicki.Graves@aptim.com and invoices to fedinvoices@aptim.com**

Relinquished By:	Date	Time	Received By:	Date	Time	Relinquished By:	Date	Time	Received By:	Date	Time
Scott Beesinger	5/18/22	1430					5/19/22	09:40			

For Lab Use Only

Received At Lab By:	Date	Time	Airbill No.	Opened By:	Date	Time	Temp of Container	Seal No.	Condition

Remarks:

LL647 Tue 4cc 1.8 LL831 C/F 0.5

(Word) S:\U-ees\Forms\Chain of Custody - BiWeekly

CHAIN OF CUSTODY

Name Of Lab Shipping To: ALS 10450 Stancliff Rd. Suite 210 Houston, TX. 77099 (281) 530-5656 ATTN: Ragen Giga

HS22050854

Aptim Environmental & Infrastucture, Inc.
LHAAP 37 May 2022

Project: APTIM LONGHORN
ARMY AMMN. PLANT (LHAAP)
GROUNDWATER TREATMENT PLANT (GWTP)
KARNACK, TEXAS

Project No. 501032

Job: **LHAAP 37 May 2022**

Prepared By: Scott Beesinger

P.O. Number

Field Sample I.D.	Sample Matrix	Date / Time	MS / MSD	No. OF CONTAINERS	Analyses: VOC by SW 8260B	TOC by SM5310C	MEE by RSK 175	Anions (chloride sulfate, nitrate) by SW9056	CO2 by RSK 175	Remarks (Preservatives, etc.)	Lab I.D.#
Trip Blank-220518	W	5/18/22		2	X						

Additional Remarks: **Standard TAT on all parameters. Please email results to Vicki.Graves@aptim.com and invoices to fedinvoices@aptim.com**

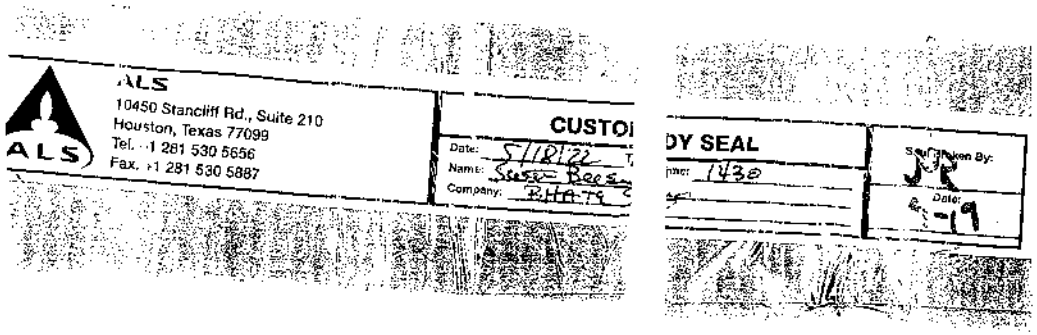
Relinquished By:	Date	Time	Received By:	Date	Time	Relinquished By:	Date	Time	Received By:	Date	Time
Scott Beesinger	5/18/22	1430									

For Lab Use Only

Received At Lab By:	Date	Time	Airbill No.	Opened By:	Date	Time	Temp of Container	Seal No.	Condition

Remarks:

(Word) S:\I-ces\Forms\Chain of Custody - BiWeekly



5230 5839 PRIORITY OVERNIGHT

AB SGRA

77099
TX-US
IAH

Pace Analytical®

LELAP CERTIFICATE NUMBER: 01955
DOD-ELAP ACCREDITATION NUMBER: 74960

ANALYTICAL RESULTS

PERFORMED BY

Pace Analytical Gulf Coast
7979 Innovation Park Dr.
Baton Rouge, LA 70820
(225) 769-4900

Report Date 06/12/2022

Report # 222052432

Project HS22050854

Samples Collected 5/18/22

Deliver To	***Additional Recipients***
Dane Wacasey ALS 10450 Stancliff Rd., Ste 210 Houston, TX 770994338	Jumoke Lawal, ALS Houston

PJLA Testing DoD ELAP

ISO 17025

NELAP ACCREDITED TNI LABORATORY

Laboratory Endorsement

Sample analysis was performed in accordance with approved methodologies provided by the Environmental Protection Agency or other recognized agencies. The samples and their corresponding extracts will be maintained for a period of 30 days unless otherwise arranged. Following this retention period the samples will be disposed in accordance with Pace Gulf Coast's Standard Operating Procedures.

Common Abbreviations that may be Utilized in this Report

ND	Indicates the result was Not Detected at the specified reporting limit
NO	Indicates the sample did not ignite when preliminary test performed for EPA Method 1030
DO	Indicates the result was Diluted Out
MI	Indicates the result was subject to Matrix Interference
TNTC	Indicates the result was Too Numerous To Count
SUBC	Indicates the analysis was Sub-Contracted
FLD	Indicates the analysis was performed in the Field
DL	Detection Limit
LOD	Limit of Detection
LOQ	Limit of Quantitation
RE	Re-analysis
CF	HPLC or GC Confirmation
00:01	Reported as a time equivalent to 12:00 AM

Reporting Flags that may be Utilized in this Report

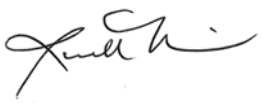
J or I	Indicates the result is between the MDL and LOQ
J	DOD flag on analyte in the parent sample for MS/MSD outside acceptance criteria
U	Indicates the compound was analyzed for but not detected
B or V	Indicates the analyte was detected in the associated Method Blank
Q	Indicates a non-compliant QC Result (See Q Flag Application Report)
*****	Indicates a non-compliant or not applicable QC recovery or RPD – see narrative
E	Organics - The result is estimated because it exceeded the instrument calibration range
E	Metals - % diference for the serial dilution is > 10%
L	Reporting Limits adjusted to meet risk-based limit.
P	RPD between primary and confirmation result is greater than 40
DL	Diluted analysis – when appended to Client Sample ID

Sample receipt at Pace Gulf Coast is documented through the attached chain of custody. In accordance with NELAC, this report shall be reproduced only in full and with the written permission of Pace Gulf Coast. The results contained within this report relate only to the samples reported. The documented results are presented within this report.

This report pertains only to the samples listed in the Report Sample Summary and should be retained as a permanent record thereof. The results contained within this report are intended for the use of the client. Any unauthorized use of the information contained in this report is prohibited.

I certify that this data package is in compliance with The NELAC Institute (TNI) Standard 2009 and terms and conditions of the contract and Statement of Work both technically and for completeness, for other than the conditions in the case narrative. Release of the data contained in this hardcopy data package and in the computer readable data submitted has been authorized by the Quality Assurance Manager or his/her designee, as verified by the following signature.

Estimated uncertainty of measurement is available upon request. This report is in compliance with the DOD QSM as specified in the contract if applicable.



Authorized Signature
Pace Gulf Coast Report 222052432

Certifications

Certification	Certification Number
DOD ELAP	74960
Alabama	01955
Arkansas	88-0655
Colorado	01955
Delaware	01955
Florida	E87854
Georgia	01955
Hawaii	01955
Idaho	01955
Illinois	200048
Indiana	01955
Kansas	E-10354
Kentucky	95
Louisiana	01955
Maryland	01955
Massachusetts	01955
Michigan	01955
Mississippi	01955
Missouri	01955
Montana	N/A
Nebraska	01955
New Mexico	01955
North Carolina	618
North Dakota	R-195
Oklahoma	9403
South Carolina	73006001
South Dakota	01955
Tennessee	01955
Texas	T104704178
Vermont	01955
Virginia	460215
Washington	C929
USDA Soil Permit	P330-16-00234

Case Narrative

Client: ALS Environmental - Houston, TX **Report:** 222052432

Pace Analytical Gulf Coast received and analyzed the sample(s) listed on the Report Sample Summary page of this report. Receipt of the sample(s) is documented by the attached chain of custody. This applies only to the sample(s) listed in this report. No sample integrity or quality control exceptions were identified unless noted below.

This report was completed in accordance with DOD QSM 5.3 as specified in the contract.

No anomalies were found for the analyzed sample(s).

Pace Analytical

Report#: 222052432
Project ID: HS22050854 **Report Date:** 06/12/2022

Sample Summary

Lab ID	Client ID	Matrix	Collect Date	Receive Date
22205243201	35BWW14-220518	Water	5/18/22 07:50	5/20/22 09:17
22205243202	35BWW23-220518	Water	5/18/22 09:20	5/20/22 09:17
22205243203	35BWW12-220518	Water	5/18/22 10:10	5/20/22 09:17

Pace Analytical

Report#: 222052432
Project ID: HS22050854 **Report Date:** 06/12/2022

Test Summary

EPA RSK-175					
Lab ID	**Client ID**	**Matrix**	**Batch**	**Instru**	**RunDate**
22205243201	35BWW14-220518	Water	742240	GCV8B	6/01/22 15:45
22205243202	35BWW23-220518	Water	742240	GCV8B	6/01/22 16:06
22205243203	35BWW12-220518	Water	742240	GCV8B	6/01/22 16:19

Manual Integrations

Manual Integrations for LC and IC (if performed) are documented in the raw data.
No other manual integrations were performed by Pace Gulf Coast.

Q Flag Summary

NO Q FLAGS FOR THIS WORKORDER

Pace Analytical

Report#: 222052432
Project ID: HS22050854 **Report Date:** 06/12/2022

Detect Summary

Results and Detection Limits are adjusted for dilution and moisture when applicable

EPA RSK-175						
Lab ID	**Client ID**	**Parameter**	**Units**	**Result**	**Dil.**	**%Moist**
22205243201	35BWW14-220518	Carbon Dioxide	ug/L	86700	20	NA
22205243202	35BWW23-220518	Carbon Dioxide	ug/L	386000	50	NA
22205243203	35BWW12-220518	Carbon Dioxide	ug/L	84300	50	NA

Pace Analytical

Report#: 222052432
Project ID: HS22050854 **Report Date:** 06/12/2022

Sample Results

35BWW14-220518

Collect Date	05/18/2022 07:50	**Lab ID**	22205243201
Receive Date	05/20/2022 09:17	**Matrix**	Water

EPA RSK-175

*Results and limits are adjusted for dilution.

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
NA	NA	NA	20	06/01/22 15:45	742240	BDP	NA

CAS#	Parameter	Result	DL	LOD	LOQ	Units
124-38-9	Carbon Dioxide	86700	2540	7720	18000	ug/L

35BWW23-220518

Collect Date	05/18/2022 09:20	**Lab ID**	22205243202
Receive Date	05/20/2022 09:17	**Matrix**	Water

EPA RSK-175

*Results and limits are adjusted for dilution.

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
NA	NA	NA	50	06/01/22 16:06	742240	BDP	NA

CAS#	Parameter	Result	DL	LOD	LOQ	Units
124-38-9	Carbon Dioxide	386000	6350	19300	45000	ug/L

35BWW12-220518

Collect Date	05/18/2022 10:10	**Lab ID**	22205243203
Receive Date	05/20/2022 09:17	**Matrix**	Water

EPA RSK-175

*Results and limits are adjusted for dilution.

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
NA	NA	NA	50	06/01/22 16:19	742240	BDP	NA

CAS#	Parameter	Result	DL	LOD	LOQ	Units
124-38-9	Carbon Dioxide	84300	6350	19300	45000	ug/L

Pace Analytical

Report#: 222052432
Project ID: HS22050854 **Report Date:** 06/12/2022

GC Volatiles QC Summary

Analytical Batch 742240	Client ID	MB742240		LCS742240				LCSD742240				
	Lab ID	2353839		2353840				2353841				
	Sample Type	MB		LCS				LCSD				
	Prep Date	NA		NA				NA				
	Analysis Date	06/01/22 15:02		06/01/22 14:39				06/01/22 14:50				
	Matrix	Water		Water				Water				
EPA RSK-175		Units Result	ug/L LOD	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
Carbon Dioxide	124-38-9	386U	386	8700	8130	93	38 - 147	8700	8140	94	0	40

Client ID: ALS Houston - ALS Environmental - Houston, TX
SDG: 222052432
PM: RWe

P: +1 281 530 5887
www.alsglobal.com

Subcontract Chain of Custody

SAMPLING STATE: Dept of Defense **COC ID:** 18797

SUBCONTRACT TO:

Pace Analytical
7979 Innovation Park Drive
Baton Rouge, LA 70820

Phone: +1 225 769 4900

CUSTOMER INFORMATION:

Company:	ALS Houston
Contact:	Dane J. Wacasey
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Email:	Dane.Wacasey@alsglobal.com
Alternate Contact:	Jumoke M. Lawal
Email:	jumoke.lawal@alsglobal.com

INVOICE INFORMATION:

Company:	ALS Houston
Contact:	Accounts Payable
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Reference:	HS22050854
TSR:	Ron Martino

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS22050854-01**	**35BWW14-220518**	**Water**	**18 May 2022 07:50** – 1
	SUB_RSK			03 Jun 2022
2.	**HS22050854-04**	**35BWW23-220518**	**Water**	**18 May 2022 09:20** – 2
	SUB_RSK			03 Jun 2022
3.	**HS22050854-05**	**35BWW12-220518**	**Water**	**18 May 2022 10:10** – 3
	SUB_RSK			03 Jun 2022

Comments: Please analyze for the analysis listed above.
Send report to the emails shown above.

QC Level: DOD IV (DoD Data Package)

Relinquished By: Paul [signature] Date/Time: 5/19/22 15:00

Received By: FedEx-DocuMCaine Date/Time: 5-20-22 9:17

Cooler ID(s): Temperature(s): 5800 5731 7122 0.1 -0.8

RIGHT SOLUTIONS | RIGHT PARTNER

19 May 2022

Pace Analytical®

SAMPLE RECEIVING CHECKLIST

222052432

SAMPLE DELIVERY GROUP 222052432	
Client **PM** RWe ALS Houston - ALS Environmental - Houston, TX	**Transport Method** FEDEX
Profile Number 294458	**Received By** Henderson, Jacob R.
Line Item(s) 1 - CO2	**Receive Date(s)** 05/20/22

CHECKLIST	YES	NO
Samples received with proper thermal preservation?	☑	☐
Radioactivity is <1600 cpm? If no, record cpm value in notes section.	☑	☐
COC relinquished and complete (including sampleIDs, collect times, and sampler)?	☑	☐
All containers received in good condition and within hold time?	☑	☐
All sample labels and containers received match the chain of custody?	☑	☐
Preservative added to any containers?	☐	☑
If received, was headspace for VOC water containers < 6mm?	☑	☐
Samples collected in containers provided by Pace Gulf Coast?	☑	☐

COOLERS

Airbill	Thermometer ID: E38	Temp °C
530052317122		0.1

DISCREPANCIES

None

LAB PRESERVATIONS

None

NOTES

Appendix D

Photographic Log and Well Inspection Forms

NOVEMBER 2021
PHOTO LOG

Photo No.	Date	Task and Description
1	11-15-21	35BWW01
2	11-17-21	35BWW02
3	11-15-21	35BWW03
4	11-17-21	35BWW04
5	11-15-21	35BWW05
6	11-15-21	35BWW06
7	11-17-21	35BWW07
8	11-17-21	35BWW08
9	11-15-21	35BWW09
10	11-15-21	35BWW10
11	11-17-21	35BWW11
12	11-22-21	35BWW12
13	11-17-21	35BWW13
14	11-22-21	35BWW14
15	11-22-21	35BWW15
16	11-17-21	35BWW16
17	11-22-21	35BWW17
18	11-15-21	35BWW18
19	11-15-21	35BWW19
20	11-17-21	35BWW20
21	11-22-21	35BWW23
22	11-22-21	35BWW24
23	11-22-21	35BWW25
24	11-17-21	35BWW26
25	11-15-21	LHSMW58



PHOTO 1: 35BWW01
DATE: November 15, 2021



PHOTO 2: 35BWW02
DATE: November 17, 2021



PHOTO 3: 35BWW03
DATE: November 15, 2021



PHOTO 4: 35BWW04
DATE: November 17, 2021



PHOTO 5: 35BWW05
DATE: November 15, 2021



PHOTO 6: 35BWW06
DATE: November 15, 2021



PHOTO 7: 35BWW07
DATE: November 17, 2021



PHOTO 8: 35BWW08
DATE: November 17, 2021



PHOTO 9: 35BWW09
DATE: November 15, 2021



PHOTO 10: 35BWW10
DATE: November 15, 2021



PHOTO 11: 35BWW11
DATE: November 17, 2021



PHOTO 12: 35BWW12
DATE: November 22, 2021



PHOTO 13: 35BWW13
DATE: November 17, 2021



PHOTO 14: 35BWW14
DATE: November 22, 2021



PHOTO 15: 35BWW15
DATE: November 22, 2021



PHOTO 16: 35BWW16
DATE: November 17, 2022



PHOTO 17: 35BWW17
DATE: November 22, 2021



PHOTO 18: 35BWW18
DATE: November 15, 2021



PHOTO 19: 35BWW19
DATE: November 15, 2021



PHOTO 20: 35BWW20
DATE: November 17, 2021



PHOTO 21: 35BWW23
DATE: November 22, 2021



PHOTO 22: 35BWW24
DATE: November 22, 2021



PHOTO 23: 35BWW25
DATE: November 22, 2021



PHOTO 24: 35BWW26
DATE: November 17, 2021



PHOTO 25: LHSMW58
DATE: November 15, 2021

MAY 2022
PHOTO LOG

Photo No.	Date	Task and Description
1	5-19-22	35BSW01
2	5-19-22	35BSW02
3	5-17-22	35BWW01
4	5-16-22	35BWW02
5	5-17-22	35BWW03
6	6-30-22	35BWW04 Repair
7	5-17-22	35BWW04
8	5-16-22	35BWW05
9	5-16-22	35BWW06
10	5-16-22	35BWW07
11	5-17-22	35BWW08
12	5-18-22	35BWW09
13	5-16-22	35BWW10
14	5-17-22	35BWW11
15	5-18-22	35BWW12
16	5-16-22	35BWW13
17	5-18-22	35BWW14
18	5-18-22	35BWW15
19	5-16-22	35BWW16
20	5-16-22	35BWW17
21	5-18-22	35BWW18
22	5-18-22	35BWW19
23	5-17-22	35BWW20
24	5-18-22	35BWW23
25	5-16-22	35BWW24
26	5-16-22	35BWW25
27	5-17-22	35BWW26
28	5-17-22	LHSMW58



PHOTO 1: 35BSW01
DATE: May 19, 2022



PHOTO 2: 35BSW02
DATE: May 19, 2022



PHOTO 3: 35BWW01
DATE: May 17, 2022



PHOTO 4: 35BWW02
DATE: May 16, 2022



PHOTO 5: 35BWW03
DATE: May 17, 2022



PHOTO 6: 35BWW04 Repair
DATE: June 30, 2022



PHOTO 7: 35BWW04
DATE: May 17, 2022



PHOTO 8: 35BWW05
DATE: May 16, 2022



PHOTO 9: 35BWW06
DATE: May 16, 2022



PHOTO 10: 35BWW07
DATE: May 16, 2022



PHOTO 11: 35BWW08
DATE: May 17, 2022



PHOTO 12: 35BWW09
DATE: May 18, 2022

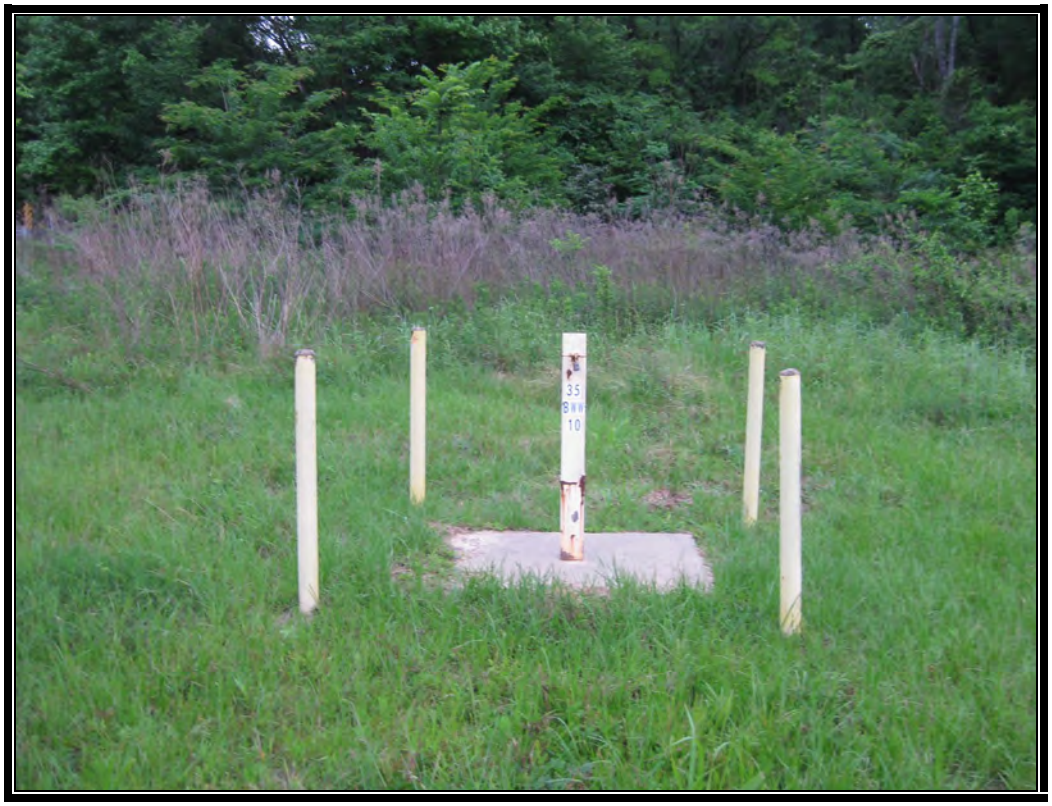


PHOTO 13: 35BWW10
DATE: May 16, 2022



PHOTO 14: 35BWW11
DATE: May 17, 2022



PHOTO 15: 35BWW12
DATE: May 18, 2022



PHOTO 16: 35BWW13
DATE: May 16, 2022



PHOTO 17: 35BWW14
DATE: May 18, 2022



PHOTO 18: 35BWW15
DATE: May 18, 2022



PHOTO 19: 35BWW16
DATE: May 16, 2022



PHOTO 20: 35BWW17
DATE: May 16, 2022



PHOTO 21: 35BWW18
DATE: May 18, 2022



PHOTO 22: 35BWW19
DATE: May 18, 2022



PHOTO 23: 35BWW20
DATE: May 17, 2022



PHOTO 24: 35BWW23
DATE: May 18, 2022



PHOTO 25: 35BWW24
DATE: May 16, 2022



PHOTO 26: 35BWW25
DATE: May 16, 2022



PHOTO 27: 35BWW26
DATE: May 17, 2022



PHOTO 28: LHSMW58
DATE: May 17, 2022

01151469

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 501032
Client: Army
Site Name: 37
Well ID: 35BWW01
Inspection Date: 11/15/21
Well Completion Depth/ Measured Depth: 20.67
Inspector: Scott Beesinger

☒ ABOVE GROUND

Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☒ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED NA

Well cover present? ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches): 4"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☒ Yes ☐ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

01151470

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 501032
Client: ARMY
Site Name: 37
Well ID: 35BWW02
Inspection Date: 11/17/21
Well Completion Depth/ Measured Depth: 16.88
Inspector: Scott Baggingar

☒ ABOVE GROUND
Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☐ Good ☐ Broken ☐ Cracked ☒ Need Paint
Lid Condition: ☒ Good ☐ Broken ☒ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED NA
Well cover present? ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:
Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:
Inner Diameter (inches): 4"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:
Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☒ Yes ☐ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

01151471

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 501032
Client: Army
Site Name: 37
Well ID: 35BWW03
Inspection Date: 11/15/21
Well Completion Depth/ Measured Depth: 82.55
Inspector: Scott Beesinger

☒ ABOVE GROUND

Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☐ Good ☐ Broken ☐ Cracked ☒ Need Paint
Lid Condition: ☒ Good ☐ Broken ☐ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED NA

Well cover present? ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches): 4"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☐ Yes ☒ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☒ Yes ☐ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

01151472

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 50/032
Client: ARMY
Site Name: 37
Well ID: 35BWW04
Inspection Date: 11/17/21
Well Completion Depth/ Measured Depth: 33.30
Inspector: Scott Beesinger

☒ ABOVE GROUND

Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☒ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED NA

Well cover present? ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches): 4"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☐ Yes ☒ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when ganging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☐ Yes ☒ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

MISSING 3 BOLLARDS

01151473

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 50132
Client: Army
Site Name: 37
Well ID: 35BWW05
Inspection Date: 11/15/21
Well Completion Depth/ Measured Depth: 37.90
Inspector: Scott Beggs/NGAR

☒ ABOVE GROUND

Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☒ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED

Well cover present? NA ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches): ~~8~~ 2"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☐ Yes ☒ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

01151474

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 501032
Client: Army
Site Name: 37
Well ID: 35BWW06
Inspection Date: 11/15/21
Well Completion Depth/ Measured Depth: 54.51
Inspector: Scott Beesinger

☒ ABOVE GROUND
Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☒ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED NA
Well cover present? ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:
Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:
Inner Diameter (inches) ~~2~~ 4 11
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:
Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☒ Yes ☐ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 501032
Client: Army
Site Name: 37
Well ID: 35BWW07
Inspection Date: 11/17/21
Well Completion Depth/ Measured Depth: 31.29
Inspector: Scott Beesinger

ABOVE GROUND

Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☒ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED NA

Well cover present? ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches): 2"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☐ Yes ☒ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 50032
Client: Army
Site Name: 37
Well ID: 35BWW08
Inspection Date: 11/17/21
Well Completion Depth/ Measured Depth: 34.12
Inspector: Scott Baesinger

☒ ABOVE GROUND

Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☒ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED

NA

Well cover present? ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches): 4"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☒ Yes ☐ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

01151477

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 501032
Client: ARMY
Site Name: 37
Well ID: 35BWW09
Inspection Date: 11/15/21
Well Completion Depth/ Measured Depth: 37.01
Inspector: Scott Beasinger

ABOVE GROUND

Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☐ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED

NA

Well cover present? ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches): 4"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☐ Yes ☒ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

01151478

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 501032
Client: Army
Site Name: 37
Well ID: 35BWW10
Inspection Date: 11/15/21
Well Completion Depth/ Measured Depth: 36.32
Inspector: Scott Baesinger

☒ ABOVE GROUND

Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☐ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED NA

Well cover present? ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches): 2"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☒ Yes ☐ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

01151479

WELL INSPECTION FORM

Job Name: LTAAP
Job No.: 501032
Client: ARmy
Site Name: 37
Well ID: 35BWW11
Inspection Date: 11/17/21
Well Completion Depth/ Measured Depth: 37.64
Inspector: Scott Beesinger

☒ ABOVE GROUND
Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☒ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED
Well cover present? NA ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:
Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:
Inner Diameter (inches) 4"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:
Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☐ Yes ☒ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 501032
Client: ARMY
Site Name: 37
Well ID: 35BWW12
Inspection Date: 11/22/21
Well Completion Depth/ Measured Depth: 38.29
Inspector: Scott Beesinger

☒ ABOVE GROUND

Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☒ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED NA

Well cover present? ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches): 2"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☒ Yes ☐ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

01151481

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 501032
Client: Army
Site Name: 37
Well ID: 35BWW13
Inspection Date: 11/17/21
Well Completion Depth/ Measured Depth: 37.68
Inspector: Scott Beasinger

☒ ABOVE GROUND

Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☐ Cracked
Hinge Condition: ☐ Good ☐ Less than 50% rusted ☒ More than 50% rusted

☐ FLUSH MOUNTED

Well cover present? NA ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches): 2"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☒ Yes ☐ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

01151482

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 501032
Client: ARMY
Site Name: 37
Well ID: 35BWW14
Inspection Date: 11/22/21
Well Completion Depth/ Measured Depth: 37.32
Inspector: SCOTT BEESINGER

☒ ABOVE GROUND

Well Accessible?					☒ Yes	☐ No
Protective casing?					☒ Yes	☐ No
Material	METAL					
Condition:	☒ Good	☐ Broken	☐ Cracked	☐ Need Paint		
Lid Condition:	☒ Good	☐ Broken	☐ Cracked			
Hinge Condition:	☒ Good	☐ Less than 50% rusted	☐ More than 50% rusted			

☐ FLUSH MOUNTED

Well cover present?	NA				☐ Yes	☐ No
Condition:	☐ Good	☐ Broken	☐ Cracked			
Condition of Sump:	☐ Clean	☐ Dry	☐ Standing Water			

CONCRETE PAD:

Sloped away from casing?					☒ Yes	☐ No
Pad Area Cleared of Vegetation?					☒ Yes	☐ No
Check any of the following features that apply:						
☐ Many Cracks	☐ Gap Around Casing	☐ Few Cracks	☐ Ponded Water	☐ No Pad Present		

WELL CONDITION:

Inner Diameter (inches)	4"					
Condition:	☒ Good	☐ Broken	☐ Cracked	☐ Other (describe)		
Cap present?					☒ Yes	☐ No
Well lock present?					☒ Yes	☐ No
Lock functioning properly?					☒ Yes	☐ No
Are bollards present and stable?					☒ Yes	☐ No
Well ID visible?					☒ Yes	☐ No

WELL INTEGRITY:

Bailer present?	☐ Yes	☒ No
Visual obstruction?	☐ Yes	☒ No
Is well open to completed depth? (complete when gauging)	☒ Yes	☐ No
Is silt present in well? (complete when gauging)	☐ Yes	☒ No
Is silt greater than 10% of well screen length? (complete when gauging)	☐ Yes	☒ No

COMMENTS:

01151483

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 501032
Client: ARMY
Site Name: 37
Well ID: 35BWW15
Inspection Date: 11/22/21
Well Completion Depth/Measured Depth: 50.11
Inspector: Scott Bussinger

☒ ABOVE GROUND

Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☒ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED

Well cover present? NA ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches) 2"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☒ Yes ☐ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

01151484

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 501032
Client: Army
Site Name: 37
Well ID: 35BWW16
Inspection Date: 11/17/21
Well Completion Depth/ Measured Depth: 36.89
Inspector: Scott Beesinger

ABOVE GROUND

Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☐ Cracked
Hinge Condition: ☐ Good ☐ Less than 50% rusted ☒ More than 50% rusted

FLUSH MOUNTED

Well cover present? NA ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches): 2 11
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☒ Yes ☐ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

01151485

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 501032
Client: ARMY
Site Name: 37
Well ID: 35BWW17
Inspection Date: 11/22/21
Well Completion Depth/ Measured Depth:
Inspector: Scott Bassinger 36.20

ABOVE GROUND

Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☒ Cracked
Hinge Condition: ☐ Good ☐ Less than 50% rusted ☒ More than 50% rusted

FLUSH MOUNTED

Well cover present? N/A ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches): 2"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☒ Yes ☐ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 501032
Client: ARMY
Site Name: 37
Well ID: 35BWW18
Inspection Date: 11/15/21
Well Completion Depth/ Measured Depth: 35.43
Inspector: Scott Beasinger

☒ ABOVE GROUND

Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☒ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED NA

Well cover present? ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches): 2"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☐ Yes ☒ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

01151487

WELL INSPECTION FORM

Job Name: LTMP
Job No.: 501032
Client: Army
Site Name: 37

Well ID: 35BWW19
Inspection Date: 11/15/21
Well Completion Depth/ Measured Depth: 32.62
Inspector: Scott Beesinger

☒ ABOVE GROUND

Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☐ Cracked
Hinge Condition: ☐ Good ☐ Less than 50% rusted ☒ More than 50% rusted

☐ FLUSH MOUNTED

Well cover present? NA ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches): 2"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☒ Yes ☐ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

01151488

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 501032
Client: Army
Site Name: 37
Well ID: 35BWW20
Inspection Date: 11/17/21
Well Completion Depth/ Measured Depth: 32.95
Inspector: Scott Beesinger

ABOVE GROUND

Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☐ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED

Well cover present? NA ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches): 2"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☒ Yes ☐ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 50132
Client: ARMY
Site Name: 37
Well ID: 35BWW23
Inspection Date: 11/22/21
Well Completion Depth/ Measured Depth: 33.27
Inspector: Scott Buesinger

ABOVE GROUND

Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☐ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

FLUSH MOUNTED NA

Well cover present? ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches): 4"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☐ Yes ☒ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

01151490

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 501032
Client: ARMY
Site Name: 37
Well ID: 35BWW24
Inspection Date: 11/22/21
Well Completion Depth/ Measured Depth: 32.71
Inspector: Scott Bessinger

☒ ABOVE GROUND

Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☒ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED

Well cover present? NA ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches): 4"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☐ Yes ☒ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 501032
Client: Army
Site Name: 37
Well ID: 35BWW25
Inspection Date: 11/22/21
Well Completion Depth/ Measured Depth: 32.50
Inspector: Scott Beasinger

ABOVE GROUND

Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☐ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED NA

Well cover present? ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches): 4"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☐ Yes ☒ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

01151492

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 501032
Client: ARMY
Site Name: 37
Well ID: 35B MW26
Inspection Date: 11/17/21
Well Completion Depth/ Measured Depth: 37.20
Inspector: Scott Beesinger

☒ ABOVE GROUND

Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☐ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED NA

Well cover present? ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches): 4"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☐ Yes ☒ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

01151493

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 501032
Client: ARMY
Site Name: 37

Well ID: LHSMW58
Inspection Date: 11/15/21
Well Completion Depth/ Measured Depth: 35.15
Inspector: Scott Barringer

☒ ABOVE GROUND

Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☐ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED

NA

Well cover present? ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches): 4"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☐ Yes ☒ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

01151494

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 501032
Client: Army
Site Name: 37
Well ID: 35BWW01
Inspection Date: 5/17/22
Well Completion Depth/ Measured Depth: 20.72
Inspector: Scott Beesinger

ABOVE GROUND

Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☒ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED NA

Well cover present? ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches): 4"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☒ Yes ☐ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

WELL INSPECTION FORM

Job Name: Utility
Job No.: 501032
Client: Army
Site Name: 37
Well ID: 35BWW02
Inspection Date: 5/16/22
Well Completion Depth/ Measured Depth: 16.89
Inspector: Scott Beesinger

☒ ABOVE GROUND

Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: Metal
Condition: ☐ Good ☐ Broken ☐ Cracked ☒ Need Paint
Lid Condition: ☒ Good ☐ Broken ☐ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED

NA

Well cover present? ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches): 4"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☐ Yes ☒ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

01151496

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 50/032
Client: ARMY
Site Name: 37
Well ID: 35BWW03
Inspection Date: 5/17/22
Well Completion Depth/Measured Depth: 82,52
Inspector: Scott Baesinger

ABOVE GROUND

Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☐ Good ☐ Broken ☐ Cracked ☒ Need Paint
Lid Condition: ☒ Good ☐ Broken ☒ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED NA

Well cover present? ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches): 4"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☐ Yes ☒ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

01151497

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 501032
Client: Army
Site Name: 37
Well ID: 35BWW04
Inspection Date: 5/17/22
Well Completion Depth/ Measured Depth: 33.31
Inspector: Scott Beesinger

☒ ABOVE GROUND

Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☒ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED

Well cover present? NA ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches): 4"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☐ Yes ☒ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☐ Yes ☒ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

01151498

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 501032
Client: Army
Site Name: 37
Well ID: 35BWW05
Inspection Date: 5/16/22
Well Completion Depth/ Measured Depth: 37.95
Inspector: Scott Beesinger

ABOVE GROUND

Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☐ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED NA

Well cover present? ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches): 2"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☒ Yes ☐ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

WELL INSPECTION FORM

Job Name: LHAAP 17
Job No.: 501032
Client: Army
Site Name: 37
Well ID: 35BWW06
Inspection Date: 5/16/22
Well Completion Depth/ Measured Depth: 53.33
Inspector: Scott Baas, NGAR

☒ ABOVE GROUND

Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☐ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED

Well cover present? NA ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches): 4"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☒ Yes ☐ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

01151500

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 501032
Client: ARMY
Site Name: 37
Well ID: 35BWW07
Inspection Date: 5/16/22
Well Completion Depth/ Measured Depth: 31.30
Inspector: Scott Beesinger

ABOVE GROUND

Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☒ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED NA

Well cover present? ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches): 2"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☐ Yes ☒ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

01151501

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 501032
Client: ARMY
Site Name: 37
Well ID: 35BWW08
Inspection Date: 5/17/22
Well Completion Depth/ Measured Depth: 34.01
Inspector: Scott Beesinger

ABOVE GROUND
Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☒ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED
Well cover present? NA ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:
Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:
Inner Diameter (inches): 2"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:
Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☒ Yes ☐ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

01151502

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 501032
Client: Army
Site Name: 37
Well ID: 35BWW09
Inspection Date: 5/18/22
Well Completion Depth/ Measured Depth: 37.05
Inspector: Scott Beesinger

ABOVE GROUND

Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☒ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED NA

Well cover present? ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches): 4"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☐ Yes ☒ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

01151503

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 501032
Client: Army
Site Name: 37
Well ID: 35BWW10
Inspection Date: 5/16/22
Well Completion Depth/ Measured Depth: 36.32
Inspector: Scott Bassinger

☒ ABOVE GROUND

Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☒ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED

Well cover present? NA ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches): 2"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☒ Yes ☐ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

01151504

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 501032
Client: Army
Site Name: 37
Well ID: 35BWW11
Inspection Date: 5/17/22
Well Completion Depth/Measured Depth: 37.62
Inspector: Scott Beesinger

ABOVE GROUND

Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☒ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED NA

Well cover present? ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches): 4/11
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☐ Yes ☒ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

01151505

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 501032
Client: ARMY
Site Name: 37
Well ID: 35BWW12
Inspection Date: 5/18/22
Well Completion Depth/ Measured Depth: 38.30
Inspector: Scott Baginger

☒ ABOVE GROUND

Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☐ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED

Well cover present? NA ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches): 2"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☒ Yes ☐ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

01151506

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 50132
Client: Army
Site Name: 37
Well ID: 35BWW13
Inspection Date: 5/16/22
Well Completion Depth/ Measured Depth: 37.68
Inspector: Scott Beesinger

ABOVE GROUND

Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☒ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED NA

Well cover present? ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches): 2"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☒ Yes ☐ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

01151507

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 501032
Client: Army
Site Name: 37
Well ID: 35BWW14
Inspection Date: 5/18/22
Well Completion Depth/ Measured Depth: 37.35
Inspector: Scott Beesinger

☒ ABOVE GROUND

Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☐ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED

Well cover present? NA ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches): 4"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☐ Yes ☒ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

01151508

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 501032
Client: Army
Site Name: 37
Well ID: 35BWW15
Inspection Date: 5/18/22
Well Completion Depth/ Measured Depth: 50.11
Inspector: Scott Beesinger

ABOVE GROUND
Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☒ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED
Well cover present? NA ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:
Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:
Inner Diameter (inches): 2"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:
Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☒ Yes ☐ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

01151509

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 501032
Client: Army
Site Name: 37
Well ID: 35BWW16
Inspection Date: 5/16/22
Well Completion Depth/ Measured Depth: 36.88
Inspector: Scott Beesinger

ABOVE GROUND
Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: metal
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☐ Cracked
Hinge Condition: ☐ Good ☐ Less than 50% rusted ☒ More than 50% rusted

FLUSH MOUNTED ☐
Well cover present? NA ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:
Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:
Inner Diameter (inches): 2"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:
Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☒ Yes ☐ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

01151510

WELL INSPECTION FORM

Job Name: LRAAP
Job No.: 501032
Client: Army
Site Name: 37

Well ID: 35BWW17
Inspection Date: 5/16/22
Well Completion Depth/ Measured Depth: 36.19
Inspector: Scott Beesinger

☒ ABOVE GROUND
Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☒ Cracked
Hinge Condition: ☐ Good ☐ Less than 50% rusted ☒ More than 50% rusted

☐ FLUSH MOUNTED
Well cover present? NA ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:
Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:
Inner Diameter (inches): 2"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:
Bailer present? ☐ Yes ☒ No
Visual obstruction? ☒ Yes ☐ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☐ Yes ☒ No
Is silt greater than 10% of well screen length? (complete when gauging)

COMMENTS:

01151511

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 501032
Client: ARMY
Site Name: 37
Well ID: 35BWW18
Inspection Date: 5/18/22
Well Completion Depth/ Measured Depth: 35.54
Inspector: Scott Baesinger

ABOVE GROUND

Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☐ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

FLUSH MOUNTED NA

Well cover present? ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches): 2"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☐ Yes ☒ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 501032
Client: ARMY
Site Name: 37
Well ID: 35BWW19
Inspection Date: 5/18/22
Well Completion Depth/ Measured Depth: 36.59
Inspector: Scott Beasinger

☒ ABOVE GROUND

Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☒ Cracked
Hinge Condition: ☐ Good ☐ Less than 50% rusted ☒ More than 50% rusted

☐ FLUSH MOUNTED

Well cover present? NA ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches): 2"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☒ Yes ☐ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

01151513

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 501032
Client: ARmy
Site Name: 37
Well ID: 35BMW20
Inspection Date: 5/17/22
Well Completion Depth/ Measured Depth: 32.98
Inspector: Scott Beesinger

ABOVE GROUND

Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☒ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED NA

Well cover present? ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches): 2"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☒ Yes ☐ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

01151514

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 50/032
Client: Army
Site Name: 37

Well ID: 35BWW23
Inspection Date: 5/18/22
Well Completion Depth/ Measured Depth: 33.67
Inspector: Scott Bassinger

☒ ABOVE GROUND

Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☐ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED

NA

Well cover present? ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches): 4"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☐ Yes ☒ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 501032
Client: Army
Site Name: 37
Well ID: 35BUW24
Inspection Date: 5/16/22
Well Completion Depth/ Measured Depth: 32.71
Inspector: Scott Baesinger

☒ ABOVE GROUND

Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☐ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED

Well cover present? NA ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches): 4"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☐ Yes ☒ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 501032
Client: Army
Site Name: 37
Well ID: 35BWW25
Inspection Date: 5/16/22
Well Completion Depth/ Measured Depth: 32.50
Inspector: Scott Beesinger

☒ ABOVE GROUND
Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☒ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED
Well cover present? NA ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:
Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:
Inner Diameter (inches): 4"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:
Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☐ Yes ☒ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

01151517

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 501032
Client: ARMY
Site Name: 37
Well ID: 35BWW26
Inspection Date: 5/17/22
Well Completion Depth/ Measured Depth: 38.02
Inspector: Scott Beesinger

ABOVE GROUND

Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☐ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

FLUSH MOUNTED NA

Well cover present? ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches): 4"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☐ Yes ☒ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

01151518

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 501032
Client: Army
Site Name: 37
Well ID: LHSMW58
Inspection Date: 5/17/22
Well Completion Depth/ Measured Depth: 34.16
Inspector: Scott Beesinger

ABOVE GROUND

Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☐ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED

Well cover present? NA ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches): 4"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☐ Yes ☒ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

Appendix E

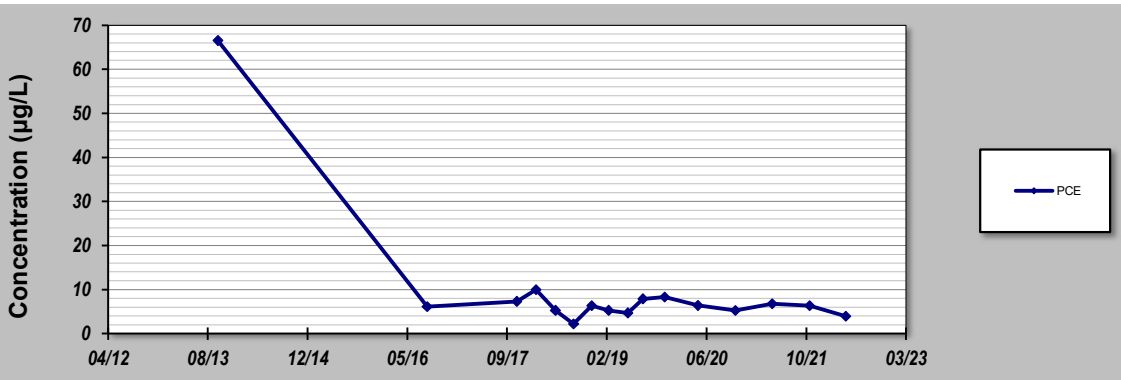
Mann-Kendall Trend Test Results

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	5-Aug-22	Job ID:	501032
Facility Name:	LHAAP-37	Constituent:	35BWW04
Conducted By:	Robert Mayer	Concentration Units:	µg/L

Sampling Point ID: PCE

Sampling Event	Sampling Date	35BWW04 CONCENTRATION (µg/L)
1	3-Oct-13	67
2	17-Aug-16	6.1
3	9-Nov-17	7.3
4	14-Feb-18	10
5	22-May-18	5.3
6	22-Aug-18	2.2
7	20-Nov-18	6.3
8	13-Feb-19	5.3
9	20-May-19	4.7
10	5-Aug-19	7.9
11	21-Nov-19	8.3
12	6-May-20	6.4
13	10-Nov-20	5.2
14	13-May-21	6.8
15	17-Nov-21	6.3
16	17-May-22	3.9
17		
18		
19		
20		
Coefficient of Variation:		1.53
Mann-Kendall Statistic (S):		-26
Confidence Factor:		86.7%
Concentration Trend:		No Trend



Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water*, 41(3):355-367, 2003.

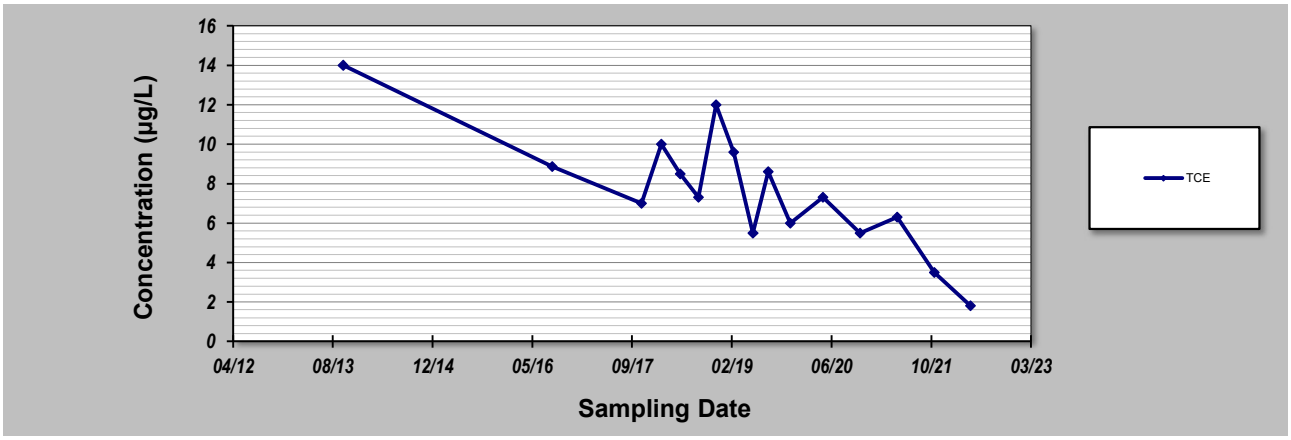
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GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	5-Aug-22	Job ID:	501032
Facility Name:	LHAAP-37	Constituent:	35BWW05
Conducted By:	Robert Mayer	Concentration Units:	µg/L
Sampling Point ID:	TCE		

Sampling Event	Sampling Date	35BWW05 CONCENTRATION (µg/L)
1	4-Oct-13	14
2	18-Aug-16	8.9
3	8-Nov-17	7.0
4	16-Feb-18	10
5	21-May-18	8.5
6	21-Aug-18	7.3
7	18-Nov-18	12
8	13-Feb-19	9.6
9	21-May-19	5.5
10	6-Aug-19	8.6
11	25-Nov-19	6
12	6-May-20	7.3
13	9-Nov-20	5.5
14	13-May-21	6.3
15	15-Nov-21	3.5
16	16-May-22	1.8
17		
18		
19		
20		
Coefficient of Variation:		0.40
Mann-Kendall Statistic (S):		-70
Confidence Factor:		99.9%
Concentration Trend:		Decreasing



Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water*, 41(3):355-367, 2003.

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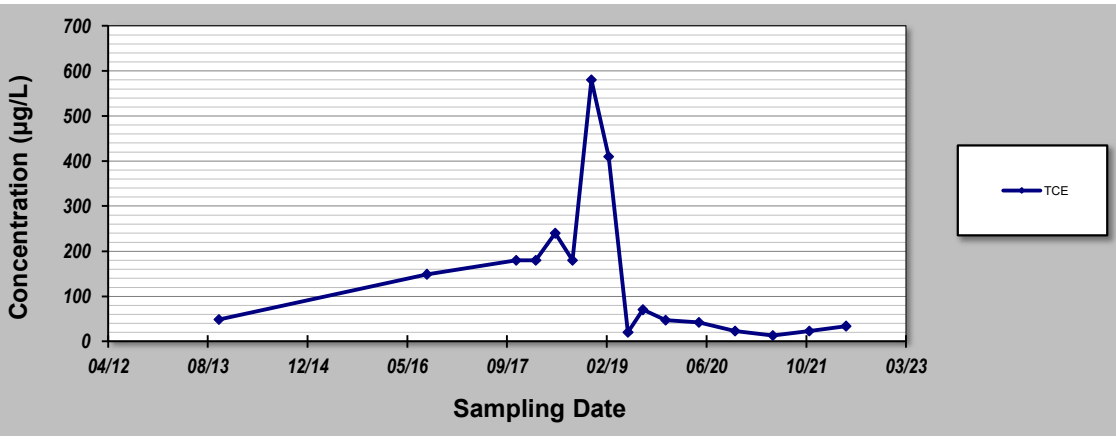
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GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	5-Aug-22	Job ID:	501032
Facility Name:	LHAAP-37	Constituent:	35BWW09
Conducted By:	Robert Mayer	Concentration Units:	µg/L

Sampling Point ID:	TCE

Sampling Event	Sampling Date	35BWW09 CONCENTRATION (µg/L)
1	8-Oct-13	49
2	16-Aug-16	149
3	7-Nov-17	180
4	13-Feb-18	180
5	21-May-18	240
6	16-Aug-18	180
7	19-Nov-18	580
8	13-Feb-19	410
9	21-May-19	20
10	5-Aug-19	70
11	26-Nov-19	47
12	11-May-20	42
13	9-Nov-20	23
14	17-May-21	13
15	15-Nov-21	23
16	18-May-22	34
17		
18		
19		
20		
Coefficient of Variation:		1.14
Mann-Kendall Statistic (S):		-48
Confidence Factor:		98.4%
Concentration Trend:		Decreasing



Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water*, 41(3):355-367, 2003.

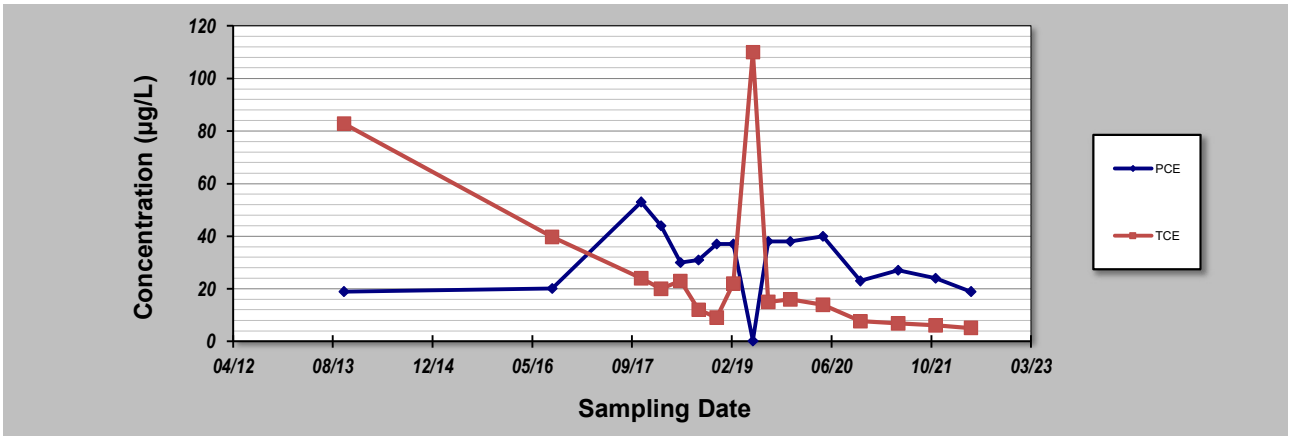
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GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	5-Aug-22	Job ID:	501032
Facility Name:	LHAAP-37	Constituent:	35BWW14
Conducted By:	Robert Mayer	Concentration Units:	µg/L

Sampling Point ID:	PCE	TCE					
Sampling Event	Sampling Date	35BWW14 CONCENTRATION (µg/L)					
1	9-Oct-13	19	83				
2	17-Aug-16	20	40				
3	7-Nov-17	53	24				
4	15-Feb-18	44	20				
5	22-May-18	30	23				
6	22-Aug-18	31	12				
7	20-Nov-18	37	9.1				
8	12-Feb-19	37	22				
9	21-May-19	0.25	110				
10	6-Aug-19	38	15				
11	25-Nov-19	38	16				
12	7-May-20	40	14				
13	10-Nov-20	23	7.7				
14	18-May-21	27	6.9				
15	22-Nov-21	24	6.1				
16	18-May-22	19	5.1				
17							
18							
19							
20							
Coefficient of Variation:		0.42	1.14				
Mann-Kendall Statistic (S):		-11	-82				
Confidence Factor:		67.1%	>99.9%				
Concentration Trend:		Stable	Decreasing				



Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water*, 41(3):355-367, 2003.

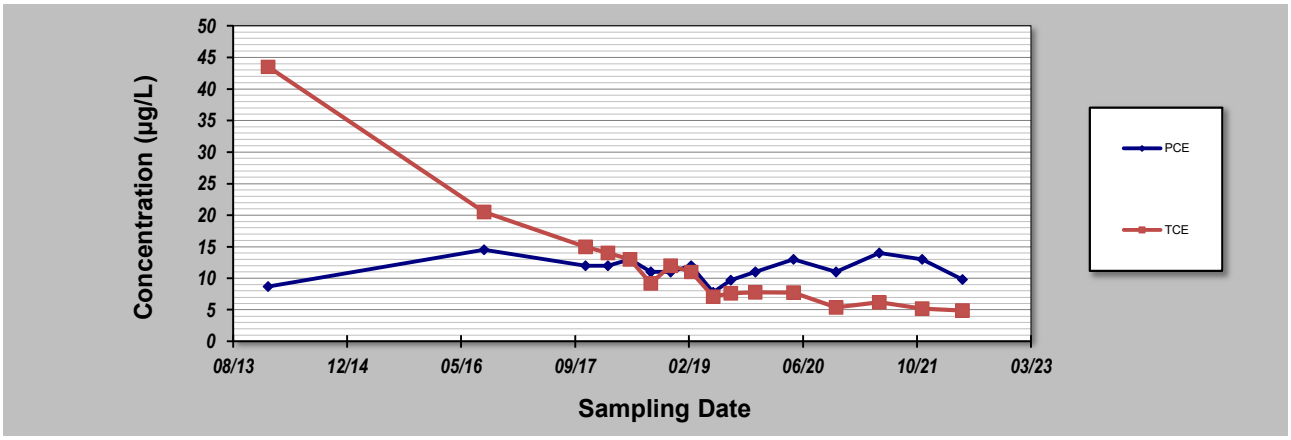
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GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	5-Aug-22	Job ID:	501032
Facility Name:	LHAAP-37	Constituent:	35BWW15
Conducted By:	Robet Mayer	Concentration Units:	µg/L

Sampling Point ID:	PCE	TCE					
Sampling Event	Sampling Date	35BWW15 CONCENTRATION (µg/L)					
1	14-Jan-14	8.7	44				
2	19-Aug-16	15	21				
3	7-Nov-17	12	15				
4	13-Feb-18	12	14				
5	21-May-18	13	13				
6	20-Aug-18	11	9.2				
7	16-Nov-18	11	12				
8	14-Feb-19	12	11				
9	21-May-19	7.8	7.1				
10	7-Aug-19	9.7	7.6				
11	22-Nov-19	11	7.8				
12	7-May-20	13	7.7				
13	10-Nov-20	11	5.4				
14	18-May-21	14	6.2				
15	22-Nov-21	13	5.2				
16	18-May-22	9.8	4.9				
17							
18							
19							
20							
Coefficient of Variation:		0.16	0.80				
Mann-Kendall Statistic (S):		-2	-104				
Confidence Factor:		51.8%	>99.9%				
Concentration Trend:		Stable	Decreasing				



Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water*, 41(3):355-367, 2003.

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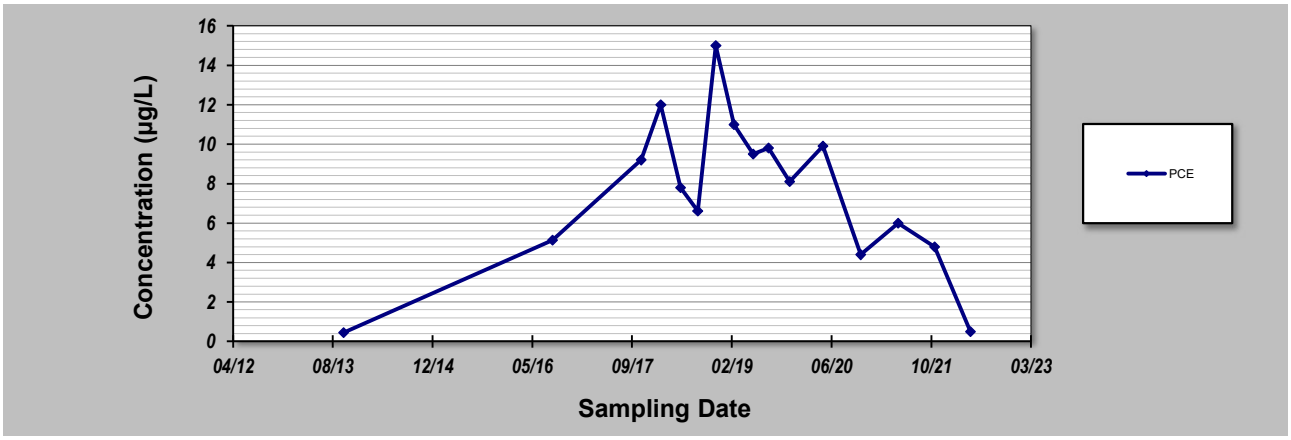
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GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	5-Aug-22	Job ID:	501032
Facility Name:	LHAAP-37	Constituent:	35BWW16
Conducted By:	Robert Mayer	Concentration Units:	µg/L

Sampling Point ID:	PCE

Sampling Event	Sampling Date	35BWW16 CONCENTRATION (µg/L)
1	7-Oct-13	0.45
2	19-Aug-16	5.13
3	7-Nov-17	9.2
4	13-Feb-18	12
5	24-May-18	7.8
6	17-Aug-18	6.6
7	16-Nov-18	15
8	15-Feb-19	11
9	23-May-19	9.5
10	7-Aug-19	9.8
11	21-Nov-19	8.1
12	7-May-20	9.9
13	11-Nov-20	4.4
14	18-May-21	6
15	17-Nov-21	4.8
16	16-May-22	0.5
17		
18		
19		
20		
Coefficient of Variation:		0.52
Mann-Kendall Statistic (S):		-18
Confidence Factor:		77.5%
Concentration Trend:		Stable



Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water*, 41(3):355-367, 2003.

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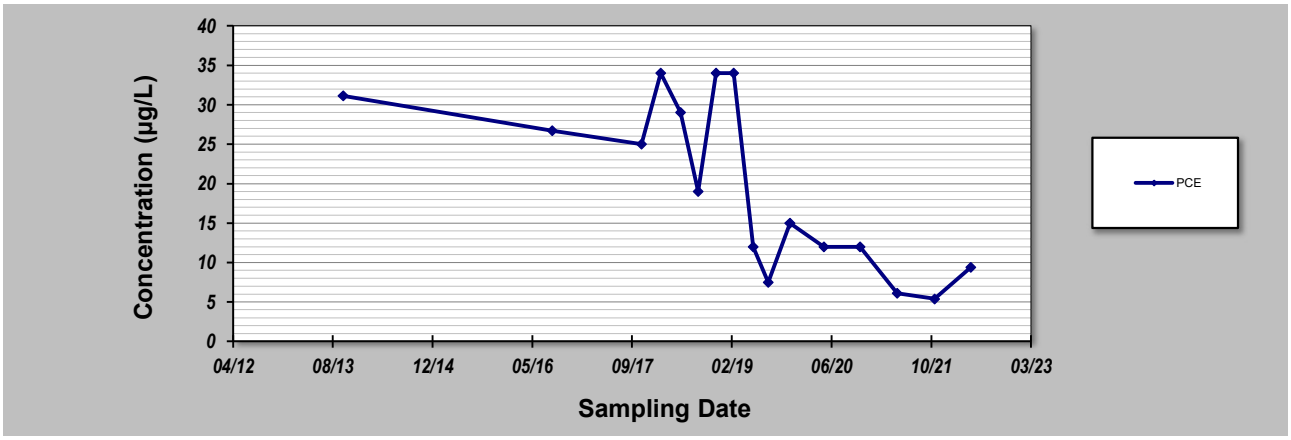
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GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	5-Aug-22	Job ID:	501032
Facility Name:	LHAAP-37	Constituent:	35BWW20
Conducted By:	Robert Mayer	Concentration Units:	µg/L

Sampling Point ID:	PCE

Sampling Event	Sampling Date	35BWW20 CONCENTRATION (µg/L)
1	4-Oct-13	31
2	18-Aug-16	27
3	8-Nov-17	25
4	12-Feb-18	34
5	24-May-18	29
6	20-Aug-18	19
7	18-Nov-18	34
8	13-Feb-19	34
9	22-May-19	12
10	6-Aug-19	7.5
11	22-Nov-19	15
12	11-May-20	12
13	9-Nov-20	12
14	13-May-21	6.1
15	17-Nov-21	5.4
16	17-May-22	9.4
17		
18		
19		
20		
Coefficient of Variation:		0.55
Mann-Kendall Statistic (S):		-70
Confidence Factor:		99.9%
Concentration Trend:		Decreasing



Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water*, 41(3):355-367, 2003.

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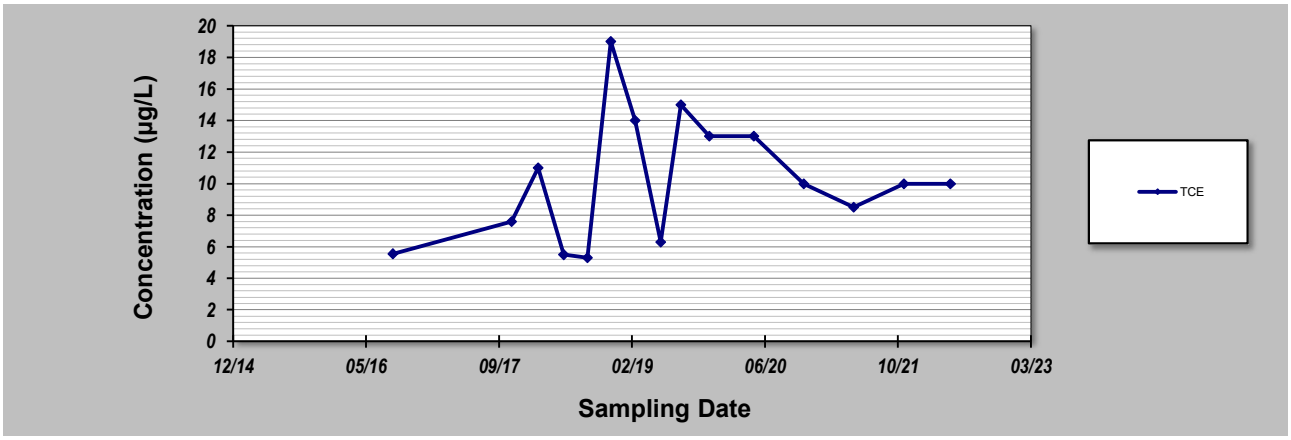
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GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	5-Aug-22	Job ID:	501032
Facility Name:	LHAAP-37	Constituent:	35BWW25
Conducted By:	Robert Mayer	Concentration Units:	µg/L

Sampling Point ID: TCE

Sampling Event	Sampling Date	35BWW25 CONCENTRATION (µg/L)
1	19-Aug-16	5.55
2	8-Nov-17	7.6
3	16-Feb-18	11
4	23-May-18	5.5
5	20-Aug-18	5.3
6	16-Nov-18	19
7	15-Feb-19	14
8	22-May-19	6.3
9	7-Aug-19	15
10	22-Nov-19	13
11	7-May-20	13
12	10-Nov-20	10
13	17-May-21	8.5
14	22-Nov-21	10
15	16-May-22	10
16		
17		
18		
19		
20		
Coefficient of Variation:		0.39
Mann-Kendall Statistic (S):		13
Confidence Factor:		72.1%
Concentration Trend:		No Trend



Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water*, 41(3):355-367, 2003.

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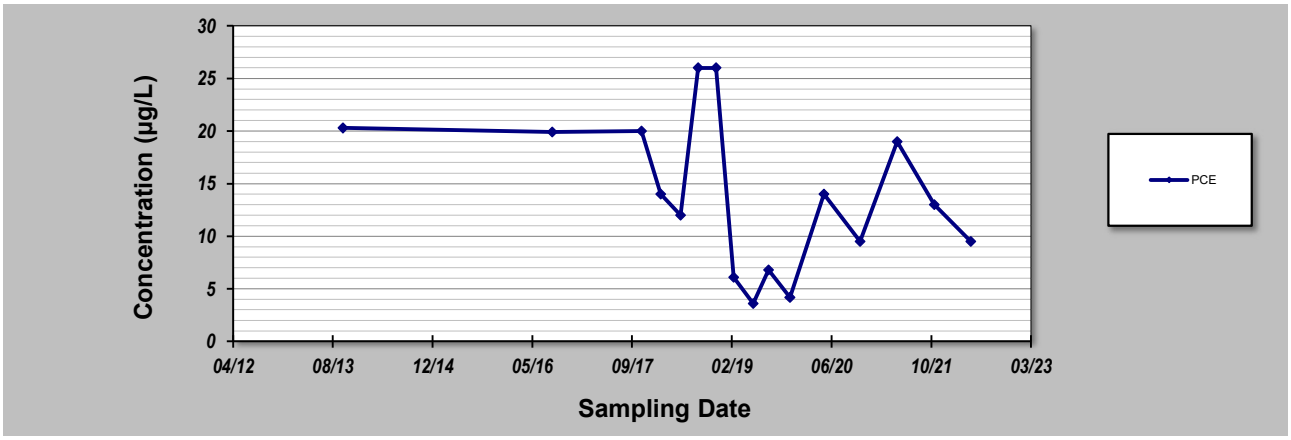
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GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	5-Aug-22	Job ID:	501032
Facility Name:	LHAAP-37	Constituent:	LHSMW58
Conducted By:	Robert Mayer	Concentration Units:	µg/L

Sampling Point ID:	PCE

Sampling Event	Sampling Date	LHSMW58 CONCENTRATION (µg/L)
1	3-Oct-13	20
2	18-Aug-16	20
3	8-Nov-17	20
4	12-Feb-18	14
5	24-May-18	12
6	20-Aug-18	26
7	18-Nov-18	26
8	13-Feb-19	6.1
9	22-May-19	3.6
10	7-Aug-19	6.8
11	22-Nov-19	4.2
12	11-May-20	14
13	9-Nov-20	9.5
14	13-May-21	19
15	15-Nov-21	13
16	17-May-22	9.5
17		
18		
19		
20		
Coefficient of Variation:		0.52
Mann-Kendall Statistic (S):		-35
Confidence Factor:		93.6%
Concentration Trend:		Prob. Decreasing



Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water*, 41(3):355-367, 2003.

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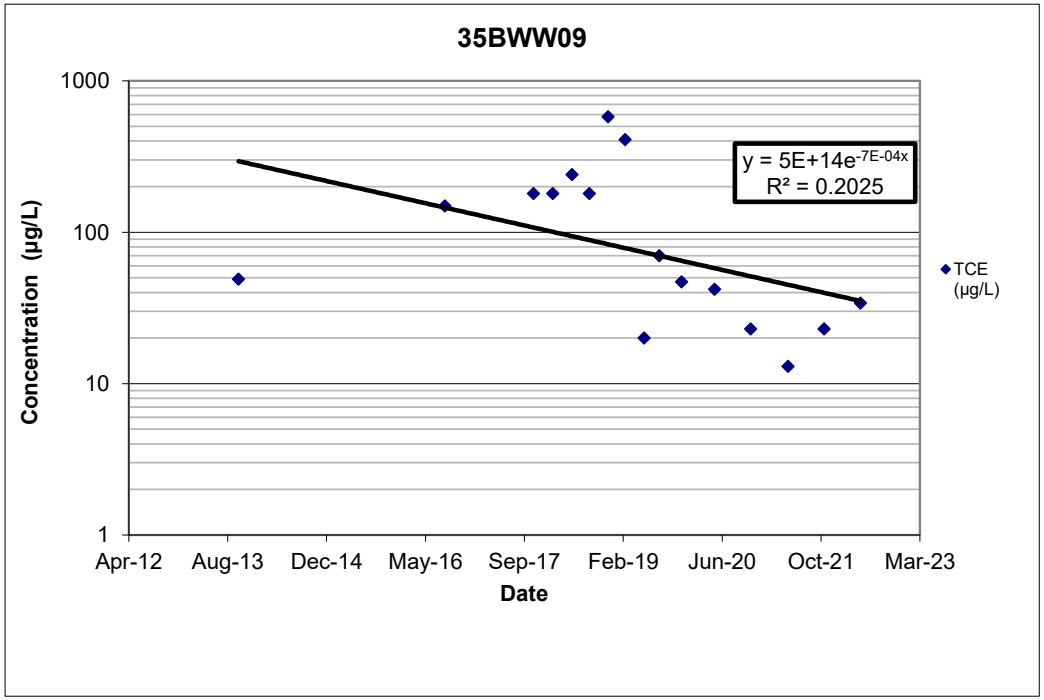
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Appendix F

Regression Analysis

Time-Dependent Attenuation Rate Constant and Estimated Cleanup Time
35BWW09

Date	TCE (µg/L)
8-Oct-13	49
16-Aug-16	149
7-Nov-17	180
13-Feb-18	180
21-May-18	240
16-Aug-18	180
19-Nov-18	580
13-Feb-19	410
21-May-19	20
5-Aug-19	70
26-Nov-19	47
11-May-20	42
9-Nov-20	23
17-May-21	13
15-Nov-21	23
18-May-22	34

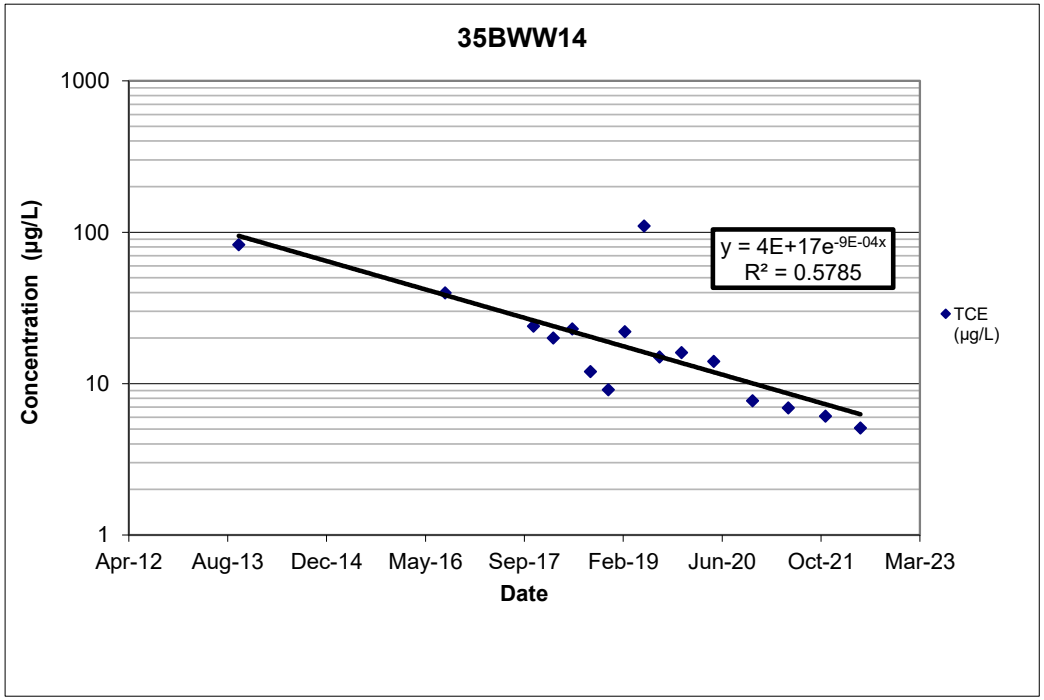


Chemical	Attenuation Rate Constant (day^{-1})	Attenuation Half-life (days)	Attenuation Half-life (years)	Current Conc. (µg/L)	Target Concentration (µg/L)	Estimated Cleanup Time (years)
TCE	7.00E-04	990.2	2.7	34	5	7.5

Notes:
The estimated cleanup time was calculated as the time it would take the most recent detected PCE concentration to reach the MCL using the site-specific attenuation rate, and assuming first order degradation kinetics.
µg/L - micrograms per liter
MCL - maximum contaminant level
TCE - trichloroethene

Time-Dependent Attenuation Rate Constant and Estimated Cleanup Time
35BWW14

Date	TCE (µg/L)
9-Oct-13	83
17-Aug-16	39.7
7-Nov-17	24
15-Feb-18	20
22-May-18	23
22-Aug-18	12
20-Nov-18	9.1
12-Feb-19	22
21-May-19	110
6-Aug-19	15
25-Nov-19	16
7-May-20	14
19-Nov-20	7.7
18-May-21	6.9
22-Nov-21	6.1
18-May-22	5.1

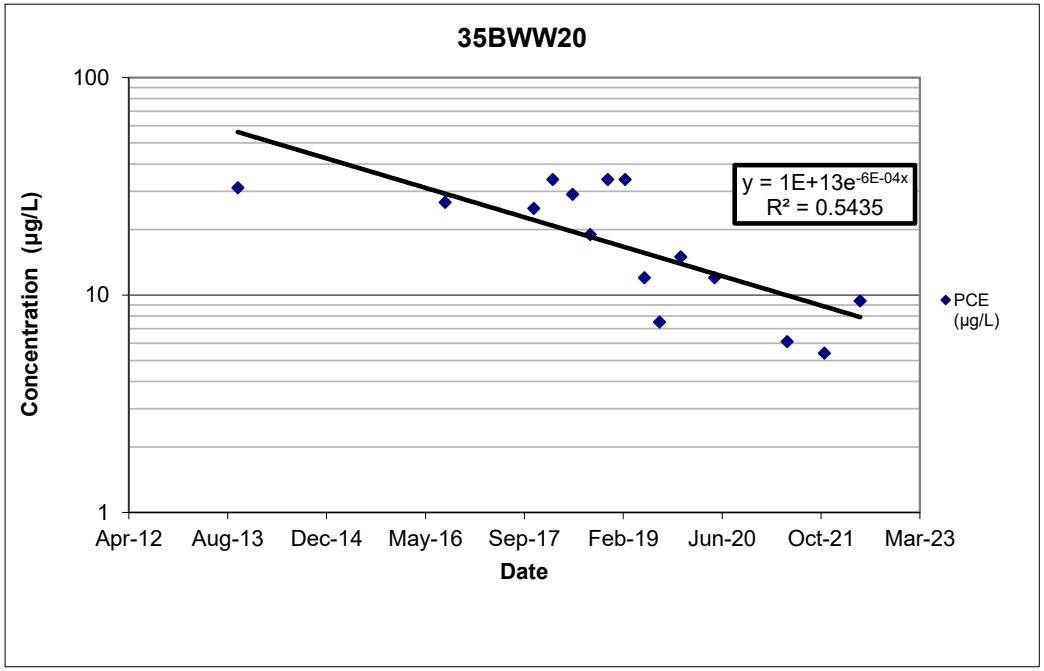


Chemical	Attenuation Rate Constant (day^{-1})	Attenuation Half-life (days)	Attenuation Half-life (years)	Current Conc. (µg/L)	Target Concentration (µg/L)	Estimated Cleanup Time (years)
TCE	9.00E-04	770.2	2.1	5.1	5	0.1

Notes:
The estimated cleanup time was calculated as the time it would take the most recent detected TCE concentration to reach the MCL using the site-specific attenuation rate, and assuming first order degradation kinetics.
µg/L - micrograms per liter
MCL - maximum contaminant level
PCE - tetrachloroethene

Time-Dependent Attenuation Rate Constant and Estimated Cleanup Time
LHSMW20

Date	PCE (µg/L)
4-Oct-13	31
18-Aug-16	26.7
8-Nov-17	25
12-Feb-18	34
24-May-18	29
20-Aug-18	19
18-Nov-18	34
13-Feb-19	34
22-May-19	12
6-Aug-19	7.5
22-Nov-19	15
11-May-20	12
13-May-21	6.1
17-Nov-21	5.4
17-May-22	9.4

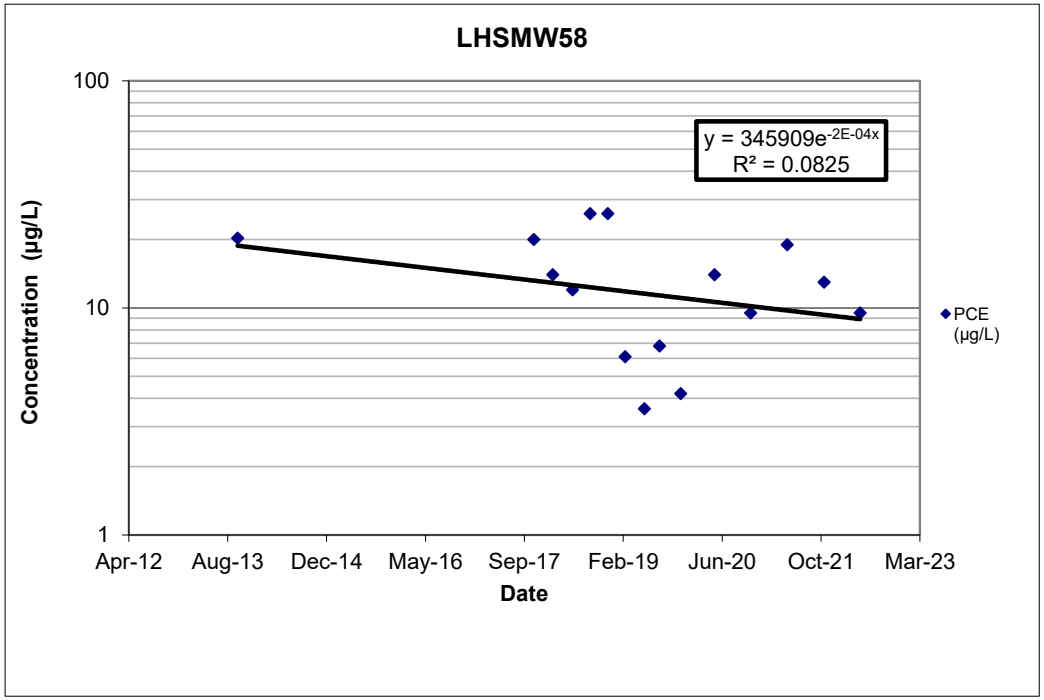


Chemical	Attenuation Rate Constant (day^{-1})	Attenuation Half-life (days)	Attenuation Half-life (years)	Current Conc. (µg/L)	Target Concentration (µg/L)	Estimated Cleanup Time (years)
PCE	6.00E-04	1155.2	3.2	9.4	5	2.9

Notes:
The estimated cleanup time was calculated as the time it would take the most recent detected PCE concentration to reach the MCL using the site-specific attenuation rate, and assuming first order degradation kinetics.
µg/L - micrograms per liter
MCL - maximum contaminant level
PCE - tetrachloroethene

Time-Dependent Attenuation Rate Constant and Estimated Cleanup Time
LHSMW58

Date	PCE (µg/L)
3-Oct-13	20
8-Nov-17	20
12-Feb-18	14
24-May-18	12
20-Aug-18	26
18-Nov-18	26
13-Feb-19	6.1
22-May-19	3.6
7-Aug-19	6.8
22-Nov-19	4.2
11-May-20	14
9-Nov-20	9.5
13-May-21	19
15-Nov-21	13
17-May-22	9.5



Chemical	Attenuation Rate Constant (day^{-1})	Attenuation Half-life (days)	Attenuation Half-life (years)	Current Conc. (µg/L)	Target Concentration (µg/L)	Estimated Cleanup Time (years)
PCE	2.00E-04	3465.7	9.5	9.5	5	8.8

Notes:
The estimated cleanup time was calculated as the time it would take the most recent detected PCE concentration to reach the MCL using the site-specific attenuation rate, and assuming first order degradation kinetics.
µg/L - micrograms per liter
MCL - maximum contaminant level
PCE - tetrachloroethene

DEPARTMENT OF THE ARMY
US ARMY INSTALLATION MANAGEMENT COMMAND
US ARMY ENVIRONMENTAL COMMAND
2455 REYNOLDS ROAD
JOINT BASE SAN ANTONIO FORT SAM HOUSTON, TX 78234-7588

February 27, 2023

SUBJECT: Final Eighth Annual Remedial Action Operation Report, LHAAP-50 Former Sump Water Tank, Longhorn Army Ammunition Plant (LHAAP), Karnack, Texas, February 2023

Mr. Brian Follin
U.S. Environmental Protection Agency
1201 Elm Street, Suite 500
Dallas, TX 75270-2002

Dear Mr. Follin,

An electronic copy of the subject document has been added to the project portal's "Documents" folder at the following address for your review: (https://docs.cbifederalservices.com/sites/501032/regulators/Shared%20Documents/Forms/AllItems.aspx). An electronic copy of this letter and download instructions for the electronic file have been sent via email. The document includes revisions based upon the Environmental Protection Agency's (EPA) comments on the draft version received on Dec. 20, 2022, and the Texas Commission on Environmental Quality's (TCEQ) comments received on Nov. 28, 2022. Tables of responses to the EPA and TCEQ comments on the draft version are included with this draft final document. In accordance with the Federal Facility Agreement, this draft final will be considered final after 30 days without further comment.

The document was prepared by the Bhate Environmental Associates, Inc., (Bhate) team, on behalf of the Army as part of Bhate's performance-based remediation contract for the facility. Please include Kim Nemmers, Bhate's Project Manager, on any communications related to the project.

The point of contact for this action is the undersigned. I may be contacted at (726) 999-0505, or by email at lena.j.sierocinski.civ@army.mil.

Sincerely,

Lena Sierocinski

Lena Sierocinski
LHAAP Environmental Support Manager
U.S. Army Environmental Command

cc:
A. Palmie, TCEQ, Austin, TX
P. Bruckwicki, USFWS, Caddo Lake NWR, TX (1 hard copy and 1 CD)
C. Montoya USACE, Tulsa District, OK
A. Williams, USACE, Tulsa District, OK
M. Bowlby, USAEC, San Antonio, TX
K. Nemmers, Bhate, Lakewood, CO
P. Srivastav, APTIM, Houston, TX

DEPARTMENT OF THE ARMY
US ARMY INSTALLATION MANAGEMENT COMMAND
US ARMY ENVIRONMENTAL COMMAND
2455 REYNOLDS ROAD
JOINT BASE SAN ANTONIO FORT SAM HOUSTON, TX 78234-7588

February 27, 2023

SUBJECT: Final Eighth Annual Remedial Action Operation Report, LHAAP-50 Former Sump Water Tank, Longhorn Army Ammunition Plant (LHAAP), Karnack, Texas, February 2023

Ms. April Palmie
Texas Commission on Environmental Quality
Superfund Section, MC-136
12100 Park 35 Circle, Bldg D
Austin, TX 78753

Dear Ms. Palmie,

An electronic copy of the above referenced document has been added to the project portal's "Documents" folder at the following address for your review: (https://docs.cbifederalservices.com/sites/501032/regulators/Shared%20Documents/Forms/AllItems.aspx). An electronic copy of this letter and download instructions for the electronic file have been sent via email. The document includes revisions based upon the Environmental Protection Agency's (EPA) comments on the Draft version received on December 20, 2022, and the Texas Commission on Environmental Quality's (TCEQ) comments received on November 28, 2022. Tables of responses to the EPA and TCEQ comments on the Draft version are included with this Draft Final document. In accordance with Federal Facility Agreement, this Draft Final will be considered Final after 30 days without further comment.

The document was prepared by the Bhate Environmental Associates, Inc., (Bhate) team, on behalf of the Army as part of Bhate's Performance Based Remediation contract for the facility. I ask that Kim Nemmers, Bhate's Project Manager, be copied on any communications related to the project.

The point of contact for this action is the undersigned. I may be contacted at (726) 999-0505, or by email at lena.j.sierocinski.civ@army.mil.

Sincerely,

Lena Sierocinski

Lena Sierocinski
LHAAP Environmental Support Manager
U.S. Army Environmental Command

Electronic copies furnished:
B. Follin, USEPA Region 6, Dallas, TX
P. Bruckwicki, USFWS, Caddo Lake NWR, TX (1 hard copy and 1 CD)
C. Montoya USACE, Tulsa District, OK
A. Williams, USACE, Tulsa District, OK
M. Bowlby, USAEC, San Antonio, TX
K. Nemmers, Bhate, Lakewood, CO
P. Srivastav, APTIM, Houston, TX

Response to Comments on
Draft Eighth Annual Remedial Action Operation Report, LHAAP-50

Submittal Date: November 9, 2021
Comment Date: December 20, 2022

Reviewers: Brian Follin - USEPA
Respondent: Dr. Rose Zeiler - Army

1. Respondent Concurs (C), Does Not Concur (D), Takes Exception (E), or Delete (X)
2. Commenter Agrees (A) with response, or Does Not Agree (D) with response

Comment #	Section/ Page/ Paragraph	Comment	C, D, E, or X[1]	Response	A or D[2]
1	1.0 Introduction, 1st paragraph, last sentence, page 1-1.	Initial abbreviation for Aptim Federal Services, LLC, should be placed here after "LLC" (i.e.: "Aptim Federal Services, LLC (APTIM)").	C	Concur. Text has been revised accordingly.	
2	1.2 Performance Objectives, 1st paragraph, 2nd sentence, page 1-2.	This is the 1st occurrence of the "VOCs" acronym/abbreviation in report, but it needs spelled out at 1st occurrence here (i.e., "volatile organic compounds (VOCs)" instead of later in report in 1st paragraph of section 1.4.	C	Concur. Text has been revised accordingly.	
3	1.2 Performance Objectives, ISB bullet, 1st sentence, page 1-3.	Because the hydrogeology of the site (including description of the different subsurface "zones") has not been discussed at this point in report, should add "zone" after "shallow" in both locations in the sentence.	C	Concur. Text has been revised accordingly.	

Comment #	Section/ Page/ Paragraph	Comment	C, D, E, or X[1]	Response	A or D[2]
4	1.4 Conceptual Site Model, 1st paragraph, last sentence, page 1-5.	As noted in comment #2, VOC abbreviation should be introduced earlier in report.	C	Concur. Text has been revised accordingly.	
5	1.4 Conceptual Site Model, 2nd paragraph, last sentence, page 1-5.	Is "Tier 1" missing between "Texas Risk Reduction Program" and "groundwater residential…"?	C	Concur. Reference to Tier 1 has been incorporated.	
6	1.4 Conceptual Site Model, page 1-6.	Should identify the "paired wells" (wells at same location but completed at different depths) at the site somewhere in this report section.	C	The monitoring wells that are near each other and completed at different depths are shown in Figure 1-3, RA-O Monitoring Well Network and Land Use Control Boundary. The following text has been added in Section 1.4 as the last sentence in the second paragraph, page 1-6: "There are three pairs of upper shallow/lower shallow zone wells at the site: 50WW13/50WW14, 50WW15/50WW27, and 50WW21/50WW26; and at one location three wells installed in the upper shallow, lower shallow and intermediate zones are present: 50WW08/50WW09/50WW10 (**Figure 1-3**)."	
7	1.4 Conceptual Site Model, 4th paragraph, page 1-6.	Hydraulic gradient should be "foot per foot" instead of "feet per foot".	C	Units have been changed as requested.	
8	Fig. 1-3.	Goose Prairie Creek is misspelled at 1st occurrence in explanation/legend, "Goose Prairie Creek flow direction—missing the "i"	C	Figure legend text has been revised accordingly.	

Comment #	Section/ Page/ Paragraph	Comment	C, D, E, or X[1]	Response	A or D[2]
		between "r" and "e." Same spelling error is present on figs. 2-2, 2-3, 2-4, 2-5, 2-6, 2-7, 2-8, 2-9, 2-10, and 2-11.			
9	2.2.2 Groundwater Analytical Results—Year 2 Post-ISB Injections, 2nd paragraph, and figs. 2-6 through 2-9.	Unclear why the other COCs detected in these wells during the year 2 R-AO, including 1,1-DCE, 1,2-DCA, and PCE, are not shown on these figures—seems like they also should be shown in the "boxes" presenting the results for individual wells, as has been the case in other LHAAP reports.	C	Requested COCs have been added to the figures.	
10	Table 2-2.	A closing parentheses is missing for "6850" under the Perchlorate column heading (i.e., should be "(6850)").	C	Text has been revised accordingly.	
11	Table 2-3.	Several water-level measurements appear to be missing for well 50WW23. For example, fig. 2-3 shows a 11/21 measurement of 178.87 ft BGS. Believe there may be as many as 4 measurements missing for the well in table 2-3: 7/21, 11/21, 1/22, and 4/22? 12)	E	Please note that the dates were not missing, but out of order for 50WW23 e.g., 2021, 2022, 2020, 2021. Table has been revised accordingly.	
12	Fig. 3-1b.	The x-axis labels are misplaced/displaced.	C	Concur. The x-axis labels have been relocated. Other figures in the 3-1 series with similar issue have also been revised.	
13	3.1.1 Change in COC Concentrations over Time and with Distance, 2nd paragraph, 6	Sentence is partially incorrect because it indicates only TCE was "probably increasing" or "significantly increasing" in well 50WW12. Table 3-1 indicates another COC, 1,1-DCE, is "probably increasing" in well 50WW12.	C	Concur. Text has been revised to include reference to 1,1-DCE as follows: "The Mann-Kendall trends for all COCs detected during the Year 8 RA-O were "stable," "no trend," or "probably decreasing," except for TCE in 50WW08 (2019-2022) and 50WW12 (2019-2022), and 1,1-DCE in 50WW12 (2019-2022), which had "probably increasing" or "significantly increasing" trends."	

Comment #	Section/ Page/ Paragraph	Comment	C, D, E, or X[1]	Response	A or D[2]
	sentence, page 3-2.	In addition to modifying the sentence, 1,1-DCE also should be plotted on fig. 3-1f (in addition to TCE) to follow the approach used on all other figures showing COC concentrations with time in relation to groundwater-level elevations.		1,1-DCE has been incorporated into Figure 3-1f.	
14	3.1.1 Change in COC Concentrations over Time and with Distance.	General comment: strongly suggest replacing "reduced" with "decreased" in almost all sentences in report describing decreasing concentration changes/trends with time. Use of "reduced" in a report describing/evaluating geochemical conditions such as this one should be limited to description/characterization of redox conditions in groundwater (i.e., oxic or reduced/reducing conditions).	C	The term "reduced" has been replaced with "decreased" in sentences describing decreasing concentrations.	
15	3.1.1 Change in COC Concentrations over Time and with Distance.	General comment: The period of record(s) used to evaluate trends using the Mann-Kendall test in this report section differs among some wells; consequently, the period of time (record) used to determine trends for each well should always be indicated when describing the test results. This could easily be added to the 1st sentence describing the Mann-Kendall test results in the various sections discussing well-specific results, and it would be helpful to add it to table 2-1 by adding an additional column.	C	Text has been modified to include the period of evaluation in years after the monitoring well IDs and Table 3-1 has been modified to address the comment.	
16	3.1.1 Change in COC Concentrations over Time and with Distance, Monitoring Well 50WW05	To facilitate parallel comparison at beginning of sentence, should add "µg/L (October 2019)" after "290" (i.e., "The TCE concentrations fluctuated between the baseline concentration of 290 µg/L (October 2019) to 350 µg/L in Year 2 Quarter 4…").	C	Concur. Text has been revised as suggested.	

Comment #	Section/ Page/ Paragraph	Comment	C, D, E, or X[1]	Response	A or D[2]
	subsection, 1st paragraph, 2nd sentence, page 3-2.				
17	3.1.1 Change in COC Concentrations over Time and with Distance, Monitoring Well 50WW12 report subsection, 3rd paragraph, 4th sentence, page 3-5.	End of sentence indicates "residual source mass" may be present near well 50WW12. Unclear what is meant by this—is intent to indicate there could be residual perchlorate in the unsaturated zone near the well that is mobilized when the water table rises sufficiently high? Need to revise sentence to clarify.	C	The last two sentence of the paragraph has been modified for clarification as follows: "The increase and decrease in concentrations appear to be directly correlated to the change in groundwater elevations. The relatively high perchlorate and TCE concentrations, with seasonal peaks during times with elevated groundwater levels, may suggest that residual source mass is present near this well that causes contaminant concentrations to increase when the groundwater level rises. The concentrations at downgradient well 50WW29 remain nondetect for TCE and its daughter products, and at low levels below PCL for perchlorate, indicating that the plume has not expanded downgradient."	
18	3.1.1 Change in COC Concentrations over Time and with Distance, Monitoring Well 50WW14 report subsection, 2nd paragraph,	Don't agree with the conclusion that fluctuating concentrations appear to generally be directly correlate the groundwater elevation changes for the entire period of record/hydrograph. Examination of fig. 3-1h indicates a varying relation between TCE concentrations and groundwater-level elevations with time. Pre-ISB, concentrations appear to be inversely correlated up until the last 5 samples, which appear to be directly correlated. Post-ISB, concentrations are inversely correlated for quarters 1–4 during Year 1 and quarter 1 during Year 2, and then	C	The sentence has been replaced with the following sentence: "There does not appear to be a consistent relationship between fluctuating TCE concentrations and groundwater elevation changes, switching from an inverse relationship to direct relationship during various periods."	

Comment #	Section/ Page/ Paragraph	Comment	C, D, E, or X[1]	Response	A or D[2]
	last sentence, page 3-6.	directly correlated during quarters 2–4 of Year 2. Revise sentence accordingly.			
19	3.1.1 Change in COC Concentrations over Time and with Distance, Monitoring Well 50WW15 report subsection, 2nd paragraph, 1st sentence, page 3-7.	Should clarify what is meant by "marginal geochemical indicators."	C	The word "marginal" has been deleted. The sentence was revised as follows: "but this reduction in concentrations is likely to be mostly attributed to abiotic processes based on the geochemical indicator values discussed in **Section 3.2**."	
20	3.1.2 Plume Extent, 1st paragraph, 4th to last sentence (begins with "PCE increased…"), page 3-7.	Sentence indicates PCE increased to above the MCL during quarter 2 and remained above the MCL in quarters 3 and 4 at well 50WW13; however, this is incorrect because pages 14 and 16 of table 2-4 indicate the compound only was detected above the 5 µg/L MCL in quarters 3 and 4 of Year 2 (page 14: PCE=3.8 µg/L on 7/8/21 and 4.7 J µg/L on 10/7/21; page 15: PCE=5.8 µg/L on 1/6/22 and 7.2 µg/L on 4/6/22).	C	The sentence has been modified as follows: "PCE was detected above the MCL at well 50WW13 during Quarters 3 and 4."	

Comment #	Section/ Page/ Paragraph	Comment	C, D, E, or X[1]	Response	A or D[2]
21	3.1.2 Plume Extent, 2nd paragraph, 2nd sentence, page 3-8.	Sentence indicates migration of plume core may be occurring because of increasing TCE concentrations in 50WW12. Alternatively, is it possible that the higher water levels (clearly seen in hydrograph) are mobilizing "residual" TCE in the unsaturated zone in the area, a possibility proposed elsewhere in report for a different constituent?	C	Based on the apparent correlation between groundwater elevation changes and fluctuations in COC concentrations at 50WW12, it is more likely that the increases in TCE are the result of mobilization of TCE from residual concentrations in the unsaturated zone. The text will be revised to state: "At this time, the consistent lack of detectable TCE concentrations at wells outside of the plume suggest that the overall TCE plume extent is relatively stable, although increasing TCE concentrations correlated with increases in groundwater elevation at 50WW12 suggest that mobilization of residual TCE from the unsaturated zone may be occurring." Migration of plume core as an explanation was also referenced in Section 3.1.1 discussion on Monitoring Well 50WW12, last paragraph. A similar revision to the text was made in that discussion for consistency as indicated in the response to Comment 17.	
22	3.1.2 Plume Extent, 3rd paragraph, 3rd sentence, page 3-8.	Sentence indicates constituent concentrations in 50WW12 were probably increasing over the course of 4 quarterly sampling events. This is not completely correct—trends testing indicated TCE and 1,1-DCE have probably increasing trends, whereas perchlorate had no trend.	C	The sentence has been modified as follows: "At downgradient well 50WW12 (2019-2022), probably increasing trend was observed for TCE and 1,1-DCE, and no trend was observed for perchlorate over the course of the four quarterly sampling events, with the highest perchlorate concentration since 2013 detected in April 2022 (141,000 µg/L)."	
23	3.1.2 Plume Extent, 3rd paragraph, 4th sentence, page 3-8.	Statement that perchlorate was not detected in samples collected from well 50WW29 is not correct. Per table 2-4, low perchlorate concentrations were detected in well 50WW29 during year 2: 0.174, 3.58, 0.075 J, and 0.0655 J µg/L. Note that recognition of these detections in well 50WW29 requires modification of the sentence after next (begins with "The consistent..."). Furthermore, there also were low-level	C	The text has been modified as follows to address the comment: "However, perchlorate was not detected above the PCL in samples collected from well 50WW29, downgradient of 50WW12, indicating that the plume does not extend far beyond 50WW12. At 50WW08 (2019-2022), located within the plume, no statistical trend was observed for perchlorate, while at 50WW13 (2019-2022), also located within the plume, perchlorate showed stable	

Comment #	Section/ Page/ Paragraph	Comment	C, D, E, or X[1]	Response	A or D[2]
		detections of perchlorate outside of the plume as well at wells 50WW22 and 50WW23, as shown in fig. 2-10 (0.464 and 0.139, J, respectively).		concentrations. At this time, the consistent lack of perchlorate concentrations above the PCL at wells outside of the plume suggest that the perchlorate plume is relatively stable."	
24	3.1.2 Plume Extent, 4th and last paragraph on page 3-8, 2nd sentence.	Suggest replacing "…indicating the plumes are bound by 50WW29…" with "…indicating plume extent is constrained by 50WW29…".	C	Text has been modified with the exception that plural "plumes" is used because the sentence refers to two plumes (i.e., TCE and perchlorate).	
25	3.1.2 Plume Extent, partial sentence at top of page 3-9 (sentence beginning on bottom of previous page (page 3-8) that began with "However, TCE and…").	Although TCE and perchlorate concentrations may have increased between the baseline and recent concentration, it should be noted that no trend was determined for perchlorate, unlike TCE which had a probably increasing trend (per table 3-1).	C	The sentence has been modified as follows: "However, TCE and perchlorate at 50WW12 (2019-2022) have shown an increase in concentrations compared to baseline concentrations in 2019, with TCE exhibiting a probably increasing trend and perchlorate exhibiting no trend, based on Mann-Kendall analysis."	
26	3.1.2 Plume Extent, 1st paragraph, 2nd complete sentence at top of page 3-9 (sentence beginning	Sentence indicates daughter products were not detected, but one TCE daughter product, 1,1-DCE, was detected in well 50WW12.	C	1,1-DCE is not a primary daughter product of TCE and thus not included in the list. The text has been modified as follows: "The absence or very low levels of primary daughter products of TCE like cis-1,2-DCE and VC indicate that reductive dechlorination may be limited in the vicinity of 50WW12,"	

Comment #	Section/ Page/ Paragraph	Comment	C, D, E, or X[1]	Response	A or D[2]
	with "The absence…").				
27	3.1.2 Plume Extent, 1st paragraph, 3rd complete sentence at top of page 3-9 (sentence beginning with "It should be…").	Could indicate here that residual source of perchlorate in unsaturated zone might have been mobilized by historically high groundwater level elevations?	C	The text has been modified as follows: "….indicating that there may be a residual source near downgradient well 50WW12. Contaminants from the residual source may be mobilized during high groundwater level conditions, causing an increase in concentrations."	
28	3.2 Second Line of Evidence: Geochemical Indicators, Dissolved Oxygen, subsection, 1st paragraph, 5th sentence (begins with "The year 2 Quarter 2..."), page 3-9.	Use of "significantly" in the context of "significantly lower DO readings" is not appropriate in this sentence because it infers a statistical hypothesis test was conducted to compare DO concentrations in wells inside versus outside the treatment area. Report provides no evidence such a test was conducted. In addition, comparison made in the sentence is incomplete, so additional text needs added after "in the treatment area,".	C	The word "significantly" has been deleted. In addition, the text was modified as follows to address the later part of the comment: "The Year 2 Quarter 2 and Year 2 Quarter 3 RA-O event showed lower DO readings at the wells in the treatment area, ranging from 0.19 to 0.28 mg/L and 0.43 to 0.58 mg/L, respectively, in comparison to Year 2 Quarter 4 DO levels."	
29	3.3.2 Predictive Modeling, 1st paragraph, 3rd	Should replace "may be skewed" with "may be affected" because use of "skewed" in statistics generally is used to describe the distributional characteristics of a given data set.	C	The text has been modified as requested.	

