LONGHORN ARMY AMMUNITION PLANT KARNACK, TEXAS

ADMINISTRATIVE RECORD

Volume 33

2020

Bate Stamp Numbers
01006207 – 01007357

Prepared for

Department of the Army
Longhorn Army Ammunition Plant

1976–2020

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

VOLUME 33

2020

A. Title: (cont'd) Report – Appendix C to Approved DRAFT LHAAP-37 Third Annual Remedial Action Operation Report Final DOD IV, Longhorn Army Ammunition Plant, Karnack, Texas
Author(s): Department of the Army
Recipient: Environmental Protection Agency and Texas Commission on Environmental Quality
Date: December 15, 2020
Bate Stamp: 01006207 – 01007332

B. Title: Minutes – Final Monthly Managers' Meeting (MMM), Longhorn Army Ammunition Plant (LHAAP), December 29, 2020
Author(s): Department of the Army
Recipient: All Parties
Date: December 29, 2020
Bate Stamp: 01007333 – 01007357

ALS Houston, US Date: 04-Dec-19

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant -37
Sample ID: Trip Blank
Collection Date: 26-Nov-2019 00:00

ANALYTICAL REPORT
WorkOrder:HS19111443
Lab ID:HS19111443-05
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	03-Dec-2019 15:41
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	03-Dec-2019 15:41
1,1,2,2-Tetrachloroethane	0.50	U	0.50	0.50	1.0	UG/L	1	03-Dec-2019 15:41
1,1,2-Trichlor-1,2,2-trifluoroethane	0.50	U	0.50	0.50	1.0	UG/L	1	03-Dec-2019 15:41
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	UG/L	1	03-Dec-2019 15:41
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	03-Dec-2019 15:41
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	03-Dec-2019 15:41
1,1-Dichloropropene	0.50	U	0.30	0.50	1.0	UG/L	1	03-Dec-2019 15:41
1,2,3-Trichlorobenzene	0.50	U	0.40	0.50	1.0	UG/L	1	03-Dec-2019 15:41
1,2,3-Trichloropropane	0.50	U	0.50	0.50	1.0	UG/L	1	03-Dec-2019 15:41
1,2,4-Trichlorobenzene	0.50	U	0.50	0.50	1.0	UG/L	1	03-Dec-2019 15:41
1,2,4-Trimethylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	03-Dec-2019 15:41
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	03-Dec-2019 15:41
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	UG/L	1	03-Dec-2019 15:41
1,2-Dichlorobenzene	0.50	U	0.50	0.50	1.0	UG/L	1	03-Dec-2019 15:41
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	03-Dec-2019 15:41
1,2-Dichloropropane	0.50	U	0.50	0.50	1.0	UG/L	1	03-Dec-2019 15:41
1,3,5-Trimethylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	03-Dec-2019 15:41
1,3-Dichlorobenzene	0.50	U	0.40	0.50	1.0	UG/L	1	03-Dec-2019 15:41
1,3-Dichloropropane	0.50	U	0.30	0.50	1.0	UG/L	1	03-Dec-2019 15:41
1,4-Dichlorobenzene	0.50	U	0.40	0.50	1.0	UG/L	1	03-Dec-2019 15:41
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	03-Dec-2019 15:41
2-Butanone	1.0	U	0.50	1.0	2.0	UG/L	1	03-Dec-2019 15:41
2-Chlorotoluene	0.50	U	0.30	0.50	1.0	UG/L	1	03-Dec-2019 15:41
2-Hexanone	1.0	U	1.0	1.0	2.0	UG/L	1	03-Dec-2019 15:41
4-Chlorotoluene	0.50	U	0.40	0.50	1.0	UG/L	1	03-Dec-2019 15:41
4-Isopropyltoluene	0.50	U	0.30	0.50	1.0	UG/L	1	03-Dec-2019 15:41
4-Methyl-2-pentanone	1.0	U	0.70	1.0	2.0	UG/L	1	03-Dec-2019 15:41
Acetone	1.0	U	0.40	1.0	2.0	UG/L	1	03-Dec-2019 15:41
Benzene	0.50	U	0.20	0.50	1.0	UG/L	1	03-Dec-2019 15:41
Bromobenzene	0.50	U	0.40	0.50	1.0	UG/L	1	03-Dec-2019 15:41
Bromochloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	03-Dec-2019 15:41
Bromodichloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	03-Dec-2019 15:41
Bromoform	0.50	U	0.40	0.50	1.0	UG/L	1	03-Dec-2019 15:41
Bromomethane	0.50	U	0.40	0.50	1.0	UG/L	1	03-Dec-2019 15:41
Carbon disulfide	1.0	U	0.60	1.0	2.0	UG/L	1	03-Dec-2019 15:41
Carbon tetrachloride	0.50	U	0.50	0.50	1.0	UG/L	1	03-Dec-2019 15:41
Chlorobenzene	0.50	U	0.30	0.50	1.0	UG/L	1	03-Dec-2019 15:41
Chloroethane	0.50	U	0.30	0.50	1.0	UG/L	1	03-Dec-2019 15:41

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

ALS Houston, US Date: 04-Dec-19

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant -37
Sample ID: Trip Blank
Collection Date: 26-Nov-2019 00:00

ANALYTICAL REPORT
WorkOrder:HS19111443
Lab ID:HS19111443-05
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	03-Dec-2019 15:41
Chloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	03-Dec-2019 15:41
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	03-Dec-2019 15:41
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	UG/L	1	03-Dec-2019 15:41
Dibromochloromethane	0.50	U	0.30	0.50	1.0	UG/L	1	03-Dec-2019 15:41
Dibromomethane	0.50	U	0.20	0.50	1.0	UG/L	1	03-Dec-2019 15:41
Dichlorodifluoromethane	0.50	U	0.30	0.50	1.0	UG/L	1	03-Dec-2019 15:41
Ethylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	03-Dec-2019 15:41
Hexachlorobutadiene	0.50	U	1.0	0.50	1.0	UG/L	1	03-Dec-2019 15:41
Isopropylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	03-Dec-2019 15:41
m,p-Xylene	1.0	U	0.50	1.0	2.0	UG/L	1	03-Dec-2019 15:41
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	03-Dec-2019 15:41
n-Butylbenzene	0.50	U	0.40	0.50	1.0	UG/L	1	03-Dec-2019 15:41
n-Propylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	03-Dec-2019 15:41
Naphthalene	0.50	U	0.30	0.50	1.0	UG/L	1	03-Dec-2019 15:41
o-Xylene	0.50	U	0.30	0.50	1.0	UG/L	1	03-Dec-2019 15:41
sec-Butylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	03-Dec-2019 15:41
Styrene	0.50	U	0.30	0.50	1.0	UG/L	1	03-Dec-2019 15:41
tert-Butylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	03-Dec-2019 15:41
Tetrachloroethene	0.50	U	0.30	0.50	1.0	UG/L	1	03-Dec-2019 15:41
Toluene	0.50	U	0.20	0.50	1.0	UG/L	1	03-Dec-2019 15:41
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	03-Dec-2019 15:41
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	UG/L	1	03-Dec-2019 15:41
Trichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	03-Dec-2019 15:41
Trichlorofluoromethane	0.50	U	0.30	0.50	1.0	UG/L	1	03-Dec-2019 15:41
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	03-Dec-2019 15:41
Surr: 1,2-Dichloroethane-d4	*102*			**0**	*81-118*	*%REC*	*1*	*03-Dec-2019 15:41*
Surr: 4-Bromofluorobenzene	*98.2*			**0**	*85-114*	*%REC*	*1*	*03-Dec-2019 15:41*
Surr: Dibromofluoromethane	*101*			**0**	*80-119*	*%REC*	*1*	*03-Dec-2019 15:41*
Surr: Toluene-d8	*97.1*			**0**	*89-112*	*%REC*	*1*	*03-Dec-2019 15:41*

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

ALS Houston, US Date: 04-Dec-19

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant -37
WorkOrder: HS19111443

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: R351682 (0)	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C				**Matrix:** Water	
HS19111443-05	Trip Blank	26 Nov 2019 00:00			03 Dec 2019 15:41	1
Batch ID: R351682 (0)	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C				**Matrix:** Groundwater	
HS19111443-01	35BWW10-191126	26 Nov 2019 07:35			03 Dec 2019 16:05	1
HS19111443-02	35BWW19-191126	26 Nov 2019 08:20			03 Dec 2019 16:29	1
HS19111443-03	35BWW09-191126	26 Nov 2019 09:45			03 Dec 2019 16:54	1
HS19111443-04	35BWW18-191126	26 Nov 2019 12:40			03 Dec 2019 17:18	1

ALS Houston, US Date: 04-Dec-19

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant -37
WorkOrder: HS19111443

QC BATCH REPORT

Batch ID: R351682 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MBLK Sample ID: **VBLKW-191203** Units: **UG/L** Analysis Date: **03-Dec-2019 12:29**
Client ID: Run ID: **VOA6_351682** SeqNo: **5371674** 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	0.50	1.0								U
1,2,3-Trichloropropane	0.50	1.0								U
1,2,4-Trichlorobenzene	0.50	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	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	0.50	1.0								U
1,3-Dichlorobenzene	0.50	1.0								U
1,3-Dichloropropane	0.50	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	0.50	1.0								U
2-Hexanone	1.0	2.0								U
4-Chlorotoluene	0.50	1.0								U
4-Isopropyltoluene	0.50	1.0								U
4-Methyl-2-pentanone	1.0	2.0								U
Acetone	1.0	2.0								U
Benzene	0.50	1.0								U
Bromobenzene	0.50	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: 04-Dec-19

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant -37
WorkOrder: HS19111443

QC BATCH REPORT

Batch ID: R351682 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MBLK Sample ID: **VBLKW-191203** Units: **UG/L** Analysis Date: **03-Dec-2019 12:29**
Client ID: Run ID: **VOA6_351682** SeqNo: **5371674** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromomethane	0.50	1.0								U
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	0.50	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	0.50	1.0								U
n-Propylbenzene	0.50	1.0								U
o-Xylene	0.50	1.0								U
sec-Butylbenzene	0.50	1.0								U
Styrene	0.50	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	*50.74*	*1.0*	*50*	*0*	*101*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*48.48*	*1.0*	*50*	*0*	*97.0*	*85 - 114*				
Surr: Dibromofluoromethane	*49.42*	*1.0*	*50*	*0*	*98.8*	*80 - 119*				

ALS Houston, US Date: 04-Dec-19

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant -37
WorkOrder: HS19111443

QC BATCH REPORT

Batch ID: R351682 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MBLK Sample ID: **VBLKW-191203** Units: **UG/L** Analysis Date: **03-Dec-2019 12:29**
Client ID: Run ID: **VOA6_351682** SeqNo: **5371674** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Surr: Toluene-d8	*48.06*	*1.0*	*50*	*0*	*96.1*	*89 - 112*				

ALS Houston, US Date: 04-Dec-19

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant -37
WorkOrder: HS19111443

QC BATCH REPORT

Batch ID: R351682 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

LCS Sample ID: **VLCSW-191203** Units: **UG/L** Analysis Date: **03-Dec-2019 12:53**
Client ID: Run ID: **VOA6_351682** SeqNo: **5371675** 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	20.28	1.0	20	0	101	78 - 124				
1,1,1-Trichloroethane	22.29	1.0	20	0	111	74 - 131				
1,1,2,2-Tetrachloroethane	20.07	1.0	20	0	100	71 - 121				
1,1,2-Trichlor-1,2,2-trifluoroethane	19.93	1.0	20	0	99.7	70 - 136				
1,1,2-Trichloroethane	20.7	1.0	20	0	103	80 - 119				
1,1-Dichloroethane	22.41	1.0	20	0	112	77 - 125				
1,1-Dichloroethene	19.99	1.0	20	0	100.0	71 - 131				
1,1-Dichloropropene	19.89	1.0	20	0	99.5	78 - 125				
1,2,3-Trichlorobenzene	14.16	1.0	20	0	70.8	69 - 129				
1,2,3-Trichloropropane	20.62	1.0	20	0	103	73 - 122				
1,2,4-Trichlorobenzene	15.43	1.0	20	0	77.2	69 - 130				
1,2,4-Trimethylbenzene	20.88	1.0	20	0	104	76 - 124				
1,2-Dibromo-3-chloropropane	19.24	1.0	20	0	96.2	62 - 128				
1,2-Dibromoethane	20.7	1.0	20	0	103	77 - 121				
1,2-Dichlorobenzene	20.41	1.0	20	0	102	80 - 119				
1,2-Dichloroethane	22.41	1.0	20	0	112	73 - 128				
1,2-Dichloropropane	20.25	1.0	20	0	101	78 - 122				
1,3,5-Trimethylbenzene	20.84	1.0	20	0	104	75 - 124				
1,3-Dichlorobenzene	20.59	1.0	20	0	103	80 - 119				
1,3-Dichloropropane	20.38	1.0	20	0	102	80 - 119				
1,4-Dichlorobenzene	20.62	1.0	20	0	103	79 - 118				
2,2-Dichloropropane	22.01	1.0	20	0	110	60 - 139				
2-Butanone	46.9	2.0	40	0	117	56 - 143				
2-Chlorotoluene	21.56	1.0	20	0	108	79 - 122				
2-Hexanone	41.58	2.0	40	0	104	57 - 139				
4-Chlorotoluene	20.89	1.0	20	0	104	78 - 122				
4-Isopropyltoluene	20.3	1.0	20	0	101	77 - 127				
4-Methyl-2-pentanone	40.34	2.0	40	0	101	67 - 130				
Acetone	45.36	2.0	40	0	113	39 - 160				
Benzene	20.96	1.0	20	0	105	79 - 120				
Bromobenzene	20.49	1.0	20	0	102	80 - 120				
Bromochloromethane	22.73	1.0	20	0	114	78 - 123				
Bromodichloromethane	21.31	1.0	20	0	107	79 - 125				
Bromoform	20.36	1.0	20	0	102	66 - 130				

ALS Houston, US Date: 04-Dec-19

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant -37
WorkOrder: HS19111443

QC BATCH REPORT

Batch ID: R351682 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

LCS Sample ID: **VLCSW-191203** Units: **UG/L** Analysis Date: **03-Dec-2019 12:53**
Client ID: Run ID: **VOA6_351682** SeqNo: **5371675** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromomethane	23.03	1.0	20	0	115	53 - 141				
Carbon disulfide	43.73	2.0	40	0	109	64 - 133				
Carbon tetrachloride	19.57	1.0	20	0	97.9	72 - 136				
Chlorobenzene	20.01	1.0	20	0	100	82 - 118				
Chloroethane	20.87	1.0	20	0	104	60 - 138				
Chloroform	22.36	1.0	20	0	112	79 - 124				
Chloromethane	16.32	1.0	20	0	81.6	50 - 139				
cis-1,2-Dichloroethene	22.98	1.0	20	0	115	78 - 123				
cis-1,3-Dichloropropene	21.18	1.0	20	0	106	75 - 124				
Dibromochloromethane	20.42	1.0	20	0	102	74 - 126				
Dibromomethane	21.53	1.0	20	0	108	79 - 123				
Dichlorodifluoromethane	23.81	1.0	20	0	119	32 - 152				
Ethylbenzene	20.34	1.0	20	0	102	79 - 121				
Hexachlorobutadiene	14.19	1.0	20	0	70.9	66 - 134				
Isopropylbenzene	20.48	1.0	20	0	102	72 - 131				
m,p-Xylene	40.95	2.0	40	0	102	80 - 121				
Methylene chloride	21.83	2.0	20	0	109	74 - 124				
Naphthalene	14.85	1.0	20	0	74.2	61 - 128				
n-Butylbenzene	20.18	1.0	20	0	101	75 - 128				
n-Propylbenzene	20.76	1.0	20	0	104	76 - 126				
o-Xylene	20.02	1.0	20	0	100	78 - 122				
sec-Butylbenzene	20.5	1.0	20	0	103	77 - 126				
Styrene	20.19	1.0	20	0	101	78 - 123				
tert-Butylbenzene	20.63	1.0	20	0	103	78 - 124				
Tetrachloroethene	19.07	1.0	20	0	95.4	74 - 129				
Toluene	20.02	1.0	20	0	100	80 - 121				
trans-1,2-Dichloroethene	22.42	1.0	20	0	112	75 - 124				
trans-1,3-Dichloropropene	21.23	1.0	20	0	106	73 - 127				
Trichloroethene	20.6	1.0	20	0	103	79 - 123				
Trichlorofluoromethane	21.49	1.0	20	0	107	65 - 141				
Vinyl chloride	19.69	1.0	20	0	98.5	58 - 137				
Surr: 1,2-Dichloroethane-d4	*57.21*	*1.0*	*50*	*0*	*114*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*48.17*	*1.0*	*50*	*0*	*96.3*	*85 - 114*				
Surr: Dibromofluoromethane	*52.27*	*1.0*	*50*	*0*	*105*	*80 - 119*				

ALS Houston, US Date: 04-Dec-19

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant -37
WorkOrder: HS19111443

QC BATCH REPORT

Batch ID: R351682 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

LCS Sample ID: **VLCSW-191203** Units: **UG/L** Analysis Date: **03-Dec-2019 12:53**
Client ID: Run ID: **VOA6_351682** SeqNo: **5371675** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Surr: Toluene-d8	*44.84*	*1.0*	*50*	*0*	*89.7*	*89 - 112*				

ALS Houston, US Date: 04-Dec-19

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant -37
WorkOrder: HS19111443

QC BATCH REPORT

Batch ID: R351682 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS19111401-01MS** Units: **UG/L** Analysis Date: **03-Dec-2019 14:29**
Client ID: Run ID: **VOA6_351682** SeqNo: **5371829** 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	18.33	1.0	20	0	91.7	78 - 124				
1,1,1-Trichloroethane	19.53	1.0	20	0	97.7	74 - 131				
1,1,2,2-Tetrachloroethane	18.42	1.0	20	0	92.1	71 - 121				
1,1,2-Trichlor-1,2,2-trifluoroethane	17.68	1.0	20	0	88.4	70 - 136				
1,1,2-Trichloroethane	18.23	1.0	20	0	91.2	80 - 119				
1,1-Dichloroethane	18.89	1.0	20	0	94.4	77 - 125				
1,1-Dichloroethene	18.05	1.0	20	0	90.3	71 - 131				
1,1-Dichloropropene	19.23	1.0	20	0	96.1	78 - 125				
1,2,3-Trichlorobenzene	15.42	1.0	20	0	77.1	69 - 129				
1,2,3-Trichloropropane	18.46	1.0	20	0	92.3	73 - 122				
1,2,4-Trichlorobenzene	15.65	1.0	20	0	78.3	69 - 130				
1,2,4-Trimethylbenzene	19.68	1.0	20	0	98.4	76 - 124				
1,2-Dibromo-3-chloropropane	18.31	1.0	20	0	91.6	62 - 128				
1,2-Dibromoethane	18.38	1.0	20	0	91.9	77 - 121				
1,2-Dichlorobenzene	18.95	1.0	20	0	94.7	80 - 119				
1,2-Dichloroethane	21	1.0	20	1.722	96.4	73 - 128				
1,2-Dichloropropane	17.74	1.0	20	0	88.7	78 - 122				
1,3,5-Trimethylbenzene	19.97	1.0	20	0	99.9	75 - 124				
1,3-Dichlorobenzene	19.37	1.0	20	0	96.8	80 - 119				
1,3-Dichloropropane	18.11	1.0	20	0	90.6	80 - 119				
1,4-Dichlorobenzene	19.08	1.0	20	0	95.4	79 - 118				
2,2-Dichloropropane	19.3	1.0	20	0	96.5	60 - 139				
2-Butanone	34.63	2.0	40	0	86.6	56 - 143				
2-Chlorotoluene	20.31	1.0	20	0	102	79 - 122				
2-Hexanone	35.61	2.0	40	0	89.0	57 - 139				
4-Chlorotoluene	19.72	1.0	20	0	98.6	78 - 122				
4-Isopropyltoluene	19.77	1.0	20	0	98.9	77 - 127				
4-Methyl-2-pentanone	35.45	2.0	40	0	88.6	67 - 130				
Acetone	27.39	2.0	40	0	68.5	39 - 160				
Benzene	18.82	1.0	20	0	94.1	79 - 120				
Bromobenzene	18.95	1.0	20	0	94.8	80 - 120				
Bromochloromethane	18.16	1.0	20	0	90.8	78 - 123				
Bromodichloromethane	18.77	1.0	20	0	93.9	79 - 125				
Bromoform	18.15	1.0	20	0	90.8	66 - 130				

ALS Houston, US Date: 04-Dec-19

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant -37
WorkOrder: HS19111443

QC BATCH REPORT

Batch ID: R351682 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS19111401-01MS** Units: **UG/L** Analysis Date: **03-Dec-2019 14:29**
Client ID: Run ID: **VOA6_351682** SeqNo: **5371829** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromomethane	16.5	1.0	20	0	82.5	53 - 141				
Carbon disulfide	39.29	2.0	40	0	98.2	64 - 133				
Carbon tetrachloride	19.17	1.0	20	0	95.8	72 - 136				
Chlorobenzene	18.17	1.0	20	0	90.9	82 - 118				
Chloroethane	16.51	1.0	20	0	82.6	60 - 138				
Chloroform	18.15	1.0	20	0	90.8	79 - 124				
Chloromethane	12.09	1.0	20	0	60.4	50 - 139				
cis-1,2-Dichloroethene	80.86	1.0	20	62.51	91.7	78 - 123				
cis-1,3-Dichloropropene	18.52	1.0	20	0	92.6	75 - 124				
Dibromochloromethane	18.21	1.0	20	0	91.1	74 - 126				
Dibromomethane	18.41	1.0	20	0	92.1	79 - 123				
Dichlorodifluoromethane	15.15	1.0	20	0	75.7	32 - 152				
Ethylbenzene	18.96	1.0	20	0	94.8	79 - 121				
Hexachlorobutadiene	14.42	1.0	20	0	72.1	66 - 134				
Isopropylbenzene	19.44	1.0	20	0	97.2	72 - 131				
m,p-Xylene	37.97	2.0	40	0	94.9	80 - 121				
Methylene chloride	23.34	2.0	20	6.029	86.5	74 - 124				
Naphthalene	15.19	1.0	20	0	76.0	61 - 128				
n-Butylbenzene	20.24	1.0	20	0	101	75 - 128				
n-Propylbenzene	20.15	1.0	20	0	101	76 - 126				
o-Xylene	18.53	1.0	20	0	92.7	78 - 122				
sec-Butylbenzene	20.44	1.0	20	0	102	77 - 126				
Styrene	18.76	1.0	20	0	93.8	78 - 123				
tert-Butylbenzene	20.37	1.0	20	0	102	78 - 124				
Tetrachloroethene	18.47	1.0	20	0	92.3	74 - 129				
Toluene	18.9	1.0	20	0	94.5	80 - 121				
trans-1,2-Dichloroethene	19.15	1.0	20	0	95.7	75 - 124				
trans-1,3-Dichloropropene	18.49	1.0	20	0	92.5	73 - 127				
Trichloroethene	30.69	1.0	20	11.54	95.7	79 - 123				
Trichlorofluoromethane	18.82	1.0	20	0	94.1	65 - 141				
Vinyl chloride	16.77	1.0	20	0.6565	80.6	58 - 137				
Surr: 1,2-Dichloroethane-d4	*51.39*	*1.0*	*50*	*0*	*103*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*50.46*	*1.0*	*50*	*0*	*101*	*85 - 114*				
Surr: Dibromofluoromethane	*49.88*	*1.0*	*50*	*0*	*99.8*	*80 - 119*				

ALS Houston, US Date: 04-Dec-19

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant -37
WorkOrder: HS19111443

QC BATCH REPORT

Batch ID: R351682 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS19111401-01MS** Units: **UG/L** Analysis Date: **03-Dec-2019 14:29**
Client ID: Run ID: **VOA6_351682** SeqNo: **5371829** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Surr: Toluene-d8	*47.56*	*1.0*	*50*	*0*	*95.1*	*89 - 112*				

ALS Houston, US Date: 04-Dec-19

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant -37
WorkOrder: HS19111443

QC BATCH REPORT

Batch ID: R351682 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS19111401-01MSD** Units: **UG/L** Analysis Date: **03-Dec-2019 14:53**
Client ID: Run ID: **VOA6_351682** SeqNo: **5371830** 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	17.59	1.0	20	0	88.0	78 - 124	18.33	4.12	20	
1,1,1-Trichloroethane	19.42	1.0	20	0	97.1	74 - 131	19.53	0.555	20	
1,1,2,2-Tetrachloroethane	18.32	1.0	20	0	91.6	71 - 121	18.42	0.547	20	
1,1,2-Trichlor-1,2,2-trifluoroethane	16.86	1.0	20	0	84.3	70 - 136	17.68	4.74	20	
1,1,2-Trichloroethane	17.75	1.0	20	0	88.7	80 - 119	18.23	2.71	20	
1,1-Dichloroethane	18.54	1.0	20	0	92.7	77 - 125	18.89	1.83	20	
1,1-Dichloroethene	17.24	1.0	20	0	86.2	71 - 131	18.05	4.58	20	
1,1-Dichloropropene	18.49	1.0	20	0	92.4	78 - 125	19.23	3.9	20	
1,2,3-Trichlorobenzene	17.59	1.0	20	0	88.0	69 - 129	15.42	13.1	20	
1,2,3-Trichloropropane	18.5	1.0	20	0	92.5	73 - 122	18.46	0.24	20	
1,2,4-Trichlorobenzene	16.5	1.0	20	0	82.5	69 - 130	15.65	5.3	20	
1,2,4-Trimethylbenzene	18.95	1.0	20	0	94.7	76 - 124	19.68	3.81	20	
1,2-Dibromo-3-chloropropane	17.49	1.0	20	0	87.4	62 - 128	18.31	4.61	20	
1,2-Dibromoethane	17.57	1.0	20	0	87.9	77 - 121	18.38	4.49	20	
1,2-Dichlorobenzene	18.46	1.0	20	0	92.3	80 - 119	18.95	2.62	20	
1,2-Dichloroethane	20.93	1.0	20	1.722	96.1	73 - 128	21	0.321	20	
1,2-Dichloropropane	17.75	1.0	20	0	88.8	78 - 122	17.74	0.0586	20	
1,3,5-Trimethylbenzene	19.23	1.0	20	0	96.2	75 - 124	19.97	3.78	20	
1,3-Dichlorobenzene	18.76	1.0	20	0	93.8	80 - 119	19.37	3.18	20	
1,3-Dichloropropane	17.61	1.0	20	0	88.1	80 - 119	18.11	2.81	20	
1,4-Dichlorobenzene	18.56	1.0	20	0	92.8	79 - 118	19.08	2.74	20	
2,2-Dichloropropane	19.14	1.0	20	0	95.7	60 - 139	19.3	0.851	20	
2-Butanone	35.18	2.0	40	0	87.9	56 - 143	34.63	1.56	20	
2-Chlorotoluene	19.8	1.0	20	0	99.0	79 - 122	20.31	2.54	20	
2-Hexanone	34.9	2.0	40	0	87.3	57 - 139	35.61	1.99	20	
4-Chlorotoluene	19.29	1.0	20	0	96.4	78 - 122	19.72	2.2	20	
4-Isopropyltoluene	18.87	1.0	20	0	94.3	77 - 127	19.77	4.67	20	
4-Methyl-2-pentanone	34.5	2.0	40	0	86.2	67 - 130	35.45	2.71	20	
Acetone	27.8	2.0	40	0	69.5	39 - 160	27.39	1.51	20	
Benzene	18.42	1.0	20	0	92.1	79 - 120	18.82	2.18	20	
Bromobenzene	18.59	1.0	20	0	92.9	80 - 120	18.95	1.93	20	
Bromochloromethane	18.38	1.0	20	0	91.9	78 - 123	18.16	1.18	20	
Bromodichloromethane	18.71	1.0	20	0	93.5	79 - 125	18.77	0.348	20	
Bromoform	17.65	1.0	20	0	88.2	66 - 130	18.15	2.81	20	

ALS Houston, US Date: 04-Dec-19

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant -37
WorkOrder: HS19111443

QC BATCH REPORT

Batch ID: R351682 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS19111401-01MSD** Units: **UG/L** Analysis Date: **03-Dec-2019 14:53**
Client ID: Run ID: **VOA6_351682** SeqNo: **5371830** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Bromomethane	16.54	1.0	20	0	82.7	53 - 141	16.5	0.283	20	
Carbon disulfide	38.31	2.0	40	0	95.8	64 - 133	39.29	2.54	20	
Carbon tetrachloride	18.57	1.0	20	0	92.8	72 - 136	19.17	3.18	20	
Chlorobenzene	17.83	1.0	20	0	89.1	82 - 118	18.17	1.9	20	
Chloroethane	17.41	1.0	20	0	87.1	60 - 138	16.51	5.3	20	
Chloroform	18.01	1.0	20	0	90.1	79 - 124	18.15	0.759	20	
Chloromethane	11.76	1.0	20	0	58.8	50 - 139	12.09	2.78	20	
cis-1,2-Dichloroethene	80.04	1.0	20	62.51	87.6	78 - 123	80.86	1.01	20	
cis-1,3-Dichloropropene	18.04	1.0	20	0	90.2	75 - 124	18.52	2.67	20	
Dibromochloromethane	17.81	1.0	20	0	89.1	74 - 126	18.21	2.23	20	
Dibromomethane	18.59	1.0	20	0	93.0	79 - 123	18.41	0.991	20	
Dichlorodifluoromethane	14.33	1.0	20	0	71.7	32 - 152	15.15	5.51	20	
Ethylbenzene	18.23	1.0	20	0	91.1	79 - 121	18.96	3.97	20	
Hexachlorobutadiene	14.51	1.0	20	0	72.5	66 - 134	14.42	0.616	20	
Isopropylbenzene	18.57	1.0	20	0	92.8	72 - 131	19.44	4.62	20	
m,p-Xylene	36.62	2.0	40	0	91.6	80 - 121	37.97	3.62	20	
Methylene chloride	22.94	2.0	20	6.029	84.6	74 - 124	23.34	1.7	20	
Naphthalene	17.05	1.0	20	0	85.3	61 - 128	15.19	11.6	20	
n-Butylbenzene	18.99	1.0	20	0	95.0	75 - 128	20.24	6.37	20	
n-Propylbenzene	19.41	1.0	20	0	97.1	76 - 126	20.15	3.7	20	
o-Xylene	17.95	1.0	20	0	89.7	78 - 122	18.53	3.22	20	
sec-Butylbenzene	19.2	1.0	20	0	96.0	77 - 126	20.44	6.26	20	
Styrene	18.16	1.0	20	0	90.8	78 - 123	18.76	3.25	20	
tert-Butylbenzene	19.21	1.0	20	0	96.0	78 - 124	20.37	5.86	20	
Tetrachloroethene	17.85	1.0	20	0	89.3	74 - 129	18.47	3.38	20	
Toluene	18.07	1.0	20	0	90.4	80 - 121	18.9	4.46	20	
trans-1,2-Dichloroethene	18.83	1.0	20	0	94.1	75 - 124	19.15	1.67	20	
trans-1,3-Dichloropropene	18.32	1.0	20	0	91.6	73 - 127	18.49	0.909	20	
Trichloroethene	30.03	1.0	20	11.54	92.4	79 - 123	30.69	2.18	20	
Trichlorofluoromethane	18.06	1.0	20	0	90.3	65 - 141	18.82	4.11	20	
Vinyl chloride	15.94	1.0	20	0.6565	76.4	58 - 137	16.77	5.1	20	
Surr: 1,2-Dichloroethane-d4	*50.53*	*1.0*	*50*	*0*	*101*	*81 - 118*	*51.39*	*1.69*	*20*	
Surr: 4-Bromofluorobenzene	*50.37*	*1.0*	*50*	*0*	*101*	*85 - 114*	*50.46*	*0.183*	*20*	
Surr: Dibromofluoromethane	*50.26*	*1.0*	*50*	*0*	*101*	*80 - 119*	*49.88*	*0.747*	*20*	

ALS Houston, US Date: 04-Dec-19

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant -37
WorkOrder: HS19111443

QC BATCH REPORT

Batch ID: R351682 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS19111401-01MSD** Units: **UG/L** Analysis Date: **03-Dec-2019 14:53**
Client ID: Run ID: **VOA6_351682** SeqNo: **5371830** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Surr: Toluene-d8	*46.82*	*1.0*	*50*	*0*	*93.6*	*89 - 112*	*47.56*	*1.57*	*20*	

The following samples were analyzed in this batch: HS19111443-01 HS19111443-02 HS19111443-03 HS19111443-04 HS19111443-05

ALS Houston, US Date: 04-Dec-19

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant -37
WorkOrder: **HS19111443**

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
Arkansas	19-028-0	27-Mar-2020
California	2919, 2019-2020	30-Apr-2020
Dept of Defense	ANAB L2231	20-Dec-2021
Florida	E87611-28	30-Jun-2020
Illinois	2000322019-2	09-May-2020
Kansas	E-10352 2019-2020	31-Jul-2020
Kentucky	123043, 2019-2020	30-Apr-2020
Louisiana	03087, 2019-2020	30-Jun-2020
Maryland	343, 2019-2020	30-Jun-2020
North Carolina	624-2019	31-Dec-2019
North Dakota	R-193 2019-2020	30-Apr-2020
Oklahoma	2019-067	31-Aug-2020
Texas	TX104704231-19-23	30-Apr-2020

ALS Houston, US Date: 04-Dec-19

Sample Receipt Checklist

Client Name: CBI-Houston
Work Order: HS19111443
Date/Time Received: **27-Nov-2019 10:00**
Received by: **JRM**

Checklist completed by: *Nilesh D. Ranchod* eSignature 27-Nov-2019 Date
Reviewed by: *RJ Modashia* eSignature 30-Nov-2019 Date

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 ☐	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):	1.1C UC/C		IR # 11
Cooler(s)/Kit(s):	45133		
Date/Time sample(s) sent to storage:	11/27/2019 18:00		
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:

APTIM

COC ID: 37NOV2019-1911__-ALS

TURNAROUND TIME:

Page 1 of

RUSH:

PROJECT/CLIENT INFO			
Facility Name	Longhorn AAP		
Project Number	501032		
	LHAAP-37		
Address	1203-B East Grand Avenue		
	PMB 202		
City	Marshall	State	TX
Postal Code	75670	Country	USA
Phone Number	713.243.7264		
Project Manager	Praveen Srivastav		

LABORATORY			
Lab Name	ALS Laboratories		
Lab Contact	RJ Modashia		
Email	RJ.Modashia@alsglobal.com		
Address	10450 Stancliff Rd., Suite 210		
City	Houston	State	TX
Postal Code	77099	Country	USA
Phone Number	281.575.2279 or 281.530.5656		

OTHER INFO			
Email Invoice To	FedInvoices@aptim.com		
Email Report To	Susan.Huang@aptim.com		
Mail Reports To	Susan Huang		
Address	4005 Port Chicago Highway, Suite 200		
City	Concord	State	CA
Postal Code	94520	Country	USA
Shipping Company			

SAMPLE DETAILS

ANALYSIS REQUESTED

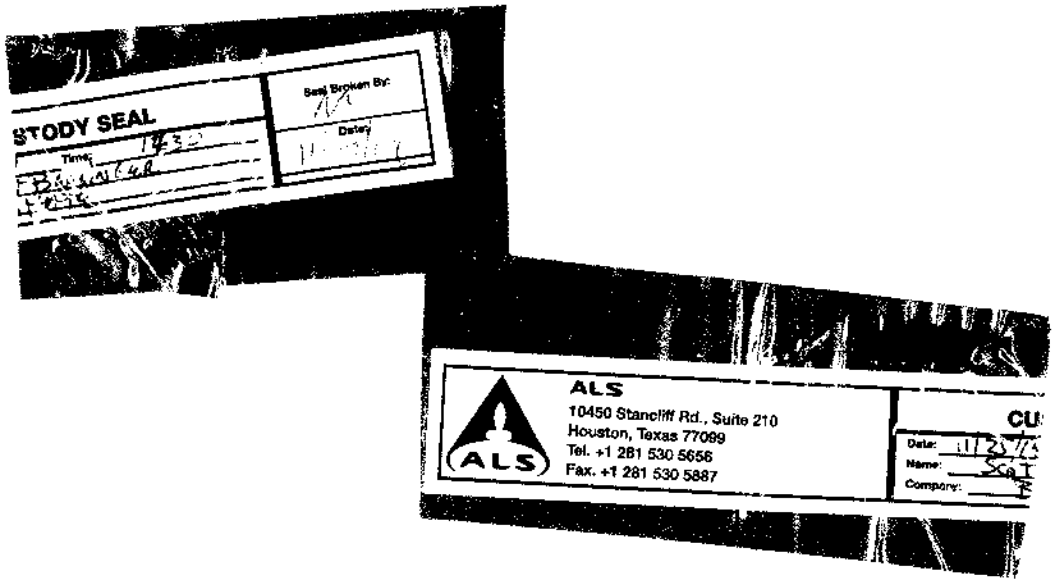
Sample ID	Location	Start Depth	End Depth	Depth Unit	Field Matrix	Date	Time (24hr)	# Of Cont.	ANALYSIS	Vocs by 8260B (3-40 ml VOA/HCL)	MEE by RSK175 (3-40 ml VOA/HCL)	CO2 by RSK175 (3-40 ml VOA/Cool to 6 deg C)	TOC by SM5310C (2-40ml Amber/H2SO4)	Anions (chloride/sulfate/nitrate) by 9056 (1-250ml /Cool to 6 deg C)
35BWW10-191126	LHAAP 37				WG	11/26/19	0735	3		X				
35BWW19-191126	LHAAP 37				WG	11/26/19	0820	3		X				
35BWW09-191126	LHAAP 37				WG	11/26/19	0945	3		X				
35BWW18-191126	LHAAP 37				WG	11/26/19	1240	3		X				
TRip Blank	LHAAP 37				W	11/26/19		2		X				

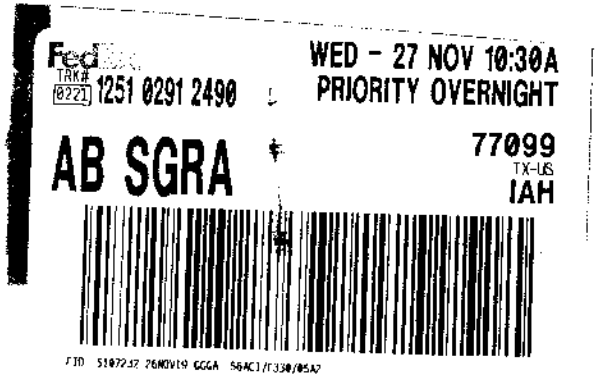
HS19111443

Aptim Environmental & Infrastucture, Inc.
Longhorn Army Ammunition Plant -37

ADDITIONAL COMMENTS/SPECIAL INSTRUCTIONS	RELINQUISHED BY/AFFILIATION	DATE/TIME	ACCEPTED BY/AFFILIATION	DATE/TIME
	Scott Belsing / BHATE	11/26/19 1430	S. Macon	11/27/19 10:00

Cooler 45133
Temp 1.1
IR 11 CF010


STODY SEAL
Seal Broken By:
Date:
ALS
10450 Stancliff Rd., Suite 210
Houston, Texas 77099
Tel. +1 281 530 5656
Fax. +1 281 530 5887
Date:
Name:
Company:


FedEx
TRK# 0221 1251 0291 2490
WED - 27 NOV 10:30A
PRIORITY OVERNIGHT
AB SGRA
77099
TX-US
IAH

HS19111443 8260 Raw Data

ALS WO# HS19111443

MSVOA06 -Logbook

Batch: 38366 **Analyst:** Presenta Cabascango

Date: 11-18-2019 **Reviewer:**

Method: 8260 **Laboratory:** Houston

Comments:

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
1	BFB	TUNE	11-18-2019 01:23 pm	1.00	50 mL	50 mL	X111801.D	Liquid	Y	NA
	Auto find/ purged									
2	VSTD000.25	ICAL1	11-18-2019 01:47 pm	1.00	50 mL	50 mL	X111802.D	Liquid	Y	NA
	0.10 uL cal std/100 mL DI									
3	VSTD000.5	ICAL2	11-18-2019 02:35 pm	1.00	50 mL	50 mL	X111803.D	Liquid	Y	NA
	0.10 uL cal std/50 mL DI									
4	VSTD001	ICAL3	11-18-2019 02:59 pm	1.00	50 mL	50 mL	X111804.D	Liquid	Y	NA
	0.20 uL cal std/50 mL DI									
5	VSTD002	ICAL4	11-18-2019 03:23 pm	1.00	50 mL	50 mL	X111805.D	Liquid	Y	NA
	0.40 uL cal std/50 mL DI									
6	VSTD005	ICAL5	11-18-2019 03:47 pm	1.00	50 mL	50 mL	X111806.D	Liquid	Y	NA
	1.0 uL cal std/50 mL DI									
7	VSTD020	ICAL6	11-18-2019 04:11 pm	1.00	50 mL	50 mL	X111807.D	Liquid	Y	NA
	4.0 uL cal std/50 mL DI									
8	VSTD050	ICAL7	11-18-2019 04:35 pm	1.00	50 mL	50 mL	X111808.D	Liquid	Y	NA
	10 uL cal std/50 mL DI									
9	VSTD100	ICAL8	11-18-2019 04:59 pm	1.00	50 mL	50 mL	X111809.D	Liquid	Y	NA
	20 uL cal std/50 mL DI									
10	VSTD150	ICAL9	11-18-2019 05:22 pm	1.00	50 mL	50 mL	X111810.D	Liquid	Y	NA
	30 uL cal std/50 mL DI									
11	VSTD200	ICAL	11-18-2019 05:46 pm	1.00	50 mL	50 mL	X111811.D	Liquid	Y	NA
	40 uL cal std/50 mL DI									
12	BLANK	SAMP	11-18-2019 06:10 pm	1.00	50 mL	50 mL	X111812.D	Liquid	Y	NA
13	BLANK	SAMP	11-18-2019 06:34 pm	1.00	50 mL	50 mL	X111813.D	Liquid	Y	NA
14	CCV	ICCV	11-18-2019 06:58 pm	1.00	50 mL	50 mL	X111814.D	Liquid	Y	NA
	10 uL cal std/50 mL DI									
15	BLANK	SAMP	11-18-2019 07:22 pm	1.00	50 mL	50 mL	X111815.D	Liquid	Y	NA
16	BFB	TUNE	11-18-2019 07:47 pm	1.00	50 mL	50 mL	Y111801.D	Liquid	Y	NA
	Auto find/ purged									
17	CCV	CCV	11-18-2019 08:10 pm	1.00	50 mL	50 mL	Y111802a.D	Liquid	Y	NA
	10 uL cal std/50 mL DI/ not used									
18	CCV	CCV	11-18-2019 08:34 pm	1.00	50 mL	50 mL	Y111803.D	Liquid	Y	NA
	10 uL cal std/50 mL DI									
19	CCB	SAMP	11-18-2019 08:58 pm	1.00	50 mL	50 mL	Y111804.D	Liquid	Y	NA
20	VLCSW-191118	LCS	11-18-2019 09:22 pm	1.00	50 mL	50 mL	Y111805.D	Liquid	Y	NA
	4.0 uL cal std/50 mL DI									
21	BLK	SAMP	11-18-2019 09:46 pm	1.00	50 mL	50 mL	Y111806.D	Liquid	Y	NA
22	VBLKW-191118	MBLK	11-18-2019 10:10 pm	1.00	50 mL	50 mL	Y111807.D	Liquid	Y	NA
23	HS19110861-01	SAMP	11-18-2019 10:34 pm	1.00	50 mL	50 mL	Y111808.D	Liquid	Y	NA
24	HS19110861-02	SAMP	11-18-2019 10:59 pm	1.00	50 mL	50 mL	Y111809.D	Liquid	Y	NA
25	HS19110861-03	SAMP	11-18-2019 11:23 pm	1.00	50 mL	50 mL	Y111810.D	Liquid	Y	NA
26	HS19110861-04	SAMP	11-18-2019 11:47 pm	1.00	50 mL	50 mL	Y111811.D	Liquid	Y	NA
27	HS19110861-05	SAMP	11-19-2019 12:11 am	1.00	50 mL	50 mL	Y111812.D	Liquid	Y	NA
28	HS19110861-06	SAMP	11-19-2019 12:35 am	1.00	50 mL	50 mL	Y111813.D	Liquid	Y	NA
29	HS19110829-13	SAMP	11-19-2019 12:59 am	1.00	50 mL	50 mL	Y111814.D	Liquid	Y	NA
30	HS19110829-11	SAMP	11-19-2019 01:23 am	1.00	50 mL	50 mL	Y111815.D	Liquid	Y	NA
31	HS19110829-01	SAMP	11-19-2019 01:47 am	1.00	50 mL	50 mL	Y111816.D	Liquid	Y	NA
32	HS19110829-01MS	MS	11-19-2019 02:11 am	1.00	50 mL	50 mL	Y111817.D	Liquid	Y	NA
	3.50 uL cal std/40 mL samp									

MSVOA06 -Logbook

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
33	HS19110829-01MSD	MSD	11-19-2019 02:35 am	1.00	50 mL	50 mL	Y111818.D	Liquid	Y	NA
	3.5 uL cal std/40 mL samp									
34	HS19110829-02	SAMP	11-19-2019 02:59 am	1.00	50 mL	50 mL	Y111819.D	Liquid	Y	NA
35	HS19110829-03	SAMP	11-19-2019 03:23 am	1.00	50 mL	50 mL	Y111820.D	Liquid	Y	NA
36	HS19110829-04	SAMP	11-19-2019 03:47 am	1.00	50 mL	50 mL	Y111821.D	Liquid	Y	NA
37	HS19110829-05	SAMP	11-19-2019 04:11 am	1.00	50 mL	50 mL	Y111822.D	Liquid	Y	NA
38	HS19110829-06	SAMP	11-19-2019 04:35 am	1.00	50 mL	50 mL	Y111823.D	Liquid	Y	NA
39	HS19110829-07	SAMP	11-19-2019 04:59 am	1.00	50 mL	50 mL	Y111824.D	Liquid	Y	NA
40	HS19110829-08	SAMP	11-19-2019 05:23 am	1.00	50 mL	50 mL	Y111825.D	Liquid	Y	NA
41	HS19110829-09	SAMP	11-19-2019 05:47 am	1.00	50 mL	50 mL	Y111826.D	Liquid	Y	NA
42	HS19110829-10	SAMP	11-19-2019 06:11 am	1.00	50 mL	50 mL	Y111827.D	Liquid	Y	NA
43	HS19110829-12	SAMP	11-19-2019 06:36 am	1.00	50 mL	50 mL	Y111828.D	Liquid	Y	NA
44	HS19110716-06	SAMP	11-19-2019 07:00 am	1.00	50 mL	50 mL	Y111829.D	Liquid	Y	NA

Chemical	Value
SURR SPK ID	31106-04-03
IS ID	31106-04-04
ICV STD ID	30603-92-01
LCS/MS ID	30603-92-01
CAL STD ID	31106-04-01/02
BFB ID	31106-04-03
pH Paper	634-64-11

FORM 3
WATER VOLATILE METHOD SPIKE RECOVERY

Lab Name: ALS HOUSTON Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS19111443

Matrix Spike - Sample No.: ICV

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE AMOUNT ()	% REC #	QC. LIMITS REC.
cis-1,3-Dichloropropene	50.00	52.07	104	80-120
trans-1,3-Dichloroprope	50.00	51.83	104	80-120
1,3-Dichlorobenzene	50.00	50.58	101	80-120
2,2-Dichloropropane	50.00	52.35	105	80-120
1,1-Dichloropropene	50.00	49.88	100	80-120
Dibromomethane	50.00	50.50	101	80-120
1,2-Dibromoethane	50.00	50.00	100	80-120
trans-1,2-Dichloroethen	50.00	52.31	105	80-120
1,1,1,2-Tetrachloroetha	50.00	51.37	103	80-120
1,1,1-Trichloroethane	50.00	52.74	105	80-120
1,1,2,2-Tetrachloroetha	50.00	49.68	99	80-120
Toluene	50.00	49.55	99	80-120
1,1,2-Trichloroethane	50.00	49.22	98	80-120
1,1-Dichloroethane	50.00	51.46	103	80-120
1,1-Dichloroethene	50.00	53.02	106	80-120
Trichlorofluoromethane	50.00	55.57	111	80-120
1,2,3-Trichlorobenzene	50.00	58.28	116	80-120
Tetrachloroethene	50.00	49.33	99	80-120
1,2,4-Trichlorobenzene	50.00	55.34	111	80-120
1,2,4-Trimethylbenzene	50.00	50.40	101	80-120
tert-Butylbenzene	50.00	51.37	103	80-120
Trichloroethene	50.00	51.78	104	80-120
1,2-Dichlorobenzene	50.00	49.42	99	80-120
1,2-Dichloroethane	50.00	51.38	103	80-120
1,2-Dichloropropane	50.00	49.50	99	80-120
1,3,5-Trimethylbenzene	50.00	52.04	104	80-120
1,3-Dichloropropane	50.00	49.18	98	80-120
1,4-Dichlorobenzene	50.00	49.63	99	80-120

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

COMMENTS: _____

_____

FORM III VOA

FORM 3
WATER VOLATILE METHOD SPIKE RECOVERY

Lab Name: ALS HOUSTON Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS19111443

Matrix Spike - Sample No.: ICV

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE AMOUNT ()	% REC #	QC. LIMITS REC.
2-Butanone	100.00	105.25	105	80-120
2-Chlorotoluene	50.00	50.41	101	80-120
2-Hexanone	100.00	96.09	96	80-120
4-Chlorotoluene	50.00	50.58	101	80-120
Styrene	50.00	50.35	101	80-120
4-Methyl-2-Pentanone	100.00	97.68	98	80-120
Acetone	100.00	111.37	111	80-120
Benzene	50.00	50.85	102	80-120
Bromobenzene	50.00	51.16	102	80-120
Bromochloromethane	50.00	51.34	103	80-120
Bromodichloromethane	50.00	51.00	102	80-120
Bromoform	50.00	49.08	98	80-120
Bromomethane	50.00	57.73	115	80-120
Carbon Disulfide	100.00	109.76	110	80-120
Carbon Tetrachloride	50.00	51.07	102	80-120
Chlorobenzene	50.00	49.20	98	80-120
Chloroethane	50.00	51.64	103	80-120
Chloroform	50.00	49.36	99	80-120
Chloromethane	50.00	50.43	101	80-120
cis-1,2-Dichloroethene	50.00	53.16	106	80-120
Dibromochloromethane	50.00	49.93	100	80-120
Dichlorodifluoromethane	50.00	52.99	106	80-120
Ethylbenzene	50.00	50.22	100	80-120
Hexachlorobutadiene	50.00	61.69	123*	80-120
Isopropylbenzene	50.00	50.14	100	80-120
m,p-Xylenes	100.00	101.69	102	80-120
Methylene Chloride	50.00	49.65	99	80-120
n-Butylbenzene	50.00	52.07	104	80-120

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

COMMENTS: _____

_____

FORM III VOA

FORM 3
WATER VOLATILE METHOD SPIKE RECOVERY

Lab Name: ALS HOUSTON Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS19111443

Matrix Spike - Sample No.: ICV

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE AMOUNT ()	% REC #	QC. LIMITS REC.
n-Propylbenzene	50.00	51.90	104	80-120
Naphthalene	50.00	51.04	102	80-120
o-Xylene	50.00	49.72	99	80-120
sec-Butylbenzene	50.00	51.77	104	80-120
Vinyl Chloride	50.00	51.98	104	80-120
1,2,3-Trichloropropane	50.00	49.40	99	80-120
p-Isopropyltoluene	50.00	51.77	104	80-120
1,2-Dibromo-3-Chloropro	50.00	51.39	103	80-120
Freon TF	50.00	55.79	112	80-120

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

COMMENTS: _____

_____

FORM III VOA

FORM 5
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: ALS HOUSTON Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS19111443

Lab File ID: X111801 BFB Injection Date: 11/18/19

Instrument ID: VOA6 BFB Injection Time: 1323

GC Column: DB624 ID: 0.25 (mm) Heated Purge: (Y/N) N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	20.9
75	30.0 - 60.0% of mass 95	54.9
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	7.6
173	Less than 2.0% of mass 174	0.4 (0.7)1
174	Greater than 50.0% of mass 95	65.0
175	5.0 - 9.0% of mass 174	5.8 (8.9)1
176	95.0 - 101.0% of mass 174	62.0 (95.4)1
177	5.0 - 9.0% of mass 176	5.1 (8.2)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD000.25	VSTD000.25	X111802	11/18/19	1347
02	VSTD000.5	VSTD000.5	X111803	11/18/19	1435
03	VSTD001	VSTD001	X111804	11/18/19	1459
04	VSTD002	VSTD002	X111805	11/18/19	1523
05	VSTD005	VSTD005	X111806	11/18/19	1547
06	VSTD020	VSTD020	X111807	11/18/19	1611
07	VSTD050	VSTD050	X111808	11/18/19	1635
08	VSTD100	VSTD100	X111809	11/18/19	1659
09	VSTD150	VSTD150	X111810	11/18/19	1722
10	VSTD200	VSTD200	X111811	11/18/19	1746
11	ICV	ICV	X111814	11/18/19	1858
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ALS HOUSTON Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS19111443

Instrument ID: VOA6 Calibration Date(s): 11/18/19 11/18/19

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1347 1746

LAB FILE ID: RF0.25: X111802 RF0.5: X111803 RF1: X111804
RF2: X111805 RF5: X111806 RF20: X111807

COMPOUND	RF0.25	RF0.5	RF1	RF2	RF5	RF20
cis-1,3-Dichloropropene		0.326	0.553	0.497	0.554	0.476
trans-1,3-Dichloropropene		0.304	0.464	0.458	0.504	0.445
1,3-Dichlorobenzene		1.036	1.601	1.542	1.622	1.411
2,2-Dichloropropane		0.547	0.815	0.674	0.705	0.610
1,1-Dichloropropene		0.332	0.476	0.441	0.432	0.372
Dibromomethane		0.139	0.244	0.233	0.245	0.207
1,2-Dibromoethane		0.245	0.385	0.380	0.402	0.348
trans-1,2-Dichloroethene		0.285	0.489	0.436	0.440	0.386
1,1,1,2-Tetrachloroethane		0.248	0.403	0.375	0.406	0.356
1,1,1-Trichloroethane		0.492	0.775	0.723	0.717	0.640
1,1,2,2-Tetrachloroethane		0.602	0.844	0.735	0.800	0.680
Toluene		1.077	1.582	1.498	1.570	1.359
1,1,2-Trichloroethane		0.180	0.311	0.285	0.294	0.253
1,1-Dichloroethane		0.569	0.830	0.781	0.786	0.690
1,1-Dichloroethene		0.349	0.423	0.469	0.464	0.390
Trichlorofluoromethane		0.511	0.831	0.818	0.813	0.707
1,2,3-Trichlorobenzene		421	1182	2753	6553	21856
Tetrachloroethene		0.266	0.412	0.394	0.398	0.333
1,2,4-Trichlorobenzene		0.325	0.435	0.465	0.518	0.418
1,2,4-Trimethylbenzene		1.739	2.619	2.442	2.563	2.286
tert-Butylbenzene		1.338	2.168	2.060	2.126	1.865
Trichloroethene		0.226	0.390	0.387	0.396	0.344
1,2-Dichlorobenzene		0.916	1.484	1.429	1.497	1.292
1,2-Dichloroethane		0.277	0.470	0.408	0.432	0.391
1,2-Dichloropropane		0.294	0.294	0.312	0.339	0.284
1,3,5-Trimethylbenzene		1.606	2.354	2.372	2.481	2.215
1,3-Dichloropropane		0.431	0.613	0.570	0.583	0.512
1,4-Dichlorobenzene		1.108	1.632	1.581	1.609	1.417
2-Butanone		0.167	0.156	0.152	0.164	0.146
2-Chlorotoluene		1.263	1.990	1.903	2.032	1.735
2-Hexanone		0.180	0.237	0.204	0.235	0.191
4-Chlorotoluene		1.550	2.500	2.222	2.378	2.079
Styrene		0.702	1.134	1.076	1.148	1.004
4-Methyl-2-Pentanone		0.220	0.321	0.313	0.331	0.281
Acetone		4579	5956	7954	15992	43200
Benzene		0.788	1.327	1.220	1.289	1.109
Bromobenzene		0.584	1.003	0.940	0.994	0.873
Bromochloromethane		0.229	0.323	0.309	0.284	0.255
Bromodichloromethane		0.298	0.490	0.424	0.473	0.395
Bromoform		887	3197	5989	16084	56416
Bromomethane		2741	6334	12041	28671	93456
Carbon Disulfide		0.747	1.257	1.216	1.254	1.101
Carbon Tetrachloride		0.340	0.503	0.483	0.478	0.403
Chlorobenzene		0.738	1.108	1.028	1.090	0.934

FORM VI VOA

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ALS HOUSTON Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS1911144

Instrument ID: VOA6 Calibration Date(s): 11/18/19 11/18/19

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1347 1746

LAB FILE ID: RF0.25: X111802 RF0.5: X111803 RF1: X111804
RF2: X111805 RF5: X111806 RF20: X111807

COMPOUND	RF0.25	RF0.5	RF1	RF2	RF5	RF20
Chloroethane		0.279	0.361	0.345	0.323	0.283
Chloroform		0.775	0.990	0.890	0.850	0.736
Chloromethane		2201	6118	10461	24949	85402
cis-1,2-Dichloroethene		0.327	0.540	0.493	0.541	0.454
Dibromochloromethane		0.253	0.433	0.392	0.429	0.370
Dichlorodifluoromethane		1269	3829	7335	18346	63810
Ethylbenzene		0.353	0.562	0.515	0.576	0.493
Hexachlorobutadiene		1376	2468	4522	11525	37789
Isopropylbenzene		1.054	1.627	1.570	1.602	1.425
m,p-Xylenes		0.393	0.653	0.644	0.678	0.591
Methylene Chloride		0.422	0.556	0.483	0.491	0.406
n-Butylbenzene		1.620	2.055	2.004	2.069	1.888
n-Propylbenzene		2.290	3.358	3.192	3.345	2.976
Naphthalene		0.510	0.569	0.604	0.614	0.512
o-Xylene		0.390	0.677	0.656	0.658	0.582
sec-Butylbenzene		1.995	2.859	2.859	2.813	2.501
Vinyl Chloride		0.490	0.545	0.546	0.504	0.454
1,2,3-Trichloropropane		0.455	0.730	0.701	0.662	0.580
p-Isopropyltoluene		1.839	2.630	2.538	2.573	2.307
1,2-Dibromo-3-Chloropropane		125	464	859	2641	8805
Freon TF		0.296	0.488	0.452	0.457	0.380
4-Bromofluorobenzene		3844	5731	10468	25804	94194
Dibromofluoromethane		2303	3882	8127	20237	75094
Toluene-d8		1.628	1.327	1.357	1.369	1.263
1,2-Dichloroethane-d4		2522	4458	8034	20921	75813

FORM VI VOA

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ALS HOUSTON Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS1911144

Instrument ID: VOA6 Calibration Date(s): 11/18/19 11/18/19

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1347 1746

LAB FILE ID: RF50: X111808 RF100: X111809 RF150: X111810
RF200: X111811

COMPOUND	RF50	RF100	RF150	RF200
cis-1,3-Dichloropropene	0.499	0.494	0.497	0.493
trans-1,3-Dichloropropene	0.452	0.455	0.456	0.461
1,3-Dichlorobenzene	1.457	1.422	1.398	1.417
2,2-Dichloropropane	0.644	0.644	0.646	0.658
1,1-Dichloropropene	0.402	0.392	0.391	0.392
Dibromomethane	0.211	0.206	0.208	0.208
1,2-Dibromoethane	0.348	0.347	0.350	0.351
trans-1,2-Dichloroethene	0.410	0.413	0.416	0.427
1,1,1,2-Tetrachloroethane	0.368	0.369	0.369	0.370
1,1,1-Trichloroethane	0.673	0.676	0.678	0.697
1,1,2,2-Tetrachloroethane	0.672	0.670	0.662	0.661
Toluene	1.411	1.408	1.420	1.435
1,1,2-Trichloroethane	0.256	0.258	0.256	0.259
1,1-Dichloroethane	0.710	0.716	0.728	0.737
1,1-Dichloroethene	0.430	0.429	0.426	0.434
Trichlorofluoromethane	0.823	0.824	0.813	0.840
1,2,3-Trichlorobenzene	52554	102660	156391	210414
Tetrachloroethene	0.352	0.340	0.332	0.334
1,2,4-Trichlorobenzene	0.421	0.402	0.400	0.406
1,2,4-Trimethylbenzene	2.419	2.440	2.397	2.446
tert-Butylbenzene	2.012	2.011	1.967	1.996
Trichloroethene	0.359	0.350	0.348	0.348
1,2-Dichlorobenzene	1.330	1.327	1.324	1.344
1,2-Dichloroethane	0.401	0.397	0.397	0.398
1,2-Dichloropropane	0.295	0.290	0.290	0.290
1,3,5-Trimethylbenzene	2.368	2.377	2.339	2.377
1,3-Dichloropropane	0.516	0.521	0.514	0.516
1,4-Dichlorobenzene	1.465	1.445	1.412	1.445
2-Butanone	0.146	0.147	0.153	0.148
2-Chlorotoluene	1.853	1.827	1.787	1.800
2-Hexanone	0.192	0.201	0.204	0.204
4-Chlorotoluene	2.208	2.230	2.205	2.250
Styrene	1.056	1.073	1.093	1.113
4-Methyl-2-Pentanone	0.283	0.291	0.298	0.298
Acetone	103091	202207	284604	372223
Benzene	1.164	1.135	1.133	1.128
Bromobenzene	0.878	0.857	0.837	0.854
Bromochloromethane	0.263	0.261	0.260	0.255
Bromodichloromethane	0.412	0.408	0.412	0.412
Bromoform	143798	293256	447981	602595
Bromomethane	215480	396733	529714	
Carbon Disulfide	1.192	1.188	1.192	1.228
Carbon Tetrachloride	0.452	0.442	0.435	0.440
Chlorobenzene	0.965	0.966	0.974	0.982

FORM VI VOA

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ALS HOUSTON Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS1911144

Instrument ID: VOA6 Calibration Date(s): 11/18/19 11/18/19

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1347 1746

LAB FILE ID: RF50: X111808 RF100: X111809 RF150: X111810
RF200: X111811

COMPOUND	RF50	RF100	RF150	RF200
Chloroethane	0.311	0.311	0.310	0.311
Chloroform	0.751	0.754	0.761	0.780
Chloromethane	215753	420936	613254	811388
cis-1,2-Dichloroethene	0.470	0.475	0.478	0.488
Dibromochloromethane	0.381	0.386	0.386	0.387
Dichlorodifluoromethane	186161	359790	504807	695305
Ethylbenzene	0.512	0.509	0.506	0.512
Hexachlorobutadiene	99881	192455		
Isopropylbenzene	1.523	1.544	1.538	1.560
m,p-Xylenes	0.623	0.628	0.627	0.639
Methylene Chloride	0.421	0.425	0.428	0.436
n-Butylbenzene	2.162	2.176	2.153	2.197
n-Propylbenzene	3.234	3.176	3.089	3.155
Naphthalene	0.521	0.505	0.514	0.512
o-Xylene	0.600	0.608	0.611	0.623
sec-Butylbenzene	2.823	2.798	2.726	2.790
Vinyl Chloride	0.505	0.510	0.510	0.523
1,2,3-Trichloropropane	0.577	0.564	0.549	0.543
p-Isopropyltoluene	2.571	2.546	2.480	2.534
1,2-Dibromo-3-Chloropropane	21800	42468	65470	86827
Freon TF	0.459	0.462	0.452	0.472
4-Bromofluorobenzene	222328	465570	688600	933083
Dibromofluoromethane	173990	354918	514854	681300
Toluene-d8	1.212	1.246	1.223	1.231
1,2-Dichloroethane-d4	178006	364646	532181	713282

FORM VI VOA

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ALS HOUSTON Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS1911144

Instrument ID: VOA6 Calibration Date(s): 11/18/19 11/18/19

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1347 1746

COMPOUND	CURVE	COEFFICENTS A0	A1	A2	%RSD OR R^2	MAX %RSD OR R^2
cis-1,3-Dichloropropene	AVRG		0.48761342		13.630	15.000
trans-1,3-Dichloropropene	AVRG		0.44441818		12.432	15.000
1,3-Dichlorobenzene	AVRG		1.43390401		11.978	15.000
2,2-Dichloropropane	AVRG		0.66029305		11.040	15.000
1,1-Dichloropropene	AVRG		0.40332539		10.380	15.000
Dibromomethane	AVRG		0.21136309		14.886	15.000
1,2-Dibromoethane	AVRG		0.35067597		12.763	15.000
trans-1,2-Dichloroethene	AVRG		0.41138839		13.381	15.000
1,1,1,2-Tetrachloroethane	AVRG		0.36274186		12.717	15.000
1,1,1-Trichloroethane	AVRG		0.67453438		11.648	15.000
1,1,2,2-Tetrachloroethane	AVRG		0.70308768		10.825	15.000
Toluene	AVRG		1.41788930		10.479	15.000
1,1,2-Trichloroethane	AVRG		0.26137158		14.102	15.000
1,1-Dichloroethane	AVRG		0.72750643		10.197	15.000
1,1-Dichloroethene	AVRG		0.42373367		8.607	15.000
Trichlorofluoromethane	AVRG		0.77561874		13.736	15.000
1,2,3-Trichlorobenzene	2ORDR	-1.73e-002	5.50264123	-0.1707432	0.9998373	0.9900000
Tetrachloroethene	AVRG		0.35131312		12.801	15.000
1,2,4-Trichlorobenzene	AVRG		0.42118311		12.391	15.000
1,2,4-Trimethylbenzene	AVRG		2.37245105		10.778	15.000
tert-Butylbenzene	AVRG		1.94917789		12.586	15.000
Trichloroethene	AVRG		0.34966887		14.517	15.000
1,2-Dichlorobenzene	AVRG		1.32701574		12.905	15.000
1,2-Dichloroethane	AVRG		0.39691390		12.978	15.000
1,2-Dichloropropane	AVRG		0.29867989		5.660	15.000
1,3,5-Trimethylbenzene	AVRG		2.27648393		11.444	15.000
1,3-Dichloropropane	AVRG		0.53064503		9.928	15.000
1,4-Dichlorobenzene	AVRG		1.45709302		10.715	15.000
2-Butanone	AVRG		0.15342086		5.109	15.000
2-Chlorotoluene	AVRG		1.79889065		12.374	15.000
2-Hexanone	AVRG		0.20539492		9.225	15.000
4-Chlorotoluene	AVRG		2.18043218		12.121	15.000
Styrene	AVRG		1.04451403		12.966	15.000
4-Methyl-2-Pentanone	AVRG		0.29296235		10.958	15.000
Acetone	LINR	-7.72e-002	8.02348321		0.9999004	0.9900000
Benzene	AVRG		1.14377224		13.444	15.000
Bromobenzene	AVRG		0.86897432		14.186	15.000
Bromochloromethane	AVRG		0.27086566		10.835	15.000
Bromodichloromethane	AVRG		0.41377448		13.021	15.000
Bromoform	LINR	1.997e-002	3.29171060		0.9995506	0.9900000
Bromomethane	LINR	-4.72e-002	2.10632186		0.9967362	0.9900000
Carbon Disulfide	AVRG		1.15275096		13.789	15.000
Carbon Tetrachloride	AVRG		0.44181701		10.990	15.000
Chlorobenzene	AVRG		0.97614522		10.975	15.000

FORM VI VOA

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ALS HOUSTON Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS1911144

Instrument ID: VOA6 Calibration Date(s): 11/18/19 11/18/19

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1347 1746

COMPOUND	CURVE	COEFFICENTS A0	A1	A2	%RSD OR R^2	MAX %RSD OR R^2
Chloroethane	AVRG		0.31480657		8.302	15.000
Chloroform	AVRG		0.80974969		10.425	15.000
Chloromethane	LINR	3.748e-003	1.83460007		0.9998260	0.9900000
cis-1,2-Dichloroethene	AVRG		0.47416954		13.204	15.000
Dibromochloromethane	AVRG		0.37970849		13.683	15.000
Dichlorodifluoromethane	LINR	1.763e-002	2.15619239		0.9988587	0.9900000
Ethylbenzene	AVRG		0.50436028		12.486	15.000
Hexachlorobutadiene	LINR	-1.03e-002	2.88504774		0.9991601	0.9900000
Isopropylbenzene	AVRG		1.49389834		11.672	15.000
m,p-Xylenes	AVRG		0.60861655		13.850	15.000
Methylene Chloride	AVRG		0.45210476		10.732	15.000
n-Butylbenzene	AVRG		2.03598696		9.063	15.000
n-Propylbenzene	AVRG		3.09059969		10.434	15.000
Naphthalene	AVRG		0.54020307		8.055	15.000
o-Xylene	AVRG		0.60066696		14.145	15.000
sec-Butylbenzene	AVRG		2.68486077		10.468	15.000
Vinyl Chloride	AVRG		0.50958661		5.494	15.000
1,2,3-Trichloropropane	AVRG		0.59573805		14.502	15.000
p-Isopropyltoluene	AVRG		2.44651692		10.015	15.000
1,2-Dibromo-3-Chloropropane	LINR	-6.81e-003	12.9714748		0.9998714	0.9900000
Freon TF	AVRG		0.43530320		13.846	15.000
4-Bromofluorobenzene	LINR	8.357e-003	2.13170980		0.9997055	0.9900000
Dibromofluoromethane	LINR	7.36e-003	2.18334297		0.9997712	0.9900000
Toluene-d8	AVRG		1.31739803		9.895	15.000
1,2-Dichloroethane-d4	LINR	1.473e-002	2.09453233		0.9994184	0.9900000

FORM VI VOA

Page 1

Data File: \\nahstws005\Target\chem\voa6.i\X191118.b\X111801.D

Date : 18-NOV-2019 13:23

Client ID: BFB

Instrument: voa6.i

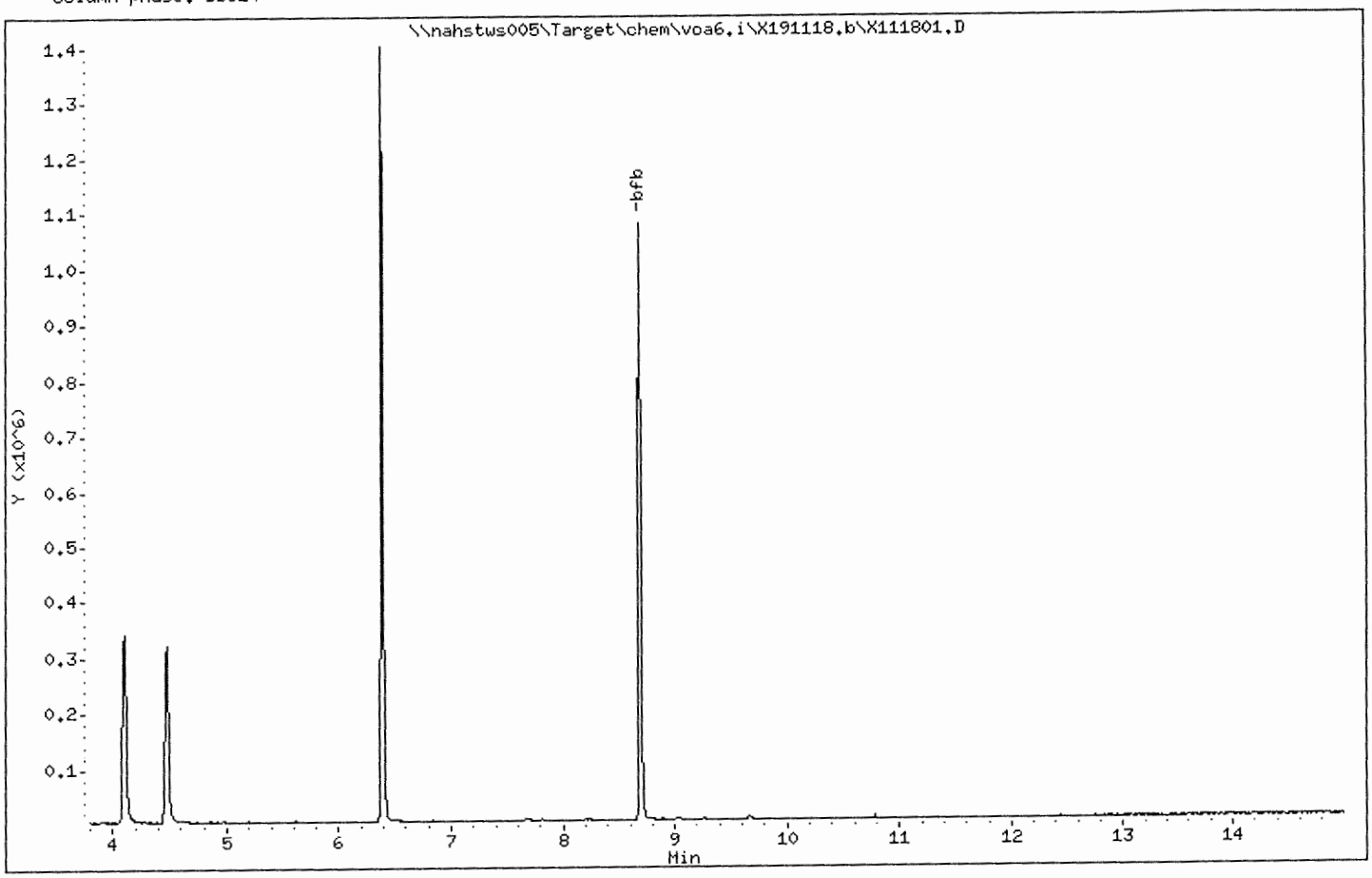
Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0

Operator: PC

Column phase: DB624

Column diameter: 0.25



Data File: \\nahstws005\Target\chem\voa6.i\X191118.b\X111801.D Page 2

Date : 18-NOV-2019 13:23

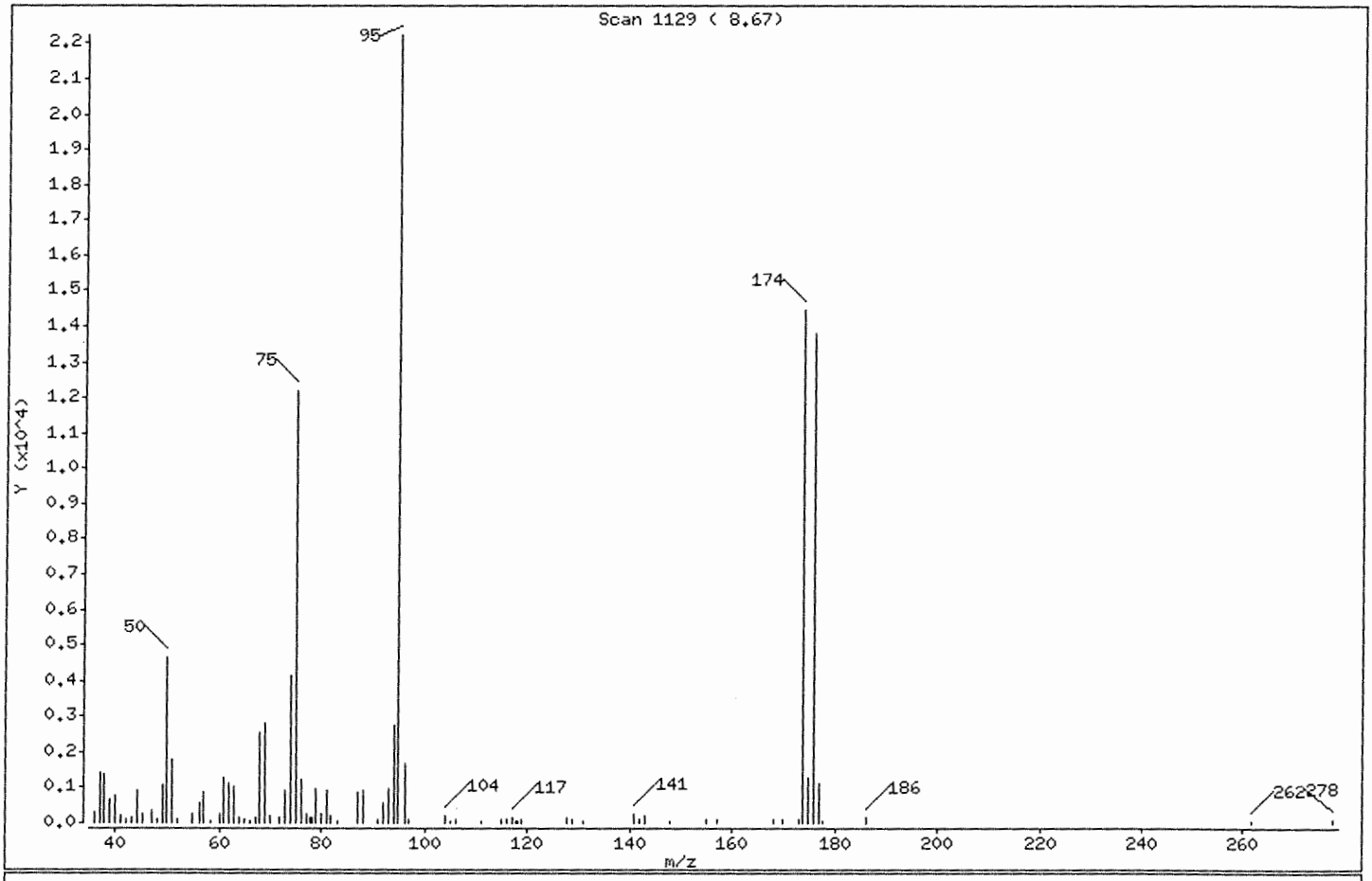
Client ID: BFB Instrument: voa6.i

Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0 Operator: PC

Column phase: DB624 Column diameter: 0.25

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	20.86
75	30.00 - 60.00% of mass 95	54.86
96	5.00 - 9.00% of mass 95	7.62
173	Less than 2.00% of mass 174	0.43 (0.66)
174	Greater than 50.00% of mass 95	65.03
175	5.00 - 9.00% of mass 174	5.82 (8.95)
176	95.00 - 101.00% of mass 174	62.04 (95.41)
177	5.00 - 9.00% of mass 176	5.11 (8.24)

Data File: \\nahstws005\Target\chem\voa6.i\X191118.b\X111801.D

Date : 18-NOV-2019 13:23

Client ID: BFB

Instrument: voa6.i

Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0

Operator: PC

Column phase: DB624

Column diameter: 0.25

Data File: X111801.D
Spectrum: Scan 1129 (8.67)
Location of Maximum: 95.00
Number of points: 83

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	329	61.00	1259	81.80	217	127.90	153
37.00	1409	62.00	1149	83.00	50	128.90	116
38.00	1370	62.90	1001	86.90	880	130.90	70
39.00	662	64.00	138	88.00	941	141.00	249
40.00	775	65.10	110	91.10	116	141.90	94
41.00	191	66.00	72	92.10	565	142.90	216
42.00	77	67.10	153	93.00	990	148.10	62
43.00	166	68.00	2578	94.00	2783	155.00	87
44.10	928	69.00	2816	95.00	22224	157.00	77
45.10	261	69.90	217	96.10	1694	168.00	85
47.00	367	71.90	143	97.00	111	170.00	86
48.10	104	73.00	931	103.90	180	172.90	96
49.00	1057	74.00	4135	105.10	52	173.90	14452
50.00	4636	75.00	12193	106.00	100	174.90	1293
51.00	1802	76.00	1227	111.10	63	175.90	13788
52.10	85	77.10	248	115.10	93	176.90	1136
55.00	269	77.80	150	116.00	100	177.80	71
56.10	539	78.10	174	117.00	158	186.00	161
56.90	843	78.90	948	117.70	74	261.90	57
58.20	60	79.90	265	118.10	74	277.90	85
60.00	231	80.90	936	119.00	127		

Data File: \\nahstws005\Target\chem\voa6.i\X191118.b\X111802.D Page 1
Report Date: 06-Dec-2019 19:56

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X191118.b\X111802.D
Lab Smp Id: VSTD000.25 Client Smp ID: VSTD000.25
Inj Date : 18-NOV-2019 13:47
Operator : PC Inst ID: voa6.i
Smp Info : VSTD000.25;VSTD000.25;1;1;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X191118.b\8260W.m
Meth Date : 06-Dec-2019 19:56 voa6.i Quant Type: ISTD
Cal Date : 18-NOV-2019 17:46 Cal File: X111811.D
Als bottle: 2 Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBIHOUSTONDOD.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

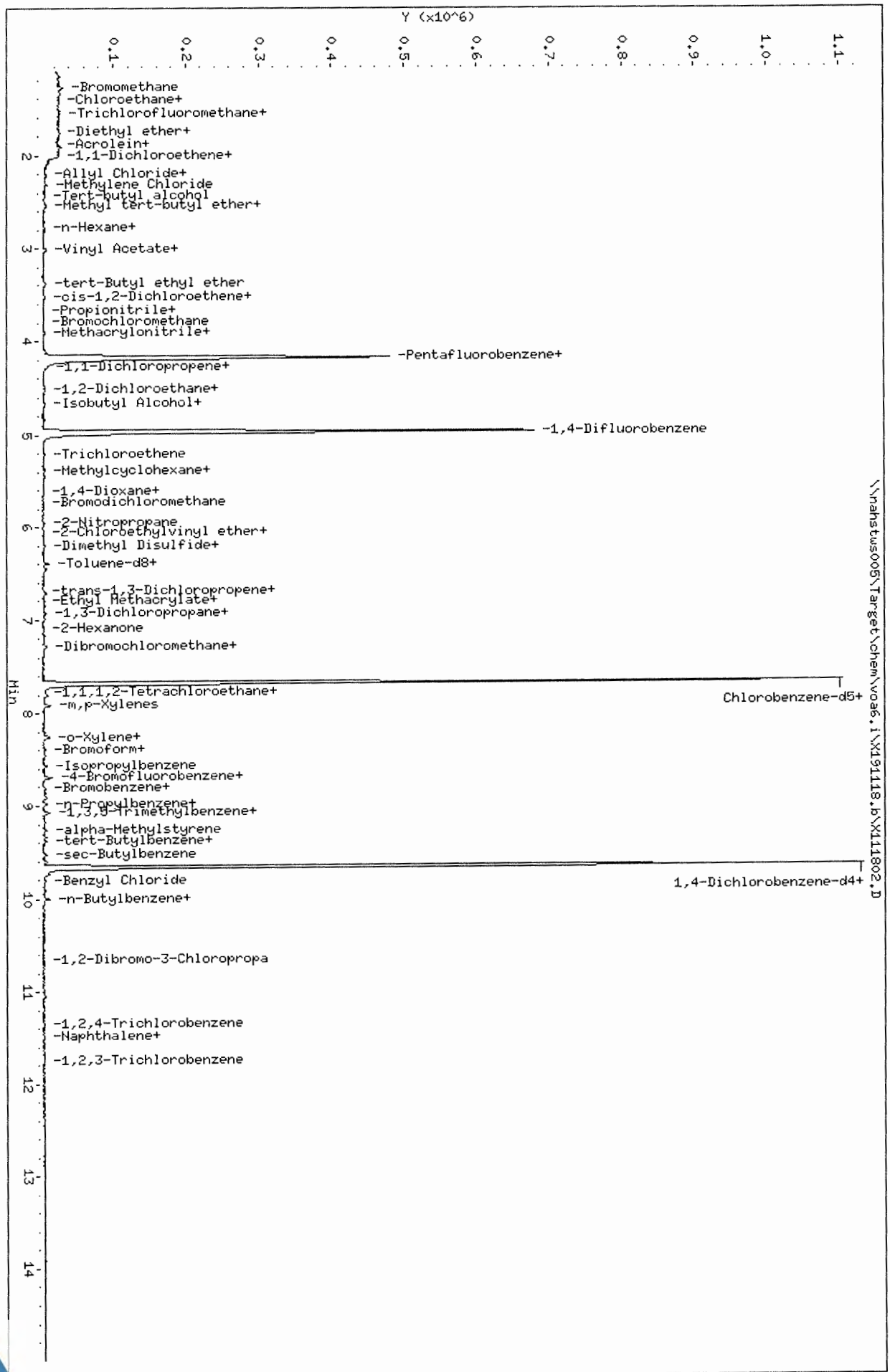
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	431958	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	586737	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	529029	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	277425	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	1323	0.25000	1.05(Ta)
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	3260	0.25000	1.07(a)
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	1295	0.25000	0.69(a)
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	5247	0.25000	0.37(Ta)
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	814	0.25000	0.21(a)
31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	1177	0.25000	0.20(a)
68 1,1,2,2-Tetrachloroethane	83	8.845	8.845	(0.915)	861	0.25000	0.22(aM)
138 Freon TF	101	1.912	1.912	(0.457)	755	0.25000	0.20(aM)
53 1,1,2-Trichloroethane	83	6.847	6.847	(0.893)	656	0.25000	0.23(aM)
22 1,1-Dichloroethane	63	2.922	2.922	(0.699)	1571	0.25000	0.24(aM)
11 1,1-Dichloroethene	96	1.919	1.919	(0.459)	909	0.25000	0.24(a)
32 1,1-Dichloropropene	75	4.283	4.283	(0.862)	1579	0.25000	0.33(a)
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.216)	224	0.25000	(aM)
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.918)	702	0.25000	0.21(aM)
90 1,2,4-Trichlorobenzene	180	11.345	11.345	(1.174)	320	0.25000	0.13(aM)
79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.971)	2742	0.25000	0.20(a)
89 1,2-Dibromo-3-Chloropropane	155	10.658	10.658	(1.103)	103	0.25000	(aM)
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	708	0.25000	0.19(a)

Data File: \\nahstws005\Target\chem\voa6.i\X191118.b\X111802.D Page 2
Report Date: 06-Dec-2019 19:56

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
88	1,2-Dichlorobenzene	146	9.999	9.999	(1.035)	1523	0.25000	0.20(a)
33	1,2-Dichloroethane	62	4.562	4.562	(0.918)	938	0.25000	0.20(aM)
42	1,2-Dichloropropane	63	5.450	5.450	(1.097)	858	0.25000	0.24(aM)
75	1,3,5-Trimethylbenzene	105	9.075	9.075	(0.939)	2444	0.25000	0.19(a)
83	1,3-Dichlorobenzene	146	9.612	9.612	(0.995)	1534	0.25000	0.19(a)
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	1126	0.25000	0.20(a)
84	1,4-Dichlorobenzene	146	9.683	9.683	(1.002)	1760	0.25000	0.21(a)
26	2,2-Dichloropropane	77	3.516	3.516	(0.841)	1234	0.25000	0.21(aM)
24	2-Butanone	43	3.588	3.588	(0.858)	827	0.50000	0.62(aM)
76	2-Chlorotoluene	91	8.974	8.974	(0.929)	2277	0.25000	0.22(a)
52	2-Hexanone	43	7.090	7.090	(0.924)	809	0.50000	0.37(Ta)
77	4-Chlorotoluene	91	9.075	9.075	(0.939)	2873	0.25000	0.23(a)
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	2596	0.25000	0.19(a)
45	4-Methyl-2-Pentanone	43	6.324	6.324	(0.824)	1190	0.50000	0.38(aM)
10	Acetone	43	1.969	1.969	(0.471)	3213	0.50000	(aM)
37	Benzene	78	4.519	4.519	(0.909)	3088	0.25000	0.23(a)
74	Bromobenzene	156	8.817	8.817	(0.913)	940	0.25000	0.19(a)
29	Bromochloromethane	128	3.795	3.795	(0.908)	660	0.25000	0.28(aM)
39	Bromodichloromethane	83	5.729	5.729	(1.153)	1101	0.25000	0.22(aM)
66	Bromoform	173	8.416	8.416	(1.097)	495	0.25000	1.15(aM)
6	Bromomethane	94	1.339	1.339	(0.320)	1552	0.25000	(aM)
19	Carbon Disulfide	76	2.069	2.069	(0.495)	3999	0.50000	0.40(a)
34	Carbon Tetrachloride	117	4.275	4.275	(0.860)	1084	0.25000	0.20(aM)
59	Chlorobenzene	112	7.692	7.692	(1.003)	2603	0.25000	0.25(a)
7	Chloroethane	64	1.403	1.403	(0.336)	672	0.25000	0.24(aM)
28	Chloroform	83	3.910	3.910	(0.935)	2414	0.25000	0.34(aM)
3	Chloromethane	50	1.074	1.074	(0.257)	1640	0.25000	0.53(aM)
27	cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	1103	0.25000	0.26(a)
46	cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	1351	0.25000	0.23(aM)
55	Dibromochloromethane	129	7.184	7.184	(0.937)	883	0.25000	0.21(a)
44	Dibromomethane	93	5.558	5.558	(1.118)	573	0.25000	0.23(aM)
2	Dichlorodifluoromethane	85	0.973	0.973	(0.233)	642	0.25000	1.04(aM)
61	Ethylbenzene	106	7.800	7.800	(1.017)	1072	0.25000	0.20(a)
91	Hexachlorobutadiene	225	11.481	11.481	(1.188)	367	0.25000	(aM)
67	Isopropylbenzene	105	8.566	8.566	(1.117)	2992	0.25000	0.18(a)
62	m,p-Xylenes	106	7.907	7.907	(1.031)	2521	0.50000	0.39(a)
17	Methylene Chloride	84	2.306	2.306	(0.551)	1174	0.25000	0.30(a)
87	n-Butylbenzene	91	9.999	9.999	(1.035)	2169	0.25000	0.19(a)
73	n-Propylbenzene	91	8.917	8.917	(0.923)	3456	0.25000	0.20(a)
92	Naphthalene	128	11.553	11.553	(1.196)	764	0.25000	0.25(a)
63	o-Xylene	106	8.244	8.244	(1.075)	1221	0.25000	0.19(a)
81	sec-Butylbenzene	105	9.526	9.526	(0.986)	3012	0.25000	0.20(a)
64	Styrene	104	8.265	8.265	(1.078)	2388	0.25000	0.21(a)
78	tert-Butylbenzene	119	9.340	9.340	(0.967)	2350	0.25000	0.21(a)
56	Tetrachloroethene	164	6.933	6.933	(0.904)	914	0.25000	0.24(a)
50	Toluene	91	6.453	6.453	(0.841)	3631	0.25000	0.24(a)
20	trans-1,2-Dichloroethene	96	2.535	2.535	(0.606)	826	0.25000	0.23(aM)
51	trans-1,3-Dichloropropene	75	6.689	6.689	(1.346)	996	0.25000	0.19(a)
38	Trichloroethene	130	5.214	5.214	(1.049)	945	0.25000	0.23(a)
8	Trichlorofluoromethane	101	1.561	1.561	(0.373)	1233	0.25000	0.18(a)
5	Vinyl Chloride	62	1.138	1.138	(0.272)	1052	0.25000	0.23(a)

QC Flag Legend

T - Target compound detected outside RT window.
a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.



Data File: \\nahstws005\Target\chem\voa6.i\X191118.b\X111802.D
Date : 18-NOV-2019 13:47
Client ID: VSTD000.25
Sample Info: VSTD000.25;VSTD000.25;1;1;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: \\nahstws005\Target\chem\voa6.i\X191118.b\X111803.D Page 1
Report Date: 06-Dec-2019 19:56

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X191118.b\X111803.D
Lab Smp Id: VSTD000.5 Client Smp ID: VSTD000.5
Inj Date : 18-NOV-2019 14:35
Operator : PC Inst ID: voa6.i
Smp Info : VSTD000.5;VSTD000.5;1;2;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X191118.b\8260W.m
Meth Date : 06-Dec-2019 19:56 voa6.i Quant Type: ISTD
Cal Date : 18-NOV-2019 13:47 Cal File: X111802.D
Als bottle: 4 Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBIHOUSTONDOD.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

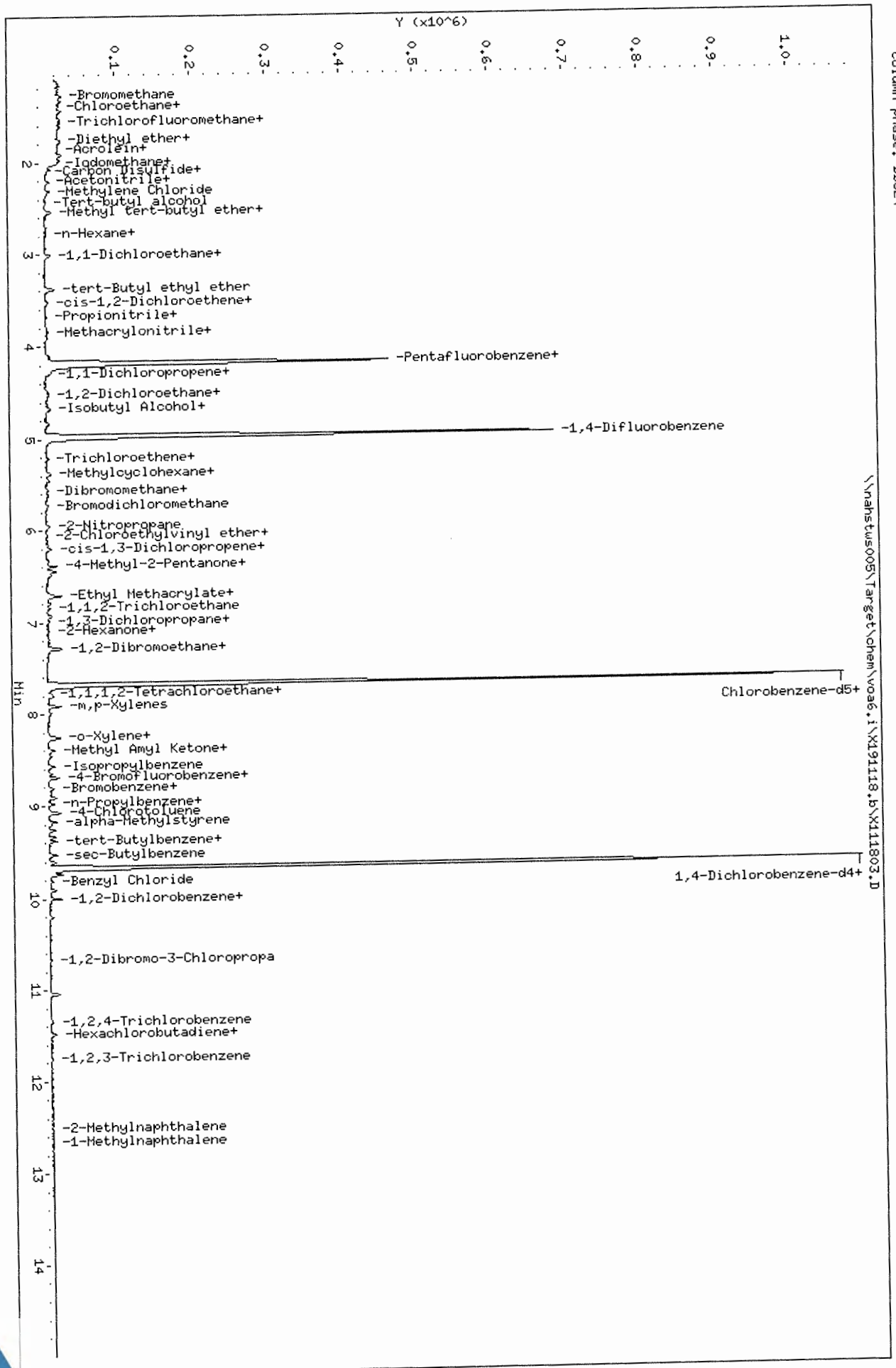
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
*	1 Pentafluorobenzene	168	4.182	4.182	(1.000)	417797	50.0000	
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	575000	50.0000	
*	47 Chlorobenzene-d5	117	7.670	7.670	(1.000)	520290	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	274172	50.0000	
$	35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	2522	0.50000	1.36(Ta)
$	69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	3844	0.50000	1.20(a)
$	30 Dibromofluoromethane	113	4.110	4.110	(0.983)	2303	0.50000	0.96(a)
$	48 Toluene-d8	98	6.388	6.388	(0.833)	8468	0.50000	0.61(a)
	60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	1290	0.50000	0.34(a)
	31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	2055	0.50000	0.36(a)
	68 1,1,2,2-Tetrachloroethane	83	8.845	8.845	(0.915)	1652	0.50000	0.42(aM)
	138 Freon TF	101	1.911	1.911	(0.457)	1235	0.50000	0.33(a)
	53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	936	0.50000	0.34(a)
	22 1,1-Dichloroethane	63	2.928	2.928	(0.700)	2376	0.50000	0.39(Ta)
	11 1,1-Dichloroethene	96	1.911	1.911	(0.457)	1458	0.50000	0.41(aM)
	32 1,1-Dichloropropene	75	4.289	4.289	(0.863)	1907	0.50000	0.41(a)
	93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.215)	421	0.50000	(aM)
	71 1,2,3-Trichloropropane	75	8.867	8.867	(0.917)	1248	0.50000	0.38(aM)
	90 1,2,4-Trichlorobenzene	180	11.345	11.345	(1.173)	892	0.50000	0.38(aM)
	79 1,2,4-Trimethylbenzene	105	9.382	9.382	(0.970)	4769	0.50000	0.36(aM)
	89 1,2-Dibromo-3-Chloropropane	155	10.665	10.665	(1.103)	125	0.50000	(aM)
	57 1,2-Dibromoethane	107	7.269	7.269	(0.948)	1273	0.50000	0.34(a)

Data File: \\nahstws005\Target\chem\voa6.i\X191118.b\X111803.D Page 2
Report Date: 06-Dec-2019 19:56

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
88	1,2-Dichlorobenzene	146	9.998	9.998	(1.034)	2511	0.50000	0.34 (a)
33	1,2-Dichloroethane	62	4.562	4.562	(0.918)	1591	0.50000	0.34 (aM)
42	1,2-Dichloropropane	63	5.443	5.443	(1.095)	1693	0.50000	0.49 (aM)
75	1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	4403	0.50000	0.35 (a)
83	1,3-Dichlorobenzene	146	9.612	9.612	(0.994)	2841	0.50000	0.36 (a)
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	2241	0.50000	0.40 (a)
84	1,4-Dichlorobenzene	146	9.683	9.683	(1.001)	3038	0.50000	0.38 (a)
26	2,2-Dichloropropane	77	3.523	3.523	(0.842)	2284	0.50000	0.41 (aM)
24	2-Butanone	43	3.595	3.595	(0.860)	1395	1.00000	1.08 (aM)
76	2-Chlorotoluene	91	8.981	8.981	(0.929)	3464	0.50000	0.35 (a)
52	2-Hexanone	43	7.090	7.090	(0.924)	1875	1.00000	0.87 (a)
77	4-Chlorotoluene	91	9.074	9.074	(0.939)	4251	0.50000	0.35 (a)
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	5043	0.50000	0.37 (a)
45	4-Methyl-2-Pentanone	43	6.331	6.331	(0.825)	2291	1.00000	0.75 (a)
10	Acetone	43	1.976	1.976	(0.473)	4579	1.00000	0.53 (aM)
37	Benzene	78	4.519	4.519	(0.909)	4530	0.50000	0.34 (a)
74	Bromobenzene	156	8.809	8.809	(0.911)	1601	0.50000	0.33 (a)
29	Bromochloromethane	128	3.802	3.802	(0.909)	956	0.50000	0.42 (a)
39	Bromodichloromethane	83	5.729	5.729	(1.153)	1712	0.50000	0.35 (aM)
66	Bromoform	173	8.415	8.415	(1.097)	887	0.50000	1.27 (aM)
6	Bromomethane	94	1.338	1.338	(0.320)	2741	0.50000	(a)
19	Carbon Disulfide	76	2.069	2.069	(0.495)	6243	1.00000	0.64 (aM)
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	1955	0.50000	0.38 (aM)
59	Chlorobenzene	112	7.699	7.699	(1.004)	3839	0.50000	0.37 (a)
7	Chloroethane	64	1.403	1.403	(0.336)	1164	0.50000	0.44 (aM)
28	Chloroform	83	3.917	3.917	(0.937)	3238	0.50000	0.47 (a)
3	Chloromethane	50	1.073	1.073	(0.257)	2201	0.50000	0.67 (a)
27	cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	1368	0.50000	0.34 (a)
46	cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	1873	0.50000	0.33 (a)
55	Dibromochloromethane	129	7.176	7.176	(0.936)	1318	0.50000	0.33 (a)
44	Dibromomethane	93	5.564	5.564	(1.120)	802	0.50000	0.32 (a)
2	Dichlorodifluoromethane	85	0.973	0.973	(0.233)	1269	0.50000	1.20 (aM)
61	Ethylbenzene	106	7.807	7.807	(1.018)	1838	0.50000	0.35 (a)
91	Hexachlorobutadiene	225	11.481	11.481	(1.187)	1376	0.50000	0.21 (a)
67	Isopropylbenzene	105	8.566	8.566	(1.117)	5484	0.50000	0.35 (a)
62	m,p-Xylenes	106	7.907	7.907	(1.031)	4089	1.00000	0.64 (a)
17	Methylene Chloride	84	2.305	2.305	(0.551)	1764	0.50000	0.46 (aM)
87	n-Butylbenzene	91	9.998	9.998	(1.034)	4442	0.50000	0.39 (aM)
73	n-Propylbenzene	91	8.917	8.917	(0.922)	6280	0.50000	0.37 (a)
92	Naphthalene	128	11.560	11.560	(1.196)	1399	0.50000	0.47 (a)
63	o-Xylene	106	8.243	8.243	(1.075)	2028	0.50000	0.32 (a)
81	sec-Butylbenzene	105	9.526	9.526	(0.985)	5469	0.50000	0.37 (a)
64	Styrene	104	8.265	8.265	(1.078)	3653	0.50000	0.33 (a)
78	tert-Butylbenzene	119	9.339	9.339	(0.966)	3670	0.50000	0.34 (a)
56	Tetrachloroethene	164	6.933	6.933	(0.904)	1382	0.50000	0.37 (a)
50	Toluene	91	6.453	6.453	(0.841)	5603	0.50000	0.37 (a)
20	trans-1,2-Dichloroethene	96	2.535	2.535	(0.606)	1192	0.50000	0.34 (a)
51	trans-1,3-Dichloropropene	75	6.689	6.689	(1.346)	1749	0.50000	0.34 (a)
38	Trichloroethene	130	5.206	5.206	(1.048)	1298	0.50000	0.32 (a)
8	Trichlorofluoromethane	101	1.560	1.560	(0.373)	2137	0.50000	0.32 (a)
5	Vinyl Chloride	62	1.138	1.138	(0.272)	2046	0.50000	0.48 (aM)

QC Flag Legend

T - Target compound detected outside RT window.
a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.

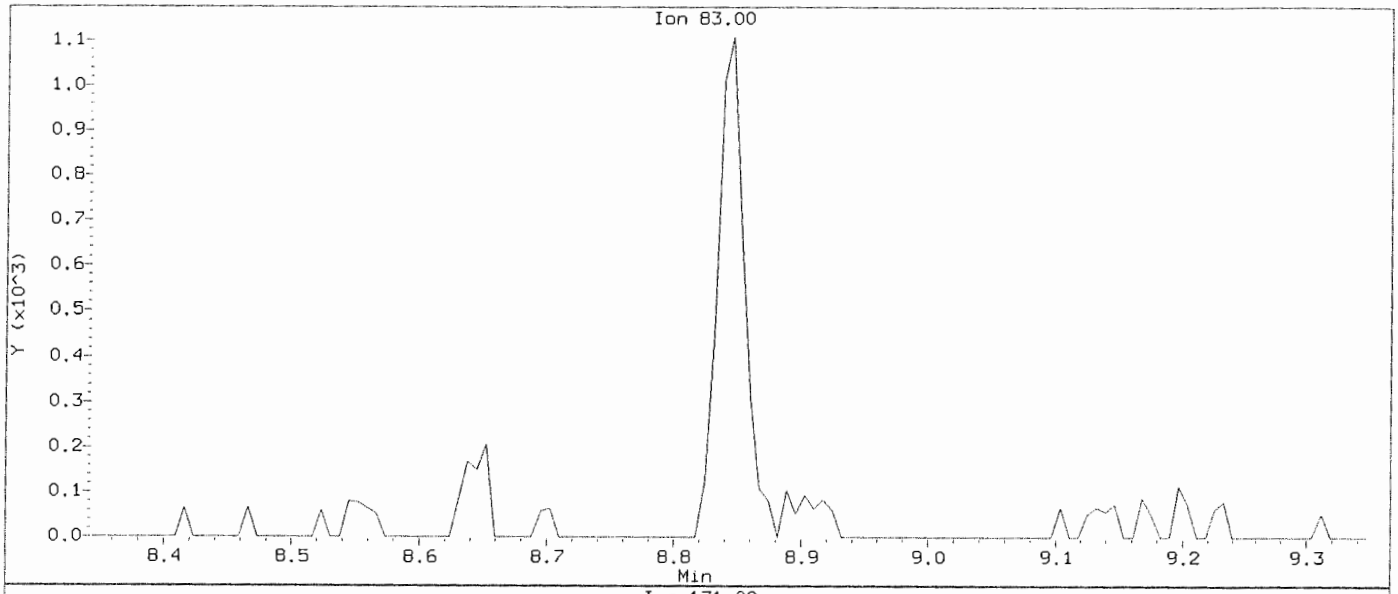


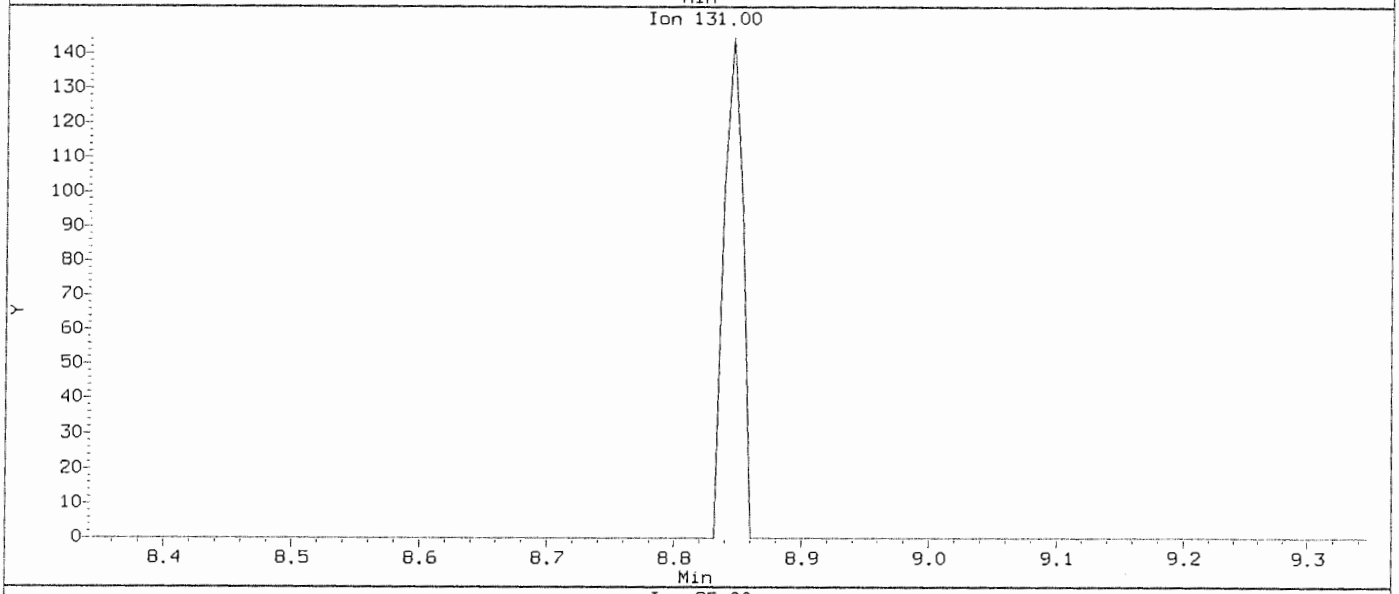
Data File: \\nahstws005\Target\chem\voa6,i\X191118,b\X111803.D
Date : 18-NOV-2019 14:35
Client ID: VSTD000.5
Sample Info: VSTD000.5;VSTD000.5;1;2;
Purge Volume: 5.0
Column phase: DB624

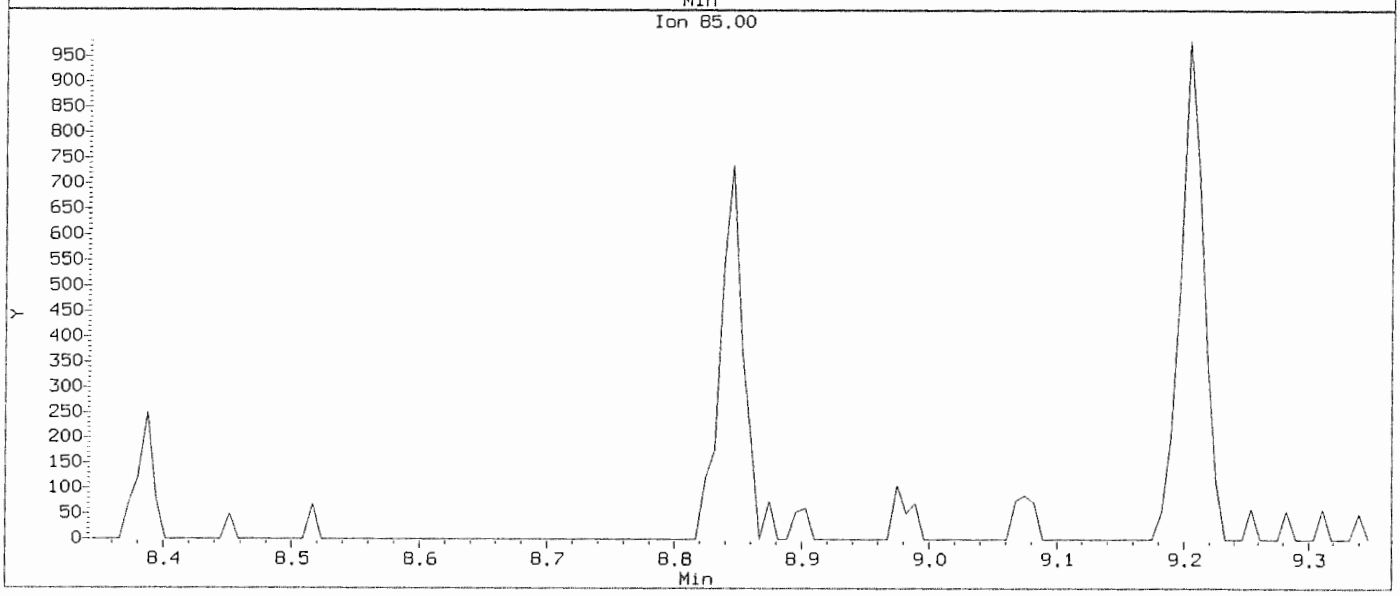
Instrument: voa6,i
Operator: PC
Column diameter: 0.18

Data File: \\nahstws005\Target\chem\voa6.i\X191118.b\BEFORE\X111803.D
Injection Date: 18-NOV-2019 14:35
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: 1,1,2,2-Tetrachloroethane
CAS Number: 79-34-5

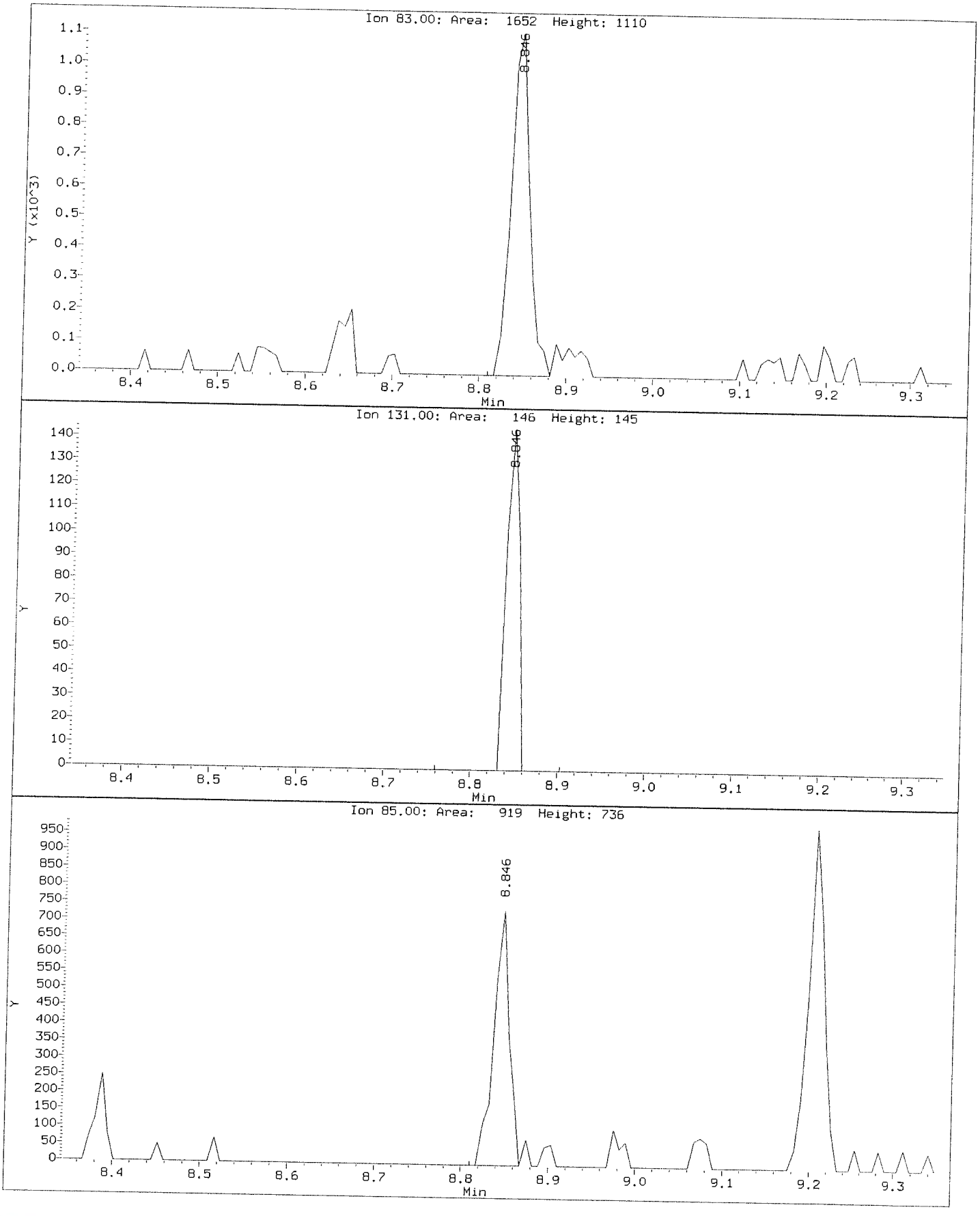






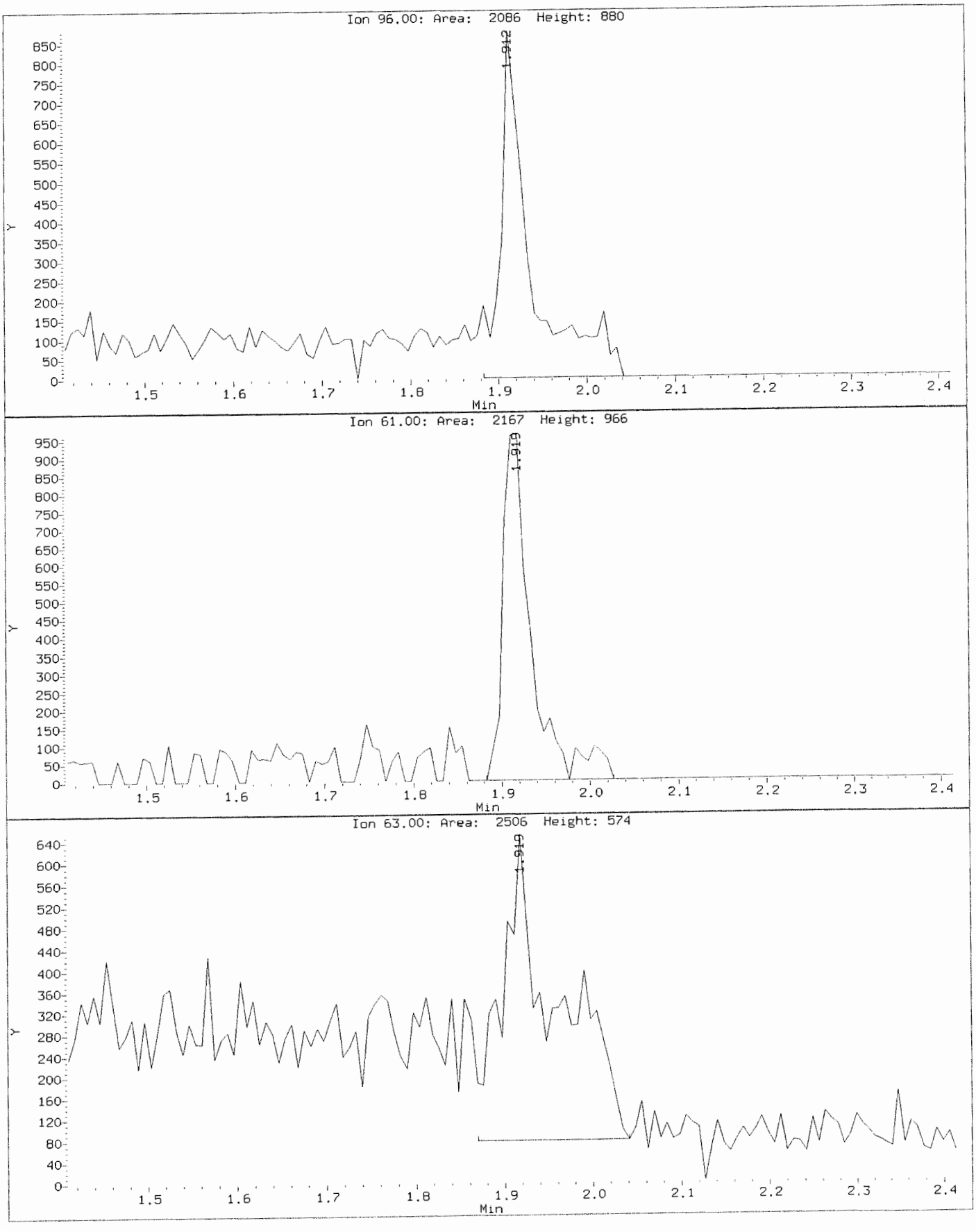
Data File: \\nahstws005\Target\chem\voa6.i\X191118.b\X111803.D
Injection Date: 18-NOV-2019 14:35
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: 1,1,2,2-Tetrachloroethane
CAS Number: 79-34-5



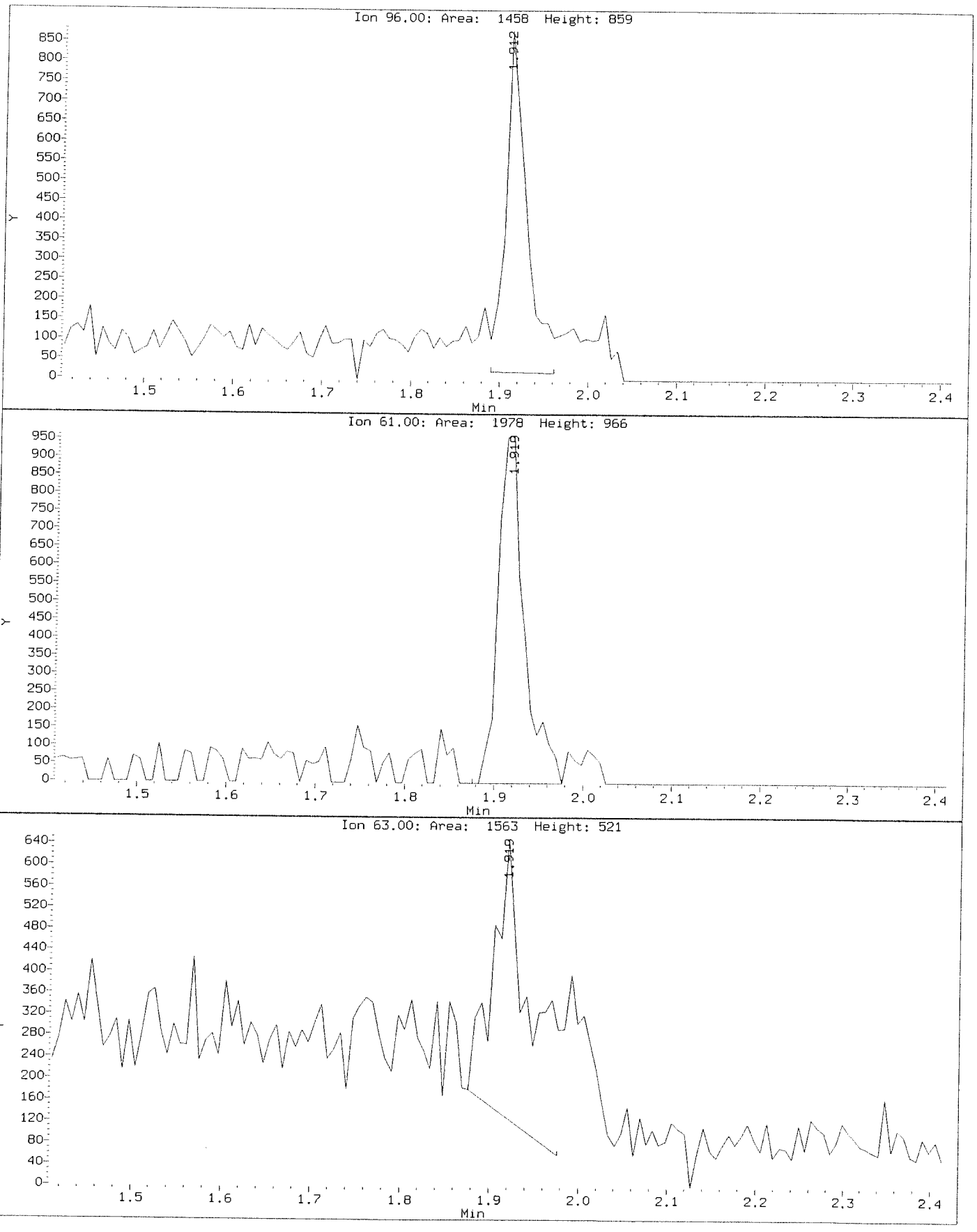
Data File: \\nahstws005\Target\chem\voa6.i\X191118.b\BEFORE\X111803.D
Injection Date: 18-NOV-2019 14:35
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: 1,1-Dichloroethene
CAS Number: 75-35-4



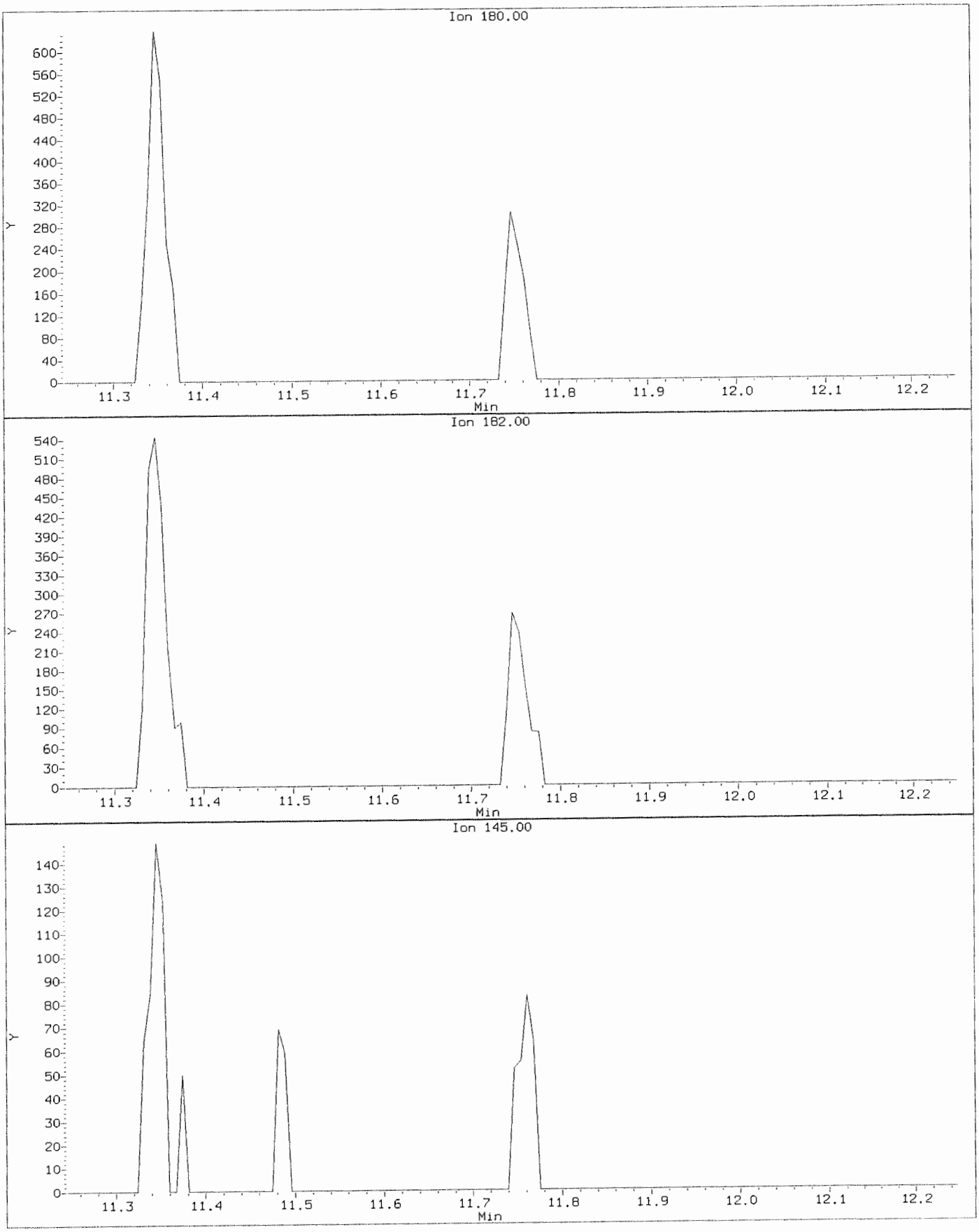
Data File: \\nahstws005\Target\chem\voa6.i\X191118.b\X111803.D
Injection Date: 18-NOV-2019 14:35
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: 1,1-Dichloroethene
CAS Number: 75-35-4



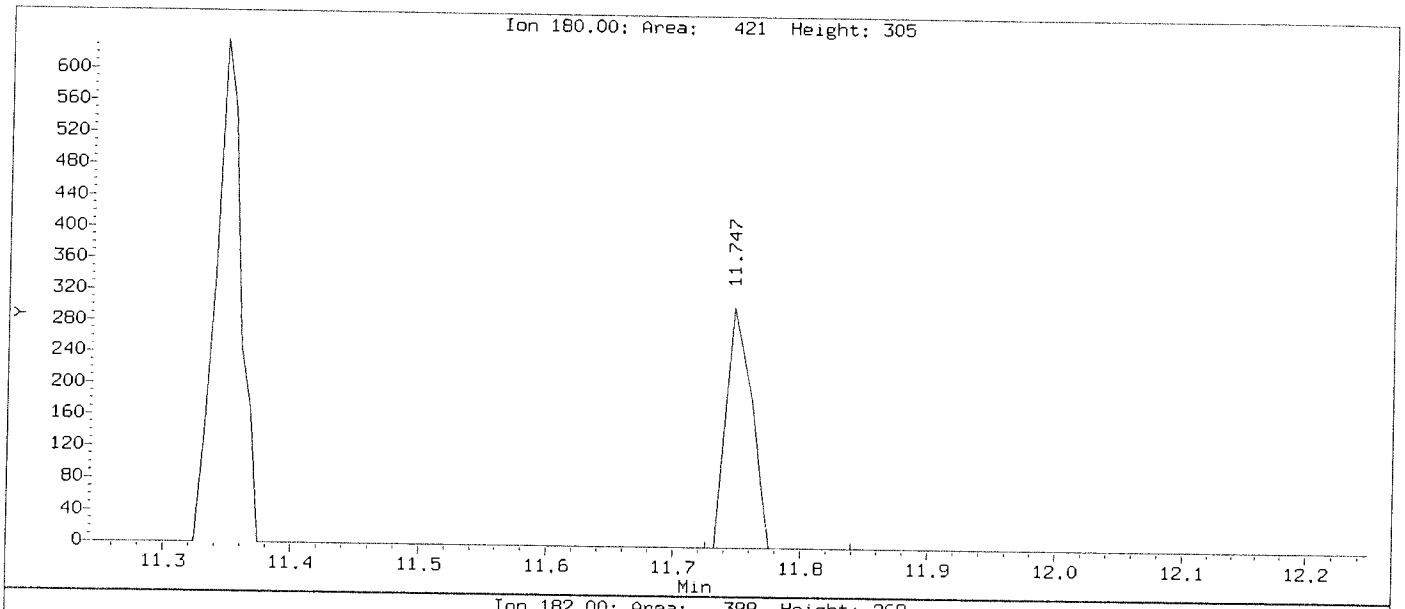
Data File: \\nahstws005\Target\chem\voa6.i\X191118.b\BEFORE\X111803.D
Injection Date: 18-NOV-2019 14:35
Instrument: voa6.i
Client Sample ID: VSTD000.5

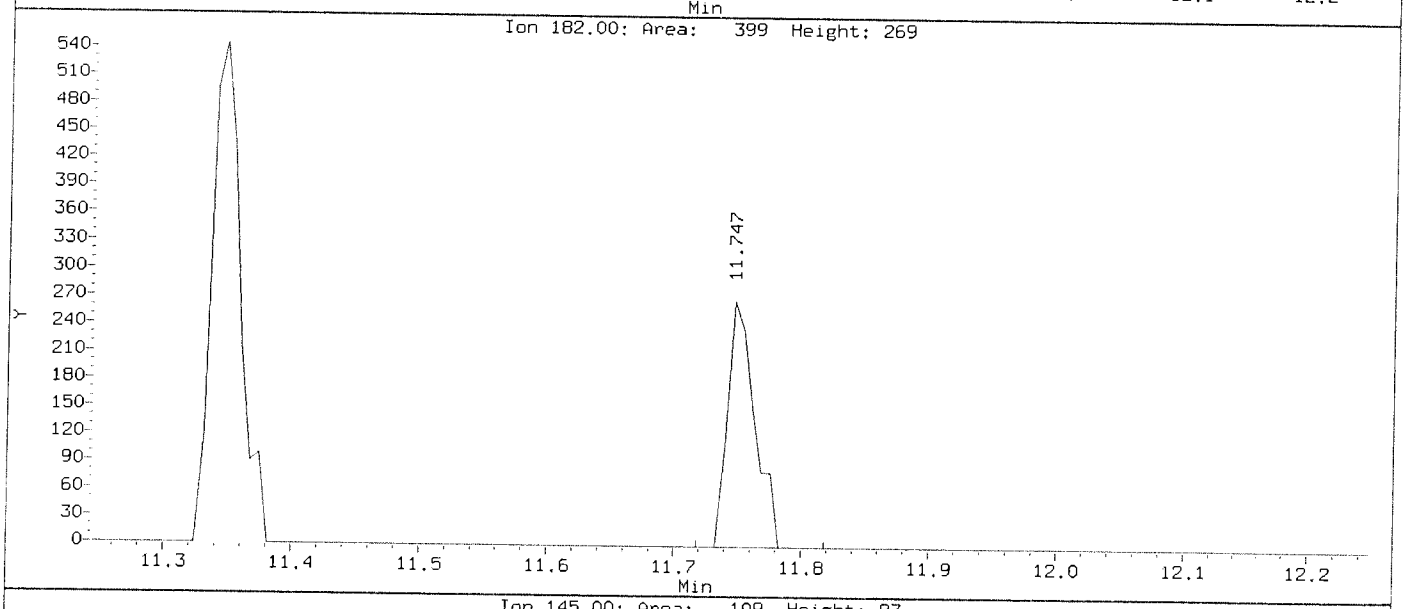
Compound: 1,2,3-Trichlorobenzene
CAS Number: 87-61-6