Comment #	Section/ Page/ Paragraph	Comment	C, D, E, or X[1]	Response	A or D[2]
	sentence, page 3-12.				
30	4.1 Summary, 4th paragraph, last sentence, page 4-1.	Last sentence indicates COCs were not detected in well 50WW29; however, as noted in an earlier comment, perchlorate was detected at low-level concentrations in well 50WW29, so this sentence need revised as well in addition to the earlier one identified previously. Also consider adopting the proposed "constrained" wording instead of "bounded by" wording as noted in the same earlier comment.	C	Text has been modified as follows to address the comment: "Monitoring well 50WW29, installed to delineate the plume more tightly in the downgradient direction, contained low perchlorate concentration below PCL in April 2022" The word "bounded" in the 4th paragraph, second sentence on page 4-1 is changed to "constrained".	
31		50WW02 is used for groundwater elevation but not used for monitoring COCs at this time. Is there a reason that this well is not part of the COC monitoring network?	C	50WW02 was not selected as a Performance or RA-O/LTM monitoring well in the RACR (Bhate 2020) due to other suitable wells present in the area.	
32	Conclusions	The increases at 50WW08 and 55WW12 are contributed to seasonal variations and GW level fluctuations. At this point it would be necessary to ensure that the plume is not migrating and that containment to the site is the priority. Is there certainty that there is no vertical movement between zones? With the varied GW flow, there might need to ensure that there is no flow between 50WW29 and 50WW24.	C	The current monitoring network is adequate to delineate the contaminant plumes and detect downgradient migration prior to it leaving the site. Monitoring well 50WW23 is approximately 100 feet southwest of well 50WW24 mentioned by the reviewer, and is monitored annually. Year 2 Quarter 2 (October 2022) results from this well indicated low concentration of perchlorate below PCL and nondetect for VOCs, indicating that the plume is not expanding in this direction. The potentiometric contours for 3 of the 4 quarters during the Year 2 RAO indicates that flow from the vicinity of 50WW12 would be northeasterly towards 50WW29 and 50WW18. During Year 2 Quarter 1, the flow appears to be more eastward, but eventually curves back to the north and would bring contamination to 50WW18 if significant eastward plume migration were occurring to the south of 50WW29. Therefore, There may be limited amount vertical movement between the upper and lower shallow zones. High levels of contaminants are contained within the upper shallow	

Comment #	Section/ Page/ Paragraph	Comment	C, D, E, or X[1]	Response	A or D[2]
				zone. Contaminant levels are much lower and comparatively stable in the lower shallow zone, as demonstrated by results at well pairs 50WW08/50WW09 and 50WW13/50WW14. However, the communication has not resulted in increasing contaminant trends in the lower shallow zone.	

Response to Comments on
Draft Eighth Annual Remedial Action Operation Report, LHAAP-50

Submittal Date: November 9, 2022
Comment Date: November 28, 2022

Reviewers: April Palmie - TCEQ
Respondent: Dr. Rose Zeiler - Army

1. Respondent Concurs (C), Does Not Concur (D), Takes Exception (E), or Delete (X)
2. Commenter Agrees (A) with response, or Does Not Agree (D) with response

Comment #	Section/ Page/ Paragraph	Comment	C, D, E, or X[1]	Response	A or D[2]
1	Section 1.4, 2nd paragraph, last sentence	Please add "Tier 1" before "groundwater".	C	Concur. Reference to Tier 1 has been incorporated.	
2	Figures 2-10 and 2-11	Same comment was sent for Year 7 draft report. The light green for TCE is difficult to see. Revise to a darker shade of green.	C	Concur. The color for TCE concentrations in the referenced figures has been revised to be more visible.	

Draft Final

Eighth Annual Remedial Action Operation Report, LHAAP-50 Former Sump Water Tank

Longhorn Army Ammunition Plant
Karnack, Texas

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Contract No. W9128F-13-D-0012
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Project No. 501032
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Acronyms and Abbreviations

>	greater than
µg/L	micrograms per liter
J	estimated result
1,1-DCE	1,1-dichloroethene
1,2-DCA	1,2-dichloroethane
AECOM	AECOM Technical Services, Inc.
amsl	above mean sea level
APTIM	Aptim Federal Services, LLC
AST	aboveground storage tank
bgs	below ground surface
Bhate	Bhate Environmental Associates, Inc.
cis-1,2-DCE	cis-1,2-dichloroethene
COC	contaminant of concern
DHC	Dehalococcoides
DO	Dissolved Oxygen
ESD	Explanation of Significant Differences
ISB	in situ bioremediation
LHAAP	Longhorn Army Ammunition Plant
LTM	long-term monitoring
LUC	land use control
MCL	Maximum Contaminant Level
mg/L	milligrams per liter
MNA	monitored natural attenuation
mV	millivolts
No.	number
ORP	oxidation-reduction potential
PCE	tetrachloroethene
PCL	Protective Concentration Level
RA-O	Remedial Action Operation
RACR	Remedial Action Completion Report
RAWP	Remedial Action Work Plan
RD	Remedial Design
ROD	Record of Decision
SDC-9™	APTIM's dechlorinating culture
TCE	trichloroethene
TCEQ	Texas Commission on Environmental Quality
TOC	total organic carbon
U.S.	United States
USACE	U.S. Army Corps of Engineers
USEPA	U.S. Environmental Protection Agency
VC	vinyl chloride
VOC	volatile organic compound

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1.0 INTRODUCTION

The United States (U.S.) Army Corps of Engineers (USACE), Tulsa District, contracted Bhate Environmental Associates, Inc. (Bhate) under the Omaha Multiple Environmental Government Acquisition National Small Business Multiple Award Task Order Contract, Environmental Remediation Services with Military Munitions Response Program, Task Order Number (No.) W9128BV17F0150, to conduct environmental restoration at multiple sites at the former Longhorn Army Ammunition Plant (LHAAP). The Bhate Team consists of Bhate as the prime contractor, and Aptim Federal Services, LLC (APTIM) as a subcontractor responsible for remedial activities at several sites including LHAAP-50.

LHAAP is located in east-central Texas, in the northeastern corner of Harrison County between State Highway 43 in Karnack, Texas, and the western shore of Caddo Lake (**Figure 1-1** and **Figure 1-2**). The nearest cities are Marshall, Texas, approximately 14 miles to the southwest, and Shreveport, Louisiana, approximately 40 miles to the east. Caddo Lake is a large freshwater lake that bounds the former LHAAP installation to the north and east. The eastern fence is 3.5 miles from the Texas-Louisiana state border. LHAAP-50 is slated for transfer from the Army to the U.S. Fish and Wildlife Service for incorporation into the Caddo Lake National Wildlife Refuge in the future.

The Draft Final Third Annual Remedial Action Operation (RA-O) Report concluded that monitored natural attenuation (MNA) was ineffective and implementation of a contingency remedy would be appropriate (Bhate 2018a). A Final Explanation of Significant Differences (ESD) was submitted in July 2019 for changes to the Record of Decision (ROD) to implement the in situ bioremediation (ISB) contingency remedy (USACE 2019a). The U.S. Environmental Protection Agency (USEPA) signed the ESD, and the Texas Commission on Environmental Quality (TCEQ) concurred with the USEPA approval in September 2019. The Remedial Design (RD)/Remedial Action Work Plan (RAWP) for the contingency remedy was submitted in December 2019 and approved by USEPA in December 2019 and TCEQ in January 2020 (USACE 2019b). The Year 6 RA-O sampling event in November 2019 was used as the baseline, prior to the ISB treatment. The ISB injections for the contingency remedy were completed in March 2020 and included injection of the emulsified vegetable oil carbon source (Electron Donor Solution—Extended Release™ from Tersus Environmental, LLC), microbial nutrient (diammonium phosphate), and APTIM's dechlorinating culture (SDC-9™). The implementation of the ISB contingency remedy was reported in the Draft Final Remedial Action Completion Report (RACR) for Contingency Remedy in September 2020 (Bhate 2020a).

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This Eighth Annual RA-O Report represents the second year of RA-O implementation post ISB and summarizes the results of the Land Use Control (LUC) inspections and sampling activities conducted between July 2021 and June 2022. The Year 8 RA-O activities consisted of four quarterly sampling events conducted in July 2021, October 2021, January 2022, and April 2022. In accordance with the Contingency Remedy RD/RAWP (USACE 2019b), a remedy evaluation of the ISB injections is included in this report.

1.1 Remedial Action Objectives

The remedial action objectives for LHAAP-50, consistent with the reasonably anticipated future use as a national wildlife refuge, are as follows:

- Protection of human health by preventing human exposure to the contaminated groundwater.
- Protection of human health and environment by preventing contaminated groundwater from migrating into nearby surface water.
- Protection of human health by preventing further potential degradation of groundwater and surface water from contaminated soil.
- Return of groundwater to its potential beneficial uses as drinking water, wherever practicable.

1.2 Performance Objectives

The remedy selected for LHAAP-50 is described in Section 2.9.1 of the ROD (USACE 2010) and includes excavation of contaminated soil, MNA of contaminants of concern (COCs) in groundwater, and LUCs. The COCs at LHAAP-50 include dissolved-phase perchlorate and volatile organic compounds (VOCs) including tetrachloroethene (PCE), trichloroethene (TCE), 1,1-dichloroethene (1,1-DCE), 1,2-dichloroethane (1,2-DCA), cis-1,2-dichloroethene (cis-1,2-DCE), and vinyl chloride (VC) in groundwater, and perchlorate in soil. There are no COCs in other environmental media at the site.

Implementation of the excavation, MNA, and LUC remedy was documented in the Final 2016 RACR (AECOM Technical Services, Inc. [AECOM] 2016a). The Final ESD added ISB as a contingency remedy for COCs in groundwater due to the determination that MNA was ineffective (USACE 2019a). The components of the remedy implemented for groundwater at LHAAP-50 are described in more detail below:

- **LUCs.** LUCs have been implemented for the impacted area as described in the Final 2016 RACR (AECOM 2016a) to ensure the protection of human health by restricting the use of groundwater. The groundwater use restriction will remain in

place until the COCs in groundwater and soil allow unrestricted use and unlimited exposure.

- **ISB.** The ISB contingency remedy was implemented in the upper and lower shallow zone groundwater in the vicinity of wells 50WW11 and 50WW13 and in the shallow zone groundwater in the vicinity of well 50WW12 where the highest concentrations of TCE and perchlorate were detected. The ISB remedy involved injecting amendments including microbial cultures, electron donor sources, and nutrients into the subsurface to remove contaminant mass by enhancing microbial populations that will utilize the contaminants in groundwater during respiratory or metabolic activities. The Contingency Remedy RACR (Bhate 2020a) documented the implementation of the contingency ISB.
- **MNA.** MNA constitutes a passive treatment where the contaminant concentrations decrease through natural attenuation processes such as biodegradation, dispersion, dilution, sorption, and volatilization (USEPA 1998). MNA was found to be ineffective as the primary remedy for COCs in groundwater and was enhanced with ISB. However, monitoring of MNA processes continues as part of the RA-O.
- **RA-O/Long-Term Monitoring (LTM).** Data from performance monitoring are used to evaluate whether the ISB and MNA remedies are effectively reducing COCs and that the TCE and perchlorate plumes are stable and will not migrate to nearby surface water at levels that may present an unacceptable risk to human health and the environment. RA-O monitoring of the contingency remedy is being conducted quarterly for the first two years post injection. LTM of the MNA remedy will continue to be conducted annually until the next Five-Year Review. A cleanup time has not been estimated and will be evaluated following two years of quarterly post injection monitoring.

The performance monitoring program and LUC inspection program is provided in the Contingency Remedy RD/RAWP (USACE 2019b). The performance objectives for the operation of the selected remedy are as follows:

- LUC performance objectives to be achieved via annual inspections and maintenance include the following:
  - Prohibit access to the contaminated groundwater, except for environmental monitoring and testing.
  - Restrict land use to nonresidential.
- ISB treatment areas remedy performance objectives are as follows:

- Achieve and maintain plume stability as measured by concentrations decreasing in the majority of performance wells relative to the baseline and/or historical concentrations.
- Achieve and maintain geochemical conditions conducive to natural attenuation of COCs in the shallow and intermediate groundwater zones.
- Demonstrate MNA processes are occurring using attenuation rate calculations, increases in COC daughter product concentrations, and microbial culture counts.

The performance objective evaluations for the ISB treatment areas will be based on the two lines of evidence presented in Section 5.3.1 of the Contingency Remedy RD/RAWP (USACE 2019b). The performance of the MNA remedy will continue to be evaluated outside of the treatment areas using the criteria in the Final 2016 RACR (AECOM 2016a).

1.3 Site Description

LHAAP-50 (former sump water tank) is in the north-central portion of LHAAP and covers an area of approximately 1 acre (**Figure 1-2**). The site is an open area of grass and brush that is bounded by South Crocket Avenue to the northeast, a drainage ditch to the west, a railroad spur to the south, and Goose Prairie Creek to the north. Runoff from the northeastern portion of the site is generally toward the northeast. Runoff is collected by a drainage ditch to the northeast that runs parallel to South Crockett Avenue and eventually joins Goose Prairie Creek. Runoff from the southwestern portion of the site is collected to the west by a drainage ditch that carries the runoff north into Goose Prairie Creek. Goose Prairie Creek eventually empties into Caddo Lake.

When operational, LHAAP-50 contained a 47,000-gallon capacity aboveground storage tank (AST) that received industrial wastewater from various industrial waste production sumps throughout LHAAP between 1955 and 1988. After the solids were filtered, the storage tank contents were discharged into Goose Prairie Creek upstream of the Goose Prairie Creek bridge on South Crockett Avenue, south of 51st Street (**Figure 1-3**). The flow in the creek was sufficient to dilute the water to safe levels (Jacobs Engineering Group, Inc. 2002). If natural flow in the creek was considered insufficient, clean water was reportedly pumped into the creek to dilute the contents. The AST is no longer present.

The LUC area associated with the groundwater use restriction at LHAAP-50 extends beyond the northern, southern, eastern, and western historical site boundaries and encompasses a total of approximately 77.19 acres (**Figure 1-3**). The nearest significant surface water body to LHAAP-50 is Goose Prairie Creek, located approximately 80 feet north of the site, which

eventually flows into Caddo Lake. LHAAP-50 has no known areas of archaeological or historical importance.

1.4 Conceptual Site Model

The nature and extent of contamination at LHAAP-50 were evaluated during field investigations conducted between 1992 and 2010. Releases associated with AST operation are the most likely source of contaminants released into the environment. Since the AST has been removed, there is no longer a potential release mechanism for leaks or spills. Perchlorate and VOCs were released via overland spills and discharges to the soil and adjacent surface water.

As mentioned in **Section 1.2** above, the COCs at LHAAP-50 include dissolved-phase perchlorate and VOCs including PCE, TCE, 1,1-DCE, 1,2-DCA, cis-1,2-DCE, and VC in groundwater, and perchlorate in soil. There are no COCs in other environmental media at the site. The presence of these COCs in the soil and groundwater represents the primary driver for remedial action, as there are no ecological risks at the site. The soil cleanup levels are the Texas Risk Reduction Rules Standard No. 2 industrial medium-specific concentrations. The groundwater cleanup levels are the USEPA Maximum Contaminant Levels (MCLs), except for perchlorate. For perchlorate, the cleanup level is the Texas Risk Reduction Program Tier 1 Groundwater Residential Protective Concentration Level (PCL).

The area of perchlorate contamination in soil was small, and the concentrations of perchlorate did not pose an unacceptable risk to human health (hypothetical future maintenance worker) or ecological receptors. The perchlorate in soil is no longer present after removal, and off-site disposal of approximately 183 cubic yards of perchlorate-contaminated soil in September 2013 as described in the Final 2016 RACR (AECOM 2016a). An area of groundwater contamination is observed in the shallow groundwater (upper and lower zones) and poses an unacceptable carcinogenic risk and noncarcinogenic hazard to a future maintenance worker under an industrial exposure scenario. There is no groundwater contamination in the intermediate groundwater zone. The potential exposure pathways are via use of groundwater as drinking water and migration of impacted groundwater into surface water. Shallow groundwater is not used as drinking water at the refuge, and this potential exposure pathway is eliminated from any hypothetical receptor because LUCs are in place that prohibit the use of groundwater other than for environmental monitoring and testing. The nearest significant surface water body to LHAAP-50 is Goose Prairie Creek, approximately 80 feet to the north of the site.

In previous documents, the site hydrogeology was represented as consisting of a shallow zone (approximately 0 to 30 feet below ground surface [bgs]) and an intermediate zone (approximately 35 to 60 feet bgs). Drilling activities, performed during implementation of the remedial action (AECOM 2016a), revealed only a shallow unconfined aquifer extending from ground surface to approximately 60 feet bgs across the site. While intermittent clay layers are

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present, no true aquiclude exists to prevent vertical communication between ground surface and approximately 60 feet bgs. The intermediate groundwater zone was identified at 100 feet bgs, underlying a dry unit of clay with some interbedded sands. The clay unit is first encountered across the site at approximately 60 feet bgs. The depth to groundwater in 50WW10, the intermediate water-bearing zone well, was 22.55 feet bgs in April 2021, indicating confined conditions.

Because the shallow zone is approximately 60 feet in thickness, the potential for differences in nature and extent of contaminant impacts between upper and lower portions of the shallow zone was recognized. To evaluate this concept, 27 wells were installed in configurations to separately monitor the upper portion of the shallow zone (18 wells) and the lower portion of the shallow zone (6 wells). Additionally, three fully penetrating wells (50WW17, 50WW19, and 50WW20) were installed with screened intervals across the entire saturated shallow zone. Upper shallow zone monitoring well 50WW29 was installed later to better define the downgradient edge of the plume beyond 50WW12 (Bhate 2019). Monitoring well locations are shown on **Figure 1-3**. There are three pairs of upper shallow/lower shallow zone wells at the site: 50WW13/50WW14, 50WW15/50WW27, and 50WW21/50WW26; and at one location three wells installed in the upper shallow, lower shallow and intermediate zones are present: 50WW08/50WW09/50WW10 (**Figure 1-3**).

Beginning with the First Annual RA-O Report (AECOM 2016b) and in all future reports, the zone formerly referred to as the shallow zone is referred to as the “upper shallow” zone (0 to 30 feet bgs) and the zone formerly referred to as the intermediate zone is referred to as the “lower shallow” zone (30 to 60 feet bgs). The zone formerly referred to as the deep zone is referred to as the “intermediate” zone (greater than [>]100 feet bgs).

Based on the groundwater gauging data conducted in April 2021, groundwater in the shallow water-bearing zone ranges from approximately 15.31 feet bgs at 50WW28 to 23.68 feet bgs at 50WW07, flowing to the north within most of the LUC boundary but to the northeast and east-northeast across most of the plume area, with a hydraulic gradient of approximately 0.002 to 0.004 foot per foot.

The Draft Final Third Annual RA-O Report concluded that MNA was ineffective due the migration of perchlorate away from the original center of the plume. To reduce concentrations and the plume size, the implementation of a contingency remedy was deemed appropriate (Bhate 2018a). The Final ESD was submitted in July 2019 for changes to the ROD to implement the ISB contingency remedy (USACE 2019a). USEPA signed the ESD, and TCEQ concurred with their approval in September 2019. A new well (50WW29) was recommended for installation, as stated above, in the April 2018 Monthly Manager’s Meeting to evaluate how far the plumes extend downgradient of 50WW12 (Bhate 2019). Monitoring well

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50WW29 was installed and sampled in August 2019 and November 2019. Details of the well installation, sampling results, and proposed ISB injections were included in the Contingency Remedy RD/RAWP (USACE 2019b). In November 2019, perchlorate and TCE at 50WW29 were below the detection limit and the MCL. The highest perchlorate concentration in November 2019 was detected in the upper shallow well 50WW12 at 47,000 micrograms per liter (µg/L), and the highest TCE concentration was detected in the center of the plume at the upper shallow well 50WW13 at 7,300 µg/L in November 2019 (**Figure 1-4**).

The ISB contingency remedy was implemented in March 2020 (**Figure 1-4**) and is documented in the Contingency Remedy RACR (Bhate 2020a). The first quarterly sampling event for the contingency remedy was conducted in July 2020, and the first four quarters of sampling data are summarized in the Final Seventh Annual RA-O Report (Bhate 2022). The second year of quarterly sampling was conducted in July 2021, October 2021, January 2022, and April 2022 and the results from these sampling events are summarized in this report. This report summarizes the LUC compliance inspection; monitoring well inspection, maintenance, and repair; results of groundwater and surface water sampling; and an evaluation of the current state of the remedy.

The quarterly data from the Year 8 RA-O continue to show a distinct seasonal fluctuation in groundwater elevation, with a steady increase in groundwater elevations beginning in 2017. The increase in groundwater elevation over the 2017 to 2022 time period has been approximately 3 feet in most wells. During that time, the TCE and perchlorate concentrations at most of the upper shallow zone wells in the ISB treatment areas, and the two lower shallow wells near the ISB areas have been stable or decreasing. However, the upgradient upper shallow zone well (50WW08) and the upper shallow zone well within the downgradient end of the ISB treatment areas (50WW12) show an increasing trend for TCE in Mann-Kendall analysis and perchlorate has also increased recently in 50WW12 to the highest concentration measured since the ISB treatment was performed. The concentrations in the lower shallow zone near the ISB treatment areas are generally more than one order of magnitude lower than the upper shallow zone wells in the same areas, suggesting that the bulk of the contaminant mass is in the upper shallow zone. The increases in concentration seen with increasing groundwater elevation within the downgradient end of the heart of the plume may suggest either shallow source material in the vadose zone or a smear zone at the top of the saturated zone that is being mobilized into groundwater by the increasing groundwater elevations. The increase in TCE upgradient of the ISB areas may also suggest that there is additional mass upgradient or in the source area that is being mobilized by the increasing groundwater elevations.

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2.0 SITE ACTIVITIES AT LHAAP-50

2.1 Annual LUC Compliance Inspection, Monitoring, and Repair

2.1.1 Annual LUC Compliance Inspection

The objectives of the LUCs at LHAAP-50 are to prohibit non-residential land use, to prevent human exposure to groundwater contamination presenting an unacceptable risk to human health, and to ensure that there is no withdrawal or use of groundwater beneath the site for anything other than environmental monitoring and testing until the cleanup levels are attained. A restriction against use of groundwater will remain in effect until the levels of COCs in groundwater and soil allow unrestricted use and unlimited exposure.

The LUCs address the area of the LHAAP-50 site that contains shallow zone groundwater VOCs and perchlorate contamination. A metes and bounds survey of the 77.19-acre LUC boundary and notices of the groundwater use restrictions accompany all property transfer documents and were recorded at the Harrison County Courthouse in June 2015 in accordance with the Texas Administrative Code Title 30, Section 335.566. Additionally, the survey plat, legal boundary, and description of the groundwater restriction, in conjunction with a locator map, were provided to the Texas Department of Licensing and Regulation in June 2015.

A LUC compliance inspection was conducted on October 11, 2021. The Annual LUC Compliance Certification Documentation Form for the Year 8 Annual RA-O period is included in **Appendix A**. No compliance issues, changes in land use, or concerns were noted during the annual inspection.

2.1.2 Well Field Operation and Maintenance

Inspections of the conditions/integrity of monitoring wells are conducted during each sampling event. **Appendix B** includes a photo log and well inspection forms that document the condition of the wells during the inspection. Maintenance or repairs are performed as needed, based on observed conditions. For the eighth annual reporting period, one bollard at 50WW10 was noted as needing to be reinstalled, and issues with the locks were noted at several wells. These issues will be address during the Year 9 RA-O sampling event in October 2022. No other damage to well bollards, pads, or protective well casings and only minimal encroachment of weeds or brush on the well pads was observed. Mowing the area to control brush and weeds is conducted routinely and as needed to allow access to the wells, typically before sampling events. Mowing was conducted at LHAAP-50 on October 4, 2021.

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2.2 Groundwater Monitoring

The eighth annual reporting period includes the period from July 2021 to June 2022 and encompasses the second year of post injection quarterly monitoring for the ISB contingency remedy. The RA-O groundwater monitoring network approved in the Contingency Remedy RD/RAWP (USACE 2019b) includes 8 wells to be sampled as part of the performance monitoring program to evaluate the ISB remedy on a quarterly basis (**Table 2-1**) and 14 wells to be sampled on an annual basis as part of the RA-O/LTM network (**Table 2-2**). The monitoring well locations are shown on **Figure 2-1**. Quarterly groundwater sampling events for the ISB performance monitoring in Year 2 were conducted in July 2021, October 2021, January 2022, and April 2022. The monitoring wells included in the RA-O/LTM network were sampled during the October 2021 sampling event. The analytes for each well are summarized in **Table 2-1** and **Table 2-2**. In accordance with the Fifth and Sixth Annual RA-O Reports (Bhate 2020b, 2021), *Dehalococcoides* (DHC) analyses were planned for the first four quarters of post-ISB monitoring. DHC monitoring was not included in the proposed Year 2 post-ISB monitoring in the Seventh Annual RA-O Report (Bhate 2022) but was performed for the first three quarters of Year 2. Based on the results discussed in **Section 3.3.1**, further DHC analysis is not recommended. Discontinuation of sampling at intermediate zone well 50WW10 was recommended in the Year 6 RA-O Report (Bhate 2021) and approved by regulators. 50WW10 was not sampled during the Year 7 or Year 8 RA-O.

Before collecting groundwater samples, the wells were gauged using a water level probe and both the depth to water and total depth were recorded to the nearest 0.01 foot from the top of casing. Water samples were collected using the low-flow sampling technique as described in the groundwater sampling procedures in the *Final Installation-Wide Work Plan* (Bhate 2018b). The objective of using this method is to minimize turbidity in the samples collected from the groundwater in the formation adjacent to the well screen. After water quality parameters stabilized and were within acceptable ranges per the Final Installation-Wide Work Plan, samples were collected at the same low flow rate. Groundwater sampling forms are presented in **Appendix C**. Chain-of-custody forms and laboratory reports are presented in **Appendix D**.

2.2.1 Groundwater Elevations and Flow Direction

During the Year 8 RA-O quarterly sampling events, groundwater elevations in each well varied by 0.06 to 3.3 feet throughout the year with the highest groundwater elevations generally occurring during the July 2021 event. Groundwater elevations measured during the four quarterly events are included in **Table 2-3**. **Figures 2-2** through **2-5** provide potentiometric contour maps for each quarterly event. Monitoring wells screened in the upper shallow zone or fully penetrating the saturated zone were used in the development of the potentiometric contours, while wells that are screened only in the lower shallow zone (50WW06, 50WW09,

50WW14, 50WW25, 50WW26, and 50WW27) were not used. Monitoring well 50WW04 was dry during Quarters 2 and 3 of Year 2 RA-O.

Shallow groundwater flow at LHAAP-50 during all four quarters was interpreted to flow to the northeast or east within the plume area, with some northerly flow indicated along the southern edge of the site.

2.2.2 Groundwater Analytical Results – Year 2 Post-ISB Injections

Quarterly groundwater samples during the Year 2 post ISB RA-O (Year 8 LTM) were collected from eight monitoring wells included in **Table 2-1** and analyzed for perchlorate according to USEPA Method 6850 and VOCs according to USEPA Method 8260C. Five of the eight monitoring wells were sampled for geochemical parameters (ferrous iron, anions, dissolved gases, and total organic carbon [TOC]) as shown in **Table 2-1**. Ferrous iron was evaluated using field screening methods. Additionally, a longer list of wells (14 wells) was sampled as part of the Year 8 LTM event in Quarter 2 (October 2021). ISB injection locations used during the March 2020 injections to remediate groundwater impacted with VOCs and perchlorate in the vicinity of 50WW13 and 50WW12 are shown with the monitoring locations on **Figure 1-4**.

Analytical results for Quarters 1 through 4 are included in **Table 2-4** and on **Figures 2-6** through **2-9**. TCE and perchlorate plumes for Quarters 2 and 4 are included on **Figures 2-10** and **2-11**. Plume maps were only generated for two of the four quarterly events (Quarter 2 in October 2021 and Quarter 4 in April 2022) due to the limited number of locations sampled as part of the performance sampling. Plume maps were generated for the Quarter 2 sampling event, which included a longer list of wells (14 wells) sampled as part of the ongoing annual RA-O/LTM network, and the Quarter 4 sampling event conducted in April 2022, which was the last RA-O event for Year 2 RA-O. The historical COC concentrations are shown in **Table 2-5**.

Perchlorate, PCE, TCE, 1,2-DCA, 1,1-DCE, VC, and cis-1,2-DCE were detected above their respective cleanup levels in the Year 2 quarterly post ISB RA-O sampling at multiple wells. A summary of the analytical results from each quarter during Year 2 RA-O is included in the text below.

Year 2, Quarter 1. During the July 2021 sampling event, VOCs were detected above the MCLs at six wells (50WW05, 50WW08, 50WW11, 50WW12, 50WW13, and 50WW14) and perchlorate was detected above the PCL at four wells (50WW08, 50WW11, 50WW12, and 50WW13). The maximum TCE concentration of 3,000 µg/L was detected at 50WW13. The maximum perchlorate concentration of 60,300 µg/L was detected at 50WW12.

Year 2, Quarter 2. During the October 2021 sampling event (including the longer list of wells sampled for the annual LTM monitoring), VOCs were detected above MCLs at seven wells (50WW05, 50WW08, 50WW09, 50WW11, 50WW12, 50WW13, and 50WW14) and perchlorate was detected above the PCL at four wells (50WW08, 50WW11, 50WW12, and 50WW13). The maximum TCE concentration of 2,900 µg/L was detected at 50WW13. The maximum perchlorate concentration of 25,500 µg/L was detected at 50WW12.

Year 2, Quarter 3. During the January 2022 sampling event, VOCs were detected above the MCLs at six wells (50WW05, 50WW08, 50WW11, 50WW12, 50WW13, and 50WW14) and perchlorate was detected above the PCL at four wells (50WW08, 50WW11, 50WW12, and 50WW13). The maximum TCE concentration was detected at 50WW13 at 5,800 µg/L. The maximum perchlorate concentration was detected at 50WW12 at 68,100 µg/L.

Year 2, Quarter 4. During the April 2022 sampling event, VOCs were detected above the MCLs at seven wells (50WW05, 50WW06, 50WW08, 50WW11, 50WW12, 50WW13, and 50WW14) and perchlorate was detected above the PCL at five wells (50WW06, 50WW08, 50WW11, 50WW12, and 50WW13). The maximum TCE concentration was detected at monitoring well 50WW13 at 2,100 µg/L. The maximum perchlorate concentration was detected at monitoring well 50WW12 at 141,000 µg/L.

Laboratory analytical results are included in **Appendix D** and are discussed further in the context of remedial performance in **Section 3.0**. Historical groundwater analytical results are presented in **Table 2-5**.

2.2.3 Groundwater Monitoring Optimization

Based on the results of DHC sampling in the Year 7 RA-O and the first three quarters of the Year 8 RA-O, it was concluded that the microbial populations were not sufficient to promote significant degradation. Therefore, DHC sampling will not be continued in future monitoring events. DHC results from Year 8 RA-O are discussed in further detail in **Section 3.3.1**. No additional changes are proposed to the groundwater monitoring network for the Year 9 RA-O event. Samples will be collected during the Year 9 RA-O semiannually for the performance monitoring locations and annually for the RA-O/LTM locations, as shown in **Table 2-6**.

2.3 Surface Water Sampling

The purpose of surface water sampling at this site using location 50SW06 is to evaluate the potential groundwater to surface water pathway. Per the RAWP (AECOM 2013), samples are to be collected and sampled for VOCs and perchlorate during the groundwater sampling events if there was water in the creek and the groundwater elevation at the nearest well, 50WW16, is above the bottom of the creek elevation. The groundwater elevation in 50WW16 was 179.97 feet above mean sea level (amsl) in Quarter 1, 178.47 feet amsl in Quarter 2, 178.39 feet amsl

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in Quarter 3, and 178.68 feet amsl in Quarter 4. The bottom of the creek elevation is 182.90 feet amsl; thus, the groundwater elevations during all four quarters were below the bottom of the creek and there was no contribution to surface water from groundwater (**Table 2-7**). Therefore, no samples were collected at 50SW06 during the Year 8 RA-O. Evaluation of relative groundwater and surface water elevations and sampling of 50SW06, when groundwater elevations indicate that groundwater flow to the creek may be occurring, will continue in the Year 9 RA-O.

Surface water sampling at GPW-1 and GPW-1A, previously conducted to evaluate the contribution to surface water from perchlorate contaminated soil, was discontinued because the perchlorate levels in the creek had been consistently below the PCL. The recommendation to discontinue sampling these locations was included in the Third Annual RA-O Report (Bhate 2018a) and approved by TCEQ and USEPA in July 2018.

2.4 Well Abandonment

Abandonment of monitoring wells 50WW03 and 50WW19 was approved based on the recommendations of the Second Annual RA-O Report and the Third Annual RA-O Report (AECOM 2016c, Bhate 2018a). However, these wells have not been abandoned and are being retained so that they are available for sampling, if needed. No wells are recommended for abandonment in this report.

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3.0 REMEDY EVALUATION

This section presents the results of the ISB and natural attenuation evaluation in accordance with the three lines of evidence. Though the Contingency Remedy RD/RAWP (USACE 2019b) included the evaluation of only two lines of evidence, the Year 6 RA-O Report included the recommendation to sample for DHC for the first four quarters of RA-O post ISB; therefore, this discussion evaluates three lines of evidence for LHAAP-50 groundwater COCs. As discussed in **Sections 2.2.3** and **3.3.1** of this report, the DHC monitoring results post ISB through the four quarters in Year 7 and the first three quarters of Year 8 do not indicate a sufficient microbial population to promote complete biodegradation. Therefore, DHC will no longer be monitored in future monitoring events.

The discussion below pertains only to the shallow aquifer where COCs were detected above cleanup levels. The RA-O monitoring network includes wells in the upper shallow zone, lower shallow zone, and upgradient/cross gradient wells. The ISB treatment is not expected to result in widespread changes in concentrations in the upgradient/cross gradient wells that lie outside the influence of the treatment area. The wells containing COCs exceeding the cleanup levels within the treatment area are 50WW06, 50WW11, 50WW12, 50WW13, and 50WW14. Wells 50WW05, 50WW08, 50WW09, and 50WW15 are located outside of the treatment area and contain concentrations of COCs exceeding the cleanup levels. The wells within the treatment area will be used to evaluate the effectiveness of the ISB remedy, while the impacted wells outside of the treatment area will be used to evaluate the MNA remedy.

3.1 First Line of Evidence: Plume Stability

The Contingency Remedy RD/RAWP (USACE 2019b) describes the first line of evidence as plume stability (i.e., plume concentrations are declining in the performance wells, and the plume is not expanding in areal extent, as demonstrated by downgradient monitoring wells). The two parts of plume stability discussed below are: 1) change in COC concentrations with time and distance and 2) plume extent.

3.1.1 Change in COC Concentrations over Time and with Distance

Samples were collected from eight monitoring wells and analyzed for VOCs and perchlorate, as indicated in **Table 2-1**. The Contingency Remedy RD/RAWP (USACE 2019b) identified these wells to monitor performance of the ISB contingency remedy at LHAAP-50. Additionally, 14 wells were sampled in October 2021 as part of the ongoing annual RA-O/LTM network (**Table 2-2**). Perchlorate, PCE, TCE, 1,2-DCA, 1,1-DCE, VC, and cis-1,2-DCE were detected above their respective PCL and MCLs.

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Mann-Kendall statistical trend analysis was completed for eight impacted monitoring wells with COC concentrations above the cleanup levels. The eight wells, with duration of evaluation presented after the well identification, are: 50WW05 (2019–2022), 50WW06 (2019–2022), 50WW08 (2019–2022), 50WW09 (2013–2021), 50WW11 (2019–2022), 50WW12 (2019–2022), 50WW13 (2019–2022), and 50WW14 (2019–2022), as shown in **Table 3-1**. For the LTM well (50WW09) only, the data set used for the analysis included the 2013 baseline samples and all subsequent RA-O monitoring events because there is insufficient data for statistical analysis using only annual post-ISB data. For the wells that are used to monitor the performance of the ISB remedy, trends using only the 2019 baseline and post-injection data were calculated. The trend analysis results are presented in **Appendix E** in graphical format with statistical results presented below the Mann-Kendall analysis. The dates are presented on the *x*-axis of each graph in **Appendix E**, and the concentrations of COCs are presented on the *y*-axis in µg/L.

The Mann-Kendall Test is a nonparametric statistical test to assess trends and is especially suited for evaluation of concentration-time series data to establish if trends are present (Gilbert 1987). This is a general test to determine whether concentrations tend to increase or decrease with time. The GSI Mann-Kendall Toolkit was used to conduct the analysis. Half of the detection limit was used for nondetect results, where applicable. Field duplicate data were not used, only the original sample. The Mann-Kendall Test was conducted for each well for each COC that contained a concentration above the MCL/PCL in the most recent sampling event. The Mann-Kendall trends for all COCs detected during the Year 8 RA-O were "stable," "no trend," or "probably decreasing," except for TCE in 50WW08 (2019–2022) and 50WW12 (2019–2022), and 1,1-DCE in 50WW12 (2019–2022), which had "probably increasing" or "significantly increasing" trends. The use of "probably" and "significantly" in describing the trends refers to the strength of the statistical confidence in the trend, not the magnitude of the change over time. A summary of the Mann-Kendall results is presented in **Table 3-1**. The COC concentrations over time for selected wells at LHAAP-50 are shown on **Figures 3-1a** through **3-1i**.

Monitoring Well 50WW05

TCE and cis-1,2-DCE were detected above the cleanup levels in 50WW05 during all four quarters in Year 2 RA-O post ISB. The TCE concentrations fluctuated between a baseline concentration of 290 µg/L (October 2019) to 350 µg/L in Year 2 Quarter 1 (July 2021) and decreased to 220 µg/L in Year 2 Quarter 4 (April 2022). The concentration of cis-1,2-DCE increased from 200 µg/L in November 2019 and showed an increase in concentration to 280 µg/L in Year 1 Quarter 2 (October 2020), followed by a decrease in concentration to 150 µg/L in April 2022. The presence of the TCE daughter product cis-1,2-DCE indicates that limited reductive dechlorination is taking place.

The Mann-Kendall trend analysis for 50WW05 (2019–2022) was conducted for TCE and cis-1,2-DCE. The Mann-Kendall results indicate a probably decreasing trend for TCE at a 95.0 percent confidence factor. The results for cis-1,2-DCE indicate a probably decreasing trend at a 91.3 percent confidence factor. The COC concentration trends are shown on **Figure 3-1a**. There does not seem to be a definite correlation between COC concentrations and fluctuations in groundwater elevations.

Monitoring Well 50WW06

Perchlorate and TCE were the only COCs detected above cleanup levels in 50WW06 in Year 2 Quarter 4. Post ISB, TCE and perchlorate concentrations decreased to below the MCL/PCL in July 2020 and fluctuated above and below the MCL/PCL in Year 1 and Year 2 RA-O with concentrations detected above the MCL/PCL at 23 and 24.7 µg/L, respectively, in Year 2 Quarter 4 (April 2022).

The Mann-Kendall trend analysis for 50WW06 (2019–2022) was conducted for perchlorate and TCE. The results indicate no trend for both TCE and perchlorate with confidence factors of 50 and 60.6 percent. TCE and perchlorate concentration trends are shown on **Figure 3-1b**. There is a distinct inverse correlation between groundwater elevations and TCE concentrations from 2013 to late 2016. The correlation is less consistent through 2017 and 2018 and more significant from 2019 and post ISB; however, the last two quarters in Year 2 RA-O do not show an inverse correlation.

Monitoring Well 50WW08

Perchlorate and TCE were the only COCs detected above the cleanup levels in 50WW08 during all four quarters in Year 2 RA-O; cis-1,2-DCE was detected above the MCL in Year 2 Quarter 4 (April 2022). TCE and perchlorate concentrations increased post ISB compared to baseline concentrations in November 2019. TCE increased from 420 µg/L in November 2019 to 610 µg/L in Year 1 Quarter 4 (April 2021) and continued to increase to 720 µg/L in Year 2 Quarter 4 (April 2022). Perchlorate increased in concentration post ISB, with the highest concentration detected at 682 µg/L in Year 2 Quarter 2 (October 2021), which then decreased to 83.4 µg/L in Year 2 Quarter 4 (April 2022).

The Mann-Kendall trend analysis for 50WW08 (2019–2022) was conducted for TCE, cis-1,2-DCE, and perchlorate. The results indicate a significantly increasing trend for TCE and cis-1,2-DCE at a 98.4 percent and 99.1 percent confidence factor, respectively, while there was no statistically significant trend observed for perchlorate. Although there is not a statistically significant decreasing trend in perchlorate concentrations, the concentrations have decreased from 6,404 µg/L in the 2013 baseline to 83.4 µg/L in April 2022 (**Figure 3-1c**). TCE concentrations show wide fluctuations, with an increase in concentration from 247 µg/L in 2013 to 720 µg/L in April 2022. TCE and perchlorate concentration trends are shown on

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Figure 3-1c. However, the significant increase in concentrations of cis-1,2-DCE indicates that reductive dechlorination is occurring. From early 2014 to November 2019, the increase and decrease of perchlorate concentrations seem to generally be directly correlated with changes in groundwater elevations; however, post ISB, the fluctuation in perchlorate concentrations and groundwater elevations are inversely related, as shown on **Figure 3-1c**. The fluctuation in TCE concentrations do not seem to be related to the change in groundwater elevations.

Monitoring Well 50WW09

TCE was the only COC detected above the MCL at 50WW09 in October 2021. This well is only part of the LTM network and was not sampled during the other quarters. TCE concentrations have decreased from the highest level observed in August 2015 (235 µg/L) to 5.7 µg/L in October 2021, including some lower fluctuations as shown on **Figure 3-1d**. Post ISB, TCE concentrations declined from 30 µg/L in November 2019 to 5.7 µg/L in October 2021.

The Mann-Kendall trend analysis for 50WW09 (2013–2021) conducted for TCE indicates that the concentrations are stable. The data set used for the Mann-Kendall analysis included the 2013 baseline samples and all subsequent RA-O monitoring events because there is insufficient data for statistical analysis using only post-ISB data. Generally, the increase and decrease in TCE concentrations seem to be moderately correlated to the increase and decrease in groundwater elevations as shown on **Figure 3-1d**, except for the Year 5 through Year 8 RA-O sampling events, which show an inverse correlation.

Monitoring Well 50WW11

Perchlorate, TCE, and 1,2-DCA were detected above their respective cleanup levels at 50WW11 during all four quarters. 1,1-DCE was detected above the MCL during the first three quarters in Year 2 RA-O, and its concentration decreased to below the MCL in Quarter 4 (April 2022).

Perchlorate concentrations decreased from 20,000 µg/L in November 2017 to 450 µg/L in May 2019, then increased to 8,000 µg/L in November 2019. Post ISB, perchlorate concentrations decreased to 421 µg/L in Year 1 Quarter 4 (April 2021); however, perchlorate concentrations showed a steady increase in Year 2 RA-O with perchlorate detected at 1,020 µg/L in Year 2 Quarter 4 (April 2022). Similar to perchlorate, TCE concentrations have fluctuated with a decrease from 4,700 µg/L in November 2017 to 95 µg/L in May 2019, and then an increase to 3,000 µg/L in November 2019. Post ISB, TCE concentrations show wide fluctuations from 200 µg/L in Year 1 Quarter 4 (April 2021) to 3,300 µg/L in Year 1 Quarter 2 (October 2020) with TCE detected at 530 µg/L in Year 2 Quarter 4 (April 2022).

1,2-DCA was detected at levels above the MCL in Year 2 Quarters 2 and 3, and its concentration decreased to below the MCL in Year 2 Quarter 4, while 1,1-DCE was detected above the MCL in Year 2 Quarters 1, 2, and 3, and its concentration decreased to below the MCL in Year 2 Quarter 4.

The concentrations of each of the COCs present have an inverse relationship with groundwater elevations as shown on **Figure 3-1e**. The reduction in COC concentrations and the increase in concentration of daughter products may indicate that reductive dechlorination is occurring.

The Mann-Kendall trend analysis for 50WW11 (2019–2022) was conducted for perchlorate, TCE, cis-1,2-DCE, 1,1-DCE, and 1,2-DCA. The results indicate a stable trend for TCE and cis-1,2-DCE while a probably decreasing trend was identified for perchlorate, 1,1-DCE, and 1,2-DCA. Perchlorate concentrations showed a decreasing trend with a confidence factor of 91 percent. The contaminant concentration trends are shown on **Figure 3-1e**.

Monitoring Well 50WW12

Perchlorate and TCE were detected above their cleanup levels at 50WW12 during all four quarters in Year 2 RA-O. 1,1-DCE was detected above the MCL in Year 2 Quarters 1, 3, and 4, while 1,2-DCA was detected above the MCL in Year 2 Quarters 3 and 4.

The concentrations of perchlorate increased from 47,000 µg/L in November 2019 to 90,000 µg/L in Year 1 Quarter 4 (April 2021) and fluctuated in Year 2 RA-O from 25,500 µg/L in Year 2 Quarter 2 (October 2021) to 141,000 µg/L in Year 2 Quarter 4 (April 2022). The perchlorate concentration of 141,000 µg/L is the highest detection in the 2013 to 2022 monitoring period. TCE concentrations also showed an increase compared to baseline concentrations post ISB. TCE concentrations fluctuated widely from 1,600 µg/L in Year 1 Quarter 4 to 290 µg/L in Year 2 Quarter 2 (October 2021), with TCE detected at 1,400 µg/L in Year 2 Quarter 4 (April 2022).

The Mann-Kendall trend analysis for 50WW12 (2019–2022) was conducted for perchlorate, TCE, 1,1-DCE, and 1,2-DCA. The results indicate a probably increasing trend for TCE and 1,1-DCE at a 94 percent confidence factor. No trend was calculated for perchlorate and 1,2-DCA. TCE and perchlorate concentration trends are shown on **Figure 3-1f**. The increase and decrease in concentrations appear to be directly correlated to the change in groundwater elevations. The relatively high perchlorate and TCE concentrations, with seasonal peaks during times with elevated groundwater levels, may suggest that residual source mass is present near this well that causes contaminant concentrations to increase when the groundwater level rises. The concentrations at downgradient well 50WW29 remain nondetect for TCE and its daughter products, and at low levels below PCL for perchlorate, indicating that the plume has not expanded downgradient.

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Monitoring Well 50WW13

PCE, perchlorate, TCE, cis-1,2-DCE, 1,1-DCE, and 1,2-DCA were detected above their cleanup levels at 50WW13 during the Year 8 RA-O sampling. PCE was detected above the MCL in Year 2 Quarters 3 and 4; 1,1-DCE was detected above the MCL in Year 2 Quarter 3; 1,2-DCA was detected above the MCL in Year 2 Quarters 2, 3, and 4; and cis-1,2-DCE was detected above the MCL in all four quarters.

Post-ISB perchlorate concentrations showed an overall reduction in concentrations from a baseline concentration of 4,900 µg/L in November 2019 to 514 µg/L in Year 2 Quarter 4. TCE concentrations fluctuated between 410 µg/L in Year 1 Quarter 4 (April 2021) to 3,000 µg/L in Year 2 Quarter 1 (July 2021) and increased further to 5,800 µg/L in Year 2 Quarter 3 (January 2022) and decreased to 2,100 µg/L in Year 2 Quarter 4. Similar fluctuations have been observed with cis-1,2-DCE, 1,1-DCE, and 1,2-DCA, as shown on **Figure 3-1g**.

The Mann-Kendall trend analysis for 50WW13 (2019–2022) was conducted for perchlorate, TCE, cis-1,2-DCE, 1,1-DCE, and 1,2-DCA. The results indicate a stable trend for perchlorate, TCE, cis-1,2-DCE, 1,1-DCE, and 1,2-DCA. The increases and decreases in concentrations appear to be inversely correlated to the groundwater elevations as shown on **Figure 3-1g**.

Monitoring Well 50WW14

TCE was the only COC detected in 50WW14 above the cleanup levels during the Year 8 RA-O. TCE concentrations increased slightly from 37 µg/L in November 2019 to 74 µg/L in October 2020 and fluctuated in Year 2 RA-O between 14 µg/L in Year 2 Quarter 3 to 48 µg/L in Year 2 Quarter 4. Even though there was an increase in TCE in April 2022, the concentrations have decreased overall from the 93.8 µg/L concentration measured in 2013.

The Mann-Kendall trend analysis for 50WW14 (2019–2022) was conducted for TCE. The results indicate a stable trend in TCE concentrations. The TCE concentration trend is shown on **Figure 3-1h**. There does not appear to be a consistent relationship between fluctuating TCE concentrations and groundwater elevation changes, switching from an inverse relationship to direct relationship during various periods.

Monitoring Well 50WW15

TCE has been the only COC detected above the cleanup level in 50WW15 since May 2015, but it was below the MCL for the first time in October 2021. TCE levels have continued to fluctuate with an overall decline since early 2015 but increased slightly from 2.3 µg/L in May 2019 to 7.2 µg/L in November 2019, and further increased to 8.4 µg/L in October 2020 before reducing to below the MCL for the first time in October 2021 (**Figure 3-1i**). Mann-Kendall analysis was not conducted on this well because concentrations have decreased below the MCL.

The overall Mann-Kendall evaluation for wells with COCs exceeding the MCL/PCL at LHAAP-50 indicates that the ISB remedy is not effectively reducing contaminant concentrations within the treatment area as expected. The presence of degradation products cis-1,2-DCE and VC suggests that limited biological degradation is occurring; however, the primary MNA processes reducing concentrations may be abiotic.

The MNA remedy outside the treatment area may be reducing contaminant concentrations in some portions of the plume, but this reduction in concentrations is likely to be mostly attributed to abiotic processes based on the geochemical indicator values discussed in **Section 3.2**. Additionally, increasing TCE concentrations since May 2018 on the upgradient edge of the plume in the vicinity of 50WW08 indicate that MNA is not reducing contaminant concentrations as expected.

3.1.2 Plume Extent

The COC plume maps for the shallow zone for Quarters 2 and 4 are presented on **Figures 2-10** and **2-11**. The Quarter 2 sampling event included a longer list of wells (14 wells) sampled as part of the RA-O/LTM network; therefore, a plume map was created for the Quarter 2 event. The Quarter 4 sampling event conducted in April 2022 was the last RA-O event for Year 2 RA-O; therefore, a plume map was created for the Quarter 4 sampling event representing the current state of the plume for the purposes of this reporting period. Plume maps were not created for Quarters 1 and 3, where a smaller set of locations was sampled and there were few unimpacted locations by which to depict meaningful changes in plume extent. TCE and perchlorate are the most widespread COCs in the shallow groundwater. The cis-1,2-DCE, 1,1-DCE, and 1,2-DCA plumes are contained within the TCE plume footprint. PCE was detected above the MCL at well 50WW13 during Quarters 3 and 4. The shapes of both the TCE and perchlorate plumes are oblong, elongated along the northeasterly groundwater flow path. The groundwater contaminants follow the pattern of groundwater flow to the northeast and east-northeast. The TCE and perchlorate plumes in October 2021 and April 2022 resemble the shape of the November 2019 plume.

The TCE and perchlorate plumes extend northeastward from the eastern edge of the LHAAP-50 site boundary, encompassing several monitoring wells (50WW05, 50WW06, 50WW08/50WW09, 50WW11, and 50WW13/50WW14) and ending just past well 50WW12. In lower shallow zone well 50WW06, perchlorate was below the PCL in October 2021 and January 2022; however, perchlorate increased to above the PCL in April 2022. Perchlorate was below the PCL in lower shallow wells 50WW09 and 50WW14 during all the quarters in which sampling was conducted. In lower shallow well 50WW06, TCE was below the MCL in the first three quarters of Year 8 RA-O and increased to above the MCL in April 2022; TCE remained above the MCL in lower shallow wells 50WW09 and 50WW14. The COC data for

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the Year 8 RA-O monitoring period suggest that the plumes are showing overall stable conditions and are not expanding.

Even though the overall plume is relatively stable, the Mann-Kendall analysis indicates a probably increasing trend for TCE and no trend for perchlorate concentrations at the downgradient well 50WW12 (2019–2022), despite the highest perchlorate concentration being detected in April 2022. Additionally, at upgradient well 50WW08 (2019–2022), TCE concentrations showed a significantly increasing trend while no trend was observed for perchlorate. TCE concentrations at 50WW05 showed a probably decreasing trend, and perchlorate concentrations at 50WW11 also showed a probably decreasing trend. At four wells (50WW09 [2013–2021], 50WW11 [2019–2022], 50WW13 [2019–2022], and 50WW14 [2019–2022]), stable TCE trends were observed. No trend was observed for TCE and perchlorate concentrations at 50WW06.

The highest TCE during the Year 8 RA-O was detected at 50WW13 in Year 2 Quarter 3 (January 2022) at 5,800 µg/L, which then decreased to 2,100 µg/L in April 2022. At this time, the consistent lack of detectable TCE concentrations at wells outside of the plume suggest that the overall TCE plume extent is relatively stable, although increasing TCE concentrations correlated with increases in groundwater elevation at 50WW12 suggest that mobilization of residual TCE from the unsaturated zone may be occurring. The samples collected from downgradient well 50WW29 did not contain detectable TCE concentrations, indicating that the plume does not extend far beyond 50WW12.

The stability of the perchlorate plume was also evaluated using the wells outside of the plume and those inside the plume with concentrations above the PCL. At 50WW11 (2019–2022), located in the middle of the plume, perchlorate concentrations were found to be probably decreasing while no trend was observed at 50WW06. At downgradient well 50WW12 (2019–2022), probably increasing trend was observed for TCE and 1,1-DCE, and no trend was observed for perchlorate over the course of the four quarterly sampling events, with the highest perchlorate concentration since 2013 detected in April 2022 (141,000 µg/L). However, perchlorate was not detected above the PCL in samples collected from well 50WW29, downgradient of 50WW12, indicating that the plume does not extend far beyond 50WW12. At 50WW08 (2019–2022), located within the plume, no statistical trend was observed for perchlorate, while at 50WW13 (2019–2022), also located within the plume, perchlorate showed stable concentrations. At this time, the consistent lack of perchlorate concentrations above the PCL at wells outside of the plume suggest that the perchlorate plume is relatively stable. The increasing TCE concentrations both upgradient and downgradient of the main plume area and the large fluctuations seen in perchlorate at 50WW12 suggest that there may be additional source material present that has not yet been detected and that was not successfully treated with the ISB injections. The increasing concentrations at 50WW12

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suggest that downgradient migration with low concentrations below PCL being detected at 50WW29.

Overall, during the Year 8 RA-O, both TCE and perchlorate plumes were stable and did not expand. COC concentrations at 50WW29 were detected below the cleanup levels during all four quarters for the Year 8 RA-O event, indicating the plumes' extent is constrained by 50WW29 and plumes have not expanded very far beyond 50WW12. However, TCE and perchlorate at 50WW12 (2019–2022) have shown an increase in concentrations compared to baseline concentrations in 2019, with TCE exhibiting a probably increasing trend and perchlorate exhibiting no trend, based on Mann-Kendall analysis. ISB injections conducted in the vicinity of 50WW12 have not decreased concentrations as expected. The absence or very low levels of primary daughter products of TCE like cis-1,2-DCE and VC indicate that reductive dechlorination may be limited in the vicinity of 50WW12, and it is possible that the high perchlorate concentrations are inhibiting the reductive dechlorination of TCE that would have been expected to occur. It should be noted that the concentration of perchlorate detected in April 2022 at 50WW12 has been the highest detected since 2013, indicating that there may be a residual source near downgradient well 50WW12. Contaminants from the residual source may be mobilized during high groundwater level conditions, causing an increase in concentrations. RA-O monitoring will be continued semiannually for the third year to evaluate the effects of the ISB remedy on VOC and perchlorate concentrations in the treatment area and surrounding wells.

3.2 Second Line of Evidence: Geochemical Indicators

Table 2-1 identifies the wells that were chosen to evaluate the performance of the ISB remedy. Geochemical parameters are collected in the field and are recorded for all sampling events for all wells. The field measured parameters for LHAAP-50 wells include Dissolved Oxygen (DO), oxidation-reduction potential (ORP), pH, conductivity, turbidity, temperature, and ferrous iron. Groundwater samples were also analyzed for MNA parameters (nitrate, sulfate, chloride dissolved gases, and TOC).

The wells in the treatment area used to evaluate the ISB remedy are 50WW06, 50WW11, 50WW12, 50WW13, and 50WW14. Wells 50WW05, 50WW08, 50WW09, and 50WW15 located outside of the treatment area are used to evaluate the broader MNA remedy outside of the area likely to be affected by the ISB injections.

Dissolved Oxygen

DO is the most thermodynamically favored electron acceptor used by microbes for biodegradation of organic carbon, whether natural or anthropogenic (USEPA 1998). Anaerobic bacteria generally cannot function at DO concentrations greater than approximately 0.5 milligrams per liter (mg/L), and biotic reductive dechlorination is not expected to occur at

DO levels above that threshold. DO levels in the fourth quarterly RA-O monitoring for wells within the treatment area are presented in **Table 2-4** and ranged between 0 and 6.9 mg/L. The DO levels in wells outside the treatment area in the fourth quarterly event ranged between 0.2 and 5.5 mg/L. The Year 2 Quarter 2 and Year 2 Quarter 3 RA-O event showed lower DO readings at the wells in the treatment area, ranging from 0.19 to 0.28 mg/L and 0.43 to 0.58 mg/L, respectively, in comparison to Year 2 Quarter 4 DO levels. DO readings in the wells outside the treatment area during Quarter 2 ranged between 0.12 and 1.73 mg/L. Based on the DO readings, the DO levels show favorable conditions in Year 2 Quarter 2 and Year 2 Quarter 3. However, the Year 2 Quarter 4 RA-O event measurements indicate that DO levels are not conducive to reductive dechlorination in the majority of the wells.

Oxidation-Reduction Potential

The ORP levels indicate how oxidative or reductive the groundwater is in the aquifer matrix and provide real-time data regarding whether conditions may be conducive for anaerobic biodegradation. ORP values less than 50 millivolts (mV) are indicative that anaerobic conditions are present and are conducive for the biological reduction of perchlorate, chlorinated ethenes, and ethanes, though lower values (less than -150 mV) are considered to be ideal. During the fourth quarterly sampling event the in Year 8 RA-O, ORP was above 50 mV at all the wells in the treatment area except 50WW11 and 50WW14, where the ORP was 12 and -56 mV, respectively. Outside the treatment area, the ORP values were above 50 mV at all wells. The ORP values in the impacted wells indicate that oxidative conditions are present in all wells except for 50WW11 and 50WW14, which is not favorable for reductive dechlorination.

Nitrate

After DO has been depleted in the microbiological treatment zone, nitrate may be used as an electron acceptor for anaerobic biodegradation of perchlorate and chlorinated ethenes via denitrification. Nitrate levels above 1 mg/L may compete with the reductive pathway (USEPA 1998). Nitrate levels in LHAAP-50 groundwater were detected near or below the laboratory reporting limit of 0.1 µg/L during the eighth annual RA-O monitoring period (**Table 2-4**). Therefore, nitrate levels indicate that nitrate-reducing processes will not inhibit anerobic biodegradation of perchlorate or chlorinated ethenes.

Sulfate

After DO and nitrate have been depleted in the groundwater, sulfate may be used as an electron acceptor for anaerobic biodegradation. This process is termed “sulfate reduction” and results in the production of sulfide. Concentrations of sulfate greater than 20 mg/L may cause competitive exclusion of dechlorination. However, in many plumes with high concentrations of sulfate, reductive dechlorination still occurs (USEPA 1998). **Table 2-4** indicates that the sulfate concentrations were above 20 mg/L in all the wells in the treatment area except

50WW06 in Quarter 1 and Quarter 4. Sulfate concentrations in Quarter 4 ranged between 11.8 and 574 mg/L, indicating that sulfate may compete as an electron acceptor with VOCs and perchlorate. Sulfate was detected at 11.8 mg/L at 50WW06. Sulfate was not analyzed for in wells outside the treatment area.

Methane

Methanogenesis occurs in highly reducing conditions and generally occurs after oxygen, nitrate, and sulfate have been depleted. Methane levels above 500 µg/L are considered to indicate methanogenic conditions (USEPA 1998). Methane measured at the five wells in the treatment area ranged between 2.81 and 3,380 µg/L in the fourth quarterly monitoring event during the Year 8 RA-O. Methane concentrations do not indicate highly reducing conditions in majority of the wells, except monitoring well 50WW12 where methane was detected at 3,380 µg/L.

Total Organic Carbon

Regardless of the electron acceptor being used, organic carbon is a required source of reduced hydrogen and energy needed to sustain microbial degradation of contaminants. TOC concentrations greater than 20 mg/L are considered adequate to support microbial activity (USEPA 1998). TOC concentrations were measured during this monitoring period in select wells and were found to be below 20 mg/L. The TOC levels detected are not sufficient to support the reduction of perchlorate or VOCs.

pH

The pH of groundwater has an effect on the presence and activity of microbial populations in groundwater. Microbes capable of degrading chlorinated aliphatic hydrocarbons and petroleum hydrocarbon compounds generally prefer pH values varying from 6 to 8 standard units (USEPA 1998). The groundwater pH within the treatment area ranged between 6.2 and 6.78 standard units in the fourth quarter monitoring event as part of the Year 8 RA-O; outside the treatment area, the pH ranged between 6.27 and 6.67 standard units in the fourth quarter of Year 8 RA-O indicating optimal conditions for microbial populations. The second quarter includes a longer list of wells sampled, and the pH levels for wells outside the treatment area in Quarter 2 ranged between 4.90 and 6.06 standard units. The sub-optimal pH levels outside the treatment area may be marginal for microbial populations but will not necessarily prevent biological degradation from occurring.

Ethane and Ethene

Ethane and ethene are the two end products of the reductive dechlorination pathways for chlorinated ethanes and ethenes. In the Year 2 Quarter 4 monitoring event, ethane was detected at 2.09 and 1.56 µg/L at 50WW06 and 50WW13, respectively; ethene was detected at 3.4 and

2.28 µg/L at 50WW11 and 50WW14, respectively. These low levels of ethene and ethane may not be indicative of complete degradation of chlorinated ethenes.

Geochemical Indicator and MNA Parameter Summary

The qualitative assessment of geochemical indicators in the shallow groundwater zone at LHAAP-50 within the treatment area indicates that conditions may have been conducive to biological degradation in Quarter 2 and Quarter 3 of Year 8 RA-O, but the conditions in the most recent 4th quarterly sampling event were not conducive to the biological reduction of VOCs and perchlorate within the treatment area. Nonetheless, the presence of degradation products cis-1,2-DCE and VC suggests that limited biological degradation is occurring; however, the primary MNA processes reducing concentrations may be abiotic.

The qualitative assessment of geochemical indicators outside the treatment area indicates that the MNA remedy is creating conditions that are only marginally conducive to biological degradation.

3.3 Third Line of Evidence: Microbial Analysis and Predictive Modeling

If the first two lines of evidence for MNA are deemed inadequate or inconclusive, data from the field or microcosm studies will be necessary to establish the third line of evidence for MNA.

3.3.1 Microbial Analysis

Dechlorinating bacteria (DHC and associated functional genes) were analyzed and ranged between 0.4 J (estimated) and 20.4 cell equivalent per milliliter in the treatment area in the third quarter of Year 8 RA-O. DHC results indicate that a microbial culture potentially capable of reductive dechlorination exists in site groundwater, but the populations present throughout Year 7 and the first three quarters of Year 8 were not sufficient to promote significant contaminant degradation. Significant changes in DHC results are not expected given that the conditions are becoming less favorable for reductive dichlorination and there is no remaining mass of TOC > 20 mg/L present. Therefore, DHC analysis will be dropped from the list of analytical parameters for future monitoring.

3.3.2 Predictive Modeling

Calculation of time-based attenuation rates was performed as required by the RAWP (AECOM 2013) and was based on the results of the Mann-Kendall analysis (**Appendix E**). If a statistically significant decreasing trend was determined by the Mann-Kendall analysis and the COC was above the MCL/PCL in April 2022, predictive modeling was conducted. The trends for monitoring wells at LHAAP-50 may be affected by the seasonal fluctuations of groundwater levels. Therefore, although estimates of the time to achieve the MCL/PCL have

been provided in the discussion below, the current trends may not accurately predict the future declines in COC concentrations. The Mann-Kendall analysis indicated decreasing trends in two of the eight wells (50WW05 [2019–2022] and 50WW11 [2019–2022]), as shown in **Table 3-1**, and COCs were above the MCL/PCL in both the wells during the April 2022 sampling event.

At 50WW05 (2019–2022), a probably decreasing trend was observed for TCE and cis-1,2-DCE. To determine the estimated time to achieve the MCL at this well, a time-dependent attenuation rate was calculated and is provided in **Appendix F**. The first order rate constant was determined to be 0.0006 day^{-1} for TCE and 0.0002 day^{-1} for cis-1,2-DCE. The time to achieve the MCL of 5 µg/L for TCE is estimated to be 17.3 years, while the time to achieve the MCL of 70 µg/L for cis-1,2-DCE is estimated to be 10.4 years.

At 50WW11 (2019–2022), a probably decreasing trend was observed for perchlorate, 1,1-DCE, and 1,2-DCA. However, 1,1-DCE and 1,2-DCA were below the MCL in April 2022 and therefore a time-dependent attenuation rate was not calculated for 1,1-DCE and 1,2-DCA. To determine the estimated time to achieve the PCL at this well, a time-dependent attenuation rate for perchlorate was calculated and is provided in **Appendix F**. The first order rate constant was determined to be 0.002 day^{-1} for perchlorate. The time to achieve the PCL of 17 µg/L is estimated to be 5.6 years.

While these calculations provide an estimated time to achieve the MCL/PCL, given lithologic variability and significant seasonal groundwater elevation fluctuations at the site during Years 1 and 2, the time necessary to achieve the MCL/PCL may vary by an order of magnitude or more. Additionally, the rate of reduction could diminish over time as the residual concentrations decrease, and the timeframes to achieve the MCL/PCL may be longer than estimated by these calculations.

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4.0 SUMMARY AND CONCLUSIONS

4.1 Summary

A LUC compliance inspection was conducted in October 2021. No change in land or groundwater use has occurred at the site, and the use of the site is still consistent with that mandated by the ROD.

During the April 2022 well inspections, one bollard at 50WW10 was laying over and needs to be reinstalled and issues were noted with locks at several wells. These issues will be addressed during the October 2022 sampling event. No other damage to bollards, well pads, or protective casings was observed during the 2021/2022 well inspections, and minimal encroachment of weeds or brush on the wells pads was observed.

VOC, perchlorate, and geochemical data were collected for four quarters during the Year 8 RA-O monitoring period at LHAAP-50 to evaluate effectiveness of the ISB remedy. A tiered approach assessing the three lines of evidence was used to evaluate the occurrence of natural attenuation in site groundwater.

TCE and perchlorate are the most widespread COCs in shallow groundwater. An assessment of the first line of evidence shows that both TCE and perchlorate plumes were relatively stable during the Year 8 RA-O monitoring. The plumes are constrained by downgradient well 50WW29, where the COCs were not detected.

In the upgradient portion of the plume, TCE concentrations at 50WW05 (2019–2022) showed a probably decreasing trend while TCE concentrations at 50WW08 (2019–2022) showed a significantly increasing trend, and TCE concentrations at 50WW15 decreased to below the MCL in Year 8 RA-O. During the Year 8 of RA-O sampling, the highest concentration of TCE was observed at 50WW13 in January 2022 at 5,800 µg/L near the center of the plume and decreased to 2,100 µg/L in April 2022. In the downgradient portion of the plume at well 50WW12 (2019–2022), the TCE concentrations show a significant increasing trend; TCE was observed at 280 µg/L in November 2019 and increased to 1,400 µg/L in April 2022.

Perchlorate shows a probably decreasing trend at well 50WW11. Perchlorate concentrations did not indicate a trend at 50WW12, while a stable trend was observed at 50WW13. During the Year 8 RA-O sampling event, the highest perchlorate concentration from the 2013–2022 monitoring period was detected at downgradient well 50WW12 at 141,000 µg/L in April 2022. Monitoring well 50WW29, installed to delineate the plume more tightly in the downgradient direction, contained low perchlorate concentration below PCL in April 2022. This indicates

that the plume is delineated and has not expanded far beyond 50WW12, though the increasing concentrations may indicate downgradient migration is occurring.

A review of the data in individual wells over the course of the monitoring period shows both direct and inverse correlations between groundwater elevations and COC concentrations. The increasing TCE concentrations and the seasonal fluctuations at 50WW12 indicate the plume core may be migrating towards 50WW12 and that a residual mass of perchlorate may be present that is affected by seasonal groundwater elevation fluctuations.

The qualitative assessment of geochemical indicators in the shallow groundwater zone at LHAAP-50 within the treatment area indicates that conditions were initially somewhat conducive to the biological reduction of VOCs and perchlorate within the treatment area during Quarters 2 and 3 during Year 8 RA-O, but the most recent conditions in the fourth quarterly sampling event were not conducive to biological degradation of COCs. The presence of degradation products, cis-1,2-DCE and VC suggest that limited biological degradation is occurring; however, the primary MNA processes reducing concentrations may be abiotic. Outside the treatment area, geochemical indicators indicate that conditions are only marginally conducive to biological degradation of COCs.

Surface water samples to evaluate the performance of soil removal action (soil to surface water pathway) were not collected during the Year 8 RA-O monitoring period based on the recommendations in the Third Annual RA-O Report, which was approved in July 2018 (Bhate 2018a). Sampling of 50SW06 to evaluate potential groundwater to surface water pathway was also not conducted during the Year 8 RA-O because the groundwater elevation was below the bottom of the creek and it was determined that there was no contribution from groundwater to surface water.

DHC results indicate that a microbial culture potentially capable of reductive dechlorination exists in site groundwater, but the populations present were not sufficient to promote significant contaminant degradation. Therefore, DHC will not be included in the list of analytical parameters for future monitoring.

There are no additional proposed changes to the monitoring network for the Year 9 RA-O, and the sampling will be conducted semiannually for the ISB performance wells and annually for the LTM wells, as approved in the Contingency Remedy RD/RAWP (USACE 2019b). The wells are in good condition and do not require additional maintenance during the Year 9 RA-O.

4.2 Conclusion

Based on the second year of RA-O data post ISB injections (Year 8 RA-O), stable and decreasing trends for TCE and perchlorate have been observed in the treatment area except for monitoring wells 50WW08 and 50WW12.

Geochemical parameters (DO, ORP, and TOC) indicated that reducing conditions were present through the second and third quarterly sampling events in the Year 8 RA-O, but the conditions were not favorable for reductive dichlorination during the first and fourth quarter of Year 8 RA-O. While COCs elsewhere within the treatment areas are decreasing, TCE and perchlorate concentrations have shown an overall increase at 50WW12. The increasing TCE concentrations and the seasonal fluctuations at 50WW12 indicate that the core of the plume may be migrating towards 50WW12 and that a residual mass of perchlorate may be present that is affected by seasonal groundwater elevation fluctuations. Semiannual RA-O monitoring will be continued in the third year to evaluate the impact of the ISB remedy and seasonal groundwater fluctuations on VOC and perchlorate concentrations.

Based on the second year of RA-O data post injections, the ISB remedy is not meeting the performance criteria at 50WW12 as outlined in the Contingency Remedy RD/RAWP (USACE 2019b). Additional investigation may be needed in the vicinity of 50WW12 to understand the source of increasing TCE and perchlorate concentrations. If future remedial alternatives are considered, they should also take into account the possibility that the high perchlorate concentrations may be inhibiting the biological degradation of the chlorinated COCs in the vicinity of 50WW12. The MNA remedy outside the treatment area may be reducing contaminant concentrations in some portions of the plume, but this reduction in concentrations is likely to be mostly attributed to abiotic processes. Additionally, increasing contaminant concentrations on the upgradient edge of the plume in the vicinity of 50WW08 indicate that contaminant concentrations are not reducing as expected. If concentrations continue to show a steady increase in the vicinity of 50WW08, additional investigation may be conducted to determine if residual sources are present upgradient.

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Tables

Table 2-1
ISB Performance Monitoring Network Locations and Analyses

		Performance – Years 1 and 2 (Quarterly)								
		Perchlorate (6850)	VOCs (8260C)	DO (field reading)	ORP (field reading)	pH (field reading)	Ferrous Iron (field reading)	Anions (SW9056A)	Ethene, Ethane, Methane, & Carbon Dioxide (RSK-175)	TOC (SM5310B)
50WW08	Upgradient well	✓	✓	✓	✓	✓				
50WW05	Cross-gradient well	✓	✓	✓	✓	✓				
50WW06	Performance data within the plume	✓	✓	✓	✓	✓	✓	✓	✓	✓
50WW11	Performance data within the treatment zone	✓	✓	✓	✓	✓	✓	✓	✓	✓
50WW12	Performance data within the treatment zone	✓	✓	✓	✓	✓	✓	✓	✓	✓
50WW13	Performance data within the treatment zone	✓	✓	✓	✓	✓	✓	✓	✓	✓
50WW14	Performance data within the treatment zone	✓	✓	✓	✓	✓	✓	✓	✓	✓
50WW29	Downgradient well	✓	✓	✓	✓	✓				

Notes:

Anions include chloride, nitrate, and sulfate.

✓ Indicates that sample will be collected and analyzed for the listed analyte.

DO - dissolved oxygen

ISB - in situ bioremediation

ORP - oxygen-reduction potential

TOC - total organic carbon

VOC - volatile organic compound

Table 2-2
RA-O / Long-Term Monitoring Network, LHAAP-50

Well ID	VOCs (8260C)	Perchlorate (6850)	Field Parameters	TOC (SM5310B)	Anions (SW9056A)	Ethene, Ethane, Methane, and Carbon Dioxide (RSK-175)	Ferrous Iron (only field)
Groundwater Sample Locations							
50WW05	X	X	X				
50WW06	X	X	X	X	X	X	X
50WW08	X	X	X				
50WW09	X	X	X				
50WW11	X	X	X	X	X	X	X
50WW12	X	X	X	X	X	X	X
50WW13	X	X	X	X	X	X	X
50WW14	X	X	X	X	X	X	X
50WW15	X	X	X				
50WW16	X	X	X				
50WW18	X	X	X				
50WW22	X	X	X				
50WW23	X	X	X				
50WW29	X	X	X				

Notes:

The RA-O results from the November 2019 sampling event will be used for baseline sampling event.

Field Parameters: DO, ORP, pH, specific conductivity, temperature.

Anions include chloride, nitrate, and sulfate

ID - identifier

DO - dissolved oxygen

ORP - oxidation-reduction potential

RA-O - remedial action operation

TOC - total organic carbon

VOC - volatile organic compound

Table 2-3
Groundwater Elevation Data, LHAAP-50

Monitoring Well	Zone	Date	Ground Surface Elevation (ft MSL)	Top of Casing Elevation (ft MSL)	Top of Screen (ft BTOC)	Bottom of Screen (ft BTOC)	Constructed Well Depth (ft BGS)	Measured Well Depth (ft TOC)	Depth to Water (ft TOC)	Groundwater Elevation (ft MSL)	Screened Interval Siltation (%)
50WW01	UPPER SHALLOW	7/9/2020	195.29	198.50	13.21	23.21	23.21	23.25	18.65	179.85	None
		10/6/2020	195.29	198.50	13.21	23.21	23.21	23.25	19.15	179.35	None
		1/28/2021	195.29	198.50	13.21	23.21	23.21	23.25	18.90	179.60	None
		4/5/2021	195.29	198.50	13.21	23.21	23.21	23.23	17.85	180.65	None
		7/7/2021	195.29	198.50	13.21	23.21	23.21	23.23	17.77	180.73	None
		10/11/2021	195.29	198.50	13.21	23.21	23.21	23.23	19.23	179.27	None
		1/4/2022	195.29	198.50	13.21	23.21	23.21	23.23	19.05	179.45	None
		4/5/2022	195.29	198.50	13.21	23.21	23.21	23.23	19.83	178.67	None
50WW02	UPPER SHALLOW	7/8/2020	197.40	200.74	12.34	22.34	22.34	22.37	DRY	DRY	None
		10/6/2020	197.40	200.74	12.34	22.34	22.34	22.37	DRY	DRY	None
		1/28/2021	197.40	200.74	12.34	22.34	22.34	22.20	DRY	DRY	1.4
		4/5/2021	197.40	200.74	12.34	22.34	22.34	22.20	20.50	180.24	1.4
		7/7/2021	197.40	200.74	12.34	22.34	22.34	22.22	20.09	180.65	1.2
		10/11/2021	197.40	200.74	12.34	22.34	22.34	22.22	21.49	179.25	1.2
		1/4/2022	197.40	200.74	12.34	22.34	22.34	22.25	21.70	179.04	0.9
		4/5/2022	197.40	200.74	12.34	22.34	22.34	22.21	21.32	179.42	1.3
50WW03	UPPER SHALLOW	7/8/2020	199.88	202.94	13.06	23.06	23.06	23.20	DRY	DRY	None
		10/6/2020	199.88	202.94	13.06	23.06	23.06	23.20	DRY	DRY	None
		1/28/2021	199.88	202.94	13.06	23.06	23.06	22.98	DRY	DRY	0.8
		4/5/2021	199.88	202.94	13.06	23.06	23.06	23.00	21.45	181.49	0.6
		7/7/2021	199.88	202.94	13.06	23.06	23.06	23.04	20.85	182.09	0.2
		10/11/2021	199.88	202.94	13.06	23.06	23.06	23.00	21.84	181.10	0.6
		1/4/2022	199.88	202.94	13.06	23.06	23.06	23.00	22.00	180.94	0.6
		4/5/2022	199.88	202.94	13.06	23.06	23.06	23.01	21.84	181.10	0.5
50WW04	UPPER SHALLOW	7/8/2020	201.64	204.51	12.87	22.87	22.87	23.20	DRY	DRY	None
		10/6/2020	201.64	204.51	12.87	22.87	22.87	23.20	DRY	DRY	None
		1/28/2021	201.64	204.51	12.87	22.87	22.87	23.20	DRY	DRY	None
		4/5/2021	201.64	204.51	12.87	22.87	22.87	23.22	DRY	DRY	None
		7/7/2021	201.64	204.51	12.87	22.87	22.87	23.18	22.95	181.56	None
		10/11/2021	201.64	204.51	12.87	22.87	22.87	23.16	DRY	DRY	None
		1/4/2022	201.64	204.51	12.87	22.87	22.87	23.17	DRY	DRY	None
		4/5/2022	201.64	204.51	12.87	22.87	22.87	23.18	23.01	181.50	None
50WW05	UPPER SHALLOW	7/8/2020	195.2	197.60	14.34	24.34	25.34	25.35	18.60	179.08	None
		10/1/2020	195.2	197.60	14.34	24.34	25.34	25.30	19.00	178.60	None
		1/25/2021	195.2	197.60	14.34	24.34	25.34	25.31	18.33	179.27	None
		4/5/2021	195.2	197.60	14.34	24.34	25.34	25.31	17.95	179.65	None
		7/7/2021	195.2	197.60	14.34	24.34	25.34	25.32	17.12	180.48	None
		10/7/2021	195.2	197.60	14.34	24.34	25.34	25.30	18.87	178.73	None
		1/5/2022	195.2	197.60	14.34	24.34	25.34	25.30	18.80	178.80	None
		4/5/2022	195.2	197.60	14.34	24.34	25.34	25.31	18.35	179.25	None

Table 2-3
Groundwater Elevation Data, LHAAP-50

Monitoring Well	Zone	Date	Ground Surface Elevation (ft MSL)	Top of Casing Elevation (ft MSL)	Top of Screen (ft BTOC)	Bottom of Screen (ft BTOC)	Constructed Well Depth (ft BGS)	Measured Well Depth (ft TOC)	Depth to Water (ft TOC)	Groundwater Elevation (ft MSL)	Screened Interval Siltation (%)
50WW06	LOWER SHALLOW	7/9/2020	192.99	195.35	47.35	57.35	60.35	58.00	12.62	182.73	None
		10/1/2020	192.99	195.35	47.35	57.35	60.35	58.05	17.05	178.30	None
		1/28/2021	192.99	195.35	47.35	57.35	60.35	58.10	13.50	181.85	None
		4/6/2021	192.99	195.35	47.35	57.35	60.35	58.11	12.44	182.91	None
		7/8/2021	192.99	195.35	47.35	57.35	60.35	58.02	15.17	180.18	None
		10/7/2021	192.99	195.35	47.35	57.35	60.35	58.02	16.62	178.73	None
		1/6/2022	192.99	195.35	47.35	57.35	60.35	58.10	16.87	178.48	None
		4/6/2022	192.99	195.35	47.35	57.35	60.35	58.06	16.31	179.04	None
50WW07	UPPER SHALLOW	7/9/2020	199.88	202.55	21.67	31.67	31.67	31.81	24.12	178.43	None
		10/6/2020	199.88	202.55	21.67	31.67	31.67	31.81	24.20	178.35	None
		1/28/2021	199.88	202.55	21.67	31.67	31.67	31.81	23.97	178.58	None
		4/5/2021	199.88	202.55	21.67	31.67	31.67	31.82	23.68	178.87	None
		7/7/2021	199.88	202.55	21.67	31.67	31.67	31.80	22.97	179.58	None
		10/11/2021	199.88	202.55	21.67	31.67	31.67	31.80	24.05	178.50	None
		1/4/2022	199.88	202.55	21.67	31.67	31.67	31.57	23.95	178.60	1.0
		4/5/2022	199.88	202.55	21.67	31.67	31.67	31.82	23.86	178.69	None
50WW08	UPPER SHALLOW	7/8/2020	197.16	199.67	17.11	31.71	32.26	32.71	20.50	179.17	None
		10/5/2020	197.16	199.67	17.11	31.71	32.26	32.72	20.98	178.69	None
		1/25/2021	197.16	199.67	17.11	31.71	32.26	32.73	20.35	179.32	None
		4/5/2021	197.16	199.67	17.11	31.71	32.26	32.72	19.64	180.03	None
		7/7/2021	197.16	199.67	17.11	31.71	32.26	32.75	19.10	180.57	None
		10/11/2021	197.16	199.67	17.11	31.71	32.26	32.72	20.67	179.00	None
		1/5/2022	197.16	199.67	17.11	31.71	32.26	32.71	20.73	178.94	None
		4/6/2022	197.16	199.67	17.11	31.71	32.26	32.74	20.44	179.23	None
50WW09	LOWER SHALLOW	7/8/2020	197.06	199.41	46.75	61.25	61.85	62.42	20.05	179.36	None
		10/5/2020	197.06	199.41	46.75	61.25	61.85	62.42	20.75	178.66	None
		1/28/2021	197.06	199.41	46.75	61.25	61.85	62.42	21.57	177.84	None
		4/5/2021	197.06	199.41	46.75	61.25	61.85	62.42	19.47	179.94	None
		7/7/2021	197.06	199.41	46.75	61.25	61.85	62.47	18.89	180.52	None
		10/11/2021	197.06	199.41	46.75	61.25	61.85	62.40	20.39	179.02	None
		1/4/2022	197.06	199.41	46.75	61.25	61.85	62.42	20.52	178.89	None
		4/5/2022	197.06	199.41	46.75	61.25	61.85	62.45	20.29	179.12	None
50WW10	INTERMEDIATE	7/8/2020	196.72	199.25	101.43	110.93	111.53	111.25	20.37	178.88	None
		10/6/2020	196.72	199.25	101.43	110.93	111.53	111.23	23.38	175.87	None
		1/28/2021	196.72	199.25	101.43	110.93	111.53	111.25	22.95	176.30	None
		4/5/2021	196.72	199.25	101.43	110.93	111.53	111.37	22.55	176.70	None
		7/7/2021	196.72	199.25	101.43	110.93	111.53	111.26	22.61	176.64	None
		10/11/2021	196.72	199.25	101.43	110.93	111.53	111.25	20.77	178.48	None
		1/4/2022	196.72	199.25	101.43	110.93	111.53	111.25	23.03	176.22	None
		4/5/2022	196.72	199.25	101.43	110.93	111.53	111.06	22.68	176.57	None

Table 2-3
Groundwater Elevation Data, LHAAP-50

Monitoring Well	Zone	Date	Ground Surface Elevation (ft MSL)	Top of Casing Elevation (ft MSL)	Top of Screen (ft BTOC)	Bottom of Screen (ft BTOC)	Constructed Well Depth (ft BGS)	Measured Well Depth (ft TOC)	Depth to Water (ft TOC)	Groundwater Elevation (ft MSL)	Screened Interval Siltation (%)
50WW11	UPPER SHALLOW	7/9/2020	194.72	197.07	22.55	37.05	37.65	37.78	17.98	179.09	None
		10/1/2020	194.72	197.07	22.55	37.05	37.65	37.80	18.55	178.52	None
		1/28/2021	194.72	197.07	22.55	37.05	37.65	37.80	18.33	178.74	None
		4/6/2021	194.72	197.07	22.55	37.05	37.65	37.80	17.21	179.86	None
		7/8/2021	194.72	197.07	22.55	37.05	37.65	37.79	16.77	180.30	None
		10/7/2021	194.72	197.07	22.55	37.05	37.65	37.80	18.22	178.85	None
		1/6/2022	194.72	197.07	22.55	37.05	37.65	37.77	18.42	178.65	None
		4/6/2022	194.72	197.07	22.55	37.05	37.65	37.78	18.11	178.96	None
50WW12	UPPER SHALLOW	7/9/2020	193.26	195.66	22.50	37.00	37.60	37.92	17.00	178.66	None
		10/1/2020	193.26	195.66	22.50	37.00	37.60	37.92	17.53	178.13	None
		1/28/2021	193.26	195.66	22.50	37.00	37.60	37.92	17.28	178.38	None
		4/6/2021	193.26	195.66	22.50	37.00	37.60	37.84	16.20	179.46	None
		7/8/2021	193.26	195.66	22.50	37.00	37.60	37.91	15.88	179.78	None
		10/7/2021	193.26	195.66	22.50	37.00	37.60	37.91	17.15	178.51	None
		1/6/2022	193.26	195.66	22.50	37.00	37.60	37.90	17.33	178.33	None
		4/6/2022	193.26	195.66	22.50	37.00	37.60	37.92	16.90	178.76	None
50WW13	UPPER SHALLOW	7/9/2020	195.01	197.45	22.44	36.94	37.54	37.65	19.35	178.10	None
		10/1/2020	195.01	197.45	22.44	36.94	37.54	37.63	18.95	178.50	None
		1/28/2021	195.01	197.45	22.44	36.94	37.54	37.65	18.75	178.70	None
		4/6/2021	195.01	197.45	22.44	36.94	37.54	37.65	17.65	179.80	None
		7/8/2021	195.01	197.45	22.44	36.94	37.54	37.63	17.13	180.32	None
		10/7/2021	195.01	197.45	22.44	36.94	37.54	37.60	18.46	178.99	None
		1/6/2022	195.01	197.45	22.44	36.94	37.54	37.60	18.69	178.76	None
		4/6/2022	195.01	197.45	22.44	36.94	37.54	37.62	18.39	179.06	None
50WW14	LOWER SHALLOW	7/9/2020	195.14	197.52	45.78	60.28	60.88	60.70	18.38	179.14	None
		10/1/2020	195.14	197.52	45.78	60.28	60.88	60.70	19.04	178.48	None
		1/28/2021	195.14	197.52	45.78	60.28	60.88	60.67	18.88	178.64	None
		4/6/2021	195.14	197.52	45.78	60.28	60.88	59.95	17.82	179.70	2.3
		7/8/2021	195.14	197.52	45.78	60.28	60.88	59.70	17.38	180.14	4.0
		10/7/2021	195.14	197.52	45.78	60.28	60.88	60.70	18.74	178.78	None
		1/6/2022	195.14	197.52	45.78	60.28	60.88	59.70	18.87	178.65	4.0
		4/6/2022	195.14	197.52	45.78	60.28	60.88	60.66	18.65	178.87	None
50WW15	UPPER SHALLOW	7/8/2020	193.95	196.30	22.25	36.75	37.35	37.90	17.00	179.30	None
		10/5/2020	193.95	196.30	22.25	36.75	37.35	37.88	17.63	178.67	None
		1/28/2021	193.95	196.30	22.25	36.75	37.35	37.90	17.33	178.97	None
		4/5/2021	193.95	196.30	22.25	36.75	37.35	37.90	16.34	179.96	None
		7/7/2021	193.95	196.30	22.25	36.75	37.35	37.88	15.80	180.50	None
		10/11/2021	193.95	196.30	22.25	36.75	37.35	37.85	17.47	178.83	None
		1/4/2022	193.95	196.30	22.25	36.75	37.35	37.65	17.42	178.88	None
		4/5/2022	193.95	196.30	22.25	36.75	37.35	37.88	17.21	179.09	None

Table 2-3
Groundwater Elevation Data, LHAAP-50

Monitoring Well	Zone	Date	Ground Surface Elevation (ft MSL)	Top of Casing Elevation (ft MSL)	Top of Screen (ft BTOC)	Bottom of Screen (ft BTOC)	Constructed Well Depth (ft BGS)	Measured Well Depth (ft TOC)	Depth to Water (ft TOC)	Groundwater Elevation (ft MSL)	Screened Interval Siltation (%)
50WW16	UPPER SHALLOW	7/9/2020	194.1	196.66	22.66	37.16	37.76	37.90	17.63	179.03	None
		10/5/2020	194.1	196.66	22.66	37.16	37.76	38.04	18.50	178.16	None
		1/28/2021	194.1	196.66	22.66	37.16	37.76	38.04	18.29	178.37	None
		4/5/2021	194.1	196.66	22.66	37.16	37.76	38.02	16.95	179.71	None
		7/7/2021	194.1	196.66	22.66	37.16	37.76	37.45	16.69	179.97	None
		10/11/2021	194.1	196.66	22.66	37.16	37.76	37.90	18.19	178.47	None
		1/4/2022	194.1	196.66	22.66	37.16	37.76	38.05	18.27	178.39	None
		4/5/2022	194.1	196.66	22.66	37.16	37.76	38.02	17.98	178.68	None
50WW17	SHALLOW	7/9/2020	192.73	195.13	22.30	66.80	67.40	64.63	17.07	178.06	4.9
		10/6/2020	192.73	195.13	22.30	66.80	67.40	64.63	17.48	177.65	4.9
		1/28/2021	192.73	195.13	22.30	66.80	67.40	64.63	17.17	177.96	4.9
		4/5/2021	192.73	195.13	22.30	66.80	67.40	64.55	16.50	178.63	5.1
		7/7/2021	192.73	195.13	22.30	66.80	67.40	66.27	16.88	178.25	1.2
		10/11/2021	192.73	195.13	22.30	66.80	67.40	64.68	17.25	177.88	4.8
		1/4/2022	192.73	195.13	22.30	66.80	67.40	64.38	17.38	177.75	5.4
		4/5/2022	192.73	195.13	22.30	66.80	67.40	64.41	17.19	177.94	5.4
50WW18	UPPER SHALLOW	7/9/2020	192.57	194.84	22.37	36.87	37.47	37.65	16.88	177.96	None
		10/5/2020	192.57	194.84	22.37	36.87	37.47	37.65	17.21	177.63	None
		1/28/2021	192.57	194.84	22.37	36.87	37.47	37.65	16.95	177.89	None
		4/5/2021	192.57	194.84	22.37	36.87	37.47	37.44	17.21	177.63	None
		7/7/2021	192.57	194.84	22.37	36.87	37.47	37.03	17.29	177.55	None
		10/11/2021	192.57	194.84	22.37	36.87	37.47	37.63	17.02	177.82	None
		1/4/2022	192.57	194.84	22.37	36.87	37.47	37.63	17.15	177.69	None
		4/5/2022	192.57	194.84	22.37	36.87	37.47	37.52	16.94	177.90	None
50WW19	SHALLOW	7/9/2020	193.71	195.96	21.35	65.85	66.45	64.90	17.75	178.21	2.1
		10/6/2020	193.71	195.96	21.35	65.85	66.45	64.88	18.11	177.85	2.2
		1/28/2021	193.71	195.96	21.35	65.85	66.45	64.88	17.87	178.09	2.2
		4/5/2021	193.71	195.96	21.35	65.85	66.45	65.00	17.10	178.86	1.9
		7/7/2021	193.71	195.96	21.35	65.85	66.45	65.00	16.71	179.25	1.9
		10/11/2021	193.71	195.96	21.35	65.85	66.45	64.90	17.77	178.19	2.1
		1/4/2022	193.71	195.96	21.35	65.85	66.45	65.00	17.97	177.99	1.9
		4/5/2022	193.71	195.96	21.35	65.85	66.45	64.81	17.80	178.16	2.3
50WW20	SHALLOW	7/8/2020	200.3	202.54	20.54	55.04	55.54	57.80	23.42	179.12	None
		10/6/2020	200.3	202.54	20.54	55.04	55.54	57.80	23.83	178.71	None
		1/28/2021	200.3	202.54	20.54	55.04	55.54	55.83	23.80	178.74	None
		4/5/2021	200.3	202.54	20.54	55.04	55.54	55.84	23.00	179.54	None
		7/7/2021	200.3	202.54	20.54	55.04	55.54	55.85	21.41	181.13	None
		10/11/2021	200.3	202.54	20.54	55.04	55.54	55.78	23.45	179.09	None
		1/4/2022	200.3	202.54	20.54	55.04	55.54	55.80	23.48	179.06	None
		4/5/2022	200.3	202.54	20.54	55.04	55.54	55.84	23.34	179.20	None

Table 2-3
Groundwater Elevation Data, LHAAP-50

Monitoring Well	Zone	Date	Ground Surface Elevation (ft MSL)	Top of Casing Elevation (ft MSL)	Top of Screen (ft BTOC)	Bottom of Screen (ft BTOC)	Constructed Well Depth (ft BGS)	Measured Well Depth (ft TOC)	Depth to Water (ft TOC)	Groundwater Elevation (ft MSL)	Screened Interval Siltation (%)
50WW21	UPPER SHALLOW	7/8/2020	197.68	200.14	22.36	36.86	37.46	37.67	21.17	178.97	None
		10/6/2020	197.68	200.14	22.36	36.86	37.46	37.67	21.60	178.54	None
		1/28/2021	197.68	200.14	22.36	36.86	37.46	37.63	21.70	178.44	None
		4/5/2021	197.68	200.14	22.36	36.86	37.46	37.65	20.51	179.63	None
		7/7/2021	197.68	200.14	22.36	36.86	37.46	37.64	20.03	180.11	None
		10/11/2021	197.68	200.14	22.36	36.86	37.46	37.62	21.20	178.94	None
		1/4/2022	197.68	200.14	22.36	36.86	37.46	37.62	21.35	178.79	None
		4/5/2022	197.68	200.14	22.36	36.86	37.46	37.61	21.28	178.86	None
50WW22	UPPER SHALLOW	7/8/2020	199.93	202.10	21.97	36.57	37.17	37.82	23.03	179.07	None
		10/5/2020	199.93	202.10	21.97	36.57	37.17	37.82	23.42	178.68	None
		1/28/2021	199.93	202.10	21.97	36.57	37.17	37.80	23.22	178.88	None
		4/5/2021	199.93	202.10	21.97	36.57	37.17	37.80	22.25	179.85	None
		7/7/2021	199.93	202.10	21.97	36.57	37.17	37.82	21.72	180.38	None
		10/11/2021	199.93	202.10	21.97	36.57	37.17	37.79	22.90	179.20	None
		1/4/2022	199.93	202.10	21.97	36.57	37.17	37.79	23.10	179.00	None
		4/5/2022	199.93	202.10	21.97	36.57	37.17	37.78	22.98	179.12	None
50WW23	UPPER SHALLOW	7/8/2020	198.33	200.75	22.42	36.92	37.52	37.82	22.00	178.75	None
		10/5/2020	198.33	200.75	22.42	36.92	37.52	37.82	22.30	178.45	None
		1/28/2021	198.33	200.75	22.42	36.92	37.52	37.82	22.24	178.51	None
		4/5/2021	198.33	200.75	22.42	36.92	37.52	37.84	21.45	179.30	None
		7/7/2021	198.33	200.75	22.42	36.92	37.52	37.82	20.87	179.88	None
		10/11/2021	198.33	200.75	22.42	36.92	37.52	37.79	21.88	178.87	None
		1/4/2022	198.33	200.75	22.42	36.92	37.52	37.81	22.05	178.70	None
		4/5/2022	198.33	200.75	22.42	36.92	37.52	37.82	21.93	178.82	None
50WW24	UPPER SHALLOW	7/8/2020	199.37	201.63	22.66	37.16	37.76	38.02	22.92	178.71	None
		10/6/2020	199.37	201.63	22.66	37.16	37.76	38.00	23.05	178.58	None
		1/28/2021	199.37	201.63	22.66	37.16	37.76	37.96	23.07	178.56	None
		4/5/2021	199.37	201.63	22.66	37.16	37.76	38.02	22.48	179.15	None
		7/7/2021	199.37	201.63	22.66	37.16	37.76	38.02	22.83	178.80	None
		10/11/2021	199.37	201.63	22.66	37.16	37.76	37.97	22.80	178.83	None
		1/4/2022	199.37	201.63	22.66	37.16	37.76	37.97	22.95	178.68	None
		4/5/2022	199.37	201.63	22.66	37.16	37.76	38.01	22.82	178.81	None
50WW25	LOWER SHALLOW	7/9/2020	193.48	195.98	47.50	56.90	57.50	57.81	16.91	179.07	None
		10/6/2020	193.48	195.98	47.50	56.90	57.50	57.80	17.67	178.31	None
		1/28/2021	193.48	195.98	47.50	56.90	57.50	57.80	17.39	178.59	None
		4/5/2021	193.48	195.98	47.50	56.90	57.50	57.82	16.13	179.85	None
		7/7/2021	193.48	195.98	47.50	56.90	57.50	56.67	17.73	178.25	2.4
		10/11/2021	193.48	195.98	47.50	56.90	57.50	57.82	17.70	178.28	None
		1/4/2022	193.48	195.98	47.50	56.90	57.50	57.80	17.62	178.36	None
		4/5/2022	193.48	195.98	47.50	56.90	57.50	57.81	17.28	178.70	None

Table 2-3
Groundwater Elevation Data, LHAAP-50

Monitoring Well	Zone	Date	Ground Surface Elevation (ft MSL)	Top of Casing Elevation (ft MSL)	Top of Screen (ft BTOC)	Bottom of Screen (ft BTOC)	Constructed Well Depth (ft BGS)	Measured Well Depth (ft TOC)	Depth to Water (ft TOC)	Groundwater Elevation (ft MSL)	Screened Interval Siltation (%)
50WW26	LOWER SHALLOW	7/8/2020	197.68	200.07	47.49	61.99	62.59	62.80	21.25	178.82	None
		10/6/2020	197.68	200.07	47.49	61.99	62.59	62.80	21.31	178.76	None
		1/28/2021	197.68	200.07	47.49	61.99	62.59	62.77	22.57	177.50	None
		4/5/2021	197.68	200.07	47.49	61.99	62.59	62.85	20.55	179.52	None
		7/7/2021	197.68	200.07	47.49	61.99	62.59	62.80	20.00	180.07	None
		10/11/2021	197.68	200.07	47.49	61.99	62.59	62.80	21.15	178.92	None
		1/4/2022	197.68	200.07	47.49	61.99	62.59	62.83	21.31	178.76	None
		4/5/2022	197.68	200.07	47.49	61.99	62.59	62.71	21.21	178.86	None
50WW27	LOWER SHALLOW	7/8/2020	193.84	196.22	45.28	59.78	60.38	59.95	16.91	179.31	None
		10/6/2020	193.84	196.22	45.28	59.78	60.38	59.93	17.57	178.65	None
		1/28/2021	193.84	196.22	45.28	59.78	60.38	59.94	17.05	179.17	None
		4/5/2021	193.84	196.22	45.28	59.78	60.38	59.93	16.35	179.87	None
		7/7/2021	193.84	196.22	45.28	59.78	60.38	59.95	15.73	180.49	None
		10/11/2021	193.84	196.22	45.28	59.78	60.38	59.92	17.70	178.52	None
		1/4/2022	193.84	196.22	45.28	59.78	60.38	59.93	17.40	178.82	None
		4/5/2022	193.84	196.22	45.28	59.78	60.38	60.01	17.18	179.04	None
50WW28	UPPER SHALLOW	7/28/2020	192.04	194.71	16.57	26.57	26.97	27.10	16.03	178.68	None
		10/6/2020	192.04	194.71	16.57	26.57	26.97	27.10	16.72	177.99	None
		1/28/2021	192.04	194.71	16.57	26.57	26.97	27.10	16.49	178.22	None
		4/5/2021	192.04	194.71	16.57	26.57	26.97	27.10	15.31	179.40	None
		7/7/2021	192.04	194.71	16.57	26.57	26.97	27.05	13.31	181.40	None
		10/11/2021	192.04	194.71	16.57	26.57	26.97	27.08	16.52	178.19	None
		1/4/2022	192.04	194.71	16.57	26.57	26.97	27.09	16.65	178.06	None
		4/5/2022	192.04	194.71	16.57	26.57	26.97	27.29	16.45	178.26	None
50WW29		7/8/2020	192.18	195.63	23.45	38.45	38.45	37.90	17.69	177.94	3.7
		10/1/2020	192.18	195.63	23.45	38.45	38.45	38.10	18.03	177.60	2.3
		1/25/2021	192.18	195.63	23.45	38.45	38.45	38.10	17.18	178.45	2.3
		4/5/2021	192.18	195.63	23.45	38.45	38.45	37.90	16.93	178.70	3.7
		7/7/2021	192.18	195.63	23.45	38.45	38.45	38.10	16.27	179.36	2.3
		10/7/2021	192.18	195.63	23.45	38.45	38.45	38.09	17.75	177.88	2.4
		1/4/2022	192.18	195.63	23.45	38.45	38.45	37.90	17.75	177.88	3.7
		4/5/2022	192.18	195.63	23.45	38.45	38.45	37.91	17.16	178.47	3.6