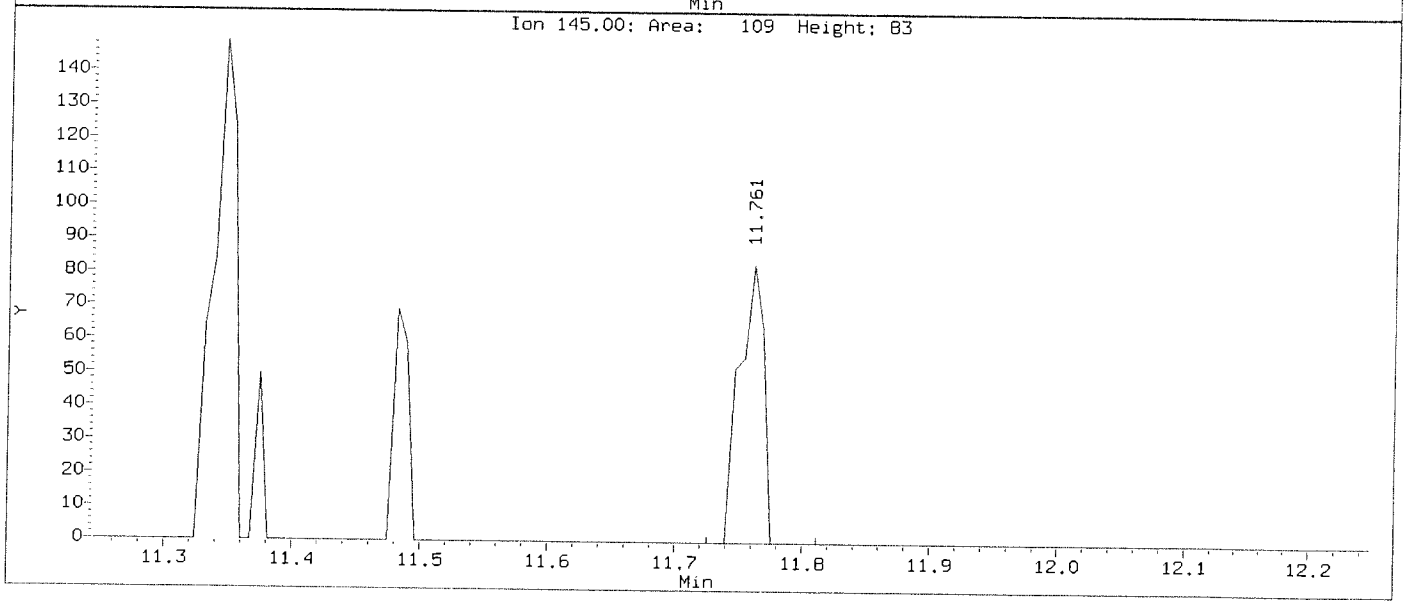


Data File: \\nahstws005\Target\chem\voa6.i\X191118.b\X111803.D
Injection Date: 18-NOV-2019 14:35
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: 1,2,3-Trichlorobenzene
CAS Number: 87-61-6

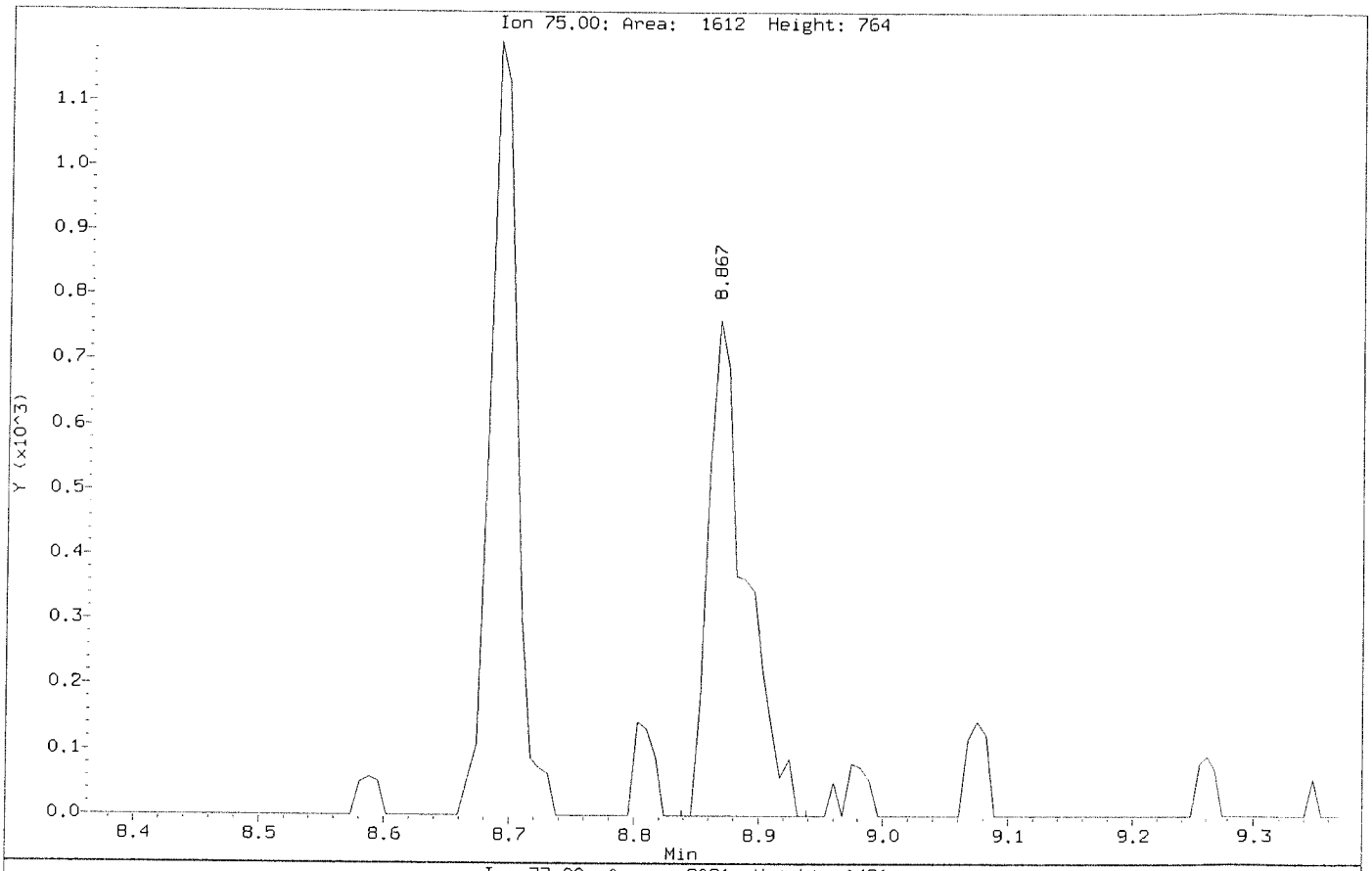


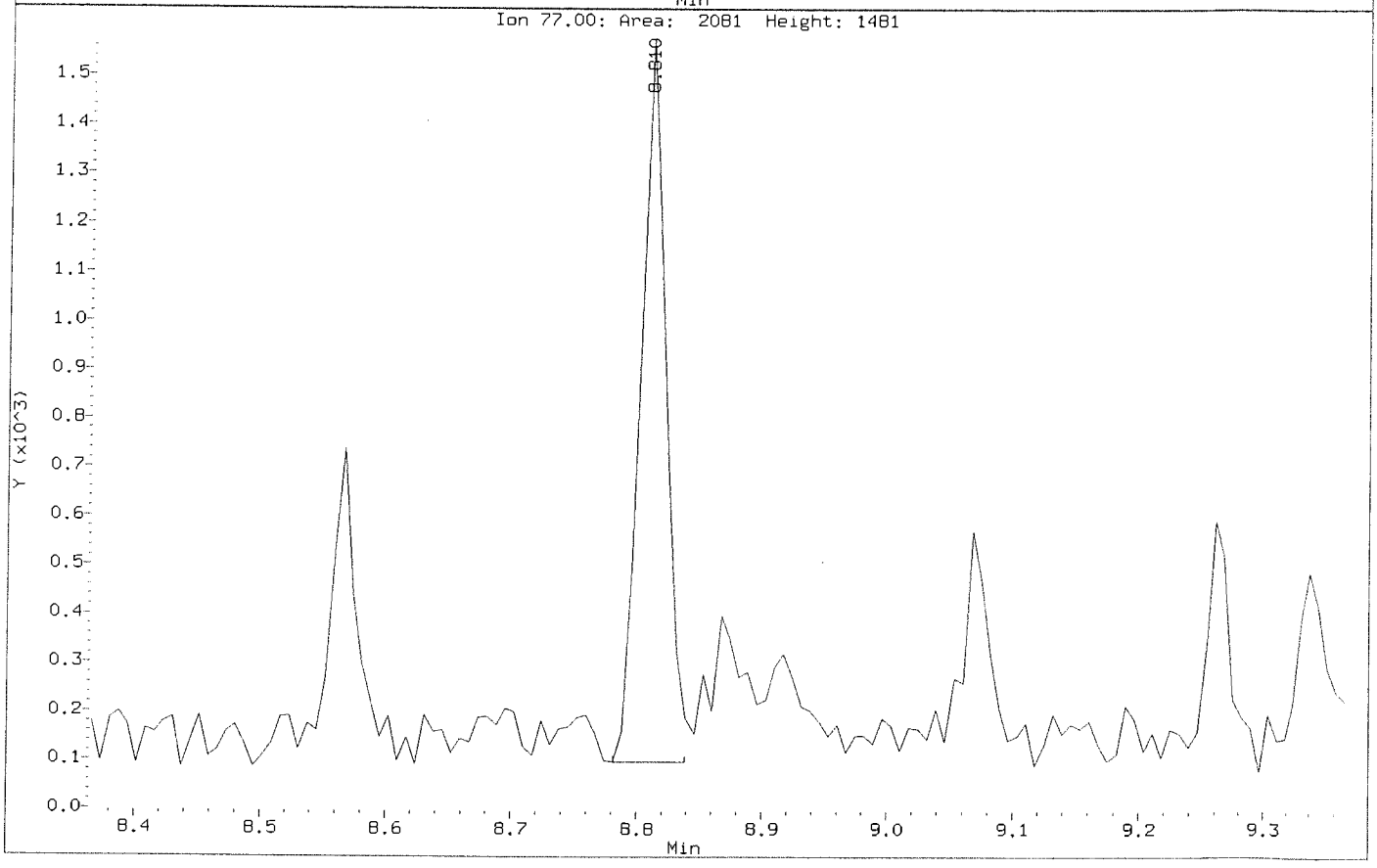




Data File: \\nahstws005\Target\chem\voa6.i\X191118.b\BEFORE\X111803.D
Injection Date: 18-NOV-2019 14:35
Instrument: voa6.i
Client Sample ID: VSTD000.5

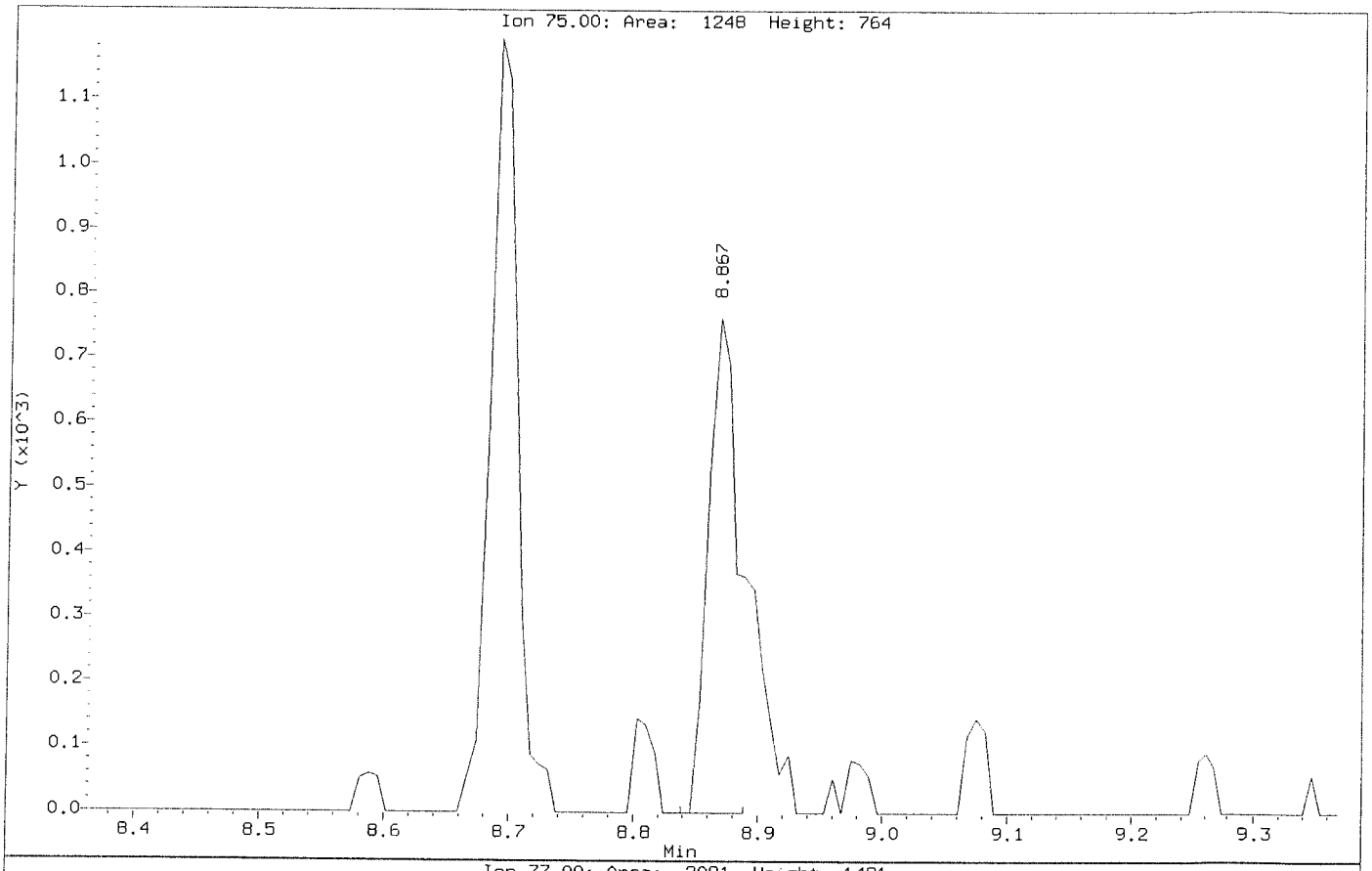
Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4

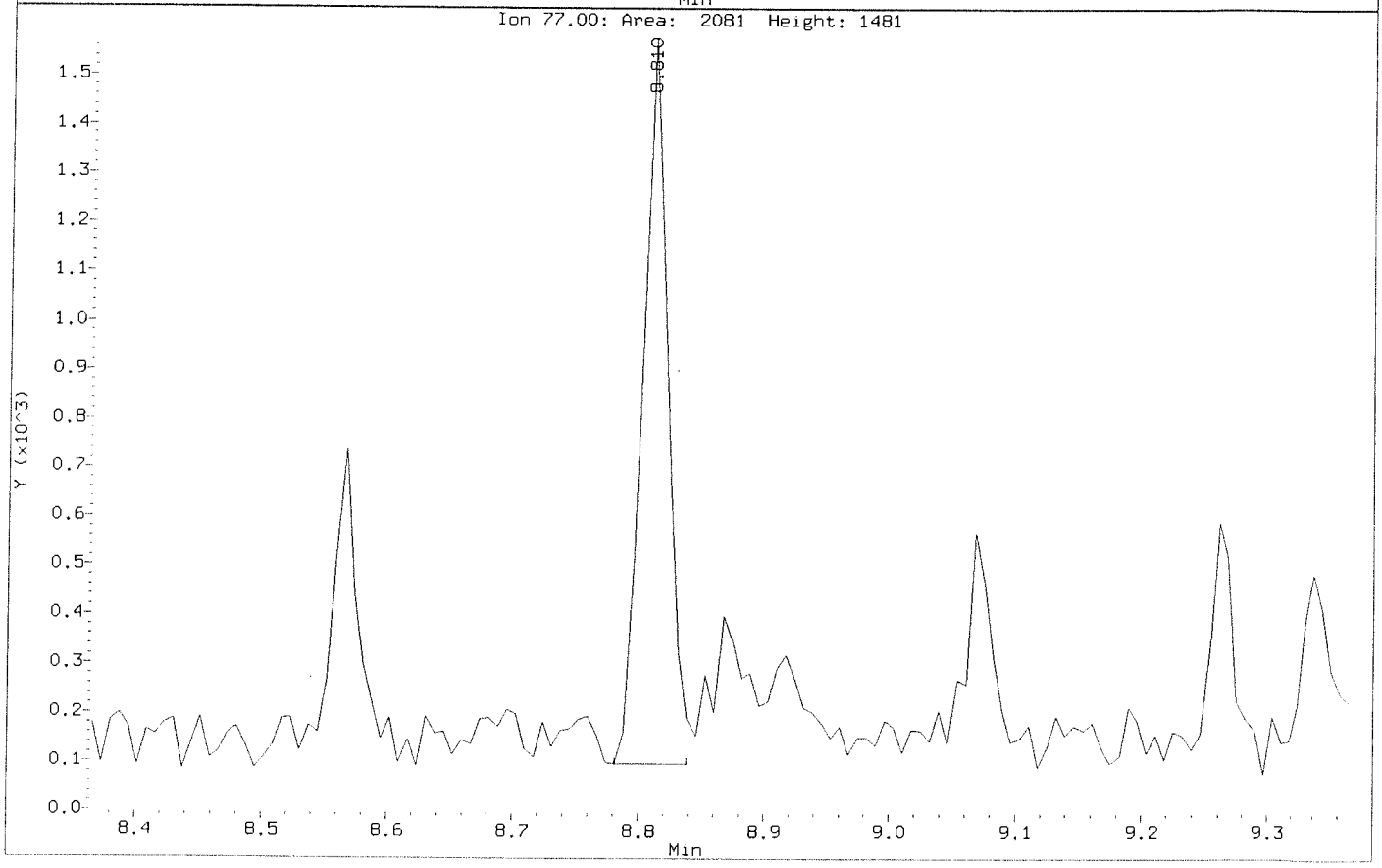




Data File: \\nahstws005\Target\chem\voa6.i\X191118.b\X111803.D
Injection Date: 18-NOV-2019 14:35
Instrument: voa6.i
Client Sample ID: VSTD000.5

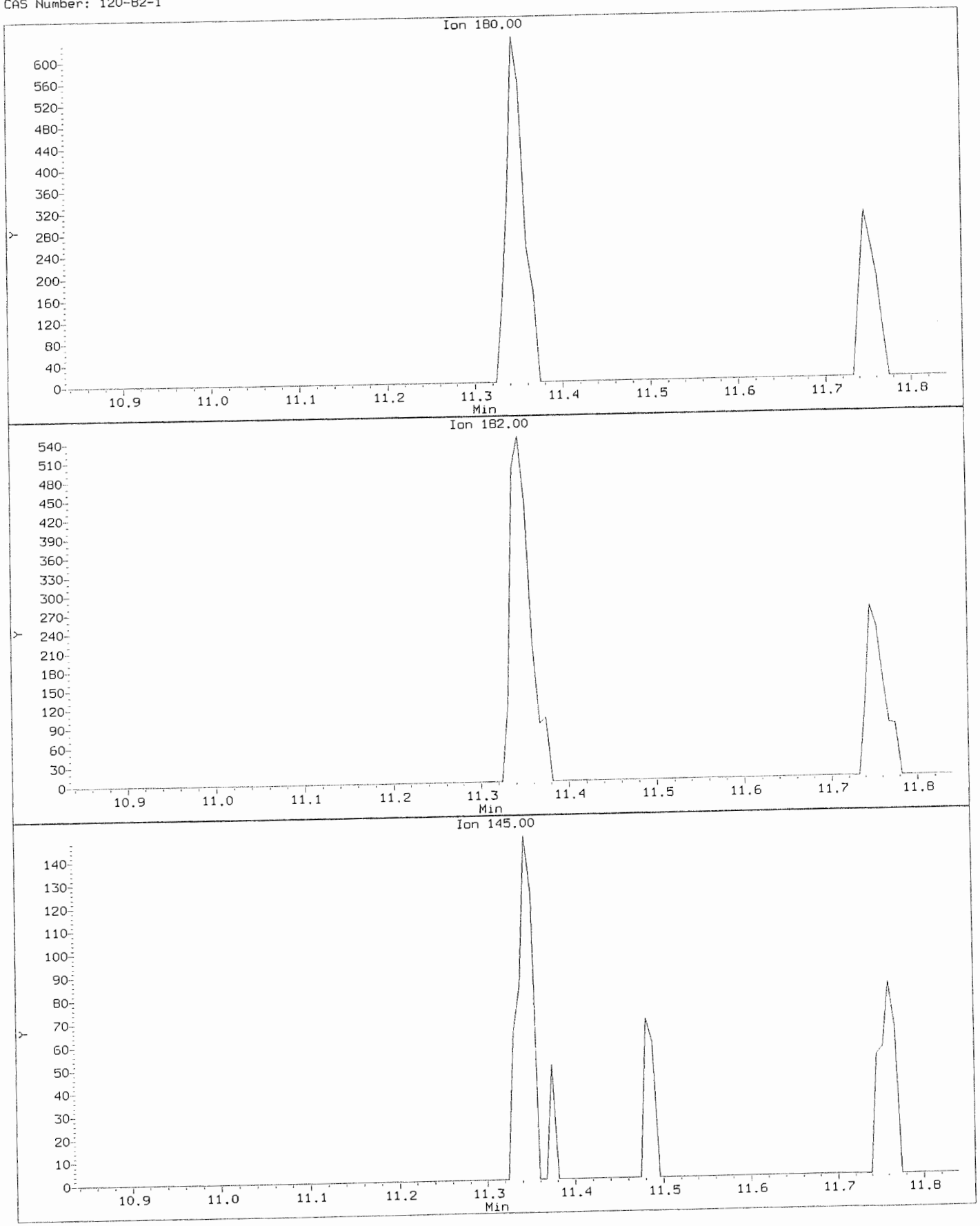
Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4





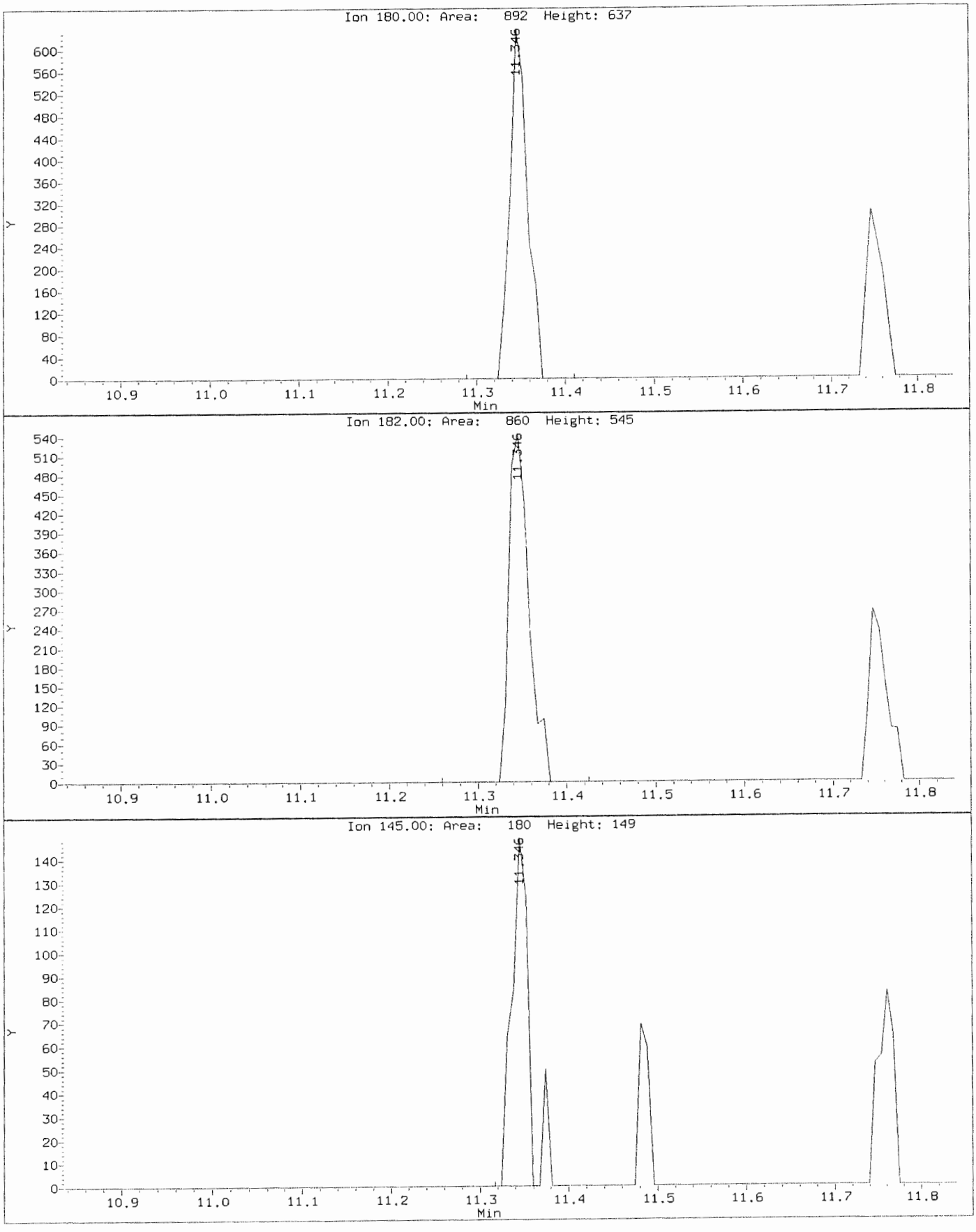
Data File: \\nahstws005\Target\chem\voa6.i\X191118.b\BEFORE\X111803.D
Injection Date: 18-NOV-2019 14:35
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: 1,2,4-Trichlorobenzene
CAS Number: 120-82-1



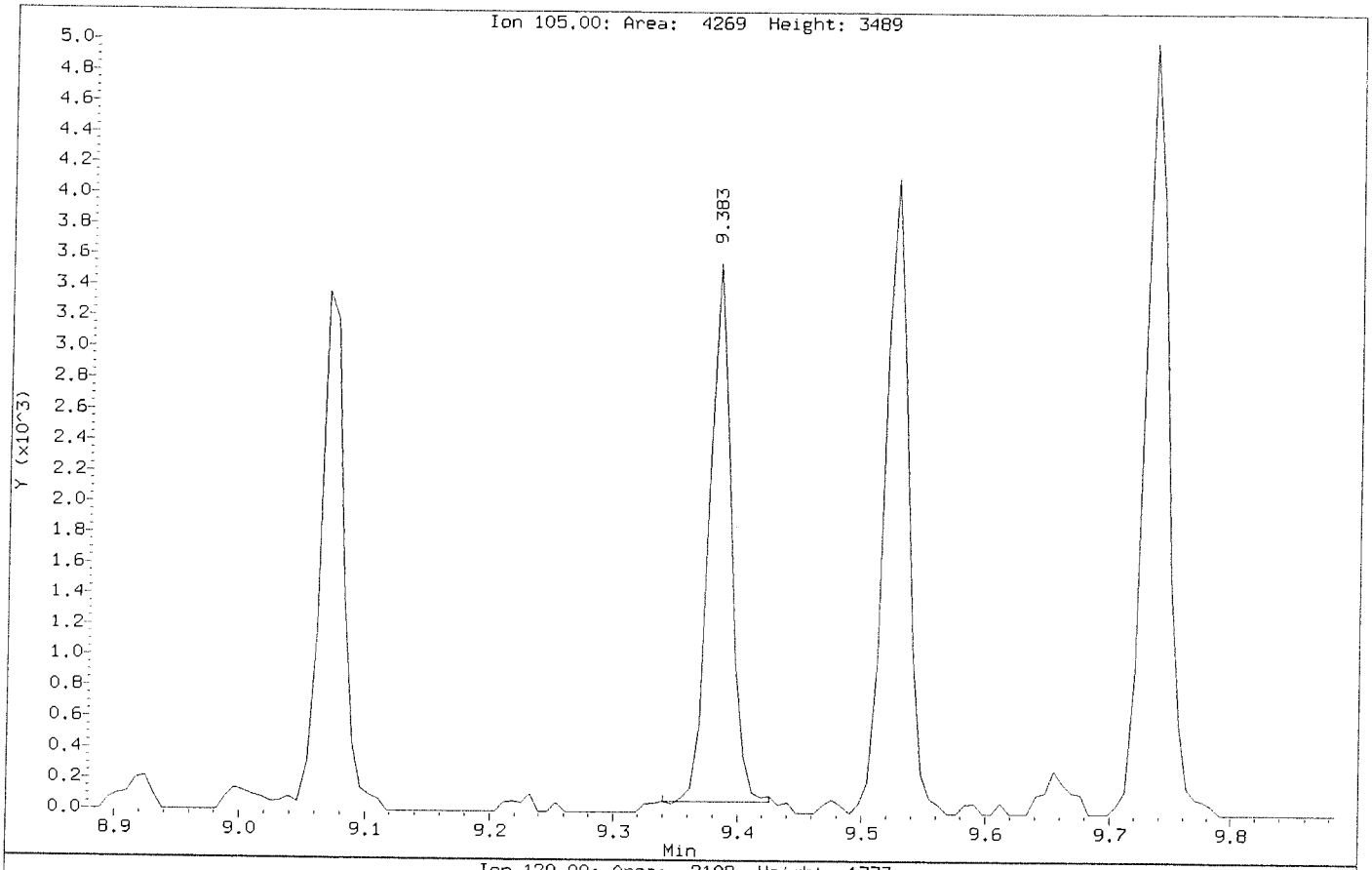
Data File: \\nahstws005\Target\chem\voa6.i\X191118.b\X111803.D
Injection Date: 18-NOV-2019 14:35
Instrument: voa6.i
Client Sample ID: VSTD000.5

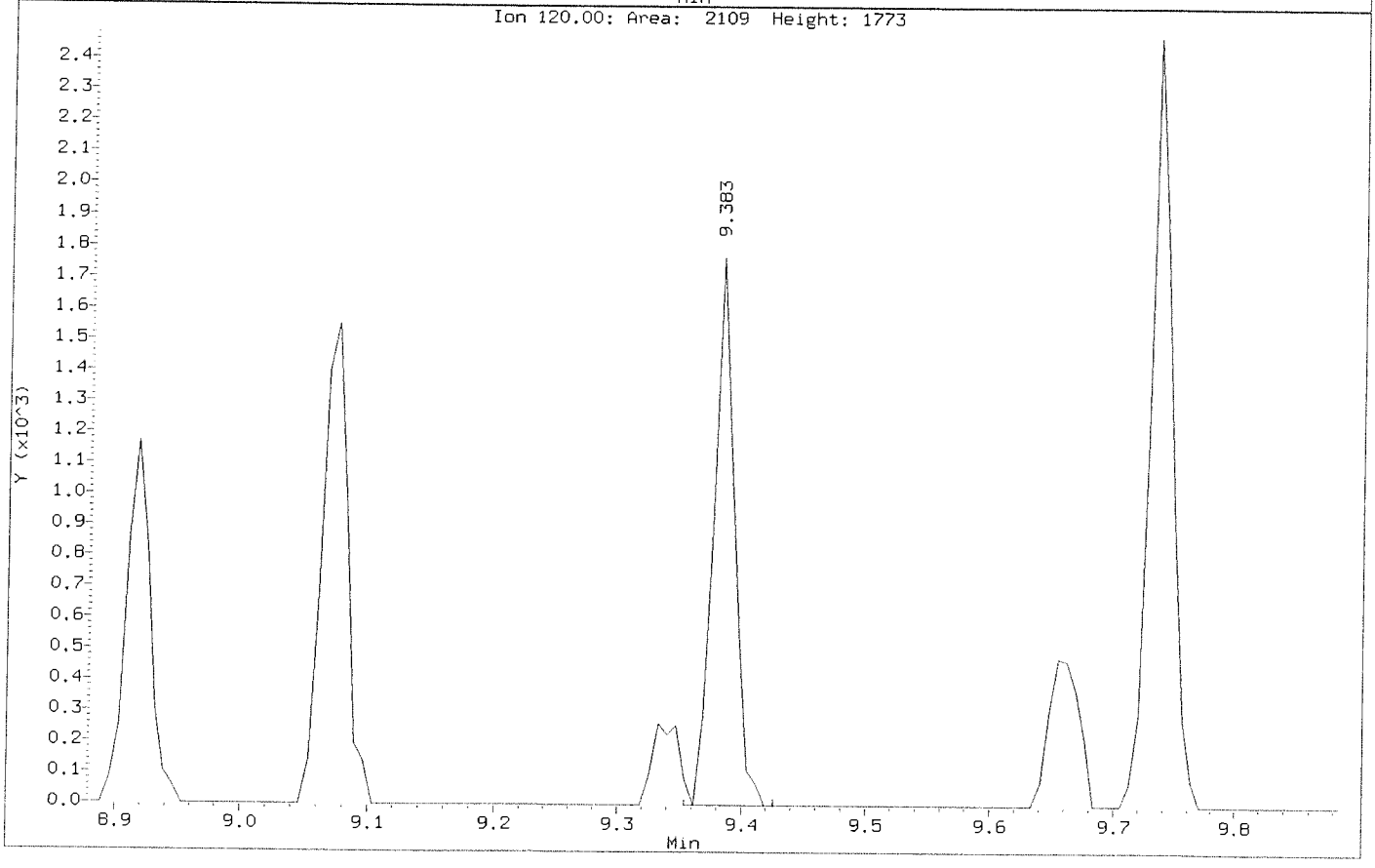
Compound: 1,2,4-Trichlorobenzene
CAS Number: 120-82-1



Data File: \\nahstws005\Target\chem\voa6.i\X191118.b\BEFORE\X111803.D
Injection Date: 18-NOV-2019 14:35
Instrument: voa6.i
Client Sample ID: VSTD000.5

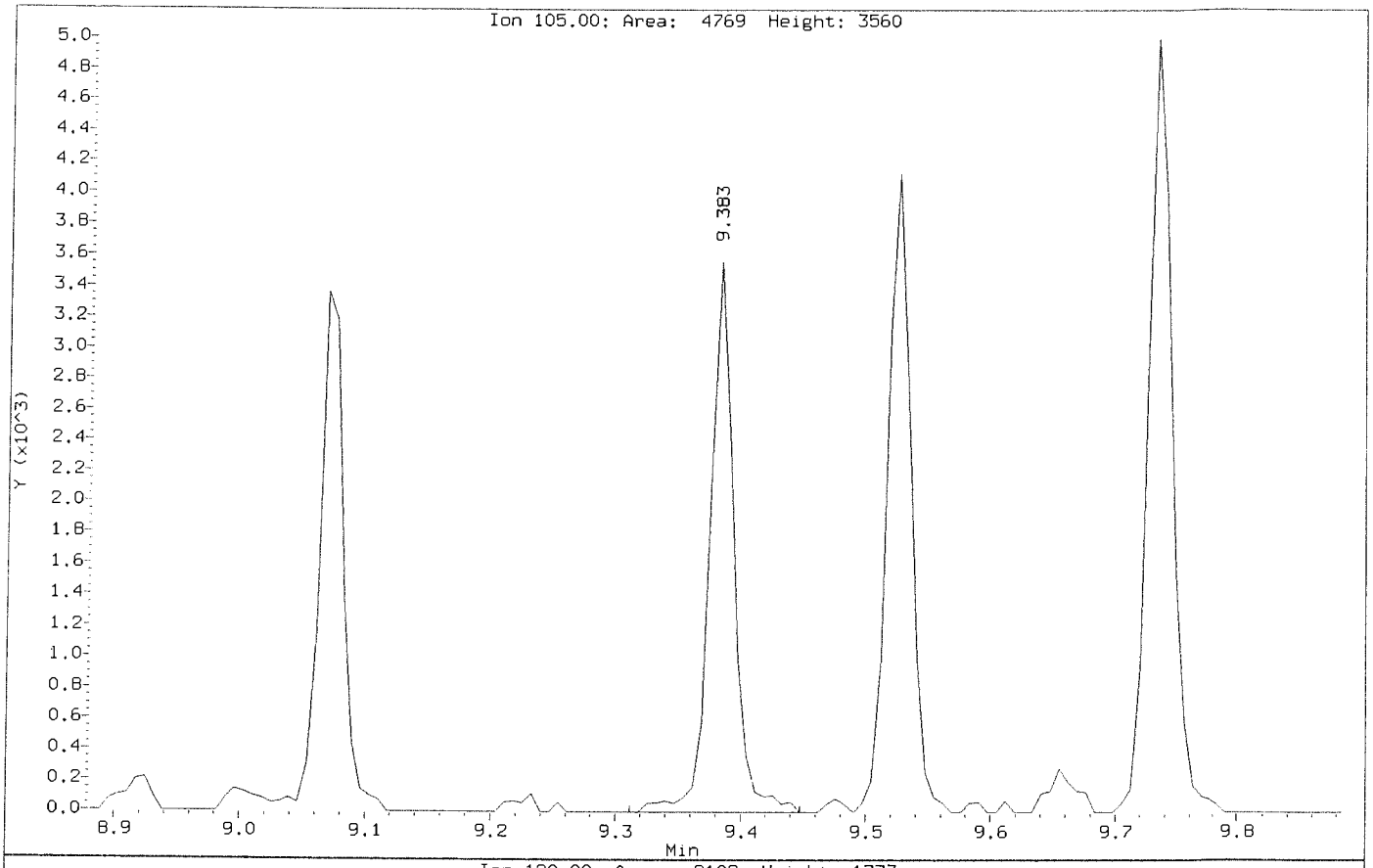
Compound: 1,2,4-Trimethylbenzene
CAS Number: 95-63-6

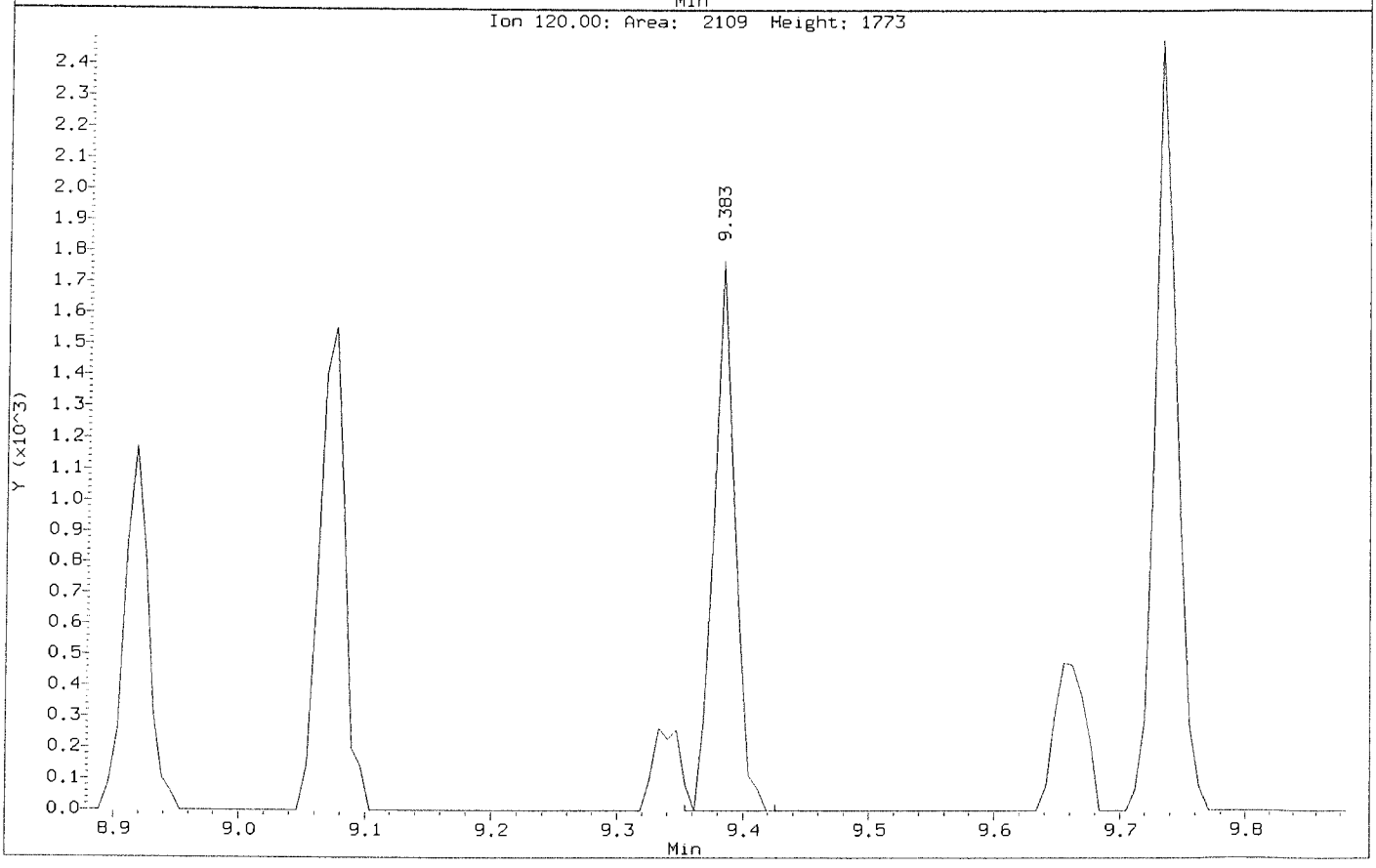




Data File: \\nahstws005\Target\chem\voa6.i\X191118.b\X111803.D
Injection Date: 18-NOV-2019 14:35
Instrument: voa6.i
Client Sample ID: VSTD000.5

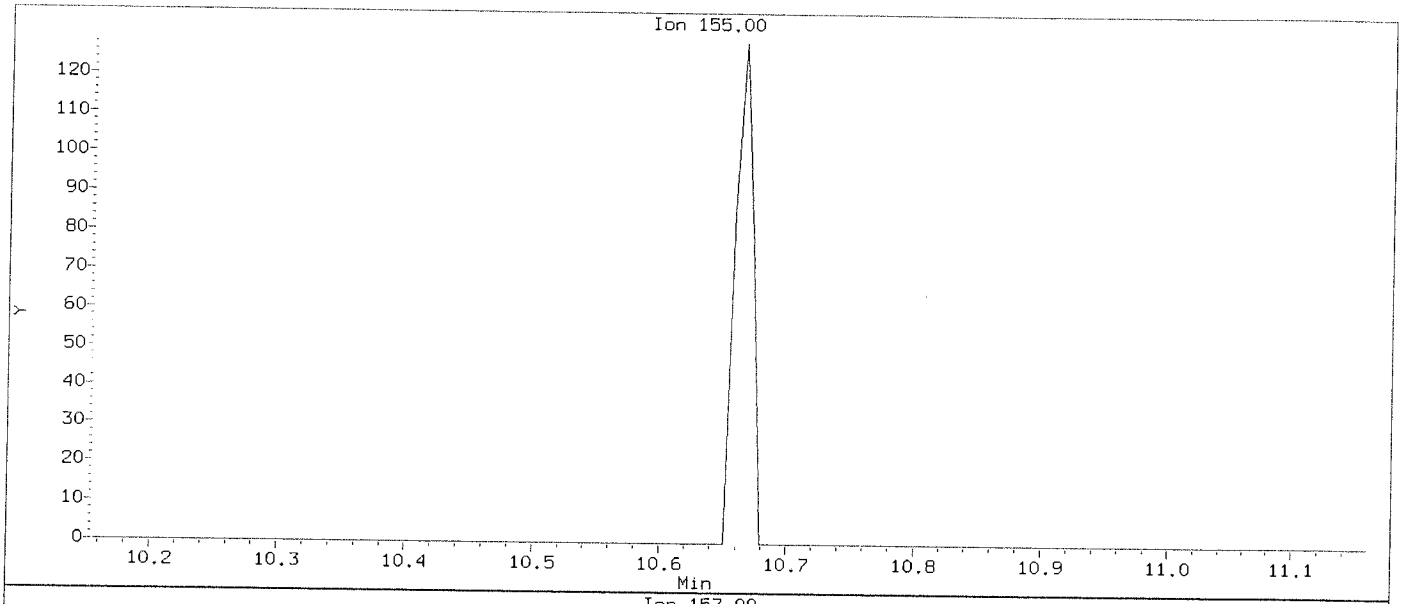
Compound: 1,2,4-Trimethylbenzene
CAS Number: 95-63-6

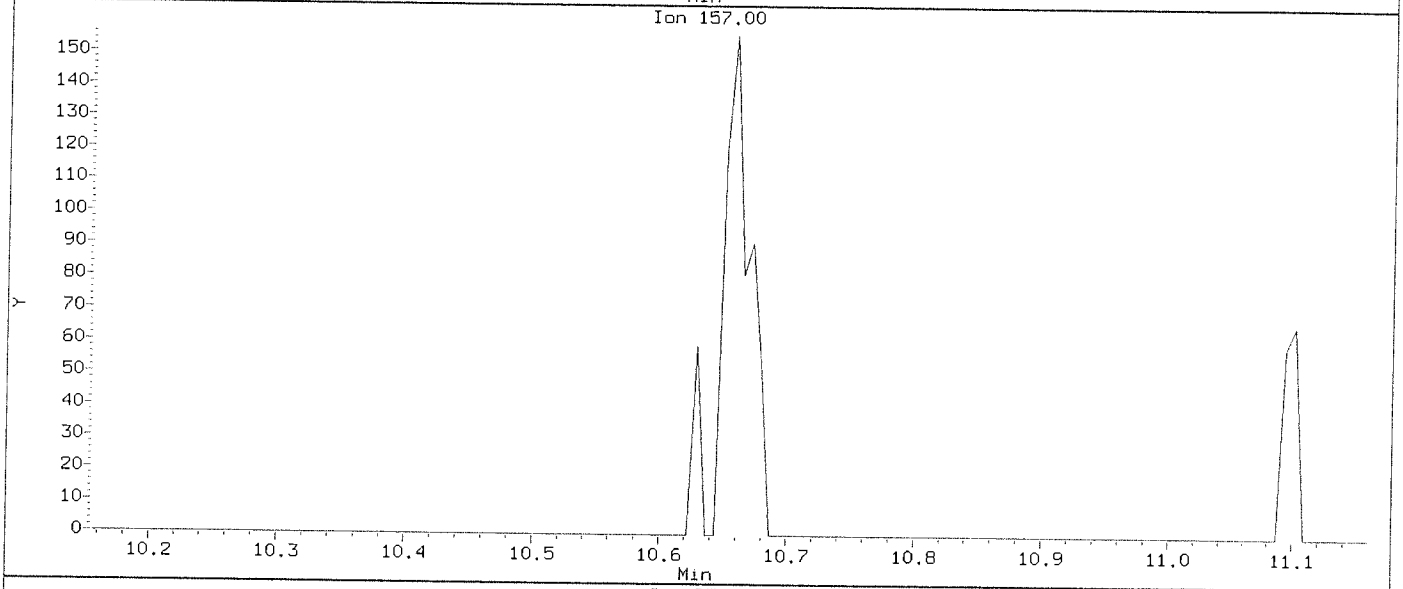


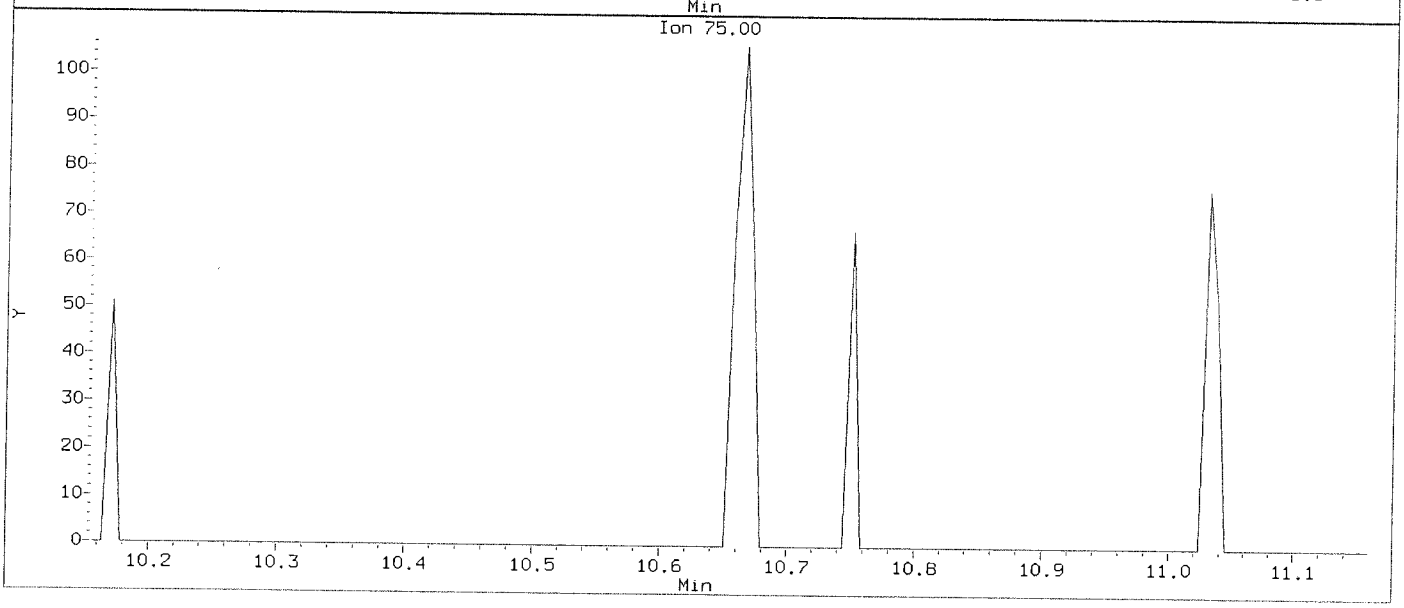


Data File: \\nahstws005\Target\chem\voa6.i\X191118.b\BEFORE\X111803.D
Injection Date: 18-NOV-2019 14:35
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: 1,2-Dibromo-3-Chloropropane
CAS Number: 96-12-8

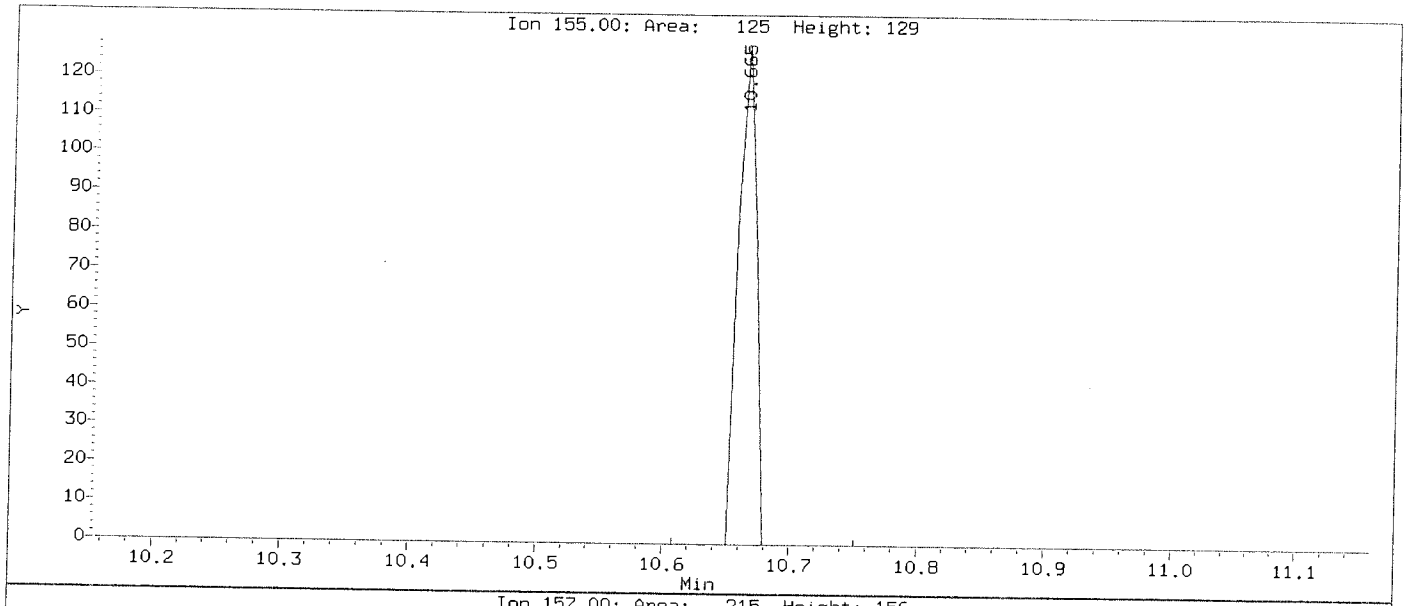


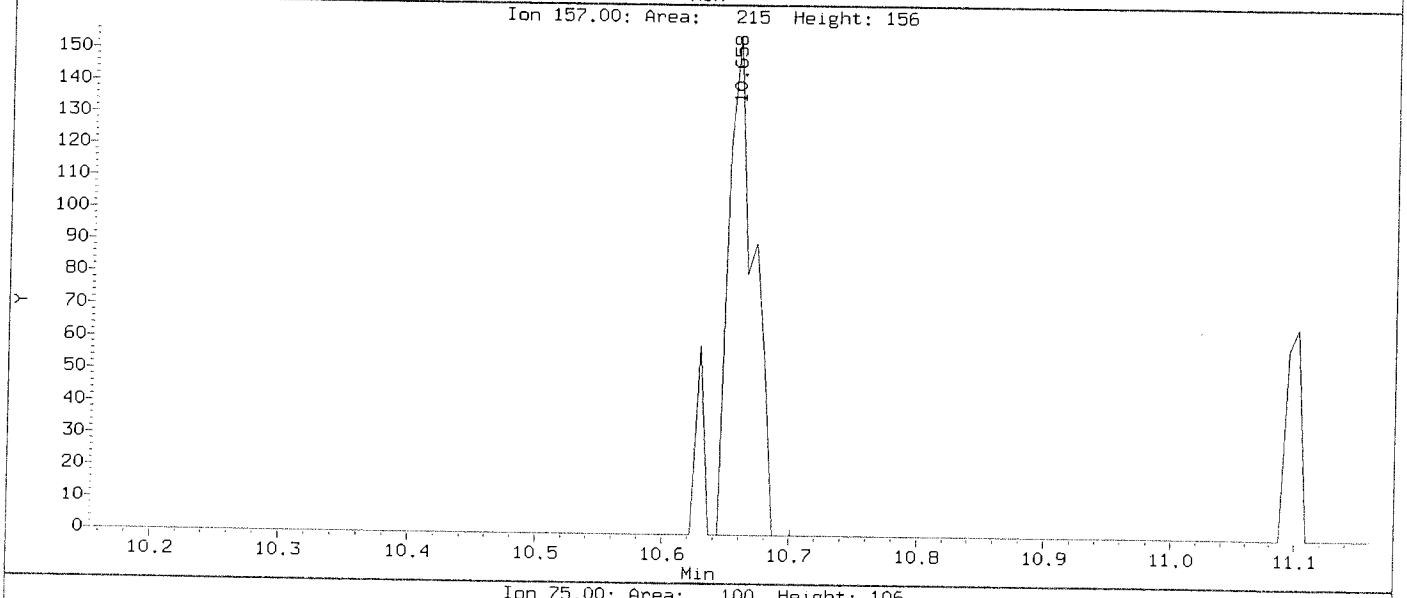


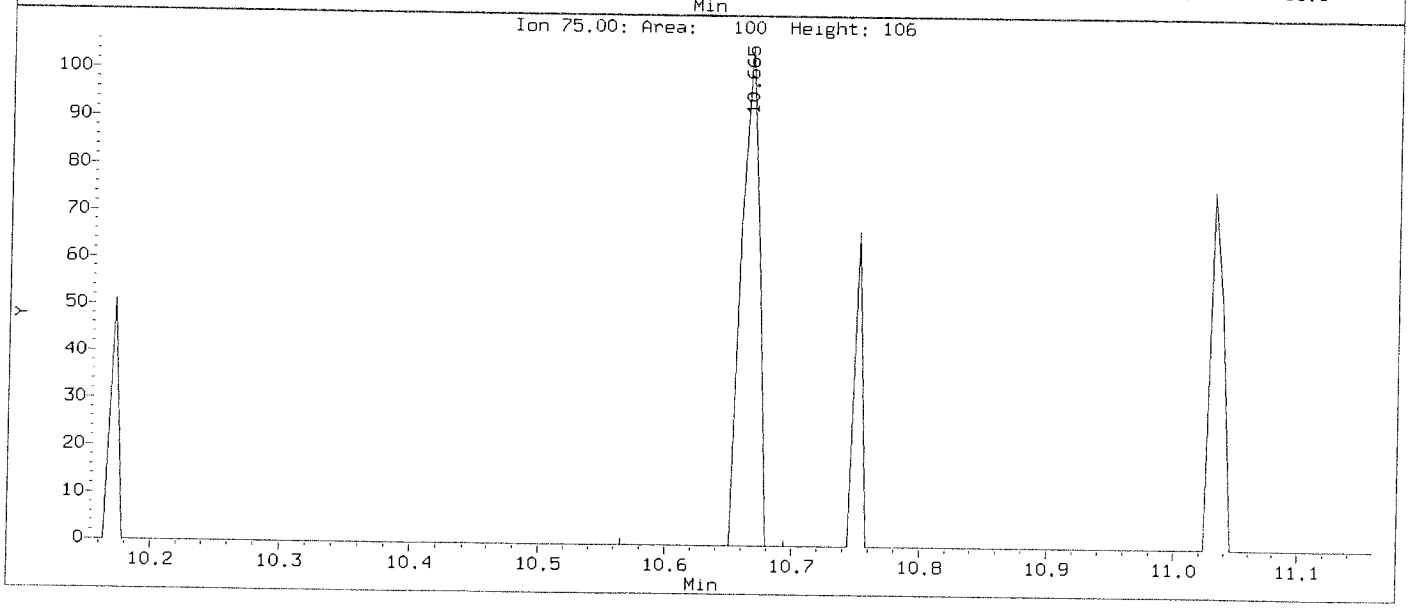


Data File: \\nahstws005\Target\chem\voa6.i\X191118.b\X111803.D
Injection Date: 18-NOV-2019 14:35
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: 1,2-Dibromo-3-Chloropropane
CAS Number: 96-12-8

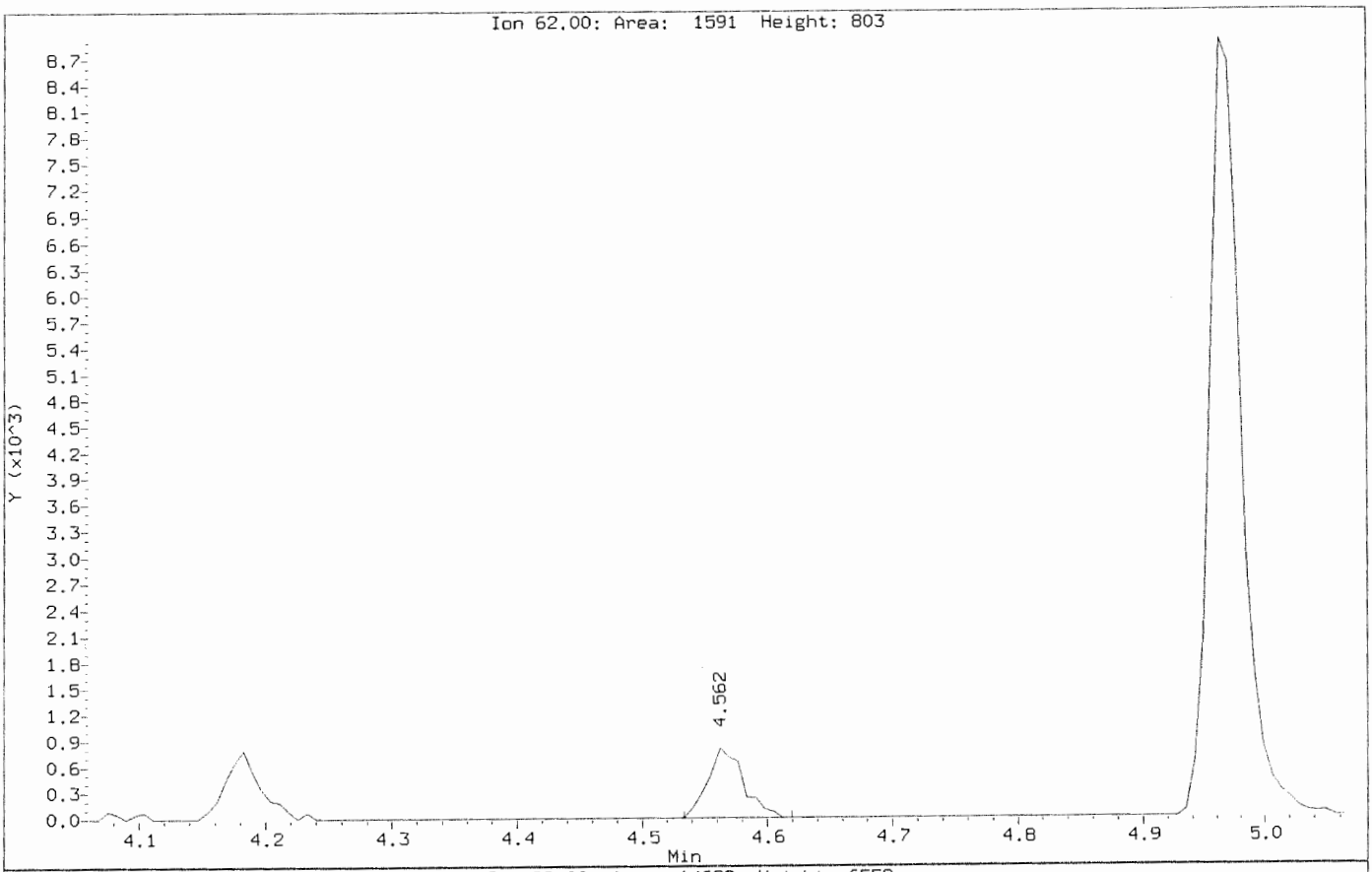


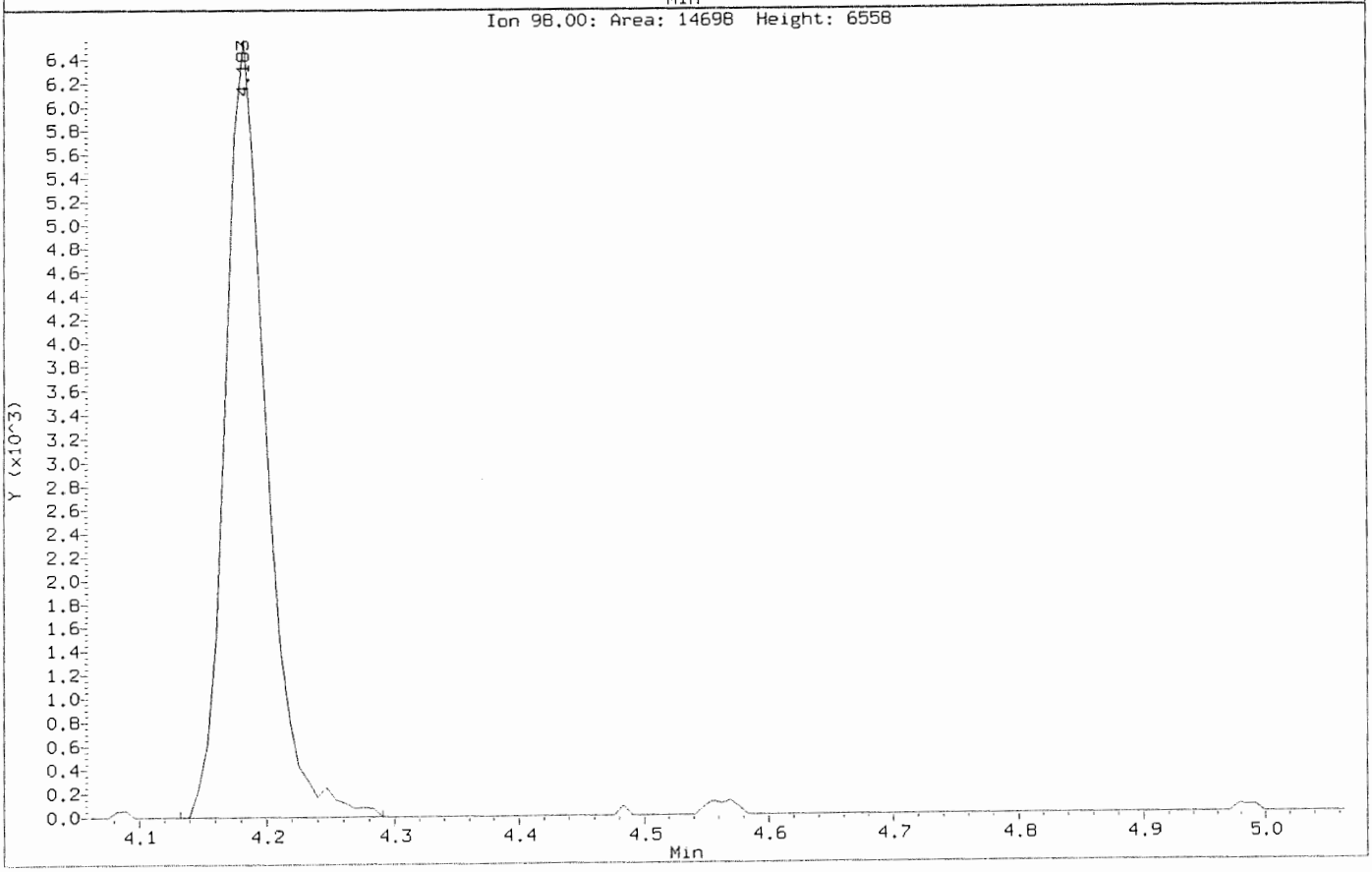




Data File: \\nahstws005\Target\chem\voa6.i\X191118.b\BEFORE\X111803.D
Injection Date: 18-NOV-2019 14:35
Instrument: voa6.i
Client Sample ID: VSTD000.5

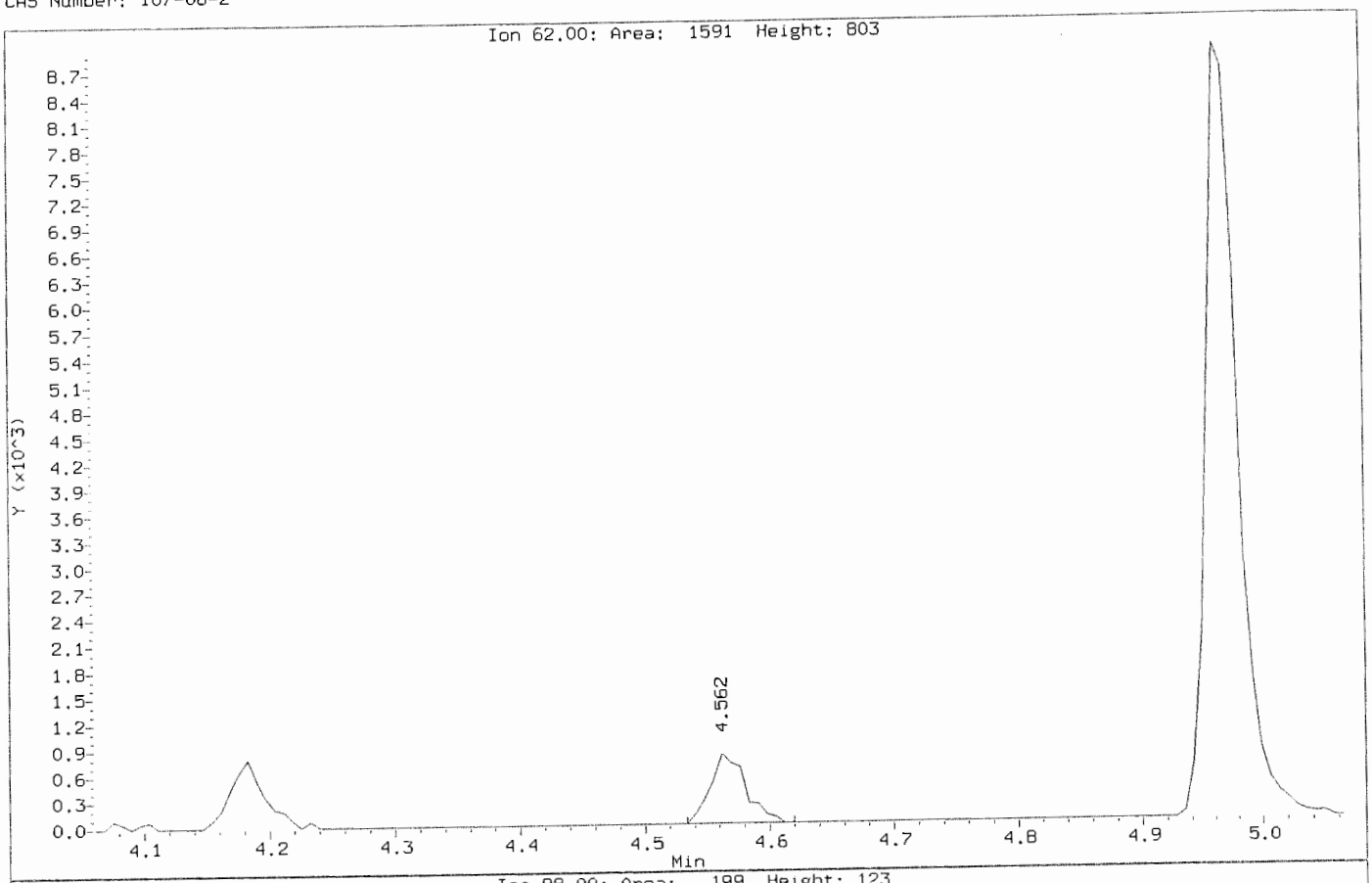
Compound: 1,2-Dichloroethane
CAS Number: 107-06-2

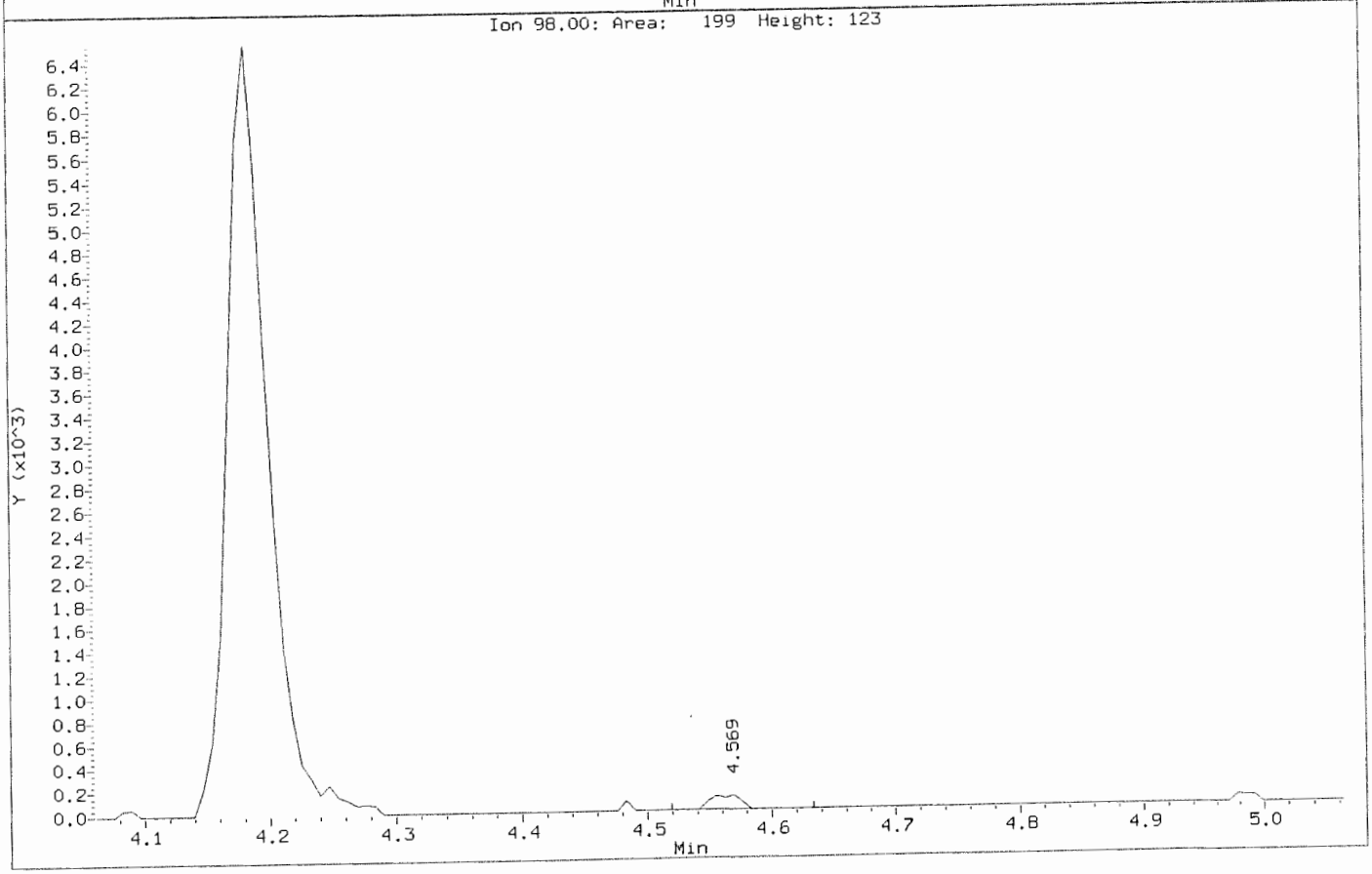




Data File: \\nahstws005\Target\chem\voa6.i\X191118.b\X111803.D
Injection Date: 18-NOV-2019 14:35
Instrument: voa6.i
Client Sample ID: VSTD000.5

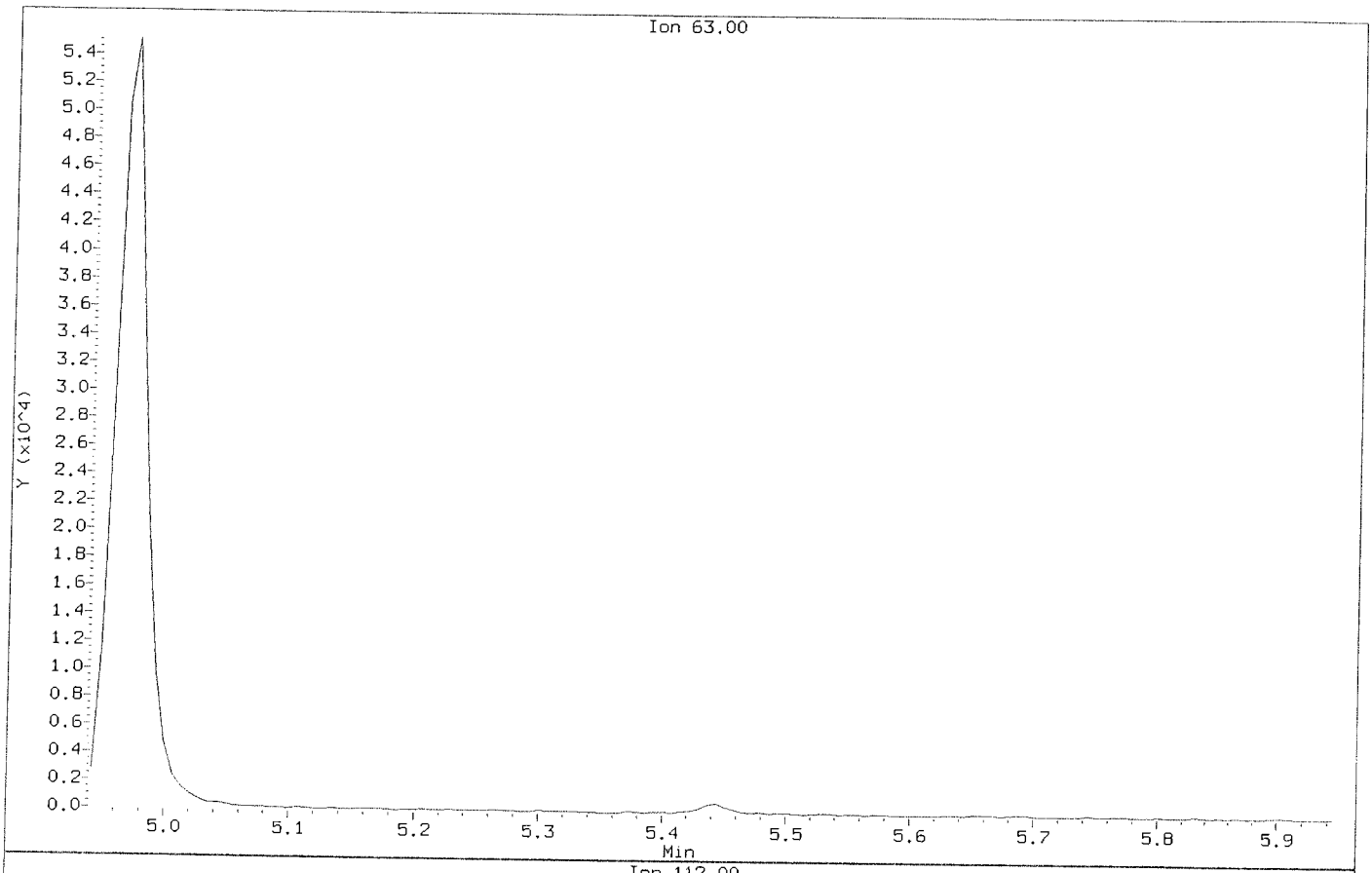
Compound: 1,2-Dichloroethane
CAS Number: 107-06-2

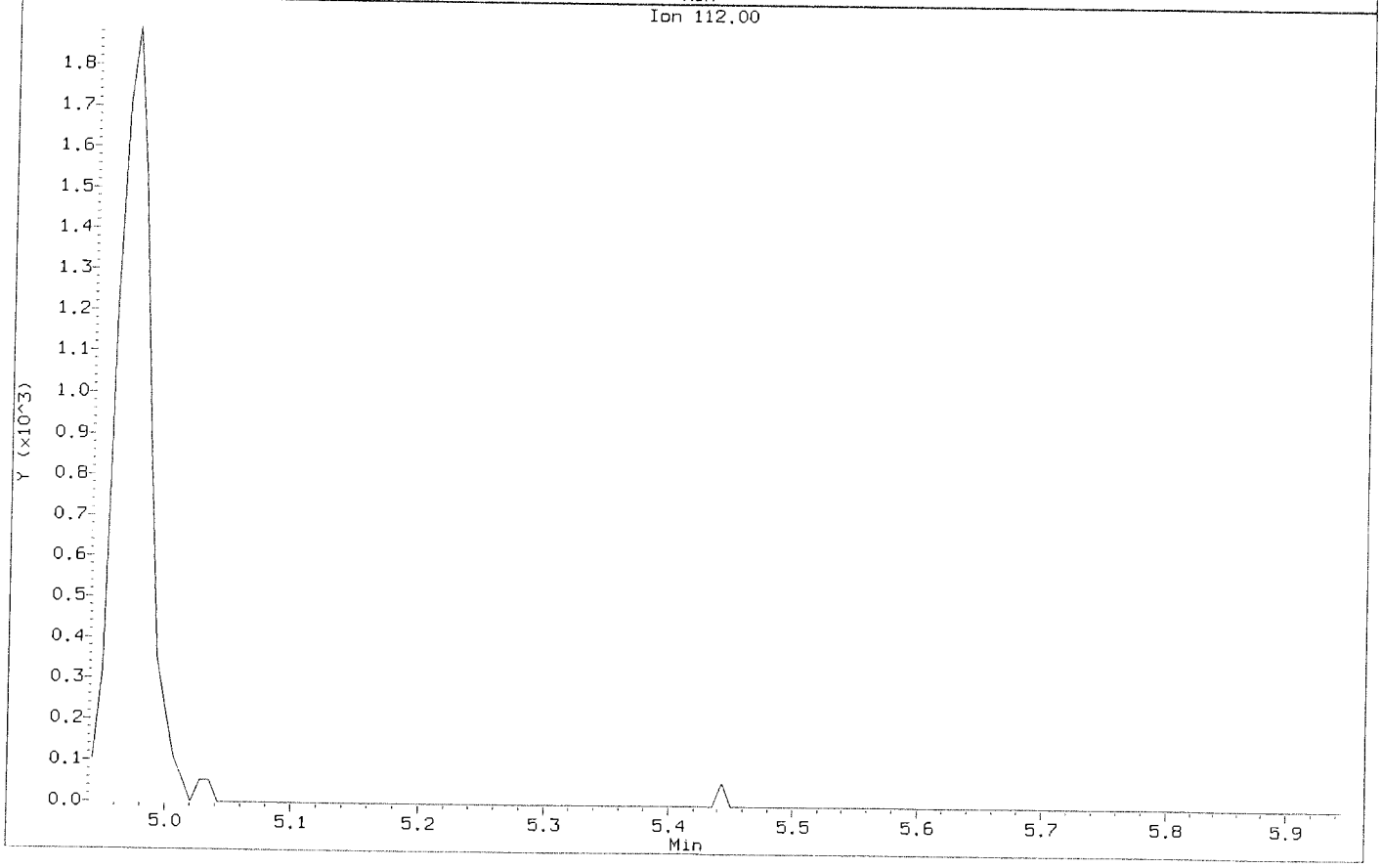




Data File: \\nahstws005\Target\chem\voa6.i\X191118.b\BEFORE\X111803.D
Injection Date: 18-NOV-2019 14:35
Instrument: voa6.i
Client Sample ID: VSTD000.5

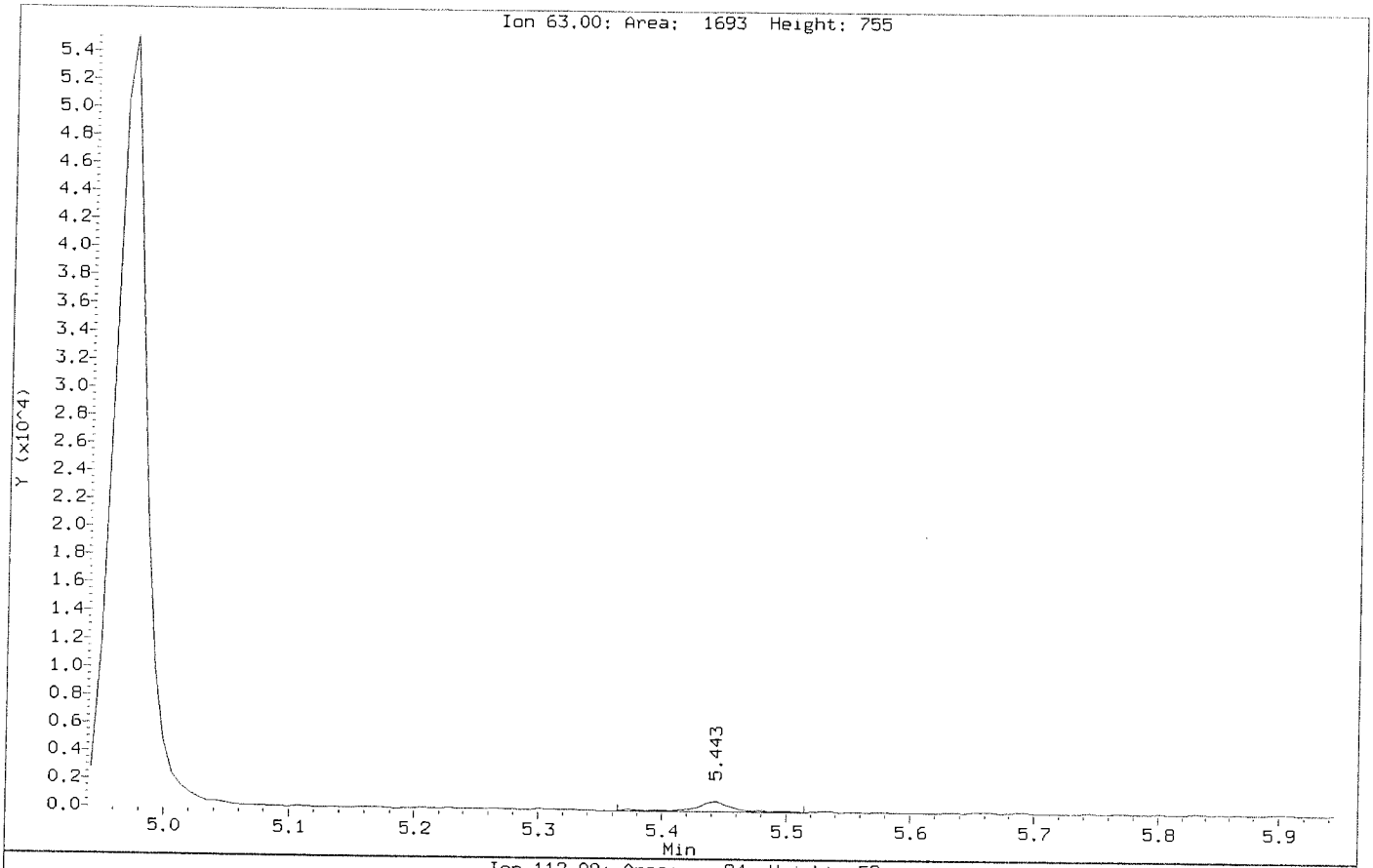
Compound: 1,2-Dichloropropane
CAS Number: 78-87-5

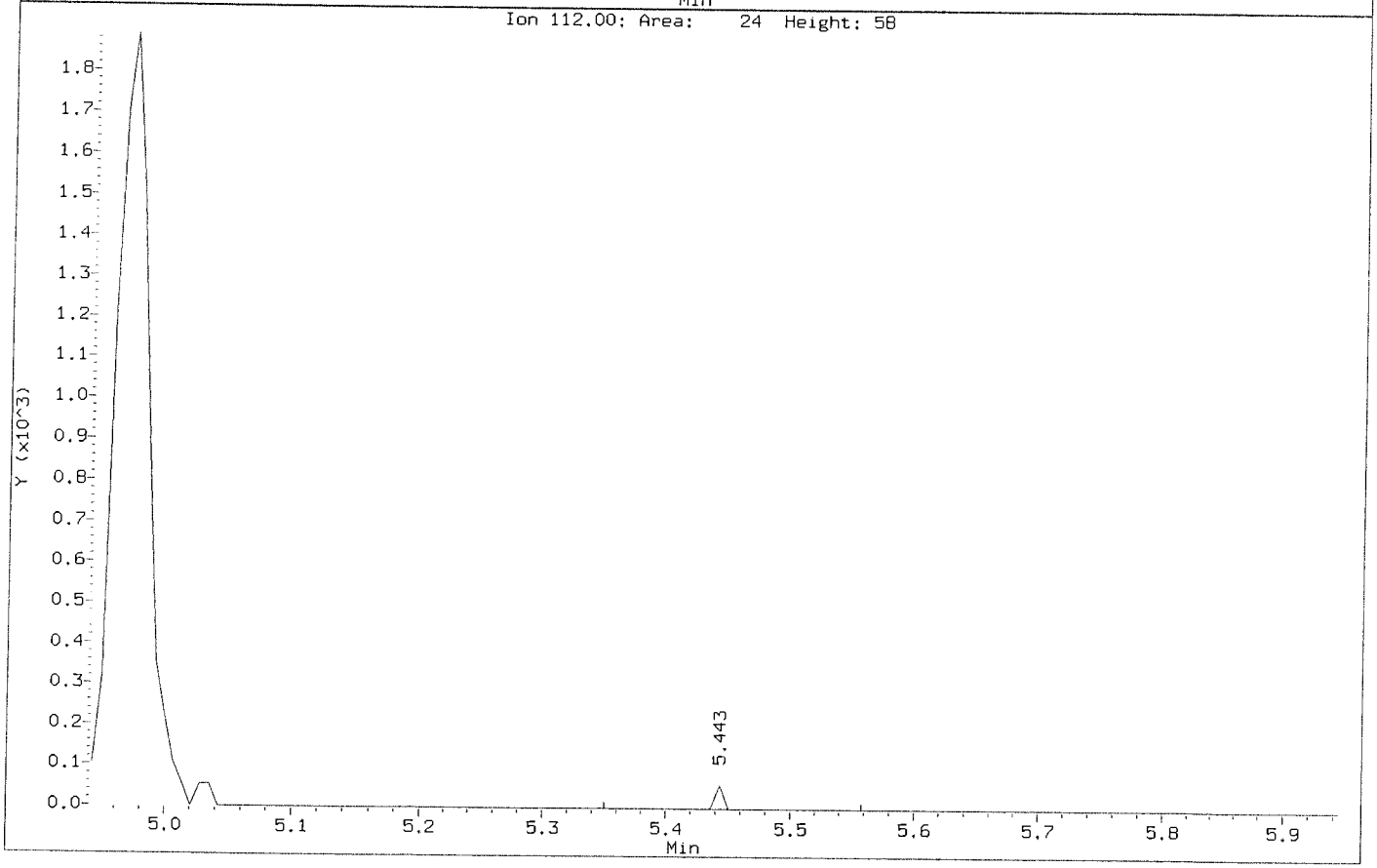




Data File: \\nahstws005\Target\chem\voa6.i\X191118.b\X111803.D
Injection Date: 18-NOV-2019 14:35
Instrument: voa6.i
Client Sample ID: VSTD000.5

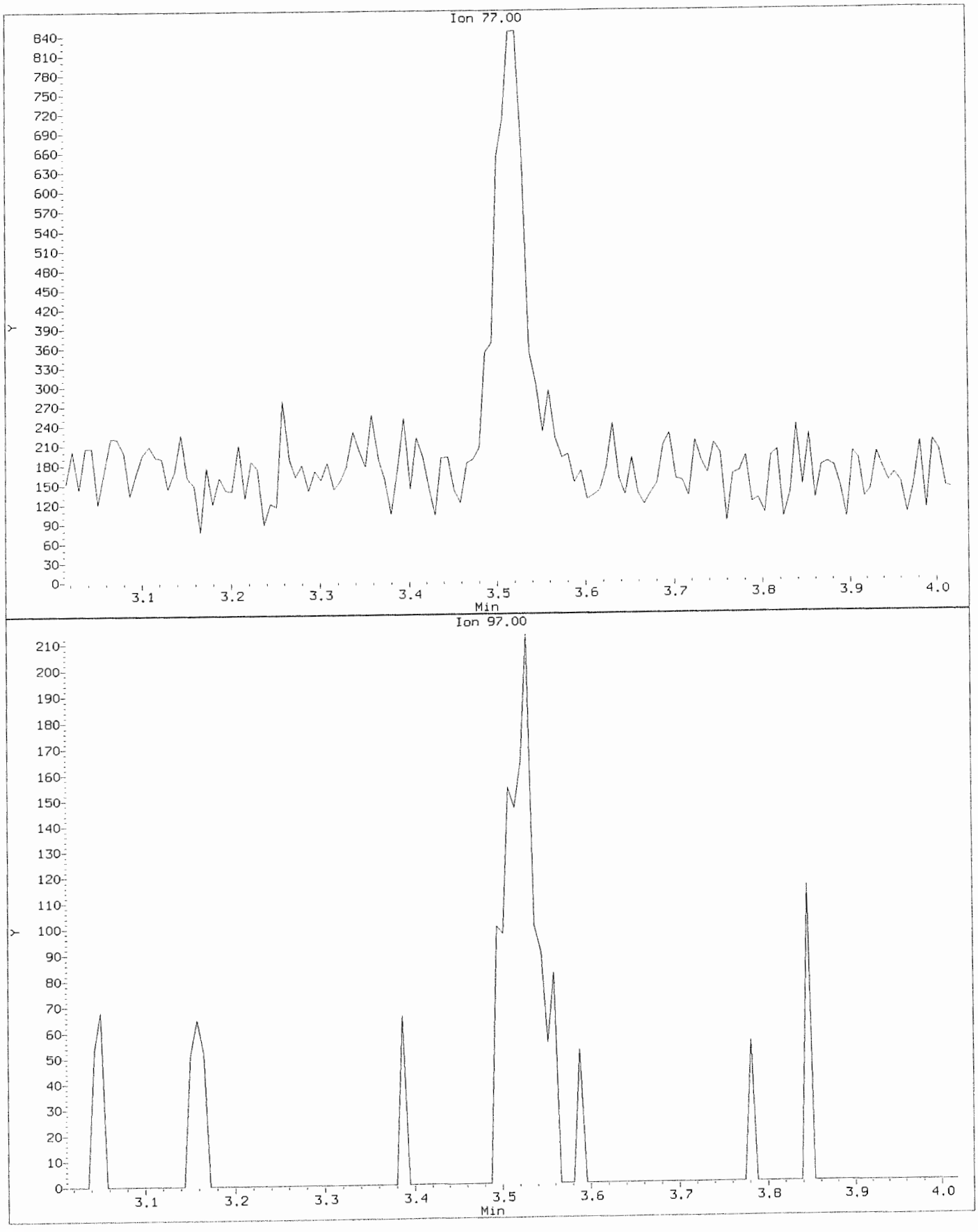
Compound: 1,2-Dichloropropane
CAS Number: 78-87-5





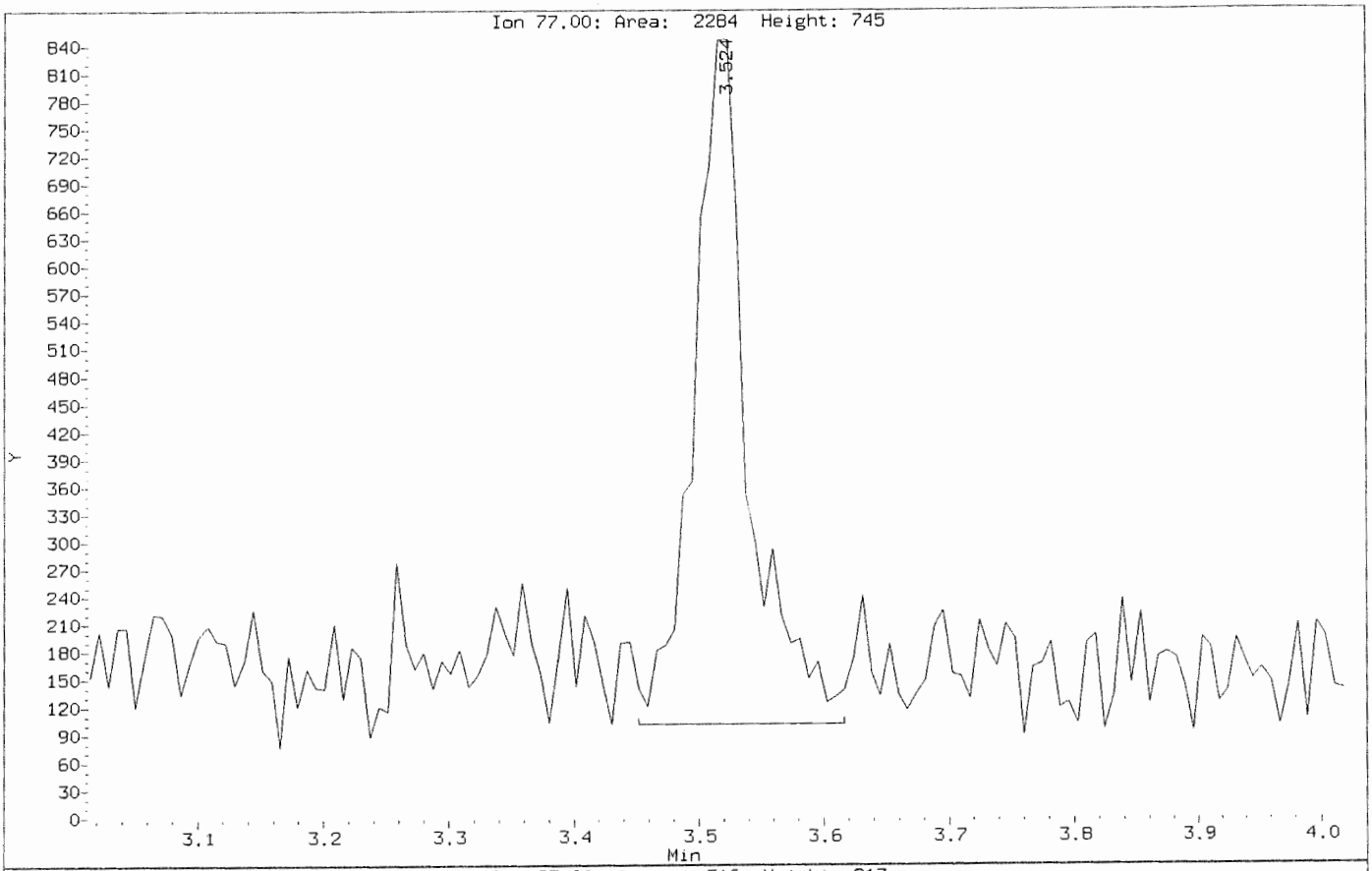
Data File: \\nahstws005\Target\chem\voa6.i\X191118.b\BEFORE\X111803.D
Injection Date: 18-NOV-2019 14:35
Instrument: voa6.i
Client Sample ID: VSTD000.5

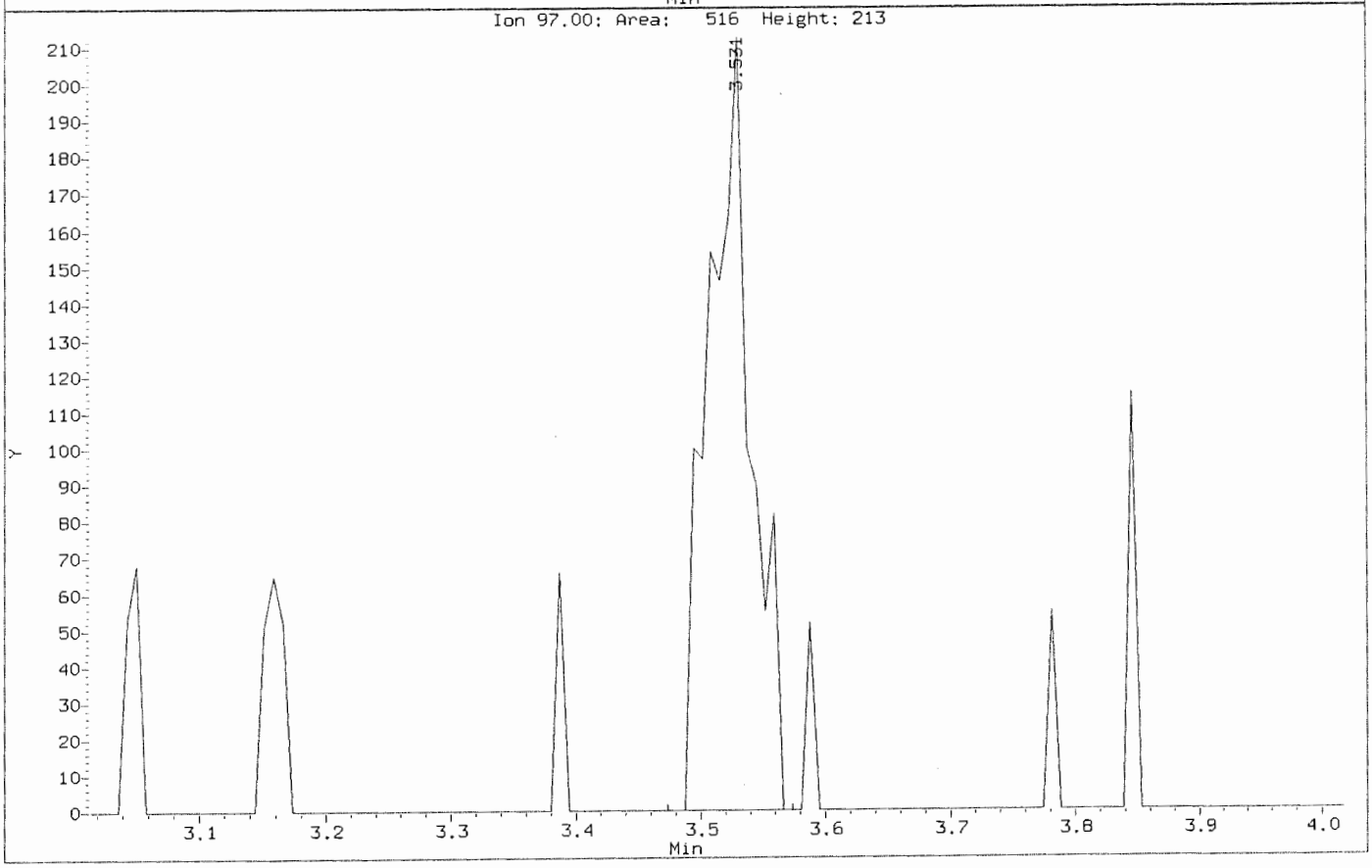
Compound: 2,2-Dichloropropane
CAS Number: 594-20-7



Data File: \\nahstws005\Target\chem\voa6.i\X191118.b\X111803.D
Injection Date: 18-NOV-2019 14:35
Instrument: voa6.i
Client Sample ID: VSTD000.5

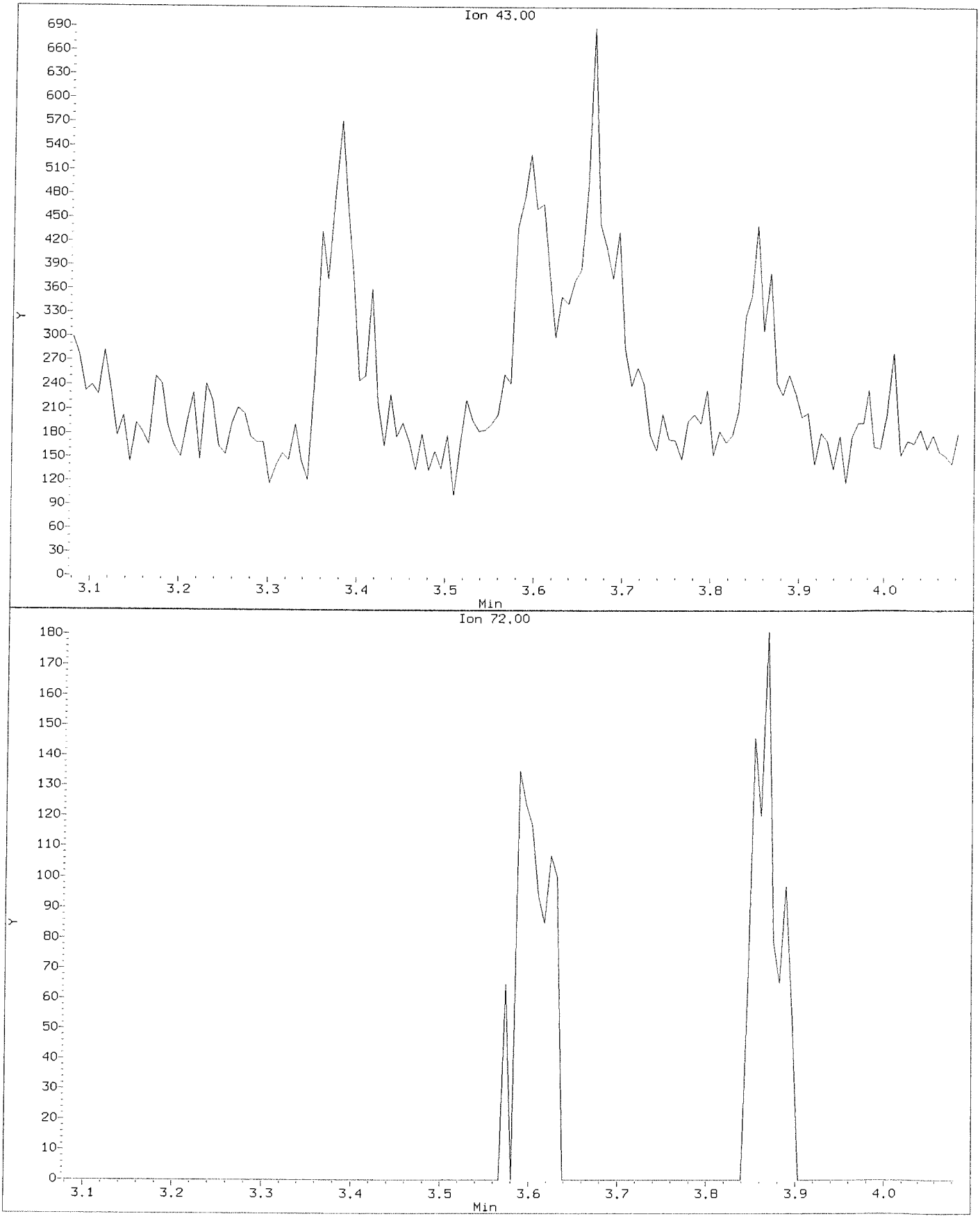
Compound: 2,2-Dichloropropane
CAS Number: 594-20-7





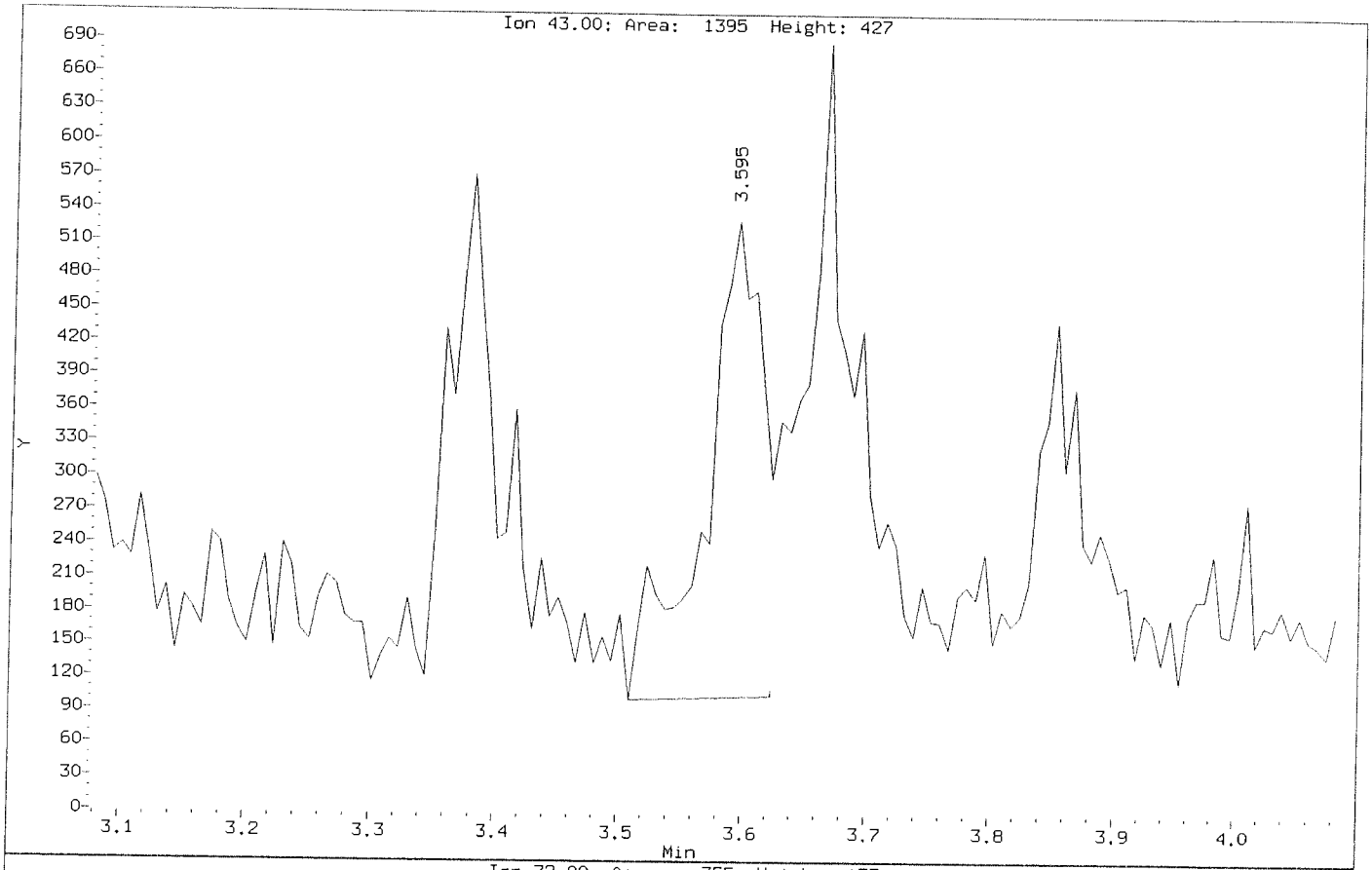
Data File: \\nahstws005\Target\chem\voa6.i\X191118.b\BEFORE\X111803.D
Injection Date: 18-NOV-2019 14:35
Instrument: voa6.i
Client Sample ID: VSTD000.5

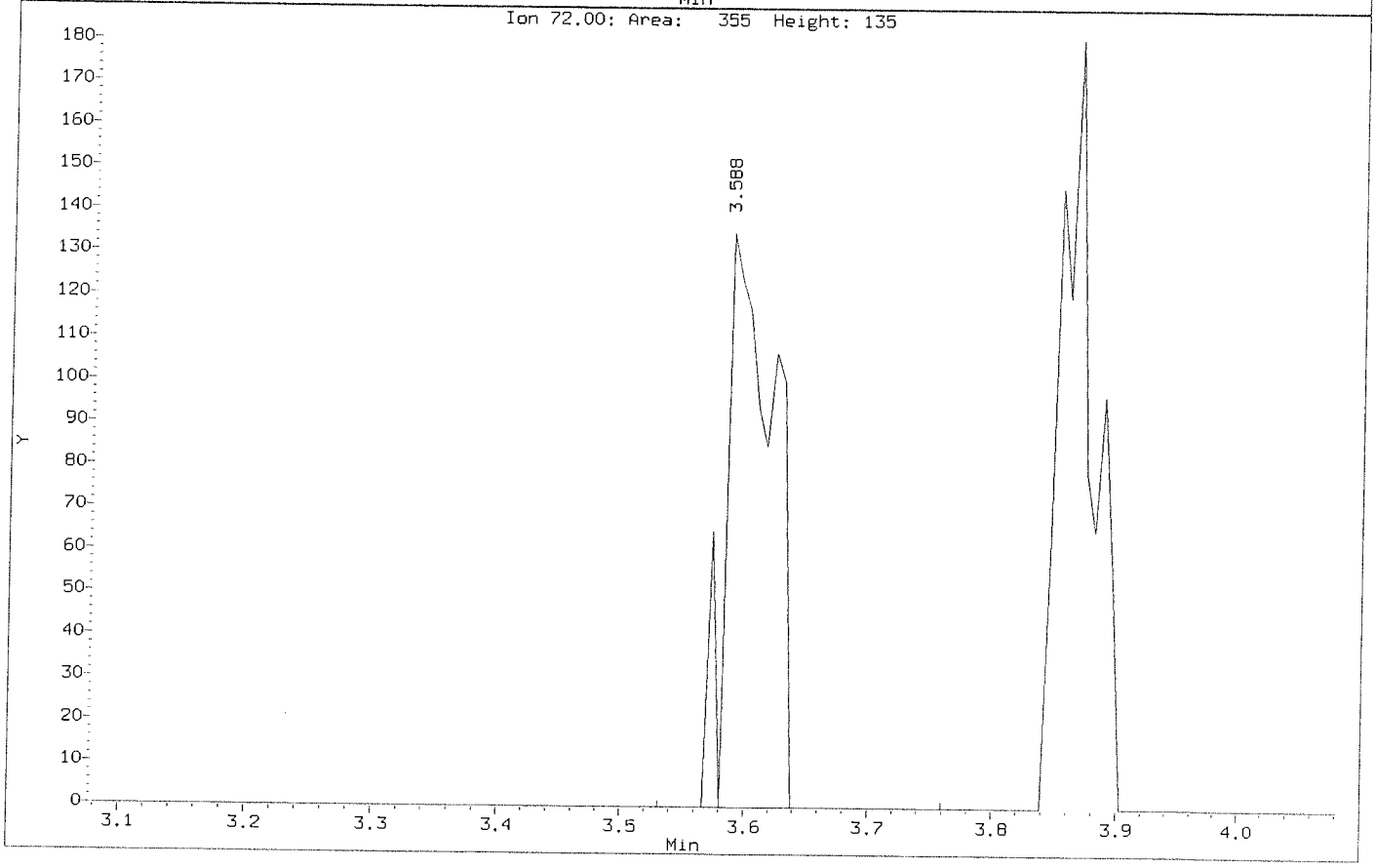
Compound: 2-Butanone
CAS Number: 78-93-3



Data File: \\nahstws005\Target\chem\voa6.i\X191118.b\X111803.D
Injection Date: 18-NOV-2019 14:35
Instrument: voa6.i
Client Sample ID: VSTD000.5

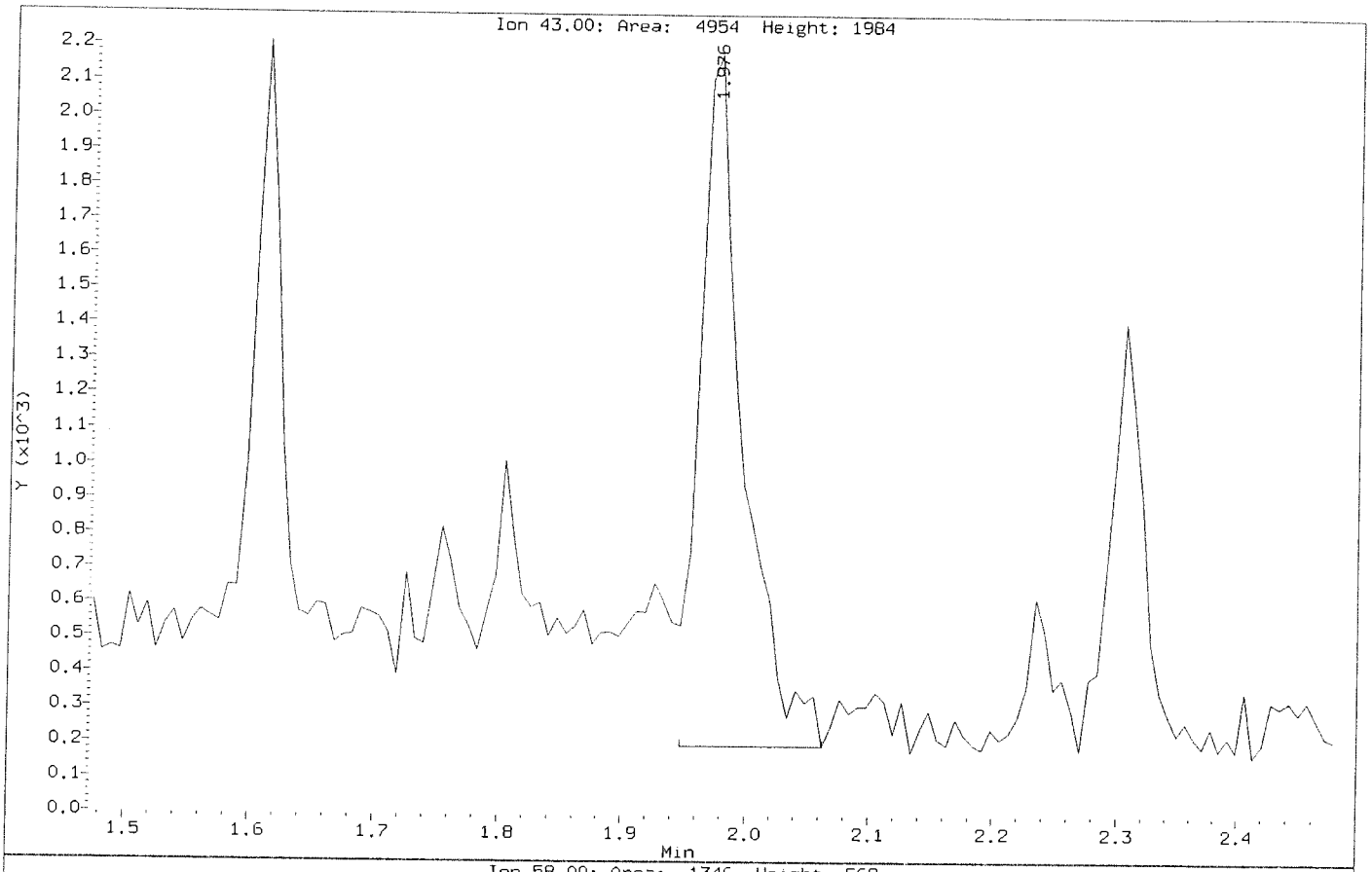
Compound: 2-Butanone
CAS Number: 78-93-3

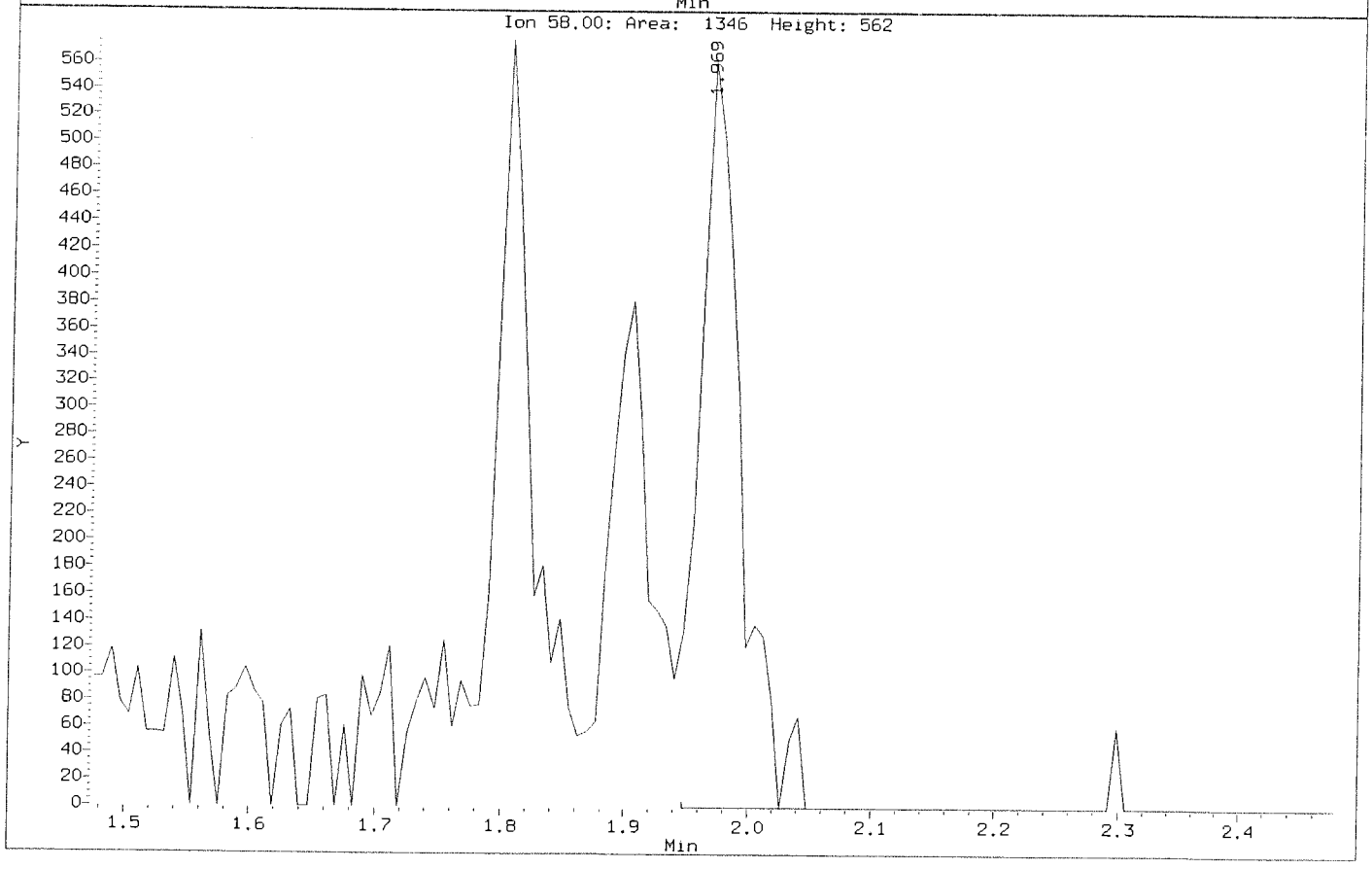




Data File: \\nahstws005\Target\chem\voa6.i\X191118.b\BEFORE\X111803.D
Injection Date: 18-NOV-2019 14:35
Instrument: voa6.i
Client Sample ID: VSTD000.5

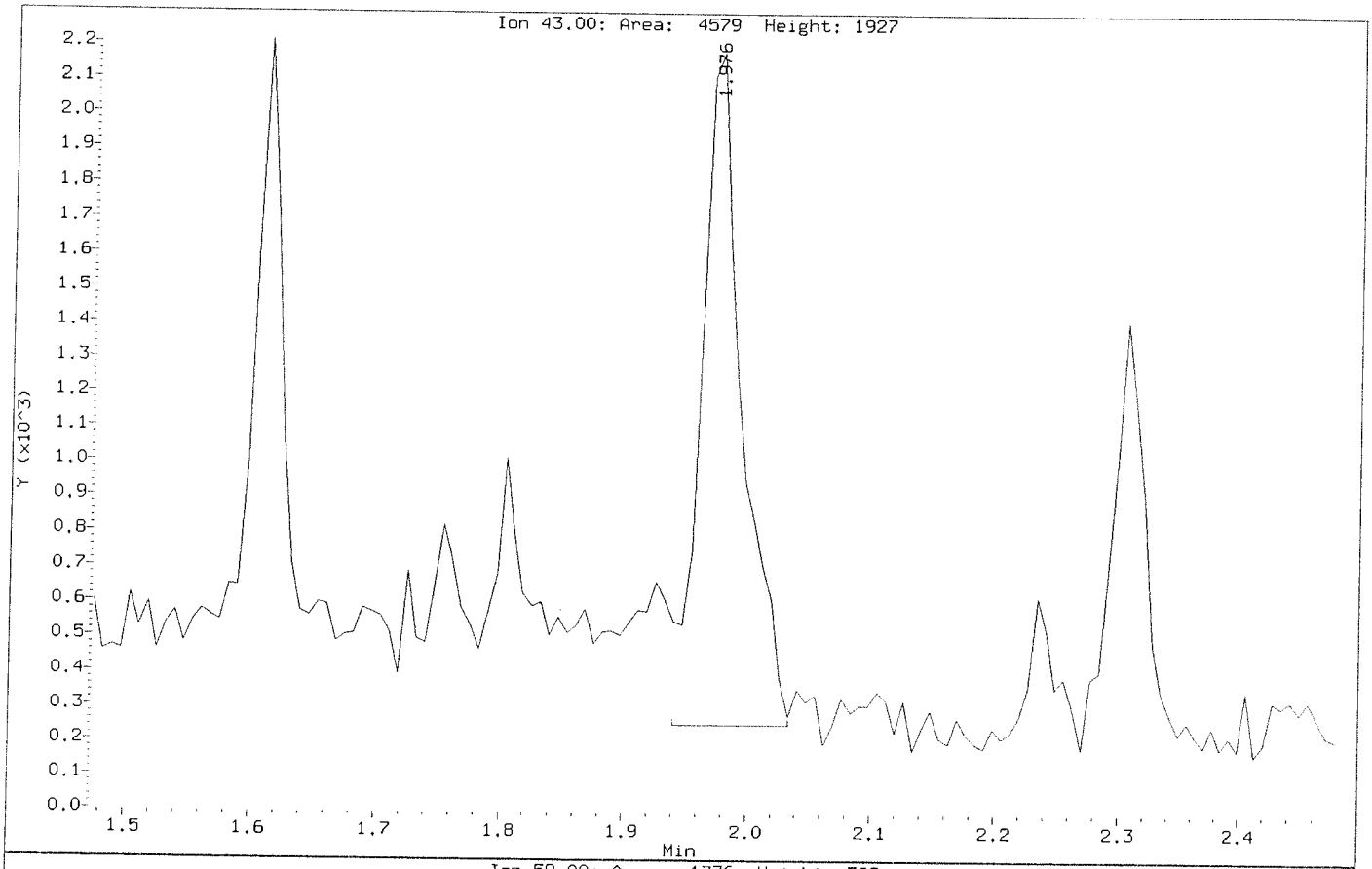
Compound: Acetone
CAS Number: 67-64-1

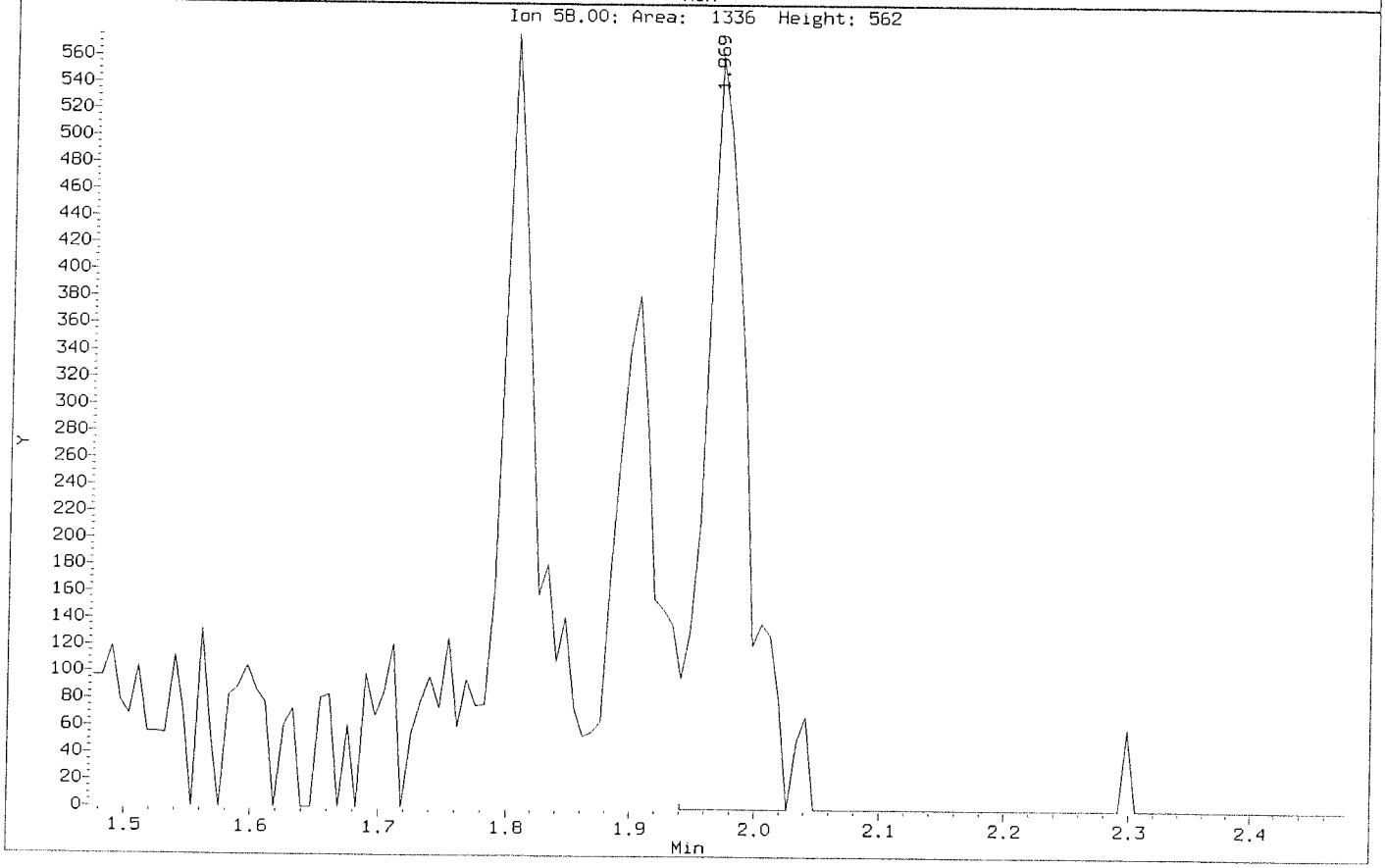




Data File: \\nahstws005\Target\chem\voa6.i\X191118.b\X111803.D
Injection Date: 18-NOV-2019 14:35
Instrument: voa6.i
Client Sample ID: VSTD000.5

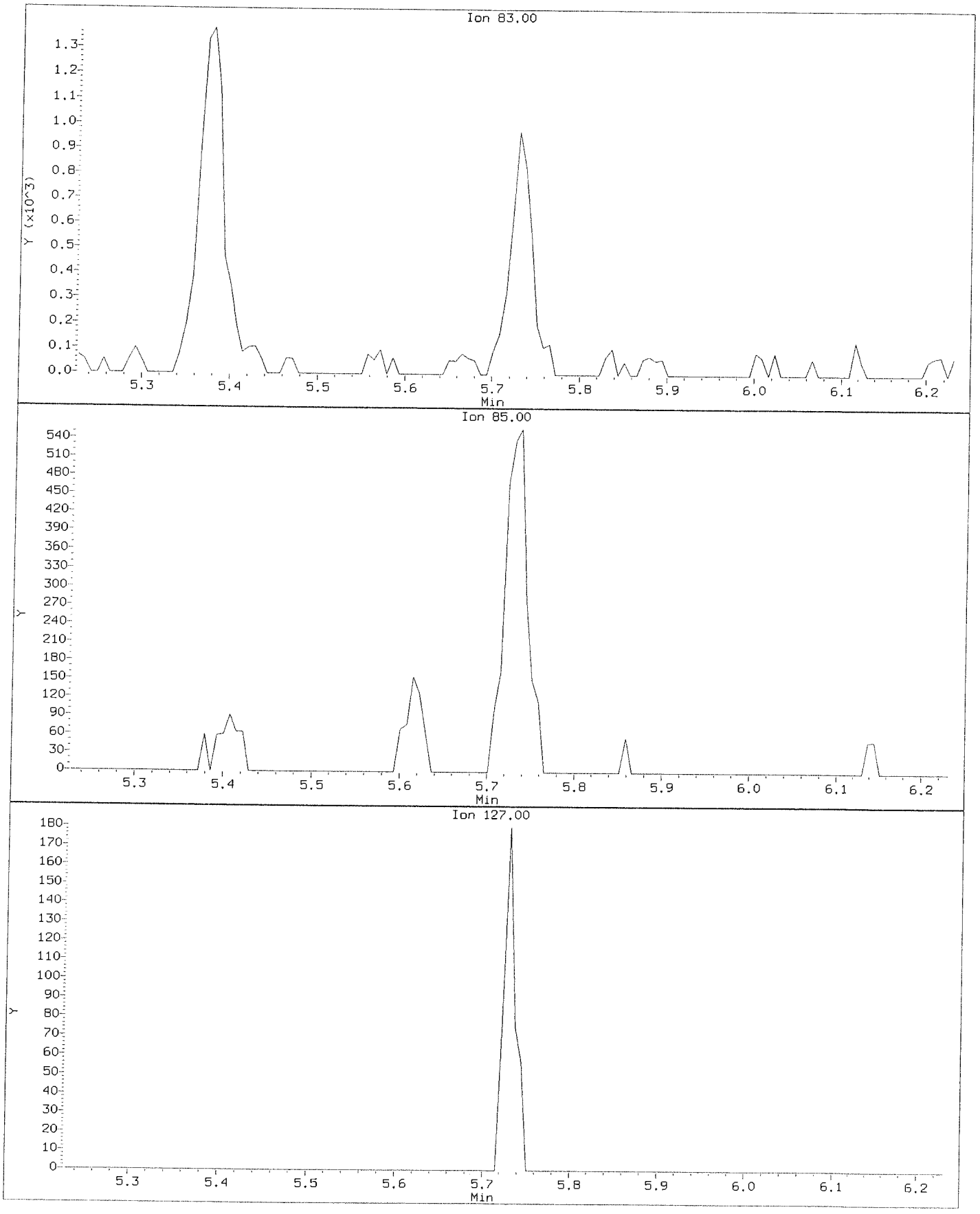
Compound: Acetone
CAS Number: 67-64-1





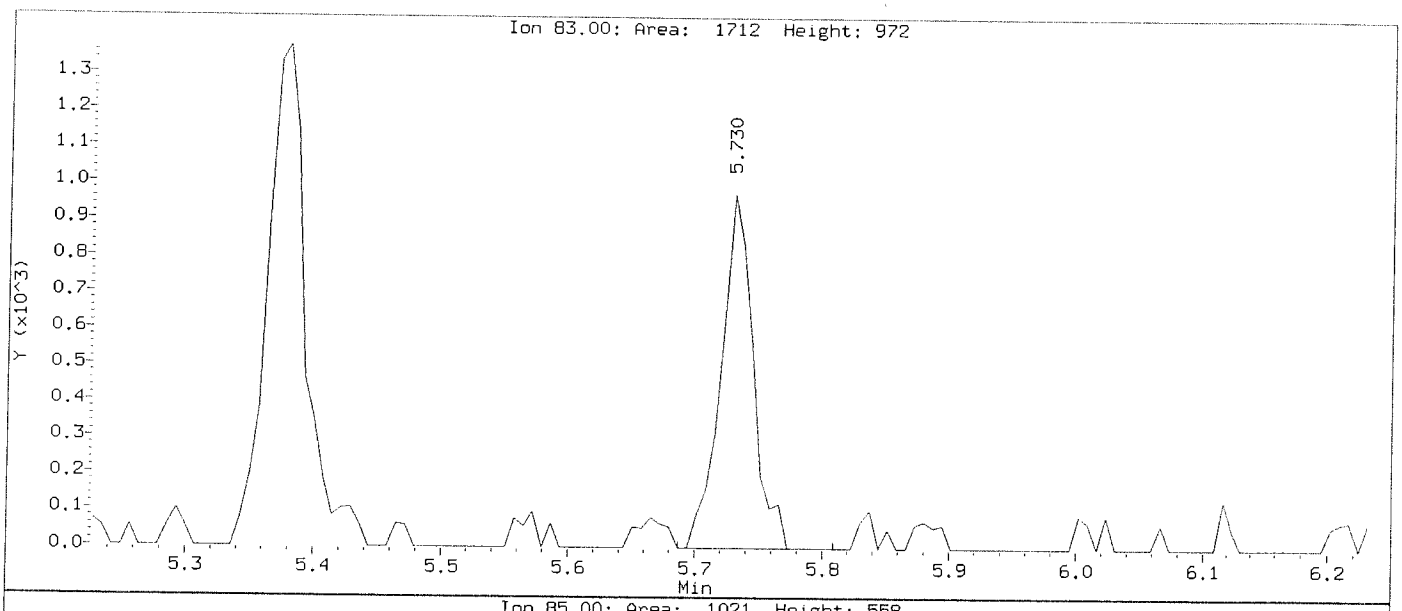
Data File: \\nahstws005\Target\chem\voa6.i\X191118.b\BEFORE\X111803.D
Injection Date: 18-NOV-2019 14:35
Instrument: voa6.i
Client Sample ID: VSTD000.5