Notes:
% - percentage
ft BGS - feet below ground surface
ft BTOC - feet below top of casing
ft MSL - feet below mean sea level
ft TOC - feet below top of casing

Table 2-4
Year 1 and Year 2 RA-O Analytical Results, LHAAP-50

			Location Code	50WW05 (Upper Shallow)																
			Sample ID	50WW05-191108		50WW05-200708		50WW05-201001		50WW05-210125		50WW05-210405		50WW05-210707		50WW05-211007		50WW05-220105		50WW05-220405	
			Sample Date	11/8/2019		7/8/2020		10/1/2020		1/25/2021		4/5/2021		7/7/2021		10/7/2021		1/5/2022		4/5/2022	
			Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG		REG	
Analyte	Units	MCL/PCL		Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
DHC																					
Dehalococcoides	cells/mL	NV		NA		NA		NA		NA		NA		NA		NA		NA		NA	
FIELD TESTS																					
Dissolved oxygen	mg/L	NV		0.02		0.12		0.37		0.05		0.32		0.76		0.34		0.95		0.3	
Ferrous Iron	NA	NV		NM		NM		NM		NM		NM		NM		NM		NM		NM	
Oxidation Reduction Potential	mV	NV		58		99		105		94		159		102		120		195		183	
pH	pH_units	NV		6.75		7.07		6.71		7.02		6.78		6.30		6.06		5.79		6.27	
Specific conductivity	µmhos/cm	NV		1.15		1.45		1.44		1.75		1.60		1.79		0.779		1.54		1.4	
Temperature	deg. C	NV		16.78		21.76		20.30		19.52		17.50		19.03		23.18		17.74		21.41	
Turbidity	NTU	NV		0.7		0		0		0		0.2		3.3		0		0		10	
DISSOLVED GASES																					
Carbon dioxide	µg/L	NV		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethane	µg/L	NV		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethylene	µg/L	NV		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Methane	µg/L	NV		NA		NA		NA		NA		NA		NA		NA		NA		NA	
GENERAL CHEMISTRY																					
Chloride	mg/L	NV		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrate	mg/L	NV		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Sulfate	mg/L	NV		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Total organic carbon	mg/L	NV		NA		NA		NA		NA		NA		NA		NA		NA		NA	
PERCHLORATE																					
Perchlorate	µg/L	17		< 2	U	3.08		0.621		< 0.05	U	< 0.05	U	0.059	J	0.252	J	< 0.2	U	< 0.05	U
VOLATILES																					
1,1,1,2-Tetrachloroethane	µg/L	NV		< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
1,1,1-Trichloroethane	µg/L	NV		< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
1,1,2,2-Tetrachloroethane	µg/L	NV		< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
1,1,2-Trichloro-1,2,2-Trifluoroethane	µg/L	NV		< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
1,1,2-Trichloroethane	µg/L	NV		< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
1,1-Dichloroethane	µg/L	NV		0.41	J	NA		NA		NA		NA		NA		NA		NA		NA	
1,1-Dichloroethene	µg/L	7		4.8		4.9		7		4.4		4.7		3.6		4.8		2.3		3.6	
1,1-Dichloropropene	µg/L	NV		< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
1,2,3-Trichlorobenzene	µg/L	NV		< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
1,2,3-Trichloropropane	µg/L	NV		< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
1,2,4-Trichlorobenzene	µg/L	NV		< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
1,2,4-Trimethylbenzene	µg/L	NV		< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
1,2-Dibromo-3-chloropropane	µg/L	NV		< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
1,2-Dibromoethane	µg/L	NV		< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
1,2-Dichlorobenzene	µg/L	NV		< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
1,2-Dichloroethane	µg/L	5		2.7		2.4		3.1		2		1.6		< 0.5	U	2.6		2.1		1.9	
1,2-Dichloropropane	µg/L	NV		< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
1,3,5-Trimethylbenzene	µg/L	NV		< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
1,3-Dichlorobenzene	µg/L	NV		< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
1,3-Dichloropropane	µg/L	NV		< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
1,4-Dichlorobenzene	µg/L	NV		< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
2,2-Dichloropropane	µg/L	NV		< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
2-Butanone	µg/L	NV		< 1	U	NA		NA		NA		NA		NA		NA		NA		NA	
2-Chlorotoluene	µg/L	NV		< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
2-Hexanone	µg/L	NV		< 1	U	NA		NA		NA		NA		NA		NA		NA		NA	
4-Chlorotoluene	µg/L	NV		< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
Acetone	µg/L	NV		< 2	U	NA		NA		NA		NA		NA		NA		NA		NA	

Table 2-4
Year 1 and Year 2 RA-O Analytical Results, LHAAP-50

			Location Code	50WW05 (Upper Shallow)																
			Sample ID	50WW05-191108		50WW05-200708		50WW05-201001		50WW05-210125		50WW05-210405		50WW05-210707		50WW05-211007		50WW05-220105		50WW05-220405	
			Sample Date	11/8/2019		7/8/2020		10/1/2020		1/25/2021		4/5/2021		7/7/2021		10/7/2021		1/5/2022		4/5/2022	
			Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG		REG	
Analyte	Units	MCL/PCL		Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Benzene	µg/L	NV		< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
Bromobenzene	µg/L	NV		< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
Bromochloromethane	µg/L	NV		< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
Bromodichloromethane	µg/L	NV		< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
Bromoform	µg/L	NV		< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
Bromomethane	µg/L	NV		< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
Carbon disulfide	µg/L	NV		< 1	U	NA		NA		NA		NA		NA		NA		NA		NA	
Carbon tetrachloride	µg/L	NV		< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
Chlorobenzene	µg/L	NV		< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
Chloroethane	µg/L	NV		< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
Chloroform	µg/L	NV		< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
Chloromethane	µg/L	NV		< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
cis-1,2-Dichloroethene	µg/L	70		200		250		280		160		140		130		170		150		150	
cis-1,3-Dichloropropene	µg/L	NV		< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
Dibromochloromethane	µg/L	NV		< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
Dibromomethane	µg/L	NV		< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
Dichlorodifluoromethane	µg/L	NV		< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
Ethylbenzene	µg/L	NV		< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
Hexachlorobutadiene	µg/L	NV		< 1	U	NA		NA		NA		NA		NA		NA		NA		NA	
Isopropylbenzene	µg/L	NV		< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
m,p-Xylenes	µg/L	NV		< 1	U	NA		NA		NA		NA		NA		NA		NA		NA	
Methyl isobutyl ketone	µg/L	NV		< 1	U	NA		NA		NA		NA		NA		NA		NA		NA	
Methylene chloride	µg/L	NV		< 1	U	NA		NA		NA		NA		NA		NA		NA		NA	
Naphthalene	µg/L	NV		< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
n-Butylbenzene	µg/L	NV		< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
n-Propylbenzene	µg/L	NV		< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
o-Xylene	µg/L	NV		< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
p-Isopropyltoluene	µg/L	NV		< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
sec-Butylbenzene	µg/L	NV		< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
Styrene	µg/L	NV		< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
tert-Butylbenzene	µg/L	NV		< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
Tetrachloroethene	µg/L	5		1.2		< 1	U	0.75	J	0.86	J	< 1	U	0.61	J	0.89	J	< 1		0.67	J
Toluene	µg/L	NV		< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
trans-1,2-Dichloroethene	µg/L	NV		< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
trans-1,3-Dichloropropene	µg/L	NV		< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
Trichloroethene	µg/L	5		290		280		370		270		240		350		290		200		220	
Trichlorofluoromethane	µg/L	NV		< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
Vinyl chloride	µg/L	2		< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5		< 0.5	U

Table 2-4
Year 1 and Year 2 RA-O Analytical Results, LHAAP-50

			Location Code	50WW06 (Lower Shallow)																	
			Sample ID	50WW06-191112		50WW06-200709		50WW06-201001		50WW06-210128		50WW06-210406		50WW06-210708		50WW06-211007		50WW06-220106		50WW06-220406	
			Sample Date	11/12/2019		7/9/2020		10/1/2020		1/28/2021		4/6/2021		7/8/2021		10/7/2021		1/6/2022		4/6/2022	
			Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG		REG	
Analyte	Units	MCL/PCL		Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
DHC																					
Dehalococcoides	cells/mL	NV		NA		< 1.2	U	0.2	J	0.6		0.4	J	1		2		0.7		NA	
FIELD TESTS																					
Dissolved oxygen	mg/L	NV		0.04		2.42		0.06		0.09		1.39		0.91		0.19		0.44		5.4	
Ferrous Iron	NA	NV		0.36		0.25		NM		1.11		0.45		0.39		2.35		3.77		0.08	
Oxidation Reduction Potential	mV	NV		158		257		95		107		263		148		29		228		187	
pH	pH_units	NV		6.45		5.60		6.31		5.67		5.04		6.59		4.84		3.72		6.2	
Specific conductivity	µmhos/cm	NV		0.505		0.086		0.385		0.130		0.076		0.235		0.184		0.518		0.121	
Temperature	deg. C	NV		15.70		23.42		19.27		12.00		16.62		19.93		19.00		16.77		19.62	
Turbidity	NTU	NV		53.7		3.8		0		2.9		5.9		10.9		4.3		20.2		9	
DISSOLVED GASES																					
Carbon dioxide	µg/L	NV		120,000		98,000		93,000		45,000	J	88,000	J	170,000	J	541,000	J	44,500		36,400	J
Ethane	µg/L	NV		< 0.47	U	< 0.47	U	< 0.47	U	< 0.47	U	< 0.47	U	< 0.47	U	< 2	UJ	< 0.5	U	2.09	
Ethylene	µg/L	NV		< 0.55	U	< 0.55	U	< 0.55	U	< 0.55	U	< 0.55	U	< 0.55	U	< 1	UJ	0.992	J	< 0.5	U
Methane	µg/L	NV		1.1	J	2.1		3.8		< 1	U	2.6		0.68	J	7.3	J	27.6	J	3.1	
GENERAL CHEMISTRY																					
Chloride	mg/L	NV		84.1		3.25		41.8		3.06		3.42		3.31		42.6		69.2		10.4	
Nitrate	mg/L	NV		< 0.1	U	< 0.1	U	< 0.1	U	0.212		< 0.1	U	0.11	UB	< 0.1	U	0.0881	J	0.46	
Sulfate	mg/L	NV		20.8		8.12		17.9		8.29		10.9		13.4		22.9		30.4		11.8	
Total organic carbon	mg/L	NV		1.63		9.31	J	6.09		1.55		1.57		2.23		5.32		7.96		1.61	
PERCHLORATE																					
Perchlorate	µg/L	17		4,300		1.69		1,660		2.78		0.032	J	1.89	J	15.1	J	0.39		24.7	
VOLATILES																					
1,1,1,2-Tetrachloroethane	µg/L	NV		< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
1,1,1-Trichloroethane	µg/L	NV		< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
1,1,2,2-Tetrachloroethane	µg/L	NV		< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
1,1,2-Trichloro-1,2,2-Trifluoroethane	µg/L	NV		< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
1,1,2-Trichloroethane	µg/L	NV		< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
1,1-Dichloroethane	µg/L	NV		< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
1,1-Dichloroethene	µg/L	7		< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5		< 0.5	U
1,1-Dichloropropene	µg/L	NV		< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
1,2,3-Trichlorobenzene	µg/L	NV		< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
1,2,3-Trichloropropane	µg/L	NV		< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
1,2,4-Trichlorobenzene	µg/L	NV		< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
1,2,4-Trimethylbenzene	µg/L	NV		< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
1,2-Dibromo-3-chloropropane	µg/L	NV		< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
1,2-Dibromoethane	µg/L	NV		< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
1,2-Dichlorobenzene	µg/L	NV		< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
1,2-Dichloroethane	µg/L	5		< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5		< 0.5	U
1,2-Dichloropropane	µg/L	NV		< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
1,3,5-Trimethylbenzene	µg/L	NV		< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
1,3-Dichlorobenzene	µg/L	NV		< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
1,3-Dichloropropane	µg/L	NV		< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
1,4-Dichlorobenzene	µg/L	NV		< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
2,2-Dichloropropane	µg/L	NV		< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
2-Butanone	µg/L	NV		< 1	U	NA		NA		NA		NA		NA		NA		NA		NA	
2-Chlorotoluene	µg/L	NV		< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
2-Hexanone	µg/L	NV		< 1	U	NA		NA		NA		NA		NA		NA		NA		NA	
4-Chlorotoluene	µg/L	NV		< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
Acetone	µg/L	NV		< 2	U	NA		NA		NA		NA		NA		NA		NA		NA	

Table 2-4
Year 1 and Year 2 RA-O Analytical Results, LHAAP-50

		Location Code	50WW06 (Lower Shallow)																	
		Sample ID	50WW06-191112		50WW06-200709		50WW06-201001		50WW06-210128		50WW06-210406		50WW06-210708		50WW06-211007		50WW06-220106		50WW06-220406	
		Sample Date	11/12/2019		7/9/2020		10/1/2020		1/28/2021		4/6/2021		7/8/2021		10/7/2021		1/6/2022		4/6/2022	
		Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG		REG	
Analyte	Units	MCL/PCL	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Benzene	µg/L	NV	< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
Bromobenzene	µg/L	NV	< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
Bromochloromethane	µg/L	NV	< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
Bromodichloromethane	µg/L	NV	< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
Bromoform	µg/L	NV	< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
Bromomethane	µg/L	NV	< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
Carbon disulfide	µg/L	NV	< 1	U	NA		NA		NA		NA		NA		NA		NA		NA	
Carbon tetrachloride	µg/L	NV	< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
Chlorobenzene	µg/L	NV	< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
Chloroethane	µg/L	NV	< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
Chloroform	µg/L	NV	< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
Chloromethane	µg/L	NV	< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
cis-1,2-Dichloroethene	µg/L	70	1.2		< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	0.74		< 0.5	U
cis-1,3-Dichloropropene	µg/L	NV	< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
Dibromochloromethane	µg/L	NV	< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
Dibromomethane	µg/L	NV	< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
Dichlorodifluoromethane	µg/L	NV	< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
Ethylbenzene	µg/L	NV	< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
Hexachlorobutadiene	µg/L	NV	< 1	U	NA		NA		NA		NA		NA		NA		NA		NA	
Isopropylbenzene	µg/L	NV	< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
m,p-Xylenes	µg/L	NV	< 1	U	NA		NA		NA		NA		NA		NA		NA		NA	
Methyl isobutyl ketone	µg/L	NV	< 1	U	NA		NA		NA		NA		NA		NA		NA		NA	
Methylene chloride	µg/L	NV	< 1	U	NA		NA		NA		NA		NA		NA		NA		NA	
Naphthalene	µg/L	NV	< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
n-Butylbenzene	µg/L	NV	< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
n-Propylbenzene	µg/L	NV	< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
o-Xylene	µg/L	NV	< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
p-Isopropyltoluene	µg/L	NV	< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
sec-Butylbenzene	µg/L	NV	< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
Styrene	µg/L	NV	< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
tert-Butylbenzene	µg/L	NV	< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
Tetrachloroethene	µg/L	5	< 0.5	U	< 1	U	< 0.5	U	< 1	U	< 1	U	< 1	U	< 1	U	< 1		< 1	U
Toluene	µg/L	NV	< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
trans-1,2-Dichloroethene	µg/L	NV	< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
trans-1,3-Dichloropropene	µg/L	NV	< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
Trichloroethene	µg/L	5	41		1.3		14		4.8		3.1		4.2		2.8		4.3		23	
Trichlorofluoromethane	µg/L	NV	< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
Vinyl chloride	µg/L	2	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5		< 0.5	U

Table 2-4
Year 1 and Year 2 RA-O Analytical Results, LHAAP-50

			Location Code	50WW08 (Upper Shallow)																
			Sample ID	50WW08-191112		50WW08-200708		50WW08-201005		50WW08-210125		50WW08-210405		50WW08-210707		50WW08-211011		50WW08-220105		50WW08-220406	
			Sample Date	11/12/2019		7/8/2020		10/5/2020		1/25/2021		4/5/2021		7/7/2021		10/11/2021		1/5/2022		4/6/2022	
			Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG		REG	
Analyte	Units	MCL/PCL		Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
DHC																					
Dehalococcoides	cells/mL	NV		NA		NA		NA		NA		NA		NA		NA		NA		NA	
FIELD TESTS																					
Dissolved oxygen	mg/L	NV		0.14		0.09		3.17		0.08		0.66		1.37		0.26		0.59		0.2	
Ferrous Iron	NA	NV		0.09		NM		NM		NM		NM		NM		NM		NM		NM	
Oxidation Reduction Potential	mV	NV		153		212		220		186		151		143		200		184		176	
pH	pH units	NV		6.99		7.23		6.02		6.12		6.57		6.08		5.79		6.09		6.58	
Specific conductivity	µmhos/cm	NV		2.23		2.26		2.36		2.61		2.51		2.28		1.34		2.41		2.37	
Temperature	deg. C	NV		16.17		21.38		18.27		19.13		16.96		20.09		19.49		17.69		19.49	
Turbidity	NTU	NV		72.7		0		0		17		18.3		32.3		12.9		11		21	
DISSOLVED GASES																					
Carbon dioxide	µg/L	NV		69,000		NA		NA		NA		NA		NA		NA		NA		NA	
Ethane	µg/L	NV		< 0.47	U	NA		NA		NA		NA		NA		NA		NA		NA	
Ethylene	µg/L	NV		< 0.55	U	NA		NA		NA		NA		NA		NA		NA		NA	
Methane	µg/L	NV		3		NA		NA		NA		NA		NA		NA		NA		NA	
GENERAL CHEMISTRY																					
Chloride	mg/L	NV		361		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrate	mg/L	NV		0.118		NA		NA		NA		NA		NA		NA		NA		NA	
Sulfate	mg/L	NV		304		NA		NA		NA		NA		NA		NA		NA		NA	
Total organic carbon	mg/L	NV		0.83		NA		NA		NA		NA		NA		NA		NA		NA	
PERCHLORATE																					
Perchlorate	µg/L	17		83		89.8		172		126		115		222		682		178		83.4	
VOLATILES																					
1,1,1,2-Tetrachloroethane	µg/L	NV		< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
1,1,1-Trichloroethane	µg/L	NV		< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
1,1,2,2-Tetrachloroethane	µg/L	NV		< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
1,1,2-Trichloro-1,2,2-Trifluoroethane	µg/L	NV		1.6		NA		NA		NA		NA		NA		NA		NA		NA	
1,1,2-Trichloroethane	µg/L	NV		< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
1,1-Dichloroethane	µg/L	NV		1		NA		NA		NA		NA		NA		NA		NA		NA	
1,1-Dichloroethene	µg/L	7		1.2		0.95	J	1		0.82	J	1.3		0.72	J	0.56	J	0.98		1.1	
1,1-Dichloropropene	µg/L	NV		< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
1,2,3-Trichlorobenzene	µg/L	NV		< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
1,2,3-Trichloropropane	µg/L	NV		< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
1,2,4-Trichlorobenzene	µg/L	NV		< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
1,2,4-Trimethylbenzene	µg/L	NV		< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
1,2-Dibromo-3-chloropropane	µg/L	NV		< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
1,2-Dibromoethane	µg/L	NV		< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
1,2-Dichlorobenzene	µg/L	NV		< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
1,2-Dichloroethane	µg/L	5		2.2		1.5		2.2		2.3		1.8		1.9		3.2		1.5		1.7	
1,2-Dichloropropane	µg/L	NV		< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
1,3,5-Trimethylbenzene	µg/L	NV		< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
1,3-Dichlorobenzene	µg/L	NV		< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
1,3-Dichloropropane	µg/L	NV		< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
1,4-Dichlorobenzene	µg/L	NV		< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
2,2-Dichloropropane	µg/L	NV		< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
2-Butanone	µg/L	NV		< 1	U	NA		NA		NA		NA		NA		NA		NA		NA	
2-Chlorotoluene	µg/L	NV		< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
2-Hexanone	µg/L	NV		< 1	U	NA		NA		NA		NA		NA		NA		NA		NA	
4-Chlorotoluene	µg/L	NV		< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
Acetone	µg/L	NV		< 2	U	NA		NA		NA		NA		NA		NA		NA		NA	

Table 2-4
Year 1 and Year 2 RA-O Analytical Results, LHAAP-50

			Location Code	50WW08 (Upper Shallow)																
			Sample ID	50WW08-191112		50WW08-200708		50WW08-201005		50WW08-210125		50WW08-210405		50WW08-210707		50WW08-211011		50WW08-220105		50WW08-220406	
			Sample Date	11/12/2019		7/8/2020		10/5/2020		1/25/2021		4/5/2021		7/7/2021		10/11/2021		1/5/2022		4/6/2022	
			Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG		REG	
Analyte	Units	MCL/PCL		Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Benzene	µg/L	NV		< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
Bromobenzene	µg/L	NV		< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
Bromochloromethane	µg/L	NV		< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
Bromodichloromethane	µg/L	NV		< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
Bromoform	µg/L	NV		< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
Bromomethane	µg/L	NV		< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
Carbon disulfide	µg/L	NV		< 1	U	NA		NA		NA		NA		NA		NA		NA		NA	
Carbon tetrachloride	µg/L	NV		< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
Chlorobenzene	µg/L	NV		< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
Chloroethane	µg/L	NV		< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
Chloroform	µg/L	NV		< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
Chloromethane	µg/L	NV		< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
cis-1,2-Dichloroethene	µg/L	70		39		41		57		55		58		57		54		63		91	
cis-1,3-Dichloropropene	µg/L	NV		< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
Dibromochloromethane	µg/L	NV		< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
Dibromomethane	µg/L	NV		< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
Dichlorodifluoromethane	µg/L	NV		< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
Ethylbenzene	µg/L	NV		< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
Hexachlorobutadiene	µg/L	NV		< 1	U	NA		NA		NA		NA		NA		NA		NA		NA	
Isopropylbenzene	µg/L	NV		< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
m,p-Xylenes	µg/L	NV		< 1	U	NA		NA		NA		NA		NA		NA		NA		NA	
Methyl isobutyl ketone	µg/L	NV		< 1	U	NA		NA		NA		NA		NA		NA		NA		NA	
Methylene chloride	µg/L	NV		< 1	U	NA		NA		NA		NA		NA		NA		NA		NA	
Naphthalene	µg/L	NV		< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
n-Butylbenzene	µg/L	NV		< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
n-Propylbenzene	µg/L	NV		< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
o-Xylene	µg/L	NV		< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
p-Isopropyltoluene	µg/L	NV		< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
sec-Butylbenzene	µg/L	NV		< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
Styrene	µg/L	NV		< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
tert-Butylbenzene	µg/L	NV		< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
Tetrachloroethene	µg/L	5		1.3		1.4		1.4		1.4		1.6		1.3		0.9	J	1.2		1.7	
Toluene	µg/L	NV		< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
trans-1,2-Dichloroethene	µg/L	NV		< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
trans-1,3-Dichloropropene	µg/L	NV		< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
Trichloroethene	µg/L	5		420		390		500		550		610		500		370		590		720	
Trichlorofluoromethane	µg/L	NV		< 0.5	U	NA		NA		NA		NA		NA		NA		NA		NA	
Vinyl chloride	µg/L	2		< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5		< 0.5	U

Table 2-4
Year 1 and Year 2 RA-O Analytical Results, LHAAP-50

			Location Code	50WW09 (Lower Shallow)								50WW11 (Upper Shallow)									
			Sample ID	50WW09-191111		50WW09-191111-FD		50WW09-201005		50WW09-211011		50WW11-191112		50WW11-200709		50WW11-200709-FD		50WW11-201001		50WW11-201001-FD	
			Sample Date	11/11/2019		11/11/2019		10/5/2020		10/11/2021		11/12/2019		7/9/2020		7/9/2020		10/1/2020		10/1/2020	
			Sample Purpose	REG		FD		REG		REG		REG		REG		FD		REG		FD	
Analyte	Units	MCL/PCL		Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
DHC																					
Dehalococcoides	cells/mL	NV		NA		NA		NA		NA		NA		0.5		NA		4		NA	
FIELD TESTS																					
Dissolved oxygen	mg/L	NV		0.25		0.25		0.43		0.18		0.71		1.88		1.88		1.12		1.12	
Ferrous Iron	NA	NV		NM		NM		NM		NM		0.64		0.51		0.51		NM		NM	
Oxidation Reduction Potential	mV	NV		116		116		219		202		145		131		131		94		94	
pH	pH units	NV		6.62		6.62		6.20		5.36		6.39		6.69		6.69		6.70		6.70	
Specific conductivity	µmhos/cm	NV		1.68		1.68		2.08		0.894		1.96		1.93		1.93		2.10		2.10	
Temperature	deg. C	NV		18.80		18.80		18.43		21.69		14.64		21.79		21.79		19.05		19.05	
Turbidity	NTU	NV		290		290		113		11.2		116		43.6		43.6		20		20	
DISSOLVED GASES																					
Carbon dioxide	µg/L	NV		NA		NA		NA		NA		270,000		85,000		80,000		74,000		79,000	
Ethane	µg/L	NV		NA		NA		NA		NA		< 0.47	U	< 0.47	U	< 0.47	U	< 0.47	U	< 0.47	U
Ethylene	µg/L	NV		NA		NA		NA		NA		< 0.55	U	< 0.55	U	< 0.55	U	< 0.55	U	< 0.55	U
Methane	µg/L	NV		NA		NA		NA		NA		6.8		< 1	U	0.93	J	4.6		5.1	
GENERAL CHEMISTRY																					
Chloride	mg/L	NV		NA		NA		NA		NA		294		306		300		305		301	
Nitrate	mg/L	NV		NA		NA		NA		NA		< 0.1	U	< 0.1	U	< 0.1	U	< 0.1	U	< 0.1	U
Sulfate	mg/L	NV		NA		NA		NA		NA		351		391		388		475		403	
Total organic carbon	mg/L	NV		NA		NA		NA		NA		1.49		1.18	J	1.16	J	1.82		1.86	
PERCHLORATE																					
Perchlorate	µg/L	17		6.6		7.4		< 0.5	U	0.167	J	8,000		4,880		4,960		6,630		7,940	
VOLATILES																					
1,1,1,2-Tetrachloroethane	µg/L	NV		< 0.5	U	< 0.5	U	NA		NA		< 5	U	NA		NA		NA		NA	
1,1,1-Trichloroethane	µg/L	NV		< 0.5	U	< 0.5	U	NA		NA		< 5	U	NA		NA		NA		NA	
1,1,2,2-Tetrachloroethane	µg/L	NV		< 0.5	U	< 0.5	U	NA		NA		< 5	U	NA		NA		NA		NA	
1,1,2-Trichloro-1,2,2-Trifluoroethane	µg/L	NV		< 0.5	U	< 0.5	U	NA		NA		< 5	U	NA		NA		NA		NA	
1,1,2-Trichloroethane	µg/L	NV		< 0.5	U	< 0.5	U	NA		NA		< 5	U	NA		NA		NA		NA	
1,1-Dichloroethane	µg/L	NV		< 0.5	U	< 0.5	U	NA		NA		< 5	U	NA		NA		NA		NA	
1,1-Dichloroethene	µg/L	7		< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	26		15		15		35		34	
1,1-Dichloropropene	µg/L	NV		< 0.5	U	< 0.5	U	NA		NA		< 5	U	NA		NA		NA		NA	
1,2,3-Trichlorobenzene	µg/L	NV		< 0.5	U	< 0.5	U	NA		NA		< 5	U	NA		NA		NA		NA	
1,2,3-Trichloropropane	µg/L	NV		< 0.5	U	< 0.5	U	NA		NA		< 5	U	NA		NA		NA		NA	
1,2,4-Trichlorobenzene	µg/L	NV		< 0.5	U	< 0.5	U	NA		NA		< 5	U	NA		NA		NA		NA	
1,2,4-Trimethylbenzene	µg/L	NV		< 0.5	U	< 0.5	U	NA		NA		< 5	U	NA		NA		NA		NA	
1,2-Dibromo-3-chloropropane	µg/L	NV		< 0.5	U	< 0.5	U	NA		NA		< 5	U	NA		NA		NA		NA	
1,2-Dibromoethane	µg/L	NV		< 0.5	U	< 0.5	U	NA		NA		< 5	U	NA		NA		NA		NA	
1,2-Dichlorobenzene	µg/L	NV		< 0.5	U	< 0.5	U	NA		NA		< 5	U	NA		NA		NA		NA	
1,2-Dichloroethane	µg/L	5		< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	28		13		13		26		25	
1,2-Dichloropropane	µg/L	NV		< 0.5	U	< 0.5	U	NA		NA		< 5	U	NA		NA		NA		NA	
1,3,5-Trimethylbenzene	µg/L	NV		< 0.5	U	< 0.5	U	NA		NA		< 5	U	NA		NA		NA		NA	
1,3-Dichlorobenzene	µg/L	NV		< 0.5	U	< 0.5	U	NA		NA		< 5	U	NA		NA		NA		NA	
1,3-Dichloropropane	µg/L	NV		< 0.5	U	< 0.5	U	NA		NA		< 5	U	NA		NA		NA		NA	
1,4-Dichlorobenzene	µg/L	NV		< 0.5	U	< 0.5	U	NA		NA		< 5	U	NA		NA		NA		NA	
2,2-Dichloropropane	µg/L	NV		< 0.5	U	< 0.5	U	NA		NA		< 5	U	NA		NA		NA		NA	
2-Butanone	µg/L	NV		< 1	U	< 1	U	NA		NA		< 10	U	NA		NA		NA		NA	
2-Chlorotoluene	µg/L	NV		< 0.5	U	< 0.5	U	NA		NA		< 5	U	NA		NA		NA		NA	
2-Hexanone	µg/L	NV		< 1	U	< 1	U	NA		NA		< 10	U	NA		NA		NA		NA	
4-Chlorotoluene	µg/L	NV		< 0.5	U	< 0.5	U	NA		NA		< 5	U	NA		NA		NA		NA	
Acetone	µg/L	NV		< 2	U	< 2	U	NA		NA		< 20	U	NA		NA		NA		NA	

Table 2-4
Year 1 and Year 2 RA-O Analytical Results, LHAAP-50

			Location Code	50WW09 (Lower Shallow)								50WW11 (Upper Shallow)									
			Sample ID	50WW09-191111		50WW09-191111-FD		50WW09-201005		50WW09-211011		50WW11-191112		50WW11-200709		50WW11-200709-FD		50WW11-201001		50WW11-201001-FD	
			Sample Date	11/11/2019		11/11/2019		10/5/2020		10/11/2021		11/12/2019		7/9/2020		7/9/2020		10/1/2020		10/1/2020	
			Sample Purpose	REG		FD		REG		REG		REG		REG		FD		REG		FD	
Analyte	Units	MCL/PCL		Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Benzene	µg/L	NV		< 0.5	U	< 0.5	U	NA		NA		< 5	U	NA		NA		NA		NA	
Bromobenzene	µg/L	NV		< 0.5	U	< 0.5	U	NA		NA		< 5	U	NA		NA		NA		NA	
Bromochloromethane	µg/L	NV		< 0.5	U	< 0.5	U	NA		NA		< 5	U	NA		NA		NA		NA	
Bromodichloromethane	µg/L	NV		< 0.5	U	< 0.5	U	NA		NA		< 5	U	NA		NA		NA		NA	
Bromoform	µg/L	NV		< 0.5	U	< 0.5	U	NA		NA		< 5	U	NA		NA		NA		NA	
Bromomethane	µg/L	NV		< 0.5	U	< 0.5	U	NA		NA		< 5	U	NA		NA		NA		NA	
Carbon disulfide	µg/L	NV		< 1	U	< 1	U	NA		NA		< 10	U	NA		NA		NA		NA	
Carbon tetrachloride	µg/L	NV		< 0.5	U	< 0.5	U	NA		NA		< 5	U	NA		NA		NA		NA	
Chlorobenzene	µg/L	NV		< 0.5	U	< 0.5	U	NA		NA		< 5	U	NA		NA		NA		NA	
Chloroethane	µg/L	NV		< 0.5	U	< 0.5	U	NA		NA		< 5	U	NA		NA		NA		NA	
Chloroform	µg/L	NV		< 0.5	U	< 0.5	U	NA		NA		< 5	U	NA		NA		NA		NA	
Chloromethane	µg/L	NV		< 0.5	U	< 0.5	U	NA		NA		< 5	U	NA		NA		NA		NA	
cis-1,2-Dichloroethene	µg/L	70		4.1		4		2.8		0.93	J	58		29		29		74		74	
cis-1,3-Dichloropropene	µg/L	NV		< 0.5	U	< 0.5	U	NA		NA		< 5	U	NA		NA		NA		NA	
Dibromochloromethane	µg/L	NV		< 0.5	U	< 0.5	U	NA		NA		< 5	U	NA		NA		NA		NA	
Dibromomethane	µg/L	NV		< 0.5	U	< 0.5	U	NA		NA		< 5	U	NA		NA		NA		NA	
Dichlorodifluoromethane	µg/L	NV		< 0.5	U	< 0.5	U	NA		NA		< 5	U	NA		NA		NA		NA	
Ethylbenzene	µg/L	NV		< 0.5	U	< 0.5	U	NA		NA		< 5	U	NA		NA		NA		NA	
Hexachlorobutadiene	µg/L	NV		< 1	U	< 1	U	NA		NA		< 10	U	NA		NA		NA		NA	
Isopropylbenzene	µg/L	NV		< 0.5	U	< 0.5	U	NA		NA		< 5	U	NA		NA		NA		NA	
m,p-Xylenes	µg/L	NV		< 1	U	< 1	U	NA		NA		< 10	U	NA		NA		NA		NA	
Methyl isobutyl ketone	µg/L	NV		< 1	U	< 1	U	NA		NA		< 10	U	NA		NA		NA		NA	
Methylene chloride	µg/L	NV		< 1	U	< 1	U	NA		NA		< 10	U	NA		NA		NA		NA	
Naphthalene	µg/L	NV		< 0.5	U	< 0.5	U	NA		NA		< 5	U	NA		NA		NA		NA	
n-Butylbenzene	µg/L	NV		< 0.5	U	< 0.5	U	NA		NA		< 5	U	NA		NA		NA		NA	
n-Propylbenzene	µg/L	NV		< 0.5	U	< 0.5	U	NA		NA		< 5	U	NA		NA		NA		NA	
o-Xylene	µg/L	NV		< 0.5	U	< 0.5	U	NA		NA		< 5	U	NA		NA		NA		NA	
p-Isopropyltoluene	µg/L	NV		< 0.5	U	< 0.5	U	NA		NA		< 5	U	NA		NA		NA		NA	
sec-Butylbenzene	µg/L	NV		< 0.5	U	< 0.5	U	NA		NA		< 5	U	NA		NA		NA		NA	
Styrene	µg/L	NV		< 0.5	U	< 0.5	U	NA		NA		< 5	U	NA		NA		NA		NA	
tert-Butylbenzene	µg/L	NV		< 0.5	U	< 0.5	U	NA		NA		< 5	U	NA		NA		NA		NA	
Tetrachloroethene	µg/L	5		< 0.5	U	< 0.5	U	< 0.5	U	< 1	U	< 5	U	2.4		2.7		6.8		7.1	
Toluene	µg/L	NV		< 0.5	U	< 0.5	U	NA		NA		< 5	U	NA		NA		NA		NA	
trans-1,2-Dichloroethene	µg/L	NV		< 0.5	U	< 0.5	U	NA		NA		< 5	U	NA		NA		NA		NA	
trans-1,3-Dichloropropene	µg/L	NV		< 0.5	U	< 0.5	U	NA		NA		< 5	U	NA		NA		NA		NA	
Trichloroethene	µg/L	5		30		30		21		5.7		3,300		1,600		1,500		3,300		3,500	
Trichlorofluoromethane	µg/L	NV		< 0.5	U	< 0.5	U	NA		NA		< 5	U	NA		NA		NA		NA	
Vinyl chloride	µg/L	2		< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 5	U	1.1		1.1		3.4		3.5	

Table 2-4
Year 1 and Year 2 RA-O Analytical Results, LHAAP-50

			Location Code	50WW11 (Upper Shallow)																	
			Sample ID	50WW11-210128		50WW11-210406		50WW11-210406-FD		50WW11-210708		50WW11-210708-FD		50WW11-211007		50WW11-211007-FD		50WW11-220106		50WW11-220406	
			Sample Date	1/28/2021		4/6/2021		4/6/2021		7/8/2021		7/8/2021		10/7/2021		10/7/2021		1/6/2022		4/6/2022	
			Sample Purpose	REG		REG		FD		REG		FD		REG		FD		REG		REG	
Analyte	Units	MCL/PCL		Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
DHC																					
Dehalococcoides	cells/mL	NV		1.4		0.9		NA		3		NA		1.5		NA		2		NA	
FIELD TESTS																					
Dissolved oxygen	mg/L	NV		0.03		1.16		1.16		1.79		1.79		0.27		0.27		0.43		6.9	
Ferrous Iron	NA	NV		1.91		0.74		0.74		0.67		0.67		0.57		0.57		1		0.18	
Oxidation Reduction Potential	mV	NV		72		200		200		137		137		135		135		169		12	
pH	pH_units	NV		5.60		5.70		5.70		5.98		5.98		5.54		5.54		5.57		6.76	
Specific conductivity	µmhos/cm	NV		2.32		1.96		1.96		1.85		1.85		1.06		1.06		2.04		1.89	
Temperature	deg. C	NV		15.42		18.11		18.11		19.63		19.63		18.01		18.01		16.83		20.25	
Turbidity	NTU	NV		73.3		60.3		60.3		53.2		53.2		49.1		49.1		192		22	
DISSOLVED GASES																					
Carbon dioxide	µg/L	NV		380,000	J	310,000	J	300,000	J	730,000	J	570,000	J	450,000		417,000		150,000		61,400	J
Ethane	µg/L	NV		< 0.47	U	< 0.47	U	< 0.47	U	< 0.47	U	< 0.47	U	< 2	UJ	< 2	UJ	< 0.5	U	< 0.5	U
Ethylene	µg/L	NV		< 0.55	U	< 0.55	U	< 0.55	U	< 0.55	U	< 0.55	U	< 1	UJ	< 1	UJ	1.21	J	3.4	
Methane	µg/L	NV		4.4		1.1	J	1.7	J	2.2	J	3.2	J	3	J	4.3	J	4.67	J	5.29	
GENERAL CHEMISTRY																					
Chloride	mg/L	NV		295		295		283		285		281		275		279		274		294	
Nitrate	mg/L	NV		< 0.1	U	< 0.1	U	< 0.1	U	< 0.1	U	< 0.1	U	< 0.1	U	< 0.1	U	0.0439	J	0.0429	J
Sulfate	mg/L	NV		261		304		294		358		354		356		365		354		302	
Total organic carbon	mg/L	NV		1.98		1.65		1.62		1.9		1.81		2.93		2.64		2.82		0.896	J
PERCHLORATE																					
Perchlorate	µg/L	17		651		421		482		2,670		2610		4500		4,700		4,200		1,020	
VOLATILES																					
1,1,1,2-Tetrachloroethane	µg/L	NV		NA		NA		NA		NA		NA		NA		NA		NA		NA	
1,1,1-Trichloroethane	µg/L	NV		NA		NA		NA		NA		NA		NA		NA		NA		NA	
1,1,2,2-Tetrachloroethane	µg/L	NV		NA		NA		NA		NA		NA		NA		NA		NA		NA	
1,1,2-Trichloro-1,2,2-Trifluoroethane	µg/L	NV		NA		NA		NA		NA		NA		NA		NA		NA		NA	
1,1,2-Trichloroethane	µg/L	NV		NA		NA		NA		NA		NA		NA		NA		NA		NA	
1,1-Dichloroethane	µg/L	NV		NA		NA		NA		NA		NA		NA		NA		NA		NA	
1,1-Dichloroethene	µg/L	7		2.1	J	1.5		2		9.9		9.7		9.3		11		9.5		3.3	
1,1-Dichloropropene	µg/L	NV		NA		NA		NA		NA		NA		NA		NA		NA		NA	
1,2,3-Trichlorobenzene	µg/L	NV		NA		NA		NA		NA		NA		NA		NA		NA		NA	
1,2,3-Trichloropropane	µg/L	NV		NA		NA		NA		NA		NA		NA		NA		NA		NA	
1,2,4-Trichlorobenzene	µg/L	NV		NA		NA		NA		NA		NA		NA		NA		NA		NA	
1,2,4-Trimethylbenzene	µg/L	NV		NA		NA		NA		NA		NA		NA		NA		NA		NA	
1,2-Dibromo-3-chloropropane	µg/L	NV		NA		NA		NA		NA		NA		NA		NA		NA		NA	
1,2-Dibromoethane	µg/L	NV		NA		NA		NA		NA		NA		NA		NA		NA		NA	
1,2-Dichlorobenzene	µg/L	NV		NA		NA		NA		NA		NA		NA		NA		NA		NA	
1,2-Dichloroethane	µg/L	5		2.4	J	1.5		1.8		< 0.5	U	< 0.5	U	15		16		12		3.1	
1,2-Dichloropropane	µg/L	NV		NA		NA		NA		NA		NA		NA		NA		NA		NA	
1,3,5-Trimethylbenzene	µg/L	NV		NA		NA		NA		NA		NA		NA		NA		NA		NA	
1,3-Dichlorobenzene	µg/L	NV		NA		NA		NA		NA		NA		NA		NA		NA		NA	
1,3-Dichloropropane	µg/L	NV		NA		NA		NA		NA		NA		NA		NA		NA		NA	
1,4-Dichlorobenzene	µg/L	NV		NA		NA		NA		NA		NA		NA		NA		NA		NA	
2,2-Dichloropropane	µg/L	NV		NA		NA		NA		NA		NA		NA		NA		NA		NA	
2-Butanone	µg/L	NV		NA		NA		NA		NA		NA		NA		NA		NA		NA	
2-Chlorotoluene	µg/L	NV		NA		NA		NA		NA		NA		NA		NA		NA		NA	
2-Hexanone	µg/L	NV		NA		NA		NA		NA		NA		NA		NA		NA		NA	
4-Chlorotoluene	µg/L	NV		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Acetone	µg/L	NV		NA		NA		NA		NA		NA		NA		NA		NA		NA	

Table 2-4
Year 1 and Year 2 RA-O Analytical Results, LHAAP-50

		Location Code	50WW11 (Upper Shallow)																	
		Sample ID	50WW11-210128		50WW11-210406		50WW11-210406-FD		50WW11-210708		50WW11-210708-FD		50WW11-211007		50WW11-211007-FD		50WW11-220106		50WW11-220406	
		Sample Date	1/28/2021		4/6/2021		4/6/2021		7/8/2021		7/8/2021		10/7/2021		10/7/2021		1/6/2022		4/6/2022	
		Sample Purpose	REG		REG		FD		REG		FD		REG		FD		REG		REG	
Analyte	Units	MCL/PCL	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Benzene	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA	
Bromobenzene	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA	
Bromochloromethane	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA	
Bromodichloromethane	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA	
Bromoform	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA	
Bromomethane	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA	
Carbon disulfide	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA	
Carbon tetrachloride	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA	
Chlorobenzene	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA	
Chloroethane	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA	
Chloroform	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA	
Chloromethane	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA	
cis-1,2-Dichloroethene	µg/L	70	6.7	J	5.3		5.7		20		19		33		36		29		19	
cis-1,3-Dichloropropene	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA	
Dibromochloromethane	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA	
Dibromomethane	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA	
Dichlorodifluoromethane	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethylbenzene	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA	
Hexachlorobutadiene	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA	
Isopropylbenzene	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA	
m,p-Xylenes	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA	
Methyl isobutyl ketone	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA	
Methylene chloride	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA	
Naphthalene	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA	
n-Butylbenzene	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA	
n-Propylbenzene	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA	
o-Xylene	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA	
p-Isopropyltoluene	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA	
sec-Butylbenzene	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA	
Styrene	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA	
tert-Butylbenzene	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA	
Tetrachloroethene	µg/L	5	0.87	J	< 1	U	< 1	U	1.7		1.9		2.8		3.3		2.4		1.8	
Toluene	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA	
trans-1,2-Dichloroethene	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA	
trans-1,3-Dichloropropene	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA	
Trichloroethene	µg/L	5	250		200		230		1,100		1,100		1,200		1,300		1,300		530	
Trichlorofluoromethane	µg/L	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA	
Vinyl chloride	µg/L	2	< 0.5	U	< 0.5	U	< 0.5	U	0.6	J	0.62	J	0.84	J	1		0.98		< 0.5	U

Table 2-4
Year 1 and Year 2 RA-O Analytical Results, LHAAP-50

			Location Code	50WW12 (Upper Shallow)																	
			Sample ID	50WW12-191112		50WW12-191112-FD		50WW12-200709		50WW12-201001		50WW12-210128		50WW12-210406		50WW12-210708		50WW12-211007		50WW12-220106	
			Sample Date	11/12/2019		11/12/2019		7/9/2020		10/1/2020		1/28/2021		4/6/2021		7/8/2021		10/7/2021		1/6/2022	
			Sample Purpose	REG		FD		REG		REG		REG		REG		REG		REG		REG	
Analyte	Units	MCL/PCL		Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
DHC																					
Dehalococcoides	cells/mL	NV		NA		NA		0.4	J	1.4		0.5	J	0.4	J	1.8		6.1		0.4	J
FIELD TESTS																					
Dissolved oxygen	mg/L	NV		0.14		0.14		0.05		0.27		0.08		0.65		0.84		0.24		0.58	
Ferrous Iron	NA	NV		0.61		0.61		0.31		NM		0.97		0.58		0.53		0.00		1.08	
Oxidation Reduction Potential	mV	NV		156		156		201		96		100		170		188		108		106	
pH	pH units	NV		6.22		6.22		6.20		6.46		5.71		6.11		5.80		5.80		5.91	
Specific conductivity	µmhos/cm	NV		4.43		4.43		4.40		4.85		4.77		4.31		4.28		2.80		4.25	
Temperature	deg. C	NV		15.07		15.07		21.31		19.65		15.56		18.66		20.66		19.47		15.93	
Turbidity	NTU	NV		142		142		17.2		32		43.3		73.1		46.3		22.3		216	
DISSOLVED GASES																					
Carbon dioxide	µg/L	NV		250,000		300,000		140,000		140,000		420,000		130,000	J	570,000	J	366,000		326,000	
Ethane	µg/L	NV		< 0.47	U	< 0.47	U	< 0.47	U	< 0.47	U	< 0.47	UJ	< 0.47	U	3.1		< 2	UJ	< 0.5	U
Ethylene	µg/L	NV		< 0.55	U	< 0.55	U	< 0.55	U	< 0.55	U	< 0.55	U	< 0.55	U	2.9		< 1	UJ	1.19	J
Methane	µg/L	NV		1.5		1.6		0.68	J	0.83	J	0.61	J	1.5		2.3		810	J	23.4	J
GENERAL CHEMISTRY																					
Chloride	mg/L	NV		1,070		1,060		1,080		1,080		1,020		994		997		1,120		1,020	
Nitrate	mg/L	NV		< 0.1	U	< 0.1	U	< 0.1	U	< 0.2	U	0.11	J	0.226		< 0.2	U	< 0.1	U	0.108	J
Sulfate	mg/L	NV		531		533		561		595		499		572		534		567		634	
Total organic carbon	mg/L	NV		1.11		1.19		0.73	J	1.14		1.85		1.73		1.93		2.49		5.59	
PERCHLORATE																					
Perchlorate	µg/L	17		47,000		43,000		43,000		41,600		83,800		90,000		60,300		25,500		68,100	
VOLATILES																					
1,1,1,2-Tetrachloroethane	µg/L	NV		< 0.5	U	< 0.5	U	NA		NA		NA		NA		NA		NA		NA	
1,1,1-Trichloroethane	µg/L	NV		< 0.5	U	< 0.5	U	NA		NA		NA		NA		NA		NA		NA	
1,1,2,2-Tetrachloroethane	µg/L	NV		< 0.5	U	< 0.5	U	NA		NA		NA		NA		NA		NA		NA	
1,1,2-Trichloro-1,2,2-Trifluoroethane	µg/L	NV		< 0.5	U	< 0.5	U	NA		NA		NA		NA		NA		NA		NA	
1,1,2-Trichloroethane	µg/L	NV		< 0.5	U	< 0.5	U	NA		NA		NA		NA		NA		NA		NA	
1,1-Dichloroethane	µg/L	NV		< 0.5	U	1.5		NA		NA		NA		NA		NA		NA		NA	
1,1-Dichloroethene	µg/L	7		4.6		4.1		7.3		5.2		5.9	J	17		11		2.9		12	
1,1-Dichloropropene	µg/L	NV		< 0.5	U	< 0.5	U	NA		NA		NA		NA		NA		NA		NA	
1,2,3-Trichlorobenzene	µg/L	NV		< 0.5	U	< 0.5	U	NA		NA		NA		NA		NA		NA		NA	
1,2,3-Trichloropropane	µg/L	NV		< 0.5	U	< 0.5	U	NA		NA		NA		NA		NA		NA		NA	
1,2,4-Trichlorobenzene	µg/L	NV		< 0.5	U	< 0.5	U	NA		NA		NA		NA		NA		NA		NA	
1,2,4-Trimethylbenzene	µg/L	NV		< 0.5	U	< 0.5	U	NA		NA		NA		NA		NA		NA		NA	
1,2-Dibromo-3-chloropropane	µg/L	NV		< 0.5	U	< 0.5	U	NA		NA		NA		NA		NA		NA		NA	
1,2-Dibromoethane	µg/L	NV		< 0.5	U	< 0.5	U	NA		NA		NA		NA		NA		NA		NA	
1,2-Dichlorobenzene	µg/L	NV		< 0.5	U	< 0.5	U	NA		NA		NA		NA		NA		NA		NA	
1,2-Dichloroethane	µg/L	5		2.7		2.7		4.4		3		5.8		11		< 0.5	U	2.5		9.3	
1,2-Dichloropropane	µg/L	NV		< 0.5	U	< 0.5	U	NA		NA		NA		NA		NA		NA		NA	
1,3,5-Trimethylbenzene	µg/L	NV		< 0.5	U	< 0.5	U	NA		NA		NA		NA		NA		NA		NA	
1,3-Dichlorobenzene	µg/L	NV		< 0.5	U	< 0.5	U	NA		NA		NA		NA		NA		NA		NA	
1,3-Dichloropropane	µg/L	NV		< 0.5	U	< 0.5	U	NA		NA		NA		NA		NA		NA		NA	
1,4-Dichlorobenzene	µg/L	NV		< 0.5	U	< 0.5	U	NA		NA		NA		NA		NA		NA		NA	
2,2-Dichloropropane	µg/L	NV		< 0.5	U	< 0.5	U	NA		NA		NA		NA		NA		NA		NA	
2-Butanone	µg/L	NV		< 1	U	< 1	U	NA		NA		NA		NA		NA		NA		NA	
2-Chlorotoluene	µg/L	NV		< 0.5	U	< 0.5	U	NA		NA		NA		NA		NA		NA		NA	
2-Hexanone	µg/L	NV		< 1	U	< 1	U	NA		NA		NA		NA		NA		NA		NA	
4-Chlorotoluene	µg/L	NV		< 0.5	U	< 0.5	U	NA		NA		NA		NA		NA		NA		NA	
Acetone	µg/L	NV		< 2	U	< 2	U	NA		NA		NA		NA		NA		NA		NA	

Table 2-4
Year 1 and Year 2 RA-O Analytical Results, LHAAP-50

		Location Code	50WW12 (Upper Shallow)																	
		Sample ID	50WW12-191112		50WW12-191112-FD		50WW12-200709		50WW12-201001		50WW12-210128		50WW12-210406		50WW12-210708		50WW12-211007		50WW12-220106	
		Sample Date	11/12/2019		11/12/2019		7/9/2020		10/1/2020		1/28/2021		4/6/2021		7/8/2021		10/7/2021		1/6/2022	
		Sample Purpose	REG		FD		REG		REG		REG		REG		REG		REG		REG	
Analyte	Units	MCL/PCL	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Benzene	µg/L	NV	< 0.5	U	< 0.5	U	NA		NA		NA		NA		NA		NA		NA	
Bromobenzene	µg/L	NV	< 0.5	U	< 0.5	U	NA		NA		NA		NA		NA		NA		NA	
Bromochloromethane	µg/L	NV	< 0.5	U	< 0.5	U	NA		NA		NA		NA		NA		NA		NA	
Bromodichloromethane	µg/L	NV	< 0.5	U	< 0.5	U	NA		NA		NA		NA		NA		NA		NA	
Bromoform	µg/L	NV	< 0.5	U	< 0.5	U	NA		NA		NA		NA		NA		NA		NA	
Bromomethane	µg/L	NV	< 0.5	U	< 0.5	U	NA		NA		NA		NA		NA		NA		NA	
Carbon disulfide	µg/L	NV	< 1	U	< 1	U	NA		NA		NA		NA		NA		NA		NA	
Carbon tetrachloride	µg/L	NV	< 0.5	U	< 0.5	U	NA		NA		NA		NA		NA		NA		NA	
Chlorobenzene	µg/L	NV	< 0.5	U	< 0.5	U	NA		NA		NA		NA		NA		NA		NA	
Chloroethane	µg/L	NV	< 0.5	U	< 0.5	U	NA		NA		NA		NA		NA		NA		NA	
Chloroform	µg/L	NV	< 0.5	U	< 0.5	U	NA		NA		NA		NA		NA		NA		NA	
Chloromethane	µg/L	NV	< 0.5	U	< 0.5	U	NA		NA		NA		NA		NA		NA		NA	
cis-1,2-Dichloroethene	µg/L	70	< 0.5	U	0.76	J	1.1		0.87	J	1.3		4	J	2.4		1.1		2	
cis-1,3-Dichloropropene	µg/L	NV	< 0.5	U	< 0.5	U	NA		NA		NA		NA		NA		NA		NA	
Dibromochloromethane	µg/L	NV	< 0.5	U	< 0.5	U	NA		NA		NA		NA		NA		NA		NA	
Dibromomethane	µg/L	NV	< 0.5	U	< 0.5	U	NA		NA		NA		NA		NA		NA		NA	
Dichlorodifluoromethane	µg/L	NV	< 0.5	U	< 0.5	U	NA		NA		NA		NA		NA		NA		NA	
Ethylbenzene	µg/L	NV	< 0.5	U	< 0.5	U	NA		NA		NA		NA		NA		NA		NA	
Hexachlorobutadiene	µg/L	NV	< 1	U	< 1	U	NA		NA		NA		NA		NA		NA		NA	
Isopropylbenzene	µg/L	NV	< 0.5	U	< 0.5	U	NA		NA		NA		NA		NA		NA		NA	
m,p-Xylenes	µg/L	NV	< 1	U	< 1	U	NA		NA		NA		NA		NA		NA		NA	
Methyl isobutyl ketone	µg/L	NV	< 1	U	< 1	U	NA		NA		NA		NA		NA		NA		NA	
Methylene chloride	µg/L	NV	< 1	U	< 1	U	NA		NA		NA		NA		NA		NA		NA	
Naphthalene	µg/L	NV	< 0.5	U	< 0.5	U	NA		NA		NA		NA		NA		NA		NA	
n-Butylbenzene	µg/L	NV	< 0.5	U	< 0.5	U	NA		NA		NA		NA		NA		NA		NA	
n-Propylbenzene	µg/L	NV	< 0.5	U	< 0.5	U	NA		NA		NA		NA		NA		NA		NA	
o-Xylene	µg/L	NV	< 0.5	U	< 0.5	U	NA		NA		NA		NA		NA		NA		NA	
p-Isopropyltoluene	µg/L	NV	< 0.5	U	< 0.5	U	NA		NA		NA		NA		NA		NA		NA	
sec-Butylbenzene	µg/L	NV	< 0.5	U	< 0.5	U	NA		NA		NA		NA		NA		NA		NA	
Styrene	µg/L	NV	< 0.5	U	< 0.5	U	NA		NA		NA		NA		NA		NA		NA	
tert-Butylbenzene	µg/L	NV	< 0.5	U	< 0.5	U	NA		NA		NA		NA		NA		NA		NA	
Tetrachloroethene	µg/L	5	< 0.5	U	< 0.5	U	< 1	U	< 1	U	< 1	U	< 5	U	< 1	U	< 1	U	< 1	
Toluene	µg/L	NV	< 0.5	U	< 0.5	U	NA		NA		NA		NA		NA		NA		NA	
trans-1,2-Dichloroethene	µg/L	NV	< 0.5	U	< 0.5	U	NA		NA		NA		NA		NA		NA		NA	
trans-1,3-Dichloropropene	µg/L	NV	< 0.5	U	< 0.5	U	NA		NA		NA		NA		NA		NA		NA	
Trichloroethene	µg/L	5	280		260		550		380		690		1,600		1,200		290		1,100	
Trichlorofluoromethane	µg/L	NV	< 0.5	U	< 0.5	U	NA		NA		NS		NA		NA		NA		NA	
Vinyl chloride	µg/L	2	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	UJ	< 2.5	U	< 0.5	U	< 0.5	U	< 0.5	

Table 2-4
Year 1 and Year 2 RA-O Analytical Results, LHAAP-50

		Location Code	50WW12 (Upper Shallow)				50WW13 (Upper Shallow)													
		Sample ID	50WW12-220406		50WW12-220406-FD		50WW13-191113		50WW13-200709		50WW13-201001		50WW13-210128		50WW13-210406		50WW13-210708		50WW13-211007	
		Sample Date	4/6/2022		4/6/2022		11/13/2019		7/9/2020		10/1/2020		1/28/2021		4/6/2021		7/8/2021		10/7/2021	
		Sample Purpose	REG		FD		REG		REG		REG		REG		REG		REG		REG	
Analyte	Units	MCL/PCL	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
DHC																				
Dehalococcoides	cells/mL	NV	NA		NA		NA		2		3.8		5		1.7		2.9		0.8	J
FIELD TESTS																				
Dissolved oxygen	mg/L	NV	0		0		0.02		0.78		0.14		0.06		0.85		0.97		0.25	
Ferrous Iron	NA	NV	0.17		0.17		0.70		NM		NM		1.43		0.65		0.60		2.05	
Oxidation Reduction Potential	mV	NV	67		67		40		97		86		-6		153		125		126	
pH	pH units	NV	6.49		6.49		6.77		6.88		6.06		6.11		5.87		6.20		5.53	
Specific conductivity	µmhos/cm	NV	4.25		4.25		2.11		2.15		2.15		2.68		2.38		2.14		1.20	
Temperature	deg. C	NV	19.67		19.67		12.95		20.80		18.84		15.73		18.10		19.16		17.97	
Turbidity	NTU	NV	22		22		118		23.1		11.8		26.2		54.4		102		174	
DISSOLVED GASES																				
Carbon dioxide	µg/L	NV	83,700	J	96,000	J	86,000		72,000		310,000		260,000	J	300,000	J	330,000	J	477,000	
Ethane	µg/L	NV	< 0.5	U	< 0.5	U	< 0.47	U	< 0.47	U	< 0.47	U	< 0.47	U	< 0.47	U	< 0.47	U	< 2	UJ
Ethylene	µg/L	NV	< 0.5	U	< 0.5	U	< 0.55	U	< 0.55	U	< 0.55	U	< 0.55	U	< 0.55	U	< 0.55	U	< 1	UJ
Methane	µg/L	NV	3,380		3,220		4.7		0.65	J	4.2		4.3		1.4		1.6		3.3	J
GENERAL CHEMISTRY																				
Chloride	mg/L	NV	1,010		1,020		308		353		316		387		386		329		294	
Nitrate	mg/L	NV	< 0.2	U	< 0.2	U	< 0.1	U	< 0.1	U	< 0.1	U	< 0.1	U	< 0.1	U	< 0.1	U	< 0.1	U
Sulfate	mg/L	NV	574		576		316		363		356		302		345		347		338	
Total organic carbon	mg/L	NV	1.84		1.41		1.78		1.39	J	3.54		1.64		1.76		1.76		3.11	
PERCHLORATE																				
Perchlorate	µg/L	17	141,000	J	101,000	J	4,900		2,900		4,390		155		122		2,420		5,080	
VOLATILES																				
1,1,1,2-Tetrachloroethane	µg/L	NV	NA		NA		< 12	U	NA		NA		NA		NA		NA		NA	
1,1,1-Trichloroethane	µg/L	NV	NA		NA		< 12	U	NA		NA		NA		NA		NA		NA	
1,1,2,2-Tetrachloroethane	µg/L	NV	NA		NA		< 12	U	NA		NA		NA		NA		NA		NA	
1,1,2-Trichloro-1,2,2-Trifluoroethane	µg/L	NV	NA		NA		< 12	U	NA		NA		NA		NA		NA		NA	
1,1,2-Trichloroethane	µg/L	NV	NA		NA		< 12	U	NA		NA		NA		NA		NA		NA	
1,1-Dichloroethane	µg/L	NV	NA		NA		< 12	U	NA		NA		NA		NA		NA		NA	
1,1-Dichloroethene	µg/L	7	20		19		17	J	7.4		17		1		0.95	J	6.6		5	J
1,1-Dichloropropene	µg/L	NV	NA		NA		< 12	U	NA		NA		NA		NA		NA		NA	
1,2,3-Trichlorobenzene	µg/L	NV	NA		NA		< 12	U	NA		NA		NA		NA		NA		NA	
1,2,3-Trichloropropane	µg/L	NV	NA		NA		< 12	U	NA		NA		NA		NA		NA		NA	
1,2,4-Trichlorobenzene	µg/L	NV	NA		NA		< 12	U	NA		NA		NA		NA		NA		NA	
1,2,4-Trimethylbenzene	µg/L	NV	NA		NA		< 12	U	NA		NA		NA		NA		NA		NA	
1,2-Dibromo-3-chloropropane	µg/L	NV	NA		NA		< 12	U	NA		NA		NA		NA		NA		NA	
1,2-Dibromoethane	µg/L	NV	NA		NA		< 12	U	NA		NA		NA		NA		NA		NA	
1,2-Dichlorobenzene	µg/L	NV	NA		NA		< 12	U	NA		NA		NA		NA		NA		NA	
1,2-Dichloroethane	µg/L	5	10		10		39		20		47		2.8		1.9		< 0.5	U	28	
1,2-Dichloropropane	µg/L	NV	NA		NA		< 12	U	NA		NA		NA		NA		NA		NA	
1,3,5-Trimethylbenzene	µg/L	NV	NA		NA		< 12	U	NA		NA		NA		NA		NA		NA	
1,3-Dichlorobenzene	µg/L	NV	NA		NA		< 12	U	NA		NA		NA		NA		NA		NA	
1,3-Dichloropropane	µg/L	NV	NA		NA		< 12	U	NA		NA		NA		NA		NA		NA	
1,4-Dichlorobenzene	µg/L	NV	NA		NA		< 12	U	NA		NA		NA		NA		NA		NA	
2,2-Dichloropropane	µg/L	NV	NA		NA		< 12	U	NA		NA		NA		NA		NA		NA	
2-Butanone	µg/L	NV	NA		NA		< 25	U	NA		NA		NA		NA		NA		NA	
2-Chlorotoluene	µg/L	NV	NA		NA		< 12	U	NA		NA		NA		NA		NA		NA	
2-Hexanone	µg/L	NV	NA		NA		< 25	U	NA		NA		NA		NA		NA		NA	
4-Chlorotoluene	µg/L	NV	NA		NA		< 12	U	NA		NA		NA		NA		NA		NA	
Acetone	µg/L	NV	NA		NA		< 25	U	NA		NA		NA		NA		NA		NA	

Table 2-4
Year 1 and Year 2 RA-O Analytical Results, LHAAP-50

		Location Code	50WW12 (Upper Shallow)				50WW13 (Upper Shallow)													
		Sample ID	50WW12-220406		50WW12-220406-FD		50WW13-191113		50WW13-200709		50WW13-201001		50WW13-210128		50WW13-210406		50WW13-210708		50WW13-211007	
		Sample Date	4/6/2022		4/6/2022		11/13/2019		7/9/2020		10/1/2020		1/28/2021		4/6/2021		7/8/2021		10/7/2021	
		Sample Purpose	REG		FD		REG		REG		REG		REG		REG		REG		REG	
Analyte	Units	MCL/PCL	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Benzene	µg/L	NV	NA		NA		< 12	U	NA		NA		NA		NA		NA		NA	
Bromobenzene	µg/L	NV	NA		NA		< 12	U	NA		NA		NA		NA		NA		NA	
Bromochloromethane	µg/L	NV	NA		NA		< 12	U	NA		NA		NA		NA		NA		NA	
Bromodichloromethane	µg/L	NV	NA		NA		< 12	U	NA		NA		NA		NA		NA		NA	
Bromoform	µg/L	NV	NA		NA		< 12	U	NA		NA		NA		NA		NA		NA	
Bromomethane	µg/L	NV	NA		NA		< 12	U	NA		NA		NA		NA		NA		NA	
Carbon disulfide	µg/L	NV	NA		NA		< 25	U	NA		NA		NA		NA		NA		NA	
Carbon tetrachloride	µg/L	NV	NA		NA		< 12	U	NA		NA		NA		NA		NA		NA	
Chlorobenzene	µg/L	NV	NA		NA		< 12	U	NA		NA		NA		NA		NA		NA	
Chloroethane	µg/L	NV	NA		NA		< 12	U	NA		NA		NA		NA		NA		NA	
Chloroform	µg/L	NV	NA		NA		< 12	U	NA		NA		NA		NA		NA		NA	
Chloromethane	µg/L	NV	NA		NA		< 12	U	NA		NA		NA		NA		NA		NA	
cis-1,2-Dichloroethene	µg/L	70	3.5		4.1		230		120		300		26		16		120		130	
cis-1,3-Dichloropropene	µg/L	NV	NA		NA		< 12	U	NA		NA		NA		NA		NA		NA	
Dibromochloromethane	µg/L	NV	NA		NA		< 12	U	NA		NA		NA		NA		NA		NA	
Dibromomethane	µg/L	NV	NA		NA		< 12	U	NA		NA		NA		NA		NA		NA	
Dichlorodifluoromethane	µg/L	NV	NA		NA		< 12	U	NA		NA		NA		NA		NA		NA	
Ethylbenzene	µg/L	NV	NA		NA		< 12	U	NA		NA		NA		NA		NA		NA	
Hexachlorobutadiene	µg/L	NV	NA		NA		< 12	U	NA		NA		NA		NA		NA		NA	
Isopropylbenzene	µg/L	NV	NA		NA		< 12	U	NA		NA		NA		NA		NA		NA	
m,p-Xylenes	µg/L	NV	NA		NA		< 25	U	NA		NA		NA		NA		NA		NA	
Methyl isobutyl ketone	µg/L	NV	NA		NA		< 25	U	NA		NA		NA		NA		NA		NA	
Methylene chloride	µg/L	NV	NA		NA		< 25	U	NA		NA		NA		NA		NA		NA	
Naphthalene	µg/L	NV	NA		NA		< 12	U	NA		NA		NA		NA		NA		NA	
n-Butylbenzene	µg/L	NV	NA		NA		< 12	U	NA		NA		NA		NA		NA		NA	
n-Propylbenzene	µg/L	NV	NA		NA		< 12	U	NA		NA		NA		NA		NA		NA	
o-Xylene	µg/L	NV	NA		NA		< 12	U	NA		NA		NA		NA		NA		NA	
p-Isopropyltoluene	µg/L	NV	NA		NA		< 12	U	NA		NA		NA		NA		NA		NA	
sec-Butylbenzene	µg/L	NV	NA		NA		< 12	U	NA		NA		NA		NA		NA		NA	
Styrene	µg/L	NV	NA		NA		< 12	U	NA		NA		NA		NA		NA		NA	
tert-Butylbenzene	µg/L	NV	NA		NA		< 12	U	NA		NA		NA		NA		NA		NA	
Tetrachloroethene	µg/L	5	< 1	U	< 1	U	< 12	U	3.4	J	8.6		2.4		1.7		3.8		4.7	J
Toluene	µg/L	NV	NA		NA		< 12	U	NA		NA		NA		NA		NA		NA	
trans-1,2-Dichloroethene	µg/L	NV	NA		NA		< 12	U	NA		NA		NA		NA		NA		NA	
trans-1,3-Dichloropropene	µg/L	NV	NA		NA		< 12	U	NA		NA		NA		NA		NA		NA	
Trichloroethene	µg/L	5	1,400		1,400		7,300		3,400		8,300		690		410		3,000		2,900	
Trichlorofluoromethane	µg/L	NV	NA		NA		< 12	U	NA		NA		NA		NA		NA		NA	
Vinyl chloride	µg/L	2	< 0.5	U	< 0.5	U	< 12	U	< 2.5	U	NS	J	< 0.5	U	< 0.5	U	0.92	J	< 2.5	U

Table 2-4
Year 1 and Year 2 RA-O Analytical Results, LHAAP-50

			Location Code	50WW13 (Upper Shallow)						50WW14 (Lower Shallow)											
			Sample ID	50WW13-220106		50WW13-220106-FD		50WW13-220406		50WW14-191113		50WW14-200709		50WW14-201001		50WW14-210128		50WW14-210128-FD		50WW14-210406	
			Sample Date	1/6/2022		1/6/2022		4/6/2022		11/13/2019		7/9/2020		10/1/2020		1/28/2021		1/28/2021		4/6/2021	
			Sample Purpose	REG		FD		REG		REG		REG		REG		REG		FD		REG	
Analyte	Units	MCL/PCL		Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
DHC																					
Dehalococcoides	cells/mL	NV		2.6		NA		NA		NA		0.8		2.1		3.3		NA		13.4	
FIELD TESTS																					
Dissolved oxygen	mg/L	NV		0.45		0.45		1		0.03		0.46		0.15		0.04		0.04		0.17	
Ferrous Iron	NA	NV		0.81		0.81		0.00		1.67		1.83				3.77		3.77		1.6	
Oxidation Reduction Potential	mV	NV		136		136		71		-20		-21		7		-125		-125		-34	
pH	pH_units	NV		5.66		5.66		6.78		6.53		6.75		6.26		5.91		5.91		6.34	
Specific conductivity	µmhos/cm	NV		2.15		2.15		2.1		2.20		2.21		2.22		2.68		2.68		2.40	
Temperature	deg. C	NV		16.9		16.9		20.99		16.55		20.87		18.53		16.60		16.60		18.30	
Turbidity	NTU	NV		104		104		79		300		125		159		207		207		76.2	
DISSOLVED GASES																					
Carbon dioxide	µg/L	NV		288,000		220,000		50,100	J	97,000		85,000		170,000		380,000	J	340,000	J	98,000	J
Ethane	µg/L	NV		< 0.5	U	< 0.5	U	1.56		< 0.47	U	< 0.47	U	< 0.47	U	< 0.47	U	< 0.47	U	< 0.47	U
Ethylene	µg/L	NV		0.901	J	2.25	J	< 0.5	U	< 0.55	U	< 0.55	U	< 0.55	U	< 0.55	U	< 0.55	U	< 0.55	U
Methane	µg/L	NV		7.59	J	8.38	J	2.81		1.8		1.9		2.2		1.8		1.5		3	
GENERAL CHEMISTRY																					
Chloride	mg/L	NV		312		300		372		395		397		393		385		387		402	
Nitrate	mg/L	NV		0.038	J	0.0382	J	0.0314	J	< 0.1	U	< 0.1	U	< 0.1	U	< 0.1	U	< 0.1	U	< 0.1	U
Sulfate	mg/L	NV		324		309		349		357		382		375		316		322		383	
Total organic carbon	mg/L	NV		3.39	J	2.12	J	1.89		0.88		0.84	J	1.58		1.86		1.88		1.57	
PERCHLORATE																					
Perchlorate	µg/L	17		2,500		3,220		514		< 2	U	3.69		1.37		< 0.25	U	< 0.25	U	< 0.05	U
VOLATILES																					
1,1,1,2-Tetrachloroethane	µg/L	NV		NA		NA		NA		< 0.5	U	NA		NA		NA		NA		NA	
1,1,1-Trichloroethane	µg/L	NV		NA		NA		NA		< 0.5	U	NA		NA		NA		NA		NA	
1,1,2,2-Tetrachloroethane	µg/L	NV		NA		NA		NA		< 0.5	U	NA		NA		NA		NA		NA	
1,1,2-Trichloro-1,2,2-Trifluoroethane	µg/L	NV		NA		NA		NA		< 0.5	U	NA		NA		NA		NA		NA	
1,1,2-Trichloroethane	µg/L	NV		NA		NA		NA		< 0.5	U	NA		NA		NA		NA		NA	
1,1-Dichloroethane	µg/L	NV		NA		NA		NA		< 0.5	U	NA		NA		NA		NA		NA	
1,1-Dichloroethene	µg/L	7		11		9.6		3.2		< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
1,1-Dichloropropene	µg/L	NV		NA		NA		NA		< 0.5	U	NA		NA		NA		NA		NA	
1,2,3-Trichlorobenzene	µg/L	NV		NA		NA		NA		< 0.5	U	NA		NA		NA		NA		NA	
1,2,3-Trichloropropane	µg/L	NV		NA		NA		NA		< 0.5	U	NA		NA		NA		NA		NA	
1,2,4-Trichlorobenzene	µg/L	NV		NA		NA		NA		< 0.5	U	NA		NA		NA		NA		NA	
1,2,4-Trimethylbenzene	µg/L	NV		NA		NA		NA		< 0.5	U	NA		NA		NA		NA		NA	
1,2-Dibromo-3-chloropropane	µg/L	NV		NA		NA		NA		< 0.5	U	NA		NA		NA		NA		NA	
1,2-Dibromoethane	µg/L	NV		NA		NA		NA		< 0.5	U	NA		NA		NA		NA		NA	
1,2-Dichlorobenzene	µg/L	NV		NA		NA		NA		< 0.5	U	NA		NA		NA		NA		NA	
1,2-Dichloroethane	µg/L	5		37		33		7.1		< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	0.54	J	< 0.5	U
1,2-Dichloropropane	µg/L	NV		NA		NA		NA		< 0.5	U	NA		NA		NA		NA		NA	
1,3,5-Trimethylbenzene	µg/L	NV		NA		NA		NA		< 0.5	U	NA		NA		NA		NA		NA	
1,3-Dichlorobenzene	µg/L	NV		NA		NA		NA		< 0.5	U	NA		NA		NA		NA		NA	
1,3-Dichloropropane	µg/L	NV		NA		NA		NA		< 0.5	U	NA		NA		NA		NA		NA	
1,4-Dichlorobenzene	µg/L	NV		NA		NA		NA		< 0.5	U	NA		NA		NA		NA		NA	
2,2-Dichloropropane	µg/L	NV		NA		NA		NA		< 0.5	U	NA		NA		NA		NA		NA	
2-Butanone	µg/L	NV		NA		NA		NA		< 1	U	NA		NA		NA		NA		NA	
2-Chlorotoluene	µg/L	NV		NA		NA		NA		< 0.5	U	NA		NA		NA		NA		NA	
2-Hexanone	µg/L	NV		NA		NA		NA		< 1	U	NA		NA		NA		NA		NA	
4-Chlorotoluene	µg/L	NV		NA		NA		NA		< 0.5	U	NA		NA		NA		NA		NA	
Acetone	µg/L	NV		NA		NA		NA		< 1	U	NA		NA		NA		NA		NA	

Table 2-4
Year 1 and Year 2 RA-O Analytical Results, LHAAP-50

		Location Code	50WW13 (Upper Shallow)						50WW14 (Lower Shallow)											
		Sample ID	50WW13-220106		50WW13-220106-FD		50WW13-220406		50WW14-191113		50WW14-200709		50WW14-201001		50WW14-210128		50WW14-210128-FD		50WW14-210406	
		Sample Date	1/6/2022		1/6/2022		4/6/2022		11/13/2019		7/9/2020		10/1/2020		1/28/2021		1/28/2021		4/6/2021	
		Sample Purpose	REG		FD		REG		REG		REG		REG		REG		FD		REG	
Analyte	Units	MCL/PCL	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Benzene	µg/L	NV	NA		NA		NA		< 0.5	U	NA		NA		NA		NA		NA	
Bromobenzene	µg/L	NV	NA		NA		NA		< 0.5	U	NA		NA		NA		NA		NA	
Bromochloromethane	µg/L	NV	NA		NA		NA		< 0.5	U	NA		NA		NA		NA		NA	
Bromodichloromethane	µg/L	NV	NA		NA		NA		< 0.5	U	NA		NA		NA		NA		NA	
Bromoform	µg/L	NV	NA		NA		NA		< 0.5	U	NA		NA		NA		NA		NA	
Bromomethane	µg/L	NV	NA		NA		NA		< 0.5	U	NA		NA		NA		NA		NA	
Carbon disulfide	µg/L	NV	NA		NA		NA		< 1	U	NA		NA		NA		NA		NA	
Carbon tetrachloride	µg/L	NV	NA		NA		NA		< 0.5	U	NA		NA		NA		NA		NA	
Chlorobenzene	µg/L	NV	NA		NA		NA		< 0.5	U	NA		NA		NA		NA		NA	
Chloroethane	µg/L	NV	NA		NA		NA		< 0.5	U	NA		NA		NA		NA		NA	
Chloroform	µg/L	NV	NA		NA		NA		< 0.5	U	NA		NA		NA		NA		NA	
Chloromethane	µg/L	NV	NA		NA		NA		< 0.5	U	NA		NA		NA		NA		NA	
cis-1,2-Dichloroethene	µg/L	70	210		200		72		1.7		1.3		2.9		4.1		4.5		5.9	
cis-1,3-Dichloropropene	µg/L	NV	NA		NA		NA		< 0.5	U	NA		NA		NA		NA		NA	
Dibromochloromethane	µg/L	NV	NA		NA		NA		< 0.5	U	NA		NA		NA		NA		NA	
Dibromomethane	µg/L	NV	NA		NA		NA		< 0.5	U	NA		NA		NA		NA		NA	
Dichlorodifluoromethane	µg/L	NV	NA		NA		NA		< 0.5	U	NA		NA		NA		NA		NA	
Ethylbenzene	µg/L	NV	NA		NA		NA		< 0.5	U	NA		NA		NA		NA		NA	
Hexachlorobutadiene	µg/L	NV	NA		NA		NA		< 0.5	U	NA		NA		NA		NA		NA	
Isopropylbenzene	µg/L	NV	NA		NA		NA		< 0.5	U	NA		NA		NA		NA		NA	
m,p-Xylenes	µg/L	NV	NA		NA		NA		< 1	U	NA		NA		NA		NA		NA	
Methyl isobutyl ketone	µg/L	NV	NA		NA		NA		< 1	U	NA		NA		NA		NA		NA	
Methylene chloride	µg/L	NV	NA		NA		NA		< 1	U	NA		NA		NA		NA		NA	
Naphthalene	µg/L	NV	NA		NA		NA		< 0.5	U	NA		NA		NA		NA		NA	
n-Butylbenzene	µg/L	NV	NA		NA		NA		< 0.5	U	NA		NA		NA		NA		NA	
n-Propylbenzene	µg/L	NV	NA		NA		NA		< 0.5	U	NA		NA		NA		NA		NA	
o-Xylene	µg/L	NV	NA		NA		NA		< 0.5	U	NA		NA		NA		NA		NA	
p-Isopropyltoluene	µg/L	NV	NA		NA		NA		< 0.5	U	NA		NA		NA		NA		NA	
sec-Butylbenzene	µg/L	NV	NA		NA		NA		< 0.5	U	NA		NA		NA		NA		NA	
Styrene	µg/L	NV	NA		NA		NA		< 0.5	U	NA		NA		NA		NA		NA	
tert-Butylbenzene	µg/L	NV	NA		NA		NA		< 0.5	U	NA		NA		NA		NA		NA	
Tetrachloroethene	µg/L	5	5.8		6.9		7.2		< 0.5	U	< 1	U	< 0.5	U	< 1	U	< 1	U	< 1	U
Toluene	µg/L	NV	NA		NA		NA		< 0.5	U	NA		NA		NA		NA		NA	
trans-1,2-Dichloroethene	µg/L	NV	NA		NA		NA		< 0.5	U	NA		NA		NA		NA		NA	
trans-1,3-Dichloropropene	µg/L	NV	NA		NA		NA		< 0.5	U	NA		NA		NA		NA		NA	
Trichloroethene	µg/L	5	5,800		5,700		2,100		37		32		74	J+	46		46		23	
Trichlorofluoromethane	µg/L	NV	NA		NA		NA		< 0.5	U	NA		NA		NA		NA		NA	
Vinyl chloride	µg/L	2	< 2.5		< 2.5		0.54	J	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U

Table 2-4
Year 1 and Year 2 RA-O Analytical Results, LHAAP-50

			Location Code	50WW14 (Lower Shallow)								50WW15 (Upper Shallow)						50WW16 (Upper Shallow)			
			Sample ID	50WW14-210708		50WW14-211007		50WW14-220106		50WW14-220406		50WW15-191108		50WW15-201005		50WW15-211011		50WW16-191113		50WW16-201005	
			Sample Date	7/8/2021		10/7/2021		1/6/2022		4/6/2022		11/8/2019		10/5/2020		10/11/2021		11/13/2019		10/5/2020	
			Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG		REG	
Analyte	Units	MCL/PCL		Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
DHC																					
Dehalococcoides	cells/mL	NV		3.8		0.7	J	20.4		NA		NA		NA		NA		NA		NA	
FIELD TESTS																					
Dissolved oxygen	mg/L	NV		1.23		0.28		0.56		0.2		0.04		0.83		0.22		0.07		0.26	
Ferrous Iron	NA	NV		1.49		3.87		3.53		3.30		NM		NM		NM		0.15		NM	
Oxidation Reduction Potential	mV	NV		46		-12		165		-56		29		172		121		104		201	
pH	pH units	NV		5.87		5.39		5.21		6.68		6.93		6.42		5.52		6.97		5.60	
Specific conductivity	µmhos/cm	NV		2.24		1.34		2.38		2.27		1.77		1.90		1.02		0.251		0.224	
Temperature	deg. C	NV		19.47		18.66		17.43		22.6		16.79		18.64		19.47		14.49		19.02	
Turbidity	NTU	NV		196		104		123		26		84.8		20		70.1		84.7		27.7	
DISSOLVED GASES																					
Carbon dioxide	µg/L	NV		490,000	J	472,000		634,000		65,700	J	NA		NA		NA		26,000		NA	
Ethane	µg/L	NV		< 0.47	U	< 2	UJ	< 0.5	U	< 0.5	U	NA		NA		NA		< 0.47	U	NA	
Ethylene	µg/L	NV		< 0.55	U	< 1	UJ	2.32	J	2.28		NA		NA		NA		< 0.55	U	NA	
Methane	µg/L	NV		1.6		2.5	J	4.48	J	3.21	J	NA		NA		NA		3		NA	
GENERAL CHEMISTRY																					
Chloride	mg/L	NV		404		422		444		405		NA		NA		NA		6.07		NA	
Nitrate	mg/L	NV		0.0723	UB	< 0.1	U	< 0.1	U	< 0.1	U	NA		NA		NA		< 0.1	U	NA	
Sulfate	mg/L	NV		370		377		398		380		NA		NA		NA		28.7		NA	
Total organic carbon	mg/L	NV		1.34		1.39		1.47		3.11		NA		NA		NA		1.05		NA	
PERCHLORATE																					
Perchlorate	µg/L	17		0.636		< 0.2	U	< 0.2	U	1.48		< 2	U	< 0.5	U	< 0.2	U	1.6	J	0.0701	J
VOLATILES																					
1,1,1,2-Tetrachloroethane	µg/L	NV		NA		NA		NA		NA		< 0.5	U	NA		NA		< 0.5	U	NA	
1,1,1-Trichloroethane	µg/L	NV		NA		NA		NA		NA		< 0.5	U	NA		NA		< 0.5	U	NA	
1,1,2,2-Tetrachloroethane	µg/L	NV		NA		NA		NA		NA		< 0.5	U	NA		NA		< 0.5	U	NA	
1,1,2-Trichloro-1,2,2-Trifluoroethane	µg/L	NV		NA		NA		NA		NA		< 0.5	U	NA		NA		< 0.5	U	NA	
1,1,2-Trichloroethane	µg/L	NV		NA		NA		NA		NA		< 0.5	U	NA		NA		< 0.5	U	NA	
1,1-Dichloroethane	µg/L	NV		NA		NA		NA		NA		< 0.5	U	NA		NA		< 0.5	U	NA	
1,1-Dichloroethene	µg/L	7		< 0.5	U	< 0.5	U	< 0.5		< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
1,1-Dichloropropene	µg/L	NV		NA		NA		NA		NA		< 0.5	U	NA		NA		< 0.5	U	NA	
1,2,3-Trichlorobenzene	µg/L	NV		NA		NA		NA		NA		< 0.5	U	NA		NA		< 0.5	U	NA	
1,2,3-Trichloropropane	µg/L	NV		NA		NA		NA		NA		< 0.5	U	NA		NA		< 0.5	U	NA	
1,2,4-Trichlorobenzene	µg/L	NV		NA		NA		NA		NA		< 0.5	U	NA		NA		< 0.5	U	NA	
1,2,4-Trimethylbenzene	µg/L	NV		NA		NA		NA		NA		< 0.5	U	NA		NA		< 0.5	U	NA	
1,2-Dibromo-3-chloropropane	µg/L	NV		NA		NA		NA		NA		< 0.5	U	NA		NA		< 0.5	U	NA	
1,2-Dibromoethane	µg/L	NV		NA		NA		NA		NA		< 0.5	U	NA		NA		< 0.5	U	NA	
1,2-Dichlorobenzene	µg/L	NV		NA		NA		NA		NA		< 0.5	U	NA		NA		< 0.5	U	NA	
1,2-Dichloroethane	µg/L	5		< 0.5	U	< 0.5	U	< 0.5		0.51	J	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
1,2-Dichloropropane	µg/L	NV		NA		NA		NA		NA		< 0.5	U	NA		NA		< 0.5	U	NA	
1,3,5-Trimethylbenzene	µg/L	NV		NA		NA		NA		NA		< 0.5	U	NA		NA		< 0.5	U	NA	
1,3-Dichlorobenzene	µg/L	NV		NA		NA		NA		NA		< 0.5	U	NA		NA		< 0.5	U	NA	
1,3-Dichloropropane	µg/L	NV		NA		NA		NA		NA		< 0.5	U	NA		NA		< 0.5	U	NA	
1,4-Dichlorobenzene	µg/L	NV		NA		NA		NA		NA		< 0.5	U	NA		NA		< 0.5	U	NA	
2,2-Dichloropropane	µg/L	NV		NA		NA		NA		NA		< 0.5	U	NA		NA		< 0.5	U	NA	
2-Butanone	µg/L	NV		NA		NA		NA		NA		< 1	U	NA		NA		< 1	U	NA	
2-Chlorotoluene	µg/L	NV		NA		NA		NA		NA		< 0.5	U	NA		NA		< 0.5	U	NA	
2-Hexanone	µg/L	NV		NA		NA		NA		NA		< 1	U	NA		NA		< 1	U	NA	
4-Chlorotoluene	µg/L	NV		NA		NA		NA		NA		< 0.5	U	NA		NA		< 0.5	U	NA	
Acetone	µg/L	NV		NA		NA		NA		NA		< 2	U	NA		NA		< 1	U	NA	

Table 2-4
Year 1 and Year 2 RA-O Analytical Results, LHAAP-50

		Location Code	50WW14 (Lower Shallow)								50WW15 (Upper Shallow)						50WW16 (Upper Shallow)			
		Sample ID	50WW14-210708		50WW14-211007		50WW14-220106		50WW14-220406		50WW15-191108		50WW15-201005		50WW15-211011		50WW16-191113		50WW16-201005	
		Sample Date	7/8/2021		10/7/2021		1/6/2022		4/6/2022		11/8/2019		10/5/2020		10/11/2021		11/13/2019		10/5/2020	
		Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG		REG	
Analyte	Units	MCL/PCL	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Benzene	µg/L	NV	NA		NA		NA		NA		< 0.5	U	NA		NA		< 0.5	U	NA	
Bromobenzene	µg/L	NV	NA		NA		NA		NA		< 0.5	U	NA		NA		< 0.5	U	NA	
Bromochloromethane	µg/L	NV	NA		NA		NA		NA		< 0.5	U	NA		NA		< 0.5	U	NA	
Bromodichloromethane	µg/L	NV	NA		NA		NA		NA		< 0.5	U	NA		NA		< 0.5	U	NA	
Bromoform	µg/L	NV	NA		NA		NA		NA		< 0.5	U	NA		NA		< 0.5	U	NA	
Bromomethane	µg/L	NV	NA		NA		NA		NA		< 0.5	U	NA		NA		< 0.5	U	NA	
Carbon disulfide	µg/L	NV	NA		NA		NA		NA		< 1	U	NA		NA		< 1	U	NA	
Carbon tetrachloride	µg/L	NV	NA		NA		NA		NA		< 0.5	U	NA		NA		< 0.5	U	NA	
Chlorobenzene	µg/L	NV	NA		NA		NA		NA		< 0.5	U	NA		NA		< 0.5	U	NA	
Chloroethane	µg/L	NV	NA		NA		NA		NA		< 0.5	U	NA		NA		< 0.5	U	NA	
Chloroform	µg/L	NV	NA		NA		NA		NA		< 0.5	U	NA		NA		< 0.5	U	NA	
Chloromethane	µg/L	NV	NA		NA		NA		NA		< 0.5	U	NA		NA		< 0.5	U	NA	
cis-1,2-Dichloroethene	µg/L	70	2.4		4.6		9.6		14		5.5		5.4		1.4		< 0.5	U	< 0.5	U
cis-1,3-Dichloropropene	µg/L	NV	NA		NA		NA		NA		< 0.5	U	NA		NA		< 0.5	U	NA	
Dibromochloromethane	µg/L	NV	NA		NA		NA		NA		< 0.5	U	NA		NA		< 0.5	U	NA	
Dibromomethane	µg/L	NV	NA		NA		NA		NA		< 0.5	U	NA		NA		< 0.5	U	NA	
Dichlorodifluoromethane	µg/L	NV	NA		NA		NA		NA		< 0.5	U	NA		NA		< 0.5	U	NA	
Ethylbenzene	µg/L	NV	NA		NA		NA		NA		< 0.5	U	NA		NA		< 0.5	U	NA	
Hexachlorobutadiene	µg/L	NV	NA		NA		NA		NA		< 1	U	NA		NA		< 0.5	U	NA	
Isopropylbenzene	µg/L	NV	NA		NA		NA		NA		< 0.5	U	NA		NA		< 0.5	U	NA	
m,p-Xylenes	µg/L	NV	NA		NA		NA		NA		< 1	U	NA		NA		< 1	U	NA	
Methyl isobutyl ketone	µg/L	NV	NA		NA		NA		NA		< 1	U	NA		NA		< 1	U	NA	
Methylene chloride	µg/L	NV	NA		NA		NA		NA		< 1	U	NA		NA		< 1	U	NA	
Naphthalene	µg/L	NV	NA		NA		NA		NA		< 0.5	U	NA		NA		< 0.5	U	NA	
n-Butylbenzene	µg/L	NV	NA		NA		NA		NA		< 0.5	U	NA		NA		< 0.5	U	NA	
n-Propylbenzene	µg/L	NV	NA		NA		NA		NA		< 0.5	U	NA		NA		< 0.5	U	NA	
o-Xylene	µg/L	NV	NA		NA		NA		NA		< 0.5	U	NA		NA		< 0.5	U	NA	
p-Isopropyltoluene	µg/L	NV	NA		NA		NA		NA		< 0.5	U	NA		NA		< 0.5	U	NA	
sec-Butylbenzene	µg/L	NV	NA		NA		NA		NA		< 0.5	U	NA		NA		< 0.5	U	NA	
Styrene	µg/L	NV	NA		NA		NA		NA		< 0.5	U	NA		NA		< 0.5	U	NA	
tert-Butylbenzene	µg/L	NV	NA		NA		NA		NA		< 0.5	U	NA		NA		< 0.5	U	NA	
Tetrachloroethene	µg/L	5	< 1	U	< 1	U	< 1		< 1	U	2.1		1.8		< 1	U	< 0.5	U	< 0.5	U
Toluene	µg/L	NV	NA		NA		NA		NA		< 0.5	U	NA		NA		< 0.5	U	NA	
trans-1,2-Dichloroethene	µg/L	NV	NA		NA		NA		NA		< 0.5	U	NA		NA		< 0.5	U	NA	
trans-1,3-Dichloropropene	µg/L	NV	NA		NA		NA		NA		< 0.5	U	NA		NA		< 0.5	U	NA	
Trichloroethene	µg/L	5	24		28		14		48		7.2		8.4		2		1.5		0.62	J
Trichlorofluoromethane	µg/L	NV	NA		NA		NA		NA		< 0.5	U	NA		NA		< 0.5	U	NA	
Vinyl chloride	µg/L	2	< 0.5	U	< 0.5	U	< 0.5		< 0.5	U	1.7		1.1		< 0.5	U	< 0.5	U	< 0.5	U

Table 2-4
Year 1 and Year 2 RA-O Analytical Results, LHAAP-50

		Location Code	50WW16 (Upper Shallow)				50WW18 (Upper Shallow)								50WW22 (Upper Shallow)					
		Sample ID	50WW16-211011		50WW16-211011-FD		50WW18-191108		50WW18-201005		50WW18-201005-FD		50WW18-211011		50WW22-191112		50WW22-201005		50WW22-211011	
		Sample Date	10/11/2021		10/11/2021		11/8/2019		10/5/2020		10/5/2020		10/11/2021		11/12/2019		10/5/2020		10/11/2021	
		Sample Purpose	REG		FD		REG		REG		FD		REG		REG		REG		REG	
Analyte	Units	MCL/PCL	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
DHC																				
Dehalococcoides	cells/mL	NV	NA		NA		NA		NA		NA		NA		NA		NA		NA	
FIELD TESTS																				
Dissolved oxygen	mg/L	NV	0.12		NM		0.05		0.15		0.15		0.16		1.83		0.95		0.31	
Ferrous Iron	NA	NV	NM		NM		NM		NM		NM		NM		0.17		NM		NM	
Oxidation Reduction Potential	mV	NV	192		NM		102		172		172		179		193		223		218	
pH	pH units	NV	4.90		NM		6.59		6.67		6.67		5.68		6.76		5.99		5.63	
Specific conductivity	µmhos/cm	NV	0.129		NM		3.19		3.24		3.24		1.810		3.96		4.12		2.290	
Temperature	deg. C	NV	19.79		NM		16.01		19.07		19.07		19.38		14.14		18.17		18.61	
Turbidity	NTU	NV	134		NM		77		43.1		43.1		50.1		57.4		4.5		12.4	
DISSOLVED GASES																				
Carbon dioxide	µg/L	NV	NA		NA		NA		NA		NA		NA		79,000		NA		NA	
Ethane	µg/L	NV	NA		NA		NA		NA		NA		NA		< 0.47	U	NA		NA	
Ethylene	µg/L	NV	NA		NA		NA		NA		NA		NA		< 0.55	U	NA		NA	
Methane	µg/L	NV	NA		NA		NA		NA		NA		NA		0.55	J	NA		NA	
GENERAL CHEMISTRY																				
Chloride	mg/L	NV	NA		NA		NA		NA		NA		NA		773		NA		NA	
Nitrate	mg/L	NV	NA		NA		NA		NA		NA		NA		< 0.1	U	NA		NA	
Sulfate	mg/L	NV	NA		NA		NA		NA		NA		NA		587		NA		NA	
Total organic carbon	mg/L	NV	NA		NA		NA		NA		NA		NA		1.01		NA		NA	
PERCHLORATE																				
Perchlorate	µg/L	17	< 0.2	U	< 0.2	U	< 2	U	< 0.5	U	< 0.5	U	< 0.2	U	< 2	U	< 0.5	U	0.464	
VOLATILES																				
1,1,1,2-Tetrachloroethane	µg/L	NV	NA		NA		< 0.5	U	NA		NA		NA		< 0.5	U	NA		NA	
1,1,1-Trichloroethane	µg/L	NV	NA		NA		< 0.5	U	NA		NA		NA		< 0.5	U	NA		NA	
1,1,2,2-Tetrachloroethane	µg/L	NV	NA		NA		< 0.5	U	NA		NA		NA		< 0.5	U	NA		NA	
1,1,2-Trichloro-1,2,2-Trifluoroethane	µg/L	NV	NA		NA		< 0.5	U	NA		NA		NA		1		NA		NA	
1,1,2-Trichloroethane	µg/L	NV	NA		NA		< 0.5	U	NA		NA		NA		< 0.5	U	NA		NA	
1,1-Dichloroethane	µg/L	NV	NA		NA		< 0.5	U	NA		NA		NA		< 0.5	U	NA		NA	
1,1-Dichloroethene	µg/L	7	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
1,1-Dichloropropene	µg/L	NV	NA		NA		< 0.5	U	NA		NA		NA		< 0.5	U	NA		NA	
1,2,3-Trichlorobenzene	µg/L	NV	NA		NA		< 0.5	U	NA		NA		NA		< 0.5	U	NA		NA	
1,2,3-Trichloropropane	µg/L	NV	NA		NA		< 0.5	U	NA		NA		NA		< 0.5	U	NA		NA	
1,2,4-Trichlorobenzene	µg/L	NV	NA		NA		< 0.5	U	NA		NA		NA		< 0.5	U	NA		NA	
1,2,4-Trimethylbenzene	µg/L	NV	NA		NA		< 0.5	U	NA		NA		NA		< 0.5	U	NA		NA	
1,2-Dibromo-3-chloropropane	µg/L	NV	NA		NA		< 0.5	U	NA		NA		NA		< 0.5	U	NA		NA	
1,2-Dibromoethane	µg/L	NV	NA		NA		< 0.5	U	NA		NA		NA		< 0.5	U	NA		NA	
1,2-Dichlorobenzene	µg/L	NV	NA		NA		< 0.5	U	NA		NA		NA		< 0.5	U	NA		NA	
1,2-Dichloroethane	µg/L	5	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
1,2-Dichloropropane	µg/L	NV	NA		NA		< 0.5	U	NA		NA		NA		< 0.5	U	NA		NA	
1,3,5-Trimethylbenzene	µg/L	NV	NA		NA		< 0.5	U	NA		NA		NA		< 0.5	U	NA		NA	
1,3-Dichlorobenzene	µg/L	NV	NA		NA		< 0.5	U	NA		NA		NA		< 0.5	U	NA		NA	
1,3-Dichloropropane	µg/L	NV	NA		NA		< 0.5	U	NA		NA		NA		< 0.5	U	NA		NA	
1,4-Dichlorobenzene	µg/L	NV	NA		NA		< 0.5	U	NA		NA		NA		< 0.5	U	NA		NA	
2,2-Dichloropropane	µg/L	NV	NA		NA		< 0.5	U	NA		NA		NA		< 0.5	U	NA		NA	
2-Butanone	µg/L	NV	NA		NA		< 1	U	NA		NA		NA		< 1	U	NA		NA	
2-Chlorotoluene	µg/L	NV	NA		NA		< 0.5	U	NA		NA		NA		< 0.5	U	NA		NA	
2-Hexanone	µg/L	NV	NA		NA		< 1	U	NA		NA		NA		< 1	U	NA		NA	
4-Chlorotoluene	µg/L	NV	NA		NA		< 0.5	U	NA		NA		NA		< 0.5	U	NA		NA	
Acetone	µg/L	NV	NA		NA		< 2	U	NA		NA		NA		< 2	U	NA		NA	

Table 2-4
Year 1 and Year 2 RA-O Analytical Results, LHAAP-50

		Location Code	50WW16 (Upper Shallow)				50WW18 (Upper Shallow)								50WW22 (Upper Shallow)					
		Sample ID	50WW16-211011		50WW16-211011-FD		50WW18-191108		50WW18-201005		50WW18-201005-FD		50WW18-211011		50WW22-191112		50WW22-201005		50WW22-211011	
		Sample Date	10/11/2021		10/11/2021		11/8/2019		10/5/2020		10/5/2020		10/11/2021		11/12/2019		10/5/2020		10/11/2021	
		Sample Purpose	REG		FD		REG		REG		FD		REG		REG		REG		REG	
Analyte	Units	MCL/PCL	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Benzene	µg/L	NV	NA		NA		< 0.5	U	NA		NA		NA		< 0.5	U	NA		NA	
Bromobenzene	µg/L	NV	NA		NA		< 0.5	U	NA		NA		NA		< 0.5	U	NA		NA	
Bromochloromethane	µg/L	NV	NA		NA		< 0.5	U	NA		NA		NA		< 0.5	U	NA		NA	
Bromodichloromethane	µg/L	NV	NA		NA		< 0.5	U	NA		NA		NA		< 0.5	U	NA		NA	
Bromoform	µg/L	NV	NA		NA		< 0.5	U	NA		NA		NA		< 0.5	U	NA		NA	
Bromomethane	µg/L	NV	NA		NA		< 0.5	U	NA		NA		NA		< 0.5	U	NA		NA	
Carbon disulfide	µg/L	NV	NA		NA		< 1	U	NA		NA		NA		< 1	U	NA		NA	
Carbon tetrachloride	µg/L	NV	NA		NA		< 0.5	U	NA		NA		NA		< 0.5	U	NA		NA	
Chlorobenzene	µg/L	NV	NA		NA		< 0.5	U	NA		NA		NA		< 0.5	U	NA		NA	
Chloroethane	µg/L	NV	NA		NA		< 0.5	U	NA		NA		NA		< 0.5	U	NA		NA	
Chloroform	µg/L	NV	NA		NA		< 0.5	U	NA		NA		NA		< 0.5	U	NA		NA	
Chloromethane	µg/L	NV	NA		NA		< 0.5	U	NA		NA		NA		< 0.5	U	NA		NA	
cis-1,2-Dichloroethene	µg/L	70	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
cis-1,3-Dichloropropene	µg/L	NV	NA		NA		< 0.5	U	NA		NA		NA		< 0.5	U	NA		NA	
Dibromochloromethane	µg/L	NV	NA		NA		< 0.5	U	NA		NA		NA		< 0.5	U	NA		NA	
Dibromomethane	µg/L	NV	NA		NA		< 0.5	U	NA		NA		NA		< 0.5	U	NA		NA	
Dichlorodifluoromethane	µg/L	NV	NA		NA		< 0.5	U	NA		NA		NA		< 0.5	U	NA		NA	
Ethylbenzene	µg/L	NV	NA		NA		< 0.5	U	NA		NA		NA		< 0.5	U	NA		NA	
Hexachlorobutadiene	µg/L	NV	NA		NA		< 1	U	NA		NA		NA		< 1	U	NA		NA	
Isopropylbenzene	µg/L	NV	NA		NA		< 0.5	U	NA		NA		NA		< 0.5	U	NA		NA	
m,p-Xylenes	µg/L	NV	NA		NA		< 1	U	NA		NA		NA		< 1	U	NA		NA	
Methyl isobutyl ketone	µg/L	NV	NA		NA		< 1	U	NA		NA		NA		< 1	U	NA		NA	
Methylene chloride	µg/L	NV	NA		NA		< 1	U	NA		NA		NA		< 1	U	NA		NA	
Naphthalene	µg/L	NV	NA		NA		< 0.5	U	NA		NA		NA		< 0.5	U	NA		NA	
n-Butylbenzene	µg/L	NV	NA		NA		< 0.5	U	NA		NA		NA		< 0.5	U	NA		NA	
n-Propylbenzene	µg/L	NV	NA		NA		< 0.5	U	NA		NA		NA		< 0.5	U	NA		NA	
o-Xylene	µg/L	NV	NA		NA		< 0.5	U	NA		NA		NA		< 0.5	U	NA		NA	
p-Isopropyltoluene	µg/L	NV	NA		NA		< 0.5	U	NA		NA		NA		< 0.5	U	NA		NA	
sec-Butylbenzene	µg/L	NV	NA		NA		< 0.5	U	NA		NA		NA		< 0.5	U	NA		NA	
Styrene	µg/L	NV	NA		NA		< 0.5	U	NA		NA		NA		< 0.5	U	NA		NA	
tert-Butylbenzene	µg/L	NV	NA		NA		< 0.5	U	NA		NA		NA		< 0.5	U	NA		NA	
Tetrachloroethene	µg/L	5	< 1	U	< 1	U	< 0.5	U	< 1	U	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 1	U
Toluene	µg/L	NV	NA		NA		< 0.5	U	NA		NA		NA		< 0.5	U	NA		NA	
trans-1,2-Dichloroethene	µg/L	NV	NA		NA		< 0.5	U	NA		NA		NA		< 0.5	U	NA		NA	
trans-1,3-Dichloropropene	µg/L	NV	NA		NA		< 0.5	U	NA		NA		NA		< 0.5	U	NA		NA	
Trichloroethene	µg/L	5	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
Trichlorofluoromethane	µg/L	NV	NA		NA		< 0.5	U	NA		NA		NA		< 0.5	U	NA		NA	
Vinyl chloride	µg/L	2	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U

Table 2-4
Year 1 and Year 2 RA-O Analytical Results, LHAAP-50

			Location Code	50WW23 (Upper Shallow)						50WW29 (Upper Shallow)											
			Sample ID	50WW23-191113		50WW23-201005		50WW23-211011		50WW29-191111		50WW29-200708		50WW29-201001		50WW29-210125		50WW29-210405		50WW29-210707	
			Sample Date	11/13/2019		10/5/2020		10/11/2021		11/11/2019		7/8/2020		10/1/2020		1/25/2021		4/5/2021		7/7/2021	
			Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG		REG	
Analyte	Units	MCL/PCL		Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
DHC																					
Dehalococcoides	cells/mL	NV		NA		NA		NA		NA		NA		NA		NA		NA		NA	
FIELD TESTS																					
Dissolved oxygen	mg/L	NV		0.71		1.1		0.39		0.05		0.03		0.06		0.02		0.56		0.72	
Ferrous Iron	NA	NV		0.38		NM		NM		NM		NM		NM		NM		NM		NM	
Oxidation Reduction Potential	mV	NV		172		216		200		70		68		142		7		245		103	
pH	pH_units	NV		6.18		6.30		5.42		6.45		6.51		5.62		5.66		5.56		5.88	
Specific conductivity	µmhos/cm	NV		4.80		5.59		2.90		3.44		3.65		3.83		4.13		4.16		3.97	
Temperature	deg. C	NV		14.48		18.36		18.50		17.76		19.83		19.22		17.98		17.73		18.35	
Turbidity	NTU	NV		65.9		0		18.6		29.2		0		4.2		34.5		11.6		22.2	
DISSOLVED GASES																					
Carbon dioxide	µg/L	NV		190,000		NA		NA		NA		NA		NA		NA		NA		NA	
Ethane	µg/L	NV		< 0.47	U	NA		NA		NA		NA		NA		NA		NA		NA	
Ethylene	µg/L	NV		< 0.55	U	NA		NA		NA		NA		NA		NA		NA		NA	
Methane	µg/L	NV		< 1	U	NA		NA		NA		NA		NA		NA		NA		NA	
GENERAL CHEMISTRY																					
Chloride	mg/L	NV		1,290		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrate	mg/L	NV		0.104		NA		NA		NA		NA		NA		NA		NA		NA	
Sulfate	mg/L	NV		181		NA		NA		NA		NA		NA		NA		NA		NA	
Total organic carbon	mg/L	NV		0.2	J	NA		NA		NA		NA		NA		NA		NA		NA	
PERCHLORATE																					
Perchlorate	µg/L	17		< 2	U	< 0.5	U	0.139	J	< 2	U	2.47		5.96		< 0.5	U	< 0.05	U	0.174	
VOLATILES																					
1,1,1,2-Tetrachloroethane	µg/L	NV		< 0.5	U	NA		NA		< 0.5	U	NA		NA		NA		NA		NA	
1,1,1-Trichloroethane	µg/L	NV		< 0.5	U	NA		NA		< 0.5	U	NA		NA		NA		NA		NA	
1,1,2,2-Tetrachloroethane	µg/L	NV		< 0.5	U	NA		NA		< 0.5	U	NA		NA		NA		NA		NA	
1,1,2-Trichloro-1,2,2-Trifluoroethane	µg/L	NV		< 0.5	U	NA		NA		< 0.5	U	NA		NA		NA		NA		NA	
1,1,2-Trichloroethane	µg/L	NV		< 0.5	U	NA		NA		< 0.5	U	NA		NA		NA		NA		NA	
1,1-Dichloroethane	µg/L	NV		< 0.5	U	NA		NA		< 0.5	U	NA		NA		NA		NA		NA	
1,1-Dichloroethene	µg/L	7		< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
1,1-Dichloropropene	µg/L	NV		< 0.5	U	NA		NA		< 0.5	U	NA		NA		NA		NA		NA	
1,2,3-Trichlorobenzene	µg/L	NV		< 0.5	U	NA		NA		< 0.5	U	NA		NA		NA		NA		NA	
1,2,3-Trichloropropane	µg/L	NV		< 0.5	U	NA		NA		< 0.5	U	NA		NA		NA		NA		NA	
1,2,4-Trichlorobenzene	µg/L	NV		< 0.5	U	NA		NA		< 0.5	U	NA		NA		NA		NA		NA	
1,2,4-Trimethylbenzene	µg/L	NV		< 0.5	U	NA		NA		< 0.5	U	NA		NA		NA		NA		NA	
1,2-Dibromo-3-chloropropane	µg/L	NV		< 0.5	U	NA		NA		< 0.5	U	NA		NA		NA		NA		NA	
1,2-Dibromoethane	µg/L	NV		< 0.5	U	NA		NA		< 0.5	U	NA		NA		NA		NA		NA	
1,2-Dichlorobenzene	µg/L	NV		< 0.5	U	NA		NA		< 0.5	U	NA		NA		NA		NA		NA	
1,2-Dichloroethane	µg/L	5		< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
1,2-Dichloropropane	µg/L	NV		< 0.5	U	NA		NA		< 0.5	U	NA		NA		NA		NA		NA	
1,3,5-Trimethylbenzene	µg/L	NV		< 0.5	U	NA		NA		< 0.5	U	NA		NA		NA		NA		NA	
1,3-Dichlorobenzene	µg/L	NV		< 0.5	U	NA		NA		< 0.5	U	NA		NA		NA		NA		NA	
1,3-Dichloropropane	µg/L	NV		< 0.5	U	NA		NA		< 0.5	U	NA		NA		NA		NA		NA	
1,4-Dichlorobenzene	µg/L	NV		< 0.5	U	NA		NA		< 0.5	U	NA		NA		NA		NA		NA	
2,2-Dichloropropane	µg/L	NV		< 0.5	U	NA		NA		< 0.5	U	NA		NA		NA		NA		NA	
2-Butanone	µg/L	NV		< 1	U	NA		NA		< 1	U	NA		NA		NA		NA		NA	
2-Chlorotoluene	µg/L	NV		< 0.5	U	NA		NA		< 0.5	U	NA		NA		NA		NA		NA	
2-Hexanone	µg/L	NV		< 1	U	NA		NA		< 1	U	NA		NA		NA		NA		NA	
4-Chlorotoluene	µg/L	NV		< 0.5	U	NA		NA		< 0.5	U	NA		NA		NA		NA		NA	
Acetone	µg/L	NV		< 1	U	NA		NA		< 2	U	NA		NA		NA		NA		NA	

Table 2-4
Year 1 and Year 2 RA-O Analytical Results, LHAAP-50

		Location Code	50WW23 (Upper Shallow)						50WW29 (Upper Shallow)											
		Sample ID	50WW23-191113		50WW23-201005		50WW23-211011		50WW29-191111		50WW29-200708		50WW29-201001		50WW29-210125		50WW29-210405		50WW29-210707	
		Sample Date	11/13/2019		10/5/2020		10/11/2021		11/11/2019		7/8/2020		10/1/2020		1/25/2021		4/5/2021		7/7/2021	
		Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG		REG	
Analyte	Units	MCL/PCL	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Benzene	µg/L	NV	< 0.5	U	NA		NA		< 0.5	U	NA		NA		NA		NA		NA	
Bromobenzene	µg/L	NV	< 0.5	U	NA		NA		< 0.5	U	NA		NA		NA		NA		NA	
Bromochloromethane	µg/L	NV	< 0.5	U	NA		NA		< 0.5	U	NA		NA		NA		NA		NA	
Bromodichloromethane	µg/L	NV	< 0.5	U	NA		NA		< 0.5	U	NA		NA		NA		NA		NA	
Bromoform	µg/L	NV	< 0.5	U	NA		NA		< 0.5	U	NA		NA		NA		NA		NA	
Bromomethane	µg/L	NV	< 0.5	U	NA		NA		< 0.5	U	NA		NA		NA		NA		NA	
Carbon disulfide	µg/L	NV	< 1	U	NA		NA		< 1	U	NA		NA		NA		NA		NA	
Carbon tetrachloride	µg/L	NV	< 0.5	U	NA		NA		< 0.5	U	NA		NA		NA		NA		NA	
Chlorobenzene	µg/L	NV	< 0.5	U	NA		NA		< 0.5	U	NA		NA		NA		NA		NA	
Chloroethane	µg/L	NV	< 0.5	U	NA		NA		< 0.5	U	NA		NA		NA		NA		NA	
Chloroform	µg/L	NV	< 0.5	U	NA		NA		< 0.5	U	NA		NA		NA		NA		NA	
Chloromethane	µg/L	NV	< 0.5	U	NA		NA		< 0.5	U	NA		NA		NA		NA		NA	
cis-1,2-Dichloroethene	µg/L	70	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
cis-1,3-Dichloropropene	µg/L	NV	< 0.5	U	NA		NA		< 0.5	U	NA		NA		NA		NA		NA	
Dibromochloromethane	µg/L	NV	< 0.5	U	NA		NA		< 0.5	U	NA		NA		NA		NA		NA	
Dibromomethane	µg/L	NV	< 0.5	U	NA		NA		< 0.5	U	NA		NA		NA		NA		NA	
Dichlorodifluoromethane	µg/L	NV	< 0.5	U	NA		NA		< 0.5	U	NA		NA		NA		NA		NA	
Ethylbenzene	µg/L	NV	< 0.5	U	NA		NA		< 0.5	U	NA		NA		NA		NA		NA	
Hexachlorobutadiene	µg/L	NV	< 0.5	U	NA		NA		< 1	U	NA		NA		NA		NA		NA	
Isopropylbenzene	µg/L	NV	< 0.5	U	NA		NA		< 0.5	U	NA		NA		NA		NA		NA	
m,p-Xylenes	µg/L	NV	< 1	U	NA		NA		< 1	U	NA		NA		NA		NA		NA	
Methyl isobutyl ketone	µg/L	NV	< 1	U	NA		NA		< 1	U	NA		NA		NA		NA		NA	
Methylene chloride	µg/L	NV	< 1	U	NA		NA		< 1	U	NA		NA		NA		NA		NA	
Naphthalene	µg/L	NV	< 0.5	U	NA		NA		< 0.5	U	NA		NA		NA		NA		NA	
n-Butylbenzene	µg/L	NV	< 0.5	U	NA		NA		< 0.5	U	NA		NA		NA		NA		NA	
n-Propylbenzene	µg/L	NV	< 0.5	U	NA		NA		< 0.5	U	NA		NA		NA		NA		NA	
o-Xylene	µg/L	NV	< 0.5	U	NA		NA		< 0.5	U	NA		NA		NA		NA		NA	
p-Isopropyltoluene	µg/L	NV	< 0.5	U	NA		NA		< 0.5	U	NA		NA		NA		NA		NA	
sec-Butylbenzene	µg/L	NV	< 0.5	U	NA		NA		< 0.5	U	NA		NA		NA		NA		NA	
Styrene	µg/L	NV	< 0.5	U	NA		NA		< 0.5	U	NA		NA		NA		NA		NA	
tert-Butylbenzene	µg/L	NV	< 0.5	U	NA		NA		< 0.5	U	NA		NA		NA		NA		NA	
Tetrachloroethene	µg/L	5	< 0.5	U	< 1	U	< 1	U	< 0.5	U	< 1	U	< 1	U	< 1	U	< 1	U	< 1	U
Toluene	µg/L	NV	< 0.5	U	NA		NA		< 0.5	U	NA		NA		NA		NA		NA	
trans-1,2-Dichloroethene	µg/L	NV	< 0.5	U	NA		NA		< 0.5	U	NA		NA		NA		NA		NA	
trans-1,3-Dichloropropene	µg/L	NV	< 0.5	U	NA		NA		< 0.5	U	NA		NA		NA		NA		NA	
Trichloroethene	µg/L	5	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
Trichlorofluoromethane	µg/L	NV	< 0.5	U	NA		NA		< 0.5	U	NA		NA		NA		NA		NA	
Vinyl chloride	µg/L	2	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U

Table 2-4
Year 1 and Year 2 RA-O Analytical Results, LHAAP-50

		Location Code	50WW29 (Upper Shallow)					
		Sample ID	50WW29-211007		50WW29-220105		50WW29-220405	
		Sample Date	10/7/2021		1/5/2022		4/5/2022	
		Sample Purpose	REG		REG		REG	
Analyte	Units	MCL/PCL	Result	Val Qual	Result	Val Qual	Result	Val Qual
DHC								
Dehalococcoides	cells/mL	NV	NA		NA		NA	
FIELD TESTS								
Dissolved oxygen	mg/L	NV	1.73		0.54		5.5	
Ferrous Iron	NA	NV	NM		NM		NM	
Oxidation Reduction Potential	mV	NV	126		206		333	
pH	pH units	NV	5.47		5.6		6.67	
Specific conductivity	µmhos/cm	NV	2.390		3.81		4.15	
Temperature	deg. C	NV	20.83		17.38		21.35	
Turbidity	NTU	NV	10.7		17.1		16	
DISSOLVED GASES								
Carbon dioxide	µg/L	NV	NA		NA		NA	
Ethane	µg/L	NV	NA		NA		NA	
Ethylene	µg/L	NV	NA		NA		NA	
Methane	µg/L	NV	NA		NA		NA	
GENERAL CHEMISTRY								
Chloride	mg/L	NV	NA		NA		NA	
Nitrate	mg/L	NV	NA		NA		NA	
Sulfate	mg/L	NV	NA		NA		NA	
Total organic carbon	mg/L	NV	NA		NA		NA	
PERCHLORATE								
Perchlorate	µg/L	17	3.58		0.075	J	0.0655	J
VOLATILES								
1,1,1,2-Tetrachloroethane	µg/L	NV	NA		NA		NA	
1,1,1-Trichloroethane	µg/L	NV	NA		NA		NA	
1,1,2,2-Tetrachloroethane	µg/L	NV	NA		NA		NA	
1,1,2-Trichloro-1,2,2-Trifluoroethane	µg/L	NV	NA		NA		NA	
1,1,2-Trichloroethane	µg/L	NV	NA		NA		NA	
1,1-Dichloroethane	µg/L	NV	NA		NA		NA	
1,1-Dichloroethene	µg/L	7	< 0.5	U	< 0.5		< 0.5	U
1,1-Dichloropropene	µg/L	NV	NA		NA		NA	
1,2,3-Trichlorobenzene	µg/L	NV	NA		NA		NA	
1,2,3-Trichloropropane	µg/L	NV	NA		NA		NA	
1,2,4-Trichlorobenzene	µg/L	NV	NA		NA		NA	
1,2,4-Trimethylbenzene	µg/L	NV	NA		NA		NA	
1,2-Dibromo-3-chloropropane	µg/L	NV	NA		NA		NA	
1,2-Dibromoethane	µg/L	NV	NA		NA		NA	
1,2-Dichlorobenzene	µg/L	NV	NA		NA		NA	
1,2-Dichloroethane	µg/L	5	< 0.5	U	< 0.5		< 0.5	U
1,2-Dichloropropane	µg/L	NV	NA		NA		NA	
1,3,5-Trimethylbenzene	µg/L	NV	NA		NA		NA	
1,3-Dichlorobenzene	µg/L	NV	NA		NA		NA	
1,3-Dichloropropane	µg/L	NV	NA		NA		NA	
1,4-Dichlorobenzene	µg/L	NV	NA		NA		NA	
2,2-Dichloropropane	µg/L	NV	NA		NA		NA	
2-Butanone	µg/L	NV	NA		NA		NA	
2-Chlorotoluene	µg/L	NV	NA		NA		NA	
2-Hexanone	µg/L	NV	NA		NA		NA	
4-Chlorotoluene	µg/L	NV	NA		NA		NA	
Acetone	µg/L	NV	NA		NA		NA	

Table 2-4
Year 1 and Year 2 RA-O Analytical Results, LHAAP-50

			Location Code	50WW29 (Upper Shallow)				
			Sample ID	50WW29-211007		50WW29-220105		50WW29-220405	
			Sample Date	10/7/2021		1/5/2022		4/5/2022	
			Sample Purpose	REG		REG		REG	
Analyte	Units	MCL/PCL		Result	Val Qual	Result	Val Qual	Result	Val Qual
Benzene	µg/L	NV		NA		NA		NA	
Bromobenzene	µg/L	NV		NA		NA		NA	
Bromochloromethane	µg/L	NV		NA		NA		NA	
Bromodichloromethane	µg/L	NV		NA		NA		NA	
Bromoform	µg/L	NV		NA		NA		NA	
Bromomethane	µg/L	NV		NA		NA		NA	
Carbon disulfide	µg/L	NV		NA		NA		NA	
Carbon tetrachloride	µg/L	NV		NA		NA		NA	
Chlorobenzene	µg/L	NV		NA		NA		NA	
Chloroethane	µg/L	NV		NA		NA		NA	
Chloroform	µg/L	NV		NA		NA		NA	
Chloromethane	µg/L	NV		NA		NA		NA	
cis-1,2-Dichloroethene	µg/L	70		< 0.5	U	< 0.5		< 0.5	U
cis-1,3-Dichloropropene	µg/L	NV		NA		NA		NA	
Dibromochloromethane	µg/L	NV		NA		NA		NA	
Dibromomethane	µg/L	NV		NA		NA		NA	
Dichlorodifluoromethane	µg/L	NV		NA		NA		NA	
Ethylbenzene	µg/L	NV		NA		NA		NA	
Hexachlorobutadiene	µg/L	NV		NA		NA		NA	
Isopropylbenzene	µg/L	NV		NA		NA		NA	
m,p-Xylenes	µg/L	NV		NA		NA		NA	
Methyl isobutyl ketone	µg/L	NV		NA		NA		NA	
Methylene chloride	µg/L	NV		NA		NA		NA	
Naphthalene	µg/L	NV		NA		NA		NA	
n-Butylbenzene	µg/L	NV		NA		NA		NA	
n-Propylbenzene	µg/L	NV		NA		NA		NA	
o-Xylene	µg/L	NV		NA		NA		NA	
p-Isopropyltoluene	µg/L	NV		NA		NA		NA	
sec-Butylbenzene	µg/L	NV		NA		NA		NA	
Styrene	µg/L	NV		NA		NA		NA	
tert-Butylbenzene	µg/L	NV		NA		NA		NA	
Tetrachloroethene	µg/L	5		< 1	U	< 1		< 1	U
Toluene	µg/L	NV		NA		NA		NA	
trans-1,2-Dichloroethene	µg/L	NV		NA		NA		NA	
trans-1,3-Dichloropropene	µg/L	NV		NA		NA		NA	
Trichloroethene	µg/L	5		< 0.5	U	< 0.5		< 0.5	U
Trichlorofluoromethane	µg/L	NV		NA		NA		NA	
Vinyl chloride	µg/L	2		< 0.5	U	< 0.5		< 0.5	U

Table 2-4
Year 1 and Year 2 RA-O Analytical Results, LHAAP-50

Notes:

Blue Highlighting Indicates the concentration or detection limit exceeds the MCL/PCL

Bold concentrations are positive detections exceeding the MCL/PCL

J - Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.

J+ - The analyte was positively identified; the associated numerical value is its approximate concentration in the sample, with a high bias.

U - Undetected: The analyte was analyzed for, but not detected.

UB - The concentration detected is less than 5x the contamination detected in the related blank sample; therefore, the concentration is qualified as not detected due to blank contamination.

UJ – Undetected estimated. The analyte was analyzed for, but was not detected. Even though the analyte was not detected, certain discrepancies in meeting analyte specific quality control were not met.

MCL - Maximum Contaminant Limit

PCL – Texas Risk Reduction Program (TRRP) Tier 1 Groundwater Residential Protective Concentration Level (used for perchlorate,where no MCL has been established)

mg/L - milligrams per liter

µg/L - micrograms per liter

ID - Identification

REG - Regular sample

FD - Field duplicate sample

< - The analyte was not detected above the concentration shown

NV - No MCL/PCL is shown for analytes that are not contaminants of concern

NA - not analyzed

NM - not measured

Std Units - Standard pH Units

mV - millivolts

Val Qual - validation qualifier

Table 2-5
Historical COC Concentrations, LHAAP-50

	Sample ID	50SW06-021715		50SW06-052215		50SW06-111315		50WW01-031314		50WW01-052715		50WW01-082015		50WW01-051216		50WW02-980930		50WW02-981022		50WW02-000524	
	Sample Date	2/17/2015		5/22/2015		11/13/2015		3/13/2014		5/27/2015		8/20/2015		5/12/2016		9/30/1998		10/22/1998		5/24/2000	
	Well Completion Zone	Surface Water		Surface Water		Surface Water		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow	
Analyte	Units	MCL/PCL [a]	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Perchlorate	µg/L	17	0.684		0.218	J	1.44	J	<0.2	U	<0.2	U	<0.2	U	0.2	U	NA		18,000		4,190	
1,1-Dichloroethene	µg/L	7	<1	U	<1	U	<1	U	<1	U	<1	U	<1	U	1	U	50		NA		<350	U
1,2-Dichloroethane	µg/L	5	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	0.5	U	98		NA		<350	U
cis-1,2-Dichloroethene	µg/L	70	<0.5	U	<0.5	U	<0.5	U	<0.5	U	0.372	J	0.41	J	0.67	J	2,100		NA		3,100	
Tetrachloroethene	µg/L	5	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	0.5	U	35		NA		<350	U
Trichloroethene	µg/L	5	<0.5	U	<0.5	U	<0.5	U	<0.5	U	0.685	J	0.543	J	0.81	J	2,900		NA		18,000	
Vinyl Chloride	µg/L	2	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	0.5	U	100		NA		<350	U

Notes:

Blue Highlighting indicates analyte detected above MCL/PCL.

[a] Cleanup goal is MCL except for perchlorate. For perchlorate, Texas Risk Reduction Program groundwater residential PCL is used.

[b] Only limited data validation possible; Not used in plume delineation.

µg/L - micrograms per liter

J - estimated value; analyte concentration was less than the limit of quantification.

U - Not detected. The analyte was analyzed for, but not detected above the limit of detection.

COC - contaminants of concern

ID - identifier

MCL - maximum contaminant level

NA - not analyzed

PCL - Texas residential groundwater protective concentration level

Val Qual - validation qualifier

Table 2-5
Historical COC Concentrations, LHAAP-50

Sample ID			50WW02-001003		50WW02-010209		50WW02-020311		50WW02-020921		50WW02-040830		50WW02-050511		50WW02-FEB2007		50WW02-040309		50WW03-980930		50WW03-000522	
Sample Date			10/3/2000		2/9/2001		3/11/2002		9/21/2002		8/30/2004		5/11/2005		2/23/2007		4/3/2009		9/30/1998		5/22/2000	
Well Completion Zone			Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow	
Analyte	Units	MCL/PCL [a]	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Perchlorate	µg/L	17	9,950		10,000		6,840		7,600		2,500		1,630		532		110		NA		810	
1,1-Dichloroethene	µg/L	7	<200	U	NA		NA		NA		20		4.81		6.5		<50	U	<1	U	NA	
1,2-Dichloroethane	µg/L	5	79		NA		NA		NA		58		20.2		18.8		18	J	<1	U	NA	
cis-1,2-Dichloroethene	µg/L	70	4,060		NA		NA		NA		1,800	J	954		855		978		<1	U	NA	
Tetrachloroethene	µg/L	5	<200	U	NA		NA		NA		28		6.87		9.3		<50	U	<1	U	NA	
Trichloroethene	µg/L	5	16,100		NA		NA		NA		9,200	J	4,840		5,420		8,050		0.57		NA	
Vinyl Chloride	µg/L	2	<200	U	NA		NA		NA		36		8.56		15.2		<50	U	<1	U	NA	

Notes:

Blue Highlighting indicates analyte detected above MCL/PCL.

[a] Cleanup goal is MCL except for perchlorate, Texas Risk Reduction Program groundwater residential PCL is used.

[b] Only limited data validation possible; Not used in plume delineation.

µg/L - micrograms per liter

J - estimated value; analyte concentration was less than the limit of quantification.

U - Not detected. The analyte was analyzed for, but not detected above the limit of detection.

COC - contaminants of concern

ID - identifier

MCL - maximum contaminant level

NA - not analyzed

PCL - Texas residential groundwater protective concentration level

Val Qual - validation qualifier

Table 2-5
Historical COC Concentrations, LHAAP-50

Sample ID			50WW03-001002		50WW03-010209		50WW03-020312		50WW03-020921		50WW03-040830		50WW03-050511		50WW03-FEB2007		50WW04-980930		50WW04-981022		50WW04-000522	
Sample Date			10/2/2000		2/9/2001		3/12/2002		9/21/2002		8/30/2004		5/11/2005		2/24/2007		9/30/1998		10/22/1998		5/22/2000	
Well Completion Zone			Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow	
Analyte	Units	MCL/PCL [a]	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Perchlorate	µg/L	17	<8	U	<1.4	U	<4	U	<4	U	<1	U	<4	U	<10	U	NA		<1	U	<1	U
1,1-Dichloroethene	µg/L	7	NA		NA		NA		NA		<5	U	<1	U	<2	U	<1	U	NA		NA	
1,2-Dichloroethane	µg/L	5	NA		NA		NA		NA		<5	U	<1	U	<2	U	<1	U	NA		NA	
cis-1,2-Dichloroethene	µg/L	70	NA		NA		NA		NA		<5	U	<1	U	<2	U	0.64		NA		NA	
Tetrachloroethene	µg/L	5	NA		NA		NA		NA		<5	U	<1	U	<2	U	<1	U	NA		NA	
Trichloroethene	µg/L	5	NA		NA		NA		NA		8		<1	U	<2	U	9.4		NA		NA	
Vinyl Chloride	µg/L	2	NA		NA		NA		NA		<5	U	<1	U	<2	U	<1	U	NA		NA	

Notes:

Blue Highlighting indicates analyte detected above MCL/PCL.

[a] Cleanup goal is MCL except for perchlorate. For perchlorate, Texas Risk Reduction Program groundwater residential PCL is used.

[b] Only limited data validation possible; Not used in plume delineation.

µg/L - micrograms per liter

J - estimated value; analyte concentration was less than the limit of quantification.

U - Not detected. The analyte was analyzed for, but not detected above the limit of detection.

COC - contaminants of concern

ID - identifier

MCL - maximum contaminant level

NA - not analyzed

PCL - Texas residential groundwater protective concentration level

Val Qual - validation qualifier

Table 2-5
Historical COC Concentrations, LHAAP-50

Sample ID			50WW04-001002		50WW04-020312		50WW04-020921		50WW04-040831		50WW04-050510		50WW05-020921		50WW05-050511		50WW05-FEB2007		50WW05-040409		50WW05-100805	
Sample Date			10/2/2000		3/12/2002		9/21/2002		8/31/2004		5/10/2005		9/21/2002		5/11/2005		2/23/2007		4/4/2009		8/5/2010	
Well Completion Zone			Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow	
Analyte	Units	MCL/PCL [a]	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Perchlorate	µg/L	17	<16	U	<4	U	<4	U	<1	U	<5	U	5850		719		27.8		<4	U	0.189	J
1,1-Dichloroethene	µg/L	7	NA		NA		NA		<5	U	<1	U	NA		21.6		12.9		4.61	J	5.73	
1,2-Dichloroethane	µg/L	5	NA		NA		NA		<5	U	<1	U	NA		24.1		13.5		7.39		7.91	
cis-1,2-Dichloroethene	µg/L	70	NA		NA		NA		<5	U	<1	U	NA		66.3		48.2		29		30.1	
Tetrachloroethene	µg/L	5	NA		NA		NA		<5	U	<1	U	NA		6.76		5.1		1.61	J	2.64	J
Trichloroethene	µg/L	5	NA		NA		NA		2	J	<1	U	NA		3,130		1,460		601		788	
Vinyl Chloride	µg/L	2	NA		NA		NA		<5	U	<1	U	NA		3.69		2.5		<5	U	1.48	J

Notes:

Blue Highlighting indicates analyte detected above MCL/PCL.

[a] Cleanup goal is MCL except for perchlorate. For perchlorate, Texas Risk Reduction Program groundwater residential PCL is used.

[b] Only limited data validation possible; Not used in plume delineation.

µg/L - micrograms per liter

J - estimated value; analyte concentration was less than the limit of quantification.

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COC - contaminants of concern

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PCL - Texas residential groundwater protective concentration level

Val Qual - validation qualifier

Table 2-5
Historical COC Concentrations, LHAAP-50

	Sample ID	50WW05-110613		50WW05-031714		50WW05-062014		50WW05-111114		50WW05-021315		50WW05FD-021315		50WW05-052615		50WW05-081915		50WW05FD-081915		50WW05-111315	
	Sample Date	11/6/2013		3/17/2014		6/20/2014		11/11/2014		2/13/2015		2/13/2015		5/26/2015		8/19/2015		8/19/2015		11/13/2015	
	Well Completion Zone	Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow	
Analyte	Units	MCL/PCL [a]	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Perchlorate	µg/L	17	0.397	J	<0.2	U	20.5		<0.2	U	<0.2	U	<0.2	U	<0.2	U	1.69		1.64		0.7	J
1,1-Dichloroethene	µg/L	7	2.57		2.12		2.67		2.68		1.76	J	1.91	J	1.77	J	2.02		2.08		1.42	J
1,2-Dichloroethane	µg/L	5	2.81		2.54		2.82		2.97		1.58		1.62		1.9		1.6		1.66		1.93	
cis-1,2-Dichloroethene	µg/L	70	12.4		10.5		12.6		15.7		11.7		12.6		9.81		29.1		28.1		17.2	
Tetrachloroethene	µg/L	5	1.54		1.01		1.48		1.6		0.963	J	0.888	J	0.86	J	0.787	J	0.651	J	0.848	J
Trichloroethene	µg/L	5	280		204		270		329		193		196		197		200		200		210	
Vinyl Chloride	µg/L	2	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U

Notes:

Blue Highlighting indicates analyte detected above MCL/PCL.

[a] Cleanup goal is MCL except for perchlorate. For perchlorate, Texas Risk Reduction Program groundwater residential PCL is used.

[b] Only limited data validation possible; Not used in plume delineation.

µg/L - micrograms per liter

J - estimated value; analyte concentration was less than the limit of quantification.

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COC - contaminants of concern

ID - identifier

MCL - maximum contaminant level

NA - not analyzed

PCL - Texas residential groundwater protective concentration level

Val Qual - validation qualifier

Table 2-5
Historical COC Concentrations, LHAAP-50

Sample ID			50WW05-051116		50WW05-110316		50WW05-111017		[illegible] FD		50WW05-180515		50WW05-181203		50WW05-190507		50WW05-191108		50WW06-040830		50WW06-050511	
Sample Date			5/11/2016		11/03/2016		11/10/2017		11/10/2017		5/15/2018		12/3/2018		5/7/2019		11/8/2019		8/30/2004		5/11/2005	
Well Completion Zone			Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Lower Shallow		Lower Shallow	
Analyte	Units	MCL/PCL [a]	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Perchlorate	µg/L	17	1.67	J	0.2	U	4	U	4	U	2	U	< 4	U	< 4	U	< 2	U	6.7		24.8	
1,1-Dichloroethene	µg/L	7	1.33		1.78	J	1.5		1.4		1.9		1.2		1.2		4.8		<5	U	<1	U
1,2-Dichloroethane	µg/L	5	27.2		1.56		1.3		1.3		1.5		1.2		0.94	J	2.7		<5	U	<1	U
cis-1,2-Dichloroethene	µg/L	70	0.565	J	66.7		16	J	13	J	44		18		28		200		<5	U	0.332	J
Tetrachloroethene	µg/L	5	0.5	U	0.637	J	0.91	J	0.83	J	0.5	U	0.86	J	< 0.5	U	1.2		<5	U	<1	U
Trichloroethene	µg/L	5	129		184		180		160		170		150		110		290		15		4.7	
Vinyl Chloride	µg/L	2	0.5	U	0.5	U	1	U	1	U	0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	<5	U	<1	U

Notes:

Blue Highlighting indicates analyte detected above MCL/PCL.

[a] Cleanup goal is MCL except for perchlorate. For perchlorate, Texas Risk Reduction Program groundwater residential PCL is used.

[b] Only limited data validation possible; Not used in plume delineation.

µg/L - micrograms per liter

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MCL - maximum contaminant level

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PCL - Texas residential groundwater protective concentration level

Val Qual - validation qualifier

Table 2-5
Historical COC Concentrations, LHAAP-50

Sample ID			50WW06-FEB2007		50WW06-100807		50WW06-100807-FD		50WW06-102813		50WW06-031114		50WW06-062514		50WW06-110414		50WW06-021715		50WW06-052015		50WW06-081815	
Sample Date			2/22/2007		8/7/2010		8/7/2010		10/28/2013		3/11/2014		6/25/2014		11/4/2014		2/17/2015		5/20/2015		8/18/2015	
Well Completion Zone			Lower Shallow		Lower Shallow		Lower Shallow		Lower Shallow		Lower Shallow		Lower Shallow		Lower Shallow		Lower Shallow		Lower Shallow		Lower Shallow	
Analyte	Units	MCL/PCL [a]	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Perchlorate	µg/L	17	<10	U	113		131		670		2,090		700		1,510		2,490		3,000		2,050	
1,1-Dichloroethene	µg/L	7	<2	U	<1	U	<1	U	<1	U	<1	U	<1	U	<1	U	<1	U	<1	U	<1	U
1,2-Dichloroethane	µg/L	5	<2	U	<1	U	<1	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U
cis-1,2-Dichloroethene	µg/L	70	<2	U	<1	U	<1	U	0.994	J	0.39	J	0.299	J	1.61		0.572	J	0.637	J	0.874	J
Tetrachloroethene	µg/L	5	<2	U	<1	U	<1	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U
Trichloroethene	µg/L	5	2		3.33		3.28		20.9		36.5		27.4		36.1		53.9		49.1		34.7	
Vinyl Chloride	µg/L	2	<2	U	<1	U	<1	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U

Notes:

Blue Highlighting indicates analyte detected above MCL/PCL.

[a] Cleanup goal is MCL except for perchlorate. For perchlorate, Texas Risk Reduction Program groundwater residential PCL is used.

[b] Only limited data validation possible; Not used in plume delineation.

µg/L - micrograms per liter

J - estimated value; analyte concentration was less than the limit of quantification.

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COC - contaminants of concern

ID - identifier

MCL - maximum contaminant level

NA - not analyzed

PCL - Texas residential groundwater protective concentration level

Val Qual - validation qualifier

Table 2-5
Historical COC Concentrations, LHAAP-50

Sample ID			50WW06-111215		50WW06-051016		50WW06-110116		50WW06-111317		50WW06-180508		50WW06-181129		50WW06-190506		50WW06-191112		50WW07-021908		50WW07-040409	
Sample Date			11/12/2015		5/10/2016		11/1/2016		11/13/2017		5/8/2018		11/29/2018		5/6/2019		11/12/2019		2/19/2008		4/4/2009	
Well Completion Zone			Lower Shallow		Lower Shallow		Lower Shallow		Lower Shallow		Lower Shallow		Lower Shallow		Lower Shallow				Upper Shallow		Upper Shallow	
Analyte	Units	MCL/PCL [a]	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Perchlorate	µg/L	17	5,860		2,140		5,240		950		220		24		4.3		4,300		NA		<4	U
1,1-Dichloroethene	µg/L	7	<1	U	1	U	1	U	1	U	0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	<1	U	<1	U
1,2-Dichloroethane	µg/L	5	0.25	J	0.5	U	0.5	U	1	U	0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	<1	U	<1	U
cis-1,2-Dichloroethene	µg/L	70	1.04		0.388	J	2.37		1.9		0.5	U	< 0.5	U	< 0.5	U	1.2		<1	U	<1	U
Tetrachloroethene	µg/L	5	<0.5	U	0.5	U	0.5	U	1	U	0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	<1	U	<1	U
Trichloroethene	µg/L	5	59.4		29.5		54.2		13		14		14		1.4		41		<1	U	<1	U
Vinyl Chloride	µg/L	2	<0.5	U	0.5	U	0.5	U	1	U	0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	<1	U	<1	U

Notes:

Blue Highlighting indicates analyte detected above MCL/PCL.

[a] Cleanup goal is MCL except for perchlorate. For perchlorate, Texas Risk Reduction Program groundwater residential PCL is used.

[b] Only limited data validation possible; Not used in plume delineation.

µg/L - micrograms per liter

J - estimated value; analyte concentration was less than the limit of quantification.

U - Not detected. The analyte was analyzed for, but not detected above the limit of detection.

COC - contaminants of concern

ID - identifier

MCL - maximum contaminant level

NA - not analyzed

PCL - Texas residential groundwater protective concentration level

Val Qual - validation qualifier

Table 2-5
Historical COC Concentrations, LHAAP-50

	Sample ID	50WW07-100807		50WW07-110513		50WW07-032514		50WW07-062014		50WW07-110714		50WW07-021315		50WW07-052615		50WW07-082115		50WW07-110915		50WW07-051116	
	Sample Date	8/7/2010		11/5/2013		3/25/2014		6/20/2014		11/7/2014		2/13/2015		5/26/2015		8/21/2015		11/9/2015		5/11/16	
	Well Completion Zone	Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow	
Analyte	Units	MCL/PCL [a]	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Perchlorate	µg/L	17	0.262		<0.2	U	<0.2	U	<0.2	U	<0.2	U	<0.2	U	<0.2	U	<0.2	U	<1	U	1.08	
1,1-Dichloroethene	µg/L	7	<1	U	<1	U	<1	U	<1	U	<1	U	<1	U	<1	U	<1	U	<1	U	1	U
1,2-Dichloroethane	µg/L	5	<1	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	0.5	U
cis-1,2-Dichloroethene	µg/L	70	<1	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	0.5	U
Tetrachloroethene	µg/L	5	<1	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	0.5	U
Trichloroethene	µg/L	5	<1	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	0.42	J	<0.5	U	<0.5	U	0.5	U
Vinyl Chloride	µg/L	2	<1	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	0.5	U

Notes:

Blue Highlighting indicates analyte detected above MCL/PCL.

[a] Cleanup goal is MCL except for perchlorate. For perchlorate, Texas Risk Reduction Program groundwater residential PCL is used.

[b] Only limited data validation possible; Not used in plume delineation.

µg/L - micrograms per liter

J - estimated value; analyte concentration was less than the limit of quantification.

U - Not detected. The analyte was analyzed for, but not detected above the limit of detection.

COC - contaminants of concern

ID - identifier

MCL - maximum contaminant level

NA - not analyzed

PCL - Texas residential groundwater protective concentration level

Val Qual - validation qualifier

Table 2-5
Historical COC Concentrations, LHAAP-50

Sample ID			50WW08-103013 [b]		50WW08-031114		50WW08-062414		50WW08-110614		50WW08-021715		50WW08-052115		50WW08-081715		50WW08-111615		50WW08-050316		50WW08-110216	
Sample Date			10/30/2013		3/11/2014		6/24/2014		11/6/2014		2/17/2015		5/21/2015		8/17/2015		11/16/2015		5/3/2016		11/2/2016	
Well Completion Zone			Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow	
Analyte	Units	MCL/PCL [a]	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Perchlorate	µg/L	17	6,404		91.5		132		56.3		99		200		157		32.4	J	146		126	
1,1-Dichloroethene	µg/L	7	<5	U	1.71	J	<5	U	<2.5	U	<2.5	U	<2.5	U	<2.5	U	<1	U	0.812	J	2.5	U
1,2-Dichloroethane	µg/L	5	<5	U	5.73		4.36	J	2.12	J	3.59		3.6		2.63		1.26		3.23		2.41	J
cis-1,2-Dichloroethene	µg/L	70	30.6		103		86		48.5		70.5		62.1		45.4		17.7		48.1		38	
Tetrachloroethene	µg/L	5	<5	U	2.15		2.03	J	1.9	J	2.55		2	J	1.2	J	1.21		1.66		1.11	J
Trichloroethene	µg/L	5	247		845		814		685		852		712		375		288		383		379	
Vinyl Chloride	µg/L	2	<2	U	0.517	J	<2.5	U	<1.25	U	<1.25	U	<1.25	U	<1.25	U	<0.5	U	0.374	J	1.25	U

Notes:

Blue Highlighting indicates analyte detected above MCL/PCL.

[a] Cleanup goal is MCL except for perchlorate. For perchlorate, Texas Risk Reduction Program groundwater residential PCL is used.

[b] Only limited data validation possible; Not used in plume delineation.

µg/L - micrograms per liter

J - estimated value; analyte concentration was less than the limit of quantification.

U - Not detected. The analyte was analyzed for, but not detected above the limit of detection.

COC - contaminants of concern

ID - identifier

MCL - maximum contaminant level

NA - not analyzed

PCL - Texas residential groundwater protective concentration level

Val Qual - validation qualifier

Table 2-5
Historical COC Concentrations, LHAAP-50

Sample ID			50WW08-111317		50WW08-111317-FD		50WW08-180508		50WW08-181128		50WW08-190507		50WW08-191112		50WW09-110113		50WW09-031414		50WW09-061914		50WW09-111214	
Sample Date			11/13/2017		11/13/2017		5/8/2018		11/28/2018		5/7/2019		11/12/2019		11/1/2013		3/14/2014		6/19/2014		11/12/2014	
Well Completion Zone			Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Lower Shallow		Lower Shallow		Lower Shallow		Lower Shallow	
Analyte	Units	MCL/PCL [a]	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Perchlorate	µg/L	17	27		25		140		51		230		83		<0.2	U	<0.2	U	<0.2	U	0.593	
1,1-Dichloroethene	µg/L	7	1	U	1	U	0.5	U	0.62	J	< 0.5	U	1.2		<1	U	<1	U	<1	U	<1	U
1,2-Dichloroethane	µg/L	5	0.98	J	1.2	J	1.6		1.5		2.1		2.2		<0.5	U	<0.5	U	<0.5	U	<0.5	U
cis-1,2-Dichloroethene	µg/L	70	19		23		15		20		20		39		<0.5	U	0.579	J	1.16		0.36	J
Tetrachloroethene	µg/L	5	1		1.1		0.5	U	1.1		0.75	J	1.3		<0.5	U	<0.5	U	<0.5	U	<0.5	U
Trichloroethene	µg/L	5	180	J	240	J	130		240	J	210		420		0.26	J	20.2		36.3		19.8	
Vinyl Chloride	µg/L	2	1	U	1	U	0.5	U	0.66	J	< 0.5	U	< 0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U

Notes:

Blue Highlighting indicates analyte detected above MCL/PCL.

[a] Cleanup goal is MCL except for perchlorate. For perchlorate, Texas Risk Reduction Program groundwater residential PCL is used.

[b] Only limited data validation possible; Not used in plume delineation.

µg/L - micrograms per liter

J - estimated value; analyte concentration was less than the limit of quantification.

U - Not detected. The analyte was analyzed for, but not detected above the limit of detection.

COC - contaminants of concern

ID - identifier

MCL - maximum contaminant level

NA - not analyzed

PCL - Texas residential groundwater protective concentration level

Val Qual - validation qualifier

Table 2-5
Historical COC Concentrations, LHAAP-50

Sample ID			50WW09-021315		50WW09-052315		50WW09-082115		50WW09FD-082115		50WW09-111115		50WW09FD-111115		50WW09-051216		50WW09-110316		50WW09-111017		50WW09-180515	
Sample Date			2/13/2015		5/23/2015		8/21/2015		8/21/2015		11/11/2015		11/11/2015		5/12/2016		11/3/2016		11/10/2017		5/15/2018	
Well Completion Zone			Lower Shallow		Lower Shallow		Lower Shallow		Lower Shallow		Lower Shallow		Lower Shallow		Lower Shallow		Lower Shallow		Lower Shallow		Lower Shallow	
Analyte	Units	MCL/PCL [a]	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Perchlorate	µg/L	17	<0.2	U	0.196	J	<0.2	U	<0.2	U	<1	U	<1	U	0.2	U	0.2	U	4	U	2.7	J
1,1-Dichloroethene	µg/L	7	<1	U	<1	U	<1	U	<1	U	<1	U	<1	U	1	U	1	U	1	U	0.5	U
1,2-Dichloroethane	µg/L	5	<0.5	U	1.11		1.66		1.83		1.09		1.05		0.688	J	0.519	J	1	U	0.5	U
cis-1,2-Dichloroethene	µg/L	70	1.04		19.7		29.4		29.5		16.3		16		15.1		10.8		1	U	2.4	
Tetrachloroethene	µg/L	5	0.353	J	0.423	J	0.536	J	0.34	J	0.404	J	0.393	J	0.452	J	0.344	J	1	U	0.5	U
Trichloroethene	µg/L	5	57	J	202		235		228		173		170		154		126		4.9		83	
Vinyl Chloride	µg/L	2	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	0.5	U	0.5	U	1	U	0.5	U

Notes:

Blue Highlighting indicates analyte detected above MCL/PCL.

[a] Cleanup goal is MCL except for perchlorate. For perchlorate, Texas Risk Reduction Program groundwater residential PCL is used.

[b] Only limited data validation possible; Not used in plume delineation.

µg/L - micrograms per liter

J - estimated value; analyte concentration was less than the limit of quantification.

U - Not detected. The analyte was analyzed for, but not detected above the limit of detection.

COC - contaminants of concern

ID - identifier

MCL - maximum contaminant level

NA - not analyzed

PCL - Texas residential groundwater protective concentration level

Val Qual - validation qualifier

Table 2-5
Historical COC Concentrations, LHAAP-50

Sample ID			50WW09-180515FD		50WW09-181203		50WW09-190507		50WW09-190507-FD		50WW09-191111		50WW10-110513		50WW10FD-110513		50WW10-031414		50WW10-061914		50WW10FD-061914	
Sample Date			5/15/2018		12/3/2018		5/7/2019		5/7/2019		11/11/2019		11/5/2013		11/5/2013		3/14/2014		6/19/2014		6/19/2014	
Well Completion Zone			Lower Shallow		Lower Shallow		Lower Shallow		Lower Shallow		Lower Shallow		Intermediate		Intermediate		Intermediate		Intermediate		Intermediate	
Analyte	Units	MCL/PCL [a]	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Perchlorate	µg/L	17	2.8	J	< 4	U	7.2		7.8		6.6		0.906		0.924		0.272	J	0.499		1.46	
1,1-Dichloroethene	µg/L	7	0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	<1	U	<1	U	<1	U	<1	U	<1	U
1,2-Dichloroethane	µg/L	5	0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U
cis-1,2-Dichloroethene	µg/L	70	2.2		7.3		2.2		2.1		4.1		<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U
Tetrachloroethene	µg/L	5	0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U
Trichloroethene	µg/L	5	74		120		16		16		30		<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U
Vinyl Chloride	µg/L	2	0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U

Notes:

Blue Highlighting indicates analyte detected above MCL/PCL.

[a] Cleanup goal is MCL except for perchlorate. For perchlorate, Texas Risk Reduction Program groundwater residential PCL is used.

[b] Only limited data validation possible; Not used in plume delineation.

µg/L - micrograms per liter

J - estimated value; analyte concentration was less than the limit of quantification.

U - Not detected. The analyte was analyzed for, but not detected above the limit of detection.

COC - contaminants of concern

ID - identifier

MCL - maximum contaminant level

NA - not analyzed

PCL - Texas residential groundwater protective concentration level

Val Qual - validation qualifier

Table 2-5
Historical COC Concentrations, LHAAP-50

	Sample ID	50WW10-111214		50WW10-021315		50WW10-052315		50WW10-082115		50WW10-111115		50WW10-051216		50WW10-110316		50WW10-111017		50WW10-180515		50WW10-181203	
	Sample Date	11/12/2014		2/13/2015		5/23/2015		8/21/2015		11/11/2015		5/12/2016		11/03/2016		11/10/2017		5/15/2018		12/3/2018	
	Well Completion Zone	Intermediate		Intermediate		Intermediate		Intermediate		Intermediate		Intermediate		Intermediate		Intermediate		Intermediate		Intermediate	
Analyte	Units	MCL/PCL [a]	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Perchlorate	µg/L	17	<0.2	U	<0.2	U	<0.2	U	<0.2	U	<0.2	U	0.2	U	0.2	U	4	U	2	U	< 4	U
1,1-Dichloroethene	µg/L	7	<1	U	<1	U	<1	U	<1	U	<1	U	1	U	1	U	1	U	0.5	U	< 0.5	U
1,2-Dichloroethane	µg/L	5	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	0.5	U	0.5	U	1	U	0.5	U	< 0.5	U
cis-1,2-Dichloroethene	µg/L	70	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	0.5	U	0.5	U	1	U	0.5	U	< 0.5	U
Tetrachloroethene	µg/L	5	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	0.5	U	0.5	U	1	U	0.5	U	< 0.5	U
Trichloroethene	µg/L	5	<0.5	U	<0.5	U	0.549	J	0.494	J	0.766	J	0.5	U	0.5	U	1	U	0.5	U	< 0.5	U
Vinyl Chloride	µg/L	2	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	0.5	U	0.5	U	1	U	0.5	U	< 0.5	U

Notes:

Blue Highlighting indicates analyte detected above MCL/PCL.

[a] Cleanup goal is MCL except for perchlorate. For perchlorate, Texas Risk Reduction Program groundwater residential PCL is used.

[b] Only limited data validation possible; Not used in plume delineation.

µg/L - micrograms per liter

J - estimated value; analyte concentration was less than the limit of quantification.

U - Not detected. The analyte was analyzed for, but not detected above the limit of detection.

COC - contaminants of concern

ID - identifier

MCL - maximum contaminant level

NA - not analyzed

PCL - Texas residential groundwater protective concentration level

Val Qual - validation qualifier

Table 2-5
Historical COC Concentrations, LHAAP-50

	Sample ID	50WW10-190507		50WW11-102813		50WW11-031314		50WW11-062514		50WW11-110514		50WW11-021715		50WW11-052015		50WW11-081815		50WW11-111215		50WW11-051016	
	Sample Date	5/7/2019		10/28/2013		3/13/2014		6/25/2014		11/5/2014		2/17/2015		5/20/2015		8/18/2015		11/12/2015		5/10/2016	
	Well Completion Zone	Intermediate		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow	
Analyte	Units	MCL/PCL [a]	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Perchlorate	µg/L	17	< 4	U	21,700		2,570		8,910		22,300		2,690		1,140		17,600		22,800		1,300	
1,1-Dichloroethene	µg/L	7	< 0.5	U	17.4		1.88	J	7.35		27.9		2.47	J	1.03	J	13.1		17.5	J	1.5	J
1,2-Dichloroethane	µg/L	5	< 0.5	U	15.2		2.28	J	6.01		24.3		2.42		1.2		16.7		22.9		1.84	
cis-1,2-Dichloroethene	µg/L	70	< 0.5	U	43.9		4.46		12.6		70.8		6.86		2.4		36.3		54.1		5.35	
Tetrachloroethene	µg/L	5	< 0.5	U	2.76		<1.25	U	0.678	J	5.03		0.951	J	0.275	J	2.48		<10	U	0.417	J
Trichloroethene	µg/L	5	< 0.5	U	2,750		362		831		3,550		512		230		1,550		2,670		254	
Vinyl Chloride	µg/L	2	< 0.5	U	1.95		<1.25	U	0.516	J	3.53	J	<1	U	<0.5	U	1.29		<10	U	0.5	U

Notes:

Blue Highlighting indicates analyte detected above MCL/PCL.

[a] Cleanup goal is MCL except for perchlorate. For perchlorate, Texas Risk Reduction Program groundwater residential PCL is used.

[b] Only limited data validation possible; Not used in plume delineation.

µg/L - micrograms per liter

J - estimated value; analyte concentration was less than the limit of quantification.

U - Not detected. The analyte was analyzed for, but not detected above the limit of detection.

COC - contaminants of concern

ID - identifier

MCL - maximum contaminant level

NA - not analyzed

PCL - Texas residential groundwater protective concentration level

Val Qual - validation qualifier

Table 2-5
Historical COC Concentrations, LHAAP-50

Sample ID			50WW11-110116		50WW11-111317		50WW11-180509		50WW11-181128		50WW11-181128-FD		50WW11-190506		50WW11-191112		50WW12-102313		50WW12-031114		50WW12-062614	
Sample Date			11/01/2016		11/13/2017		5/9/2018		11/28/2018		11/28/2018		5/6/2019		11/12/2019		10/23/2013		3/11/2014		6/26/2014	
Well Completion Zone			Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow	
Analyte	Units	MCL/PCL [a]	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Perchlorate	µg/L	17	13,400		20,000		1,000		2,900		3,200		450		8,000		23,600		35,700		35,500	
1,1-Dichloroethene	µg/L	7	21.4		33		1.7		5.5		5.5		< 0.5	U	26		<1	U	<1	U	<1	U
1,2-Dichloroethane	µg/L	5	26.1		30		2		5.6		5.4		0.75	J	28		<0.5	U	<0.5	U	<0.5	U
cis-1,2-Dichloroethene	µg/L	70	67.4		78		11		18		17		3.1		58		<0.5	U	<0.5	U	<0.5	U
Tetrachloroethene	µg/L	5	4.91		10	U	0.5	U	1.7		1.7		< 0.5	U	< 5	U	<0.5	U	<0.5	U	<0.5	U
Trichloroethene	µg/L	5	2,880		4,700		280		700	J	710	J	95		3,300		<0.5	U	0.257	J	0.411	J
Vinyl Chloride	µg/L	2	1.9		10	U	0.5	U	0.99	J	1		< 0.5	U	< 5	U	<0.5	U	<0.5	U	<0.5	U

Notes:

Blue Highlighting indicates analyte detected above MCL/PCL.

[a] Cleanup goal is MCL except for perchlorate. For perchlorate, Texas Risk Reduction Program groundwater residential PCL is used.

[b] Only limited data validation possible; Not used in plume delineation.

µg/L - micrograms per liter

J - estimated value; analyte concentration was less than the limit of quantification.

U - Not detected. The analyte was analyzed for, but not detected above the limit of detection.

COC - contaminants of concern

ID - identifier

MCL - maximum contaminant level

NA - not analyzed

PCL - Texas residential groundwater protective concentration level

Val Qual - validation qualifier

Table 2-5
Historical COC Concentrations, LHAAP-50

Sample ID			50WW12-110414		50WW12-021815		50WW12-052015		50WW12-081815		50WW12-111215		50WW12-051016		50WW12-110116		50WW12-111417		50WW12-180508		50WW12-180508FD	
Sample Date			11/4/2014		2/18/2015		5/20/2015		8/18/2015		11/12/2015		5/10/2016		11/1/2016		11/14/2017		5/8/2018		5/8/2018	
Well Completion Zone			Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow	
Analyte	Units	MCL/PCL [a]	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Perchlorate	µg/L	17	14,300		30,600		59,200		17,300		37,900		87,800		25,300		21,000		91,000		89,000	
1,1-Dichloroethene	µg/L	7	<1	U	<1	U	0.878	J	<1	U	<1	U	7.35		1.57	J	0.81	J	1.3		1.1	
1,2-Dichloroethane	µg/L	5	<0.5	U	<0.5	U	0.389	J	<0.5	U	<0.5	U	3.93		0.952	J	0.55	J	0.95	J	1	
cis-1,2-Dichloroethene	µg/L	70	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	0.78	J	0.5	U	1	U	0.5	U	0.5	U
Tetrachloroethene	µg/L	5	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	0.5	U	0.5	U	1	U	0.5	U	0.5	U
Trichloroethene	µg/L	5	<0.5	U	<0.5	U	33.9		5.59		17.6		417		109		41		79		74	
Vinyl Chloride	µg/L	2	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	0.5	U	0.5	U	1	U	0.5	U	0.5	U

Notes:

Blue Highlighting indicates analyte detected above MCL/PCL.

[a] Cleanup goal is MCL except for perchlorate. For perchlorate, Texas Risk Reduction Program groundwater residential PCL is used.

[b] Only limited data validation possible; Not used in plume delineation.

µg/L - micrograms per liter

J - estimated value; analyte concentration was less than the limit of quantification.

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COC - contaminants of concern

ID - identifier

MCL - maximum contaminant level

NA - not analyzed

PCL - Texas residential groundwater protective concentration level

Val Qual - validation qualifier

Table 2-5
Historical COC Concentrations, LHAAP-50

Sample ID			50WW12-181128		50WW12-190516		50WW12-190516-FD		50WW12-191112		50WW13-103013 [(1)]		50WW13-031214		50WW13-062514		50WW13-110514		50WW13-021715		50WW13-052015	
Sample Date			11/28/2018		5/16/2019		5/16/2019		11/12/2019		10/30/2013		3/12/2014		6/25/2014		11/5/2014		2/17/2015		5/20/2015	
Well Completion Zone			Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow	
Analyte	Units	MCL/PCL [a]	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Perchlorate	µg/L	17	47,000		65,000		76,000		47,000		14.7		510		3,110		11,700		648		126	
1,1-Dichloroethene	µg/L	7	0.83	J	2.2		2.2		4.6		16.6		2.54		4.95	J	20.6		<5	U	0.978	J
1,2-Dichloroethane	µg/L	5	0.56	J	1.5		1.5		2.7		42		4.45		10.6		42.4		4.99	J	1.78	
cis-1,2-Dichloroethene	µg/L	70	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	205		25		56.3		239		32.1		10.7	
Tetrachloroethene	µg/L	5	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	7.2		1.06		1.39	J	7.05	J	1.89	J	0.554	J
Trichloroethene	µg/L	5	41	J	170		170		280		3000		823		1,840		9,150		1,080		433	
Vinyl Chloride	µg/L	2	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	<2	U	<0.5	U	<2.5	U	3.36	J	<2.5	U	<0.5	U

Notes:

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µg/L - micrograms per liter

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ID - identifier

MCL - maximum contaminant level

NA - not analyzed

PCL - Texas residential groundwater protective concentration level

Val Qual - validation qualifier

Table 2-5
Historical COC Concentrations, LHAAP-50

Sample ID			50WW13-081915		50WW13-111215		051316		50WW13T-051316		50WW13-110116		50WW13-111317		50WW13-180509		50WW13-181129		50WW13-190506		50WW13-191113	
Sample Date			8/19/2015		11/12/2015		5/13/2016		5/13/2016		11/1/2016		11/13/2017		5/9/2018		11/29/2018		5/6/2019		11/13/2019	
Well Completion Zone			Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow	
Analyte	Units	MCL/PCL [a]	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Perchlorate	µg/L	17	9,300		11,400		256		493		8,650		13,000		640		1,100		160		4,900	
1,1-Dichloroethene	µg/L	7	13.5		<50	U	0.74	J	1.23	J	50	U	50	U	1.4		5.4		0.57	J	17	J
1,2-Dichloroethane	µg/L	5	31.5		43.4	J	2.24		4.31		36.7	J	83		5.6		12		1.3		39	
cis-1,2-Dichloroethene	µg/L	70	184		231		15.8		25		228		410		32		100		12		230	
Tetrachloroethene	µg/L	5	6.19		<25	U	0.555	J	0.846	J	25	U	50	U	1.6		4.6		< 0.5	U	< 12	U
Trichloroethene	µg/L	5	5,700		7,710	J	322		529		6,050		13,000		620		2,700		250		7,300	
Vinyl Chloride	µg/L	2	2.31	J	<25	U	0.5	U	0.259	J	25	U	50	U	0.5	U	1.4		< 0.5	U	< 12	U

Notes:

Blue Highlighting indicates analyte detected above MCL/PCL.

[a] Cleanup goal is MCL except for perchlorate. For perchlorate, Texas Risk Reduction Program groundwater residential PCL is used.

[b] Only limited data validation possible; Not used in plume delineation.

µg/L - micrograms per liter

J - estimated value; analyte concentration was less than the limit of quantification.

U - Not detected. The analyte was analyzed for, but not detected above the limit of detection.

COC - contaminants of concern

ID - identifier

MCL - maximum contaminant level

NA - not analyzed

PCL - Texas residential groundwater protective concentration level

Val Qual - validation qualifier

Table 2-5
Historical COC Concentrations, LHAAP-50

	Sample ID	50WW14-102813		50WW14-031214		50WW14-062514		50WW14-110514		50WW14-021715		50WW14-052015		50WW14-081915		50WW14-111215		50WW14-050316		50WW14-110116	
	Sample Date	10/28/2013		3/12/2014		6/25/2014		11/5/2014		2/17/2015		5/20/2015		8/19/2015		11/12/2015		5/3/2016		11/01/2016	
	Well Completion Zone	Lower Shallow		Lower Shallow		Lower Shallow		Lower Shallow		Lower Shallow		Lower Shallow		Lower Shallow		Lower Shallow		Lower Shallow		Lower Shallow	
Analyte	Units	MCL/PCL [a]	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Perchlorate	µg/L	17	5.45		0.256	J	0.121	J	5.37		0.381	J	2.06		2.19		7.5		0.47		0.2	U
1,1-Dichloroethene	µg/L	7	<1	U	<1	U	<1	U	<1	U	<1	U	<1	U	<1	U	<1	U	1	U	1	U
1,2-Dichloroethane	µg/L	5	1.16		<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	0.5	U	0.5	U
cis-1,2-Dichloroethene	µg/L	70	6.52		1.33		0.826	J	2.39		13.5		5.66		7.56		14.2		1.41		2.76	
Tetrachloroethene	µg/L	5	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	0.5	U	0.5	U
Trichloroethene	µg/L	5	93.8		37.4		21.9		26.7		9.14		6.05		12		5.78		1.75		10.9	
Vinyl Chloride	µg/L	2	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	0.5	U	0.5	U

Notes:

Blue Highlighting indicates analyte detected above MCL/PCL.

[a] Cleanup goal is MCL except for perchlorate. For perchlorate, Texas Risk Reduction Program groundwater residential PCL is used.

[b] Only limited data validation possible; Not used in plume delineation.

µg/L - micrograms per liter

J - estimated value; analyte concentration was less than the limit of quantification.

U - Not detected. The analyte was analyzed for, but not detected above the limit of detection.

COC - contaminants of concern

ID - identifier

MCL - maximum contaminant level

NA - not analyzed

PCL - Texas residential groundwater protective concentration level

Val Qual - validation qualifier

Table 2-5
Historical COC Concentrations, LHAAP-50

Sample ID			50WW14-111317		50WW14-180509		50WW14-181129		50WW14-190506		50WW15-102513		50WW15-031714		50WW15-061914		50WW15-110714		50WW15-021215		[illegible] 021215	
Sample Date			11/13/2017		5/9/2018		11/29/2018		5/6/2019		10/25/2013		3/17/2014		6/19/2014		11/7/2014		2/12/2015		2/12/2015	
Well Completion Zone			Lower Shallow		Lower Shallow		Lower Shallow		Lower Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow	
Analyte	Units	MCL/PCL [a]	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Perchlorate	µg/L	17	4	U	2	U	1.9	J	< 4	U	<0.2	U	<0.2	U	<0.2	U	<0.2	U	0.942	J	1.34	J
1,1-Dichloroethene	µg/L	7	1	U	0.5	U	< 0.5	U	< 0.5	U	<1	U	<1	U	<1	U	<1	U	<1	U	<1	U
1,2-Dichloroethane	µg/L	5	1	U	1.2		< 0.5	U	< 0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	0.258	J	<0.5	U
cis-1,2-Dichloroethene	µg/L	70	2.7		3.9		3.2		1.9		11.9		13.8		12.9		14.3		14.3		14.2	
Tetrachloroethene	µg/L	5	1	U	0.5	U	< 0.5	U	< 0.5	U	3.25		3.33		3.05		3.34		3.31		3.24	
Trichloroethene	µg/L	5	8.2		33		12		27		17.3		23.5		18.9		35.4		48.3		46.9	
Vinyl Chloride	µg/L	2	1	U	0.5	U	< 0.5	U	< 0.5	U	3.24		3.09		2.76		2.69		2.2		2.27	

Notes:

Blue Highlighting indicates analyte detected above MCL/PCL.

[a] Cleanup goal is MCL except for perchlorate. For perchlorate, Texas Risk Reduction Program groundwater residential PCL is used.

[b] Only limited data validation possible; Not used in plume delineation.

µg/L - micrograms per liter

J - estimated value; analyte concentration was less than the limit of quantification.

U - Not detected. The analyte was analyzed for, but not detected above the limit of detection.

COC - contaminants of concern

ID - identifier

MCL - maximum contaminant level

NA - not analyzed

PCL - Texas residential groundwater protective concentration level

Val Qual - validation qualifier

Table 2-5
Historical COC Concentrations, LHAAP-50

	Sample ID	50WW15-052315		50WW15-082015		50WW15FD-082015		50WW15-111115		50WW15FD-111115		50WW15-051116		50WW15-110216		50WW15-111017		50WW15-180507		50WW15-181130	
	Sample Date	5/23/2015		8/20/2015		8/20/2015		11/11/2015		11/11/2015		5/12/2016		11/02/2016		11/10/2017		5/7/2018		11/30/2018	
	Well Completion Zone	Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow	
Analyte	Units	MCL/PCL [a]	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Perchlorate	µg/L	17	<0.2	U	0.237	J	0.155	J	<1	U	<1	U	0.2	U	0.2	U	4	U	2	U	< 4	U
1,1-Dichloroethene	µg/L	7	<1	U	<1	U	<1	U	<1	U	<1	U	1	U	1	U	1	U	0.5	U	< 0.5	U
1,2-Dichloroethane	µg/L	5	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	0.5	U	0.5	U	1	U	0.5	U	< 0.5	U
cis-1,2-Dichloroethene	µg/L	70	10.8		10.1		10.4		7.16		6.89		6.31		6.63		4.2		3.1		5.9	
Tetrachloroethene	µg/L	5	2.96		1.92		2.01		1.83		1.76		1.86		1.89		1.3		1.5		2	
Trichloroethene	µg/L	5	13		15.2		15.1		8.2		8.05		5.32		9.52		3.6		3.5		9.1	
Vinyl Chloride	µg/L	2	1.91		1.25		1.38		0.966	J	0.923	J	0.5	U	1.18		0.85	J	0.5	U	1.5	

Notes:

Blue Highlighting indicates analyte detected above MCL/PCL.

[a] Cleanup goal is MCL except for perchlorate. For perchlorate, Texas Risk Reduction Program groundwater residential PCL is used.

[b] Only limited data validation possible; Not used in plume delineation.

µg/L - micrograms per liter

J - estimated value; analyte concentration was less than the limit of quantification.

U - Not detected. The analyte was analyzed for, but not detected above the limit of detection.

COC - contaminants of concern

ID - identifier

MCL - maximum contaminant level

NA - not analyzed

PCL - Texas residential groundwater protective concentration level

Val Qual - validation qualifier

Table 2-5
Historical COC Concentrations, LHAAP-50

Sample ID			50WW15-190523		50WW15-191108		50WW16-102513		50WW16-032514		50WW16-062614		50WW16FD-062614		50WW16-111214		50WW16-021315		50WW16-052215		50WW16-082015	
Sample Date			5/23/2019		11/8/2019		10/25/2013		3/25/2014		6/26/2014		6/26/2014		11/12/2014		2/13/2015		5/22/2015		8/20/2015	
Well Completion Zone			Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow	
Analyte	Units	MCL/PCL [a]	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Perchlorate	µg/L	17	< 4	U	< 2	U	0.284	J	<0.2	U	0.725		0.682		<0.2	U	<0.2	U	<0.2	U	<0.2	U
1,1-Dichloroethene	µg/L	7	< 0.5	U	< 0.5	U	<1	U	<1	U	<1	U	<1	U	<1	U	<1	U	<1	U	<1	U
1,2-Dichloroethane	µg/L	5	< 0.5	U	< 0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U
cis-1,2-Dichloroethene	µg/L	70	2.9		5.5		0.656	J	0.548	J	0.471	J	0.456	J	<0.5	U	<0.5	U	<0.5	U	<0.5	U
Tetrachloroethene	µg/L	5	0.87	J	2.1		<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U
Trichloroethene	µg/L	5	2.3		7.2		18.1		11.4		12		11.6		1.05		0.391	J	<0.5	U	1.5	
Vinyl Chloride	µg/L	2	< 0.5	U	1.7		<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U

Notes:

Blue Highlighting indicates analyte detected above MCL/PCL.

[a] Cleanup goal is MCL except for perchlorate. For perchlorate, Texas Risk Reduction Program groundwater residential PCL is used.

[b] Only limited data validation possible; Not used in plume delineation.

µg/L - micrograms per liter

J - estimated value; analyte concentration was less than the limit of quantification.

U - Not detected. The analyte was analyzed for, but not detected above the limit of detection.

COC - contaminants of concern

ID - identifier

MCL - maximum contaminant level

NA - not analyzed

PCL - Texas residential groundwater protective concentration level

Val Qual - validation qualifier

Table 2-5
Historical COC Concentrations, LHAAP-50

	Sample ID	50WW16-111315		50WW16-051116		50WW16-110216		50WW16-111417		50WW16-180509		50WW16-181128		50WW16-190506		50WW17-102513		50WW17-032514		50WW17-062014	
	Sample Date	11/13/2015		5/11/2016		11/2/2016		11/14/2017		5/9/2018		11/28/2018		5/6/2019		10/25/2013		3/25/2014		6/20/2014	
	Well Completion Zone	Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Fully Penetrating Shallow		Fully Penetrating Shallow		Fully Penetrating Shallow	
Analyte	Units	MCL/PCL [a]	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Perchlorate	µg/L	17	<0.2	U	0.101	J	0.846		4	U	2	U	< 4	U	< 4	U	0.51		<0.2	U	1.76	
1,1-Dichloroethene	µg/L	7	<1	U	1	U	1	U	1	U	0.5	U	< 0.5	U	< 0.5	U	<1	U	<1	U	<1	U
1,2-Dichloroethane	µg/L	5	<0.5	U	0.5	U	0.5	U	1	U	0.5	U	< 0.5	U	< 0.5	U	<0.5	U	<0.5	U	<0.5	U
cis-1,2-Dichloroethene	µg/L	70	<0.5	U	0.5	U	0.5	U	1	U	0.5	U	< 0.5	U	< 0.5	U	<0.5	U	<0.5	U	<0.5	U
Tetrachloroethene	µg/L	5	<0.5	U	0.5	U	0.5	U	1	U	0.5	U	< 0.5	U	< 0.5	U	<0.5	U	<0.5	U	<0.5	U
Trichloroethene	µg/L	5	0.986	J	0.287	J	2.72		1.7	U	0.5	U	1.9	J	0.61	J	<0.5	U	<0.5	U	0.516	J
Vinyl Chloride	µg/L	2	<0.5	U	0.5	U	0.5	U	1	U	0.5	U	< 0.5	U	< 0.5	U	<0.5	U	<0.5	U	<0.5	U

Notes:

Blue Highlighting indicates analyte detected above MCL/PCL.

[a] Cleanup goal is MCL except for perchlorate. For perchlorate, Texas Risk Reduction Program groundwater residential PCL is used.

[b] Only limited data validation possible; Not used in plume delineation.

µg/L - micrograms per liter

J - estimated value; analyte concentration was less than the limit of quantification.

U - Not detected. The analyte was analyzed for, but not detected above the limit of detection.

COC - contaminants of concern

ID - identifier

MCL - maximum contaminant level

NA - not analyzed

PCL - Texas residential groundwater protective concentration level

Val Qual - validation qualifier

Table 2-5
Historical COC Concentrations, LHAAP-50

Sample ID			50WW17-111114		50WW17-021315		50WW17-052215		50WW17-081915		50WW17-110915		50WW17B-051316		50WW17M-051316		50WW17T-051316		50WW17-110416		50WW17-111017	
Sample Date			11/11/2014		2/13/2015		5/22/2015		8/19/2015		11/9/2015		5/13/16		5/13/16		5/13/16		11/4/2016		11/10/2017	
Well Completion Zone			Fully Penetrating Shallow		Fully Penetrating Shallow		Fully Penetrating Shallow		Fully Penetrating Shallow		Fully Penetrating Shallow		Fully Penetrating Shallow		Fully Penetrating Shallow		Fully Penetrating Shallow		Fully Penetrating Shallow		Fully Penetrating Shallow	
Analyte	Units	MCL/PCL [a]	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Perchlorate	µg/L	17	<0.2	U	<0.2	U	<0.2	U	0.193	J	<0.4	U	0.2	U	0.119	J	0.149	J	0.2	U	4	U
1,1-Dichloroethene	µg/L	7	<1	U	<1	U	<1	U	<1	U	<1	U	1	U	1	U	1	U	1	U	1	U
1,2-Dichloroethane	µg/L	5	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	1	U
cis-1,2-Dichloroethene	µg/L	70	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	1	U
Tetrachloroethene	µg/L	5	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	1	U
Trichloroethene	µg/L	5	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	1	U
Vinyl Chloride	µg/L	2	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	1	U

Notes:

Blue Highlighting indicates analyte detected above MCL/PCL.

[a] Cleanup goal is MCL except for perchlorate. For perchlorate, Texas Risk Reduction Program groundwater residential PCL is used.

[b] Only limited data validation possible; Not used in plume delineation.

µg/L - micrograms per liter

J - estimated value; analyte concentration was less than the limit of quantification.

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MCL - maximum contaminant level

NA - not analyzed

PCL - Texas residential groundwater protective concentration level

Val Qual - validation qualifier

Table 2-5
Historical COC Concentrations, LHAAP-50

Sample ID			50WW17-180515		50WW17-181130		50WW17-190516		50WW17-191108		50WW18-102313		50WW18-032614		50WW18-062414		50WW18-110414		50WW18-021815		50WW18-052815	
Sample Date			5/15/2018		11/30/2018		5/16/2019		11/8/2019		10/23/2013		3/26/2014		6/24/2014		11/4/2014		2/18/2015		5/28/2015	
Well Completion Zone			Fully Penetrating Shallow		Fully Penetrating Shallow		Fully Penetrating Shallow		Fully Penetrating Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow	
Analyte	Units	MCL/PCL [a]	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Perchlorate	µg/L	17	2	U	< 4	U	< 4	U	2	U	<0.2	U	<0.2	U	0.172	J	<0.2	U	0.258	J	<0.2	U
1,1-Dichloroethene	µg/L	7	0.5	U	< 0.5	U	< 0.5	U	0.5	U	<1	U	<1	U	<1	U	<1	U	<1	U	<1	U
1,2-Dichloroethane	µg/L	5	0.5	U	< 0.5	U	< 0.5	U	0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U
cis-1,2-Dichloroethene	µg/L	70	0.5	U	< 0.5	U	< 0.5	U	0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U
Tetrachloroethene	µg/L	5	0.5	U	< 0.5	U	< 0.5	U	0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U
Trichloroethene	µg/L	5	0.5	U	< 0.5	U	< 0.5	U	0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U
Vinyl Chloride	µg/L	2	0.5	U	< 0.5	U	< 0.5	U	0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U

Notes:

Blue Highlighting indicates analyte detected above MCL/PCL.

[a] Cleanup goal is MCL except for perchlorate. For perchlorate, Texas Risk Reduction Program groundwater residential PCL is used.

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µg/L - micrograms per liter

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COC - contaminants of concern

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MCL - maximum contaminant level

NA - not analyzed

PCL - Texas residential groundwater protective concentration level

Val Qual - validation qualifier

Table 2-5
Historical COC Concentrations, LHAAP-50

	Sample ID	50WW18-081715		50WW18-111615		50WW18-050316		50WW18-110316		50WW18-111017		50WW18-180507		50WW18-181130		50WW18-190516		50WW18-191108		50WW19-011414	
	Sample Date	8/17/2015		11/16/2015		5/3/2016		11/03/2016		11/10/2017		5/7/2018		11/30/2018		5/16/2019		11/8/2019		1/14/2014	
	Well Completion Zone	Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Fully Penetrating Shallow	
Analyte	Units	MCL/PCL [a]	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Perchlorate	µg/L	17	0.144	J	<1	U	0.2	U	0.2	U	4	U	2	U	< 4	U	< 4	U	< 2	U	<0.2	U
1,1-Dichloroethene	µg/L	7	<1	U	<1	U	1	U	1	U	1	U	0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	<1	U
1,2-Dichloroethane	µg/L	5	<0.5	U	<0.5	U	0.5	U	0.5	U	1	U	0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	<0.5	U
cis-1,2-Dichloroethene	µg/L	70	<0.5	U	<0.5	U	0.5	U	0.5	U	1	U	0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	<0.5	U
Tetrachloroethene	µg/L	5	<0.5	U	<0.5	U	0.5	U	0.5	U	1	UJ	0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	<0.5	U
Trichloroethene	µg/L	5	<0.5	U	<0.5	U	0.5	U	0.5	U	1	U	0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	<0.5	U
Vinyl Chloride	µg/L	2	<0.5	U	<0.5	U	0.5	U	0.5	U	1	U	0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	<0.5	U

Notes:

Blue Highlighting indicates analyte detected above MCL/PCL.

[a] Cleanup goal is MCL except for perchlorate. For perchlorate, Texas Risk Reduction Program groundwater residential PCL is used.

[b] Only limited data validation possible; Not used in plume delineation.

µg/L - micrograms per liter

J - estimated value; analyte concentration was less than the limit of quantification.

U - Not detected. The analyte was analyzed for, but not detected above the limit of detection.

COC - contaminants of concern

ID - identifier

MCL - maximum contaminant level

NA - not analyzed

PCL - Texas residential groundwater protective concentration level

Val Qual - validation qualifier

Table 2-5
Historical COC Concentrations, LHAAP-50

Sample ID			50WW19-032514		50WW19-062014		50WW19-111114		50WW19-021315		50WW19-052215		50WW19FD-052215 5/22/2015		50WW19-082115		50WW19-110915		50WW19B-051316		50WW19M-051316	
Sample Date			3/25/2014		6/20/2014		11/11/2014		2/13/2015		5/22/2015		5/22/2015		8/21/2015		11/9/2015		5/3/2016		5/13/2016	
Well Completion Zone			Fully Penetrating Shallow		Fully Penetrating Shallow		Fully Penetrating Shallow		Fully Penetrating Shallow		Fully Penetrating Shallow		Fully Penetrating Shallow		Fully Penetrating Shallow		Fully Penetrating Shallow		Fully Penetrating Shallow		Fully Penetrating Shallow	
Analyte	Units	MCL/PCL [a]	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Perchlorate	µg/L	17	<0.2	U	0.48		<0.2	U	<0.2	U	0.305	J	0.198	J	<0.2	U	<0.2	U	0.2	U	0.2	U
1,1-Dichloroethene	µg/L	7	<1	U	<1	U	<1	U	<1	U	<1	U	<1	U	<1	U	<1	U	1	U	1	U
1,2-Dichloroethane	µg/L	5	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	0.5	U	0.5	U
cis-1,2-Dichloroethene	µg/L	70	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	0.5	U	0.5	U
Tetrachloroethene	µg/L	5	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	0.5	U	0.5	U
Trichloroethene	µg/L	5	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	0.5	U	0.5	U
Vinyl Chloride	µg/L	2	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	0.5	U	0.5	U

Notes:

Blue Highlighting indicates analyte detected above MCL/PCL.

[a] Cleanup goal is MCL except for perchlorate. For perchlorate, Texas Risk Reduction Program groundwater residential PCL is used.

[b] Only limited data validation possible; Not used in plume delineation.

µg/L - micrograms per liter

J - estimated value; analyte concentration was less than the limit of quantification.

U - Not detected. The analyte was analyzed for, but not detected above the limit of detection.

COC - contaminants of concern

ID - identifier

MCL - maximum contaminant level

NA - not analyzed

PCL - Texas residential groundwater protective concentration level

Val Qual - validation qualifier

Table 2-5
Historical COC Concentrations, LHAAP-50

Sample ID			50WW19T-051316		50WW19-110416		50WW20-110713		50WW20-031314		50WW20FD-031314		50WW20-061914		50WW20-111114		50WW20FD-111114		50WW20-021215		50WW20-052615	
Sample Date			5/13/2016		11/04/2016		11/7/2013		3/13/2014		3/13/2014		6/19/2014		11/11/2014		11/11/2014		2/12/2015		5/26/2015	
Well Completion Zone			Fully Penetrating Shallow		Fully Penetrating Shallow		Fully Penetrating Shallow		Fully Penetrating Shallow		Fully Penetrating Shallow		Fully Penetrating Shallow		Fully Penetrating Shallow		Fully Penetrating Shallow		Fully Penetrating Shallow		Fully Penetrating Shallow	
Analyte	Units	MCL/PCL [a]	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Perchlorate	µg/L	17	0.338	J	0.2	U	<0.2	U	0.697		0.673		<0.2	U	<0.2	U	<0.2	U	0.168	J	<0.2	U
1,1-Dichloroethene	µg/L	7	1	U	1	U	<1	U	<1	U	<1	U	<1	U	<1	U	<1	U	<1	U	<1	U
1,2-Dichloroethane	µg/L	5	0.5	U	0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U
cis-1,2-Dichloroethene	µg/L	70	0.5	U	0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U
Tetrachloroethene	µg/L	5	0.5	U	0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U
Trichloroethene	µg/L	5	0.5	U	0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U
Vinyl Chloride	µg/L	2	0.5	U	0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U

Notes:

Blue Highlighting indicates analyte detected above MCL/PCL.

[a] Cleanup goal is MCL except for perchlorate. For perchlorate, Texas Risk Reduction Program groundwater residential PCL is used.

[b] Only limited data validation possible; Not used in plume delineation.

µg/L - micrograms per liter

J - estimated value; analyte concentration was less than the limit of quantification.

U - Not detected. The analyte was analyzed for, but not detected above the limit of detection.

COC - contaminants of concern

ID - identifier

MCL - maximum contaminant level

NA - not analyzed

PCL - Texas residential groundwater protective concentration level

Val Qual - validation qualifier

Table 2-5
Historical COC Concentrations, LHAAP-50

Sample ID			50WW20-082115		50WW20-111015		50WW20-51116		50WW21-102513		50WW21FD-102513		50WW21-032514		50WW21-062014		50WW21FD-062014 6/20/2014		50WW21-111314		50WW21FD-111314	
Sample Date			8/21/2015		11/10/2015		5/11/2016		10/25/2013		10/25/2013		3/25/2014		6/20/2014				11/13/2014		11/13/2014	
Well Completion Zone			Fully Penetrating Shallow		Fully Penetrating Shallow		Fully Penetrating Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow	
Analyte	Units	MCL/PCL [a]	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Perchlorate	µg/L	17	<0.2	U	<0.2	U	0.2	U	0.731		0.818		0.606		0.964		0.934		0.779		0.779	
1,1-Dichloroethene	µg/L	7	<1	U	<1	U	1	U	<1	U	<1	U	<1	U	<1	U	<1	U	<1	U	<1	U
1,2-Dichloroethane	µg/L	5	<0.5	U	<0.5	U	0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U
cis-1,2-Dichloroethene	µg/L	70	<0.5	U	<0.5	U	0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U
Tetrachloroethene	µg/L	5	<0.5	U	<0.5	U	0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U
Trichloroethene	µg/L	5	<0.5	U	<0.5	U	0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U
Vinyl Chloride	µg/L	2	<0.5	U	<0.5	U	0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U

Notes:

Blue Highlighting indicates analyte detected above MCL/PCL.

[a] Cleanup goal is MCL except for perchlorate. For perchlorate, Texas Risk Reduction Program groundwater residential PCL is used.

[b] Only limited data validation possible; Not used in plume delineation.

µg/L - micrograms per liter

J - estimated value; analyte concentration was less than the limit of quantification.

U - Not detected. The analyte was analyzed for, but not detected above the limit of detection.

COC - contaminants of concern

ID - identifier

MCL - maximum contaminant level

NA - not analyzed

PCL - Texas residential groundwater protective concentration level

Val Qual - validation qualifier

Table 2-5
Historical COC Concentrations, LHAAP-50

Sample ID			50WW21-021215		50WW21-052315		50WW21FD-052315		50WW21-082015		50WW21-111015		50WW21-051216		50WW21-110316		50WW21-111017		50WW21-180507		50WW21-181130	
Sample Date			2/12/2015		5/23/2015		5/23/2015		8/20/2015		11/10/2015		5/12/2016		11/03/2016		11/10/2017		5/7/2018		11/30/2018	
Well Completion Zone			Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow	
Analyte	Units	MCL/PCL [a]	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Perchlorate	µg/L	17	0.878		0.502		0.516		0.67		1.21	J	0.398	J	0.418		4	U	2	U	< 4	U
1,1-Dichloroethene	µg/L	7	<1	U	<1	U	<1	U	<1	U	<1	U	1	U	1	U	1	U	0.5	U	< 0.5	U
1,2-Dichloroethane	µg/L	5	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	0.5	U	0.5	U	1	U	0.5	U	< 0.5	U
cis-1,2-Dichloroethene	µg/L	70	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	0.5	U	0.5	U	1	U	0.5	U	< 0.5	U
Tetrachloroethene	µg/L	5	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	0.5	U	0.5	U	1	U	0.5	U	< 0.5	U
Trichloroethene	µg/L	5	<0.5	U	0.447	J	<0.5	U	<0.5	U	<0.5	U	0.5	U	0.5	U	1	U	0.5	U	< 0.5	U
Vinyl Chloride	µg/L	2	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	0.5	U	0.5	U	1	U	0.5	U	< 0.5	U

Notes:

Blue Highlighting indicates analyte detected above MCL/PCL.

[a] Cleanup goal is MCL except for perchlorate, Texas Risk Reduction Program groundwater residential PCL is used.

[b] Only limited data validation possible; Not used in plume delineation.

µg/L - micrograms per liter

J - estimated value; analyte concentration was less than the limit of quantification.

U - Not detected. The analyte was analyzed for, but not detected above the limit of detection.

COC - contaminants of concern

ID - identifier

MCL - maximum contaminant level

NA - not analyzed

PCL - Texas residential groundwater protective concentration level

Val Qual - validation qualifier

Table 2-5
Historical COC Concentrations, LHAAP-50

Sample ID			50WW21-190516		50WW22-102313		50WW22-031214		50WW22-062414		50WW22-110614		50WW22-021715		50WW22-052115		50WW22-081815		50WW22-111615		50WW22-051016	
Sample Date			5/16/2019		10/23/2013		3/12/2014		6/24/2014		11/6/2014		2/17/2015		5/21/2015		8/18/2015		11/16/2015		5/10/2016	
Well Completion Zone			Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow	
Analyte	Units	MCL/PCL [a]	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Perchlorate	µg/L	17	< 4	U	6.97		1.54		2.29		1.06		1.51		2.92		3.62		0.642	J	1.46	
1,1-Dichloroethene	µg/L	7	< 0.5	U	<1	U	<1	U	<1	U	<1	U	<1	U	<1	U	<1	U	<1	U	1	U
1,2-Dichloroethane	µg/L	5	< 0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	0.5	U
cis-1,2-Dichloroethene	µg/L	70	< 0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	0.5	U
Tetrachloroethene	µg/L	5	< 0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	0.5	U
Trichloroethene	µg/L	5	< 0.5	U	<0.5	U	<0.5	U	<0.5	U	0.339	J	<0.5	U	<0.5	U	<0.5	U	0.454	J	0.5	U
Vinyl Chloride	µg/L	2	< 0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	0.5	U

Notes:

Blue Highlighting indicates analyte detected above MCL/PCL.

[a] Cleanup goal is MCL except for perchlorate. For perchlorate, Texas Risk Reduction Program groundwater residential PCL is used.

[b] Only limited data validation possible; Not used in plume delineation.

µg/L - micrograms per liter

J - estimated value; analyte concentration was less than the limit of quantification.

U - Not detected. The analyte was analyzed for, but not detected above the limit of detection.

COC - contaminants of concern

ID - identifier

MCL - maximum contaminant level

NA - not analyzed

PCL - Texas residential groundwater protective concentration level

Val Qual - validation qualifier

Table 2-5
Historical COC Concentrations, LHAAP-50

Sample ID			50WW22-110216		50WW22-111317		50WW22-180509		50WW22-181203		50WW22-190506		50WW22-191112		50WW23-102913		50WW23-031314		50WW23-062614		50WW23-110414	
Sample Date			11/2/2016		11/13/2017		5/9/2018		12/3/2018		5/6/2019		11/12/2019		10/29/2013		3/13/2014		6/26/2014		11/4/2014	
Well Completion Zone			Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow	
Analyte	Units	MCL/PCL [a]	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Perchlorate	µg/L	17	1.02		4	U	1.1	J	< 4	U	< 4	U	< 2	U	0.336	J	0.227	J	0.182	J	<0.2	U
1,1-Dichloroethene	µg/L	7	1	U	1	U	0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	<1	U	<1	U	<1	U	<1	U
1,2-Dichloroethane	µg/L	5	0.5	U	1	U	0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U
cis-1,2-Dichloroethene	µg/L	70	0.5	U	1	U	0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U
Tetrachloroethene	µg/L	5	0.5	U	1	U	0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U
Trichloroethene	µg/L	5	0.5	U	1	U	0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U
Vinyl Chloride	µg/L	2	0.5	U	1	U	0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U

Notes:

Blue Highlighting indicates analyte detected above MCL/PCL.

[a] Cleanup goal is MCL except for perchlorate. For perchlorate, Texas Risk Reduction Program groundwater residential PCL is used.

[b] Only limited data validation possible; Not used in plume delineation.

µg/L - micrograms per liter

J - estimated value; analyte concentration was less than the limit of quantification.

U - Not detected. The analyte was analyzed for, but not detected above the limit of detection.

COC - contaminants of concern

ID - identifier

MCL - maximum contaminant level

NA - not analyzed

PCL - Texas residential groundwater protective concentration level

Val Qual - validation qualifier

Table 2-5
Historical COC Concentrations, LHAAP-50

Sample ID			50WW23-021815		50WW23-052015		50WW23-081715		50WW23-111615		50WW23-051016		50WW23-110116		50WW23-111417		50WW23-180515		50WW23-181203		50WW23-190507	
Sample Date			2/18/2015		5/20/2015		8/17/2015		11/16/2015		5/10/2016		11/01/2016		11/14/2017		5/15/2018		12/3/2018		5/7/2019	
Well Completion Zone			Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow	
Analyte	Units	MCL/PCL [a]	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Perchlorate	µg/L	17	<0.2	U	23.3		0.527		<1	U	2.15		4.76		4	U	2	U	< 4	U	< 4	U
1,1-Dichloroethene	µg/L	7	<1	U	<1	U	<1	U	<1	U	1	U	1	U	1	U	0.5	U	< 0.5	U	< 0.5	U
1,2-Dichloroethane	µg/L	5	<0.5	U	<0.5	U	<0.5	U	<0.5	U	0.5	U	0.5	U	1	U	0.5	U	< 0.5	U	< 0.5	U
cis-1,2-Dichloroethene	µg/L	70	<0.5	U	<0.5	U	<0.5	U	<0.5	U	0.5	U	0.5	U	1	U	0.5	U	< 0.5	U	< 0.5	UJ
Tetrachloroethene	µg/L	5	<0.5	U	<0.5	U	<0.5	U	<0.5	U	0.5	U	0.5	U	1	U	0.5	U	< 0.5	U	< 0.5	U
Trichloroethene	µg/L	5	<0.5	U	<0.5	U	<0.5	U	<0.5	U	0.5	U	0.5	U	1	U	0.5	U	< 0.5	U	< 0.5	U
Vinyl Chloride	µg/L	2	<0.5	U	<0.5	U	<0.5	U	<0.5	U	0.5	U	0.5	U	1	U	0.5	U	< 0.5	U	< 0.5	U

Notes:

Blue Highlighting indicates analyte detected above MCL/PCL.

[a] Cleanup goal is MCL except for perchlorate. For perchlorate, Texas Risk Reduction Program groundwater residential PCL is used.

[b] Only limited data validation possible; Not used in plume delineation.

µg/L - micrograms per liter

J - estimated value; analyte concentration was less than the limit of quantification.

U - Not detected. The analyte was analyzed for, but not detected above the limit of detection.

COC - contaminants of concern

ID - identifier

MCL - maximum contaminant level

NA - not analyzed

PCL - Texas residential groundwater protective concentration level

Val Qual - validation qualifier

Table 2-5
Historical COC Concentrations, LHAAP-50

	Sample ID	50WW23-190507		50WW24-102913		50WW24-032614		50WW24-062614		50WW24-110414		50WW24-021815		50WW24-052815		50WW24-081715		50WW24-111615		50WW24-051016	
	Sample Date	11/13/2019		10/29/2013		3/26/2014		6/26/2014		11/4/2014		2/18/2015		5/28/2015		8/17/2015		11/16/2015		5/10/2016	
	Well Completion Zone	Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow	
Analyte	Units	MCL/PCL [a]	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Perchlorate	µg/L	17	< 2	U	0.479		<0.2	U	110		<0.2	U	<0.2	U	<0.2	U	<0.2	U	<1	U	36.8	
1,1-Dichloroethene	µg/L	7	< 0.5	U	<1	U	<1	U	<1	U	<1	U	<1	U	<1	U	<1	U	<1	U	1	U
1,2-Dichloroethane	µg/L	5	< 0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	0.5	U
cis-1,2-Dichloroethene	µg/L	70	< 0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	0.5	U
Tetrachloroethene	µg/L	5	< 0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	0.5	U
Trichloroethene	µg/L	5	< 0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	0.268	J	<0.5	U	<0.5	U	0.5	U
Vinyl Chloride	µg/L	2	< 0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	0.5	U

Notes:

Blue Highlighting indicates analyte detected above MCL/PCL.

[a] Cleanup goal is MCL except for perchlorate. For perchlorate, Texas Risk Reduction Program groundwater residential PCL is used.

[b] Only limited data validation possible; Not used in plume delineation.

µg/L - micrograms per liter

J - estimated value; analyte concentration was less than the limit of quantification.

U - Not detected. The analyte was analyzed for, but not detected above the limit of detection.

COC - contaminants of concern

ID - identifier

MCL - maximum contaminant level

NA - not analyzed

PCL - Texas residential groundwater protective concentration level

Val Qual - validation qualifier

Table 2-5
Historical COC Concentrations, LHAAP-50

	Sample ID	50WW24-110316		50WW24-111017		50WW24-180507		50WW24-181130		50WW24-190507		50WW24-191108		50WW25-102313		50WW25-032614		50WW25-062414		50WW25-110614	
	Sample Date	11/3/2016		11/10/2017		5/7/2018		11/30/2018		5/7/2019		11/8/2019		10/23/2013		3/26/2014		6/24/2014		11/6/2014	
	Well Completion Zone	Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow	
Analyte	Units	MCL/PCL [a]	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Perchlorate	µg/L	17	0.2	U	4	U	2	U	< 4	U	< 4	U	2	U	<0.2	U	9.13		31.8		17.8	
1,1-Dichloroethene	µg/L	7	1	U	1	U	0.5	U	< 0.5	U	< 0.5	U	0.5	U	<1	U	<1	U	<1	U	<1	U
1,2-Dichloroethane	µg/L	5	0.5	U	1	U	0.5	U	< 0.5	U	< 0.5	U	0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U
cis-1,2-Dichloroethene	µg/L	70	0.5	U	1	U	0.5	U	< 0.5	U	< 0.5	U	0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U
Tetrachloroethene	µg/L	5	0.5	U	1	U	0.5	U	< 0.5	U	< 0.5	U	0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U
Trichloroethene	µg/L	5	0.5	U	1	U	0.5	U	< 0.5	U	< 0.5	U	0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U
Vinyl Chloride	µg/L	2	0.5	U	1	U	0.5	U	< 0.5	U	< 0.5	U	0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U

Notes:

Blue Highlighting indicates analyte detected above MCL/PCL.

[a] Cleanup goal is MCL except for perchlorate. For perchlorate, Texas Risk Reduction Program groundwater residential PCL is used.

[b] Only limited data validation possible; Not used in plume delineation.

µg/L - micrograms per liter

J - estimated value; analyte concentration was less than the limit of quantification.

U - Not detected. The analyte was analyzed for, but not detected above the limit of detection.

COC - contaminants of concern

ID - identifier

MCL - maximum contaminant level

NA - not analyzed

PCL - Texas residential groundwater protective concentration level

Val Qual - validation qualifier

Table 2-5
Historical COC Concentrations, LHAAP-50

	Sample ID	50WW25-021815		50WW25-052815		50WW26-110613		50WW26FD-110613 11/6/2013		50WW26-032614		50WW26FD-032614		50WW26-062014		50WW26-111314		50WW26-021315		50WW26-052315	
	Sample Date	2/18/2015		5/28/2015		11/6/2013				3/26/2014		3/26/2014		6/20/2014		11/13/2014		2/13/2015		5/23/2015	
	Well Completion Zone	Upper Shallow		Upper Shallow		Lower Shallow		Lower Shallow		Lower Shallow		Lower Shallow		Lower Shallow		Lower Shallow		Lower Shallow		Lower Shallow	
Analyte	Units	MCL/PCL [a]	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Perchlorate	µg/L	17	42.2		15		<0.2	U	<0.2	U	<0.2	U	<0.2	U	<0.2	U	<0.2	U	<0.2	U	<0.2	U
1,1-Dichloroethene	µg/L	7	<1	U	<1	U	<1	U	<1	U	<1	U	<1	U	<1	U	<1	U	<1	U	<1	U
1,2-Dichloroethane	µg/L	5	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U
cis-1,2-Dichloroethene	µg/L	70	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U
Tetrachloroethene	µg/L	5	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U
Trichloroethene	µg/L	5	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U
Vinyl Chloride	µg/L	2	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U

Notes:

Blue Highlighting indicates analyte detected above MCL/PCL.