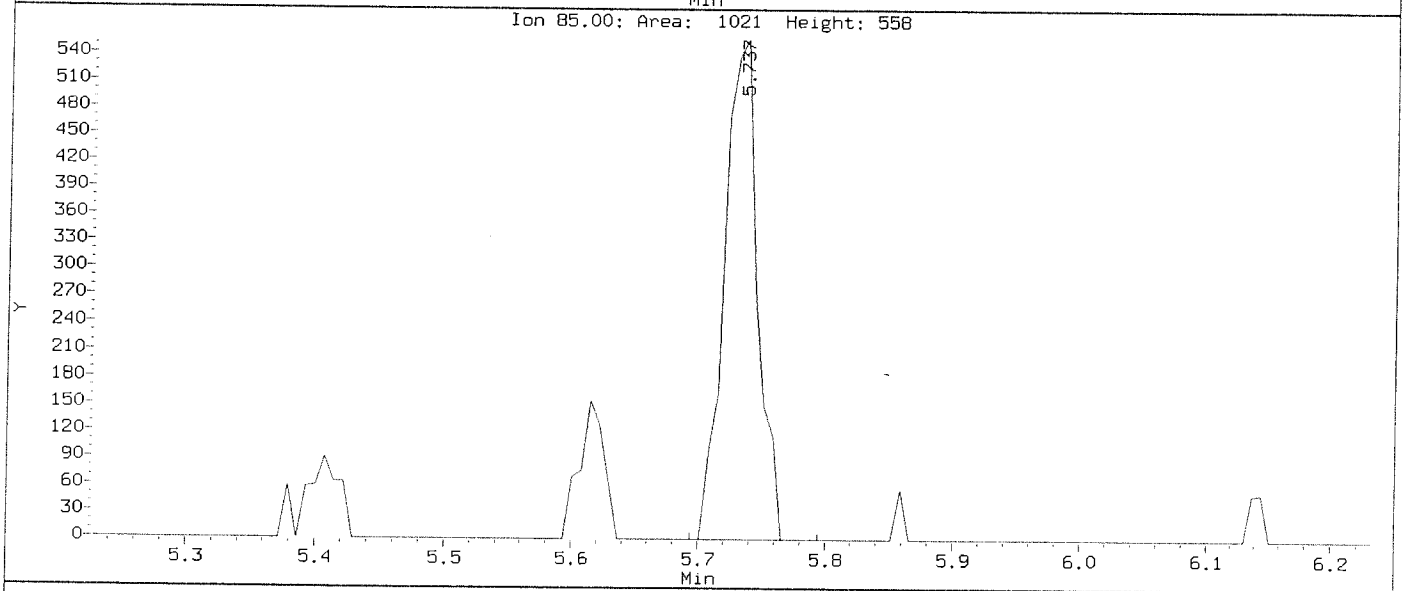
Compound: Bromodichloromethane
CAS Number: 75-27-4

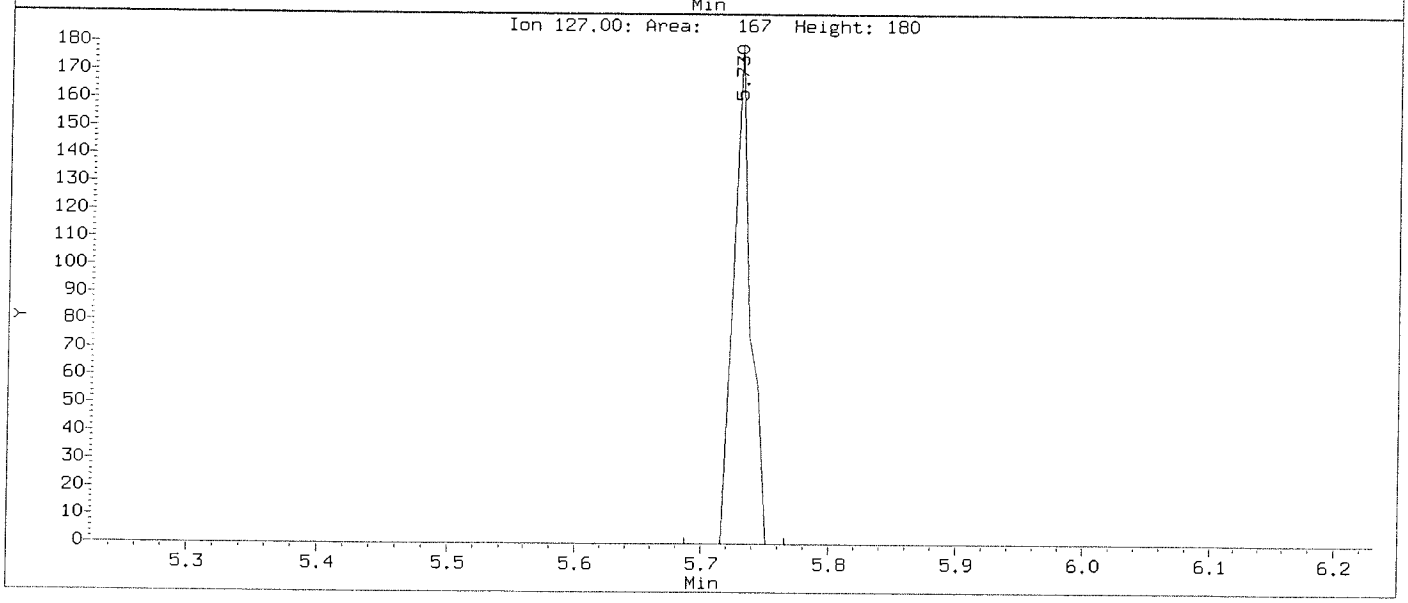


Data File: \\nahstws005\Target\chem\voa6.i\X191118.b\X111803.D
Injection Date: 18-NOV-2019 14:35
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Bromodichloromethane
CAS Number: 75-27-4

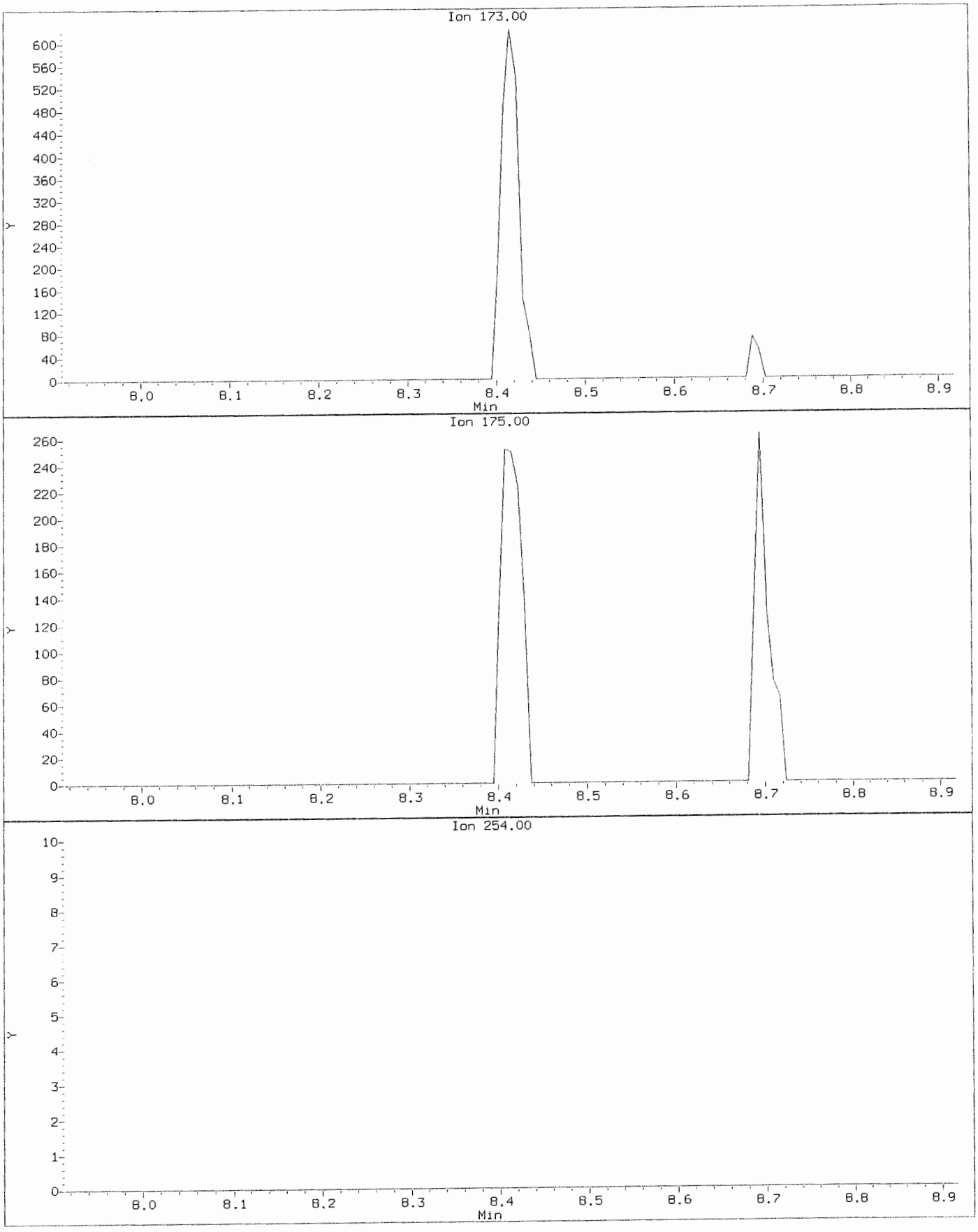






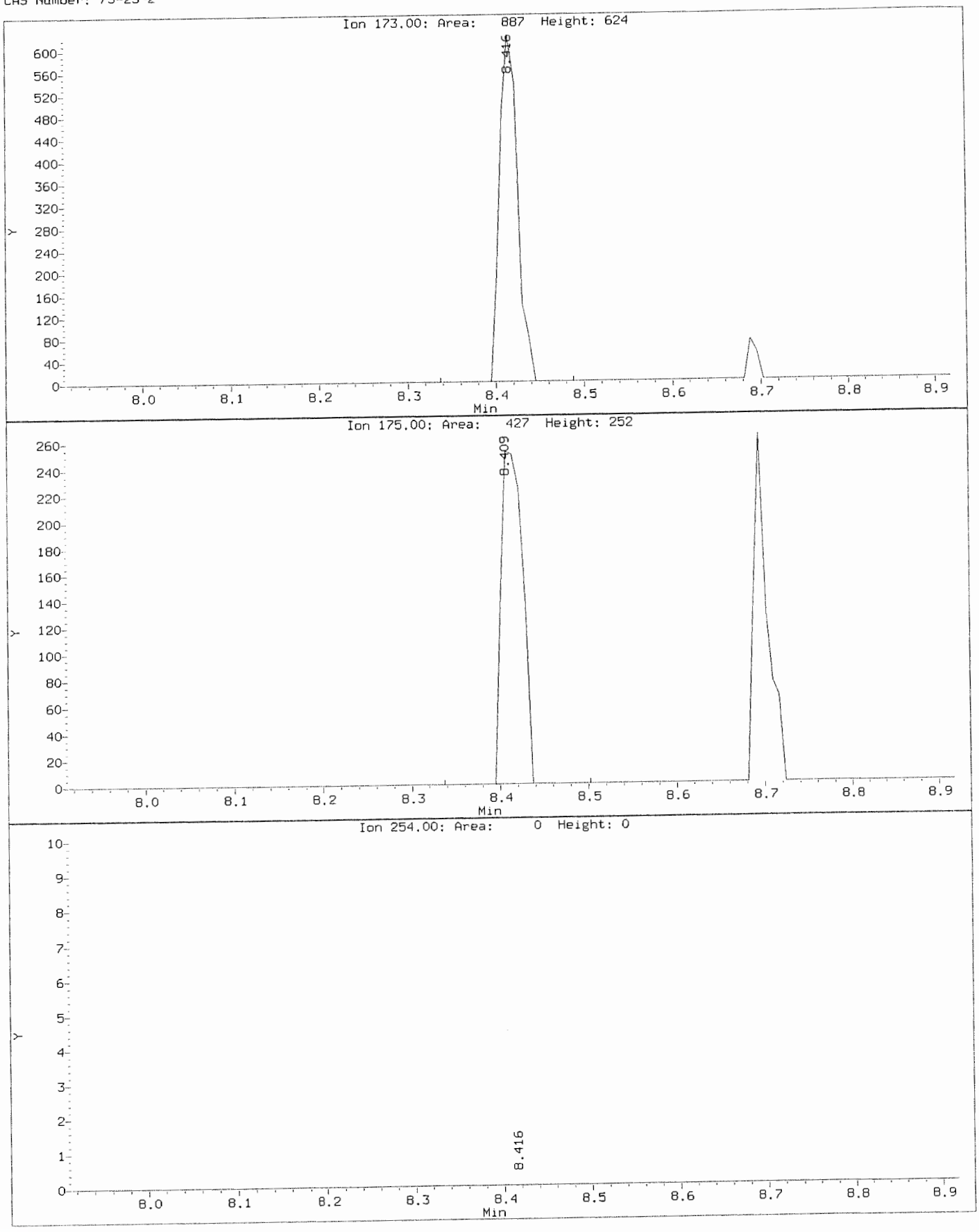
Data File: \\nahstws005\Target\chem\voa6.i\X191118.b\BEFORE\X111803.D
Injection Date: 18-NOV-2019 14:35
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Bromoform
CAS Number: 75-25-2



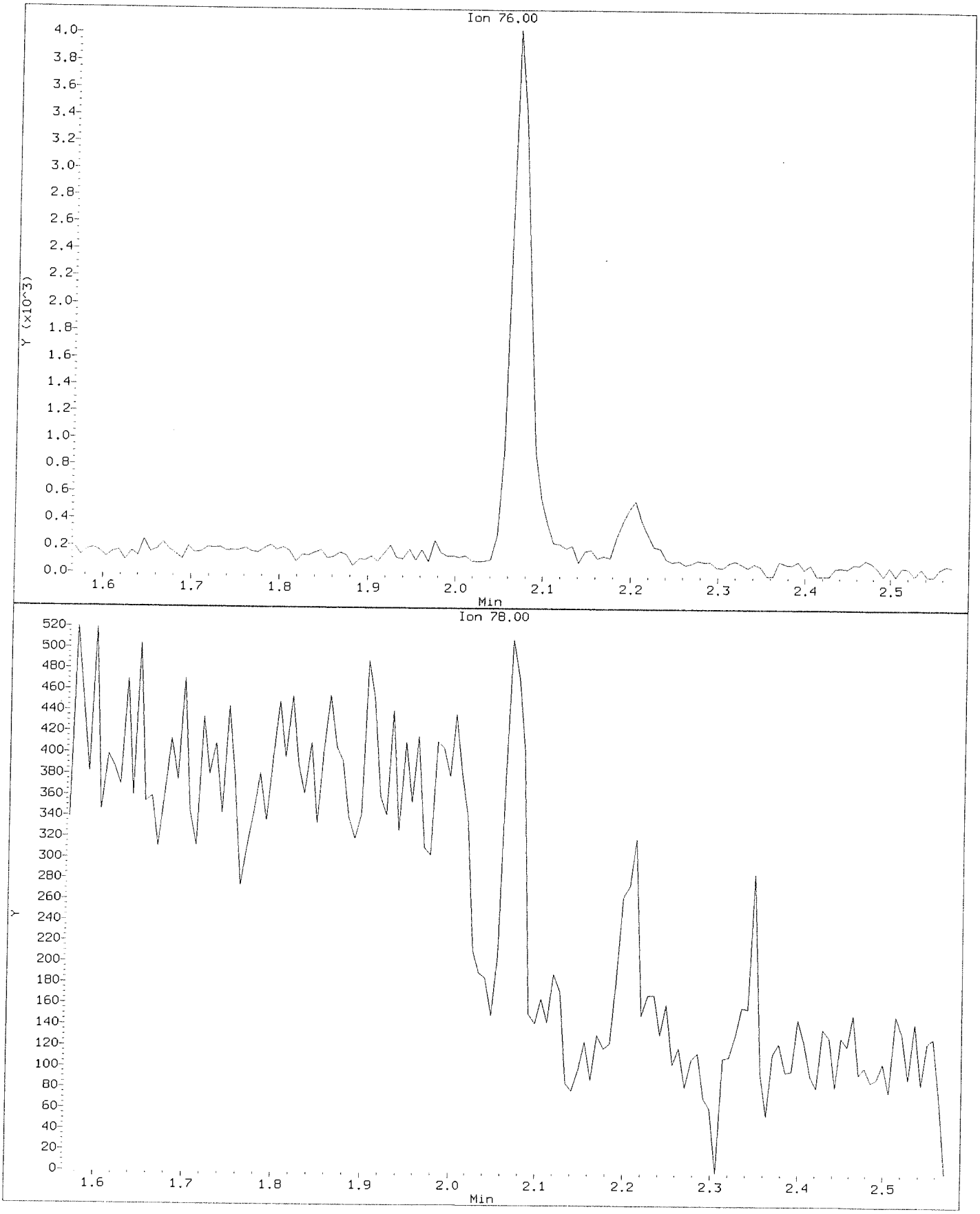
Data File: \\nahstws005\Target\chem\voa6.i\X191118.b\X111803.D
Injection Date: 18-NOV-2019 14:35
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Bromoform
CAS Number: 75-25-2



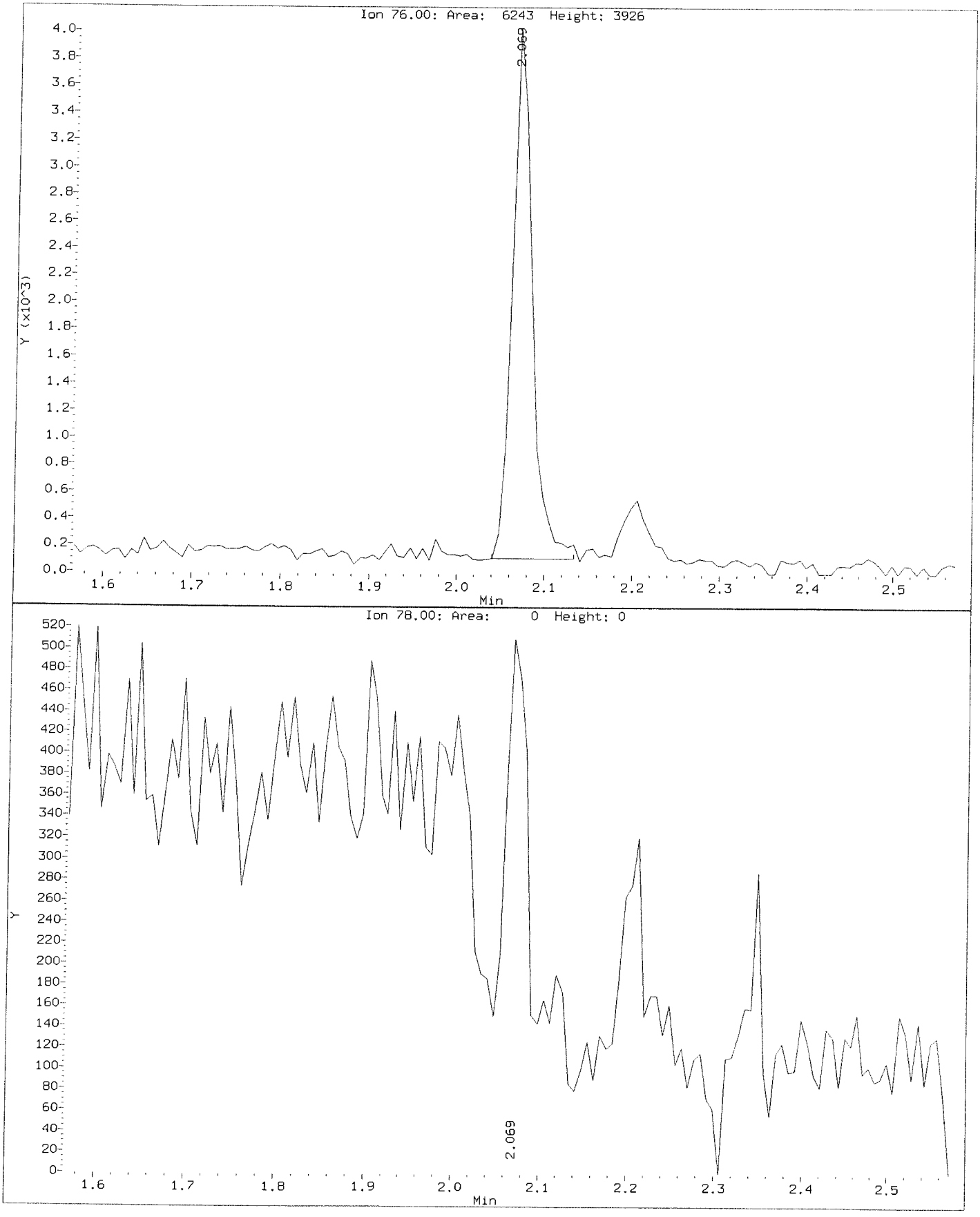
Data File: \\nahstws005\Target\chem\voa6.i\X191118.b\BEFORE\X111803.D
Injection Date: 18-NOV-2019 14:35
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Carbon Disulfide
CAS Number: 75-15-0



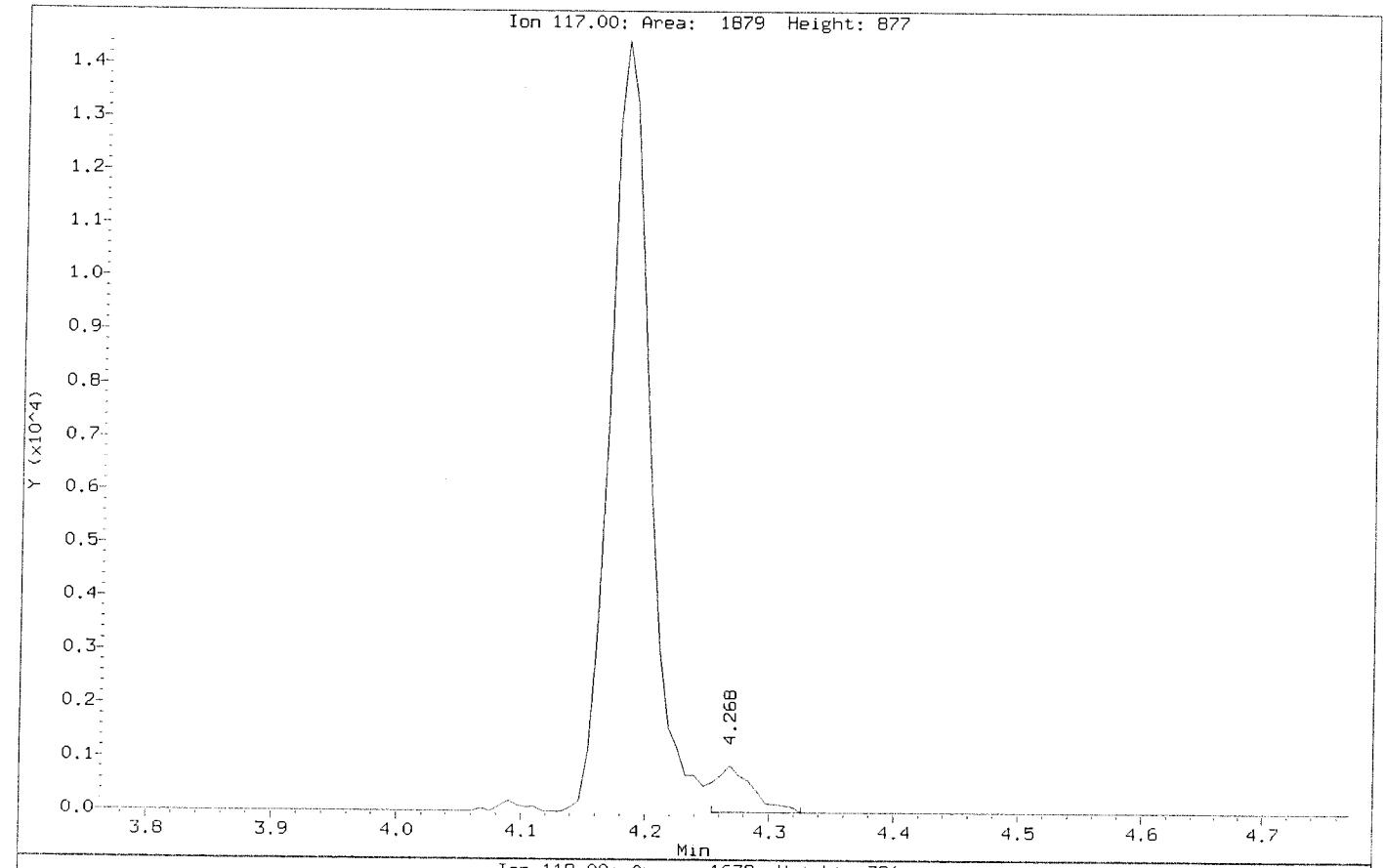
Data File: \\nahstws005\Target\chem\voa6.i\X191118.b\X111803.D
Injection Date: 18-NOV-2019 14:35
Instrument: voa6.i
Client Sample ID: VSTD000.5

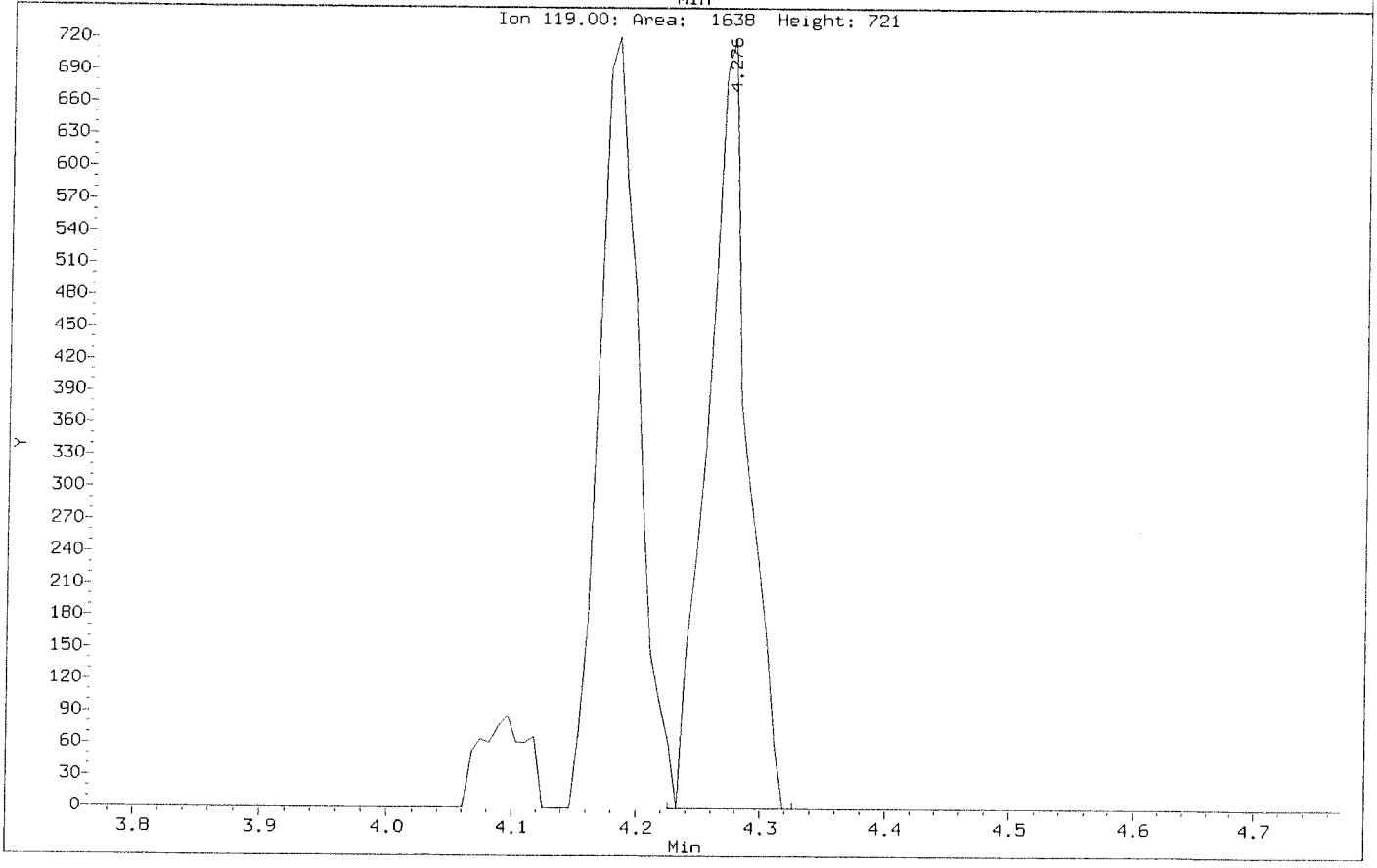
Compound: Carbon Disulfide
CAS Number: 75-15-0



Data File: \\nahstws005\Target\chem\voa6.i\X191118.b\BEFORE\X111803.D
Injection Date: 18-NOV-2019 14:35
Instrument: voa6.i
Client Sample ID: VSTD000.5

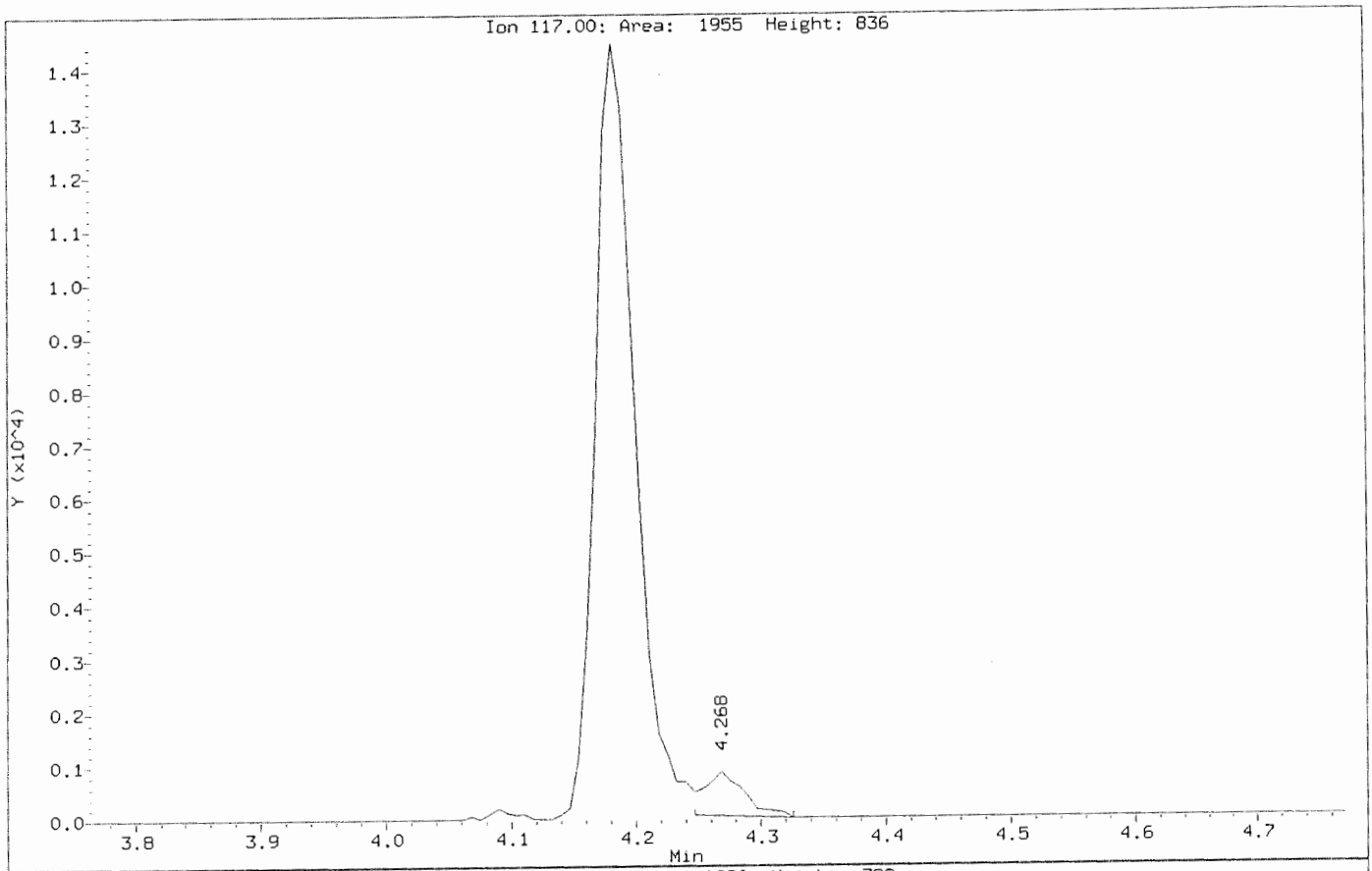
Compound: Carbon Tetrachloride
CAS Number: 56-23-5

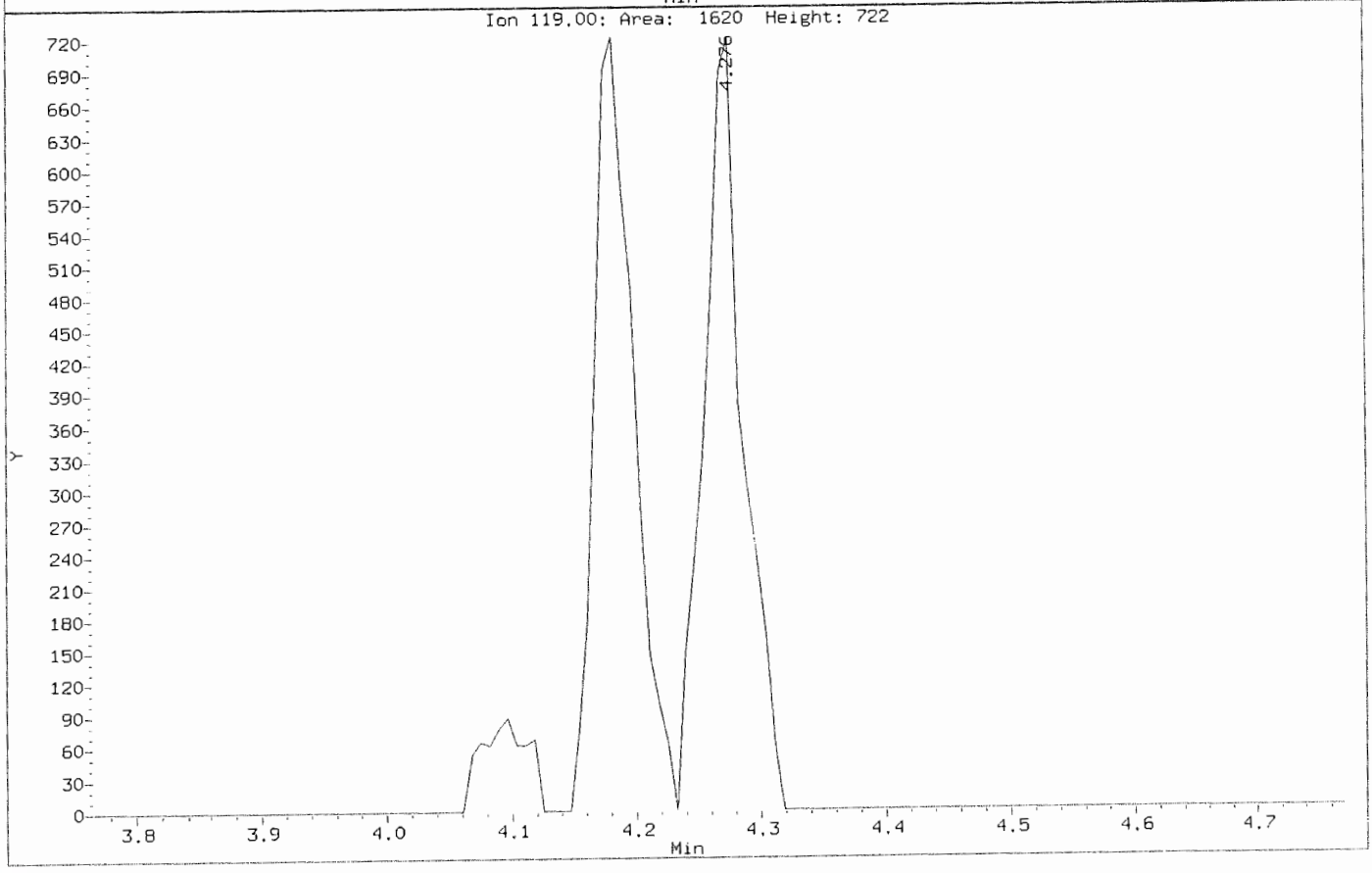




Data File: \\nahstws005\Target\chem\voa6.i\X191118.b\X111803.D
Injection Date: 18-NOV-2019 14:35
Instrument: voa6.i
Client Sample ID: VSTD000.5

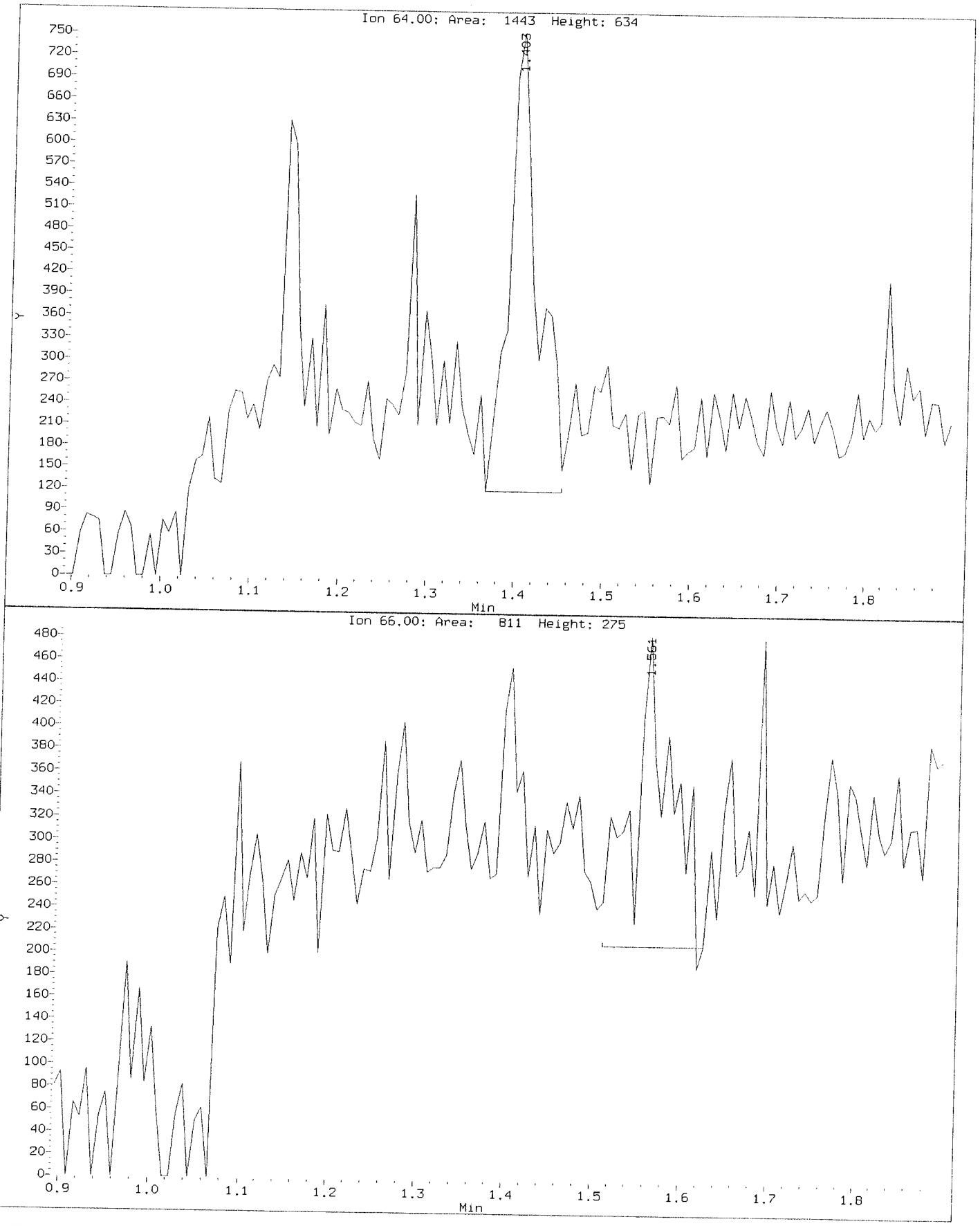
Compound: Carbon Tetrachloride
CAS Number: 56-23-5





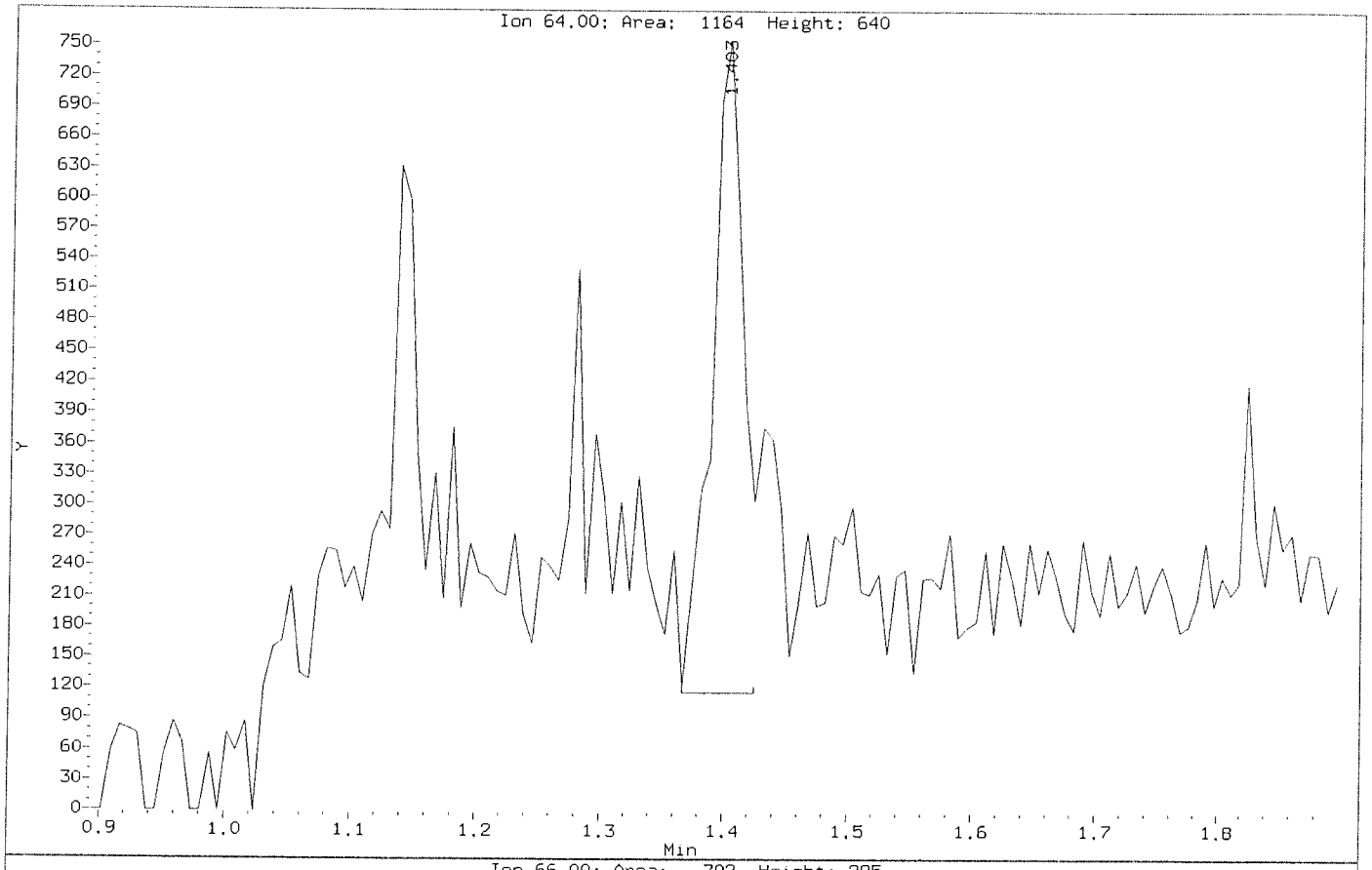
Data File: \\nahstws005\Target\chem\voa6.i\X191118.b\BEFORE\X111803.D
Injection Date: 18-NOV-2019 14:35
Instrument: voa6.i
Client Sample ID: VSTD000.5

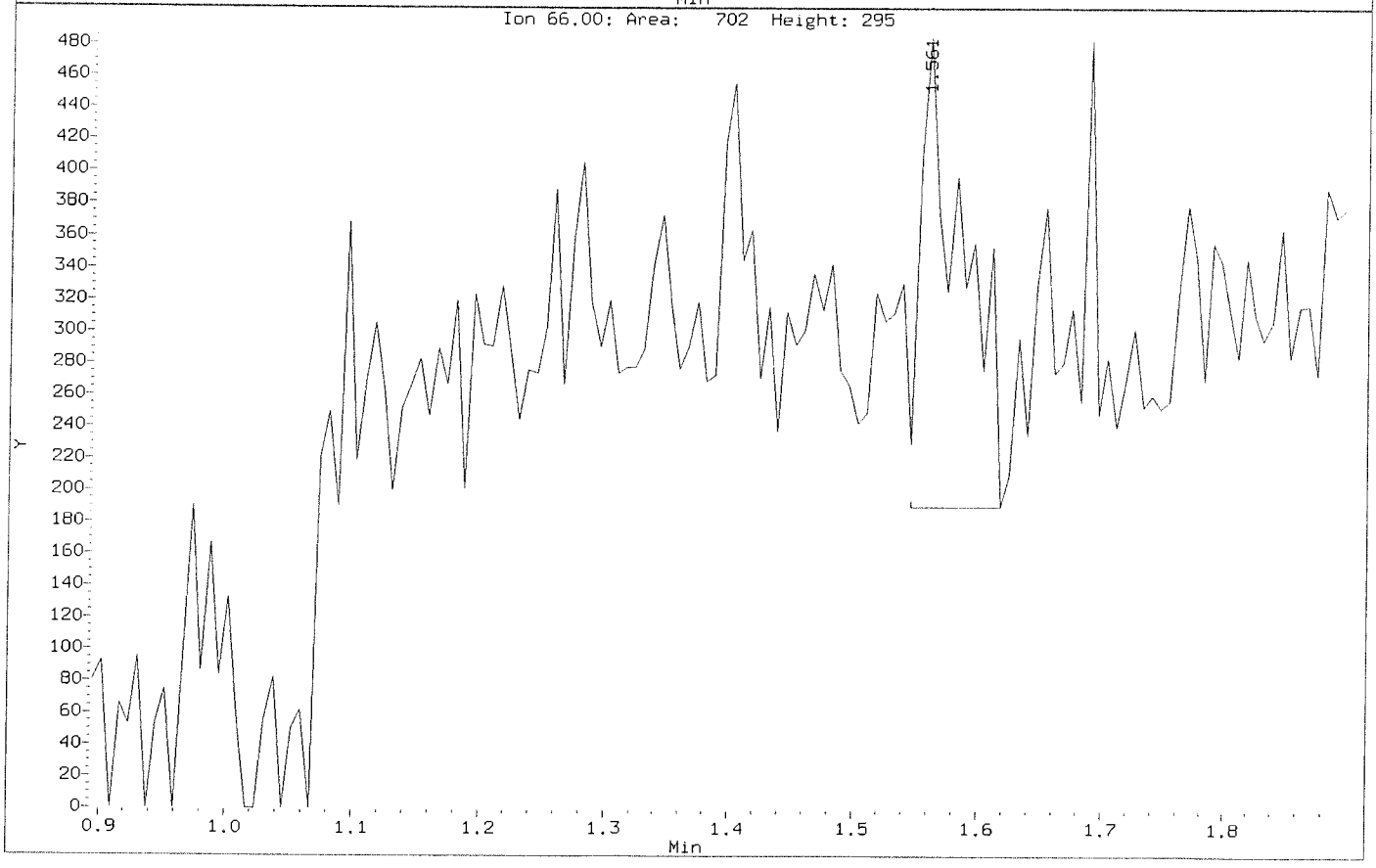
Compound: Chloroethane
CAS Number: 75-00-3



Data File: \\nahstws005\Target\chem\voa6.i\X191118.b\X111803.D
Injection Date: 18-NOV-2019 14:35
Instrument: voa6.i
Client Sample ID: VSTD000.5

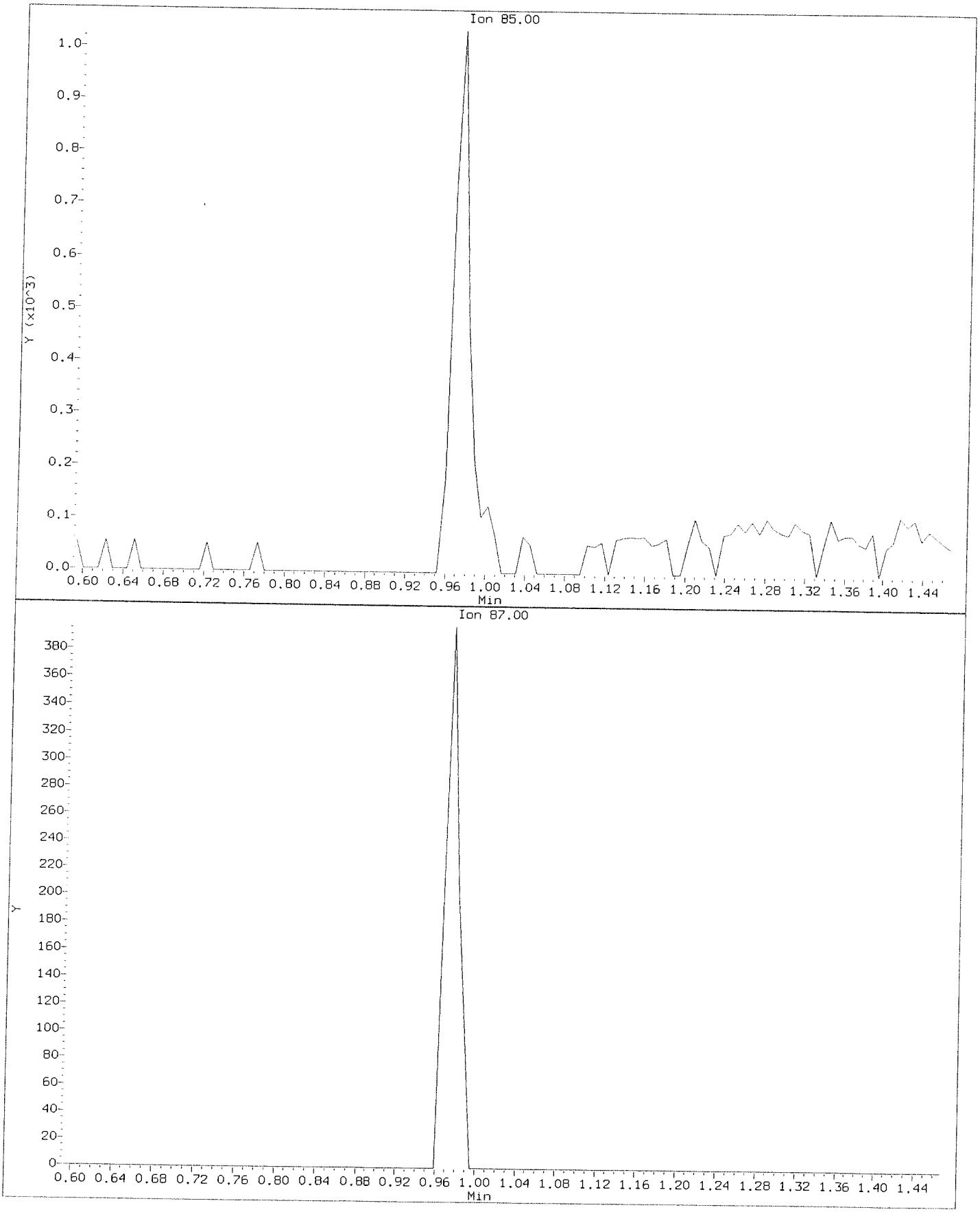
Compound: Chloroethane
CAS Number: 75-00-3





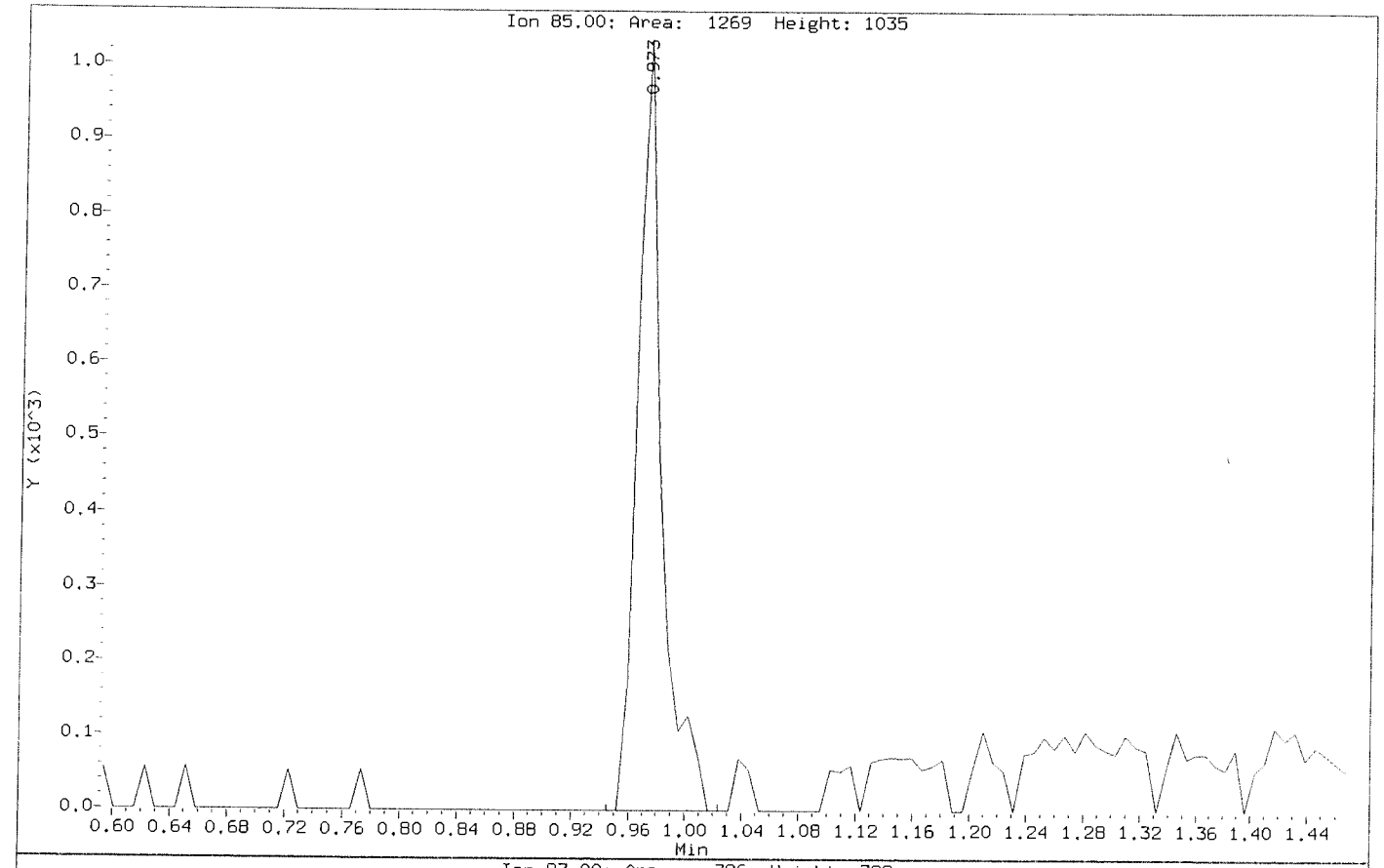
Data File: \\nahstws005\Target\chem\voa6.i\X191118.b\BEFORE\X111803.D
Injection Date: 18-NOV-2019 14:35
Instrument: voa6.i
Client Sample ID: VSTD000.5

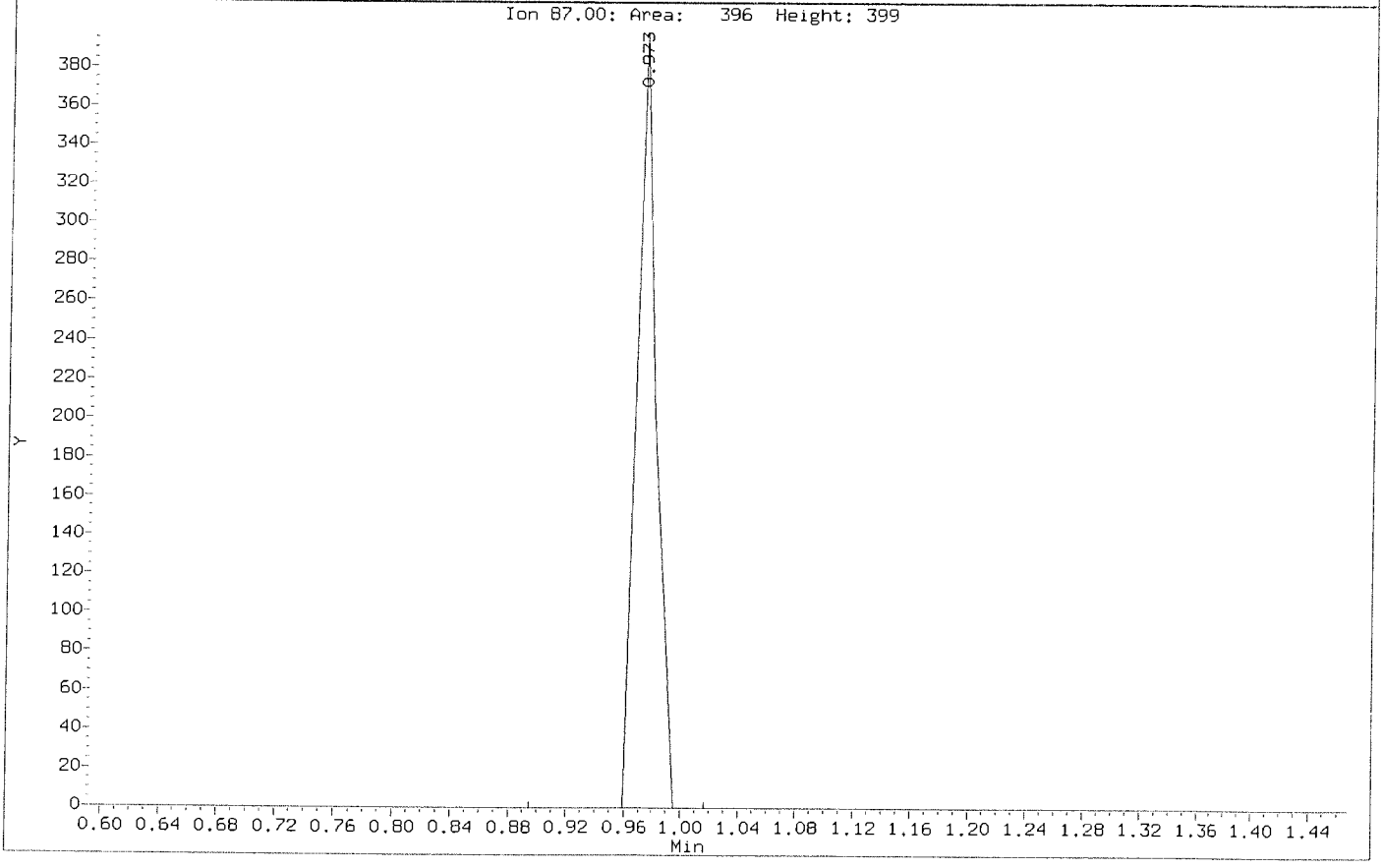
Compound: Dichlorodifluoromethane
CAS Number: 75-71-8



Data File: \\nahstws005\Target\chem\voa6.i\X191118.b\X111803.D
Injection Date: 18-NOV-2019 14:35
Instrument: voa6.i
Client Sample ID: VSTD000.5

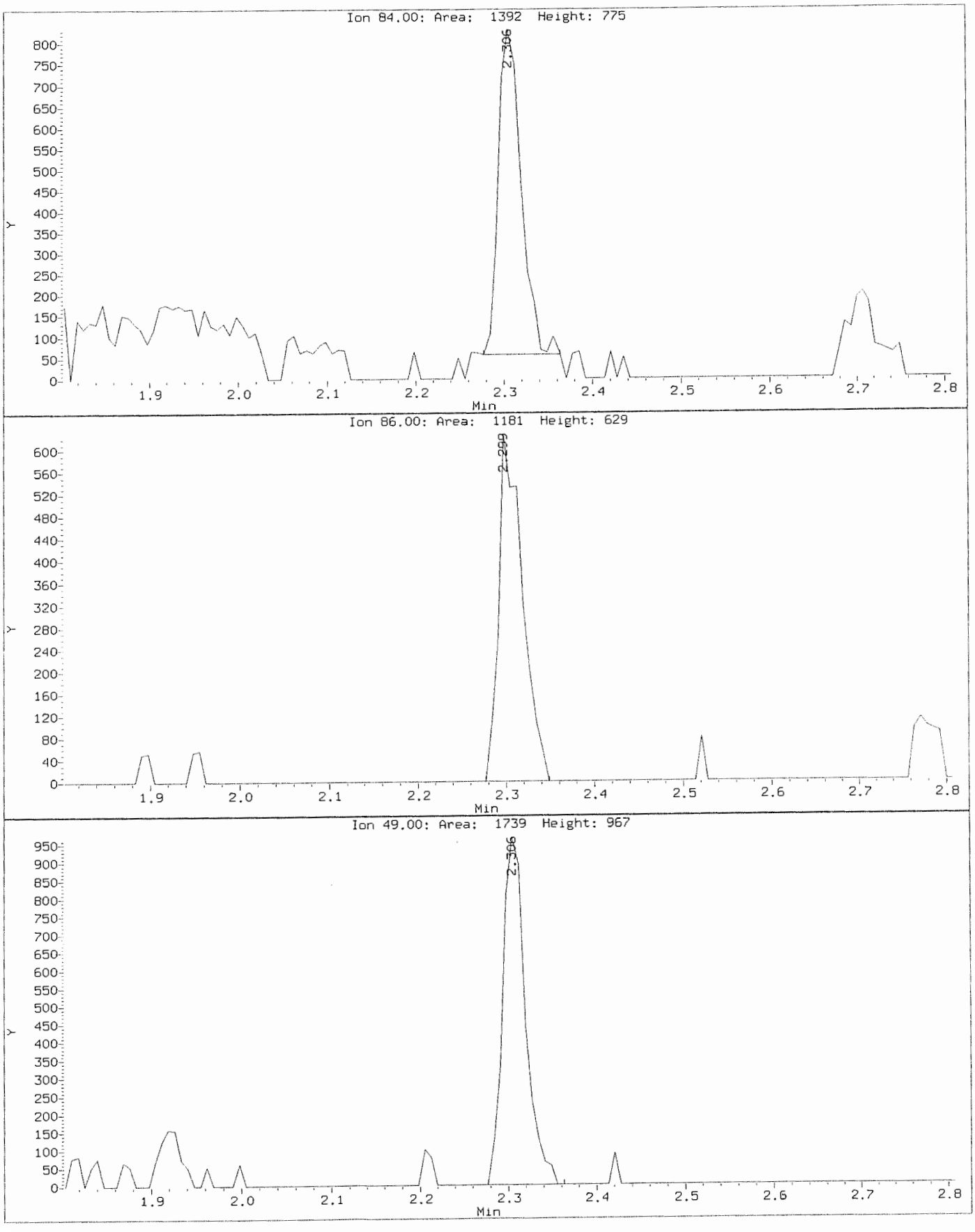
Compound: Dichlorodifluoromethane
CAS Number: 75-71-8





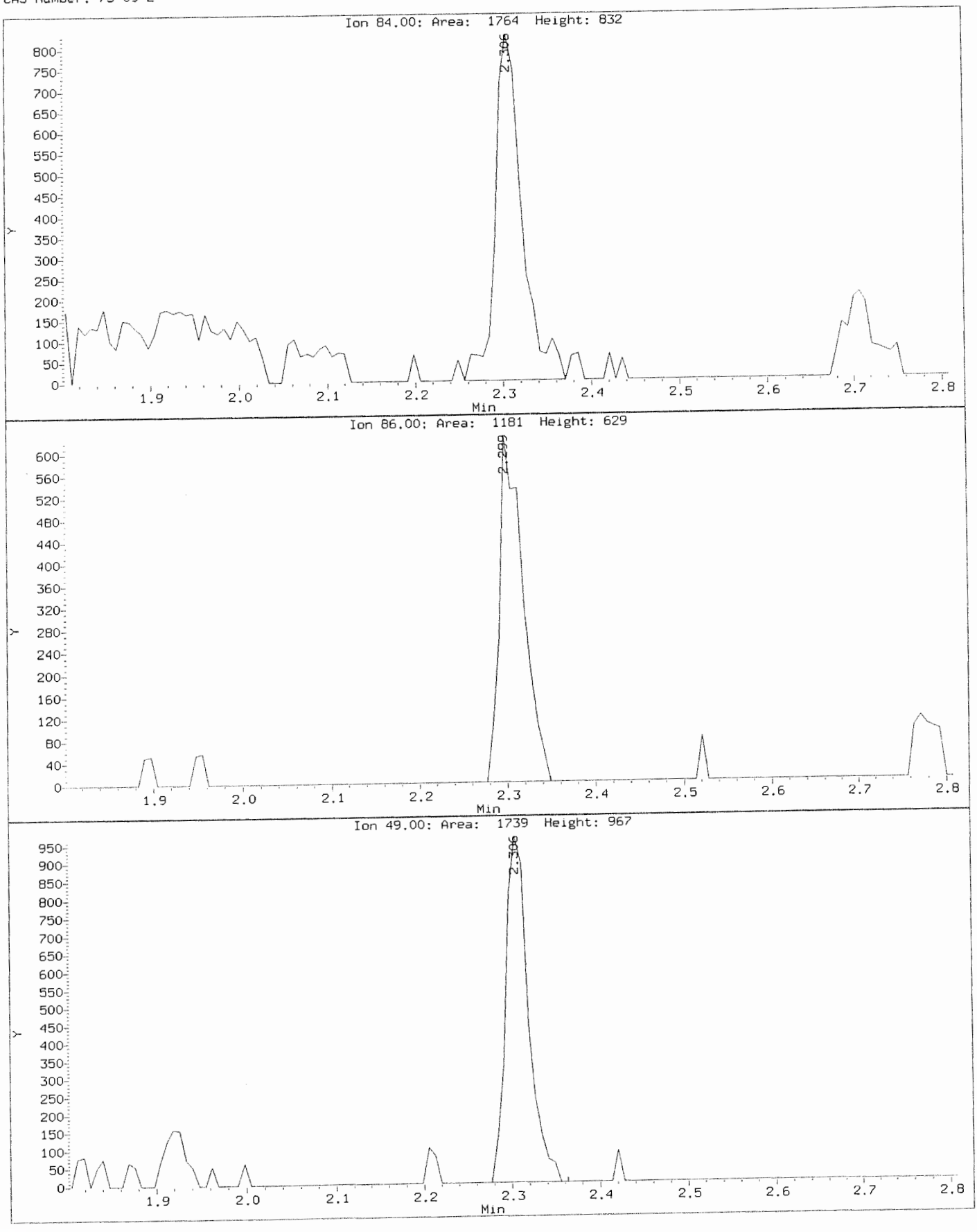
Data File: \\nahstws005\Target\chem\voa6.i\X191118.b\BEFORE\X111803.D
Injection Date: 18-NOV-2019 14:35
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Methylene Chloride
CAS Number: 75-09-2



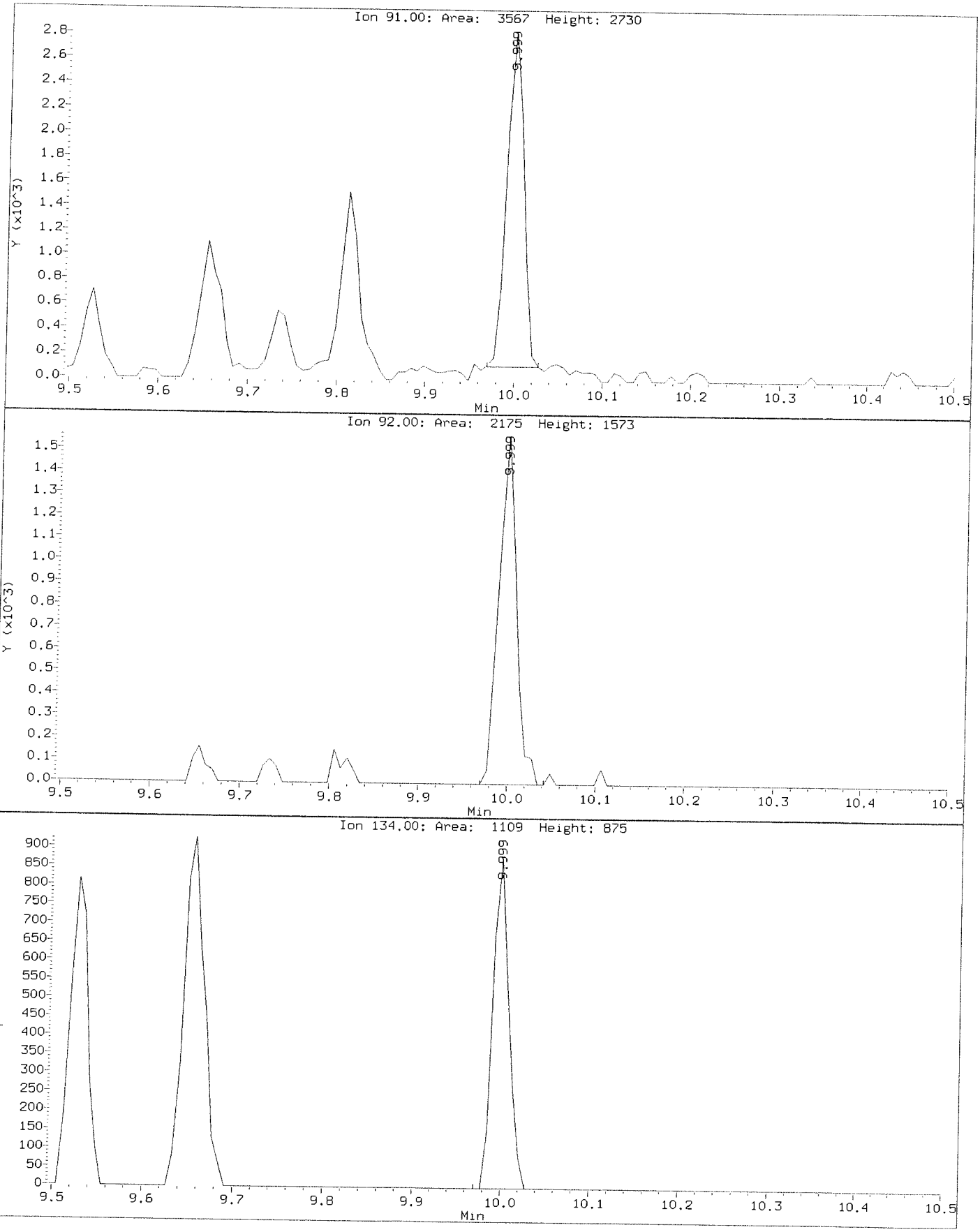
Data File: \\nahstws005\Target\chem\voa6.i\X191118.b\X111803.D
Injection Date: 18-NOV-2019 14:35
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Methylene Chloride
CAS Number: 75-09-2



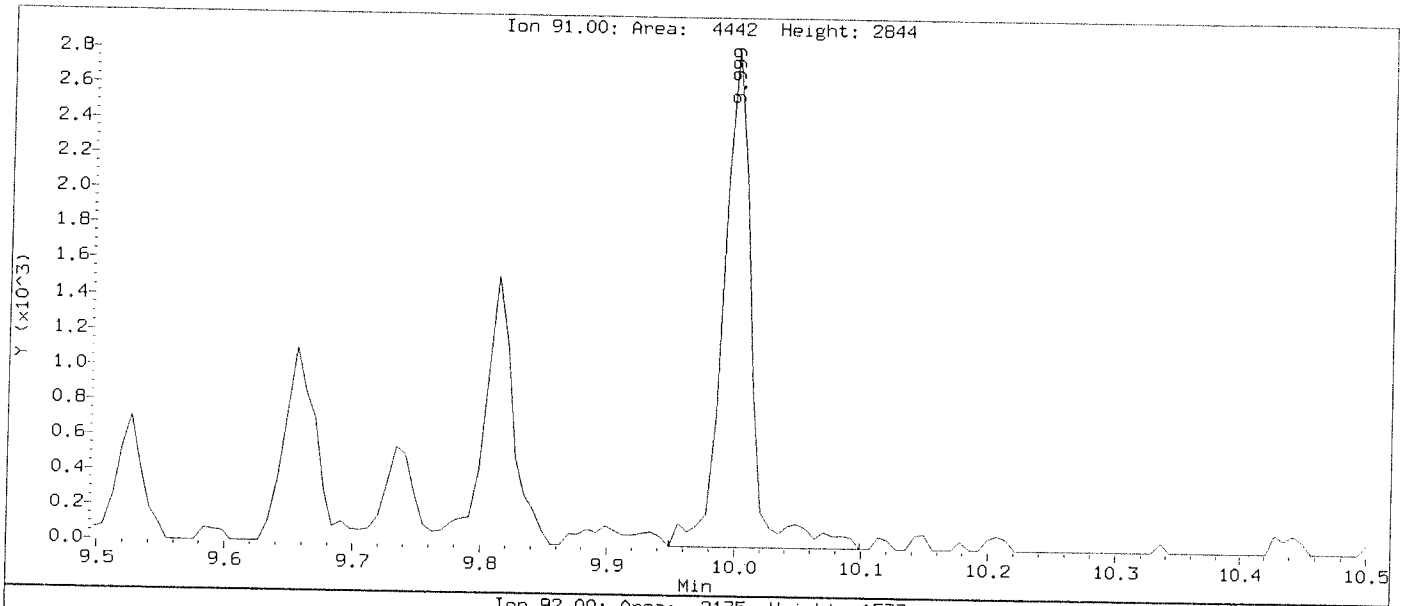
Data File: \\nahstws005\Target\chem\voa6.i\X191118.b\BEFORE\X111803.D
Injection Date: 18-NOV-2019 14:35
Instrument: voa6.i
Client Sample ID: VSTD000.5

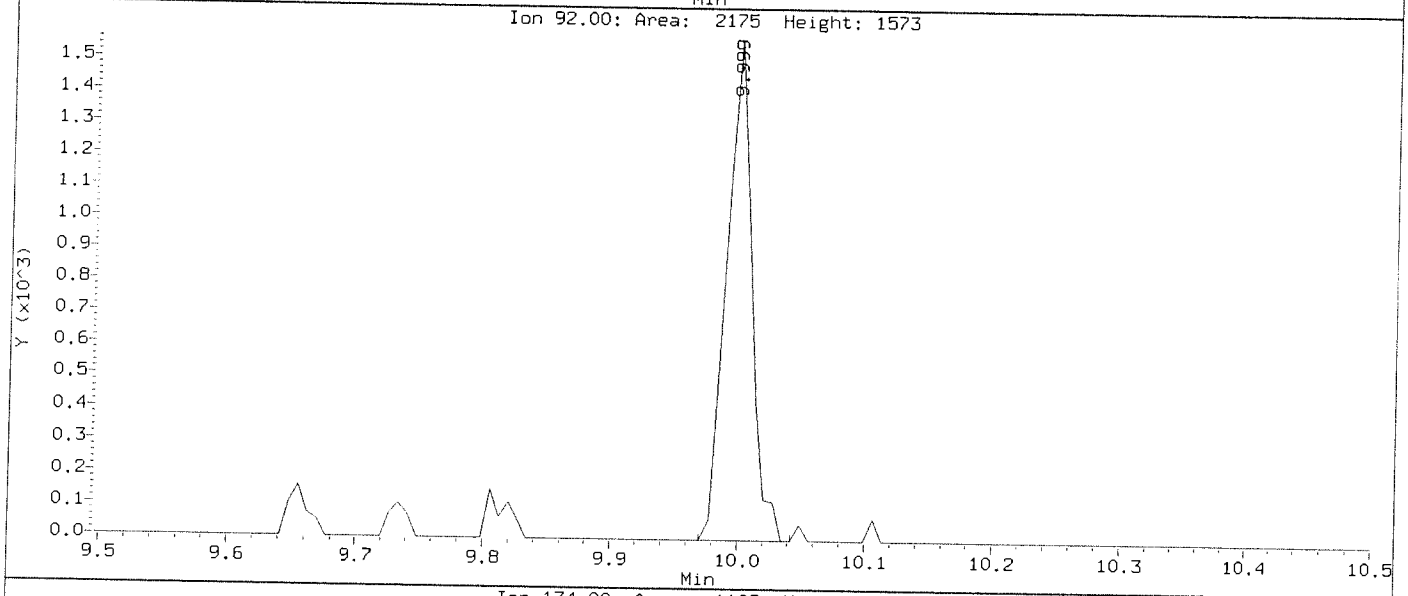
Compound: n-Butylbenzene
CAS Number: 104-51-8

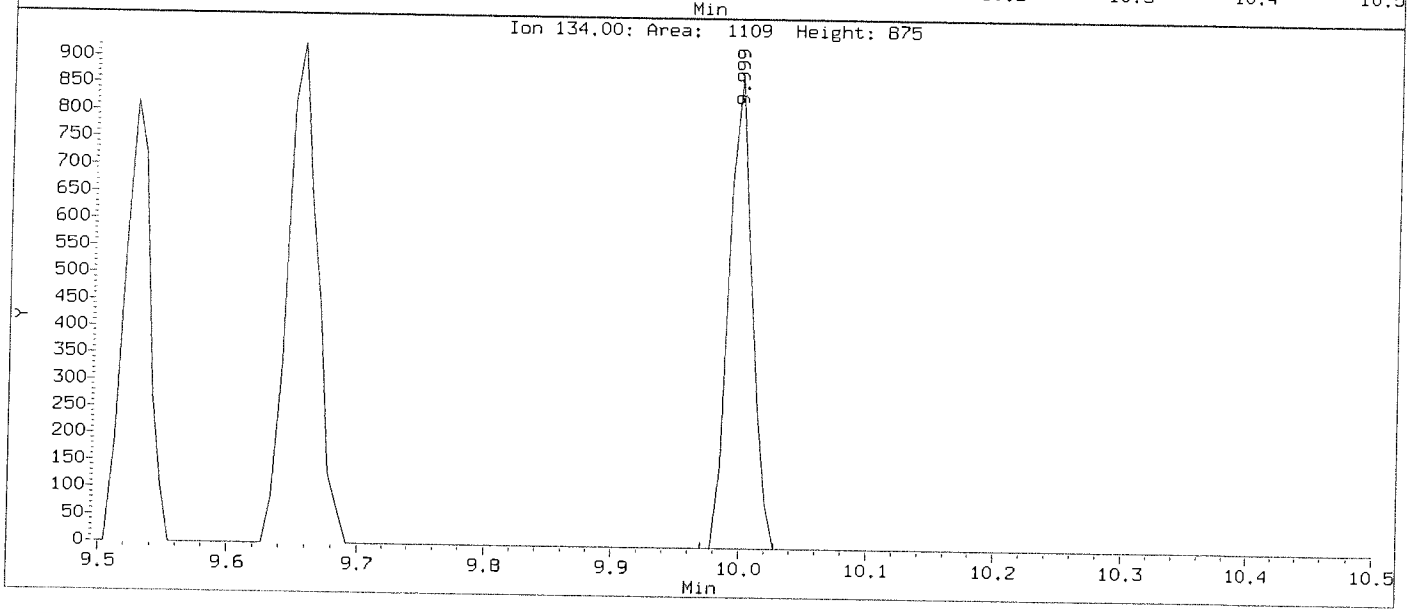


Data File: \\nahstws005\Target\chem\voa6.i\X191118.b\X111803.D
Injection Date: 18-NOV-2019 14:35
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: n-Butylbenzene
CAS Number: 104-51-8

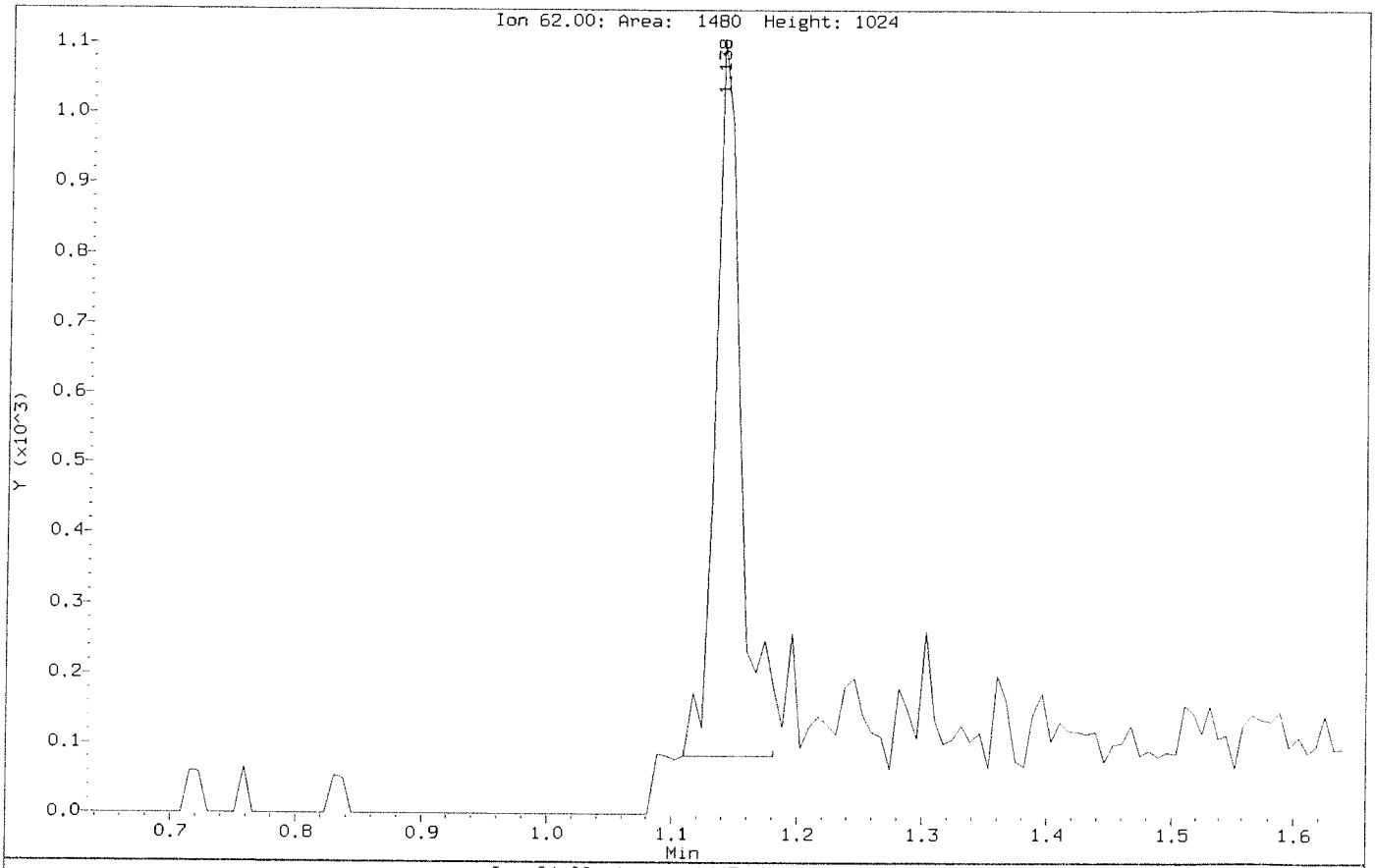


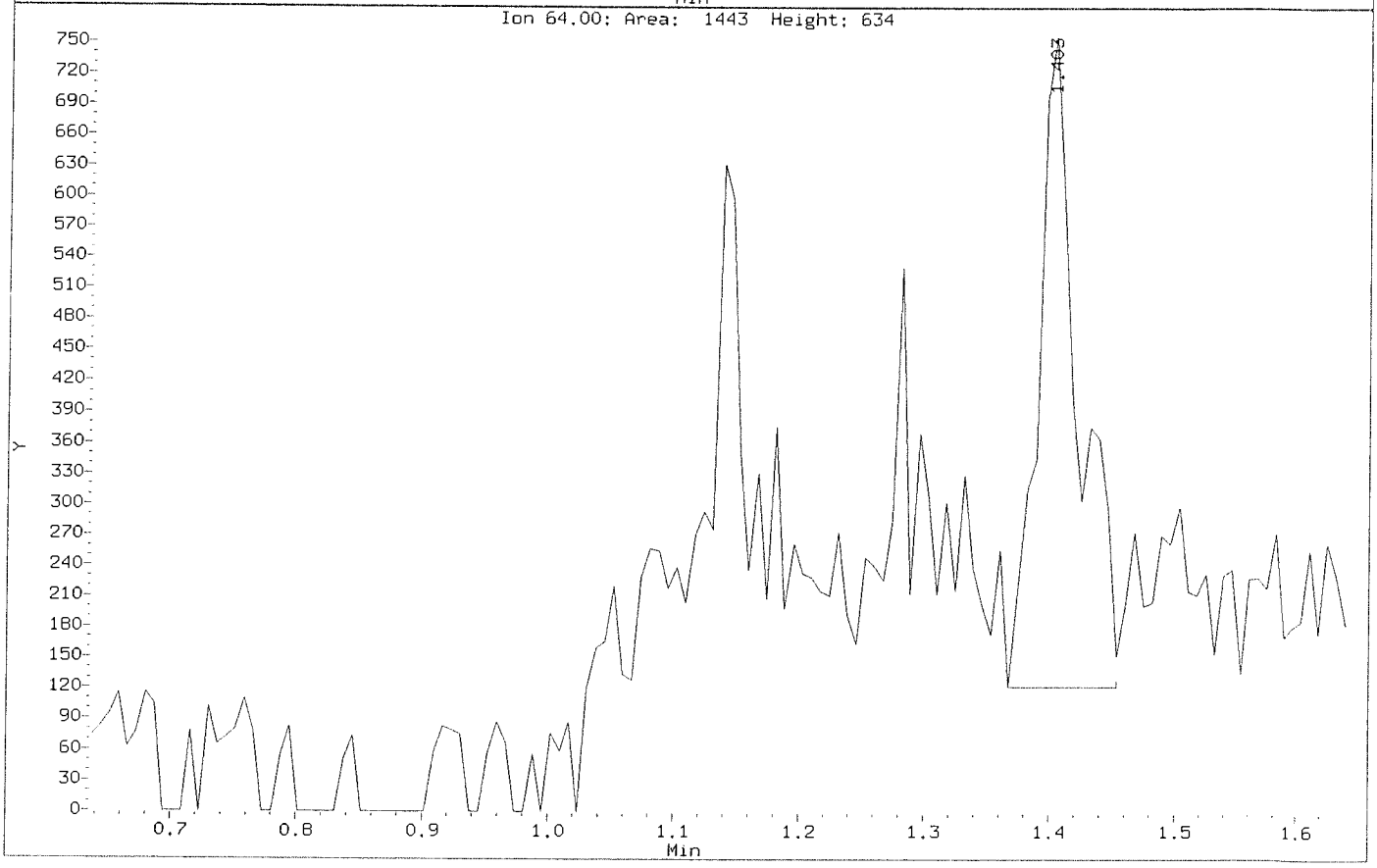




Data File: \\nahstws005\Target\chem\voa6.i\X191118.b\BEFORE\X111B03.D
Injection Date: 18-NOV-2019 14:35
Instrument: voa6.i
Client Sample ID: VSTD000.5

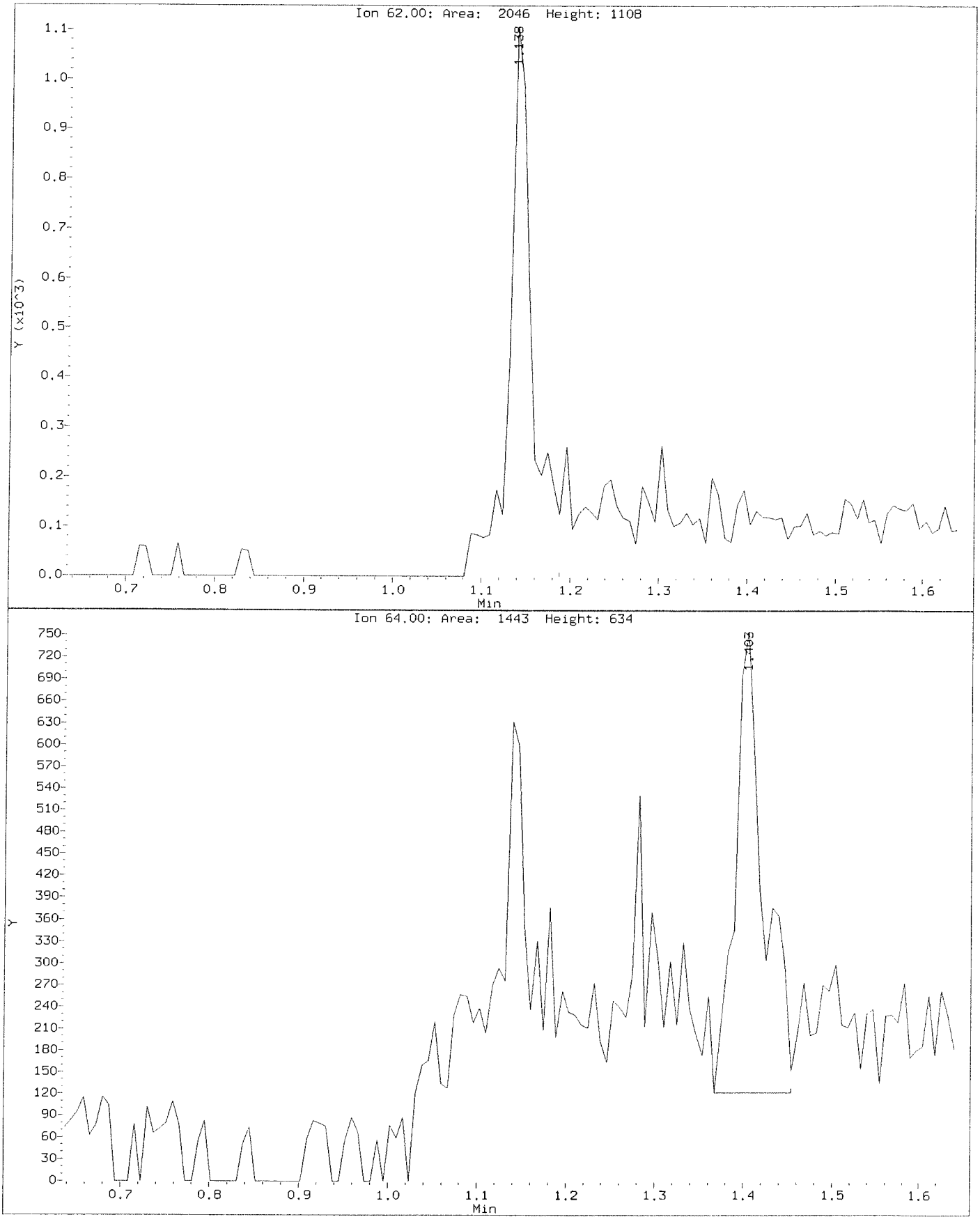
Compound: Vinyl Chloride
CAS Number: 75-01-4





Data File: \\nahstws005\Target\chem\voa6.i\X191118.b\X111803.D
Injection Date: 18-NOV-2019 14:35
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Vinyl Chloride
CAS Number: 75-01-4



Data File: \\nahstws005\Target\chem\voa6.i\X191118.b\X111804.D Page 1
Report Date: 06-Dec-2019 19:56

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X191118.b\X111804.D
Lab Smp Id: VSTD001 Client Smp ID: VSTD001
Inj Date : 18-NOV-2019 14:59
Operator : PC Inst ID: voa6.i
Smp Info : VSTD001;VSTD001;1;3;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X191118.b\8260W.m
Meth Date : 06-Dec-2019 19:56 voa6.i Quant Type: ISTD
Cal Date : 18-NOV-2019 14:35 Cal File: X111803.D
Als bottle: 5 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBIHOUSTONDOD.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

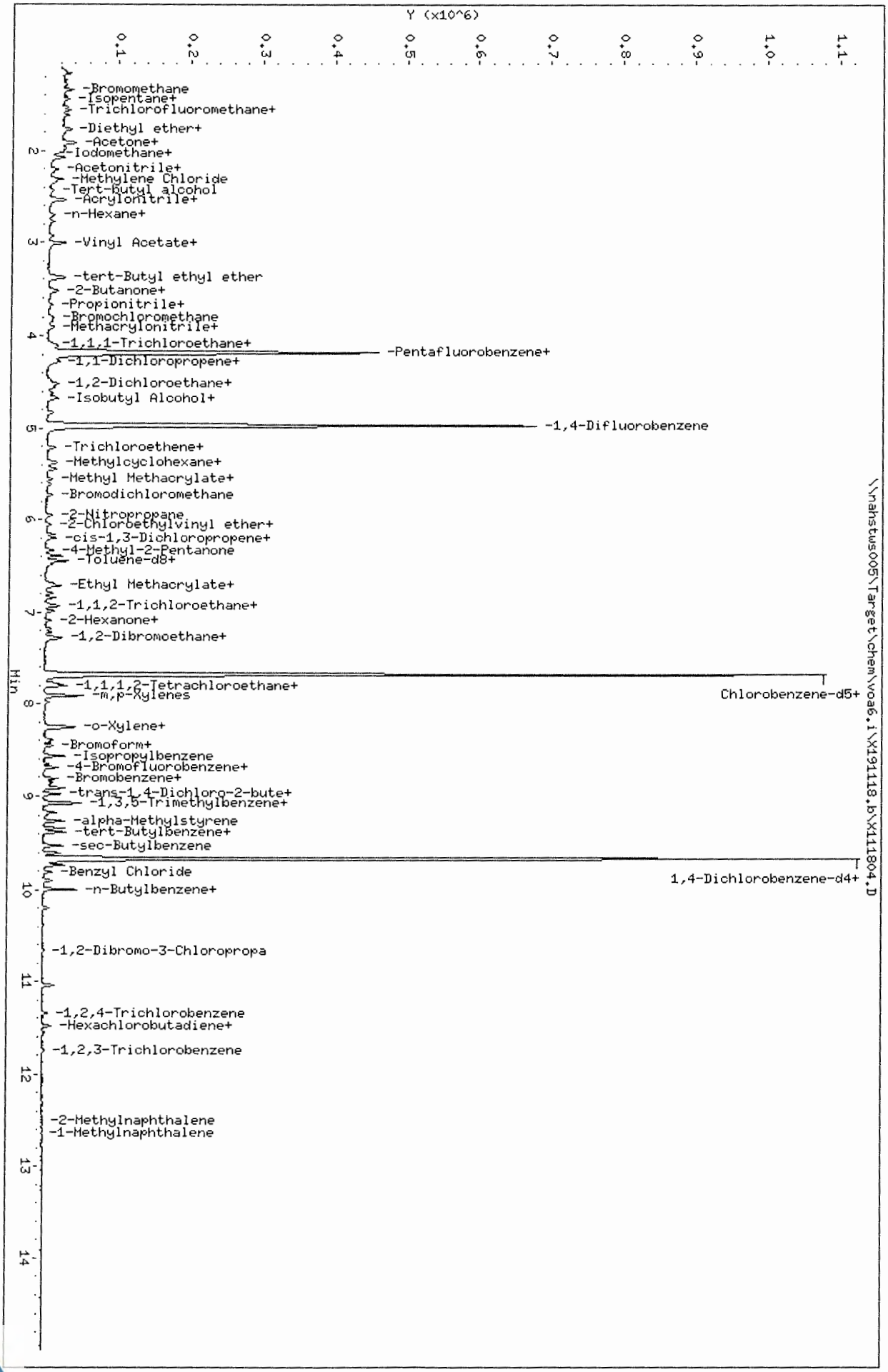
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	416007	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	570122	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	516622	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	279609	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	4458	1.00000	1.85(a)
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	5731	1.00000	1.60(a)
$ 30 Dibromofluoromethane	113	4.104	4.104	(0.981)	3882	1.00000	1.38(a)
$ 48 Toluene-d8	98	6.389	6.389	(0.833)	13715	1.00000	1.00(a)
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	4166	1.00000	1.11(a)
31 1,1,1-Trichloroethane	97	4.082	4.082	(0.976)	6451	1.00000	1.14(a)
68 1,1,2,2-Tetrachloroethane	83	8.845	8.845	(0.915)	4719	1.00000	1.20(aM)
138 Freon TF	101	1.919	1.919	(0.459)	4065	1.00000	1.12(a)
53 1,1,2-Trichloroethane	83	6.847	6.847	(0.893)	3216	1.00000	1.19(a)
22 1,1-Dichloroethane	63	2.929	2.929	(0.700)	6907	1.00000	1.14(a)
11 1,1-Dichloroethene	96	1.912	1.912	(0.457)	3522	1.00000	0.99(a)
32 1,1-Dichloropropene	75	4.283	4.283	(0.862)	5427	1.00000	1.18(a)
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.215)	1182	1.00000	0.29(a)
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.917)	4081	1.00000	1.22(aM)
90 1,2,4-Trichlorobenzene	180	11.345	11.345	(1.173)	2432	1.00000	1.03(aM)
79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.970)	14648	1.00000	1.10(a)
89 1,2-Dibromo-3-Chloropropane	155	10.665	10.665	(1.103)	464	1.00000	0.73(aM)
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	3982	1.00000	1.09(a)

Data File: \\nahstws005\Target\chem\voa6.i\X191118.b\X111804.D Page 2
Report Date: 06-Dec-2019 19:56

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
88	1,2-Dichlorobenzene	146	9.999	9.999	(1.034)	8297	1.00000	1.11(a)
33	1,2-Dichloroethane	62	4.562	4.562	(0.918)	5359	1.00000	1.18(a)
42	1,2-Dichloropropane	63	5.443	5.443	(1.095)	3352	1.00000	0.98(aM)
75	1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	13162	1.00000	1.03(a)
83	1,3-Dichlorobenzene	146	9.605	9.605	(0.993)	8955	1.00000	1.11(a)
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	6334	1.00000	1.15(a)
84	1,4-Dichlorobenzene	146	9.684	9.684	(1.001)	9129	1.00000	1.12(a)
26	2,2-Dichloropropane	77	3.516	3.516	(0.841)	6785	1.00000	1.23(a)
24	2-Butanone	43	3.588	3.588	(0.858)	2602	2.00000	2.03(a)
76	2-Chlorotoluene	91	8.974	8.974	(0.928)	11127	1.00000	1.10(a)
52	2-Hexanone	43	7.090	7.090	(0.924)	4893	2.00000	2.30(a)
77	4-Chlorotoluene	91	9.075	9.075	(0.939)	13982	1.00000	1.14(a)
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	14705	1.00000	1.07(a)
45	4-Methyl-2-Pentanone	43	6.331	6.331	(0.825)	6643	2.00000	2.19(a)
10	Acetone	43	1.969	1.969	(0.471)	5956	2.00000	1.88(a)
37	Benzene	78	4.519	4.519	(0.909)	15129	1.00000	1.16(a)
74	Bromobenzene	156	8.810	8.810	(0.911)	5611	1.00000	1.15(a)
29	Bromochloromethane	128	3.803	3.803	(0.909)	2687	1.00000	1.19(a)
39	Bromodichloromethane	83	5.730	5.730	(1.153)	5583	1.00000	1.18(aM)
66	Bromoform	173	8.416	8.416	(1.097)	3197	1.00000	2.01(Ta)
6	Bromomethane	94	1.339	1.339	(0.320)	6334	1.00000	(aM)
19	Carbon Disulfide	76	2.069	2.069	(0.495)	20920	2.00000	2.18(a)
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	5740	1.00000	1.13(aM)
59	Chlorobenzene	112	7.699	7.699	(1.004)	11449	1.00000	1.13(a)
7	Chloroethane	64	1.403	1.403	(0.336)	3001	1.00000	1.14(aM)
28	Chloroform	83	3.910	3.910	(0.935)	8234	1.00000	1.22(a)
3	Chloromethane	50	1.074	1.074	(0.257)	6118	1.00000	1.53(aM)
27	cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	4494	1.00000	1.13(a)
46	cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	6302	1.00000	1.13(a)
55	Dibromochloromethane	129	7.176	7.176	(0.936)	4470	1.00000	1.13(a)
44	Dibromomethane	93	5.558	5.558	(1.118)	2789	1.00000	1.15(a)
2	Dichlorodifluoromethane	85	0.973	0.973	(0.233)	3829	1.00000	1.87(aM)
61	Ethylbenzene	106	7.800	7.800	(1.017)	5813	1.00000	1.11(a)
91	Hexachlorobutadiene	225	11.481	11.481	(1.187)	2468	1.00000	0.76(a)
67	Isopropylbenzene	105	8.566	8.566	(1.117)	16809	1.00000	1.08(a)
62	m,p-Xylenes	106	7.907	7.907	(1.031)	13495	2.00000	2.14(a)
17	Methylene Chloride	84	2.306	2.306	(0.551)	4626	1.00000	1.22(a)
87	n-Butylbenzene	91	9.999	9.999	(1.034)	11491	1.00000	1.00(a)
73	n-Propylbenzene	91	8.917	8.917	(0.922)	18779	1.00000	1.08(a)
92	Naphthalene	128	11.553	11.553	(1.195)	3182	1.00000	1.05(a)
63	o-Xylene	106	8.244	8.244	(1.075)	6995	1.00000	1.12(a)
81	sec-Butylbenzene	105	9.526	9.526	(0.985)	15987	1.00000	1.06(a)
64	Styrene	104	8.265	8.265	(1.078)	11719	1.00000	1.08(a)
78	tert-Butylbenzene	119	9.340	9.340	(0.966)	12122	1.00000	1.11(a)
56	Tetrachloroethene	164	6.933	6.933	(0.904)	4263	1.00000	1.17(a)
50	Toluene	91	6.453	6.453	(0.841)	16346	1.00000	1.11(a)
20	trans-1,2-Dichloroethene	96	2.535	2.535	(0.606)	4068	1.00000	1.18(a)
51	trans-1,3-Dichloropropene	75	6.689	6.689	(1.346)	5295	1.00000	1.04(a)
38	Trichloroethene	130	5.214	5.214	(1.049)	4445	1.00000	1.11(a)
8	Trichlorofluoromethane	101	1.561	1.561	(0.373)	6912	1.00000	1.07(a)
5	Vinyl Chloride	62	1.138	1.138	(0.272)	4533	1.00000	1.06(aM)

QC Flag Legend

T - Target compound detected outside RT window.
a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.



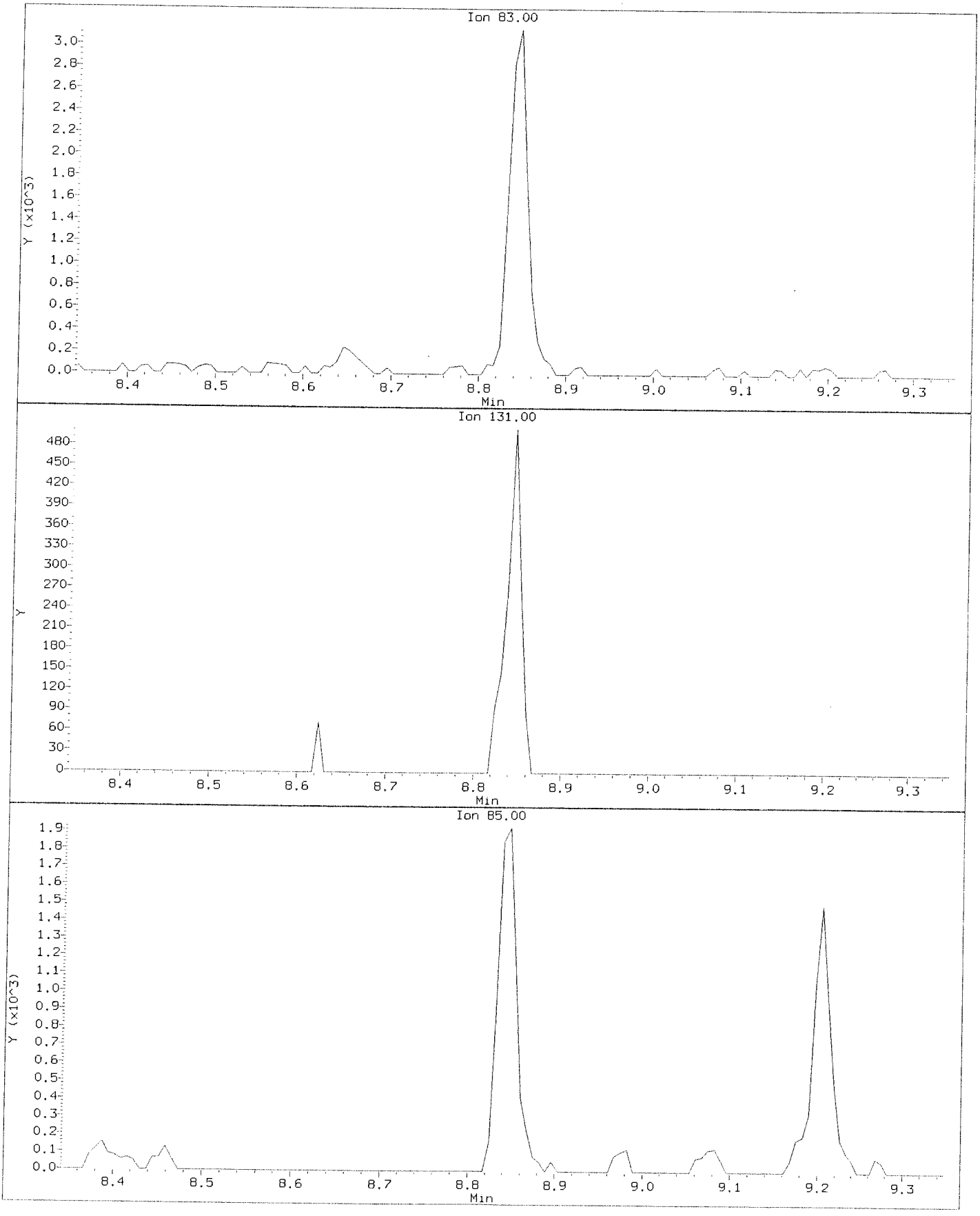
Data File: \\nahstws005\Target\chem\voa6.i\X191118.b\X111804.D
Date : 18-NOV-2019 14:59
Client ID: VSTD001
Sample Info: VSTD001;VSTD001;1;3;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

\\nahstws005\Target\chem\voa6.i\X191118.b\X111804.D

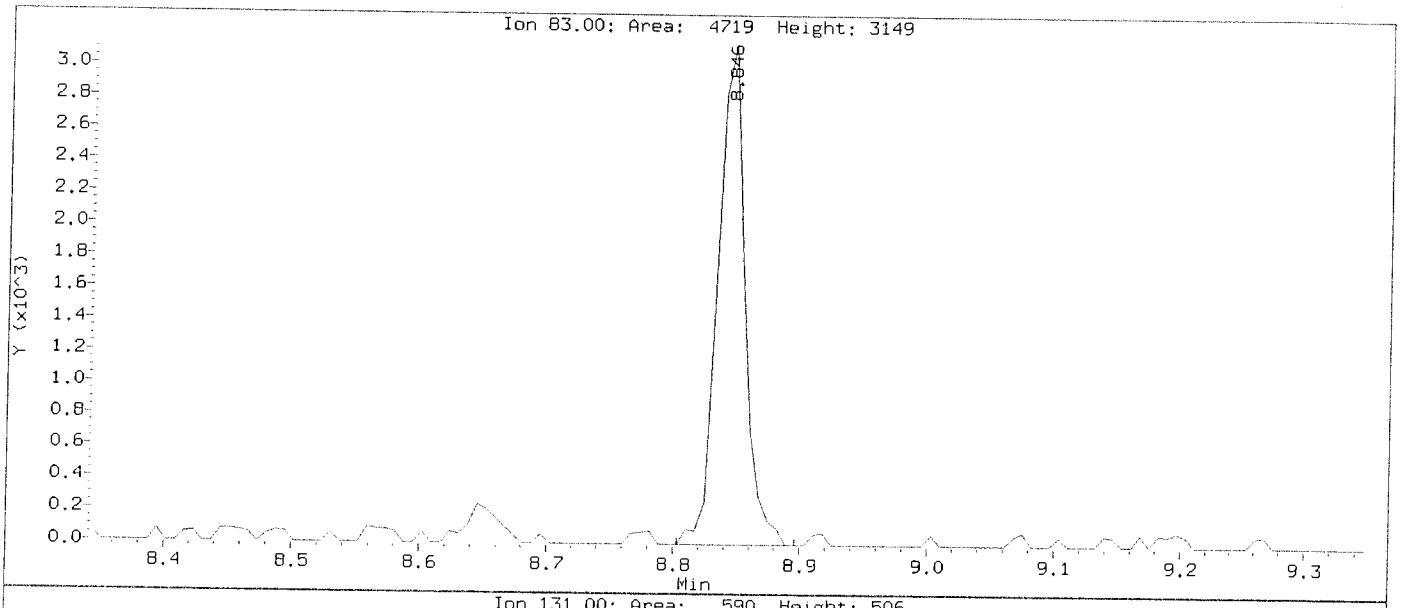
Data File: \\nahstws005\Target\chem\voa6.i\X191118.b\BEFORE\X111804.D
Injection Date: 18-NOV-2019 14:59
Instrument: voa6.i
Client Sample ID: VSTD001

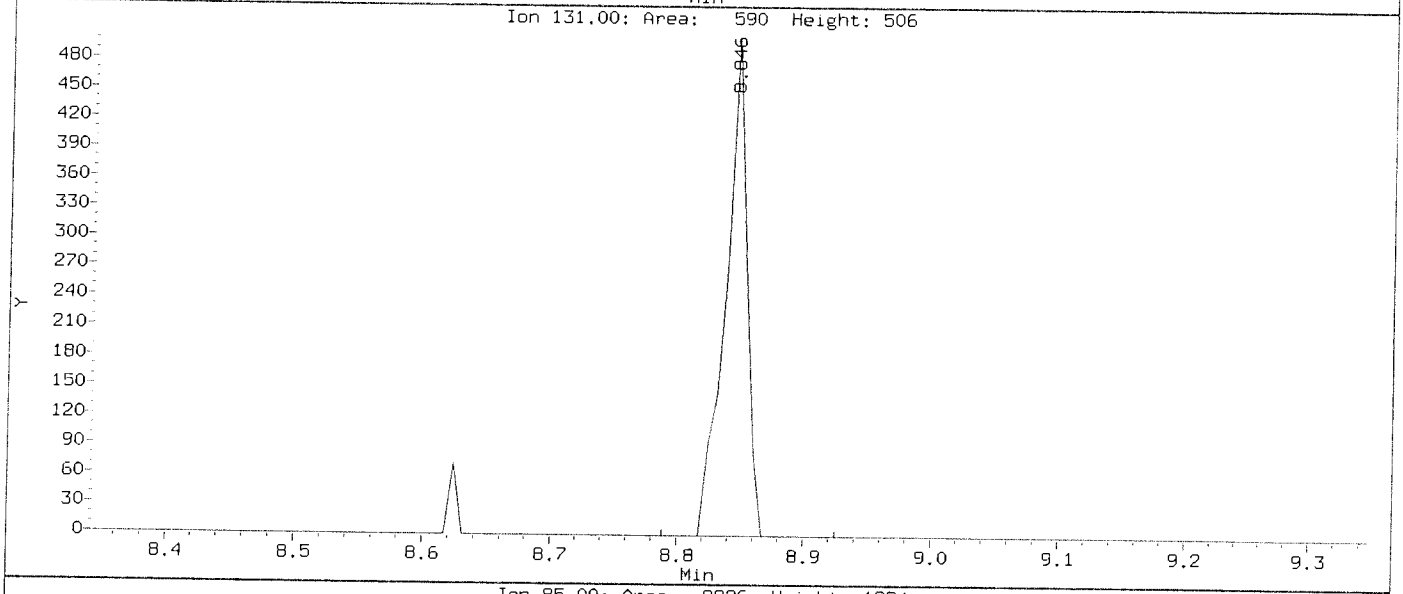
Compound: 1,1,2,2-Tetrachloroethane
CAS Number: 79-34-5

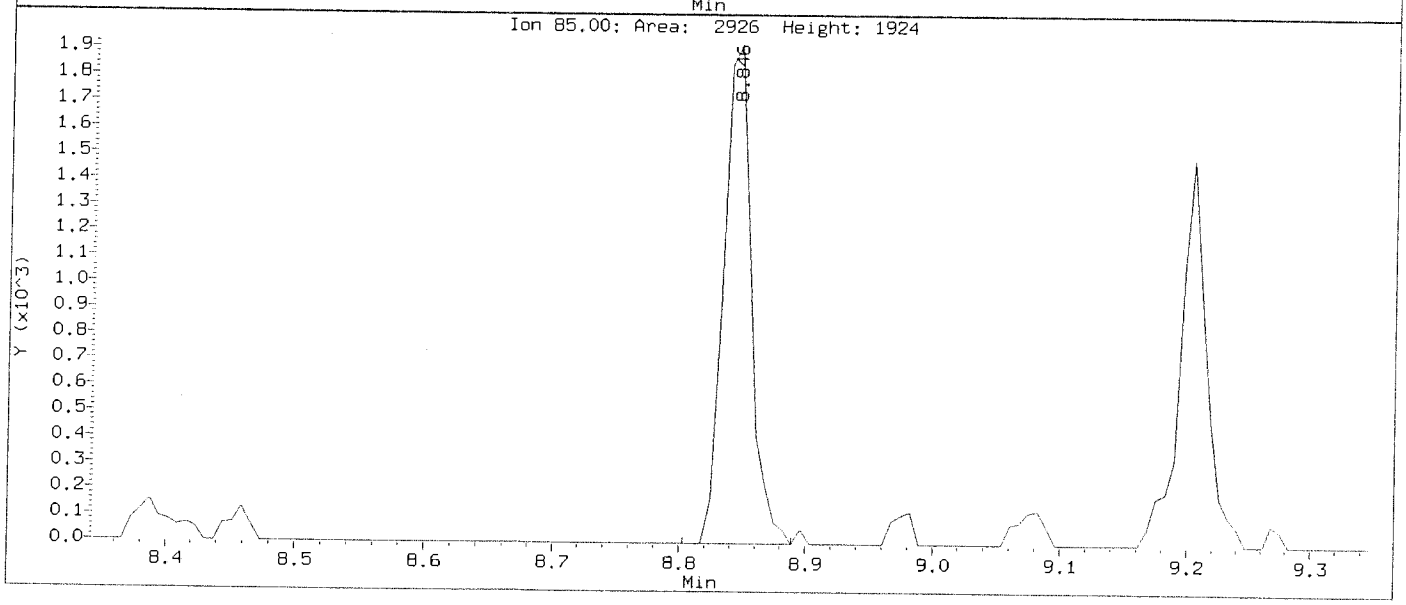


Data File: \\nahstws005\Target\chem\voa6.i\X191118.b\X111804.D
Injection Date: 18-NOV-2019 14:59
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: 1,1,2,2-Tetrachloroethane
CAS Number: 79-34-5

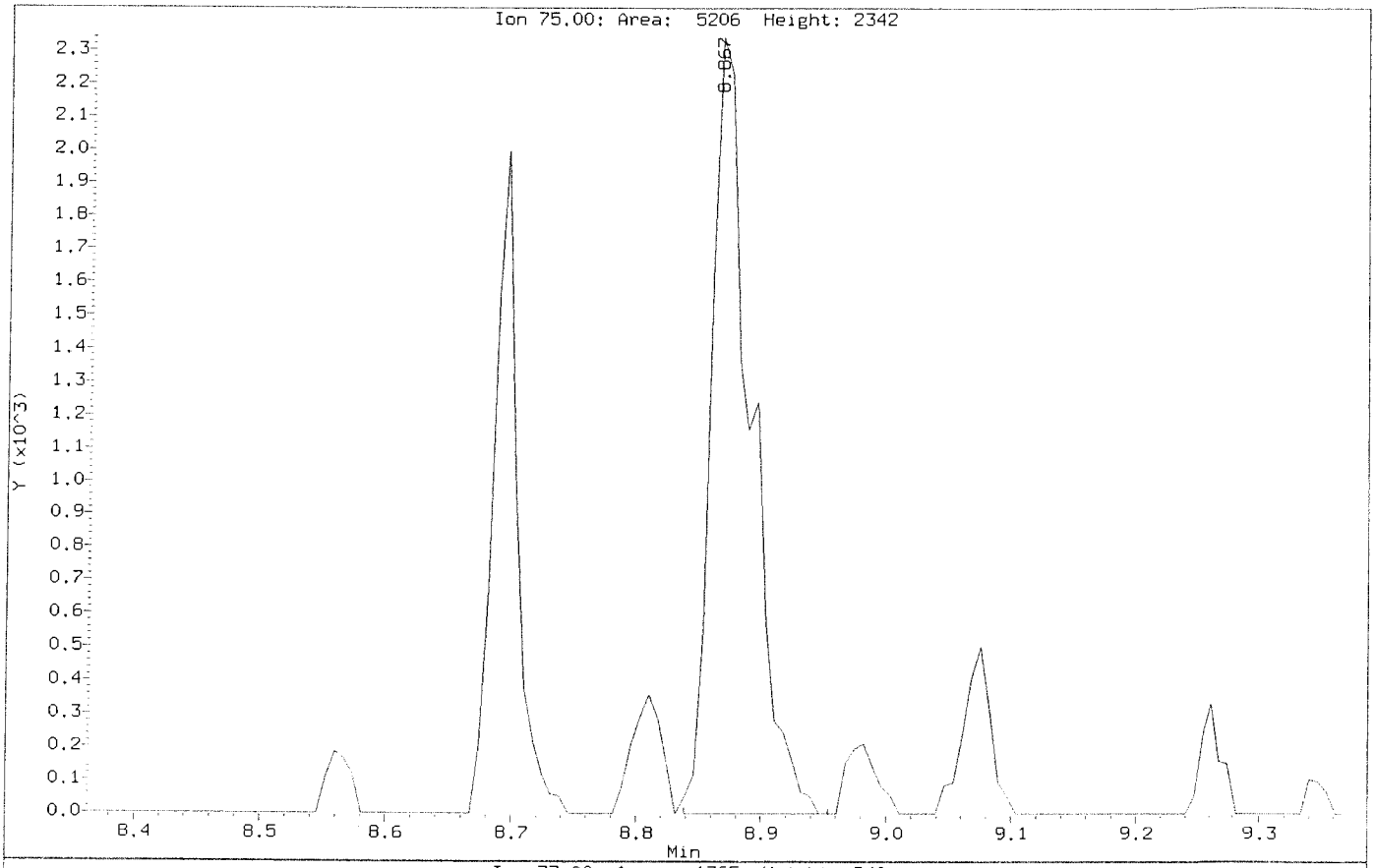


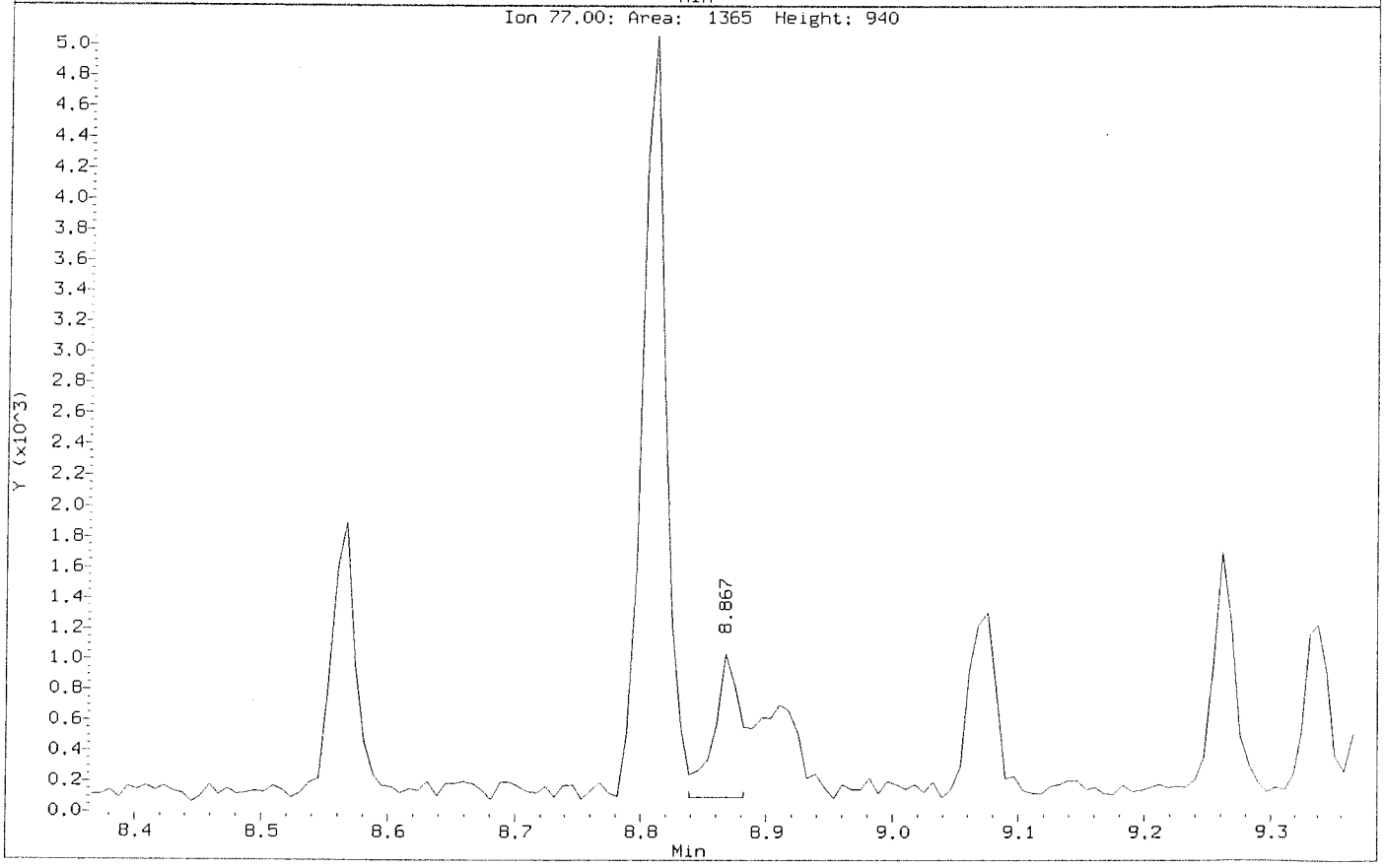




Data File: \\nahstws005\Target\chem\voa6.i\X191118.b\BEFORE\X111804.D
Injection Date: 18-NOV-2019 14:59
Instrument: voa6.i
Client Sample ID: VSTD001

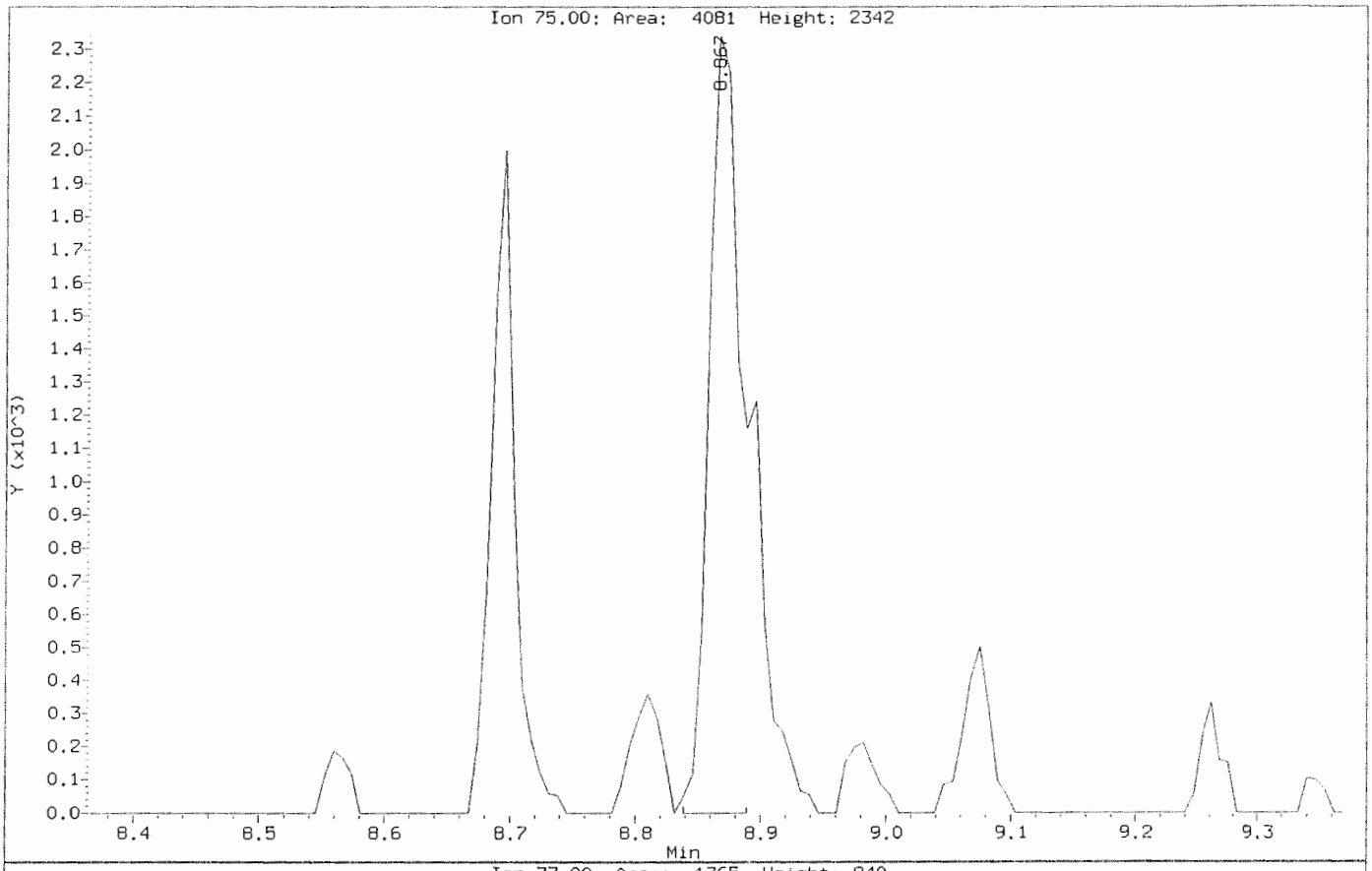
Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4

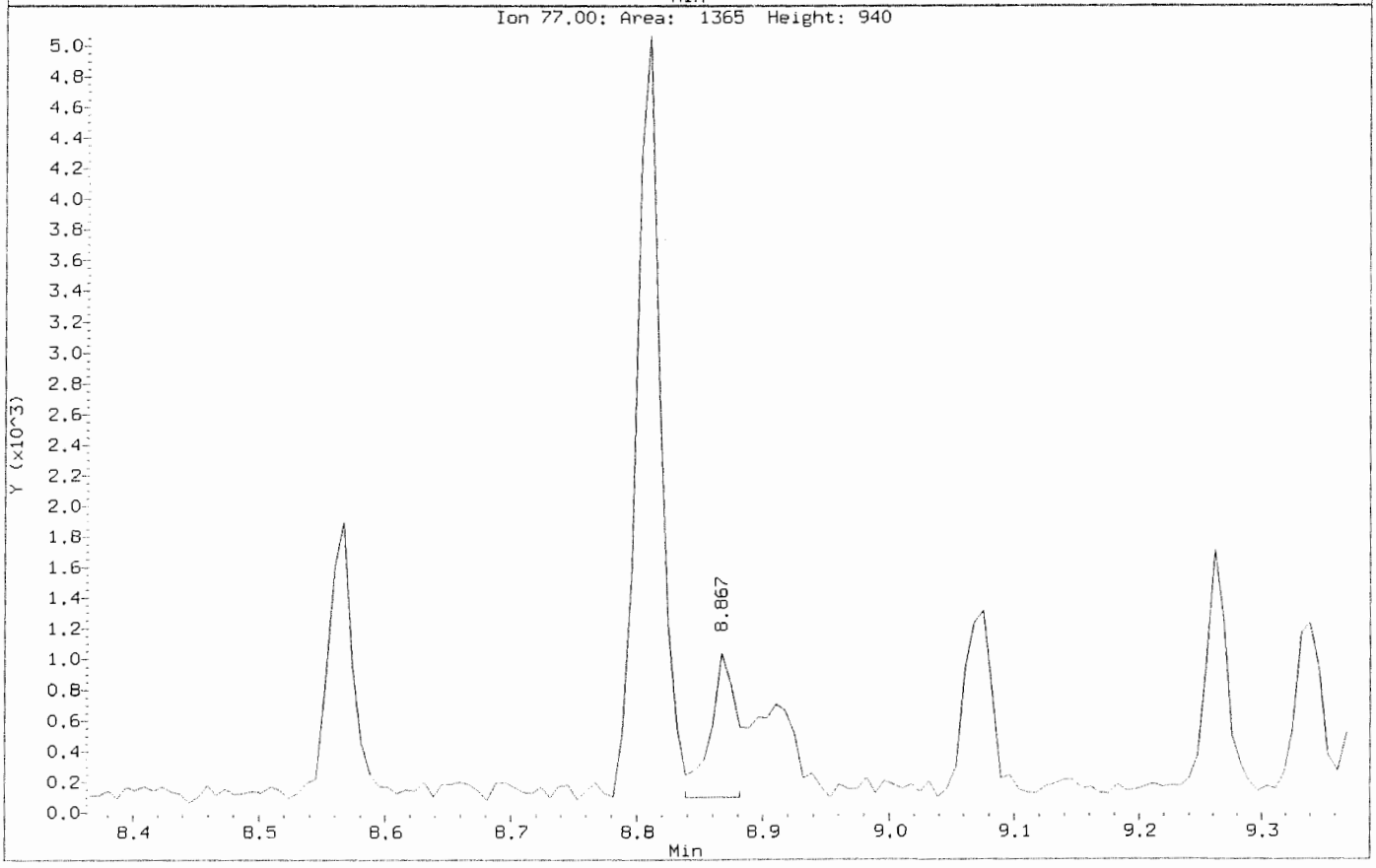




Data File: \\nahstws005\Target\chem\voa6.i\X191118.b\X111804.D
Injection Date: 18-NOV-2019 14:59
Instrument: voa6.i
Client Sample ID: VSTD001