[a] Cleanup goal is MCL except for perchlorate. For perchlorate, Texas Risk Reduction Program groundwater residential PCL is used.

[b] Only limited data validation possible; Not used in plume delineation.

µg/L - micrograms per liter

J - estimated value; analyte concentration was less than the limit of quantification.

U - Not detected. The analyte was analyzed for, but not detected above the limit of detection.

COC - contaminants of concern

ID - identifier

MCL - maximum contaminant level

NA - not analyzed

PCL - Texas residential groundwater protective concentration level

Val Qual - validation qualifier

Table 2-5
Historical COC Concentrations, LHAAP-50

Sample ID			50WW26-082015		50WW26-111015		50WW26FD-111015		50WW26-050316		50WW26-110216		50WW27-110613		50WW27-031714		50WW27FD-031714		50WW27-061914		50WW27-110714	
Sample Date			8/20/2015		11/10/2015		11/10/2015		5/3/2016		11/2/2016		11/6/2013		3/17/2014		3/17/2014		6/19/2014		11/7/2014	
Well Completion Zone			Lower Shallow		Lower Shallow		Lower Shallow		Lower Shallow		Lower Shallow		Lower Shallow		Lower Shallow		Lower Shallow		Lower Shallow		Lower Shallow	
Analyte	Units	MCL/PCL [a]	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Perchlorate	µg/L	17	<0.2	U	<1	U	<1	U	0.2	U	0.2	U	<0.2	U	<0.2	U	<0.2	U	<0.2	U	<0.2	U
1,1-Dichloroethene	µg/L	7	<1	U	<1	U	<1	U	1	U	1	U	<1	U	<1	U	<1	U	<1	U	<1	U
1,2-Dichloroethane	µg/L	5	<0.5	U	<0.5	U	<0.5	U	0.5	U	0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U
cis-1,2-Dichloroethene	µg/L	70	<0.5	U	<0.5	U	<0.5	U	0.5	U	0.515	J	<0.5	U	0.611	J	0.518	J	0.871	J	0.529	J
Tetrachloroethene	µg/L	5	<0.5	U	<0.5	U	<0.5	U	0.5	U	0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U
Trichloroethene	µg/L	5	<0.5	U	<0.5	U	<0.5	U	0.5	U	0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U
Vinyl Chloride	µg/L	2	<0.5	U	<0.5	U	<0.5	U	0.5	U	0.5	U	<0.5	U	<0.5	U	<0.5	U	0.251	J	<0.5	U

Notes:

Blue Highlighting indicates analyte detected above MCL/PCL.

[a] Cleanup goal is MCL except for perchlorate. For perchlorate, Texas Risk Reduction Program groundwater residential PCL is used.

[b] Only limited data validation possible; Not used in plume delineation.

µg/L - micrograms per liter

J - estimated value; analyte concentration was less than the limit of quantification.

U - Not detected. The analyte was analyzed for, but not detected above the limit of detection.

COC - contaminants of concern

ID - identifier

MCL - maximum contaminant level

NA - not analyzed

PCL - Texas residential groundwater protective concentration level

Val Qual - validation qualifier

Table 2-5
Historical COC Concentrations, LHAAP-50

Sample ID			50WW27FD-110714		50WW27-021215		50WW27-052315		50WW27-082015		50WW27-111115		50WW27-051216		50WW27-110216		50WW27-111017		50WW27-180507		50WW27-181203	
Sample Date			11/7/2014		2/12/2015		5/23/2015		8/20/2015		11/11/2015		5/12/2016		11/2/2016		11/10/2017		5/7/2018		12/3/2018	
Well Completion Zone			Lower Shallow		Lower Shallow		Lower Shallow		Lower Shallow		Lower Shallow		Lower Shallow		Lower Shallow		Lower Shallow		Lower Shallow		Lower Shallow	
Analyte	Units	MCL/PCL [a]	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Perchlorate	µg/L	17	<0.2	U	<0.2	U	<0.2	U	<0.2	U	<1	U	0.2	U	0.124	J	4	U	2	U	< 4	U
1,1-Dichloroethene	µg/L	7	<1	U	<1	U	<1	U	<1	U	<1	U	1	U	1	U	1	U	0.5	U	< 0.5	U
1,2-Dichloroethane	µg/L	5	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	0.5	U	0.5	U	1	U	0.5	U	< 0.5	U
cis-1,2-Dichloroethene	µg/L	70	0.493	J	0.691	J	0.709	J	0.33	J	0.581	J	0.515	J	0.498	J	1	U	0.5	U	< 0.5	U
Tetrachloroethene	µg/L	5	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	0.5	U	0.5	U	1	U	0.5	U	< 0.5	U
Trichloroethene	µg/L	5	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	0.5	U	0.5	U	1	U	0.5	U	< 0.5	U
Vinyl Chloride	µg/L	2	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	0.5	U	0.5	U	1	U	0.5	U	0.66	J

Notes:

Blue Highlighting indicates analyte detected above MCL/PCL.

[a] Cleanup goal is MCL except for perchlorate. For perchlorate, Texas Risk Reduction Program groundwater residential PCL is used.

[b] Only limited data validation possible; Not used in plume delineation.

µg/L - micrograms per liter

J - estimated value; analyte concentration was less than the limit of quantification.

U - Not detected. The analyte was analyzed for, but not detected above the limit of detection.

COC - contaminants of concern

ID - identifier

MCL - maximum contaminant level

NA - not analyzed

PCL - Texas residential groundwater protective concentration level

Val Qual - validation qualifier

Table 2-5
Historical COC Concentrations, LHAAP-50

	Sample ID	50WW27-181203-FD		50WW27-190523		50WW27-191108		50WW28-070914		50WW28-111214		50WW28-021715		50WW28FD-021715		50WW28-052615		50WW28FD-052615	
	Sample Date	12/3/2018		5/23/2019		11/8/2019		7/9/2014		11/12/2014		2/17/2015		2/17/2015		5/26/2015		5/26/2015	
	Well Completion Zone	Lower Shallow		Lower Shallow		Lower Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow	
Analyte	Units	MCL/PCL [a]	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Perchlorate	µg/L	17	< 4	U	< 4	U	2	U	2.57		2.01	J	1.44		1.44		1.04		1.05	
1,1-Dichloroethene	µg/L	7	< 0.5	U	< 0.5	U	0.5	U	<1	U	<1	U	<1	U	<1	U	<1	U	<1	U
1,2-Dichloroethane	µg/L	5	< 0.5	U	< 0.5	U	0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U
cis-1,2-Dichloroethene	µg/L	70	< 0.5	U	0.74	J	0.92	J	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U
Tetrachloroethene	µg/L	5	< 0.5	U	< 0.5	U	0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U
Trichloroethene	µg/L	5	< 0.5	U	< 0.5	U	0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U
Vinyl Chloride	µg/L	2	0.66	J	< 0.5	U	0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U

Notes:

Blue Highlighting indicates analyte detected above MCL/PCL.

[a] Cleanup goal is MCL except for perchlorate. For perchlorate, Texas Risk Reduction Program groundwater residential PCL is used.

[b] Only limited data validation possible; Not used in plume delineation.

µg/L - micrograms per liter

J - estimated value; analyte concentration was less than the limit of quantification.

U - Not detected. The analyte was analyzed for, but not detected above the limit of detection.

COC - contaminants of concern

ID - identifier

MCL - maximum contaminant level

NA - not analyzed

PCL - Texas residential groundwater protective concentration level

Val Qual - validation qualifier

Table 2-5
Historical COC Concentrations, LHAAP-50

	Sample ID	50WW28-082015		50WW28-051116		50WW28-111315		50WW29-191111		GPW1-021715		GPW1-050815		GPW1-052215		GPW1-111315		GPW1-2/11/2016		GPW1-5/13/2016	
	Sample Date	8/20/2015		5/11/2016		11/13/2015		11/11/2019		2/17/2015		5/8/2015		5/22/2015		11/13/2015					
	Well Completion Zone	Upper Shallow		Upper Shallow		Upper Shallow		Upper Shallow		Surface Water		Surface Water		Surface Water		Surface Water		Surface Water		Surface Water	
Analyte	Units	MCL/PCL [a]	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Perchlorate	µg/L	17	0.688		1.12		1.64		2	U	0.737		0.156	J	0.213	J	0.139	J	0.447		6.59	
1,1-Dichloroethene	µg/L	7	<1	U	1	U	<1	U	0.5	U	<1	U	<1	U	<1	U	<1	U	NA		NA	
1,2-Dichloroethane	µg/L	5	<0.5	U	0.5	U	<0.5	U	0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	NA		NA	
cis-1,2-Dichloroethene	µg/L	70	<0.5	U	0.5	U	<0.5	U	0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	NA		NA	
Tetrachloroethene	µg/L	5	<0.5	U	0.5	U	<0.5	U	0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	NA		NA	
Trichloroethene	µg/L	5	<0.5	U	0.5	U	<0.5	U	0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	NA		NA	
Vinyl Chloride	µg/L	2	<0.5	U	0.5	U	<0.5	U	0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U	NA		NA	

Notes:

Blue Highlighting indicates analyte detected above MCL/PCL.

[a] Cleanup goal is MCL except for perchlorate. For perchlorate, Texas Risk Reduction Program groundwater residential PCL is used.

[b] Only limited data validation possible; Not used in plume delineation.

µg/L - micrograms per liter

J - estimated value; analyte concentration was less than the limit of quantification.

U - Not detected. The analyte was analyzed for, but not detected above the limit of detection.

COC - contaminants of concern

ID - identifier

MCL - maximum contaminant level

NA - not analyzed

PCL - Texas residential groundwater protective concentration level

Val Qual - validation qualifier

Table 2-5
Historical COC Concentrations, LHAAP-50

Sample ID			GPW1-081016		GPW1-111316		GPW1A-021715		GPW1A-050815		GPW1A-021116		GPW1A-050116		GPW1A-081016		GPW1A-110116		[illegible] 941209		[illegible] 960212	
Sample Date			8/1/2016		11/13/2016		2/17/2015		5/8/2015		2/11/2016		5/1/2016		8/1/16		11/1/2016		12/9/1994		2/12/1996	
Well Completion Zone			Surface Water		Surface Water		Surface Water		Surface Water		Surface Water		Surface Water		Surface Water		Surface Water		Upper Shallow		Upper Shallow	
Analyte	Units	MCL/PCL [a]	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Perchlorate	µg/L	17	0.162	J	0.301	J	38.2		16		NA		NA		0.137	J	NA		NA		NA	
1,1-Dichloroethene	µg/L	7	NA		NA		<1	U	<1	U	NA		NA		NA		NA		<5	U	NA	
1,2-Dichloroethane	µg/L	5	NA		NA		<0.5	U	<0.5	U	NA		NA		NA		NA		<5	U	NA	
cis-1,2-Dichloroethene	µg/L	70	NA		NA		<0.5	U	<0.5	U	NA		NA		NA		NA		NA		NA	
Tetrachloroethene	µg/L	5	NA		NA		<0.5	U	<0.5	U	NA		NA		NA		NA		<5	U	NA	
Trichloroethene	µg/L	5	NA		NA		<0.5	U	<0.5	U	NA		NA		NA		NA		12		11	
Vinyl Chloride	µg/L	2	NA		NA		<0.5	U	<0.5	U	NA		NA		NA		NA		NA		NA	

Notes:

Blue Highlighting indicates analyte detected above MCL/PCL.

[a] Cleanup goal is MCL except for perchlorate, Texas Risk Reduction Program groundwater residential PCL is used.

[b] Only limited data validation possible; Not used in plume delineation.

µg/L - micrograms per liter

J - estimated value; analyte concentration was less than the limit of quantification.

U - Not detected. The analyte was analyzed for, but not detected above the limit of detection.

COC - contaminants of concern

ID - identifier

MCL - maximum contaminant level

NA - not analyzed

PCL - Texas residential groundwater protective concentration level

Val Qual - validation qualifier

Table 2-5
Historical COC Concentrations, LHAAP-50

	Sample ID	LHSMW54-960821	LHSMW54-980520	LHSMW54-000521	LHSMW54-020309	LHSMW54-020921	LHSMW54-100806	LHSMW54-101707	LHSMW54-110713	
	Sample Date	8/21/1996	5/20/1998	5/21/2000	3/9/2002	9/21/2002	8/6/2010	10/17/2007	11/7/2013	
	Well Completion Zone	Upper Shallow	Upper Shallow	Upper Shallow	Upper Shallow	Upper Shallow	Upper Shallow	Upper Shallow	Upper Shallow	
Analyte	Units	MCL/PCL [a]	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Perchlorate	µg/L	17	NA		NA		<1	U	<4	U	<4	U	<0.2	U	<1	U	<0.2	U
1,1-Dichloroethene	µg/L	7	<0.2	U	<1	U	NA		NA		NA		<2.5	U	<1	U	<1	U
1,2-Dichloroethane	µg/L	5	<0.31	U	<1	U	NA		NA		NA		<2.5	U	<1	U	<0.5	U
cis-1,2-Dichloroethene	µg/L	70	<0.2	U	0.7		NA		NA		NA		0.657	J	1.59		0.392	J
Tetrachloroethene	µg/L	5	<0.25	U	<1	U	NA		NA		NA		<2.5	U	<1	U	<0.5	U
Trichloroethene	µg/L	5	15.7		210		NA		NA		NA		369		601		112	
Vinyl Chloride	µg/L	2	<0.24	U	<1	U	NA		NA		NA		<2.5	U	<1	U	<0.5	U

Notes:

Blue Highlighting indicates analyte detected above MCL/PCL.

[a] Cleanup goal is MCL except for perchlorate. For perchlorate, Texas Risk Reduction Program groundwater residential PCL is used.

[b] Only limited data validation possible; Not used in plume delineation.

µg/L - micrograms per liter

J - estimated value; analyte concentration was less than the limit of quantification.

U - Not detected. The analyte was analyzed for, but not detected above the limit of detection.

COC - contaminants of concern

ID - identifier

MCL - maximum contaminant level

NA - not analyzed

PCL - Texas residential groundwater protective concentration level

Val Qual - validation qualifier

Table 2-5
Historical COC Concentrations, LHAAP-50

	Sample ID	LHSMW54-021815		LHSMW54-052715		LHSMW54-111315	
	Sample Date	2/18/2015		5/27/2015		11/13/2015	
	Well Completion Zone	Upper Shallow		Upper Shallow		Upper Shallow	
Analyte	Units	MCL/PCL [a]	Result	Val Qual	Result	Val Qual	Result	Val Qual
Perchlorate	µg/L	17	0.271	J	<0.2	U	<1	UJ
1,1-Dichloroethene	µg/L	7	<1	U	<1	U	<1	U
1,2-Dichloroethane	µg/L	5	<0.5	U	<0.5	U	<0.5	U
cis-1,2-Dichloroethene	µg/L	70	0.316	J	0.261	J	0.323	J
Tetrachloroethene	µg/L	5	<0.5	U	<0.5	U	<0.5	U
Trichloroethene	µg/L	5	93.8		95.9		88.3	
Vinyl Chloride	µg/L	2	<0.5	U	<0.5	U	<0.5	U

Notes:

Blue Highlighting indicates analyte detected above MCL/PCL.

[a] Cleanup goal is MCL except for perchlorate, Texas Risk Reduction Program groundwater residential PCL is used.

[b] Only limited data validation possible; Not used in plume delineation.

µg/L - micrograms per liter

J - estimated value; analyte concentration was less than the limit of quantification.

U - Not detected. The analyte was analyzed for, but not detected above the limit of detection.

COC - contaminants of concern

ID - identifier

MCL - maximum contaminant level

NA - not analyzed

PCL - Texas residential groundwater protective concentration level

Val Qual - validation qualifier

Table 2-6
Year 9 ISB and LTM Monitoring Network Locations and Analyses

Monitoring Location	Well Location/Purpose	Perchlorate (6850)	VOCs (8260C)	DO (field reading)	ORP (field reading)	pH (field reading)	Ferrous Iron (field reading)	Anions (SW9056A)	Ethene, Ethane, Methane & Carbon Dioxide (RSK-175)	TOC (SM5310B)
ISB Performance Monitoring Locations (Semiannual for Years 9, 10, and 11)										
50WW05	Cross-gradient to treatment area	✓	✓	✓	✓	✓				
50WW06	Performance monitoring within the plume	✓	✓	✓	✓	✓	✓	✓	✓	✓
50WW08	Upgradient of treatment area	✓	✓	✓	✓	✓				
50WW11	Performance monitoring within the plume	✓	✓	✓	✓	✓	✓	✓	✓	✓
50WW12	Performance monitoring within the plume	✓	✓	✓	✓	✓	✓	✓	✓	✓
50WW13	Performance monitoring within the plume	✓	✓	✓	✓	✓	✓	✓	✓	✓
50WW14	Performance monitoring within the plume	✓	✓	✓	✓	✓	✓	✓	✓	✓
50WW29	Downgradient of plume/treatment area	✓	✓	✓	✓	✓				
LTM Monitoring Locations (Annual)										
50WW09	Within the plume	✓	✓	✓	✓	✓				
50WW15	Plume delineation, cross/upgradient	✓	✓	✓	✓	✓				
50WW16	Plume delineation, cross-gradient	✓	✓	✓	✓	✓				
50WW18	Plume delineation, downgradient	✓	✓	✓	✓	✓				
50WW22	Plume delineation, upgradient	✓	✓	✓	✓	✓				
50WW23	Plume delineation, cross-gradient	✓	✓	✓	✓	✓				

Notes:

Anions include chloride, nitrate, and sulfate.

✓ Indicates that sample will be collected and analyzed for the listed analyte.

DO - dissolved oxygen

ISB - in situ bioremediation

ORP - oxygen-reduction potential

LTM - long-term monitoring

TOC - total organic carbon

VOC - volatile organic compound

Table 2-7
Groundwater Elevation vs. Bottom of Drainage Channel Elevation, LHAAP-50

Surface Water Sample Location	Bottom of Drainage Channel (ft amsl)	Nearest Well	Groundwater Elevation during Surface Water Sampling (ft amsl)	Groundwater Elevation Measurement Date
50SW06	182.902	50WW16	179.97	7/7/2021
			178.47	10/11/2021
			178.39	1/4/2022
			178.68	4/5/2022

Notes:

ft amsl - feet above mean sea level

Table 3-1
Mann-Kendall Trend Summary, LHAAP-50

Monitoring Well	Period of Record	Perchlorate	TCE	cis-1,2-DCE	1,1-DCE	1,2-DCA
50WW05	2019-2022	–	Probably decreasing	Probably decreasing	–	–
50WW06	2019-2022	No trend	No trend	–	–	–
50WW08	2019-2022	No trend	**Significantly increasing**	**Significantly increasing**	–	–
50WW09	2013-2021	–	Stable	–	–	–
50WW11	2019-2022	Probably decreasing	Stable	Stable	Probably decreasing	Probably decreasing
50WW12	2019-2022	No trend	Probably increasing	–	Probably increasing	No trend
50WW13	2019-2022	Stable	Stable	Stable	Stable	Stable
50WW14	2019-2022	–	Stable	–	–	–

Notes:

Bolded cells indicate a statistically significant trend with >95% confidence.

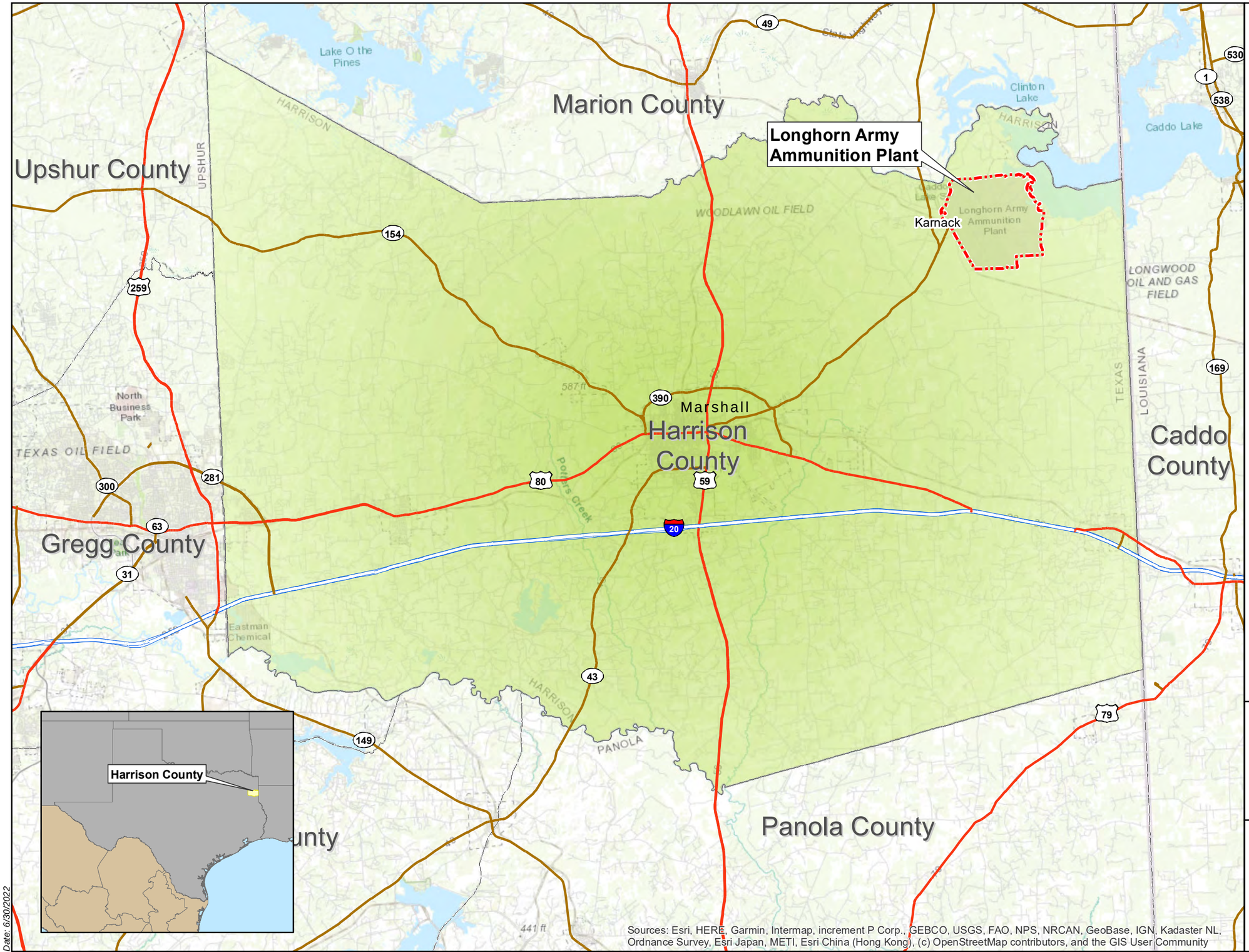
"Significant" refers to the statistical confidence in the trend.

DCA - dichloroethane

DCE - dichloroethene

TCE - trichloroethene

Figures



Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

Date: 6/30/2022

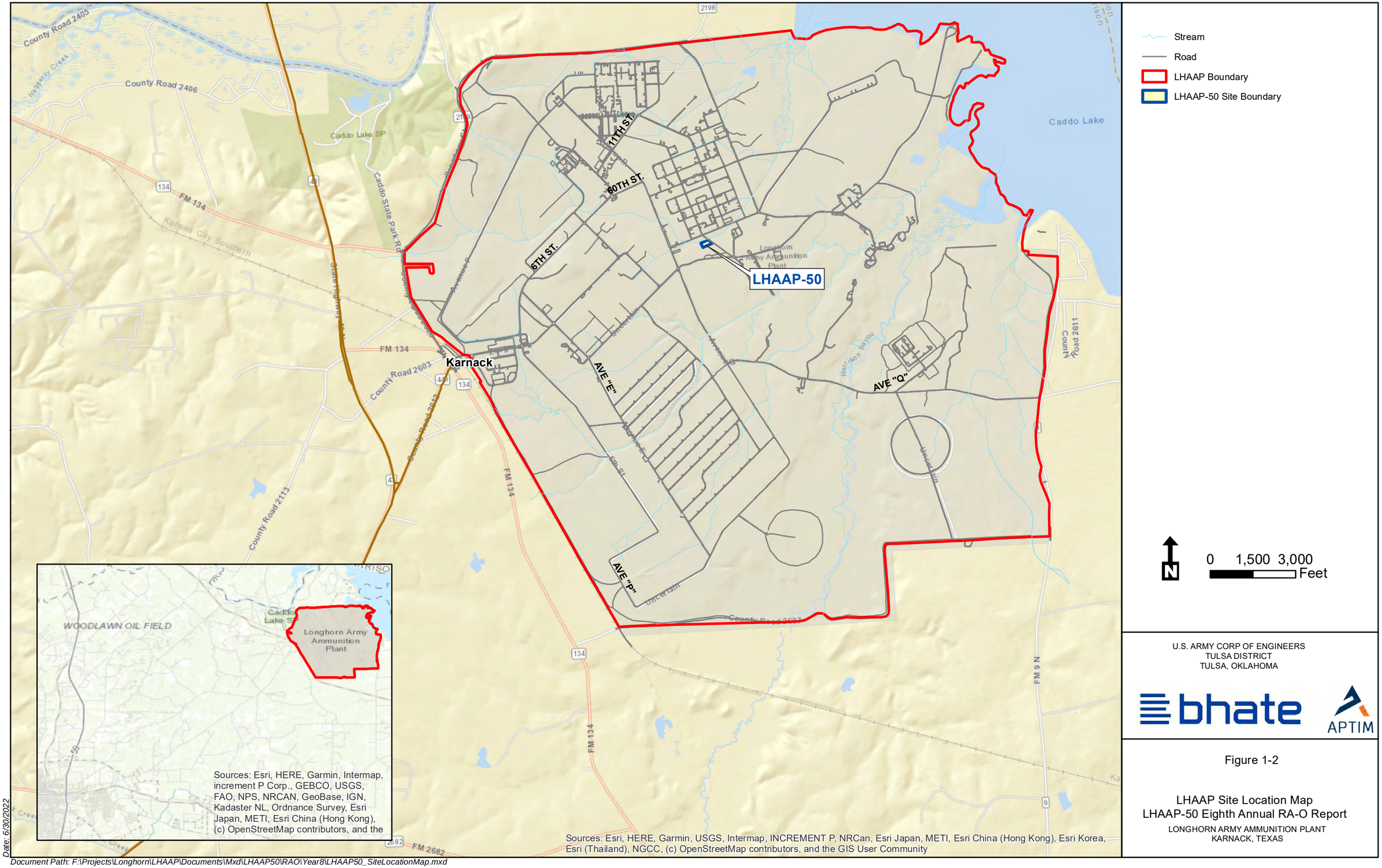
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Figure 1-1

LHAAP Location Map
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LONGHORN ARMY AMMUNITION PLANT
KARNACK, TEXAS



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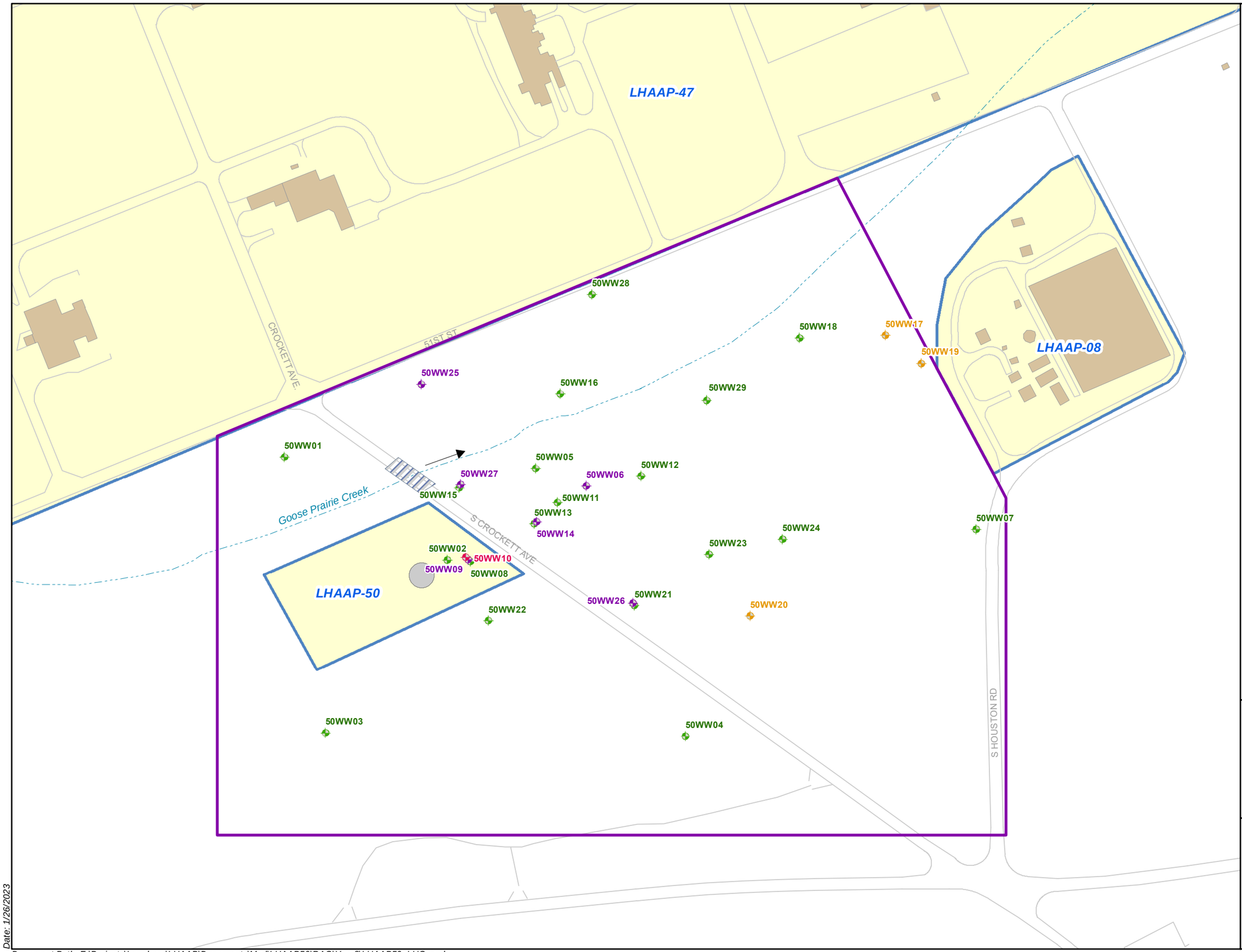
Figure 1-2

LHAAP Site Location Map
LHAAP-50 Eighth Annual RA-O Report

LONGHORN ARMY AMMUNITION PLANT
KARNACK, TEXAS

Date: 6/30/2022

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- Lower Shallow Monitoring Well
- Upper Shallow Monitoring Well
- Fully Penetrating Shallow Monitoring Well
- Intermediate Monitoring Well
- Goose Prairie Creek Flow Direction
- Goose Prairie Creek
- Roads
- Land Use Control Boundary
- Bridges
- Former Storage Tank Location
- Buildings
- Site Boundaries

Note:
LUC boundary established in the 2016 Final Remedial Action Completion Report, LHAAP-50, Former Sump Water Tank (AECOM 2016)

N

0 75 150 Feet

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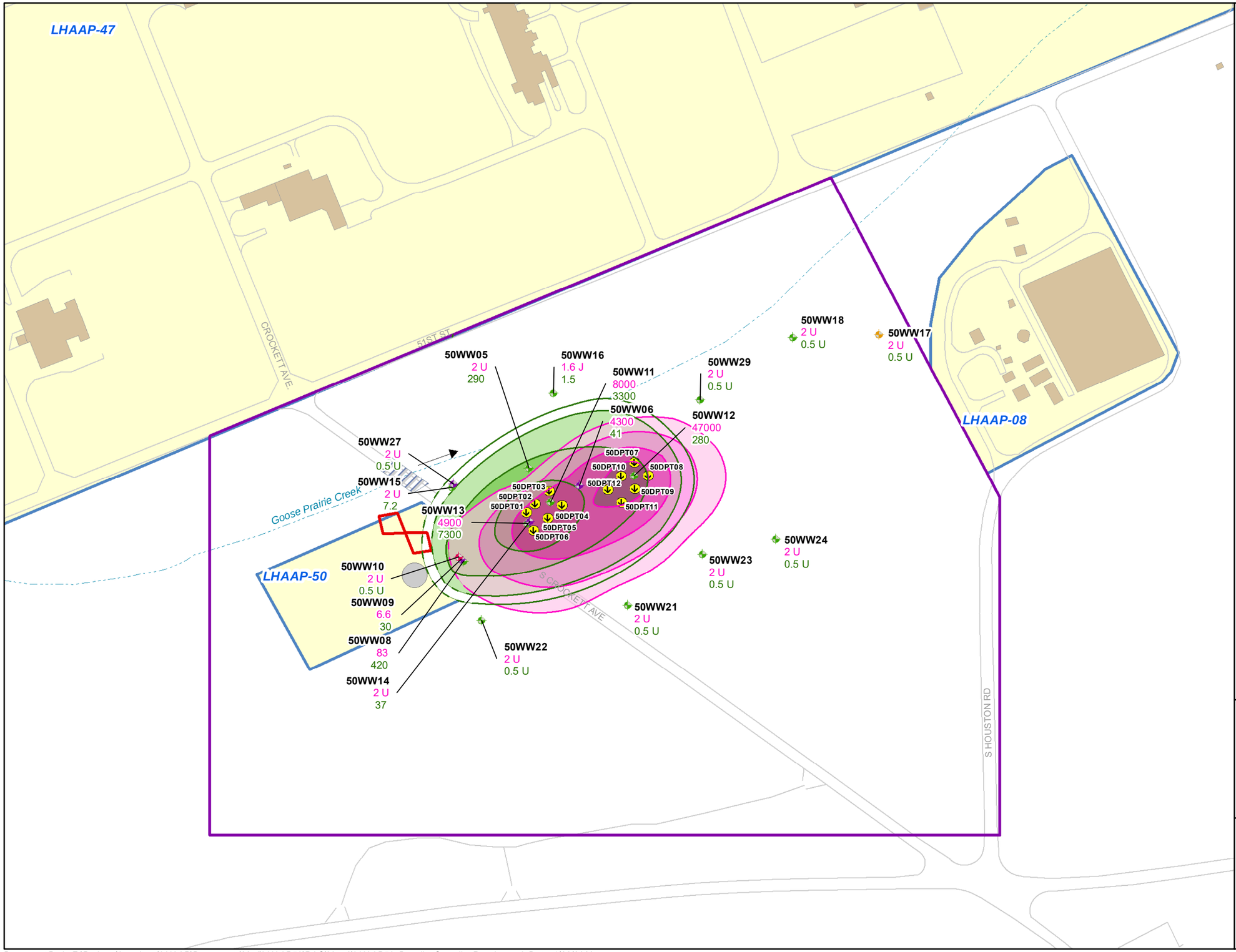
Figure 1-3

Monitoring Well Network and
Land Use Control Boundary
LHAAP-50 Eighth Annual RA-O Report

LONGHORN ARMY AMMUNITION PLANT
KARNACK, TEXAS

Date: 1/26/2023

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- Lower Shallow Monitoring Well
- Upper Shallow Monitoring Well
- Fully Penetrating Shallow Monitoring Well
- Intermediate Monitor Well
- ISB DPT Point

Perchlorate Plume (µg/L)
- 17 - 100
- 100 - 1,000
- 1,000 - 10,000
- >10,000

Trichloroethene (TCE) Plume (µg/L)
- 5 - 10
- 10 - 100
- 100 - 1,000
- >1,000

- Goose Prairie Creek Flow Direction
- LHAAP-50 Excavation Area
- Land Use Control Boundary
- Bridges
- Former Storage Tank Location
- Goose Prairie Creek
- Roads
- Buildings
- Site Boundaries

Notes:
1. Perchlorate MCL/PCL = 17 µg/L
TCE MCL/PCL = 5 µg/L
2. Qualifiers:
J - Estimated: The analyte was positively identified; the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.
U - Undetected: The analyte was analyzed for, but not detected.
3. µg/L = micrograms per liter
4. ISB = in situ bioremediation
DPT = direct push technology
5. LUC boundary established in the 2016 Final Remedial Action Completion Report, LHAAP-50, Former Sump Water Tank (AECOM 2016)

0 75 150
Feet

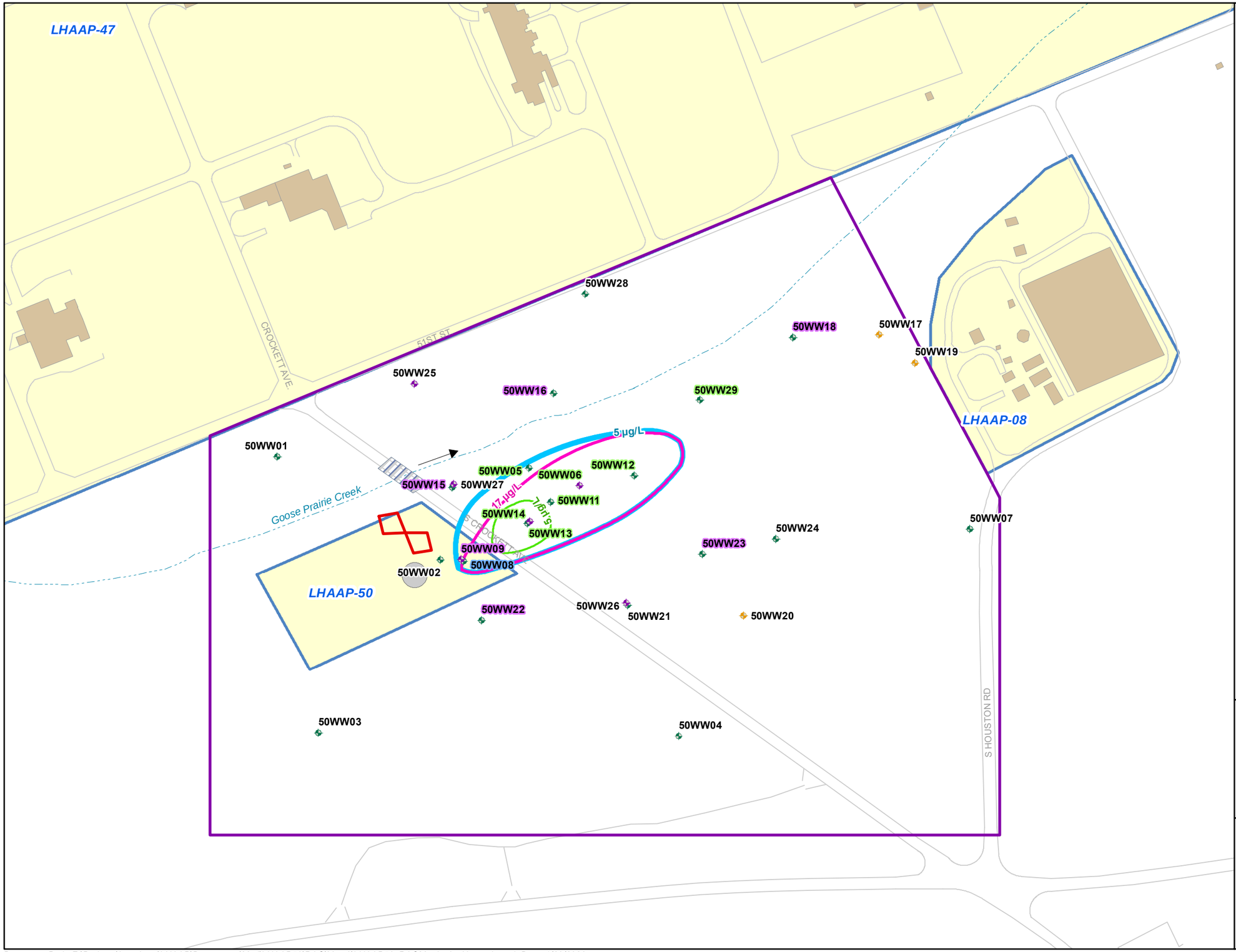
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Figure 1-4

TCE and Perchlorate Plumes
Baseline
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LONGHORN ARMY AMMUNITION PLANT
KARNACK, TEXAS

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- Lower Shallow Monitoring Well
- Upper Shallow Monitoring Well
- Fully Penetrating Shallow Monitoring Well
- 1,2-DCA Contour
- Perchlorate Contour (*Dashed where inferred*)
- TCE Contour
- Goose Prairie Creek Flow Direction
- Goose Prairie Creek
- Roads
- LHAAP-50 Excavation Area
- Land Use Control Boundary
- Bridges
- Former Storage Tank Location
- Buildings
- Site Boundaries

50WW22 = Annual LTM Well

50WW08 = RA-O Monitoring Well

50WW13 = Both Annual LTM Well and RA-O Monitoring Well

0 75 150 Feet

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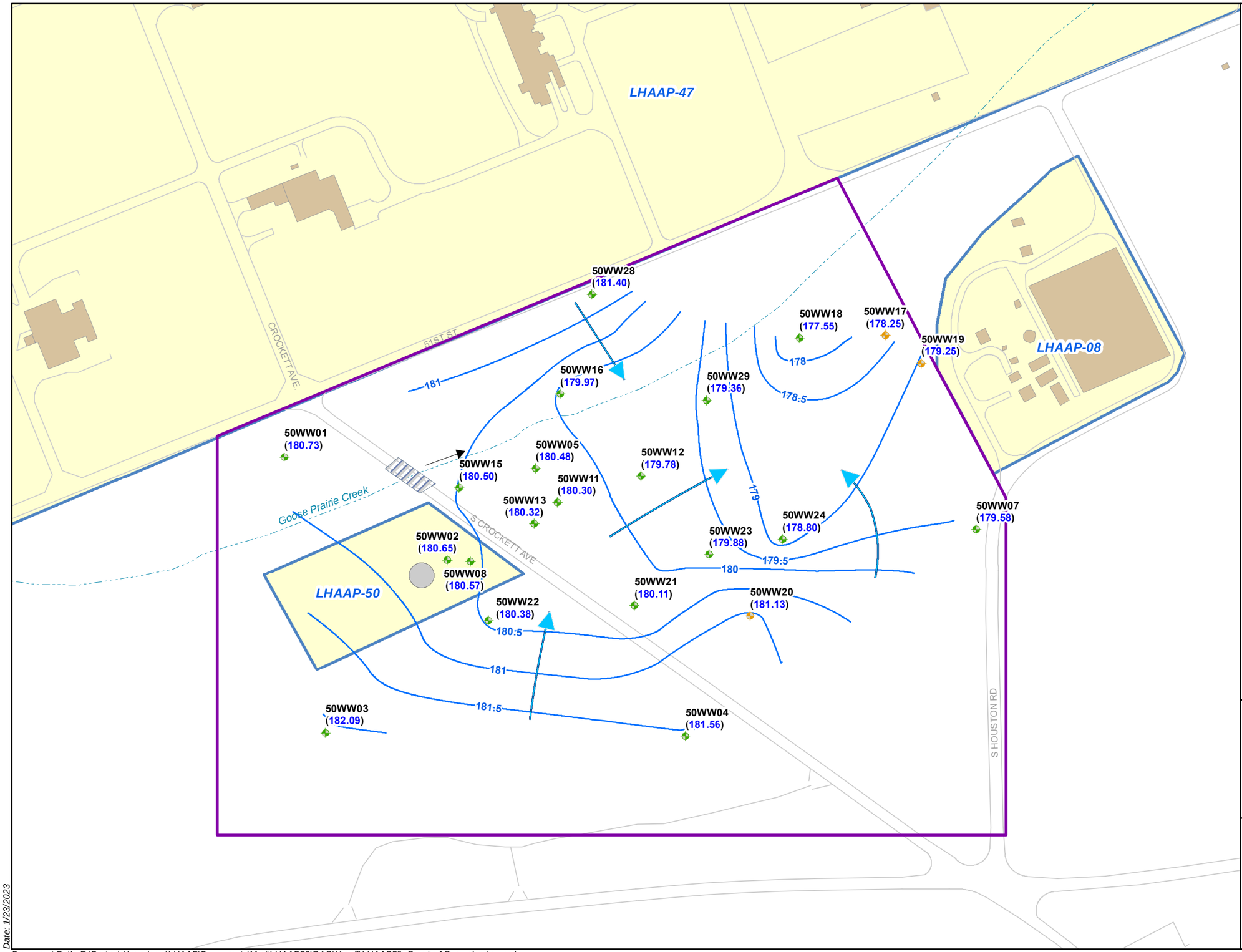
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Figure 2-1

RA-O Monitoring Network
LHAAP-50 Eighth Annual RA-O Report

LONGHORN ARMY AMMUNITION PLANT
KARNACK, TEXAS

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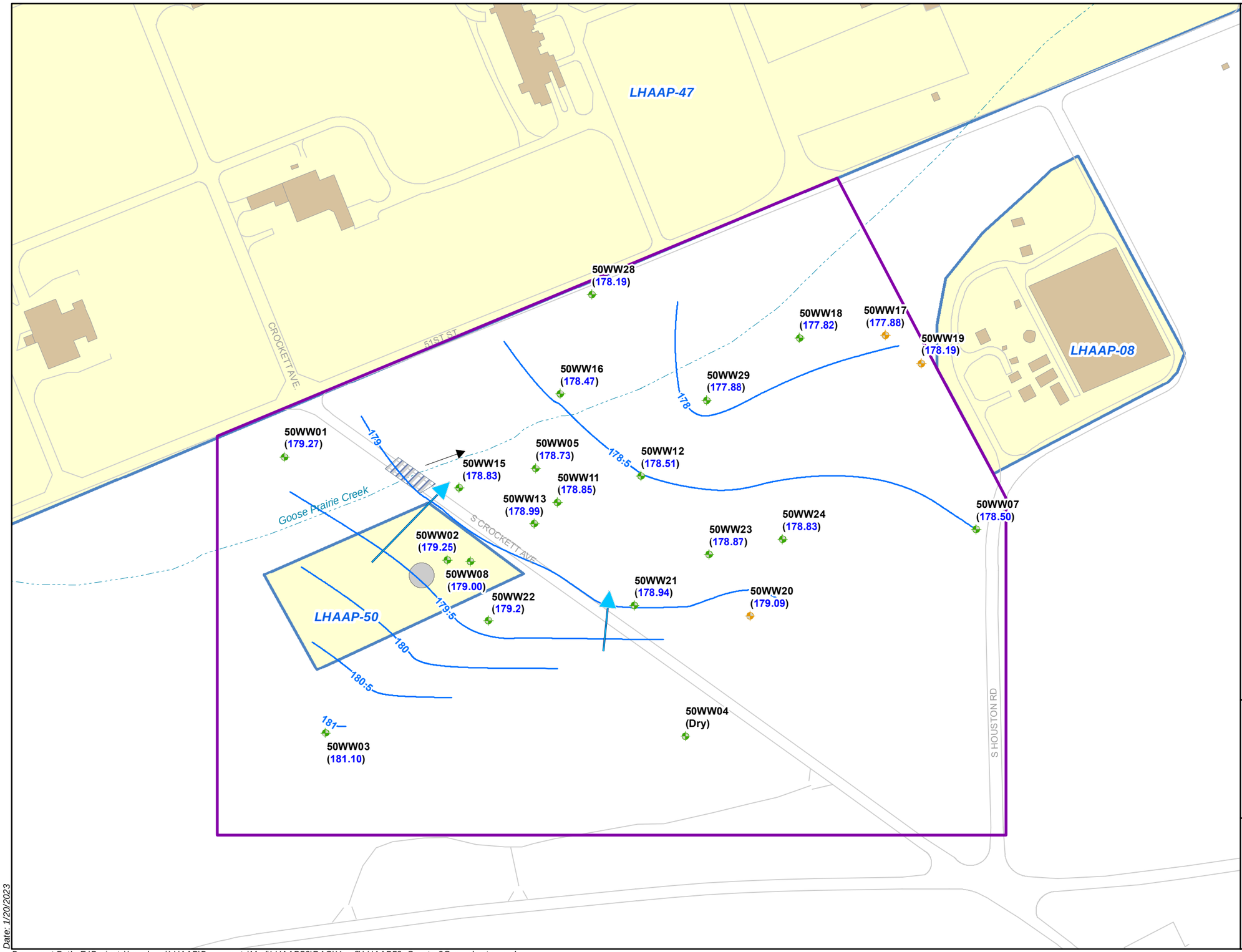
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Figure 2-2
Shallow Zone Potentiometric Map
Quarter 1, July 2021
LHAAP-50 Eighth Annual RA-O Report

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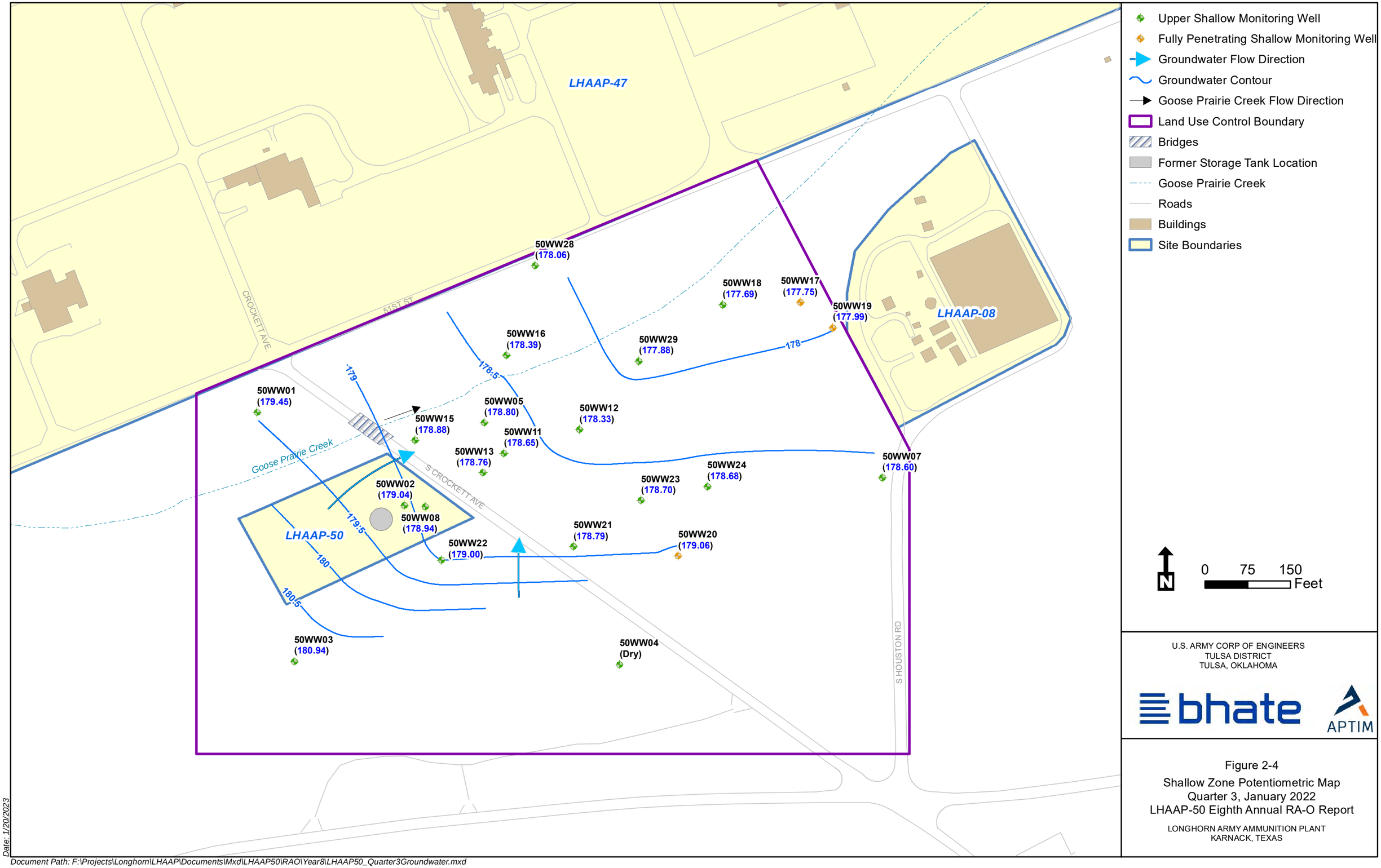
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Figure 2-3
Shallow Zone Potentiometric Map
Quarter 2, October 2021
LHAAP-50 Eighth Annual RA-O Report

LONGHORN ARMY AMMUNITION PLANT
KARNACK, TEXAS

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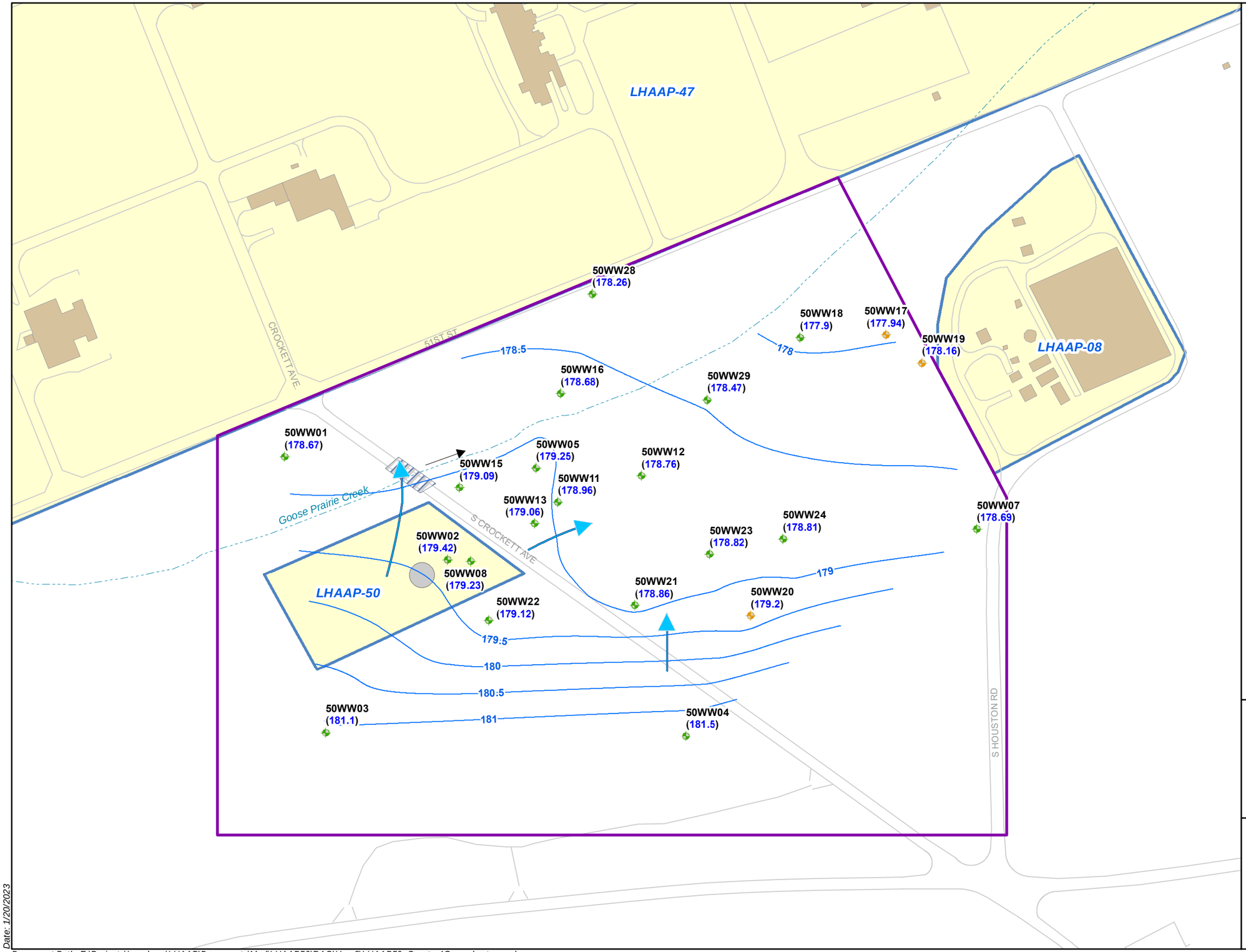
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Figure 2-4
Shallow Zone Potentiometric Map
Quarter 3, January 2022
LHAAP-50 Eighth Annual RA-O Report

LONGHORN ARMY AMMUNITION PLANT
KARNACK, TEXAS

Date: 1/20/2023

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- Upper Shallow Monitoring Well
- Fully Penetrating Shallow Monitoring Well
- Groundwater Flow Direction
- Groundwater Contour
- Goose Prairie Creek Flow Direction
- Land Use Control Boundary
- Bridges
- Former Storage Tank Location
- Goose Prairie Creek
- Roads
- Buildings
- Site Boundaries

N

0 75 150 Feet

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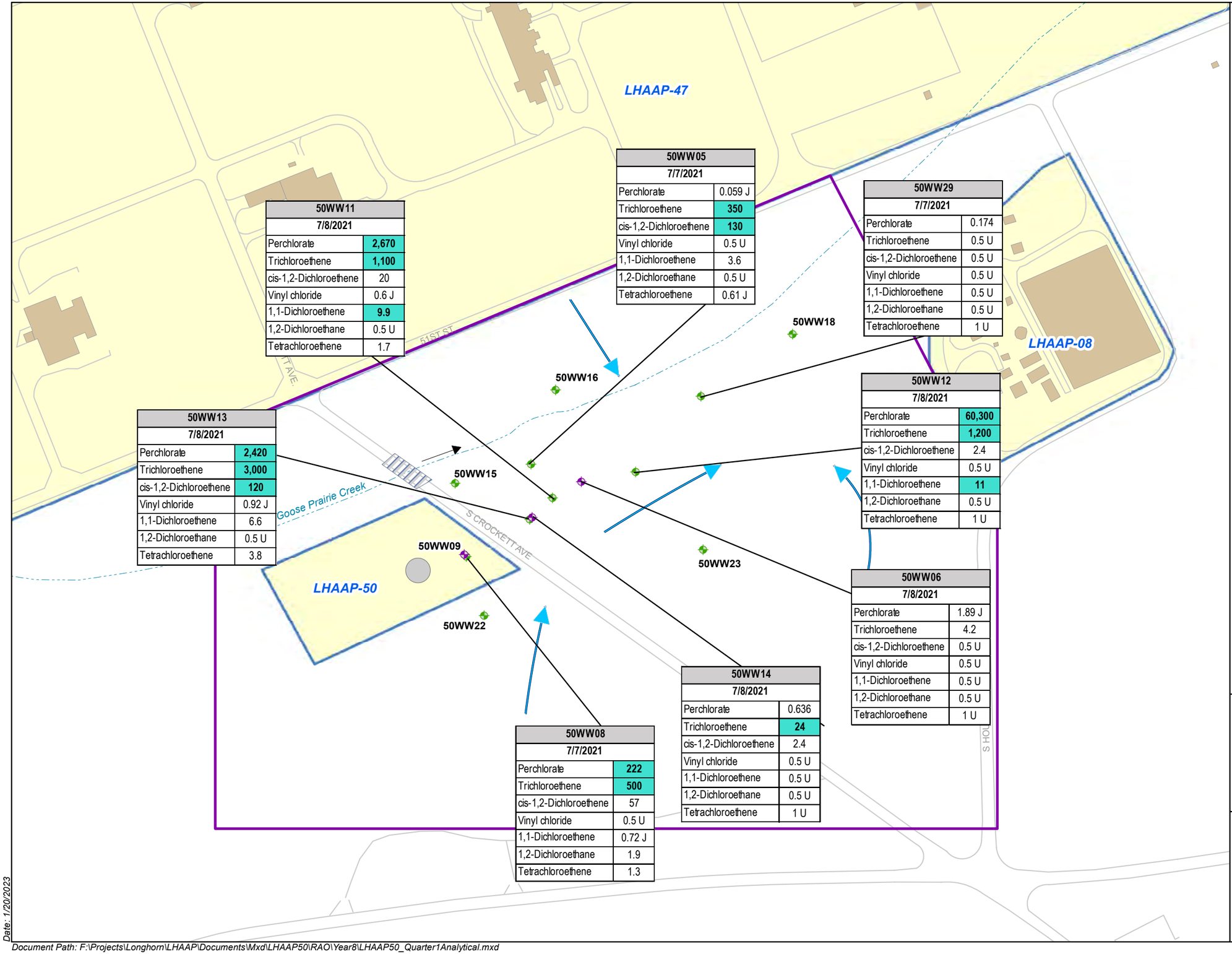
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Figure 2-5
Shallow Zone Potentiometric Map
Quarter 4, April 2022
LHAAP-50 Eighth Annual RA-O Report

LONGHORN ARMY AMMUNITION PLANT
KARNACK, TEXAS

Date: 1/20/2023

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- Lower Shallow Monitoring Well
- Upper Shallow Monitoring Well
- Groundwater Flow Direction
- Goose Prairie Creek Flow Direction
- Goose Prairie Creek
- Roads
- Land Use Control Boundary
- Bridges
- Former Storage Tank Location
- Buildings
- Site Boundaries

Notes:
1. Blue Highlighting Indicates the concentration exceeds the MCL/PCL.
2. Qualifier:
J - Estimated: The analyte was positively identified; the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.
U - Undetected: The analyte was analyzed for, but not detected.

N

0 75 150 Feet

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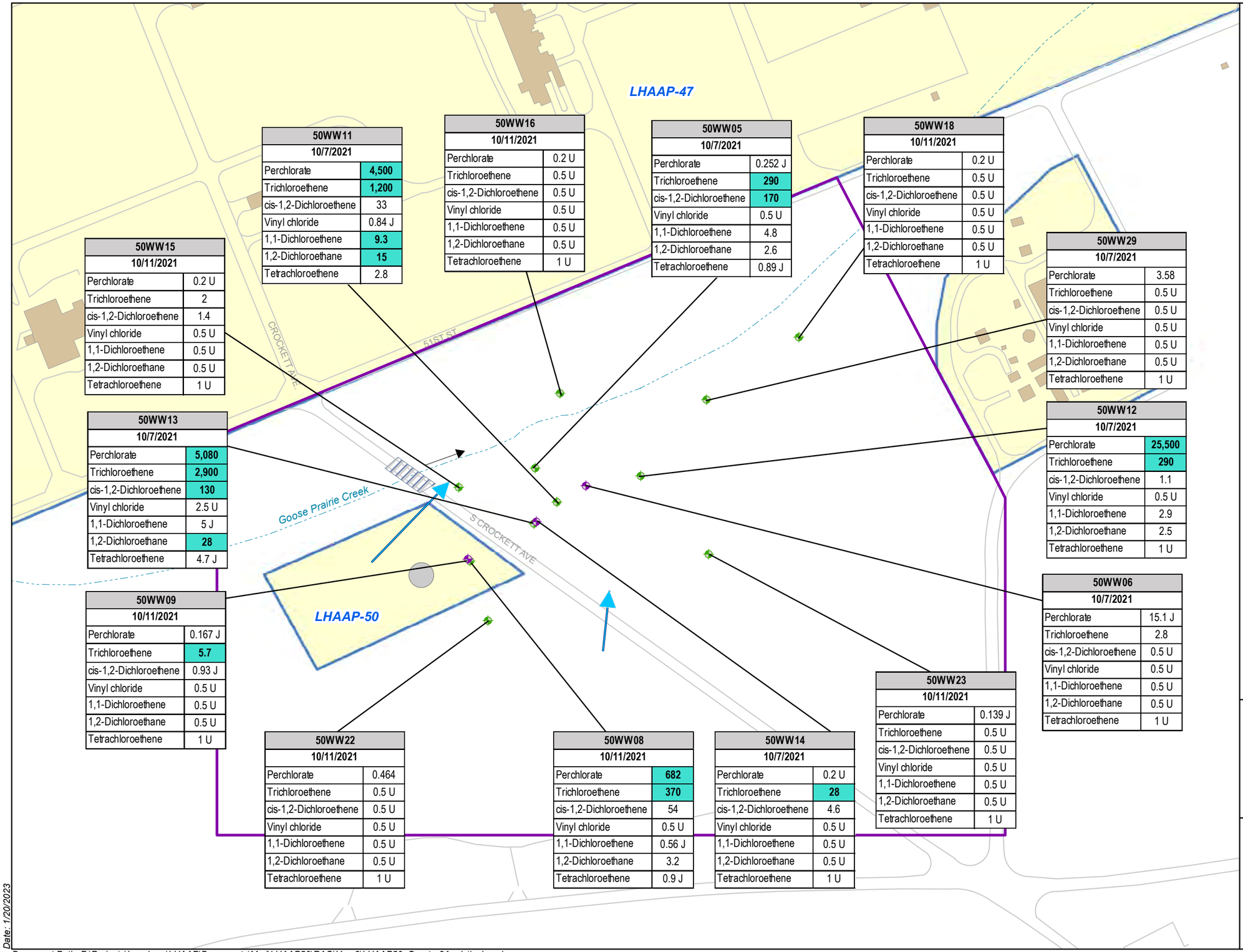
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Figure 2-6
COC Concentrations in Groundwater
Year 2, Quarter 1
LHAAP-50 Eighth Annual RA-O Report

LONGHORN ARMY AMMUNITION PLANT
KARNACK, TEXAS

Date: 1/20/2023

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50WW11	
10/7/2021	
Perchlorate	**4,500**
Trichloroethene	**1,200**
cis-1,2-Dichloroethene	33
Vinyl chloride	0.84 J
1,1-Dichloroethene	**9.3**
1,2-Dichloroethane	**15**
Tetrachloroethene	2.8

50WW16	
10/11/2021	
Perchlorate	0.2 U
Trichloroethene	0.5 U
cis-1,2-Dichloroethene	0.5 U
Vinyl chloride	0.5 U
1,1-Dichloroethene	0.5 U
1,2-Dichloroethane	0.5 U
Tetrachloroethene	1 U

50WW05	
10/7/2021	
Perchlorate	0.252 J
Trichloroethene	**290**
cis-1,2-Dichloroethene	**170**
Vinyl chloride	0.5 U
1,1-Dichloroethene	4.8
1,2-Dichloroethane	2.6
Tetrachloroethene	0.89 J

50WW18	
10/11/2021	
Perchlorate	0.2 U
Trichloroethene	0.5 U
cis-1,2-Dichloroethene	0.5 U
Vinyl chloride	0.5 U
1,1-Dichloroethene	0.5 U
1,2-Dichloroethane	0.5 U
Tetrachloroethene	1 U

50WW15	
10/11/2021	
Perchlorate	0.2 U
Trichloroethene	2
cis-1,2-Dichloroethene	1.4
Vinyl chloride	0.5 U
1,1-Dichloroethene	0.5 U
1,2-Dichloroethane	0.5 U
Tetrachloroethene	1 U

50WW29	
10/7/2021	
Perchlorate	3.58
Trichloroethene	0.5 U
cis-1,2-Dichloroethene	0.5 U
Vinyl chloride	0.5 U
1,1-Dichloroethene	0.5 U
1,2-Dichloroethane	0.5 U
Tetrachloroethene	1 U

50WW13	
10/7/2021	
Perchlorate	**5,080**
Trichloroethene	**2,900**
cis-1,2-Dichloroethene	**130**
Vinyl chloride	2.5 U
1,1-Dichloroethene	5 J
1,2-Dichloroethane	**28**
Tetrachloroethene	4.7 J

50WW12	
10/7/2021	
Perchlorate	**25,500**
Trichloroethene	**290**
cis-1,2-Dichloroethene	1.1
Vinyl chloride	0.5 U
1,1-Dichloroethene	2.9
1,2-Dichloroethane	2.5
Tetrachloroethene	1 U

50WW09	
10/11/2021	
Perchlorate	0.167 J
Trichloroethene	**5.7**
cis-1,2-Dichloroethene	0.93 J
Vinyl chloride	0.5 U
1,1-Dichloroethene	0.5 U
1,2-Dichloroethane	0.5 U
Tetrachloroethene	1 U

50WW06	
10/7/2021	
Perchlorate	15.1 J
Trichloroethene	2.8
cis-1,2-Dichloroethene	0.5 U
Vinyl chloride	0.5 U
1,1-Dichloroethene	0.5 U
1,2-Dichloroethane	0.5 U
Tetrachloroethene	1 U

50WW22	
10/11/2021	
Perchlorate	0.464
Trichloroethene	0.5 U
cis-1,2-Dichloroethene	0.5 U
Vinyl chloride	0.5 U
1,1-Dichloroethene	0.5 U
1,2-Dichloroethane	0.5 U
Tetrachloroethene	1 U

50WW08	
10/11/2021	
Perchlorate	**682**
Trichloroethene	**370**
cis-1,2-Dichloroethene	54
Vinyl chloride	0.5 U
1,1-Dichloroethene	0.56 J
1,2-Dichloroethane	3.2
Tetrachloroethene	0.9 J

50WW14	
10/7/2021	
Perchlorate	0.2 U
Trichloroethene	**28**
cis-1,2-Dichloroethene	4.6
Vinyl chloride	0.5 U
1,1-Dichloroethene	0.5 U
1,2-Dichloroethane	0.5 U
Tetrachloroethene	1 U

50WW23	
10/11/2021	
Perchlorate	0.139 J
Trichloroethene	0.5 U
cis-1,2-Dichloroethene	0.5 U
Vinyl chloride	0.5 U
1,1-Dichloroethene	0.5 U
1,2-Dichloroethane	0.5 U
Tetrachloroethene	1 U

- Lower Shallow Monitoring Well
- Upper Shallow Monitoring Well
- Groundwater Flow Direction
- Goose Prairie Creek Flow Direction
- Goose Prairie Creek
- Roads
- Land Use Control Boundary
- Bridges
- Former Storage Tank Location
- Buildings
- Site Boundaries

Notes:
1. Blue Highlighting Indicates the concentration exceeds the MCL/PCL.
2. Qualifiers:
J - Estimated: The analyte was positively identified; the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.
U - Undetected: The analyte was analyzed for, but not detected.

N

0 75 150 Feet

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TULSA DISTRICT
TULSA, OKLAHOMA

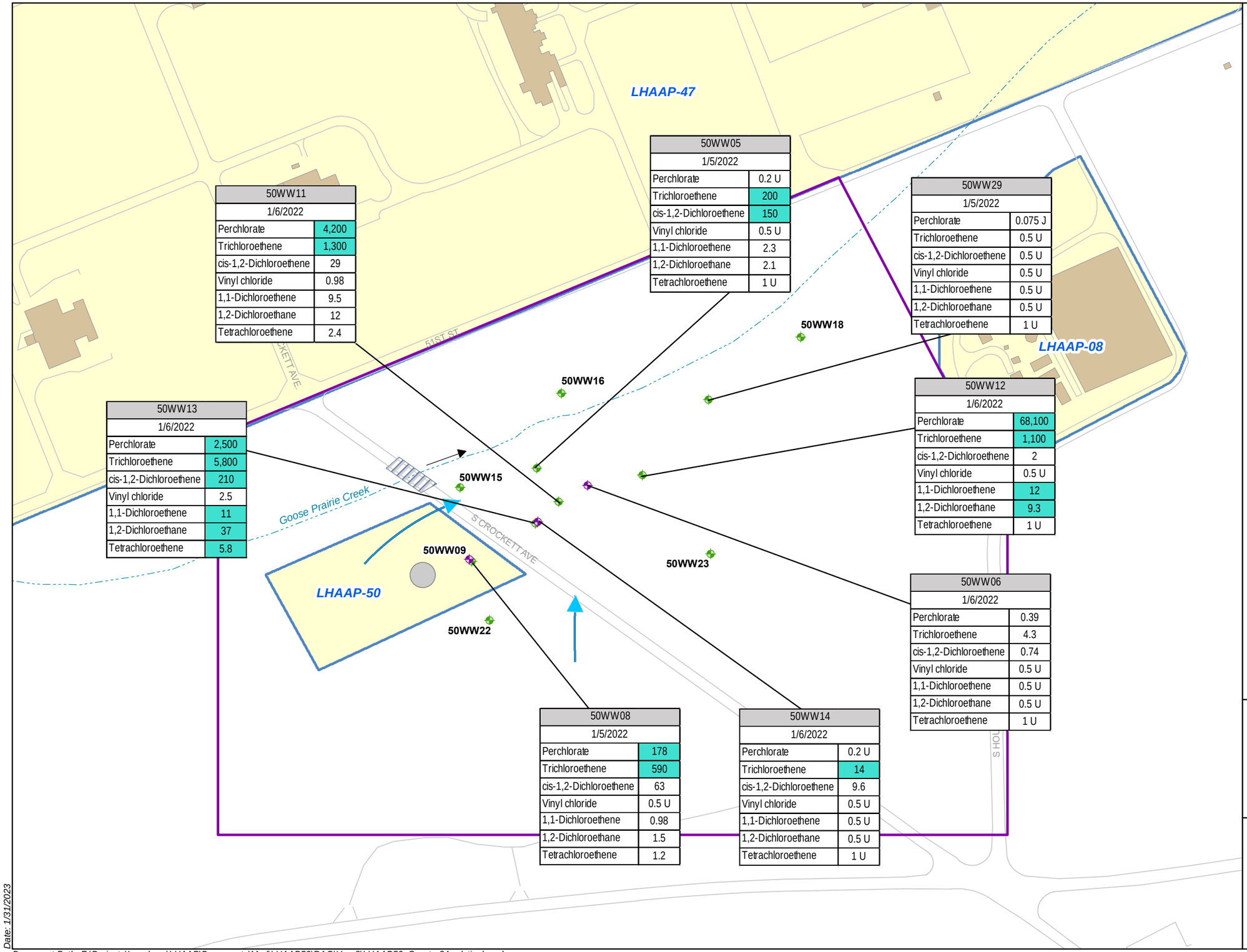
bhate APTIM

Figure 2-7
COC Concentrations in Groundwater
Year 2, Quarter 2
LHAAP-50 Eighth Annual RA-O Report

LONGHORN ARMY AMMUNITION PLANT
KARNACK, TEXAS

Date: 1/20/2023

Document Path: F:\Projects\Longhorn\LHAAP\Documents\Mxd\LHAAP50\RAO\Year8\LHAAP50_Quarter2Analytical.mxd



- Lower Shallow Monitoring Well
- Upper Shallow Monitoring Well
- Groundwater Flow Direction
- Goose Prairie Creek Flow Direction
- Goose Prairie Creek
- Roads
- Land Use Control Boundary
- Bridges
- Former Storage Tank Location
- Buildings
- Site Boundaries

Notes:
1. Blue Highlighting Indicates the concentration exceeds the MCL/PCL.
2. Qualifiers:
J - Estimated: The analyte was positively identified; the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.
U - Undetected: The analyte was analyzed for, but not detected.

N

0 75 150 Feet

U.S. ARMY CORP OF ENGINEERS
TULSA DISTRICT
TULSA, OKLAHOMA

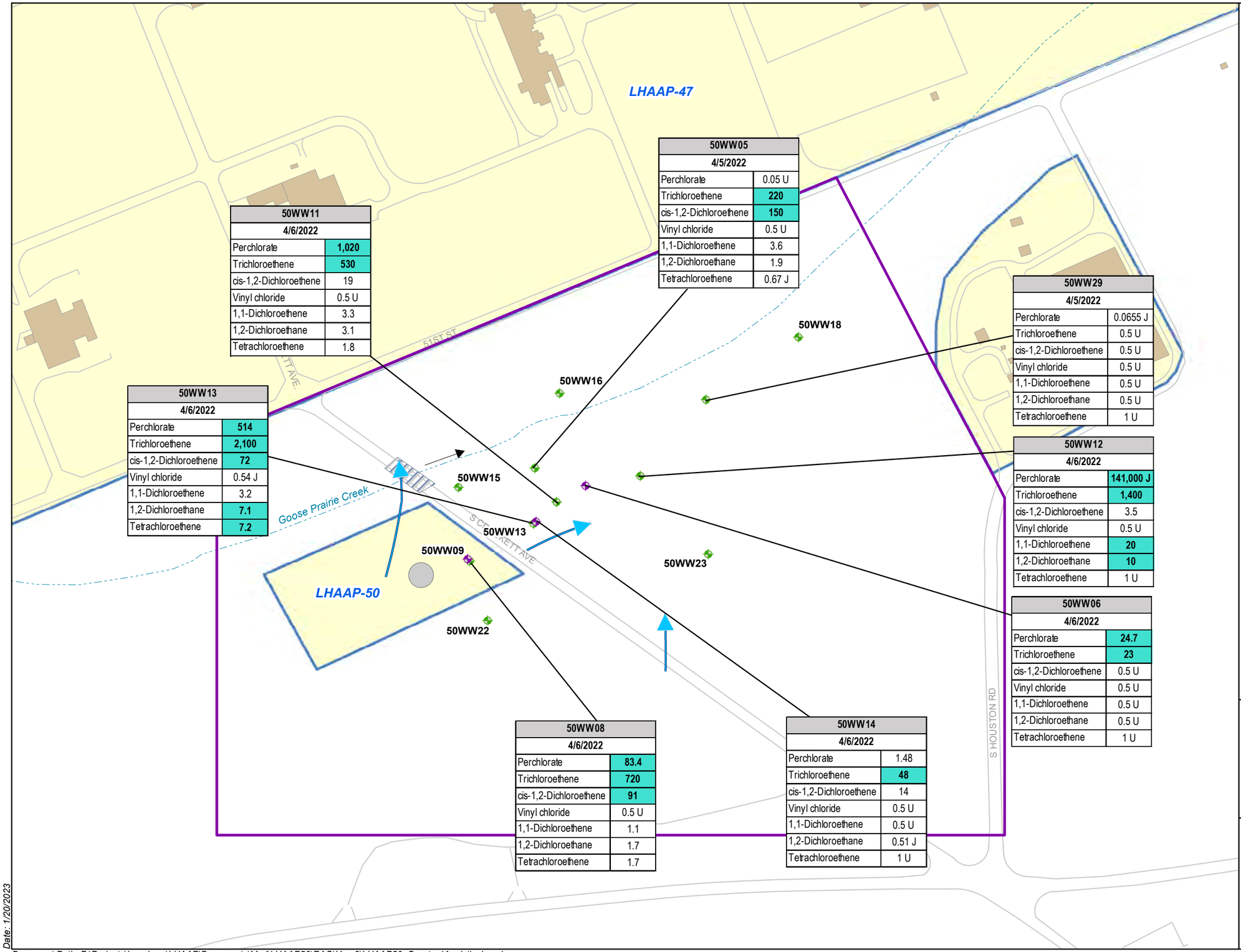
bhate APTIM

Figure 2-8
COC Concentrations in Groundwater
Year 2, Quarter 3
LHAAP-50 Eighth Annual RA-O Report

LONGHORN ARMY AMMUNITION PLANT
KARNACK, TEXAS

Date: 1/31/2023

Document Path: F:\Projects\Longhorn\LHAAP\Documents\Mxd\LHAAP50\RAO\Year8\LHAAP50_Quarter3Analytical.mxd



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TULSA, OKLAHOMA

bhate APTIM

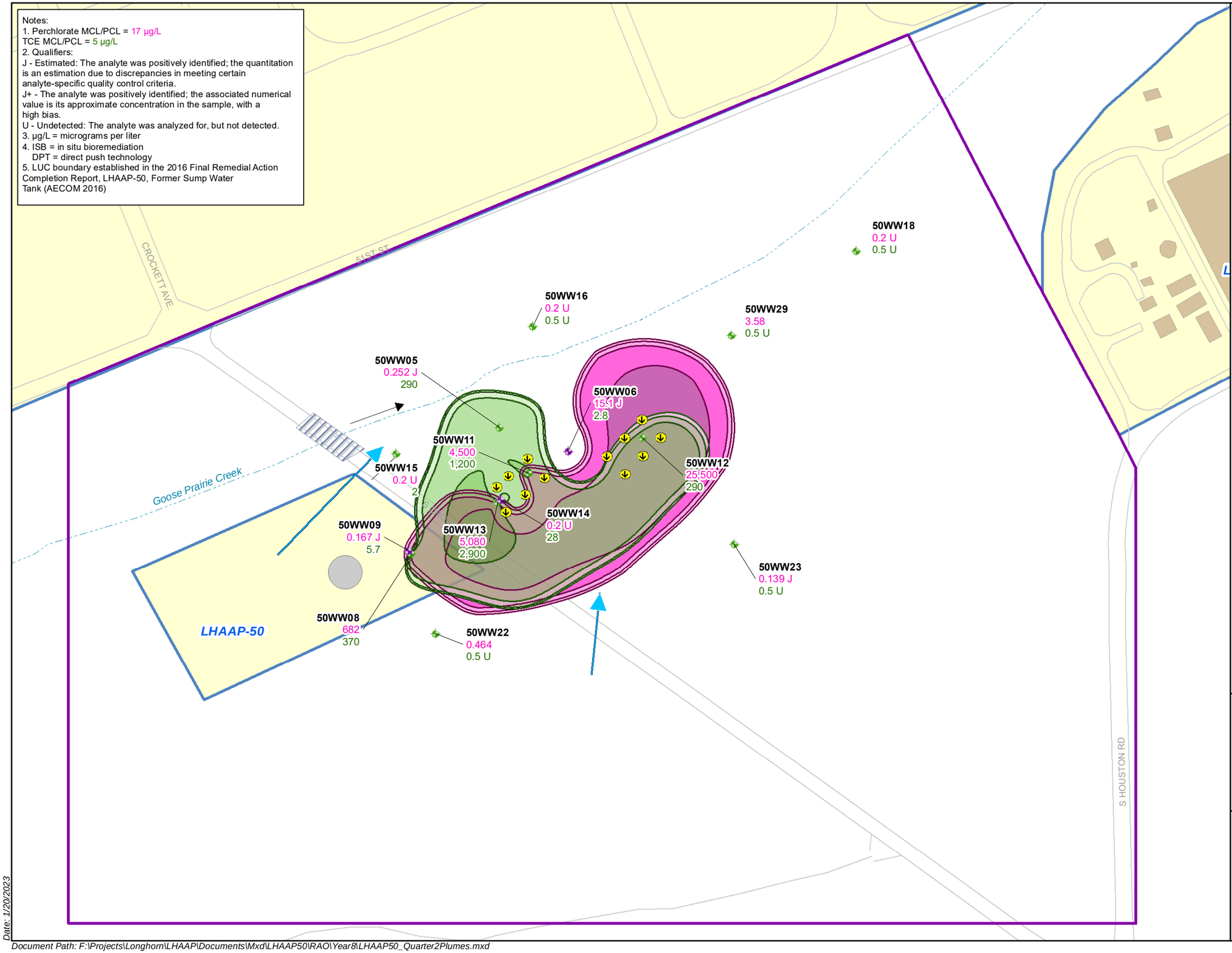
Figure 2-9
COC Concentrations in Groundwater
Year 2, Quarter 4
LHAAP-50 Eighth Annual RA-O Report

LONGHORN ARMY AMMUNITION PLANT
KARNACK, TEXAS

Date: 1/20/2023

Document Path: F:\Projects\Longhorn\LHAAP\Documents\Mxd\LHAAP50\RAO\Year8\LHAAP50_Quarter4Analytical.mxd

Notes:
1. Perchlorate MCL/PCL = 17 µg/L
TCE MCL/PCL = 5 µg/L
2. Qualifiers:
J - Estimated: The analyte was positively identified; the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.
J+ - The analyte was positively identified; the associated numerical value is its approximate concentration in the sample, with a high bias.
U - Undetected: The analyte was analyzed for, but not detected.
3. µg/L = micrograms per liter
4. ISB = in situ bioremediation
DPT = direct push technology
5. LUC boundary established in the 2016 Final Remedial Action Completion Report, LHAAP-50, Former Sump Water Tank (AECOM 2016)



- Lower Shallow Monitoring Well
- Upper Shallow Monitoring Well
- ISB DPT Point
- Groundwater Flow Direction
- Goose Prairie Creek Flow Direction
- Land Use Control Boundary
- Bridges
- Former Storage Tank Location
- Goose Prairie Creek
- Roads
- Buildings
- Site Boundaries

Trichloroethene (TCE) Plume (µg/L)
- 5 - 10
- 10 - 100
- 100 - 1,000
- >1,000

Perchlorate Plume (µg/L)
- 17 - 100
- 100 - 1,000
- 1,000 - 10,000
- >10,000

N

0 55 110 Feet

U.S. ARMY CORP OF ENGINEERS
TULSA DISTRICT
TULSA, OKLAHOMA

bhate APTIM

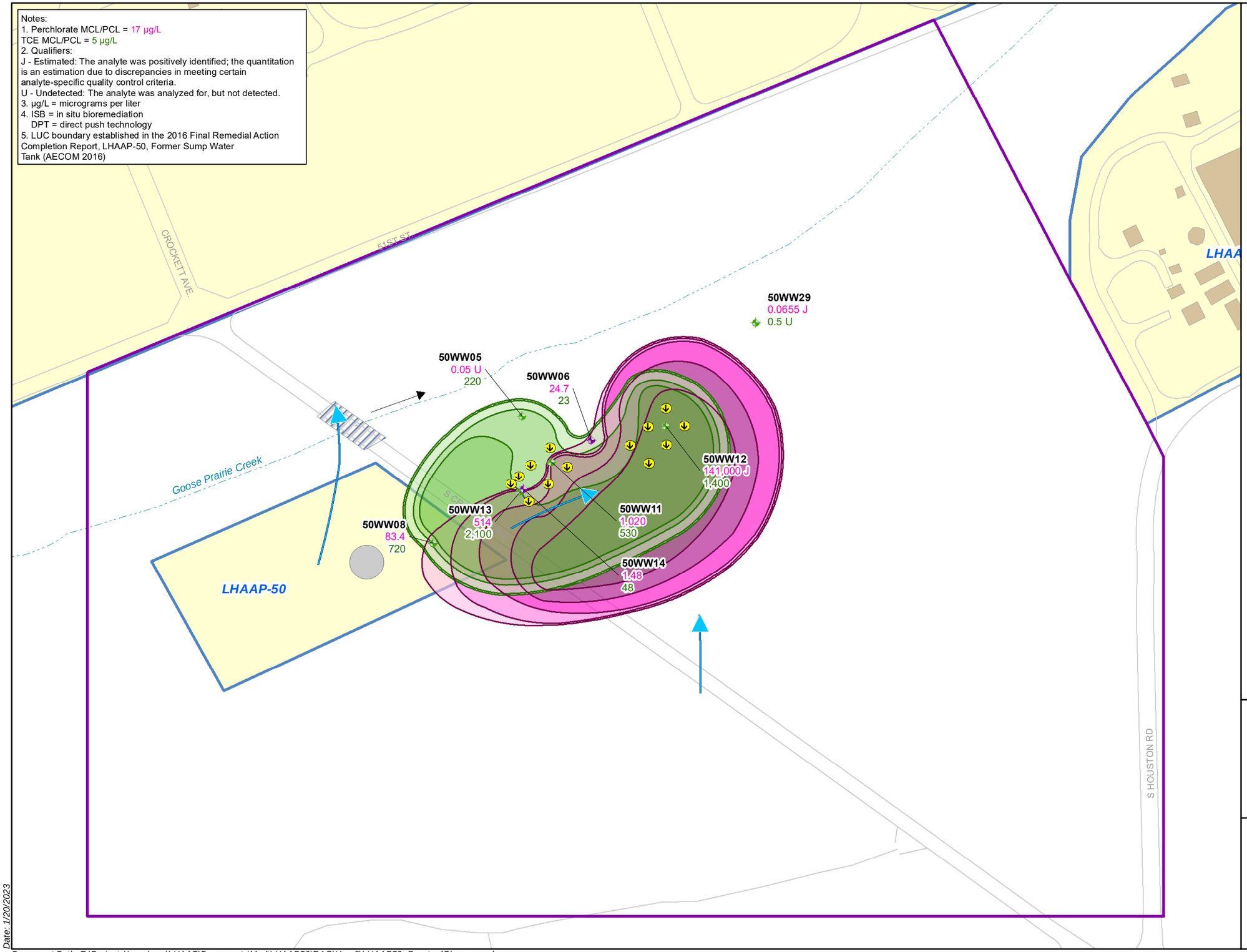
Figure 2-10
TCE and Perchlorate Plumes
Quarter 2, October 2021
LHAAP-50 Eighth Annual RA-O Report

LONGHORN ARMY AMMUNITION PLANT
KARNACK, TEXAS

Date: 1/20/2023

Document Path: F:\Projects\Longhorn\LHAAP\Documents\Mxd\LHAAP50\RAO\Year8\LHAAP50_Quarter2Plumes.mxd

Notes:
1. Perchlorate MCL/PCL = 17 µg/L
TCE MCL/PCL = 5 µg/L
2. Qualifiers:
J - Estimated: The analyte was positively identified; the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.
U - Undetected: The analyte was analyzed for, but not detected.
3. µg/L = micrograms per liter
4. ISB = in situ bioremediation
DPT = direct push technology
5. LUC boundary established in the 2016 Final Remedial Action Completion Report, LHAAP-50, Former Sump Water Tank (AECOM 2016)



- Lower Shallow Monitoring Well
- Upper Shallow Monitoring Well
- Groundwater Flow Direction
- ISB DPT Point
- Goose Prairie Creek Flow Direction
- Land Use Control Boundary
- Bridges
- Former Storage Tank Location
- Goose Prairie Creek
- Roads
- Buildings
- Site Boundaries

Trichloroethene (TCE) Plume (µg/L)
- 5 - 10
- 10 - 100
- 100 - 1,000
- >1,000

Perchlorate Plume (µg/L)
- 17 - 100
- 100 - 1,000
- 1,000 - 10,000
- 10,000 - 100,000
- >100,000

N
0 55 110
Feet

U.S. ARMY CORP OF ENGINEERS
TULSA DISTRICT
TULSA, OKLAHOMA

bhate APTIM

Figure 2-11
TCE and Perchlorate Plumes
Quarter 4, April 2022
LHAAP-50 Eighth Annual RA-O Report

LONGHORN ARMY AMMUNITION PLANT
KARNACK, TEXAS

Date: 1/20/2023

Document Path: F:\Projects\Longhorn\LHAAP\Documents\Mxd\LHAAP50\RAO\Year8\LHAAP50_Quarter4Plumes.mxd

Figure 3-1a: COC Concentration Trends, 50WW05

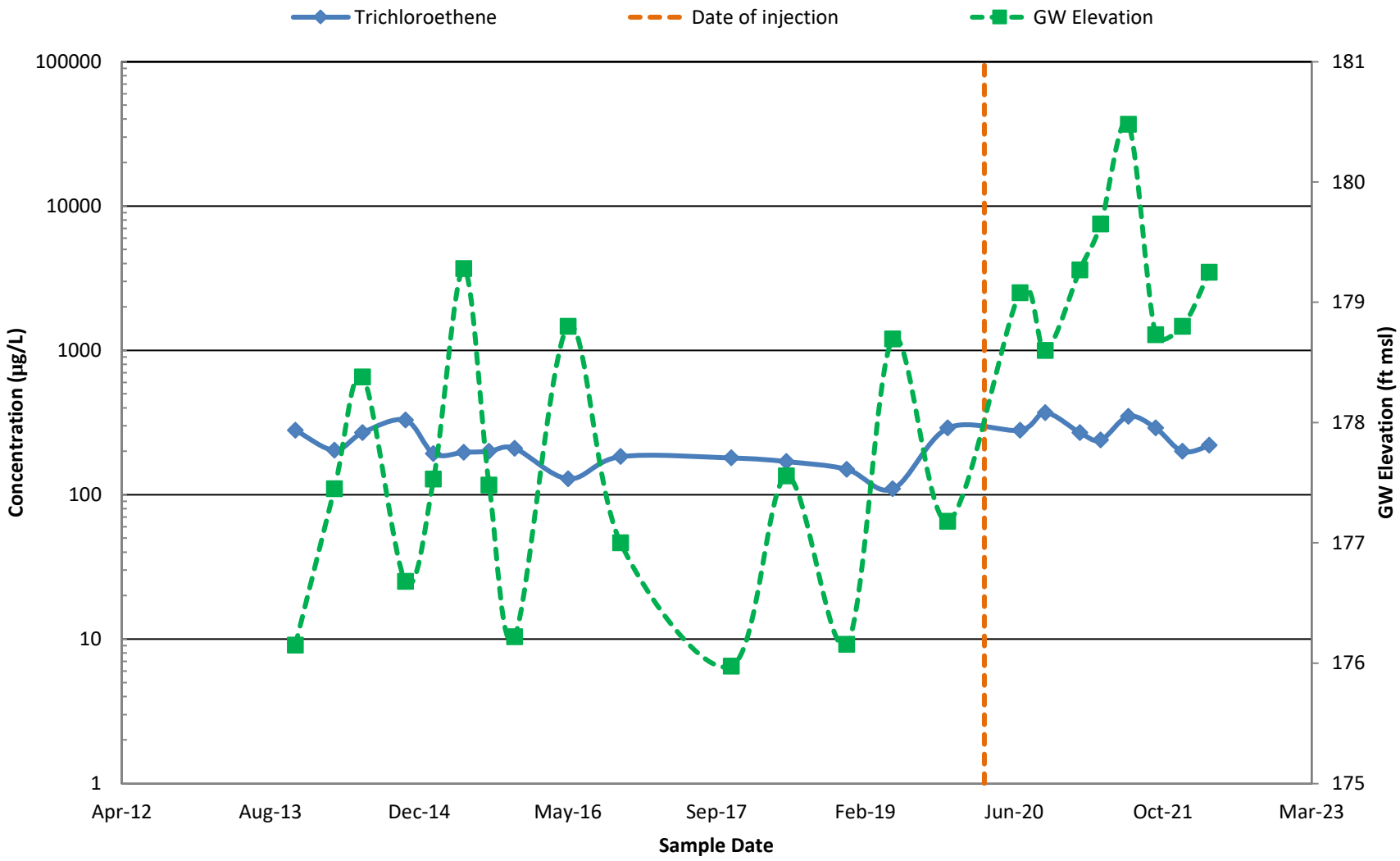


Figure 3-1b: COC Concentration Trends, 50WW06 (lower shallow)