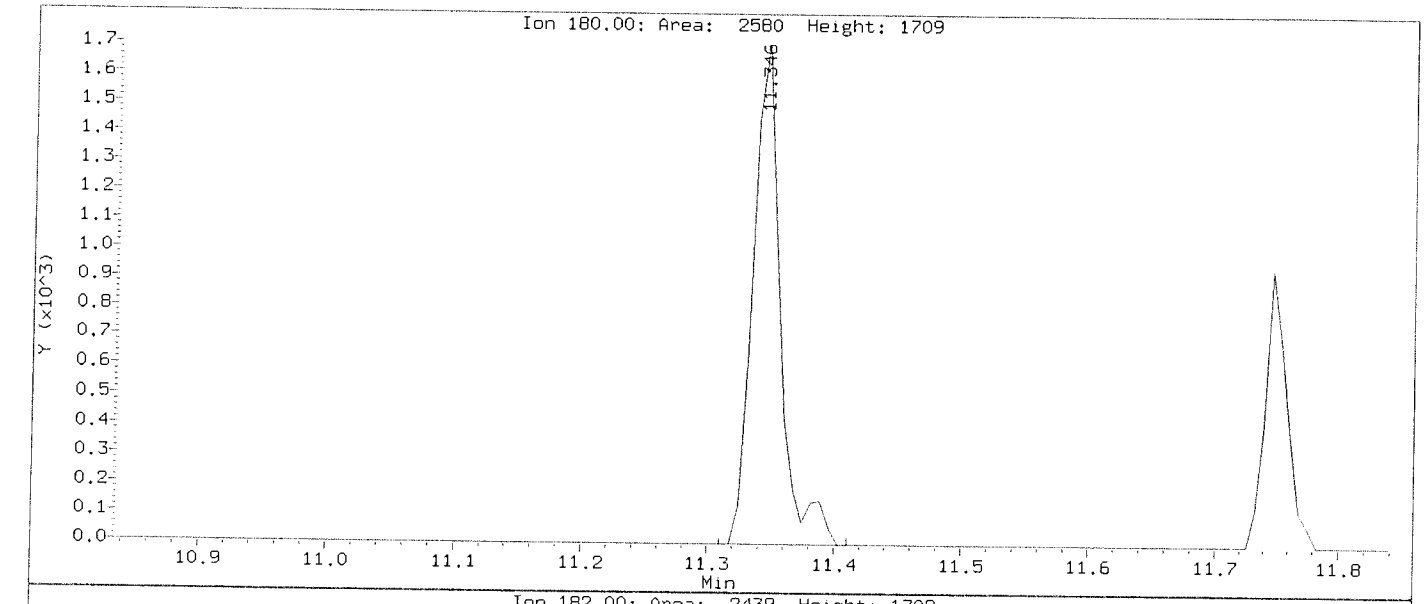
Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4

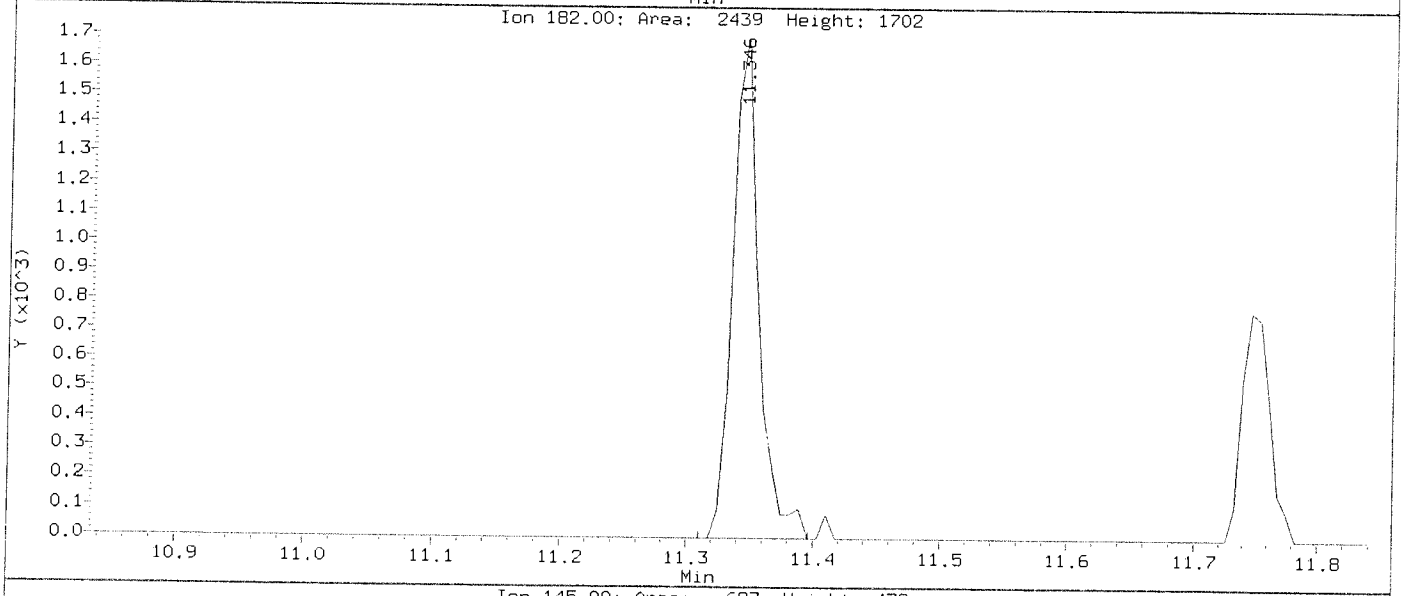


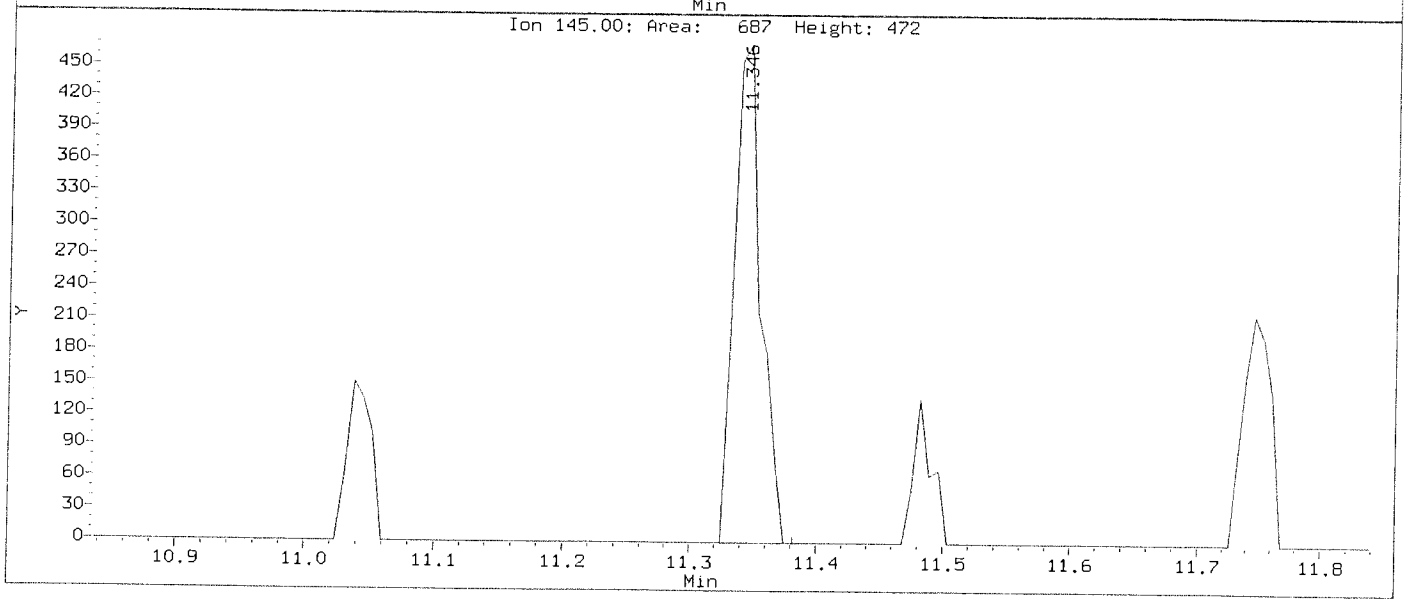


Data File: \\nahstws005\Target\chem\voa6.i\X191118.b\BEFORE\X111804.D
Injection Date: 18-NOV-2019 14:59
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: 1,2,4-Trichlorobenzene
CAS Number: 120-82-1

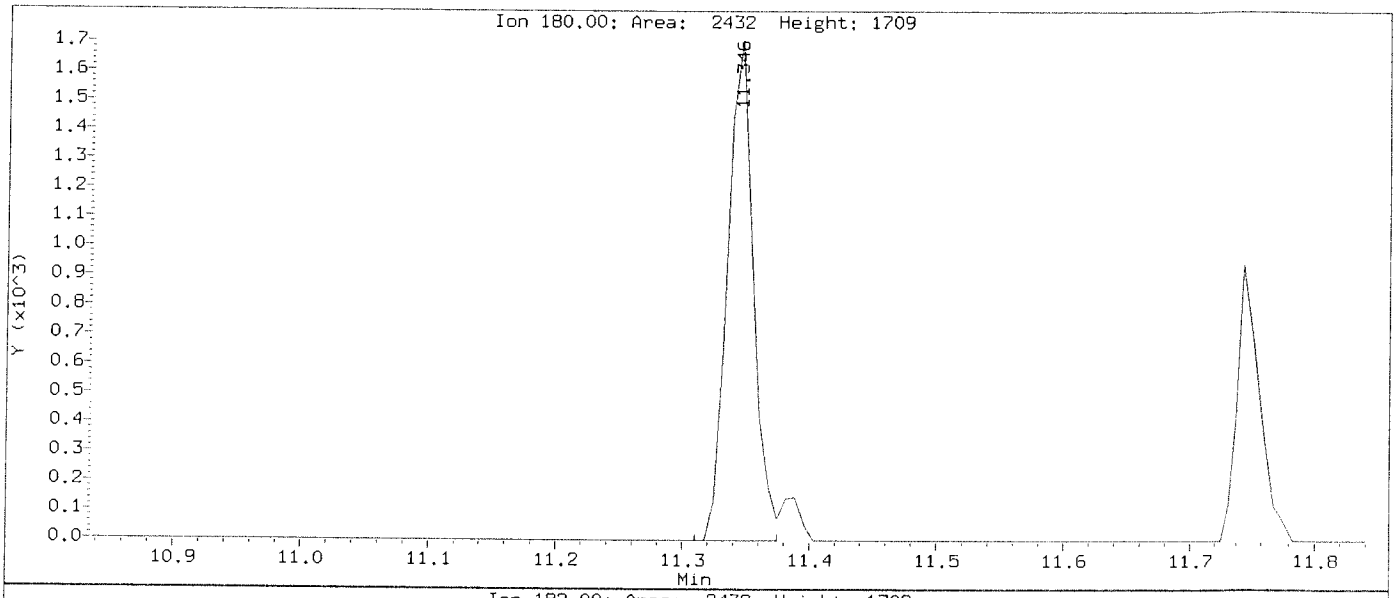


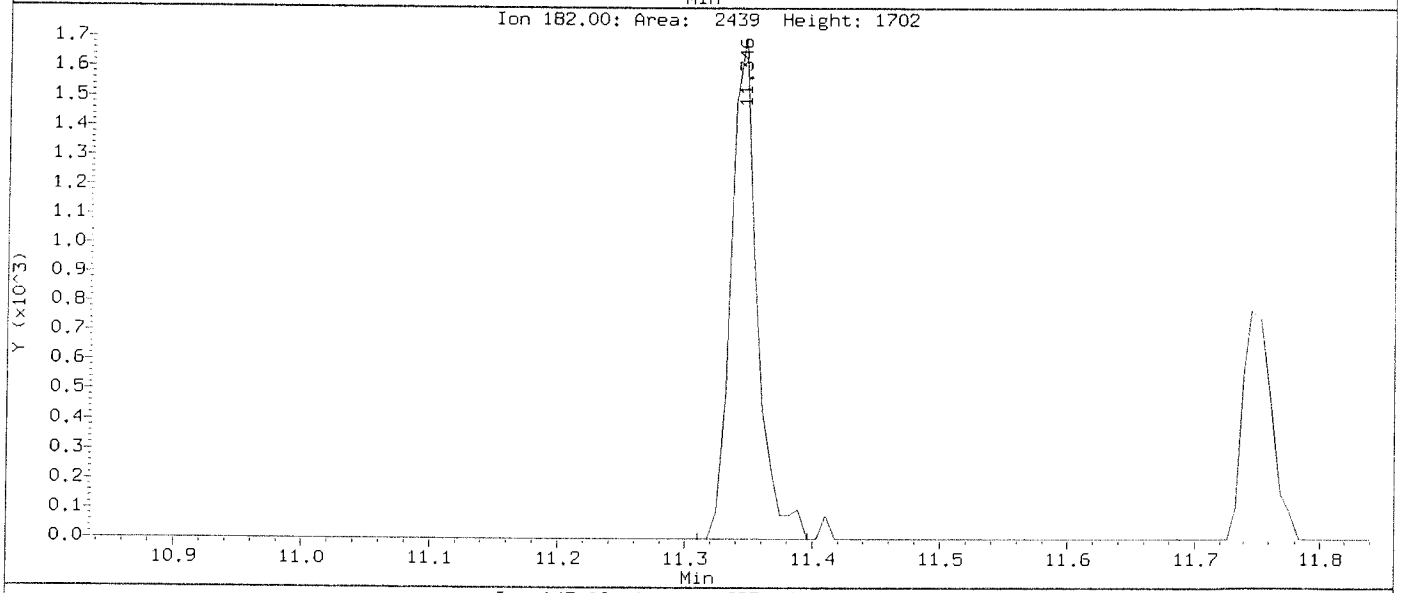


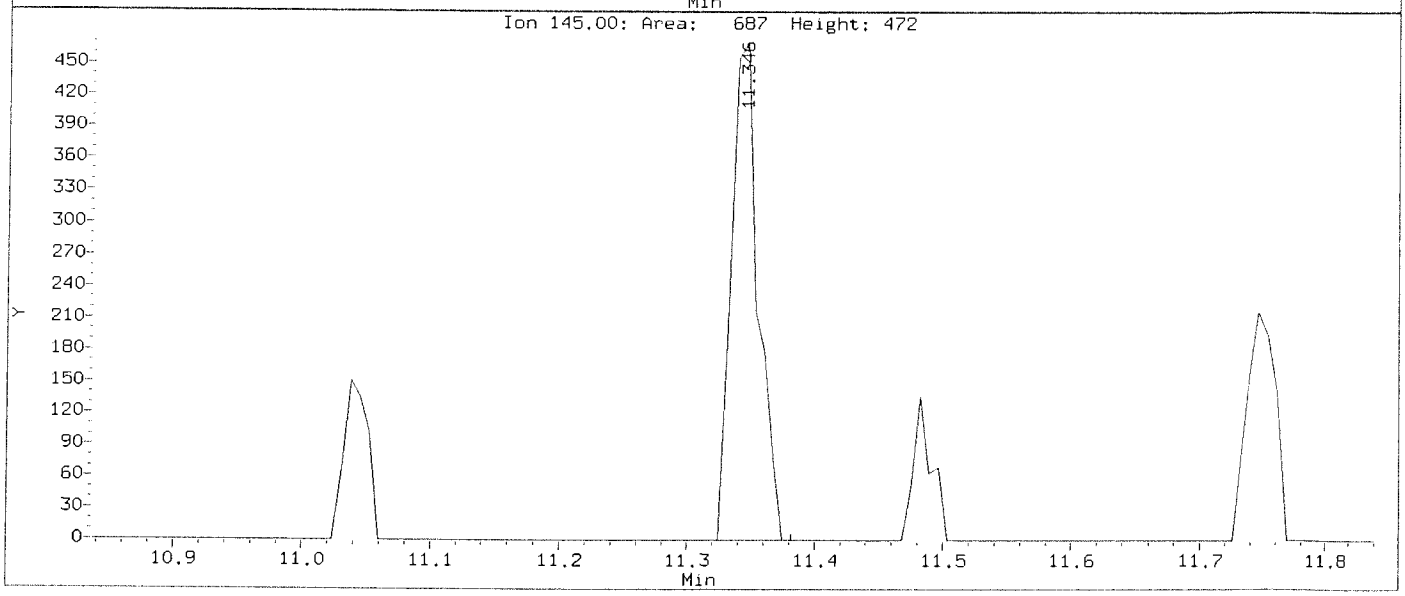


Data File: \\nahstws005\Target\chem\voa6.i\X191118.b\X111804.D
Injection Date: 18-NOV-2019 14:59
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: 1,2,4-Trichlorobenzene
CAS Number: 120-82-1

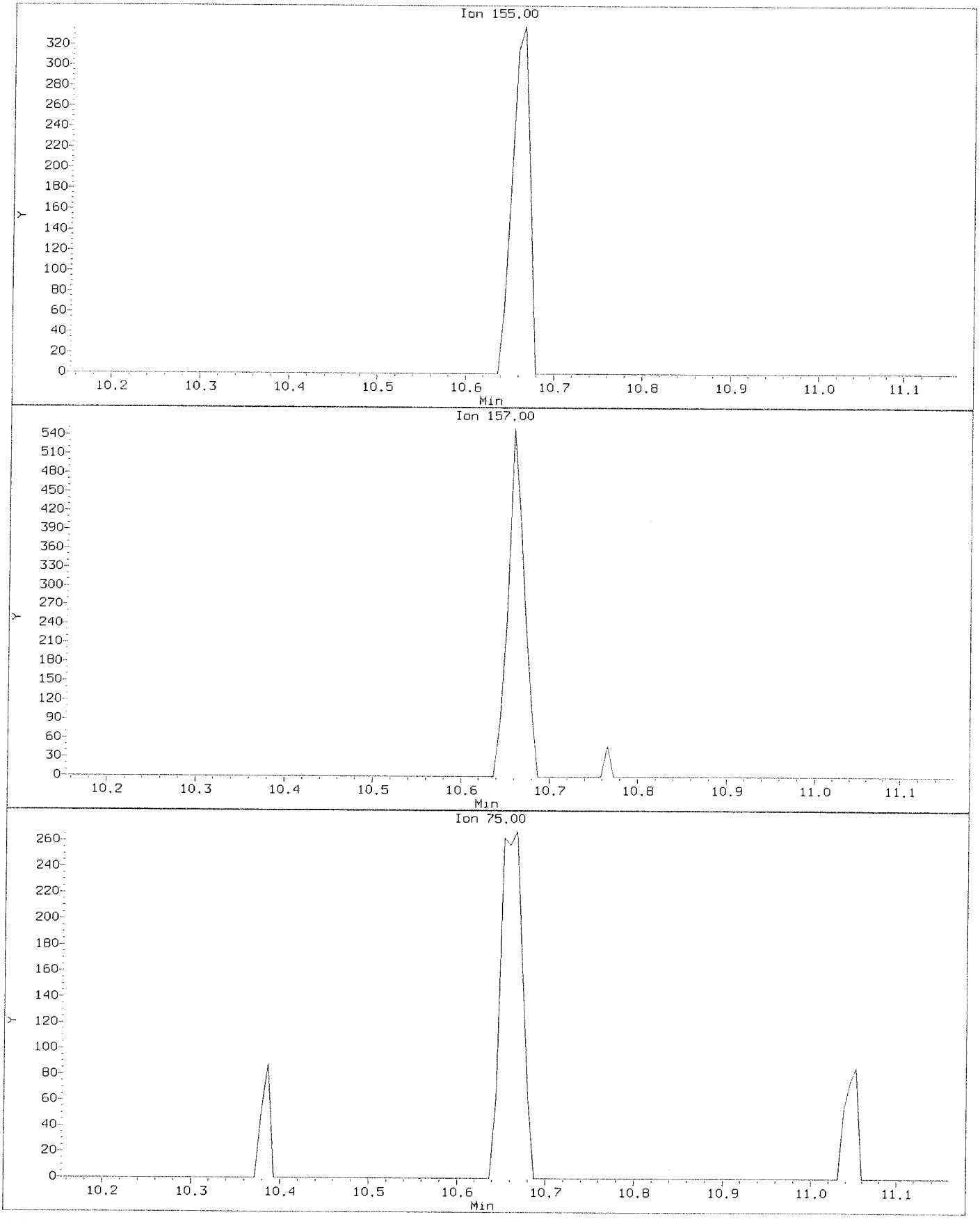






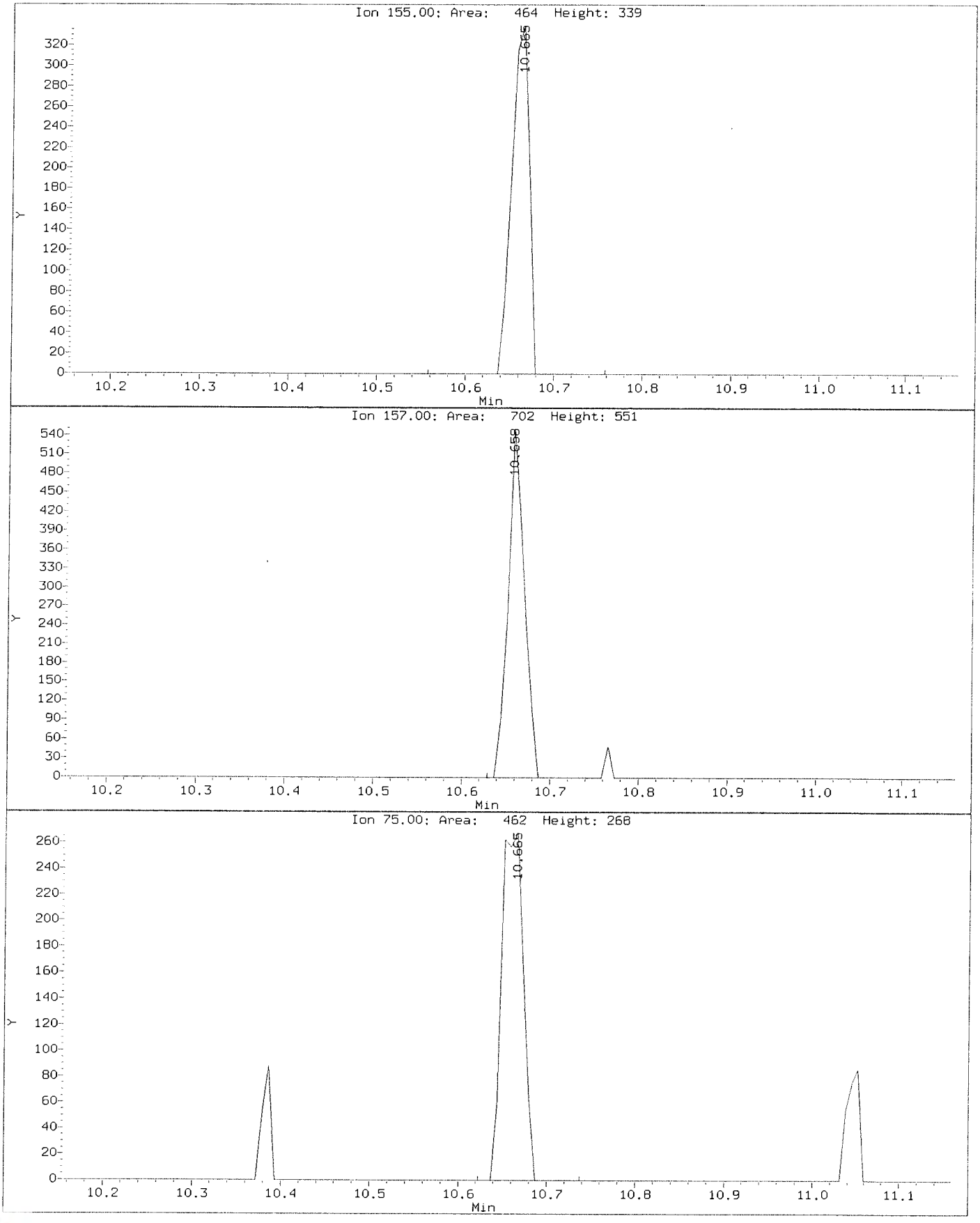
Data File: \\nahstws005\Target\chem\voa6.i\X191118.b\BEFORE\X111804.D
Injection Date: 18-NOV-2019 14:59
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: 1,2-Dibromo-3-Chloropropane
CAS Number: 96-12-8



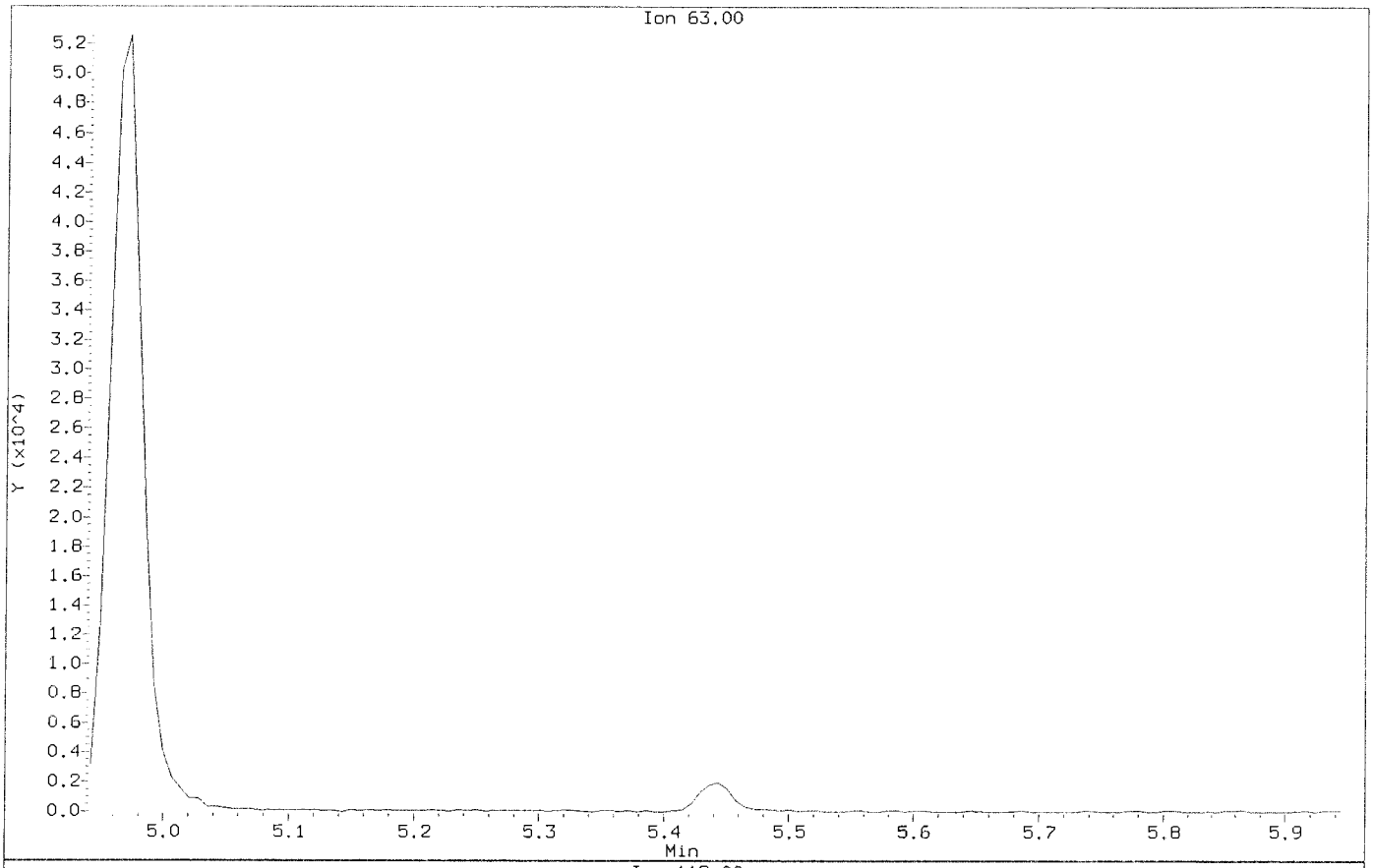
Data File: \\nahstws005\Target\chem\voa6.i\X191118.b\X111804.D
Injection Date: 18-NOV-2019 14:59
Instrument: voa6.i
Client Sample ID: VSTD001

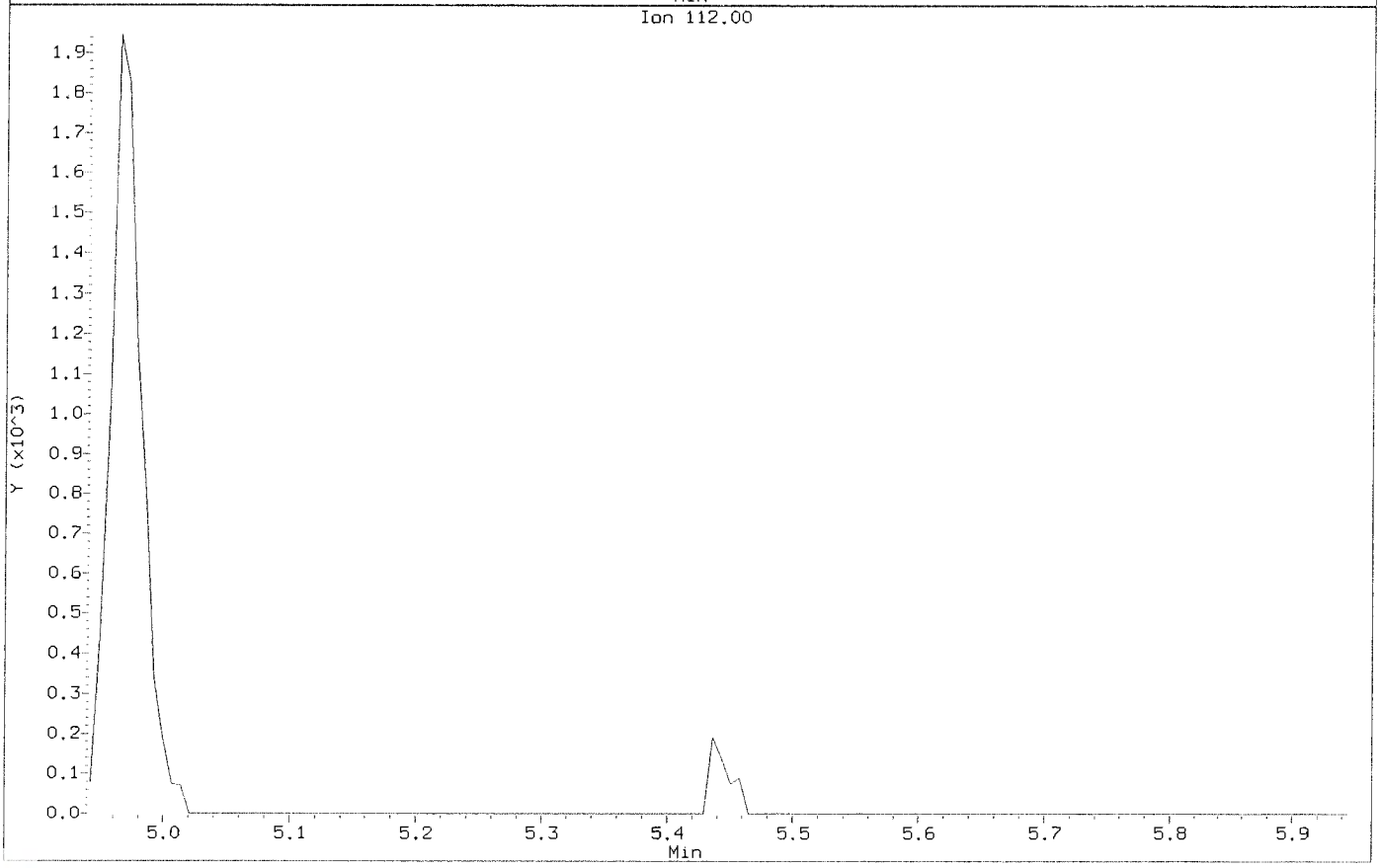
Compound: 1,2-Dibromo-3-Chloropropane
CAS Number: 96-12-8



Data File: \\nahstws005\Target\chem\voa6.i\X191118.b\BEFORE\X111804.D
Injection Date: 18-NOV-2019 14:59
Instrument: voa6.i
Client Sample ID: VSTD001

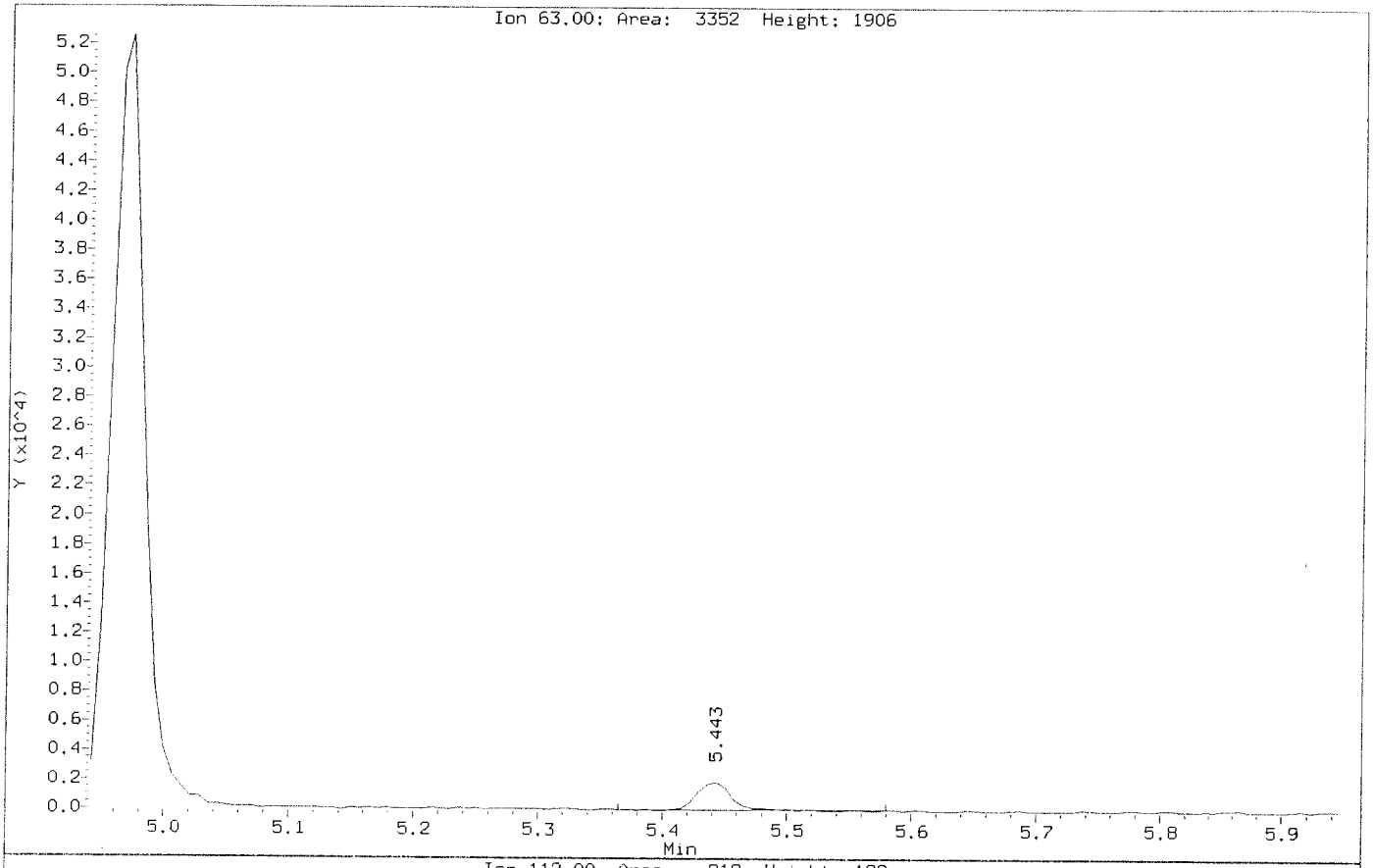
Compound: 1,2-Dichloropropane
CAS Number: 78-87-5

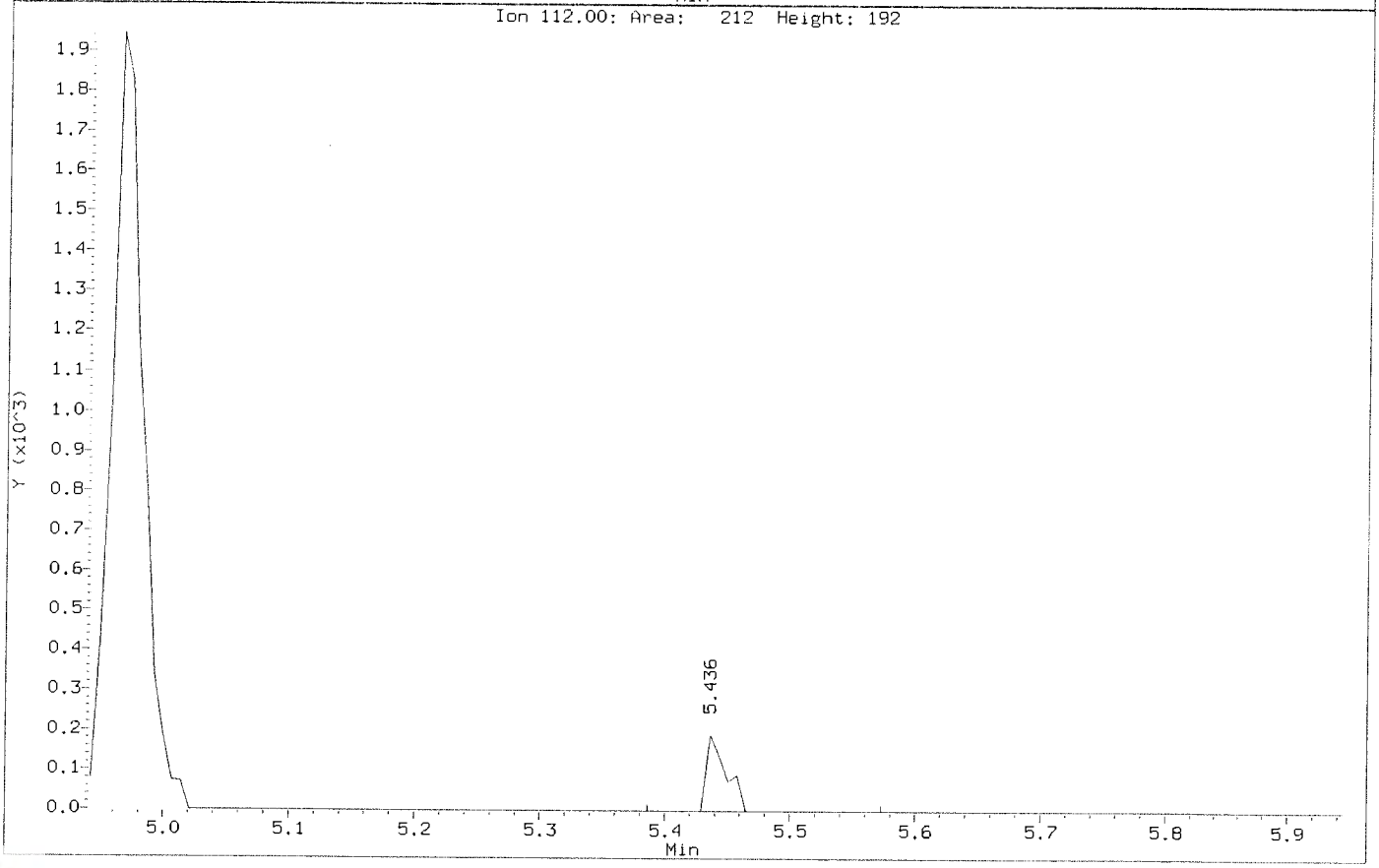




Data File: \\nahstws005\Target\chem\voa6.i\X191118.b\X111804.D
Injection Date: 18-NOV-2019 14:59
Instrument: voa6.i
Client Sample ID: VSTD001

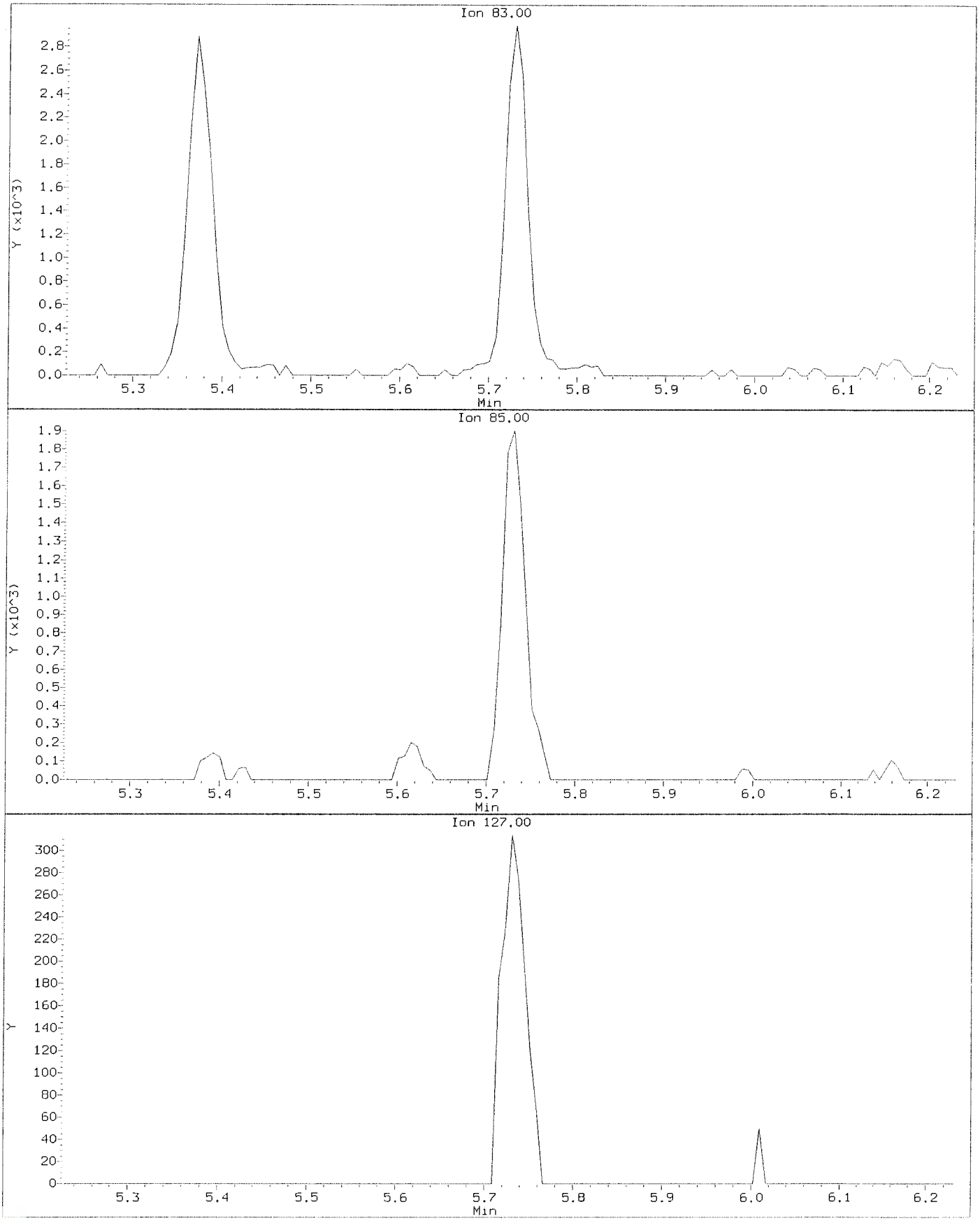
Compound: 1,2-Dichloropropane
CAS Number: 78-87-5





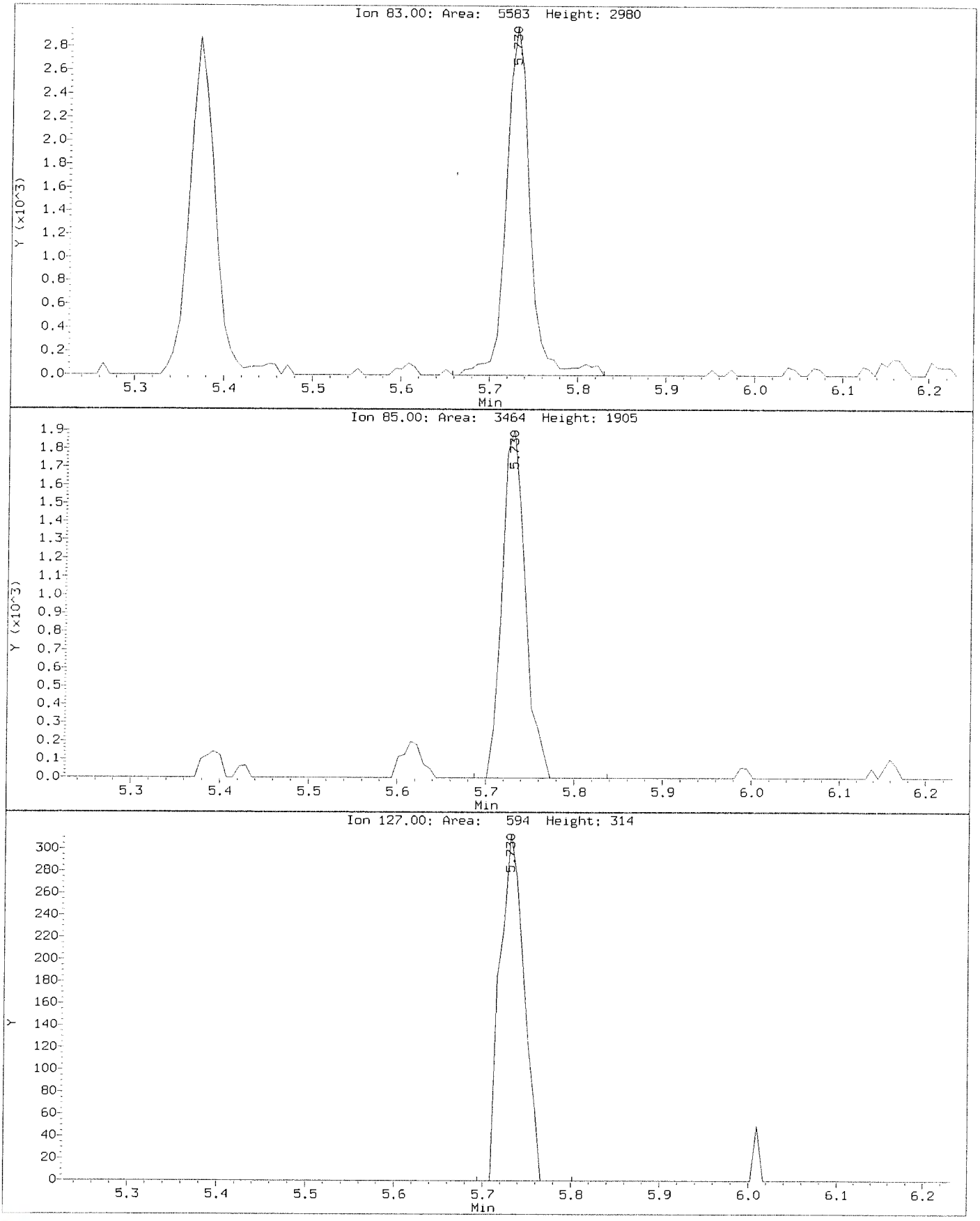
Data File: \\nahstws005\Target\chem\voa6.i\X191118.b\BEFORE\X111804.D
Injection Date: 18-NOV-2019 14:59
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: Bromodichloromethane
CAS Number: 75-27-4



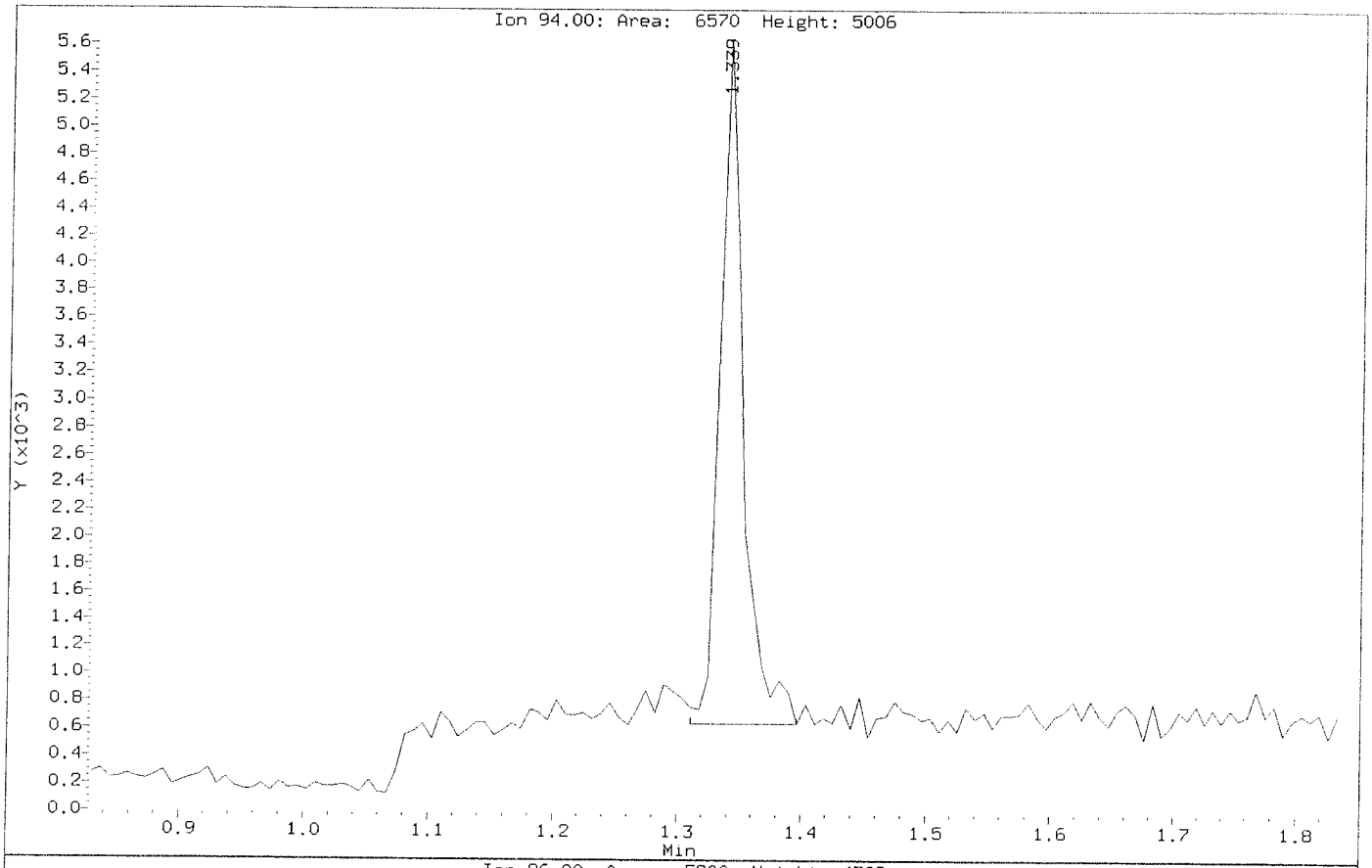
Data File: \\nahstws005\Target\chem\voa6.i\X191118.b\X111804.D
Injection Date: 18-NOV-2019 14:59
Instrument: voa6.i
Client Sample ID: VSTD001

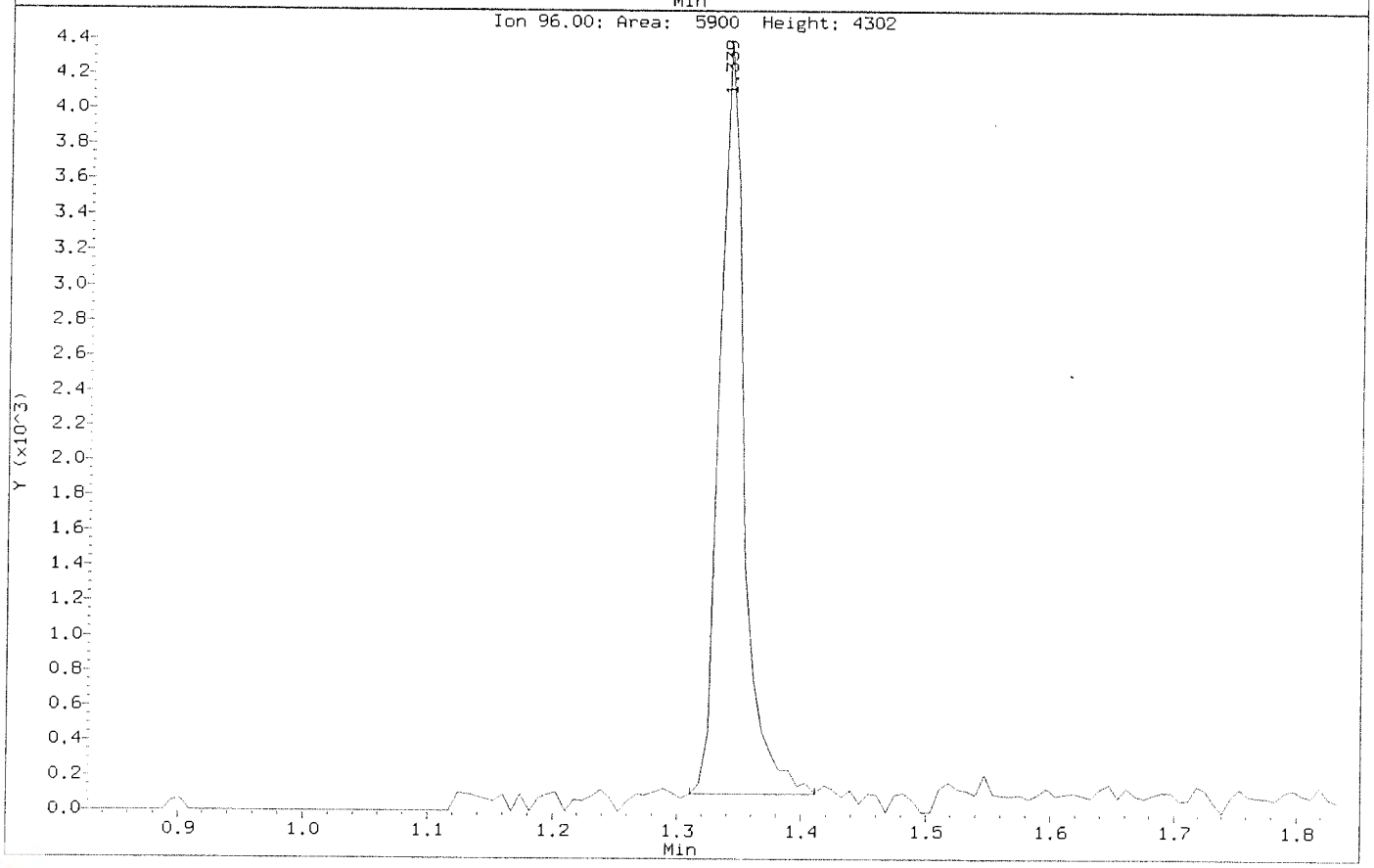
Compound: Bromodichloromethane
CAS Number: 75-27-4



Data File: \\nahstws005\Target\chem\voa6.i\X191118.b\BEFORE\X111804.D
Injection Date: 18-NOV-2019 14:59
Instrument: voa6.i
Client Sample ID: VSTD001

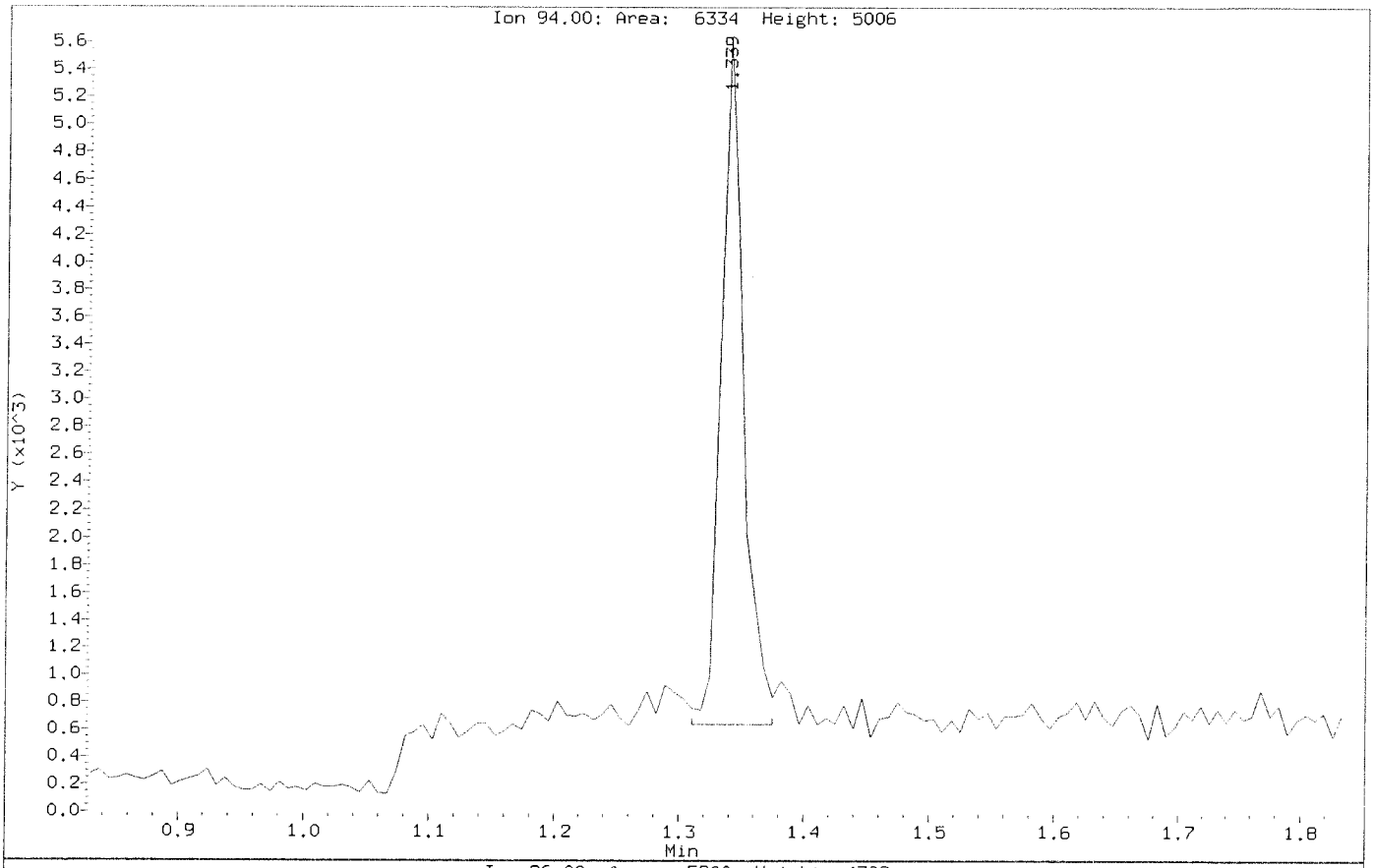
Compound: Bromomethane
CAS Number: 74-83-9

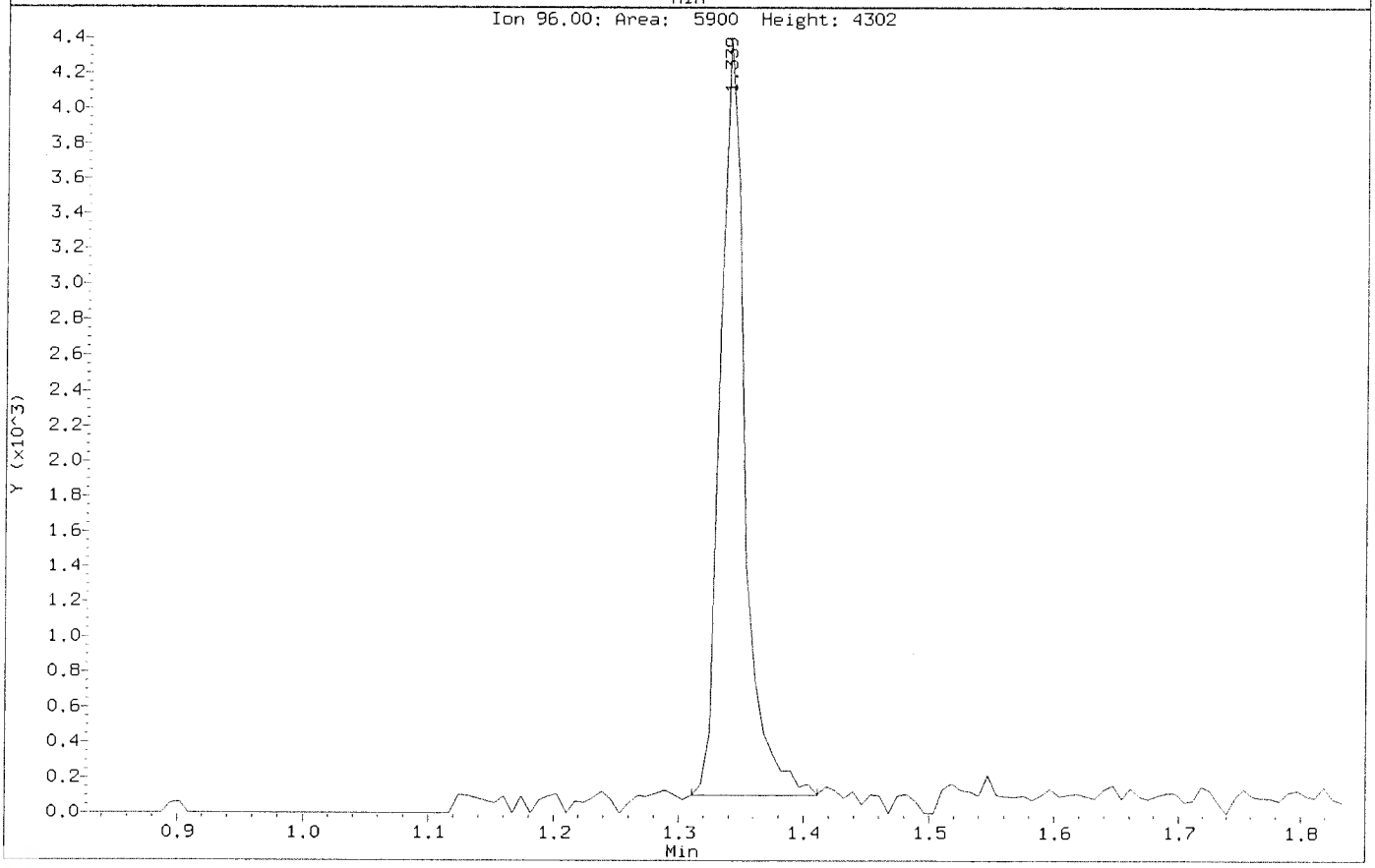




Data File: \\nahstws005\Target\chem\voa6.i\X191118.b\X111804.D
Injection Date: 18-NOV-2019 14:59
Instrument: voa6.i
Client Sample ID: VSTD001

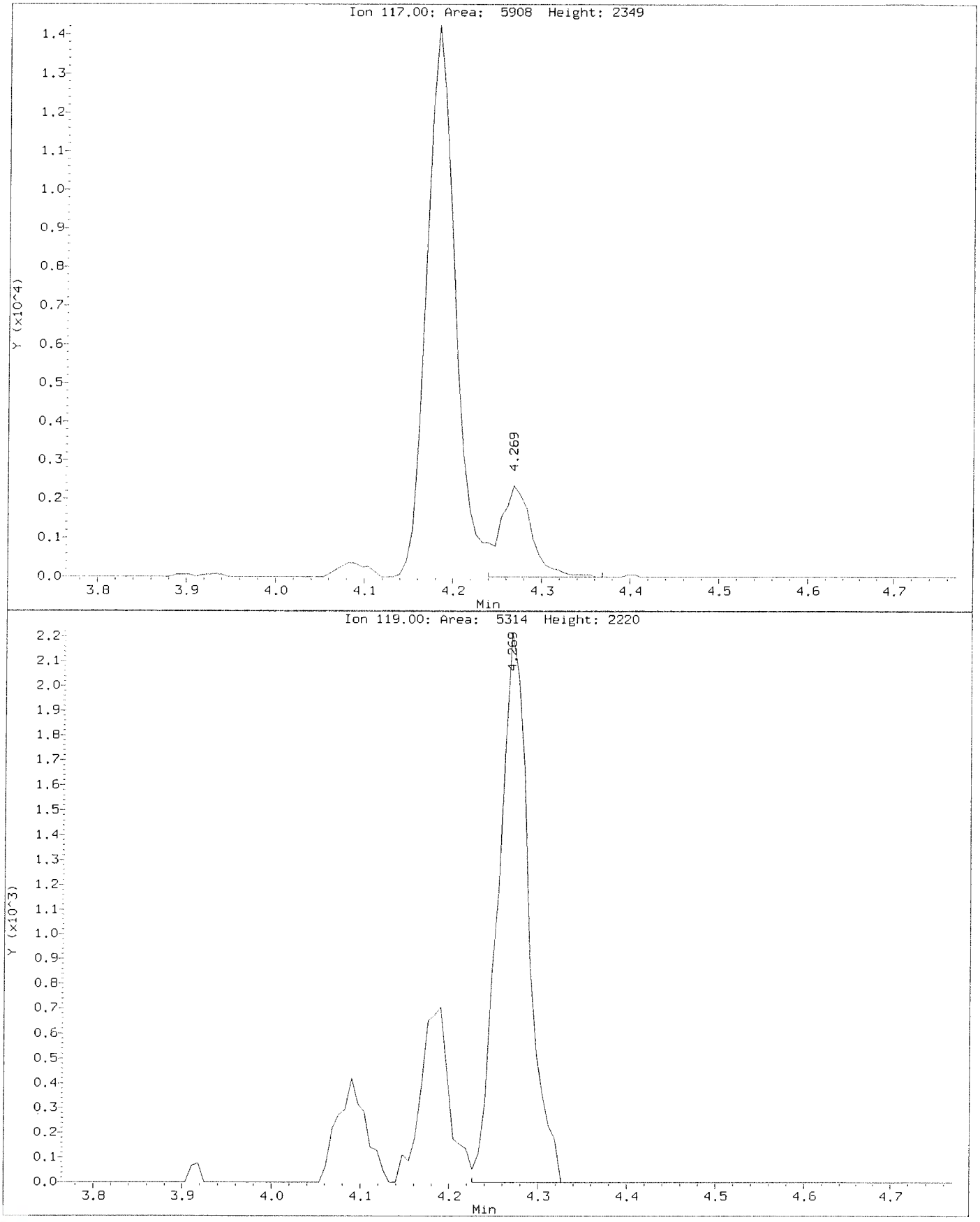
Compound: Bromomethane
CAS Number: 74-83-9





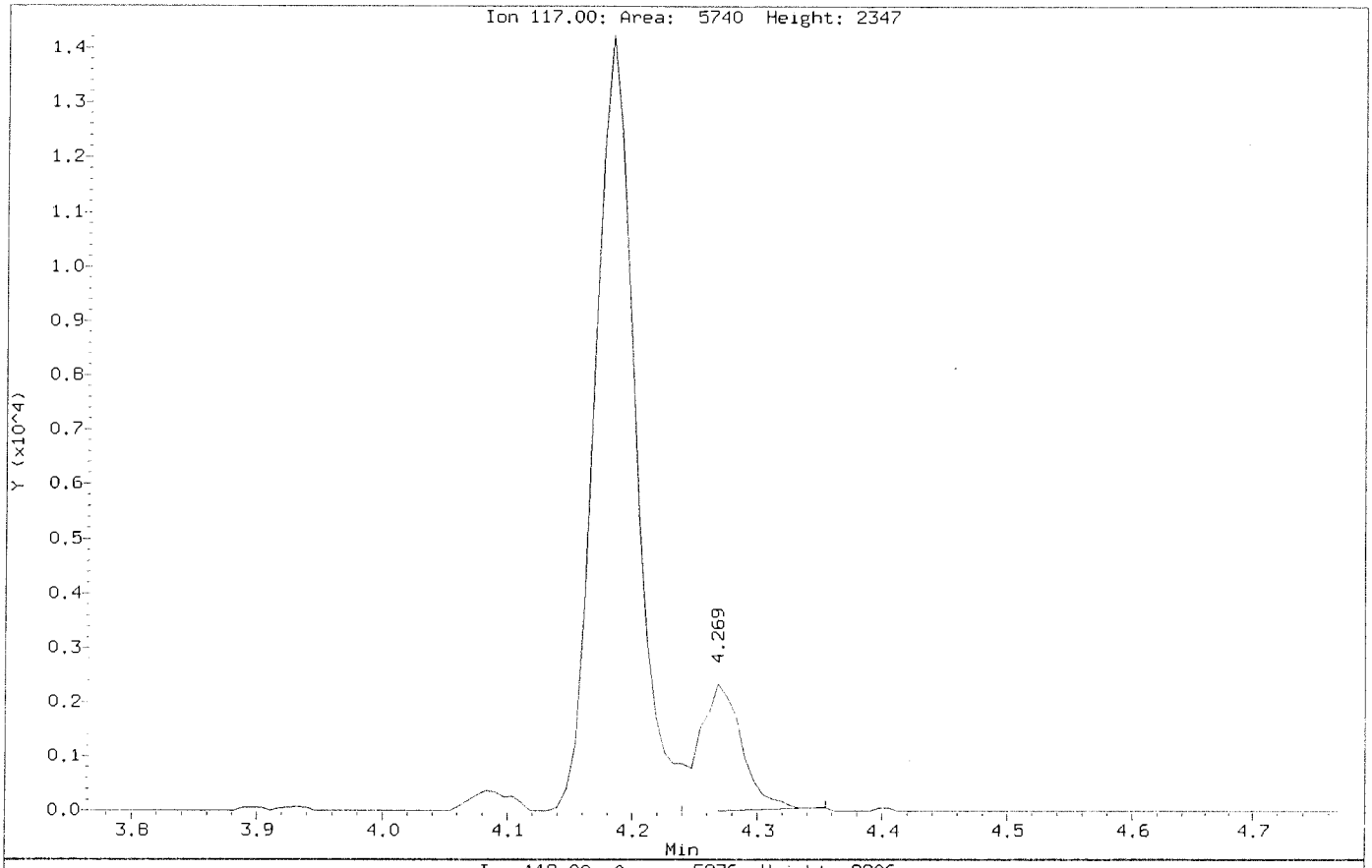
Data File: \\nahstws005\Target\chem\voa6.i\X191118.b\BEFORE\X111804.D
Injection Date: 18-NOV-2019 14:59
Instrument: voa6.i
Client Sample ID: VSTD001

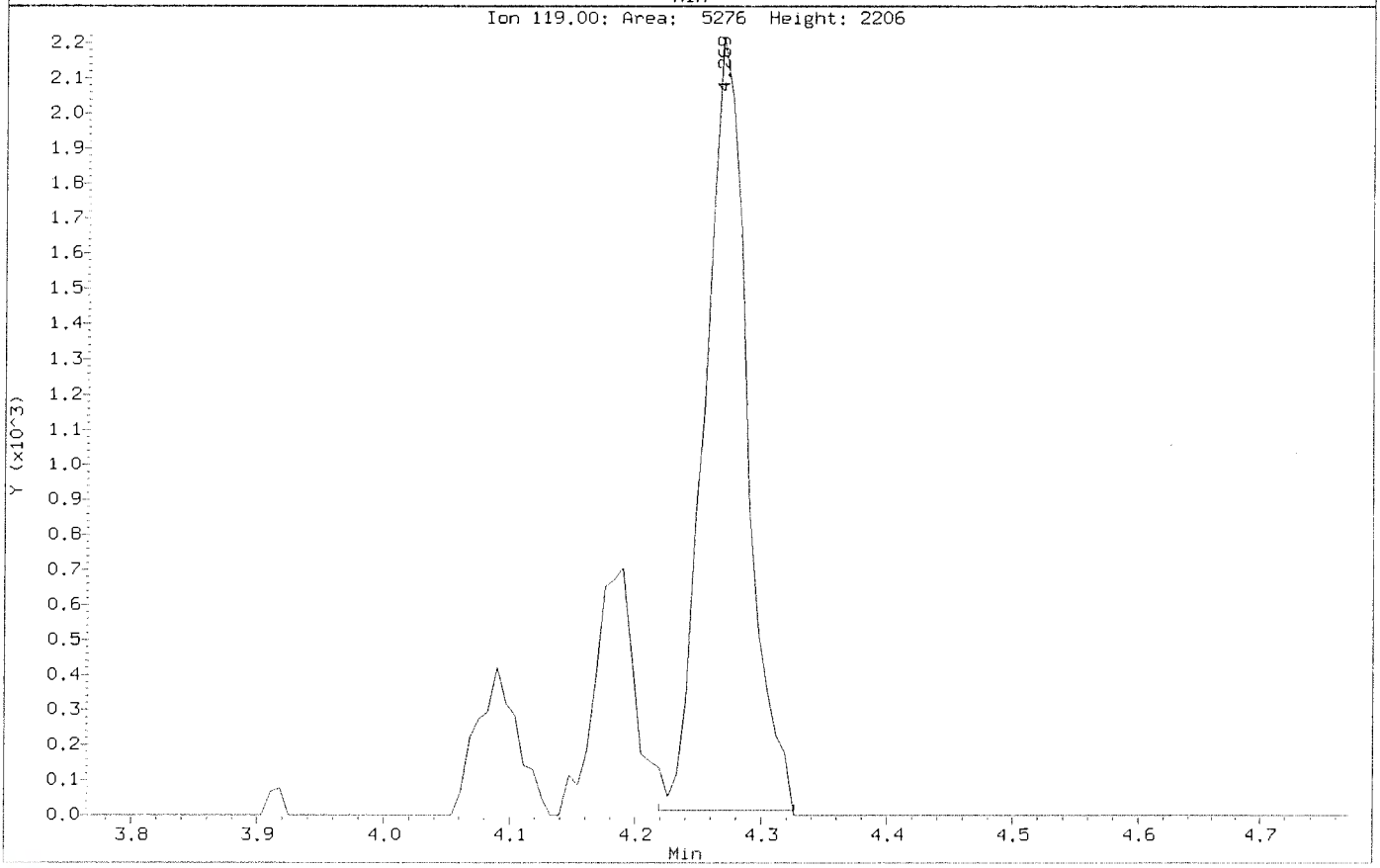
Compound: Carbon Tetrachloride
CAS Number: 56-23-5



Data File: \\nahstws005\Target\chem\voa6.i\X191118.b\X111B04.D
Injection Date: 18-NOV-2019 14:59
Instrument: voa6.i
Client Sample ID: VSTD001

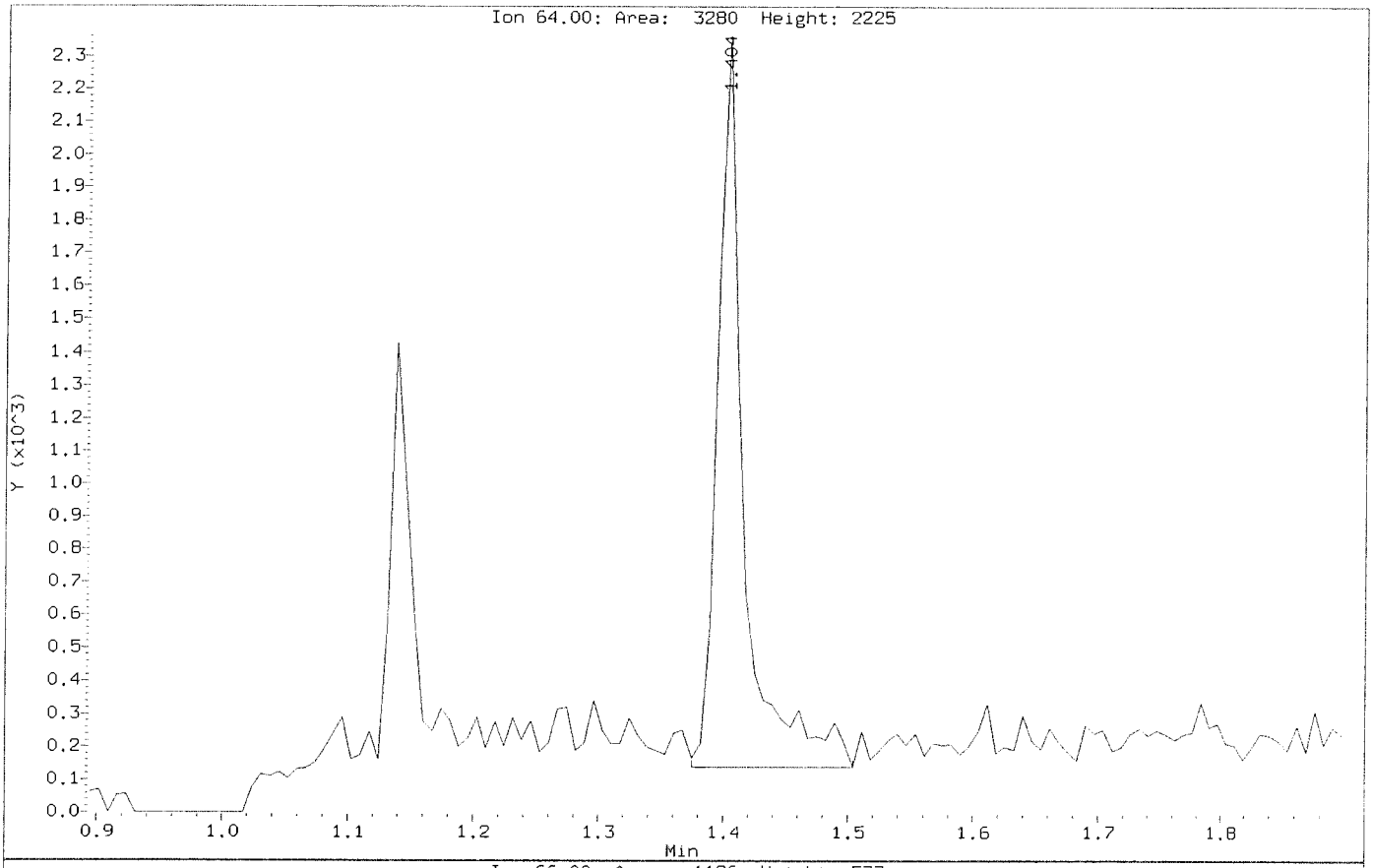
Compound: Carbon Tetrachloride
CAS Number: 56-23-5

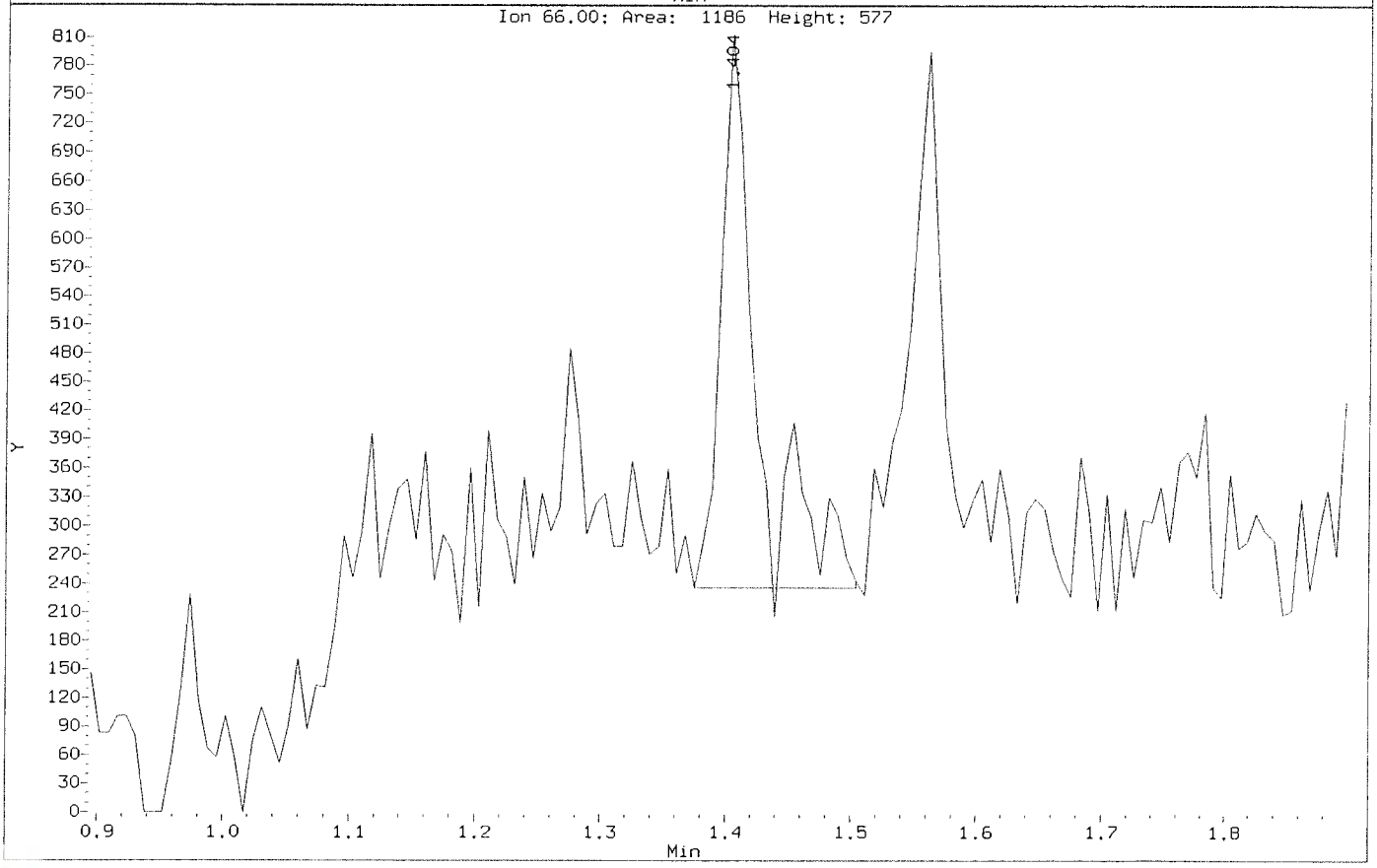




Data File: \\nahstws005\Target\chem\voa6.i\X191118.b\BEFORE\X111804.D
Injection Date: 18-NOV-2019 14:59
Instrument: voa6.i
Client Sample ID: VSTD001

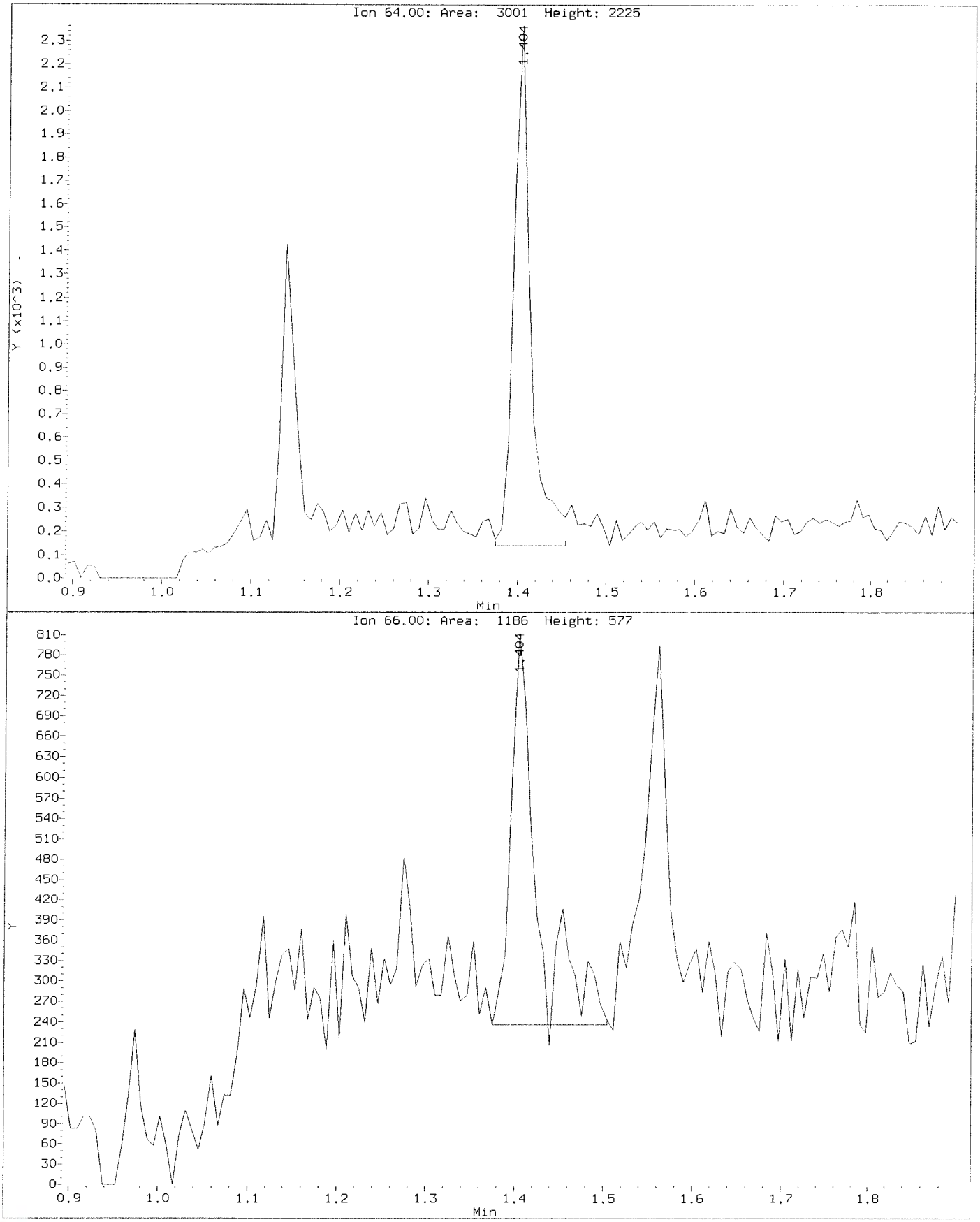
Compound: Chloroethane
CAS Number: 75-00-3





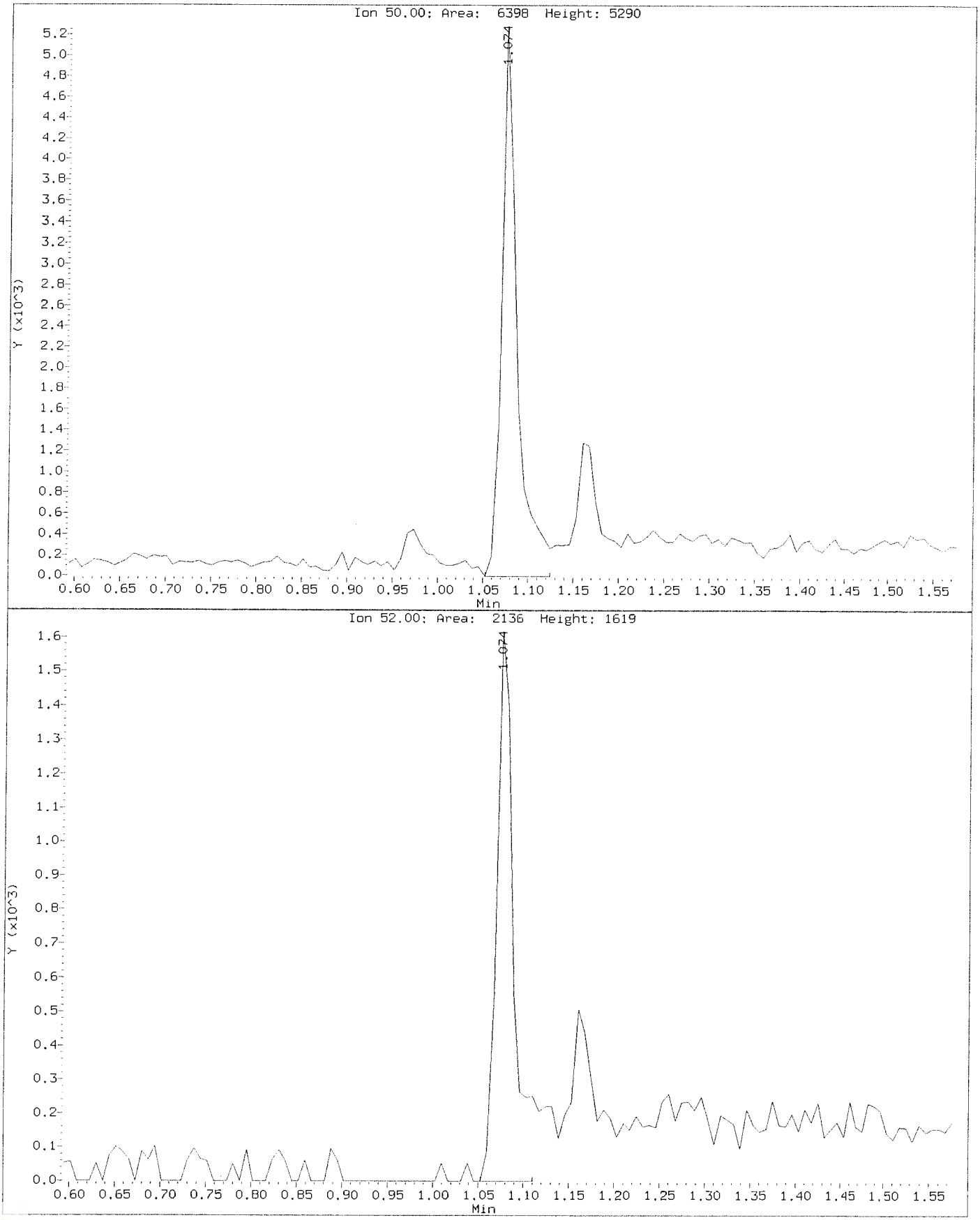
Data File: \\nahstws005\Target\chem\voa6.i\X191118.b\X111804.D
Injection Date: 18-NOV-2019 14:59
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: Chloroethane
CAS Number: 75-00-3



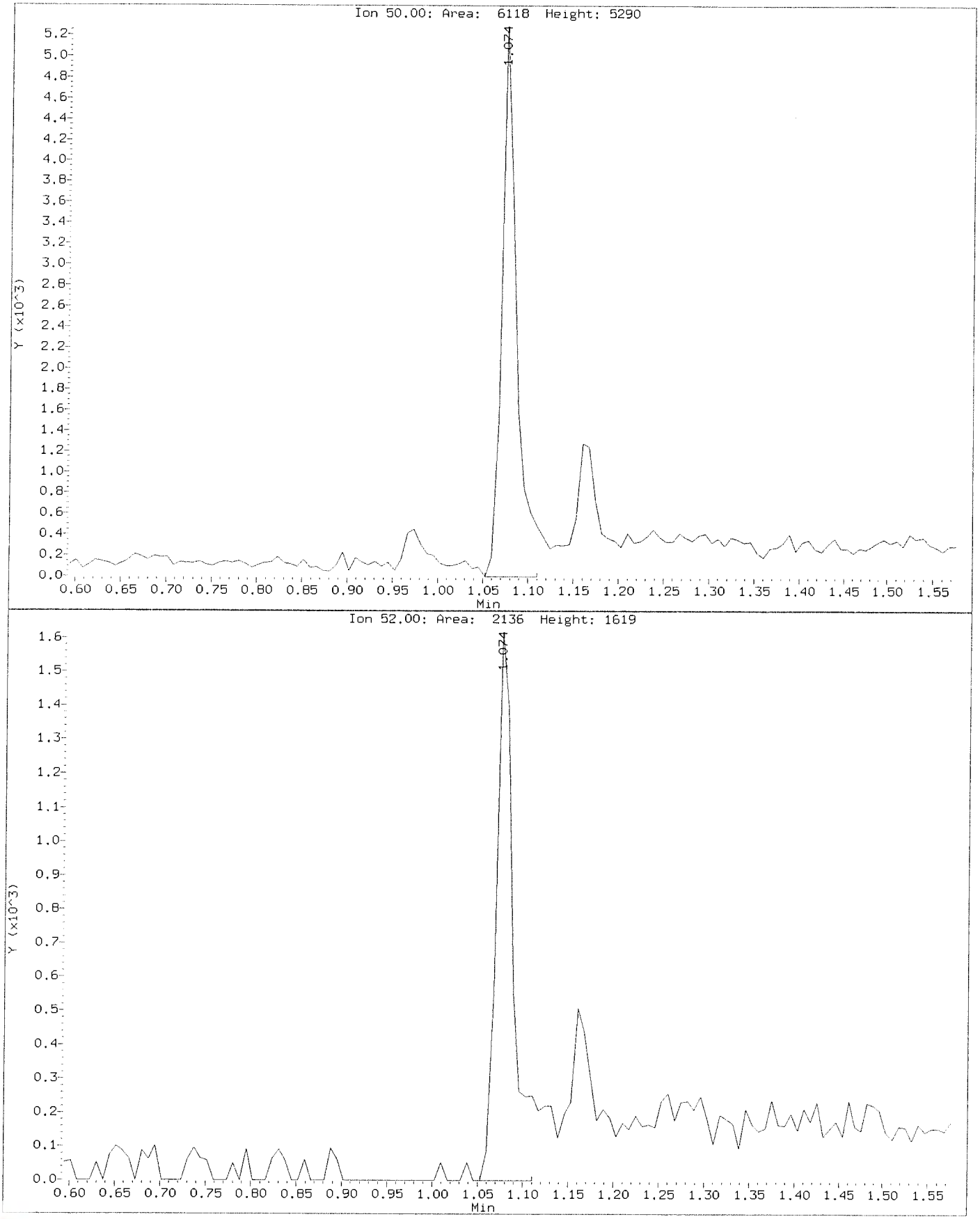
Data File: \\nahstws005\Target\chem\voa6.i\X191118.b\BEFORE\X111804.D
Injection Date: 18-NOV-2019 14:59
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: Chloromethane
CAS Number: 74-87-3



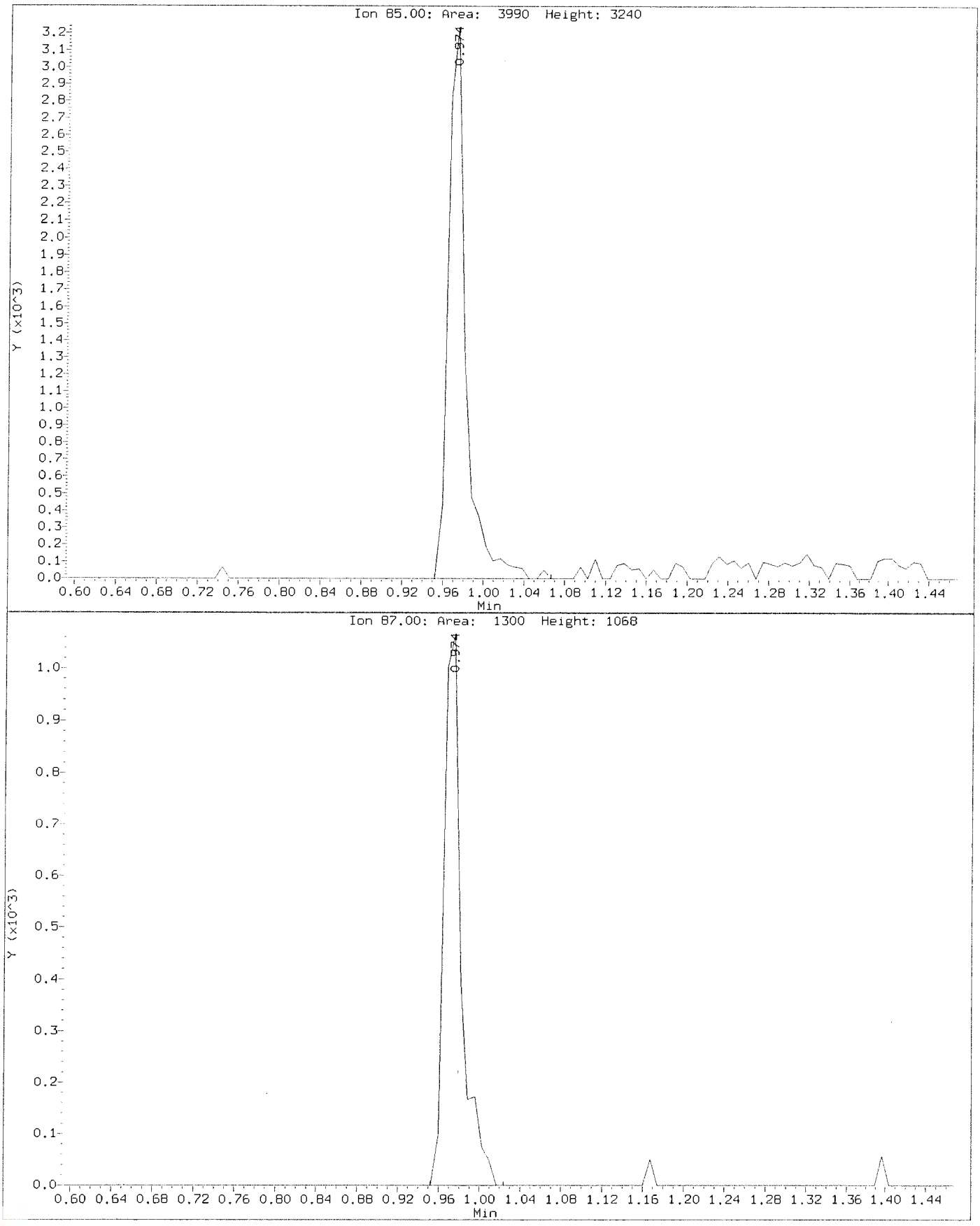
Data File: \\nahstws005\Target\chem\voa6.i\X191118.b\X111804.D
Injection Date: 18-NOV-2019 14:59
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: Chloromethane
CAS Number: 74-87-3



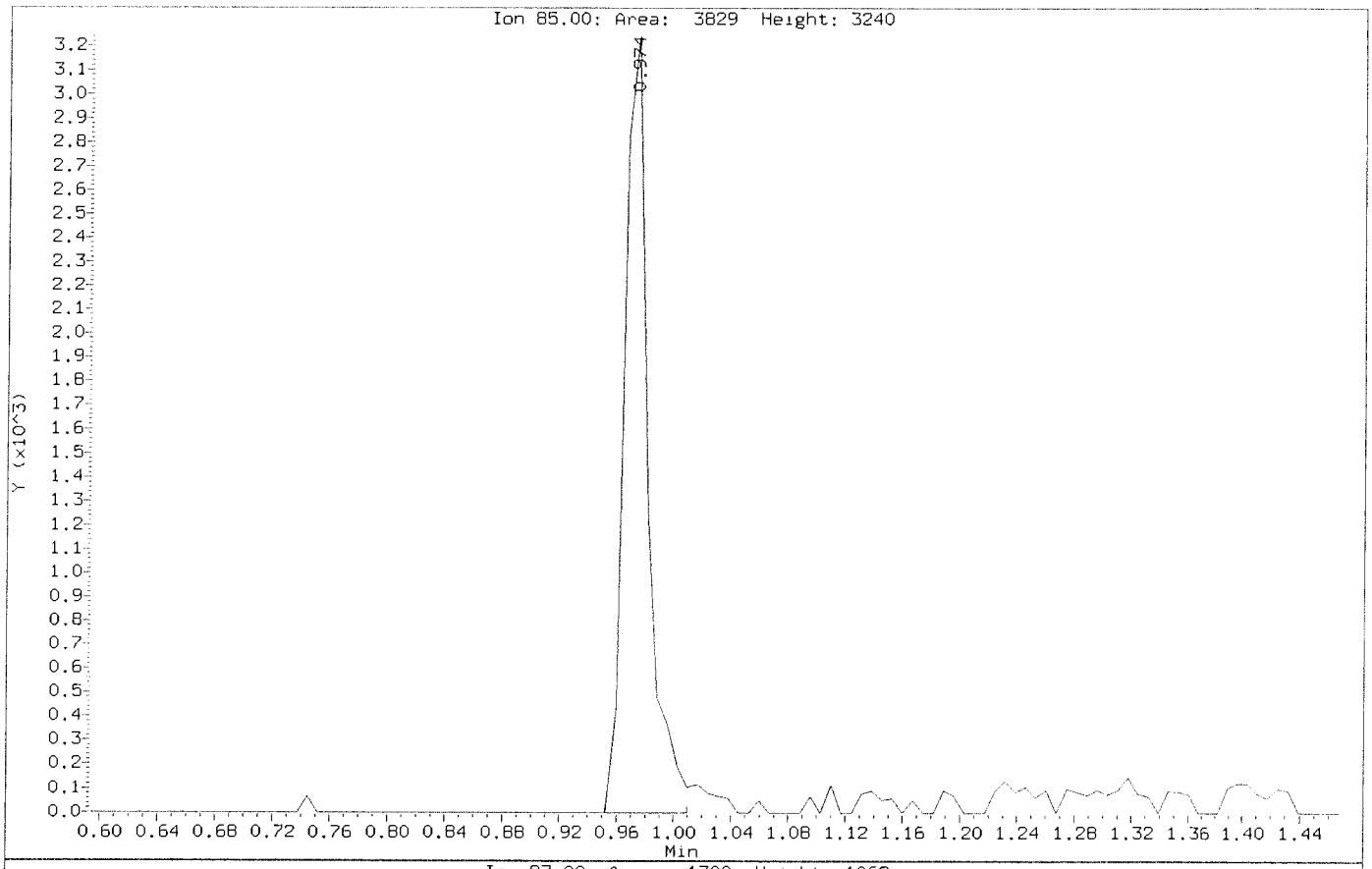
Data File: \\nahstws005\Target\chem\voa6.i\X191118.b\BEFORE\X111804.D
Injection Date: 18-NOV-2019 14:59
Instrument: voa6.i
Client Sample ID: VSTD001

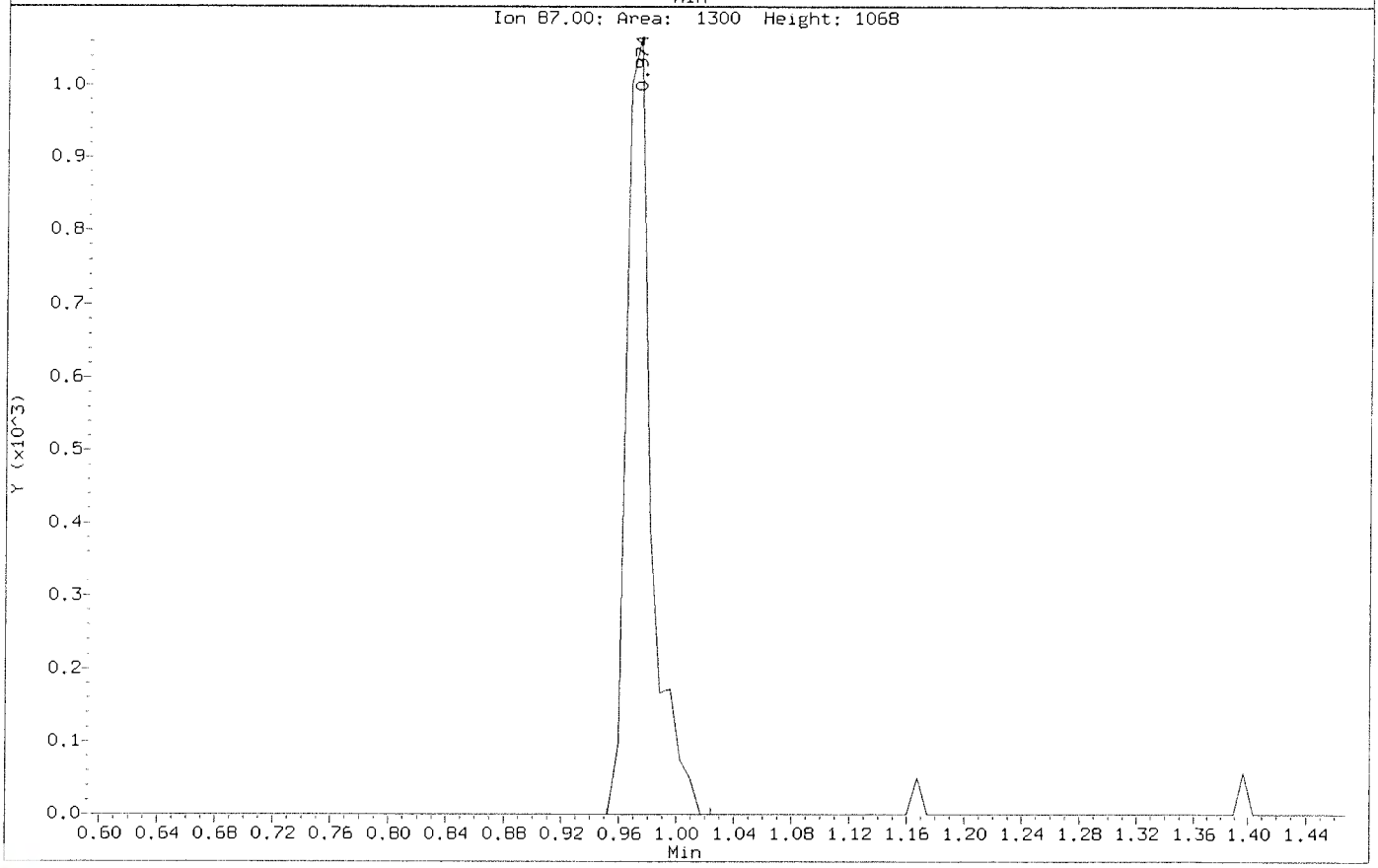
Compound: Dichlorodifluoromethane
CAS Number: 75-71-8



Data File: \\nahstws005\Target\chem\voa6.i\X191118.b\X111804.D
Injection Date: 18-NOV-2019 14:59
Instrument: voa6.i
Client Sample ID: VSTD001

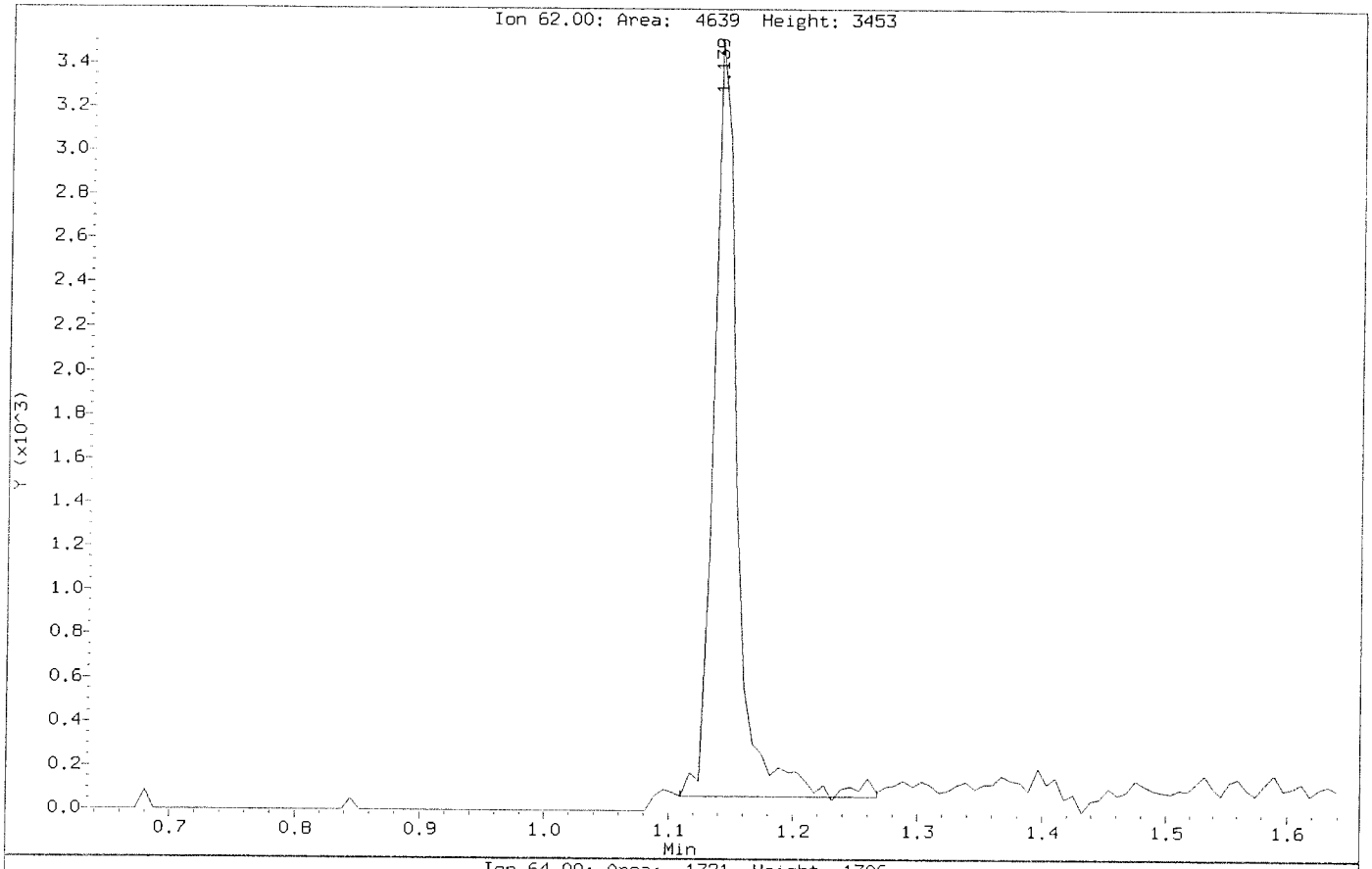
Compound: Dichlorodifluoromethane
CAS Number: 75-71-8

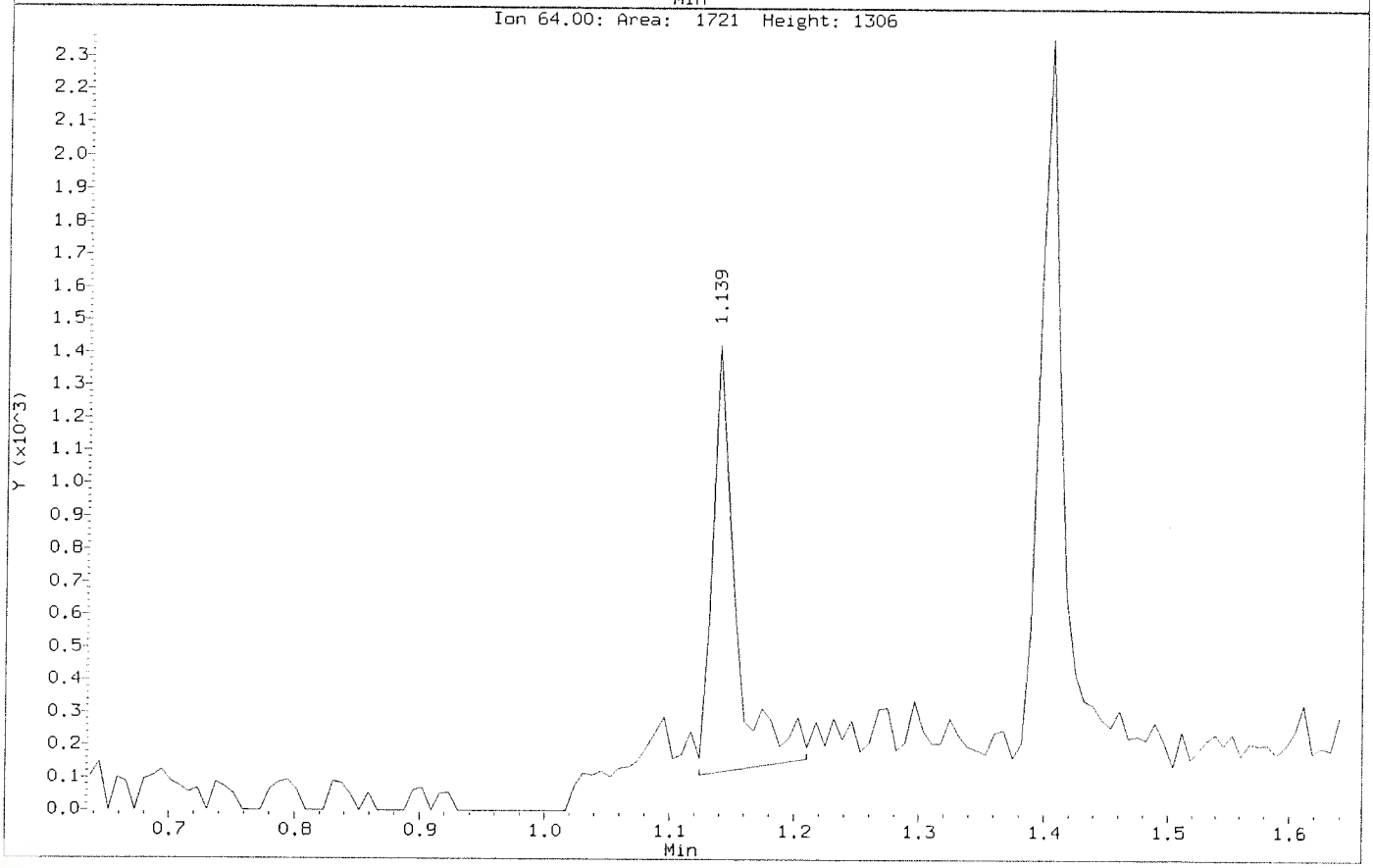




Data File: \\nahstws005\Target\chem\voa6.i\X191118.b\BEFORE\X111804.D
Injection Date: 18-NOV-2019 14:59
Instrument: voa6.i
Client Sample ID: VSTD001

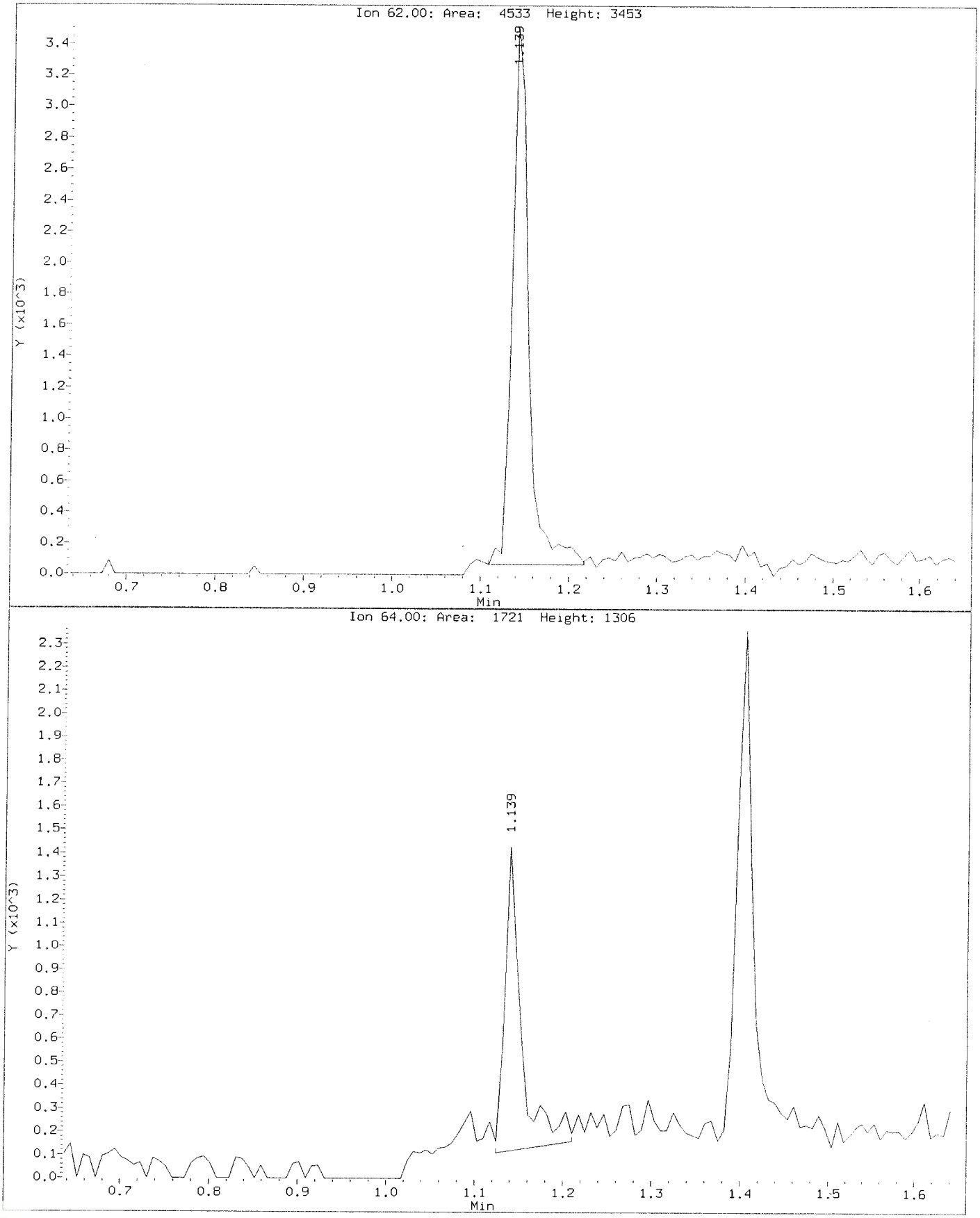
Compound: Vinyl Chloride
CAS Number: 75-01-4





Data File: \\nahstws005\Target\chem\voa6.i\X191118.b\X111804.D
Injection Date: 18-NOV-2019 14:59
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: Vinyl Chloride
CAS Number: 75-01-4



Data File: \\nahstws005\Target\chem\voa6.i\X191118.b\X111805.D Page 1
Report Date: 06-Dec-2019 19:56

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X191118.b\X111805.D
Lab Smp Id: VSTD002 Client Smp ID: VSTD002
Inj Date : 18-NOV-2019 15:23
Operator : PC Inst ID: voa6.i
Smp Info : VSTD002;VSTD002;1;4;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X191118.b\8260W.m
Meth Date : 06-Dec-2019 19:56 voa6.i Quant Type: ISTD
Cal Date : 18-NOV-2019 14:59 Cal File: X111804.D
Als bottle: 6 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBIHOUSTONDOD.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

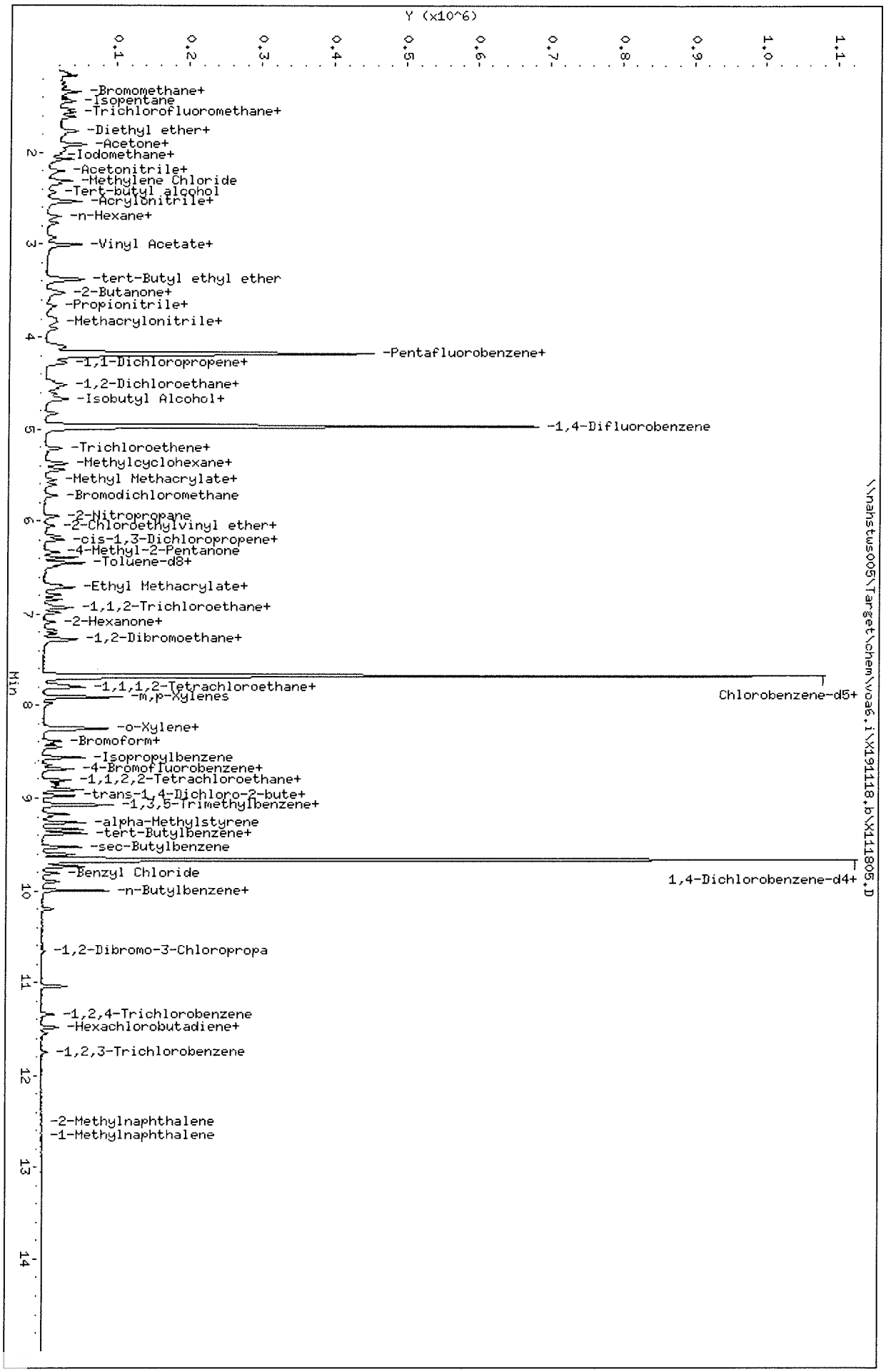
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
*	1 Pentafluorobenzene	168	4.182	4.182	(1.000)	415277	50.0000	
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	574320	50.0000	
*	47 Chlorobenzene-d5	117	7.670	7.670	(1.000)	519547	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	278615	50.0000	
$	35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	8034	2.00000	2.76(a)
$	69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	10468	2.00000	2.56(a)
$	30 Dibromofluoromethane	113	4.103	4.103	(0.981)	8127	2.00000	2.50(a)
$	48 Toluene-d8	98	6.388	6.388	(0.833)	28201	2.00000	2.06(a)
	60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	7788	2.00000	2.06(a)
	31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	12006	2.00000	2.14(a)
	68 1,1,2,2-Tetrachloroethane	83	8.838	8.838	(0.914)	8194	2.00000	2.09(a)
	138 Freon TF	101	1.911	1.911	(0.457)	7504	2.00000	2.07(a)
	53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	5924	2.00000	2.18(a)
	22 1,1-Dichloroethane	63	2.921	2.921	(0.699)	12973	2.00000	2.14(a)
	11 1,1-Dichloroethene	96	1.911	1.911	(0.457)	7795	2.00000	2.21(a)
	32 1,1-Dichloropropene	75	4.282	4.282	(0.862)	10135	2.00000	2.18(a)
	93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.215)	2753	2.00000	1.85(a)
	71 1,2,3-Trichloropropane	75	8.867	8.867	(0.917)	7810	2.00000	2.35(aM)
	90 1,2,4-Trichlorobenzene	180	11.345	11.345	(1.173)	5184	2.00000	2.20(a)
	79 1,2,4-Trimethylbenzene	105	9.382	9.382	(0.970)	27218	2.00000	2.05(a)
	89 1,2-Dibromo-3-Chloropropane	155	10.657	10.657	(1.102)	859	2.00000	1.65(a)
	57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	7900	2.00000	2.16(a)

Data File: \\nahstws005\Target\chem\voa6.i\X191118.b\X111805.D Page 2
Report Date: 06-Dec-2019 19:56

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
88	1,2-Dichlorobenzene	146	9.998	9.998	(1.034)	15931	2.00000	2.15(a)
33	1,2-Dichloroethane	62	4.562	4.562	(0.918)	9378	2.00000	2.05(a)
42	1,2-Dichloropropane	63	5.443	5.443	(1.095)	7169	2.00000	2.08(aM)
75	1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	26432	2.00000	2.08(a)
83	1,3-Dichlorobenzene	146	9.612	9.612	(0.994)	17183	2.00000	2.15(a)
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	11850	2.00000	2.14(a)
84	1,4-Dichlorobenzene	146	9.683	9.683	(1.001)	17620	2.00000	2.17(a)
26	2,2-Dichloropropane	77	3.516	3.516	(0.841)	11201	2.00000	2.04(a)
24	2-Butanone	43	3.588	3.588	(0.858)	5067	4.00000	3.97(a)
76	2-Chlorotoluene	91	8.974	8.974	(0.928)	21210	2.00000	2.11(a)
52	2-Hexanone	43	7.090	7.090	(0.924)	8468	4.00000	3.96(a)
77	4-Chlorotoluene	91	9.074	9.074	(0.939)	24759	2.00000	2.03(a)
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	28289	2.00000	2.07(a)
45	4-Methyl-2-Pentanone	43	6.324	6.324	(0.824)	13007	4.00000	4.27(a)
10	Acetone	43	1.976	1.976	(0.473)	7954	4.00000	3.82(a)
37	Benzene	78	4.519	4.519	(0.909)	28031	2.00000	2.13(a)
74	Bromobenzene	156	8.809	8.809	(0.911)	10482	2.00000	2.16(a)
29	Bromochloromethane	128	3.795	3.795	(0.908)	5128	2.00000	2.27(a)
39	Bromodichloromethane	83	5.729	5.729	(1.153)	9742	2.00000	2.04(a)
66	Bromoform	173	8.415	8.415	(1.097)	5989	2.00000	2.89(a)
6	Bromomethane	94	1.338	1.338	(0.320)	12041	2.00000	0.69(a)
19	Carbon Disulfide	76	2.069	2.069	(0.495)	40384	4.00000	4.21(a)
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	11097	2.00000	2.18(aM)
59	Chlorobenzene	112	7.699	7.699	(1.004)	21369	2.00000	2.10(a)
7	Chloroethane	64	1.403	1.403	(0.336)	5731	2.00000	2.19(a)
28	Chloroform	83	3.910	3.910	(0.935)	14792	2.00000	2.19(a)
3	Chloromethane	50	1.073	1.073	(0.257)	10461	2.00000	2.49(a)
27	cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	8197	2.00000	2.08(a)
46	cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	11415	2.00000	2.03(a)
55	Dibromochloromethane	129	7.176	7.176	(0.936)	8154	2.00000	2.06(a)
44	Dibromomethane	93	5.557	5.557	(1.118)	5355	2.00000	2.20(a)
2	Dichlorodifluoromethane	85	0.973	0.973	(0.233)	7335	2.00000	2.78(a)
61	Ethylbenzene	106	7.799	7.799	(1.017)	10700	2.00000	2.04(a)
91	Hexachlorobutadiene	225	11.488	11.488	(1.188)	4522	2.00000	1.82(a)
67	Isopropylbenzene	105	8.566	8.566	(1.117)	32629	2.00000	2.10(a)
62	m,p-Xylenes	106	7.907	7.907	(1.031)	26786	4.00000	4.23(a)
17	Methylene Chloride	84	2.305	2.305	(0.551)	8025	2.00000	2.13(a)
87	n-Butylbenzene	91	9.998	9.998	(1.034)	22333	2.00000	1.96(a)
73	n-Propylbenzene	91	8.917	8.917	(0.922)	35573	2.00000	2.06(a)
92	Naphthalene	128	11.553	11.553	(1.195)	6733	2.00000	2.23(a)
63	o-Xylene	106	8.244	8.244	(1.075)	13637	2.00000	2.18(a)
81	sec-Butylbenzene	105	9.526	9.526	(0.985)	31860	2.00000	2.12(a)
64	Styrene	104	8.265	8.265	(1.078)	22366	2.00000	2.06(a)
78	tert-Butylbenzene	119	9.339	9.339	(0.966)	22956	2.00000	2.11(a)
56	Tetrachloroethene	164	6.933	6.933	(0.904)	8185	2.00000	2.24(a)
50	Toluene	91	6.453	6.453	(0.841)	31139	2.00000	2.11(a)
20	trans-1,2-Dichloroethene	96	2.535	2.535	(0.606)	7239	2.00000	2.11(a)
51	trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	10523	2.00000	2.06(a)
38	Trichloroethene	130	5.214	5.214	(1.049)	8894	2.00000	2.21(a)
8	Trichlorofluoromethane	101	1.560	1.560	(0.373)	13581	2.00000	2.10(a)
5	Vinyl Chloride	62	1.138	1.138	(0.272)	9073	2.00000	2.14(a)

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.

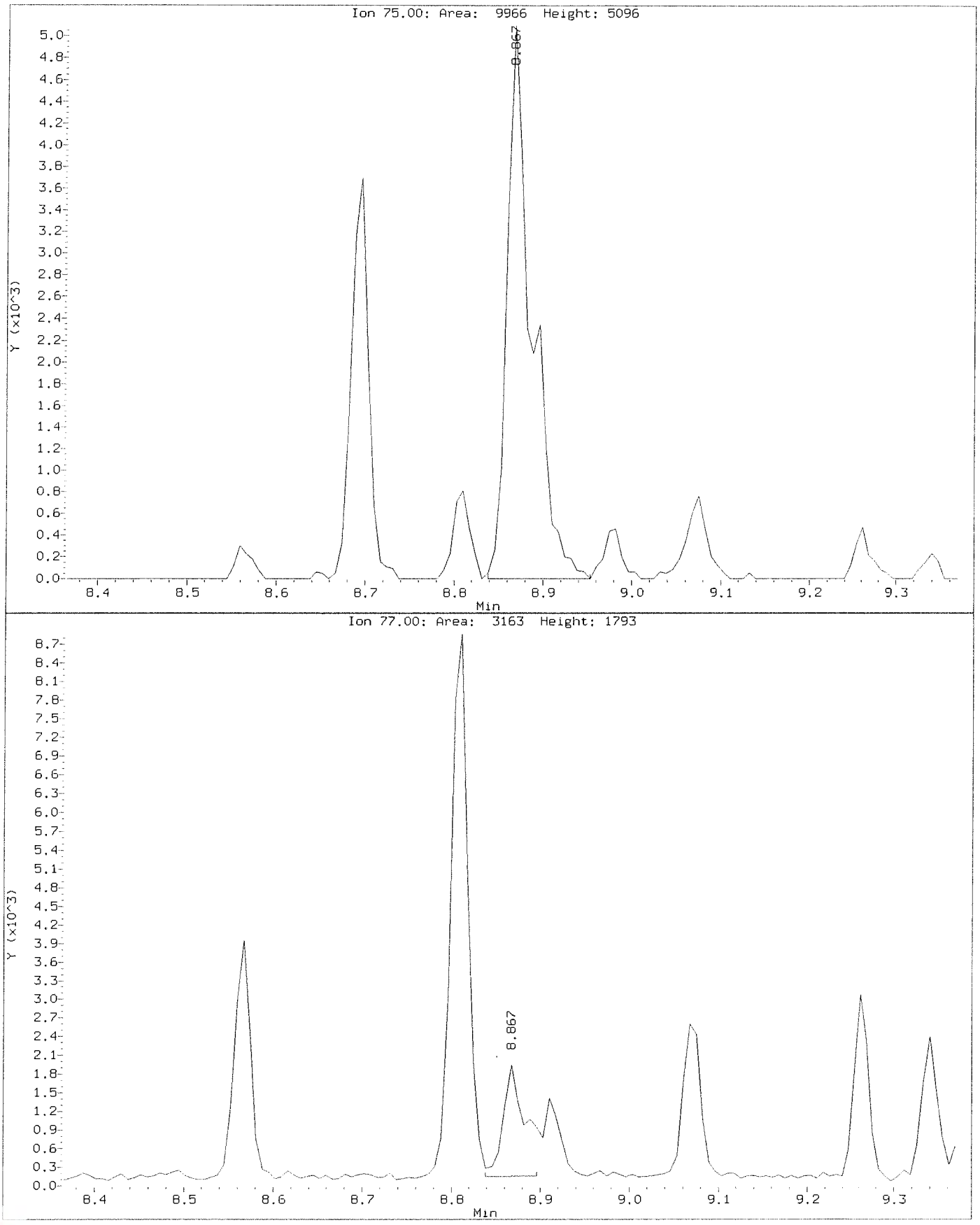


Data File: \\nahstws005\Target\chem\voa6,i\X191118,b\X111805,D
Date : 18-NOV-2019 15:23
Client ID: VSTD002
Sample Info: VSTD002;VSTD002;1;4;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6,i
Operator: PC
Column diameter: 0.18

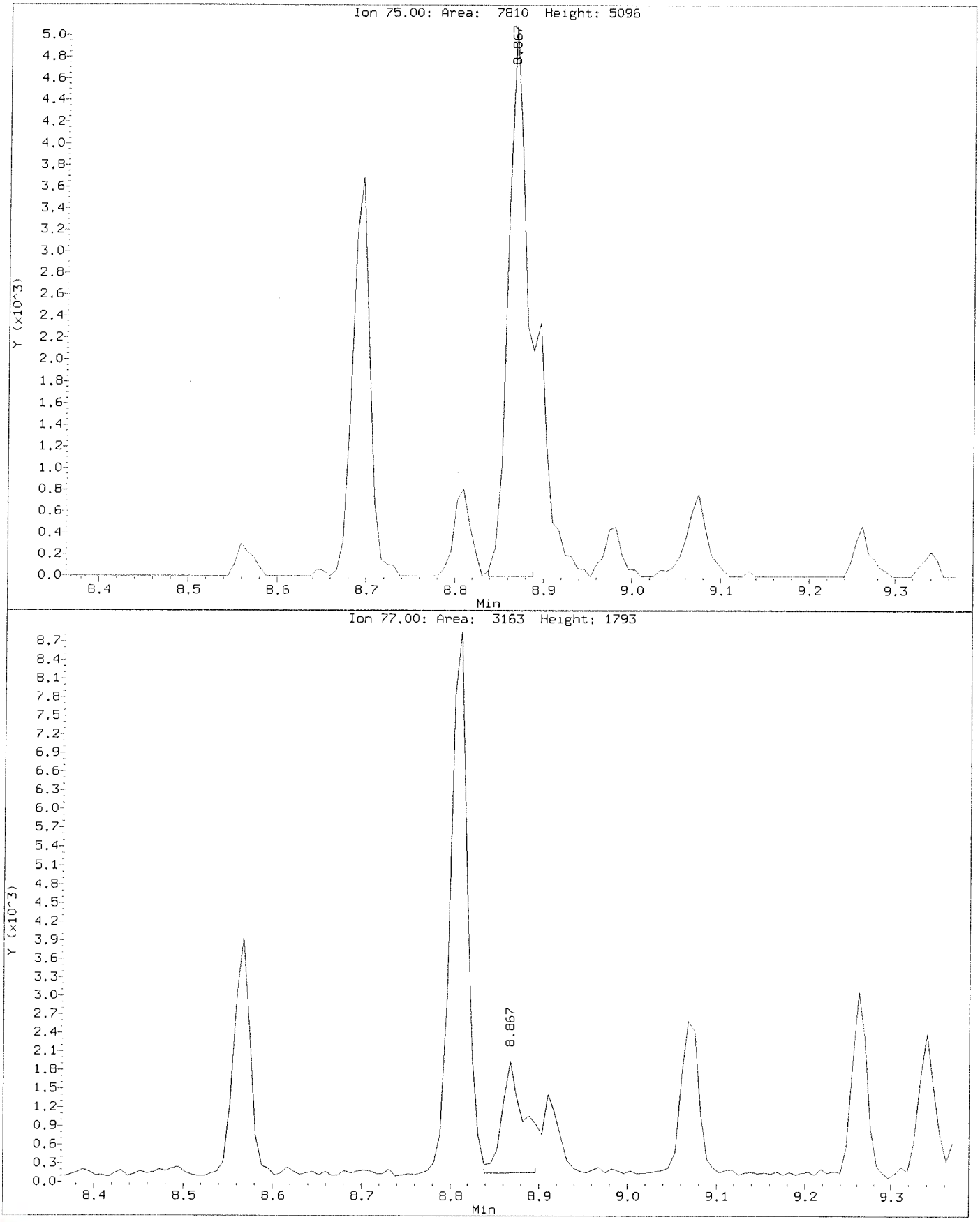
Data File: \\nahstws005\Target\chem\voa6.i\X191118.b\BEFORE\X111805.D
Injection Date: 18-NOV-2019 15:23
Instrument: voa6.i
Client Sample ID: VSTD002

Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4



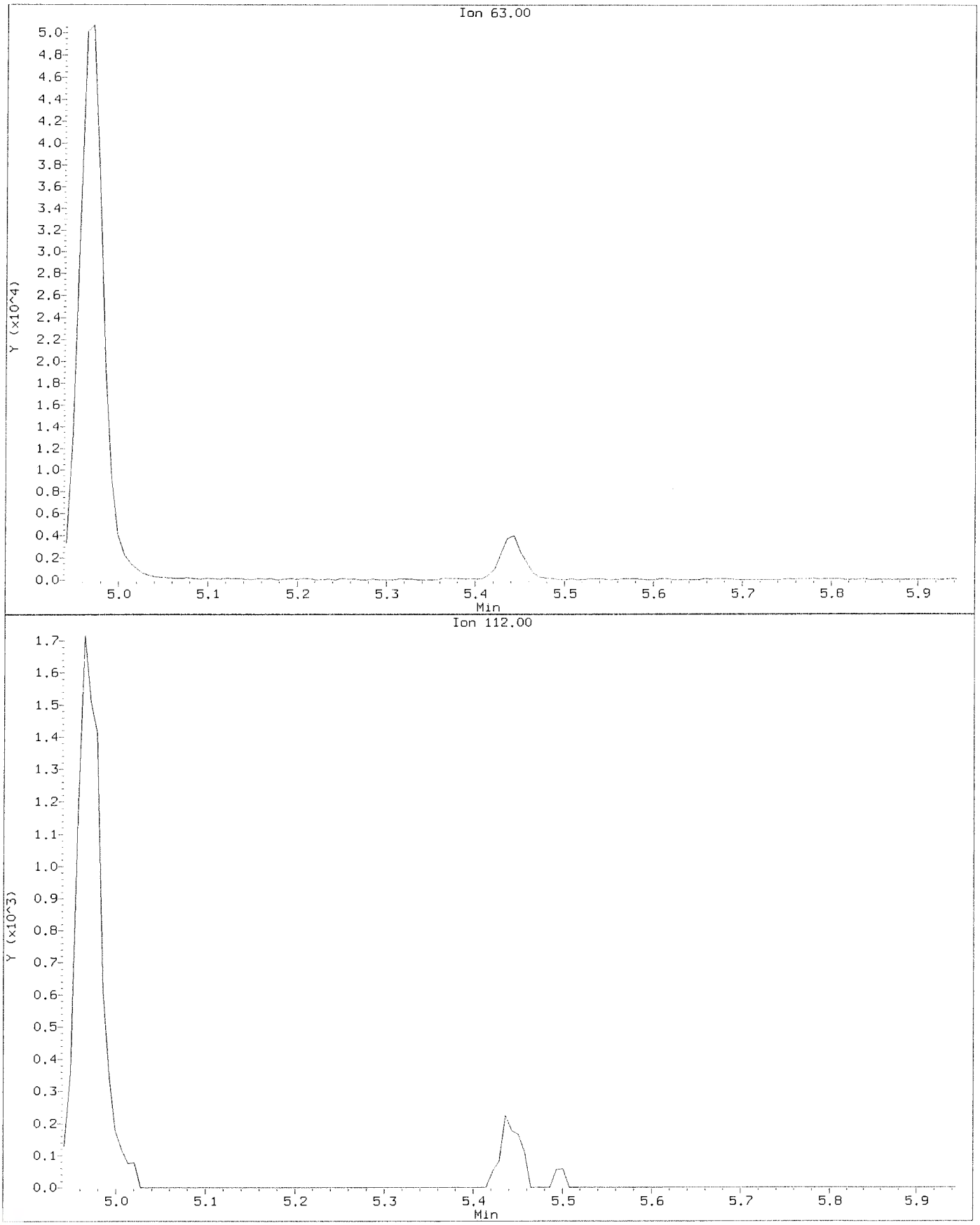
Data File: \\nahstws005\Target\chem\voa6.i\X191118.b\X111805.D
Injection Date: 18-NOV-2019 15:23
Instrument: voa6.i
Client Sample ID: VSTD002

Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4



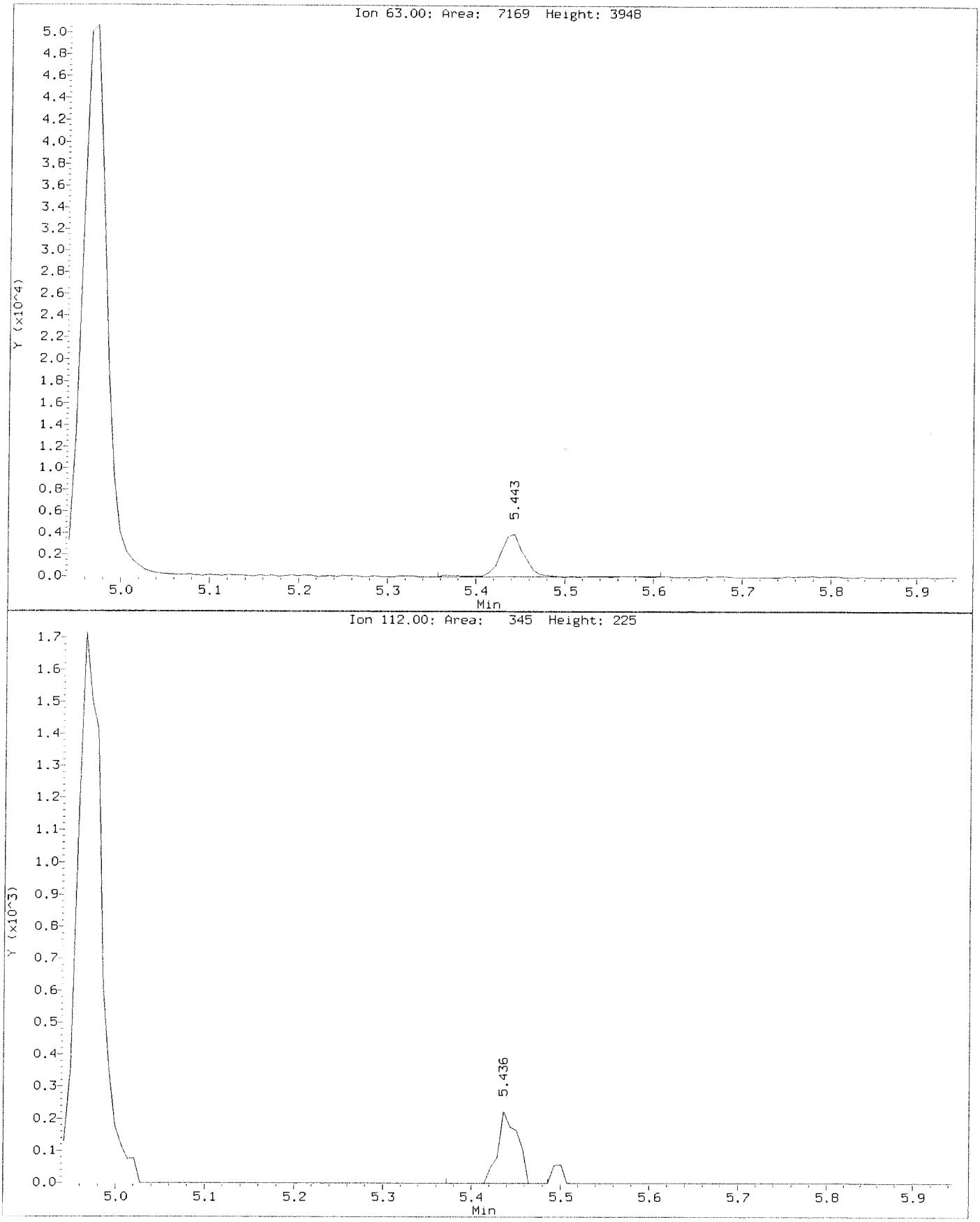
Data File: \\nahstws005\Target\chem\voa6.i\X191118.b\BEFORE\X111805.D
Injection Date: 18-NOV-2019 15:23
Instrument: voa6.i
Client Sample ID: VSTD002

Compound: 1,2-Dichloropropane
CAS Number: 78-87-5



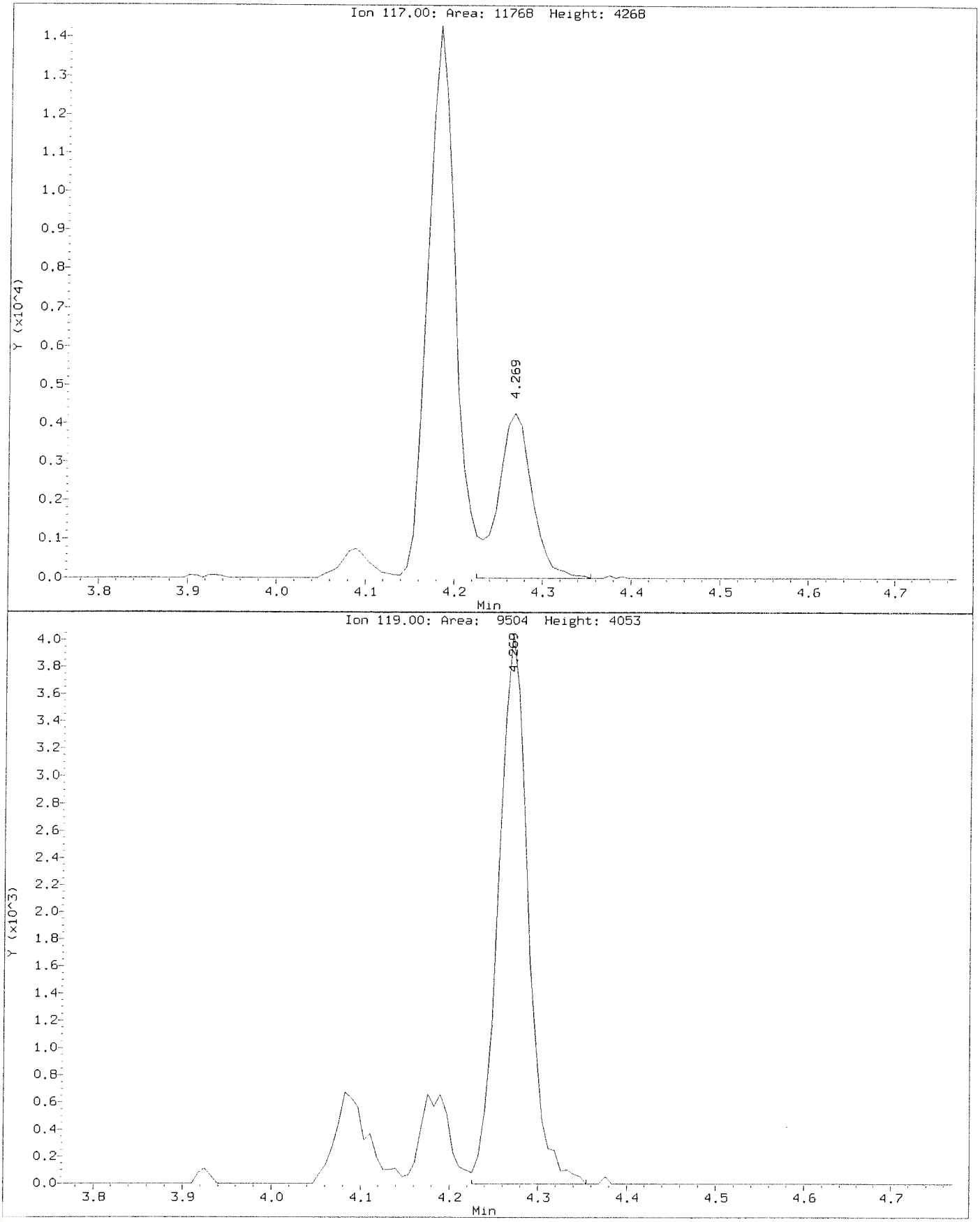
Data File: \\nahstws005\Target\chem\voa6.i\X191118.b\X111805.D
Injection Date: 18-NOV-2019 15:23
Instrument: voa6.i
Client Sample ID: VSTD002

Compound: 1,2-Dichloropropane
CAS Number: 78-87-5



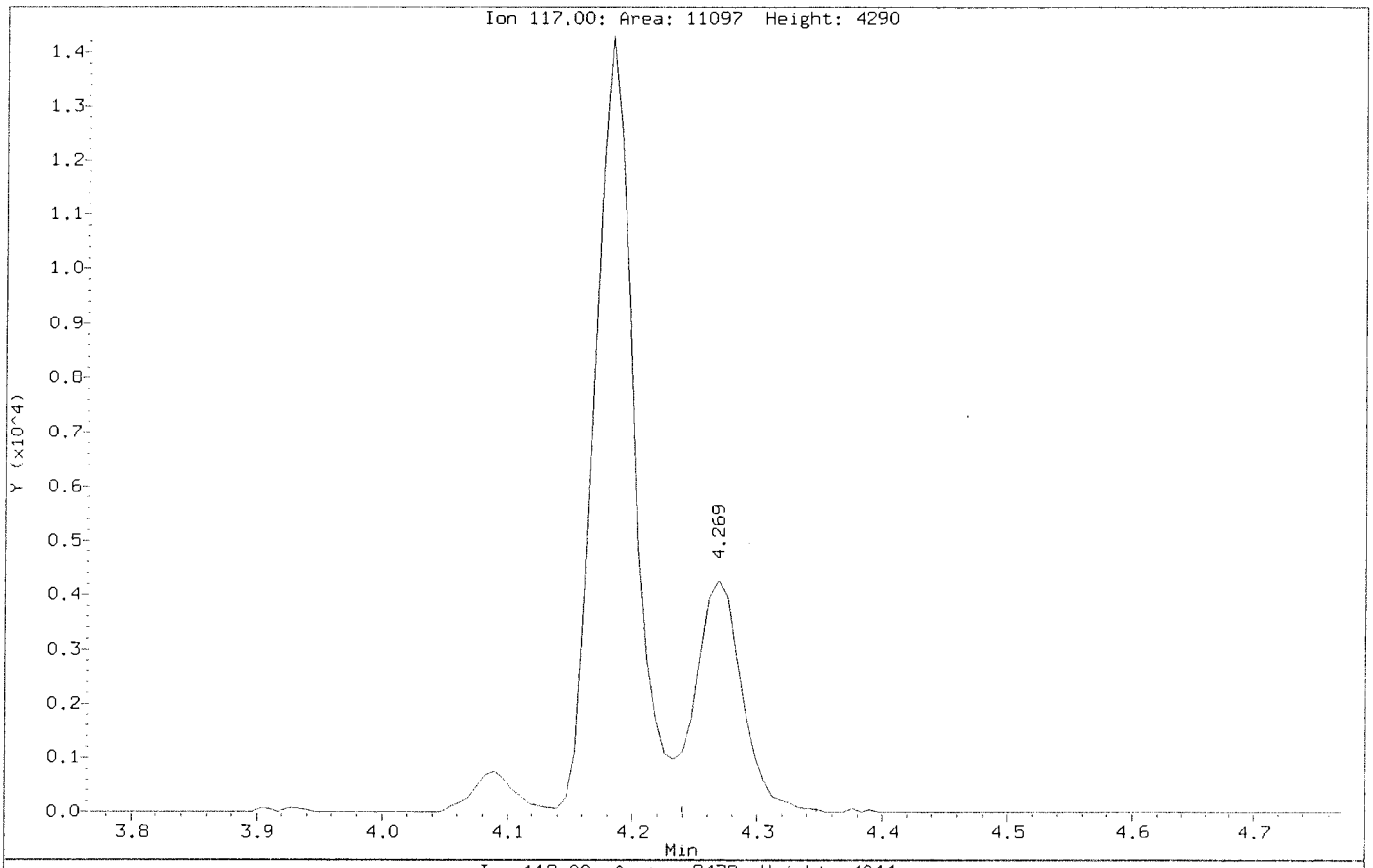
Data File: \\nahstws005\Target\chem\voa6.i\X191118.b\BEFORE\X111805.D
Injection Date: 18-NOV-2019 15:23
Instrument: voa6.i
Client Sample ID: VSTD002

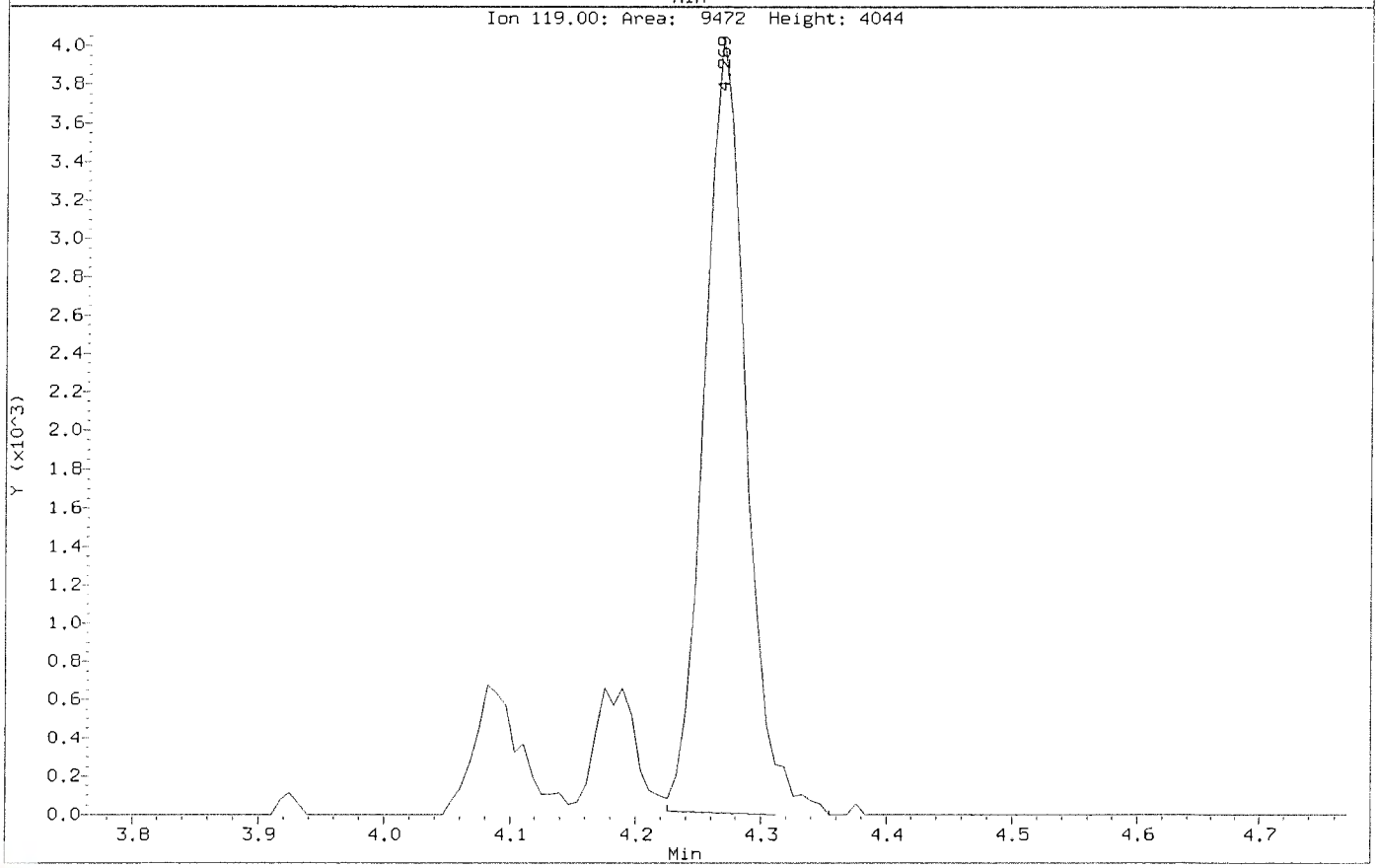
Compound: Carbon Tetrachloride
CAS Number: 56-23-5



Data File: \\nahstws005\Target\chem\voa6.i\X191118.b\X111B05.D
Injection Date: 18-NOV-2019 15:23
Instrument: voa6.i
Client Sample ID: VSTD002

Compound: Carbon Tetrachloride
CAS Number: 56-23-5





Data File: \\nahstws005\Target\chem\voa6.i\X191118.b\X111806.D Page 1
Report Date: 06-Dec-2019 19:56

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X191118.b\X111806.D
Lab Smp Id: VSTD005 Client Smp ID: VSTD005
Inj Date : 18-NOV-2019 15:47
Operator : PC Inst ID: voa6.i
Smp Info : VSTD005;VSTD005;1;5;
Misc Info : HS18090001;WATER;0;1;
Comment   :
Method   : \\nahstws005\Target\chem\voa6.i\X191118.b\8260W.m
Meth Date : 06-Dec-2019 19:56 voa6.i Quant Type: ISTD
Cal Date : 18-NOV-2019 15:23 Cal File: X111805.D
Als bottle: 7 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBIHOUSTONDOD.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

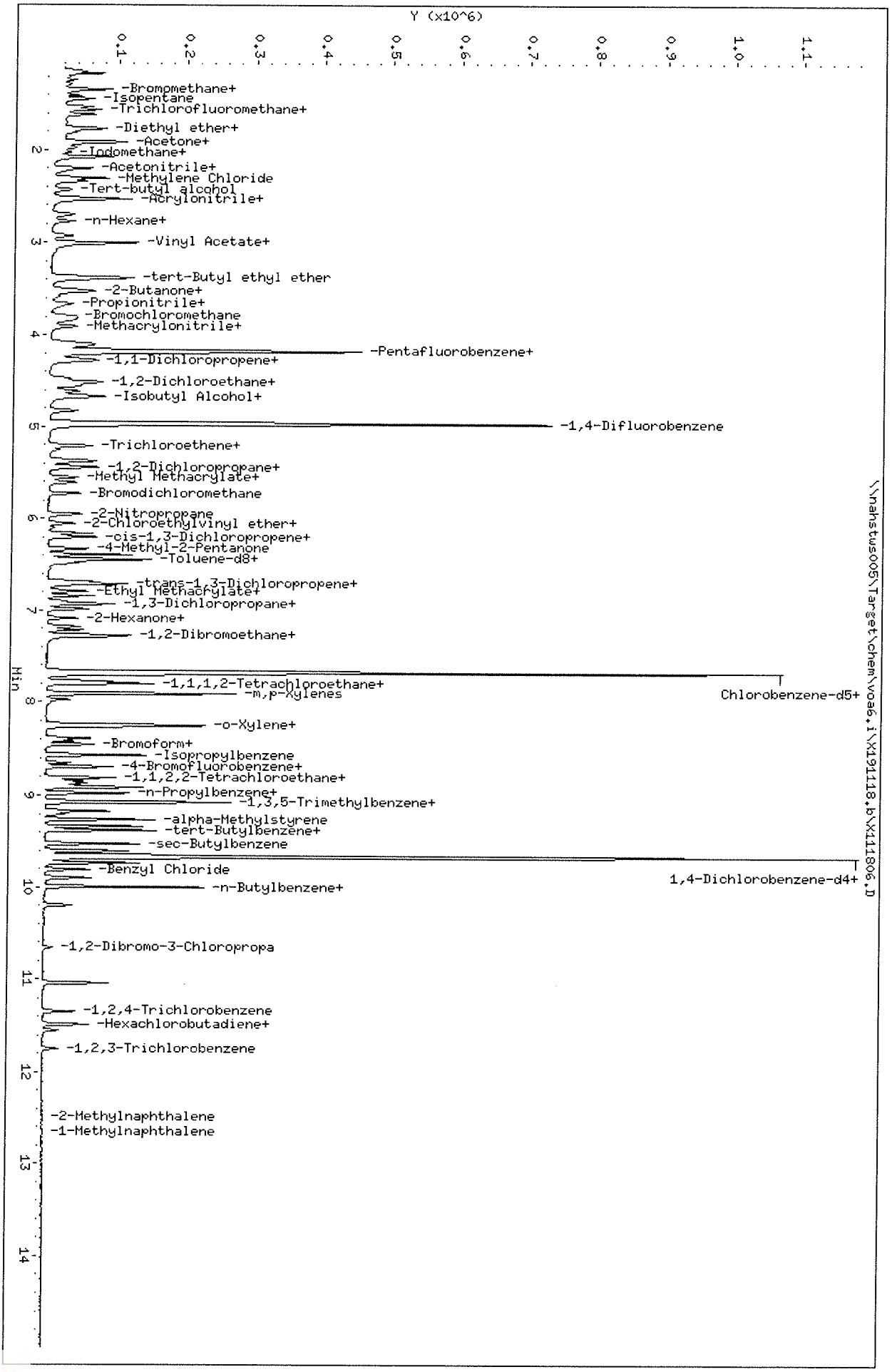
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	410845	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	563063	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	510927	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	277846	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	20921	5.00000	6.06
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	25804	5.00000	5.80
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	20237	5.00000	5.74
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	69936	5.00000	5.19
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	20728	5.00000	5.59
31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	29459	5.00000	5.31
68 1,1,2,2-Tetrachloroethane	83	8.838	8.838	(0.914)	22230	5.00000	5.68
138 Freon TF	101	1.919	1.919	(0.459)	18786	5.00000	5.25
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	15003	5.00000	5.61
22 1,1-Dichloroethane	63	2.922	2.922	(0.699)	32313	5.00000	5.40
11 1,1-Dichloroethene	96	1.912	1.912	(0.457)	19077	5.00000	5.47
32 1,1-Dichloropropene	75	4.283	4.283	(0.862)	24310	5.00000	5.35
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.215)	6553	5.00000	5.62
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.917)	18403	5.00000	5.55(M)
90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	14399	5.00000	6.15
79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.970)	71210	5.00000	5.40
89 1,2-Dibromo-3-Chloropropane	155	10.658	10.658	(1.102)	2641	5.00000	5.82
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	20565	5.00000	5.73

Data File: \\nahstws005\Target\chem\voa6.i\X191118.b\X111806.D Page 2
Report Date: 06-Dec-2019 19:56

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
88	1,2-Dichlorobenzene	146	9.999	9.999	(1.034)	41602	5.00000	5.64
33	1,2-Dichloroethane	62	4.562	4.562	(0.918)	24346	5.00000	5.44
42	1,2-Dichloropropane	63	5.436	5.436	(1.094)	19076	5.00000	5.67
75	1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	68944	5.00000	5.45
83	1,3-Dichlorobenzene	146	9.605	9.605	(0.993)	45064	5.00000	5.65
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	29776	5.00000	5.49
84	1,4-Dichlorobenzene	146	9.683	9.683	(1.001)	44703	5.00000	5.52
26	2,2-Dichloropropane	77	3.516	3.516	(0.841)	28965	5.00000	5.33
24	2-Butanone	43	3.581	3.581	(0.856)	13522	10.0000	10.72
76	2-Chlorotoluene	91	8.974	8.974	(0.928)	56464	5.00000	5.64
52	2-Hexanone	43	7.090	7.090	(0.924)	23980	10.0000	11.42
77	4-Chlorotoluene	91	9.075	9.075	(0.939)	66074	5.00000	5.45
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	71485	5.00000	5.25
45	4-Methyl-2-Pentanone	43	6.324	6.324	(0.824)	33803	10.0000	11.29
10	Acetone	43	1.969	1.969	(0.471)	15992	10.0000	11.75
37	Benzene	78	4.512	4.512	(0.908)	72584	5.00000	5.63
74	Bromobenzene	156	8.810	8.810	(0.911)	27619	5.00000	5.71
29	Bromochloromethane	128	3.795	3.795	(0.908)	11669	5.00000	5.24
39	Bromodichloromethane	83	5.729	5.729	(1.153)	26638	5.00000	5.71
66	Bromoform	173	8.416	8.416	(1.097)	16084	5.00000	6.17
6	Bromomethane	94	1.338	1.338	(0.320)	28671	5.00000	4.99(a)
19	Carbon Disulfide	76	2.069	2.069	(0.495)	103008	10.0000	10.87
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	26931	5.00000	5.41(M)
59	Chlorobenzene	112	7.699	7.699	(1.004)	55668	5.00000	5.58
7	Chloroethane	64	1.403	1.403	(0.336)	13261	5.00000	5.12
28	Chloroform	83	3.910	3.910	(0.935)	34944	5.00000	5.25
3	Chloromethane	50	1.073	1.073	(0.257)	24949	5.00000	5.75
27	cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	22227	5.00000	5.70
46	cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	31191	5.00000	5.68
55	Dibromochloromethane	129	7.176	7.176	(0.936)	21920	5.00000	5.64
44	Dibromomethane	93	5.558	5.558	(1.118)	13775	5.00000	5.78
2	Dichlorodifluoromethane	85	0.973	0.973	(0.233)	18346	5.00000	5.69
61	Ethylbenzene	106	7.800	7.800	(1.017)	29424	5.00000	5.70
91	Hexachlorobutadiene	225	11.489	11.489	(1.188)	11525	5.00000	5.47
67	Isopropylbenzene	105	8.566	8.566	(1.117)	81869	5.00000	5.36
62	m,p-Xylenes	106	7.907	7.907	(1.031)	69325	10.0000	11.14
17	Methylene Chloride	84	2.306	2.306	(0.551)	20180	5.00000	5.43
87	n-Butylbenzene	91	9.999	9.999	(1.034)	57498	5.00000	5.08
73	n-Propylbenzene	91	8.917	8.917	(0.922)	92937	5.00000	5.41
92	Naphthalene	128	11.546	11.546	(1.194)	17063	5.00000	5.68
63	o-Xylene	106	8.244	8.244	(1.075)	33646	5.00000	5.48
81	sec-Butylbenzene	105	9.526	9.526	(0.985)	78149	5.00000	5.23
64	Styrene	104	8.258	8.258	(1.077)	58650	5.00000	5.49
78	tert-Butylbenzene	119	9.340	9.340	(0.966)	59074	5.00000	5.45
56	Tetrachloroethene	164	6.933	6.933	(0.904)	20334	5.00000	5.66
50	Toluene	91	6.446	6.446	(0.840)	80201	5.00000	5.53
20	trans-1,2-Dichloroethene	96	2.535	2.535	(0.606)	18086	5.00000	5.35
51	trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	28395	5.00000	5.67
38	Trichloroethene	130	5.207	5.207	(1.048)	22280	5.00000	5.65
8	Trichlorofluoromethane	101	1.561	1.561	(0.373)	33411	5.00000	5.24
5	Vinyl Chloride	62	1.138	1.138	(0.272)	20691	5.00000	4.94(a)

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.

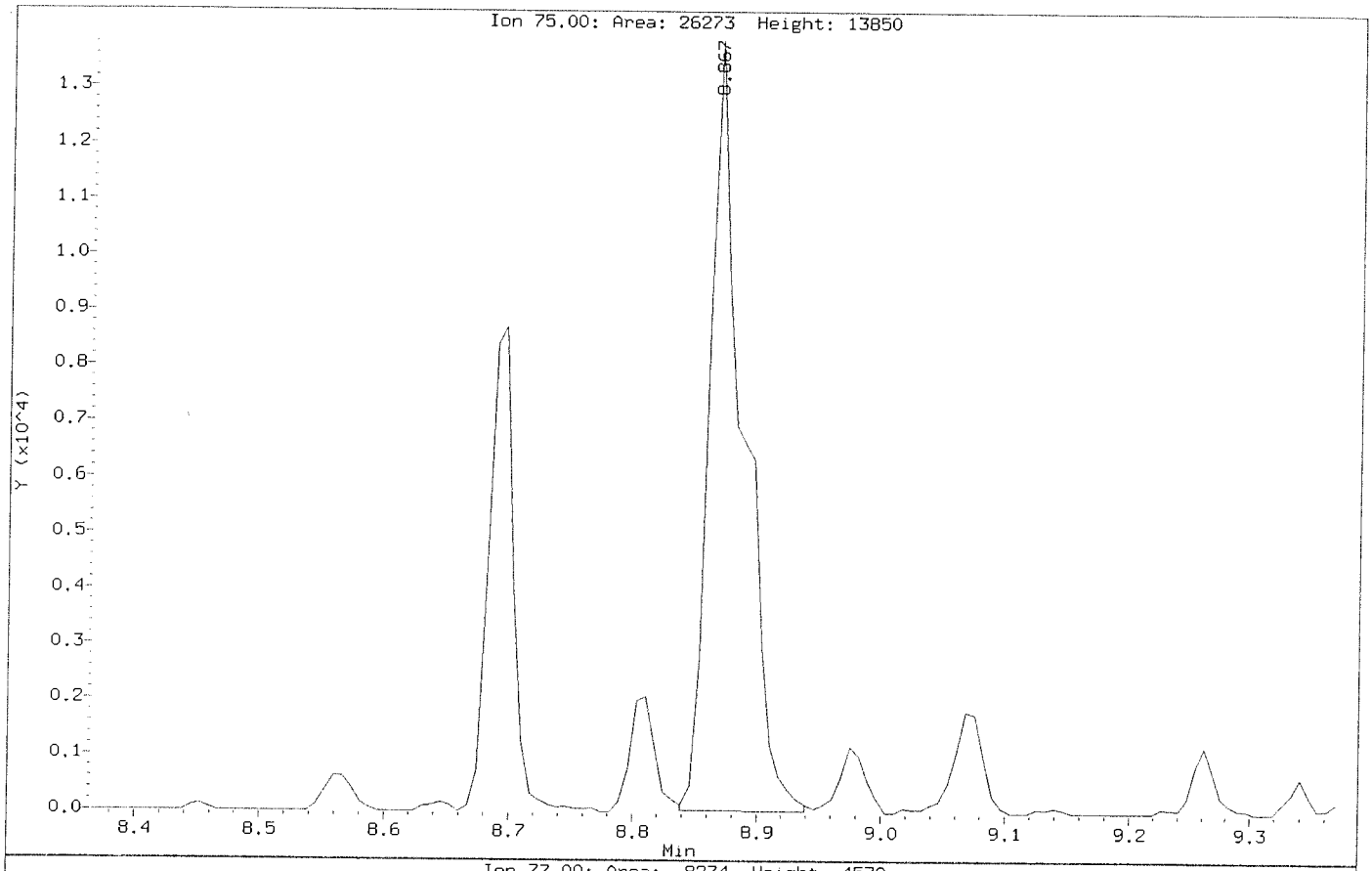


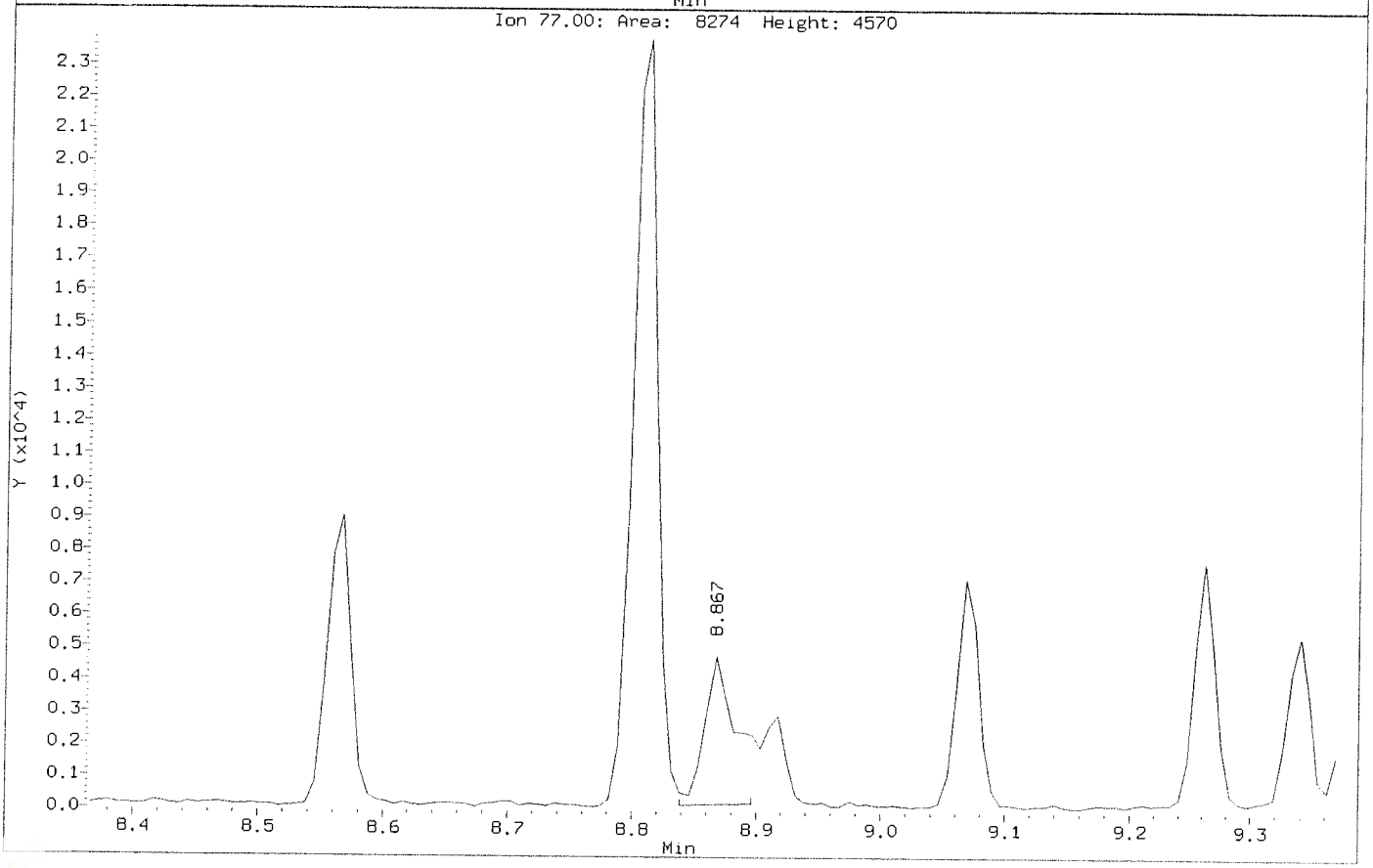
Data File: \\nahstws005\Target\chem\voa6.i\X191118.b\X111806.D
Date : 18-NOV-2019 15:47
Client ID: VSTD005
Sample Info: VSTD005;VSTD005;1;5;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: \\nahstws005\Target\chem\voa6.i\X191118.b\BEFORE\X111806.D
Injection Date: 18-NOV-2019 15:47
Instrument: voa6.i
Client Sample ID: VSTD005

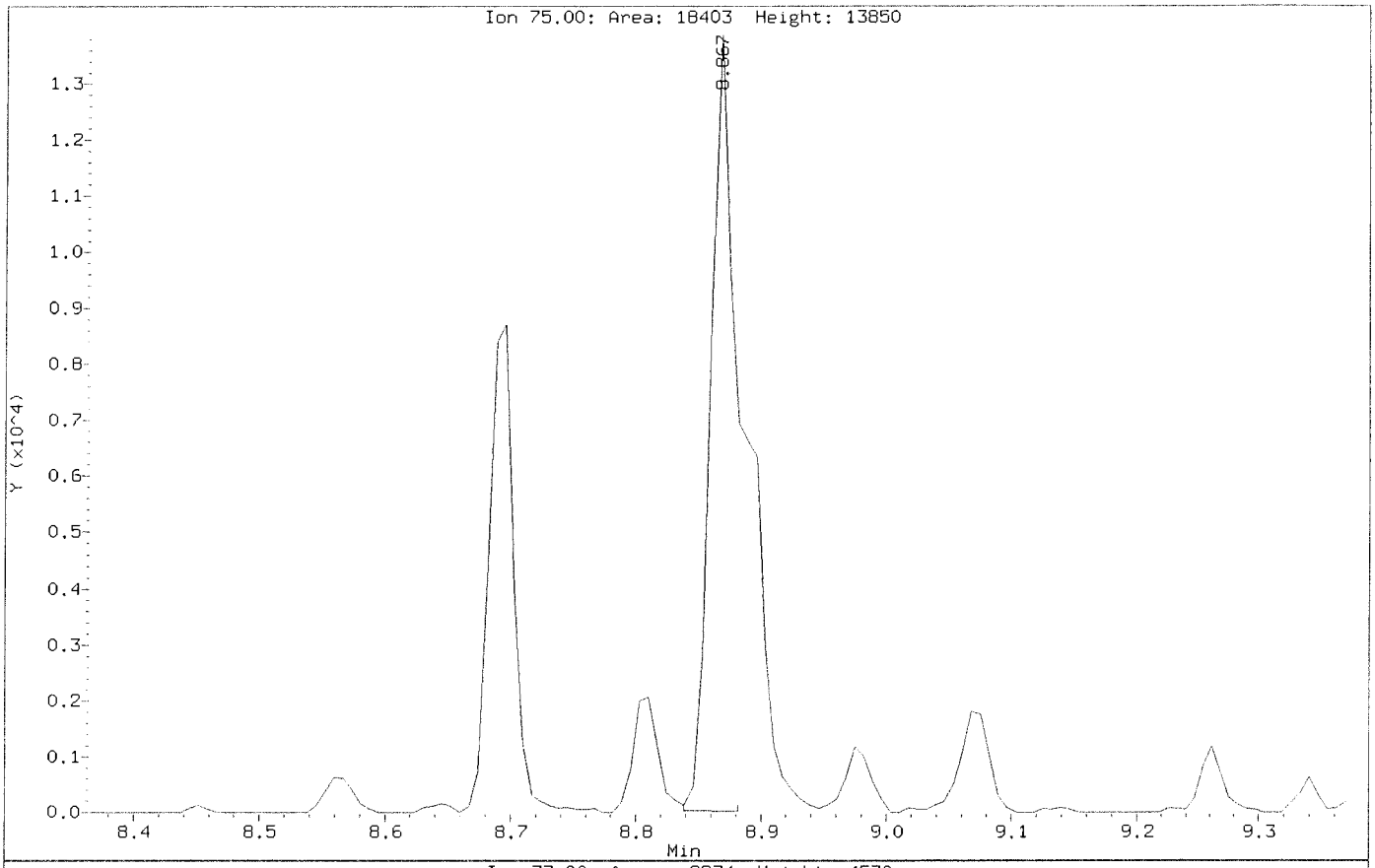
Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4

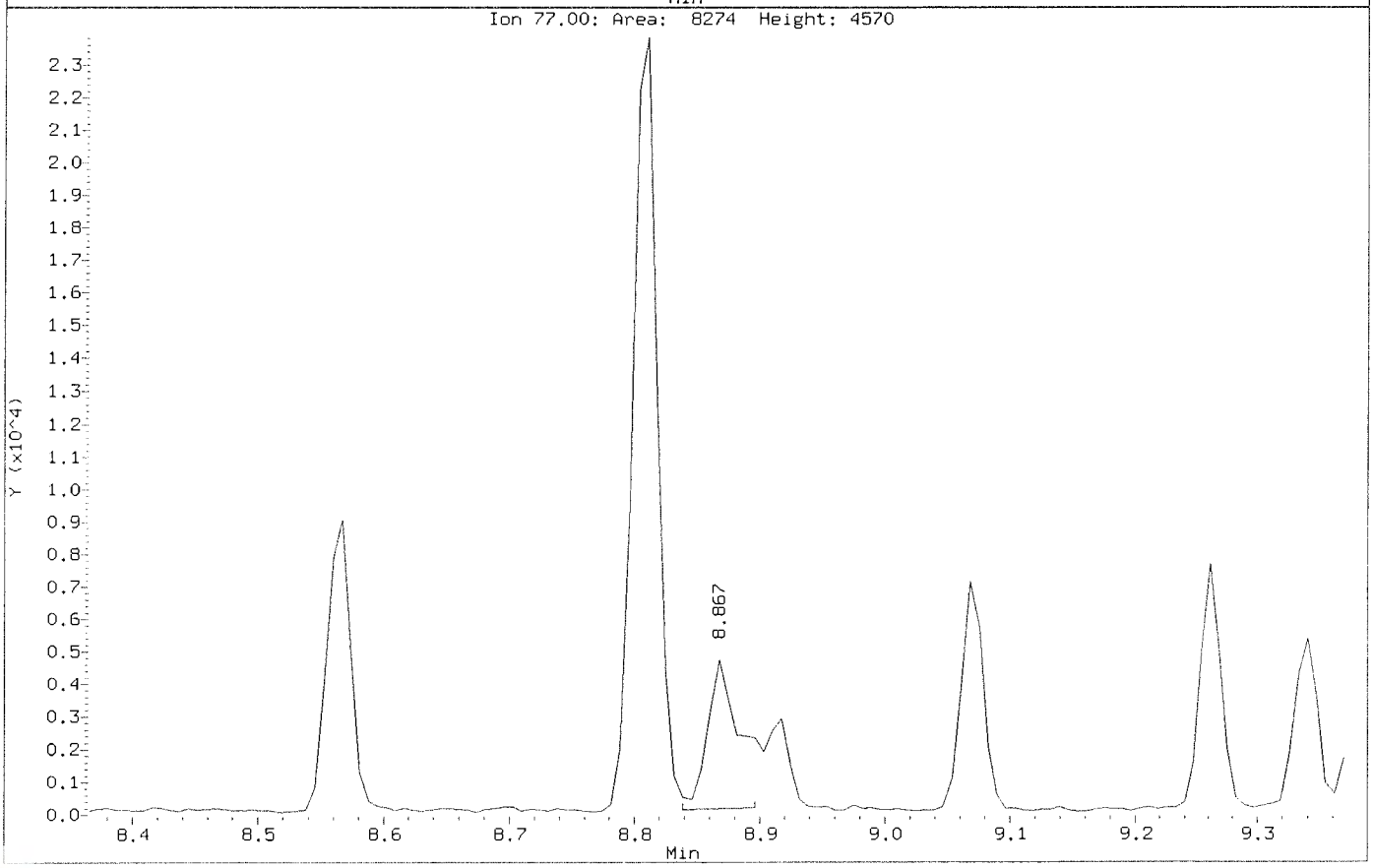




Data File: \\nahstws005\Target\chem\voa6.i\X191118.b\X111806.D
Injection Date: 18-NOV-2019 15:47
Instrument: voa6.i
Client Sample ID: VSTD005

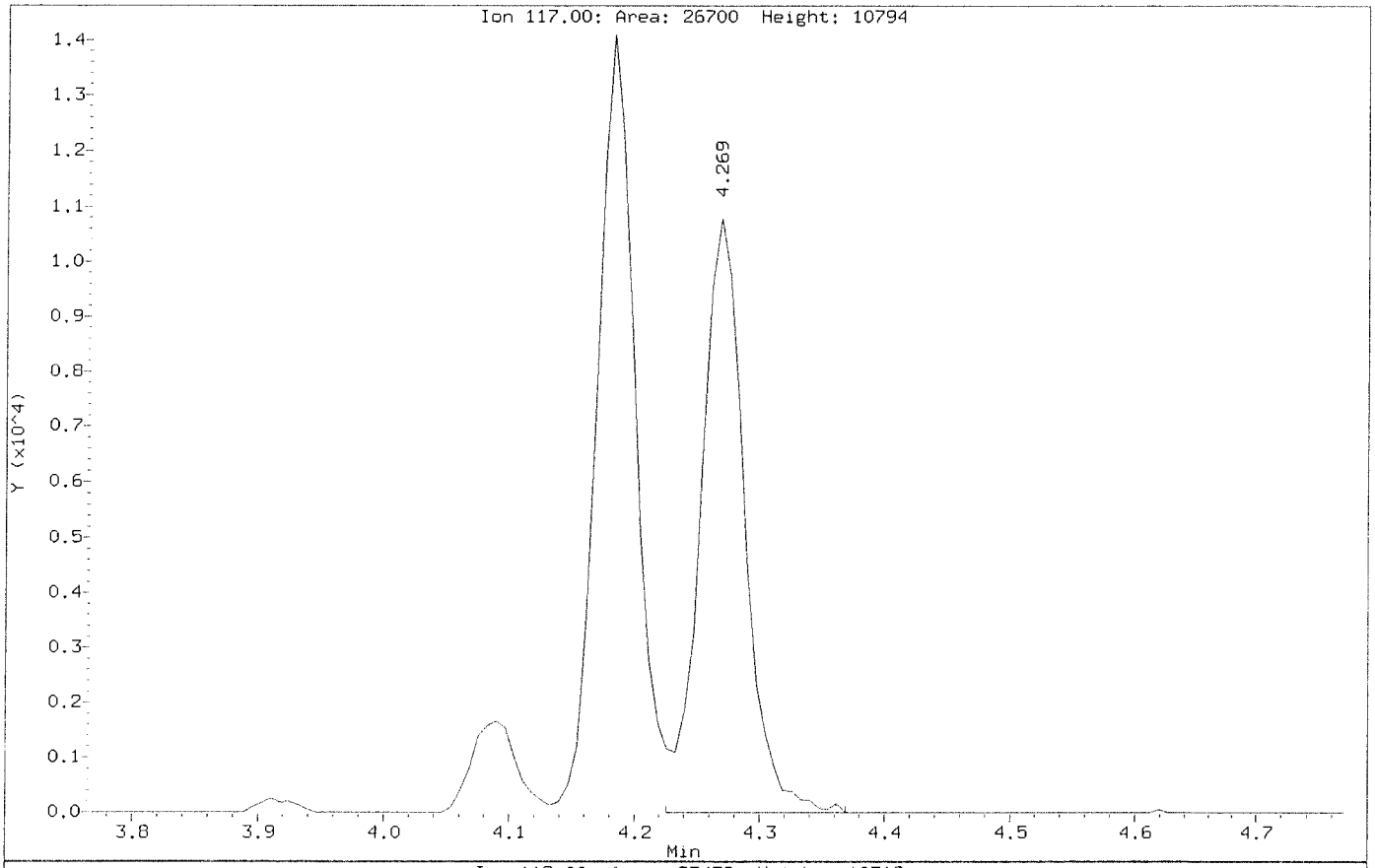
Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4

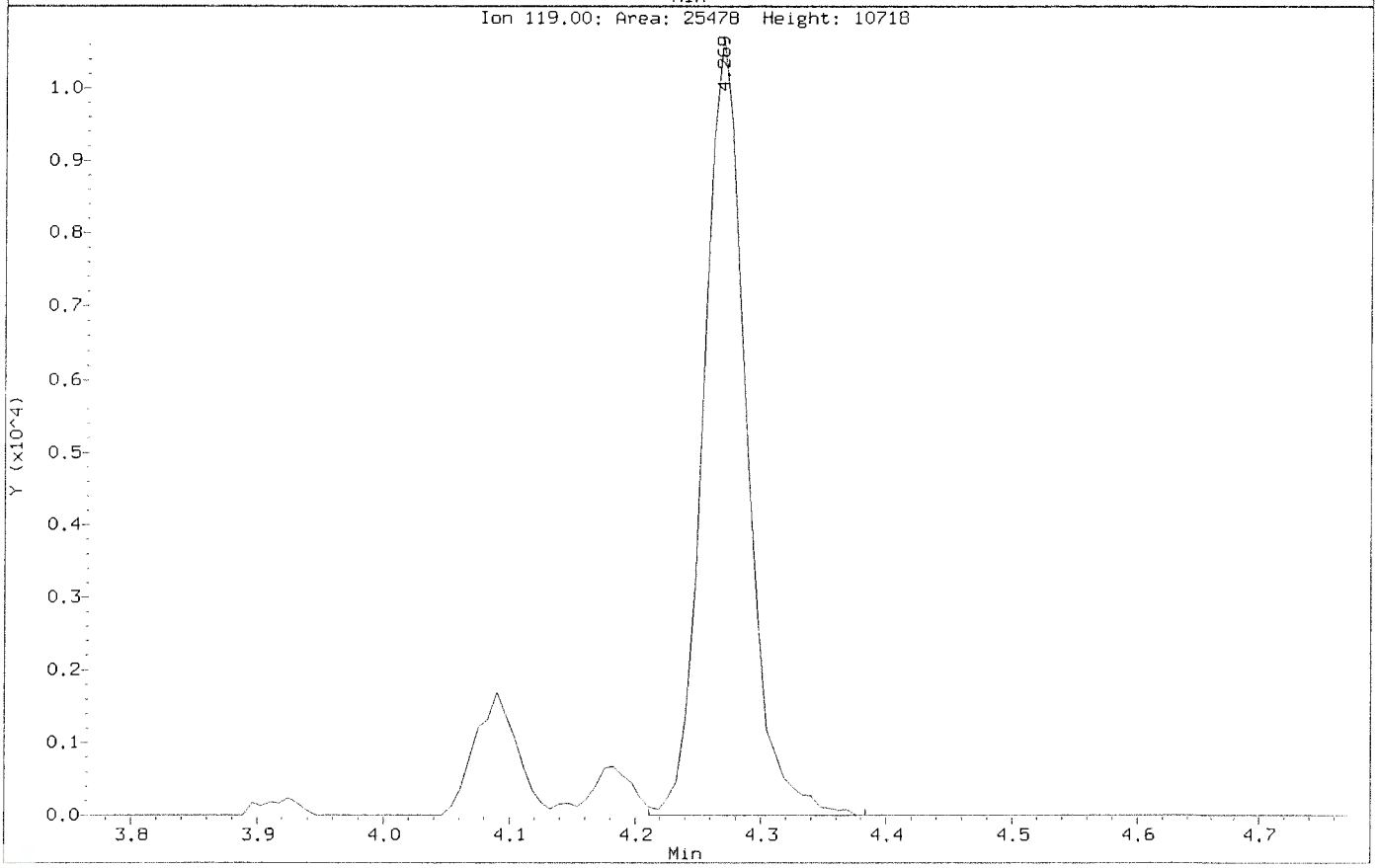




Data File: \\nahstws005\Target\chem\voa6.i\X191118.b\BEFORE\X111806.D
Injection Date: 18-NOV-2019 15:47
Instrument: voa6.i
Client Sample ID: VSTD005

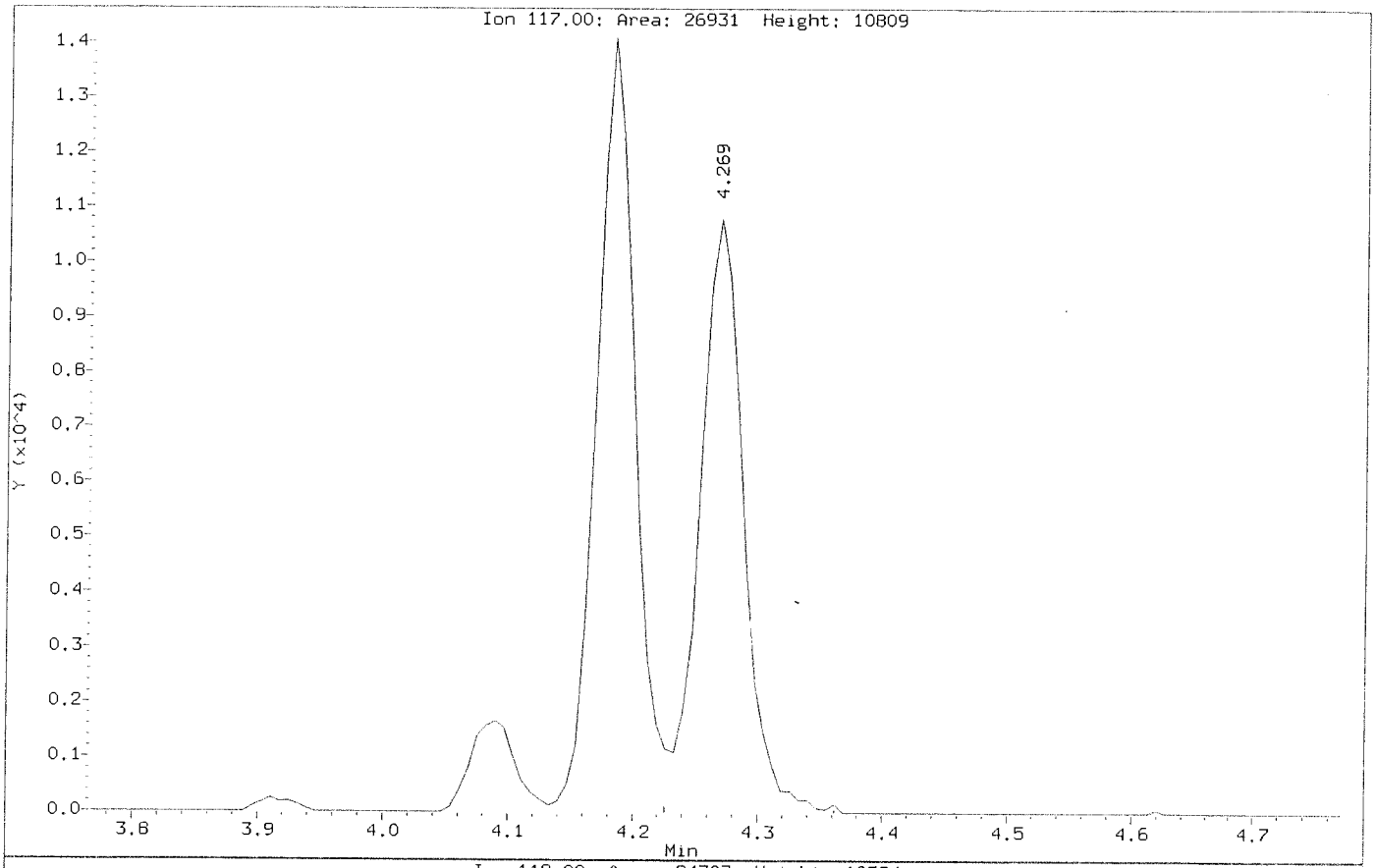
Compound: Carbon Tetrachloride
CAS Number: 56-23-5

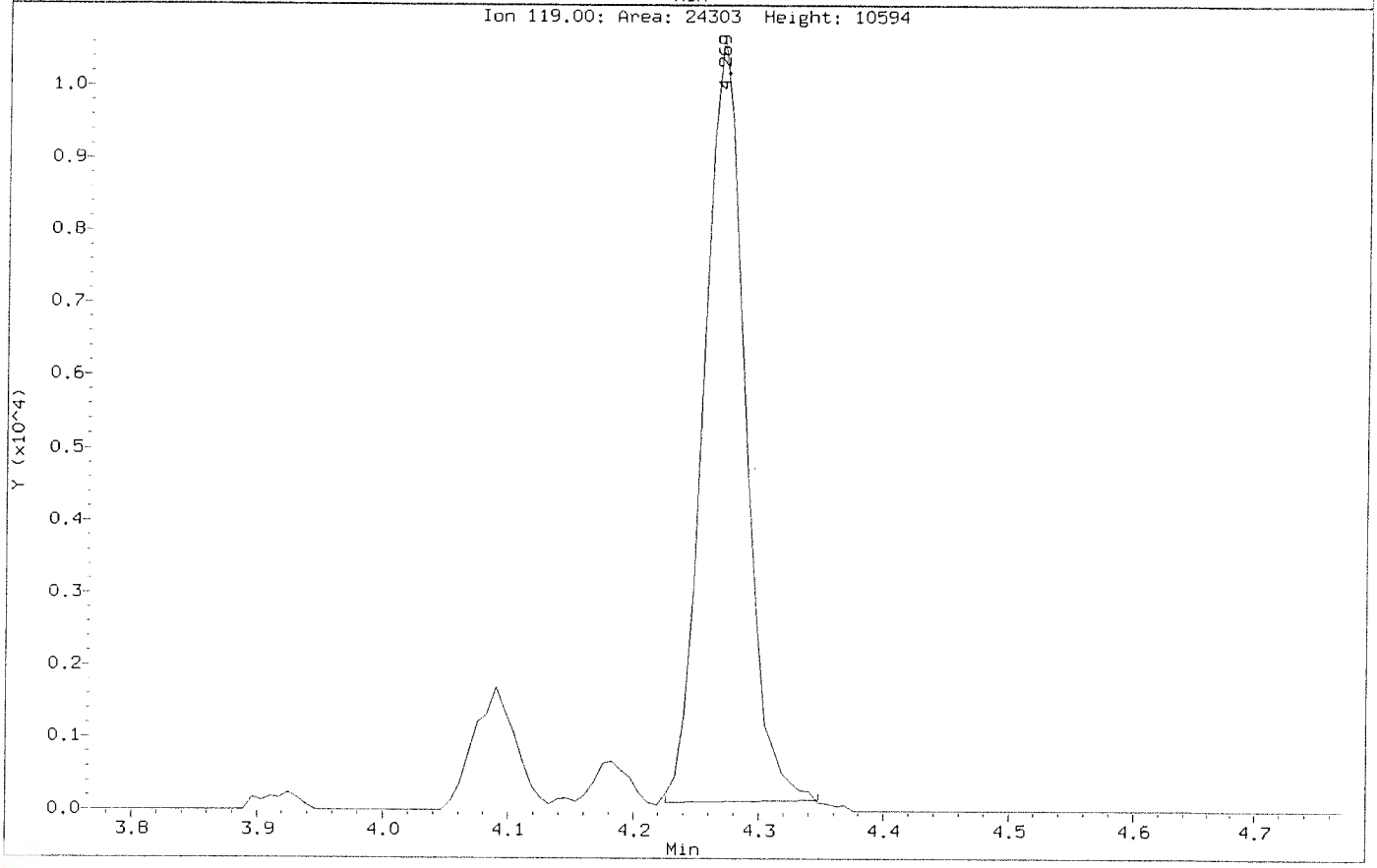




Data File: \\nahstws005\Target\chem\voa6.i\X191118.b\X111806.D
Injection Date: 18-NOV-2019 15:47
Instrument: voa6.i
Client Sample ID: VSTD005

Compound: Carbon Tetrachloride
CAS Number: 56-23-5





Data File: \\nahstws005\Target\chem\voa6.i\X191118.b\X111807.D Page 1
Report Date: 06-Dec-2019 19:56

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X191118.b\X111807.D
Lab Smp Id: VSTD020 Client Smp ID: VSTD020
Inj Date : 18-NOV-2019 16:11
Operator : PC Inst ID: voa6.i
Smp Info : VSTD020;VSTD020;1;6;
Misc Info : HS18090001;WATER;0;1;
Comment   :
Method   : \\nahstws005\Target\chem\voa6.i\X191118.b\8260W.m
Meth Date : 06-Dec-2019 19:56 voa6.i Quant Type: ISTD
Cal Date : 18-NOV-2019 15:47 Cal File: X111806.D
Als bottle: 8 Calibration Sample, Level: 6
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBIHOUSTONDOD.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

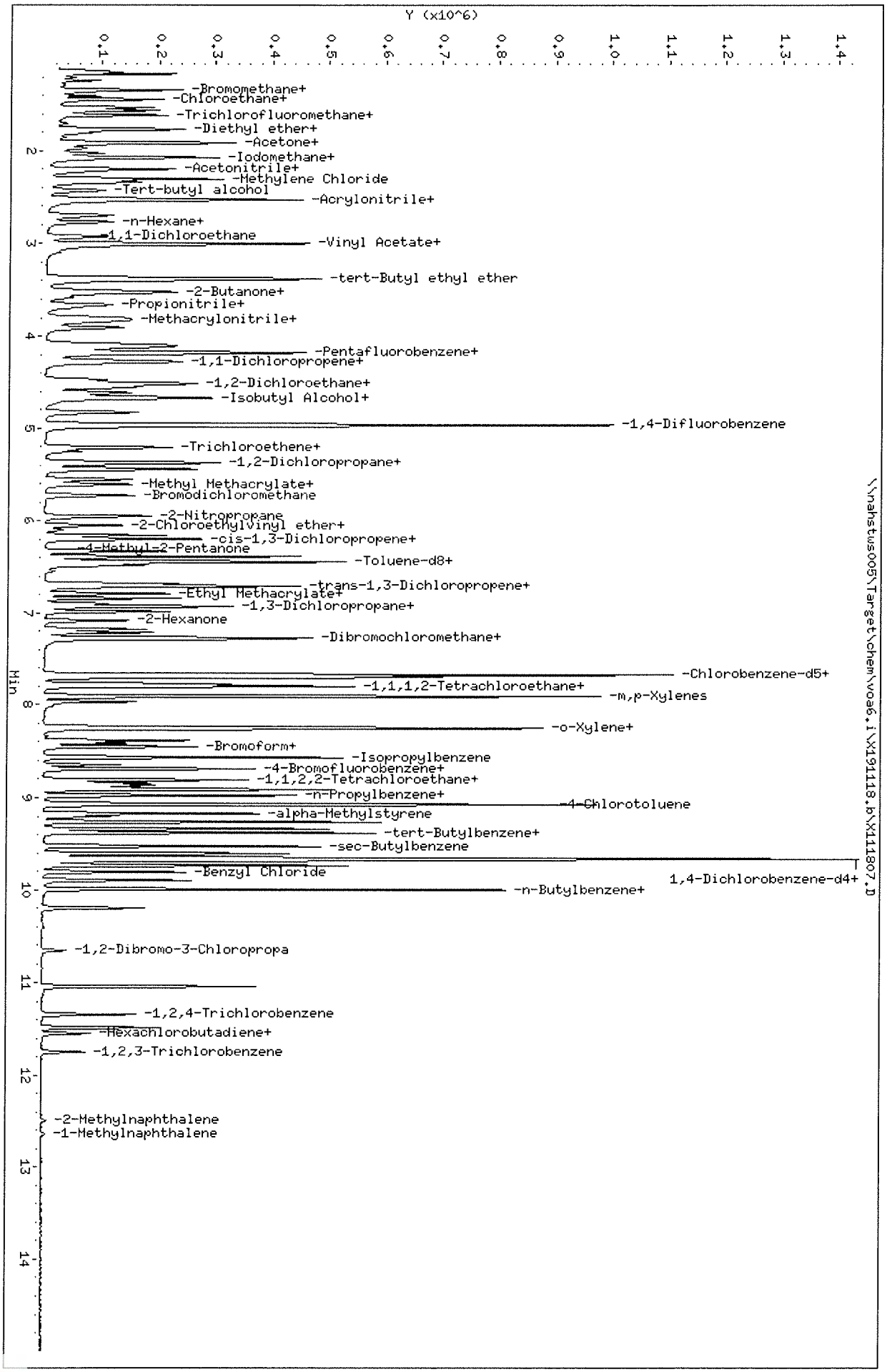
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	411693	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	563792	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	515046	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	278890	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	75813	20.0000	20.02
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	94194	20.0000	19.91
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	75094	20.0000	20.28
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	260273	20.0000	19.17
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	73347	20.0000	19.62
31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	105363	20.0000	18.97
68 1,1,2,2-Tetrachloroethane	83	8.838	8.838	(0.915)	75821	20.0000	19.33
138 Freon TF	101	1.919	1.919	(0.459)	62543	20.0000	17.44
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	52184	20.0000	19.38
22 1,1-Dichloroethane	63	2.921	2.921	(0.699)	113669	20.0000	18.97
11 1,1-Dichloroethene	96	1.919	1.919	(0.459)	64160	20.0000	18.38
32 1,1-Dichloropropene	75	4.282	4.282	(0.862)	84000	20.0000	18.47
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.216)	21856	20.0000	20.64
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.918)	64689	20.0000	19.46(M)
90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	46623	20.0000	19.84
79 1,2,4-Trimethylbenzene	105	9.382	9.382	(0.971)	254992	20.0000	19.26
89 1,2-Dibromo-3-Chloropropane	155	10.657	10.657	(1.103)	8805	20.0000	20.13
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	71738	20.0000	19.85

Data File: \\nahstws005\Target\chem\voa6.i\X191118.b\X111807.D Page 2
Report Date: 06-Dec-2019 19:56

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
88	1,2-Dichlorobenzene	146	9.998	9.998	(1.035)	144121	20.0000	19.47
33	1,2-Dichloroethane	62	4.562	4.562	(0.918)	88277	20.0000	19.72
42	1,2-Dichloropropane	63	5.443	5.443	(1.095)	64004	20.0000	19.00
75	1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	247054	20.0000	19.45
83	1,3-Dichlorobenzene	146	9.605	9.605	(0.994)	157428	20.0000	19.68
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	105400	20.0000	19.28
84	1,4-Dichlorobenzene	146	9.683	9.683	(1.002)	158049	20.0000	19.44
26	2,2-Dichloropropane	77	3.516	3.516	(0.841)	100376	20.0000	18.46
24	2-Butanone	43	3.580	3.580	(0.856)	48098	40.0000	38.07
76	2-Chlorotoluene	91	8.974	8.974	(0.929)	193547	20.0000	19.28
52	2-Hexanone	43	7.083	7.083	(0.923)	78795	40.0000	37.24
77	4-Chlorotoluene	91	9.074	9.074	(0.939)	231980	20.0000	19.07
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	257377	20.0000	18.86
45	4-Methyl-2-Pentanone	43	6.324	6.324	(0.824)	115695	40.0000	38.33
10	Acetone	43	1.976	1.976	(0.473)	43200	40.0000	38.23
37	Benzene	78	4.512	4.512	(0.908)	250181	20.0000	19.39
74	Bromobenzene	156	8.809	8.809	(0.912)	97394	20.0000	20.09
29	Bromochloromethane	128	3.795	3.795	(0.908)	41933	20.0000	18.80
39	Bromodichloromethane	83	5.729	5.729	(1.153)	89170	20.0000	19.11
66	Bromoform	173	8.415	8.415	(1.097)	56416	20.0000	19.02
6	Bromomethane	94	1.338	1.338	(0.320)	93456	20.0000	21.54
19	Carbon Disulfide	76	2.069	2.069	(0.495)	362755	40.0000	38.21
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	90839	20.0000	18.23(M)
59	Chlorobenzene	112	7.699	7.699	(1.004)	192384	20.0000	19.13
7	Chloroethane	64	1.403	1.403	(0.336)	46616	20.0000	17.98
28	Chloroform	83	3.910	3.910	(0.935)	121141	20.0000	18.16
3	Chloromethane	50	1.073	1.073	(0.257)	85402	20.0000	19.21
27	cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	74754	20.0000	19.14
46	cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	107408	20.0000	19.53
55	Dibromochloromethane	129	7.176	7.176	(0.936)	76215	20.0000	19.48
44	Dibromomethane	93	5.557	5.557	(1.118)	46676	20.0000	19.58
2	Dichlorodifluoromethane	85	0.973	0.973	(0.233)	63810	20.0000	17.59
61	Ethylbenzene	106	7.799	7.799	(1.017)	101554	20.0000	19.54
91	Hexachlorobutadiene	225	11.481	11.481	(1.188)	37789	20.0000	19.03
67	Isopropylbenzene	105	8.566	8.566	(1.117)	293670	20.0000	19.08
62	m,p-Xylenes	106	7.907	7.907	(1.031)	243460	40.0000	38.83
17	Methylene Chloride	84	2.305	2.305	(0.551)	66846	20.0000	17.95
87	n-Butylbenzene	91	9.998	9.998	(1.035)	210608	20.0000	18.54
73	n-Propylbenzene	91	8.917	8.917	(0.923)	331965	20.0000	19.25
92	Naphthalene	128	11.546	11.546	(1.195)	57138	20.0000	18.96
63	o-Xylene	106	8.244	8.244	(1.075)	119876	20.0000	19.37
81	sec-Butylbenzene	105	9.526	9.526	(0.986)	278964	20.0000	18.62
64	Styrene	104	8.258	8.258	(1.077)	206802	20.0000	19.22
78	tert-Butylbenzene	119	9.339	9.339	(0.967)	208031	20.0000	19.13
56	Tetrachloroethene	164	6.933	6.933	(0.904)	68625	20.0000	18.96
50	Toluene	91	6.446	6.446	(0.840)	280019	20.0000	19.17
20	trans-1,2-Dichloroethene	96	2.535	2.535	(0.606)	63600	20.0000	18.77
51	trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	100272	20.0000	20.00
38	Trichloroethene	130	5.206	5.206	(1.048)	77608	20.0000	19.68
8	Trichlorofluoromethane	101	1.560	1.560	(0.373)	116474	20.0000	18.23
5	Vinyl Chloride	62	1.138	1.138	(0.272)	74818	20.0000	17.83

QC Flag Legend

M - Compound response manually integrated.

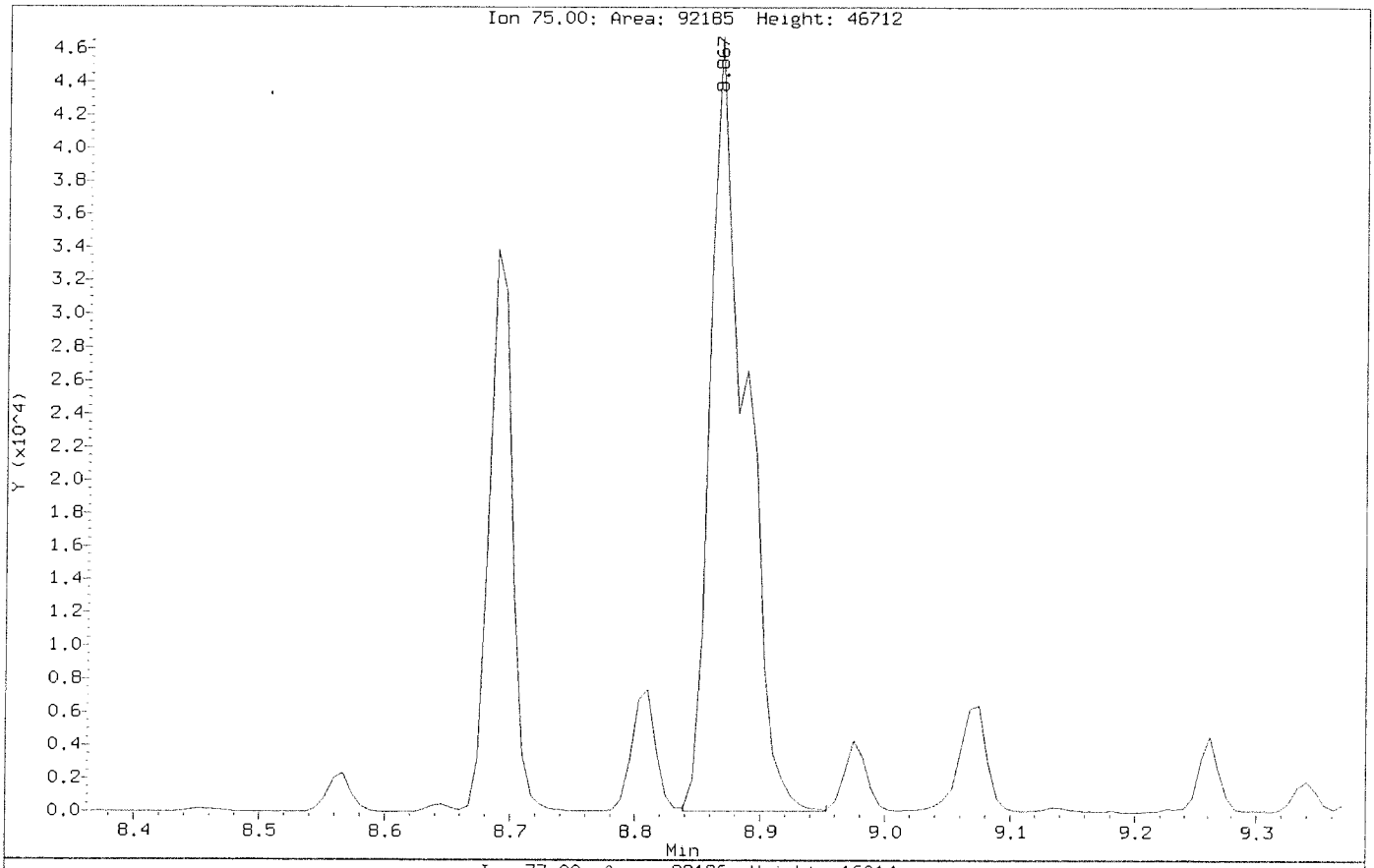


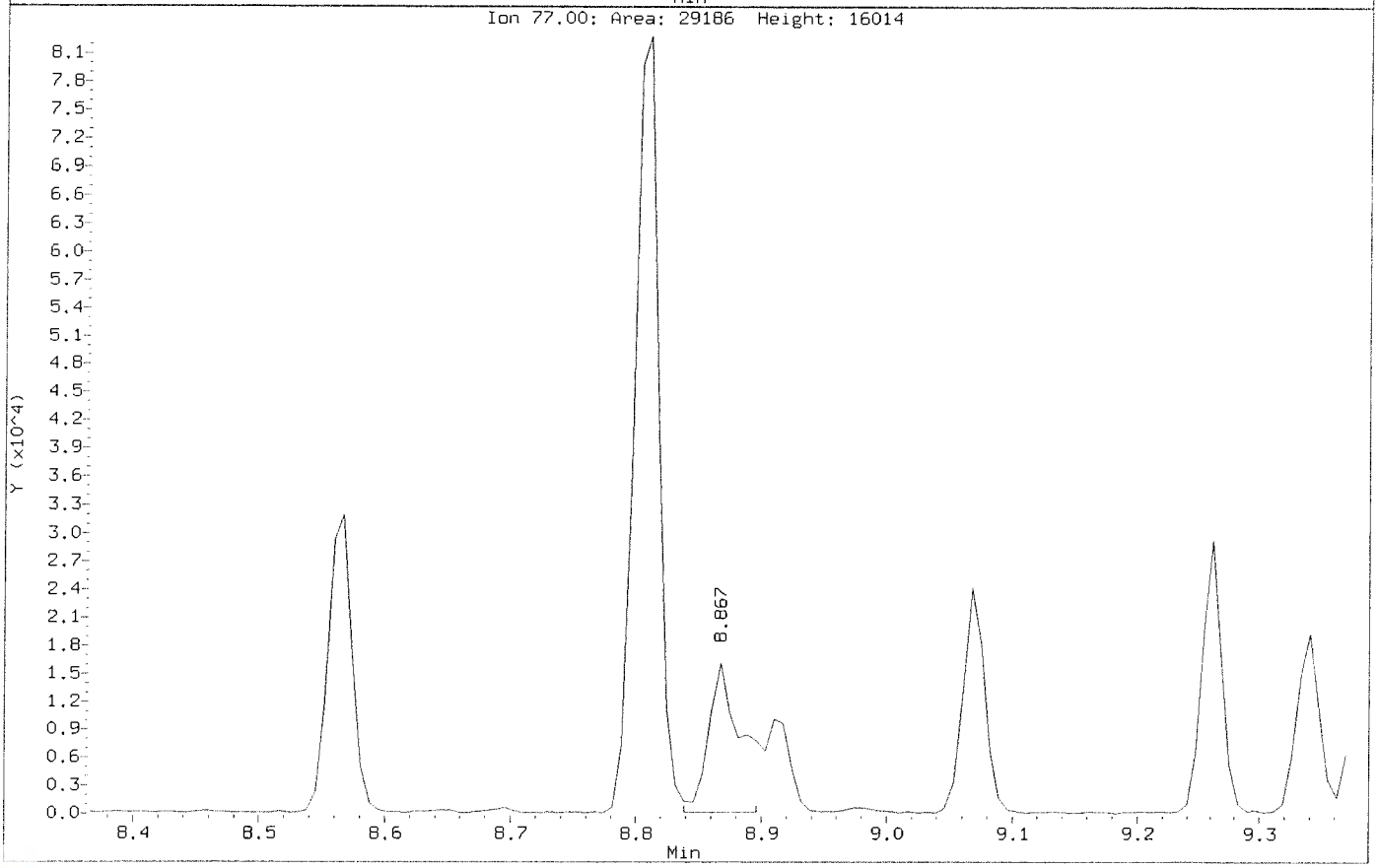
Data File: \\nahstus005\Target\chem\voa6.i\X191118.b\X111807.D
Date : 18-NOV-2019 16:11
Client ID: VSTD020
Sample Info: VSTD020;VSTD020;1;6;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: \\nahstws005\Target\chem\voa6.i\X191118.b\BEFORE\X111807.D
Injection Date: 18-NOV-2019 16:11
Instrument: voa6.i
Client Sample ID: VSTD020

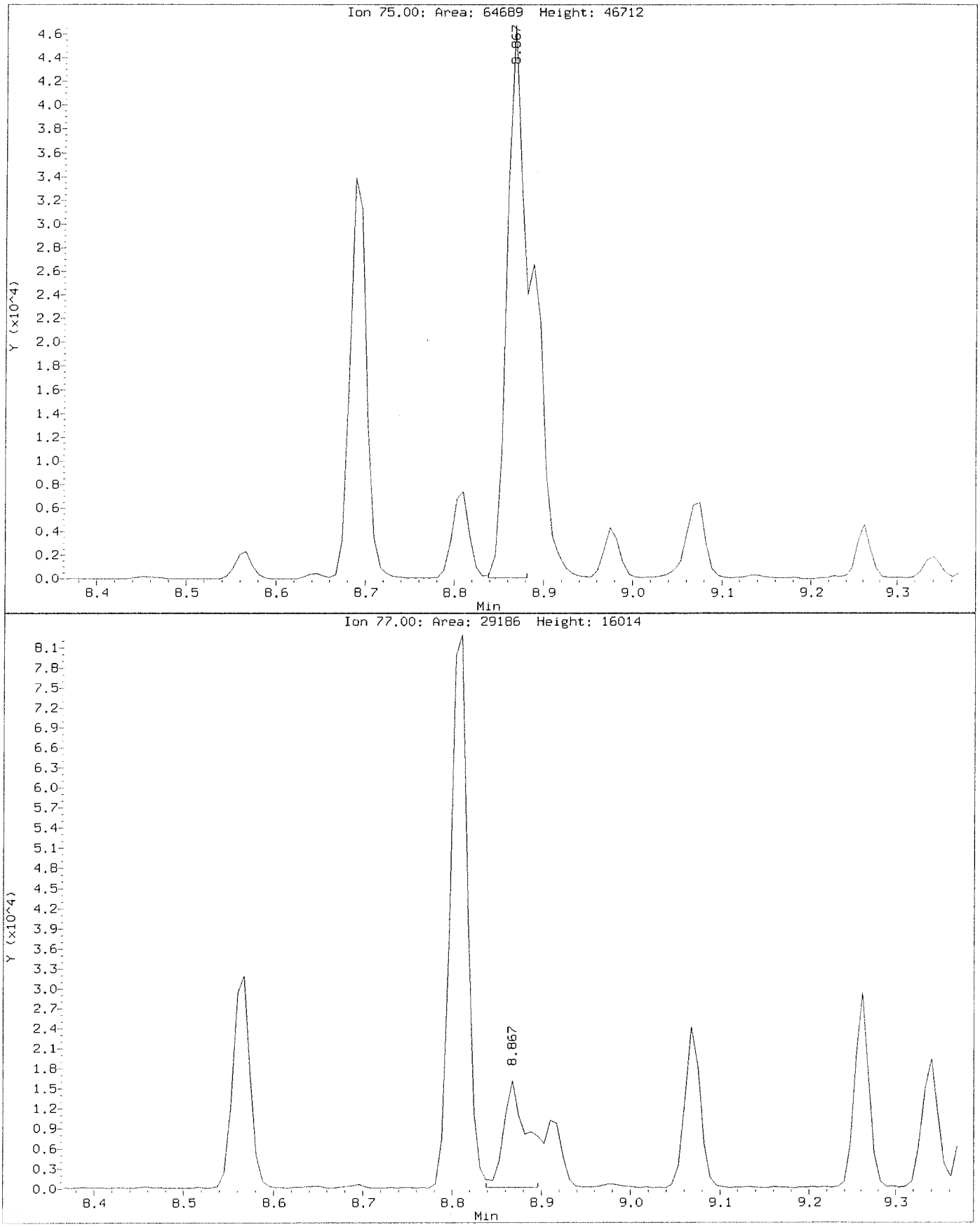
Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4





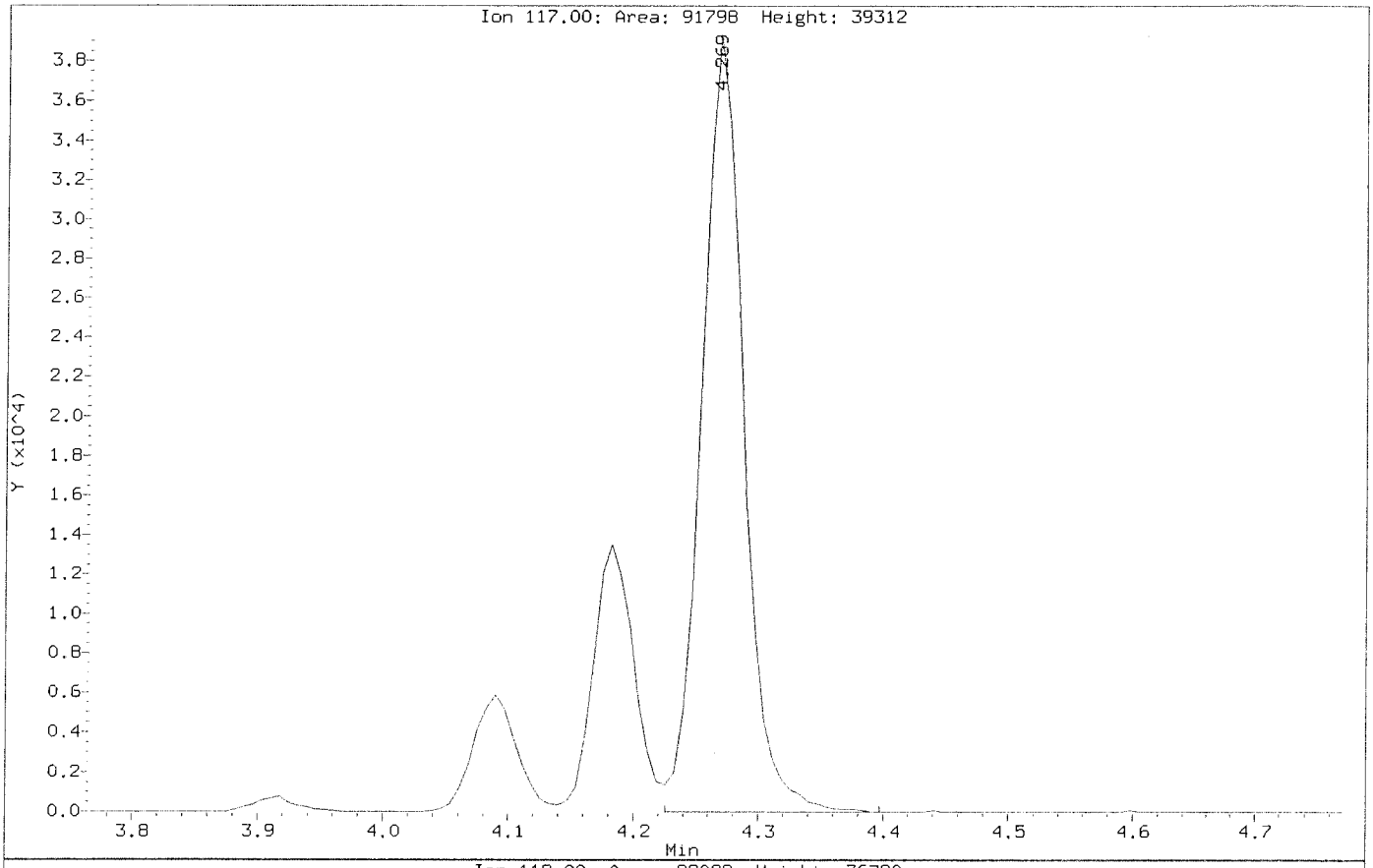
Data File: \\nahstws005\Target\chem\voa6.i\X191118.b\X111807.D
Injection Date: 18-NOV-2019 16:11
Instrument: voa6.i
Client Sample ID: VSTD020

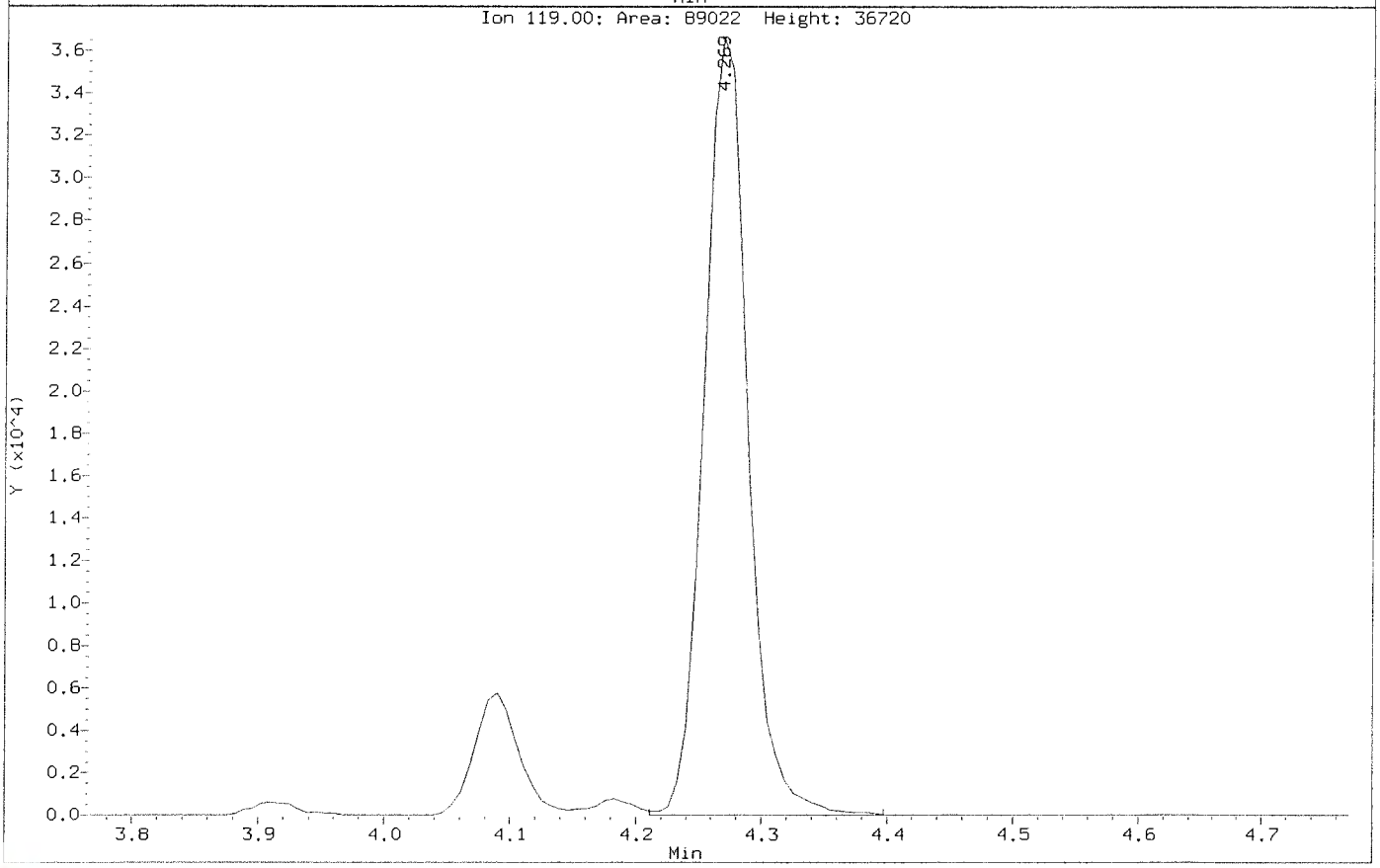
Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4



Data File: \\nahstws005\Target\chem\voa6.i\X191118.b\BEFORE\X111807.D
Injection Date: 18-NOV-2019 16:11
Instrument: voa6.i
Client Sample ID: VSTD020

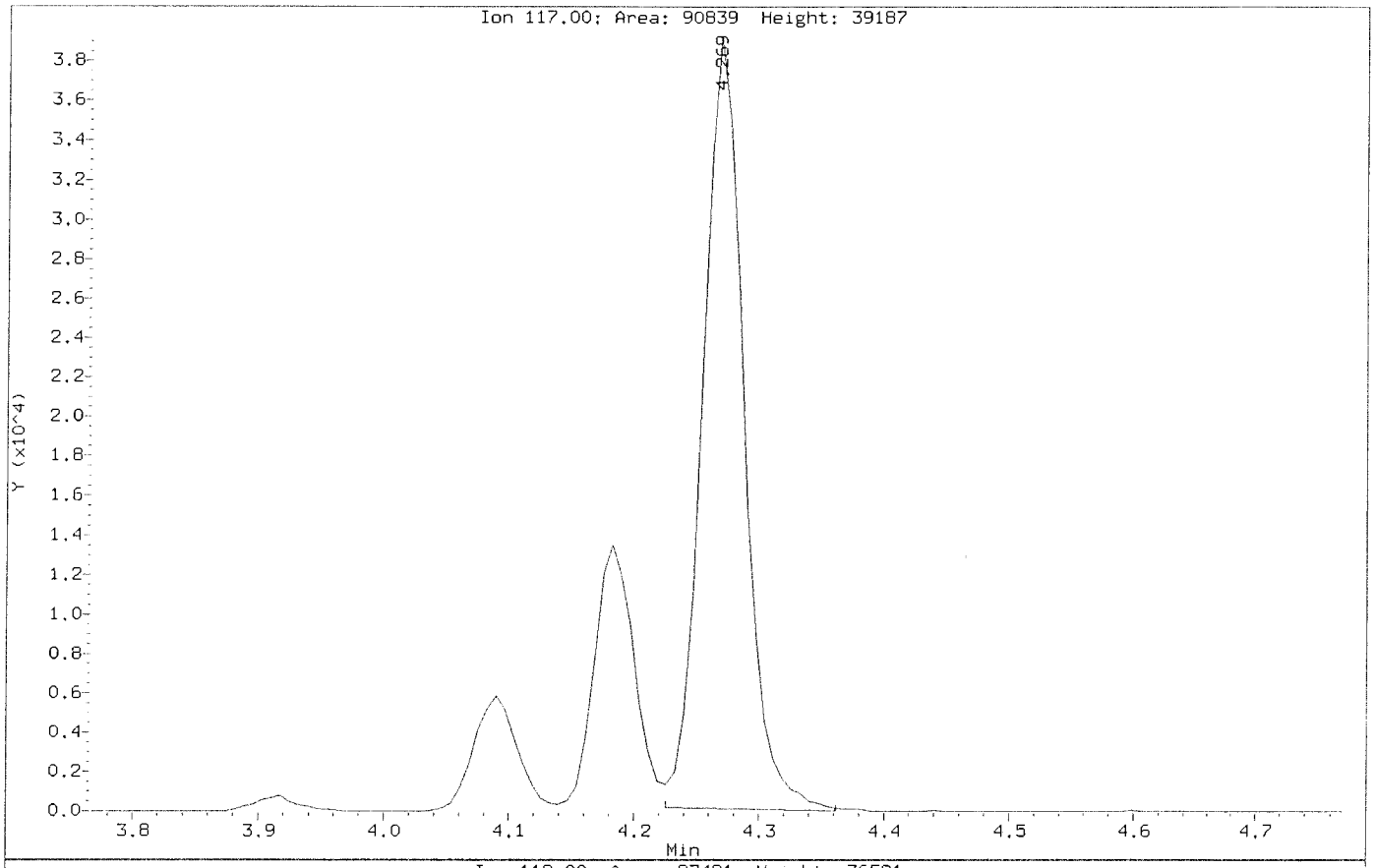
Compound: Carbon Tetrachloride
CAS Number: 56-23-5

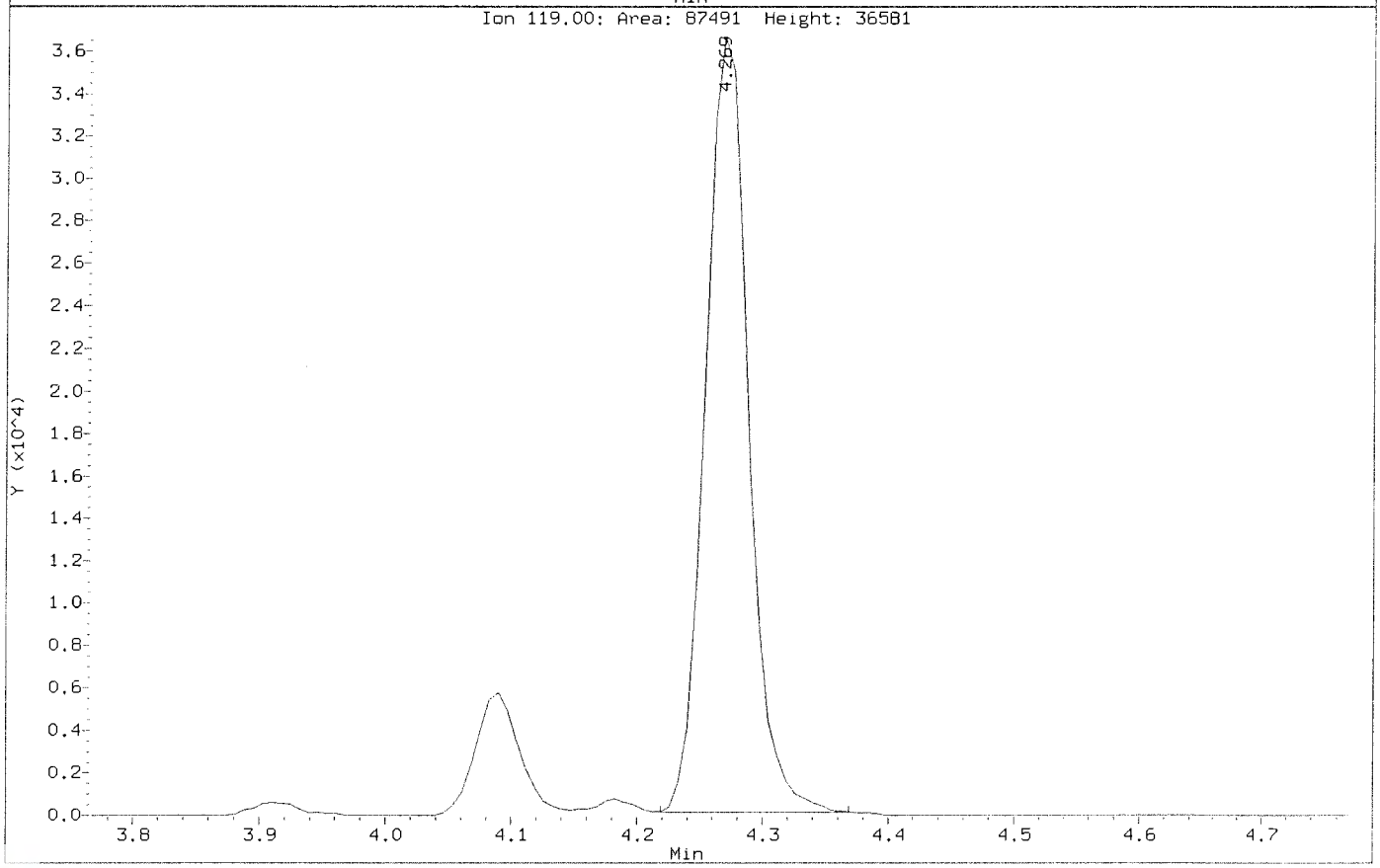




Data File: \\nahstws005\Target\chem\voa6.i\X191118.b\X111807.D
Injection Date: 18-NOV-2019 16:11
Instrument: voa6.i
Client Sample ID: VSTD020

Compound: Carbon Tetrachloride
CAS Number: 56-23-5





Data File: \\nahstws005\Target\chem\voa6.i\X191118.b\X111808.D Page 1
Report Date: 06-Dec-2019 19:56

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X191118.b\X111808.D
Lab Smp Id: VSTD050 Client Smp ID: VSTD050
Inj Date : 18-NOV-2019 16:35
Operator : PC Inst ID: voa6.i
Smp Info : VSTD050;VSTD050;1;7;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X191118.b\8260W.m
Meth Date : 06-Dec-2019 19:56 voa6.i Quant Type: ISTD
Cal Date : 18-NOV-2019 16:11 Cal File: X111807.D
Als bottle: 9 Calibration Sample, Level: 7
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBIHOUSTONDOD.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

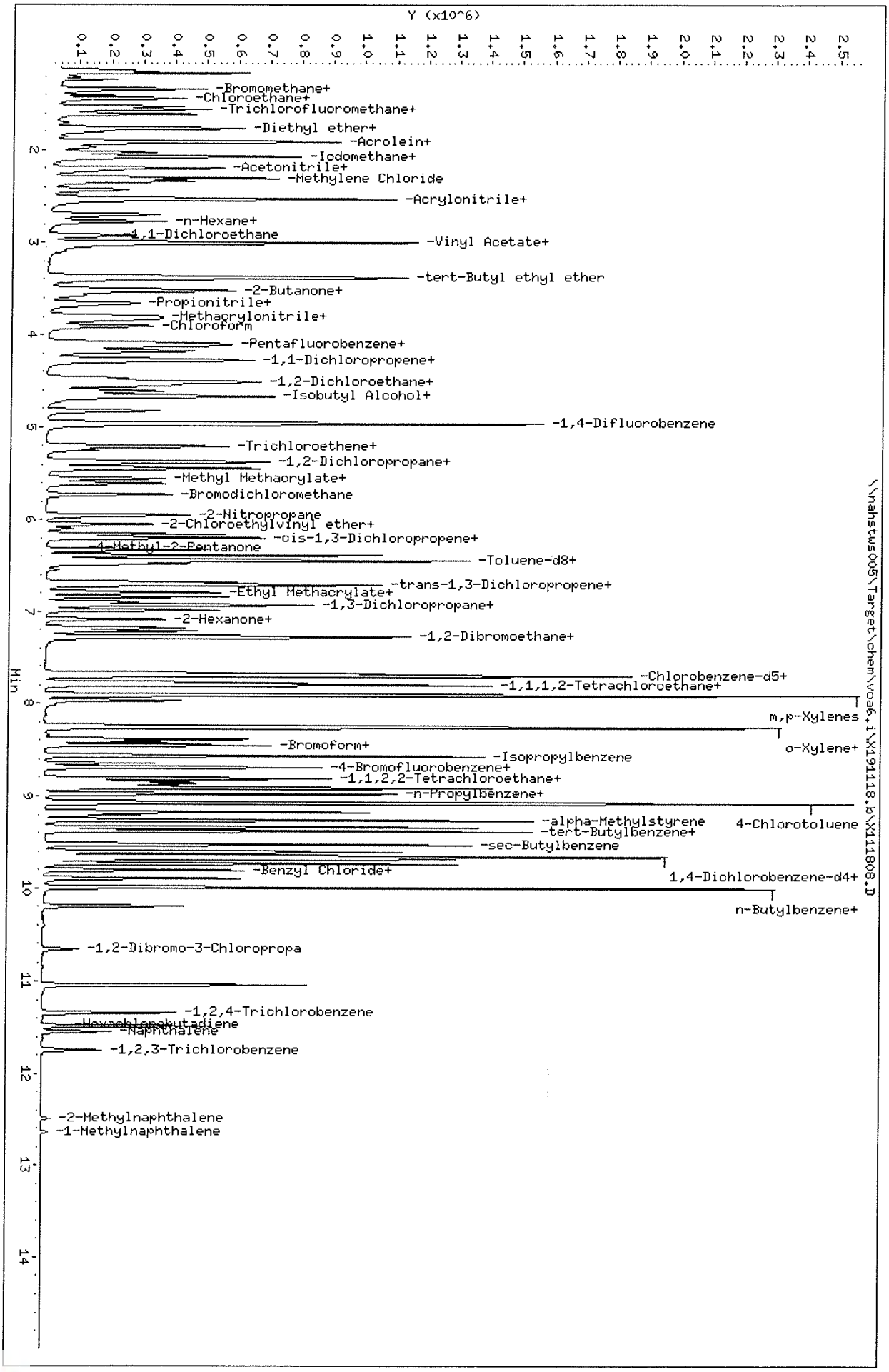
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	399282	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	548073	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	502523	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	273444	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	178006	50.0000	47.42
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	222328	50.0000	47.57
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	173990	50.0000	47.93
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	608955	50.0000	45.99
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	184913	50.0000	50.72
31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	268813	50.0000	49.90
68 1,1,2,2-Tetrachloroethane	83	8.845	8.845	(0.915)	183844	50.0000	47.81
138 Freon TF	101	1.911	1.911	(0.457)	183115	50.0000	52.67
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	128481	50.0000	48.90
22 1,1-Dichloroethane	63	2.921	2.921	(0.699)	283343	50.0000	48.77
11 1,1-Dichloroethene	96	1.911	1.911	(0.457)	171500	50.0000	50.68
32 1,1-Dichloropropene	75	4.282	4.282	(0.862)	220463	50.0000	49.86
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.215)	52554	50.0000	51.69
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.917)	157820	50.0000	48.44(M)
90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	115181	50.0000	50.00
79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.970)	661580	50.0000	50.99
89 1,2-Dibromo-3-Chloropropane	155	10.658	10.658	(1.102)	21800	50.0000	51.36
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	174730	50.0000	49.57

Data File: \\nahstws005\Target\chem\voa6.i\X191118.b\X111808.D Page 2
Report Date: 06-Dec-2019 19:56

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
88 1,2-Dichlorobenzene	146	9.999	9.999	(1.034)	363670	50.0000	50.11
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	219760	50.0000	50.51
42 1,2-Dichloropropane	63	5.443	5.443	(1.095)	161607	50.0000	49.36
75 1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	647527	50.0000	52.01
83 1,3-Dichlorobenzene	146	9.605	9.605	(0.993)	398343	50.0000	50.79
54 1,3-Dichloropropane	76	6.983	6.983	(0.910)	259218	50.0000	48.60
84 1,4-Dichlorobenzene	146	9.683	9.683	(1.001)	400593	50.0000	50.27
26 2,2-Dichloropropane	77	3.516	3.516	(0.841)	257082	50.0000	48.75
24 2-Butanone	43	3.573	3.573	(0.854)	116745	100.000	95.28
76 2-Chlorotoluene	91	8.974	8.974	(0.928)	506692	50.0000	51.50
52 2-Hexanone	43	7.090	7.090	(0.924)	193251	100.000	93.61
77 4-Chlorotoluene	91	9.075	9.075	(0.939)	603806	50.0000	50.63
82 p-Isopropyltoluene	119	9.655	9.655	(0.999)	703086	50.0000	52.54
45 4-Methyl-2-Pentanone	43	6.324	6.324	(0.824)	284508	100.000	96.62
10 Acetone	43	1.976	1.976	(0.473)	103091	100.000	99.72
37 Benzene	78	4.512	4.512	(0.908)	637799	50.0000	50.87
74 Bromobenzene	156	8.809	8.809	(0.911)	240153	50.0000	50.53
29 Bromochloromethane	128	3.795	3.795	(0.908)	105150	50.0000	48.61
39 Bromodichloromethane	83	5.729	5.729	(1.153)	226127	50.0000	49.85
66 Bromoform	173	8.416	8.416	(1.097)	143798	50.0000	48.09
6 Bromomethane	94	1.338	1.338	(0.320)	215480	50.0000	54.47
19 Carbon Disulfide	76	2.069	2.069	(0.495)	951783	100.000	103.39
34 Carbon Tetrachloride	117	4.268	4.268	(0.859)	247524	50.0000	51.11(M)
59 Chlorobenzene	112	7.699	7.699	(1.004)	485055	50.0000	49.44
7 Chloroethane	64	1.403	1.403	(0.336)	124291	50.0000	49.44
28 Chloroform	83	3.910	3.910	(0.935)	300015	50.0000	46.39
3 Chloromethane	50	1.073	1.073	(0.257)	215753	50.0000	49.75
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	187629	50.0000	49.55
46 cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	273432	50.0000	51.15
55 Dibromochloromethane	129	7.176	7.176	(0.936)	191497	50.0000	50.17
44 Dibromomethane	93	5.557	5.557	(1.118)	115707	50.0000	49.94
2 Dichlorodifluoromethane	85	0.973	0.973	(0.233)	186161	50.0000	51.14
61 Ethylbenzene	106	7.799	7.799	(1.017)	257283	50.0000	50.75
91 Hexachlorobutadiene	225	11.488	11.488	(1.188)	99881	50.0000	52.17
67 Isopropylbenzene	105	8.566	8.566	(1.117)	765390	50.0000	50.97
62 m,p-Xylenes	106	7.907	7.907	(1.031)	625932	100.000	102.32
17 Methylene Chloride	84	2.305	2.305	(0.551)	168044	50.0000	46.54
87 n-Butylbenzene	91	9.999	9.999	(1.034)	591076	50.0000	53.08
73 n-Propylbenzene	91	8.917	8.917	(0.922)	884464	50.0000	52.32
92 Naphthalene	128	11.546	11.546	(1.194)	142473	50.0000	48.22
63 o-Xylene	106	8.244	8.244	(1.075)	301622	50.0000	49.96
81 sec-Butylbenzene	105	9.526	9.526	(0.985)	772064	50.0000	52.58
64 Styrene	104	8.258	8.258	(1.077)	530825	50.0000	50.56
78 tert-Butylbenzene	119	9.340	9.340	(0.966)	550071	50.0000	51.60
56 Tetrachloroethene	164	6.933	6.933	(0.904)	176674	50.0000	50.03
50 Toluene	91	6.446	6.446	(0.840)	709296	50.0000	49.77
20 trans-1,2-Dichloroethene	96	2.527	2.527	(0.604)	163591	50.0000	49.79
51 trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	247921	50.0000	50.89
38 Trichloroethene	130	5.206	5.206	(1.048)	196625	50.0000	51.29
8 Trichlorofluoromethane	101	1.560	1.560	(0.373)	328789	50.0000	53.08
5 Vinyl Chloride	62	1.138	1.138	(0.272)	201503	50.0000	49.51

QC Flag Legend

M - Compound response manually integrated.

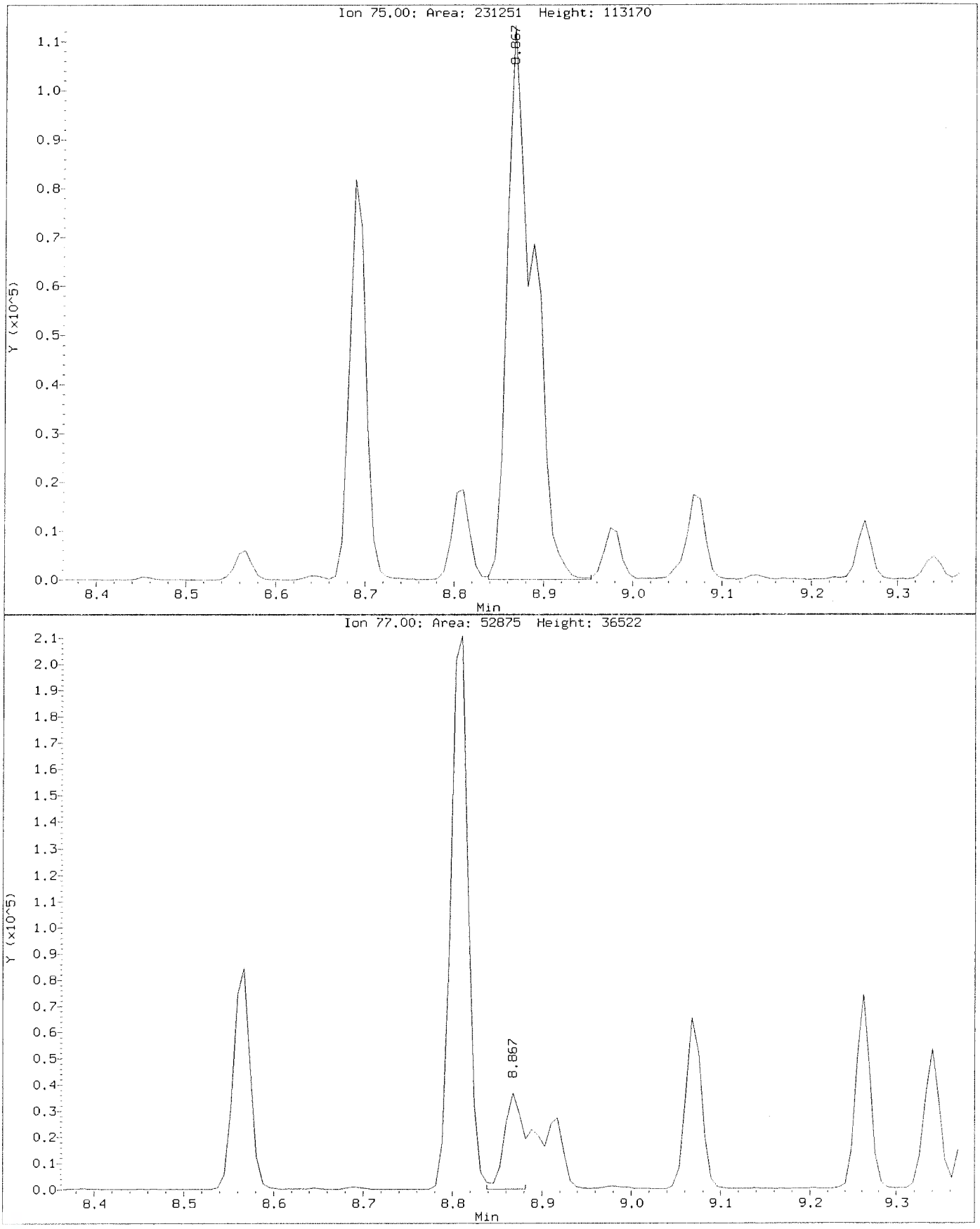


Data File: \\nahstws005\Target\chem\voa6.i\X191118.b\X111808.D
Date : 18-NOV-2019 16:35
Client ID: VSTD050
Sample Info: VSTD050;VSTD050;1;7;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

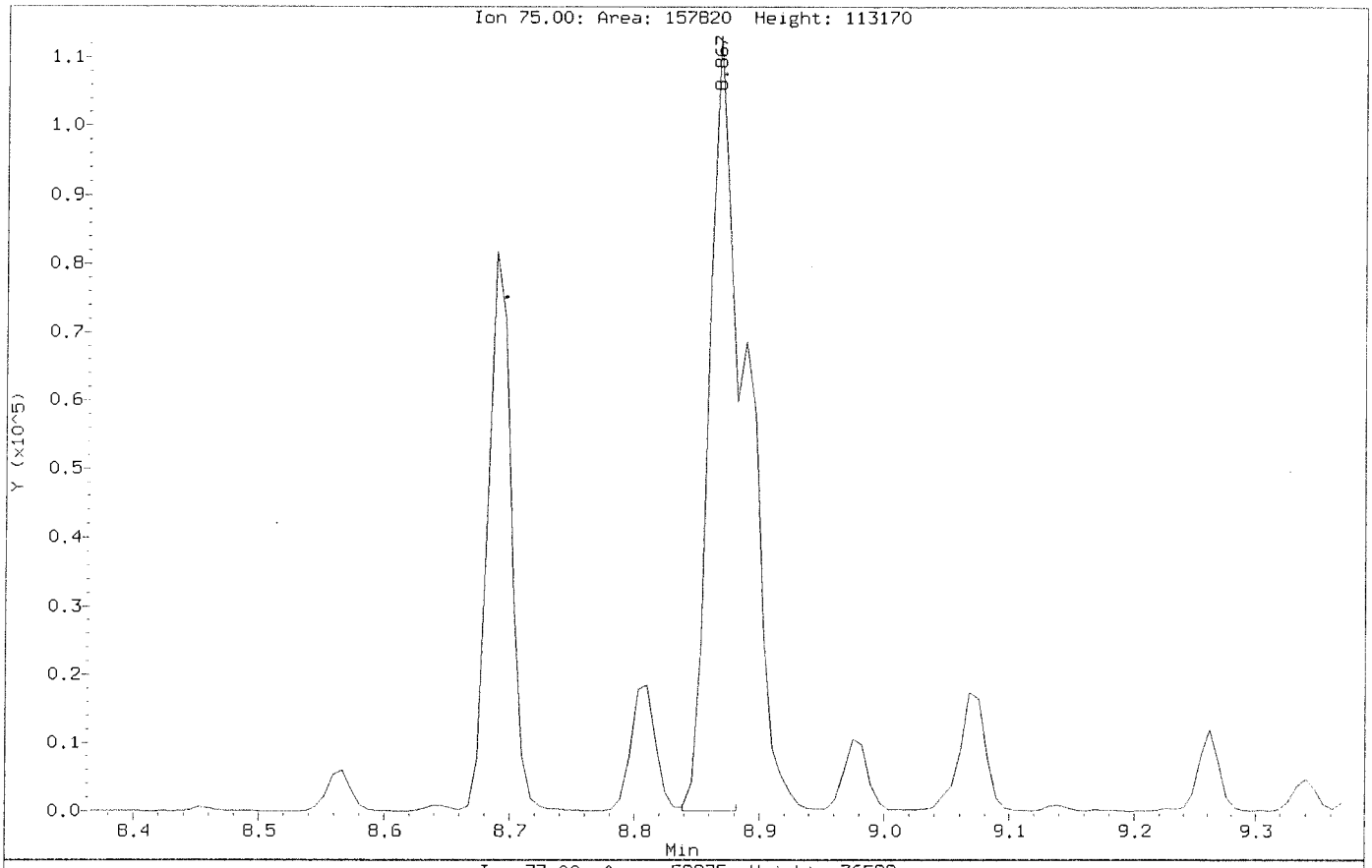
Data File: \\nahstws005\Target\chem\voa6.i\X191118.b\BEFORE\X111808.D
Injection Date: 18-NOV-2019 16:35
Instrument: voa6.i
Client Sample ID: VSTD050

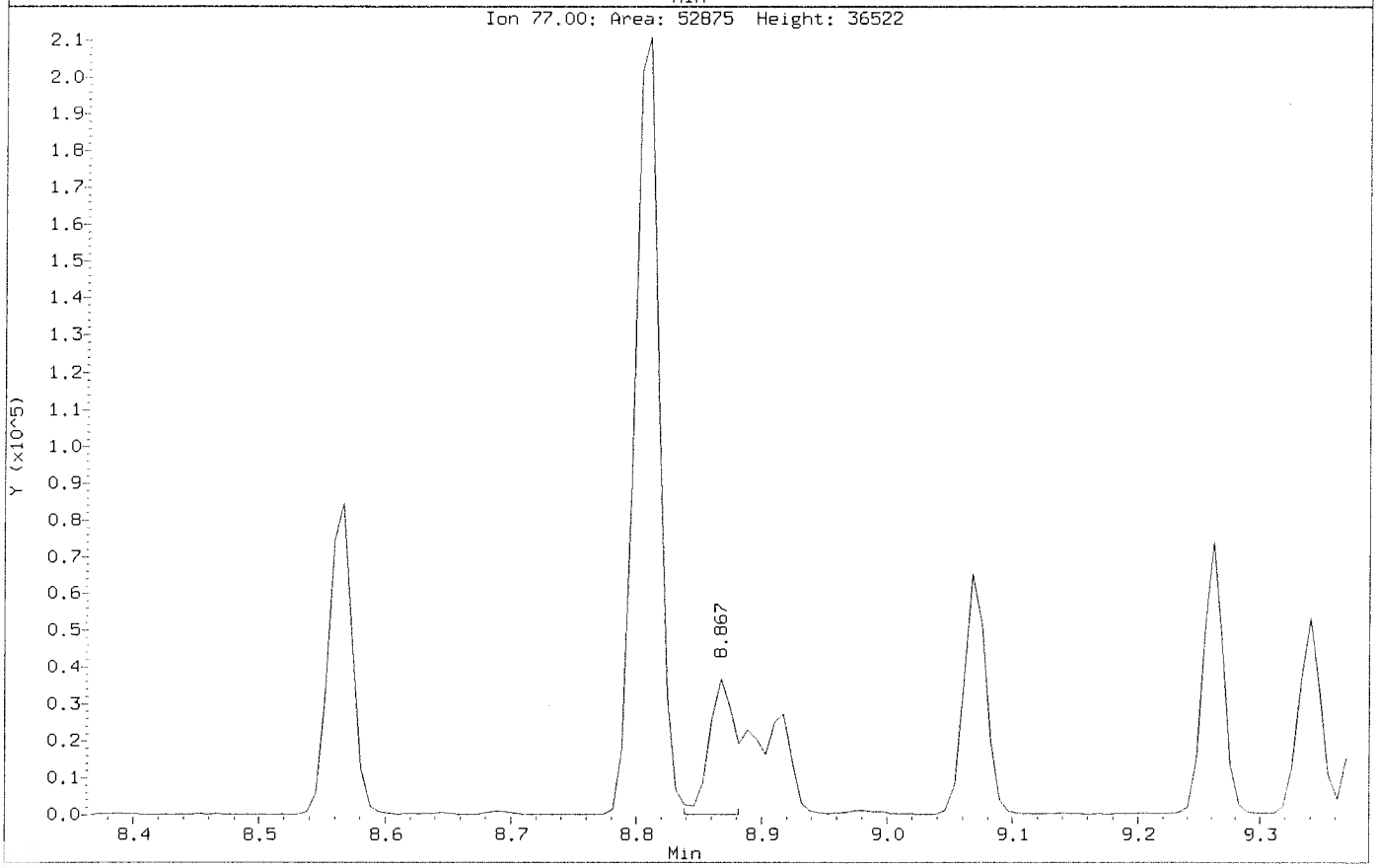
Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4



Data File: \\nahstws005\Target\chem\voa6.i\X191118.b\X111808.D
Injection Date: 18-NOV-2019 16:35
Instrument: voa6.i
Client Sample ID: VSTD050

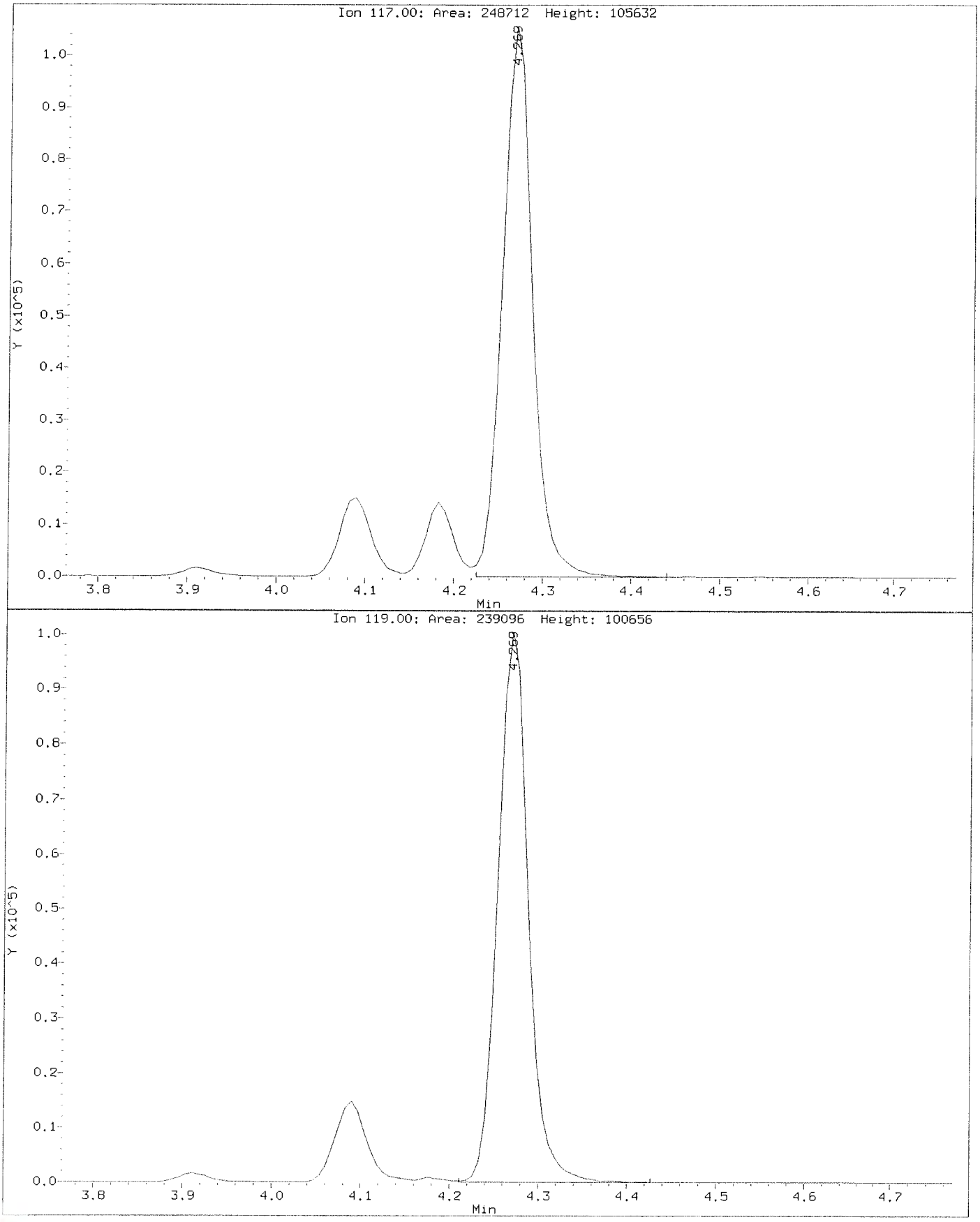
Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4





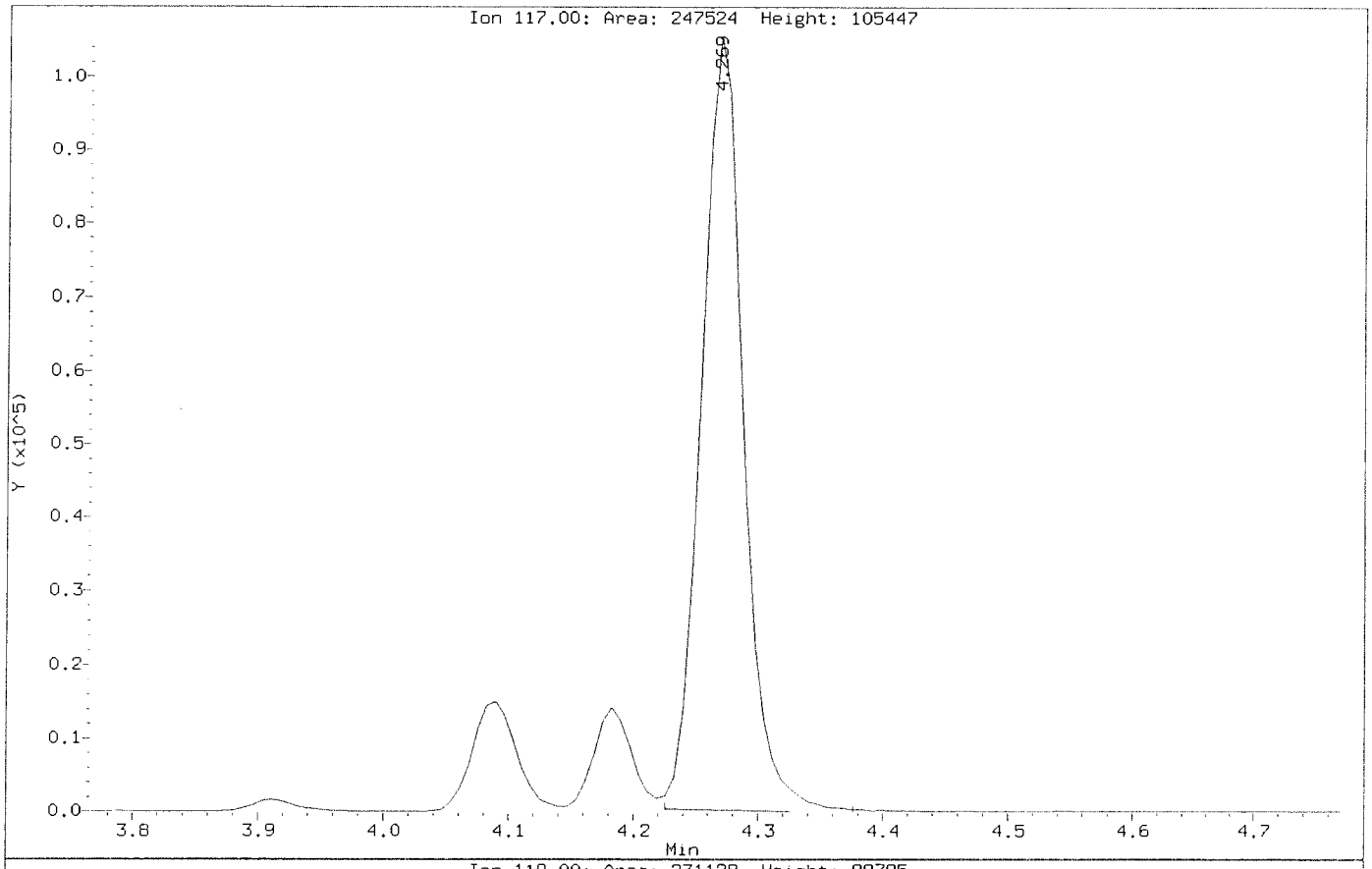
Data File: \\nahstws005\Target\chem\voa6.i\X191118.b\BEFORE\X111808.D
Injection Date: 18-NOV-2019 16:35
Instrument: voa6.i
Client Sample ID: VSTD050

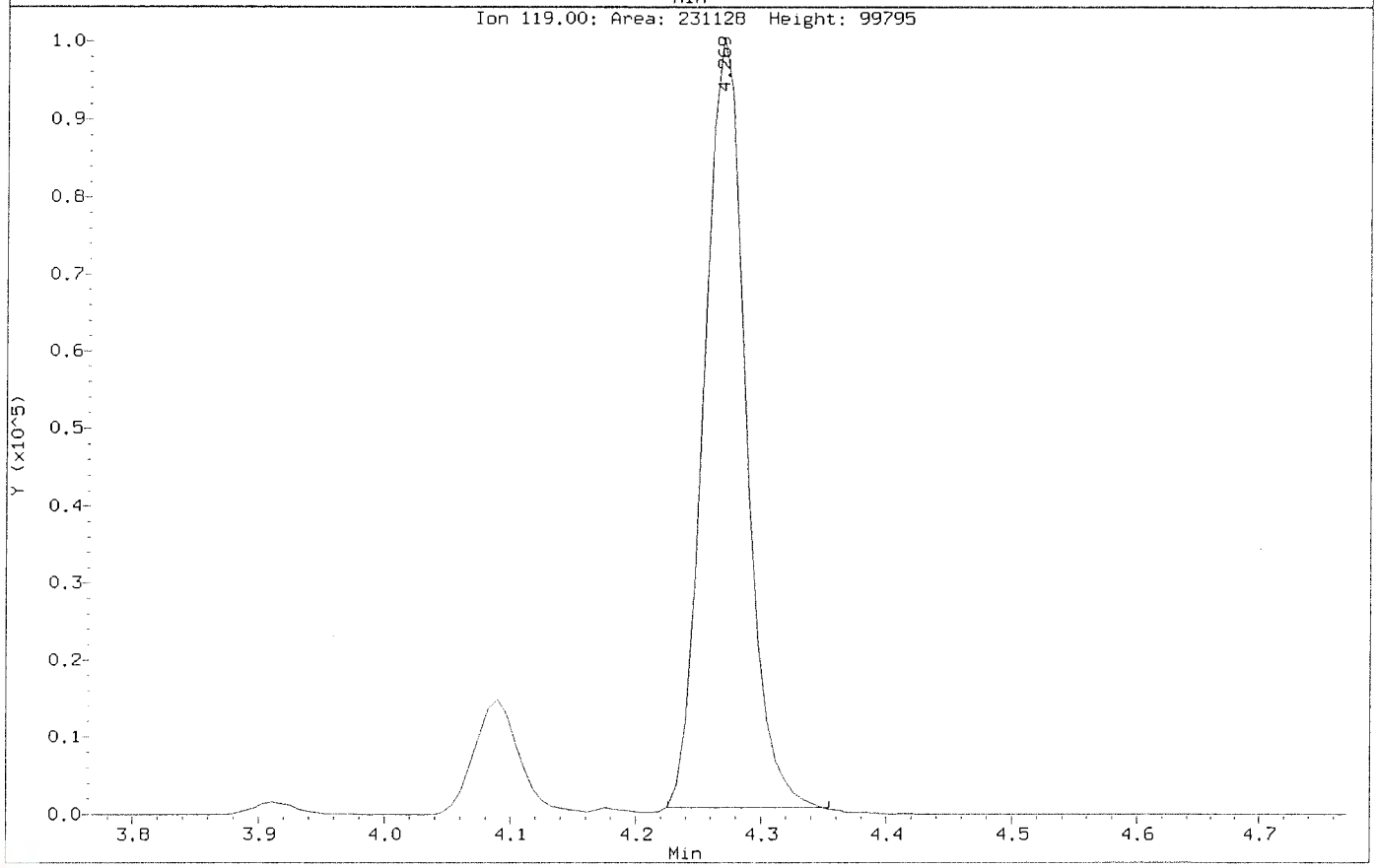
Compound: Carbon Tetrachloride
CAS Number: 56-23-5



Data File: \\nahstws005\Target\chem\voa6.i\X191118.b\X111808.D
Injection Date: 18-NOV-2019 16:35
Instrument: voa6.i
Client Sample ID: VSTD050

Compound: Carbon Tetrachloride
CAS Number: 56-23-5





Data File: \\nahstws005\Target\chem\voa6.i\X191118.b\X111809.D Page 1
Report Date: 06-Dec-2019 19:56

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X191118.b\X111809.D
Lab Smp Id: VSTD100 Client Smp ID: VSTD100
Inj Date : 18-NOV-2019 16:59
Operator : PC Inst ID: voa6.i
Smp Info : VSTD100;VSTD100;1;8;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X191118.b\8260W.m
Meth Date : 06-Dec-2019 19:56 voa6.i Quant Type: ISTD
Cal Date : 18-NOV-2019 16:35 Cal File: X111808.D
Als bottle: 10 Calibration Sample, Level: 8
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBIHOUSTONDOD.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

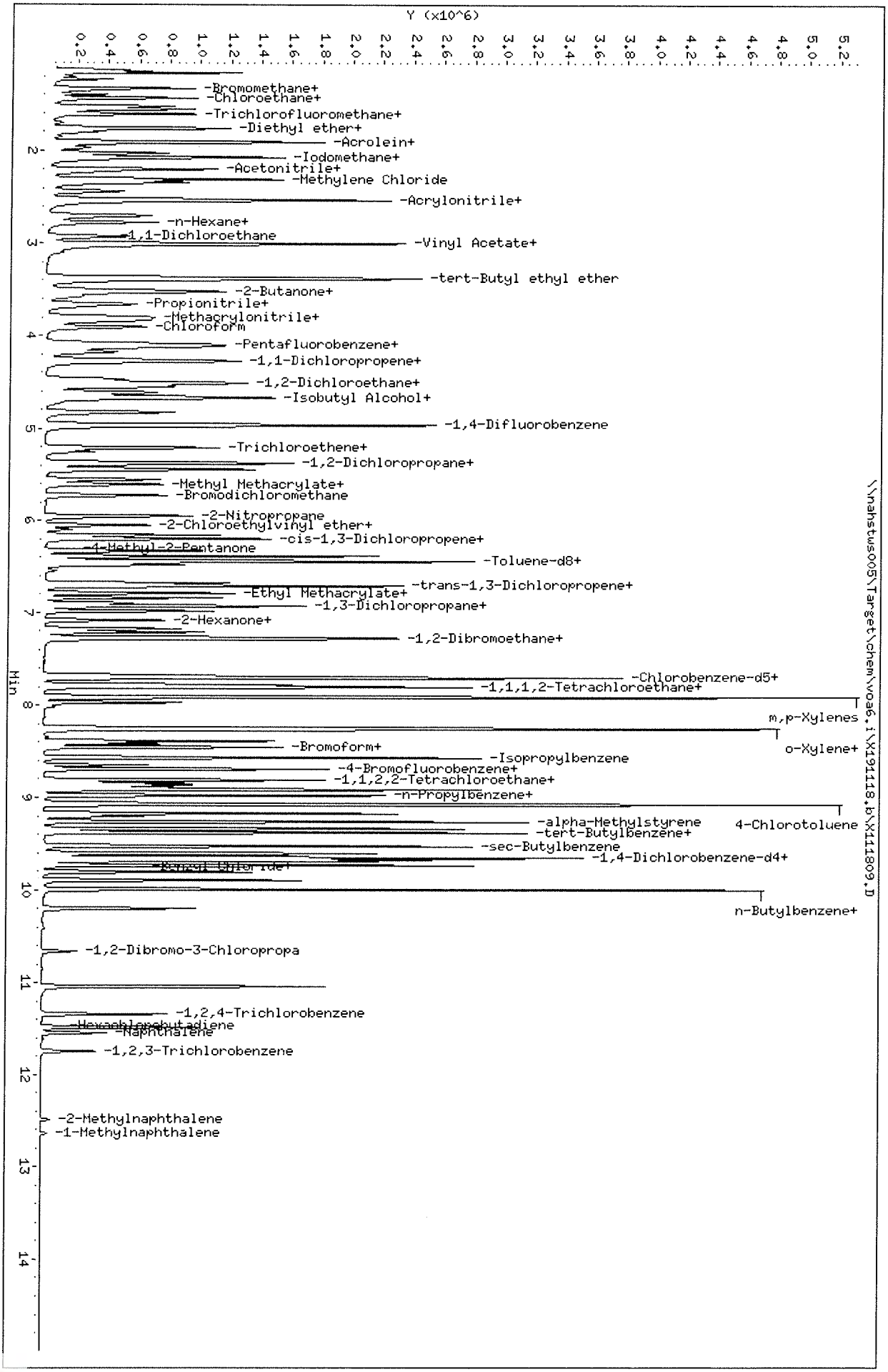
Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	392699	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	554744	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	502006	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	278931	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	364646	100.000	97.98
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	465570	100.000	99.26
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	354918	100.000	99.03
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	1251601	100.000	94.62
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	370675	100.000	101.77
31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	531073	100.000	100.24
68 1,1,2,2-Tetrachloroethane	83	8.845	8.845	(0.915)	374065	100.000	95.36
138 Freon TF	101	1.911	1.911	(0.457)	363001	100.000	106.17
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	259169	100.000	98.76
22 1,1-Dichloroethane	63	2.921	2.921	(0.699)	562516	100.000	98.44
11 1,1-Dichloroethene	96	1.911	1.911	(0.457)	336639	100.000	101.15
32 1,1-Dichloropropene	75	4.282	4.282	(0.862)	435155	100.000	97.24
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.215)	102660	100.000	99.24
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.917)	314678	100.000	94.68(M)
90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	224252	100.000	95.44
79 1,2,4-Trimethylbenzene	105	9.382	9.382	(0.970)	1360930	100.000	102.82
89 1,2-Dibromo-3-Chloropropane	155	10.658	10.658	(1.102)	42468	100.000	98.40
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	348356	100.000	98.94

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
88	1,2-Dichlorobenzene	146	9.999	9.999	(1.034)	740257	100.000	99.99
33	1,2-Dichloroethane	62	4.562	4.562	(0.918)	440676	100.000	100.06
42	1,2-Dichloropropane	63	5.443	5.443	(1.095)	322033	100.000	97.17
75	1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	1326043	100.000	104.41
83	1,3-Dichlorobenzene	146	9.612	9.612	(0.994)	793024	100.000	99.13
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	523367	100.000	98.23
84	1,4-Dichlorobenzene	146	9.683	9.683	(1.001)	805891	100.000	99.14
26	2,2-Dichloropropane	77	3.516	3.516	(0.841)	505741	100.000	97.52
24	2-Butanone	43	3.580	3.580	(0.856)	231090	200.000	191.78
76	2-Chlorotoluene	91	8.974	8.974	(0.928)	1019206	100.000	101.56
52	2-Hexanone	43	7.090	7.090	(0.924)	404339	200.000	196.07
77	4-Chlorotoluene	91	9.074	9.074	(0.939)	1244013	100.000	102.27
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	1420650	100.000	104.09
45	4-Methyl-2-Pentanone	43	6.324	6.324	(0.824)	584699	200.000	198.78
10	Acetone	43	1.976	1.976	(0.473)	202207	200.000	202.71(A)
37	Benzene	78	4.519	4.519	(0.909)	1259183	100.000	99.22
74	Bromobenzene	156	8.809	8.809	(0.911)	477901	100.000	98.58
29	Bromochloromethane	128	3.795	3.795	(0.908)	204995	100.000	96.36
39	Bromodichloromethane	83	5.729	5.729	(1.153)	453036	100.000	98.68
66	Bromoform	173	8.415	8.415	(1.097)	293256	100.000	97.14
6	Bromomethane	94	1.331	1.331	(0.318)	396733	100.000	104.04
19	Carbon Disulfide	76	2.069	2.069	(0.495)	1866170	200.000	206.12(A)
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	490954	100.000	100.15(H)
59	Chlorobenzene	112	7.699	7.699	(1.004)	969904	100.000	98.96
7	Chloroethane	64	1.396	1.396	(0.334)	244234	100.000	98.78
28	Chloroform	83	3.910	3.910	(0.935)	592217	100.000	93.11
3	Chloromethane	50	1.073	1.073	(0.257)	420936	100.000	98.51
27	cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	373378	100.000	100.25
46	cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	548280	100.000	101.34
55	Dibromochloromethane	129	7.176	7.176	(0.936)	387071	100.000	101.53
44	Dibromomethane	93	5.557	5.557	(1.118)	228649	100.000	97.50
2	Dichlorodifluoromethane	85	0.973	0.973	(0.233)	359790	100.000	99.65
61	Ethylbenzene	106	7.799	7.799	(1.017)	511284	100.000	100.96
91	Hexachlorobutadiene	225	11.488	11.488	(1.188)	192455	100.000	99.01
67	Isopropylbenzene	105	8.566	8.566	(1.117)	1550450	100.000	103.37
62	m,p-Xylenes	106	7.907	7.907	(1.031)	1262031	200.000	206.53(A)
17	Methylene Chloride	84	2.305	2.305	(0.551)	333987	100.000	94.05
87	n-Butylbenzene	91	9.999	9.999	(1.034)	1214189	100.000	106.90
73	n-Propylbenzene	91	8.917	8.917	(0.922)	1771664	100.000	102.75
92	Naphthalene	128	11.546	11.546	(1.194)	281768	100.000	93.49
63	o-Xylene	106	8.244	8.244	(1.075)	610719	100.000	101.26
81	sec-Butylbenzene	105	9.526	9.526	(0.985)	1561099	100.000	104.22
64	Styrene	104	8.258	8.258	(1.077)	1077784	100.000	102.77
78	tert-Butylbenzene	119	9.340	9.340	(0.966)	1121644	100.000	103.15
56	Tetrachloroethene	164	6.933	6.933	(0.904)	341567	100.000	96.83
50	Toluene	91	6.446	6.446	(0.840)	1413996	100.000	99.32
20	trans-1,2-Dichloroethene	96	2.527	2.527	(0.604)	324394	100.000	100.39
51	trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	504686	100.000	102.35
38	Trichloroethene	130	5.206	5.206	(1.048)	388311	100.000	100.09
8	Trichlorofluoromethane	101	1.560	1.560	(0.373)	647137	100.000	106.23
5	Vinyl Chloride	62	1.138	1.138	(0.272)	400884	100.000	100.16

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.
M - Compound response manually integrated.
H - Operator selected an alternate compound hit.