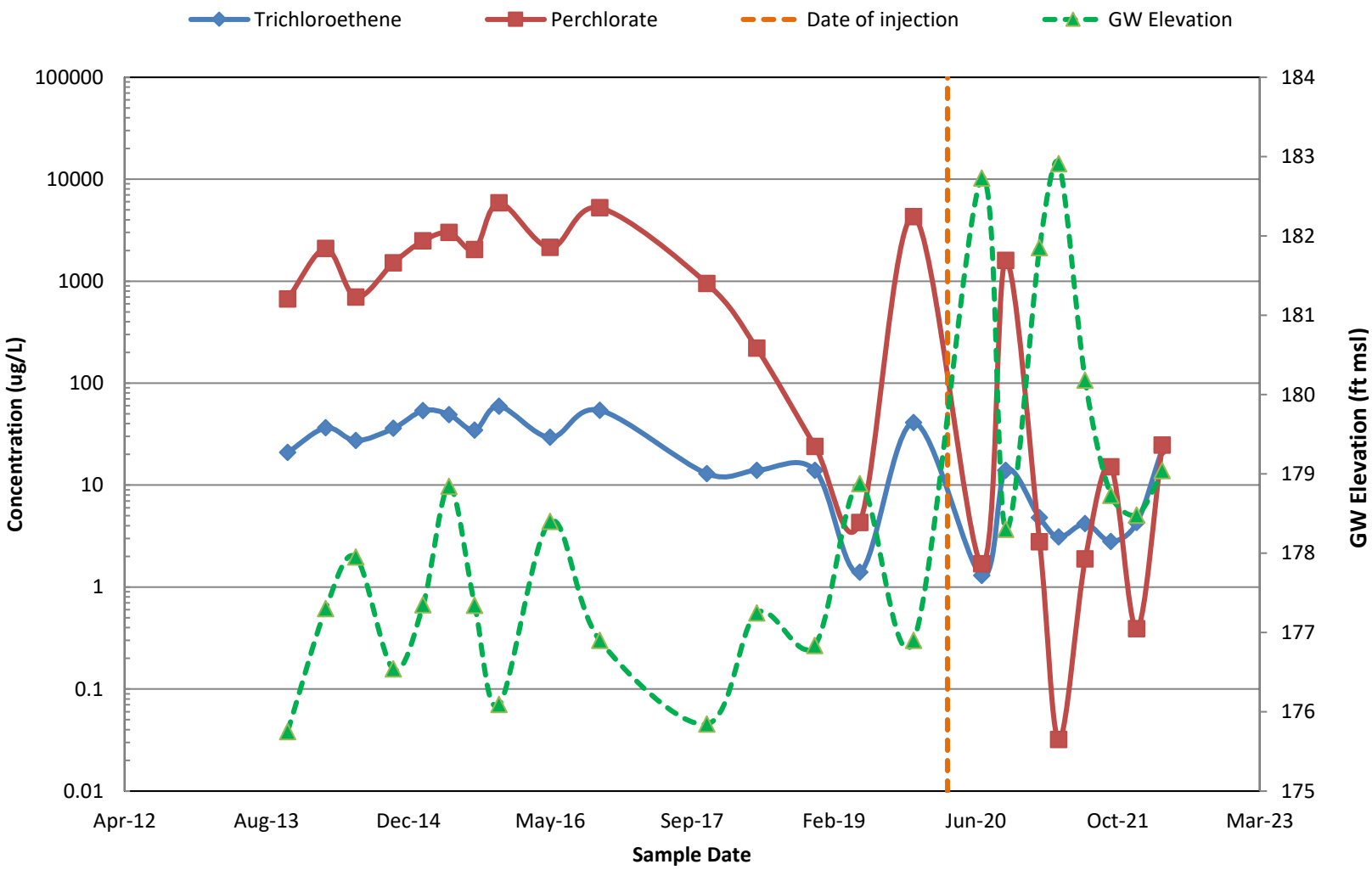


Figure 3-1c: COC Concentration Trends, 50WW08

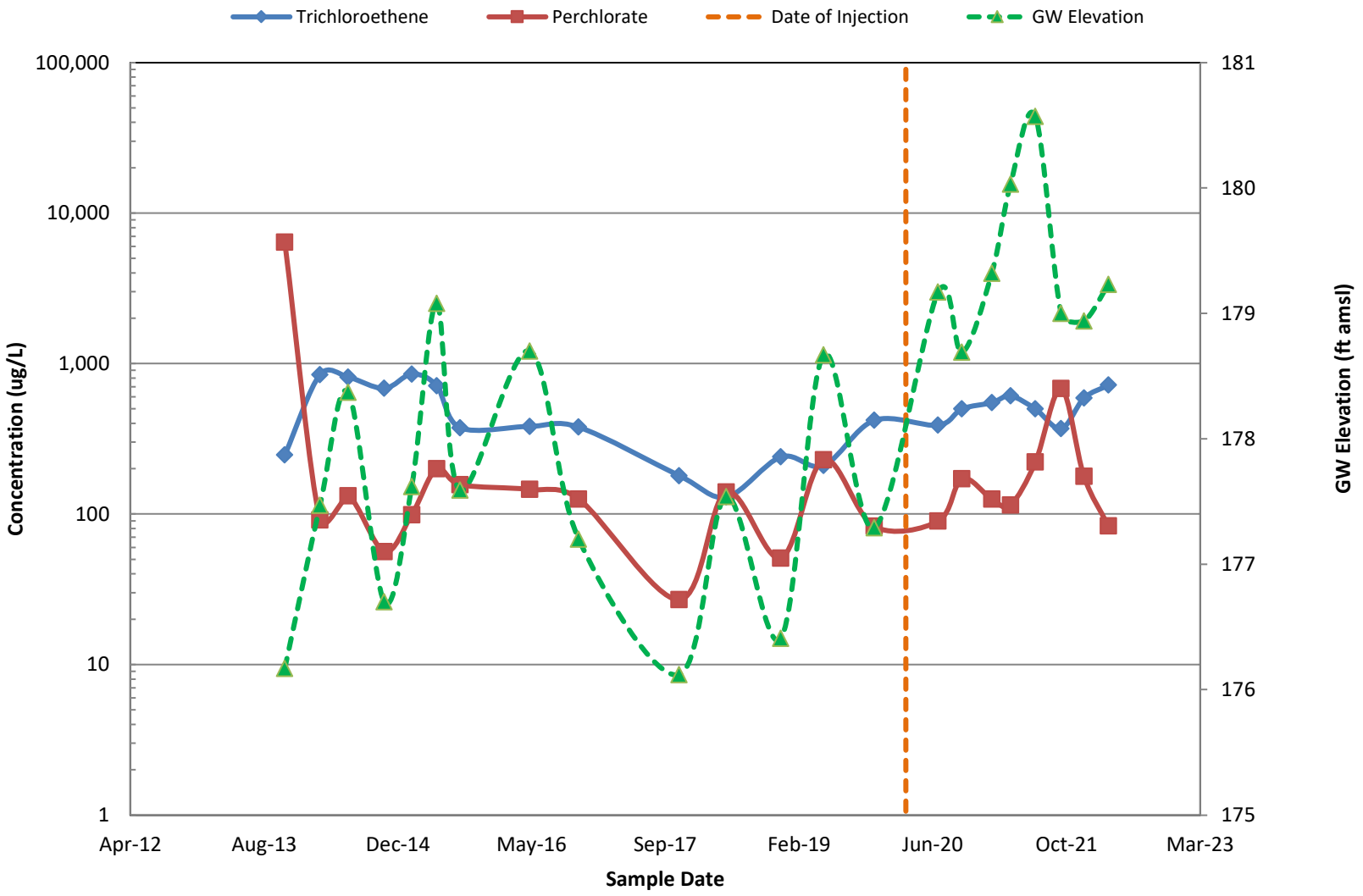


Figure 3-1d: COC Concentration Trends, 50WW09

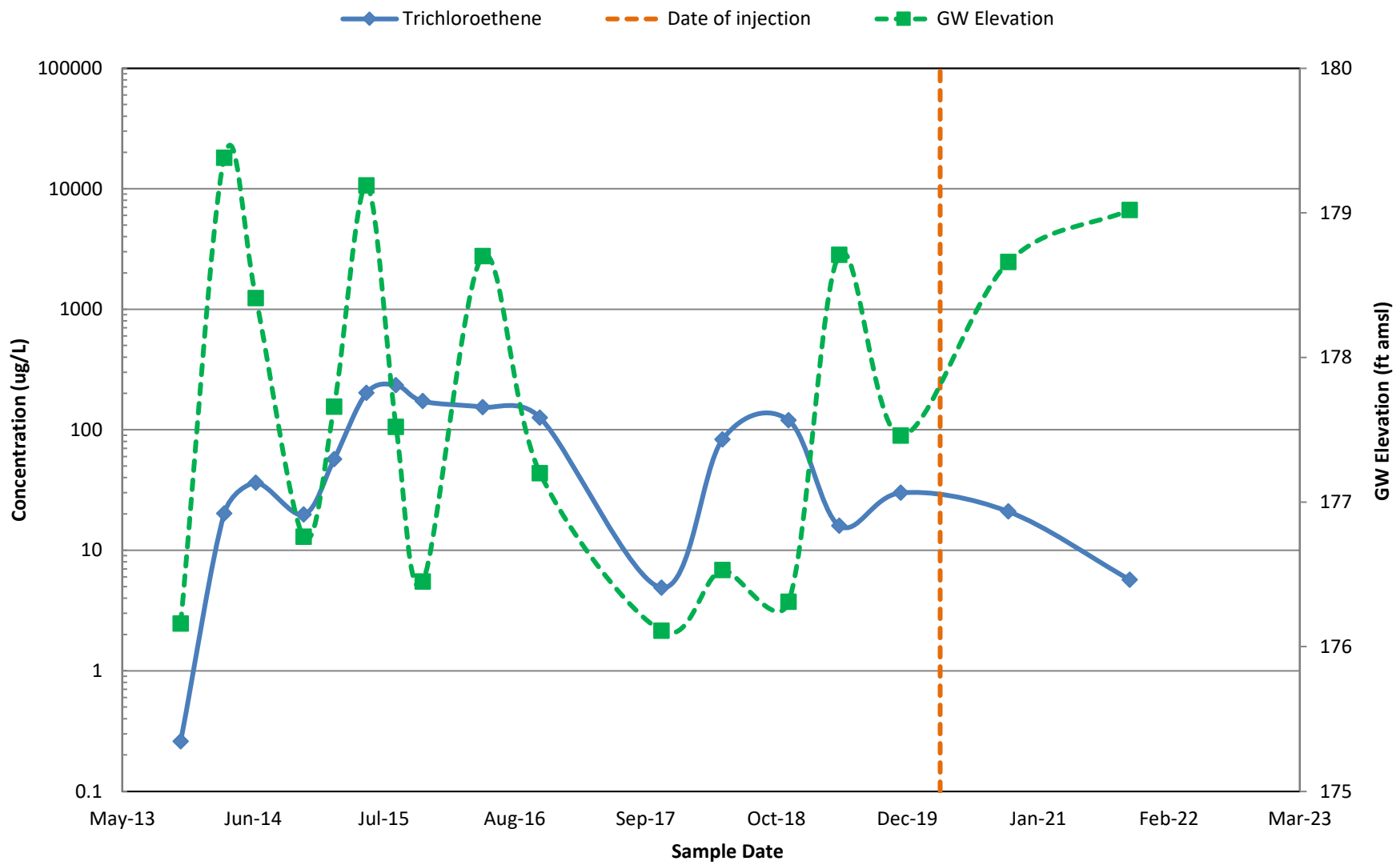


Figure 3-1e: COC Concentration Trends, 50WW11

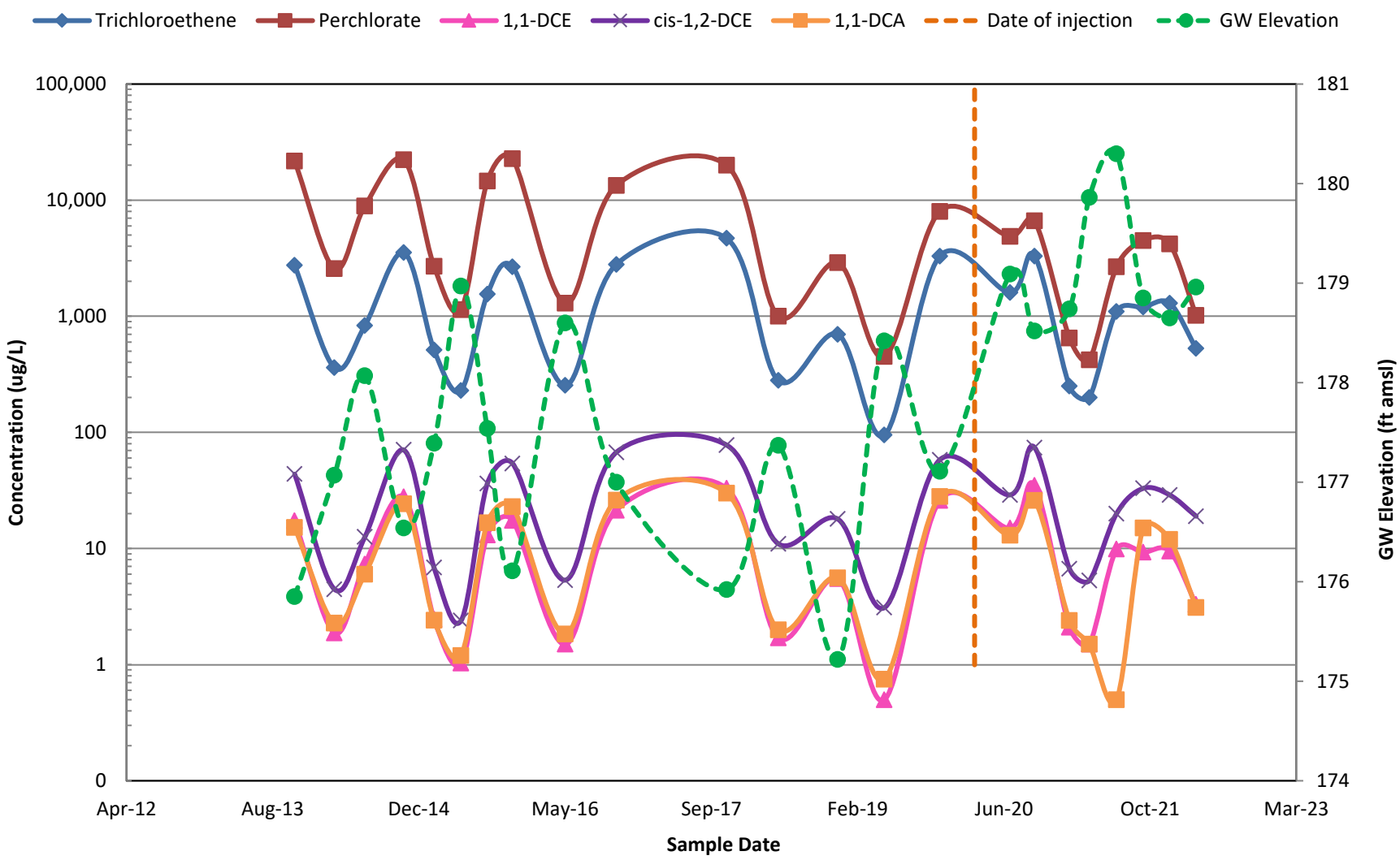


Figure 3-1f: COC Concentration Trends, 50WW12

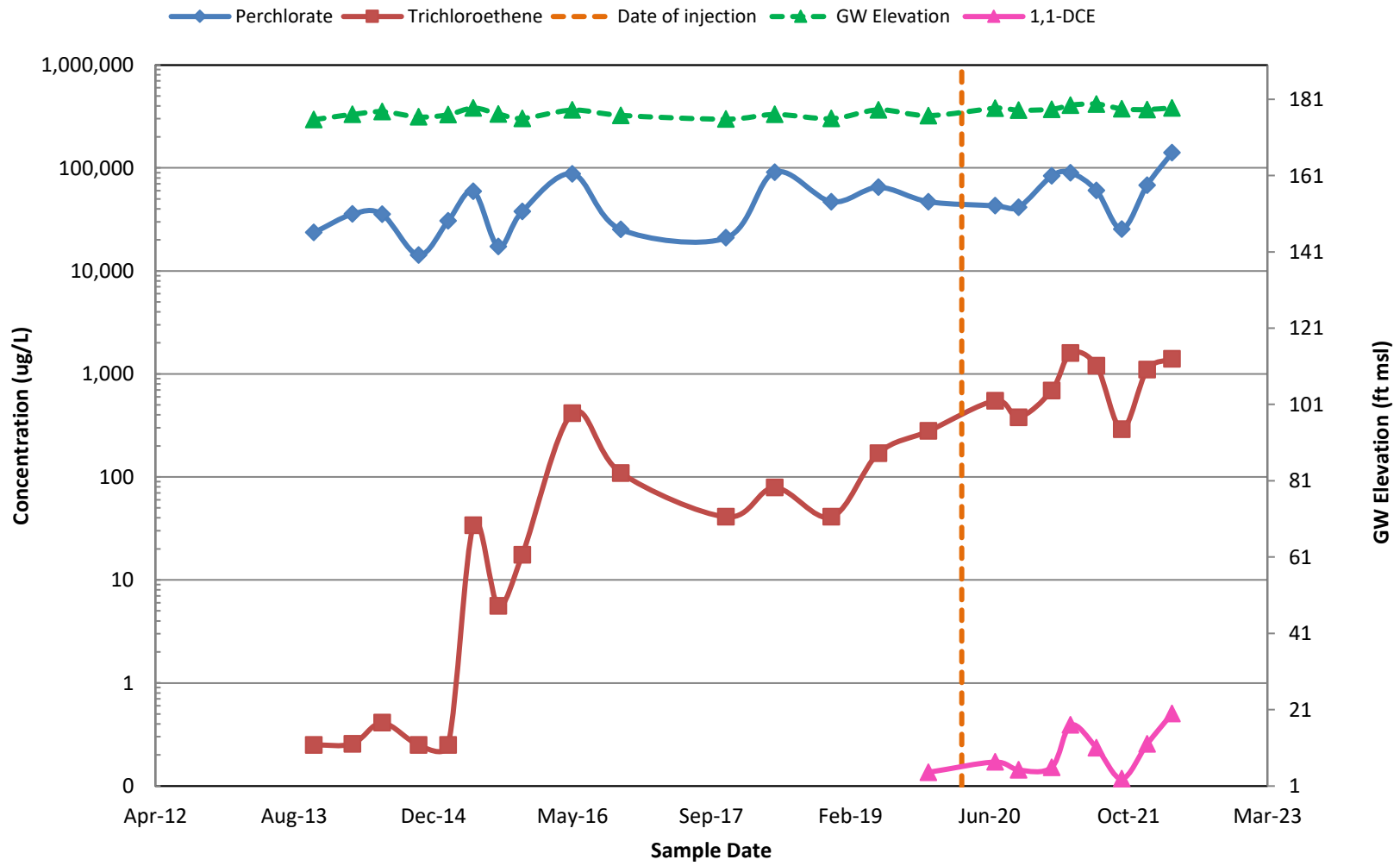


Figure 3-1g: COC Concentration Trends, 50WW13

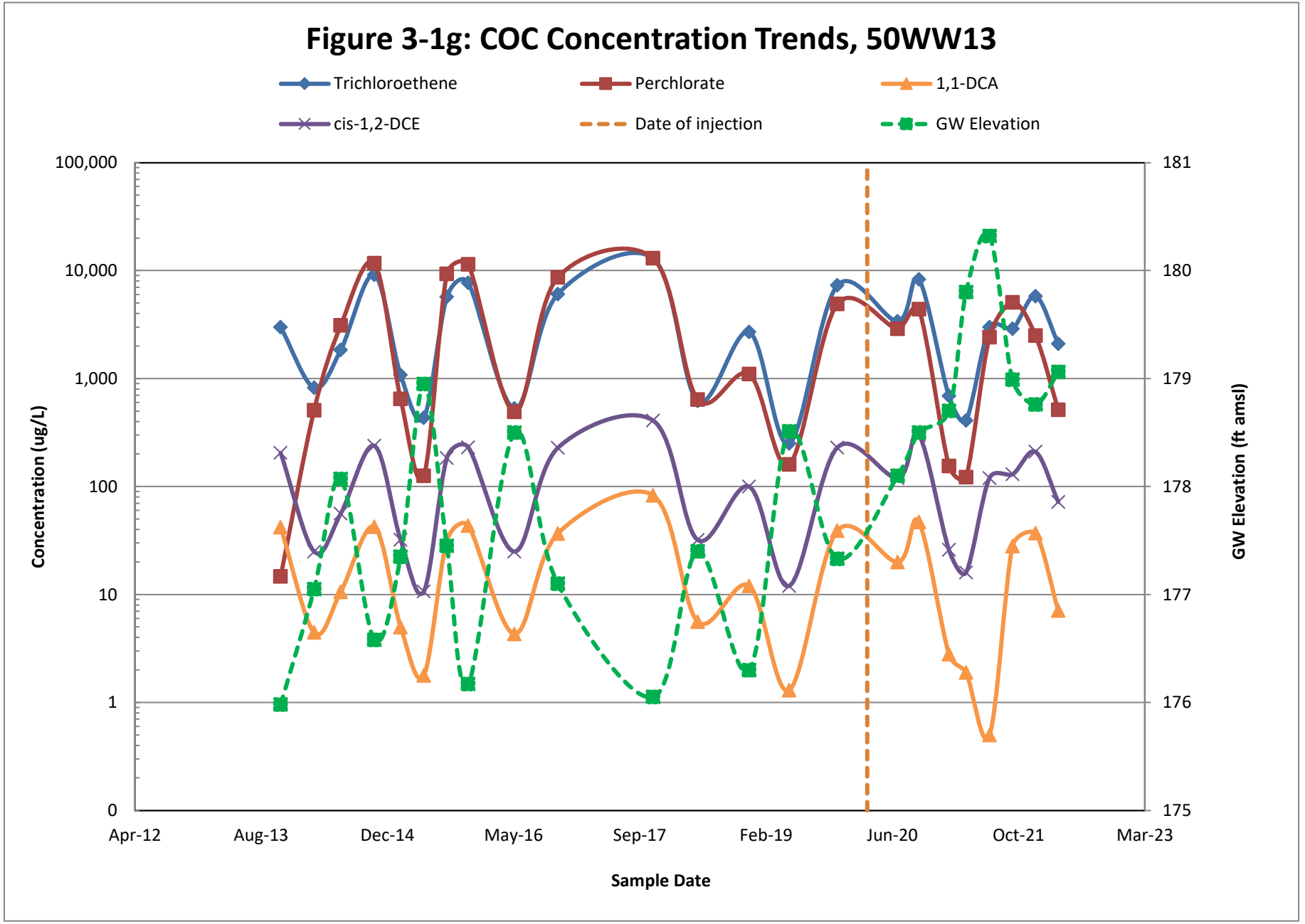


Figure 3-1h: COC Concentration Trends, 50WW14

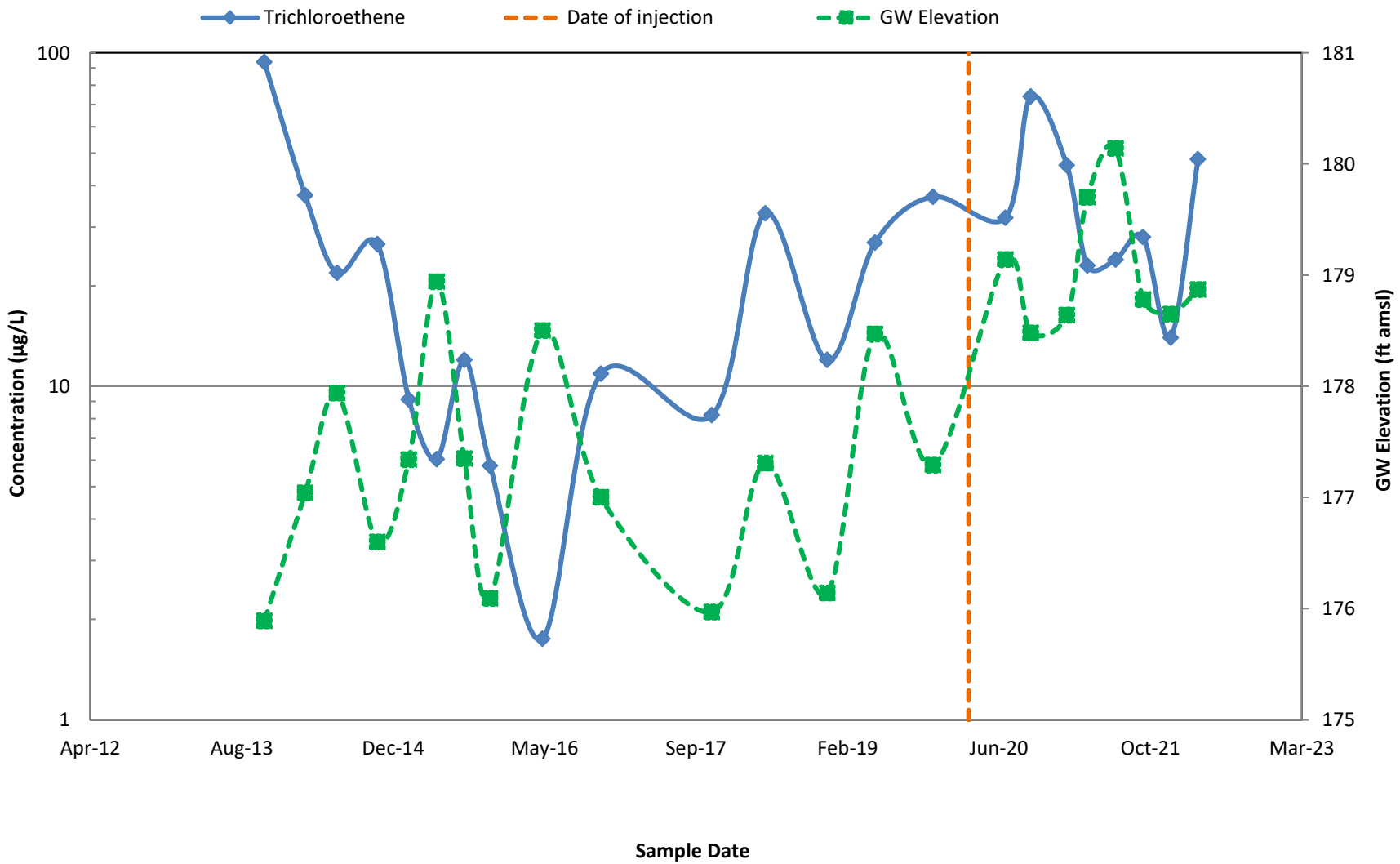
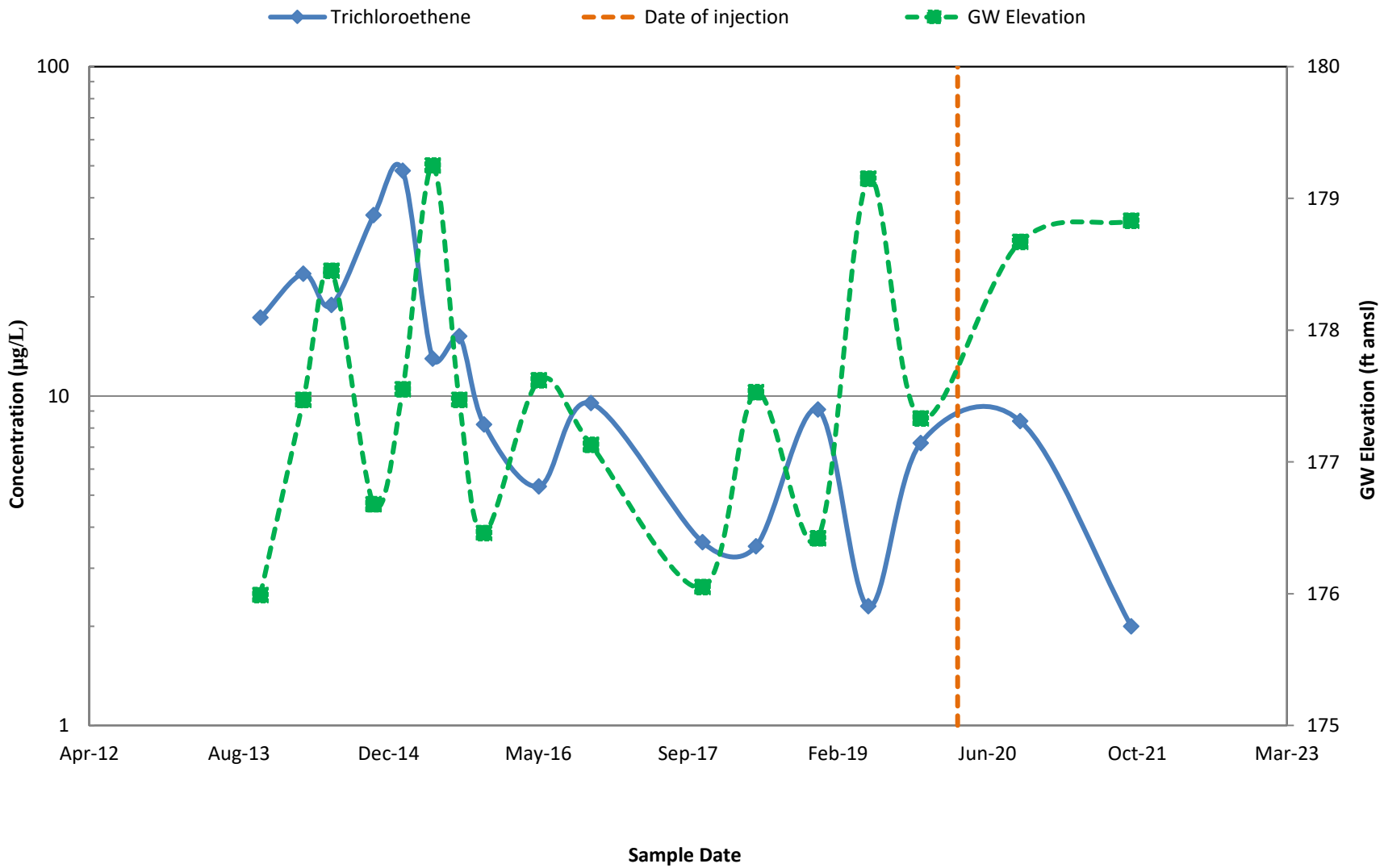


Figure 3-1i: COC Concentration Trends, 50WW15



Appendix A

Annual Land-Use Control Compliance Certification and Documentation

Sample Annual Land Use Control Compliance Certification Documentation

In accordance with the Remedial Design dated September 2011 for LHAAP-50 a certification of site was conducted by Aptim [indicate transferee] on 10/11/21.

A summary of land use control mechanisms is as follows:

- Groundwater restriction - restriction of the use of groundwater to environmental monitoring and testing until cleanup levels are met. The restriction against residential use of groundwater will remain in effect until the levels of the COCs in groundwater allow unrestricted use and unlimited exposure (UUUE). [Indicate whether groundwater restrictions are still required at LHAAP-50]

A summary of compliance with land use and restriction covenants is as follows:

- No use of groundwater, installation of new groundwater wells, or tampering with existing wells at LHAAP-50.

I, the undersigned, do document that the certification was performed as indicated above, and that the above information is true and correct to the best of my knowledge, information, and belief.

Date: OCTOBER 11, 2021

Name/Title: Scott Beesinger / Senior Field Tech

Signature: Scott Beesinger

Annual compliance certification forms shall be completed no later than March 1 of each year for the previous calendar year.

Appendix B

Photographic Log and Well Inspection Forms

PHOTO LOG

July 2021

Photo No.	Date	Task and Description
1	7-7-2021	Inspection of Monitoring Well 50WW01
2	7-7-2021	Inspection of Monitoring Well 50WW02
3	7-7-2021	Inspection of Monitoring Well 50WW03
4	7-7-2021	Inspection of Monitoring Well 50WW04
5	7-7-2021	Inspection of Monitoring Well 50WW05
6	7-8-2021	Inspection of Monitoring Well 50WW06
7	7-7-2021	Inspection of Monitoring Well 50WW07
8	7-7-2021	Inspection of Monitoring Well 50WW08
9	7-7-2021	Inspection of Monitoring Well 50WW09
10	7-7-2021	Inspection of Monitoring Well 50WW10
11	7-8-2021	Inspection of Monitoring Well 50WW11
12	7-8-2021	Inspection of Monitoring Well 50WW12
13	7-8-2021	Inspection of Monitoring Well 50WW13
14	7-8-2021	Inspection of Monitoring Well 50WW14
15	7-7-2021	Inspection of Monitoring Well 50WW15
16	7-7-2021	Inspection of Monitoring Well 50WW16
17	7-7-2021	Inspection of Monitoring Well 50WW17
18	7-7-2021	Inspection of Monitoring Well 50WW18
19	7-7-2021	Inspection of Monitoring Well 50WW19
20	7-7-2021	Inspection of Monitoring Well 50WW20
21	7-7-2021	Inspection of Monitoring Well 50WW21
22	7-7-2021	Inspection of Monitoring Well 50WW22
23	7-7-2021	Inspection of Monitoring Well 50WW23
24	7-7-2021	Inspection of Monitoring Well 50WW24
25	7-7-2021	Inspection of Monitoring Well 50WW25
26	7-7-2021	Inspection of Monitoring Well 50WW26
27	7-7-2021	Inspection of Monitoring Well 50WW27
28	7-7-2021	Inspection of Monitoring Well 50WW28
29	7-7-2021	Inspection of Monitoring Well 50WW29



PHOTO 1: Inspection of Monitoring Well 50WW01
DATE: July 7, 2021



PHOTO 2: Inspection of Monitoring Well 50WW02
DATE: July 7, 2021



PHOTO 3: Inspection of Monitoring Well 50WW03
DATE: July 7, 2021



PHOTO 4: Inspection of Monitoring Well 50WW04
DATE: July 7, 2021



PHOTO 5: Inspection of Monitoring Well 50WW05
DATE: July 7, 2021



PHOTO 6: Inspection of Monitoring Well 50WW06
DATE: July 8, 2021



PHOTO 7: Inspection of Monitoring Well 50WW07
DATE: July 7, 2021



PHOTO 8: Inspection of Monitoring Well 50WW08
DATE: July 7, 2021



PHOTO 9: Inspection of Monitoring Well 50WW09
DATE: July 7, 2021



PHOTO 10: Inspection of Monitoring Well 50WW10
DATE: July 7, 2021



PHOTO 11: Inspection of Monitoring Well 50WW11
DATE: July 8, 2021



PHOTO 12: Inspection of Monitoring Well 50WW12
DATE: July 8, 2021



PHOTO 13: Inspection of Monitoring Well 50WW13
DATE: July 8, 2021



PHOTO 14: Inspection of Monitoring Well 50WW14
DATE: July 8, 2021



PHOTO 15: Inspection of Monitoring Well 50WW15
DATE: July 7, 2021



PHOTO 16: Inspection of Monitoring Well 50WW16
DATE: July 7, 2021



PHOTO 17: Inspection of Monitoring Well 50WW17
DATE: July 7, 2021



PHOTO 18: Inspection of Monitoring Well 50WW18
DATE: July 7, 2021



PHOTO 19: Inspection of Monitoring Well 50WW19
DATE: July 7, 2021



PHOTO 20: Inspection of Monitoring Well 50WW20
DATE: July 7, 2021



PHOTO 21: Inspection of Monitoring Well 50WW21
DATE: July 7, 2021



PHOTO 22: Inspection of Monitoring Well 50WW22
DATE: July 7, 2021



PHOTO 23: Inspection of Monitoring Well 50WW23
DATE: July 7, 2021



PHOTO 24: Inspection of Monitoring Well 50WW24
DATE: July 7, 2021



PHOTO 25: Inspection of Monitoring Well 50WW25
DATE: July 7, 2021



PHOTO 26: Inspection of Monitoring Well 50WW26
DATE: July 7, 2021



PHOTO 27: Inspection of Monitoring Well 50WW27
DATE: July 7, 2021



PHOTO 28: Inspection of Monitoring Well 50WW28
DATE: July 7, 2021



PHOTO 29: Inspection of Monitoring Well 50WW29
DATE: July 7, 2021

01151714

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 501032
Client: Army
Site Name: 50
Well ID: 50WW08
Inspection Date: 7/7/21
Well Completion Depth/ Measured Depth: 32.75
Inspector: Scott Beegs. NGER

☒ ABOVE GROUND

Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☒ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED

Well cover present? NA ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches): 2"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☒ Yes ☐ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 501032
Client: Army
Site Name: SD
Well ID: SDMW05
Inspection Date: 7/7/21
Well Completion Depth/ Measured Depth: 25.32
Inspector: Scott Baessinger

☒ ABOVE GROUND

Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☒ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED

Well cover present? NA ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches): 4"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☐ Yes ☒ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

01151716

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 501032
Client: ARMY
Site Name: SD
Well ID: SDMW29
Inspection Date: 7/7/21
Well Completion Depth/ Measured Depth: 38.10
Inspector: Scott Beggingar

☒ ABOVE GROUND

Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☒ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED NA

Well cover present? ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches): 2 11
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☐ Yes ☒ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

01151717

WELL INSPECTION FORM

Job Name: CITAAP
Job No.: 501032
Client: Army
Site Name: SO
Well ID: SOWW01
Inspection Date: 7/7/21
Well Completion Depth/ Measured Depth: 23.23
Inspector: Scott Beasinger

☒ ABOVE GROUND

Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☒ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED NA

Well cover present? ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches): 4"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☐ Yes ☒ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

01151718

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 501032
Client: Army
Site Name: 50

Well ID: 50WW02
Inspection Date: 7/7/21
Well Completion Depth/ Measured Depth: 22.22
Inspector: Scott Beasinger

☒ ABOVE GROUND

Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☐ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED

Well cover present? NA ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches): 4"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☐ Yes ☒ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

01151719

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 501032
Client: Army
Site Name: 50
Well ID: 50MW03
Inspection Date: 7/7/21
Well Completion Depth/ Measured Depth: 23.04
Inspector: Scott Bassinger

☒ ABOVE GROUND

Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☒ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED

Well cover present? NA ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches): 4"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☒ Yes ☐ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: [redacted] 501032
Client: Army
Site Name: 50
Well ID: 50MW04
Inspection Date: 7/7/21
Well Completion Depth/ Measured Depth: 23.18
Inspector: Scott Baggs, NGAR

☒ ABOVE GROUND

Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☐ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED

NA

Well cover present? ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches): 4"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☒ Yes ☐ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

01151721

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 501032
Client: Army
Site Name: 50
Well ID: 50WW07
Inspection Date: 7/7/21
Well Completion Depth/ Measured Depth: 31.80
Inspector: Scott Bassinger

☒ ABOVE GROUND

Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☐ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED

Well cover present? NA ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches): 4"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☐ Yes ☒ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

01151722

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 501032
Client: Army
Site Name: 50

Well ID: 50WW09
Inspection Date: 7/7/24
Well Completion Depth/ Measured Depth: 62.47
Inspector: Scott Bessinger

☒ ABOVE GROUND

Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: Metal
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☒ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED

Well cover present? NA ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches): 2"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☒ No
Visual obstruction? ☒ Yes ☐ No
Is well open to completed depth? (complete when gauging)
Is silt present in well? (complete when gauging) ☒ Yes ☐ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

01151723

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 501032
Client: ARMY
Site Name: 50
Well ID: 50MW10
Inspection Date: 7/7/21
Well Completion Depth/ Measured Depth: 111.26
Inspector: Scott Bassinger

☒ ABOVE GROUND

Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☒ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED NA

Well cover present? ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches): 2"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☐ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☐ Yes ☒ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

01151724

WELL INSPECTION FORM

Job Name: LTTAP
Job No.: 501032
Client: Army
Site Name: 50
Well ID: 50WW15
Inspection Date: 7/7/21
Well Completion Depth/ Measured Depth: 37.88
Inspector: Scott Beasinger

ABOVE GROUND

Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☒ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED NA

Well cover present? ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches): 2"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☐ Yes ☒ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

01151725

WELL INSPECTION FORM

Job Name: LTAMP
Job No.: 501032
Client: Army
Site Name: 50
Well ID: 50MW16
Inspection Date: 7/7/21
Well Completion Depth/ Measured Depth: 37.45
Inspector: Scott Baggsinger

☒ ABOVE GROUND

Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☐ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED NA

Well cover present? ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches): 2"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☐ Yes ☒ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 501032
Client: ARMY
Site Name: 50
Well ID: 50WW17
Inspection Date: 7/7/14
Well Completion Depth/ Measured Depth: 66.27
Inspector: Scott Beesinger

☒ ABOVE GROUND
Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☐ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED
Well cover present? NA ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:
Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:
Inner Diameter (inches): 2"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:
Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☒ Yes ☐ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

01151727

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 501032
Client: Army
Site Name: 50
Well ID: 50MW18
Inspection Date: 7/7/24
Well Completion Depth/ Measured Depth: 37.03
Inspector:

☒ ABOVE GROUND

Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☒ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED NA

Well cover present? ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches): 2"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☒ No
Visual obstruction? [illegible]
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☐ Yes ☒ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 501032
Client: Army
Site Name: 50
Well ID: 50MW19
Inspection Date: 7/7/21
Well Completion Depth/ Measured Depth: 65.00
Inspector: Scott Baggenger

☒ ABOVE GROUND

Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☐ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED NA

Well cover present? ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches): 2"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☒ Yes ☐ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

01151729

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 501032
Client: Army
Site Name: 50
Well ID: 50MW20
Inspection Date: 7/7/21
Well Completion Depth/ Measured Depth: 55.85
Inspector: Scott Bagsinger

☒ ABOVE GROUND

Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☒ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED NA

Well cover present? ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches): 2"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☐ Yes ☒ No
Is silt greater than 10% of well screen length? (complete when gauging)

COMMENTS:

01151730

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 501032
Client: ARmy
Site Name: 50
Well ID: 50WW21
Inspection Date: 7/7/21
Well Completion Depth/ Measured Depth: 37.64
Inspector: Scott Beesinger

ABOVE GROUND

Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☒ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED NA

Well cover present? ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches) 2"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☐ Yes ☒ No
Is silt greater than 10% of well screen length? (complete when gauging)

COMMENTS:

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 501032
Client: ARmy
Site Name: SD
Well ID: SDMW22
Inspection Date: 7/7/21
Well Completion Depth/ Measured Depth: 37.82
Inspector: Scott Beesinger

☒ ABOVE GROUND

Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☐ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED NA

Well cover present? ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches): 2"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☒ No
Visual obstruction? ☒ Yes ☐ No
Is well open to completed depth? (complete when gauging)
Is silt present in well? (complete when gauging) ☐ Yes ☒ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

01151732

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 501032
Client: Army
Site Name: 50
Well ID: 50MW23
Inspection Date: 7/7/21
Well Completion Depth/ Measured Depth: 37.82
Inspector: Scott Beesinger

☒ ABOVE GROUND

Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☒ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED NA

Well cover present? ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches): 2"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☒ No
Visual obstruction? ☒ Yes ☐ No
Is well open to completed depth? (complete when gauging)
Is silt present in well? (complete when gauging) ☐ Yes ☒ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

01151733

WELL INSPECTION FORM

Job Name: LITAAP
Job No.: 501032
Client: ARMY
Site Name: 50
Well ID: 50MW24
Inspection Date: 7/7/21
Well Completion Depth/ Measured Depth: 38.02
Inspector: Scott Baggingan

☒ ABOVE GROUND

Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☐ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED

NA

Well cover present? ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches): 2"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☒ No
Visual obstruction? ☒ Yes ☐ No
Is well open to completed depth? (complete when gauging)
Is silt present in well? (complete when gauging) ☐ Yes ☒ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

01151734

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 501032
Client: Army
Site Name: 50

Well ID: 50MW25
Inspection Date: 7/7/21
Well Completion Depth/ Measured Depth: 56.67
Inspector: Scott Beasinger

ABOVE GROUND

Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☒ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED NA

Well cover present? ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches): 2"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ ~~Yes~~ ☒ ~~No~~
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☒ Yes ☐ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

01151735

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 501032
Client: ARMY
Site Name: SD
Well ID: SDMW26
Inspection Date: 7/7/21
Well Completion Depth/ Measured Depth: 62.80
Inspector: Scott Baessinger

ABOVE GROUND

Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☐ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED

NA

Well cover present? ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches): 2 11
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☒ No
Visual obstruction? ☒ Yes ☐ No
Is well open to completed depth? (complete when gauging)
Is silt present in well? (complete when gauging) ☒ Yes ☐ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 501032
Client: Army
Site Name: 50
Well ID: 50WW27
Inspection Date: 7/7/24
Well Completion Depth/ Measured Depth: 59.95
Inspector: Scott Beggs, NGAR

☒ ABOVE GROUND

Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: Metal
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☒ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED

Well cover present? NA ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches): 2"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☒ No
Visual obstruction? ☒ Yes ☐ No
Is well open to completed depth? (complete when gauging)
Is silt present in well? (complete when gauging) ☒ Yes ☐ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 50132
Client: ARMY
Site Name: SD
Well ID: SDMW28
Inspection Date: 7/7/21
Well Completion Depth/ Measured Depth: 27.05
Inspector: Scott Beasinger

ABOVE GROUND

Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☒ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED NA

Well cover present? ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches): 4"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☒ No
Visual obstruction? ☒ Yes ☐ No
Is well open to completed depth? (complete when gauging)
Is silt present in well? (complete when gauging) ☐ Yes ☒ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 501032
Client: Army
Site Name: 50
Well ID: 50MW14
Inspection Date: 7/8/21
Well Completion Depth/ Measured Depth: 59.70
Inspector: Scott Beesinger

☒ ABOVE GROUND

Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☒ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED

Well cover present? NA ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches): 2"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☒ Yes ☐ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

01151739

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 501032
Client: Army
Site Name: 50
Well ID: 50WW13
Inspection Date: 7/8/21
Well Completion Depth/ Measured Depth: 37.63
Inspector: Scott Bessinger

☒ ABOVE GROUND

Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☒ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED

NA

Well cover present? ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches): 2"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☐ Yes ☒ No
Is silt greater than 10% of well screen length? (complete when gauging)

COMMENTS:

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 501032
Client: Army
Site Name: 50
Well ID: 50MW11
Inspection Date: 7/8/21
Well Completion Depth/ Measured Depth: 37.79
Inspector: Scott Beggsinger

☒ ABOVE GROUND

Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☒ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED

NA

Well cover present? ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches): 2"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☐ Yes ☒ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

01151741

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 501032
Client: Army
Site Name: 50
Well ID: 50WW06
Inspection Date: 7/8/21
Well Completion Depth/ Measured Depth: 58.02
Inspector: Scott Beasinger

☒ ABOVE GROUND

Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☒ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED NA

Well cover present? ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches): 4"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☐ Yes ☒ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 501032
Client: Army
Site Name: 50
Well ID: 50MW12
Inspection Date: 7/8/21
Well Completion Depth/ Measured Depth: 37.91
Inspector: Scott Baggenger

☒ ABOVE GROUND

Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☒ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED

NA

Well cover present? ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches): 2"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☒ Yes ☐ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

PHOTO LOG

October 2021

Photo No.	Date	Task and Description
1	10-11-21	Inspection of Monitoring Well 50WW01
2	10-11-21	Inspection of Monitoring Well 50WW02
3	10-11-21	Inspection of Monitoring Well 50WW03
4	10-11-21	Inspection of Monitoring Well 50WW04
5	10-7-21	Inspection of Monitoring Well 50WW05
6	10-7-21	Inspection of Monitoring Well 50WW06
7	10-11-21	Inspection of Monitoring Well 50WW07
8	10-11-21	Inspection of Monitoring Well 50WW08
9	10-11-21	Inspection of Monitoring Well 50WW09
10	10-11-21	Inspection of Monitoring Well 50WW10
11	10-7-21	Inspection of Monitoring Well 50WW11
12	10-7-21	Inspection of Monitoring Well 50WW12
13	10-7-21	Inspection of Monitoring Well 50WW13
14	10-7-21	Inspection of Monitoring Well 50WW14
15	10-11-21	Inspection of Monitoring Well 50WW15
16	10-11-21	Inspection of Monitoring Well 50WW16
17	10-11-21	Inspection of Monitoring Well 50WW17
18	10-11-21	Inspection of Monitoring Well 50WW18
19	10-11-21	Inspection of Monitoring Well 50WW19
20	10-11-21	Inspection of Monitoring Well 50WW20
21	10-11-21	Inspection of Monitoring Well 50WW21
22	10-11-21	Inspection of Monitoring Well 50WW22
23	10-11-21	Inspection of Monitoring Well 50WW23
24	10-11-21	Inspection of Monitoring Well 50WW24
25	10-11-21	Inspection of Monitoring Well 50WW25
26	10-11-21	Inspection of Monitoring Well 50WW26
27	10-11-21	Inspection of Monitoring Well 50WW27
28	10-11-21	Inspection of Monitoring Well 50WW28
29	10-7-21	Inspection of Monitoring Well 50WW29



PHOTO 1: Inspection of Monitoring Well 50WW01
DATE: October 11, 2021



PHOTO 2: Inspection of Monitoring Well 50WW02
DATE: October 11, 2021



PHOTO 3: Inspection of Monitoring Well 50WW03
DATE: October 11, 2021



PHOTO 4: Inspection of Monitoring Well 50WW04
DATE: October 11, 2021



PHOTO 5: Inspection of Monitoring Well 50WW05
DATE: October 7, 2021



PHOTO 6: Inspection of Monitoring Well 50WW06
DATE: October 7, 2021



PHOTO 7: Inspection of Monitoring Well 50WW07
DATE: October 11, 2021



PHOTO 8: Inspection of Monitoring Well 50WW08
DATE: October 11, 2021



PHOTO 9: Inspection of Monitoring Well 50WW09
DATE: October 11, 2021



PHOTO 10: Inspection of Monitoring Well 50WW10
DATE: October 11, 2021



PHOTO 11: Inspection of Monitoring Well 50WW11
DATE: October 7, 2021



PHOTO 12: Inspection of Monitoring Well 50WW12
DATE: October 7, 2021



PHOTO 13: Inspection of Monitoring Well 50WW13
DATE: October 7, 2021



PHOTO 14: Inspection of Monitoring Well 50WW14
DATE: October 7, 2021



PHOTO 15: Inspection of Monitoring Well 50WW15
DATE: October 11, 2021



PHOTO 16: Inspection of Monitoring Well 50WW16
DATE: October 11, 2021



PHOTO 17: Inspection of Monitoring Well 50WW17
DATE: October 11, 2021



PHOTO 18: Inspection of Monitoring Well 50WW18
DATE: October 11, 2021



PHOTO 19: Inspection of Monitoring Well 50WW19
DATE: October 11, 2021



PHOTO 20: Inspection of Monitoring Well 50WW20
DATE: October 11, 2021



PHOTO 21: Inspection of Monitoring Well 50WW21
DATE: October 11, 2021



PHOTO 22: Inspection of Monitoring Well 50WW22
DATE: October 11, 2021



PHOTO 23: Inspection of Monitoring Well 50WW23
DATE: October 11, 2021



PHOTO 24: Inspection of Monitoring Well 50WW24
DATE: October 11, 2021



PHOTO 25: Inspection of Monitoring Well 50WW25
DATE: October 11, 2021



PHOTO 26: Inspection of Monitoring Well 50WW26
DATE: October 11, 2021



PHOTO 27: Inspection of Monitoring Well 50WW27
DATE: October 11, 2021



PHOTO 28: Inspection of Monitoring Well 50WW28
DATE: October 11, 2021



PHOTO 29: Inspection of Monitoring Well 50WW29
DATE: October 7, 2021

01151759

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 501032
Client: ARMY
Site Name: 50

Well ID: 50MW14
Inspection Date: 10/7/21
Well Completion Depth/ Measured Depth: 60.70
Inspector: Scott Beegle/GGR

☒ ABOVE GROUND

Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☒ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED

Well cover present? NA ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches): 2"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☒ Yes ☐ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

01151760

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 501032
Client: Army
Site Name: 50
Well ID: 50WW13
Inspection Date: 10/7/21
Well Completion Depth/ Measured Depth: 37.60
Inspector: Scott Baggenstoss

☒ ABOVE GROUND
Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☒ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED NA
Well cover present? ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:
Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:
Inner Diameter (inches): 2"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:
Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☐ Yes ☒ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

WELL INSPECTION FORM

Job Name: LHTAP
Job No.: 501032
Client: Army
Site Name: 50
Well ID: 50WW11
Inspection Date: 10/7/21
Well Completion Depth/ Measured Depth: 37.80
Inspector: Scott Beesinger

☒ ABOVE GROUND
Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☒ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED
Well cover present? NA ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:
Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:
Inner Diameter (inches): 2"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:
Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☐ Yes ☒ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

01151762

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 50/032
Client: Army
Site Name: B50

Well ID: 50WW06
Inspection Date: 10/7/21
Well Completion Depth/ Measured Depth: 58.02
Inspector: Scott Beesinger

☒ ABOVE GROUND

Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☒ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED

Well cover present? NA ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches): 4"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☒ Yes ☐ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

01151763

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 501032
Client: Army
Site Name: 50

Well ID: 50MW12
Inspection Date: 10/7/21
Well Completion Depth/ Measured Depth: 37.91
Inspector: Scott Beesinger

☒ ABOVE GROUND

Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☐ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED NA

Well cover present? ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches): 2"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☒ Yes ☐ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

01151764

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 501032
Client: Army
Site Name: 50
Well ID: 50WW29
Inspection Date: 10/7/21
Well Completion Depth/ Measured Depth: 38.09
Inspector: Scott Beesinger

ABOVE GROUND

Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☒ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED

NA

Well cover present? ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches): 2"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☐ Yes ☒ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

01151765

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 50/032
Client: ARMY
Site Name: 50
Well ID: 50WW05
Inspection Date: 10/7/21
Well Completion Depth/ Measured Depth: 25.30
Inspector: Scott Beesinger

☒ ABOVE GROUND

Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☒ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED NA

Well cover present? ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches): 4"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☐ Yes ☒ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

01151766

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 501032
Client: ARMY
Site Name: SD
Well ID: SDWW09
Inspection Date: 10/11/21
Well Completion Depth/ Measured Depth: 62.40
Inspector: Scott Beggs, NGER

ABOVE GROUND

Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☐ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED

Well cover present? NA ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches) 2"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☒ Yes ☐ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

01151767

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 501032
Client: ARMY
Site Name: 50

Well ID: 50WW08
Inspection Date: 10/11/21
Well Completion Depth/ Measured Depth: 32.72
Inspector: Scott Beesinger

☒ ABOVE GROUND

Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☒ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED

Well cover present? NA ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches): 2"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☒ Yes ☐ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

01151768

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 501032
Client: Army
Site Name: 50
Well ID: 50WW10
Inspection Date: 10/11/21
Well Completion Depth/ Measured Depth: 111.25
Inspector: Scott Bassinger

☒ ABOVE GROUND

Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☒ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED NA

Well cover present? ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches): 2"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☐ Yes ☒ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

01151769

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 501032
Client: Army
Site Name: 50

Well ID: 50WW22
Inspection Date: 10/11/21
Well Completion Depth/ Measured Depth: 37.79
Inspector: Scott Beesinger

☒ ABOVE GROUND
Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☒ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED
Well cover present? NA ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:
Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:
Inner Diameter (inches) 2 11
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:
Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☐ Yes ☒ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

01151770

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 501032
Client: ARMY
Site Name: 50

Well ID: 50WW03
Inspection Date: 10/11/21
Well Completion Depth/ Measured Depth: 23.00
Inspector: Scott Beesinger

☒ ABOVE GROUND

Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☒ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED

Well cover present? NA ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches): 4"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☐ Yes ☒ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

01151771

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 501032
Client: ARMY
Site Name: 50
Well ID: 50MW02
Inspection Date: 10/11/21
Well Completion Depth/ Measured Depth: 22.22
Inspector: Scott Beesinger

☒ ABOVE GROUND

Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☒ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED

Well cover present? NA ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches) 4"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☐ Yes ☒ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 501032
Client: ARMY
Site Name: SD
Well ID: SDWW23
Inspection Date: 10/11/21
Well Completion Depth/ Measured Depth: 37.79
Inspector: Scott Beesinger

ABOVE GROUND
Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☐ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

FLUSH MOUNTED NA
Well cover present? ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:
Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:
Inner Diameter (inches): 2"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:
Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☐ Yes ☒ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 501032
Client: Army
Site Name: 50
Well ID: 50WW15
Inspection Date: 10/11/21
Well Completion Depth/ Measured Depth: 37.85
Inspector: Scott Beesinger

☒ ABOVE GROUND

Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☒ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED

Well cover present? NA ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches) 2"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☒ Yes ☐ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

01151774

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 501032
Client: Army
Site Name: 50
Well ID: 50WW27
Inspection Date: 10/11/21
Well Completion Depth/ Measured Depth: 59.92
Inspector: Scott Beesinger

☒ ABOVE GROUND

Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☒ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED

Well cover present? NA ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches): 2"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☐ Yes ☒ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

01151775

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 50103Z
Client: ARMY
Site Name: SD
Well ID: SDWW16
Inspection Date: 10/11/21
Well Completion Depth/ Measured Depth: 37.90
Inspector: Scott Beesinger

☒ ABOVE GROUND

Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☒ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED

Well cover present? NA ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches) 2"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☒ Yes ☐ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

01151776

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 501032
Client: Army
Site Name: SD
Well ID: SDWW18
Inspection Date: 10/11/21
Well Completion Depth/ Measured Depth: 37.63
Inspector: Scott Beesinger

☒ ABOVE GROUND

Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: Metal
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☒ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED NA

Well cover present? ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches) 2"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☐ Yes ☒ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

01151777

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 501032
Client: ARMY
Site Name: SD
Well ID: SDMW17
Inspection Date: 10/11/21
Well Completion Depth/ Measured Depth: 69.68
Inspector: Scott Beesinger

☒ ABOVE GROUND

Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☐ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED

Well cover present? NA ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches) 2"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☒ Yes ☐ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

01151778

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 501032
Client: Army
Site Name: 50
Well ID: 50WW19
Inspection Date: 10/11/21
Well Completion Depth/ Measured Depth: 64.90
Inspector: Scott Beesinger

ABOVE GROUND

Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☐ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

FLUSH MOUNTED NA

Well cover present? ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches): 2"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☒ Yes ☐ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

01151779

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 501032
Client: Army
Site Name: SO
Well ID: SDWW07
Inspection Date: 10/11/21
Well Completion Depth/ Measured Depth: 31, 80
Inspector: Scott Baggenger

☒ ABOVE GROUND
Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☐ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED
Well cover present? NA ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:
Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:
Inner Diameter (inches) 4"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:
Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☐ Yes ☒ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

01151780

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 501032
Client: Army
Site Name: 50
Well ID: 50MW28
Inspection Date: 10/11/21
Well Completion Depth/ Measured Depth: 27.08
Inspector: Scott Beesinger

☒ ABOVE GROUND

Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☒ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED

Well cover present? NA ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches): 4"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☐ Yes ☒ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

01151781

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 501032
Client: Army
Site Name: 50
Well ID: 50MW26
Inspection Date: 10/11/21
Well Completion Depth/ Measured Depth: 62.80
Inspector: Scott Beesinger

ABOVE GROUND
Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☒ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED NA
Well cover present? ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:
Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:
Inner Diameter (inches) 2"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:
Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☒ Yes ☐ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

01151782

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 501032
Client: Army
Site Name: SO
Well ID: SOWW25
Inspection Date: 10/11/21
Well Completion Depth/ Measured Depth: 57.82
Inspector: Scott Beesinger

☒ ABOVE GROUND

Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☒ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED NA

Well cover present? ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches) 2"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☐ Yes ☒ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

01151783

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 501032
Client: Army
Site Name: SD
Well ID: SDWW01
Inspection Date: 10/11/21
Well Completion Depth/ Measured Depth: 23.23
Inspector: Scott Baggenger

ABOVE GROUND
Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☒ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

FLUSH MOUNTED
Well cover present? NA ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:
Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:
Inner Diameter (inches): 4"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:
Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☐ Yes ☒ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 501032
Client: Army
Site Name: 50
Well ID: 50WW21
Inspection Date: 10/11/21
Well Completion Depth/ Measured Depth: 37.62
Inspector: Scott Beesinger

☒ ABOVE GROUND

Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☐ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED

Well cover present? NA ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches) 2"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☒ Yes ☐ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

01151785

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 501032
Client: Army
Site Name: SO
Well ID: SOWW20
Inspection Date: 10/11/21
Well Completion Depth/ Measured Depth: 55.78
Inspector: Scott Beesinger

ABOVE GROUND
Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☐ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

FLUSH MOUNTED
Well cover present? NA ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:
Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:
Inner Diameter (inches) 2 11
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:
Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☒ Yes ☐ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

01151786

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 501032
Client: Army
Site Name: SD
Well ID: SDMW24
Inspection Date: 10/11/21
Well Completion Depth/ Measured Depth: 37.97
Inspector: Scott Beasinger

☒ ABOVE GROUND

Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☒ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED

Well cover present? NA ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches): 2"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☐ Yes ☒ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

01151787

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 501032
Client: ARmy
Site Name: 50

Well ID: 50WW04
Inspection Date: 10/11/21
Well Completion Depth/Measured Depth: 23.16
Inspector: Scott Beesinger

☒ ABOVE GROUND
Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☒ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED
Well cover present? NA ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:
Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:
Inner Diameter (inches) 4 11
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:
Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☐ Yes ☒ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

PHOTO LOG

January 2022

Photo No.	Date	Task and Description
1	1-4-2022	Inspection of Monitoring Well 50WW01
2	1-4-2022	Inspection of Monitoring Well 50WW02
3	1-4-2022	Inspection of Monitoring Well 50WW03
4	1-4-2022	Inspection of Monitoring Well 50WW04
5	1-5-2022	Inspection of Monitoring Well 50WW05
6	1-6-2022	Inspection of Monitoring Well 50WW06
7	1-4-2022	Inspection of Monitoring Well 50WW07
8	1-5-2022	Inspection of Monitoring Well 50WW08
9	1-4-2022	Inspection of Monitoring Well 50WW09
10	1-4-2022	Inspection of Monitoring Well 50WW10
11	1-6-2022	Inspection of Monitoring Well 50WW11
12	1-6-2022	Inspection of Monitoring Well 50WW12
13	1-6-2022	Inspection of Monitoring Well 50WW13
14	1-6-2022	Inspection of Monitoring Well 50WW14
15	1-4-2022	Inspection of Monitoring Well 50WW15
16	1-4-2022	Inspection of Monitoring Well 50WW16
17	1-4-2022	Inspection of Monitoring Well 50WW17
18	1-4-2022	Inspection of Monitoring Well 50WW18
19	1-4-2022	Inspection of Monitoring Well 50WW19
20	1-4-2022	Inspection of Monitoring Well 50WW20
21	1-4-2022	Inspection of Monitoring Well 50WW21
22	1-4-2022	Inspection of Monitoring Well 50WW22
23	1-4-2022	Inspection of Monitoring Well 50WW23
24	1-4-2022	Inspection of Monitoring Well 50WW24
25	1-4-2022	Inspection of Monitoring Well 50WW25
26	1-4-2022	Inspection of Monitoring Well 50WW26
27	1-4-2022	Inspection of Monitoring Well 50WW27
28	1-4-2022	Inspection of Monitoring Well 50WW28
29	1-5-2022	Inspection of Monitoring Well 50WW29



PHOTO 1: Inspection of Monitoring Well 50WW01
DATE: January 4, 2022



PHOTO 2: Inspection of Monitoring Well 50WW02
DATE: January 4, 2022



PHOTO 3: Inspection of Monitoring Well 50WW03
DATE: January 4, 2022



PHOTO 4: Inspection of Monitoring Well 50WW04
DATE: January 4, 2022



PHOTO 5: Inspection of Monitoring Well 50WW05
DATE: January 5, 2022



PHOTO 6: Inspection of Monitoring Well 50WW06
DATE: January 6, 2022



PHOTO 7: Inspection of Monitoring Well 50WW07
DATE: January 4, 2022



PHOTO 8: Inspection of Monitoring Well 50WW08
DATE: January 5, 2022



PHOTO 9: Inspection of Monitoring Well 50WW09
DATE: January 4, 2022



PHOTO 10: Inspection of Monitoring Well 50WW10
DATE: January 4, 2022



PHOTO 11: Inspection of Monitoring Well 50WW11
DATE: January 6, 2022



PHOTO 12: Inspection of Monitoring Well 50WW12
DATE: January 6, 2022



PHOTO 13: Inspection of Monitoring Well 50WW13
DATE: January 6, 2022



PHOTO 14: Inspection of Monitoring Well 50WW14
DATE: January 6, 2022



PHOTO 15: Inspection of Monitoring Well 50WW15
DATE: January 4, 2022



PHOTO 16: Inspection of Monitoring Well 50WW16
DATE: January 4, 2022



PHOTO 17: Inspection of Monitoring Well 50WW17
DATE: January 4, 2022



PHOTO 18: Inspection of Monitoring Well 50WW18
DATE: January 4, 2022



PHOTO 19: Inspection of Monitoring Well 50WW19
DATE: January 4, 2022



PHOTO 20: Inspection of Monitoring Well 50WW20
DATE: January 4, 2022



PHOTO 21: Inspection of Monitoring Well 50WW21
DATE: January 4, 2022



PHOTO 22: Inspection of Monitoring Well 50WW22
DATE: January 4, 2022



PHOTO 23: Inspection of Monitoring Well 50WW23
DATE: January 4, 2022



PHOTO 24: Inspection of Monitoring Well 50WW24
DATE: January 4, 2022



PHOTO 25: Inspection of Monitoring Well 50WW25
DATE: January 4, 2022



PHOTO 26: Inspection of Monitoring Well 50WW26
DATE: January 4, 2022



PHOTO 27: Inspection of Monitoring Well 50WW27
DATE: January 4, 2022



PHOTO 28: Inspection of Monitoring Well 50WW28
DATE: January 4, 2022



PHOTO 29: Inspection of Monitoring Well 50WW29
DATE: January 5, 2022

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 501032
Client: Army
Site Name: 50
Well ID: 50WW02
Inspection Date: 11/4/22
Well Completion Depth/ Measured Depth: 23.17
Inspector: Scott Bassinger

☒ ABOVE GROUND

Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☒ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED NA

Well cover present? ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches): 4"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☒ Yes ☐ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

01151805

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 501032
Client: ARMY
Site Name: 50
Well ID: 50MW26
Inspection Date: 1/4/22
Well Completion Depth/ Measured Depth: 62,83
Inspector: Scott Beasinger

ABOVE GROUND

Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☐ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED NA

Well cover present? ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches): 2"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☒ Yes ☐ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

01151806

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 501032
Client: Army
Site Name: 50
Well ID: 50MW21
Inspection Date: 1/4/22
Well Completion Depth/ Measured Depth: 37.62
Inspector: Scott Bassinger

ABOVE GROUND

Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☒ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED NA

Well cover present? ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches): 2"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☐ Yes ☒ No
Is silt greater than 10% of well screen length? (complete when gauging)

COMMENTS:

01151807

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 501032
Client: ARMY
Site Name: 50
Well ID: 50MW20
Inspection Date: 1/4/22
Well Completion Depth/ Measured Depth: 55.80
Inspector: Scott Beesinger

ABOVE GROUND

Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☒ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED NA

Well cover present? ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches): 2"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☐ Yes ☒ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

01151808

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 501032
Client: Army
Site Name: 50
Well ID: 50 MW23
Inspection Date: 1/4/22
Well Completion Depth/Measured Depth: 37,81
Inspector: Scott Buesinger

☒ ABOVE GROUND

Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☒ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED NA

Well cover present? ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches): 2"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☒ Yes ☐ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

01151809

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 501032
Client: Army
Site Name: 50

Well ID: 50MW24
Inspection Date: 1/4/22
Well Completion Depth/ Measured Depth: 37.97
Inspector: Scott Bassingam

☒ ABOVE GROUND
Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☒ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED NA
Well cover present? ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:
Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:
Inner Diameter (inches): 2"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:
Bailer present? ☐ Yes ☒ No
Visual obstruction? ☒ Yes ☐ No
Is well open to completed depth? (complete when gauging)
Is silt present in well? (complete when gauging) ☐ Yes ☒ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

01151810

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 501032
Client: Army
Site Name: SO
Well ID: SDMW09
Inspection Date: 1/4/22
Well Completion Depth/ Measured Depth: 62,42
Inspector: Scott Bassinger

☒ ABOVE GROUND

Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☒ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED NA

Well cover present? ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches): 2"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☒ Yes ☐ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 501032
Client: Army
Site Name: 50
Well ID: 50MW10
Inspection Date: 1/4/22
Well Completion Depth/ Measured Depth: 111.25
Inspector: Scott Beasinger

ABOVE GROUND

Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☒ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED

Well cover present? NA ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches): 2"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☐ Yes ☒ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

01151812

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 50132
Client: Army
Site Name: 50
Well ID: 50WW02
Inspection Date: 1/4/22
Well Completion Depth/ Measured Depth: 22.25
Inspector: Scott Bassinger

ABOVE GROUND

Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☒ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED NA

Well cover present? ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches): 4"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☐ Yes ☒ No
Is silt greater than 10% of well screen length? (complete when gauging)

COMMENTS:

01151813

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 501032
Client: Army
Site Name: SO
Well ID: SDWW03
Inspection Date: 1/4/22
Well Completion Depth/ Measured Depth: 23.00
Inspector: Scott Baesinger

☒ ABOVE GROUND
Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☒ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED NA
Well cover present? ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:
Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:
Inner Diameter (inches): 4"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:
Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☒ Yes ☐ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

01151814

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 501032
Client: Army
Site Name: 50
Well ID: 50WW22
Inspection Date: 1/4/22
Well Completion Depth/ Measured Depth: 37.79
Inspector: Scott Berringer

☒ ABOVE GROUND
Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☐ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED NA
Well cover present? ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:
Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:
Inner Diameter (inches): 2"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:
Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☐ Yes ☒ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

01151815

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 501032
Client: Army
Site Name: 50
Well ID: 50MW15
Inspection Date: 1/4/22
Well Completion Depth/ Measured Depth: 37.65
Inspector: Scott Beesinger

☒ ABOVE GROUND

Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☒ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED

NA

Well cover present? ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches): 2"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☐ Yes ☒ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

01151816

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 501032
Client: Army
Site Name: 50
Well ID: 50MW27
Inspection Date: 1/4/22
Well Completion Depth/ Measured Depth: 59.93
Inspector: Scott Bassinger

☒ ABOVE GROUND

Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☐ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED NA

Well cover present? ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches) 2"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☒ Yes ☐ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

01151817

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 501032
Client: ARMY
Site Name: 50
Well ID: 50WW01
Inspection Date: 1/4/22
Well Completion Depth/ Measured Depth: 23.23
Inspector: Scott Beesinger

☒ ABOVE GROUND
Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☒ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED NA
Well cover present? ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:
Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:
Inner Diameter (inches) 4"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:
Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☐ Yes ☒ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

01151818

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 501032
Client: Army
Site Name: 50
Well ID: 50WW16
Inspection Date: 11/4/22
Well Completion Depth/Measured Depth: 38.05
Inspector: Scott Beesinger

ABOVE GROUND

Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☒ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED NA

Well cover present? ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches): 2"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☒ Yes ☐ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

01151819

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 501032
Client: Army
Site Name: 50
Well ID: 50WW25
Inspection Date: 1/4/22
Well Completion Depth/ Measured Depth: 57.80
Inspector: Scott Beesinger

☒ ABOVE GROUND

Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☒ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED NA

Well cover present? ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches): 2"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☒ Yes ☐ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

01151820

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 501032
Client: Army
Site Name: SO

Well ID: SOMW28
Inspection Date: 1/4/22
Well Completion Depth/ Measured Depth: 27.09
Inspector: Scott Beasinger

☒ ABOVE GROUND

Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☒ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED NA

Well cover present? ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches): 4"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☐ Yes ☒ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

01151821

WELL INSPECTION FORM

Job Name: LTAAP
Job No.: 501032
Client: Army
Site Name: 50
Well ID: 50WW19
Inspection Date: 1/4/22
Well Completion Depth/Measured Depth: 65.00
Inspector: Scott Beesinger

☒ ABOVE GROUND

Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☒ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED NA

Well cover present? ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches): 2"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☒ Yes ☐ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

01151822

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 501032
Client: Army
Site Name: 50
Well ID: 50MW18
Inspection Date: 1/4/22
Well Completion Depth/ Measured Depth: 37.63
Inspector: Scott Baessinger

☒ ABOVE GROUND
Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☒ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED NA
Well cover present? ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:
Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:
Inner Diameter (inches): 2"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:
Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☐ Yes ☒ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

01151823

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 501032
Client: Army
Site Name: SO
Well ID: SDWW17
Inspection Date: 1/4/22
Well Completion Depth/ Measured Depth: 64.38
Inspector: Scott Beesinger

☒ ABOVE GROUND

Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☒ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED NA

Well cover present? ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches): 2 11
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☐ Yes ☒ No
Is silt greater than 10% of well screen length? (complete when gauging)

COMMENTS:

01151824

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 501032
Client: ARmy
Site Name: 50
Well ID: 50WW07
Inspection Date: 1/4/22
Well Completion Depth/ Measured Depth: 31.57
Inspector: Scott Beesinger

☒ ABOVE GROUND
Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☒ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED NA
Well cover present? ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:
Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:
Inner Diameter (inches) 4"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:
Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☐ Yes ☒ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

01151825

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 501032
Client: Army
Site Name: 50

Well ID: 50MW29
Inspection Date: 1/5/22
Well Completion Depth/ Measured Depth: 37.90
Inspector: Scott Baesinger

☒ ABOVE GROUND

Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: Metal
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☐ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED NA

Well cover present? ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches): 2"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☐ Yes ☒ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

01151826

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 501032
Client: Army
Site Name: 50
Well ID: 50WW05
Inspection Date: 1/5/22
Well Completion Depth/ Measured Depth: 25.30
Inspector: Scott Bussinger

☒ ABOVE GROUND

Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☐ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED NA

Well cover present? ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches): 4"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☐ Yes ☒ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

01151827

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 501032
Client: Army
Site Name: 50
Well ID: 50WW08
Inspection Date: 1/5/22
Well Completion Depth/ Measured Depth: 32.71
Inspector: Scott Baggenger

☒ ABOVE GROUND

Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☐ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED NA

Well cover present? ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches): 2"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☒ Yes ☐ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

01151828

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 501032
Client: Army
Site Name: 50

Well ID: 50MW14
Inspection Date: 1/6/22
Well Completion Depth/ Measured Depth: 59.70
Inspector: Scott Beesinger

☒ ABOVE GROUND

Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☐ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED NA

Well cover present? ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches): 2"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☒ Yes ☐ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

01151829

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 501032
Client: Army
Site Name: 50
Well ID: 50MW03
Inspection Date: 1/6/22
Well Completion Depth/ Measured Depth: 37.60
Inspector: Scott Beesinger

☒ ABOVE GROUND

Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☐ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED

Well cover present? NA ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches): 2"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☒ Yes ☐ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

01151830

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 501032
Client: Army
Site Name: 50
Well ID: 50WW11
Inspection Date: 11/6/22
Well Completion Depth/ Measured Depth: 37.77
Inspector: Scott Beasinger

ABOVE GROUND

Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☐ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED NA

Well cover present? ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches): 2"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☐ Yes ☒ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 501032
Client: Army
Site Name: 50
Well ID: 50MW06
Inspection Date: 1/6/22
Well Completion Depth/ Measured Depth: 58.10
Inspector: Scott Bassinger

ABOVE GROUND

Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☐ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

FLUSH MOUNTED

Well cover present? NA ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches): 4"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☐ Yes ☒ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

01151832

WELL INSPECTION FORM

Job Name: LITAAP
Job No.: 501032
Client: ARMY
Site Name: 50
Well ID: 50MW12
Inspection Date: 1/6/22
Well Completion Depth/ Measured Depth: 37.90
Inspector: Scott Beesinger

☒ ABOVE GROUND

Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☐ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED NA

Well cover present? ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches): 2"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☒ Yes ☐ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

PHOTO LOG

April 2022

Photo No.	Date	Task and Description
1	4-7-2022	Inspection of Monitoring Well 50WW01
2	4-7-2022	Inspection of Monitoring Well 50WW02
3	4-7-2022	Inspection of Monitoring Well 50WW03
4	4-7-2022	Inspection of Monitoring Well 50WW04
5	4-5-2022	Inspection of Monitoring Well 50WW05
6	4-6-2022	Inspection of Monitoring Well 50WW06
7	4-7-2022	Inspection of Monitoring Well 50WW07
8	4-6-2022	Inspection of Monitoring Well 50WW08
9	4-7-2022	Inspection of Monitoring Well 50WW09
10	4-7-2022	Inspection of Monitoring Well 50WW10
11	4-6-2022	Inspection of Monitoring Well 50WW11
12	4-6-2022	Inspection of Monitoring Well 50WW12
13	4-6-2022	Inspection of Monitoring Well 50WW13
14	4-6-2022	Inspection of Monitoring Well 50WW14
15	4-7-2022	Inspection of Monitoring Well 50WW15
16	4-7-2022	Inspection of Monitoring Well 50WW16
17	4-7-2022	Inspection of Monitoring Well 50WW17
18	4-7-2022	Inspection of Monitoring Well 50WW18
19	4-7-2022	Inspection of Monitoring Well 50WW19
20	4-7-2022	Inspection of Monitoring Well 50WW20
21	4-7-2022	Inspection of Monitoring Well 50WW21
22	4-7-2022	Inspection of Monitoring Well 50WW22
23	4-7-2022	Inspection of Monitoring Well 50WW23
24	4-7-2022	Inspection of Monitoring Well 50WW24
25	4-7-2022	Inspection of Monitoring Well 50WW25
26	4-7-2022	Inspection of Monitoring Well 50WW26
27	4-7-2022	Inspection of Monitoring Well 50WW27
28	4-7-2022	Inspection of Monitoring Well 50WW28
29	4-5-2022	Inspection of Monitoring Well 50WW29



PHOTO 1: Inspection of Monitoring Well 50WW01
DATE: April 7, 2022



PHOTO 2: Inspection of Monitoring Well 50WW02
DATE: April 7, 2022



PHOTO 3: Inspection of Monitoring Well 50WW03
DATE: April 7, 2022



PHOTO 4: Inspection of Monitoring Well 50WW04
DATE: April 7, 2022



PHOTO 5: Inspection of Monitoring Well 50WW05
DATE: April 5, 2022



PHOTO 6: Inspection of Monitoring Well 50WW06
DATE: April 6, 2022



PHOTO 7: Inspection of Monitoring Well 50WW07
DATE: April 7, 2022



PHOTO 8: Inspection of Monitoring Well 50WW08
DATE: April 6, 2022



PHOTO 9: Inspection of Monitoring Well 50WW09
DATE: April 7, 2022



PHOTO 10: Inspection of Monitoring Well 50WW10
DATE: April 7, 2022



PHOTO 11: Inspection of Monitoring Well 50WW11
DATE: April 6, 2022



PHOTO 12: Inspection of Monitoring Well 50WW12
DATE: April 6, 2022



PHOTO 13: Inspection of Monitoring Well 50WW13
DATE: April 6, 2022



PHOTO 14: Inspection of Monitoring Well 50WW14
DATE: April 6, 2022



PHOTO 15: Inspection of Monitoring Well 50WW15
DATE: April 7, 2022



PHOTO 16: Inspection of Monitoring Well 50WW16
DATE: April 7, 2022



PHOTO 17: Inspection of Monitoring Well 50WW17
DATE: April 7, 2022



PHOTO 18: Inspection of Monitoring Well 50WW18
DATE: April 7, 2022



PHOTO 19: Inspection of Monitoring Well 50WW19
DATE: April 7, 2022



PHOTO 20: Inspection of Monitoring Well 50WW20
DATE: April 7, 2022



PHOTO 21: Inspection of Monitoring Well 50WW21
DATE: April 7, 2022



PHOTO 22: Inspection of Monitoring Well 50WW22
DATE: April 7, 2022



PHOTO 23: Inspection of Monitoring Well 50WW23
DATE: April 7, 2022



PHOTO 24: Inspection of Monitoring Well 50WW24
DATE: April 7, 2022



PHOTO 25: Inspection of Monitoring Well 50WW25
DATE: April 7, 2022



PHOTO 26: Inspection of Monitoring Well 50WW26
DATE: April 7, 2022



PHOTO 27: Inspection of Monitoring Well 50WW27
DATE: April 7, 2022



PHOTO 28: Inspection of Monitoring Well 50WW28
DATE: April 7, 2022



PHOTO 29: Inspection of Monitoring Well 50WW29
DATE: April 5, 2022

WELL INSPECTION FORM

Job Name: Lonshorn AAP
Job No.: 501032
Client: Army
Site Name: 50
Well ID: 50WW26
Inspection Date: 4-7-22
Well Completion Depth/ Measured Depth: 62.71
Inspector: Derrick Berry

☑ ABOVE GROUND
Well Accessible? ☑ Yes ☐ No
Protective casing? ☑ Yes ☐ No
Material PVC
Condition: ☑ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☑ Good ☐ Broken ☐ Cracked
Hinge Condition: ☑ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED
Well cover present? ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked N/A
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:
Sloped away from casing? ☑ Yes ☐ No
Pad Area Cleared of Vegetation? ☐ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:
Inner Diameter (inches) 2
Condition: ☑ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☑ Yes ☐ No
Well lock present? ☑ Yes ☐ No
Lock functioning properly? ☐ Yes ☑ No
Are bollards present and stable? ☑ Yes ☐ No
Well ID visible? ☑ Yes ☐ No

WELL INTEGRITY:
Bailer present? ☐ Yes ☑ No
Visual obstruction? ☐ Yes ☐ No
Is well open to completed depth? (complete when gauging) ☑ Yes ☐ No
Is silt present in well? (complete when gauging) ☐ Yes ☑ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☐ No

COMMENTS:
Wasp present, needs new lock

01151850

WELL INSPECTION FORM

Job Name: Longhorn AAP
Job No.: 501032
Client: Army
Site Name: 50

Well ID: 50WW10
Inspection Date: 4-7-22
Well Completion Depth/ Measured Depth: 111.06
Inspector: Derrick Berry

☑ ABOVE GROUND
Well Accessible? ☑ Yes ☐ No
Protective casing? ☑ Yes ☐ No
Material PVC
Condition: ☑ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☑ Good ☐ Broken ☐ Cracked
Hinge Condition: ☑ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED
Well cover present? ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked N/A
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:
Sloped away from casing? ☑ Yes ☐ No
Pad Area Cleared of Vegetation? ☑ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:
Inner Diameter (inches) 2
Condition: ☑ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☑ Yes ☐ No
Well lock present? ☑ Yes ☐ No
Lock functioning properly? ☐ Yes ☑ No
Are bollards present and stable? ☐ Yes ☑ No
Well ID visible? ☑ Yes ☐ No

WELL INTEGRITY:
Bailer present? ☐ Yes ☑ No
Visual obstruction? ☐ Yes ☑ No
Is well open to completed depth? (complete when ganging) ☑ Yes ☐ No
Is silt present in well? (complete when ganging) ☐ Yes ☑ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☑ No

COMMENTS:
Needs ballard re-installed
Needs new lock

01151851

WELL INSPECTION FORM

Job Name: Longhorn AAP
Job No.:
Client:
Site Name:

Well ID: 50WW21
Inspection Date: 4-7-22
Well Completion Depth/ Measured Depth: 37.61
Inspector: Derrick Berry

☑ ABOVE GROUND

Well Accessible? ☑ Yes ☐ No
Protective casing? ☑ Yes ☐ No
Material: PVC
Condition: ☑ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☑ Good ☐ Broken ☐ Cracked
Hinge Condition: ☑ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED

Well cover present? ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked N/A
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☐ Yes ☑ No
Pad Area Cleared of Vegetation? ☑ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches): 2
Condition: ☑ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☑ Yes ☐ No
Well lock present? ☑ Yes ☐ No
Lock functioning properly? ☐ Yes ☑ No
Are bollards present and stable? ☑ Yes ☐ No
Well ID visible? ☑ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☑ No
Visual obstruction? ☐ Yes ☑ No
Is well open to completed depth? (complete when gauging) ☑ Yes ☐ No
Is silt present in well? (complete when gauging) ☐ Yes ☑ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☑ No

COMMENTS:

Wasp present, needs new lock

01151852

WELL INSPECTION FORM

Job Name: Longhorn AAP
Job No.: 501032
Client: Army
Site Name: 50

Well ID: 50WW04
Inspection Date: 4-7-22
Well Completion Depth/ Measured Depth: 23.18
Inspector: Derick Berry

☑ ABOVE GROUND

Well Accessible? ☑ Yes ☐ No
Protective casing? ☑ Yes ☐ No
Material: Stainless Steel
Condition: ☑ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☑ Good ☐ Broken ☐ Cracked
Hinge Condition: ☑ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED

Well cover present? ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked N/A
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☑ Yes ☐ No
Pad Area Cleared of Vegetation? ☐ Yes ☑ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches): 4.00
Condition: ☑ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☑ Yes ☐ No
Well lock present? ☑ Yes ☐ No
Lock functioning properly? ☑ Yes ☐ No
Are bollards present and stable? ☑ Yes ☐ No
Well ID visible? ☑ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☑ No
Visual obstruction? ☐ Yes ☑ No
Is well open to completed depth? (complete when gauging) ☑ Yes ☐ No
Is silt present in well? (complete when gauging) ☐ Yes ☑ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☑ No

COMMENTS:

01151853

WELL INSPECTION FORM

Job Name: Longhorn AAP
Job No.: 501032
Client: Army
Site Name: Site 50

Well ID: 50WW18
Inspection Date: 4-7-22
Well Completion Depth/ Measured Depth: 37.52
Inspector: Derrick Berry

☑ ABOVE GROUND

Well Accessible? ☑ Yes ☐ No
Protective casing? ☑ Yes ☐ No
Material: PVC
Condition: ☑ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☑ Good ☐ Broken ☐ Cracked
Hinge Condition: ☑ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED

Well cover present? ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

N/A

CONCRETE PAD:

Sloped away from casing? ☑ Yes ☐ No
Pad Area Cleared of Vegetation? ☑ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches): 2
Condition: ☑ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☑ Yes ☐ No
Well lock present? ☑ Yes ☐ No
Lock functioning properly? ☐ Yes ☑ No
Are bollards present and stable? ☑ Yes ☐ No
Well ID visible? ☑ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☑ No
Visual obstruction? ☐ Yes ☐ No
Is well open to completed depth? (complete when gauging) ☑ Yes ☐ No
Is silt present in well? (complete when gauging) ☐ Yes ☑ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☐ No

COMMENTS:

Needs new lock

01151854

WELL INSPECTION FORM

Job Name: Longhorn AAP
Job No.: 501032
Client: Army
Site Name: 50
Well ID: 50NW09
Inspection Date: 4-7-22
Well Completion Depth/ Measured Depth: 62.45
Inspector: Derrick Berry

☑ ABOVE GROUND

Well Accessible? ☑ Yes ☐ No
Protective casing? ☑ Yes ☐ No
Material: PVC
Condition: ☑ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☑ Good ☐ Broken ☐ Cracked
Hinge Condition: ☑ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED

Well cover present? ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water N/A

CONCRETE PAD:

Sloped away from casing? ☑ Yes ☐ No
Pad Area Cleared of Vegetation? ☑ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches): 2
Condition: ☑ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☑ Yes ☐ No
Well lock present? ☑ Yes ☐ No
Lock functioning properly? ☐ Yes ☑ No
Are bollards present and stable? ☑ Yes ☐ No
Well ID visible? ☑ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☑ No
Visual obstruction? ☐ Yes ☑ No
Is well open to completed depth? (complete when gauging) ☑ Yes ☐ No
Is silt present in well? (complete when gauging) ☐ Yes ☑ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☑ No

COMMENTS:

Needs new lock

01151855

WELL INSPECTION FORM

Job Name: Longhorn AAP
Job No.: 501032
Client: Army
Site Name: 50
Well ID: 50WW02
Inspection Date: 4-7-22
Well Completion Depth/ Measured Depth: 22.21
Inspector: Derrick Berry

☑ ABOVE GROUND
Well Accessible? ☑ Yes ☐ No
Protective casing? ☑ Yes ☐ No
Material: Stainless Steel
Condition: ☑ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☑ Good ☐ Broken ☑ Cracked
Hinge Condition: ☑ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED
Well cover present? ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked N/A
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:
Sloped away from casing? ☑ Yes ☐ No
Pad Area Cleared of Vegetation? ☐ Yes ☑ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:
Inner Diameter (inches): 4
Condition: ☑ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☑ Yes ☐ No
Well lock present? ☑ Yes ☐ No
Lock functioning properly? ☑ Yes ☐ No
Are bollards present and stable? ☑ Yes ☐ No
Well ID visible? ☑ Yes ☐ No

WELL INTEGRITY:
Bailer present? ☐ Yes ☑ No
Visual obstruction? ☐ Yes ☐ No
Is well open to completed depth? (complete when gauging) ☑ Yes ☐ No
Is silt present in well? (complete when gauging) ☐ Yes ☑ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☑ No

COMMENTS:

WELL INSPECTION FORM

Job Name: Longhorn AAP
Job No.: 501032
Client: Army
Site Name: 50
Well ID: 50WW17
Inspection Date: 4-7-22
Well Completion Depth/ Measured Depth: 64.4
Inspector: Derrick Berry

☑ ABOVE GROUND

Well Accessible? ☑ Yes ☐ No
Protective casing? ☑ Yes ☐ No
Material: PVC
Condition: ☑ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☑ Good ☐ Broken ☐ Cracked
Hinge Condition: ☑ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED

Well cover present? ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked N/A
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☑ Yes ☐ No
Pad Area Cleared of Vegetation? ☑ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches): 2
Condition: ☑ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☑ Yes ☐ No
Well lock present? ☑ Yes ☐ No
Lock functioning properly? ☑ Yes ☐ No
Are bollards present and stable? ☑ Yes ☐ No
Well ID visible? ☑ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☑ No
Visual obstruction? ☐ Yes ☑ No
Is well open to completed depth? (complete when gauging) ☑ Yes ☐ No
Is silt present in well? (complete when gauging) ☐ Yes ☑ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☑ No

COMMENTS:

01151857

WELL INSPECTION FORM

Job Name: Longhorn AAP
Job No.: 501032
Client: Army
Site Name: 50
Well ID: 50WW24
Inspection Date: 4-7-22
Well Completion Depth/ Measured Depth: 38.01
Inspector: Derick Berry

☑ ABOVE GROUND
Well Accessible? ☑ Yes ☐ No
Protective casing? ☑ Yes ☐ No
Material: PVC
Condition: ☑ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☑ Good ☐ Broken ☐ Cracked
Hinge Condition: ☑ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED
Well cover present? ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked N/A
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:
Sloped away from casing? ☑ Yes ☐ No
Pad Area Cleared of Vegetation? ☑ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:
Inner Diameter (inches): 2
Condition: ☑ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☑ Yes ☐ No
Well lock present? ☑ Yes ☐ No
Lock functioning properly? ☐ Yes ☑ No
Are bollards present and stable? ☑ Yes ☐ No
Well ID visible? ☑ Yes ☐ No

WELL INTEGRITY:
Bailer present? ☐ Yes ☑ No
Visual obstruction? ☐ Yes ☐ No
Is well open to completed depth? (complete when gauging) ☑ Yes ☐ No
Is silt present in well? (complete when gauging) ☐ Yes ☑ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☑ No

COMMENTS:
Needs new lock

01151858

WELL INSPECTION FORM

Job Name: Lonshorn AAP
Job No.: 501032
Client: Army
Site Name: 50

Well ID: 50NW03
Inspection Date: 4-7-22
Well Completion Depth/ Measured Depth: 23.01
Inspector: Derrick Berry

☑ ABOVE GROUND

Well Accessible? ☑ Yes ☐ No
Protective casing? ☑ Yes ☐ No
Material: Stainless Steel
Condition: ☑ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☐ Good ☐ Broken ☑ Cracked – Unhinged
Hinge Condition: ☐ Good ☐ Less than 50% rusted ☑ More than 50% rusted

☐ FLUSH MOUNTED

Well cover present? ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked N/A
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☐ Yes ☑ No
Pad Area Cleared of Vegetation? ☐ Yes ☑ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches): 4
Condition: ☐ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☑ Yes ☐ No
Well lock present? ☑ Yes ☐ No
Lock functioning properly? ☐ Yes ☑ No
Are bollards present and stable? ☑ Yes ☐ No
Well ID visible? ☑ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☑ No
Visual obstruction? ☐ Yes ☑ No
Is well open to completed depth? (complete when gauging) ☑ Yes ☐ No
Is silt present in well? (complete when gauging) ☐ Yes ☑ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☐ No

COMMENTS:

Lid is unhinged, needs new lock - rusty

01151859

WELL INSPECTION FORM

Job Name: Longhorn AAP
Job No.: 501032
Client: Army
Site Name: 50
Well ID: 50WW22
Inspection Date: 4-7-22
Well Completion Depth/ Measured Depth: 37.7 &
Inspector: Derick Berry

☑ ABOVE GROUND
Well Accessible? ☑ Yes ☐ No
Protective casing? ☑ Yes ☐ No
Material PVC
Condition: ☑ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☑ Good ☐ Broken ☐ Cracked
Hinge Condition: ☑ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED
Well cover present? ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked N/A
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:
Sloped away from casing? ☑ Yes ☐ No
Pad Area Cleared of Vegetation? ☐ Yes ☑ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:
Inner Diameter (inches) 2
Condition: ☑ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☑ Yes ☐ No
Well lock present? ☑ Yes ☐ No
Lock functioning properly? ☐ Yes ☑ No
Are bollards present and stable? ☑ Yes ☐ No
Well ID visible? ☐ Yes ☐ No

WELL INTEGRITY:
Bailer present? ☐ Yes ☑ No
Visual obstruction? ☐ Yes ☐ No
Is well open to completed depth? (complete when gauging) ☑ Yes ☐ No
Is silt present in well? (complete when gauging) ☐ Yes ☑ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☑ No

COMMENTS:
Needs new lock, rusty

WELL INSPECTION FORM

Job Name: Longhorn AAP
Job No.: 501032
Client:
Site Name:

Well ID: 50NW13
Inspection Date: 4-6-2022
Well Completion Depth/ Measured Depth: 37.62
Inspector: Derrick Berry

☑ ABOVE GROUND
Well Accessible? ☑ Yes ☐ No
Protective casing? ☑ Yes ☐ No
Material PVC
Condition: ☑ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☑ Good ☐ Broken ☐ Cracked
Hinge Condition: ☑ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED
Well cover present? ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked N/A
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:
Sloped away from casing? ☑ Yes ☐ No
Pad Area Cleared of Vegetation? ☑ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:
Inner Diameter (inches) 2.00
Condition: ☑ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☑ Yes ☐ No
Well lock present? ☑ Yes ☐ No
Lock functioning properly? ☑ Yes ☐ No
Are bollards present and stable? ☑ Yes ☐ No
Well ID visible? ☑ Yes ☐ No

WELL INTEGRITY:
Bailer present? ☐ Yes ☑ No
Visual obstruction? ☐ Yes ☑ No
Is well open to completed depth? (complete when gauging) ☑ Yes ☐ No
Is silt present in well? (complete when gauging) ☐ Yes ☑ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☑ No

COMMENTS:

01151861

WELL INSPECTION FORM

Job Name: Longhorn AAD
Job No.: 501032
Client:
Site Name:
Well ID: 50WW08
Inspection Date: 4-6-22
Well Completion Depth/ Measured Depth: 20.44/32.74 TD
Inspector: Derrick Berry

☐ ABOVE GROUND
Well Accessible? ☑ Yes ☐ No
Protective casing? ☐ Yes ☐ No
Material PVC
Condition: ☑ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☑ Good ☐ Broken ☑ Cracked
Hinge Condition: ☑ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED
Well cover present? ☐ Yes ☑ No
Condition: ☐ Good ☐ Broken ☐ Cracked N/A
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:
Sloped away from casing? ☐ Yes ☑ No
Pad Area Cleared of Vegetation? ☑ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:
Inner Diameter (inches) 2.00
Condition: ☑ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☑ Yes ☐ No
Well lock present? ☑ Yes ☐ No
Lock functioning properly? ☑ Yes ☐ No
Are bollards present and stable? ☑ Yes ☐ No
Well ID visible? ☑ Yes ☐ No

WELL INTEGRITY:
Bailer present? ☑ Yes ☐ No
Visual obstruction? ☐ Yes ☑ No
Is well open to completed depth? (complete when gauging) ☑ Yes ☐ No
Is silt present in well? (complete when gauging) ☐ Yes ☑ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☑ No

COMMENTS:
Ants present

01151862

WELL INSPECTION FORM

Job Name: Longhorn AAP
Job No.: 501032
Client:
Site Name:
Well ID: SOWW05
Inspection Date: 4-5-22
Well Completion Depth/ Measured Depth: 18.35 / 25.31 TD
Inspector: Derrick Berry

☐ ABOVE GROUND

Well Accessible? ☑ Yes ☐ No
Protective casing? ☑ Yes ☐ No
Material: Stainless Steel
Condition: ☑ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☑ Good ☐ Broken ☐ Cracked
Hinge Condition: ☑ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED

Well cover present? ☐ Yes ☑ No
Condition: ☑ Good ☐ Broken ☐ Cracked N/A
Condition of Sump: ☑ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☐ Yes ☑ No
Pad Area Cleared of Vegetation? ☑ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches): 4.00
Condition: ☑ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☑ Yes ☐ No
Well lock present? ☑ Yes ☐ No
Lock functioning properly? ☑ Yes ☐ No
Are bollards present and stable? ☐ Yes ☑ No
Well ID visible? ☑ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☑ No
Visual obstruction? ☐ Yes ☐ No
Is well open to completed depth? (complete when gauging) ☑ Yes ☐ No
Is silt present in well? (complete when gauging) ☐ Yes ☑ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☐ No

COMMENTS:

1 bollard is tilted away from well

01151863

WELL INSPECTION FORM

Job Name: Longhorn AAP
Job No.: 504032
Client:
Site Name:

Well ID: SOWW29
Inspection Date: 4-5-22
Well Completion Depth/ Measured Depth: 12.16 / 37.91 TD
Inspector: Derrick Berry

☐ ABOVE GROUND

Well Accessible? ☑ Yes ☐ No
Protective casing? ☑ Yes ☐ No
Material ~~Stainless Steel~~ PVC
Condition: ☑ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☑ Good ☐ Broken ☒ Cracked
Hinge Condition: ☑ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED

Well cover present? ☐ Yes ☑ No
Condition: ☑ Good ☐ Broken ☐ Cracked N/A
Condition of Sump: ☑ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☐ Yes ☒ No
Pad Area Cleared of Vegetation? ☑ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches) 2.00
Condition: ☑ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☑ Yes ☐ No
Well lock present? ☑ Yes ☐ No
Lock functioning properly? ☑ Yes ☐ No
Are bollards present and stable? ☑ Yes ☐ No
Well ID visible? ☑ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☑ Yes ☐ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☑ Yes ☐ No
Is silt present in well? (complete when gauging) ☐ Yes ☒ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:
Good condition

01151864

WELL INSPECTION FORM

Job Name: Longhorn AAP
Job No.: 501037
Client:
Site Name:
Well ID: 50WW12
Inspection Date: 4-6-2022
Well Completion Depth/ Measured Depth: 16.90 / 37.92 DTW / TD
Inspector: Derrick Berry

☐ ABOVE GROUND

Well Accessible? ☑ Yes ☐ No
Protective casing? ☑ Yes ☐ No
Material PVC
Condition: ☑ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☑ Good ☐ Broken ☐ Cracked
Hinge Condition: ☑ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED

Well cover present? ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked N/A
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☑ Yes ☐ No
Pad Area Cleared of Vegetation? ☑ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches) 2.00
Condition: ☑ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☑ Yes ☐ No
Well lock present? ☑ Yes ☐ No
Lock functioning properly? ☑ Yes ☐ No
Are bollards present and stable? ☑ Yes ☐ No
Well ID visible? ☑ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☑ No
Visual obstruction? ☐ Yes ☑ No
Is well open to completed depth? (complete when gauging) ☑ Yes ☐ No
Is silt present in well? (complete when gauging) ☐ Yes ☑ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☑ No

COMMENTS:

01151865

WELL INSPECTION FORM

Job Name: Longhorn AAP
Job No.: 501032
Client:
Site Name:

Well ID: 55WW06
Inspection Date: 4-6-2022
Well Completion Depth/ Measured Depth: 58.06 -TD
Inspector: Derrick Berry

☑ ABOVE GROUND

Well Accessible? ☑ Yes ☐ No
Protective casing? ☑ Yes ☐ No
Material PVC
Condition: ☑ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☑ Good ☐ Broken ☐ Cracked
Hinge Condition: ☑ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED

Well cover present? N/A ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☑ Yes ☐ No
Pad Area Cleared of Vegetation? ☑ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches) 4.00
Condition: ☑ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☑ Yes ☐ No
Well lock present? ☑ Yes ☐ No
Lock functioning properly? ☑ Yes ☐ No
Are bollards present and stable? ☑ Yes ☐ No
Well ID visible? ☑ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☑ No
Visual obstruction? ☐ Yes ☑ No
Is well open to completed depth? (complete when gauging) ☑ Yes ☐ No
Is silt present in well? (complete when gauging) ☑ Yes ☑ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☑ No

COMMENTS:

01151866

WELL INSPECTION FORM

Job Name: Longhorn AAP
Job No.: 501032
Client:
Site Name:

Well ID: 50WW11
Inspection Date: 4-6-2022
Well Completion Depth/ Measured Depth: 37.7 ft
Inspector: Derick Berry

☑ ABOVE GROUND

Well Accessible? ☑ Yes ☐ No
Protective casing? ☑ Yes ☐ No
Material: PVC
Condition: ☑ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☑ Good ☐ Broken ☐ Cracked
Hinge Condition: ☑ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED

Well cover present? ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked N/A
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☐ Yes ☑ No
Pad Area Cleared of Vegetation? ☑ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches): 2.00
Condition: ☑ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☑ Yes ☐ No
Well lock present? ☑ Yes ☐ No
Lock functioning properly? ☑ Yes ☐ No
Are bollards present and stable? ☑ Yes ☐ No
Well ID visible? ☑ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☑ No
Visual obstruction? ☐ Yes ☑ No
Is well open to completed depth? (complete when gauging) ☑ Yes ☐ No
Is silt present in well? (complete when gauging) ☐ Yes ☑ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☑ No

COMMENTS:

01151867

WELL INSPECTION FORM

Job Name: Lonshorn AAP
Job No.: 501032
Client: Army
Site Name: 50
Well ID: 50WW07
Inspection Date: 4-7-22
Well Completion Depth/ Measured Depth: 31.82
Inspector: Derrick Berry

☑ ABOVE GROUND

Well Accessible? ☑ Yes ☐ No
Protective casing? ☑ Yes ☐ No
Material: PVC
Condition: ☑ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☑ Good ☐ Broken ☐ Cracked
Hinge Condition: ☑ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED

Well cover present? ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked N/A
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☐ Yes ☑ No
Pad Area Cleared of Vegetation? ☑ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches): 4
Condition: ☐ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☑ Yes ☐ No
Well lock present? ☑ Yes ☐ No
Lock functioning properly? ☑ Yes ☐ No
Are bollards present and stable? ☑ Yes ☐ No
Well ID visible? ☑ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☑ No
Visual obstruction? ☐ Yes ☑ No
Is well open to completed depth? (complete when gauging) ☑ Yes ☐ No
Is silt present in well? (complete when gauging) ☐ Yes ☑ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☑ No

COMMENTS:

01151868

WELL INSPECTION FORM

Job Name: Longhorn AAP
Job No.: 501032
Client: Army
Site Name: 56
Well ID: 50WW19
Inspection Date: 4-7-2022
Well Completion Depth/ Measured Depth:
Inspector: Derrick Berry

☑ ABOVE GROUND
Well Accessible? ☑ Yes ☐ No
Protective casing? ☑ Yes ☐ No
Material: PVC
Condition: ☑ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☑ Good ☐ Broken ☐ Cracked
Hinge Condition: ☑ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED
Well cover present? ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked N/A
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:
Sloped away from casing? ☑ Yes ☐ No
Pad Area Cleared of Vegetation? ☑ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:
Inner Diameter (inches): 2
Condition: ☑ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☑ Yes ☐ No
Well lock present? ☑ Yes ☐ No
Lock functioning properly? ☐ Yes ☑ No
Are bollards present and stable? ☑ Yes ☐ No
Well ID visible? ☑ Yes ☐ No

WELL INTEGRITY:
Bailer present? ☐ Yes ☑ No
Visual obstruction? ☐ Yes ☑ No
Is well open to completed depth? (complete when gauging) ☑ Yes ☐ No
Is silt present in well? (complete when gauging) ☐ Yes ☑ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☑ No

COMMENTS:
Needs new lock

01151869

WELL INSPECTION FORM

Job Name: Longhorn AAP
Job No.: 501032
Client: Army
Site Name: 50
Well ID: 50WW27
Inspection Date: 4-7-22
Well Completion Depth/ Measured Depth: 60.01
Inspector: Derrick Berry

☑ ABOVE GROUND
Well Accessible? ☑ Yes ☐ No
Protective casing? ☑ Yes ☐ No
Material: PVC
Condition: ☑ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☑ Good ☐ Broken ☒ Cracked
Hinge Condition: ☑ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED
Well cover present? ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked N/A
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:
Sloped away from casing? ☐ Yes ☑ No
Pad Area Cleared of Vegetation? ☑ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:
Inner Diameter (inches): 2
Condition: ☑ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☑ Yes ☐ No
Well lock present? ☑ Yes ☐ No
Lock functioning properly? ☐ Yes ☑ No
Are bollards present and stable? ☑ Yes ☐ No
Well ID visible? ☑ Yes ☐ No

WELL INTEGRITY:
Bailer present? ☐ Yes ☑ No
Visual obstruction? ☐ Yes ☐ No
Is well open to completed depth? (complete when gauging) ☑ Yes ☐ No
Is silt present in well? (complete when gauging) ☐ Yes ☑ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☑ No

COMMENTS:
Needs new lock

01151870

WELL INSPECTION FORM

Job Name: Lonshorn AAP
Job No.: 501032
Client: Army
Site Name: 50
Well ID: 50WW15
Inspection Date: 4-7-22
Well Completion Depth/ Measured Depth: 37.88
Inspector: Derrick Berry

☑ ABOVE GROUND
Well Accessible? ☑ Yes ☐ No
Protective casing? ☑ Yes ☐ No
Material: PVC
Condition: ☑ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☑ Good ☐ Broken ☐ Cracked
Hinge Condition: ☑ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED
Well cover present? ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked N/A
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:
Sloped away from casing? ☐ Yes ☑ No
Pad Area Cleared of Vegetation? ☑ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:
Inner Diameter (inches): 2
Condition: ☑ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☑ Yes ☐ No
Well lock present? ☑ Yes ☐ No
Lock functioning properly? ☑ Yes ☐ No
Are bollards present and stable? ☑ Yes ☐ No
Well ID visible? ☑ Yes ☐ No

WELL INTEGRITY:
Bailer present? ☐ Yes ☑ No
Visual obstruction? ☐ Yes ☑ No
Is well open to completed depth? (complete when gauging) ☑ Yes ☐ No
Is silt present in well? (complete when gauging) ☐ Yes ☑ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☑ No

COMMENTS:

01151871

WELL INSPECTION FORM

Job Name: Longhorn AAP
Job No.: 501032
Client: Army
Site Name: 50
Well ID: 50WW01
Inspection Date: 4-7-22
Well Completion Depth/Measured Depth: 23.23
Inspector: Derrick Berry

☑ ABOVE GROUND
Well Accessible? ☑ Yes ☐ No
Protective casing? ☑ Yes ☐ No
Material: PVC Stainless Steel
Condition: ☑ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☐ Good ☑ Broken ☑ Cracked
Hinge Condition: ☐ Good ☑ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED
Well cover present? N/A ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:
Sloped away from casing? ☐ Yes ☑ No
Pad Area Cleared of Vegetation? ☐ Yes ☑ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:
Inner Diameter (inches): 4
Condition: ☑ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☑ Yes ☐ No
Well lock present? ☑ Yes ☐ No
Lock functioning properly? ☐ Yes ☑ No
Are bollards present and stable? ☑ Yes ☐ No
Well ID visible? ☑ Yes ☐ No

WELL INTEGRITY:
Bailer present? ☐ Yes ☑ No
Visual obstruction? ☐ Yes ☑ No
Is well open to completed depth? (complete when gauging) ☑ Yes ☐ No
Is silt present in well? (complete when gauging) ☐ Yes ☑ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☐ No

COMMENTS:
hinge will not allow cover to close
Wasp present
needs clearing of vegetation around well & concrete pad

01151872

WELL INSPECTION FORM

Job Name: Longhorn AAP
Job No.: 501032
Client: Army
Site Name: 50
Well ID: 50NW25
Inspection Date: 4-7-22
Well Completion Depth/ Measured Depth: 57.81
Inspector: Derick Berry

☑ ABOVE GROUND

Well Accessible? ☑ Yes ☐ No
Protective casing? ☑ Yes ☐ No
Material: PVC
Condition: ☑ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☑ Good ☐ Broken ☐ Cracked
Hinge Condition: ☑ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED

Well cover present? ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked N/A
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☐ Yes ☑ No
Pad Area Cleared of Vegetation? ☐ Yes ☑ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches): 2
Condition: ☑ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☑ Yes ☐ No
Well lock present? ☑ Yes ☐ No
Lock functioning properly? ☐ Yes ☑ No
Are bollards present and stable? ☑ Yes ☐ No
Well ID visible? ☑ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☑ No
Visual obstruction? ☐ Yes ☑ No
Is well open to completed depth? (complete when gauging) ☑ Yes ☐ No
Is silt present in well? (complete when gauging) ☐ Yes ☑ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☑ No

COMMENTS:

Needs to be cleared of vegetation + needs new lock

01151873

WELL INSPECTION FORM

Job Name: Longhorn AAP
Job No.: 501032
Client:
Site Name:

Well ID: 50WW16
Inspection Date: 4-7-2022
Well Completion Depth/ Measured Depth: 38.02
Inspector: Derrick Berry

☑ ABOVE GROUND

Well Accessible? ☑ Yes ☐ No
Protective casing? ☑ Yes ☐ No
Material: PVC
Condition: ☑ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☑ Good ☐ Broken ☐ Cracked
Hinge Condition: ☑ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED

Well cover present? ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked N/A
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☑ Yes ☐ No
Pad Area Cleared of Vegetation? ☑ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches): 2
Condition: ☑ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☑ Yes ☐ No
Well lock present? ☑ Yes ☐ No
Lock functioning properly? ☐ Yes ☑ No
Are bollards present and stable? ☑ Yes ☐ No
Well ID visible? ☑ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☑ No
Visual obstruction? ☐ Yes ☑ No
Is well open to completed depth? (complete when gauging) ☑ Yes ☐ No
Is silt present in well? (complete when gauging) ☐ Yes ☑ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☑ No

COMMENTS:

Needs new lock

01151874

WELL INSPECTION FORM

Job Name: Longhorn AAP
Job No.: 501032
Client: Army
Site Name: 50

Well ID: 50WW23
Inspection Date: 4-7-22
Well Completion Depth/ Measured Depth: 37.82
Inspector: Derrick Berry

☑ ABOVE GROUND

Well Accessible? ☑ Yes ☐ No
Protective casing? ☑ Yes ☐ No
Material: PVC
Condition: ☑ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☑ Good ☐ Broken ☐ Cracked
Hinge Condition: ☑ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED

Well cover present? ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked N/A
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☑ Yes ☐ No
Pad Area Cleared of Vegetation? ☑ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches): 2
Condition: ☑ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☑ Yes ☐ No
Well lock present? ☑ Yes ☐ No
Lock functioning properly? ☐ Yes ☑ No
Are bollards present and stable? ☑ Yes ☐ No
Well ID visible? ☑ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☑ No
Visual obstruction? ~~☐ Yes ☑ No~~
Is well open to completed depth? (complete when gauging) ☑ Yes ☐ No
Is silt present in well? (complete when gauging) ☐ Yes ☑ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☑ No

COMMENTS:

Needs new lock

01151875

WELL INSPECTION FORM

Job Name: Longhorn AAP
Job No.: 501032
Client: Army
Site Name: 50
Well ID: 50WW28
Inspection Date: 4-7-2022
Well Completion Depth/ Measured Depth: 27.29
Inspector: Derrick Berry

☑ ABOVE GROUND

Well Accessible? ☑ Yes ☐ No
Protective casing? ☑ Yes ☐ No
Material: PVC
Condition: ☑ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☑ Good ☐ Broken ☐ Cracked
Hinge Condition: ☑ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED

Well cover present? ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked N/A
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☐ Yes ☑ No
Pad Area Cleared of Vegetation? ☐ Yes ☑ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches): 4
Condition: ☑ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☑ Yes ☐ No
Well lock present? ☑ Yes ☐ No
Lock functioning properly? ☐ Yes ☑ No
Are bollards present and stable? ☑ Yes ☐ No
Well ID visible? ☑ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☑ No
Visual obstruction? ☐ Yes ☑ No
Is well open to completed depth? (complete when gauging) ☑ Yes ☐ No
Is silt present in well? (complete when gauging) ☐ Yes ☑ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☑ No

COMMENTS:

Need new lock

01151876

WELL INSPECTION FORM

Job Name: Longhorn AAP
Job No.: 501032
Client: Army
Site Name: 50
Well ID: 50WW14
Inspection Date: 4-6-2022
Well Completion Depth/ Measured Depth: 60.66
Inspector: Derrick Berry

☑ ABOVE GROUND

Well Accessible? ☑ Yes ☐ No
Protective casing? ☑ Yes ☐ No
Material: PVC
Condition: ☑ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☑ Good ☐ Broken ☒ Cracked
Hinge Condition: ☑ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED

Well cover present? ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

N/A

CONCRETE PAD:

Sloped away from casing? ☑ Yes ☐ No
Pad Area Cleared of Vegetation? ☑ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches): 2.00
Condition: ☑ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☑ Yes ☐ No
Well lock present? ☑ Yes ☐ No
Lock functioning properly? ☑ Yes ☐ No
Are bollards present and stable? ☑ Yes ☐ No
Well ID visible? ☑ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☑ No
Visual obstruction? ☑ Yes ☐ No
Is well open to completed depth? (complete when gauging) ☑ Yes ☐ No
Is silt present in well? (complete when gauging) ☐ Yes ☑ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☑ No

COMMENTS:

01151877

WELL INSPECTION FORM

Job Name: Longhorn AAP
Job No.: 501032
Client: Army
Site Name: 50
Well ID: SOWW20
Inspection Date: 4-7-22
Well Completion Depth/ Measured Depth: 55.84
Inspector: Derrick Berry

☑ ABOVE GROUND
Well Accessible? ☑ Yes ☐ No
Protective casing? ☑ Yes ☐ No
Material: PVC
Condition: ☑ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☑ Good ☐ Broken ☐ Cracked
Hinge Condition: ☐ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED
Well cover present? ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked N/A
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:
Sloped away from casing? ☑ Yes ☐ No
Pad Area Cleared of Vegetation? ☑ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:
Inner Diameter (inches): 2
Condition: ☑ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☑ Yes ☐ No
Well lock present? ☑ Yes ☐ No
Lock functioning properly? ☐ Yes ☑ No
Are bollards present and stable? ☑ Yes ☐ No
Well ID visible? ☑ Yes ☐ No

WELL INTEGRITY:
Bailer present? ☐ Yes ☑ No
Visual obstruction? ☐ Yes ☑ No
Is well open to completed depth? (complete when gauging) ☑ Yes ☐ No
Is silt present in well? (complete when gauging) ☐ Yes ☑ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☑ No

COMMENTS:
Need new lock

Appendix C

Groundwater Sampling Forms

Note: The sample collection log for 50WW11 from the April 2022 sampling event was revised to correct a transcription error for the well screen interval.