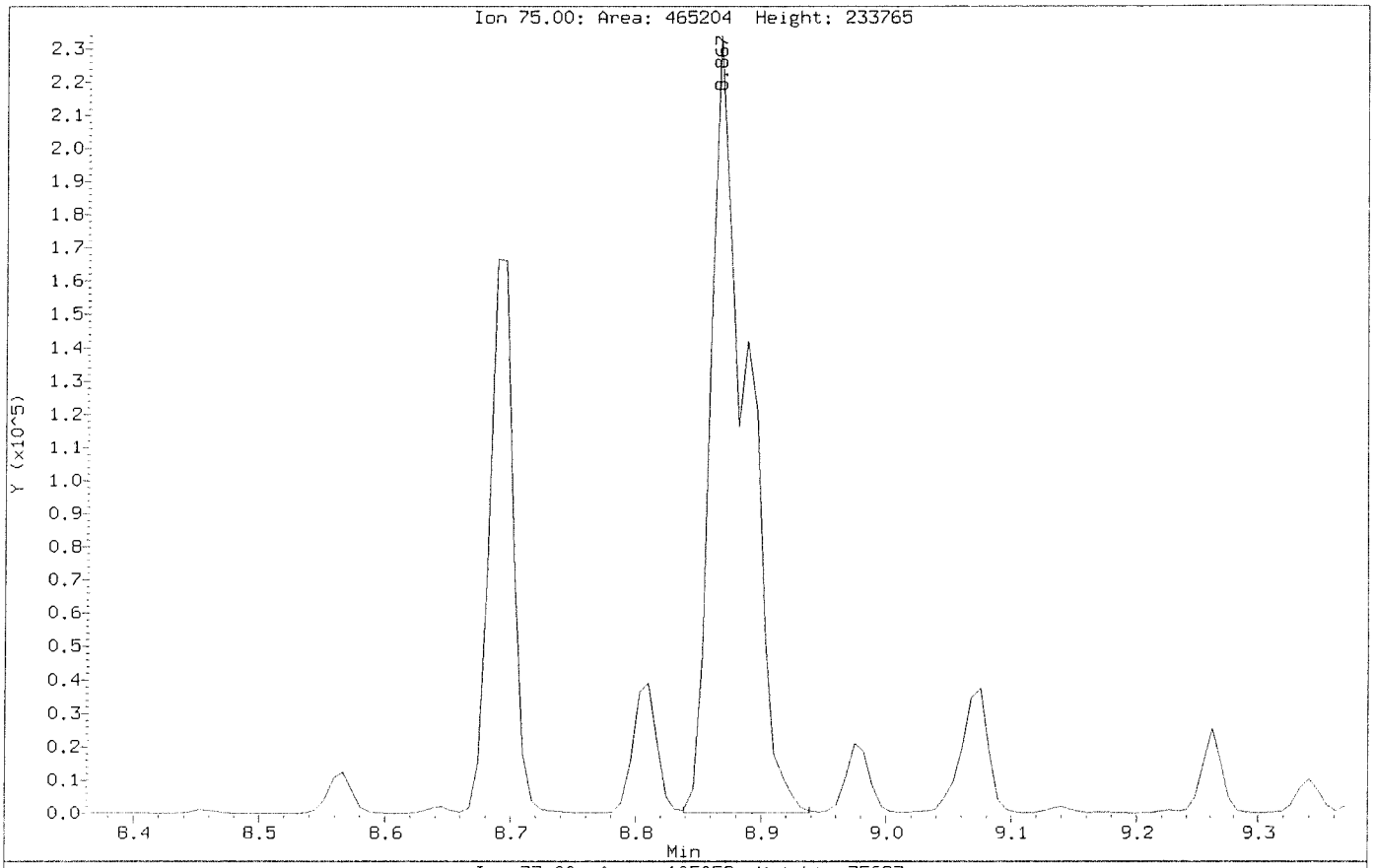


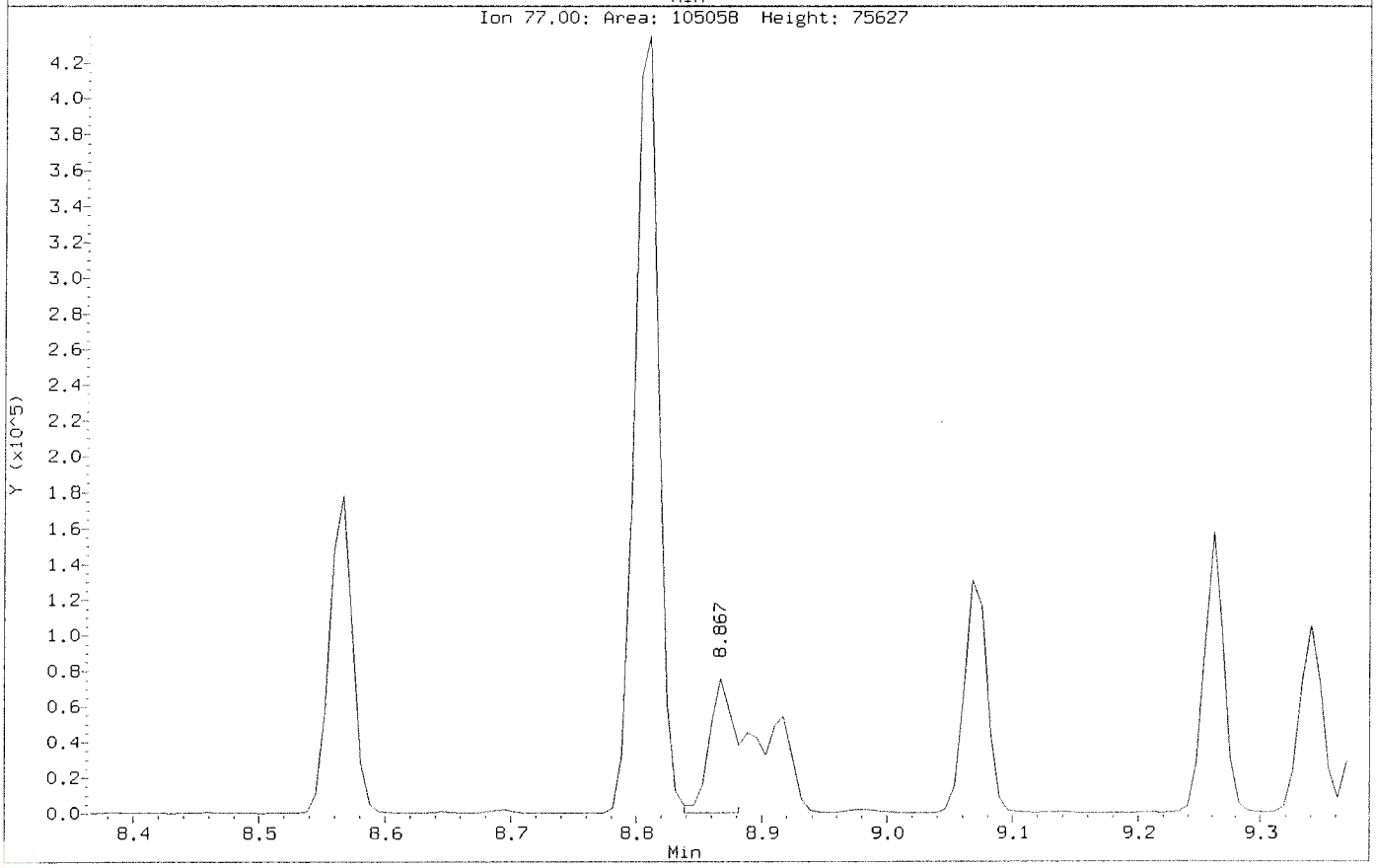
Data File: \\nahstws005\Target\chem\voa6,i\X191118,b\X111809,D
Date : 18-NOV-2019 16:59
Client ID: VSTD100
Sample Info: VSTD100;VSTD100;1;8;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6,i
Operator: PC
Column diameter: 0.18

Data File: \\nahstws005\Target\chem\voa6.i\X191118.b\BEFORE\X111809.D
Injection Date: 18-NOV-2019 16:59
Instrument: voa6.i
Client Sample ID: VSTD100

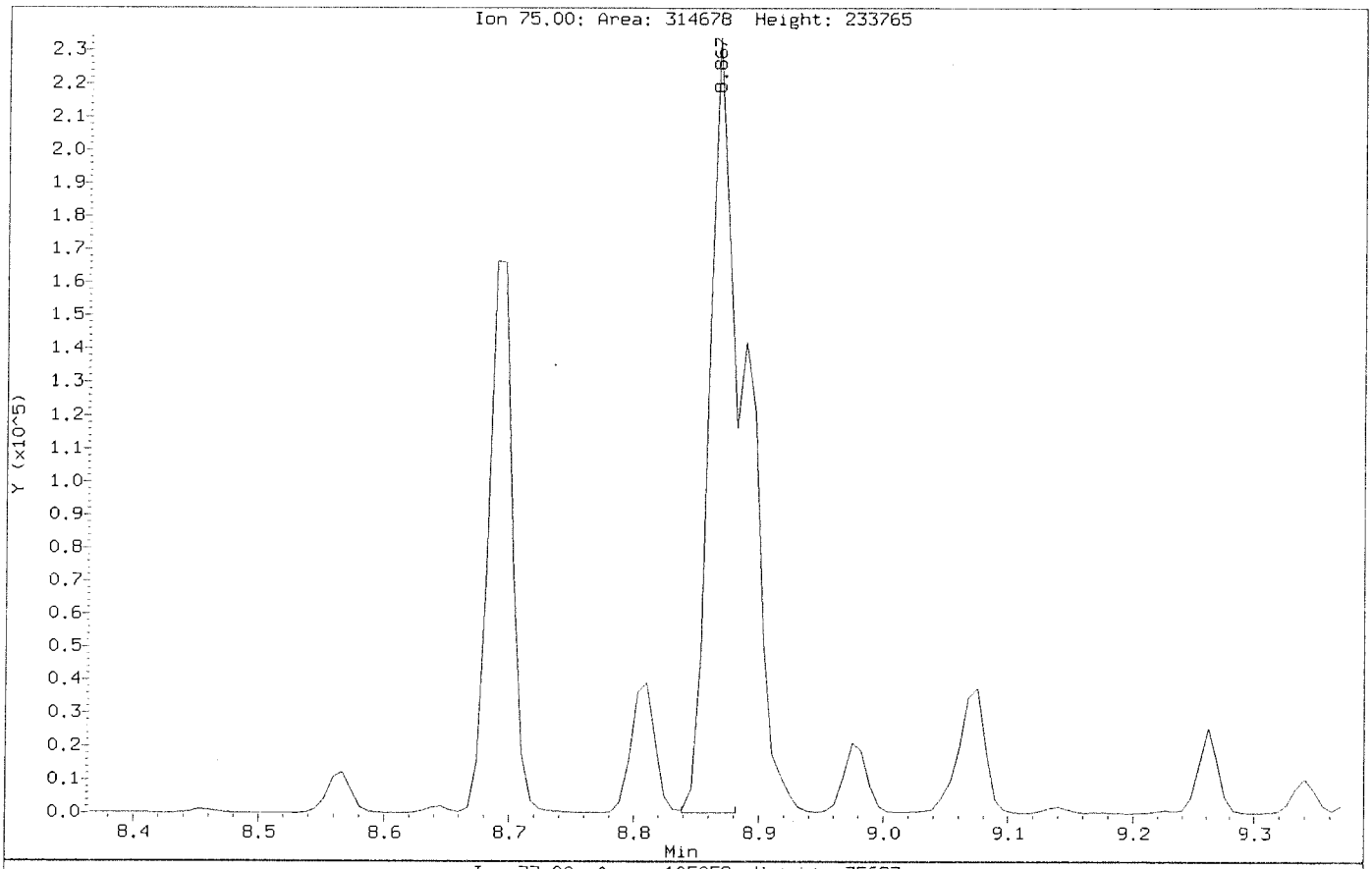
Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4

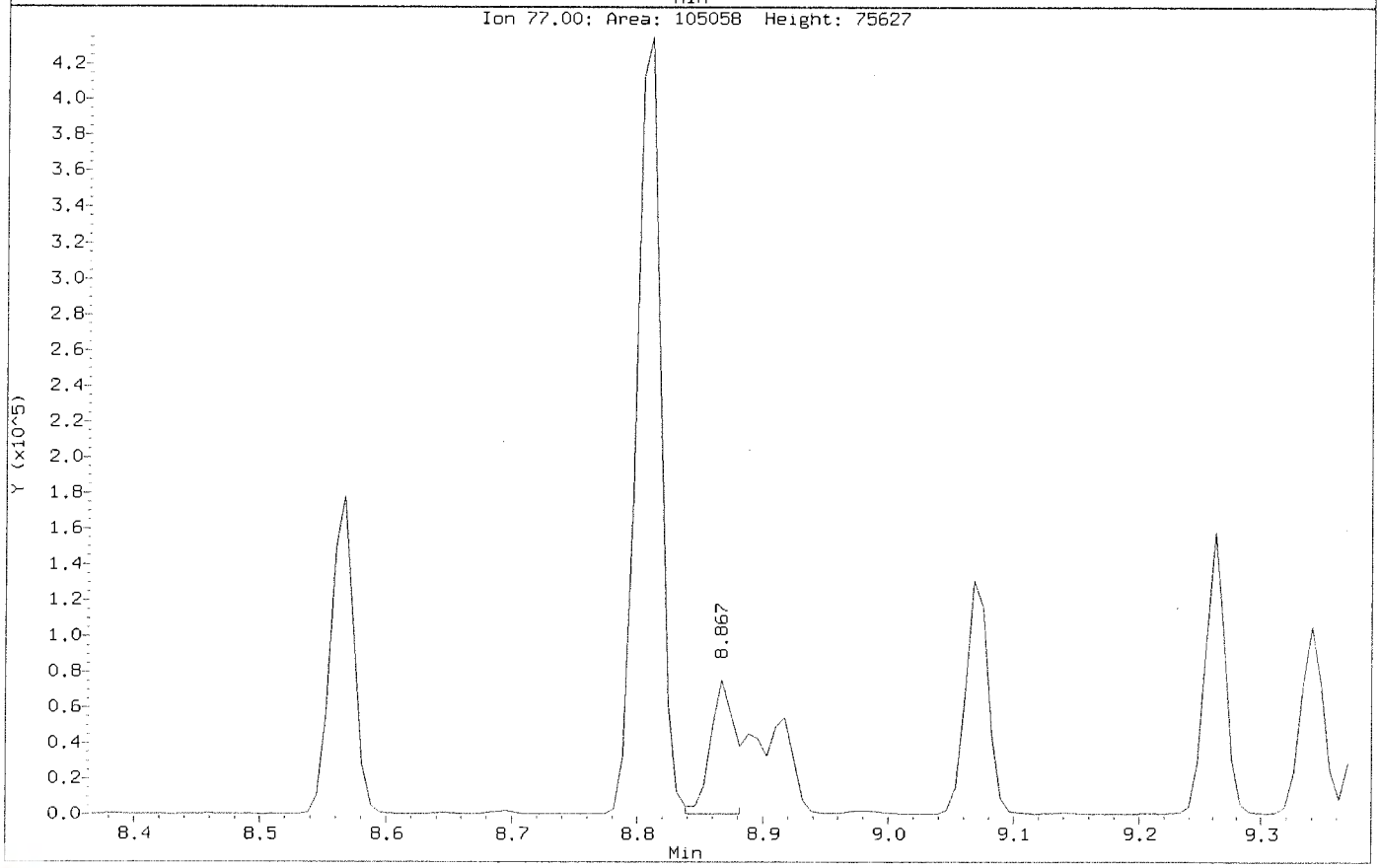




Data File: \\nahstws005\Target\chem\voa6.i\X191118.b\X111809.D
Injection Date: 18-NOV-2019 16:59
Instrument: voa6.i
Client Sample ID: VSTD100

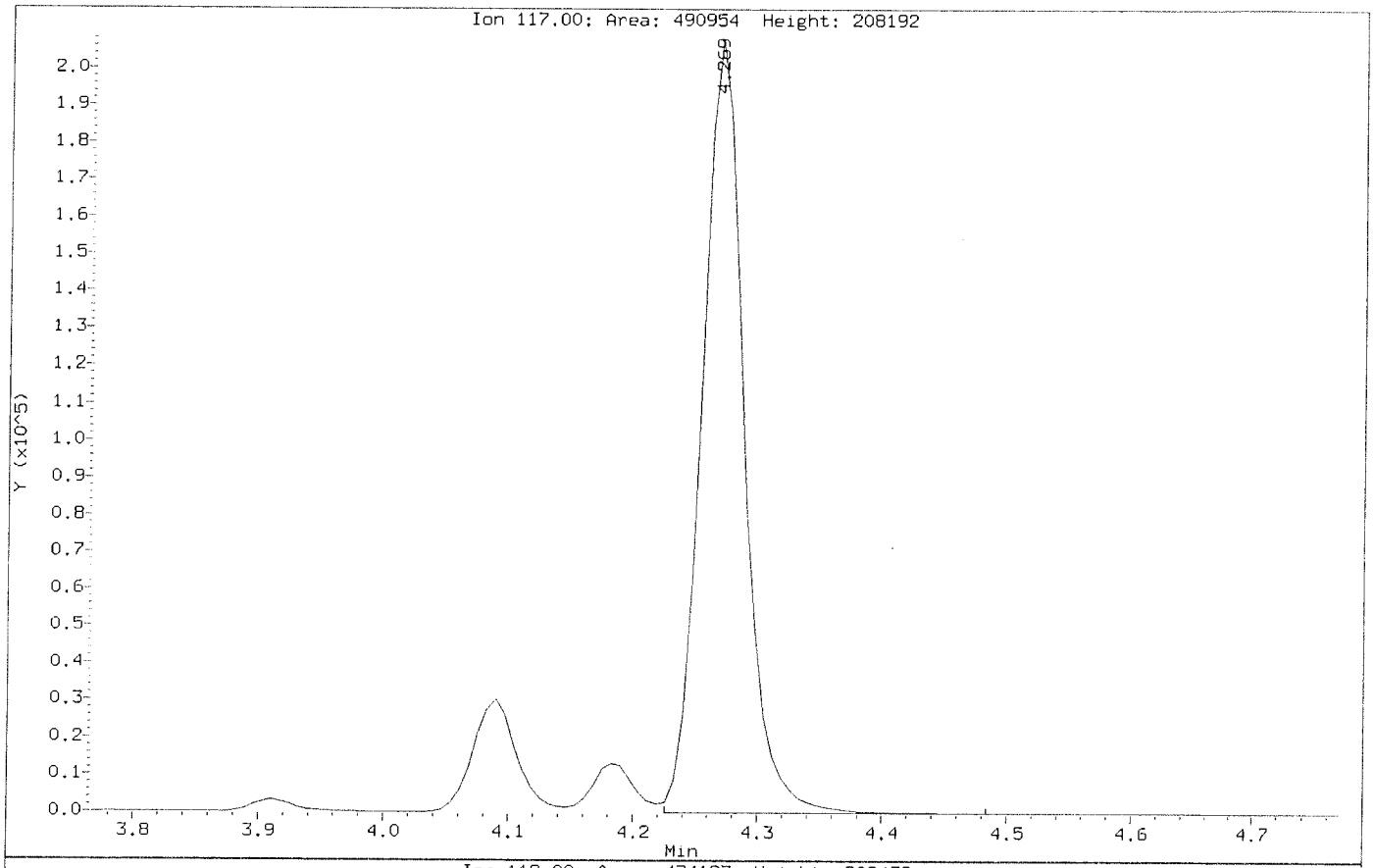
Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4

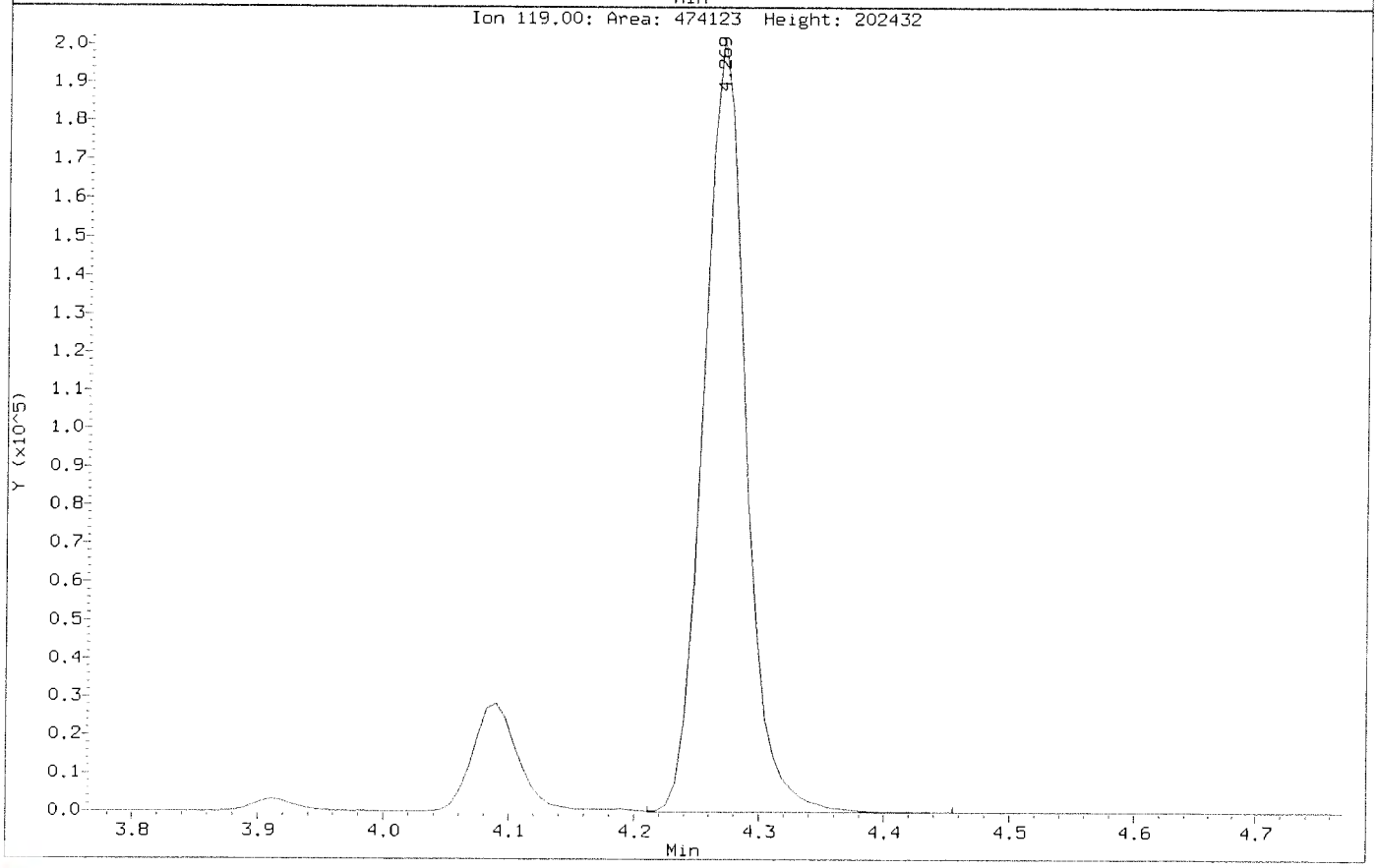




Data File: \\nahstws005\Target\chem\voa6.i\X191118.b\BEFORE\X111809.D
Injection Date: 18-NOV-2019 16:59
Instrument: voa6.i
Client Sample ID: VSTD100

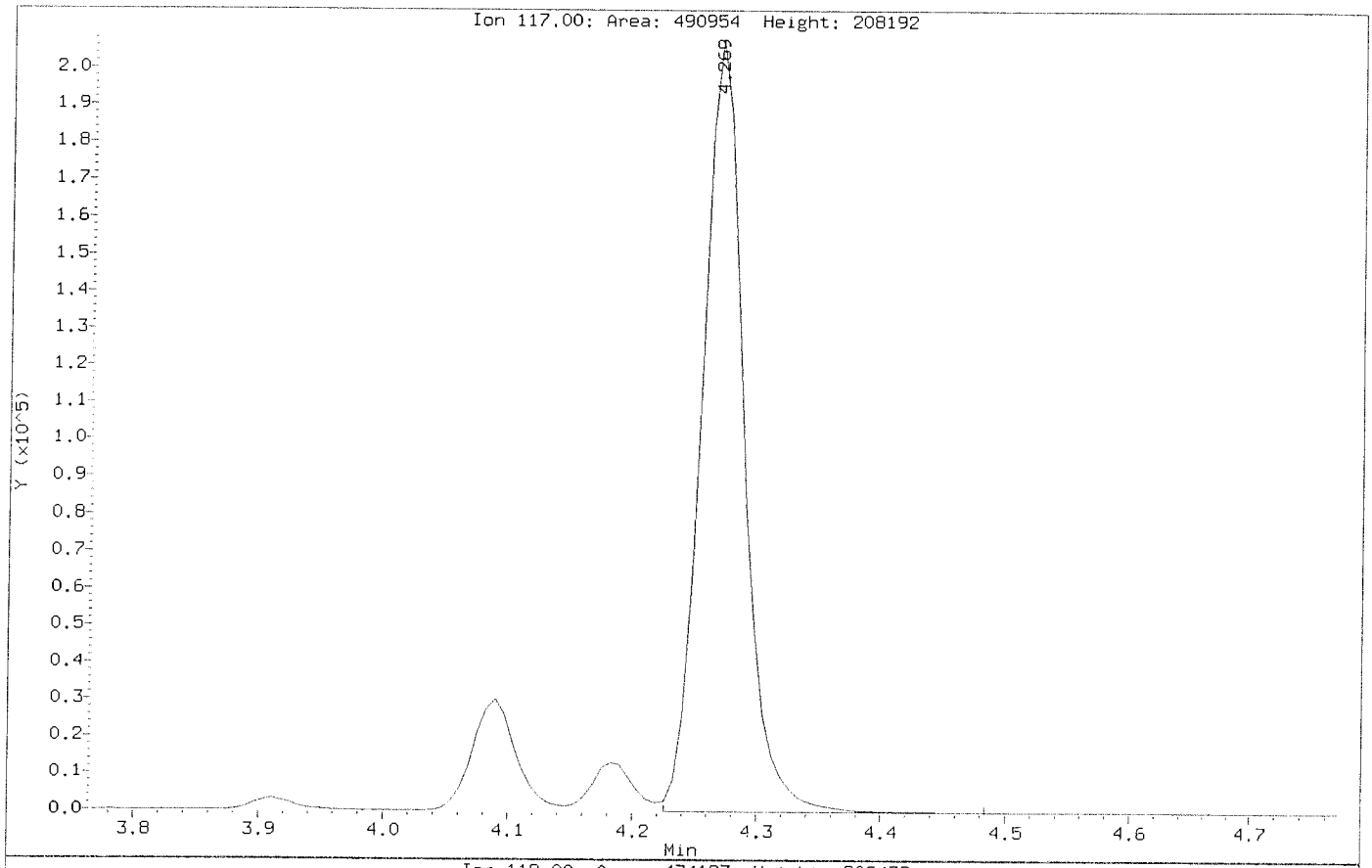
Compound: Carbon Tetrachloride
CAS Number: 56-23-5

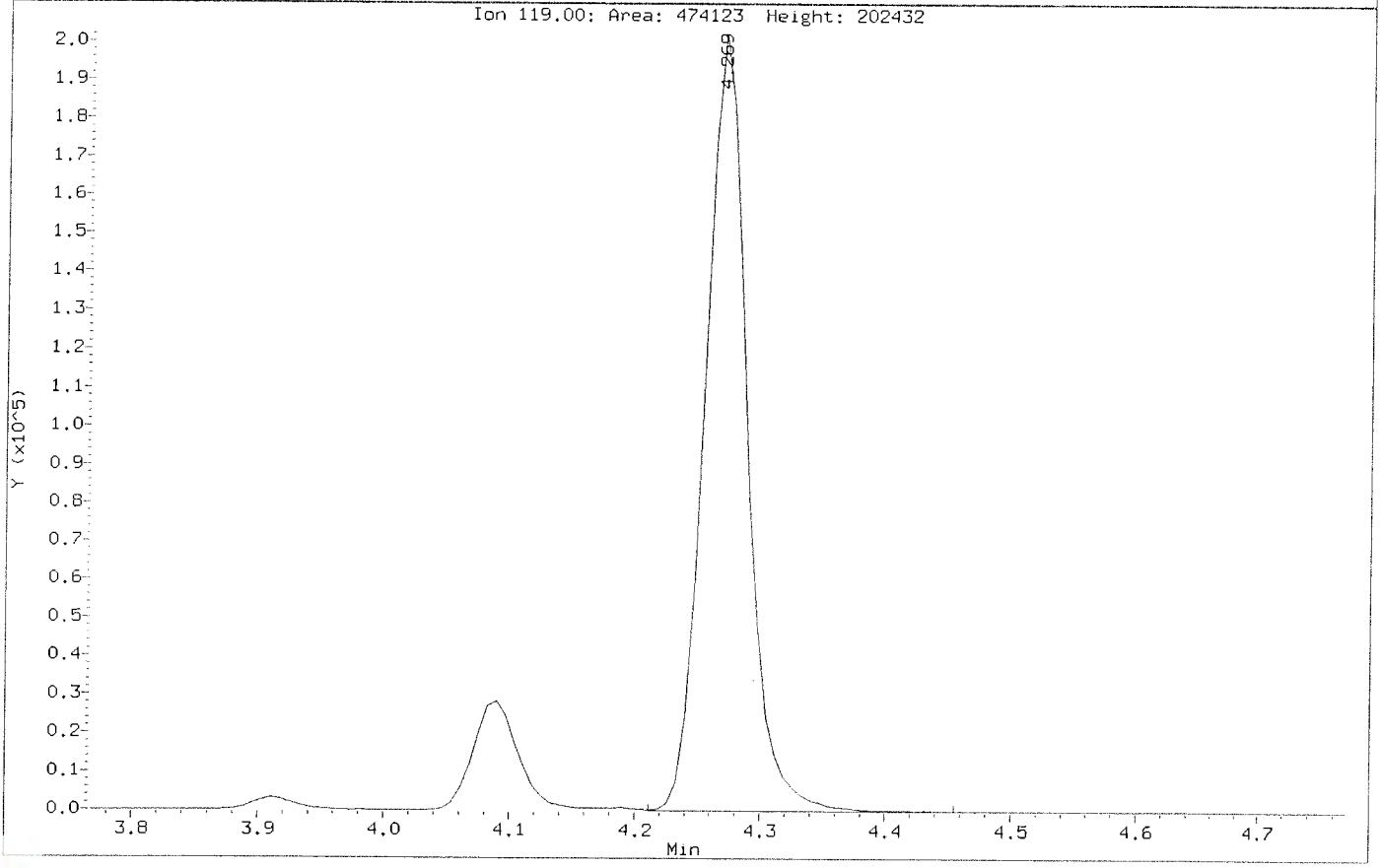




Data File: \\nahstws005\Target\chem\voa6.i\X191118.b\X111809.D
Injection Date: 18-NOV-2019 16:59
Instrument: voa6.i
Client Sample ID: VSTD100

Compound: Carbon Tetrachloride
CAS Number: 56-23-5





Data File: \\nahstws005\Target\chem\voa6.i\X191118.b\X111810.D Page 1
Report Date: 06-Dec-2019 19:56

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X191118.b\X111810.D
Lab Smp Id: VSTD150 Client Smp ID: VSTD150
Inj Date : 18-NOV-2019 17:22
Operator : PC Inst ID: voa6.i
Smp Info : VSTD150;VSTD150;1;9;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X191118.b\8260W.m
Meth Date : 06-Dec-2019 19:56 voa6.i Quant Type: ISTD
Cal Date : 18-NOV-2019 16:59 Cal File: X111809.D
Als bottle: 11 Calibration Sample, Level: 9
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBIHOUSTONDOD.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

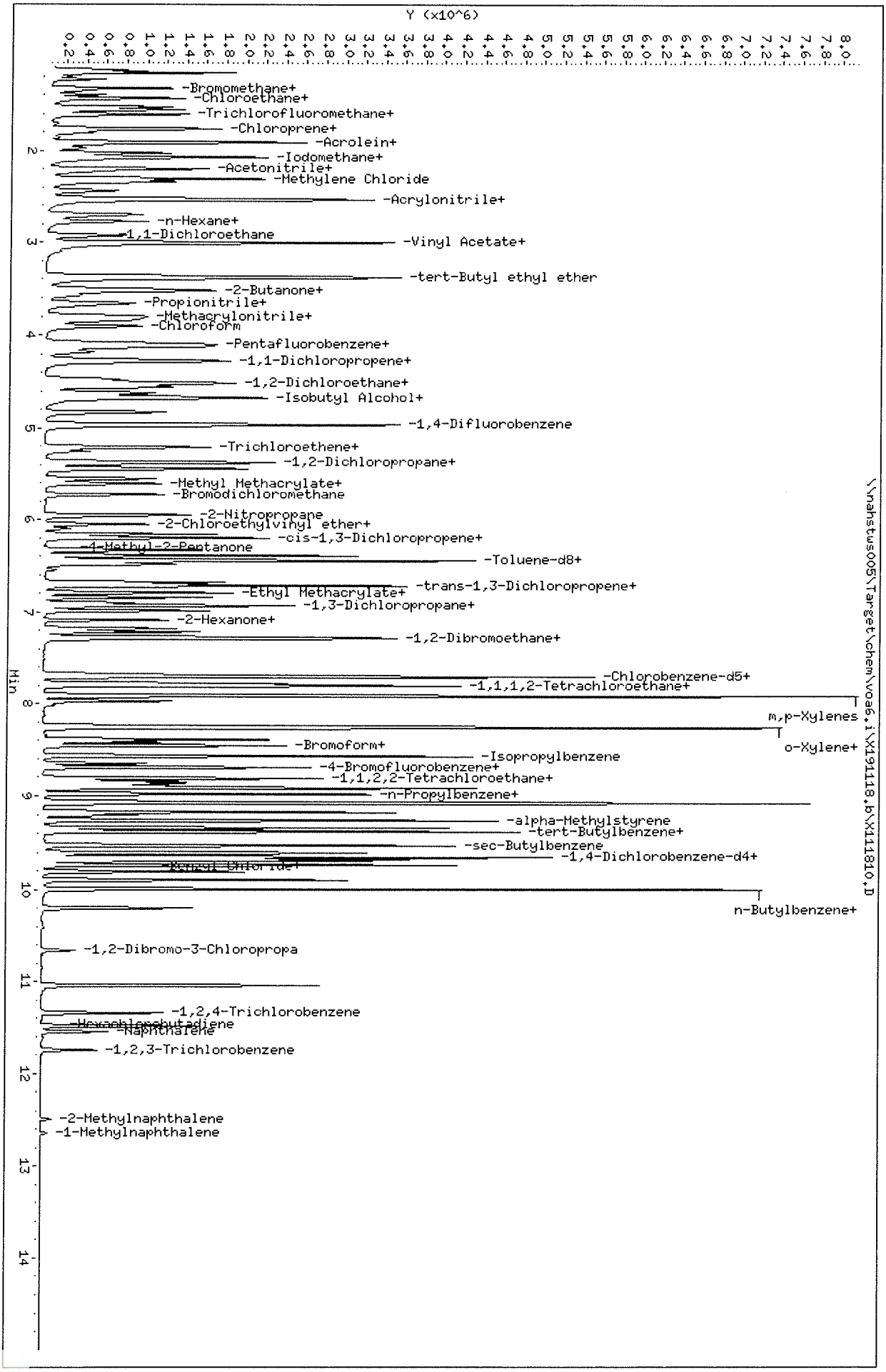
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	378157	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	542191	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	494760	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	282310	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	532181	150.000	148.11
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	688600	150.000	148.76
$ 30 Dibromofluoromethane	113	4.104	4.104	(0.981)	514854	150.000	148.99
$ 48 Toluene-d8	98	6.389	6.389	(0.833)	1815269	150.000	139.25
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	548257	150.000	152.74
31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	768782	150.000	150.69
68 1,1,2,2-Tetrachloroethane	83	8.845	8.845	(0.915)	560927	150.000	141.29
138 Freon TF	101	1.912	1.912	(0.457)	513260	150.000	155.89
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	380298	150.000	147.04
22 1,1-Dichloroethane	63	2.922	2.922	(0.699)	825788	150.000	150.08
11 1,1-Dichloroethene	96	1.912	1.912	(0.457)	483391	150.000	150.83
32 1,1-Dichloropropene	75	4.283	4.283	(0.862)	635821	150.000	145.37
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.215)	156391	150.000	148.93
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.917)	465353	150.000	138.34(M)
90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	338737	150.000	142.44
79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.970)	2030171	150.000	151.55
89 1,2-Dibromo-3-Chloropropane	155	10.658	10.658	(1.102)	65470	150.000	150.06
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	518766	150.000	149.49

Data File: \\nahstws005\Target\chem\voa6.i\X191118.b\X111810.D Page 2
Report Date: 06-Dec-2019 19:56

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
88	1,2-Dichlorobenzene	146	9.999	9.999	(1.034)	1121580	150.000	149.69
33	1,2-Dichloroethane	62	4.562	4.562	(0.918)	645436	150.000	149.95
42	1,2-Dichloropropane	63	5.443	5.443	(1.095)	471959	150.000	145.71
75	1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	1980658	150.000	154.09
83	1,3-Dichlorobenzene	146	9.612	9.612	(0.994)	1183710	150.000	146.20
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	763789	150.000	145.46
84	1,4-Dichlorobenzene	146	9.684	9.684	(1.001)	1195790	150.000	145.34
26	2,2-Dichloropropane	77	3.516	3.516	(0.841)	732900	150.000	146.75
24	2-Butanone	43	3.573	3.573	(0.854)	346972	300.000	299.02(A)
76	2-Chlorotoluene	91	8.982	8.982	(0.929)	1513395	150.000	149.00
52	2-Hexanone	43	7.090	7.090	(0.924)	606144	300.000	298.23(A)
77	4-Chlorotoluene	91	9.075	9.075	(0.939)	1867848	150.000	151.71
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	2100293	150.000	152.04
45	4-Methyl-2-Pentanone	43	6.324	6.324	(0.824)	884349	300.000	305.06(A)
10	Acetone	43	1.976	1.976	(0.473)	284604	300.000	298.06(A)
37	Benzene	78	4.512	4.512	(0.908)	1843665	150.000	148.64
74	Bromobenzene	156	8.810	8.810	(0.911)	709083	150.000	144.52
29	Bromochloromethane	128	3.795	3.795	(0.908)	294445	150.000	143.73
39	Bromodichloromethane	83	5.730	5.730	(1.153)	669356	150.000	149.18
66	Bromoform	173	8.416	8.416	(1.097)	447981	150.000	150.02
6	Bromomethane	94	1.331	1.331	(0.318)	529714	150.000	145.16
19	Carbon Disulfide	76	2.069	2.069	(0.495)	2705391	300.000	310.30(A)
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	707541	150.000	147.68(H)
59	Chlorobenzene	112	7.699	7.699	(1.004)	1445648	150.000	149.66
7	Chloroethane	64	1.396	1.396	(0.334)	351927	150.000	147.81
28	Chloroform	83	3.910	3.910	(0.935)	863467	150.000	140.99
3	Chloromethane	50	1.074	1.074	(0.257)	613254	150.000	148.94
27	cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	542390	150.000	151.24
46	cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	808388	150.000	152.88
55	Dibromochloromethane	129	7.176	7.176	(0.936)	573494	150.000	152.63
44	Dibromomethane	93	5.558	5.558	(1.118)	338759	150.000	147.80
2	Dichlorodifluoromethane	85	0.966	0.966	(0.231)	504807	150.000	144.79
61	Ethylbenzene	106	7.800	7.800	(1.017)	751250	150.000	150.52
91	Hexachlorobutadiene	225	11.489	11.489	(1.188)	279881	150.000	142.49
67	Isopropylbenzene	105	8.566	8.566	(1.117)	2283588	150.000	154.47
62	m,p-Xylenes	106	7.907	7.907	(1.031)	1861660	300.000	309.12(A)
17	Methylene Chloride	84	2.306	2.306	(0.551)	485622	150.000	142.02
87	n-Butylbenzene	91	9.999	9.999	(1.034)	1823176	150.000	158.59
73	n-Propylbenzene	91	8.917	8.917	(0.922)	2616190	150.000	149.92
92	Naphthalene	128	11.546	11.546	(1.194)	435593	150.000	142.81
63	o-Xylene	106	8.244	8.244	(1.075)	906786	150.000	152.56
81	sec-Butylbenzene	105	9.526	9.526	(0.985)	2308597	150.000	152.28
64	Styrene	104	8.258	8.258	(1.077)	1622659	150.000	156.99
78	tert-Butylbenzene	119	9.340	9.340	(0.966)	1665732	150.000	151.35
56	Tetrachloroethene	164	6.933	6.933	(0.904)	493485	150.000	141.95
50	Toluene	91	6.446	6.446	(0.840)	2107838	150.000	150.23
20	trans-1,2-Dichloroethene	96	2.528	2.528	(0.604)	472385	150.000	151.82
51	trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	741568	150.000	153.87
38	Trichloroethene	130	5.207	5.207	(1.048)	566006	150.000	149.27
8	Trichlorofluoromethane	101	1.553	1.553	(0.372)	922117	150.000	157.19
5	Vinyl Chloride	62	1.138	1.138	(0.272)	578026	150.000	149.97

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.
M - Compound response manually integrated.
H - Operator selected an alternate compound hit.

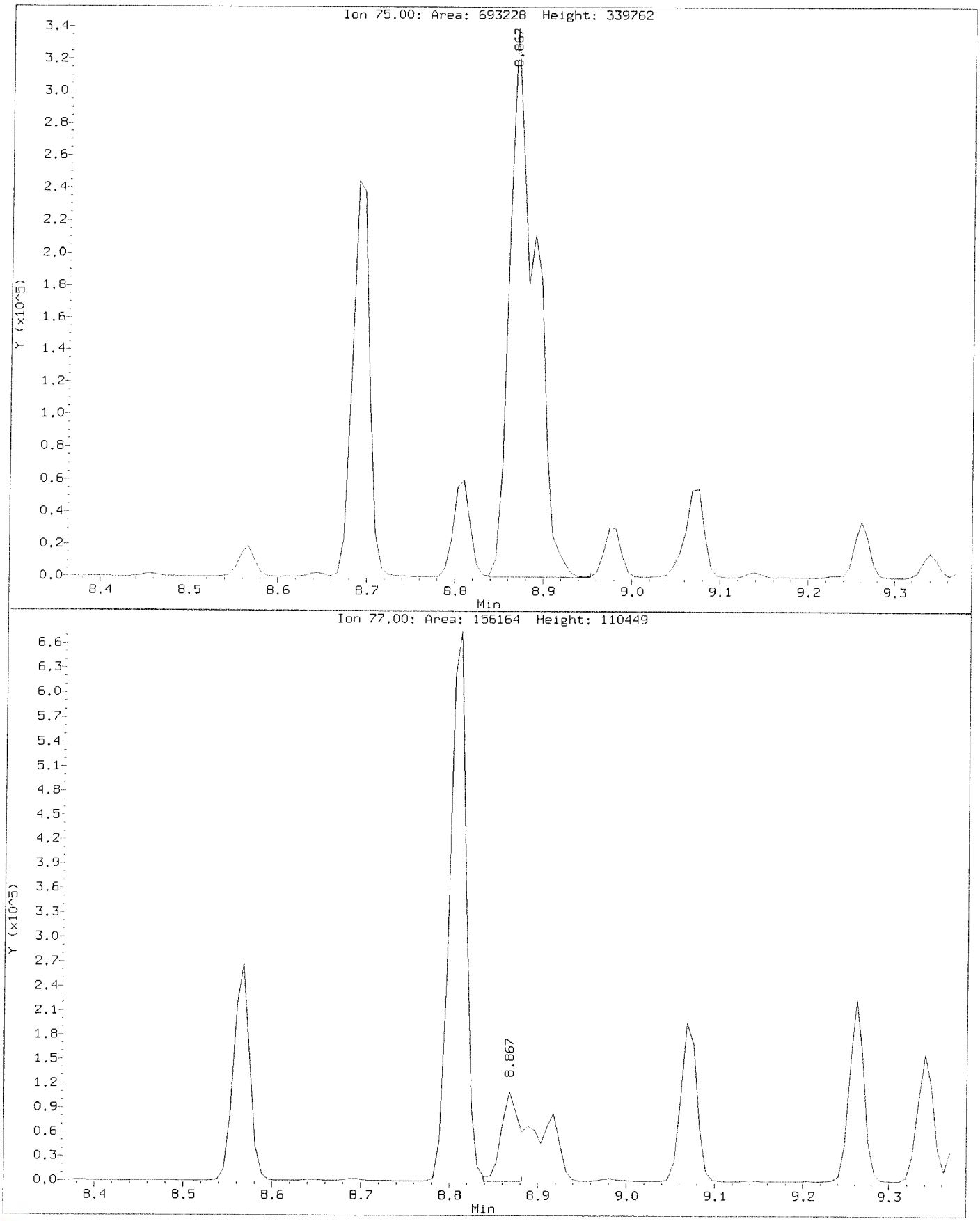


Data File: \\nahstws005\Target\chem\voa6,i\X191118,b\X111810,D
Date : 18-NOV-2019 17:22
Client ID: VSTD150
Sample Info: VSTD150;VSTD150;1;9;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6,i
Operator: PC
Column diameter: 0.18

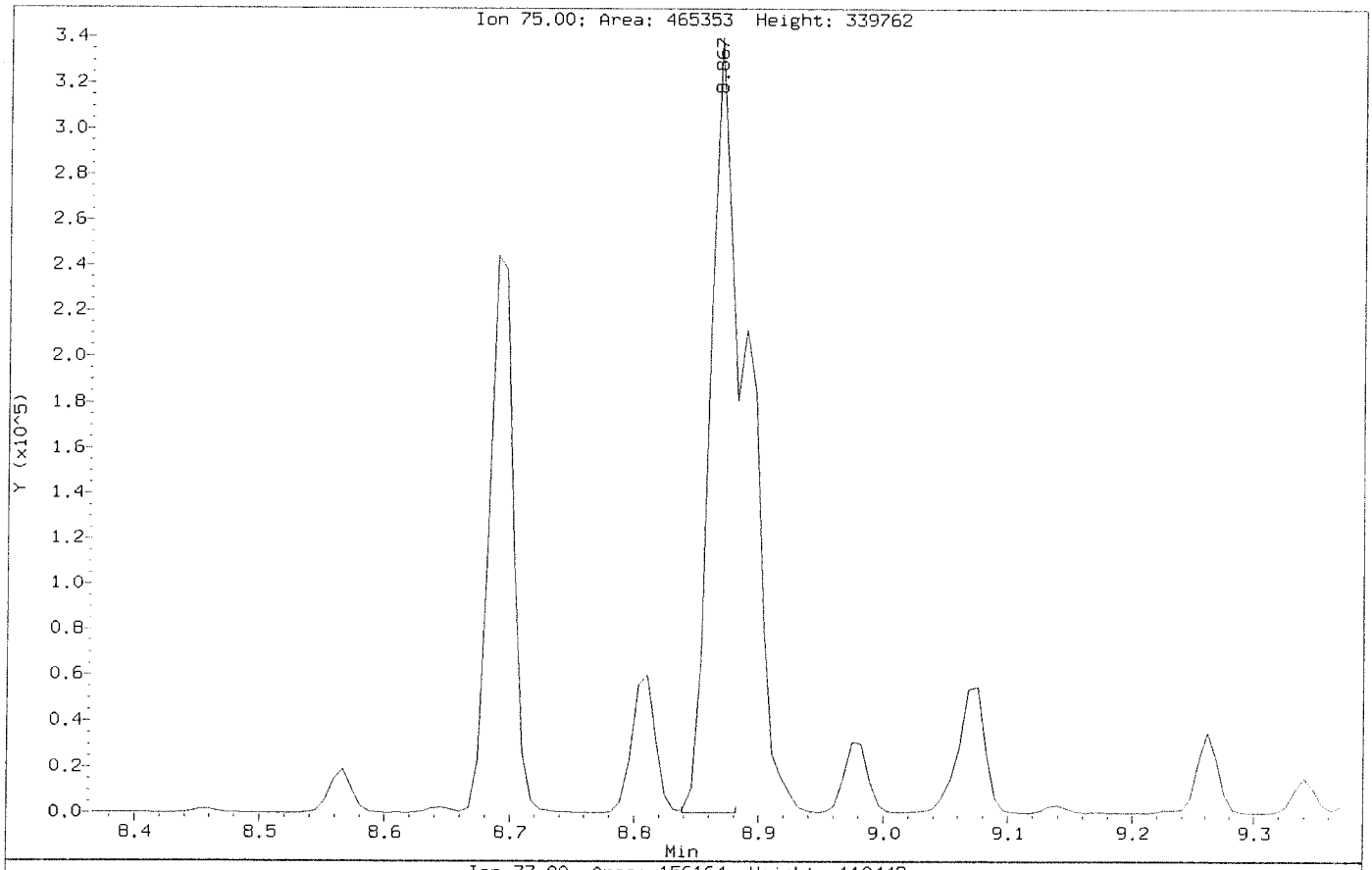
Data File: \\nahstws005\Target\chem\voa6.i\X191118.b\BEFORE\X111810.D
Injection Date: 18-NOV-2019 17:22
Instrument: voa6.i
Client Sample ID: VSTD150

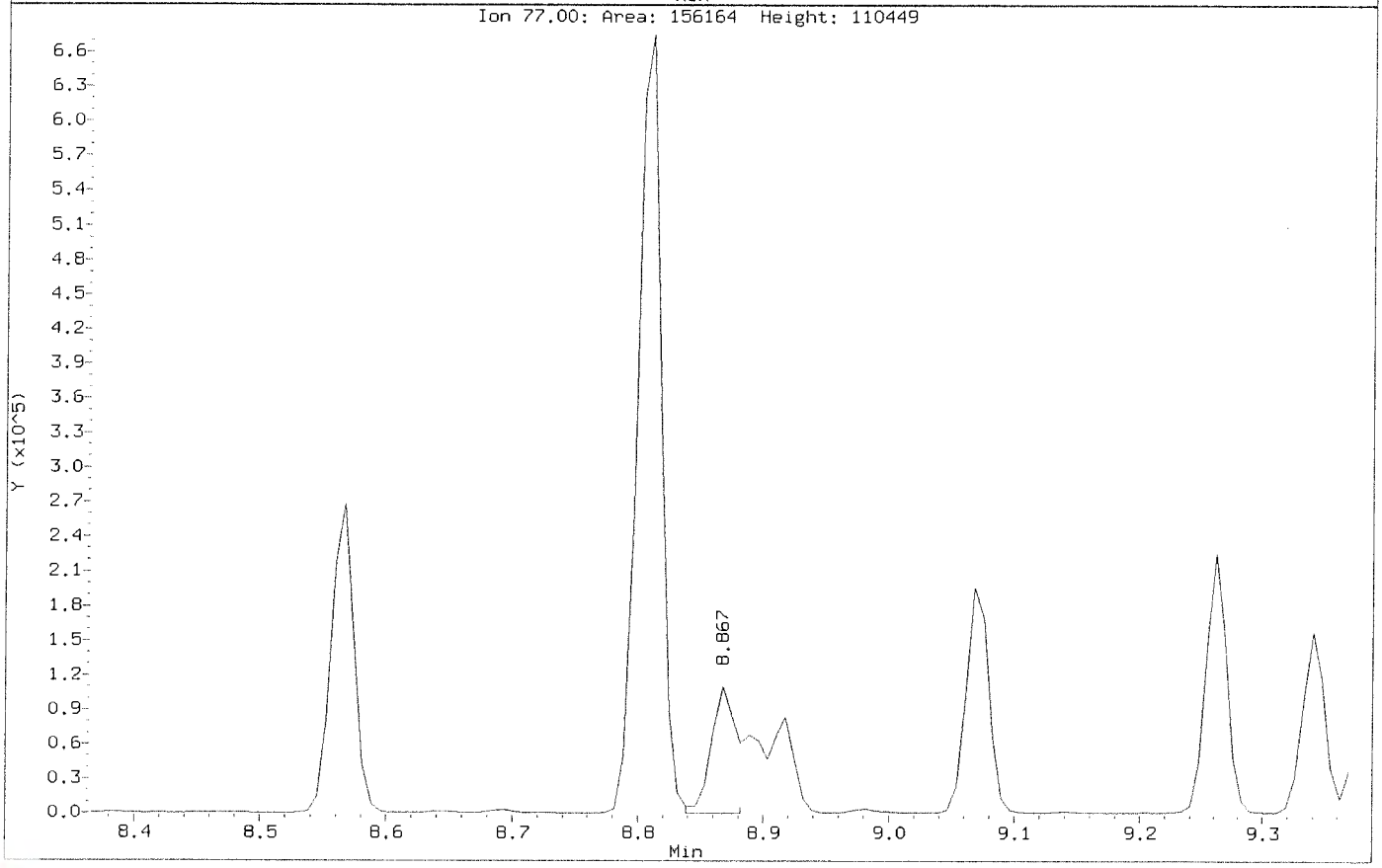
Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4



Data File: \\nahstws005\Target\chem\voa6.i\X191118.b\X111810.D
Injection Date: 18-NOV-2019 17:22
Instrument: voa6.i
Client Sample ID: VSTD150

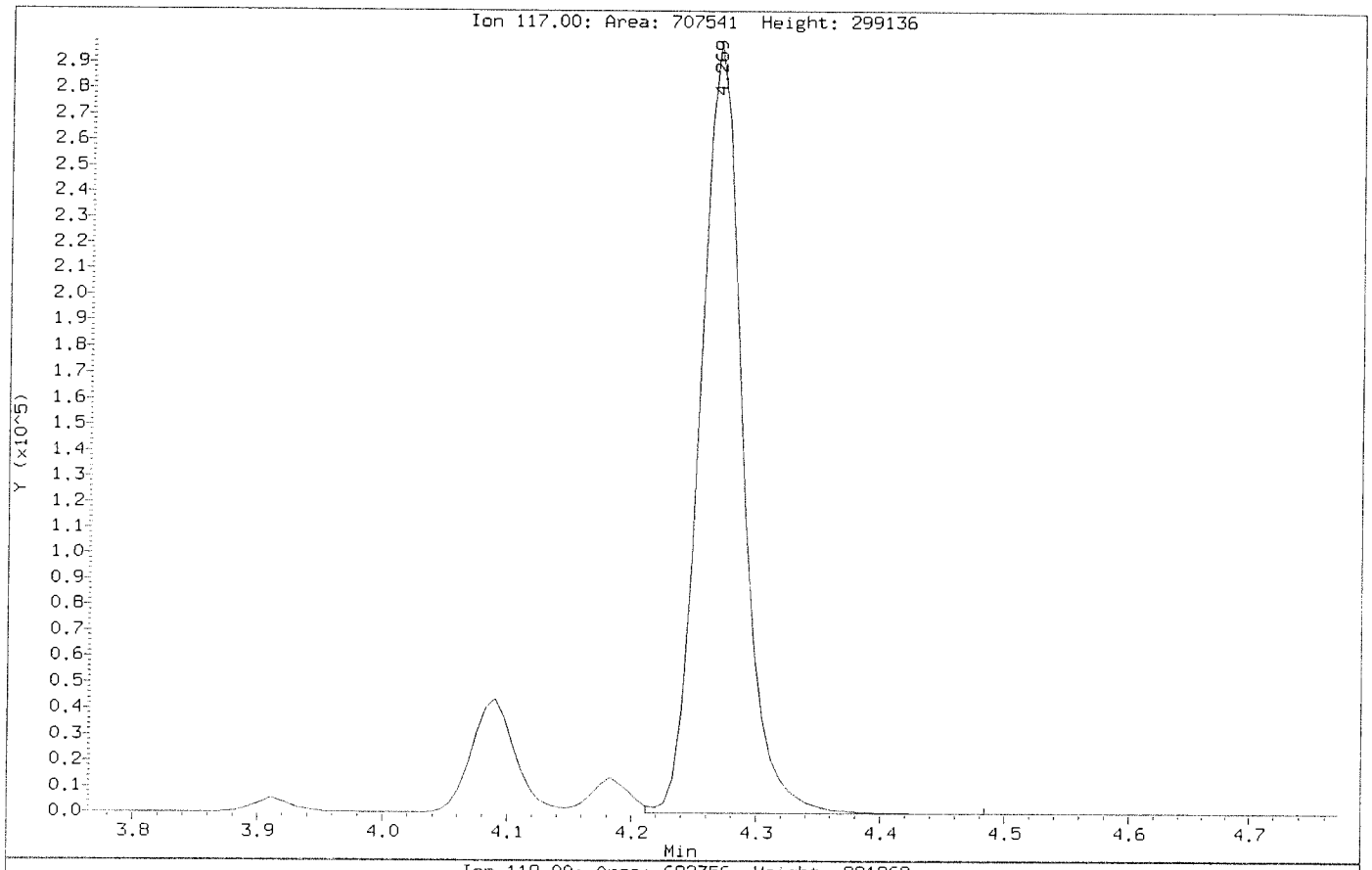
Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4

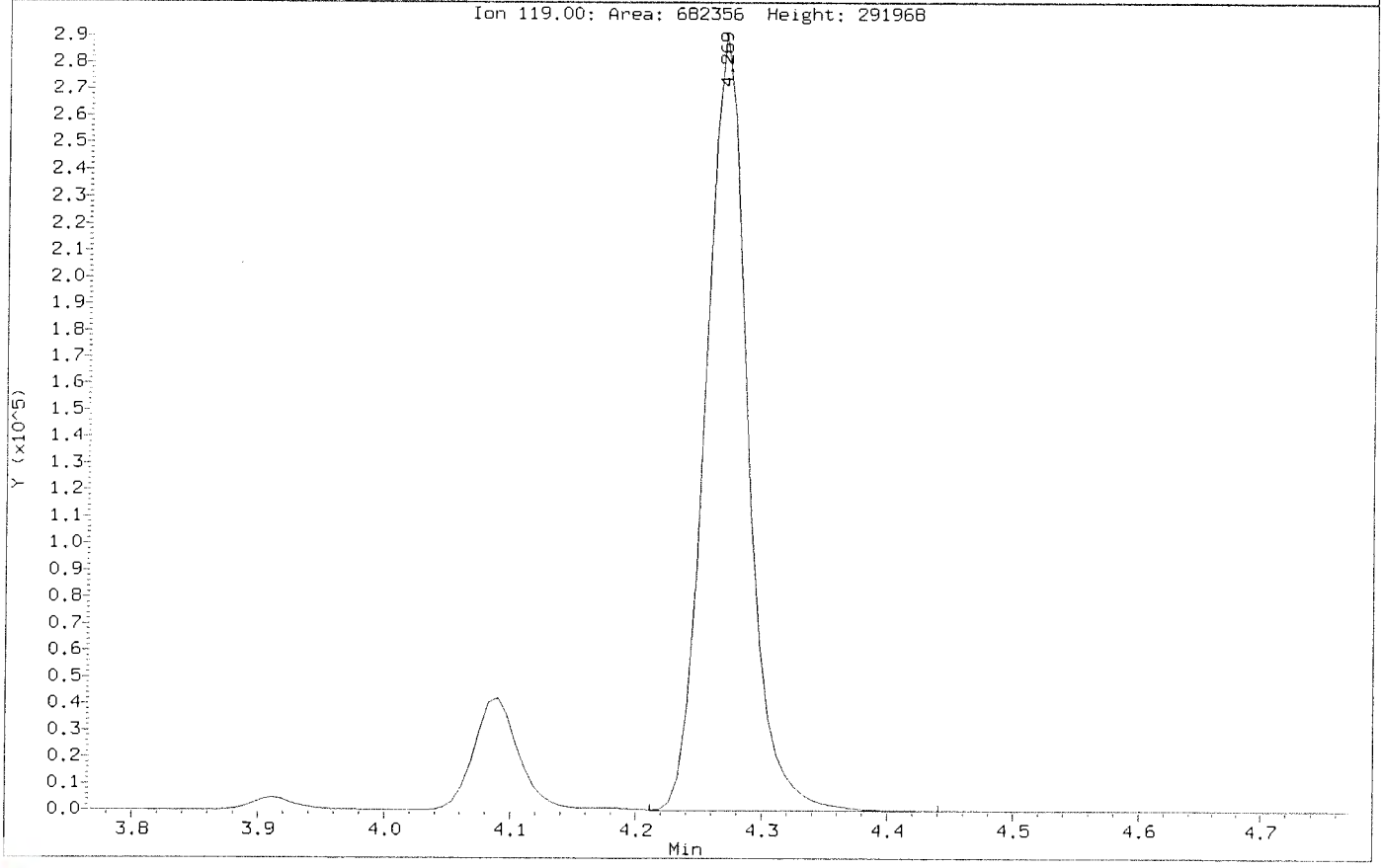




Data File: \\nahstws005\Target\chem\voa6.i\X191118.b\BEFORE\X111810.D
Injection Date: 18-NOV-2019 17:22
Instrument: voa6.i
Client Sample ID: VSTD150

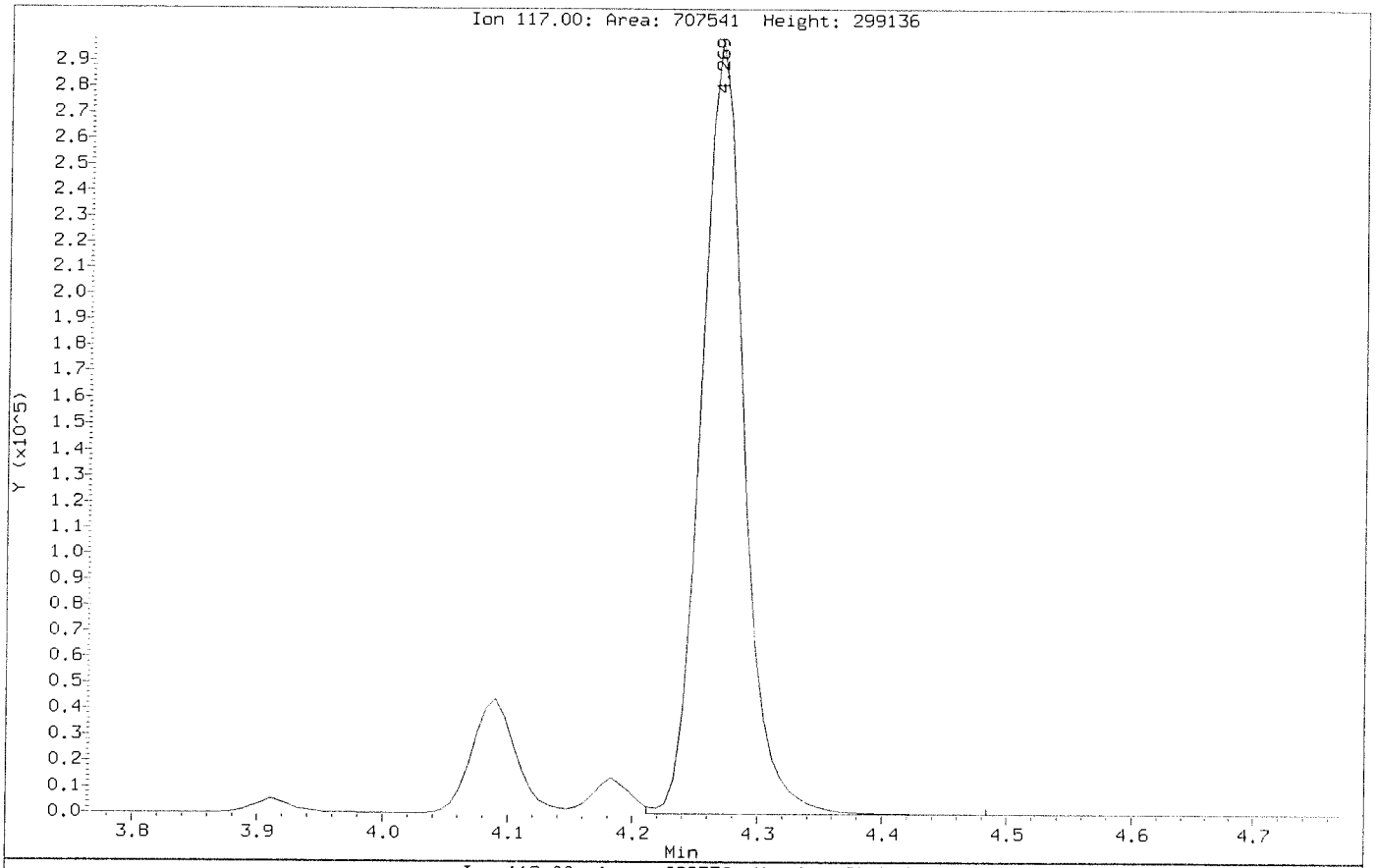
Compound: Carbon Tetrachloride
CAS Number: 56-23-5

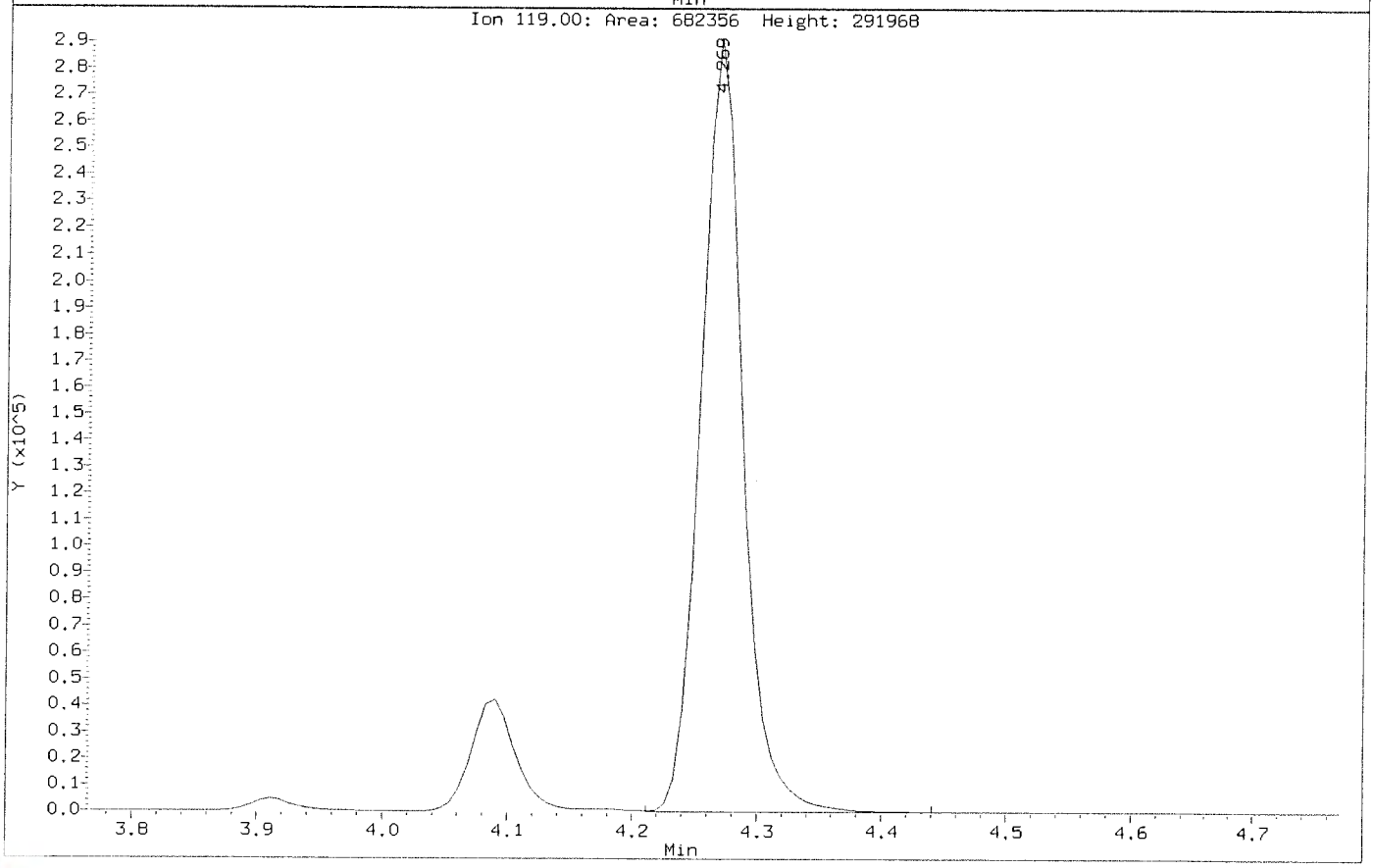




Data File: \\nahstws005\Target\chem\voa6.i\X191118.b\X111810.D
Injection Date: 18-NOV-2019 17:22
Instrument: voa6.i
Client Sample ID: VSTD150

Compound: Carbon Tetrachloride
CAS Number: 56-23-5





Data File: \\nahstws005\Target\chem\voa6.i\X191118.b\X111811.D Page 1
Report Date: 06-Dec-2019 19:56

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X191118.b\X111811.D
Lab Smp Id: VSTD200 Client Smp ID: VSTD200
Inj Date : 18-NOV-2019 17:46
Operator : PC Inst ID: voa6.i
Smp Info : VSTD200;VSTD200;1;10;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X191118.b\8260W.m
Meth Date : 06-Dec-2019 19:56 voa6.i Quant Type: ISTD
Cal Date : 18-NOV-2019 17:22 Cal File: X111810.D
Als bottle: 12 Calibration Sample, Level: 10
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBIHOUSTONDOD.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

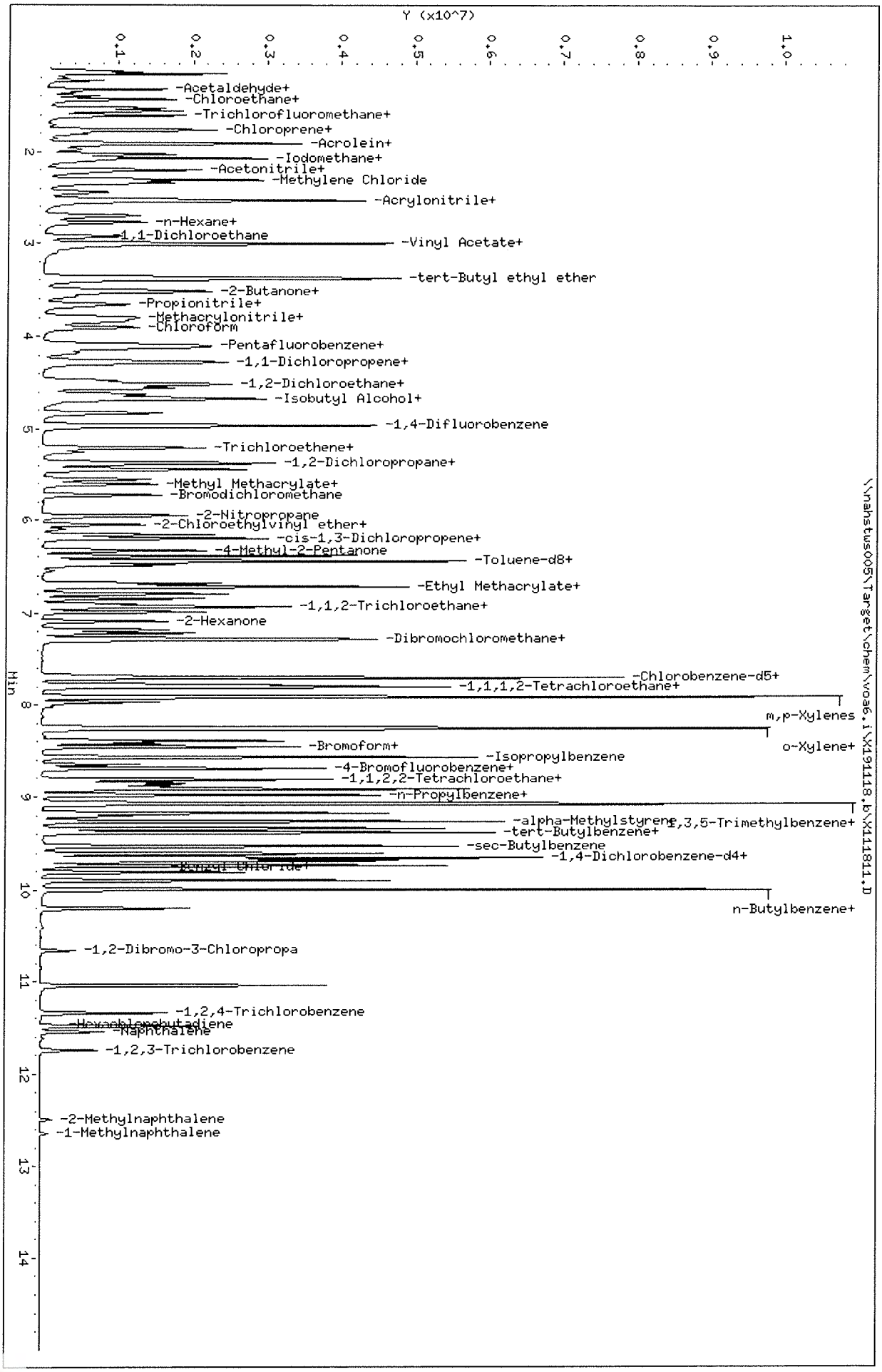
Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	369517	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	542684	50.0000	
* 47 Chlorobenzene-d5	117	7.670	7.670	(1.000)	493817	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	280605	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	713282	200.000	202.89(A)
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	933083	200.000	201.81(A)
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	681300	200.000	201.64(A)
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	2431773	200.000	186.90
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	731912	200.000	204.29(A)
31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	1030058	200.000	206.62(A)
68 1,1,2,2-Tetrachloroethane	83	8.845	8.845	(0.915)	742176	200.000	188.09
138 Freon TF	101	1.911	1.911	(0.457)	696977	200.000	216.65(A)
53 1,1,2-Trichloroethane	83	6.847	6.847	(0.893)	511936	200.000	198.31
22 1,1-Dichloroethane	63	2.921	2.921	(0.699)	1089650	200.000	202.66(A)
11 1,1-Dichloroethene	96	1.911	1.911	(0.457)	641291	200.000	204.78(A)
32 1,1-Dichloropropene	75	4.282	4.282	(0.862)	849992	200.000	194.17
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.215)	210414	200.000	200.64(A)
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.917)	609450	200.000	182.28(M)
90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	455609	200.000	192.75
79 1,2,4-Trimethylbenzene	105	9.382	9.382	(0.970)	2745695	200.000	206.21(A)
89 1,2-Dibromo-3-Chloropropane	155	10.657	10.657	(1.102)	86827	200.000	200.34(A)
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	693307	200.000	200.18(A)

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
88	1,2-Dichlorobenzene	146	9.998	9.998	(1.034)	1508205	200.000	202.51(A)
33	1,2-Dichloroethane	62	4.562	4.562	(0.918)	865099	200.000	200.81(A)
42	1,2-Dichloropropane	63	5.443	5.443	(1.095)	629023	200.000	194.03
75	1,3,5-Trimethylbenzene	105	9.074	9.074	(0.939)	2668415	200.000	208.86(A)
83	1,3-Dichlorobenzene	146	9.612	9.612	(0.994)	1590132	200.000	197.60
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	1018788	200.000	194.39
84	1,4-Dichlorobenzene	146	9.683	9.683	(1.001)	1621999	200.000	198.35
26	2,2-Dichloropropane	77	3.516	3.516	(0.841)	972273	200.000	199.24
24	2-Butanone	43	3.580	3.580	(0.856)	437867	400.000	386.18(A)
76	2-Chlorotoluene	91	8.981	8.981	(0.929)	2019887	200.000	200.07(A)
52	2-Hexanone	43	7.090	7.090	(0.924)	806375	400.000	397.51(A)
77	4-Chlorotoluene	91	9.074	9.074	(0.939)	2525879	200.000	206.41(A)
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	2843849	200.000	207.12(A)
45	4-Methyl-2-Pentanone	43	6.331	6.331	(0.825)	1178590	400.000	407.33(A)
10	Acetone	43	1.976	1.976	(0.473)	372223	400.000	400.25(A)
37	Benzene	78	4.512	4.512	(0.908)	2449808	200.000	197.34
74	Bromobenzene	156	8.809	8.809	(0.911)	958177	200.000	196.47
29	Bromochloromethane	128	3.795	3.795	(0.908)	376537	200.000	188.10
39	Bromodichloromethane	83	5.729	5.729	(1.153)	893499	200.000	198.95
66	Bromoform	173	8.415	8.415	(1.097)	602595	200.000	201.83(A)
6	Bromomethane	94	1.331	1.331	(0.318)	631015	200.000	177.48(M)
19	Carbon Disulfide	76	2.069	2.069	(0.495)	3628864	400.000	425.96(A)
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	954439	200.000	199.03(H)
59	Chlorobenzene	112	7.699	7.699	(1.004)	1940751	200.000	201.30(A)
7	Chloroethane	64	1.396	1.396	(0.334)	459143	200.000	197.35
28	Chloroform	83	3.910	3.910	(0.935)	1152726	200.000	192.62
3	Chloromethane	50	1.073	1.073	(0.257)	811388	200.000	201.60(A)
27	cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	721487	200.000	205.88(A)
46	cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	1069987	200.000	202.17(A)
55	Dibromochloromethane	129	7.183	7.183	(0.937)	764698	200.000	203.91(A)
44	Dibromomethane	93	5.557	5.557	(1.118)	451528	200.000	196.82
2	Dichlorodifluoromethane	85	0.966	0.966	(0.231)	695305	200.000	203.74(A)
61	Ethylbenzene	106	7.807	7.807	(1.018)	1011964	200.000	203.15(A)
91	Hexachlorobutadiene	225	11.488	11.488	(1.188)	373475	200.000	191.48
67	Isopropylbenzene	105	8.566	8.566	(1.117)	3082382	200.000	208.91(A)
62	m,p-Xylenes	106	7.907	7.907	(1.031)	2525960	400.000	420.22(A)
17	Methylene Chloride	84	2.305	2.305	(0.551)	644942	200.000	193.02
87	n-Butylbenzene	91	9.998	9.998	(1.034)	2465783	200.000	215.80(A)
73	n-Propylbenzene	91	8.917	8.917	(0.922)	3540988	200.000	204.15(A)
92	Naphthalene	128	11.546	11.546	(1.194)	574298	200.000	189.43
63	o-Xylene	106	8.244	8.244	(1.075)	1231007	200.000	207.50(A)
81	sec-Butylbenzene	105	9.526	9.526	(0.985)	3131997	200.000	207.86(A)
64	Styrene	104	8.265	8.265	(1.078)	2199171	200.000	213.18(A)
78	tert-Butylbenzene	119	9.339	9.339	(0.966)	2240944	200.000	204.85(A)
56	Tetrachloroethene	164	6.933	6.933	(0.904)	660581	200.000	190.38
50	Toluene	91	6.453	6.453	(0.841)	2834294	200.000	202.39(A)
20	trans-1,2-Dichloroethene	96	2.527	2.527	(0.604)	630988	200.000	207.54(A)
51	trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	1000892	200.000	207.50(A)
38	Trichloroethene	130	5.206	5.206	(1.048)	754871	200.000	198.90
8	Trichlorofluoromethane	101	1.553	1.553	(0.371)	1241567	200.000	216.59(A)
5	Vinyl Chloride	62	1.138	1.138	(0.272)	773023	200.000	205.26(A)

QC Flag Legend

A - Target compound detected but, quantitated amount
    exceeded maximum amount.
M - Compound response manually integrated.
H - Operator selected an alternate compound hit.

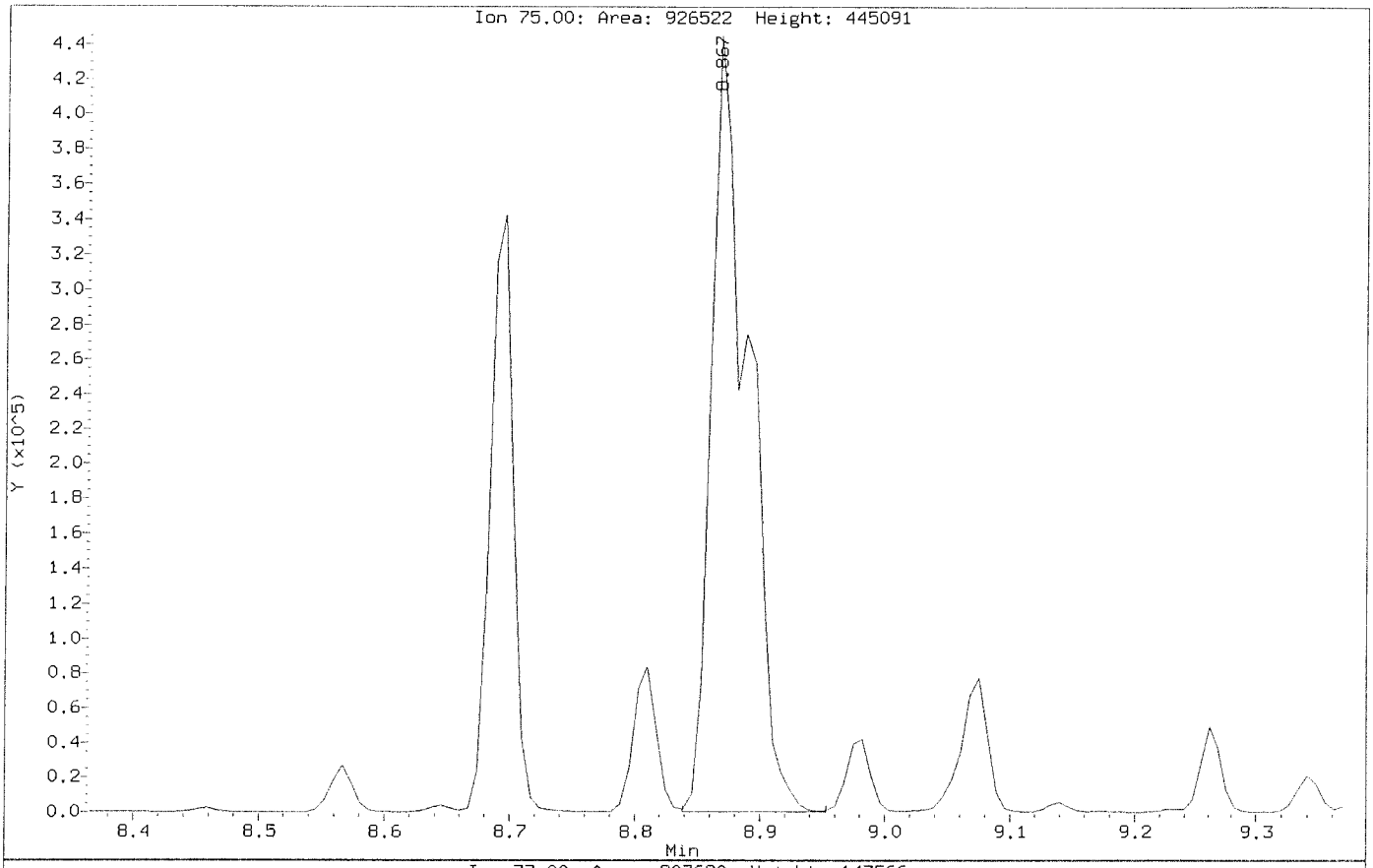


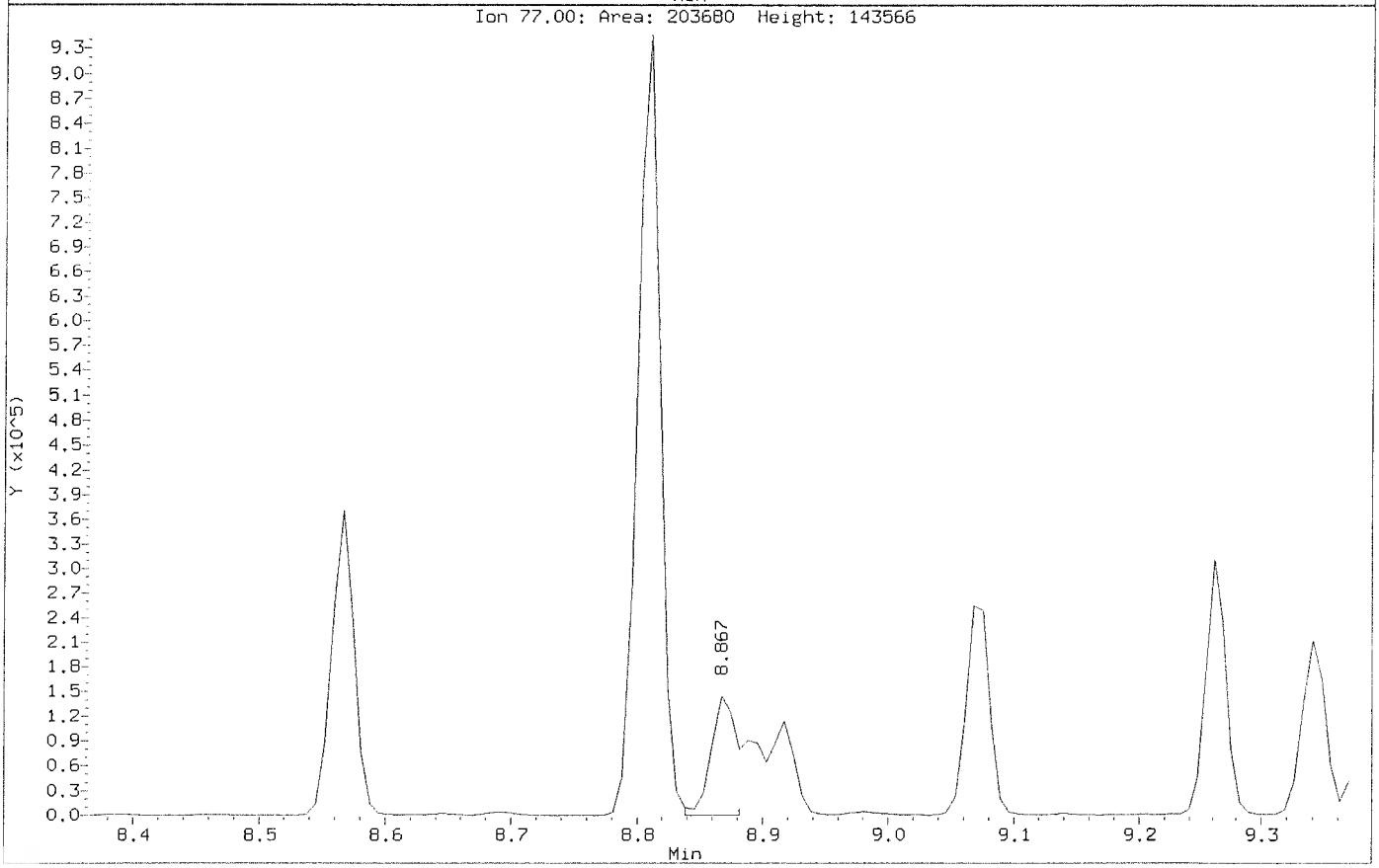
Data File: \\nahstws005\Target\chem\voa6.i\X191118.b\X111811.D
Date : 18-NOV-2019 17:46
Client ID: VSTD200
Sample Info: VSTD200;VSTD200;1;10;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: \\nahstws005\Target\chem\voa6.i\X191118.b\BEFORE\X111811.D
Injection Date: 18-NOV-2019 17:46
Instrument: voa6.i
Client Sample ID: VSTD200

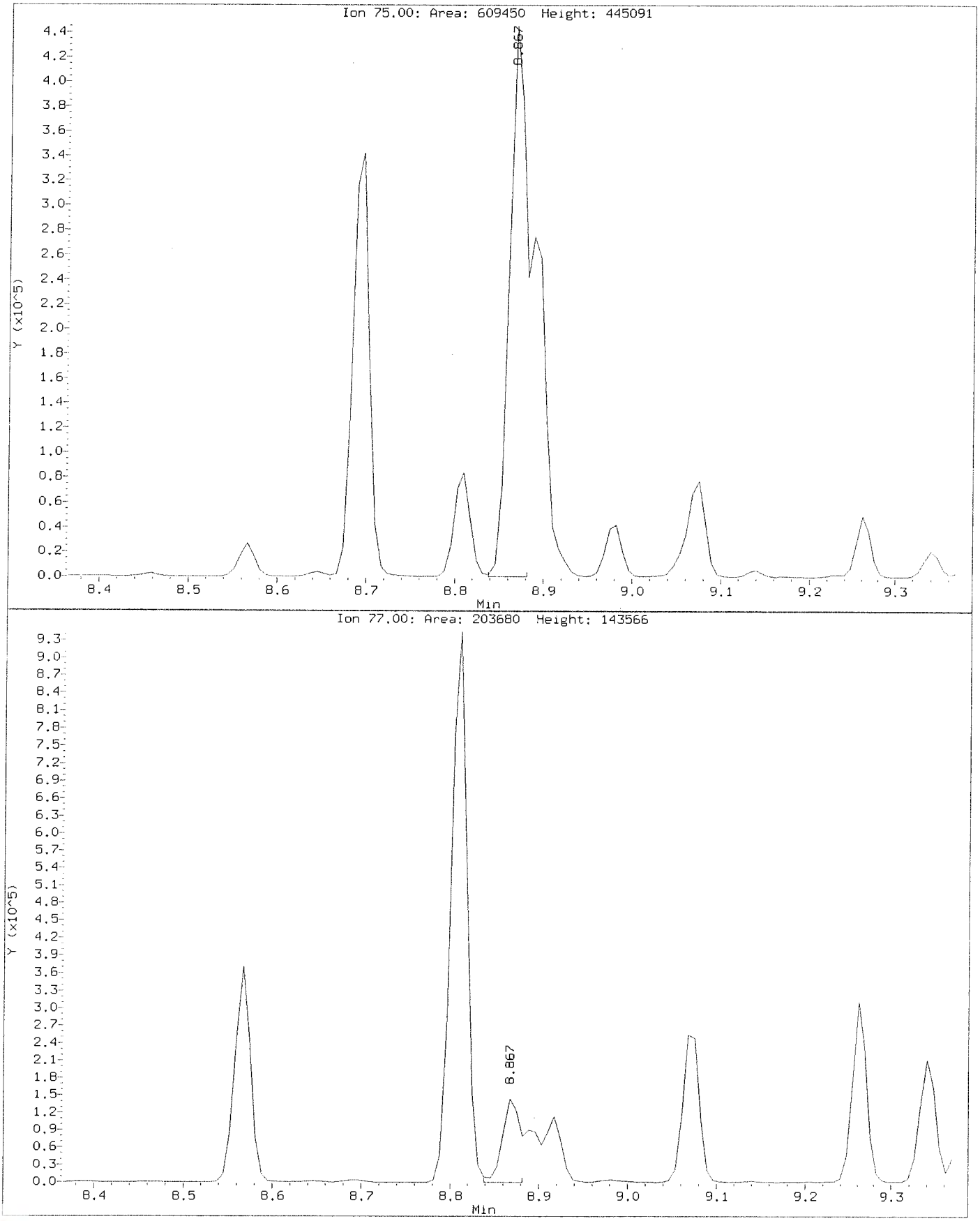
Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4





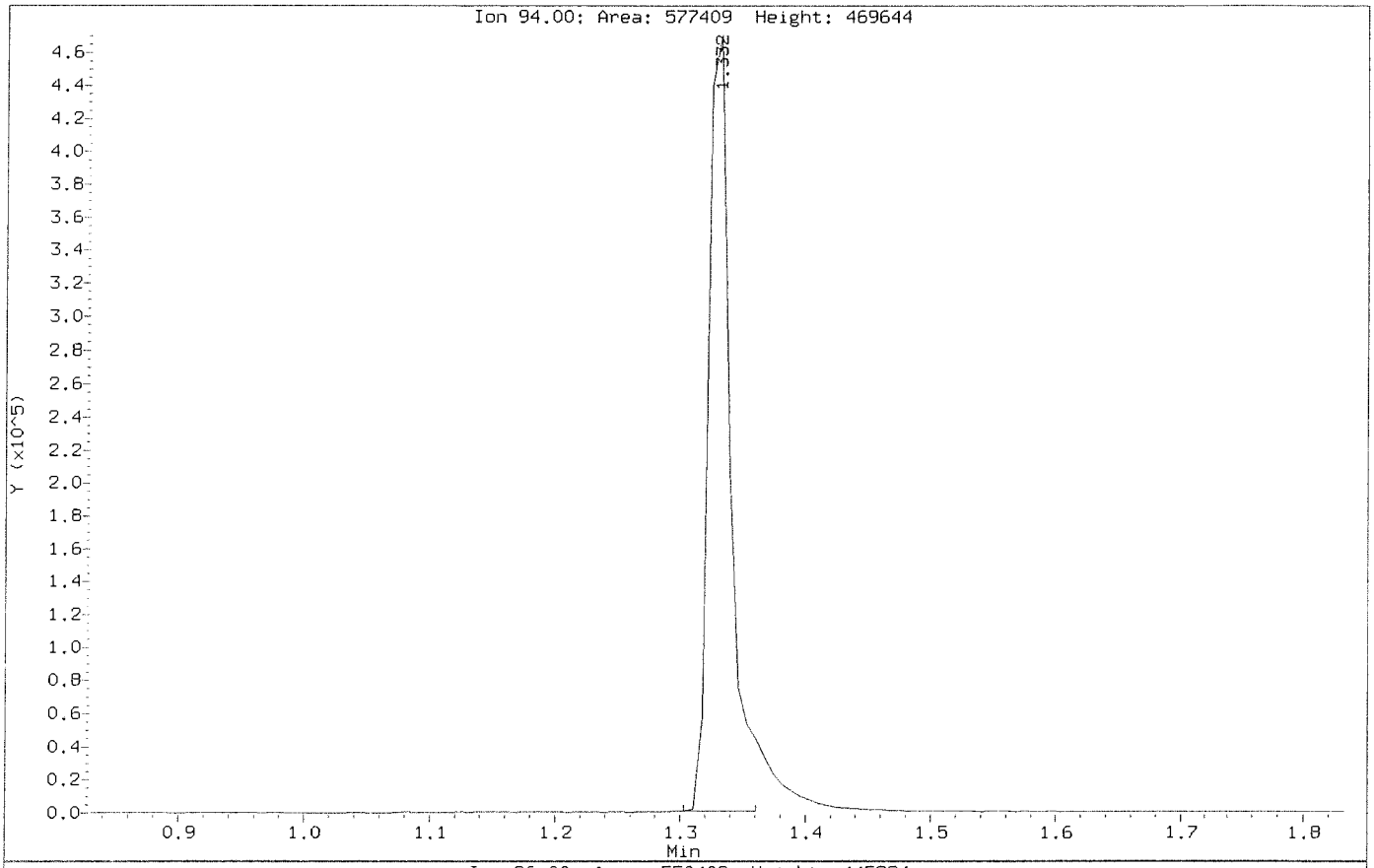
Data File: \\nahstws005\Target\chem\voa6.i\X191118.b\X111811.D
Injection Date: 18-NOV-2019 17:46
Instrument: voa6.i
Client Sample ID: VSTD200

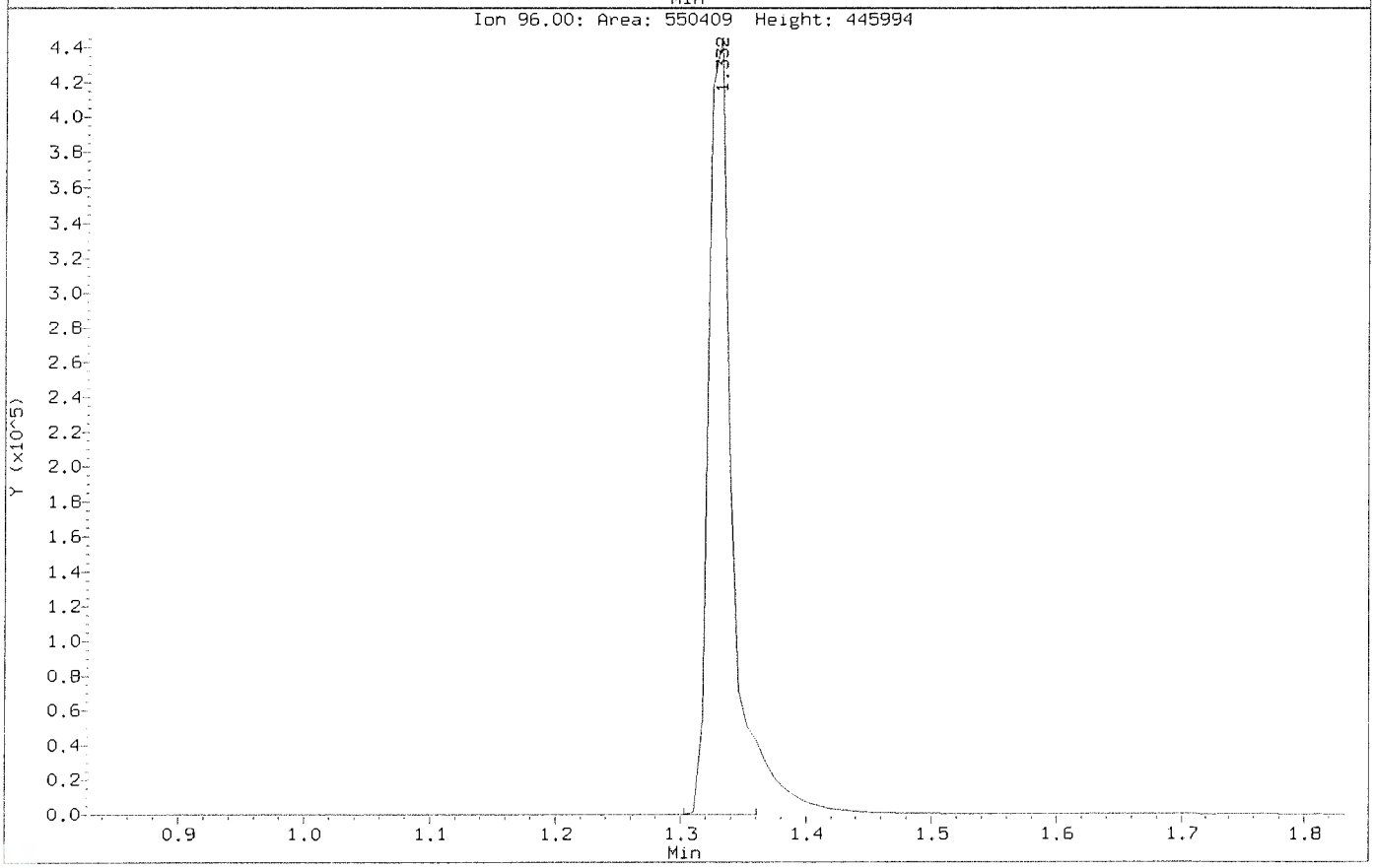
Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4



Data File: \\nahstws005\Target\chem\voa6.i\X191118.b\BEFORE\X111811.D
Injection Date: 18-NOV-2019 17:46
Instrument: voa6.i
Client Sample ID: VSTD200

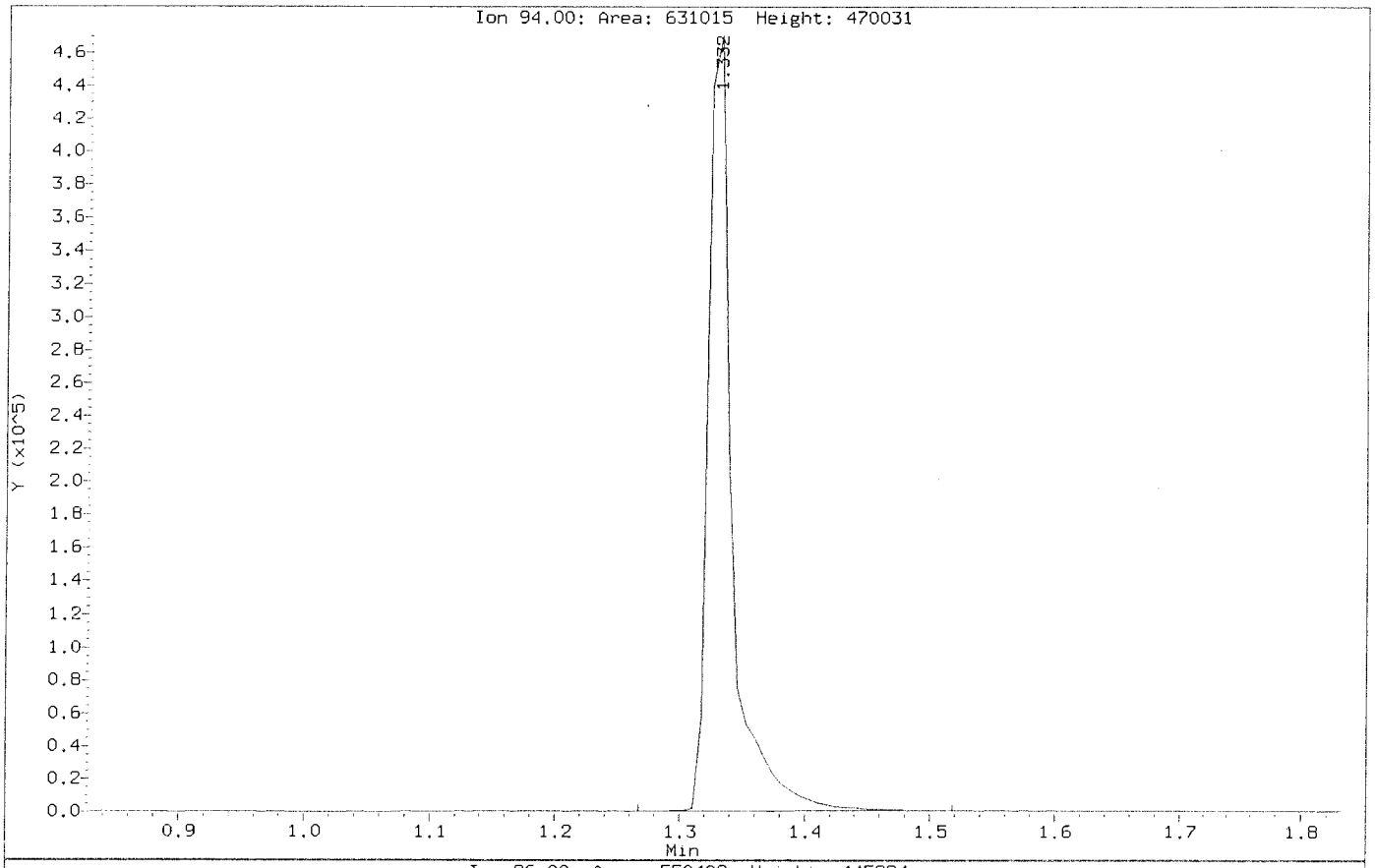
Compound: Bromomethane
CAS Number: 74-83-9

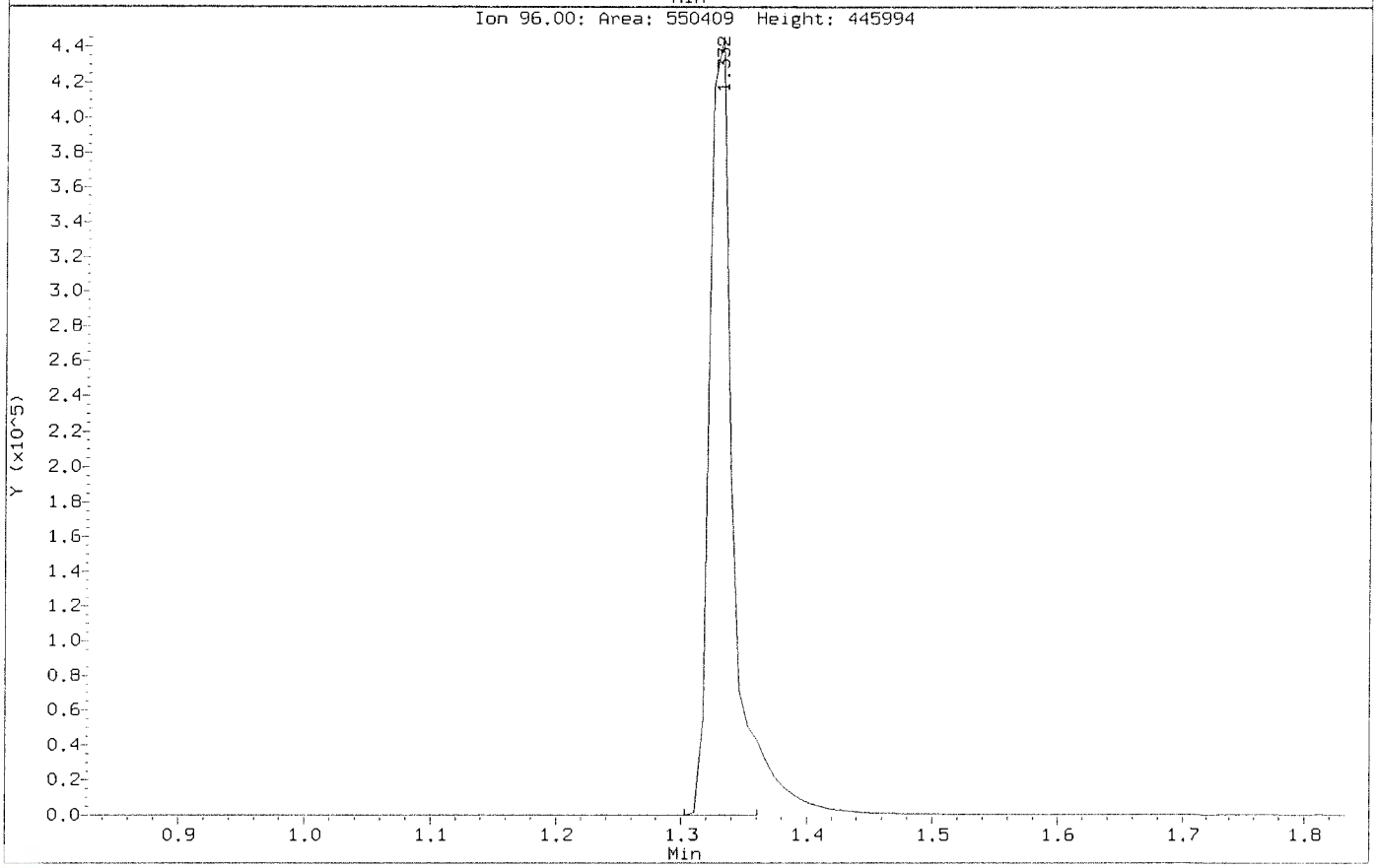




Data File: \\nahstws005\Target\chem\voa6.i\X191118.b\X111811.D
Injection Date: 18-NOV-2019 17:46
Instrument: voa6.i
Client Sample ID: VSTD200

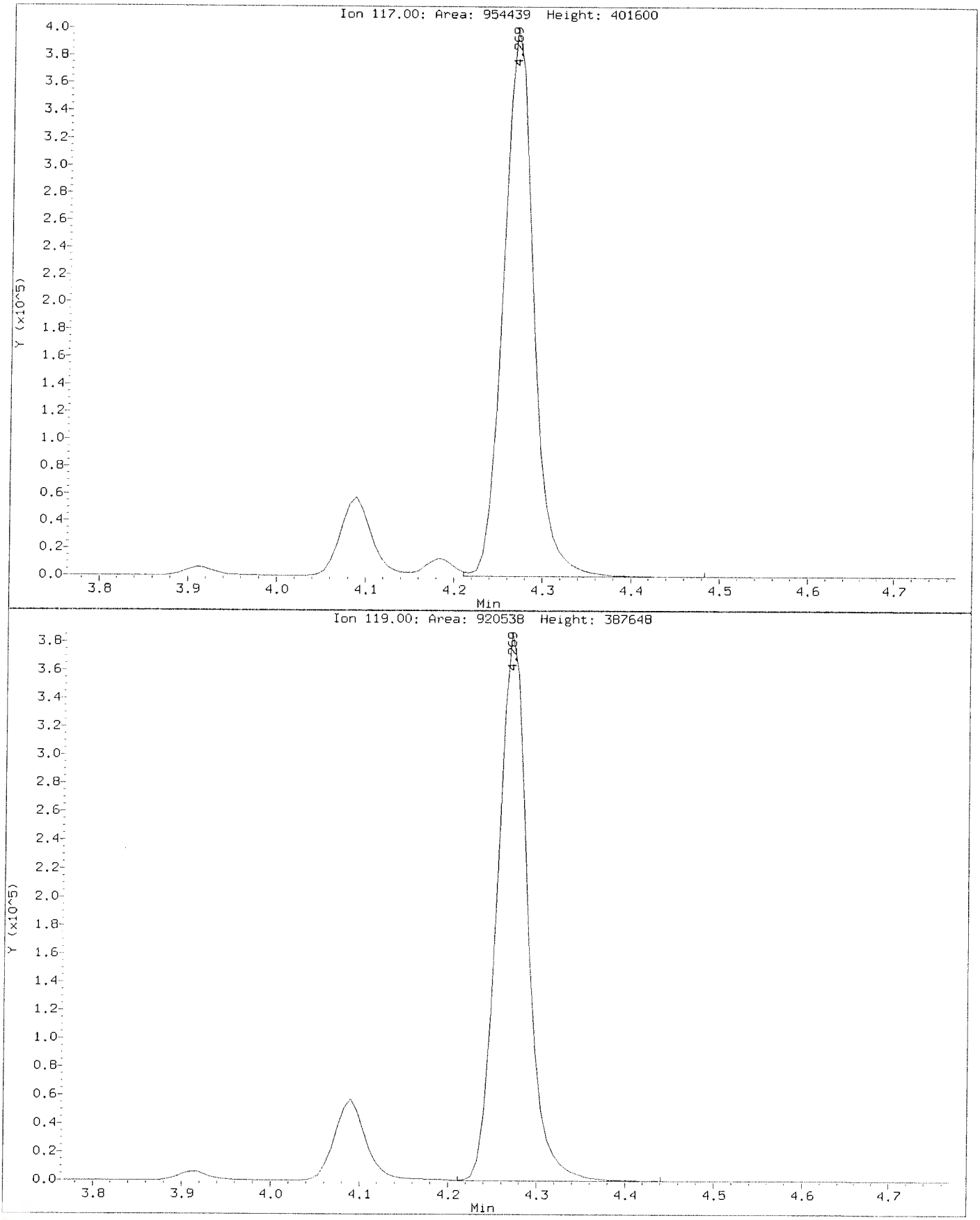
Compound: Bromomethane
CAS Number: 74-83-9





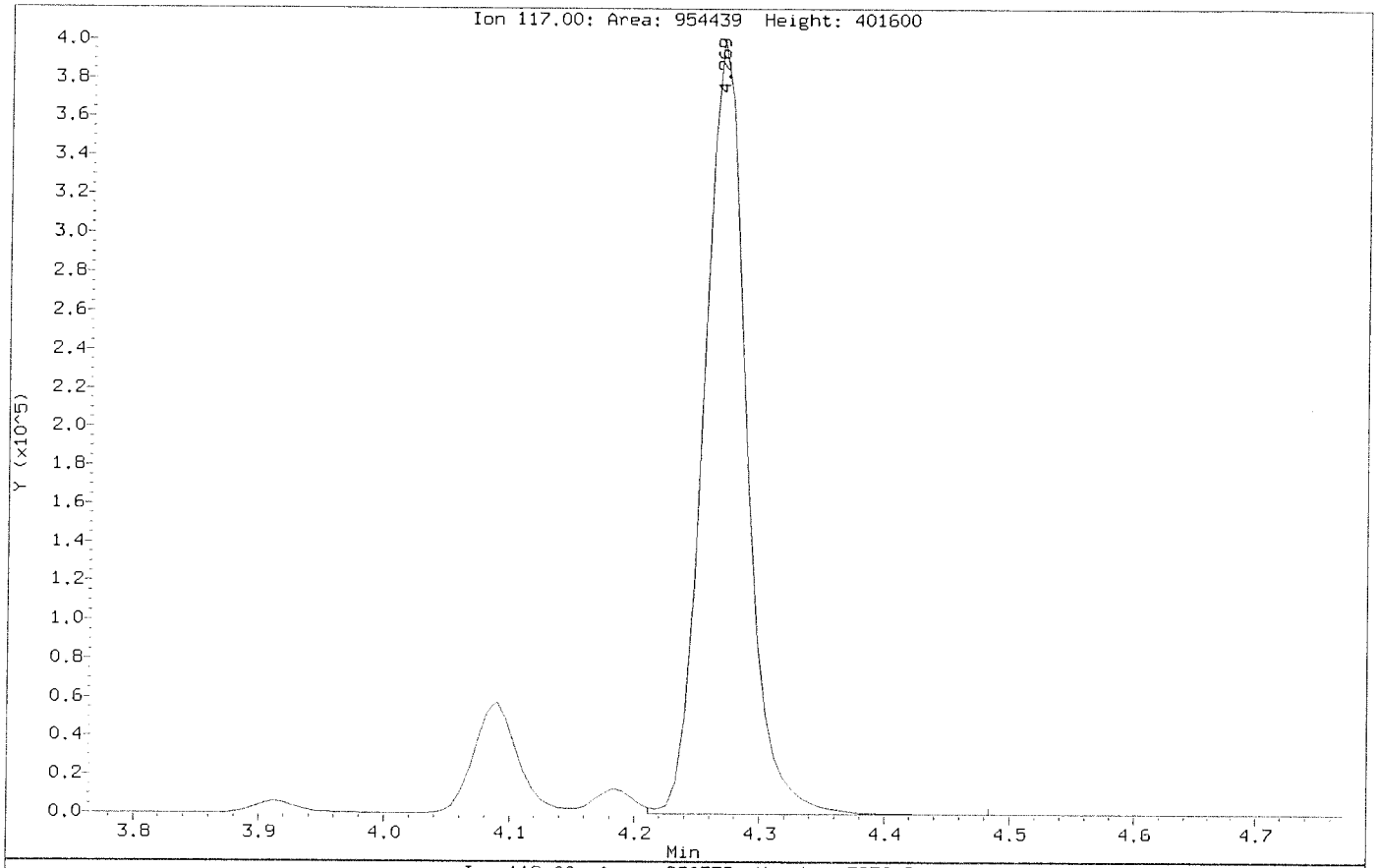
Data File: \\nahstws005\Target\chem\voa6.i\X191118.b\BEFORE\X111811.D
Injection Date: 18-NOV-2019 17:46
Instrument: voa6.i
Client Sample ID: VSTD200

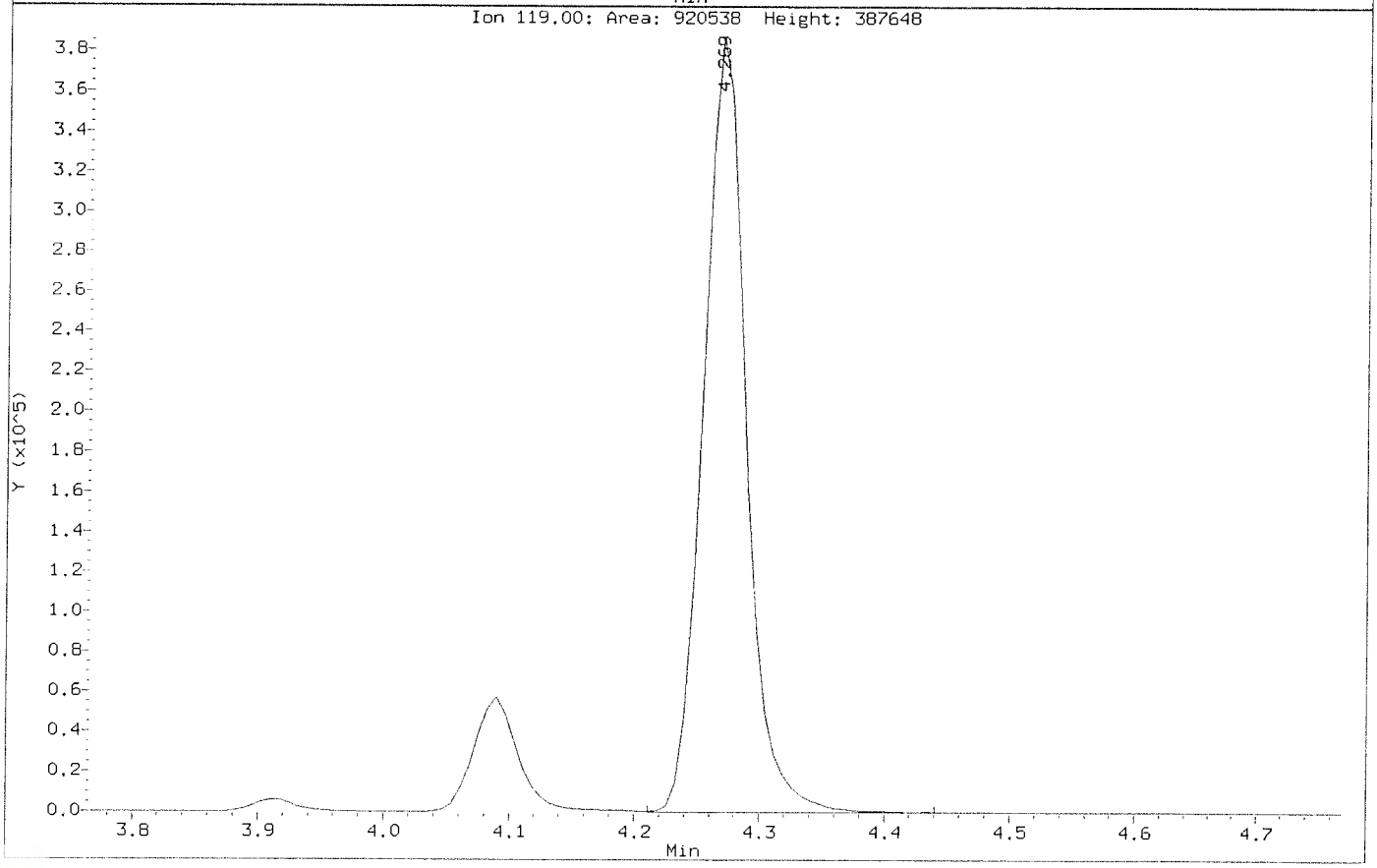
Compound: Carbon Tetrachloride
CAS Number: 56-23-5



Data File: \\nahstws005\Target\chem\voa6.i\X191118.b\X111811.D
Injection Date: 18-NOV-2019 17:46
Instrument: voa6.i
Client Sample ID: VSTD200

Compound: Carbon Tetrachloride
CAS Number: 56-23-5





Data File: \\nahstws005\Target\chem\voa6.i\X191118.b\X111814.D Page 1
Report Date: 06-Dec-2019 19:56

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X191118.b\X111814.D
Lab Smp Id: ICV Client Smp ID: ICV
Inj Date : 18-NOV-2019 18:58
Operator : PC Inst ID: voa6.i
Smp Info : CCV;CCV;2;;ICV
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X191118.b\8260W.m
Meth Date : 06-Dec-2019 19:56 voa6.i Quant Type: ISTD
Cal Date : 18-NOV-2019 17:46 Cal File: X111811.D
Als bottle: 15 QC Sample: METHSPIKE
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBIHOUSTONDOD.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

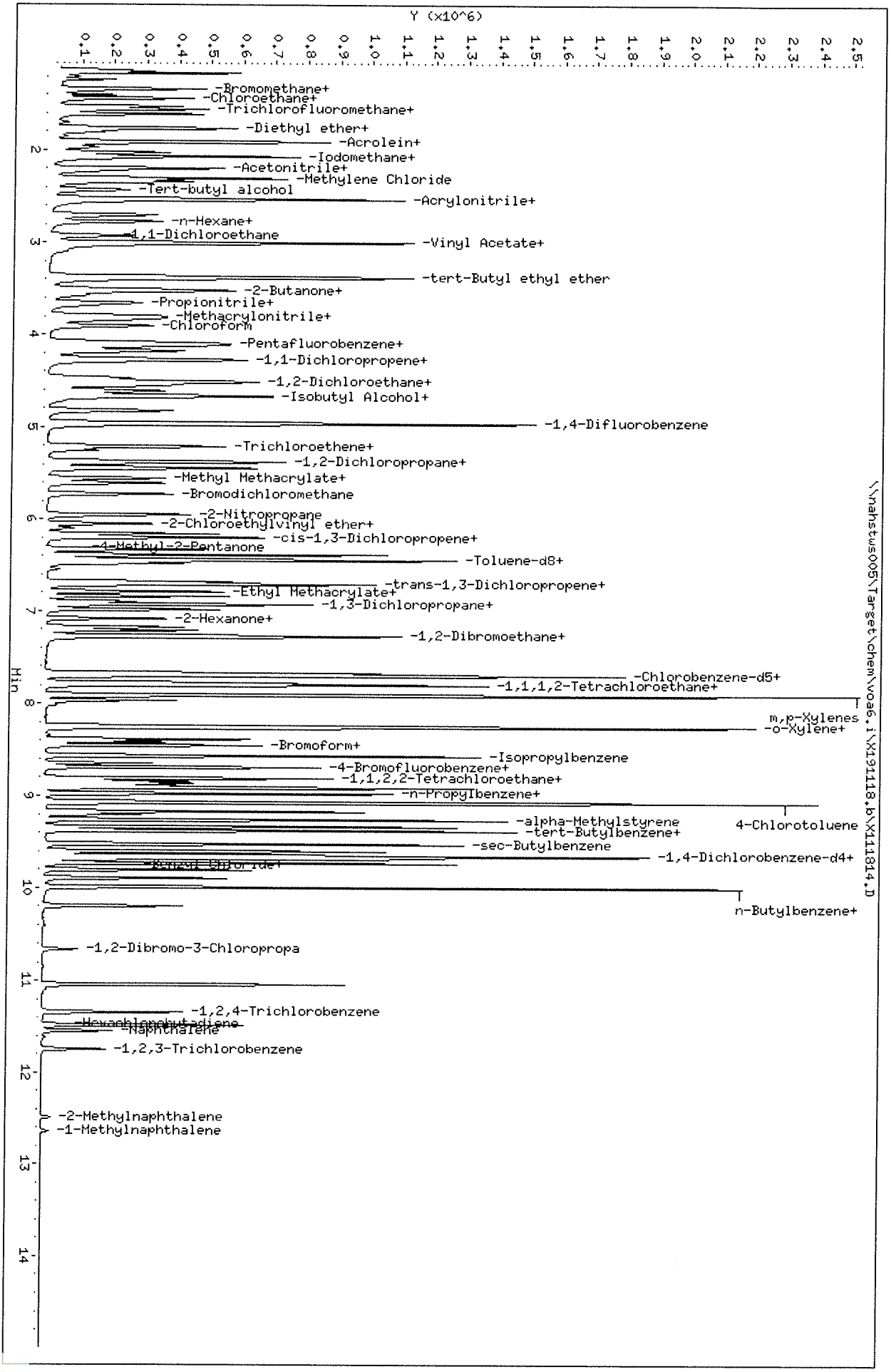
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	365284	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	526230	50.0000	
* 47 Chlorobenzene-d5	117	7.670	7.670	(1.000)	487659	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	262170	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	177715	51.6875	51.68
$ 69 4-Bromofluorobenzene	95	8.688	8.695	(1.133)	217553	47.9674	47.96
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	172534	51.9307	51.93
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	603087	46.9372	46.93
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	181751	51.3728	51.37
31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	259914	52.7430	52.74
68 1,1,2,2-Tetrachloroethane	83	8.845	8.845	(0.915)	183157	49.6822	49.68
138 Freon TF	101	1.919	1.911	(0.459)	177448	55.7980	55.79
53 1,1,2-Trichloroethane	83	6.840	6.847	(0.892)	125473	49.2205	49.22
22 1,1-Dichloroethane	63	2.921	2.921	(0.699)	273555	51.4692	51.46
11 1,1-Dichloroethene	96	1.911	1.911	(0.457)	164159	53.0287	53.02
32 1,1-Dichloropropene	75	4.282	4.282	(0.862)	211745	49.8829	49.88
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.215)	56746	58.2884	58.28
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.917)	154338	49.4088	49.40(M)
90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	122229	55.3465	55.34
79 1,2,4-Trimethylbenzene	105	9.382	9.382	(0.970)	627033	50.4058	50.40
89 1,2-Dibromo-3-Chloropropane	155	10.657	10.657	(1.102)	20914	51.3981	51.39
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	171012	50.0005	50.00

Data File: \\nahstws005\Target\chem\voa6.i\X191118.b\X111814.D Page 2
Report Date: 06-Dec-2019 19:56

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
88	1,2-Dichlorobenzene	146	9.998	9.998	(1.034)	343886	49.4226	49.42
33	1,2-Dichloroethane	62	4.555	4.562	(0.916)	214666	51.3880	51.38
42	1,2-Dichloropropane	63	5.436	5.443	(1.094)	155619	49.5052	49.50
75	1,3,5-Trimethylbenzene	105	9.067	9.074	(0.938)	621241	52.0454	52.04
83	1,3-Dichlorobenzene	146	9.604	9.612	(0.993)	380305	50.5823	50.58
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	254579	49.1895	49.18
84	1,4-Dichlorobenzene	146	9.683	9.683	(1.001)	379206	49.6335	49.63
26	2,2-Dichloropropane	77	3.516	3.516	(0.841)	252567	52.3575	52.35
24	2-Butanone	43	3.573	3.580	(0.854)	117980	105.260	105.25
76	2-Chlorotoluene	91	8.974	8.981	(0.928)	475545	50.4166	50.41
52	2-Hexanone	43	7.090	7.090	(0.924)	192493	96.0902	96.09
77	4-Chlorotoluene	91	9.074	9.074	(0.939)	578291	50.5814	50.58
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	664137	51.7722	51.77
45	4-Methyl-2-Pentanone	43	6.324	6.331	(0.824)	279109	97.6823	97.68
10	Acetone	43	1.969	1.976	(0.471)	104925	111.376	111.37
37	Benzene	78	4.512	4.512	(0.908)	612198	50.8565	50.85
74	Bromobenzene	156	8.809	8.809	(0.911)	233126	51.1647	51.16
29	Bromochloromethane	128	3.795	3.795	(0.908)	101596	51.3407	51.34
39	Bromodichloromethane	83	5.729	5.729	(1.153)	222106	51.0024	51.00
66	Bromoform	173	8.415	8.415	(1.097)	142491	49.0895	49.08
6	Bromomethane	94	1.338	1.331	(0.320)	208417	57.7314	57.73
19	Carbon Disulfide	76	2.069	2.069	(0.495)	924383	109.763	109.76
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	237498	51.0754	51.07
59	Chlorobenzene	112	7.699	7.699	(1.004)	468418	49.2009	49.20
7	Chloroethane	64	1.403	1.396	(0.336)	118785	51.6484	51.64
28	Chloroform	83	3.910	3.910	(0.935)	292027	49.3641	49.36
3	Chloromethane	50	1.073	1.073	(0.257)	200113	50.4397	50.43
27	cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	184183	53.1686	53.16
46	cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	267228	52.0716	52.07
55	Dibromochloromethane	129	7.176	7.183	(0.936)	184910	49.9303	49.93
44	Dibromomethane	93	5.557	5.557	(1.118)	112351	50.5059	50.50
2	Dichlorodifluoromethane	85	0.973	0.966	(0.233)	176572	52.9949	52.99
61	Ethylbenzene	106	7.799	7.807	(1.017)	247055	50.2234	50.22
91	Hexachlorobutadiene	225	11.481	11.488	(1.187)	113053	61.6918	61.69(R)
67	Isopropylbenzene	105	8.566	8.566	(1.117)	730633	50.1455	50.14
62	m,p-Xylenes	106	7.907	7.907	(1.031)	603641	101.692	101.69
17	Methylene Chloride	84	2.305	2.305	(0.551)	164000	49.6528	49.65
87	n-Butylbenzene	91	9.998	9.998	(1.034)	555875	52.0702	52.07
73	n-Propylbenzene	91	8.917	8.917	(0.922)	841108	51.9034	51.90
92	Naphthalene	128	11.546	11.546	(1.194)	144573	51.0408	51.04
63	o-Xylene	106	8.243	8.244	(1.075)	291303	49.7239	49.72
81	sec-Butylbenzene	105	9.526	9.526	(0.985)	728868	51.7743	51.77
64	Styrene	104	8.258	8.265	(1.077)	512981	50.3548	50.35
78	tert-Butylbenzene	119	9.339	9.339	(0.966)	525095	51.3776	51.37
56	Tetrachloroethene	164	6.933	6.933	(0.904)	169030	49.3314	49.33
50	Toluene	91	6.446	6.453	(0.840)	685240	49.5512	49.55
20	trans-1,2-Dichloroethene	96	2.527	2.527	(0.604)	157233	52.3156	52.31
51	trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	242451	51.8354	51.83
38	Trichloroethene	130	5.206	5.206	(1.048)	190582	51.7868	51.78
8	Trichlorofluoromethane	101	1.560	1.553	(0.373)	314898	55.5726	55.57
5	Vinyl Chloride	62	1.138	1.138	(0.272)	193522	51.9818	51.98

QC Flag Legend

R - Spike/Surrogate failed recovery limits.
M - Compound response manually integrated.