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**
Project No: **501032**
Location ID: **50SW06**
Sampler(s): Scott Beesinger

FIELD CONDITIONS Cloudy

SAMPLING INFORMATION

Sample No: 50SW06-07 **DATE/TIME:** 7/7/21 1000 **Pump Inlet Depth:** NA

Sampling Method: **Sample Purpose: REG** **Sample Matrix: GW**

Appearance of Sample **Assoc. QC Samples** **Decontamination Procedures**

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	Perchlorate in Water by 6850	1 x 125 mL HDPE	Cool 4C
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing
Purging Method/Equipment: NA
Casing ID (in.): NA
Purge Start Date/Time: NA
Depth to Water - Initial (DTWi) (ft) NA
Purge End Date/Time: NA
Depth to Well Bottom (ft) NA
Discharge Tube Length: NA
PID Reading: NA
Screen Interval (ft): NA
Discharge Tube Diameter: NA
Immersible Layer: Y / (N)
Approximate depth of pump inlet*(ft): NA
Pump Start Time: NA
Ferrous Iron (Required Y or (N) _____ mg/L

APTIM

Sample Collection Log

Location ID: 50SW06 Sample No: 50SW06-~~1505~~2107-07

Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
		NO	SAMPLE	REQUIRED						

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **50WW05**

Sampler(s): Scott Baggenger

FIELD CONDITIONS Cloudy

SAMPLING INFORMATION

Sample No: 50WW05-210707 **DATE/TIME:** 7/7/21 0727 **Pump Inlet Depth:** 20.24

Sampling Method: LF **Sample Purpose:** REG **Sample Matrix:** GW

Appearance of Sample | **Assoc. QC Samples** | **Decontamination Procedures**

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	Perchlorate in Water by 6850	1 x 125 mL HDPE	Cool 4C
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Low flow/Bladder Pump

Casing ID (in.): 4"

Purge Start Date/Time: 7/7/21 0730

Depth to Water - Initial (DTWi) (ft) 17.12

Purge End Date/Time: 7/7/21 0800

Depth to Well Bottom (ft) 25.32

Discharge Tube Length: NA PID Reading: NA

Screen Interval (ft): 15.24 - 25.24

Discharge Tube Diameter: 1/4" Immersible Layer: Y / (N)

Approximate depth of pump inlet*(ft): 20.24

Pump Start Time: 0730

Ferrous Iron (Required Y or (N)) _____ mg/L

2ND Depth to water - 17.12

APTIM

Sample Collection Log

Location ID: 50WW05 Sample No: 50WW05-210707

Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
7/7/21	0735	100	.5	17.18	1.79	19.84	7.03	5.7	113	1.10
	0740	100	1.0	17.23	1.80	19.27	6.53	4.1	104	0.90
	0745	100	1.5	17.26	1.80	19.17	6.32	3.9	104	0.78
	0750	100	2.0	17.28	1.81	19.12	6.31	3.7	103	0.77
	0755	100	2.5	17.29	1.80	19.07	6.31	3.5	102	0.76
↓	0800	100	3.0	17.29	1.80	19.03	6.30	3.3	102	0.76

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **50WW06**

Sampler(s): Scott Baggenger

FIELD CONDITIONS Clear

SAMPLING INFORMATION

Sample No: 50WW06-210708 **DATE/TIME:** 7/8/21 0901 **Pump Inlet Depth:** 52.80

Sampling Method: LF **Sample Purpose:** REG **Sample Matrix:** GW

Appearance of Sample | **Assoc. QC Samples** | **Decontamination Procedures**

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	Anions (chloride/nitrate/sulfate) in Water by SW9056	1 x 125 mL HPDE	Cool 4C
		ALSHT	Carbon Dioxide in Water by RSK175	3 x 40 mL Glass	Cool 4C
		ALSHT	Dissolved Gases in Water by RSK175	3 x 40 mL Glass	HCL<pH2
		ALSHT	Perchlorate in Water by 6850	1 x 125 mL HDPE	Cool 4C
		ALSHT	TOC in Water by SM5310C	2 x 40 mL Amber	H2SO4
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2
		MI	DHC in Water-CENSUS-qPCR	1 x 1 L HDPE	Cool 4C

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Low flow/Bladder Pump

Casing ID (in.): 4"

Purge Start Date/Time: 7/8/21 0910

Depth to Water - Initial (DTWi) (ft) 15.17

Purge End Date/Time: 7/8/21 0940

Depth to Well Bottom (ft) 58.02

Discharge Tube Length: NA

PID Reading: NA

Screen Interval (ft): 47.85-57.75

Discharge Tube Diameter: 1/4"

Immersible Layer: Y (N)

Approximate depth of pump inlet*(ft): 52.80

Pump Start Time: 0910

Ferrous Iron (Required (Y) or N) 0.39 mg/L

2ND Depth To water- 15.17

APTIM

Sample Collection Log

Location ID: 50WW06 Sample No: 50WW06-210705

Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
7/8/21	0915	100	.5	15.25	0.249	20.20	6.73	10.9	148	1.39
	0920	100	1.0	15.30	0.240	20.08	6.70	9.3	157	1.10
	0925	100	1.5	15.33	0.236	20.01	6.61	9.0	165	0.96
	0930	100	2.0	15.35	0.235	19.98	6.60	8.7	165	0.95
	0935	100	2.5	15.37	0.235	19.95	6.60	8.3	166	0.93
↓	0940	100	3.0	15.38	0.235	19.93	6.59	7.9	166	0.91

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Location ID: **50WW06**

Project No: **501032**

Sampler(s): Scott Baggenegar

FIELD CONDITIONS

CLEAR

SAMPLING INFORMATION

Sample No: 50WW06-210708-MS **DATE/TIME:** 7/8/21 0901 **Pump Inlet Depth:** 52.80

Sampling Method: LF **Sample Purpose:** MS **Sample Matrix:** GW

Appearance of Sample | **Assoc. QC Samples** | **Decontamination Procedures**

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	Anions (chloride/nitrate/sulfate) in Water by SW9056	1 x 125 mL HPDE	Cool 4C
		ALSHT	Carbon Dioxide in Water by RSK175	3 x 40 mL Glass	Cool 4C
		ALSHT	Dissolved Gases in Water by RSK175	3 x 40 mL Glass	HCL<pH2
		ALSHT	Perchlorate in Water by 6850	1 x 125 mL HDPE	Cool 4C
		ALSHT	TOC in Water by SM5310C	2 x 40 mL Amber	H2SO4
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Low Flow/BLADDER Pump

Casing ID (in.): 4"

Purge Start Date/Time: 7/8/21 0910

Depth to Water - Initial (DTWi) (ft) 15.17

Purge End Date/Time: 7/8/21 0940

Depth to Well Bottom (ft) 58.02

Discharge Tube Length: NA

PID Reading: NA

Screen Interval (ft): 47.85-57.75

Discharge Tube Diameter: 1/4"

Immersible Layer: Y / (N)

Approximate depth of pump inlet*(ft): 52.80

Pump Start Time: 0910

Ferrous Iron (Required (Y) or N) 0.39 mg/L

2ND DEPTH TO WATER- 15.17

APTIM

Sample Collection Log

Location ID: 50WW06		Sample No: 50WW06-210708-MS								
Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
7/8/21	0915	100	1.5	15.25	0.249	20.20	6.73	10.9	148	1.34
	0920	100	1.0	15.30	0.240	20.08	6.70	9.3	157	1.10
	0925	100	1.5	15.33	0.236	20.01	6.61	9.0	165	0.96
	0930	100	2.0	15.35	0.235	19.98	6.60	8.7	165	0.95
	0935	100	2.5	15.37	0.235	19.95	6.60	8.3	166	0.93
↓	0940	100	3.0	15.38	0.235	19.93	6.59	7.9	166	0.91

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **50WW06**

Sampler(s): Scott Baysinger

FIELD CONDITIONS

Clear

SAMPLING INFORMATION

Sample No: 50WW06-210708-MSD **DATE/TIME:** 7/8/21 0901 **Pump Inlet Depth:** 52.80

Sampling Method: LF **Sample Purpose:** MSD **Sample Matrix:** GW

Appearance of Sample | **Assoc. QC Samples** | **Decontamination Procedures**

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	Anions (chloride/nitrate/sulfate) in Water by SW9056	1 x 125 mL HPDE	Cool 4C
		ALSHT	Carbon Dioxide in Water by RSK175	3 x 40 mL Glass	Cool 4C
		ALSHT	Dissolved Gases in Water by RSK175	3 x 40 mL Glass	HCL<pH2
		ALSHT	Perchlorate in Water by 6850	1 x 125 mL HDPE	Cool 4C
		ALSHT	TOC in Water by SM5310C	2 x 40 mL Amber	H2SO4
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Low flow/Bladder Pump

Casing ID (in.): 4"

Purge Start Date/Time: 7/8/21 0910

Depth to Water - Initial (DTWi) (ft) 15.17

Purge End Date/Time: 7/8/21 0940

Depth to Well Bottom (ft) 58.02

Discharge Tube Length: NA PID Reading: NA

Screen Interval (ft): 47.85-57.75

Discharge Tube Diameter: 1/4" Immersible Layer: Y (N)

Approximate depth of pump inlet*(ft): 52.80

Pump Start Time: 0910

Ferrous Iron (Required (Y) or N) 0.39 mg/L

2ND DEPTH TO WATER - 15.17

APTIM

Sample Collection Log

Location ID: 50WW06		Sample No: 50WW06-210708-MSD								
Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
7/8/21	0915	100	.5	15.25	0.249	20.20	6.73	10.9	148	1.39
	0920	100	1.0	15.30	0.240	20.08	6.70	9.3	157	1.10
	0925	100	1.5	15.33	0.236	20.01	6.61	9.0	165	0.96
	0930	100	2.0	15.35	0.235	19.98	6.60	8.7	165	0.95
	0935	100	2.5	15.37	0.235	19.95	6.60	8.3	166	0.93
↓	0940	100	3.0	15.38	0.235	19.93	6.59	7.9	166	0.91

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **50WW08**

Sampler(s): Scott Baggsinger

FIELD CONDITIONS Cloudy

SAMPLING INFORMATION

Sample No: 50WW08-210707 **DATE/TIME:** 7/7/21 0637 **Pump Inlet Depth:** 24.41

Sampling Method: LF **Sample Purpose:** REG **Sample Matrix:** GW

Appearance of Sample **Assoc. QC Samples** **Decontamination Procedures**

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	Perchlorate in Water by 6850	1 x 125 mL HDPE	Cool 4C
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Low flow/BLADDER Pump

Casing ID (in.): 2"

Purge Start Date/Time: 7/7/21 0645

Depth to Water - Initial (DTWi) (ft) 19.10

Purge End Date/Time: 7/7/21 0715

Depth to Well Bottom (ft) 32.75

Discharge Tube Length: NA PID Reading: NA

Screen Interval (ft): 17.11 - 31.71

Discharge Tube Diameter: 1/4" Immersible Layer: Y (N)

Approximate depth of pump inlet*(ft): 24.41

Pump Start Time: 0645

Ferrous Iron (Required Y or (N)) _____ mg/L

2ND DEPTH TO WATER - 19.10

APTIM

Sample Collection Log

Location ID: 50WW08 Sample No: 50WW08-210707

Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
7/7/21	0650	100	.5	19.17	2.32	21.87	7.00	41.5	143	1.88
	0655	100	1.0	19.23	2.30	20.62	6.21	35.7	154	1.49
	0700	100	1.5	19.27	2.29	20.23	6.10	33.6	159	1.42
	0705	100	2.0	19.29	2.29	20.18	6.09	33.1	160	1.40
	0710	100	2.5	19.31	2.28	20.13	6.08	32.7	160	1.38
↓	0715	100	3.0	19.32	2.28	20.09	6.08	32.3	161	1.37

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **50WW11**

Sampler(s): Scott Baesinger

FIELD CONDITIONS CLEAR

SAMPLING INFORMATION

Sample No: 50WW11-210708 **DATE/TIME:** 7/8/21 0806 **Pump Inlet Depth:** 29.80

Sampling Method: LF **Sample Purpose:** REG **Sample Matrix:** GW

Appearance of Sample **Assoc. QC Samples** **Decontamination Procedures**

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	Anions (chloride/nitrate/sulfate) in Water by SW9056	1 x 125 mL HPDE	Cool 4C
		ALSHT	Carbon Dioxide in Water by RSK175	3 x 40 mL Glass	Cool 4C
		ALSHT	Dissolved Gases in Water by RSK175	3 x 40 mL Glass	HCL<pH2
		ALSHT	Perchlorate in Water by 6850	1 x 125 mL HDPE	Cool 4C
		ALSHT	TOC in Water by SM5310C	2 x 40 mL Amber	H2SO4
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2
		MI	DHC in Water-CENSUS-qPCR	1 x 1 L HDPE	Cool 4C

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Low flow/BLADDER Pump

Casing ID (in.): 2"

Purge Start Date/Time: 7/8/21 0815

Depth to Water - Initial (DTWi) (ft) 16.77

Purge End Date/Time: 7/8/21 0845

Depth to Well Bottom (ft) 37.79

Discharge Tube Length: NA PID Reading: NA

Screen Interval (ft): 22.55-37.05

Discharge Tube Diameter: 1/4" Immersible Layer: Y / (N)

Approximate depth of pump inlet*(ft): 29.80

Pump Start Time: 0815

Ferrous Iron (Required (Y) or N) 0.67 mg/L

2ND DEPTH TO WATER- 16.77

APTIM

Sample Collection Log

Location ID: 50WW11		Sample No: 50WW11-2107 08								
Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
7/8/21	0820	100	.5	16.85	1.90	20.33	6.32	65.6	137	2.23
	0825	100	1.0	16.91	1.89	19.78	5.98	58.4	177	1.97
	0830	100	1.5	16.95	1.86	19.74	5.99	54.8	175	1.85
	0835	100	2.0	16.98	1.86	19.70	6.00	54.4	174	1.83
	0840	100	2.5	17.00	1.85	19.66	6.00	53.7	174	1.81
↓	0845	100	3.0	17.02	1.85	19.63	6.00	53.2	174	1.79

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **50WW11**

Sampler(s): Scott Beesinger

FIELD CONDITIONS Clear

SAMPLING INFORMATION

Sample No: 50WW11-210708-FD **DATE/TIME:** 7/8/21 0806 **Pump Inlet Depth:** 29.80

Sampling Method: LF **Sample Purpose:** FD **Sample Matrix:** GW

Appearance of Sample **Assoc. QC Samples** **Decontamination Procedures**

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	Anions (chloride/nitrate/sulfate) in Water by SW9056	1 x 125 mL HPDE	Cool 4C
		ALSHT	Carbon Dioxide in Water by RSK175	3 x 40 mL Glass	Cool 4C
		ALSHT	Dissolved Gases in Water by RSK175	3 x 40 mL Glass	HCL<pH2
		ALSHT	Perchlorate in Water by 6850	1 x 125 mL HDPE	Cool 4C
		ALSHT	TOC in Water by SM5310C	2 x 40 mL Amber	H2SO4
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Low flow/BLADDER Pump

Casing ID (in.): 2"

Purge Start Date/Time: 7/8/21 0815

Depth to Water - Initial (DTWi) (ft) 16.77

Purge End Date/Time: 7/8/21 0845

Depth to Well Bottom (ft) 37.79

Discharge Tube Length: NA PID Reading: NA

Screen Interval (ft): 22.55 - 37.05

Discharge Tube Diameter: 1/4" Immersible Layer: Y / (N)

Approximate depth of pump inlet*(ft): 29.80

Pump Start Time: 0815

Ferrous Iron (Required (Y) or N) 0.67 mg/L

2ND DEPTH TO WATER - 16.77

APTIM

Sample Collection Log

Location ID: 50WW11				Sample No: 50WW11-210708-FD						
Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
7/8/21	0820	100	.5	16.85	1.90	20.33	6.32	65.6	137	2.23
	0825	100	1.0	16.91	1.89	19.78	5.98	58.4	177	1.97
	0830	100	1.5	16.95	1.86	19.74	5.99	54.8	175	1.85
	0835	100	2.0	16.98	1.86	19.70	6.00	54.4	174	1.83
	0840	100	2.5	17.00	1.85	19.66	6.00	53.7	174	1.81
↓	0845	100	3.0	17.02	1.85	19.63	6.00	53.2	174	1.79

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **50WW12**

Sampler(s): Scott Beggs, Nagar

FIELD CONDITIONS

Clear

SAMPLING INFORMATION

Sample No: 50WW12-210708 **DATE/TIME:** 7/8/21 1002 **Pump Inlet Depth:** 29.75

Sampling Method: LF **Sample Purpose:** REG **Sample Matrix:** GW

Appearance of Sample | **Assoc. QC Samples** | **Decontamination Procedures**

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	Anions (chloride/nitrate/sulfate) in Water by SW9056	1 x 125 mL HPDE	Cool 4C
		ALSHT	Carbon Dioxide in Water by RSK175	3 x 40 mL Glass	Cool 4C
		ALSHT	Dissolved Gases in Water by RSK175	3 x 40 mL Glass	HCL<pH2
		ALSHT	Perchlorate in Water by 6850	1 x 125 mL HDPE	Cool 4C
		ALSHT	TOC in Water by SM5310C	2 x 40 mL Amber	H2SO4
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2
		MI	DHC in Water-CENSUS-qPCR	1 x 1 L HDPE	Cool 4C

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Low Flow/Bladder Pump

Casing ID (in.): 2"

Purge Start Date/Time: 7/8/21 1010

Depth to Water - Initial (DTWi) (ft) 15.88

Purge End Date/Time: 7/8/21 1040

Depth to Well Bottom (ft) 37.91

Discharge Tube Length: NA PID Reading: NA

Screen Interval (ft): 22.50 - 37.00

Discharge Tube Diameter: 1/4" Immersible Layer: Y (N)

Approximate depth of pump inlet*(ft): 29.75

Pump Start Time: 1010

Ferrous Iron (Required (Y) or N) 0.53 mg/L

2ND Depth to water - 15.88

APTIM

Sample Collection Log

Location ID: 50WW12		Sample No: 50WW12-210708								
Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
7/8/21	1015	100	.5	17.95	4.28	21.51	6.57	57.8	188	1.27
	1020	100	1.0	18.01	4.33	21.18	6.02	51.5	197	1.01
	1025	100	1.5	18.05	4.34	20.80	5.83	47.8	207	0.86
	1030	100	2.0	18.08	4.34	20.76	5.82	47.2	208	0.84
	1035	100	2.5	18.10	4.35	20.71	5.81	46.7	208	0.85
↓	1040	100	3.0	18.12	4.35	20.66	5.80	46.3	209	0.84

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **50WW13**

Sampler(s): Scott Beesinger

FIELD CONDITIONS CLEAR

SAMPLING INFORMATION

Sample No: 50WW13-210708 **DATE/TIME:** 7/8/21 0724 **Pump Inlet Depth:** 29.70

Sampling Method: LF **Sample Purpose:** REG **Sample Matrix:** GW

Appearance of Sample | **Assoc. QC Samples** | **Decontamination Procedures**

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	Anions (chloride/nitrate/sulfate) in Water by SW9056	1 x 125 mL HPDE	Cool 4C
		ALSHT	Carbon Dioxide in Water by RSK175	3 x 40 mL Glass	Cool 4C
		ALSHT	Dissolved Gases in Water by RSK175	3 x 40 mL Glass	HCL<pH2
		ALSHT	Perchlorate in Water by 6850	1 x 125 mL HDPE	Cool 4C
		ALSHT	TOC in Water by SM5310C	2 x 40 mL Amber	H2SO4
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2
		MI	DHC in Water-CENSUS-qPCR	1 x 1 L HDPE	Cool 4C

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Low flow Bladder Pump

Casing ID (in.): 2"

Purge Start Date/Time: 7/8/21 0725

Depth to Water - Initial (DTWi) (ft) 17.13

Purge End Date/Time: 7/8/21 0755

Depth to Well Bottom (ft) 37.63

Discharge Tube Length: NA PID Reading: NA

Screen Interval (ft): 22.44 - 36.94

Discharge Tube Diameter: 1/4" Immersible Layer: Y (N)

Approximate depth of pump inlet*(ft): 29.70

Pump Start Time: 0725

Ferrous Iron (Required (Y) or N) 0.60 mg/L

2ND DEPTH TO WATER - 17.13

APTIM

Sample Collection Log

Location ID: 50WW13		Sample No: 50WW13-210708								
Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
7/8/21	0730	100	.5	17.20	2.17	19.69	6.55	141	65	1.29
	0735	100	1.0	17.26	2.15	19.30	6.33	121	125	1.13
	0740	100	1.5	17.30	2.15	19.26	6.22	104	127	1.02
	0745	100	2.0	17.32	2.14	19.22	6.21	103	128	1.00
	0750	100	2.5	17.34	2.15	19.18	6.20	103	129	0.98
↓	0755	100	3.0	17.36	2.15	19.16	6.20	102	129	0.97

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **50WW14**

Sampler(s): Scott Beesinger

FIELD CONDITIONS Clear

SAMPLING INFORMATION

Sample No: 50WW14-210708 **DATE/TIME:** 7/8/21 0630 **Pump Inlet Depth:** 53.00

Sampling Method: LF **Sample Purpose:** REG **Sample Matrix:** GW

Appearance of Sample | **Assoc. QC Samples** | **Decontamination Procedures**

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	Anions (chloride/nitrate/sulfate) in Water by SW9056	1 x 125 mL HPDE	Cool 4C
		ALSHT	Carbon Dioxide in Water by RSK175	3 x 40 mL Glass	Cool 4C
		ALSHT	Dissolved Gases in Water by RSK175	3 x 40 mL Glass	HCL<pH2
		ALSHT	Perchlorate in Water by 6850	1 x 125 mL HDPE	Cool 4C
		ALSHT	TOC in Water by SM5310C	2 x 40 mL Amber	H2SO4
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2
		MI	DHC in Water-CENSUS-qPCR	1 x 1 L HDPE	Cool 4C

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Low Flow/Bladder Pump

Casing ID (in.): 2"

Purge Start Date/Time: 7/8/21 0640

Depth to Water - Initial (DTWi) (ft) 17.38

Purge End Date/Time: 7/8/21 0710

Depth to Well Bottom (ft) 59.70

Discharge Tube Length: NA

PID Reading: NA

Screen Interval (ft): 45.78 - 60.28

Discharge Tube Diameter: 1/4"

Immersible Layer: Y / (N)

Approximate depth of pump inlet*(ft): 53.00

Pump Start Time: 0640

Ferrous Iron (Required (Y) or N) 1.49 mg/L

2ND Depth to water - 17.38

APTIM

Sample Collection Log

Location ID: 50WW14		Sample No: 50WW14-210708								
Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
7/8/21	0645	100	.5	17.45	2.27	~~20.52~~	6.40	233	55	1.75
	0650	100	1.0	17.51	2.25	19.70	6.00	214	46	1.41
	0655	100	1.5	17.55	2.25	19.59	5.88	199	46	1.28
	0700	100	2.0	17.57	2.24	19.55	5.88	198	47	1.26
	0705	100	2.5	17.59	2.24	19.51	5.87	197	47	1.24
↓	0710	100	3.0	17.60	2.24	19.47	5.87	196	47	1.23

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **50WW29**

Sampler(s): Scott Bassinger

FIELD CONDITIONS Cloudy

SAMPLING INFORMATION

Sample No: 50WW29-210707 **DATE/TIME:** 7/7/21 0807 **Pump Inlet Depth:** 27.80

Sampling Method: LF **Sample Purpose:** REG **Sample Matrix:** GW

Appearance of Sample | **Assoc. QC Samples** | **Decontamination Procedures**

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	Perchlorate in Water by 6850	1 x 125 mL HDPE	Cool 4C
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Low flow/BLADDER Pump

Casing ID (in.): 2"

Purge Start Date/Time: 7/7/21 0815

Depth to Water - Initial (DTWi) (ft) 16.27

Purge End Date/Time: 7/7/21 0845

Depth to Well Bottom (ft) 38.10

Discharge Tube Length: NA PID Reading: NA

Screen Interval (ft): 17.80 - 37.80

Discharge Tube Diameter: 1/4" Immersible Layer: Y / (N)

Approximate depth of pump inlet*(ft): 27.80

Pump Start Time: 0815

Ferrous Iron (Required Y or (N) _____ mg/L

2ND DEPTH TO WATER- 16.27

APTIM

Sample Collection Log

Location ID: 50WW29		Sample No: 50WW29-210707								
Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
7/7/21	0820	100	.5	16.35	3.99	19.12	6.27	32.4	93	1.04
	0825	100	1.0	16.41	4.00	18.58	5.97	26.1	103	0.88
	0830	100	1.5	16.45	3.98	18.47	5.90	23.6	105	0.80
	0835	100	2.0	16.47	3.98	18.42	5.89	23.2	105	0.79
	0840	100	2.5	16.49	3.97	18.39	5.88	22.7	106	0.78
↓	0845	100	3.0	16.50	3.97	18.35	5.88	22.2	106	0.77

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

Depth to water, LHAAP-50

Well I.D	Aquifer	Gauging Date	Top of Casing Elevation	Ground Surface Elevation	TOC- GS	Depth to Water (ft BTOC)	Measured Well Depth (ft BTOC)	Screen Interval (ft from TOC) Top	Screen Interval (ft from TOC) Bottom	Notes	Groundwater Elevation (ft msl)
50WW01	Upper Shallow	7/7/21	198.5	195.29	3.21	17.77	23.23	13.21	23.21	Gauge only	
50WW02	Upper Shallow	7/7/21	200.74	197.40	3.34	20.09	22.22	12.34	22.34	Gauge only	
50WW03	Upper Shallow	7/7/21	202.94	199.88	3.06	20.85	23.04	13.06	23.06	Gauge only	
50WW04	Upper Shallow	7/7/21	204.51	201.64	2.87	22.95	23.18	12.87	22.87	Gauge only	
50WW05	Upper Shallow	7/7/21	197.60	195.2	2.40	17.12	25.32	14.34	24.34	Gauge and Sample	
50WW06	Lower Shallow	7/8/21	195.35	192.99	2.36	15.17	58.02	47.35	57.35	Gauge and Sample	
50WW07	Upper Shallow	7/7/21	202.55	199.88	2.67	22.97	31.80	21.67	31.67	Gauge only	
50WW08	Upper Shallow	7/7/21	199.67	197.16	2.51	19.10	32.75	17.11	31.71	Gauge and Sample	
50WW09	Lower Shallow	7/7/21	199.41	197.06	2.35	18.89	62.47	46.75	61.25	Gauge only	
50WW10	Intermediate	7/7/21	199.25	196.72	2.53	22.61	111.26	101.43	110.93	Gauge only	
50WW11	Upper Shallow	7/8/21	197.07	194.72	2.35	16.77	37.79	22.55	37.05	Gauge and Sample	
50WW12	Upper Shallow	7/8/21	195.66	193.26	2.4	15.88	37.91	22.5	37	Gauge and Sample	
50WW13	Upper Shallow	7/8/21	197.45	195.01	2.44	17.13	37.63	22.44	36.94	Gauge and Sample	
50WW14	Lower Shallow	7/8/21	197.52	195.14	2.38	17.38	59.70	45.78	60.28	Gauge and Sample	
50WW15	Upper Shallow	7/7/21	196.3	193.95	2.35	15.80	37.88	22.25	36.75	Gauge only	
50WW16	Upper Shallow	7/7/21	196.66	194.1	2.56	16.69	37.45	22.66	37.16	Gauge only	
50WW17	Fully Screened Shallow	7/7/21	195.13	192.73	2.4	16.88	66.27	22.3	66.8	Gauge only	
50WW18	Upper Shallow	7/7/21	194.84	192.57	2.27	17.29	37.03	22.37	36.87	Gauge only	
50WW19	Fully Screened Shallow	7/7/21	195.96	193.71	2.25	16.71	65.00	21.35	65.85	Gauge only	
50WW20	Fully Screened Shallow	7/7/21	202.54	200.3	2.24	21.41	55.85	20.54	55.04	Gauge only	
50WW21	Upper Shallow	7/7/21	200.14	197.68	2.46	20.03	37.64	22.36	36.86	Gauge only	
50WW22	Upper Shallow	7/7/21	202.1	199.93	2.17	21.72	37.82	21.97	36.57	Gauge only	
50WW23	Upper Shallow	7/7/21	200.75	198.33	2.42	20.87	37.82	22.42	36.92	Gauge only	
50WW24	Upper Shallow	7/7/21	201.63	199.37	2.26	22.83	38.02	22.66	37.16	Gauge only	
50WW25	Lower Shallow	7/7/21	195.98	193.48	2.5	17.73	56.67	47.5	56.9	Gauge only	
50WW26	Lower Shallow	7/7/21	200.07	197.68	2.39	20.00	62.80	47.49	61.99	Gauge only	
50WW27	Lower Shallow	7/7/21	196.22	193.84	2.38	15.73	59.95	45.28	59.78	Gauge only	
50WW28	Lower shallow	7/7/21	194.71	192.04	2.67	13.31	27.05	16.57	26.57	Gauge only	
50WW29	Upper Shallow	7/7/21	195.63	192.18	3.45	16.27	38.10	23.45	38.45	Gauge and Sample	

Please make sure at 50WW06 the inlet depth is set between 52.8 and 53 ft btoc

All the welll screen intervals have been checked against the master well list from database and revised accordingly

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **50WW05**

Sampler(s): Scott Beasinger

FIELD CONDITIONS

Clear

SAMPLING INFORMATION

Sample No: 50WW05-211007 **DATE/TIME:** 10/7/21 1238 **Pump Inlet Depth:** 19.34

Sampling Method: LF **Sample Purpose:** REG **Sample Matrix:** GW

Appearance of Sample	Assoc. QC Samples	Decontamination Procedures

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	Perchlorate in Water by 6850	1 x 125 mL HDPE	Cool 4C
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Low flow/Bladder Pump

Casing ID (in.): 4"

Purge Start Date/Time: 10/7/21 1245

Depth to Water - Initial (DTWi) (ft) 18.87

Purge End Date/Time: 10/7/21 1315

Depth to Well Bottom (ft) 25.30

Discharge Tube Length: NA PID Reading: NA

Screen Interval (ft): 14.34 - 24.34

Discharge Tube Diameter: 1/4" Immersible Layer: Y / (N)

Approximate depth of pump inlet*(ft): 19.34

Pump Start Time: 1245

Ferrous Iron (Required Y or (N)) _____ mg/L

2ND DTW - 18.87

APTIM

Sample Collection Log

Location ID: 50WW05 Sample No: 50WW05-211007

Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
10/7/21	1250	100	.5	18.95	0.837	23.30	6.49	0.0	120	0.77
	1255	100	1.0	19.00	0.800	23.25	6.17	0.0	122	0.41
	1300	100	1.5	19.03	0.780	23.22	6.08	0.0	122	0.36
	1305	100	2.0	19.05	0.780	23.20	6.07	0.0	123	0.35
	1310	100	2.5	19.07	0.779	23.19	6.06	0.0	123	0.35
↓	1315	100	3.0	19.09	0.779	23.18	6.06	0.0	123	0.34

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **50WW06**

Sampler(s): Scott Buesinger

FIELD CONDITIONS Clear

SAMPLING INFORMATION

Sample No: 50WW06-211007 **DATE/TIME:** 10/7/21 1000 **Pump Inlet Depth:** ~~52.80~~ 52.80

Sampling Method: LF **Sample Purpose:** REG **Sample Matrix:** GW

Appearance of Sample | **Assoc. QC Samples** | **Decontamination Procedures**

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	Anions (chloride/nitrate/sulfate) in Water by SW9056	1 x 125 mL HPDE	Cool 4C
		ALSHT	Carbon Dioxide in Water by RSK175	3 x 40 mL Glass	Cool 4C
		ALSHT	Dissolved Gases in Water by RSK175	3 x 40 mL Glass	HCL<pH2
		ALSHT	Perchlorate in Water by 6850	1 x 125 mL HDPE	Cool 4C
		ALSHT	TOC in Water by SW9060	2 x 40 mL Amber	H2SO4
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2
		MI	DHC in Water-CENSUS-qPCR	1 x 1 L HDPE	Cool 4C

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Low flow/BLADDER Pump

Casing ID (in.): 4"

Purge Start Date/Time: 10/7/21 1005

Depth to Water - Initial (DTWi) (ft) 16.62

Purge End Date/Time: 10/7/21 1035

Depth to Well Bottom (ft) 58.02

Discharge Tube Length: NA

PID Reading: NA

Screen Interval (ft): 47.35 - 57.35

Discharge Tube Diameter: 1/4"

Immersible Layer: Y / (N)

Approximate depth of pump inlet*(ft): 52.80

Pump Start Time: 1005

Ferrous Iron (Required) Y or N) 2.35 mg/L

2ND DTW - 16.62

APTIM

Sample Collection Log

Location ID: 50WW06		Sample No: 50WW06-211007								
Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
10/7/21	1010	100	.5	16.69	0.229	19.04	5.64	7.7	78	0.75
	1015	100	1.0	16.75	0.195	19.00	5.09	5.6	40	0.31
	1020	100	1.5	16.79	0.185	19.00	4.86	5.2	31	0.20
	1025	100	2.0	16.81	0.184	19.01	4.85	4.8	30	0.19
	1030	100	2.5	16.83	0.184	19.02	4.85	4.5	29	0.19
↓	1035	100	3.0	16.84	0.184	19.02	4.84	4.3	29	0.19

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **50WW06**

Sampler(s): Scott Beggs, NG4R

FIELD CONDITIONS Clear

SAMPLING INFORMATION

Sample No: 50WW06-211007-MS **DATE/TIME:** 10/7/21 1000 **Pump Inlet Depth:** 52.80

Sampling Method: LF **Sample Purpose:** MS **Sample Matrix:** GW

Appearance of Sample	Assoc. QC Samples	Decontamination Procedures

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	Anions (chloride/nitrate/sulfate) in Water by SW9056	1 x 125 mL HPDE	Cool 4C
		ALSHT	Carbon Dioxide in Water by RSK175	3 x 40 mL Glass	Cool 4C
		ALSHT	Dissolved Gases in Water by RSK175	3 x 40 mL Glass	HCL<pH2
		ALSHT	Perchlorate in Water by 6850	1 x 125 mL HDPE	Cool 4C
		ALSHT	TOC in Water by SW9060	2 x 40 mL Amber	H2SO4
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Low flow/BLADDER Pump

Casing ID (in.): 4"

Purge Start Date/Time: 10/7/21 1005

Depth to Water - Initial (DTWi) (ft) 16.62

Purge End Date/Time: 10/7/21 1035

Depth to Well Bottom (ft) 58.02

Discharge Tube Length: NA

PID Reading: NA

Screen Interval (ft): 47.35-57.35

Discharge Tube Diameter: 1/4"

Immersible Layer: Y / (N)

Approximate depth of pump inlet*(ft): 52.80

Pump Start Time: 1005

Ferrous Iron (Required (Y) or N) 2.35 mg/L

2ND DTW- 16.62

APTIM

Sample Collection Log

Location ID: 50WW06		Sample No: 50WW06-211007-MS								
Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
10/7/21	1010	100	.5	16.69	0.229	19.04	5.64	7.7	78	0.75
	1015	100	1.0	16.75	0.195	19.00	5.09	5.6	40	0.31
	1020	100	1.5	16.79	0.185	19.00	4.86	5.2	31	0.20
	1025	100	2.0	16.81	0.184	19.01	4.85	4.8	30	0.19
	1030	100	2.5	16.83	0.184	19.02	4.85	4.5	29	0.19
↓	1035	100	3.0	16.84	0.184	19.02	4.84	4.3	29	0.19

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **50WW06**

Sampler(s): Scott Bassinger

FIELD CONDITIONS Clear

SAMPLING INFORMATION

Sample No: 50WW06-211007-MSD **DATE/TIME:** 10/7/21 1000 **Pump Inlet Depth:** 52.80

Sampling Method: LF **Sample Purpose:** MSD **Sample Matrix:** GW

Appearance of Sample | **Assoc. QC Samples** | **Decontamination Procedures**

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	Anions (chloride/nitrate/sulfate) in Water by SW9056	1 x 125 mL HPDE	Cool 4C
		ALSHT	Carbon Dioxide in Water by RSK175	3 x 40 mL Glass	Cool 4C
		ALSHT	Dissolved Gases in Water by RSK175	3 x 40 mL Glass	HCL<pH2
		ALSHT	Perchlorate in Water by 6850	1 x 125 mL HDPE	Cool 4C
		ALSHT	TOC in Water by SW9060	2 x 40 mL Amber	H2SO4
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Low flow/Bladder Pump

Casing ID (in.): 4"

Purge Start Date/Time: 10/7/21 1005

Depth to Water - Initial (DTWi) (ft) 16.62

Purge End Date/Time: 10/7/21 1035

Depth to Well Bottom (ft) 58.02

Discharge Tube Length: NA PID Reading: NA

Screen Interval (ft): 47.35 - 57.35

Discharge Tube Diameter: 1/4" Immersible Layer: Y (N)

Approximate depth of pump inlet*(ft): 52.80

Pump Start Time: 1005

Ferrous Iron (Required (Y) or N) 2.35 mg/L

2ND DTW - 16.62

APTIM

Sample Collection Log

Location ID: 50WW06		Sample No: 50WW06-211007-MSD								
Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
10/7/21	1010	100	.5	16.69	0.229	19.04	5.64	7.7	78	0.75
	1015	100	1.0	16.75	0.195	19.00	5.09	5.6	40	0.31
	1020	100	1.5	16.79	0.185	19.00	4.86	5.2	31	0.20
	1025	100	2.0	16.81	0.184	19.01	4.85	4.8	30	0.19
	1030	100	2.5	16.83	0.184	19.02	4.85	4.5	29	0.19
↓	1035	100	3.0	16.84	0.184	19.02	4.84	4.3	29	0.19

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **50WW08**

Sampler(s): Scott Beesinger

FIELD CONDITIONS Cloudy

SAMPLING INFORMATION

Sample No: 50WW08-211011 **DATE/TIME:** 10/11/21 0802 **Pump Inlet Depth:** 24.41

Sampling Method: LF **Sample Purpose:** REG **Sample Matrix:** GW

Appearance of Sample **Assoc. QC Samples** **Decontamination Procedures**

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		~~ALSHT~~ MICROBAC	Perchlorate in Water by 6850	1 x 125 mL HDPE	Cool 4C
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Low flow/BLADDER Pump

Casing ID (in.): 2"

Purge Start Date/Time: 10/11/21 0805

Depth to Water - Initial (DTWi) (ft) 20.67

Purge End Date/Time: 10/11/21 0835

Depth to Well Bottom (ft) 32.72

Discharge Tube Length: NA PID Reading: NA

Screen Interval (ft): 17.11-31.71

Discharge Tube Diameter: 1/4" Immersible Layer: Y / (N)

Approximate depth of pump inlet*(ft): 24.41

Pump Start Time: 0805

Ferrous Iron (Required Y or (N)) _____ mg/L

2ND DEPTH TO WATER-20.67

APTIM

Sample Collection Log

Location ID: 50WW08 Sample No: 50WW08-211011

Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
10/11/21	0810	100	.5	20.74	1.34	19.56	6.03	12.9	200	0.80
	0815	100	1.0	20.80	1.36	19.49	5.90	9.3	201	0.37
	0820	100	1.5	20.84	1.36	19.52	5.81	9.0	201	0.28
	0825	100	2.0	20.87	1.37	19.55	5.80	8.7	200	0.27
	0830	100	2.5	20.89	1.36	19.58	5.79	8.3	201	0.27
↓	0835	100	3.0	20.91	1.36	19.60	5.79	7.9	200	0.26

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **50WW09**

Sampler(s): Scott Beesinger

FIELD CONDITIONS Cloudy

SAMPLING INFORMATION

Sample No: 50WW09-211011 **DATE/TIME:** 10/11/21 0715 **Pump Inlet Depth:** 54.00

Sampling Method: LF **Sample Purpose:** REG **Sample Matrix:** GW

Appearance of Sample	Assoc. QC Samples	Decontamination Procedures

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		~~ALSHT~~ MICROBAC	Perchlorate in Water by 6850	1 x 125 mL HDPE	Cool 4C
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Low flow/BLADDER Pump

Casing ID (in.): 2"

Purge Start Date/Time: 10/11/21 0725

Depth to Water - Initial (DTWi) (ft) 20.39

Purge End Date/Time: 10/11/21 0755

Depth to Well Bottom (ft) 62.40

Discharge Tube Length: NA

PID Reading: NA

Screen Interval (ft): 46.75 - 61.25

Discharge Tube Diameter: 1/4"

Immersible Layer: Y (N)

Approximate depth of pump inlet*(ft): 54.00

Pump Start Time: 0725

Ferrous Iron (Required Y or (N) _____ mg/L

2ND DEPTH TO WATER-20.39

APTIM

Sample Collection Log

Location ID: 50WW09		Sample No: 50WW09-211011								
Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
10/11/21	0730	100	.5	20.47	0.894	21.89	5.80	11.2	227	0.76
	0735	100	1.0	20.52	1.13	22.31	5.45	9.8	215	0.35
	0740	100	1.5	20.56	1.19	21.87	5.37	9.3	205	0.19
	0745	100	2.0	20.58	1.20	21.80	5.37	8.7	204	0.19
	0750	100	2.5	20.60	1.21	21.75	5.36	8.1	203	0.18
↓	0755	100	3.0	20.61	1.21	21.69	5.36	7.6	202	0.18

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **50WW11**

Sampler(s): Scott Beesinger

FIELD CONDITIONS CLEAR

SAMPLING INFORMATION

Sample No: 50WW11-211007 **DATE/TIME:** 10/7/21 0854 **Pump Inlet Depth:** 29.80

Sampling Method: LF **Sample Purpose:** REG **Sample Matrix:** GW

Appearance of Sample **Assoc. QC Samples** **Decontamination Procedures**

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	Anions (chloride/nitrate/sulfate) in Water by SW9056	1 x 125 mL HPDE	Cool 4C
		ALSHT	Carbon Dioxide in Water by RSK175	3 x 40 mL Glass	Cool 4C
		ALSHT	Dissolved Gases in Water by RSK175	3 x 40 mL Glass	HCL<pH2
		~~ALSHT~~ MICROBAC	Perchlorate in Water by 6850	1 x 125 mL HDPE	Cool 4C
		ALSHT	TOC in Water by SW9060	2 x 40 mL Amber	H2SO4
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2
		MI	DHC in Water-CENSUS-qPCR	1 x 1 L HDPE	Cool 4C

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Low Flow/BLADDER Pump

Casing ID (in.): 2"

Purge Start Date/Time: 10/7/21 0900

Depth to Water - Initial (DTWi) (ft) 18.22

Purge End Date/Time: 10/7/21 0930

Depth to Well Bottom (ft) 37.80

Discharge Tube Length: NA

PID Reading: NA

Screen Interval (ft): 22.55 - 37.05

Discharge Tube Diameter: 1/4"

Immersible Layer: Y (N)

Approximate depth of pump inlet*(ft): 29.80

Pump Start Time: 0900

Ferrous Iron (Required (Y) or N) 0.57 mg/L

2ND DEPTH TO WATER - 18.22

APTIM

Sample Collection Log

Location ID: 50WW11		Sample No: 50WW11-2110 07								
Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
10/7/21	0905	100	.5	18.30	1.09	18.01	6.05	60.5	135	0.84
	0910	100	1.0	18.36	1.07	18.40	5.65	54.3	150	0.45
	0915	100	1.5	18.40	1.07	18.46	5.56	50.7	161	0.28
	0920	100	2.0	18.42	1.06	18.51	5.55	50.2	162	0.28
	0925	100	2.5	18.44	1.06	18.57	5.54	49.6	162	0.27
↓	0930	100	3.0	18.45	1.06	18.63	5.54	49.1	163	0.27

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **50WW11**

Sampler(s): Scott Beggs:NGER

FIELD CONDITIONS CLEAR

SAMPLING INFORMATION

Sample No: 50WW11-211007-FD **DATE/TIME:** 10/7/21 0854 **Pump Inlet Depth:** 29.80

Sampling Method: LF **Sample Purpose:** FD **Sample Matrix:** GW

Appearance of Sample **Assoc. QC Samples** **Decontamination Procedures**

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	Anions (chloride/nitrate/sulfate) in Water by SW9056	1 x 125 mL HPDE	Cool 4C
		ALSHT	Carbon Dioxide in Water by RSK175	3 x 40 mL Glass	Cool 4C
		ALSHT	Dissolved Gases in Water by RSK175	3 x 40 mL Glass	HCL<pH2
		~~ALSHT~~ MICROBAC	Perchlorate in Water by 6850	1 x 125 mL HDPE	Cool 4C
		ALSHT	TOC in Water by SW9060	2 x 40 mL Amber	H2SO4
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Low flow/BLADDER Pump

Casing ID (in.): 2"

Purge Start Date/Time: 10/7/21 0900

Depth to Water - Initial (DTWi) (ft) 18.22

Purge End Date/Time: 10/7/21 0930

Depth to Well Bottom (ft) 37.80

Discharge Tube Length: NA PID Reading: NA

Screen Interval (ft): 22.55 - 37.05

Discharge Tube Diameter: 1/4" Immersible Layer: Y / (N)

Approximate depth of pump inlet*(ft): 29.80

Pump Start Time: 0900

Ferrous Iron (Required (Y) or N) 0.57 mg/L

2ND DEPTH TO WATER - 18.22

APTIM

Sample Collection Log

Location ID: 50WW11		Sample No: 50WW11-211007-FD								
Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
10/7/21	0905	100	.5	18.30	1.09	18.01	6.05	60.5	135	0.84
	0910	100	1.0	18.36	1.07	18.40	5.65	54.3	150	0.45
	0915	100	1.5	18.40	1.07	18.46	5.56	50.7	161	0.28
	0920	100	2.0	18.42	1.06	18.51	5.55	50.2	162	0.28
	0925	100	2.5	18.44	1.06	18.57	5.54	49.6	162	0.27
↓	0930	100	3.0	18.45	1.06	18.63	5.54	49.1	163	0.27

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **50WW12**

Sampler(s): SCOTT BEESINGER

FIELD CONDITIONS CLEAR

SAMPLING INFORMATION

Sample No: 50WW12-211007 **DATE/TIME:** 10/7/21 1103 **Pump Inlet Depth:** 29.75

Sampling Method: LF **Sample Purpose:** REG **Sample Matrix:** GW

Appearance of Sample | **Assoc. QC Samples** | **Decontamination Procedures**

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	Anions (chloride/nitrate/sulfate) in Water by SW9056	1 x 125 mL HPDE	Cool 4C
		ALSHT	Carbon Dioxide in Water by RSK175	3 x 40 mL Glass	Cool 4C
		ALSHT	Dissolved Gases in Water by RSK175	3 x 40 mL Glass	HCL<pH2
		~~ALSHT~~ MICROBAC	Perchlorate in Water by 6850	1 x 125 mL HDPE	Cool 4C
		ALSHT	TOC in Water by SW9060	2 x 40 mL Amber	H2SO4
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2
		MI	DHC in Water-CENSUS-qPCR	1 x 1 L HDPE	Cool 4C

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Low flow/BLADDER Pump

Casing ID (in.): 2 11

Purge Start Date/Time: 10/7/21 1110

Depth to Water - Initial (DTWi) (ft) 17.15

Purge End Date/Time: 10/7/21 1140

Depth to Well Bottom (ft) 37.91

Discharge Tube Length: NA

PID Reading: NA

Screen Interval (ft): 22.50-37.00

Discharge Tube Diameter: 1/4"

Immersible Layer: Y (N)

Approximate depth of pump inlet*(ft): 29.75

Pump Start Time: 1110

Ferrous Iron (Required (F) or N) 0.00 mg/L

2ND DEPTH TO WATER- 17.15

APTIM

Sample Collection Log

Location ID: 50WW12		Sample No: 50WW12-2110 07								
Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
10/7/21	1115	100	.5	17.22	2.80	20.12	5.95	33.9	108	0.70
	1120	100	1.0	17.27	2.85	19.47	5.90	26.2	140	0.35
	1125	100	1.5	17.30	2.86	19.50	5.82	23.9	151	0.25
	1130	100	2.0	17.32	2.86	19.53	5.81	23.4	151	0.25
	1135	100	2.5	17.34	2.87	19.56	5.81	22.7	152	0.24
↓	1140	100	3.0	17.35	2.87	19.58	5.80	22.3	153	0.24

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **50WW13**

Sampler(s): Scott Beesinger

FIELD CONDITIONS Clear

SAMPLING INFORMATION

Sample No: 50WW13-211007 **DATE/TIME:** 10/7/21 0805 **Pump Inlet Depth:** 29.69

Sampling Method: LF **Sample Purpose:** REG **Sample Matrix:** GW

Appearance of Sample **Assoc. QC Samples** **Decontamination Procedures**

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	Anions (chloride/nitrate/sulfate) in Water by SW9056	1 x 125 mL HPDE	Cool 4C
		ALSHT	Carbon Dioxide in Water by RSK175	3 x 40 mL Glass	Cool 4C
		ALSHT	Dissolved Gases in Water by RSK175	3 x 40 mL Glass	HCL<pH2
		~~ALSHT~~ m.i.c.r.o.B.A.C	Perchlorate in Water by 6850	1 x 125 mL HDPE	Cool 4C
		ALSHT	TOC in Water by SW9060	2 x 40 mL Amber	H2SO4
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2
		MI	DHC in Water-CENSUS-qPCR	1 x 1 L HDPE	Cool 4C

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Lowflow/Bladder Pump

Casing ID (in.): 2"

Purge Start Date/Time: 10/7/21 0810

Depth to Water - Initial (DTWi) (ft) 18.46

Purge End Date/Time: 10/7/21 0840

Depth to Well Bottom (ft) 37.60

Discharge Tube Length: NA PID Reading: NA

Screen Interval (ft): 22.44-36.94

Discharge Tube Diameter: 1/4" Immersible Layer: Y / (N)

Approximate depth of pump inlet*(ft): 29.69

Pump Start Time: 0810

Ferrous Iron (Required (Y) or N) 2.05 mg/L

2ND DEPTH TO WATER-18.46

APTIM

Sample Collection Log

Location ID: 50WW13		Sample No: 50WW13-211007								
Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
10/7/21	0815	100	.5	18.53	1.28	17.97	5.68	212	70	0.81
	0820	100	1.0	18.59	1.23	18.32	5.60	189	126	0.37
	0825	100	1.5	18.62	1.21	18.44	5.54	176	149	0.27
	0830	100	2.0	18.65	1.20	18.49	5.53	175	150	0.26
	0835	100	2.5	18.67	1.20	18.53	5.53	174	151	0.26
	0840	100	3.0	18.69	1.20	18.57	5.53	174	152	0.25

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **50WW14**

Sampler(s): Scott Beesinger

FIELD CONDITIONS CLEAR

SAMPLING INFORMATION

Sample No: 50WW14-211007 **DATE/TIME:** 10/7/21 0700 **Pump Inlet Depth:** 53.03

Sampling Method: LF **Sample Purpose:** REG **Sample Matrix:** GW

Appearance of Sample **Assoc. QC Samples** **Decontamination Procedures**

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	Anions (chloride/nitrate/sulfate) in Water by SW9056	1 x 125 mL HPDE	Cool 4C
		ALSHT	Carbon Dioxide in Water by RSK175	3 x 40 mL Glass	Cool 4C
		ALSHT	Dissolved Gases in Water by RSK175	3 x 40 mL Glass	HCL<pH2
		~~ALSHT~~ microBAC	Perchlorate in Water by 6850	1 x 125 mL HDPE	Cool 4C
		ALSHT	TOC in Water by SW9060	2 x 40 mL Amber	H2SO4
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2
		MI	DHC in Water-CENSUS-qPCR	1 x 1 L HDPE	Cool 4C

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Low Flow/Bladder Pump

Casing ID (in.): 2"

Purge Start Date/Time: 10/7/21 0715

Depth to Water - Initial (DTWi) (ft) 18.74

Purge End Date/Time: 10/7/21 0745

Depth to Well Bottom (ft) 60.70

Discharge Tube Length: NA PID Reading: NA

Screen Interval (ft): 45.78-60.28

Discharge Tube Diameter: 1/4" Immersible Layer: Y / (N)

Approximate depth of pump inlet*(ft): 53.03

Pump Start Time: 0715

Ferrous Iron (Required (Y) or N) 3.87 mg/L

2ND DEPTH TO WATER - 18.74

APTIM

Sample Collection Log

Location ID: 50WW14 Sample No: 50WW14-211007

Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
10/7/21	0720	100	.5	18.80	1.38	18.88	5.67	139	3	0.81
	0725	100	1.0	18.85	1.34	18.77	5.54	117	-12	0.52
	0730	100	1.5	18.89	1.34	18.74	5.41	107	-16	0.30
	0735	100	2.0	18.92	1.34	18.71	5.41	106	-17	0.29
	0740	100	2.5	18.93	1.34	18.69	5.40	105	-18	0.29
↓	0745	100	3.0	18.93	1.34	18.66	5.39	104	-18	0.28

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **50WW15**

Sampler(s): Scott Beesinger

FIELD CONDITIONS ~~Clear~~ Clear

SAMPLING INFORMATION

Sample No: 50WW15-211011 **DATE/TIME:** 10/11/21 1025 **Pump Inlet Depth:** 29.50

Sampling Method: LF **Sample Purpose:** REG **Sample Matrix:** GW

Appearance of Sample **Assoc. QC Samples** **Decontamination Procedures**

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		~~ALSHT~~ MICROBAC	Perchlorate in Water by 6850	1 x 125 mL HDPE	Cool 4C
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Low flow/BLADDER Pump

Casing ID (in.): 2"

Purge Start Date/Time: 10/11/21 1030

Depth to Water - Initial (DTWi) (ft) 17.47

Purge End Date/Time: 10/11/21 1100

Depth to Well Bottom (ft) 37.85

Discharge Tube Length: NA PID Reading: NA

Screen Interval (ft): 22.25-36.75

Discharge Tube Diameter: 1/4" Immersible Layer: Y (N)

Approximate depth of pump inlet*(ft): 29.50

Pump Start Time: 1030

Ferrous Iron (Required Y or (N) _____ mg/L

2ND Depth TO WATER - 17.47

APTIM

Sample Collection Log

Location ID: 50WW15		Sample No: 50WW15-2110_11								
Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
10/11/21	1035	100	.5	17.55	1.02	19.67	5.91	86.5	170	0.80
	1040	100	1.0	17.61	1.04	19.71	5.63	77.3	138	0.46
	1045	100	1.5	17.65	1.04	19.61	5.54	71.7	123	0.24
	1050	100	2.0	17.68	1.05	19.56	5.53	71.2	122	0.24
	1055	100	2.5	17.70	1.05	19.51	5.52	70.6	121	0.23
↓	1100	100	3.0	17.71	1.05	19.47	5.52	70.1	121	0.22

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **50WW16**

Sampler(s): Scott Beesinger

FIELD CONDITIONS CLEAR

SAMPLING INFORMATION

Sample No: 50WW16-211011 **DATE/TIME:** 10/11/21 1108 **Pump Inlet Depth:** 29.91

Sampling Method: LF **Sample Purpose:** REG **Sample Matrix:** GW

Appearance of Sample	Assoc. QC Samples	Decontamination Procedures

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		~~ALSHT~~ MICROBAC	Perchlorate in Water by 6850	1 x 125 mL HDPE	Cool 4C
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Low flow/BLADDER Pump

Casing ID (in.): 2"

Purge Start Date/Time: 10/11/21 1115

Depth to Water - Initial (DTWi) (ft) 18.19

Purge End Date/Time: 10/11/21 1145

Depth to Well Bottom (ft) 37.90

Discharge Tube Length: NA PID Reading: NA

Screen Interval (ft): 22.66 - 37.16

Discharge Tube Diameter: 1/4" Immersible Layer: Y / (N)

Approximate depth of pump inlet*(ft): 29.91

Pump Start Time: 1115

Ferrous Iron (Required Y or (N)) _____ mg/L

2ND DEPTH TO WATER - 18.19

APTIM

Sample Collection Log

Location ID: 50WW16		Sample No: 50WW16-2110_11								
Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
10/11/21	1120	100	.5	18.26	0.132	20.12	4.90	157	196	0.83
	1125	100	1.0	18.31	0.129	19.79	5.00	141	195	0.29
	1130	100	1.5	18.35	0.136	19.83	5.05	136	194	0.13
	1135	100	2.0	18.37	0.136	19.87	5.06	135	193	0.12
	1140	100	2.5	18.39	0.137	19.90	5.06	135	192	0.12
↓	1145	100	3.0	18.40	0.137	19.93	5.06	134	192	0.12

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **50WW16**

Sampler(s): Scott Beesinger

FIELD CONDITIONS CLEAR

SAMPLING INFORMATION

Sample No: 50WW16-211011-FD **DATE/TIME:** 10/11/21 1108 **Pump Inlet Depth:** 29.91

Sampling Method: LF **Sample Purpose:** FD **Sample Matrix:** GW

Appearance of Sample	Assoc. QC Samples	Decontamination Procedures

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		~~ALSHT~~ MICROBAC	Perchlorate in Water by 6850	1 x 125 mL HDPE	Cool 4C
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Low flow/BLADDER Pump

Casing ID (in.): 2"

Purge Start Date/Time: 10/11/21 1115

Depth to Water - Initial (DTWi) (ft) 18.19

Purge End Date/Time: 10/11/21 1145

Depth to Well Bottom (ft) 37.90

Discharge Tube Length: NA PID Reading: NA

Screen Interval (ft): 22.66 - 37.16

Discharge Tube Diameter: 1/4" Immersible Layer: Y (N)

Approximate depth of pump inlet*(ft): 29.91

Pump Start Time: 1115

Ferrous Iron (Required Y or (N) _____ mg/L

2ND DEPTH TO WATER - 18.19

APTIM

Sample Collection Log

Location ID: 50WW16 Sample No: 50WW16-211011-FD

Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
10/11/21	1120	100	.5	18.26	0.132	20.12	4.90	157	196	0.83
	1125	100	1.0	18.31	0.129	19.79	5.00	141	195	0.29
	1130	100	1.5	18.35	0.136	19.83	5.05	136	194	0.13
	1135	100	2.0	18.37	0.136	19.87	5.06	135	193	0.12
	1140	100	2.5	18.39	0.137	19.90	5.06	135	192	0.12
↓	1145	100	3.0	18.40	0.137	19.93	5.06	134	192	0.12

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **50WW18**

Sampler(s): Scott Beesinger

FIELD CONDITIONS Clear

SAMPLING INFORMATION

Sample No: 50WW18-211011 **DATE/TIME:** 10/11/21 1156 **Pump Inlet Depth:** 29.62

Sampling Method: LF **Sample Purpose:** REG **Sample Matrix:** GW

Appearance of Sample **Assoc. QC Samples** **Decontamination Procedures**

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		~~ALSHT~~ MICROBAC	Perchlorate in Water by 6850	1 x 125 mL HDPE	Cool 4C
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Low flow/BLADDER Pump

Casing ID (in.): 2"

Purge Start Date/Time: 10/11/21 1205

Depth to Water - Initial (DTWi) (ft) 17.02

Purge End Date/Time: 10/11/21 1235

Depth to Well Bottom (ft) 37.63

Discharge Tube Length: NA PID Reading: NA

Screen Interval (ft): 22.37-36.87

Discharge Tube Diameter: 1/4" Immersible Layer: Y / (N)

Approximate depth of pump inlet*(ft): 29.62

Pump Start Time: 1205

Ferrous Iron (Required Y or (N) _____ mg/L

2ND DEPTH TO WATER - 17.02

APTIM

Sample Collection Log

Location ID: 50WW18 Sample No: 50WW18-2110 11

Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
10/11/21	1210	100	.5	17.10	1.81	21.33	5.98	64.5	210	0.60
	1215	100	1.0	17.16	1.86	20.21	5.77	56.6	195	0.24
	1220	100	1.5	17.20	1.87	19.55	5.69	51.8	181	0.17
	1225	100	2.0	17.23	1.88	19.48	5.68	51.3	180	0.17
	1230	100	2.5	17.25	1.89	19.43	5.68	50.6	180	0.16
↓	1235	100	3.0	17.27	1.89	19.38	5.68	50.1	179	0.16

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **50WW22**

Sampler(s): Scott Beegsinger

FIELD CONDITIONS CLEAR

SAMPLING INFORMATION

Sample No: 50WW22-211011 **DATE/TIME:** 10/11/21 0842 **Pump Inlet Depth:** 29.27

Sampling Method: LF **Sample Purpose:** REG **Sample Matrix:** GW

Appearance of Sample **Assoc. QC Samples** **Decontamination Procedures**

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		~~ALSHT~~ MICROBAC	Perchlorate in Water by 6850	1 x 125 mL HDPE	Cool 4C
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Low flow/BLADDER Pump

Casing ID (in.): 2"

Purge Start Date/Time: 10/11/21 0850

Depth to Water - Initial (DTWi) (ft) 22.90

Purge End Date/Time: 10/11/21 0920

Depth to Well Bottom (ft) 37.79

Discharge Tube Length: NA PID Reading: NA

Screen Interval (ft): 21.97 - 36.57

Discharge Tube Diameter: 1/4" Immersible Layer: Y / (N)

Approximate depth of pump inlet*(ft): 29.27

Pump Start Time: 0850

Ferrous Iron (Required Y or (N) _____ mg/L

2ND DEPTH TO WATER - 22.90

APTIM

Sample Collection Log

Location ID: 50WW22 Sample No: 50WW22-2110 11

Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
10/11/21	0855	100	.5	22.97	2.29	19.26	5.91	21.1	218	0.70
	0900	100	1.0	23.03	2.31	18.83	5.72	16.0	225	0.36
	0905	100	1.5	23.07	2.32	18.77	5.65	13.9	226	0.32
	0910	100	2.0	23.10	2.33	18.71	5.64	13.5	227	0.31
	0915	100	2.5	23.12	2.33	18.66	5.64	12.9	228	0.31
↓	0920	100	3.0	23.14	2.33	18.61	5.63	12.4	228	0.31

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **50WW23**

Sampler(s): Scott Beesinger

FIELD CONDITIONS CLEAR

SAMPLING INFORMATION

Sample No: 50WW23-211011 **DATE/TIME:** 10/11/21 0937 **Pump Inlet Depth:** 29.67

Sampling Method: LF **Sample Purpose:** REG **Sample Matrix:** GW

Appearance of Sample **Assoc. QC Samples** **Decontamination Procedures**

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		~~ALSHT~~ MICROBAC	Perchlorate in Water by 6850	1 x 125 mL HDPE	Cool 4C
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Casing ID (in.): 2"

Depth to Water - Initial (DTWi) (ft) 21.88

Depth to Well Bottom (ft) 37.79

Screen Interval (ft): 22.42-36.92

Approximate depth of pump inlet*(ft): 29.67

Ferrous Iron (Required Y or (N) _____ mg/L

Purging Method/Equipment: Low flow/BLADDER Pump

Purge Start Date/Time: 10/11/21 0945

Purge End Date/Time: 10/11/21 1015

Discharge Tube Length: NA PID Reading: NA

Discharge Tube Diameter: 1/4" Immersible Layer: Y / (N)

Pump Start Time: 0945

2ND DEPTH TO WATER-21.88

APTIM

Sample Collection Log

Location ID: 50WW23 Sample No: 50WW23-211011

Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
10/11/21	0950	100	.5	21.95	2.90	18.76	5.61	18.6	237	0.95
	0955	100	1.0	22.01	2.91	18.59	5.55	22.4	230	0.61
	1000	100	1.5	22.05	2.94	18.57	5.44	24.3	203	0.41
	1005	100	2.0	22.09	2.94	18.54	5.43	24.7	202	0.40
	1010	100	2.5	22.09	2.95	18.52	5.43	25.1	201	0.40
↓	1015	100	3.0	22.10	2.95	18.50	5.42	25.5	200	0.39

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Location ID: **50WW29**

Project No: **501032**

Sampler(s): Scott Baesinger

FIELD CONDITIONS CLEAR

SAMPLING INFORMATION

Sample No: 50WW29-211007 **DATE/TIME:** 10/7/21 1155 **Pump Inlet Depth:** 30.95

Sampling Method: LF **Sample Purpose:** REG **Sample Matrix:** GW

Appearance of Sample | **Assoc. QC Samples** | **Decontamination Procedures**

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	Perchlorate in Water by 6850	1 x 125 mL HDPE	Cool 4C
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Low Flow/Bladder Pump

Casing ID (in.): 4"

Purge Start Date/Time: 10/7/21 1200

Depth to Water - Initial (DTWi) (ft) 17.75

Purge End Date/Time: 10/7/21 1230

Depth to Well Bottom (ft) 38.09

Discharge Tube Length: NA PID Reading: NA

Screen Interval (ft): 23.45-38.45

Discharge Tube Diameter: 1/4" Immersible Layer: Y / (N)

Approximate depth of pump inlet*(ft): 30.95

Pump Start Time: 1200

Ferrous Iron (Required Y or (N) _____ mg/L

2ND DTW - 17.75

APTIM

Sample Collection Log

Location ID: 50WW29		Sample No: 50WW29-211007								
Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
10/7/21	1205	100	1.5	17.82	2.46	21.44	5.72	10.7	128	2.12
↓	1210	100	1.0	17.88	2.44	20.95	5.59	8.5	126	1.90
↓	1215	100	1.5	17.92	2.41	20.92	5.48	8.0	128	1.78
↓	1220	100	2.0	17.95	2.40	20.88	5.47	7.6	128	1.76
↓	1225	100	2.5	17.97	2.39	20.85	5.47	7.0	129	1.74
↓	1230	100	3.0	17.99	2.39	20.83	5.47	6.4	129	1.73

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **50WW05**

Sampler(s): Scott Baggenger

FIELD CONDITIONS CLEAR

SAMPLING INFORMATION

Sample No: 50WW05-220105 **DATE/TIME:** 1/5/22 1101 **Pump Inlet Depth:** 19.34

Sampling Method: LF **Sample Purpose:** REG **Sample Matrix:** GW

Appearance of Sample | **Assoc. QC Samples** | **Decontamination Procedures**

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2
		SGS	Perchlorate by 6850 (W)	1 x 125 mL HPDE	Cool 4C

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Low flow Bladder Pump

Casing ID (in.): 4"

Purge Start Date/Time: 1/5/22 1105

Depth to Water - Initial (DTWi) (ft) 18.80

Purge End Date/Time: 1/5/22 1135

Depth to Well Bottom (ft) 25.30

Discharge Tube Length: NA PID Reading: NA

Screen Interval (ft): 14.34 - 24.34

Discharge Tube Diameter: 1/4" Immersible Layer: Y / (N)

Approximate depth of pump inlet*(ft): 19.34

Pump Start Time: 1105

Ferrous Iron (Required Y or (N) _____ mg/L

2ND DTW - 18.80

APTIM

Sample Collection Log

Location ID: 50WW05 Sample No: 50WW05-220105

Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
1/5/22	1110	100	.5	18.87	1.63	16.60	6.59	0.8	155	1.29
	1115	100	1.0	18.92	1.58	17.08	6.10	0.2	180	1.08
	1120	100	1.5	18.95	1.55	17.58	5.82	0.0	193	0.99
	1125	100	2.0	18.97	1.54	17.65	5.81	0.0	194	0.97
	1130	100	2.5	18.99	1.54	17.69	5.80	0.0	195	0.96
↓	1135	100	3.0	19.00	1.54	17.74	5.79	0.0	195	0.95

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **50WW06**

Sampler(s): Scott Beesinger

FIELD CONDITIONS CLEAR

SAMPLING INFORMATION

Sample No: 50WW06-220106 **DATE/TIME:** 1/6/22 0947 **Pump Inlet Depth:** 52.80

Sampling Method: LF **Sample Purpose:** REG **Sample Matrix:** GW

Appearance of Sample | **Assoc. QC Samples** | **Decontamination Procedures**

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	Anions (chloride/nitrate/sulfate) in Water by SW9056	1 x 125 mL HPDE	Cool 4C
		ALSHT	Carbon Dioxide in Water by RSK175	3 x 40 mL Glass	Cool 4C
		ALSHT	Dissolved Gases in Water by RSK175	3 x 40 mL Glass	HCL<pH2
		ALSHT	TOC in Water by SM5310C	2 x 40 mL Amber	H2SO4
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2
		MI	DHC in Water-CENSUS-qPCR	1 x 1 L HDPE	Cool 4C
		SGS	Perchlorate by 6850 (W)	1 x 125 mL HPDE	Cool 4C

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Low flow/BLADDER Pump

Casing ID (in.): 4"

Purge Start Date/Time: 1/6/22 1000

Depth to Water - Initial (DTWi) (ft) 16.87

Purge End Date/Time: 1/6/22 1030

Depth to Well Bottom (ft) 58.10

Discharge Tube Length: NA

PID Reading: NA

Screen Interval (ft): 47.35 - 57.35

Discharge Tube Diameter: 1/4"

Immersible Layer: Y / (N)

Approximate depth of pump inlet*(ft): 52.80

Pump Start Time: 1000

Ferrous Iron (Required (Y) or N) 3.77 mg/L

2ND DTW - 16.87

APTIM

Sample Collection Log

Location ID: 50WW06 Sample No: 50WW06-220106

Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
1/6/22	1005	100	.5	16.94	0.575	16.05	4.81	33.5	207	0.99
	1010	100	1.0	16.99	0.521	16.61	3.85	25.7	225	0.75
	1015	100	1.5	17.03	0.518	16.66	3.74	21.8	227	0.46
	1020	100	2.0	17.05	0.518	16.70	3.73	21.4	228	0.46
	1025	100	2.5	17.07	0.518	16.74	3.72	20.6	228	0.45
	1030	100	3.0	17.08	0.518	16.77	3.72	20.2	228	0.44

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **50WW08**

Sampler(s): Scott Baesinger

FIELD CONDITIONS Clear

SAMPLING INFORMATION

Sample No: 50WW08-220105 **DATE/TIME:** 1/5/22 1141 **Pump Inlet Depth:** 24.41

Sampling Method: LF **Sample Purpose:** REG **Sample Matrix:** GW

Appearance of Sample	Assoc. QC Samples	Decontamination Procedures

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2
		SGS	Perchlorate by 6850 (W)	1 x 125 mL HPDE	Cool 4C

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Casing ID (in.): 2"

Depth to Water - Initial (DTWi) (ft) 20.73

Depth to Well Bottom (ft) 32.71

Screen Interval (ft): 17.11 - 31.71

Approximate depth of pump inlet*(ft): 24.41

Ferrous Iron (Required Y or N) _____ mg/L

Purging Method/Equipment: Low flow/Bladder Pump

Purge Start Date/Time: 1/5/22 1145

Purge End Date/Time: 1/5/22 1215

Discharge Tube Length: NA PID Reading: NA

Discharge Tube Diameter: 1/4" Immersible Layer: Y / (N)

Pump Start Time: 1145

2ND DTW - 20.73

APTIM

Sample Collection Log

Location ID: 50WW08 Sample No: 50WW08-220105

Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
1/5/22	1150	100	.5	20.80	2.39	17.13	6.29	19.2	176	0.87
	1155	100	1.0	20.86	2.40	17.44	6.15	14.5	183	0.68
	1200	100	1.5	20.90	2.40	17.55	6.10	12.5	183	0.61
	1205	100	2.0	20.92	2.41	17.60	6.09	11.9	184	0.60
	1210	100	2.5	20.94	2.41	17.64	6.09	11.4	184	0.59
↓	1215	100	3.0	20.95	2.41	17.69	6.09	11.0	184	0.59

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **50WW11**

Sampler(s): Scott Beasinger

FIELD CONDITIONS Clear

SAMPLING INFORMATION

Sample No: 50WW11-220106 **DATE/TIME:** 1/6/22 0858 **Pump Inlet Depth:** 29.80

Sampling Method: LF **Sample Purpose:** REG **Sample Matrix:** GW

Appearance of Sample | **Assoc. QC Samples** | **Decontamination Procedures**

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	Anions (chloride/nitrate/sulfate) in Water by SW9056	1 x 125 mL HPDE	Cool 4C
		ALSHT	Carbon Dioxide in Water by RSK175	3 x 40 mL Glass	Cool 4C
		ALSHT	Dissolved Gases in Water by RSK175	3 x 40 mL Glass	HCL<pH2
		ALSHT	TOC in Water by SM5310C	2 x 40 mL Amber	H2SO4
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2
		MI	DHC in Water-CENSUS-qPCR	1 x 1 L HDPE	Cool 4C
		SGS	Perchlorate by 6850 (W)	1 x 125 mL HPDE	Cool 4C

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Low Flow/Bladder Pump

Casing ID (in.): 2"

Purge Start Date/Time: 1/6/22 0905

Depth to Water - Initial (DTWi) (ft) 18.42

Purge End Date/Time: 1/6/22 0935

Depth to Well Bottom (ft) 37.77

Discharge Tube Length: NA PID Reading: NA

Screen Interval (ft): 22.55 - 37.05

Discharge Tube Diameter: 1/4" Immersible Layer: Y / (N)

Approximate depth of pump inlet*(ft): 29.80

Pump Start Time: 0905

Ferrous Iron (Required (Y) or N) 1.00 mg/L

2ND DTW - 18.42

APTIM

Sample Collection Log

Location ID: 50WW11				Sample No: 50WW11-220106						
Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
1/6/22	0910	100	.5	18.49	2.08	15.60	5.94	231	144	0.81
	0915	100	1.0	18.55	2.06	16.45	5.71	208	158	0.62
	0920	100	1.5	18.59	2.05	16.69	5.60	196	166	0.45
	0925	100	2.0	18.61	2.04	16.74	5.59	195	167	0.44
	0930	100	2.5	18.63	2.04	16.78	5.58	193	168	0.44
↓	0935	100	3.0	18.64	2.04	16.83	5.57	192	169	0.43

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **50WW12**

Sampler(s): Scott Beesinger

FIELD CONDITIONS Clear

SAMPLING INFORMATION

Sample No: 50WW12-220106 **DATE/TIME:** 1/6/22 1042 **Pump Inlet Depth:** 29.75

Sampling Method: LF **Sample Purpose:** REG **Sample Matrix:** GW

Appearance of Sample | **Assoc. QC Samples** | **Decontamination Procedures**

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	Anions (chloride/nitrate/sulfate) in Water by SW9056	1 x 125 mL HPDE	Cool 4C
		ALSHT	Carbon Dioxide in Water by RSK175	3 x 40 mL Glass	Cool 4C
		ALSHT	Dissolved Gases in Water by RSK175	3 x 40 mL Glass	HCL<pH2
		ALSHT	TOC in Water by SM5310C	2 x 40 mL Amber	H2SO4
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2
		MI	DHC in Water-CENSUS-qPCR	1 x 1 L HDPE	Cool 4C
		SGS	Perchlorate by 6850 (W)	1 x 125 mL HPDE	Cool 4C

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Low flow/BLADDER Pump

Casing ID (in.): 2"

Purge Start Date/Time: 1/6/22 1050

Depth to Water - Initial (DTWi) (ft) 17.33

Purge End Date/Time: 1/6/22 1120

Depth to Well Bottom (ft) 37.90

Discharge Tube Length: NA PID Reading: NA

Screen Interval (ft): 22.50 - 37.00

Discharge Tube Diameter: 1/4" Immersible Layer: Y / (N)

Approximate depth of pump inlet*(ft): 29.75

Pump Start Time: 1050

Ferrous Iron (Required (Y) or N) 1.08 mg/L

2ND DTW - 17.33

APTIM

Sample Collection Log

Location ID: 50WW12 Sample No: 50WW12-220106

Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
1/6/22	1055	100	.5	17.40	4.16	15.21	5.97	241	96	0.95
	1100	100	1.0	17.46	4.22	15.58	5.93	228	101	0.71
	1105	100	1.5	17.50	4.24	15.81	5.92	219	105	0.60
	1110	100	2.0	17.52	4.24	15.86	5.91	218	105	0.59
	1115	100	2.5	17.54	4.25	15.90	5.91	217	106	0.58
↓	1120	100	3.0	17.55	4.25	15.93	5.91	216	106	0.58

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **50WW13**

Sampler(s): Scott Beegs-inger

FIELD CONDITIONS

Clear

SAMPLING INFORMATION

Sample No: 50WW13-220106 **DATE/TIME:** 1/6/22 0802 **Pump Inlet Depth:** 29.70

Sampling Method: LF **Sample Purpose:** REG **Sample Matrix:** GW

Appearance of Sample | **Assoc. QC Samples** | **Decontamination Procedures**

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	Anions (chloride/nitrate/sulfate) in Water by SW9056	1 x 125 mL HPDE	Cool 4C
		ALSHT	Carbon Dioxide in Water by RSK175	3 x 40 mL Glass	Cool 4C
		ALSHT	Dissolved Gases in Water by RSK175	3 x 40 mL Glass	HCL<pH2
		ALSHT	TOC in Water by SM5310C	2 x 40 mL Amber	H2SO4
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2
		MI	DHC in Water-CENSUS-qPCR	1 x 1 L HDPE	Cool 4C
		SGS	Perchlorate by 6850 (W)	1 x 125 mL HPDE	Cool 4C

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Low Flow/Bladder Pump

Casing ID (in.): 2 11

Purge Start Date/Time: 1/6/22 0810

Depth to Water - Initial (DTWi) (ft) 18.69

Purge End Date/Time: 1/6/22 0840

Depth to Well Bottom (ft) 37.60

Discharge Tube Length: NA PID Reading: NA

Screen Interval (ft): 22.44-36.94

Discharge Tube Diameter: 1/411 Immersible Layer: Y / (N)

Approximate depth of pump inlet*(ft): 29.70

Pump Start Time: 0810

Ferrous Iron (Required (Y) or N) 0.81 mg/L

2ND DTW - 18.69

APTIM

Sample Collection Log

Location ID: 50WW13		Sample No: 50WW13-220106								
Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
1/6/22	0815	100	.5	18.77	2.19	16.83	5.57	139	128	0.93
	0820	100	1.0	18.83	2.17	16.55	5.61	115	130	0.75
	0825	100	1.5	18.87	2.15	16.79	5.65	106	135	0.47
	0830	100	2.0	18.90	2.15	16.83	5.66	105	136	0.46
	0835	100	2.5	18.92	2.15	16.87	5.66	105	136	0.45
↓	0840	100	3.0	18.94	2.15	16.90	5.66	104	136	0.45

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Location ID: **50WW13**

Project No: **501032**

Sampler(s): Scott Beesinger

FIELD CONDITIONS Clear

SAMPLING INFORMATION

Sample No: 50WW13-220106-FD **DATE/TIME:** 1/6/22 0802 **Pump Inlet Depth:** 29.70

Sampling Method: LF **Sample Purpose:** FD **Sample Matrix:** GW

Appearance of Sample	Assoc. QC Samples	Decontamination Procedures

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	Anions (chloride/nitrate/sulfate) in Water by SW9056	1 x 125 mL HPDE	Cool 4C
		ALSHT	Carbon Dioxide in Water by RSK175	3 x 40 mL Glass	Cool 4C
		ALSHT	Dissolved Gases in Water by RSK175	3 x 40 mL Glass	HCL<pH2
		ALSHT	TOC in Water by SM5310C	2 x 40 mL Amber	H2SO4
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2
		MI	DHC in Water-CENSUS-qPCR	1 x 1 L HDPE	Cool 4C
		SGS	Perchlorate by 6850 (W)	1 x 125 mL HPDE	Cool 4C

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Low flow/Bladder Pump

Casing ID (in.): 2"

Purge Start Date/Time: 1/6/22 0810

Depth to Water - Initial (DTWi) (ft) ~~18.~~ 18.69

Purge End Date/Time: 1/6/22 0840

Depth to Well Bottom (ft) 37.60

Discharge Tube Length: NA

PID Reading: NA

Screen Interval (ft): 22.44 - 36.94

Discharge Tube Diameter: 1/4"

Immersible Layer: Y / (N)

Approximate depth of pump inlet*(ft): 29.70

Pump Start Time: 0810

Ferrous Iron (Required (Y) or N) 0.81 mg/L

2ND DTW - 18.69

APTIM

Sample Collection Log

Location ID: 50WW13				Sample No: 50WW13-220106-FD						
Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
1/6/22	0815	100	.5	18.77	2.19	15.83	5.57	139	128	0.93
	0820	100	1.0	18.83	2.17	16.55	5.61	115	130	0.75
	0825	100	1.5	18.87	2.15	16.79	5.65	106	135	0.47
	0830	100	2.0	18.90	2.15	16.83	5.66	105	136	0.46
	0835	100	2.5	18.92	2.15	16.87	5.66	105	136	0.45
↓	0840	100	3.0	18.94	2.15	16.90	5.66	104	136	0.45

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **50WW14**

Sampler(s): Scott Beers. NG4R

FIELD CONDITIONS Clear

SAMPLING INFORMATION

Sample No: 50WW14-220106 **DATE/TIME:** 1/6/22 0658 **Pump Inlet Depth:** 53.00

Sampling Method: LF **Sample Purpose:** REG **Sample Matrix:** GW

Appearance of Sample | **Assoc. QC Samples** | **Decontamination Procedures**

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	Anions (chloride/nitrate/sulfate) in Water by SW9056	1 x 125 mL HPDE	Cool 4C
		ALSHT	Carbon Dioxide in Water by RSK175	3 x 40 mL Glass	Cool 4C
		ALSHT	Dissolved Gases in Water by RSK175	3 x 40 mL Glass	HCL<pH2
		ALSHT	TOC in Water by SM5310C	2 x 40 mL Amber	H2SO4
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2
		MI	DHC in Water-CENSUS-qPCR	1 x 1 L HDPE	Cool 4C
		SGS	Perchlorate by 6850 (W)	1 x 125 mL HPDE	Cool 4C

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Low Flow/Bladder Pump

Casing ID (in.): 2"

Purge Start Date/Time: 1/6/22 0710

Depth to Water - Initial (DTWi) (ft) 18.87

Purge End Date/Time: 1/6/22 0740

Depth to Well Bottom (ft) 59.70

Discharge Tube Length: NA PID Reading: NA

Screen Interval (ft): 45.78 - 60.28

Discharge Tube Diameter: 1/4" Immersible Layer: Y / (N)

Approximate depth of pump inlet*(ft): 53.00

Pump Start Time: 0710

Ferrous Iron (Required (Y) or N) 3.53 mg/L

2ND DTW - 18.87

APTIM

Sample Collection Log

Location ID: 50WW14 Sample No: 50WW14-220106

Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
1/6/22	0715	100	.5	18.94	2.39	16.05	5.53	160	186	1.03
	0720	100	1.0	18.99	2.38	17.29	5.29	137	177	0.80
	0725	100	1.5	19.03	2.38	17.32	5.22	126	166	0.58
	0730	100	2.0	19.06	2.38	17.36	5.21	125	166	0.57
	0735	100	2.5	19.08	2.38	17.39	5.21	124	165	0.57
↓	0740	100	3.0	19.10	2.38	17.43	5.21	123	165	0.56

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **50WW14**

Sampler(s): Scott Beesinger

FIELD CONDITIONS CLEAR

SAMPLING INFORMATION

Sample No: 50WW14-220106-MS **DATE/TIME:** 1/6/22 0658 **Pump Inlet Depth:** 53.00

Sampling Method: LF **Sample Purpose:** MS **Sample Matrix:** GW

Appearance of Sample	Assoc. QC Samples	Decontamination Procedures

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	Anions (chloride/nitrate/sulfate) in Water by SW9056	1 x 125 mL HPDE	Cool 4C
		ALSHT	Carbon Dioxide in Water by RSK175	3 x 40 mL Glass	Cool 4C
		ALSHT	Dissolved Gases in Water by RSK175	3 x 40 mL Glass	HCL<pH2
		ALSHT	TOC in Water by SM5310C	2 x 40 mL Amber	H2SO4
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2
		SGS	Perchlorate by 6850 (W)	1 x 125 mL HPDE	Cool 4C

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Low flow/BLADDER Pump

Casing ID (in.): 2"

Purge Start Date/Time: 1/6/22 0710

Depth to Water - Initial (DTWi) (ft) 18.87

Purge End Date/Time: 1/6/22 0740

Depth to Well Bottom (ft) 59.70

Discharge Tube Length: NA PID Reading: NA

Screen Interval (ft): 45.78 - 60.28

Discharge Tube Diameter: 1/4" Immersible Layer: Y / (N)

Approximate depth of pump inlet*(ft): 53.00

Pump Start Time: 0710

Ferrous Iron (Required (Y) or N) 3.53 mg/L

2ND DTW - 18.87

APTIM

Sample Collection Log

Location ID: 50WW14		Sample No: 50WW14-220106-MS								
Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
1/6/22	0715	100	.5	18.94	2.39	16.05	5.53	160	186	1.03
	0720	100	1.0	18.99	2.38	17.29	5.29	137	177	0.80
	0725	100	1.5	19.03	2.38	17.32	5.22	126	166	0.58
	0730	100	2.0	19.06	2.38	17.36	5.21	125	166	0.57
	0735	100	2.5	19.08	2.38	17.39	5.21	124	165	0.57
↓	0740	100	3.0	19.10	2.38	17.43	5.21	123	165	0.56

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **50WW14**

Sampler(s): Scott Beesinger

FIELD CONDITIONS Clear

SAMPLING INFORMATION

Sample No: 50WW14-220106-MSD **DATE/TIME:** 1/6/22 0658 **Pump Inlet Depth:** 53.00

Sampling Method: LF **Sample Purpose:** MSD **Sample Matrix:** GW

Appearance of Sample	Assoc. QC Samples	Decontamination Procedures

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	Anions (chloride/nitrate/sulfate) in Water by SW9056	1 x 125 mL HPDE	Cool 4C
		ALSHT	Carbon Dioxide in Water by RSK175	3 x 40 mL Glass	Cool 4C
		ALSHT	Dissolved Gases in Water by RSK175	3 x 40 mL Glass	HCL<pH2
		ALSHT	TOC in Water by SM5310C	2 x 40 mL Amber	H2SO4
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2
		SGS	Perchlorate by 6850 (W)	1 x 125 mL HPDE	Cool 4C

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Low flow / Bladder Pump

Casing ID (in.): 2"

Purge Start Date/Time: 1/6/22 0710

Depth to Water - Initial (DTWi) (ft) 18.87

Purge End Date/Time: 1/6/22 0740

Depth to Well Bottom (ft) 59.70

Discharge Tube Length: NA

PID Reading: NA

Screen Interval (ft): 45.78 - 60.28

Discharge Tube Diameter: 1/4"

Immersible Layer: Y / (N)

Approximate depth of pump inlet*(ft): 53.00

Pump Start Time: 0710

Ferrous Iron (Required (Y) or N) 3.53 mg/L

2ND DTW - 18.87

APTIM

Sample Collection Log

Location ID: 50WW14		Sample No: 50WW14-220106-MSD								
Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
1/6/22	0715	100	.5	18.94	2.39	16.05	5.53	160	186	1.03
	0720	100	1.0	18.99	2.38	17.29	5.29	137	177	0.80
	0725	100	1.5	19.03	2.38	17.32	5.22	126	166	0.58
	0730	100	2.0	19.06	2.38	17.36	5.21	125	166	0.57
	0735	100	2.5	19.08	2.38	17.39	5.21	124	165	0.57
↓	0740	100	3.0	19.10	2.38	17.43	5.21	123	165	0.56

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **50WW29**

Sampler(s): Scott Beesinger

FIELD CONDITIONS Clear

SAMPLING INFORMATION

Sample No: 50WW29-220105 **DATE/TIME:** 1/5/22 1015 **Pump Inlet Depth:** 30.95

Sampling Method: LF **Sample Purpose:** REG **Sample Matrix:** GW

Appearance of Sample | **Assoc. QC Samples** | **Decontamination Procedures**

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2
		SGS	Perchlorate by 6850 (W)	1 x 125 mL HPDE	Cool 4C

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Low flow/Bladder Pump

Casing ID (in.): 2"

Purge Start Date/Time: 1/5/22 1025

Depth to Water - Initial (DTWi) (ft) 17.75

Purge End Date/Time: 1/5/22 1055

Depth to Well Bottom (ft) 37.90

Discharge Tube Length: NA PID Reading: NA

Screen Interval (ft): 23.45 - 38.45

Discharge Tube Diameter: 1/4" Immersible Layer: Y / (N)

Approximate depth of pump inlet*(ft): 30.95

Pump Start Time: 1025

Ferrous Iron (Required Y or (N)) _____ mg/L

2ND DTW - 17.75

APTIM

Sample Collection Log

Location ID: 50WW29		Sample No: 50WW29-220122								
Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
1/5/22	1030	100	.5	17.82	4.15	15.66	7.02	31.1	133	0.91
	1035	100	1.0	17.88	3.96	17.07	5.88	24.5	200	0.70
	1040	100	1.5	17.92	3.83	17.25	5.62	18.7	205	0.56
	1045	100	2.0	17.95	3.82	17.29	5.61	18.2	206	0.55
	1050	100	2.5	17.97	3.82	17.34	5.60	17.5	206	0.55
↓	1055	100	3.0	17.98	3.81	17.38	5.60	17.1	206	0.54

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP** Location ID: **50WW05**

Project No: **501032** Sampler(s): Derrick Berry

FIELD CONDITIONS Sunny

SAMPLING INFORMATION

Sample No: 50WW05-2204 **DATE/TIME:** 4-5-22 / ~~1505~~ 1531 **Sample Interval:** 17 - 18

Sampling Method: LF **Sample Purpose:** REG **Sample Matrix:** GW

Appearance of Sample	Assoc. QC Samples	Decontamination Procedures
Clear		

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	Perchlorate in Water by 6850	1 x 125 mL HDPE	Cool 4C
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Bladder Pump

Casing ID (in.): 4

Purge Start Date/Time: 4-5-22 / 1505

Depth to Water - Initial (DTWI) (ft) ~~17.16~~ 18.35

Purge End Date/Time: 4-5-22 / 1530

Depth to Well Bottom (ft) 23

Discharge Tube Length: 20 PID Reading: 0

Screen Interval (ft): 14.34-24.34

Discharge Tube Diameter: 1/4 Immersible Layer: Y / N

Approximate depth of pump inlet*(ft): 17

Pump Start Time: 1505

Ferrous Iron (Required Y or N) N mg/L

DTW = ~~17.16~~ DTW = 18.35

APTIM

Sample Collection Log

Location ID: 50WW05 Sample No: 50WW05-220405

Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
4-5-22	1505	400	INITIAL	18.41	1.5	23.18	6.76	25	192	0.8
	1510		2.0	18.44	1.5	22.37	6.60	21	196	0.6
	1515		4.0	18.48	1.5	21.72	6.34	16	201	0.4
	1520		6.0	18.45	1.5	21.43	6.31	15	184	0.4
	1525		8.0	18.52	1.5	21.45	6.28	12	185	0.3
	1530		10.0	18.55	1.4	21.41	6.27	10	183	0.3

Logged by: Derrick Berry Date: 4-5-2022

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **50WW06**

Sampler(s): Derrick Berry

FIELD CONDITIONS Cloudy

SAMPLING INFORMATION

Sample No: 50WW06-2204

DATE/TIME: 4-6-2022 / 1411 **Sample Interval:** 53 - 54

Sampling Method: LF

Sample Purpose: REG

Sample Matrix: GW

Appearance of Sample	Assoc. QC Samples	Decontamination Procedures
Clear		

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	Anions (chloride/nitrate/sulfate) in Water by SW9056	1 x 125 mL HPDE	Cool 4C
		ALSHT	Carbon Dioxide in Water by RSK175	3 x 40 mL Glass	Cool 4C
		ALSHT	Dissolved Gases in Water by RSK175	3 x 40 mL Glass	HCL<pH2
		ALSHT	Perchlorate in Water by 6850	1 x 125 mL HDPE	Cool 4C
		ALSHT	TOC in Water by SM5310C	2 x 40 mL Amber	H2SO4
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2
		MI	DHC in Water-CENSUS-qPCR	1 x 1 L HDPE	Cool 4C

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Casing ID (in.): 4

Depth to Water - Initial (DTWi) (ft) 16.31

Depth to Well Bottom (ft) 58

Screen Interval (ft): 47.35 - 57.35

Approximate depth of pump inlet*(ft): 50

Ferrous Iron (Required Y or N) Y 0.08 mg/L

Purging Method/Equipment: Bladder Pump

Purge Start Date/Time: 4-6-22 / 1345

Purge End Date/Time: 4-6-22 / 1410

Discharge Tube Length: 62

PID Reading: N/A

Discharge Tube Diameter: 1/4

Immersible Layer: Y / N

Pump Start Time: 1345

DTW = 16.31

APTIM

Sample Collection Log

Location ID: 50WW06 Sample No: 50WW06-2204 06

Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
4-6-22	1345	400	Init	16.36	0.185	20.26	6.63	37	158	5.6
	1350		2.0	16.36	0.126	19.59	6.22	34	181	5.3
	1355		4.0	16.36	0.125	19.56	6.21	21	182	5.3
	1400		6.0	16.36	0.124	19.59	6.22	16	184	5.3
	1405		8.0	16.36	0.122	19.60	6.21	14	185	5.4
	1410		10.0	16.36	0.121	19.62	6.20	9	187	5.4

Logged by: Derrick Berry Date: 4-6-2022

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **50WW08**

Sampler(s): Derrick Berry

FIELD CONDITIONS Fair

SAMPLING INFORMATION

Sample No: 50WW08-2204

DATE/TIME: 4-6-22 / 1051 **Sample Interval:** 25 - 26

Sampling Method: LF **Sample Purpose:** REG **Sample Matrix:** GW

Appearance of Sample	Assoc. QC Samples	Decontamination Procedures
Clear		DI Water / Alconox

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	Perchlorate in Water by 6850	1 x 125 mL HDPE	Cool 4C
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Casing ID (in.): 2

Depth to Water - Initial (DTWi) (ft) 20.44

Depth to Well Bottom (ft) 29.75

Screen Interval (ft): 11-31.71

Approximate depth of pump inlet*(ft): 21.9

Ferrous Iron (Required Y or N) No mg/L

Purging Method/Equipment: Bladder Pump

Purge Start Date/Time: 4-6-22/1020

Purge End Date/Time: 4-6-22/1050

Discharge Tube Length: 25 PID Reading: N/A

Discharge Tube Diameter: 1/4 Immersible Layer: Y / N

Pump Start Time: 1020

D+W = 20.44

Trip Blank / 4-6-22 / 1051

APTIM

Sample Collection Log

Location ID: 50WW08		Sample No: 50WW08-2204 06								
Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
4-6-22	1025	300	Init.	20.51	2.34	20.16	6.89	53	193	1.3
	1030		1.5	20.54	2.34	20.89	6.85	46	192	1.1
	1035		3.0	20.58	2.37	19.49	6.66	33	183	0.9
	1040		4.5	20.61	2.37	19.48	6.64	31	181	0.4
	1045		6.0	20.64	2.37	19.50	6.61	28	178	0.2
	1050		7.5	20.66	2.37	19.49	6.58	21	176	0.2

Logged by: _____ Date: 4-6-2022

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP** Location ID: **50WW11**

Project No: **501032** Sampler(s): Derrick Berry

FIELD CONDITIONS Sunny

SAMPLING INFORMATION

Sample No: 50WW11-2204 **DATE/TIME:** 4-6-22 / 1516 **Sample Interval:** 31 - 32

Sampling Method: LF **Sample Purpose:** REG **Sample Matrix:** GW

Appearance of Sample	Assoc. QC Samples	Decontamination Procedures
Clear		DI Water / Alconox

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	Anions (chloride/nitrate/sulfate) in Water by SW9056	1 x 125 mL HPDE	Cool 4C
		ALSHT	Carbon Dioxide in Water by RSK175	3 x 40 mL Glass	Cool 4C
		ALSHT	Dissolved Gases in Water by RSK175	3 x 40 mL Glass	HCL<pH2
		ALSHT	Perchlorate in Water by 6850	1 x 125 mL HDPE	Cool 4C
		ALSHT	TOC in Water by SM5310C	2 x 40 mL Amber	H2SO4
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2
		MI	DHC in Water-CENSUS-qPCR	1 x 1 L HDPE	Cool 4C

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Bladder Pump

Casing ID (in.): 2

Purge Start Date/Time: 4-6-22 / 1455

Depth to Water - Initial (DTWi) (ft) 18.11

Purge End Date/Time: 4-6-22 / 1515

Depth to Well Bottom (ft) 35.3

Discharge Tube Length: 42.18 PID Reading: N/A

Screen Interval (ft): 22.5 - 37.05

Discharge Tube Diameter: 1/4 Immersible Layer: Y / N

Approximate depth of pump inlet*(ft): 27.45

Pump Start Time: 1455

Ferrous Iron (Required Y or N) Y 0.18 mg/L

DTW = 18.11

APTIM

Sample Collection Log

Location ID: 50WW11 Sample No: 50WW11-220406

Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
4-6-22	1455	300	Intial	18.14	1.82	20.17	6.77	82	102	7.5
	1500		1.5	18.16	1.89	20.21	6.77	46	29	7.1
	1505		3.0	18.18	1.89	20.18	6.79	31	21	7.0
	1510		4.5	18.20	1.90	20.24	6.78	25	16	7.0
	1515		6.0	18.21	1.89	20.25	6.76	22	12	6.9

Logged by: Derik Berry Date: 4-6-22

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **50WW11**

Sampler(s): Derrick Berry

FIELD CONDITIONS Sunny

SAMPLING INFORMATION

Sample No: 50WW11-2204 **DATE/TIME:** 4-6-22 / 1516 **Sample Interval:** 31-32

Sampling Method: LF **Sample Purpose:** REG **Sample Matrix:** GW

Appearance of Sample	Assoc. QC Samples	Decontamination Procedures
Clear		DI Water / Alconox

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	Anions (chloride/nitrate/sulfate) in Water by SW9056	1 x 125 mL HPDE	Cool 4C
		ALSHT	Carbon Dioxide in Water by RSK175	3 x 40 mL Glass	Cool 4C
		ALSHT	Dissolved Gases in Water by RSK175	3 x 40 mL Glass	HCL<pH2
		ALSHT	Perchlorate in Water by 6850	1 x 125 mL HDPE	Cool 4C
		ALSHT	TOC in Water by SM5310C	2 x 40 mL Amber	H2SO4
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2
		MI	DHC in Water-CENSUS-qPCR	1 x 1 L HDPE	Cool 4C

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Bladder Pump

Casing ID (in.): 2

Purge Start Date/Time: 4-6-22 / 1455

Depth to Water - Initial (DTWi) (ft) 18.11

Purge End Date/Time: 4-6-22 / 1515

Depth to Well Bottom (ft) 35.3

Discharge Tube Length: 42.18 PID Reading: N/A

Screen Interval (ft): ~~22.5 - 37.05~~ 22.55 LGeorge 07/18/22

Discharge Tube Diameter: 1/4 Immersible Layer: Y / N

Approximate depth of pump inlet*(ft): 27.45

Pump Start Time: 1455

Ferrous Iron (Required Y or N) Y 0.18 mg/L

DtW = 18.11

APTIM

Sample Collection Log

Location ID: 50WW11 Sample No: 50WW11-220406

Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
4-6-22	1455	300	Intial	18.14	1.82	20.17	6.77	82	102	7.5
	1500		1.5	18.16	1.89	20.21	6.77	46	29	7.1
	1505		3.0	18.18	1.89	20.18	6.79	31	21	7.0
	1510		4.5	18.20	1.90	20.24	6.78	25	16	7.0
	1515		6.0	18.21	1.89	20.25	6.76	22	12	6.9

Logged by: Derik Berry Date: 4-6-22

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**
Project No: **501032**

Location ID: **50WW12**
Sampler(s): Derrick Berry

FIELD CONDITIONS Fair

SAMPLING INFORMATION

Sample No: 50WW12-2204 **DATE/TIME:** 4-6-22 / 1226 **Sample Interval:** 27 - 28

Sampling Method: LF **Sample Purpose:** REG **Sample Matrix:** GW

Appearance of Sample: Clear **Assoc. QC Samples:** **Decontamination Procedures:**

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	Anions (chloride/nitrate/sulfate) in Water by SW9056	1 x 125 mL HPDE	Cool 4C
		ALSHT	Carbon Dioxide in Water by RSK175	3 x 40 mL Glass	Cool 4C
		ALSHT	Dissolved Gases in Water by RSK175	3 x 40 mL Glass	HCL<pH2
		ALSHT	Perchlorate in Water by 6850	1 x 125 mL HDPE	Cool 4C
		ALSHT	TOC in Water by SM5310C	2 x 40 mL Amber	H2SO4
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2
		MI	DHC in Water-CENSUS-qPCR	1 x 1 L HDPE	Cool 4C

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing
Casing ID (in.): 2
Depth to Water - Initial (DTWi) (ft) 16.90
Depth to Well Bottom (ft) 35.2
Screen Interval (ft): 22.50 - 37.00
Approximate depth of pump inlet*(ft): 27.35
Ferrous Iron (Required Y or N) Y 0.17 mg/L

Purging Method/Equipment: Bladder Pump
Purge Start Date/Time: 4-6-22/1200
Purge End Date/Time: 4-6-22/1225
Discharge Tube Length: 42 PID Reading: N/A
Discharge Tube Diameter: 1/4 Immersible Layer: Y / N
Pump Start Time: 1200

DUP 50WW12-2204-A / 1226
DTW - 16.90

APTIM

Sample Collection Log

Location ID: 50WW12		Sample No: 50WW12-220406-FD								
Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
4-6-22	1200	300	Initial	16.96	4.21	20.57	6.62	111	125	0.3
	1205		1.5	16.98	4.25	19.72	6.54	69	79	0
	1210		3.0	16.99	4.25	19.67	6.47	54	70	0
	1215		4.5	17.00	4.26	19.68	6.49	31	68	0
	1220		6.0	17.01	4.26	19.68	6.48	25	68	0
	1225		7.5	17.03	4.25	19.67	6.49	22	67	0

Logged by: Derrick Berry Date: 4-6-2022

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **50WW13**

Sampler(s): Derick Bern

FIELD CONDITIONS Sunny

SAMPLING INFORMATION

Sample No: 50WW13-2204

DATE/TIME: 4-6-22 / 1646 **Sample Interval:** 28 - 29

Sampling Method: LF

Sample Purpose: REG

Sample Matrix: GW

Appearance of Sample	Assoc. QC Samples	Decontamination Procedures
Cloudy		

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	Anions (chloride/nitrate/sulfate) in Water by SW9056	1 x 125 mL HPDE	Cool 4C
		ALSHT	Carbon Dioxide in Water by RSK175	3 x 40 mL Glass	Cool 4C
		ALSHT	Dissolved Gases in Water by RSK175	3 x 40 mL Glass	HCL<pH2
		ALSHT	Perchlorate in Water by 6850	1 x 125 mL HDPE	Cool 4C
		ALSHT	TOC in Water by SM5310C	2 x 40 mL Amber	H2SO4
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2
		MI	DHC in Water-CENSUS-qPCR	1 x 1 L HDPE	Cool 4C

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Casing ID (in.): 2

Depth to Water - Initial (DTWi) (ft) 18.39

Depth to Well Bottom (ft) 35.1

Screen Interval (ft): 22.44 - 36.94

Approximate depth of pump inlet*(ft): 27.25

Ferrous Iron (Required Y or N) Y 0.00 mg/L

Purging Method/Equipment: Bladder Pump

Purge Start Date/Time: 4-6-22 / 1620

Purge End Date/Time: 4-6-22 / 1645

Discharge Tube Length: 41.03 PID Reading: N/A

Discharge Tube Diameter: 4 Immersible Layer: Y / N

Pump Start Time: 1620

DTW - 18.39

APTIM

Sample Collection Log

Location ID: 50WW13 Sample No: 50WW13-220406

Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
4-6-22	1620	200	Intl	18.46	2.1	22.03	6.94	121	85	1.3
	1625		1.0	18.48	2.2	21.19	6.84	110	92	0.9
	1630		2.0	18.48	2.2	21.12	6.82	91	92	0.6
	1635		3.0	18.49	2.2	20.97	6.81	88	76	0.8
	1640		4.0	18.49	2.2	21.00	6.80	81	75	1.0
	1645		5.0	18.50	2.1	20.99	6.78	79	71	1.0

Logged by: Derrick Berry Date: 4-6-2022

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **50WW14**

Sampler(s): Derrick Berry

FIELD CONDITIONS Sunny

SAMPLING INFORMATION

Sample No: 50WW14-2204

DATE/TIME: 4-6-22 / 1554 **Sample Interval:** 50 - 51

Sampling Method: LF

Sample Purpose: REG

Sample Matrix: GW

Appearance of Sample: Clear

Assoc. QC Samples:

Decontamination Procedures: DI Water / Alcona

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	Anions (chloride/nitrate/sulfate) in Water by SW9056	1 x 125 mL HPDE	Cool 4C
		ALSHT	Carbon Dioxide in Water by RSK175	3 x 40 mL Glass	Cool 4C
		ALSHT	Dissolved Gases in Water by RSK175	3 x 40 mL Glass	HCL<pH2
		ALSHT	Perchlorate in Water by 6850	1 x 125 mL HDPE	Cool 4C
		ALSHT	TOC in Water by SM5310C	2 x 40 mL Amber	H2SO4
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2
		MI	DHC in Water-CENSUS-qPCR	1 x 1 L HDPE	Cool 4C

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Casing ID (in.): 2

Depth to Water - Initial (DTWi) (ft) 18.65

Depth to Well Bottom (ft) 58.5

Screen Interval (ft): 45.78 - 60.28

Approximate depth of pump inlet*(ft): 50.65

Ferrous Iron (Required Y or N) Y 3.30 high mg/L

Purging Method/Equipment: Bladder Pump

Purge Start Date/Time: 4-6-22 / 1535

Purge End Date/Time: 4-6-22 / 1555

Discharge Tube Length: 64.38 PID Reading: N/A

Discharge Tube Diameter: 1/4 Immersible Layer: Y / N

Pump Start Time: 1535

DTW = 18.65

50WW14-2204-MS]
50WW14-2204-MSD] 4-6-22] 1556

APTIM

Sample Collection Log

Location ID: 50WW14 Sample No: 50WW14-220406

Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
4-6-22	1535	400	Initial	18.68	2.29	22.93	6.83	84	-16	1.4
	1540		2.0	18.71	2.28	22.81	6.79	65	-37	0.5
	1545		4.0	18.74	2.28	22.63	6.71	34	-52	0.4
	1550		6.0	18.77	2.27	22.61	6.70	28	-54	0.2
	1555		8.0	18.78	2.27	22.60	6.68	26	-56	0.2

Logged by: Derick Reg Date: 4-6-22

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **50WW29**

Sampler(s): Derrick Berry

FIELD CONDITIONS Sunny

SAMPLING INFORMATION

Sample No: 50WW29-2204

DATE/TIME: 4-5-22 / 1426 **Sample Interval:** 27 - 38

Sampling Method: LF **Sample Purpose:** REG **Sample Matrix:** GW

Appearance of Sample	Assoc. QC Samples	Decontamination Procedures
Clear		DI Water, Alconox

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	Perchlorate in Water by 6850	1 x 125 mL HDPE	Cool 4C
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Casing ID (in.): 2.00

Depth to Water - Initial (DTWi) (ft) 17.16

Depth to Well Bottom (ft) 35

Screen Interval (ft): 23.45-38.45

Approximate depth of pump inlet*(ft): 27.5

Ferrous Iron (Required Y or N) N mg/L

Purging Method/Equipment: Bladder Pump

Purge Start Date/Time: 4-5-22/1400

Purge End Date/Time: 4-5-22/1425

Discharge Tube Length: 27.00 PID Reading: 0

Discharge Tube Diameter: 1/4 Immersible Layer: Y / N

Pump Start Time: 1400

DTW = 17.16 Sample Time: 1426

Trip Blank / 1426 / 4-5-22

APTIM

Sample Collection Log

Location ID: 50WW29 Sample No: 50WW29-220405

Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
4-5-22	1400	300	Init	17.21	4.17	22.59	6.78	46	189	7.2
4.5.22	1405	300	1.5	17.24	4.20	21.43	6.72	36	444	6.2
4.5.22	1410	300	3.0	17.26	4.19	21.35	6.71	31	453	6.2
4.5.22	1415	300	4.5	17.28	4.18	21.41	6.70	24	339	5.6
4.5.22	1420	300	6.0	17.28	4.16	21.39	6.68	18	337	5.5
4.5.22	1425	300	7.5	17.29	4.15	21.35	6.67	16	333	5.5

Logged by: Derrick Berry Date: 4-5-22

QC'd by: _____ Date: _____

Appendix D

Laboratory Analytical Data Package

(Provided electronically on CD and on the Portal)

10515 Research Drive
Knoxville, TN 37932
Phone: (865) 573-8188
Fax: (865) 573-8133

Client:	Vicki Graves APTIM 2410 Cherahala Blvd Knoxville, TN 37932 US	**Phone:**	865-560-7818 **Fax:**

Identifier: 040SG **Date Rec:** 07/09/2021 **Report Date:** 07/16/2021

Client Project #: 501032 **Client Project Name:** LHAAP 50 July 2021

Purchase Order #: 204818

Test results provided for: CENSUS

Reviewed By:



NOTICE: This report is intended only for the addressee shown above and may contain confidential or privileged information. If the recipient of this material is not the intended recipient or if you have received this in error, please notify Microbial Insights, Inc. immediately. The data and other information in this report represent only the sample(s) analyzed and are rendered upon condition that it is not to be reproduced without approval from Microbial Insights, Inc. Thank you for your cooperation.