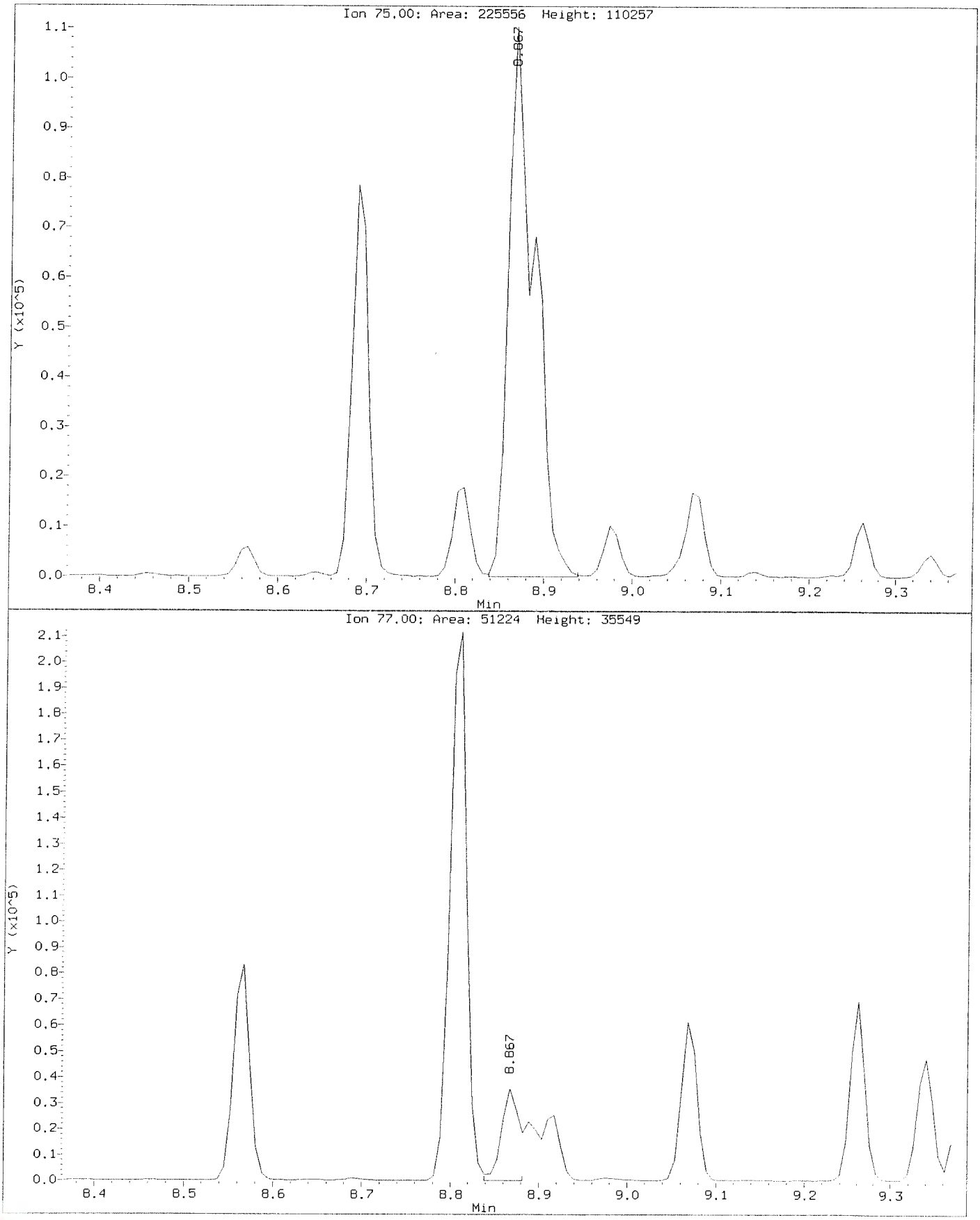


Data File: \\nahstus005\Target\chem\voa6.i\X191118.b\X111814.D
Date : 18-NOV-2019 18:58
Client ID: ICV
Sample Info: CCV;CCV;2;;ICV
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

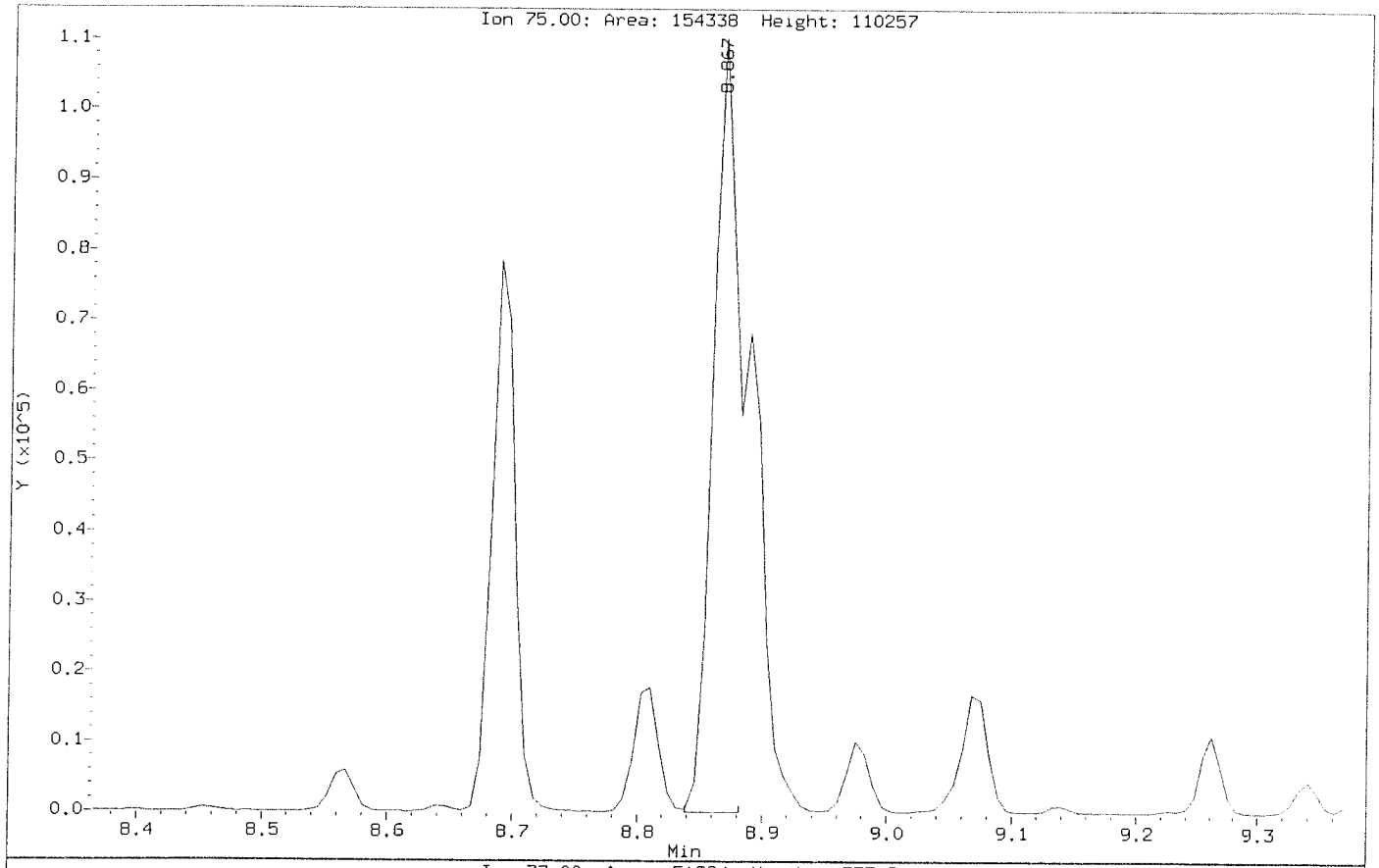
Data File: \\nahstws005\Target\chem\voa6.i\X191118.b\BEFORE\X111814.D
Injection Date: 18-NOV-2019 18:58
Instrument: voa6.i
Client Sample ID: ICV

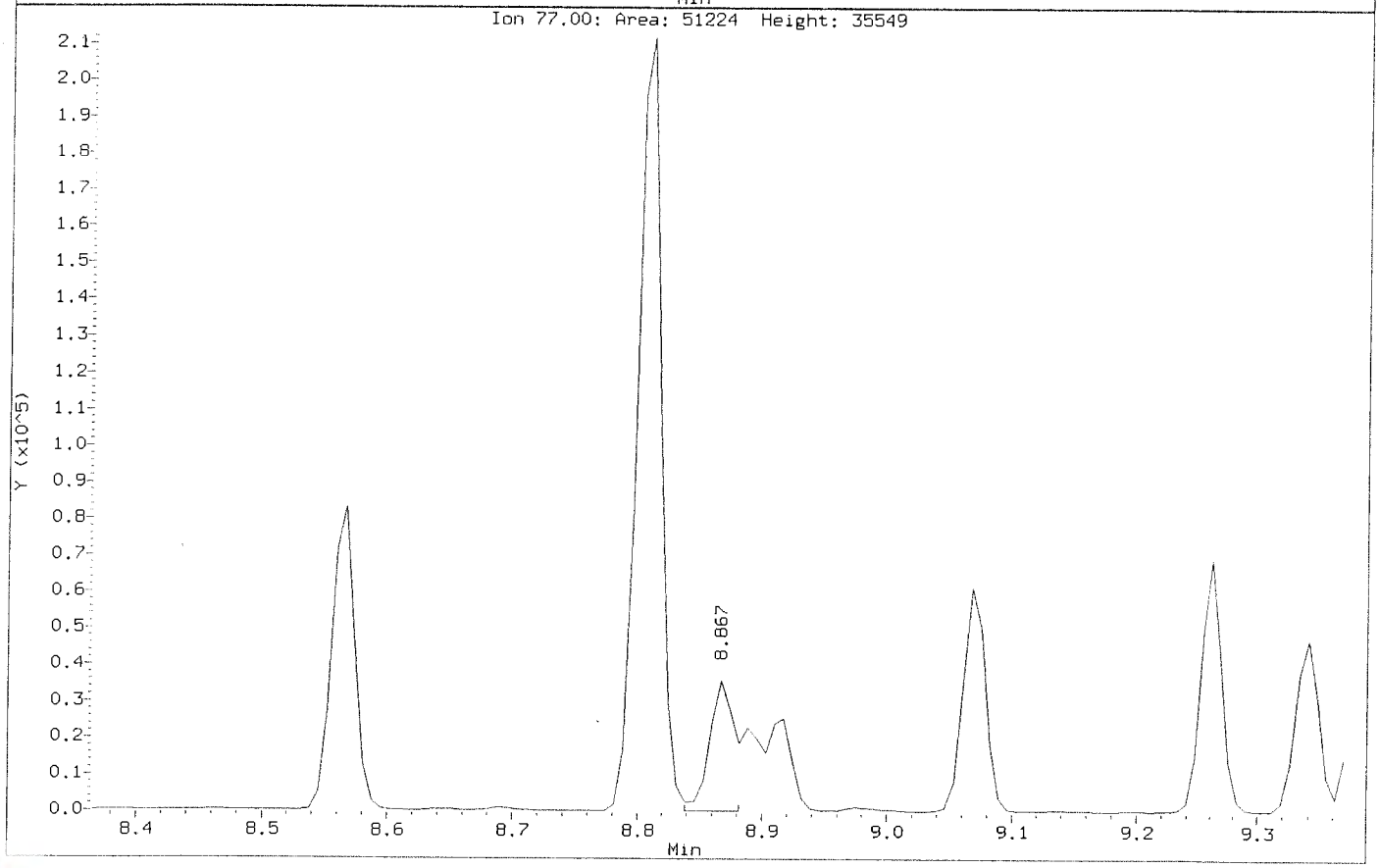
Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4



Data File: \\nahstws005\Target\chem\voa6.i\X191118.b\X111814.D
Injection Date: 18-NOV-2019 18:58
Instrument: voa6.i
Client Sample ID: ICV

Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4





MSVOA06 -Logbook

Batch: 38420 **Analyst:** Devak Giga

Date: 12-03-2019 **Reviewer:**

Method: 8260 **Laboratory:** Houston

Comments:

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
1	BFB	TUNE	12-03-2019 10:05 am	1.00	0.00 mL	0.00 mL	X120301a.D	Liquid	Y	NA
	Auto find/ purged									
2	BFB	TUNE	12-03-2019 10:29 am	1.00	0.00 mL	0.00 mL	X120302.D	Liquid	Y	NA
	Auto find/ purged									
3	CCV	CCV	12-03-2019 10:53 am	1.00	5.00 mL	0.00 mL	X120303.D	Liquid	Y	NA
	10 uL cal std/50 mL DI									
4	CCB	SAMP	12-03-2019 11:17 am	1.00	5.00 mL	0.00 mL	X120304.D	Liquid	Y	NA
	CCB									
5	BLANK	SAMP	12-03-2019 11:41 am	1.00	5.00 mL	0.00 mL	X120305.D	Liquid	Y	NA
6	BLK	SAMP	12-03-2019 12:05 pm	1.00	5.00 mL	0.00 mL	X120306.D	Liquid	Y	NA
7	VBLKW-191203	MBLK	12-03-2019 12:29 pm	1.00	5.00 mL	0.00 mL	X120307.D	Liquid	Y	NA
8	VLCSW-191203	LCS	12-03-2019 12:53 pm	1.00	5.00 mL	0.00 mL	X120308.D	Liquid	Y	NA
	4.0 uL cal std/50 mL DI									
9	HS19120051-06	SAMP	12-03-2019 01:17 pm	1.00	5.00 mL	0.00 mL	X120309.D	Liquid	Y	NA
10	HS19111401-02	SAMP	12-03-2019 01:41 pm	1.00	5.00 mL	0.00 mL	X120310.D	Liquid	Y	NA
11	HS19111401-01	SAMP	12-03-2019 02:05 pm	1.00	5.00 mL	0.00 mL	X120311.D	Liquid	Y	NA
12	HS19111401-01MS	MS	12-03-2019 02:29 pm	1.00	5.00 mL	0.00 mL	X120312.D	Liquid	Y	NA
	3.5 uL cal std/40 mL samp									
13	HS19111401-01MSD	MSD	12-03-2019 02:53 pm	1.00	5.00 mL	0.00 mL	X120313.D	Liquid	Y	NA
	3.5 uL cal std/40 mL samp									
14	HS19111359-01	SAMP	12-03-2019 03:17 pm	5.00	5.00 mL	0.00 mL	X120314.D	Liquid	Y	NA
15	HS19111443-05	SAMP	12-03-2019 03:41 pm	1.00	5.00 mL	0.00 mL	X120315.D	Liquid	Y	NA
16	HS19111443-01	SAMP	12-03-2019 04:05 pm	1.00	5.00 mL	0.00 mL	X120316.D	Liquid	Y	NA
17	HS19111443-02	SAMP	12-03-2019 04:29 pm	1.00	5.00 mL	0.00 mL	X120317.D	Liquid	Y	NA
18	HS19111443-03	SAMP	12-03-2019 04:54 pm	1.00	5.00 mL	0.00 mL	X120318.D	Liquid	Y	NA
19	HS19111443-04	SAMP	12-03-2019 05:18 pm	1.00	5.00 mL	0.00 mL	X120319.D	Liquid	Y	NA
20	CCV-END	CCV	12-03-2019 05:41 pm	1.00	5.00 mL	0.00 mL	X120320.D	Liquid	Y	NA
	10 uL cal std/50 mL DI									
21	HS19120060-01	SAMP	12-03-2019 06:05 pm	1.00	5.00 mL	0.00 mL	X120321.D	Liquid	Y	NA
22	HS19120061-01	SAMP	12-03-2019 06:30 pm	1.00	5.00 mL	0.00 mL	X120322.D	Liquid	Y	NA
23	HS19120055-01	SAMP	12-03-2019 06:54 pm	1.00	5.00 mL	0.00 mL	X120323.D	Liquid	Y	NA
24	HS19120055-02	SAMP	12-03-2019 07:18 pm	1.00	5.00 mL	0.00 mL	X120324.D	Liquid	Y	NA
25	MBLK-148171	MBLK	12-03-2019 07:42 pm	20.00	5.00 mL	0.00 mL	X120325.D	Liquid	Y	NA
26	HS19111417-02	SAMP	12-03-2019 08:06 pm	20.00	5.00 mL	0.00 mL	X120326.D	Liquid	Y	NA
27	HS19111417-03	SAMP	12-03-2019 08:30 pm	20.00	5.00 mL	0.00 mL	X120327.D	Liquid	Y	NA
28	HS19111417-04	SAMP	12-03-2019 08:54 pm	20.00	5.00 mL	0.00 mL	X120328.D	Liquid	Y	NA
29	HS19111417-05	SAMP	12-03-2019 09:18 pm	20.00	5.00 mL	0.00 mL	X120329.D	Liquid	Y	NA
30	HS19111425-01	SAMP	12-03-2019 09:42 pm	20.00	5.00 mL	0.00 mL	X120330.D	Liquid	Y	NA
31	HS19111447-01	SAMP	12-03-2019 10:06 pm	20.00	5.00 mL	0.00 mL	X120331.D	Liquid	Y	NA

Chemical	Value
SURR SPK ID	31106-06-03
IS ID	31106-06-04
LCS/MS ID	30603-94-01
CAL STD ID	31106-06-01/02
BFB ID	31106-06-03
pH Paper	634-64-11

FORM 2
WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: ALS HOUSTON Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS19111443

	CLIENT SAMPLE NO.	SMC1 #	SMC2 #	SMC3 (TOL)#	OTHER (DCE)#	TOT OUT
01	VBLKW-191203	97	99	96	101	0
02	VLCSW-19203	96	104	90	114	0
03	HS19111443-05	98	101	97	102	0
04	HS19111443-01	98	99	96	100	0
05	HS19111443-02	96	100	95	101	0
06	HS19111443-03	97	99	97	100	0
07	HS19111443-04	98	99	97	103	0
08						
09						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						

		QC LIMITS
SMC1	= 4-Bromofluorobenzene	(70-130)
SMC2	= Dibromofluoromethane	(70-130)
SMC3 (TOL)	= Toluene-d8	(0-130)
OTHER(DCE)	= 1,2-Dichloroethane-d4	(0-130)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D System Monitoring Compound diluted out

FORM 4
VOLATILE METHOD BLANK SUMMARY

CLIENT SAMPLE NO.

VBLKW-191203

Lab Name: ALS HOUSTON Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS19111443

Lab File ID: X120307 Lab Sample ID: VBLKW-191203

Date Analyzed: 12/03/19 Time Analyzed: 1229

GC Column: DB624 ID: 0.18 (mm) Heated Purge: (Y/N) N

Instrument ID: VOA6

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	VLCSW-19203	VLCSW-191203	X120308	1253
02	HS19111401-0	HS19111401-01M	X120312	1429
03	HS19111401-0	HS19111401-01M	X120313	1453
04	HS19111443-0	HS19111443-05	X120315	1541
05	HS19111443-0	HS19111443-01	X120316	1605
06	HS19111443-0	HS19111443-02	X120317	1629
07	HS19111443-0	HS19111443-03	X120318	1654
08	HS19111443-0	HS19111443-04	X120319	1718
09				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

COMMENTS:

FORM 5
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: ALS HOUSTON Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS19111443

Lab File ID: X120302 BFB Injection Date: 12/03/19

Instrument ID: VOA6 BFB Injection Time: 1029

GC Column: DB624 ID: 0.25 (mm) Heated Purge: (Y/N) N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	20.1
75	30.0 - 60.0% of mass 95	51.1
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	7.7
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	Greater than 50.0% of mass 95	58.7
175	5.0 - 9.0% of mass 174	4.8 (8.1)1
176	95.0 - 101.0% of mass 174	56.2 (95.8)1
177	5.0 - 9.0% of mass 176	4.5 (8.0)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	CCV	CCV	X120303	12/03/19	1053
02	VBLKW-191203	VBLKW-191203	X120307	12/03/19	1229
03	VLCSW-19203	VLCSW-191203	X120308	12/03/19	1253
04	HS19111401-0	HS19111401-01M	X120312	12/03/19	1429
05	HS19111401-0	HS19111401-01M	X120313	12/03/19	1453
06	HS19111443-0	HS19111443-05	X120315	12/03/19	1541
07	HS19111443-0	HS19111443-01	X120316	12/03/19	1605
08	HS19111443-0	HS19111443-02	X120317	12/03/19	1629
09	HS19111443-0	HS19111443-03	X120318	12/03/19	1654
10	HS19111443-0	HS19111443-04	X120319	12/03/19	1718
11	CCV-END	CCV-END	X120320	12/03/19	1741
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: ALS HOUSTON Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS19111443

Instrument ID: VOA6 Calibration Date: 12/03/19 Time: 1053

Lab File ID: X120303 Init. Calib. Date(s): 11/18/19 11/18/19

Init. Calib. Times: 1347 1746

GC Column: DB624 ID: 0.18 (mm)

COMPOUND	RRF or AMOUNT	RRF50.000 or AMOUNT	CCAL RRF50.000	MIN RRF	%D or %DRIFT	MAX %D or %DRIFT	CURV TYPE
cis-1,3-Dichloropropene	0.4880000	0.5411615	0.5411615	0.2	-10.89	20.00	AVRG
trans-1,3-Dichloropropene	0.4440000	0.4998308	0.4998308	0.1	-12.57	20.00	AVRG
1,3-Dichlorobenzene	1.4340000	1.5818994	1.5818994	0.6	-10.31	20.00	AVRG
2,2-Dichloropropane	0.6600000	0.7295885	0.7295885	0.1	-10.54	20.00	AVRG
1,1-Dichloropropene	0.4030000	0.4027312	0.4027312	0.1	0.07	20.00	AVRG
Dibromomethane	0.2110000	0.2344746	0.2344746	0.1	-11.12	20.00	AVRG
1,2-Dibromoethane	0.3510000	0.3887118	0.3887118	0.1	-10.74	20.00	AVRG
trans-1,2-Dichloroethene	0.4110000	0.4554380	0.4554380	0.1	-10.81	20.00	AVRG
1,1,1,2-Tetrachloroethane	0.3630000	0.3915815	0.3915815	0.1	-7.87	20.00	AVRG
1,1,1-Trichloroethane	0.6740000	0.7519412	0.7519412	0.1	-11.56	20.00	AVRG
1,1,2,2-Tetrachloroethane	0.7030000	0.8132185	0.8132185	0.3	-15.68	20.00	AVRG
Toluene	1.4180000	1.5049935	1.5049935	0.4	-6.13	20.00	AVRG
1,1,2-Trichloroethane	0.2610000	0.2853795	0.2853795	0.1	-9.34	20.00	AVRG
1,1-Dichloroethane	0.7270000	0.8070116	0.8070116	0.2	-11.00	20.00	AVRG
1,1-Dichloroethene	0.4240000	0.4019426	0.4019426	0.1	5.20	20.00	AVRG
Trichlorofluoromethane	0.7760000	0.7481837	0.7481837	0.1	3.58	20.00	AVRG
1,2,3-Trichlorobenzene	57.759287	50.000000	0.2144982	0.1	-15.52	20.00	2RDR
Tetrachloroethene	0.3510000	0.3358597	0.3358597	0.2	4.31	20.00	AVRG
1,2,4-Trichlorobenzene	0.4210000	0.4358319	0.4358319	0.2	-3.52	20.00	AVRG
1,2,4-Trimethylbenzene	2.3720000	2.5946926	2.5946926	0.1	-9.39	20.00	AVRG
tert-Butylbenzene	1.9490000	2.0205791	2.0205791	0.1	-3.67	20.00	AVRG
Trichloroethene	0.3500000	0.3762511	0.3762511	0.2	-7.50	20.00	AVRG
1,2-Dichlorobenzene	1.3270000	1.4553148	1.4553148	0.4	-9.67	20.00	AVRG
1,2-Dichloroethane	0.3970000	0.4595486	0.4595486	0.1	-15.76	20.00	AVRG
1,2-Dichloropropane	0.2990000	0.3130251	0.3130251	0.1	-4.69	20.00	AVRG
1,3,5-Trimethylbenzene	2.2760000	2.4720520	2.4720520	0.1	-8.61	20.00	AVRG
1,3-Dichloropropane	0.5310000	0.5742571	0.5742571	0.1	-8.15	20.00	AVRG
1,4-Dichlorobenzene	1.4570000	1.6132287	1.6132287	0.4	-10.72	20.00	AVRG
2-Butanone	0.1530000	0.1761983	0.1761983	0.1	-15.16	20.00	AVRG
2-Chlorotoluene	1.7990000	2.0701568	2.0701568	0.1	-15.07	20.00	AVRG
2-Hexanone	0.2050000	0.2165674	0.2165674	0.1	-5.64	20.00	AVRG
4-Chlorotoluene	2.1800000	2.4482609	2.4482609	0.1	-12.30	20.00	AVRG
Styrene	1.0440000	1.1230565	1.1230565	0.3	-7.57	20.00	AVRG
4-Methyl-2-Pentanone	0.2930000	0.3192277	0.3192277	0.1	-8.95	20.00	AVRG
Acetone	100.67855	100.00000	0.1302887	0.1	-0.68	20.00	LINR
Benzene	1.1440000	1.2316747	1.2316747	0.5	-7.66	20.00	AVRG
Bromobenzene	0.8690000	0.9830043	0.9830043	0.1	-13.12	20.00	AVRG
Bromochloromethane	0.2710000	0.3031450	0.3031450	0.1	-11.86	20.00	AVRG
Bromodichloromethane	0.4140000	0.4593213	0.4593213	0.2	-10.95	20.00	AVRG
Bromoform	53.346826	50.000000	0.3180607	0.1	-6.69	20.00	LINR
Bromomethane	50.702116	50.000000	0.5038166	0.1	-1.40	20.00	LINR
Carbon Disulfide	1.1530000	1.2173775	1.2173775	0.1	-5.58	20.00	AVRG

FORM VII VOA

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: ALS HOUSTON Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS1911144

Instrument ID: VOA6 Calibration Date: 12/03/19 Time: 1053

Lab File ID: X120303 Init. Calib. Date(s): 11/18/19 11/18/19

Init. Calib. Times: 1347 1746

GC Column: DB624 ID: 0.18 (mm)

COMPOUND	RRF or AMOUNT	RRF50.000 or AMOUNT	CCAL RRF50.000	MIN RRF	%D or %DRIFT	MAX %D or %DRIFT	CURV TYPE
Carbon Tetrachloride	0.4420000	0.4321257	0.4321257	0.1	2.23	20.00	AVRG
Chlorobenzene	0.9760000	1.0242085	1.0242085	0.5	-4.94	20.00	AVRG
Chloroethane	0.3150000	0.3081804	0.3081804	0.1	2.16	20.00	AVRG
Chloroform	0.8100000	0.8985730	0.8985730	0.2	-10.93	20.00	AVRG
Chloromethane	40.919862	50.000000	0.4440474	0.1	18.16	20.00	LINR
cis-1,2-Dichloroethene	0.4740000	0.5453981	0.5453981	0.1	-15.06	20.00	AVRG
Dibromochloromethane	0.3800000	0.4204522	0.4204522	0.1	-10.64	20.00	AVRG
Dichlorodifluoromethane	52.210044	50.000000	0.4761026	0.1	-4.42	20.00	LINR
Ethylbenzene	0.5040000	0.5284126	0.5284126	0.1	-4.84	20.00	AVRG
Hexachlorobutadiene	0.4020000	0.3230966	0.3230966	0.1	19.63	20.00	AVRG
Isopropylbenzene	1.4940000	1.5101063	1.5101063	0.1	-1.08	20.00	AVRG
m,p-Xylenes	0.6080000	0.6365066	0.6365066	0.1	-4.69	20.00	AVRG
Methylene Chloride	0.4520000	0.4765522	0.4765522	0.1	-5.43	20.00	AVRG
n-Butylbenzene	2.0360000	2.0791372	2.0791372	0.5	-2.12	20.00	AVRG
n-Propylbenzene	3.0900000	3.3432168	3.3432168	0.1	-8.19	20.00	AVRG
Naphthalene	0.5400000	0.6014734	0.6014734	0.2	-11.38	20.00	AVRG
o-Xylene	0.6000000	0.6270259	0.6270259	0.3	-4.50	20.00	AVRG
sec-Butylbenzene	2.6850000	2.7371294	2.7371294	0.1	-1.94	20.00	AVRG
Vinyl Chloride	0.5100000	0.4831941	0.4831941	0.1	5.26	20.00	AVRG
1,2,3-Trichloropropane	0.5960000	0.7005561	0.7005561	0.1	-17.54	20.00	AVRG
p-Isopropyltoluene	2.4460000	2.4911780	2.4911780	0.1	-1.85	20.00	AVRG
1,2-Dibromo-3-Chloropropane	59.363603	50.000000	9.21e-002	0.05	-18.73	20.00	LINR
Freon TF	0.4350000	0.3719305	0.3719305	0.1	14.50	20.00	AVRG
4-Bromofluorobenzene	51.316934	50.000000	0.4775425	0.1	-2.63	20.00	LINR
Dibromofluoromethane	54.268243	50.000000	0.4937407	0.1	-8.54	20.00	LINR
Toluene-d8	1.3170000	1.2395994	1.2395994	0.1	5.88	20.00	AVRG
1,2-Dichloroethane-d4	56.954522	50.000000	0.5368052	0.1	-13.91	20.00	LINR

FORM VII VOA

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: ALS HOUSTON Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS19111443

Instrument ID: VOA6 Calibration Date: 12/03/19 Time: 1741

Lab File ID: X120320 Init. Calib. Date(s): 11/18/19 11/18/19

Init. Calib. Times: 1347 1746

GC Column: DB624 ID: 0.18 (mm)

COMPOUND	RRF or AMOUNT	RRF50.000 or AMOUNT	CCAL RRF50.000	MIN RRF	%D or %DRIFT	MAX %D or %DRIFT	CURV TYPE
cis-1,3-Dichloropropene	0.4880000	0.5401167	0.5401167	0.2	-10.68	50.00	AVRG
trans-1,3-Dichloropropene	0.4440000	0.5056990	0.5056990	0.1	-13.90	50.00	AVRG
1,3-Dichlorobenzene	1.4340000	1.6103564	1.6103564	0.6	-12.30	50.00	AVRG
2,2-Dichloropropane	0.6600000	0.7078843	0.7078843	0.1	-7.26	50.00	AVRG
1,1-Dichloropropene	0.4030000	0.4206066	0.4206066	0.1	-4.37	50.00	AVRG
Dibromomethane	0.2110000	0.2408419	0.2408419	0.1	-14.14	50.00	AVRG
1,2-Dibromoethane	0.3510000	0.3920698	0.3920698	0.1	-11.70	50.00	AVRG
trans-1,2-Dichloroethene	0.4110000	0.4893798	0.4893798	0.1	-19.07	50.00	AVRG
1,1,1,2-Tetrachloroethane	0.3630000	0.3972660	0.3972660	0.1	-9.44	50.00	AVRG
1,1,1-Trichloroethane	0.6740000	0.8139912	0.8139912	0.1	-20.77	50.00	AVRG
1,1,2,2-Tetrachloroethane	0.7030000	0.8017155	0.8017155	0.3	-14.04	50.00	AVRG
Toluene	1.4180000	1.5198790	1.5198790	0.4	-7.18	50.00	AVRG
1,1,2-Trichloroethane	0.2610000	0.2841876	0.2841876	0.1	-8.88	50.00	AVRG
1,1-Dichloroethane	0.7270000	0.8541936	0.8541936	0.2	-17.50	50.00	AVRG
1,1-Dichloroethene	0.4240000	0.4571959	0.4571959	0.1	-7.83	50.00	AVRG
Trichlorofluoromethane	0.7760000	0.8932806	0.8932806	0.1	-15.11	50.00	AVRG
1,2,3-Trichlorobenzene	46.498077	50.000000	0.1730698	0.1	7.00	50.00	2RDR
Tetrachloroethene	0.3510000	0.3501177	0.3501177	0.2	0.25	50.00	AVRG
1,2,4-Trichlorobenzene	0.4210000	0.3883539	0.3883539	0.2	7.75	50.00	AVRG
1,2,4-Trimethylbenzene	2.3720000	2.6983474	2.6983474	0.1	-13.76	50.00	AVRG
tert-Butylbenzene	1.9490000	2.2224238	2.2224238	0.1	-14.03	50.00	AVRG
Trichloroethene	0.3500000	0.3805636	0.3805636	0.2	-8.73	50.00	AVRG
1,2-Dichlorobenzene	1.3270000	1.4539091	1.4539091	0.4	-9.56	50.00	AVRG
1,2-Dichloroethane	0.3970000	0.4717672	0.4717672	0.1	-18.83	50.00	AVRG
1,2-Dichloropropane	0.2990000	0.3173681	0.3173681	0.1	-6.14	50.00	AVRG
1,3,5-Trimethylbenzene	2.2760000	2.6175147	2.6175147	0.1	-15.00	50.00	AVRG
1,3-Dichloropropane	0.5310000	0.5733989	0.5733989	0.1	-7.98	50.00	AVRG
1,4-Dichlorobenzene	1.4570000	1.6154156	1.6154156	0.4	-10.87	50.00	AVRG
2-Butanone	0.1530000	0.1808293	0.1808293	0.1	-18.19	50.00	AVRG
2-Chlorotoluene	1.7990000	2.1602980	2.1602980	0.1	-20.08	50.00	AVRG
2-Hexanone	0.2050000	0.2172445	0.2172445	0.1	-5.97	50.00	AVRG
4-Chlorotoluene	2.1800000	2.5226907	2.5226907	0.1	-15.72	50.00	AVRG
Styrene	1.0440000	1.1563439	1.1563439	0.3	-10.76	50.00	AVRG
4-Methyl-2-Pentanone	0.2930000	0.3141927	0.3141927	0.1	-7.23	50.00	AVRG
Acetone	102.67722	100.00000	0.1327798	0.1	-2.68	50.00	LINR
Benzene	1.1440000	1.2577122	1.2577122	0.5	-9.94	50.00	AVRG
Bromobenzene	0.8690000	1.0109942	1.0109942	0.1	-16.34	50.00	AVRG
Bromochloromethane	0.2710000	0.3186158	0.3186158	0.1	-17.57	50.00	AVRG
Bromodichloromethane	0.4140000	0.4737527	0.4737527	0.2	-14.43	50.00	AVRG
Bromoform	53.910474	50.000000	0.3214853	0.1	-7.82	50.00	LINR
Bromomethane	56.752747	50.000000	0.5612687	0.1	-13.50	50.00	LINR
Carbon Disulfide	1.1530000	1.3387704	1.3387704	0.1	-16.11	50.00	AVRG

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: ALS HOUSTON Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS1911144

Instrument ID: VOA6 Calibration Date: 12/03/19 Time: 1741

Lab File ID: X120320 Init. Calib. Date(s): 11/18/19 11/18/19

Init. Calib. Times: 1347 1746

GC Column: DB624 ID: 0.18 (mm)

COMPOUND	RRF or AMOUNT	RRF50.000 or AMOUNT	CCAL RRF50.000	MIN RRF	%D or %DRIFT	MAX %D or %DRIFT	CURV TYPE
Carbon Tetrachloride	0.4420000	0.4609207	0.4609207	0.1	-4.28	50.00	AVRG
Chlorobenzene	0.9760000	1.0470602	1.0470602	0.5	-7.28	50.00	AVRG
Chloroethane	0.3150000	0.3342455	0.3342455	0.1	-6.11	50.00	AVRG
Chloroform	0.8100000	0.9500933	0.9500933	0.2	-17.30	50.00	AVRG
Chloromethane	42.997854	50.000000	0.4667008	0.1	14.00	50.00	LINR
cis-1,2-Dichloroethene	0.4740000	0.5761651	0.5761651	0.1	-21.55	50.00	AVRG
Dibromochloromethane	0.3800000	0.4221841	0.4221841	0.1	-11.10	50.00	AVRG
Dichlorodifluoromethane	62.786023	50.000000	0.5742012	0.1	-25.57	50.00	LINR
Ethylbenzene	0.5040000	0.5441692	0.5441692	0.1	-7.97	50.00	AVRG
Hexachlorobutadiene	0.4020000	0.3212427	0.3212427	0.1	20.09	50.00	AVRG
Isopropylbenzene	1.4940000	1.6255863	1.6255863	0.1	-8.81	50.00	AVRG
m,p-Xylenes	0.6080000	0.6579091	0.6579091	0.1	-8.21	50.00	AVRG
Methylene Chloride	0.4520000	0.5159107	0.5159107	0.1	-14.14	50.00	AVRG
n-Butylbenzene	2.0360000	2.2161081	2.2161081	0.5	-8.85	50.00	AVRG
n-Propylbenzene	3.0900000	3.5861764	3.5861764	0.1	-16.06	50.00	AVRG
Naphthalene	0.5400000	0.4866960	0.4866960	0.2	9.87	50.00	AVRG
o-Xylene	0.6000000	0.6499761	0.6499761	0.3	-8.33	50.00	AVRG
sec-Butylbenzene	2.6850000	3.0307174	3.0307174	0.1	-12.88	50.00	AVRG
Vinyl Chloride	0.5100000	0.5411464	0.5411464	0.1	-6.11	50.00	AVRG
1,2,3-Trichloropropane	0.5960000	0.7022609	0.7022609	0.1	-17.83	50.00	AVRG
p-Isopropyltoluene	2.4460000	2.7000695	2.7000695	0.1	-10.39	50.00	AVRG
1,2-Dibromo-3-Chloropropane	55.369263	50.000000	8.59e-002	0.05	-10.74	50.00	LINR
Freon TF	0.4350000	0.4520572	0.4520572	0.1	-3.92	50.00	AVRG
4-Bromofluorobenzene	51.209962	50.000000	0.4765388	0.1	-2.42	50.00	LINR
Dibromofluoromethane	54.926098	50.000000	0.4997668	0.1	-9.85	50.00	LINR
Toluene-d8	1.3170000	1.2021998	1.2021998	0.1	8.72	50.00	AVRG
1,2-Dichloroethane-d4	58.110040	50.000000	0.5478389	0.1	-16.22	50.00	LINR

FORM 8
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ALS HOUSTON Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS19111443

Lab File ID (Standard): X120303 Date Analyzed: 12/03/19

Instrument ID: VOA6 Time Analyzed: 1053

GC Column: DB624 ID: 0.18 (mm) Heated Purge: (Y/N) N

		IS1(DCB) AREA #	RT #	IS2(CBZ) AREA #	RT #	IS3(DFB) AREA #	RT #
	12 HOUR STD	274599	9.66	528286	7.67	567520	4.97
	UPPER LIMIT	549198	10.16	1056572	8.17	1135040	5.47
	LOWER LIMIT	137300	9.16	264143	7.17	283760	4.47
	CLIENT SAMPLE NO.						
01	VBLKW-191203	317867	9.66	630725	7.67	700713	4.97
02	VLCSW-19203	291845	9.66	535799	7.67	567129	4.97
03	HS19111401-01	341005	9.67	634281	7.67	690280	4.97
04	HS19111401-01	343001	9.67	647407	7.67	689046	4.97
05	HS19111443-05	304929	9.67	614612	7.67	691068	4.97
06	HS19111443-01	317151	9.67	624759	7.67	696582	4.97
07	HS19111443-02	325667	9.67	642596	7.67	708526	4.97
08	HS19111443-03	321285	9.66	633549	7.67	708219	4.97
09	HS19111443-04	320374	9.66	627020	7.67	709866	4.97
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (CBZ) = Chlorobenzene-d5
IS3 (DFB) = 1,4-Difluorobenzene

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = + 0.50 minutes of internal standard RT
RT LOWER LIMIT = - 0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

FORM VIII VOA

FORM 8
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ALS HOUSTON Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS19111443

Lab File ID (Standard): X120303 Date Analyzed: 12/03/19

Instrument ID: VOA6 Time Analyzed: 1053

GC Column: DB624 ID: 0.18 (mm) Heated Purge: (Y/N) N

		IS4 AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	380313	4.18				
	UPPER LIMIT	760626	4.68				
	LOWER LIMIT	190157	3.68				
	CLIENT SAMPLE NO.						
01	VBLKW-191203	499984	4.18				
02	VLCSW-19203	373173	4.18				
03	HS19111401-01	489493	4.18				
04	HS19111401-01	485111	4.18				
05	HS19111443-05	488880	4.18				
06	HS19111443-01	498936	4.18				
07	HS19111443-02	498794	4.18				
08	HS19111443-03	503038	4.18				
09	HS19111443-04	503185	4.18				
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							

IS4 = Pentafluorobenzene

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = + 0.50 minutes of internal standard RT
RT LOWER LIMIT = - 0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

Data File: \\nahstws005\Target\chem\voa6.i\X191203.b\X120302.D Page 1

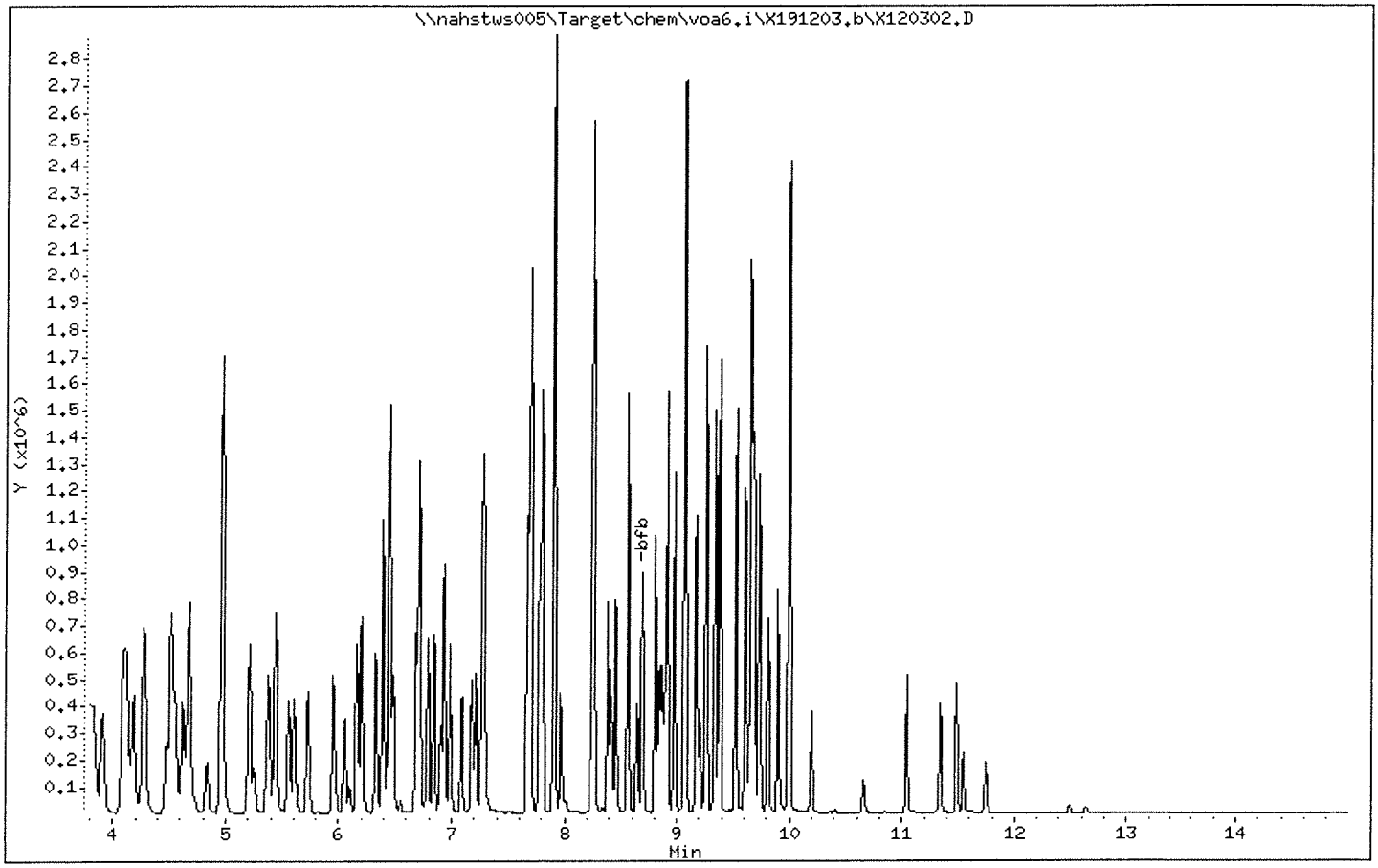
Date : 03-DEC-2019 10:29

Client ID: BFB Instrument: voa6.i

Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0 Operator: PC

Column phase: DB624 Column diameter: 0.25



Data File: \\nahstws005\Target\chem\voa6.i\X191203.b\X120302.D

Date : 03-DEC-2019 10:29

Client ID: BFB

Instrument: voa6.i

Sample Info: BFB;BFB;3;;BFB

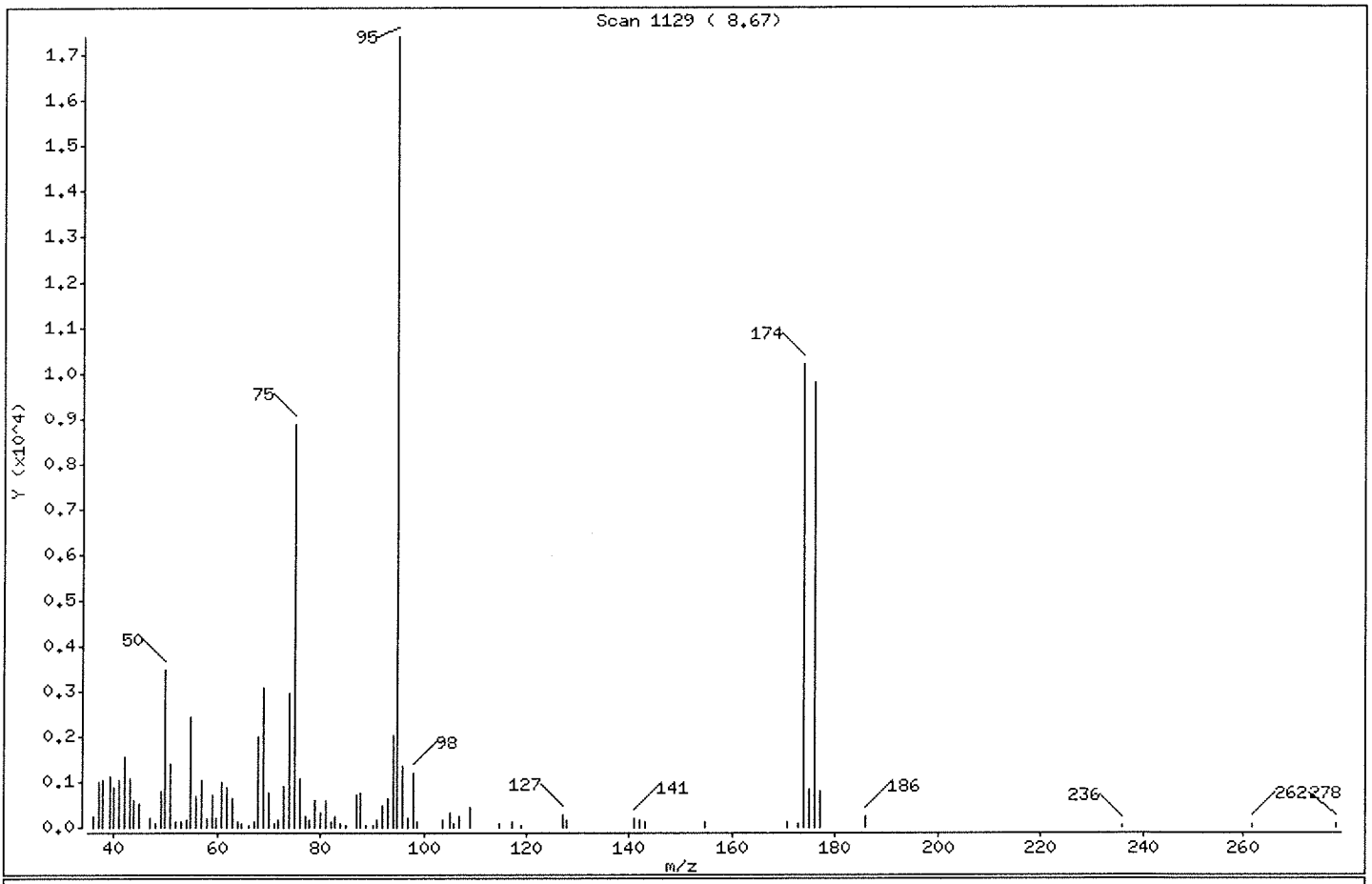
Volume Injected (uL): 2.0

Operator: PC

Column phase: DB624

Column diameter: 0.25

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	20.11
75	30.00 - 60.00% of mass 95	51.05
96	5.00 - 9.00% of mass 95	7.72
173	Less than 2.00% of mass 174	0.00 (0.00)
174	Greater than 50.00% of mass 95	58.68
175	5.00 - 9.00% of mass 174	4.77 (8.12)
176	95.00 - 101.00% of mass 174	56.22 (95.81)
177	5.00 - 9.00% of mass 176	4.50 (8.00)

Data File: \\nahstws005\Target\chem\voa6.i\X191203.b\X120302.D

Date : 03-DEC-2019 10:29

Client ID: BFB

Instrument: voa6.i

Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0

Operator: PC

Column phase: DB624

Column diameter: 0.25

Data File: X120302.D
Spectrum: Scan 1129 (8.67)
Location of Maximum: 95.00
Number of points: 86

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	230	59.00	726	80.90	610	108.90	458
37.10	993	59.90	188	82.00	130	114.70	61
38.00	1053	60.90	1004	82.90	225	117.10	110
39.10	1139	62.00	888	84.00	74	118.90	58
40.10	868	63.00	652	85.00	51	126.90	289
41.10	1045	63.90	135	87.00	727	127.90	165
42.10	1571	64.90	100	87.90	752	140.90	196
43.00	1070	66.10	60	88.80	50	142.00	153
44.00	608	67.20	121	90.10	57	143.00	115
45.00	536	68.00	1995	91.00	142	154.80	138
47.10	183	69.00	3102	91.90	477	170.70	140
48.00	88	70.00	761	93.00	659	172.60	62
49.00	798	71.00	97	94.00	2034	173.90	10220
50.00	3502	71.80	142	95.00	17416	174.90	830
51.00	1394	73.00	913	96.00	1345	175.90	9792
51.90	127	74.00	2981	97.00	213	176.90	783
52.90	140	75.00	8891	98.00	1217	185.90	228
54.10	180	76.00	1070	98.90	106	235.90	60
55.00	2454	77.00	255	103.80	143	261.80	65
56.00	679	78.00	175	105.10	305	278.00	67
57.00	1046	78.90	607	105.90	99		
58.00	204	79.90	310	106.80	249		

Data File: \\nahstws005\Target\chem\voa6.i\X191203.b\X120303.D Page 1
Report Date: 07-Dec-2019 10:43

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X191203.b\X120303.D
Lab Smp Id: CCV Client Smp ID: CCV
Inj Date : 03-DEC-2019 10:53
Operator : PC Inst ID: voa6.i
Smp Info : CCV;CCV;2;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X191203.b\8260W.m
Meth Date : 07-Dec-2019 10:42 DevakG Quant Type: ISTD
Cal Date : 18-NOV-2019 16:35 Cal File: X111808.D
Als bottle: 3 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBIHOUSTONDOD.sub
Target Version: 4.14

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

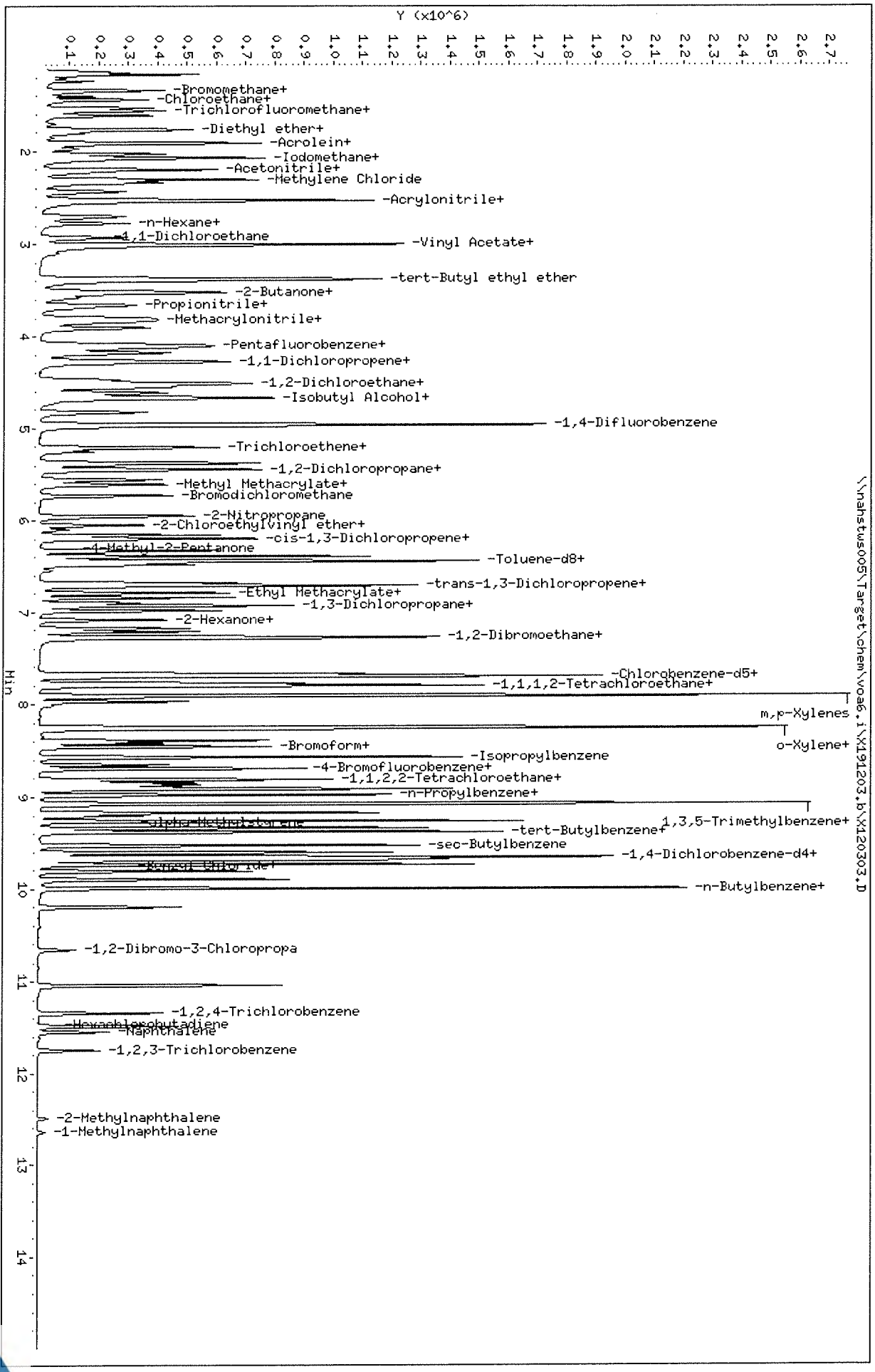
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
*	1 Pentafluorobenzene	168	4.182	4.182	(1.000)	380313	50.0000	
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	567520	50.0000	
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	528286	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.662	9.669	(1.000)	274599	50.0000	
$	35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	204154	50.0000	56.95
$	69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	252279	50.0000	51.31
$	30 Dibromofluoromethane	113	4.103	4.103	(0.981)	187776	50.0000	54.26
$	48 Toluene-d8	98	6.388	6.388	(0.833)	654863	50.0000	47.04
	60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	206867	50.0000	53.97
	31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	285973	50.0000	55.73
	68 1,1,2,2-Tetrachloroethane	83	8.838	8.838	(0.915)	223309	50.0000	57.83
	138 Freon TF	101	1.912	1.919	(0.457)	141450	50.0000	42.72
	53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	150762	50.0000	54.59
	22 1,1-Dichloroethane	63	2.922	2.921	(0.699)	306917	50.0000	55.46
	11 1,1-Dichloroethene	96	1.912	1.911	(0.457)	152864	50.0000	47.42
	32 1,1-Dichloropropene	75	4.282	4.282	(0.862)	228558	50.0000	49.92
	93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.216)	58901	50.0000	57.75
	71 1,2,3-Trichloropropane	75	8.867	8.867	(0.918)	192372	50.0000	58.79(M)
	90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	119679	50.0000	51.73
	79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.971)	712500	50.0000	54.68
	89 1,2-Dibromo-3-Chloropropane	155	10.658	10.658	(1.103)	25278	50.0000	59.36
	57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	205351	50.0000	55.42
	88 1,2-Dichlorobenzene	146	9.999	9.999	(1.035)	399628	50.0000	54.83

Data File: \\nahstws005\Target\chem\voa6.i\X191203.b\X120303.D Page 2
Report Date: 07-Dec-2019 10:43

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
33	1,2-Dichloroethane	62	4.562	4.562	(0.918)	260803	50.0000	57.89
42	1,2-Dichloropropane	63	5.436	5.436	(1.094)	177648	50.0000	52.40
75	1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	678823	50.0000	54.29
83	1,3-Dichlorobenzene	146	9.605	9.605	(0.994)	434388	50.0000	55.16
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	303372	50.0000	54.10
84	1,4-Dichlorobenzene	146	9.683	9.683	(1.002)	442991	50.0000	55.35
26	2,2-Dichloropropane	77	3.516	3.516	(0.841)	277472	50.0000	55.24
24	2-Butanone	43	3.573	3.573	(0.854)	134021	100.000	114.84
76	2-Chlorotoluene	91	8.974	8.974	(0.929)	568463	50.0000	57.53
52	2-Hexanone	43	7.090	7.083	(0.924)	228819	100.000	105.43
77	4-Chlorotoluene	91	9.075	9.074	(0.939)	672290	50.0000	56.14
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	684075	50.0000	50.91
45	4-Methyl-2-Pentanone	43	6.324	6.324	(0.824)	337287	100.000	108.96
10	Acetone	43	1.976	1.969	(0.473)	99101	100.000	100.67
37	Benzene	78	4.512	4.512	(0.908)	699000	50.0000	53.84
74	Bromobenzene	156	8.810	8.809	(0.912)	269932	50.0000	56.56
29	Bromochloromethane	128	3.795	3.795	(0.908)	115290	50.0000	55.95
39	Bromodichloromethane	83	5.729	5.729	(1.153)	260674	50.0000	55.50
66	Bromoform	173	8.416	8.415	(1.097)	168027	50.0000	53.34
6	Bromomethane	94	1.338	1.338	(0.320)	191608	50.0000	50.70
19	Carbon Disulfide	76	2.069	2.069	(0.495)	925969	100.000	105.60
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	245240	50.0000	48.90
59	Chlorobenzene	112	7.699	7.699	(1.004)	541075	50.0000	52.46
7	Chloroethane	64	1.403	1.403	(0.336)	117205	50.0000	48.94
28	Chloroform	83	3.910	3.910	(0.935)	341739	50.0000	55.48
3	Chloromethane	50	1.073	1.073	(0.257)	168877	50.0000	40.91(M)
27	cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	207422	50.0000	57.51
46	cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	307120	50.0000	55.49
55	Dibromochloromethane	129	7.176	7.176	(0.936)	222119	50.0000	55.36
44	Dibromomethane	93	5.558	5.557	(1.118)	133069	50.0000	55.46
2	Dichlorodifluoromethane	85	0.973	0.973	(0.233)	181068	50.0000	52.21
61	Ethylbenzene	106	7.800	7.799	(1.017)	279153	50.0000	52.38
91	Hexachlorobutadiene	225	11.481	11.481	(1.188)	88722	50.0000	40.20(M)
67	Isopropylbenzene	105	8.566	8.566	(1.117)	797768	50.0000	50.54
62	m,p-Xylenes	106	7.907	7.907	(1.031)	672515	100.000	104.58
17	Methylene Chloride	84	2.305	2.305	(0.551)	181239	50.0000	52.70
87	n-Butylbenzene	91	9.999	9.999	(1.035)	570929	50.0000	51.05
73	n-Propylbenzene	91	8.917	8.917	(0.923)	918044	50.0000	54.08
92	Naphthalene	128	11.546	11.546	(1.195)	165164	50.0000	55.67
63	o-Xylene	106	8.244	8.244	(1.075)	331249	50.0000	52.19
81	sec-Butylbenzene	105	9.526	9.526	(0.986)	751613	50.0000	50.97
64	Styrene	104	8.258	8.258	(1.077)	593295	50.0000	53.75
78	tert-Butylbenzene	119	9.340	9.340	(0.967)	554849	50.0000	51.83
56	Tetrachloroethene	164	6.933	6.933	(0.904)	177430	50.0000	47.80
50	Toluene	91	6.446	6.446	(0.840)	795067	50.0000	53.07
20	trans-1,2-Dichloroethene	96	2.528	2.527	(0.604)	173209	50.0000	55.35
51	trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	283664	50.0000	56.23
38	Trichloroethene	130	5.207	5.206	(1.048)	213530	50.0000	53.80
8	Trichlorofluoromethane	101	1.561	1.560	(0.373)	284544	50.0000	48.23
5	Vinyl Chloride	62	1.138	1.138	(0.272)	183765	50.0000	47.41

QC Flag Legend

M - Compound response manually integrated.

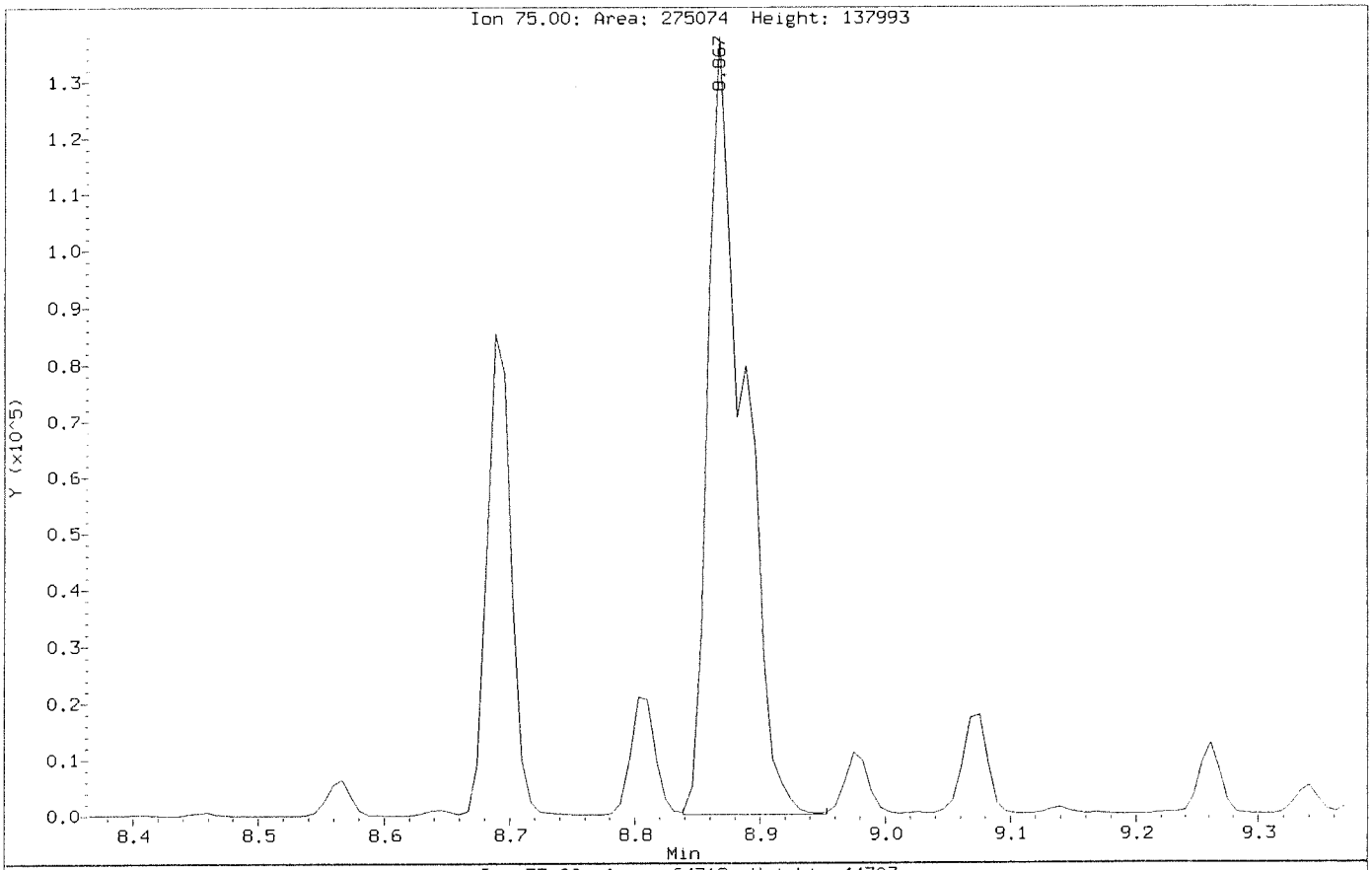


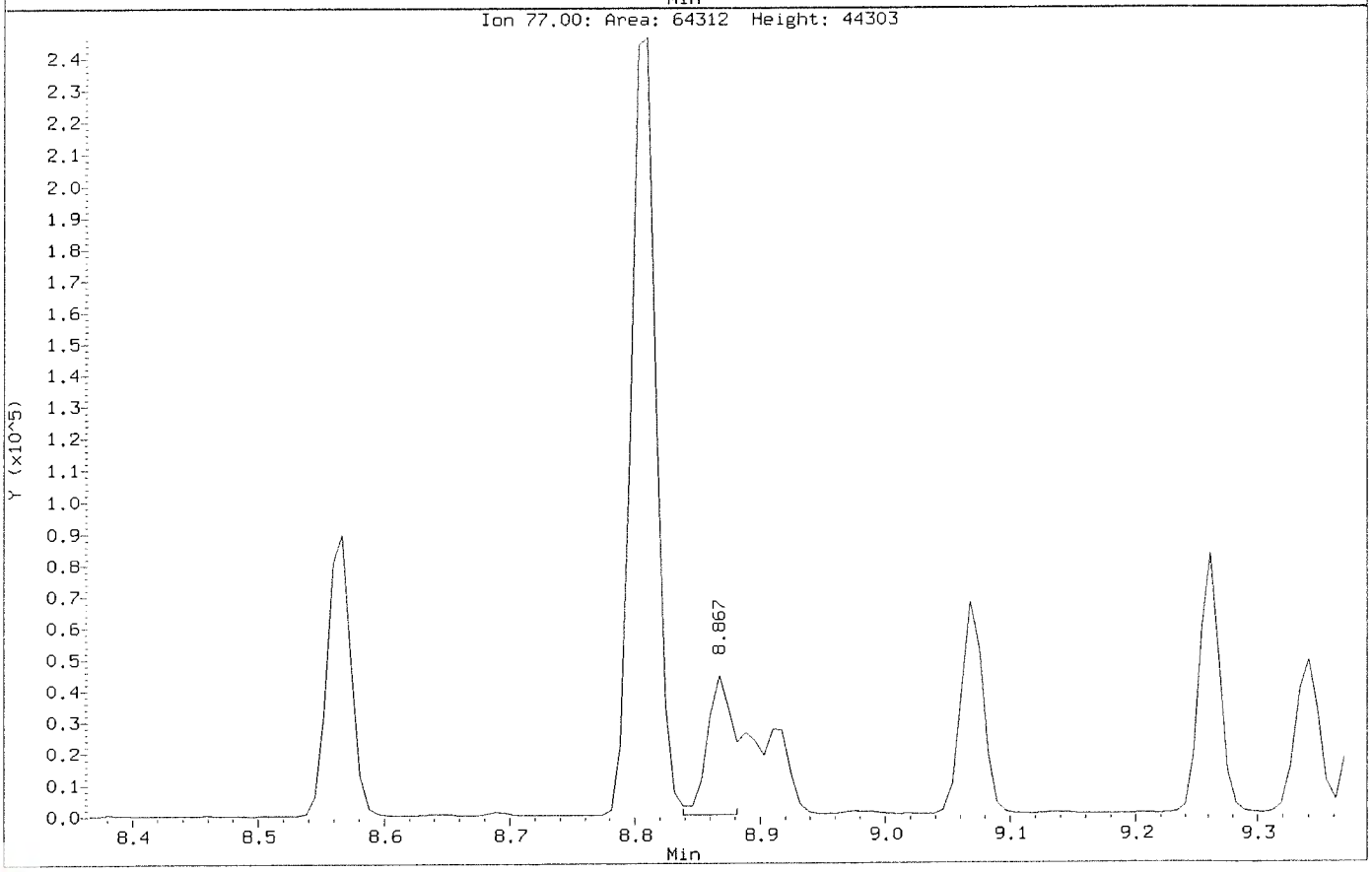
Data File: \\nahstws005\Target\chem\voa6.i\X191203.b\X120303.D
Date : 03-DEC-2019 10:53
Client ID: CCV
Sample Info: CCV;CCV;2;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: \\nahstws005\Target\chem\voa6.i\X191203.b\BEFORE\X120303.D
Injection Date: 03-DEC-2019 10:53
Instrument: voa6.i
Client Sample ID: CCV

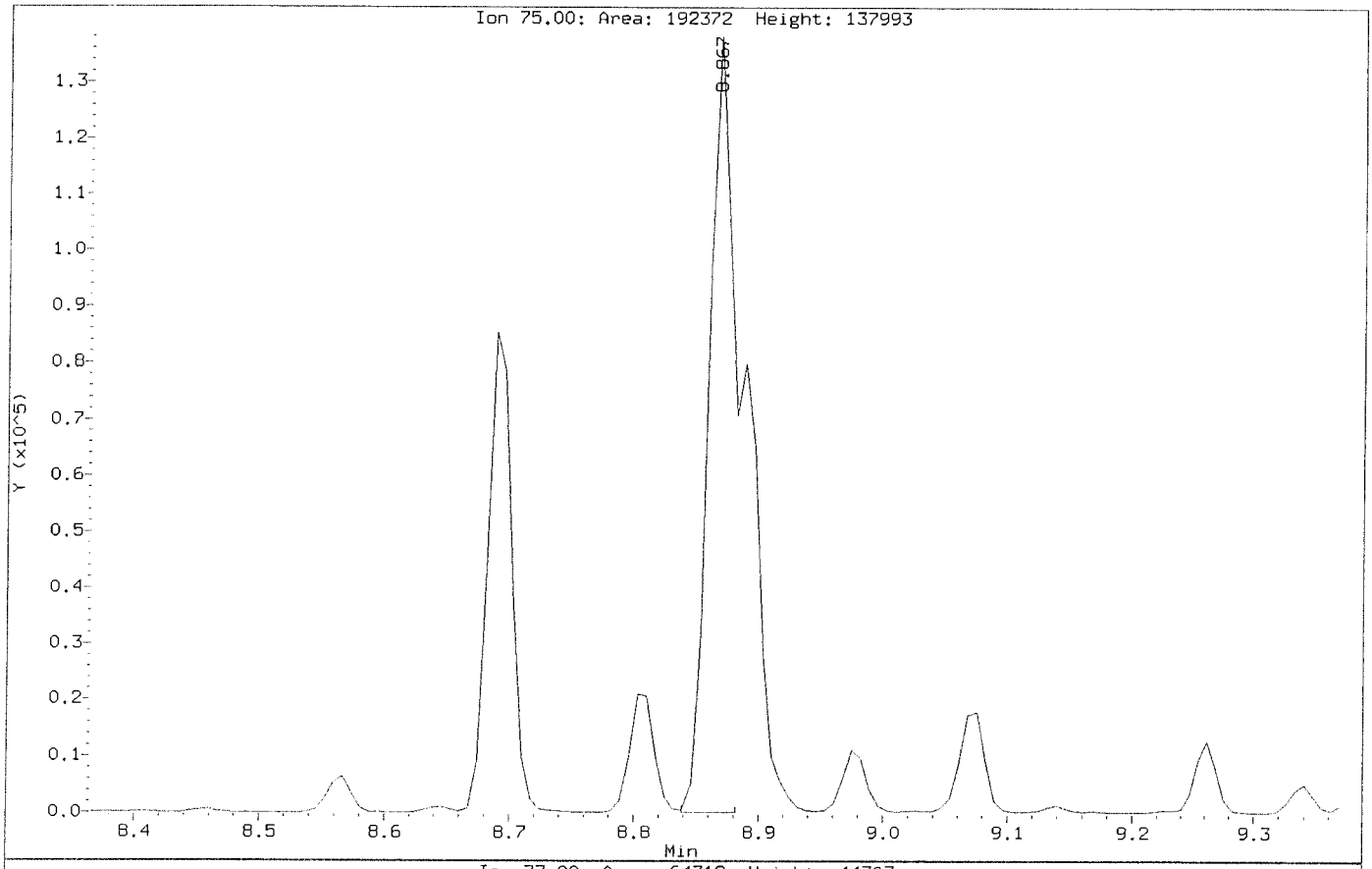
Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4

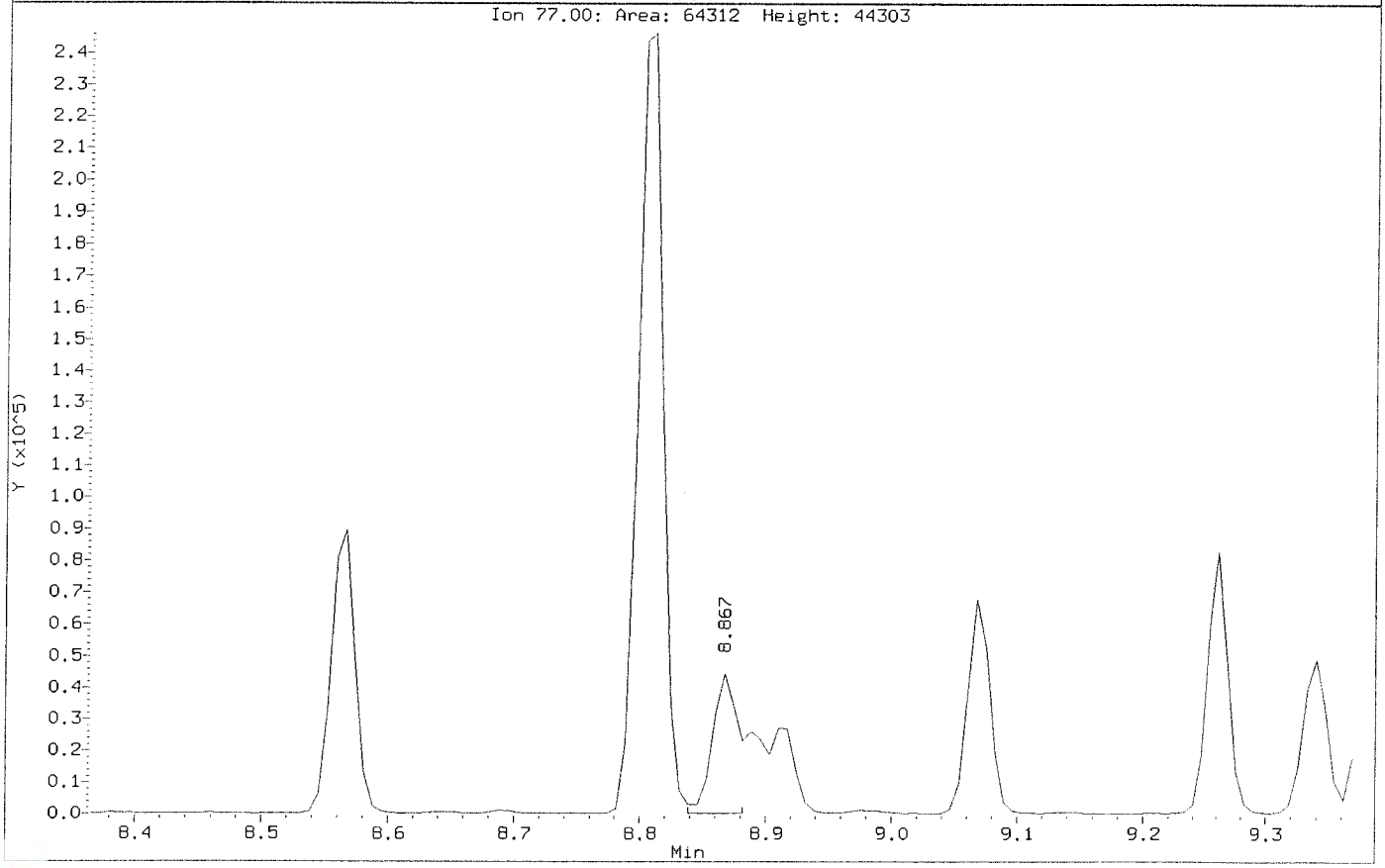




Data File: \\nahstws005\Target\chem\voa6.i\X191203.b\X120303.D
Injection Date: 03-DEC-2019 10:53
Instrument: voa6.i
Client Sample ID: CCV

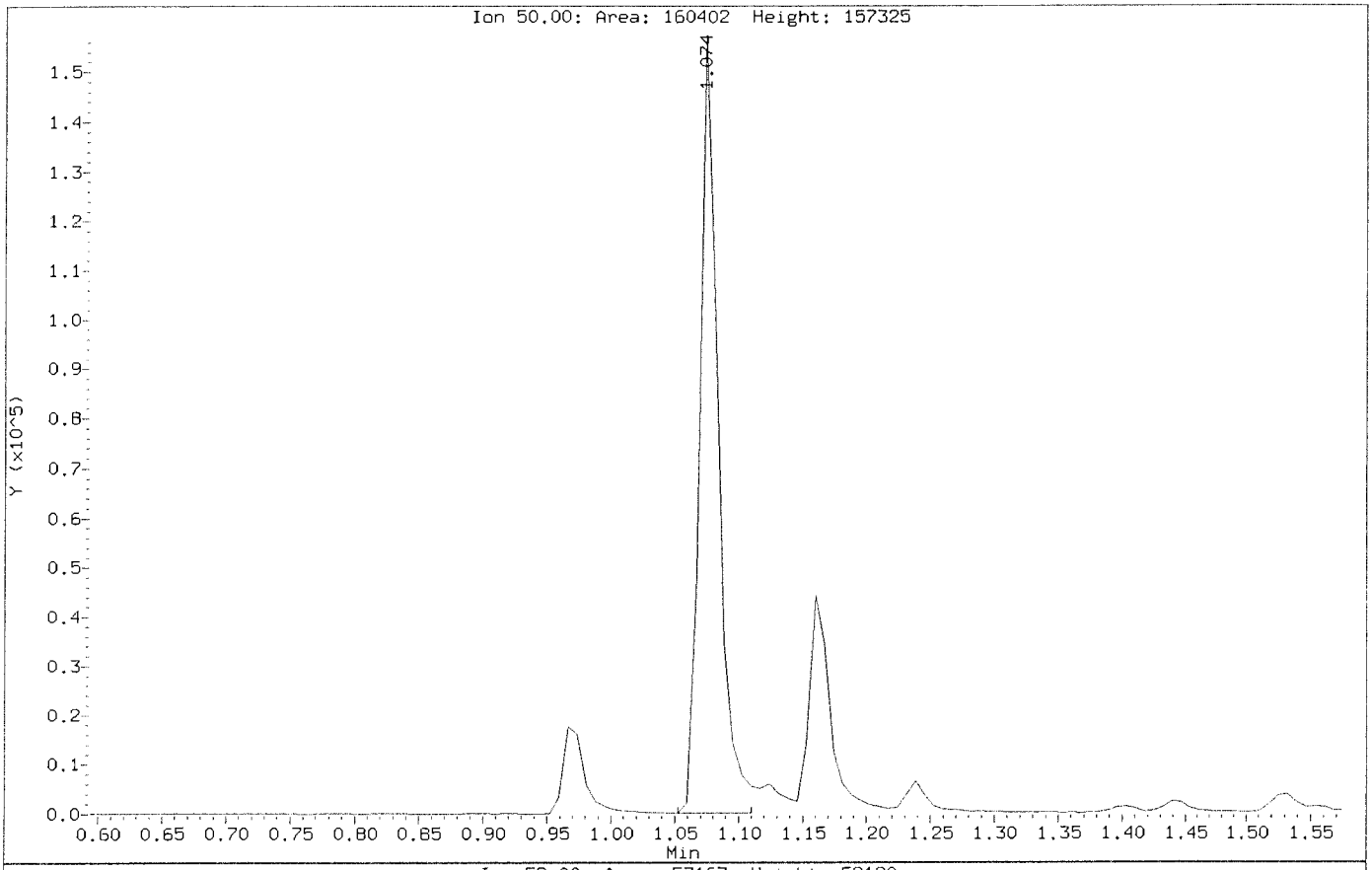
Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4

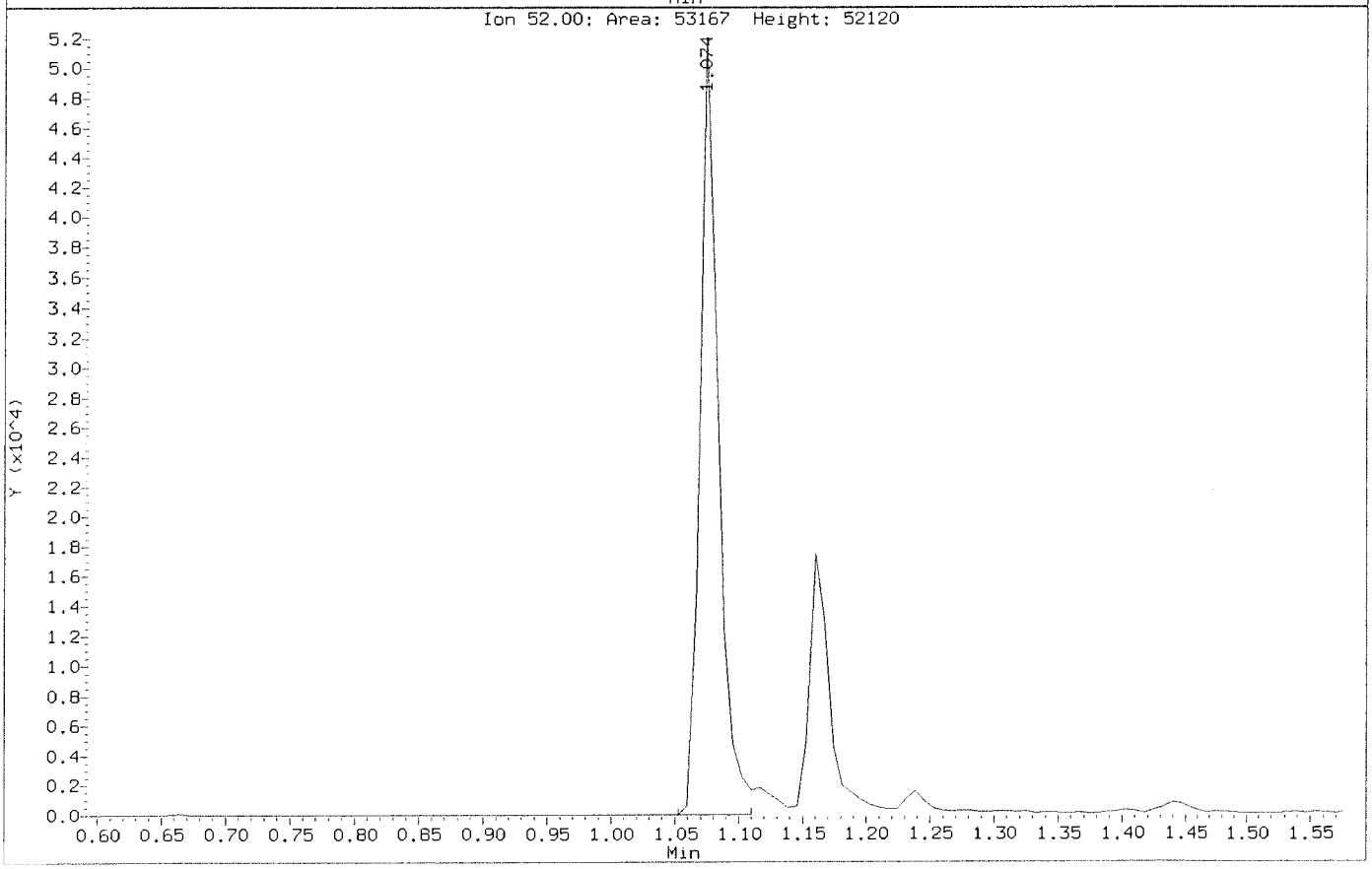




Data File: \\nahstws005\Target\chem\voa6.i\X191203.b\BEFORE\X120303.D
Injection Date: 03-DEC-2019 10:53
Instrument: voa6.i
Client Sample ID: CCV

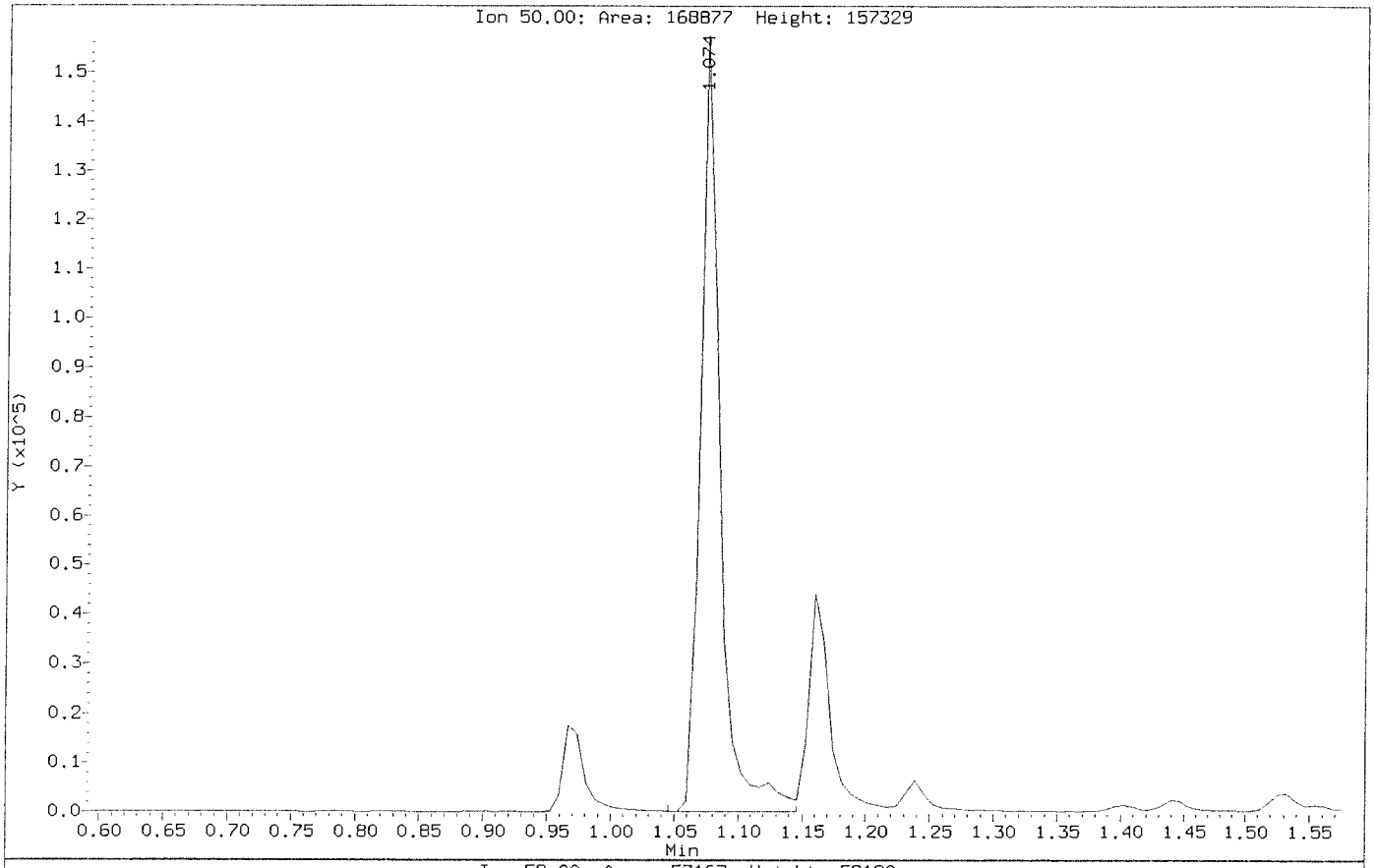
Compound: Chloromethane
CAS Number: 74-87-3

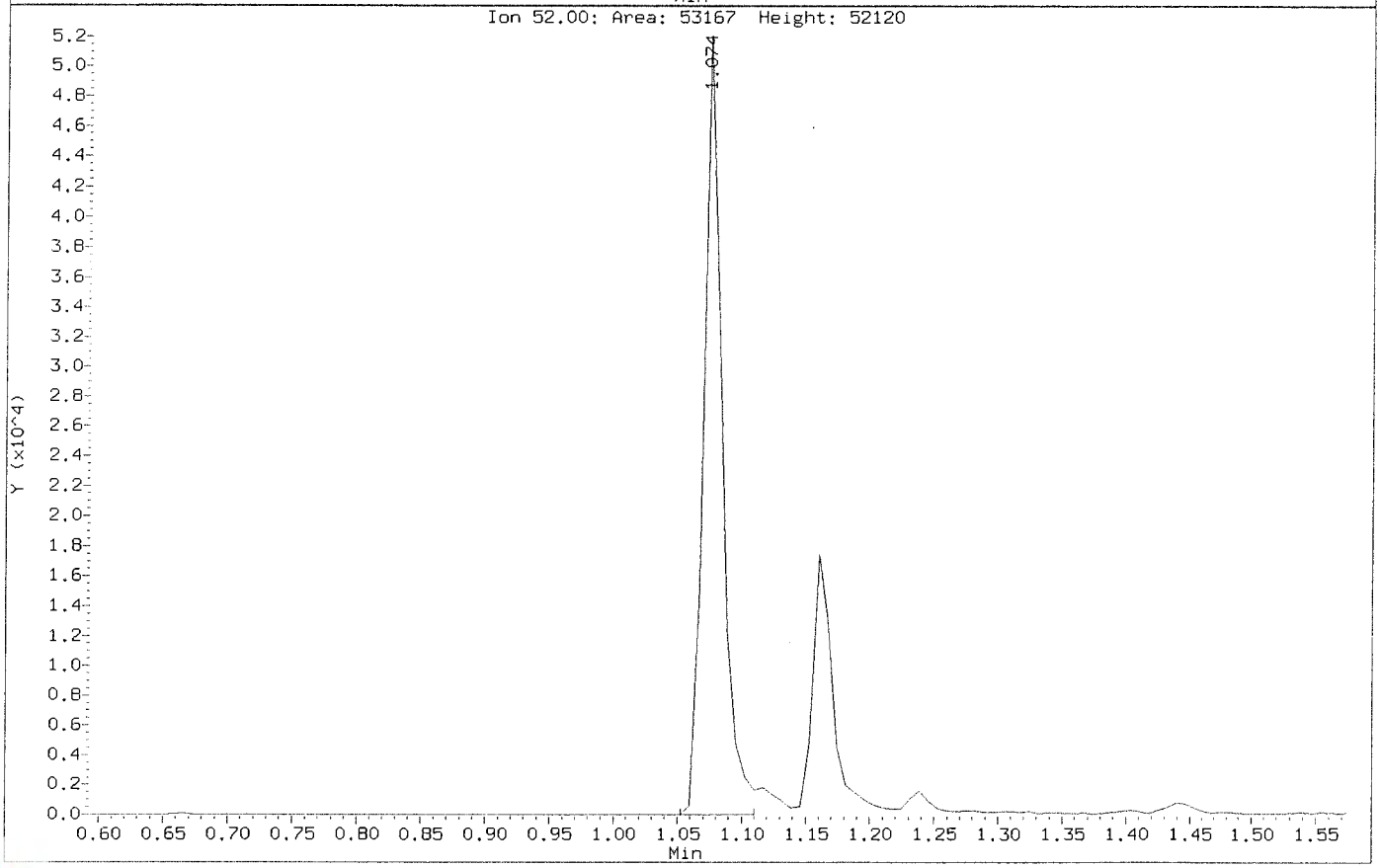




Data File: \\nahstws005\Target\chem\voa6.i\X191203.b\X120303.D
Injection Date: 03-DEC-2019 10:53
Instrument: voa6.i
Client Sample ID: CCV

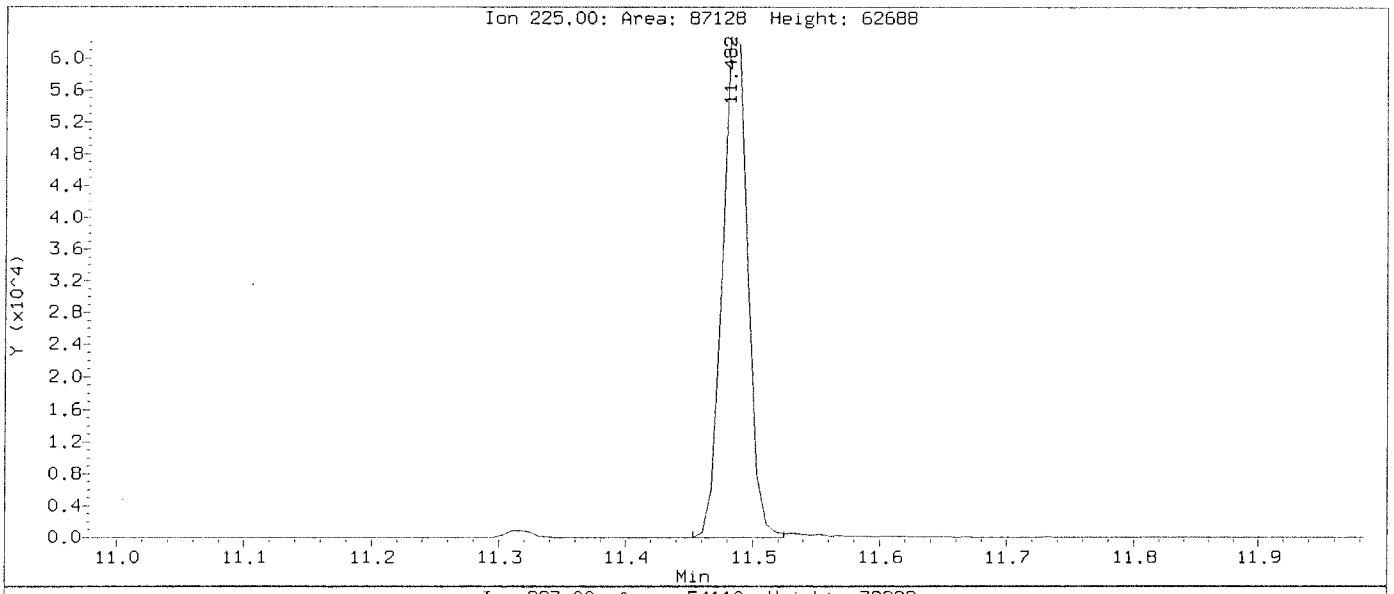
Compound: Chloromethane
CAS Number: 74-87-3

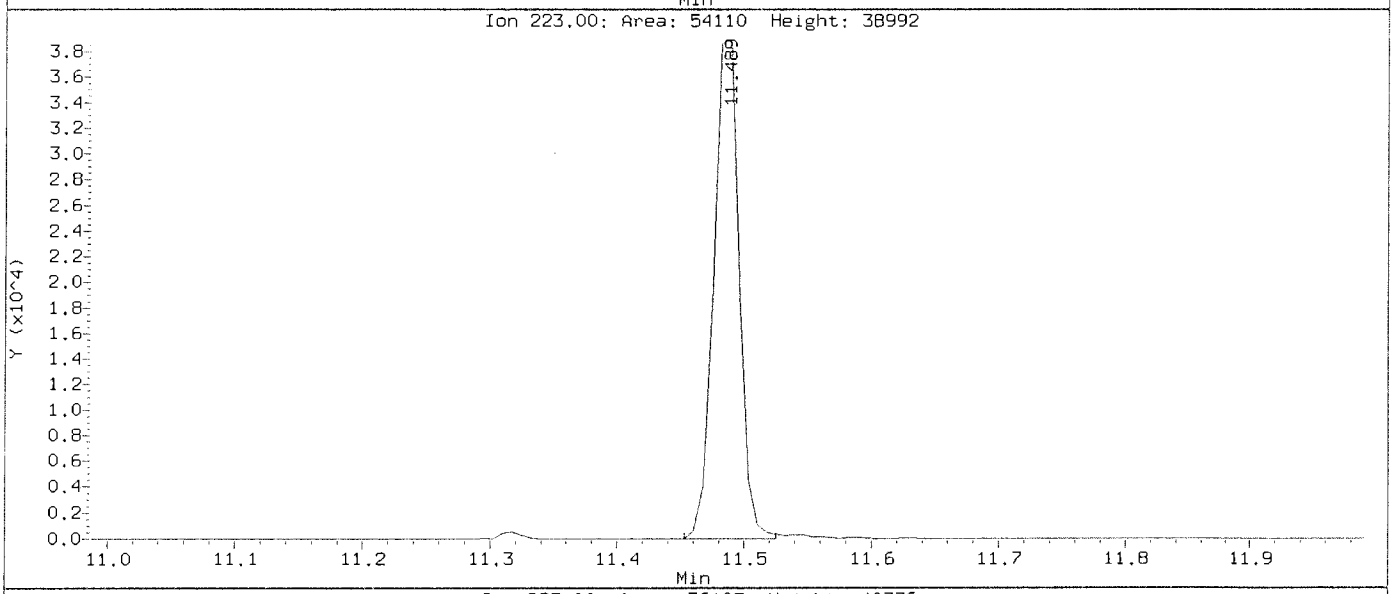


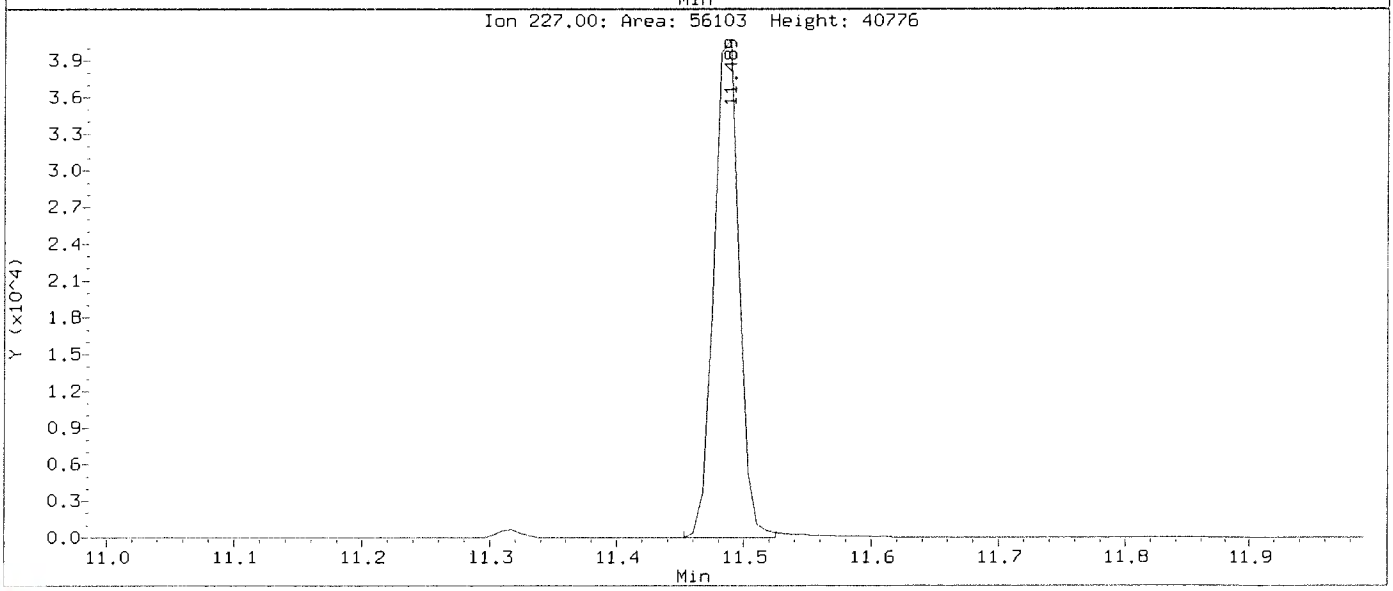


Data File: \\nahstws005\Target\chem\voa6.i\X191203.b\BEFORE\X120303.D
Injection Date: 03-DEC-2019 10:53
Instrument: voa6.i
Client Sample ID: CCV

Compound: Hexachlorobutadiene
CAS Number: 87-68-3

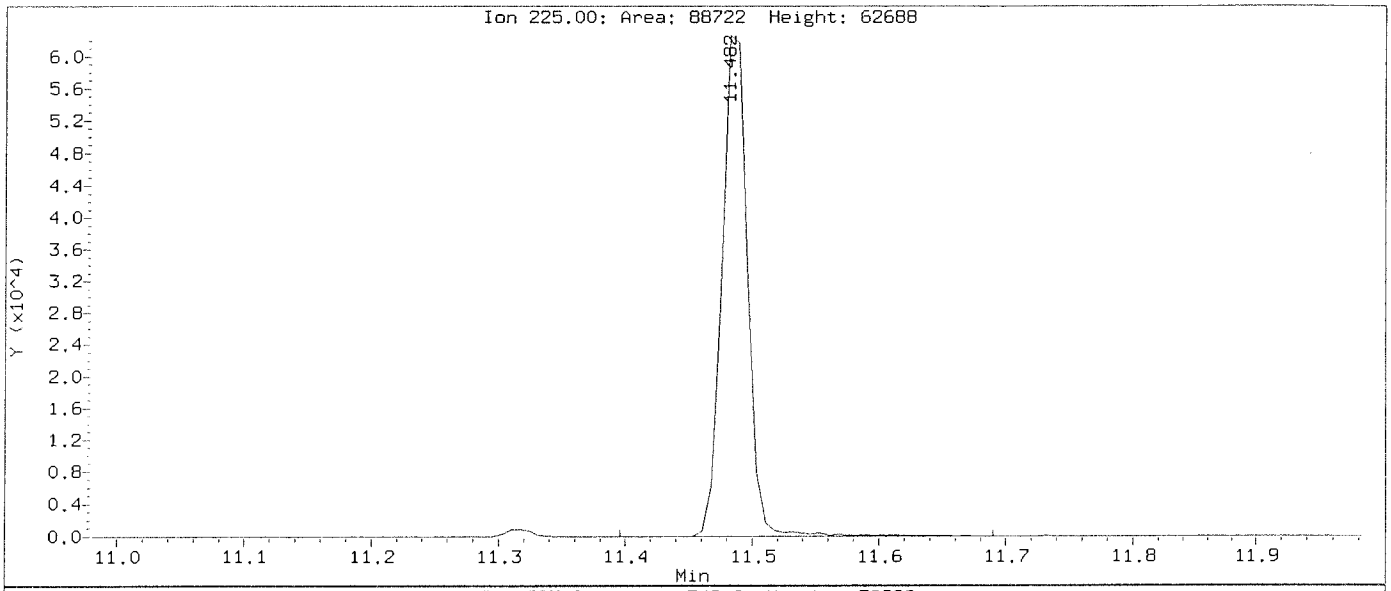


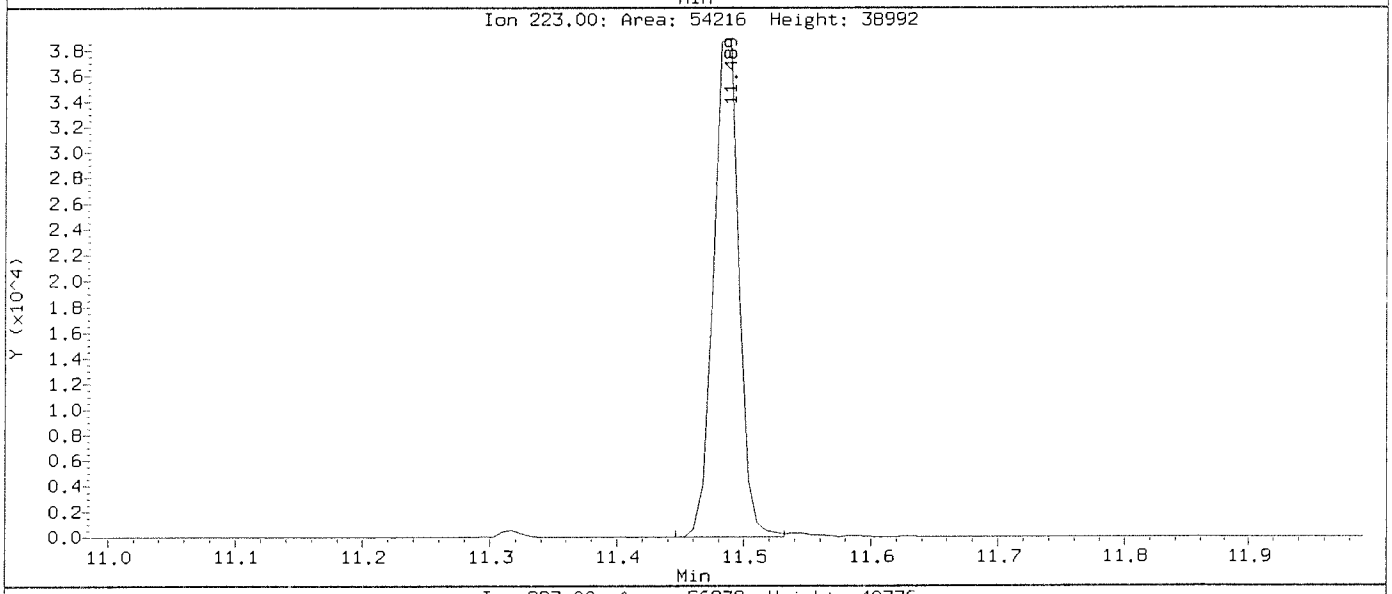


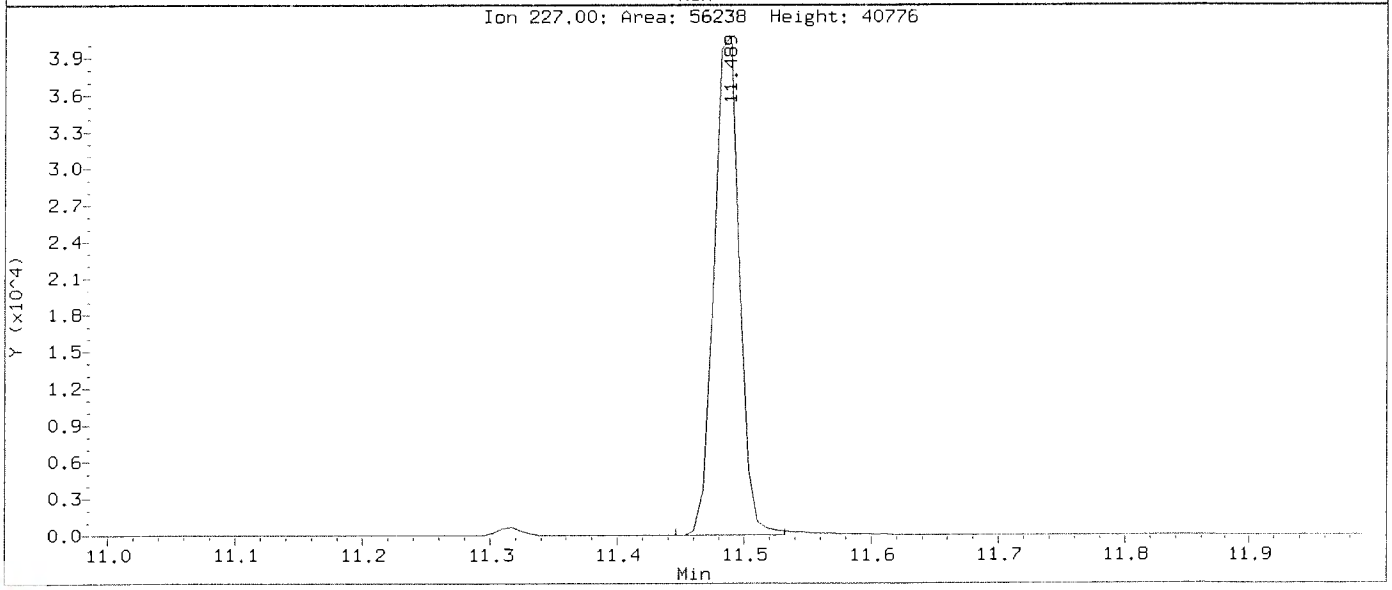


Data File: \\nahstws005\Target\chem\voa6.i\X191203.b\X120303.D
Injection Date: 03-DEC-2019 10:53
Instrument: voa6.i
Client Sample ID: CCV

Compound: Hexachlorobutadiene
CAS Number: 87-68-3







Data File: \\nahstws005\Target\chem\voa6.i\X191203.b\X120307.D Page 1
Report Date: 07-Dec-2019 10:43

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X191203.b\X120307.D
Lab Smp Id: VBLKW-191203 Client Smp ID: VBLKW-191203
Inj Date : 03-DEC-2019 12:29
Operator : PC Inst ID: voa6.i
Smp Info : VBLKW-191203;VBLKW-191203;3;;BLANK
Misc Info : HS18090001;WATER;0;1;
Comment   :
Method   : \\nahstws005\Target\chem\voa6.i\X191203.b\8260W.m
Meth Date : 07-Dec-2019 10:42 DevakG Quant Type: ISTD
Cal Date : 18-NOV-2019 16:35 Cal File: X111808.D
Als bottle: 7 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBIHOUSTONDOD.sub
Target Version: 4.14

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

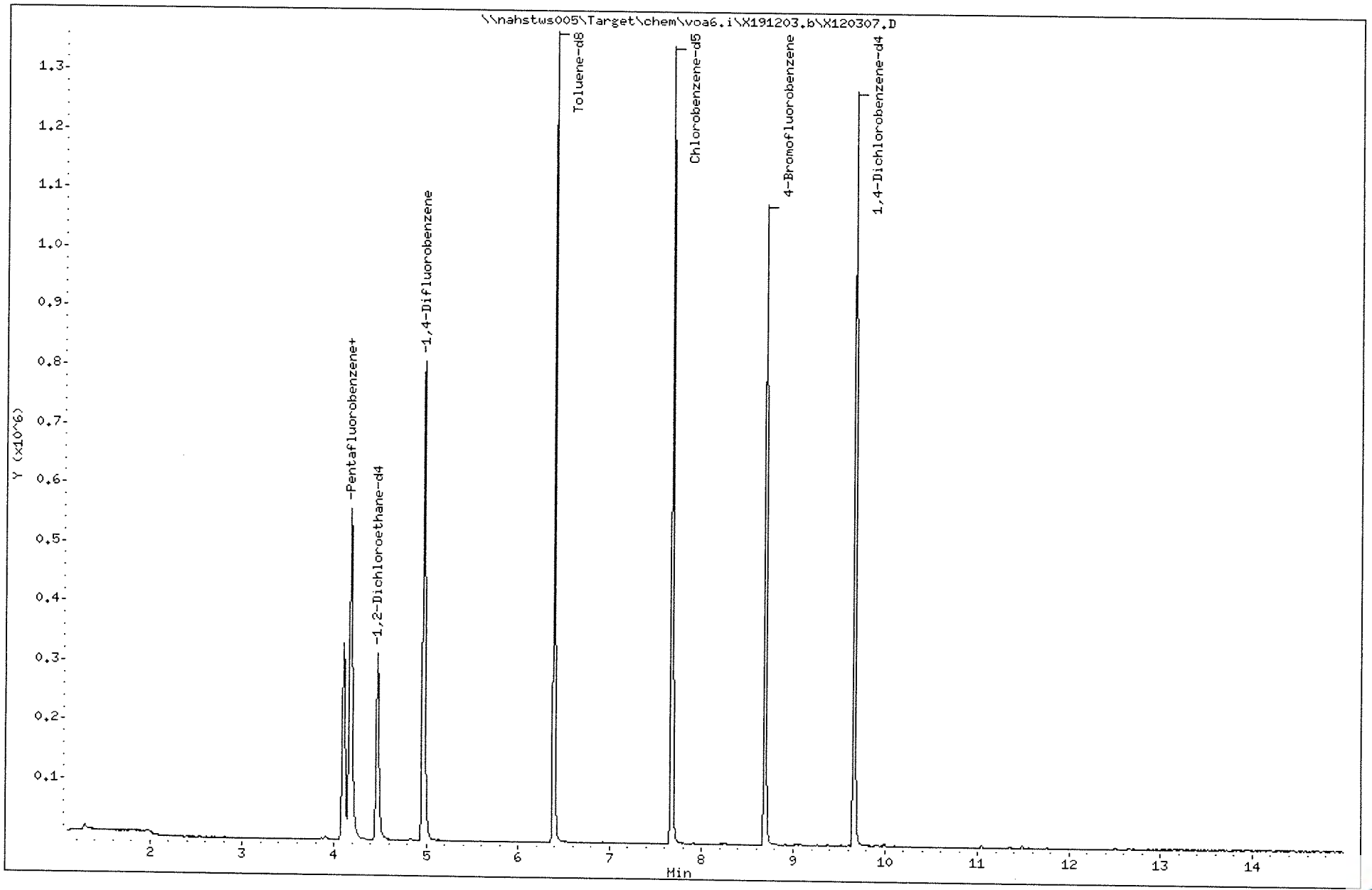
Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	499984	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	700713	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	630725	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.669	(1.000)	317867	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	238701	50.7350	50.73
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	284383	48.4754	48.47
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	224673	49.4234	49.42
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	798721	48.0627	48.06

Data File: \\nahstws005\Target\chem\voa6.i\X191203.b\X120307.D
Date : 03-DEC-2019 12:29
Client ID: VBLKW-191203
Sample Info: VBLKW-191203;VBLKW-191203;3;;BLANK
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i

Operator: PC
Column diameter: 0.18



Data File: \\nahstws005\Target\chem\voa6.i\X191203.b\X120308.D Page 1
Report Date: 07-Dec-2019 10:43

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X191203.b\X120308.D
Lab Smp Id: VLCSW-191203 Client Smp ID: VLCSW-19203
Inj Date : 03-DEC-2019 12:53
Operator : PC Inst ID: voa6.i
Smp Info : VLCSW-191203;VLCSW-19203;3;;LCS
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X191203.b\8260W.m
Meth Date : 07-Dec-2019 10:42 DevakG Quant Type: ISTD
Cal Date : 18-NOV-2019 16:35 Cal File: X111808.D
Als bottle: 8 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBIHOUSTONDOD.sub
Target Version: 4.14

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

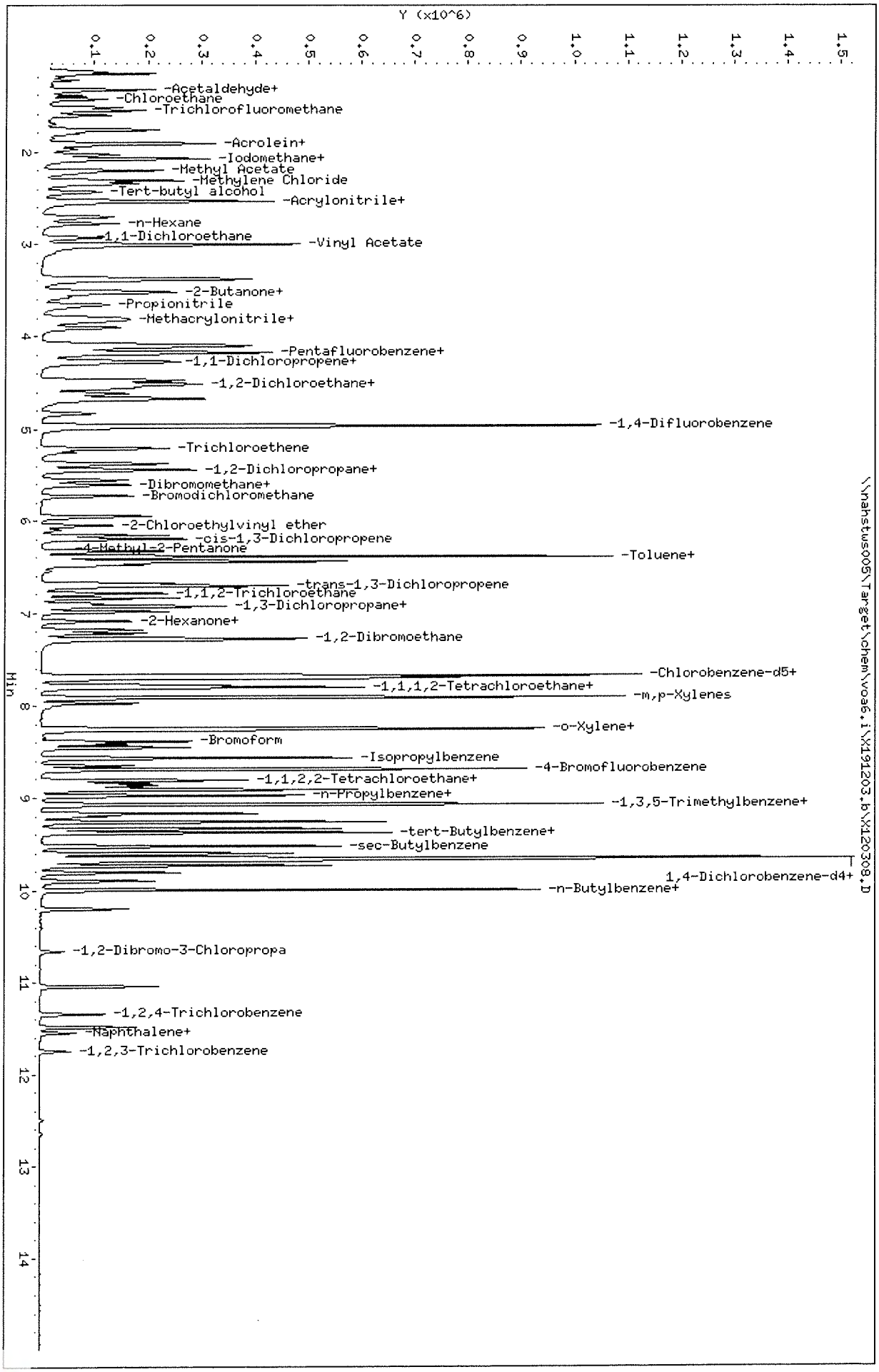
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	373173	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	567129	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	535799	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.669	(1.000)	291845	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	201240	57.2124	57.21
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	240044	48.1693	48.16
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	177424	52.2712	52.27
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	632970	44.8368	44.83(M)
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	78834	20.2807	20.28
31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	112192	22.2853	22.28
68 1,1,2,2-Tetrachloroethane	83	8.838	8.838	(0.915)	82356	20.0680	20.06
138 Freon TF	101	1.912	1.919	(0.457)	64760	19.9331	19.93
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	57966	20.6958	20.69
22 1,1-Dichloroethane	63	2.922	2.921	(0.699)	121706	22.4148	22.41
11 1,1-Dichloroethene	96	1.912	1.911	(0.457)	63224	19.9917	19.99
32 1,1-Dichloropropene	75	4.283	4.282	(0.862)	90996	19.8909	19.89
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.216)	15958	14.1554	14.15
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.918)	71718	20.6248	20.62(M)
90 1,2,4-Trichlorobenzene	180	11.345	11.338	(1.174)	37935	15.4307	15.43(M)
79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.971)	289179	20.8827	20.88
89 1,2-Dibromo-3-Chloropropane	155	10.658	10.658	(1.103)	8810	19.2383	19.23
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	77784	20.6991	20.69
88 1,2-Dichlorobenzene	146	9.999	9.999	(1.035)	158068	20.4073	20.40

Data File: \\nahstws005\Target\chem\voa6.i\X191203.b\X120308.D Page 2
Report Date: 07-Dec-2019 10:43

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
33	1,2-Dichloroethane	62	4.562	4.562	(0.918)	100885	22.4088	22.40
42	1,2-Dichloropropane	63	5.436	5.436	(1.094)	68596	20.2479	20.24
75	1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	276852	20.8354	20.83
83	1,3-Dichlorobenzene	146	9.605	9.605	(0.994)	172366	20.5944	20.59
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	115880	20.3785	20.37
84	1,4-Dichlorobenzene	146	9.683	9.683	(1.002)	175346	20.6170	20.61
26	2,2-Dichloropropane	77	3.516	3.516	(0.841)	108454	22.0074	22.00
24	2-Butanone	43	3.581	3.573	(0.856)	53699	46.8966	46.89
76	2-Chlorotoluene	91	8.974	8.974	(0.929)	226379	21.5600	21.56
52	2-Hexanone	43	7.090	7.083	(0.924)	91513	41.5778	41.57
77	4-Chlorotoluene	91	9.075	9.074	(0.939)	265911	20.8935	20.89
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	289864	20.2985	20.29
45	4-Methyl-2-Pentanone	43	6.324	6.324	(0.824)	126630	40.3360	40.33
10	Acetone	43	1.976	1.969	(0.473)	45782	45.3589	45.35
37	Benzene	78	4.512	4.512	(0.908)	271919	20.9598	20.95
74	Bromobenzene	156	8.810	8.809	(0.912)	103936	20.4916	20.49
29	Bromochloromethane	128	3.795	3.795	(0.908)	45942	22.7256	22.72
39	Bromodichloromethane	83	5.729	5.729	(1.153)	100007	21.3086	21.30
66	Bromoform	173	8.416	8.415	(1.097)	63023	20.3579	20.35
6	Bromomethane	94	1.338	1.338	(0.320)	89941	23.0251	23.02
19	Carbon Disulfide	76	2.069	2.069	(0.495)	376268	43.7342	43.73
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	98093	19.5742	19.57
59	Chlorobenzene	112	7.699	7.699	(1.004)	209262	20.0053	20.00
7	Chloroethane	64	1.403	1.403	(0.336)	49027	20.8666	20.86
28	Chloroform	83	3.910	3.910	(0.935)	135128	22.3591	22.35
3	Chloromethane	50	1.073	1.073	(0.257)	65636	16.3214	16.32
27	cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	81315	22.9772	22.97
46	cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	117136	21.1789	21.17
55	Dibromochloromethane	129	7.176	7.176	(0.936)	83082	20.4185	20.41
44	Dibromomethane	93	5.558	5.557	(1.118)	51621	21.5321	21.53
2	Dichlorodifluoromethane	85	0.973	0.973	(0.233)	79379	23.8142	23.81
61	Ethylbenzene	106	7.800	7.799	(1.017)	109912	20.3363	20.33
91	Hexachlorobutadiene	225	11.489	11.481	(1.189)	33277	14.1882	14.18(M)
67	Isopropylbenzene	105	8.566	8.566	(1.117)	327900	20.4828	20.48
62	m,p-Xylenes	106	7.907	7.907	(1.031)	267058	40.9477	40.94
17	Methylene Chloride	84	2.306	2.305	(0.551)	73645	21.8255	21.82
87	n-Butylbenzene	91	9.999	9.999	(1.035)	239836	20.1817	20.18
73	n-Propylbenzene	91	8.917	8.917	(0.923)	374486	20.7592	20.75
92	Naphthalene	128	11.546	11.546	(1.195)	46815	14.8472	14.84
63	o-Xylene	106	8.244	8.244	(1.075)	128894	20.0247	20.02
81	sec-Butylbenzene	105	9.526	9.526	(0.986)	321319	20.5037	20.50
64	Styrene	104	8.258	8.258	(1.077)	225935	20.1854	20.18
78	tert-Butylbenzene	119	9.340	9.340	(0.967)	234749	20.6334	20.63
56	Tetrachloroethene	164	6.933	6.933	(0.904)	71810	19.0747	19.07
50	Toluene	91	6.446	6.446	(0.840)	304238	20.0235	20.02
20	trans-1,2-Dichloroethene	96	2.528	2.527	(0.604)	68832	22.4181	22.41
51	trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	107016	21.2298	21.22
38	Trichloroethene	130	5.207	5.206	(1.048)	81687	20.5961	20.59
8	Trichlorofluoromethane	101	1.561	1.560	(0.373)	124400	21.4898	21.48
5	Vinyl Chloride	62	1.138	1.138	(0.272)	74888	19.6904	19.69

QC Flag Legend

M - Compound response manually integrated.