Results relate only to the items tested and the sample(s) as received by the laboratory.

MICROBIAL INSIGHTS, INC.

10515 Research Dr., Knoxville, TN 37932
Tel. (865) 573-8188 Fax. (865) 573-8133

CENSUS

Client: **APTIM**
Project: LHAAP 50 July 2021

MI Project Number: **040SG**
Date Received: 07/09/2021

Sample Information

Client Sample ID:		**50WW14-210708**	**50WW13-210708**	**50WW11-210708**	**50WW06-210708**	**50WW12-210708**
Sample Date:		07/08/2021	07/08/2021	07/08/2021	07/08/2021	07/08/2021
Units:		cells/mL	cells/mL	cells/mL	cells/mL	cells/mL
Analyst/Reviewer:		HT/CB	HT/CB	HT/CB	HT/CB	HT/CB
Dechlorinating Bacteria						
Dehalococcoides	*DHC*	**3.80E+00**	**2.90E+00**	**3.00E+00**	**1.00E+00**	**1.80E+00**

Legend:
NA = Not Analyzed NS = Not Sampled J = Estimated gene copies below PQL but above LQL I = Inhibited
< = Result not detected

Quality Assurance/Quality Control Data

Samples Received **7/9/2021**

Component	Date Prepared	Date Analyzed	Arrival Temperature	Positive Control	Extraction Blank	Negative Control
DHC	07/09/2021	07/16/2021	6 °C	100%	non-detect	non-detect

10450 Stancliff Rd. Suite 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887

July 30, 2021

Vicki Graves
Aptim Environmental & Infrastucture, Inc.
10333 Richmond Ave
Ste 1030
Houston, TX 77042

Work Order: **HS21070435**

Laboratory Results for: **LHAAP50 July 2021**

Dear Vicki Graves ,

ALS Environmental received 10 sample(s) on Jul 09, 2021 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,



Generated By: DAYNA.FISHER
Ragen Giga
Project Manager

ALS Houston, US Date: 30-Jul-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP50 July 2021
Work Order: HS21070435

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS21070435-01	50WW08-210707	Water		07-Jul-2021 07:15	09-Jul-2021 10:00	☐
HS21070435-02	50WW05-210707	Water		07-Jul-2021 08:00	09-Jul-2021 10:00	☐
HS21070435-03	50WW29-210707	Water		07-Jul-2021 08:45	09-Jul-2021 10:00	☐
HS21070435-04	50WW14-210708	Water		08-Jul-2021 07:10	09-Jul-2021 10:00	☐
HS21070435-05	50WW13-210708	Water		08-Jul-2021 07:55	09-Jul-2021 10:00	☐
HS21070435-06	50WW11-210708	Water		08-Jul-2021 08:45	09-Jul-2021 10:00	☐
HS21070435-07	50WW11-210708-FD	Water		08-Jul-2021 08:45	09-Jul-2021 10:00	☐
HS21070435-08	50WW06-210708	Water		08-Jul-2021 09:40	09-Jul-2021 10:00	☐
HS21070435-09	50WW12-210708	Water		08-Jul-2021 10:40	09-Jul-2021 10:00	☐
HS21070435-10	TRIP BLANK-210708	Water		08-Jul-2021 00:00	09-Jul-2021 10:00	☐

ALS Houston, US Date: 30-Jul-21

Client: Aptim Environmental & Infrastucture, Inc. **CASE NARRATIVE**
Project: LHAAP50 July 2021
Work Order: HS21070435

Work Order Comments

- The analysis for Methane, Methene, Ethane and CO2 by RSK175 was subcontracted to ALS Simi Valley, CA. Final report attached.
- The analysis for Perchlorate was subcontracted to ALS Houston Specialty Lab. Final report attached.

GCMS Volatiles by Method SW8260

Batch ID: R387307,R387550

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

WetChemistry by Method SM5310B

Batch ID: R387333

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

WetChemistry by Method SW9056

Batch ID: R387530

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

Batch ID: R387285

Sample ID: 50WW12-210708 (HS21070435-09)

- Sample ran at 2X due to high concentration of Chloride

ALS Houston, US Date: 30-Jul-21

Client: Aptim Environmental & Infrastructure, Inc.
Project: LHAAP50 July 2021
Sample ID: 50WW08-210707
Collection Date: 07-Jul-2021 07:15

ANALYTICAL REPORT
WorkOrder:HS21070435
Lab ID:HS21070435-01
Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: QX
1,1-Dichloroethene	**0.72**	J	**0.20**	**0.50**	**1.0**	**ug/L**	1	13-Jul-2021 03:59
1,2-Dichloroethane	**1.9**		**0.20**	**0.50**	**1.0**	**ug/L**	1	13-Jul-2021 03:59
cis-1,2-Dichloroethene	**57**		**0.20**	**0.50**	**1.0**	**ug/L**	1	13-Jul-2021 03:59
Tetrachloroethene	**1.3**		**0.30**	**1.0**	**1.0**	**ug/L**	1	13-Jul-2021 03:59
Trichloroethene	**500**		**2.0**	**5.0**	**10**	**ug/L**	10	14-Jul-2021 15:59
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	13-Jul-2021 03:59
Surr: 1,2-Dichloroethane-d4	*87.2*			**0**	*81-118*	*%REC*	*1*	*13-Jul-2021 03:59*
Surr: 1,2-Dichloroethane-d4	*86.4*			**0**	*81-118*	*%REC*	*10*	*14-Jul-2021 15:59*
Surr: 4-Bromofluorobenzene	*93.2*			**0**	*85-114*	*%REC*	*1*	*13-Jul-2021 03:59*
Surr: 4-Bromofluorobenzene	*96.4*			**0**	*85-114*	*%REC*	*10*	*14-Jul-2021 15:59*
Surr: Dibromofluoromethane	*90.9*			**0**	*80-119*	*%REC*	*1*	*13-Jul-2021 03:59*
Surr: Dibromofluoromethane	*93.1*			**0**	*80-119*	*%REC*	*10*	*14-Jul-2021 15:59*
Surr: Toluene-d8	*104*			**0**	*89-112*	*%REC*	*1*	*13-Jul-2021 03:59*
Surr: Toluene-d8	*101*			**0**	*89-112*	*%REC*	*10*	*14-Jul-2021 15:59*
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: GR
Subcontract Analysis	See Attached		0	0		NA	1	16-Jul-2021 18:47

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 30-Jul-21

Client: Aptim Environmental & Infrastructure, Inc.
Project: LHAAP50 July 2021
Sample ID: 50WW05-210707
Collection Date: 07-Jul-2021 08:00

ANALYTICAL REPORT
WorkOrder:HS21070435
Lab ID:HS21070435-02
Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: QX
1,1-Dichloroethene	**3.6**		**0.20**	**0.50**	**1.0**	**ug/L**	1	13-Jul-2021 03:38
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	13-Jul-2021 03:38
cis-1,2-Dichloroethene	**130**		**0.20**	**0.50**	**1.0**	**ug/L**	1	13-Jul-2021 03:38
Tetrachloroethene	**0.61**	J	**0.30**	**1.0**	**1.0**	**ug/L**	1	13-Jul-2021 03:38
Trichloroethene	**350**		**1.0**	**2.5**	**5.0**	**ug/L**	5	14-Jul-2021 16:20
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	13-Jul-2021 03:38
Surr: 1,2-Dichloroethane-d4	*85.2*			**0**	*81-118*	*%REC*	*1*	*13-Jul-2021 03:38*
Surr: 1,2-Dichloroethane-d4	*88.2*			**0**	*81-118*	*%REC*	*5*	*14-Jul-2021 16:20*
Surr: 4-Bromofluorobenzene	*91.2*			**0**	*85-114*	*%REC*	*1*	*13-Jul-2021 03:38*
Surr: 4-Bromofluorobenzene	*96.8*			**0**	*85-114*	*%REC*	*5*	*14-Jul-2021 16:20*
Surr: Dibromofluoromethane	*90.4*			**0**	*80-119*	*%REC*	*1*	*13-Jul-2021 03:38*
Surr: Dibromofluoromethane	*92.2*			**0**	*80-119*	*%REC*	*5*	*14-Jul-2021 16:20*
Surr: Toluene-d8	*102*			**0**	*89-112*	*%REC*	*1*	*13-Jul-2021 03:38*
Surr: Toluene-d8	*99.1*			**0**	*89-112*	*%REC*	*5*	*14-Jul-2021 16:20*
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: GR
Subcontract Analysis	See Attached		0	0		NA	1	16-Jul-2021 18:47

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 30-Jul-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP50 July 2021
Sample ID: 50WW29-210707
Collection Date: 07-Jul-2021 08:45

ANALYTICAL REPORT
WorkOrder:HS21070435
Lab ID:HS21070435-03
Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: QX
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	13-Jul-2021 02:56
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	13-Jul-2021 02:56
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	13-Jul-2021 02:56
Tetrachloroethene	1.0	U	0.30	1.0	1.0	ug/L	1	13-Jul-2021 02:56
Trichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	13-Jul-2021 02:56
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	13-Jul-2021 02:56
Surr: 1,2-Dichloroethane-d4	*88.4*			**0**	*81-118*	*%REC*	*1*	*13-Jul-2021 02:56*
Surr: 4-Bromofluorobenzene	*96.1*			**0**	*85-114*	*%REC*	*1*	*13-Jul-2021 02:56*
Surr: Dibromofluoromethane	*94.3*			**0**	*80-119*	*%REC*	*1*	*13-Jul-2021 02:56*
Surr: Toluene-d8	*104*			**0**	*89-112*	*%REC*	*1*	*13-Jul-2021 02:56*
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: GR
Subcontract Analysis	See Attached		0	0		NA	1	16-Jul-2021 18:47

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 30-Jul-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP50 July 2021
Sample ID: 50WW14-210708
Collection Date: 08-Jul-2021 07:10

ANALYTICAL REPORT
WorkOrder:HS21070435
Lab ID:HS21070435-04
Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: QX
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	13-Jul-2021 03:17
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	13-Jul-2021 03:17
cis-1,2-Dichloroethene	**2.4**		**0.20**	**0.50**	**1.0**	**ug/L**	1	13-Jul-2021 03:17
Tetrachloroethene	1.0	U	0.30	1.0	1.0	ug/L	1	13-Jul-2021 03:17
Trichloroethene	**24**		**0.20**	**0.50**	**1.0**	**ug/L**	1	13-Jul-2021 03:17
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	13-Jul-2021 03:17
Surr: 1,2-Dichloroethane-d4	*88.7*			**0**	*81-118*	*%REC*	*1*	*13-Jul-2021 03:17*
Surr: 4-Bromofluorobenzene	*92.3*			**0**	*85-114*	*%REC*	*1*	*13-Jul-2021 03:17*
Surr: Dibromofluoromethane	*91.6*			**0**	*80-119*	*%REC*	*1*	*13-Jul-2021 03:17*
Surr: Toluene-d8	*104*			**0**	*89-112*	*%REC*	*1*	*13-Jul-2021 03:17*
TOTAL ORGANIC CARBON - SM5310B-2011		**Method:SM5310B**						Analyst: JAC
Organic Carbon, Total	**1.34**		**0.500**	**1.00**	**1.00**	**mg/L**	1	13-Jul-2021 01:05
ANIONS BY SW9056A		**Method:SW9056**						Analyst: YP
Chloride	**404**		**2.00**	**5.00**	**5.00**	**mg/L**	10	13-Jul-2021 16:37
Nitrogen, Nitrate (As N)	**0.0723**	J	**0.0300**	**0.100**	**0.100**	**mg/L**	1	09-Jul-2021 17:54
Sulfate	**370**		**2.00**	**5.00**	**5.00**	**mg/L**	10	13-Jul-2021 16:37
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: GR
Subcontract Analysis	See Attached		0	0		NA	1	16-Jul-2021 18:47
SUBCONTRACT ANALYSIS - RSK		**Method:NA**						Analyst: SUB
Subcontract Analysis	See Attached		0	0		NA	1	30-Jul-2021 11:56

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 30-Jul-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP50 July 2021
Sample ID: 50WW13-210708
Collection Date: 08-Jul-2021 07:55

ANALYTICAL REPORT
WorkOrder:HS21070435
Lab ID:HS21070435-05
Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: QX
1,1-Dichloroethene	**6.6**		**0.20**	**0.50**	**1.0**	**ug/L**	1	13-Jul-2021 04:20
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	13-Jul-2021 04:20
cis-1,2-Dichloroethene	**120**		**0.20**	**0.50**	**1.0**	**ug/L**	1	13-Jul-2021 04:20
Tetrachloroethene	**3.8**		**0.30**	**1.0**	**1.0**	**ug/L**	1	13-Jul-2021 04:20
Trichloroethene	**3,000**		**10**	**25**	**50**	**ug/L**	50	14-Jul-2021 15:38
Vinyl chloride	**0.92**	J	**0.20**	**0.50**	**1.0**	**ug/L**	1	13-Jul-2021 04:20
Surr: 1,2-Dichloroethane-d4	*84.7*			**0**	*81-118*	*%REC*	*1*	*13-Jul-2021 04:20*
Surr: 1,2-Dichloroethane-d4	*86.3*			**0**	*81-118*	*%REC*	*50*	*14-Jul-2021 15:38*
Surr: 4-Bromofluorobenzene	*94.6*			**0**	*85-114*	*%REC*	*1*	*13-Jul-2021 04:20*
Surr: 4-Bromofluorobenzene	*94.0*			**0**	*85-114*	*%REC*	*50*	*14-Jul-2021 15:38*
Surr: Dibromofluoromethane	*90.2*			**0**	*80-119*	*%REC*	*1*	*13-Jul-2021 04:20*
Surr: Dibromofluoromethane	*94.2*			**0**	*80-119*	*%REC*	*50*	*14-Jul-2021 15:38*
Surr: Toluene-d8	*102*			**0**	*89-112*	*%REC*	*1*	*13-Jul-2021 04:20*
Surr: Toluene-d8	*104*			**0**	*89-112*	*%REC*	*50*	*14-Jul-2021 15:38*
TOTAL ORGANIC CARBON - SM5310B-2011		**Method:SM5310B**						Analyst: JAC
Organic Carbon, Total	**1.76**		**0.500**	**1.00**	**1.00**	**mg/L**	1	13-Jul-2021 01:19
ANIONS BY SW9056A		**Method:SW9056**						Analyst: YP
Chloride	**329**		**2.00**	**5.00**	**5.00**	**mg/L**	10	13-Jul-2021 16:44
Nitrogen, Nitrate (As N)	0.100	U	0.0300	0.100	0.100	mg/L	1	09-Jul-2021 18:01
Sulfate	**347**		**2.00**	**5.00**	**5.00**	**mg/L**	10	13-Jul-2021 16:44
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: GR
Subcontract Analysis	See Attached		0	0		NA	1	16-Jul-2021 18:47
SUBCONTRACT ANALYSIS - RSK		**Method:NA**						Analyst: SUB
Subcontract Analysis	See Attached		0	0		NA	1	30-Jul-2021 11:56

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 30-Jul-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP50 July 2021
Sample ID: 50WW11-210708
Collection Date: 08-Jul-2021 08:45

ANALYTICAL REPORT
WorkOrder:HS21070435
Lab ID:HS21070435-06
Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: QX
1,1-Dichloroethene	**9.9**		**0.20**	**0.50**	**1.0**	**ug/L**	1	13-Jul-2021 05:02
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	13-Jul-2021 05:02
cis-1,2-Dichloroethene	**20**		**0.20**	**0.50**	**1.0**	**ug/L**	1	13-Jul-2021 05:02
Tetrachloroethene	**1.7**		**0.30**	**1.0**	**1.0**	**ug/L**	1	13-Jul-2021 05:02
Trichloroethene	**1,100**		**2.0**	**5.0**	**10**	**ug/L**	10	13-Jul-2021 05:23
Vinyl chloride	**0.60**	J	**0.20**	**0.50**	**1.0**	**ug/L**	1	13-Jul-2021 05:02
Surr: 1,2-Dichloroethane-d4	*89.0*			**0**	*81-118*	*%REC*	*1*	*13-Jul-2021 05:02*
Surr: 1,2-Dichloroethane-d4	*85.4*			**0**	*81-118*	*%REC*	*10*	*13-Jul-2021 05:23*
Surr: 4-Bromofluorobenzene	*95.0*			**0**	*85-114*	*%REC*	*1*	*13-Jul-2021 05:02*
Surr: 4-Bromofluorobenzene	*93.9*			**0**	*85-114*	*%REC*	*10*	*13-Jul-2021 05:23*
Surr: Dibromofluoromethane	*93.6*			**0**	*80-119*	*%REC*	*1*	*13-Jul-2021 05:02*
Surr: Dibromofluoromethane	*93.1*			**0**	*80-119*	*%REC*	*10*	*13-Jul-2021 05:23*
Surr: Toluene-d8	*102*			**0**	*89-112*	*%REC*	*1*	*13-Jul-2021 05:02*
Surr: Toluene-d8	*102*			**0**	*89-112*	*%REC*	*10*	*13-Jul-2021 05:23*
TOTAL ORGANIC CARBON - SM5310B-2011		**Method:SM5310B**						Analyst: JAC
Organic Carbon, Total	**1.90**		**0.500**	**1.00**	**1.00**	**mg/L**	1	13-Jul-2021 01:34
ANIONS BY SW9056A		**Method:SW9056**						Analyst: YP
Chloride	**285**		**2.00**	**5.00**	**5.00**	**mg/L**	10	13-Jul-2021 16:52
Nitrogen, Nitrate (As N)	0.100	U	0.0300	0.100	0.100	mg/L	1	09-Jul-2021 18:09
Sulfate	**358**		**2.00**	**5.00**	**5.00**	**mg/L**	10	13-Jul-2021 16:52
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: GR
Subcontract Analysis	See Attached		0	0		NA	1	16-Jul-2021 18:47
SUBCONTRACT ANALYSIS - RSK		**Method:NA**						Analyst: SUB
Subcontract Analysis	See Attached		0	0		NA	1	30-Jul-2021 11:56

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 30-Jul-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP50 July 2021
Sample ID: 50WW11-210708-FD
Collection Date: 08-Jul-2021 08:45

ANALYTICAL REPORT
WorkOrder:HS21070435
Lab ID:HS21070435-07
Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: QX
1,1-Dichloroethene	**9.7**		**0.20**	**0.50**	**1.0**	**ug/L**	1	13-Jul-2021 05:44
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	13-Jul-2021 05:44
cis-1,2-Dichloroethene	**19**		**0.20**	**0.50**	**1.0**	**ug/L**	1	13-Jul-2021 05:44
Tetrachloroethene	**1.9**		**0.30**	**1.0**	**1.0**	**ug/L**	1	13-Jul-2021 05:44
Trichloroethene	**1,100**		**2.0**	**5.0**	**10**	**ug/L**	10	13-Jul-2021 06:05
Vinyl chloride	**0.62**	J	**0.20**	**0.50**	**1.0**	**ug/L**	1	13-Jul-2021 05:44
Surr: 1,2-Dichloroethane-d4	*89.5*			**0**	*81-118*	*%REC*	*1*	*13-Jul-2021 05:44*
Surr: 1,2-Dichloroethane-d4	*87.7*			**0**	*81-118*	*%REC*	*10*	*13-Jul-2021 06:05*
Surr: 4-Bromofluorobenzene	*92.9*			**0**	*85-114*	*%REC*	*1*	*13-Jul-2021 05:44*
Surr: 4-Bromofluorobenzene	*94.2*			**0**	*85-114*	*%REC*	*10*	*13-Jul-2021 06:05*
Surr: Dibromofluoromethane	*91.9*			**0**	*80-119*	*%REC*	*1*	*13-Jul-2021 05:44*
Surr: Dibromofluoromethane	*93.5*			**0**	*80-119*	*%REC*	*10*	*13-Jul-2021 06:05*
Surr: Toluene-d8	*102*			**0**	*89-112*	*%REC*	*1*	*13-Jul-2021 05:44*
Surr: Toluene-d8	*103*			**0**	*89-112*	*%REC*	*10*	*13-Jul-2021 06:05*
TOTAL ORGANIC CARBON - SM5310B-2011		**Method:SM5310B**						Analyst: JAC
Organic Carbon, Total	**1.81**		**0.500**	**1.00**	**1.00**	**mg/L**	1	13-Jul-2021 01:48
ANIONS BY SW9056A		**Method:SW9056**						Analyst: YP
Chloride	**281**		**2.00**	**5.00**	**5.00**	**mg/L**	10	13-Jul-2021 16:59
Nitrogen, Nitrate (As N)	0.100	U	0.0300	0.100	0.100	mg/L	1	09-Jul-2021 18:16
Sulfate	**354**		**2.00**	**5.00**	**5.00**	**mg/L**	10	13-Jul-2021 16:59
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: GR
Subcontract Analysis	See Attached		0	0		NA	1	16-Jul-2021 18:47
SUBCONTRACT ANALYSIS - RSK		**Method:NA**						Analyst: SUB
Subcontract Analysis	See Attached		0	0		NA	1	30-Jul-2021 11:56

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 30-Jul-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP50 July 2021
Sample ID: 50WW06-210708
Collection Date: 08-Jul-2021 09:40

ANALYTICAL REPORT
WorkOrder:HS21070435
Lab ID:HS21070435-08
Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: QX
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	13-Jul-2021 01:32
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	13-Jul-2021 01:32
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	13-Jul-2021 01:32
Tetrachloroethene	1.0	U	0.30	1.0	1.0	ug/L	1	13-Jul-2021 01:32
Trichloroethene	**4.2**		**0.20**	**0.50**	**1.0**	**ug/L**	1	13-Jul-2021 01:32
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	13-Jul-2021 01:32
Surr: 1,2-Dichloroethane-d4	*87.7*			**0**	*81-118*	*%REC*	*1*	*13-Jul-2021 01:32*
Surr: 4-Bromofluorobenzene	*94.6*			**0**	*85-114*	*%REC*	*1*	*13-Jul-2021 01:32*
Surr: Dibromofluoromethane	*93.1*			**0**	*80-119*	*%REC*	*1*	*13-Jul-2021 01:32*
Surr: Toluene-d8	*104*			**0**	*89-112*	*%REC*	*1*	*13-Jul-2021 01:32*
TOTAL ORGANIC CARBON - SM5310B-2011		**Method:SM5310B**						Analyst: JAC
Organic Carbon, Total	**2.23**		**0.500**	**1.00**	**1.00**	**mg/L**	1	13-Jul-2021 02:26
ANIONS BY SW9056A		**Method:SW9056**						Analyst: YP
Chloride	**3.31**		**0.200**	**0.500**	**0.500**	**mg/L**	1	13-Jul-2021 17:06
Nitrogen, Nitrate (As N)	**0.110**		**0.0300**	**0.100**	**0.100**	**mg/L**	1	09-Jul-2021 17:32
Sulfate	**13.4**		**0.200**	**0.500**	**0.500**	**mg/L**	1	13-Jul-2021 17:06
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: GR
Subcontract Analysis	See Attached		0	0		NA	1	16-Jul-2021 18:47
SUBCONTRACT ANALYSIS - RSK		**Method:NA**						Analyst: SUB
Subcontract Analysis	See Attached		0	0		NA	1	30-Jul-2021 11:56

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 30-Jul-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP50 July 2021
Sample ID: 50WW12-210708
Collection Date: 08-Jul-2021 10:40

ANALYTICAL REPORT
WorkOrder:HS21070435
Lab ID:HS21070435-09
Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: QX
1,1-Dichloroethene	**11**		**0.20**	**0.50**	**1.0**	**ug/L**	1	13-Jul-2021 06:26
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	13-Jul-2021 06:26
cis-1,2-Dichloroethene	**2.4**		**0.20**	**0.50**	**1.0**	**ug/L**	1	13-Jul-2021 06:26
Tetrachloroethene	1.0	U	0.30	1.0	1.0	ug/L	1	13-Jul-2021 06:26
Trichloroethene	**1,200**		**2.0**	**5.0**	**10**	**ug/L**	10	13-Jul-2021 06:47
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	13-Jul-2021 06:26
Surr: 1,2-Dichloroethane-d4	*87.6*			**0**	*81-118*	*%REC*	*1*	*13-Jul-2021 06:26*
Surr: 1,2-Dichloroethane-d4	*85.1*			**0**	*81-118*	*%REC*	*10*	*13-Jul-2021 06:47*
Surr: 4-Bromofluorobenzene	*93.7*			**0**	*85-114*	*%REC*	*1*	*13-Jul-2021 06:26*
Surr: 4-Bromofluorobenzene	*93.0*			**0**	*85-114*	*%REC*	*10*	*13-Jul-2021 06:47*
Surr: Dibromofluoromethane	*93.6*			**0**	*80-119*	*%REC*	*1*	*13-Jul-2021 06:26*
Surr: Dibromofluoromethane	*92.5*			**0**	*80-119*	*%REC*	*10*	*13-Jul-2021 06:47*
Surr: Toluene-d8	*102*			**0**	*89-112*	*%REC*	*1*	*13-Jul-2021 06:26*
Surr: Toluene-d8	*101*			**0**	*89-112*	*%REC*	*10*	*13-Jul-2021 06:47*
TOTAL ORGANIC CARBON - SM5310B-2011		**Method:SM5310B**						Analyst: JAC
Organic Carbon, Total	**1.93**		**0.500**	**1.00**	**1.00**	**mg/L**	1	13-Jul-2021 02:52
ANIONS BY SW9056A		**Method:SW9056**						Analyst: YP
Chloride	**997**		**4.00**	**10.0**	**10.0**	**mg/L**	20	13-Jul-2021 17:28
Nitrogen, Nitrate (As N)	0.200	U	0.0600	0.200	0.200	mg/L	2	09-Jul-2021 18:31
Sulfate	**534**		**4.00**	**10.0**	**10.0**	**mg/L**	20	13-Jul-2021 17:28
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: GR
Subcontract Analysis	See Attached		0	0		NA	1	16-Jul-2021 18:47
SUBCONTRACT ANALYSIS - RSK		**Method:NA**						Analyst: SUB
Subcontract Analysis	See Attached		0	0		NA	1	30-Jul-2021 11:56

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 30-Jul-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP50 July 2021
Sample ID: TRIP BLANK-210708
Collection Date: 08-Jul-2021 00:00

ANALYTICAL REPORT
WorkOrder:HS21070435
Lab ID:HS21070435-10
Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: QX
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	13-Jul-2021 01:10
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	13-Jul-2021 01:10
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	13-Jul-2021 01:10
Tetrachloroethene	1.0	U	0.30	1.0	1.0	ug/L	1	13-Jul-2021 01:10
Trichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	13-Jul-2021 01:10
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	13-Jul-2021 01:10
Surr: 1,2-Dichloroethane-d4	*88.6*			**0**	*81-118*	*%REC*	*1*	*13-Jul-2021 01:10*
Surr: 4-Bromofluorobenzene	*93.9*			**0**	*85-114*	*%REC*	*1*	*13-Jul-2021 01:10*
Surr: Dibromofluoromethane	*93.4*			**0**	*80-119*	*%REC*	*1*	*13-Jul-2021 01:10*
Surr: Toluene-d8	*102*			**0**	*89-112*	*%REC*	*1*	*13-Jul-2021 01:10*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 30-Jul-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP50 July 2021
WorkOrder: HS21070435

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: R387285 (0)	**Test Name :** ANIONS BY SW9056A				**Matrix:** Water	
HS21070435-04	50WW14-210708	08 Jul 2021 07:10			09 Jul 2021 17:54	1
HS21070435-05	50WW13-210708	08 Jul 2021 07:55			09 Jul 2021 18:01	1
HS21070435-06	50WW11-210708	08 Jul 2021 08:45			09 Jul 2021 18:09	1
HS21070435-07	50WW11-210708-FD	08 Jul 2021 08:45			09 Jul 2021 18:16	1
HS21070435-08	50WW06-210708	08 Jul 2021 09:40			09 Jul 2021 17:32	1
HS21070435-09	50WW12-210708	08 Jul 2021 10:40			09 Jul 2021 18:31	2
Batch ID: R387307 (0)	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C				**Matrix:** Water	
HS21070435-01	50WW08-210707	07 Jul 2021 07:15			13 Jul 2021 03:59	1
HS21070435-02	50WW05-210707	07 Jul 2021 08:00			13 Jul 2021 03:38	1
HS21070435-03	50WW29-210707	07 Jul 2021 08:45			13 Jul 2021 02:56	1
HS21070435-04	50WW14-210708	08 Jul 2021 07:10			13 Jul 2021 03:17	1
HS21070435-05	50WW13-210708	08 Jul 2021 07:55			13 Jul 2021 04:20	1
HS21070435-06	50WW11-210708	08 Jul 2021 08:45			13 Jul 2021 05:23	10
HS21070435-06	50WW11-210708	08 Jul 2021 08:45			13 Jul 2021 05:02	1
HS21070435-07	50WW11-210708-FD	08 Jul 2021 08:45			13 Jul 2021 06:05	10
HS21070435-07	50WW11-210708-FD	08 Jul 2021 08:45			13 Jul 2021 05:44	1
HS21070435-08	50WW06-210708	08 Jul 2021 09:40			13 Jul 2021 01:32	1
HS21070435-09	50WW12-210708	08 Jul 2021 10:40			13 Jul 2021 06:47	10
HS21070435-09	50WW12-210708	08 Jul 2021 10:40			13 Jul 2021 06:26	1
HS21070435-10	TRIP BLANK-210708	08 Jul 2021 00:00			13 Jul 2021 01:10	1
Batch ID: R387333 (0)	**Test Name :** TOTAL ORGANIC CARBON - SM5310B-2011				**Matrix:** Water	
HS21070435-04	50WW14-210708	08 Jul 2021 07:10			13 Jul 2021 01:05	1
HS21070435-05	50WW13-210708	08 Jul 2021 07:55			13 Jul 2021 01:19	1
HS21070435-06	50WW11-210708	08 Jul 2021 08:45			13 Jul 2021 01:34	1
HS21070435-07	50WW11-210708-FD	08 Jul 2021 08:45			13 Jul 2021 01:48	1
HS21070435-08	50WW06-210708	08 Jul 2021 09:40			13 Jul 2021 02:26	1
HS21070435-09	50WW12-210708	08 Jul 2021 10:40			13 Jul 2021 02:52	1
Batch ID: R387530 (0)	**Test Name :** ANIONS BY SW9056A				**Matrix:** Water	
HS21070435-04	50WW14-210708	08 Jul 2021 07:10			13 Jul 2021 16:37	10
HS21070435-05	50WW13-210708	08 Jul 2021 07:55			13 Jul 2021 16:44	10
HS21070435-06	50WW11-210708	08 Jul 2021 08:45			13 Jul 2021 16:52	10
HS21070435-07	50WW11-210708-FD	08 Jul 2021 08:45			13 Jul 2021 16:59	10
HS21070435-08	50WW06-210708	08 Jul 2021 09:40			13 Jul 2021 17:06	1
HS21070435-09	50WW12-210708	08 Jul 2021 10:40			13 Jul 2021 17:28	20

ALS Houston, US Date: 30-Jul-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP50 July 2021
WorkOrder: HS21070435

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: R387550 (0)	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C				**Matrix:** Water	
HS21070435-01	50WW08-210707	07 Jul 2021 07:15			14 Jul 2021 15:59	10
HS21070435-02	50WW05-210707	07 Jul 2021 08:00			14 Jul 2021 16:20	5
HS21070435-05	50WW13-210708	08 Jul 2021 07:55			14 Jul 2021 15:38	50
Batch ID: R387637 (0)	**Test Name :** SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)				**Matrix:** Water	
HS21070435-01	50WW08-210707	07 Jul 2021 07:15			16 Jul 2021 18:47	1
HS21070435-02	50WW05-210707	07 Jul 2021 08:00			16 Jul 2021 18:47	1
HS21070435-03	50WW29-210707	07 Jul 2021 08:45			16 Jul 2021 18:47	1
HS21070435-04	50WW14-210708	08 Jul 2021 07:10			16 Jul 2021 18:47	1
HS21070435-05	50WW13-210708	08 Jul 2021 07:55			16 Jul 2021 18:47	1
HS21070435-06	50WW11-210708	08 Jul 2021 08:45			16 Jul 2021 18:47	1
HS21070435-07	50WW11-210708-FD	08 Jul 2021 08:45			16 Jul 2021 18:47	1
HS21070435-08	50WW06-210708	08 Jul 2021 09:40			16 Jul 2021 18:47	1
HS21070435-09	50WW12-210708	08 Jul 2021 10:40			16 Jul 2021 18:47	1
Batch ID: R388561 (0)	**Test Name :** SUBCONTRACT ANALYSIS - RSK				**Matrix:** Water	
HS21070435-04	50WW14-210708	08 Jul 2021 07:10			30 Jul 2021 11:56	1
HS21070435-05	50WW13-210708	08 Jul 2021 07:55			30 Jul 2021 11:56	1
HS21070435-06	50WW11-210708	08 Jul 2021 08:45			30 Jul 2021 11:56	1
HS21070435-07	50WW11-210708-FD	08 Jul 2021 08:45			30 Jul 2021 11:56	1
HS21070435-08	50WW06-210708	08 Jul 2021 09:40			30 Jul 2021 11:56	1
HS21070435-09	50WW12-210708	08 Jul 2021 10:40			30 Jul 2021 11:56	1

ALS Houston, US Date: 30-Jul-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP50 July 2021
WorkOrder: HS21070435

QC BATCH REPORT

Batch ID: R387307 (0) **Instrument: VOA6** **Method: VOLATILES ORGANICS BY METHOD 8260C**

MBLK Sample ID: **VBLKW-210712** Units: **ug/L** Analysis Date: **12-Jul-2021 23:25**
Client ID: Run ID: **VOA6_387307** SeqNo: **6179592** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1-Dichloroethene	0.50	1.0								U
1,2-Dichloroethane	0.50	1.0								U
cis-1,2-Dichloroethene	0.50	1.0								U
Tetrachloroethene	1.0	1.0								U
Trichloroethene	0.50	1.0								U
Vinyl chloride	0.50	1.0								U
Surr: 1,2-Dichloroethane-d4	*45.01*	*1.0*	*50*	*0*	*90.0*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*47.18*	*1.0*	*50*	*0*	*94.4*	*85 - 114*				
Surr: Dibromofluoromethane	*46.89*	*1.0*	*50*	*0*	*93.8*	*80 - 119*				
Surr: Toluene-d8	*51.53*	*1.0*	*50*	*0*	*103*	*89 - 112*				

LCS Sample ID: **VLCSW-210712** Units: **ug/L** Analysis Date: **12-Jul-2021 22:43**
Client ID: Run ID: **VOA6_387307** SeqNo: **6179591** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1-Dichloroethene	19.77	1.0	20	0	98.9	71 - 131				
1,2-Dichloroethane	17.95	1.0	20	0	89.8	73 - 128				
cis-1,2-Dichloroethene	18.5	1.0	20	0	92.5	78 - 123				
Tetrachloroethene	20.19	1.0	20	0	101	74 - 129				
Trichloroethene	19.86	1.0	20	0	99.3	79 - 123				
Vinyl chloride	15.37	1.0	20	0	76.8	58 - 137				
Surr: 1,2-Dichloroethane-d4	*47.4*	*1.0*	*50*	*0*	*94.8*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*48.51*	*1.0*	*50*	*0*	*97.0*	*85 - 114*				
Surr: Dibromofluoromethane	*48.32*	*1.0*	*50*	*0*	*96.6*	*80 - 119*				
Surr: Toluene-d8	*48.41*	*1.0*	*50*	*0*	*96.8*	*89 - 112*				

ALS Houston, US Date: 30-Jul-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP50 July 2021
WorkOrder: HS21070435

QC BATCH REPORT

Batch ID: R387307 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS21070435-08MS** Units: **ug/L** Analysis Date: **13-Jul-2021 01:52**
Client ID: **50WW06-210708** Run ID: **VOA6_387307** SeqNo: **6179728** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1-Dichloroethene	19.93	1.0	20	0	99.7	71 - 131				
1,2-Dichloroethane	19.32	1.0	20	0	96.6	73 - 128				
cis-1,2-Dichloroethene	19.56	1.0	20	0	97.8	78 - 123				
Tetrachloroethene	20.23	1.0	20	0	101	74 - 129				
Trichloroethene	24.14	1.0	20	4.222	99.6	79 - 123				
Vinyl chloride	16.04	1.0	20	0	80.2	58 - 137				
Surr: 1,2-Dichloroethane-d4	*56.22*	*1.0*	*50*	*0*	*112*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*52.14*	*1.0*	*50*	*0*	*104*	*85 - 114*				
Surr: Dibromofluoromethane	*55.83*	*1.0*	*50*	*0*	*112*	*80 - 119*				
Surr: Toluene-d8	*52.41*	*1.0*	*50*	*0*	*105*	*89 - 112*				

MSD Sample ID: **HS21070435-08MSD** Units: **ug/L** Analysis Date: **13-Jul-2021 02:13**
Client ID: **50WW06-210708** Run ID: **VOA6_387307** SeqNo: **6179729** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1-Dichloroethene	19.52	1.0	20	0	97.6	71 - 131	19.93	2.07	20	
1,2-Dichloroethane	19	1.0	20	0	95.0	73 - 128	19.32	1.67	20	
cis-1,2-Dichloroethene	20.11	1.0	20	0	101	78 - 123	19.56	2.76	20	
Tetrachloroethene	19.5	1.0	20	0	97.5	74 - 129	20.23	3.68	20	
Trichloroethene	23.78	1.0	20	4.222	97.8	79 - 123	24.14	1.52	20	
Vinyl chloride	15.28	1.0	20	0	76.4	58 - 137	16.04	4.88	20	
Surr: 1,2-Dichloroethane-d4	*57.46*	*1.0*	*50*	*0*	*115*	*81 - 118*	*56.22*	*2.17*	*20*	
Surr: 4-Bromofluorobenzene	*52.41*	*1.0*	*50*	*0*	*105*	*85 - 114*	*52.14*	*0.509*	*20*	
Surr: Dibromofluoromethane	*56.77*	*1.0*	*50*	*0*	*114*	*80 - 119*	*55.83*	*1.67*	*20*	
Surr: Toluene-d8	*53*	*1.0*	*50*	*0*	*106*	*89 - 112*	*52.41*	*1.12*	*20*	

The following samples were analyzed in this batch:

HS21070435-01	HS21070435-02	HS21070435-03	HS21070435-04
HS21070435-05	HS21070435-06	HS21070435-07	HS21070435-08
HS21070435-09	HS21070435-10		

ALS Houston, US Date: 30-Jul-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP50 July 2021
WorkOrder: HS21070435

QC BATCH REPORT

Batch ID: R387550 (0) **Instrument: VOA6** **Method: VOLATILES ORGANICS BY METHOD 8260C**

MBLK Sample ID: **VBLKW-210714** Units: **ug/L** Analysis Date: **14-Jul-2021 12:50**
Client ID: Run ID: **VOA6_387550** SeqNo: **6184803** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Trichloroethene	0.50	1.0								U
Surr: 1,2-Dichloroethane-d4	*43.57*	*1.0*	*50*	*0*	*87.1*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*48.15*	*1.0*	*50*	*0*	*96.3*	*85 - 114*				
Surr: Dibromofluoromethane	*46.42*	*1.0*	*50*	*0*	*92.8*	*80 - 119*				
Surr: Toluene-d8	*50.87*	*1.0*	*50*	*0*	*102*	*89 - 112*				

LCS Sample ID: **VLCSW-210714** Units: **ug/L** Analysis Date: **14-Jul-2021 11:47**
Client ID: Run ID: **VOA6_387550** SeqNo: **6184802** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Trichloroethene	20.73	1.0	20	0	104	79 - 123				
Surr: 1,2-Dichloroethane-d4	*48.07*	*1.0*	*50*	*0*	*96.1*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*48.39*	*1.0*	*50*	*0*	*96.8*	*85 - 114*				
Surr: Dibromofluoromethane	*49.82*	*1.0*	*50*	*0*	*99.6*	*80 - 119*				
Surr: Toluene-d8	*47.81*	*1.0*	*50*	*0*	*95.6*	*89 - 112*				

MS Sample ID: **HS21070323-01MS** Units: **ug/L** Analysis Date: **14-Jul-2021 14:56**
Client ID: Run ID: **VOA6_387550** SeqNo: **6184809** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Trichloroethene	24.05	1.0	20	4.32	98.7	79 - 123				
Surr: 1,2-Dichloroethane-d4	*44.17*	*1.0*	*50*	*0*	*88.3*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*47.74*	*1.0*	*50*	*0*	*95.5*	*85 - 114*				
Surr: Dibromofluoromethane	*46.88*	*1.0*	*50*	*0*	*93.8*	*80 - 119*				
Surr: Toluene-d8	*49.05*	*1.0*	*50*	*0*	*98.1*	*89 - 112*				

ALS Houston, US Date: 30-Jul-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP50 July 2021
WorkOrder: HS21070435

QC BATCH REPORT

Batch ID: R387550 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS21070323-01MSD** Units: **ug/L** Analysis Date: **14-Jul-2021 15:17**
Client ID: Run ID: **VOA6_387550** SeqNo: **6184810** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Trichloroethene	22.57	1.0	20	4.32	91.3	79 - 123	24.05	6.35	20	
Surr: 1,2-Dichloroethane-d4	*42.76*	*1.0*	*50*	*0*	*85.5*	*81 - 118*	*44.17*	*3.24*	*20*	
Surr: 4-Bromofluorobenzene	*48.8*	*1.0*	*50*	*0*	*97.6*	*85 - 114*	*47.74*	*2.19*	*20*	
Surr: Dibromofluoromethane	*46.94*	*1.0*	*50*	*0*	*93.9*	*80 - 119*	*46.88*	*0.126*	*20*	
Surr: Toluene-d8	*50.68*	*1.0*	*50*	*0*	*101*	*89 - 112*	*49.05*	*3.27*	*20*	

The following samples were analyzed in this batch: HS21070435-01 HS21070435-02 HS21070435-05

ALS Houston, US Date: 30-Jul-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP50 July 2021
WorkOrder: HS21070435

QC BATCH REPORT

Batch ID: R387285 (0) **Instrument: ICS-Integrion** **Method: ANIONS BY SW9056A**

MBLK Sample ID: **MBLK** Units: **mg/L** Analysis Date: **09-Jul-2021 11:17**
Client ID: Run ID: **ICS-Integrion_387285** SeqNo: **6178997** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrogen, Nitrate (As N)	0.0328	0.100								J

LCS Sample ID: **LCS** Units: **mg/L** Analysis Date: **09-Jul-2021 11:25**
Client ID: Run ID: **ICS-Integrion_387285** SeqNo: **6178998** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrogen, Nitrate (As N)	3.728	0.100	4	0	93.2	80 - 120				

MS Sample ID: **HS21070435-08MS** Units: **mg/L** Analysis Date: **09-Jul-2021 17:39**
Client ID: **50WW06-210708** Run ID: **ICS-Integrion_387285** SeqNo: **6179012** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrogen, Nitrate (As N)	2.106	0.100	2	0.1102	99.8	80 - 120				

MSD Sample ID: **HS21070435-08MSD** Units: **mg/L** Analysis Date: **09-Jul-2021 17:47**
Client ID: **50WW06-210708** Run ID: **ICS-Integrion_387285** SeqNo: **6179013** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrogen, Nitrate (As N)	2.343	0.100	2	0.1102	112	80 - 120	2.106	10.7	20	

The following samples were analyzed in this batch: HS21070435-04 HS21070435-05 HS21070435-06 HS21070435-07 HS21070435-08 HS21070435-09

ALS Houston, US Date: 30-Jul-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP50 July 2021
WorkOrder: HS21070435

QC BATCH REPORT

Batch ID: R387333 (0) **Instrument:** TOC_04 **Method:** TOTAL ORGANIC CARBON - SM5310B-2011

MBLK Sample ID: **MBLK-07122021** Units: **mg/L** Analysis Date: **12-Jul-2021 23:49**
Client ID: Run ID: **TOC_04_387333** SeqNo: **6180046** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	1.00	1.00								U

LCS Sample ID: **LCS-07122021** Units: **mg/L** Analysis Date: **13-Jul-2021 00:01**
Client ID: Run ID: **TOC_04_387333** SeqNo: **6180047** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	10.53	1.00	10	0	105	85 - 115				

LCSD Sample ID: **LCSD-07122021** Units: **mg/L** Analysis Date: **13-Jul-2021 00:13**
Client ID: Run ID: **TOC_04_387333** SeqNo: **6180048** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	9.871	1.00	10	0	98.7	85 - 115	10.53	6.46	20	

MS Sample ID: **HS21070435-08MS** Units: **mg/L** Analysis Date: **13-Jul-2021 02:38**
Client ID: **50WW06-210708** Run ID: **TOC_04_387333** SeqNo: **6180059** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	12.37	1.00	10	2.228	101	80 - 120				

The following samples were analyzed in this batch: HS21070435-04 HS21070435-05 HS21070435-06 HS21070435-07 HS21070435-08 HS21070435-09

ALS Houston, US Date: 30-Jul-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP50 July 2021
WorkOrder: HS21070435

QC BATCH REPORT

Batch ID: R387530 (0) **Instrument:** ICS-Integrion **Method:** ANIONS BY SW9056A

MBLK Sample ID: **MBLK** Units: **mg/L** Analysis Date: **13-Jul-2021 20:07**
Client ID: Run ID: **ICS-Integrion_387530** SeqNo: **6184325** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	0.500	0.500								U
Sulfate	0.500	0.500								U

LCS Sample ID: **LCS** Units: **mg/L** Analysis Date: **13-Jul-2021 20:15**
Client ID: Run ID: **ICS-Integrion_387530** SeqNo: **6184326** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	20.55	0.500	20	0	103	80 - 120				
Sulfate	20.6	0.500	20	0	103	80 - 120				

MS Sample ID: **HS21070435-08MS** Units: **mg/L** Analysis Date: **13-Jul-2021 17:14**
Client ID: **50WW06-210708** Run ID: **ICS-Integrion_387530** SeqNo: **6184318** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	13.5	0.500	10	3.311	102	80 - 120				
Sulfate	23.27	0.500	10	13.35	99.1	80 - 120				

MSD Sample ID: **HS21070435-08MSD** Units: **mg/L** Analysis Date: **13-Jul-2021 17:21**
Client ID: **50WW06-210708** Run ID: **ICS-Integrion_387530** SeqNo: **6184319** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	13.44	0.500	10	3.311	101	80 - 120	13.5	0.453	20	
Sulfate	23.02	0.500	10	13.35	96.7	80 - 120	23.27	1.05	20	

The following samples were analyzed in this batch: HS21070435-04 HS21070435-05 HS21070435-06 HS21070435-07 HS21070435-08 HS21070435-09

ALS Houston, US Date: 30-Jul-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP50 July 2021
WorkOrder: **HS21070435**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitaion Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

ALS Houston, US Date: 30-Jul-21

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	21-022-0	26-Mar-2022
Dept of Defense	PJLA L20-507-R2	22-Dec-2021
Florida	E87611-33	30-Jun-2022
Illinois	2000322021-7	09-May-2022
Kansas	E-10352 2020-2021	31-Jul-2021
Kansas	E-10352 2021-2022	31-Jul-2022
Kentucky	123043, 2021-2022	30-Apr-2022
Louisiana	03087, 2021-2022	30-Jun-2022
North Carolina	624-2021	31-Dec-2021
Oklahoma	2020-165	31-Aug-2021
Texas	T104704231-21-27	30-Apr-2022
Utah	TX026932021-10	31-Jul-2021

ALS Houston, US Date: 30-Jul-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP50 July 2021
Work Order: HS21070435

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS21070435-01	50WW08-210707	Login	7/9/2021 1:52:07 PM	JRM	Sub
HS21070435-01	50WW08-210707	Login	7/9/2021 1:52:07 PM	JRM	VOA092
HS21070435-02	50WW05-210707	Login	7/9/2021 1:52:07 PM	JRM	Sub
HS21070435-02	50WW05-210707	Login	7/9/2021 1:52:07 PM	JRM	VOA092
HS21070435-03	50WW29-210707	Login	7/9/2021 1:52:07 PM	JRM	Sub
HS21070435-03	50WW29-210707	Login	7/9/2021 1:52:07 PM	JRM	VOA092
HS21070435-04	50WW14-210708	Login	7/9/2021 1:52:07 PM	JRM	Sub
HS21070435-04	50WW14-210708	Login	7/9/2021 1:52:07 PM	JRM	Disposed
HS21070435-04	50WW14-210708	Login	7/9/2021 1:52:07 PM	JRM	VOA092
HS21070435-04	50WW14-210708	Login	7/9/2021 1:52:07 PM	JRM	Disposed
HS21070435-04	50WW14-210708	Login	7/9/2021 1:52:07 PM	JRM	Sub
HS21070435-05	50WW13-210708	Login	7/9/2021 1:52:07 PM	JRM	Sub
HS21070435-05	50WW13-210708	Login	7/9/2021 1:52:07 PM	JRM	Disposed
HS21070435-05	50WW13-210708	Login	7/9/2021 1:52:07 PM	JRM	VOA092
HS21070435-05	50WW13-210708	Login	7/9/2021 1:52:07 PM	JRM	Disposed
HS21070435-05	50WW13-210708	Login	7/9/2021 1:52:07 PM	JRM	Sub
HS21070435-06	50WW11-210708	Login	7/9/2021 1:52:07 PM	JRM	Sub
HS21070435-06	50WW11-210708	Login	7/9/2021 1:52:07 PM	JRM	Disposed
HS21070435-06	50WW11-210708	Login	7/9/2021 1:52:07 PM	JRM	VOA092
HS21070435-06	50WW11-210708	Login	7/9/2021 1:52:07 PM	JRM	Disposed
HS21070435-06	50WW11-210708	Login	7/9/2021 1:52:07 PM	JRM	Sub
HS21070435-07	50WW11-210708-FD	Login	7/9/2021 1:52:07 PM	JRM	Sub
HS21070435-07	50WW11-210708-FD	Login	7/9/2021 1:52:07 PM	JRM	Disposed
HS21070435-07	50WW11-210708-FD	Login	7/9/2021 1:52:07 PM	JRM	VOA092
HS21070435-07	50WW11-210708-FD	Login	7/9/2021 1:52:07 PM	JRM	Disposed
HS21070435-07	50WW11-210708-FD	Login	7/9/2021 1:52:07 PM	JRM	Sub
HS21070435-08	50WW06-210708	Login	7/9/2021 1:52:07 PM	JRM	Sub
HS21070435-08	50WW06-210708	Login	7/9/2021 1:52:07 PM	JRM	Disposed
HS21070435-08	50WW06-210708	Login	7/9/2021 1:52:07 PM	JRM	VOA092
HS21070435-08	50WW06-210708	Login	7/9/2021 1:52:07 PM	JRM	Disposed
HS21070435-08	50WW06-210708	Login	7/9/2021 1:52:07 PM	JRM	Sub
HS21070435-09	50WW12-210708	Login	7/9/2021 1:52:07 PM	JRM	Sub
HS21070435-09	50WW12-210708	Login	7/9/2021 1:52:07 PM	JRM	Disposed
HS21070435-09	50WW12-210708	Login	7/9/2021 1:52:07 PM	JRM	VOA092
HS21070435-09	50WW12-210708	Login	7/9/2021 1:52:07 PM	JRM	Disposed
HS21070435-09	50WW12-210708	Login	7/9/2021 1:52:07 PM	JRM	Sub
HS21070435-10	TRIP BLANK-210708	Login	7/9/2021 1:52:07 PM	JRM	VOA092

ALS Houston, US Date: 30-Jul-21

Sample Receipt Checklist

Work Order ID: HS21070435 **Date/Time Received:** **09-Jul-2021 10:00**

Client Name: CBI-Houston **Received by:** **Jared R. Makan**

Completed By: */S/ Jared R. Makan* (eSignature) 09-Jul-2021 15:31 (Date/Time) **Reviewed by:** */S/ Ragen Giga* (eSignature) 09-Jul-2021 19:49 (Date/Time)

Matrices: **Water** Carrier name: **FedEx Priority Overnight**

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
VOA/TX1005/TX1006 Solids in hermetically sealed vials?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	1 Page(s)
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Samplers name present on COC?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	

Temperature(s)/Thermometer(s):	0.8°C UC/C	IR31
Cooler(s)/Kit(s):	45968	
Date/Time sample(s) sent to storage:	07/09/2021 15:30	

Water - VOA vials have zero headspace?	Yes ☑	No ☐	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑
pH adjusted?	Yes ☐	No ☐	N/A ☑
pH adjusted by:			

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:

CHAIN OF CUSTODY

Name Of Lab Shipping To: ALS 10450 Stancliff Rd. Suite 210 Houston, TX, 77099 (281) 530-5656 ATTN: R.J Modashia

Project: APTIM LONGHORN
ARMY AMMN. PLANT (LHAAP)
GROUNDWATER TREATMENT PLANT (GWTP)
KARNACK, TEXAS

Project No. 501032

Job: **LHAAP50 July 2021**

Prepared By: Scott Beesinger

P.O. Number

Field Sample I.D.	Sample Matrix	Date / Time	MS / MSD	No. OF CONTAINERS	VOC by SW 8260B	TOC by SM5310C	MEE by RSK 175	Anions (chloride sulfate, nitrate) by SW9056	CO2 by RSK 175	Perchlorate by SW6850	Remarks (Preservatives, etc.)	Lab I.D.#
50WW08-210707	WG	7/7/21/0715		4	X					X		
50WW05-210707	WG	7/7/21/0800		4	X					X		
50WW29-210707	WG	7/7/21/0845		4	X					X		
50WW14-210708	WG	7/8/21/0710		13	X	X	X	X	X	X		
50WW13-210708	WG	7/8/21/0755		13	X	X	X	X	X	X		
50WW11-210708	WG	7/8/21/0845		13	X	X	X	X	X	X		
50WW11-210708-FD	WG	7/8/21/0845		13	X	X	X	X	X	X		
50WW06-210708	WG	7/8/21/0940		13	X	X	X	X	X	X		

Additional Remarks: **Standard TAT on all parameters. Please email results to** Vicki.Graves@aptim.com **and invoices to** fedinvoices@aptim.com

Relinquished By:	Date	Time	Received By:	Date	Time	Relinquished By:	Date	Time	Received By:	Date	Time
Scott Beesinger	7/8/21	1430									

For Lab Use Only

Received At Lab By:	Date	Time	Airbill No.	Opened By:	Date	Time	Temp of Container	Seal No.	Condition
J. MCCANN	7/9/21	10:00							

Remarks:
Cooler 45463 17231
Temp 0.2°C cf 0

HS21070435

Aptim Environmental & Infrastucture, Inc.
LHAAP50 July 2021



CHAIN OF CUSTODY

Name Of Lab Shipping To: ALS 10450 Stancliff Rd. Suite 210 Houston, TX. 77099 (281) 530-5656 ATTN: R.J Modashia

Project: APTIM LONGHORN
ARMY AMMN. PLANT (LHAAP)
GROUNDWATER TREATMENT PLANT (GWTP)
KARNACK, TEXAS

Project No. 501032

Job: **LHAAP50 July 2021**

Prepared By: Scott Beesinger

P.O. Number

Field Sample I.D.	Sample Matrix	Date / Time	MS / MSD	No. OF CONTAINERS	VOC by SW 8260B	TOC by SM5310C	MEE by RSK 175	Anions (chloride sulfate, nitrate) by SW9056	CO2 by RSK 175	Perchlorate by SW6850					Remarks (Preservatives, etc.)	Lab I.D.#
					Analyses											
SDWW06-210708-MS	WG	7/8/21 0940		13	X	X	X	X	X	X						
SDWW06-210708-MSD	WG	7/8/21 0940		13	X	X	X	X	X	X						
SDWW12-210708	WG	7/8/21 1040		13	X	X	X	X	X	X						
TRIPBLANK-210708	W	7/8/21		2	X											

Additional Remarks: **Standard TAT on all parameters. Please email results to Vicki.Graves@aptim.com and invoices to fedinvoices@aptim.com**

Relinquished By:	Date	Time	Received By:	Date	Time	Relinquished By:	Date	Time	Received By:	Date	Time
Scott Beesinger	7/8/21	1430									

For Lab Use Only

Received At Lab By:	Date	Time	Airbill No.	Opened By:	Date	Time	Temp of Container	Seal No.	Condition
J. Maccoy	7/9/21	10:00							

Remarks:

HS21070435

Aptim Environmental & Infrastucture, Inc.
LHAAP50 July 2021



ALS
10450 Stancliff Rd., Suite 210
Houston, Texas 77099
Tel. +1 281 530 5656
Fax. +1 281 530 5887

45968

CUSTODY SEAL

Date: 7/8/21 Time: 1430
Name: Scott Beesinger
Company: Bhate

Seal Broken By: SW
Date: 07/09/21

45968 JUL 0 9 2021

ORIGIN ID:SGRA (903) 930-6193
SCOTT BEESINGER
APTIM ENVIRONMENTAL & INFASTRUCTURE
1203-B EAST GRAND AVE
PHB 202
MARSHALL, TX 75670
UNITED STATES US

SHIP DATE: 29JUN21
ACTWGT: 1.00 LB MAN
CAD: 0207247/CAFE3504
DIMS: 15. 18x13 IN

TO SHIPPING DEPT
ALS LABORATORY GROUP
10450 STANCLIFF RD
SUITE 210
HOUSTON TX 77099
(281) 530-5656

45968

REF: LHAAP-50-BO 79250-RG

RMA:

FedEx Express

FedEx
TRK# 0221 9473 0845 1460

FRI - 09 JUL AA
PRIORITY OVERNIGHT

AB SGRA

77099
TX-US
IAH

SHWA57 03Jul2021 OGGA 5600/0765/1873

July 16, 2021 Service Request No:E2100777

Ragen Giga
ALS Environmental - US
10450 Stancliff Rd Suite 210
Houston, TX 77099

Laboratory Results for: HS21070435

Dear Ragen,

Enclosed are the results of the sample(s) submitted to our laboratory July 09, 2021
For your reference, these analyses have been assigned our service request number **E2100777.**

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current TNI standards, where applicable, and except as noted in the laboratory case narrative provided. All results are intended to be considered in their entirety and ALS Environmental is not responsible for use of less than the complete final report. Results apply only to the items submitted to the laboratory, as received for analysis. In accordance with the current TNI Standard, a statement on the estimated uncertainty of measurement of any quantitative analysis will be supplied upon request.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Corey Grandits
Project Manager

ADDRESS 10450 Stancliff Rd., Suite 210, Houston, TX 77099
PHONE +1 281 530 5656 | FAX +1 281 530 5887
ALS Group USA, Corp.
dba ALS Environmental

Certificate of Analysis

ALS Environmental - Houston HRMS
10450 Stancliff Rd, Suite 210, Houston TX 77099
Phone (713)266-1599 Fax (713)266-0130
www.alsglobal.com

ALS Environmental

Client:	ALS Houston	**Service Request No.:**	E2100777
Project:	HS21070435	**Date Received:**	07/09/21
Sample Matrix:	W		

CASE NARRATIVE

All analyses were performed in adherence to the quality assurance program of ALS Environmental. This report contains analytical results for samples designated for Tier II. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

Nine samples were received for analysis at ALS Environmental in Houston on 07/09/21.

The samples were received in good condition and are consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory.

Data Validation Notes and Discussion

Precision and Accuracy:

EQ2100430: Laboratory Control Spike/Duplicate Laboratory Control Spike (LCS/DLCS) samples were analyzed and reported in addition to a MS/MSD for these extraction batches. LCS/DLCS RPD exceed QC limits; individual recoveries met acceptance criteria. MS recovery marginally exceeded upper control limit (119%).

DoD certification is held for the method/matrix/analytes provided in this report.

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and ALS Environmental (ALS) is not responsible for utilization of less than the complete report.

Use of ALS group USA Corp dba ALS Environmental (ALS)'s Name. Client shall not use ALS's name or trademark in any marketing or reporting materials, press releases or in any other manner ("Materials") whatsoever and shall not attribute to ALS any test result, tolerance or specification derived from ALS's data ("Attribution") without ALS's prior written consent, which may be withheld by ALS for any reason in its sole discretion. To request ALS's consent, Client shall provide copies of the proposed Materials or Attribution and describe in writing Client's proposed use of such Materials or Attribution. If ALS has not provided written approval of the Materials or Attribution within ten (10) days of receipt from Client, Client's request to use ALS's name or trademark in any Materials or Attribution shall be deemed denied. ALS may, in its discretion, reasonably charge Client for its time in reviewing Materials or Attribution requests. Client acknowledges and agrees that the unauthorized use of ALS's name or trademark may cause ALS to incur irreparable harm for which the recovery of money damages will be inadequate. Accordingly, Client acknowledges and agrees that a violation shall justify preliminary injunctive relief. For questions contact the laboratory.

Client: ALS Environmental - US **Service Request:**E2100777
Project: HS21070435

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
E2100777-001	50WW08-210707	7/7/2021	0715
E2100777-002	50WW05-210707	7/7/2021	0800
E2100777-003	50WW29-210707	7/7/2021	0845
E2100777-004	50WW14-210708	7/8/2021	0710
E2100777-005	50WW13-210708	7/8/2021	0755
E2100777-006	50WW11-210708	7/8/2021	0845
E2100777-007	50WW11-210708-FD	7/8/2021	0845
E2100777-008	50WW06-210708	7/8/2021	0940
E2100777-009	50WW12-210708	7/8/2021	1040

Service Request Summary

Folder #: **E2100777**
Client Name: ALS Environmental - US
Project Name: HS21070435
Project Number:

Report To: Ragen Giga
ALS Environmental - US
10450 Stancliff Rd Suite 210
Houston, TX 77099
USA
Phone Number:
Cell Number:
Fax Number:
E-mail: ragenp.giga@alsglobal.com

Project Chemist: Corey Grandits
Originating Lab: HOUSTON
Logged By: CGRANDITS
Date Received: 07/09/21
Internal Due Date: 7/23/2021
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS21070435
EDD: No EDD Specified

11 125 mL-Plastic Bottle Plastic
Location: EHRMS-AirArch 1
Pressure Gas:

Lab Samp No.	Client Samp No	Matrix	Collected	HOUSTON ClO4 DOD/6850
E2100777-001	50WW08-210707	Water	07/07/21 0715	**IV**
E2100777-002	50WW05-210707	Water	07/07/21 0800	**IV**
E2100777-003	50WW29-210707	Water	07/07/21 0845	**IV**
E2100777-004	50WW14-210708	Water	07/08/21 0710	**IV**
E2100777-005	50WW13-210708	Water	07/08/21 0755	**IV**
E2100777-006	50WW11-210708	Water	07/08/21 0845	**IV**
E2100777-007	50WW11-210708-FD	Water	07/08/21 0845	**IV**
E2100777-008	50WW06-210708	Water	07/08/21 0940	**IV**
E2100777-009	50WW12-210708	Water	07/08/21 1040	**IV**

Service Request Summary

Folder #: **E2100777**
Client Name: ALS Environmental - US
Project Name: HS21070435
Project Number:

Report To: Ragen Giga
ALS Environmental - US
10450 Stancliff Rd Suite 210
Houston, TX 77099
USA
Phone Number:
Cell Number:
Fax Number:
E-mail: ragenp.giga@alsglobal.com

Project Chemist: Corey Grandits
Originating Lab: HOUSTON
Logged By: CGRANDITS
Date Received: 07/09/21
Internal Due Date: 7/23/2021
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS21070435
EDD: No EDD Specified

11 125 mL-Plastic Bottle Plastic
Location: EHRMS-AirArch 1
Pressure Gas:

Test Comments:

Group	Test/Method	Samples	Comments
Semivoa GCMS	ClO4 DOD/6850	8	Level II due 7/23,IV due 7/30
Semivoa GCMS	ClO4 DOD/6850	1	MS/MSD

Data Qualifiers

Lab Standard

+	Possible Tedlar bag artifact.
A	TIC is a suspected aldol-condensation product
B	Analyte found in the associated method blank as well as in the sample.
BC	Reported results are not blank corrected.
BH	The back section of the tube yielded higher results than the front.
BT	Results indicated possible breakthrough; back section >=10% front section.
C	Result identification confirmed.
D	Compound identified in an analysis at a secondary dilution factor
D	Spike was diluted out
DE	Reported results are corrected for desorption efficiency.
E	Estimated value. Concentration above calibration range
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
F	The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
H	The chromatographic fingerprint of the sample resembles a petroleum product but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
H1	Sample analysis performed past holding time. See case narrative.
H2	Initial analysis within holding time. Reanalysis for the required dilution was past holding time.
H3	Sample was received and analyzed past holding time.
H4	Sample was extracted past required extraction holding time, but analyzed within analysis holding time. See case narrative.
I	Internal standard not within the specified limits. See case narrative.
J	Estimated Value. Concentration found below MRL.
K	A deflection in the QC ion may indicate interference with the quantitation of this ion. The concentration of this analyte should be considered as an estimate.
K	Analyte was detected above the method reporting limit prior to normalization.
K	The reference ion ratio was outside acceptance criteria, which may indicate a potential bias to this result.
L	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
L1	Laboratory control sample recovery outside the specified limits; results may be biased high.
L2	Laboratory control sample recovery outside the specified limits; results may be biased low.
L3	Laboratory control sample recovery outside the specified limits.
M	Matrix interference; results may be biased high.
M	The duplicate injection precision not met.
M1	Matrix interference due to coelution with a non-target compound; results may be biased high.
N	Presumptive evidence of a compound for TICs that have been identified based on a mass spectral library search.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.

Data Qualifiers

Lab Standard

O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
P	Indicates chlorodiphenyl ether interference present at the retention time of the target compound.
P	Pesticide/Aroclor target analyte > 40% difference for detected concentrations between GC columns
Q	Indicates as estimated value because the P and P + 2 theoretical abundance ratio does not meet method criteria.
R	Duplicate Precision not met.
R1	Duplicate precision not within the specified limits; however, the results are below the MRL and considered estimated.
S	Surrogate recovery not within specified limits.
S	The reported value was determined by the Method of Standard Additions (MSA).
T	Analyte is a tentatively identified compound, result is estimated.
U	Compound was analyzed for, but was not detected (ND).
V1	The continuing calibration verification standard was outside (biased high) the specified limits for this compound.
V2	The continuing calibration verification standard was outside (biased low) the specified limits for this compound.
W	Result quantified, but the corresponding peak was detected outside the generated retention time window.
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
X	See case narrative.
Y	Recovery outside limits
Y	The chromatogram resembles a petroleum product but does not match the calibration standard.
Z	The chromatogram does not resemble a petroleum product.
i	The MRL/MDL has been elevated due to a matrix interference.

ALS Laboratory Group

Acronyms

Cal	Calibration
Conc	CONCentration
Dioxin(s)	Polychlorinated dibenzo-p-dioxin(s)
EDL	Estimated Detection Limit
EMPC	Estimated Maximum Possible Concentration
Flags	Data qualifiers
Furan(s)	Polychlorinated dibenzofuran(s)
g	Grams
ICAL	Initial CALibration
ID	IDentifier
Ions	Masses monitored for the analyte during data acquisition
L	Liter (s)
LCS	Laboratory Control Sample
DLCS	Duplicate Laboratory Control Sample
MB	Method Blank
MCL	Method Calibration Limit
MDL	Method Detection Limit
mL	Milliliters
MS	Matrix Spiked sample
DMS	Duplicate Matrix Spiked sample
NO	Number of peaks meeting all identification criteria
PCDD(s)	Polychlorinated dibenzo-p-dioxin(s)
PCDF(s)	Polychlorinated dibenzofuran(s)
ppb	Parts per billion
ppm	Parts per million
ppq	Parts per quadrillion
ppt	Parts per trillion
QA	Quality Assurance
QC	Quality Control
Ratio	Ratio of areas from monitored ions for an analyte
% Rec.	Percent recovery
RPD	Relative Percent Difference
RRF	Relative Response Factor
RT	Retention Time
SDG	Sample Delivery Group
S/N	Signal-to-noise ratio
TEF	Toxicity Equivalence Factor
TEQ	Toxicity Equivalence Quotient

10450 Stancliff Rd, Houston, TX 77099 | 281-530-5656 | www.alsglobal.com

ALS Environmental

State Certifications, Accreditations, and Licenses

Agency	Number	Expire Date
American Association for Laboratory Accreditation	2897.01 2020	11/30/2021
Arkansas Department of Environmental Quality	21-022-0	3/26/2022
Arkansas Department of Environmental Quality	19-028-0	6/30/2022
Department of Defense	A2LA 2897.01	11/30/2021
Florida Department of Health	E87611-33	6/30/2022
Hawaii Department of Health	2021-2022	4/30/2022
Kansas Department of Health and Environment	E-10352-2020	7/31/2021
Louisiana Department of Environmental Quality	03087-2021	6/30/2022
Louisiana Department of Health and Hospitals	LA028-2021	12/31/2021
Maine Department of Health and Human Services	2020016	6/5/2022
Minnesota Department of Health	2021671	12/31/2021
Nevada Department of Concervation and Natural Resources	TX026932021-4	7/31/2021
New Hampshire Environmental Laboratory Accreditation Program	209421	4/24/2022
Oklahoma Department of Environmental Quality	2020-123	8/31/2021
Pennsylvania Department of Environmental Protection	68-03441-015	6/30/2022
Tennessee Department of Environment and Concervation	04016-2021	4/30/2022
Texas Commision on Environmental Quality	T104704231-21-27	4/30/2022
United States Department of Agriculture	P330-19-00299	10/10/2022
Utah Department of Health Environmental Laboratory Certification	TX026932021-10	7/31/2021

Chain of Custody

ALS Environmental - Houston HRMS
10450 Stancliff Rd, Suite 210, Houston TX 77099
Phone (713)266-1599 Fax (713)266-0130
www.alsglobal.com

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Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887
www.alsglobal.com

Subcontract Chain of Custody

SAMPLING STATE: **Dept of Defense** **COC ID:** **16468**

SUBCONTRACT TO:

ALS Environmental
10450 Stancliff RoadSuite 210
Houston, TX 77084

Phone: +1 281 530 5656

CUSTOMER INFORMATION:

Company:	ALS Houston
Contact:	Ragen Giga
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Email:	RagenP.Giga@ALSGlobal.com
Alternate Contact:	Jumoke M. Lawal
Email:	jumoke.lawal@alsglobal.com

INVOICE INFORMATION:

Company:	ALS Houston
Contact:	Accounts Payable
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Reference:	HS21070435
TSR:	Sonia West

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS21070435-01**	**50WW08-210707**	**Water**	**07 Jul 2021 07:15**
	Provide Level II and Level IV reports on a seperate pdf.			23 Jul 2021
2.	**HS21070435-02**	**50WW05-210707**	**Water**	**07 Jul 2021 08:00**
	Provide Level II and Level IV reports on a seperate pdf.			23 Jul 2021
3.	**HS21070435-03**	**50WW29-210707**	**Water**	**07 Jul 2021 08:45**
	Provide Level II and Level IV reports on a seperate pdf.			23 Jul 2021
4.	**HS21070435-04**	**50WW14-210708**	**Water**	**08 Jul 2021 07:10**
	Provide Level II and Level IV reports on a seperate pdf.			23 Jul 2021
5.	**HS21070435-05**	**50WW13-210708**	**Water**	**08 Jul 2021 07:55**
	Provide Level II and Level IV reports on a seperate pdf.			23 Jul 2021
6.	**HS21070435-06**	**50WW11-210708**	**Water**	**08 Jul 2021 08:45**
	Provide Level II and Level IV reports on a seperate pdf.			23 Jul 2021
7.	**HS21070435-07**	**50WW11-210708-FD**	**Water**	**08 Jul 2021 08:45**
	Provide Level II and Level IV reports on a seperate pdf.			23 Jul 2021
8.	**HS21070435-08**	**50WW06-210708**	**Water**	**08 Jul 2021 09:40**
	Provide Level II and Level IV reports on a seperate pdf.			23 Jul 2021
9.	**HS21070435-09**	**50WW12-210708**	**Water**	**08 Jul 2021 10:40**

Subcontract Chain of Custody

SAMPLING STATE: **Dept of Defense** **COC ID: 16468**

LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
ANALYSIS REQUESTED			DUE DATE
	Provide Level II and Level IV reports on a seperate pdf.		23 Jul 2021

Comments: Please analyze for the analysis listed above.
Send report to the emails shown above.

QC Level: DOD IV (DoD Data Package)

Relinquished By: J. [illegible] Date/Time: 7/9/21

Received By: [illegible] Date/Time: 7/9/21 1802

Cooler ID(s): Temperature(s):

ALS Environmental

Cooler Receipt Form

Project Chemist CG

Client/Project ALS-H

Thermometer ID 12311

Date/Time Received: 7/9/21 Initials: CG Date/Time Logged in: 7/9/21 Initials CG

1. Method of delivery: ○ US Mail ○ Fed Ex ○ UPS ○ DHL ◐ ALS Courier ○ Client
2. Samples received in: ◐ Cooler ○ Box ○ Envelope ○ Other
3. Were custody seals on coolers? ○ Yes ◐ No
   Were they intact? ○ Yes ○ No ◐ N/A
   Were they signed and dated? ○ Yes ○ No ◐ N/A
   If yes, how many and where?
4. Packing Material: ○ Inserts ◐ Baggies ○ Bubble Wrap ○ Gel Packs ◐ Wet Ice ○ Sleeves ○ Other
5. Foreign or Regulated Soil? ○ Yes ○ No Location of Sampling:

Cooler Tracking Number	COC ID	Date Opened	Time Opened	Opened By	Temp. °C	Temp Blank?
NA		7/9/21	1802	CG	4.7	☒
						☐
						☐
						☐

6. Were custody papers properly filled out (ink, signed, dated, etc)? ◐ Yes ○ No
7. Did all bottles arrive in good condition (not broken, no signs of leakage)? ◐ Yes ○ No
8. Were all sample labels complete (i.e., sample ID, analysis, preservation, etc)? ◐ Yes ○ No
9. Were appropriate bottles/containers and volumes received for the requested tests? ◐ Yes ○ No
10. Did sample labels and tags agree with custody documents? ◐ Yes ○ No

Notes, Discrepancies, & Resolutions:

Service request Label:

10450 Stancliff Rd., Suite 210
Houston, TX 77099
T: +1 713 266 1599
F: +1 713 266 1599
www.alsglobal.com

SAMPLE ACCEPTANCE POLICY

This policy outlines the criteria samples must meet to be accepted by ALS Environmental – Houston HRMS.

Cooler Custody Seals (desirable, mandatory if specified in SAP):

- ✓ Intact on outside of cooler, signed and dated

Chain-of-Custody (COC) documentation (mandatory):

The following is required on each COC:

- ✓ Sample ID, the location, date and time of collection, collector's name, preservation type, sample type, and any other special remarks concerning the sampleThe COC must be completed in ink.
- ✓ Signature and date of relinquishing party.

In the absence of a COC at sample receipt, the COC will be requested from the client.

Sample Integrity (mandatory):

Samples are inspected upon arrival to ensure that sample integrity was not compromised during transfer to the laboratory.

- ✓ Sample containers must arrive in good condition (not broken or leaking).
- ✓ Samples must be labeled appropriately, including Sample IDs, and requested test using durable labels and indelible ink.
- ✓ The correct type of sample bottle must be used for the method requested.
- ✓ An appropriate sample volume, or weight, must be received.
- ✓ Sample IDs and number of containers must reconcile with the COC.
- ✓ Samples must be received within the method defined holding time.

Temperature Requirement (varies by sample matrix):

- ✓ Aqueous and Non-aqueous samples must be shipped and stored cold, at 0 to 6ºC.
- ✓ Tissue samples must be shipped and stored frozen, at -20 to -10ºC.
- ✓ Air samples are shipped and stored cold, at 0 to 6ºC
- ✓ The sample temperature must be recorded on the COC

All cooler inspections are documented on the Cooler Receipt Form (CRF). A separate CRF is completed for each service request. Any samples not meeting the above criteria are noted on the CRF and the Project Manager notified. The Project Manager must resolve any sample integrity issues with the client prior to proceeding with the analysis. Such resolutions are documented in writing and filed with the project folder. Data associated with samples received outside of this acceptance policy will be qualified on the case narrative of the final report

Preparation Information Benchsheets

ALS Environmental - Houston HRMS
10450 Stancliff Rd., Suite 210, Houston, TX 77099
Phone (713)266-1599 Fax (713)266-0130
www.alsglobal.com

Preparation Information Benchsheet

Prep Run#: 383029 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
Team: Semivoa GCMS/GRIVERA **Prep Method:** Method **Prep Date/Time:** 7/13/21 13:00

#	Lab Code	Client ID	B#	Method /Test	pH	Cl	Matrix	Amt. Ext.	Sample Description
1	E2100762-001	LH18/24-SP650_070721_BIX	.01	6850/ClO4 DOD			Water	10mL	
2	E2100763-001	LH18/24-SP650_070721_BIX	.01	6850/ClO4 DOD			Water	10mL	
3	E2100764-001	LH18/24-SP140_070721	.01	6850/ClO4 DOD			Water	10mL	
4	E2100765-001	HBW7_070621	.01	6850/ClO4 DOD			Ground Water	10mL	
5	E2100765-002	HBW10_070621	.01	6850/ClO4 DOD			Ground Water	10mL	
6	E2100765-003	HBW1_070621	.01	6850/ClO4 DOD			Ground Water	10mL	
7	E2100765-004	HBW1_070621_a	.01	6850/ClO4 DOD			Ground Water	10mL	
8	E2100765-005	GPW1_070621	.01	6850/ClO4 DOD			Ground Water	10mL	
9	E2100765-006	GPW3_070621	.01	6850/ClO4 DOD			Ground Water	10mL	
10	E2100777-001	50WW08-210707	.01	6850/ClO4 DOD			Water	10mL	
11	E2100777-002	50WW05-210707	.01	6850/ClO4 DOD			Water	10mL	
12	E2100777-003	50WW29-210707	.01	6850/ClO4 DOD			Water	10mL	
13	E2100777-004	50WW14-210708	.01	6850/ClO4 DOD			Water	10mL	
14	E2100777-005	50WW13-210708	.01	6850/ClO4 DOD			Water	10mL	
15	E2100777-006	50WW11-210708	.01	6850/ClO4 DOD			Water	10mL	
16	E2100777-007	50WW11-210708-FD	.01	6850/ClO4 DOD			Water	10mL	
17	E2100777-008	50WW06-210708	.01	6850/ClO4 DOD			Water	10mL	
18	E2100777-009	50WW12-210708	.01	6850/ClO4 DOD			Water	10mL	
19	EQ2100430-01	MB		6850/ClO4 DOD			Liquid	10mL	
20	EQ2100430-02	LCS		6850/ClO4 DOD			Liquid	10mL	
21	EQ2100430-03	DLCS		6850/ClO4 DOD			Liquid	10mL	
22	EQ2100430-04	50WW06-210708 MS	.01	6850/ClO4 DOD			Liquid	10mL	
23	EQ2100430-05	50WW06-210708 DMS	.01	6850/ClO4 DOD			Liquid	10mL	

Spiking Solutions

Name: Sodium Perchlorate 1 ug/mL (IS) (18-O) as CLO4 Inventory ID 214765 Logbook Ref: Sodium Perchlorate Expires On: 12/11/2022

E2100762-001	100.00µL	E2100765-001	100.00µL	E2100765-002	100.00µL	E2100765-003	100.00µL	E2100765-004	100.00µL	E2100765-005	100.00µL
E2100765-006	100.00µL	EQ2100430-01	100.00µL	EQ2100430-02	100.00µL	EQ2100430-03	100.00µL	EQ2100430-04	100.00µL	EQ2100430-05	100.00µL

Name: Perchlorate Intermediate Stock1 Inventory ID 217422 Logbook Ref: Perchlorate Expires On: 11/26/2021

EQ2100430-02	1.00µL	EQ2100430-03	1.00µL	EQ2100430-04	1.00µL	EQ2100430-05	1.00µL

Preparation Information Benchsheet

Prep Run#: 383029 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
Team: Semivoa GCMS/GRIVERA **Prep Method:** Method **Prep Date/Time:** 7/13/21 13:00

Preparation Steps

Step: Preparation
Started: 7/13/21 13:00
Finished: 7/13/21 13:30
By: GRIVERA
Comments

Comments: _____

Reviewed By: GR Date: 7/13/21

Chain of Custody

Relinquished By: _____ Date: _____ Extracts Examined

Received By: _____ Date: _____ Yes No

Analytical Results

ALS Environmental - Houston HRMS
10450 Stancliff Rd., Suite 210, Houston, TX 77099
Phone (713)266-1599 Fax (713)266-0130
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ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2100777
Project:	HS21070435	**Date Collected:**	7/ 7/21 0715
Sample Matrix:	Water	**Date Received:**	7/ 9/21
Sample Name:	50WW08-210707	**Units:**	µg/L
Lab Code:	E2100777-001	**Basis:**	As Received

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	**222**		1.00	0.500	0.250	10	7/13/21	7/15/21 16:28	383029	731254	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2100777
Project:	HS21070435	**Date Collected:**	7/ 7/21 0800
Sample Matrix:	Water	**Date Received:**	7/ 9/21
Sample Name:	50WW05-210707	**Units:**	µg/L
Lab Code:	E2100777-002	**Basis:**	As Received

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	**0.0590**	J	0.100	0.0500	0.0250	1	7/13/21	7/15/21 15:02	383029	731254	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2100777
Project:	HS21070435	**Date Collected:**	7/ 7/21 0845
Sample Matrix:	Water	**Date Received:**	7/ 9/21
Sample Name:	50WW29-210707	**Units:**	µg/L
Lab Code:	E2100777-003	**Basis:**	As Received

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	**0.174**		0.100	0.0500	0.0250	1	7/13/21	7/15/21 15:54	383029	731254	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2100777
Project:	HS21070435	**Date Collected:**	7/ 8/21 0710
Sample Matrix:	Water	**Date Received:**	7/ 9/21
Sample Name:	50WW14-210708	**Units:**	µg/L
Lab Code:	E2100777-004	**Basis:**	As Received

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	**0.636**		0.100	0.0500	0.0250	1	7/13/21	7/15/21 15:19	383029	731254	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2100777
Project:	HS21070435	**Date Collected:**	7/ 8/21 0755
Sample Matrix:	Water	**Date Received:**	7/ 9/21
Sample Name:	50WW13-210708	**Units:**	µg/L
Lab Code:	E2100777-005	**Basis:**	As Received

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	**2420**		10.0	5.00	2.50	100	7/13/21	7/15/21 16:37	383029	731254	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2100777
Project:	HS21070435	**Date Collected:**	7/ 8/21 0845
Sample Matrix:	Water	**Date Received:**	7/ 9/21
Sample Name:	50WW11-210708	**Units:**	µg/L
Lab Code:	E2100777-006	**Basis:**	As Received

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	**2670**		10.0	5.00	2.50	100	7/13/21	7/15/21 16:45	383029	731254	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2100777
Project:	HS21070435	**Date Collected:**	7/ 8/21 0845
Sample Matrix:	Water	**Date Received:**	7/ 9/21
Sample Name:	50WW11-210708-FD	**Units:**	µg/L
Lab Code:	E2100777-007	**Basis:**	As Received

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	**2610**		10.0	5.00	2.50	100	7/13/21	7/15/21 16:54	383029	731254	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2100777
Project:	HS21070435	**Date Collected:**	7/ 8/21 0940
Sample Matrix:	Water	**Date Received:**	7/ 9/21
Sample Name:	50WW06-210708	**Units:**	µg/L
Lab Code:	E2100777-008	**Basis:**	As Received

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	**1.89**		0.100	0.0500	0.0250	1	7/13/21	7/15/21 15:28	383029	731254	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2100777
Project:	HS21070435	**Date Collected:**	7/ 8/21 1040
Sample Matrix:	Water	**Date Received:**	7/ 9/21
Sample Name:	50WW12-210708	**Units:**	µg/L
Lab Code:	E2100777-009	**Basis:**	As Received

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	**60300**		200	100	50.0	2000	7/13/21	7/15/21 17:03	383029	731254	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2100777
Project:	HS21070435	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	µg/L
Lab Code:	EQ2100430-01	**Basis:**	As Received

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	ND	U	0.100	0.0500	0.0250	1	7/13/21	7/13/21 12:28	383029	730861	

Accuracy & Precision

ALS Environmental - Houston HRMS
10450 Stancliff Rd., Suite 210, Houston TX 77099
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ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS21070435
Sample Matrix: Water

Service Request: E2100777
Date Analyzed: 7/13/21

Lab Control Sample Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
Prep Method: Method

Units: µg/L
Basis: As Received

Extraction Lot: 383029

	Lab Control Sample EQ2100430-02			Duplicate Lab Control Sample EQ2100430-03					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Perchlorate	0.119	0.100	119	0.0977	0.100	98	84 - 119	19 *	15

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2100777
Project:	HS21070435	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2100430-02	**Basis:**	As Received

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	**0.119**		0.100	0.0500	0.0250	1	7/13/21	7/13/21 14:08	383029	730861	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2100777
Project:	HS21070435	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Duplicate Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2100430-03	**Basis:**	As Received

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	**0.0977**	J	0.100	0.0500	0.0250	1	7/13/21	7/13/21 14:16	383029	730861	

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2100777
Project:	HS21070435	**Date Collected:**	7/8/21
Sample Matrix:	Water	**Date Received:**	7/9/21
		Date Analyzed:	7/13/21

Matrix Spike Summary

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Sample Name:	50WW06-210708	**Units:**	µg/L
Lab Code:	E2100777-008	**Basis:**	As Received

Analytical Method: 6850
Prep Method: Method

		50WW06-210708MS				50WW06-210708DMS					
		Matrix Spike				**Duplicate Matrix Spike**					
		EQ2100430-04				EQ2100430-05					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**		**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Perchlorate	1.89	2.01	0.100	120	#	2.00	0.100	118	84 - 119	<1	15

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2100777
Project:	HS21070435	**Date Collected:**	7/ 8/21 0940
Sample Matrix:	Water	**Date Received:**	7/ 9/21
Sample Name:	50WW06-210708	**Units:**	µg/L
Lab Code:	EQ2100430-04	**Basis:**	As Received
Run Type:	Matrix Spike		

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	**2.01**		0.100	0.0500	0.0250	1	7/13/21	7/13/21 12:54	383029	730861	*

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2100777
Project:	HS21070435	**Date Collected:**	7/ 8/21 0940
Sample Matrix:	Water	**Date Received:**	7/ 9/21
Sample Name:	50WW06-210708	**Units:**	µg/L
Lab Code:	EQ2100430-05	**Basis:**	As Received
Run Type:	Duplicate Matrix Spike		

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	**2.00**		0.100	0.0500	0.0250	1	7/13/21	7/13/21 13:03	383029	730861	*