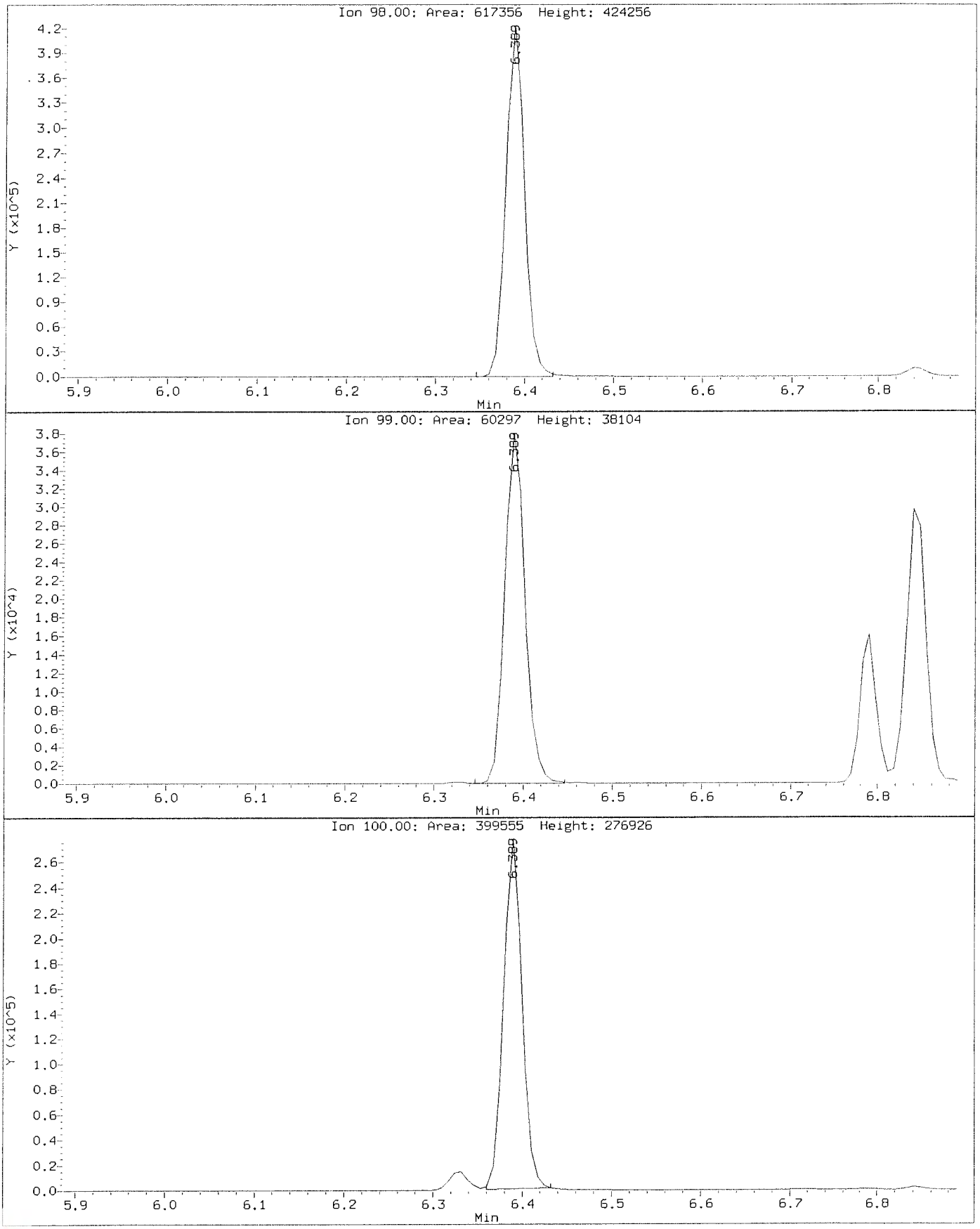


Data File: \\nahstws005\Target\chem\voa6.i\X191203.b\X120308.D
Date : 03-DEC-2019 12:53
Client ID: VLCSW-19203
Sample Info: VLCSW-191203;VLCSW-19203;3;;LCS
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

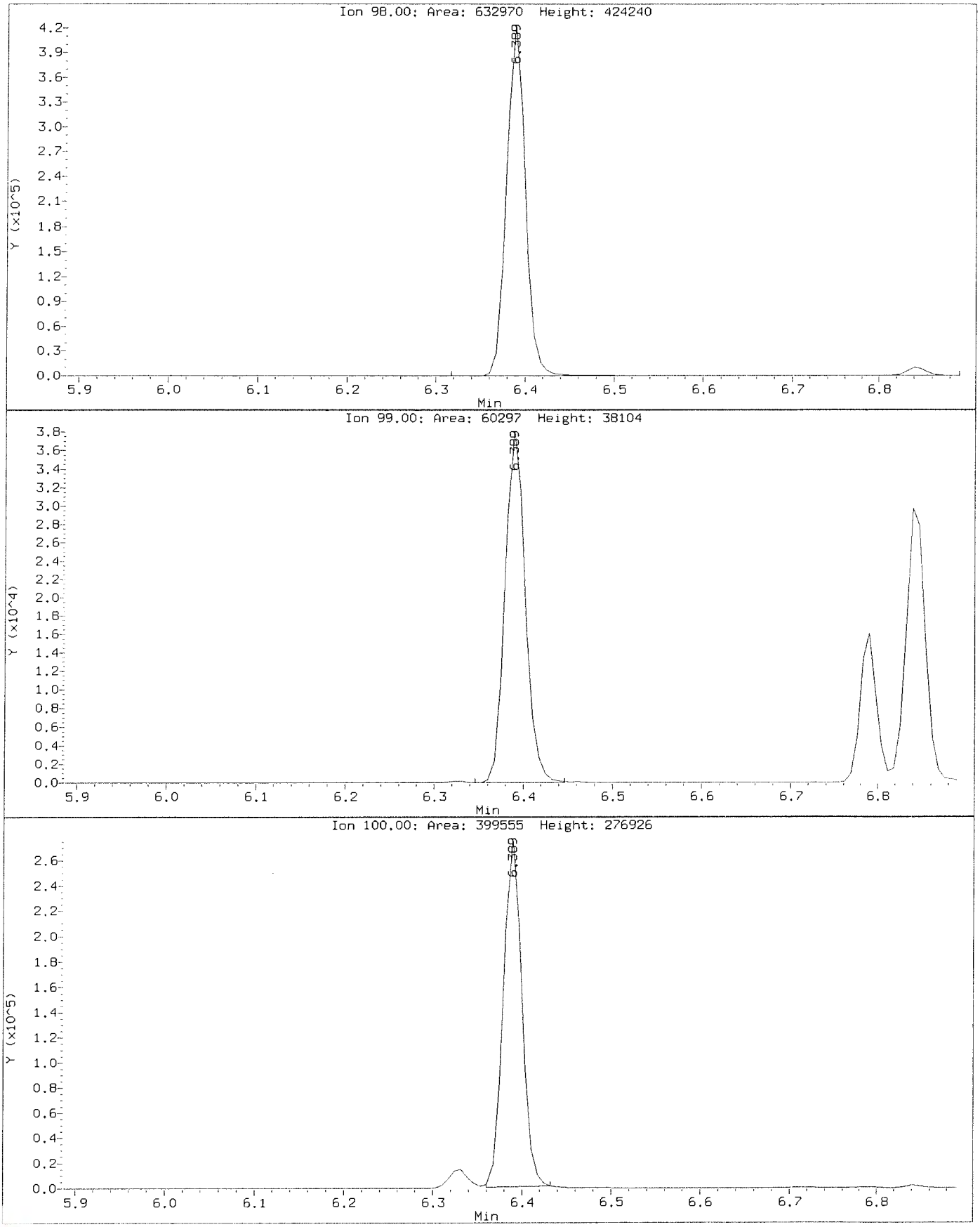
Data File: \\nahstws005\Target\chem\voa6.i\X191203.b\BEFORE\X120308.D
Injection Date: 03-DEC-2019 12:53
Instrument: voa6.i
Client Sample ID: VLCSW-19203

Compound: Toluene-d8
CAS Number: 2037-26-5



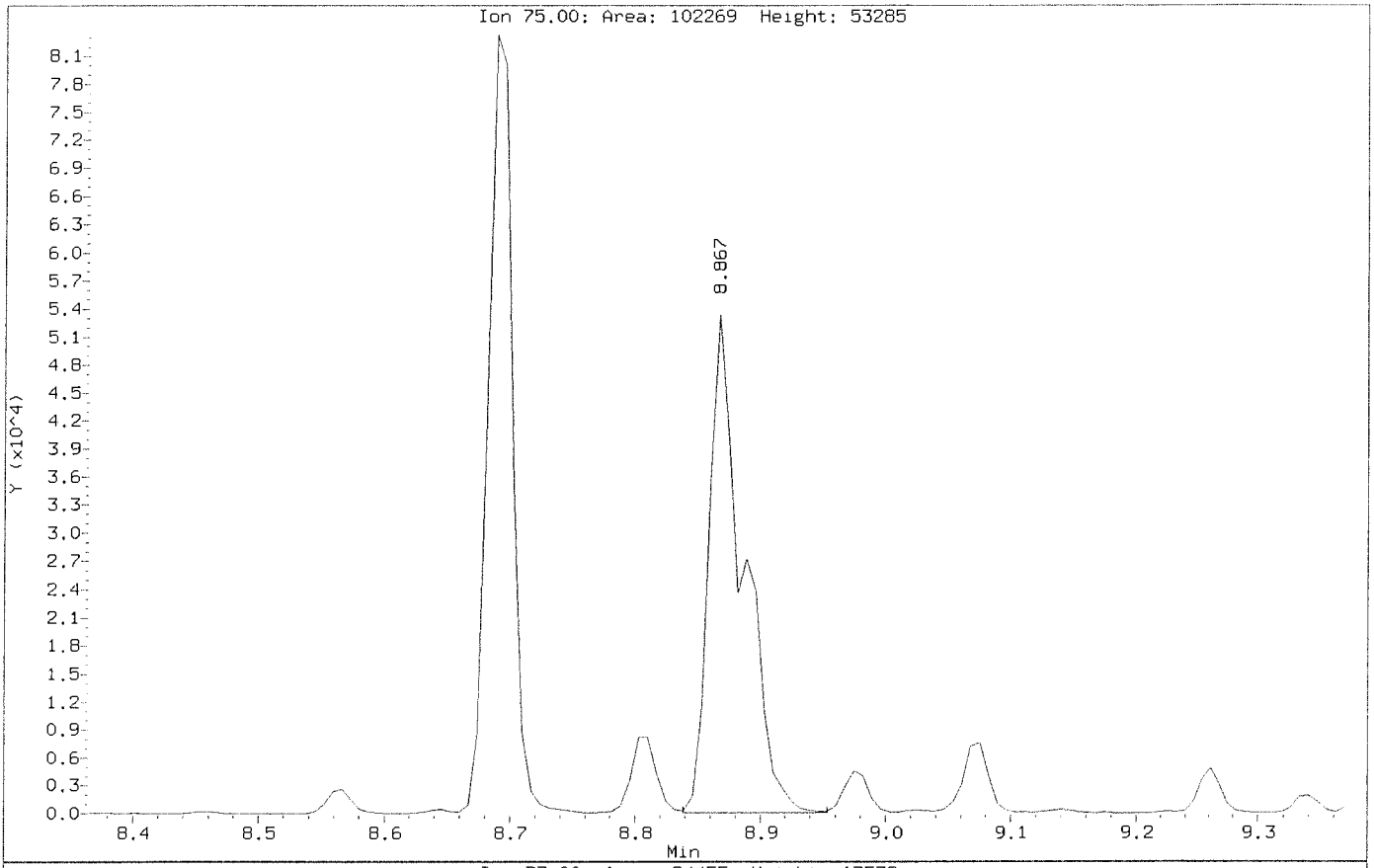
Data File: \\nahstws005\Target\chem\voa6.i\X191203.b\X120308.D
Injection Date: 03-DEC-2019 12:53
Instrument: voa6.i
Client Sample ID: VLCSW-19203

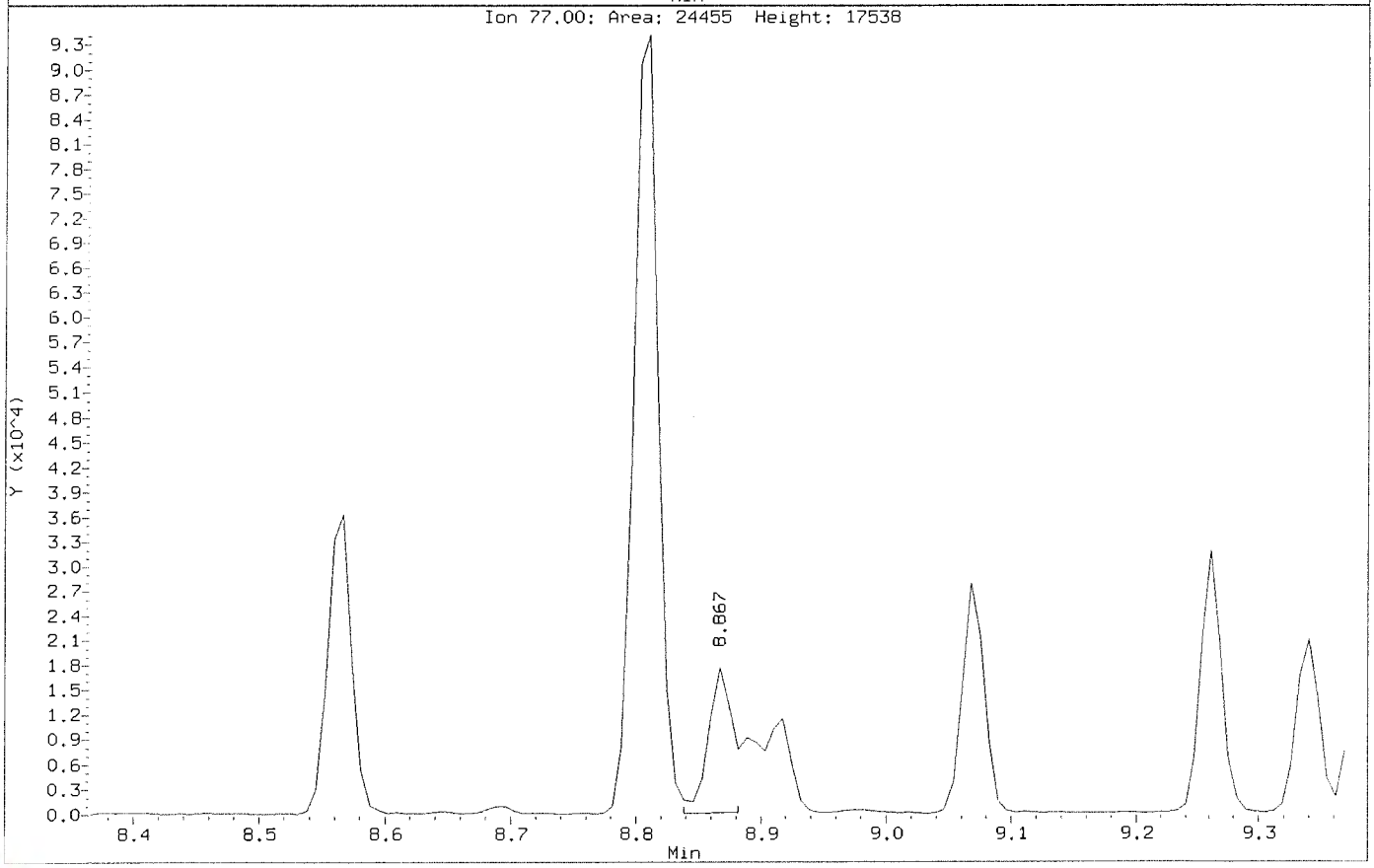
Compound: Toluene-d8
CAS Number: 2037-26-5



Data File: \\nahstws005\Target\chem\voa6.i\X191203.b\BEFORE\X120308.D
Injection Date: 03-DEC-2019 12:53
Instrument: voa6.i
Client Sample ID: VLCSW-19203

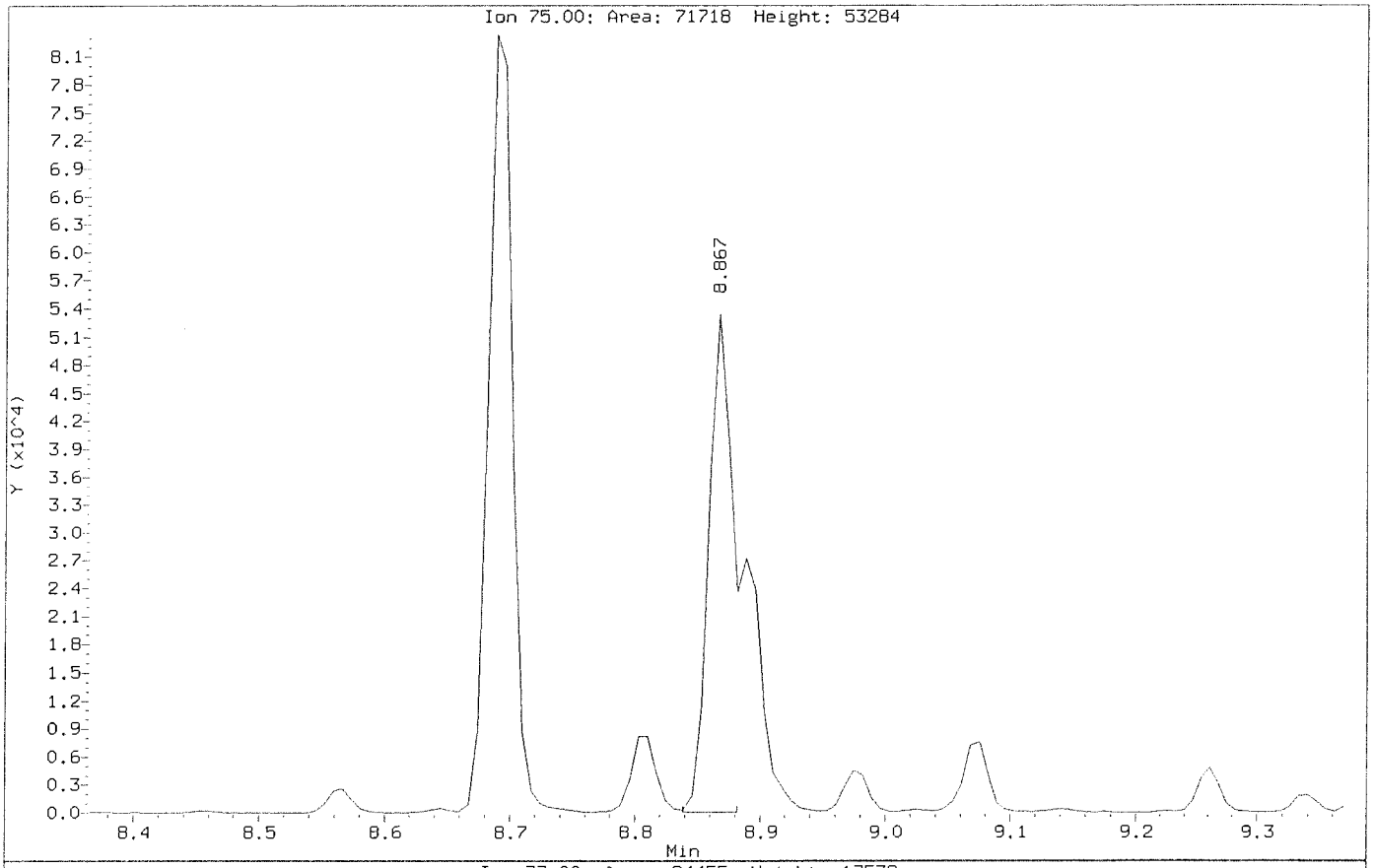
Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4

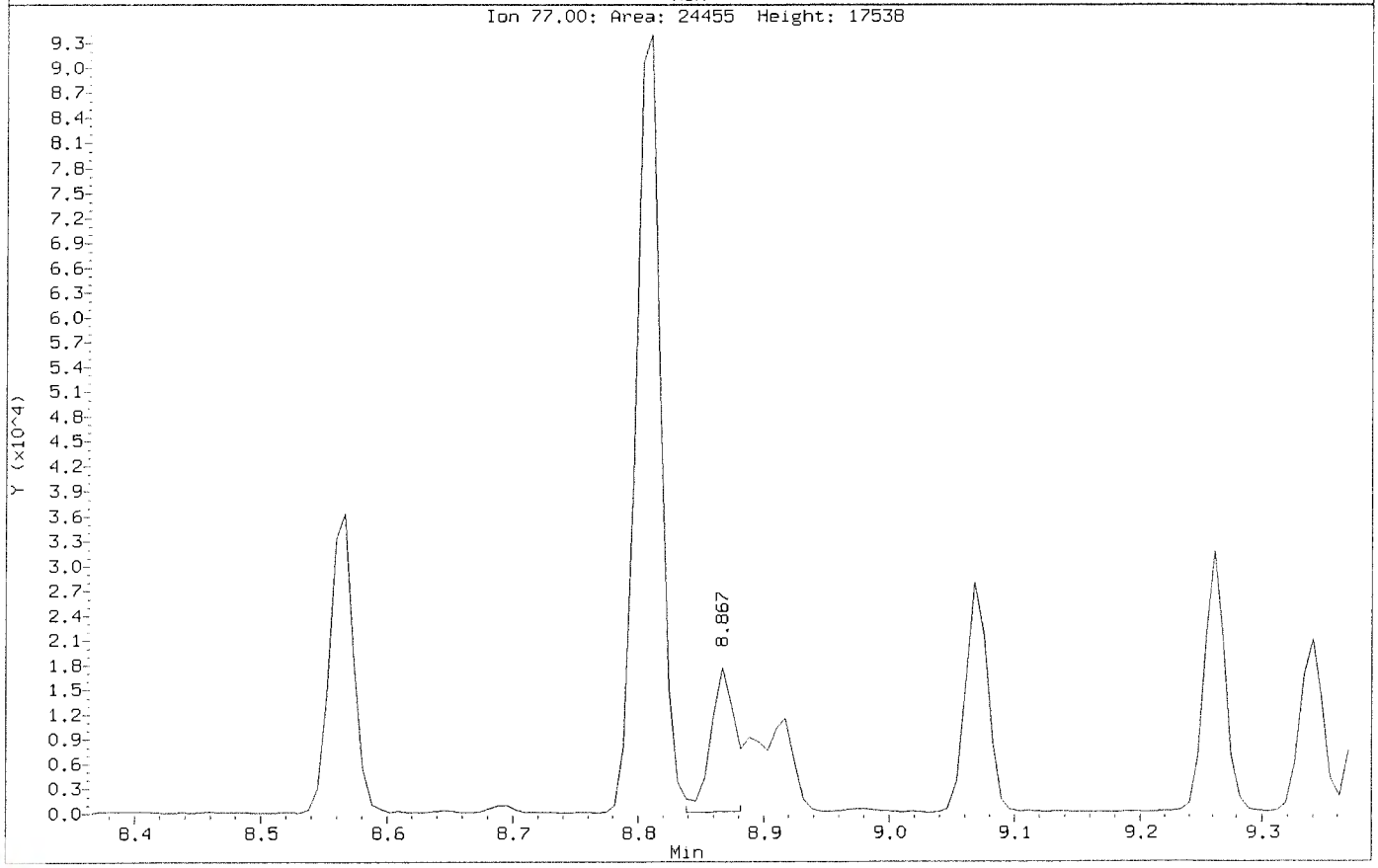




Data File: \\nahstws005\Target\chem\voa6.i\X191203.b\X120308.D
Injection Date: 03-DEC-2019 12:53
Instrument: voa6.i
Client Sample ID: VLCSW-19203

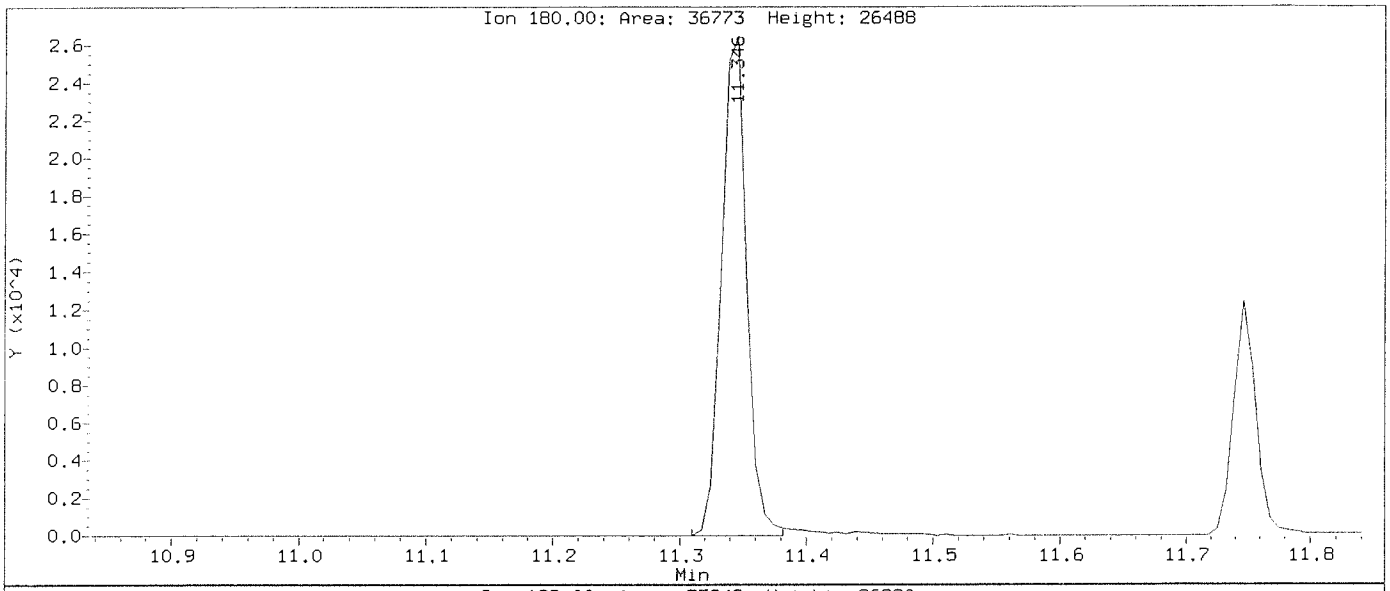
Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4

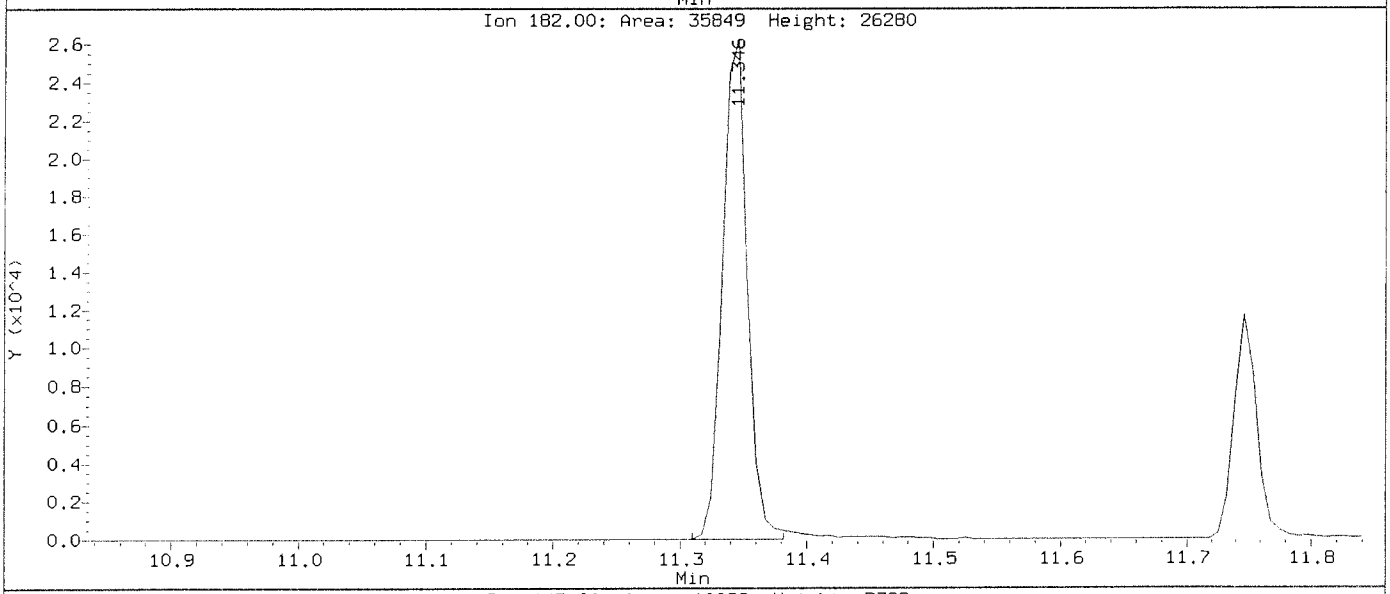


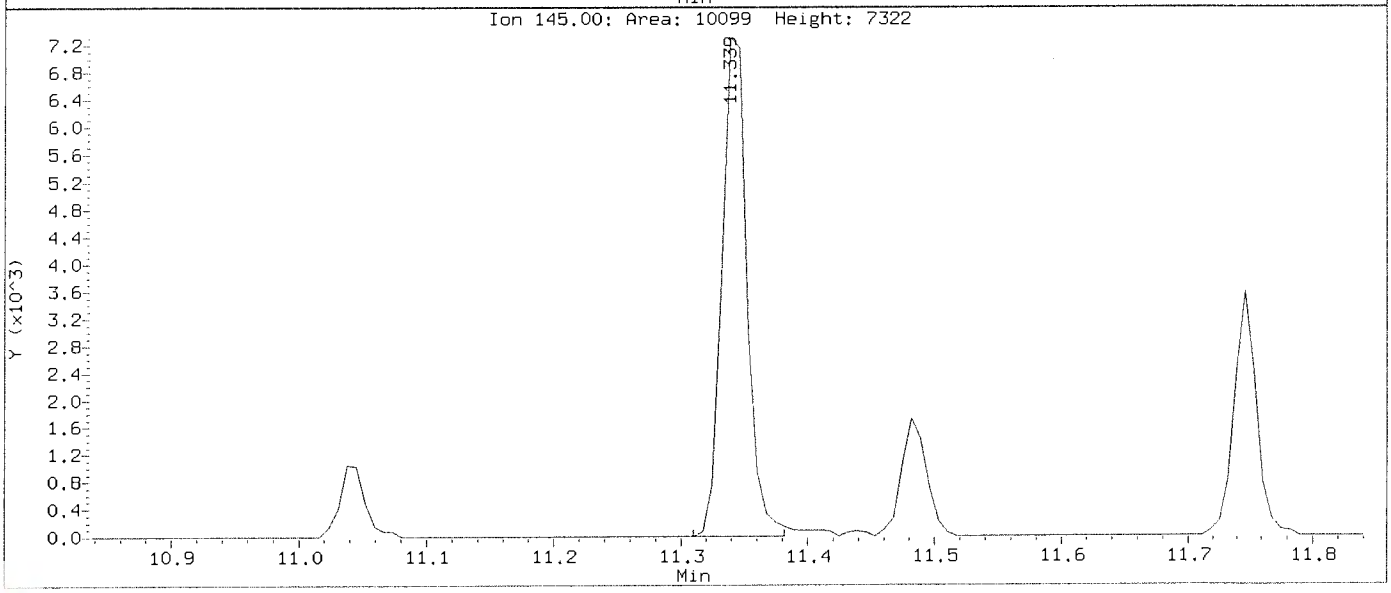


Data File: \\nahstws005\Target\chem\voa6.i\X191203.b\BEFORE\X120308.D
Injection Date: 03-DEC-2019 12:53
Instrument: voa6.i
Client Sample ID: VLCSW-19203

Compound: 1,2,4-Trichlorobenzene
CAS Number: 120-82-1

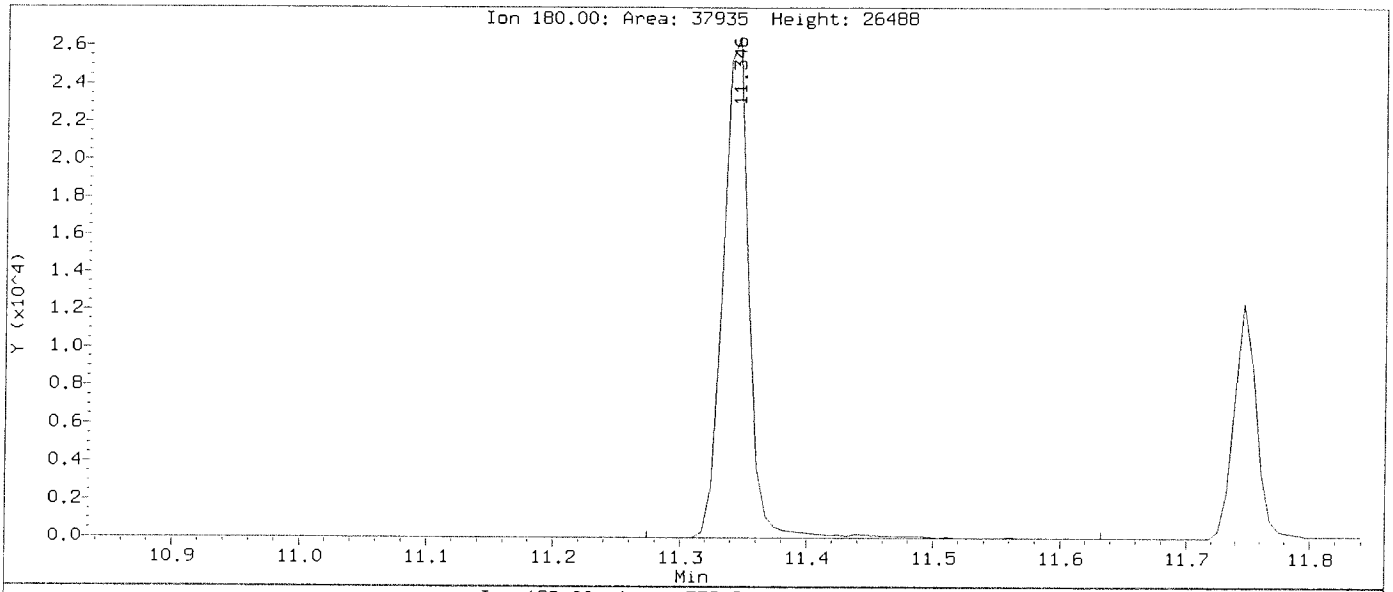


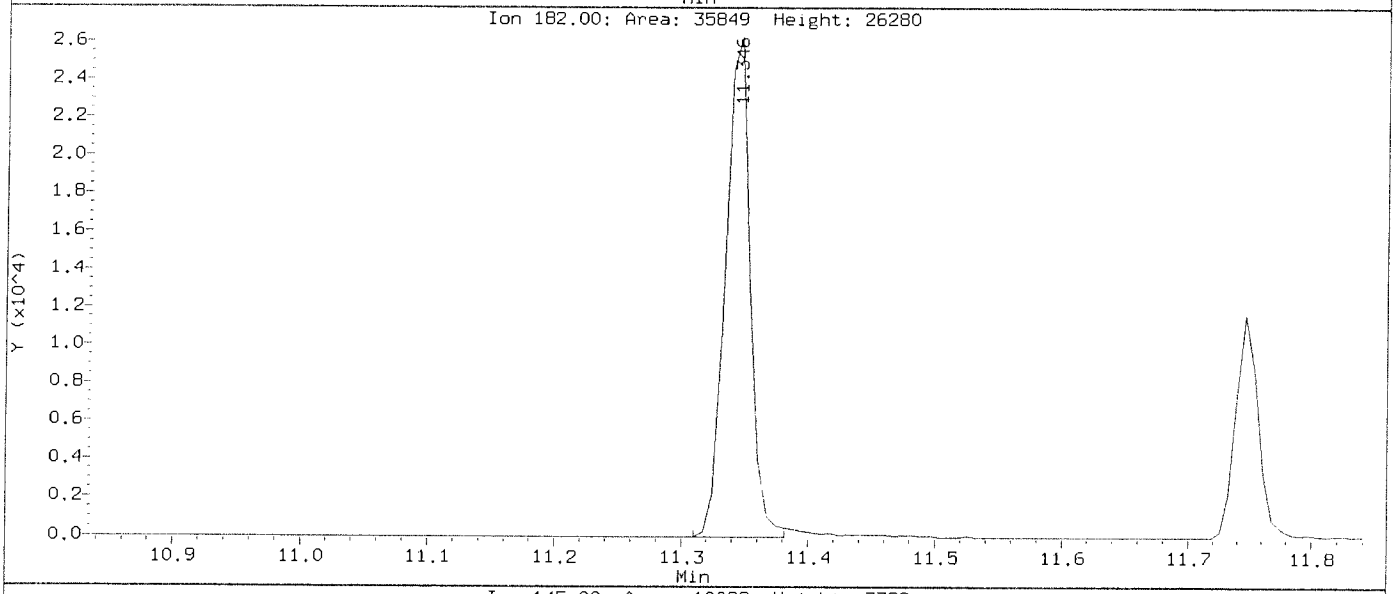


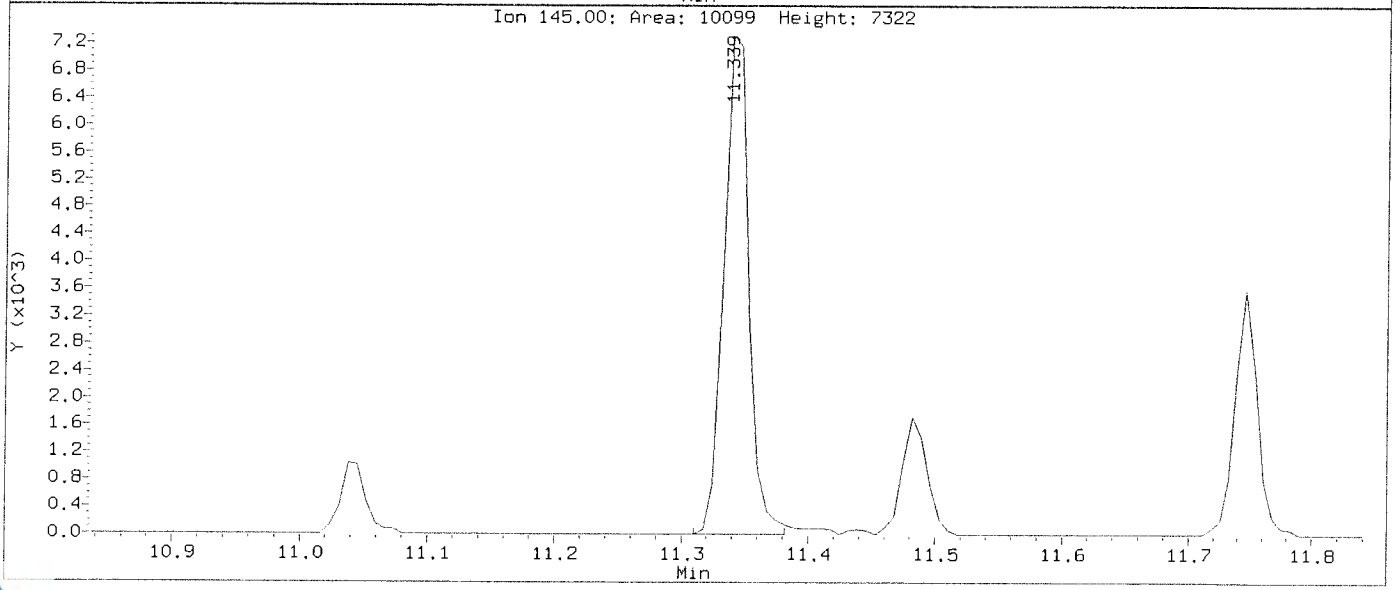


Data File: \\nahstws005\Target\chem\voa6.i\X191203.b\X120308.D
Injection Date: 03-DEC-2019 12:53
Instrument: voa6.i
Client Sample ID: VLCSW-19203

Compound: 1,2,4-Trichlorobenzene
CAS Number: 120-82-1

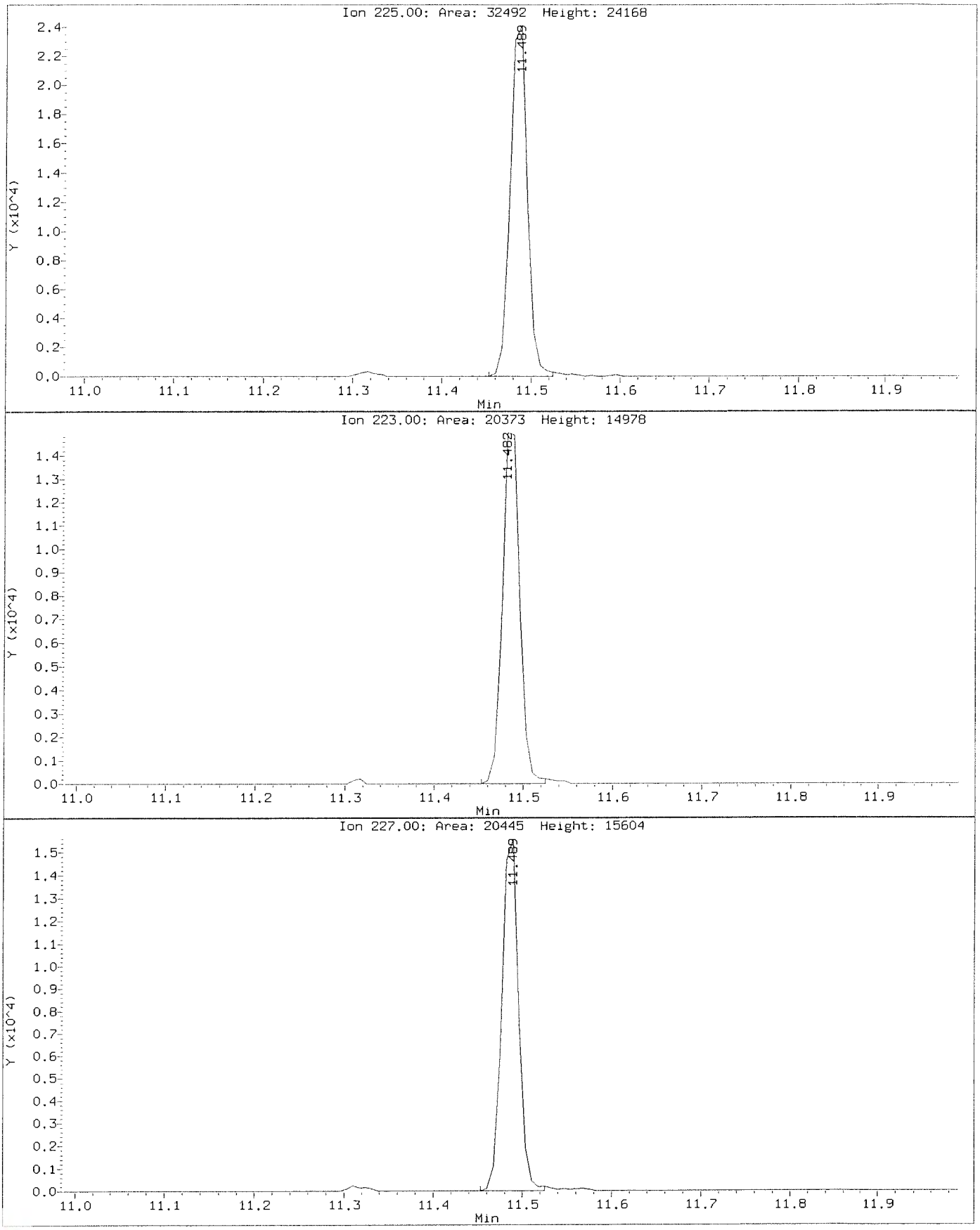






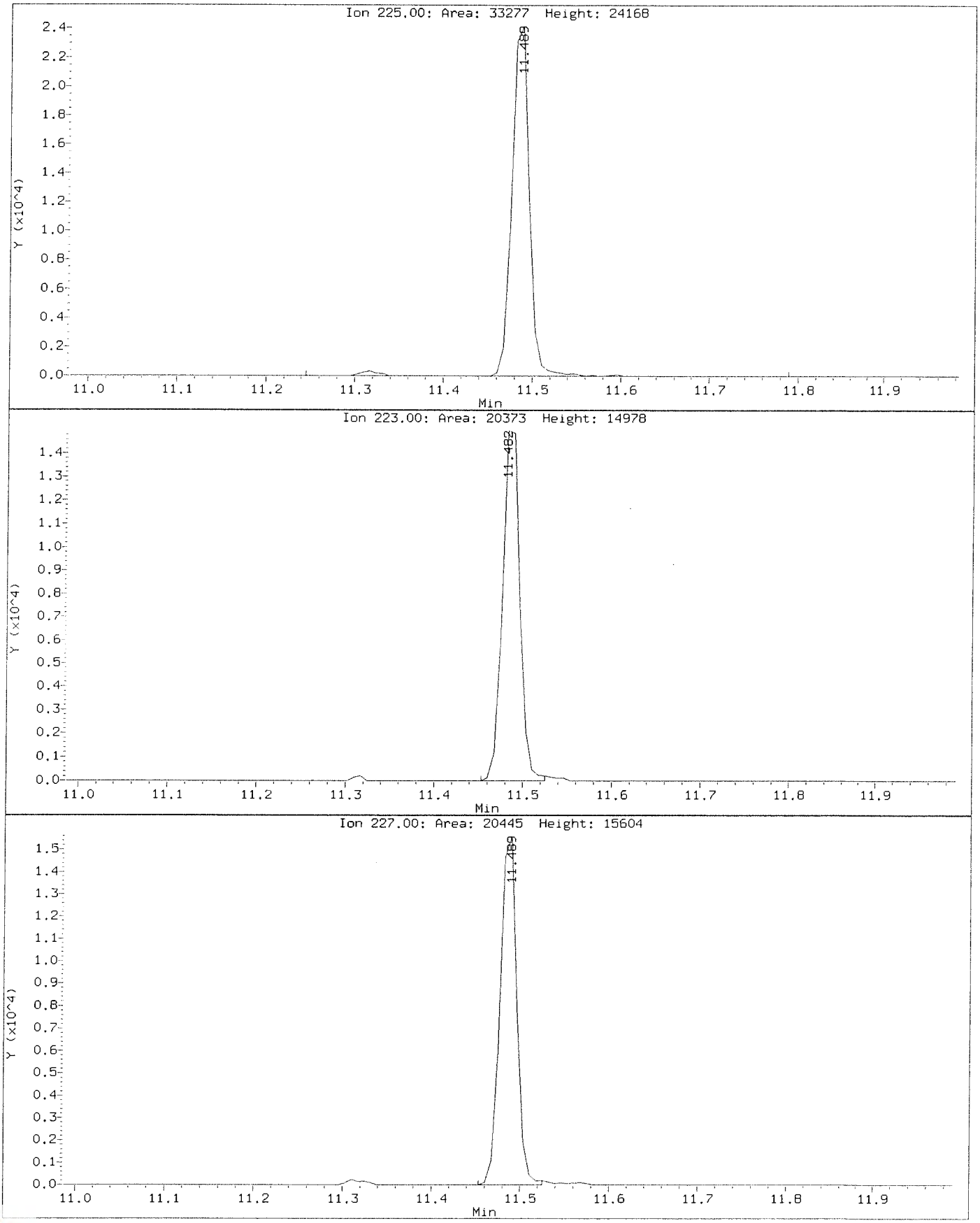
Data File: \\nahstws005\Target\chem\voa6.i\X191203.b\BEFORE\X120308.D
Injection Date: 03-DEC-2019 12:53
Instrument: voa6.i
Client Sample ID: VLCSW-19203

Compound: Hexachlorobutadiene
CAS Number: 87-68-3



Data File: \\nahstws005\Target\chem\voa6.i\X191203.b\X120308.D
Injection Date: 03-DEC-2019 12:53
Instrument: voa6.i
Client Sample ID: VLCSW-19203

Compound: Hexachlorobutadiene
CAS Number: 87-68-3



Data File: \\nahstws005\Target\chem\voa6.i\X191203.b\X120312.D Page 1
Report Date: 07-Dec-2019 10:43

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X191203.b\X120312.D
Lab Smp Id: HS19111401-01MS Client Smp ID: HS19111401-01MS
Inj Date : 03-DEC-2019 14:29
Operator : PC Inst ID: voa6.i
Smp Info : HS19111401-01MS;HS19111401-01MS;3;;MS
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X191203.b\8260W.m
Meth Date : 07-Dec-2019 10:42 DevakG Quant Type: ISTD
Cal Date : 18-NOV-2019 16:35 Cal File: X111808.D
Als bottle: 12 QC Sample: MS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBIHOUSTONDOD.sub
Target Version: 4.14

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

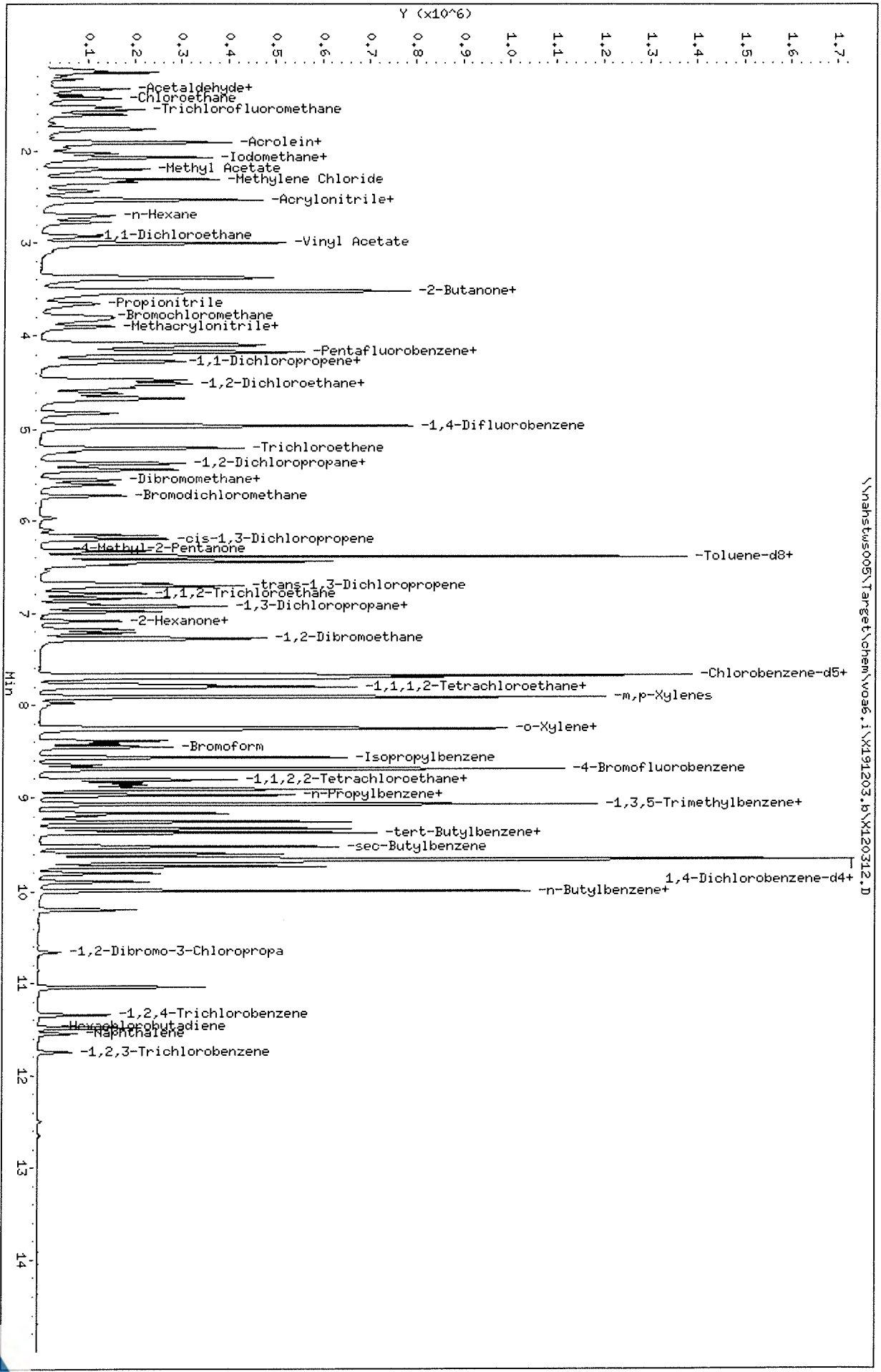
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
*	1 Pentafluorobenzene	168	4.182	4.182	(1.000)	489493	50.0000	
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	690280	50.0000	
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	634281	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	341005	50.0000	
$	35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	236765	51.3924	51.39
$	69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	297802	50.4609	50.46
$	30 Dibromofluoromethane	113	4.103	4.103	(0.981)	222024	49.8840	49.88
$	48 Toluene-d8	98	6.388	6.388	(0.833)	794870	47.5628	47.56
	60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	84369	18.3347	18.33
	31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	128987	19.5328	19.53
	68 1,1,2,2-Tetrachloroethane	83	8.838	8.838	(0.914)	88349	18.4247	18.42
	138 Freon TF	101	1.912	1.919	(0.457)	75324	17.6752	17.67
	53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	60457	18.2338	18.23
	22 1,1-Dichloroethane	63	2.922	2.921	(0.699)	134510	18.8861	18.88
	11 1,1-Dichloroethene	96	1.912	1.911	(0.457)	74893	18.0539	18.05
	32 1,1-Dichloropropene	75	4.283	4.282	(0.862)	107048	19.2251	19.22
	93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.215)	20223	15.4232	15.42
	71 1,2,3-Trichloropropane	75	8.867	8.867	(0.917)	74993	18.4576	18.45(M)
	90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	44956	15.6504	15.65
	79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.970)	318508	19.6849	19.68
	89 1,2-Dibromo-3-Chloropropane	155	10.658	10.658	(1.102)	9807	18.3120	18.31
	57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	81763	18.3797	18.37
	88 1,2-Dichlorobenzene	146	9.999	9.999	(1.034)	171467	18.9458	18.94

Data File: \\nahstws005\Target\chem\voa6.i\X191203.b\X120312.D Page 2
Report Date: 07-Dec-2019 10:43

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
33	1,2-Dichloroethane	62	4.562	4.562	(0.918)	115077	21.0009	21.00
42	1,2-Dichloropropane	63	5.436	5.436	(1.094)	73168	17.7443	17.74
75	1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	310105	19.9735	19.97
83	1,3-Dichlorobenzene	146	9.605	9.605	(0.993)	189386	19.3659	19.36
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	121936	18.1141	18.11
84	1,4-Dichlorobenzene	146	9.683	9.683	(1.001)	189603	19.0795	19.07
26	2,2-Dichloropropane	77	3.509	3.516	(0.839)	124763	19.3007	19.30
24	2-Butanone	43	3.581	3.573	(0.856)	52013	34.6299	34.62
76	2-Chlorotoluene	91	8.974	8.974	(0.928)	249139	20.3070	20.30
52	2-Hexanone	43	7.090	7.083	(0.924)	92773	35.6058	35.60
77	4-Chlorotoluene	91	9.075	9.074	(0.939)	293187	19.7157	19.71
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	329896	19.7714	19.77
45	4-Methyl-2-Pentanone	43	6.324	6.324	(0.824)	131734	35.4466	35.44
10	Acetone	43	1.976	1.969	(0.473)	38124	27.3869	27.38
37	Benzene	78	4.512	4.512	(0.908)	297203	18.8217	18.82
74	Bromobenzene	156	8.810	8.809	(0.911)	112323	18.9527	18.95
29	Bromochloromethane	128	3.795	3.795	(0.908)	48154	18.1594	18.15
39	Bromodichloromethane	83	5.729	5.729	(1.153)	107234	18.7721	18.77
66	Bromoform	173	8.416	8.415	(1.097)	66100	18.1505	18.15
6	Bromomethane	94	1.338	1.338	(0.320)	87629	16.4958	16.49
19	Carbon Disulfide	76	2.069	2.069	(0.495)	443422	39.2921	39.29
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	116903	19.1658	19.16
59	Chlorobenzene	112	7.692	7.699	(1.003)	225005	18.1705	18.17
7	Chloroethane	64	1.403	1.403	(0.336)	50894	16.5138	16.51
28	Chloroform	83	3.910	3.910	(0.935)	143885	18.1505	18.15
3	Chloromethane	50	1.073	1.073	(0.257)	63514	12.0898	12.08
27	cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	375344	80.8573	80.85
46	cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	124690	18.5225	18.52
55	Dibromochloromethane	129	7.176	7.176	(0.936)	87730	18.2132	18.21
44	Dibromomethane	93	5.558	5.557	(1.118)	53722	18.4106	18.41
2	Dichlorodifluoromethane	85	0.973	0.973	(0.233)	64762	15.1453	15.14
61	Ethylbenzene	106	7.800	7.799	(1.017)	121327	18.9629	18.96
91	Hexachlorobutadiene	225	11.489	11.481	(1.188)	39513	14.4183	14.41
67	Isopropylbenzene	105	8.566	8.566	(1.117)	368473	19.4434	19.44
62	m,p-Xylenes	106	7.907	7.907	(1.031)	293183	37.9737	37.97
17	Methylene Chloride	84	2.306	2.305	(0.551)	103291	23.3371	23.33
87	n-Butylbenzene	91	9.999	9.999	(1.034)	281072	20.2419	20.24
73	n-Propylbenzene	91	8.917	8.917	(0.922)	424640	20.1459	20.14
92	Naphthalene	128	11.546	11.546	(1.194)	55966	15.1907	15.19
63	o-Xylene	106	8.244	8.244	(1.075)	141213	18.5323	18.53
81	sec-Butylbenzene	105	9.526	9.526	(0.985)	374209	20.4363	20.43
64	Styrene	104	8.258	8.258	(1.077)	248615	18.7630	18.76
78	tert-Butylbenzene	119	9.340	9.340	(0.966)	270726	20.3652	20.36
56	Tetrachloroethene	164	6.933	6.933	(0.904)	82300	18.4669	18.46
50	Toluene	91	6.446	6.446	(0.840)	339914	18.8980	18.89
20	trans-1,2-Dichloroethene	96	2.528	2.527	(0.604)	77111	19.1464	19.14
51	trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	113455	18.4917	18.49
38	Trichloroethene	130	5.207	5.206	(1.048)	148144	30.6882	30.68
8	Trichlorofluoromethane	101	1.561	1.560	(0.373)	142870	18.8155	18.81
5	Vinyl Chloride	62	1.138	1.138	(0.272)	83680	16.7736	16.77

QC Flag Legend

M - Compound response manually integrated.

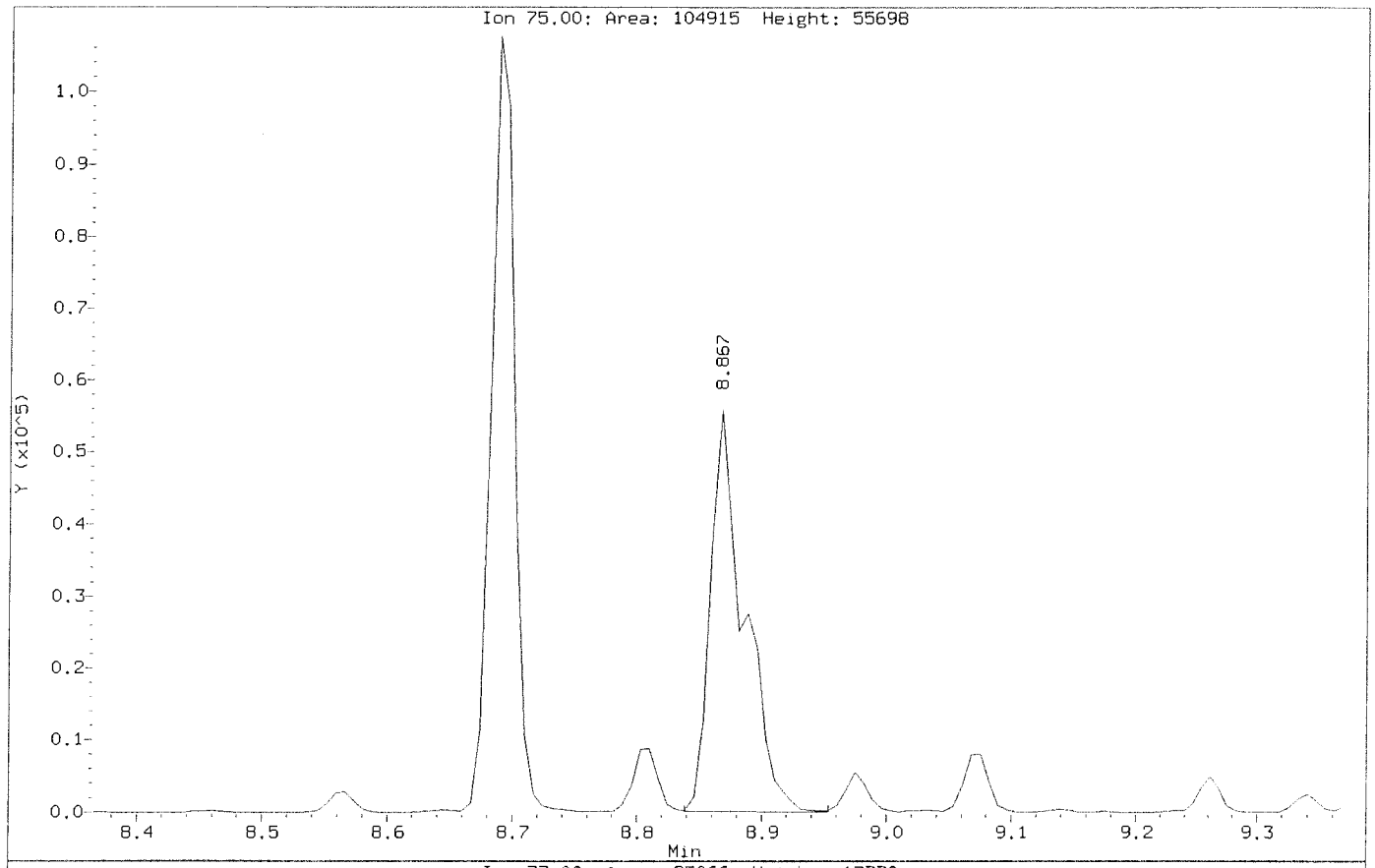


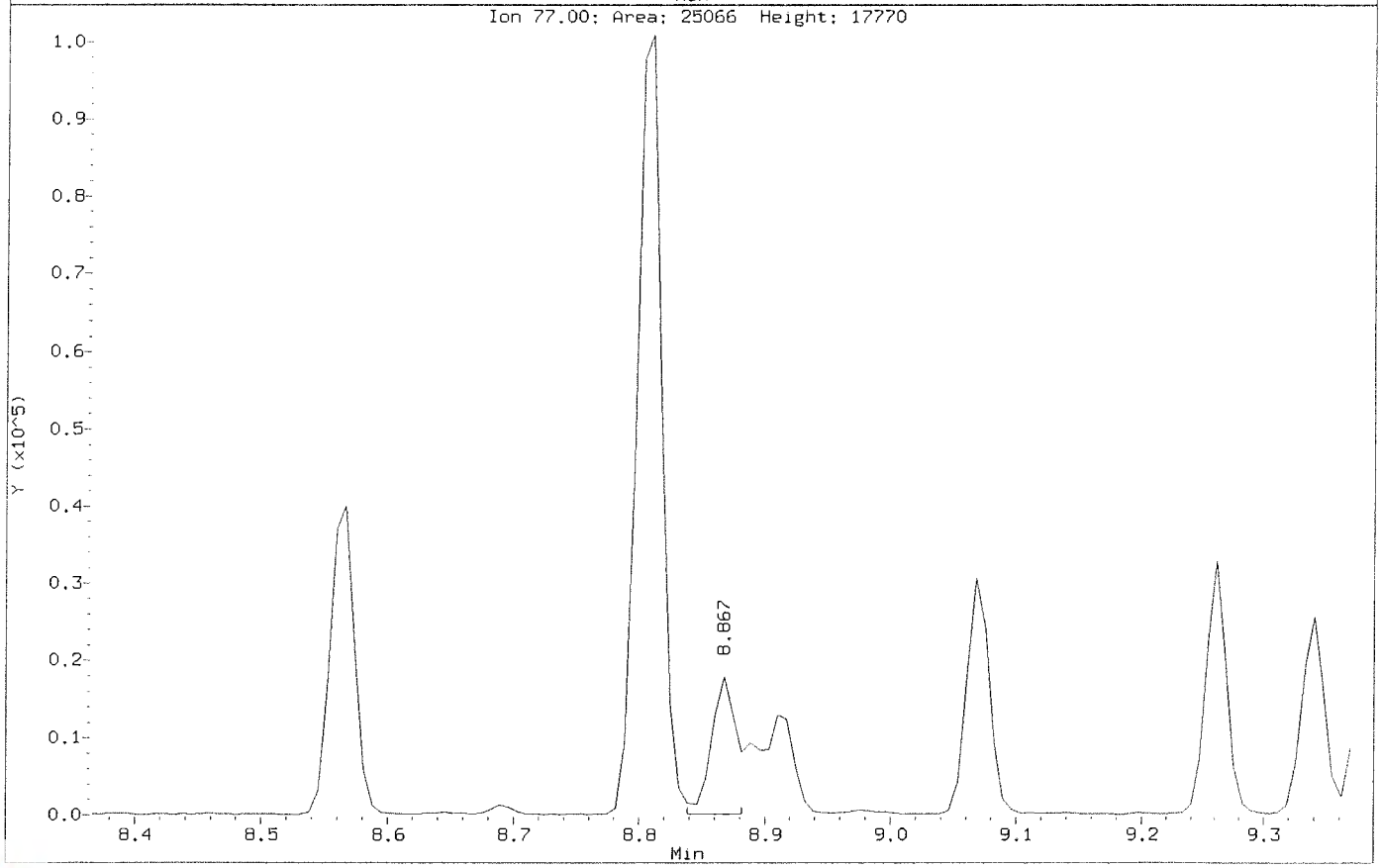
Data File: \\nahstws005\Target\chem\voa6.i\X191203.b\X120312.D
Date : 03-DEC-2019 14:29
Client ID: HS19111401-01MS
Sample Info: HS19111401-01MS;HS19111401-01MS;3;;MS
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: \\nahstws005\Target\chem\voa6.i\X191203.b\BEFORE\X120312.D
Injection Date: 03-DEC-2019 14:29
Instrument: voa6.i
Client Sample ID: HS19111401-01MS

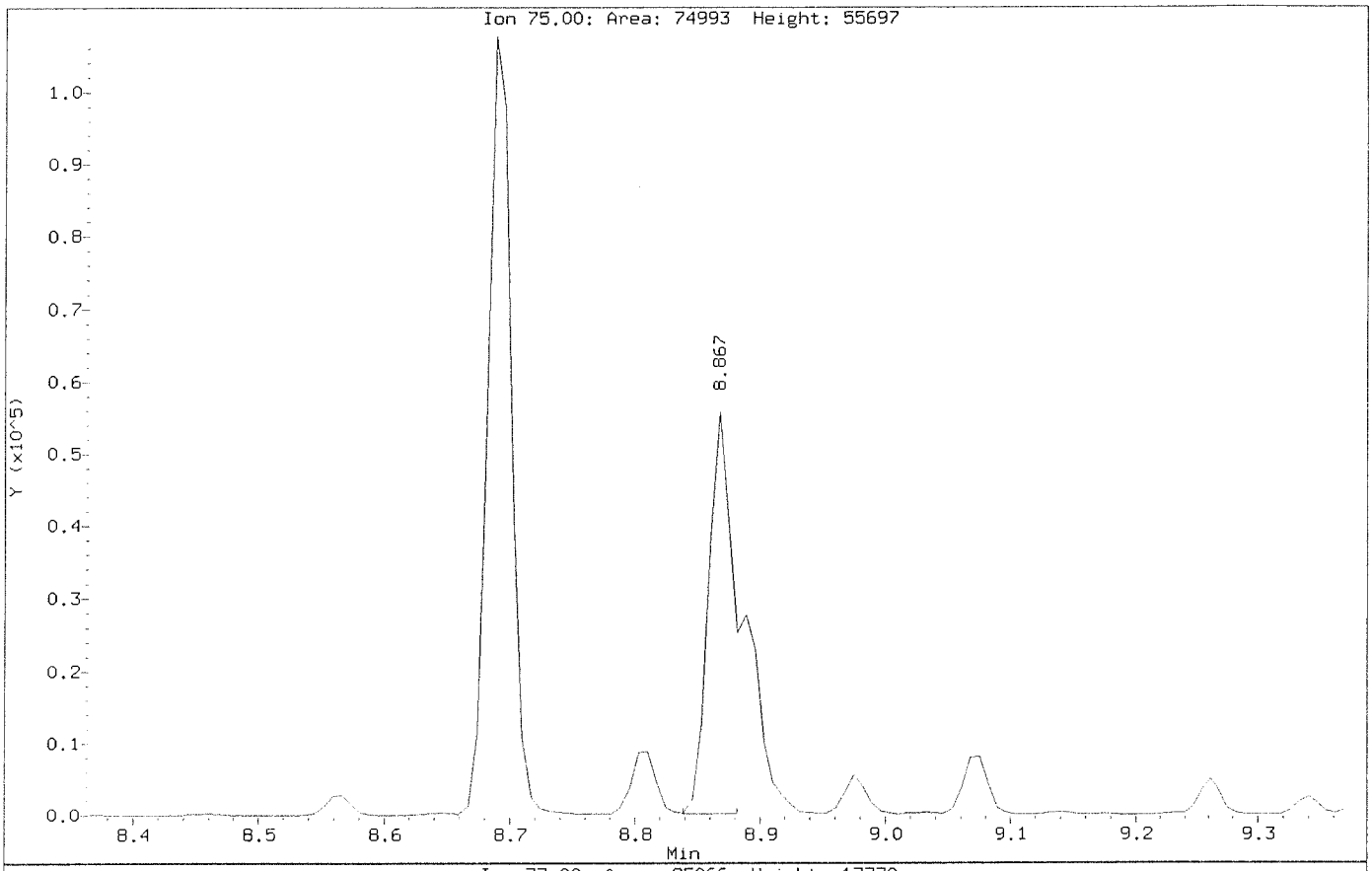
Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4

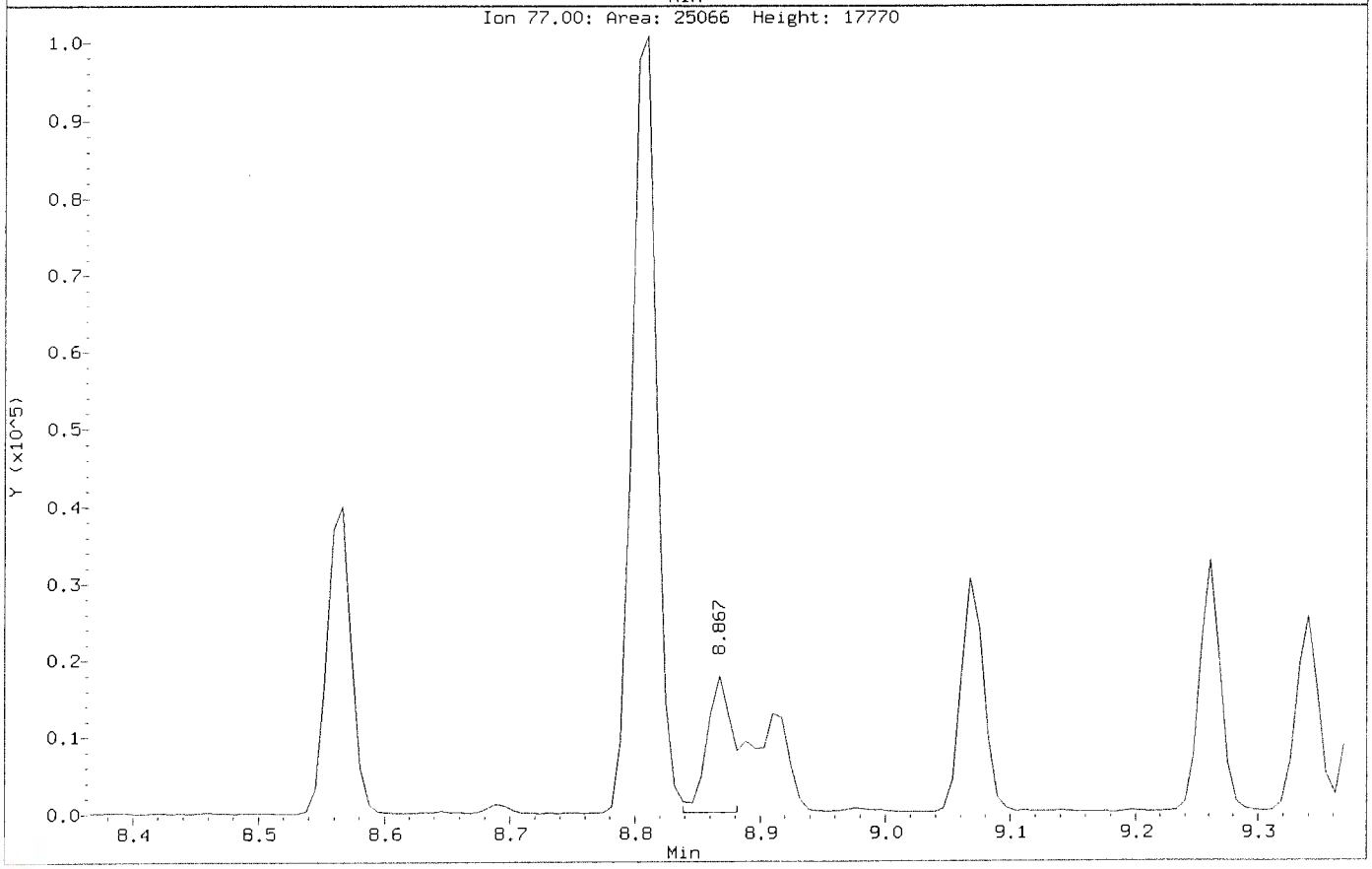




Data File: \\nahstws005\Target\chem\voa6.i\X191203.b\X120312.D
Injection Date: 03-DEC-2019 14:29
Instrument: voa6.i
Client Sample ID: HS19111401-01MS

Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4





Data File: \\nahstws005\Target\chem\voa6.i\X191203.b\X120313.D Page 1
Report Date: 07-Dec-2019 10:43

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X191203.b\X120313.D
Lab Smp Id: HS19111401-01MSD Client Smp ID: HS19111401-01MSD
Inj Date : 03-DEC-2019 14:53
Operator : PC Inst ID: voa6.i
Smp Info : HS19111401-01MSD;HS19111401-01MSD;3;;MSD
Misc Info : HS18090001;WATER;0;1;
Comment   :
Method   : \\nahstws005\Target\chem\voa6.i\X191203.b\8260W.m
Meth Date : 07-Dec-2019 10:42 DevakG Quant Type: ISTD
Cal Date : 18-NOV-2019 16:35 Cal File: X111808.D
Als bottle: 12 QC Sample: MSD
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBIHOUSTONDOD.sub
Target Version: 4.14

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

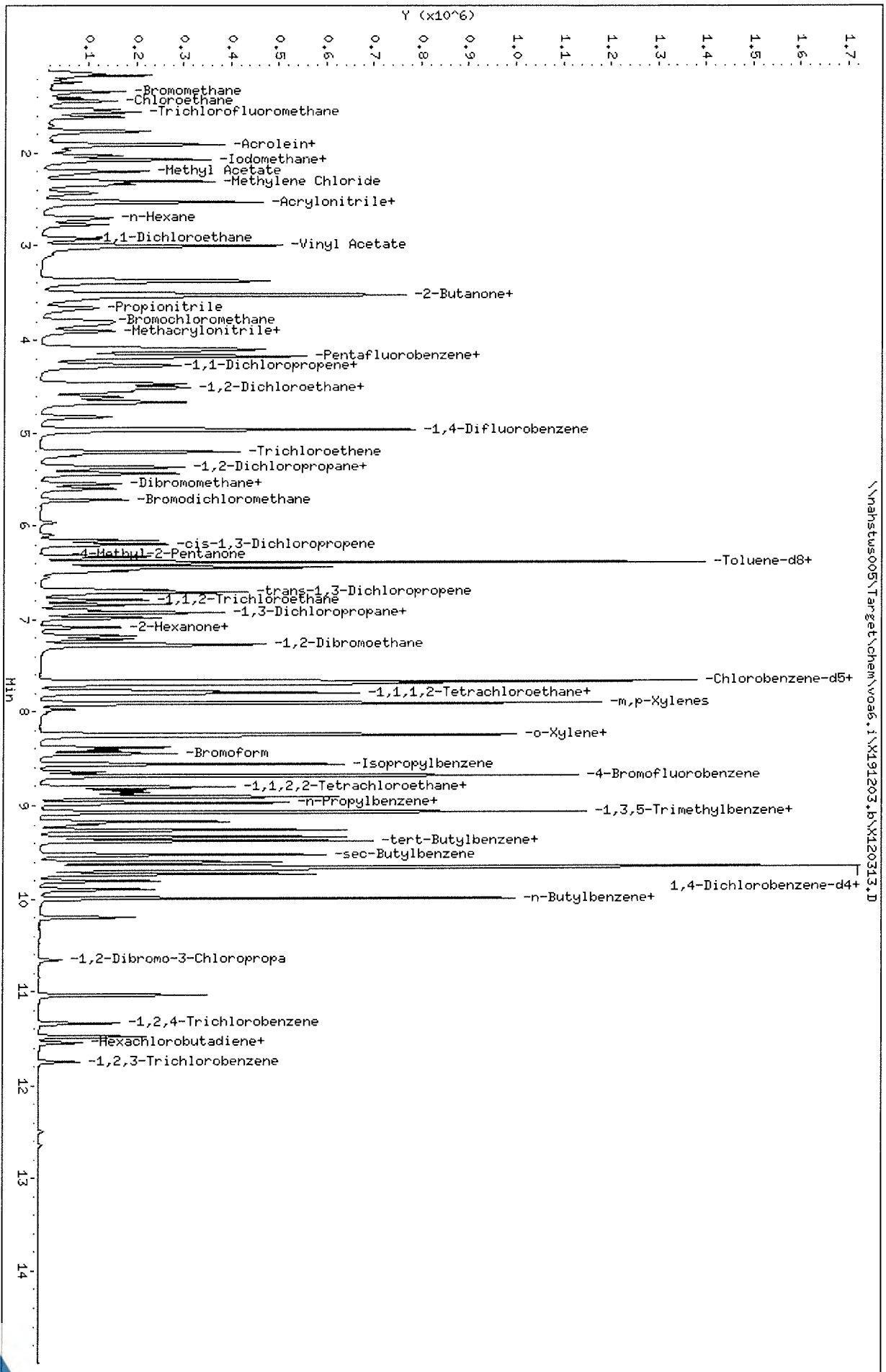
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	485111	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	689046	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	647407	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	343001	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	230648	50.5294	50.52
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	303404	50.3686	50.36
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	221699	50.2581	50.25
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	798704	46.8232	46.82
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	82640	17.5948	17.59
31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	127125	19.4248	19.42
68 1,1,2,2-Tetrachloroethane	83	8.838	8.838	(0.914)	88381	18.3242	18.32
138 Freon TF	101	1.919	1.919	(0.459)	71193	16.8568	16.85
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	60060	17.7468	17.74
22 1,1-Dichloroethane	63	2.922	2.921	(0.699)	130886	18.5432	18.54
11 1,1-Dichloroethene	96	1.912	1.911	(0.457)	70896	17.2448	17.24
32 1,1-Dichloropropene	75	4.283	4.282	(0.862)	102770	18.4898	18.48
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.215)	23055	17.5913	17.59
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.917)	75613	18.5019	18.50(M)
90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	47683	16.5032	16.50
79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.970)	308389	18.9486	18.94
89 1,2-Dibromo-3-Chloropropane	155	10.658	10.658	(1.102)	9428	17.4869	17.48
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	79789	17.5723	17.57
88 1,2-Dichlorobenzene	146	9.999	9.999	(1.034)	168008	18.4556	18.45

Data File: \\nahstws005\Target\chem\voa6.i\X191203.b\X120313.D Page 2
Report Date: 07-Dec-2019 10:43

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	114503	20.9335	20.93
42 1,2-Dichloropropane	63	5.436	5.436	(1.094)	73080	17.7547	17.75
75 1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	300348	19.2325	19.23
83 1,3-Dichlorobenzene	146	9.605	9.605	(0.993)	184532	18.7597	18.75
54 1,3-Dichloropropane	76	6.983	6.983	(0.910)	121011	17.6122	17.61
84 1,4-Dichlorobenzene	146	9.683	9.683	(1.001)	185550	18.5630	18.56
26 2,2-Dichloropropane	77	3.516	3.516	(0.841)	122598	19.1371	19.13
24 2-Butanone	43	3.581	3.573	(0.856)	52359	35.1751	35.17
76 2-Chlorotoluene	91	8.974	8.974	(0.928)	244316	19.7980	19.79
52 2-Hexanone	43	7.083	7.083	(0.923)	92825	34.9034	34.90
77 4-Chlorotoluene	91	9.075	9.074	(0.939)	288474	19.2858	19.28
82 p-Isopropyltoluene	119	9.655	9.655	(0.999)	316687	18.8693	18.86
45 4-Methyl-2-Pentanone	43	6.324	6.324	(0.824)	130864	34.4986	34.49
10 Acetone	43	1.976	1.969	(0.473)	38287	27.8040	27.80
37 Benzene	78	4.519	4.512	(0.909)	290268	18.4154	18.41
74 Bromobenzene	156	8.810	8.809	(0.911)	110817	18.5898	18.58
29 Bromochloromethane	128	3.795	3.795	(0.908)	48290	18.3752	18.37
39 Bromodichloromethane	83	5.729	5.729	(1.153)	106670	18.7068	18.70
66 Bromoform	173	8.416	8.415	(1.097)	65491	17.6479	17.64
6 Bromomethane	94	1.339	1.338	(0.320)	87060	16.5426	16.54
19 Carbon Disulfide	76	2.069	2.069	(0.495)	428421	38.3058	38.30
34 Carbon Tetrachloride	117	4.268	4.268	(0.859)	113041	18.5659	18.56
59 Chlorobenzene	112	7.699	7.699	(1.004)	225333	17.8280	17.82
7 Chloroethane	64	1.403	1.403	(0.336)	53187	17.4137	17.41
28 Chloroform	83	3.910	3.910	(0.935)	141519	18.0133	18.01
3 Chloromethane	50	1.073	1.073	(0.257)	61192	11.7582	11.75
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	368236	80.0427	80.04
46 cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	121193	18.0353	18.03
55 Dibromochloromethane	129	7.176	7.176	(0.936)	87573	17.8120	17.81
44 Dibromomethane	93	5.558	5.557	(1.118)	54160	18.5939	18.59
2 Dichlorodifluoromethane	85	0.973	0.973	(0.233)	60530	14.3336	14.33
61 Ethylbenzene	106	7.800	7.799	(1.017)	119021	18.2253	18.22
91 Hexachlorobutadiene	225	11.489	11.481	(1.188)	39990	14.5074	14.50
67 Isopropylbenzene	105	8.566	8.566	(1.117)	359115	18.5654	18.56
62 m,p-Xylenes	106	7.907	7.907	(1.031)	288619	36.6247	36.62
17 Methylene Chloride	84	2.306	2.305	(0.551)	100639	22.9433	22.94
87 n-Butylbenzene	91	9.999	9.999	(1.034)	265251	18.9914	18.99
73 n-Propylbenzene	91	8.917	8.917	(0.922)	411613	19.4143	19.41
92 Naphthalene	128	11.546	11.546	(1.194)	63197	17.0535	17.05
63 o-Xylene	106	8.244	8.244	(1.075)	139573	17.9457	17.94
81 sec-Butylbenzene	105	9.526	9.526	(0.985)	353568	19.1967	19.19
64 Styrene	104	8.258	8.258	(1.077)	245645	18.1629	18.16
78 tert-Butylbenzene	119	9.340	9.340	(0.966)	256802	19.2053	19.20
56 Tetrachloroethene	164	6.933	6.933	(0.904)	81210	17.8529	17.85
50 Toluene	91	6.446	6.446	(0.840)	331807	18.0732	18.07
20 trans-1,2-Dichloroethene	96	2.528	2.527	(0.604)	75157	18.8298	18.82
51 trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	112227	18.3243	18.32
38 Trichloroethene	130	5.207	5.206	(1.048)	144691	30.0266	30.02
8 Trichlorofluoromethane	101	1.561	1.560	(0.373)	135890	18.0579	18.05
5 Vinyl Chloride	62	1.138	1.138	(0.272)	78805	15.9391	15.93

QC Flag Legend

M - Compound response manually integrated.

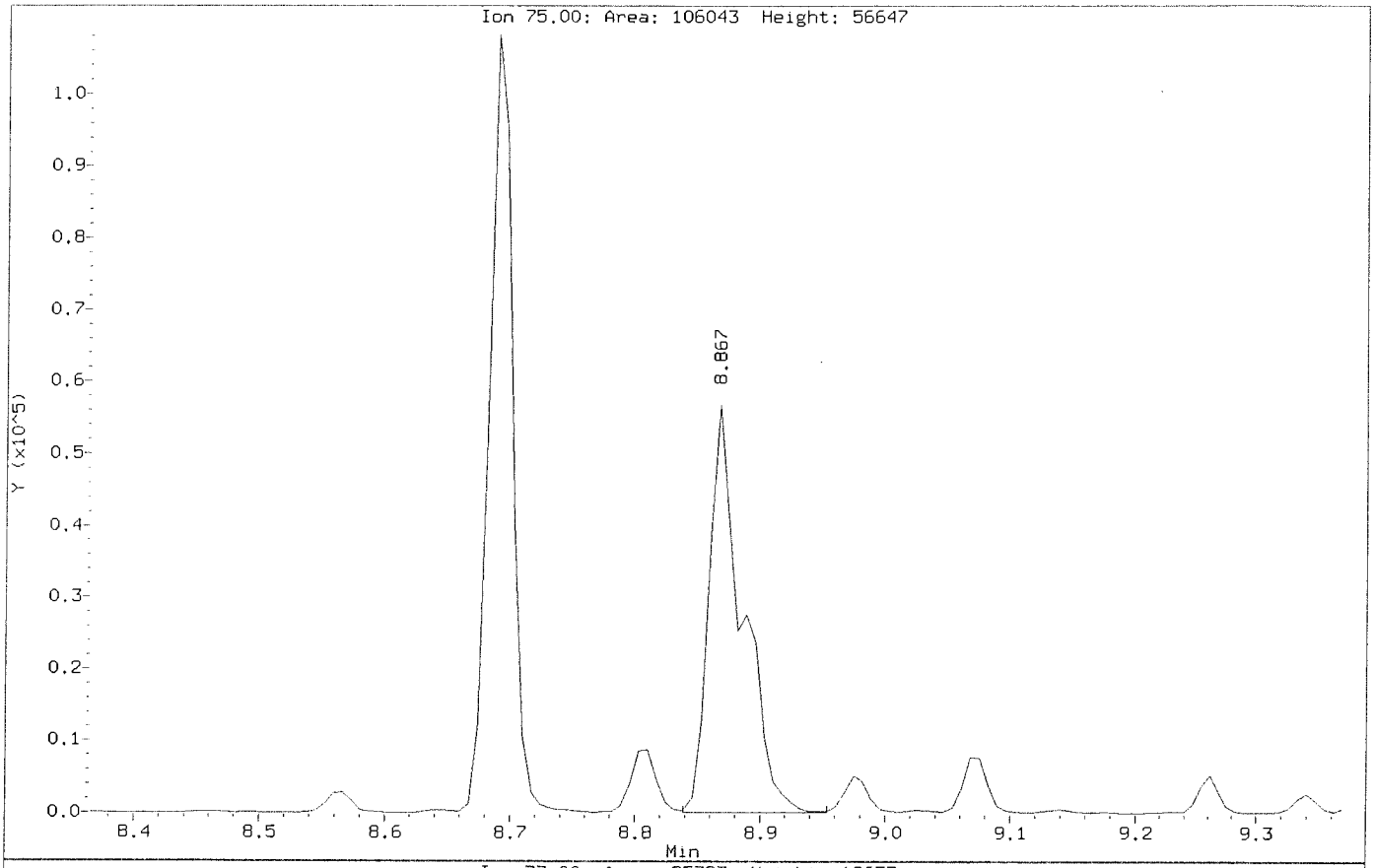


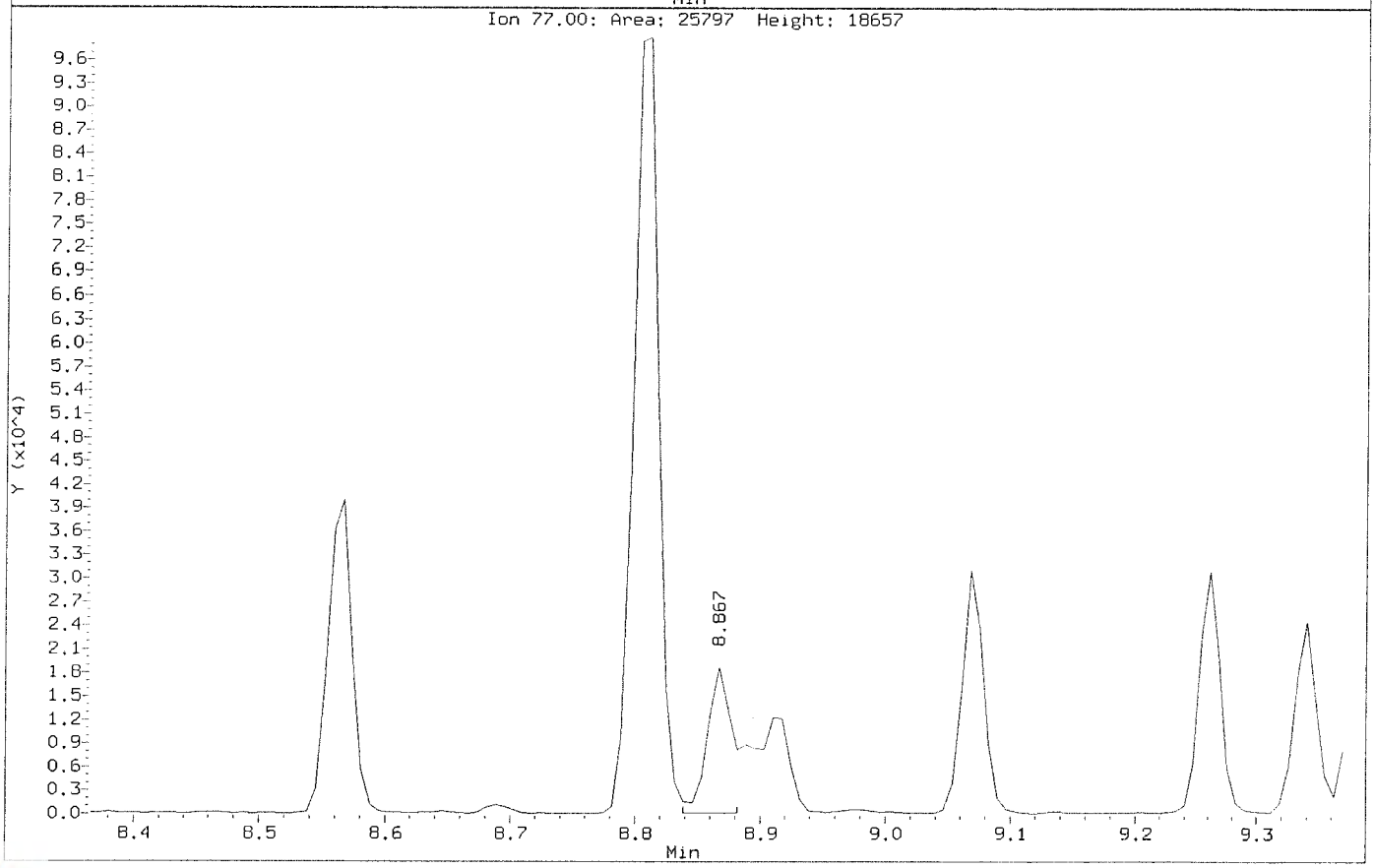
Data File: \\nahstus005\Target\chem\voa6.i\X191203.b\X120313.D
Date : 03-DEC-2019 14:53
Client ID: HS19111401-01MSD
Sample Info: HS19111401-01MSD;HS19111401-01MSD;3;;MSD
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: \\nahstws005\Target\chem\voa6.i\X191203.b\BEFORE\X120313.D
Injection Date: 03-DEC-2019 14:53
Instrument: voa6.i
Client Sample ID: HS19111401-01MSD

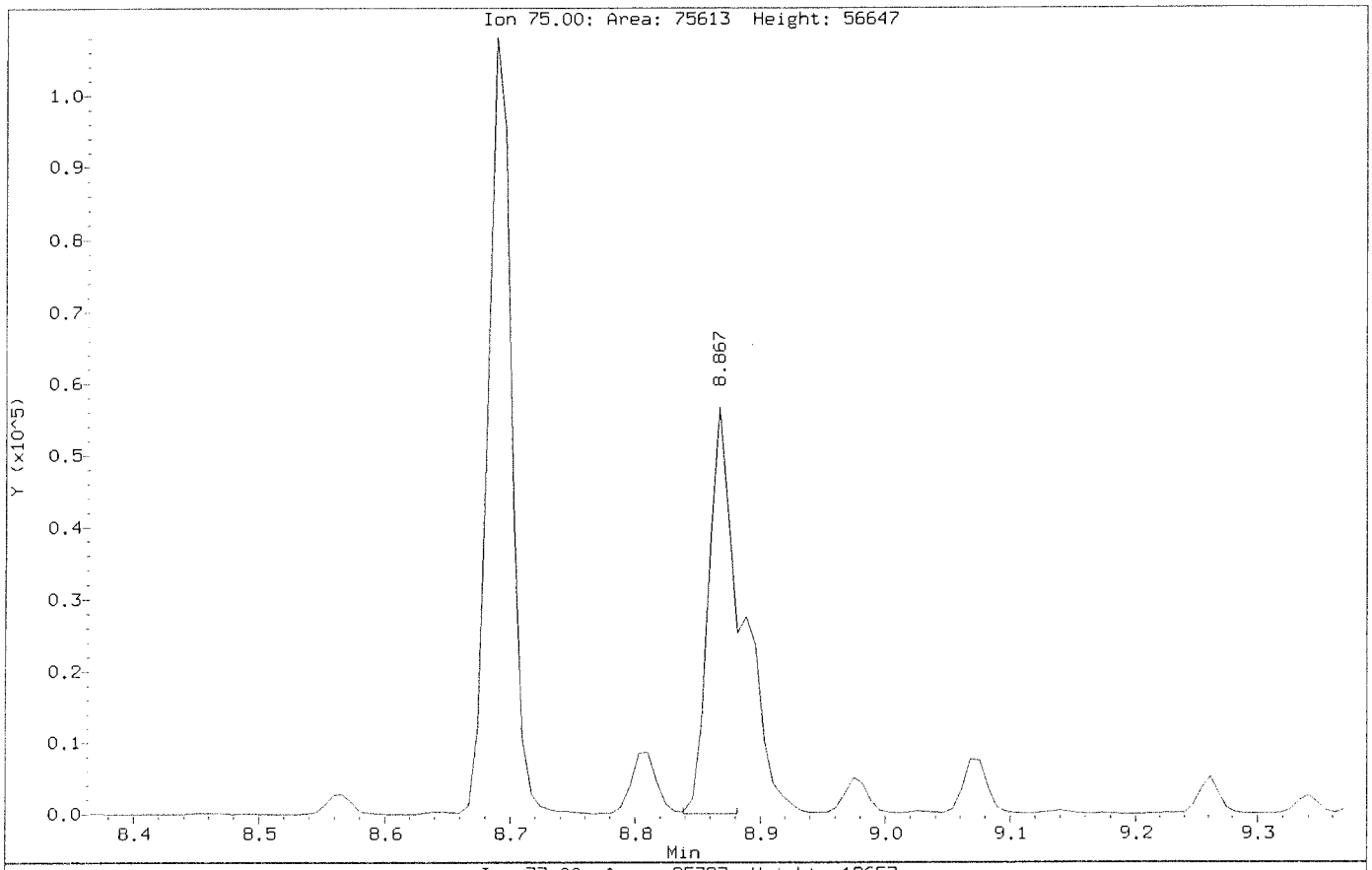
Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4

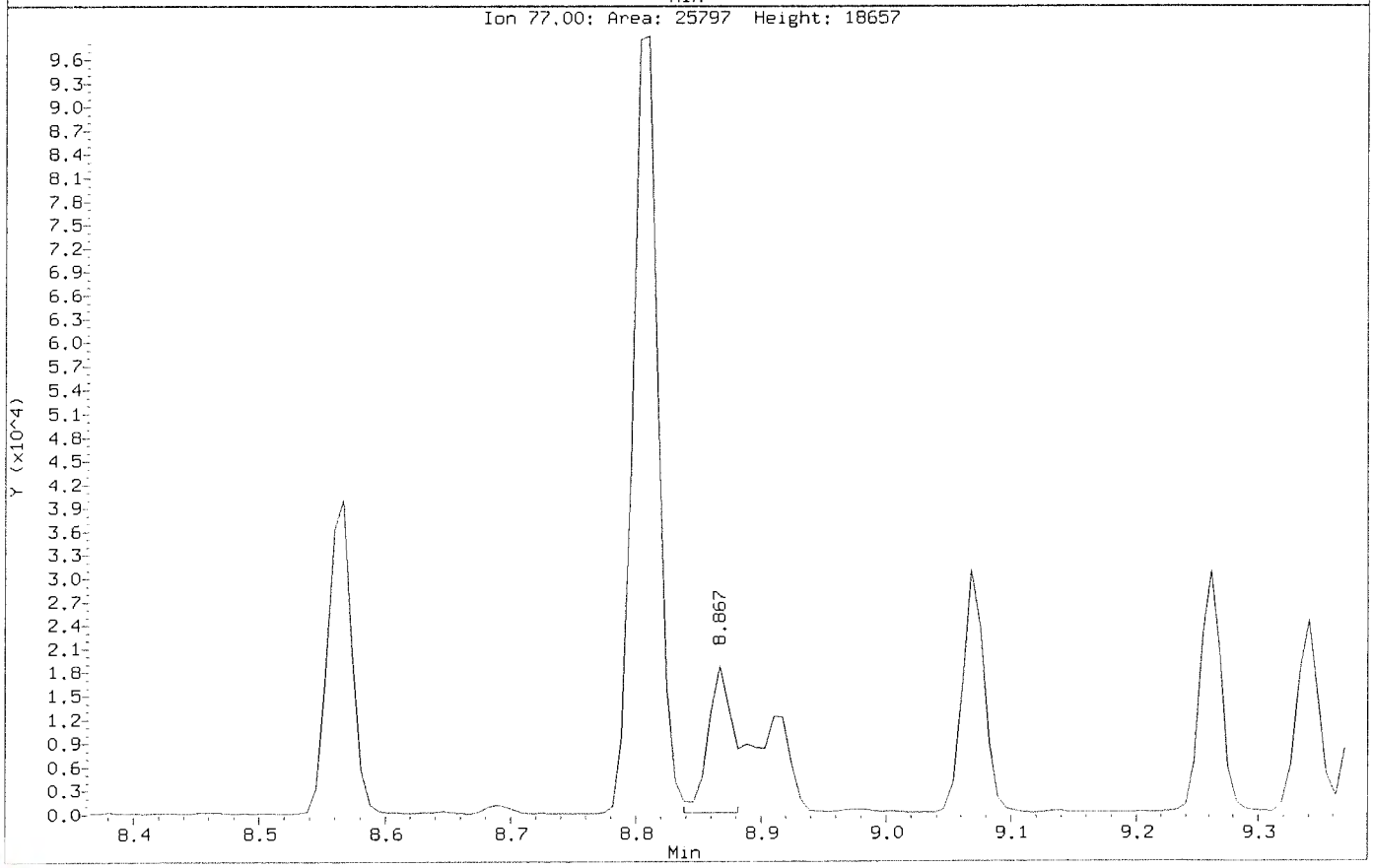




Data File: \\nahstws005\Target\chem\voa6.i\X191203.b\X120313.D
Injection Date: 03-DEC-2019 14:53
Instrument: voa6.i
Client Sample ID: HS19111401-01MSD

Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4





Data File: \\nahstws005\Target\chem\voa6.i\X191203.b\X120315.D Page 1
Report Date: 07-Dec-2019 10:43

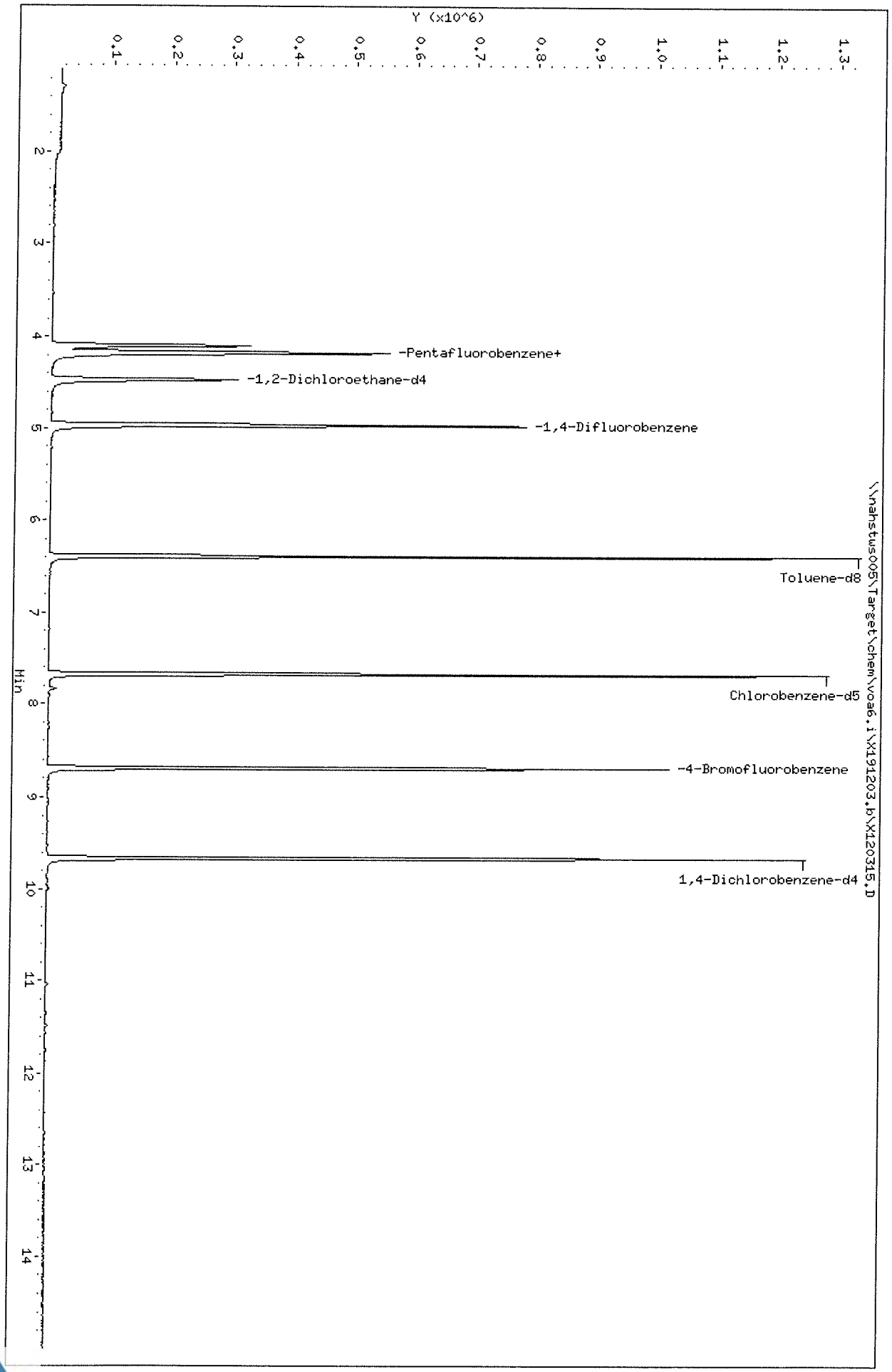
ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X191203.b\X120315.D
Lab Smp Id: HS19111443-05 Client Smp ID: HS19111443-05
Inj Date : 03-DEC-2019 15:41
Operator : PC Inst ID: voa6.i
Smp Info : HS19111443-05;HS19111443-05;;;
Misc Info : HS18090001;WATER;0;1;
Comment   :
Method   : \\nahstws005\Target\chem\voa6.i\X191203.b\8260W.m
Meth Date : 07-Dec-2019 10:43 DevakG Quant Type: ISTD
Cal Date : 18-NOV-2019 16:35 Cal File: X111808.D
Als bottle: 14
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBIHOUSTONDOD.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

		QUANT SIG					CONCENTRATIONS	
	Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	ON-COLUMN (ug/l)	FINAL (ug/l)
*	1 Pentafluorobenzene	168	4.182	4.182	(1.000)	488880	50.0000	
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	691068	50.0000	
*	47 Chlorobenzene-d5	117	7.670	7.671	(1.000)	614612	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	304929	50.0000	
$	35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	235761	51.2408	51.24
$	69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	280651	49.0881	49.08
$	30 Dibromofluoromethane	113	4.103	4.103	(0.981)	224329	50.4608	50.46
$	48 Toluene-d8	98	6.388	6.388	(0.833)	786575	48.5727	48.57



Data File: \\nahstws005\Target\chem\voa6.i\X191203.b\X120315.D
Date : 03-DEC-2019 15:41
Client ID: HS19111443-05
Sample Info: HS19111443-05;HS19111443-05;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: \\nahstws005\Target\chem\voa6.i\X191203.b\X120316.D Page 1
Report Date: 07-Dec-2019 10:44

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X191203.b\X120316.D
Lab Smp Id: HS19111443-01 Client Smp ID: HS19111443-01
Inj Date : 03-DEC-2019 16:05
Operator : PC Inst ID: voa6.i
Smp Info : HS19111443-01;HS19111443-01;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X191203.b\8260W.m
Meth Date : 07-Dec-2019 10:43 DevakG Quant Type: ISTD
Cal Date : 18-NOV-2019 16:35 Cal File: X111808.D
Als bottle: 15
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBIHOUSTONDOD.sub
Target Version: 4.14
Processing Host: NAHSTW7056

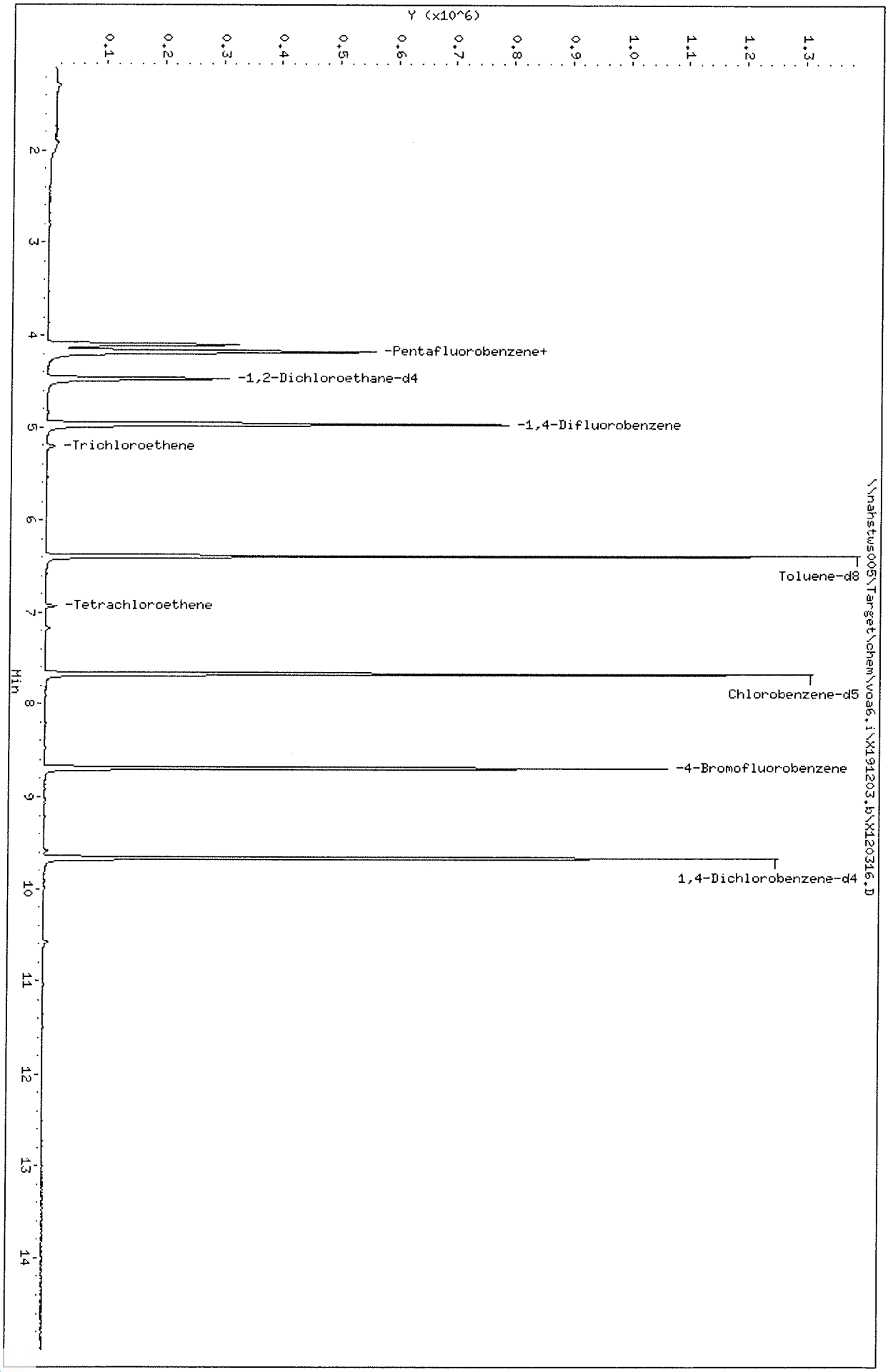
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	498936	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	696582	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	624759	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	317151	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	236089	50.2918	50.29
$ 69 4-Bromofluorobenzene	95	8.695	8.688	(1.134)	284810	49.0072	49.00
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	224237	49.4310	49.43
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	793676	48.2152	48.21
56 Tetrachloroethene	164	6.933	6.933	(0.904)	3705	0.84402	0.84(a)
38 Trichloroethene	130	5.207	5.206	(1.048)	4383	0.89973	0.89(a)

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).



Data File: \\nahstws005\Target\chem\voa6.i\X191203.b\X120316.D
Date : 03-DEC-2019 16:05
Client ID: HS19111443-01
Sample Info: HS19111443-01;HS19111443-01;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: \\nahstws005\Target\chem\voa6.i\X191203.b\X120316.D

Date : 03-DEC-2019 16:05

Client ID: HS19111443-01

Instrument: voa6.i

Sample Info: HS19111443-01;HS19111443-01;;;

Purge Volume: 5.0

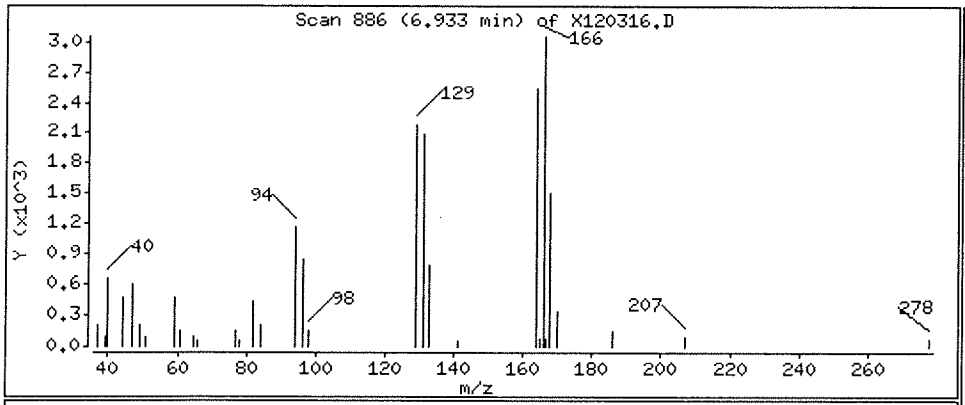
Operator: PC

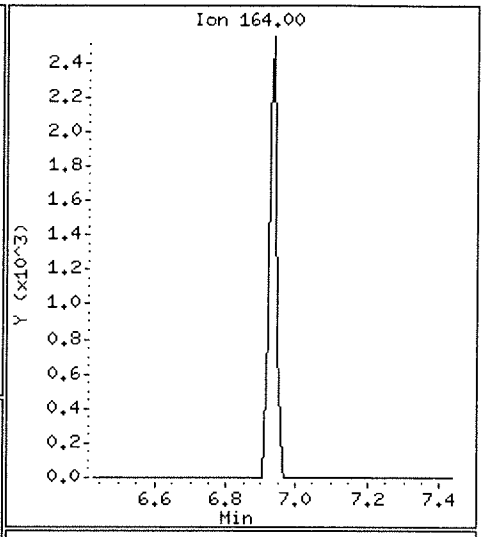
Column phase: DB624

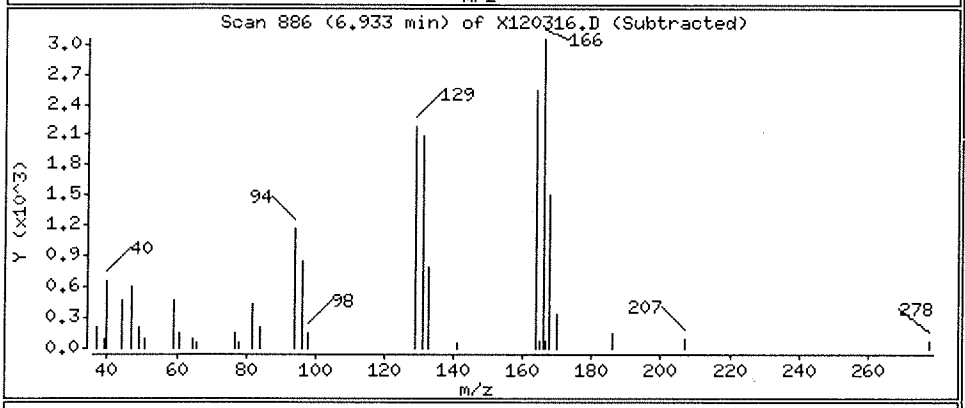
Column diameter: 0.18

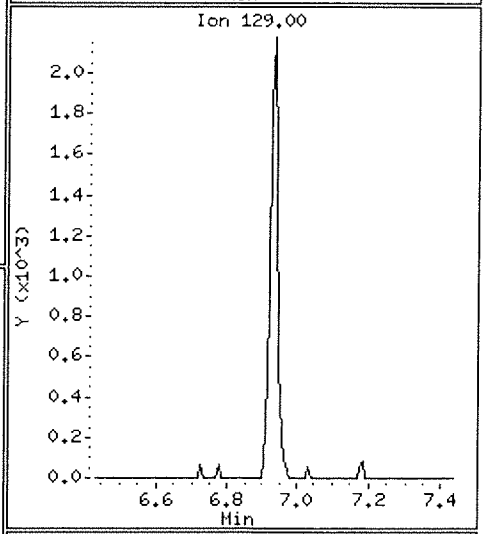
56 Tetrachloroethene

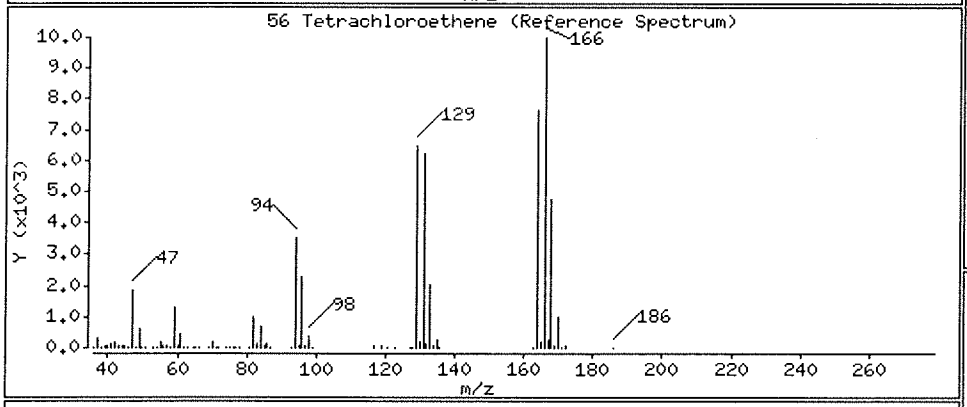
Concentration: 0.84 ug/l

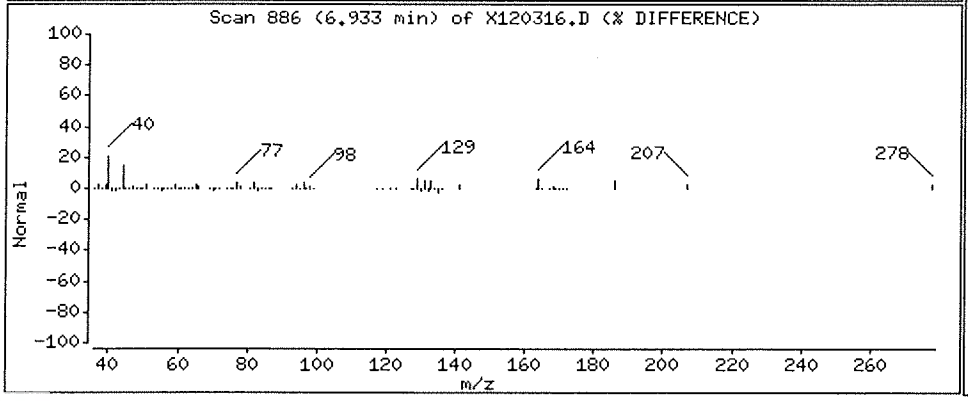


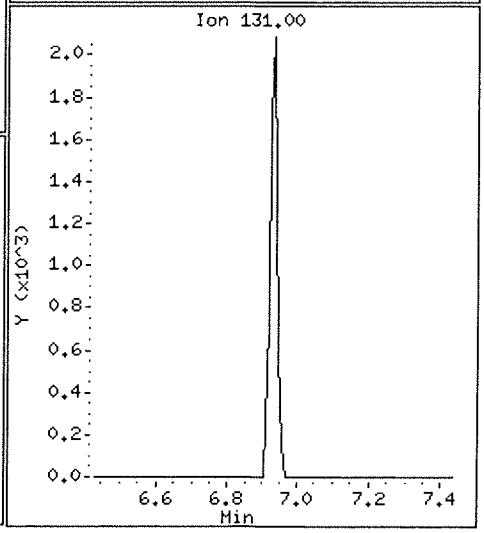












Data File: \\nahstws005\Target\chem\voa6.i\X191203.b\X120316.D

Date : 03-DEC-2019 16:05

Client ID: HS19111443-01

Instrument: voa6.i

Sample Info: HS19111443-01;HS19111443-01;;;

Purge Volume: 5.0

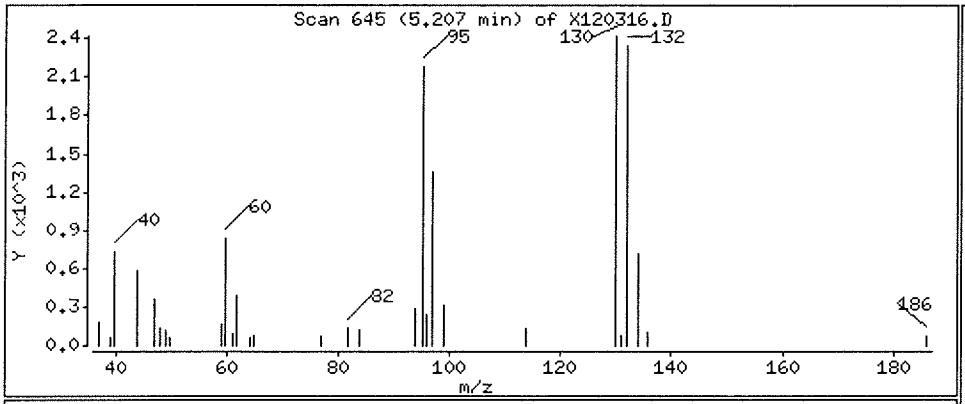
Operator: PC

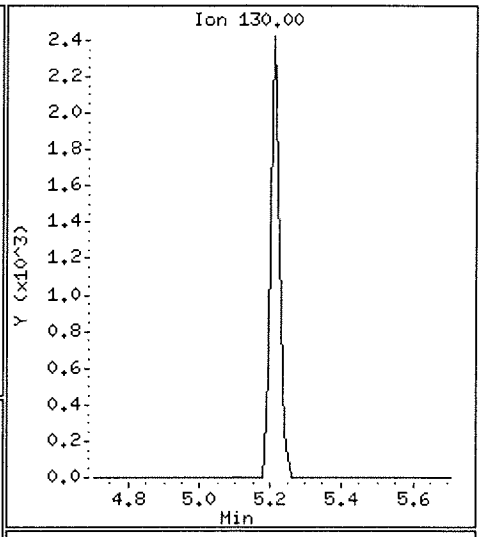
Column phase: DB624

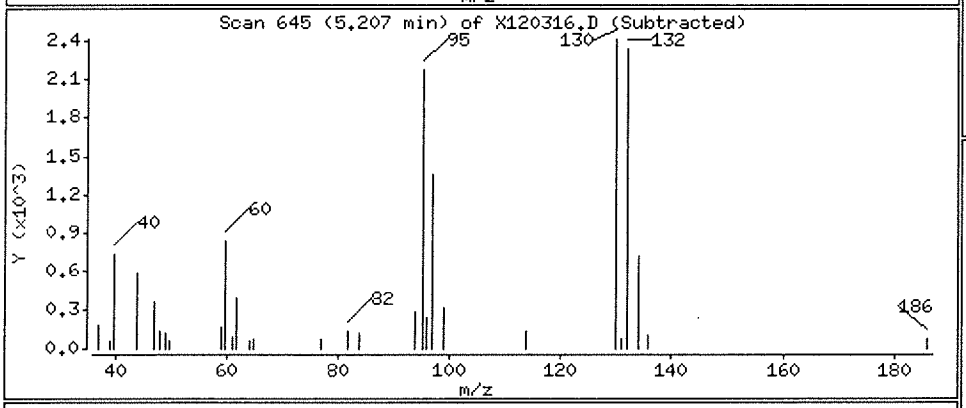
Column diameter: 0.18

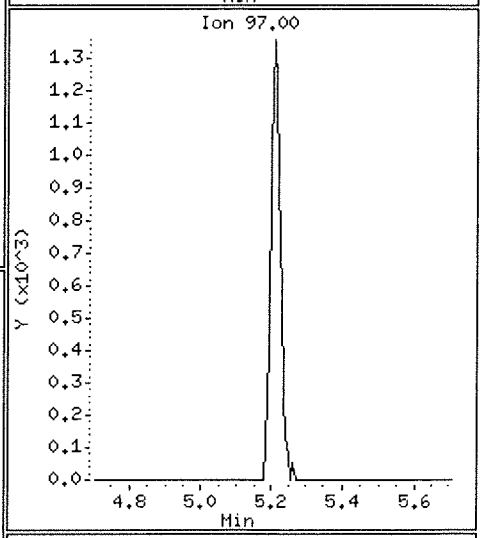
38 Trichloroethene

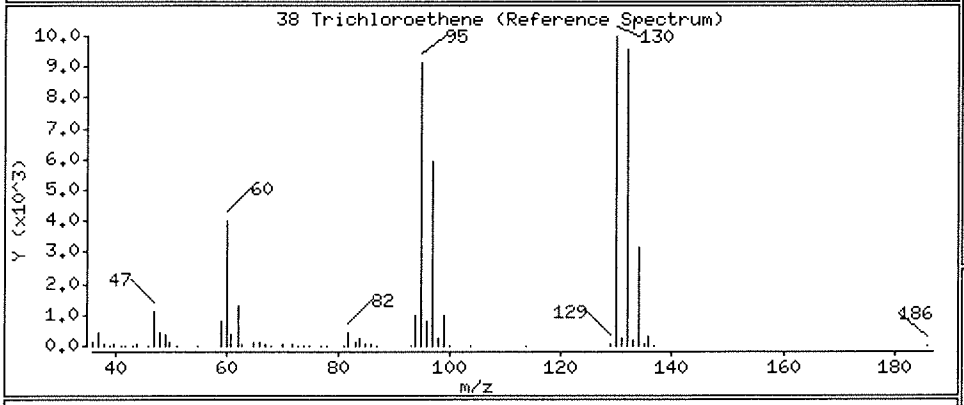
Concentration: 0.89 ug/l

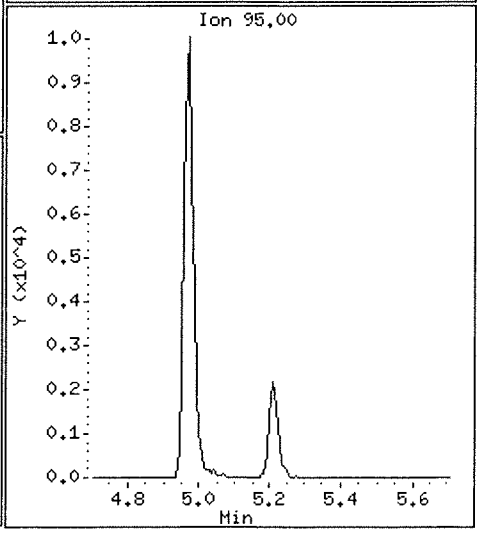


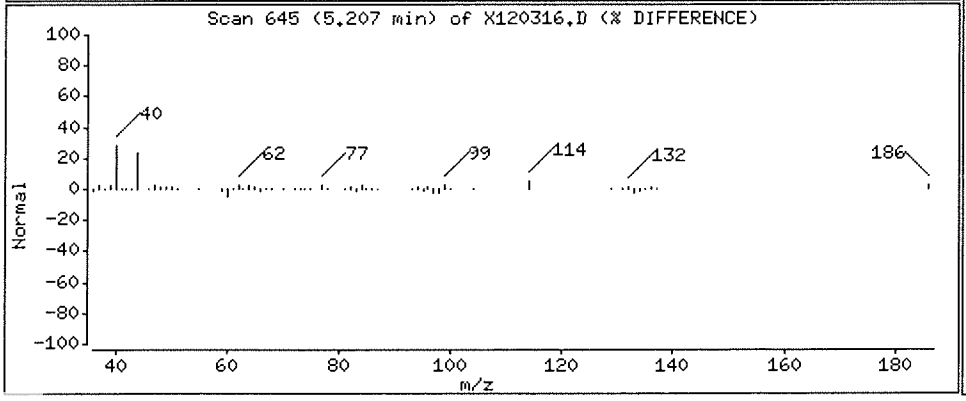












Data File: \\nahstws005\Target\chem\voa6.i\X191203.b\X120317.D Page 1
Report Date: 07-Dec-2019 10:44

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X191203.b\X120317.D
Lab Smp Id: HS19111443-02 Client Smp ID: HS19111443-02
Inj Date : 03-DEC-2019 16:29
Operator : PC Inst ID: voa6.i
Smp Info : HS19111443-02;HS19111443-02;;;
Misc Info : HS18090001;WATER;0;1;
Comment   :
Method   : \\nahstws005\Target\chem\voa6.i\X191203.b\8260W.m
Meth Date : 07-Dec-2019 10:43 DevakG Quant Type: ISTD
Cal Date : 18-NOV-2019 16:35 Cal File: X111808.D
Als bottle: 16
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBIHOUSTONDOD.sub
Target Version: 4.14
Processing Host: NAHSTW7056

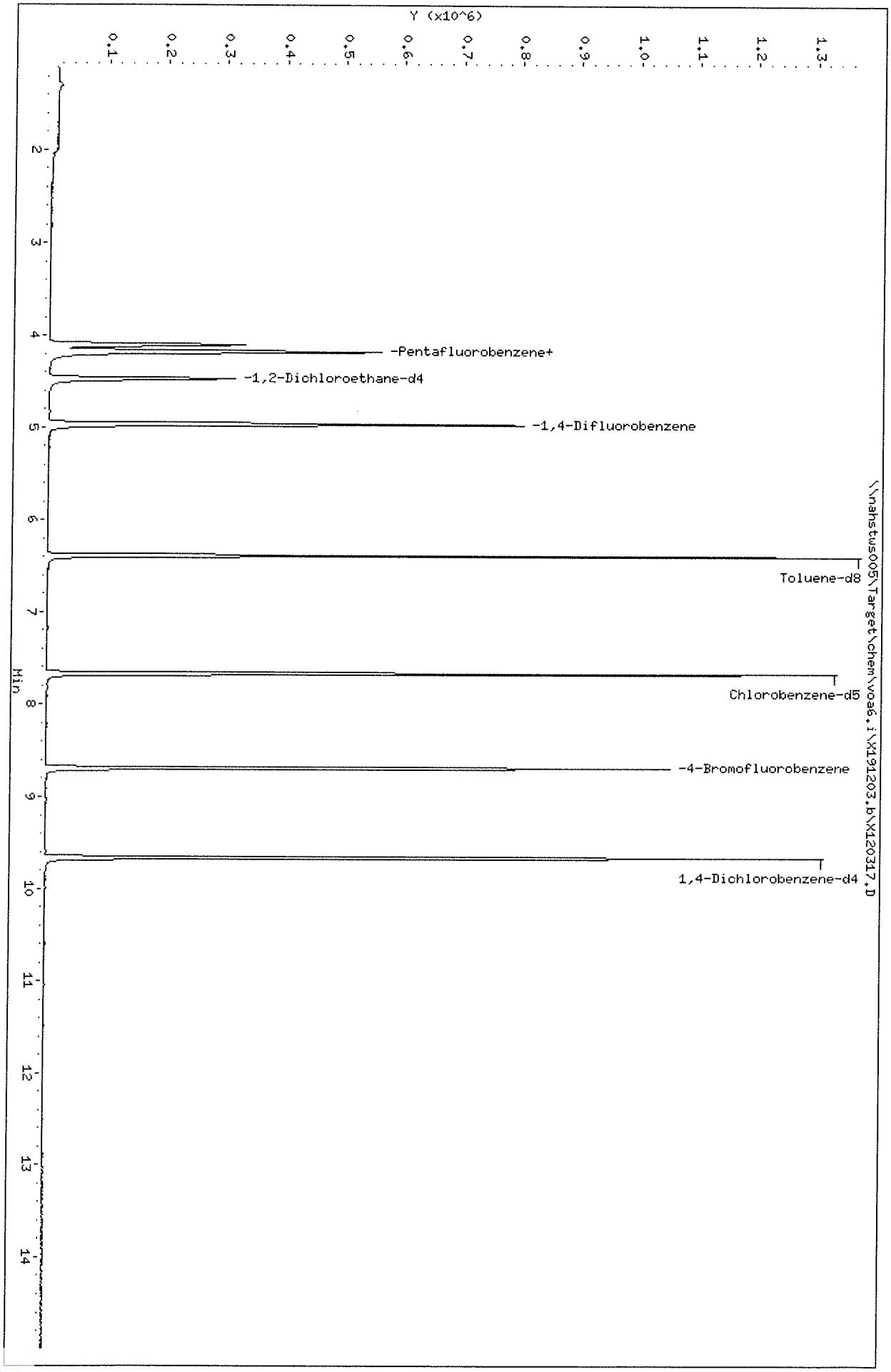
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	498794	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	708526	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	642596	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	325667	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	237235	50.5465	50.54
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	288394	48.2529	48.25
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	227145	50.0814	50.08
$ 48 Toluene-d8	98	6.389	6.388	(0.833)	805169	47.5556	47.55

Data File: \\nahstws005\Target\chem\voa6.i\X191203.b\X120317.D
Date : 03-DEC-2019 16:29
Client ID: HS19111443-02
Sample Info: HS19111443-02;HS19111443-02;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18



Data File: \\nahstws005\Target\chem\voa6.i\X191203.b\X120318.D Page 1
Report Date: 07-Dec-2019 10:44

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X191203.b\X120318.D
Lab Smp Id: HS19111443-03 Client Smp ID: HS19111443-03
Inj Date : 03-DEC-2019 16:54
Operator : PC Inst ID: voa6.i
Smp Info : HS19111443-03;HS19111443-03;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X191203.b\8260W.m
Meth Date : 07-Dec-2019 10:43 DevakG Quant Type: ISTD
Cal Date : 18-NOV-2019 16:35 Cal File: X111808.D
Als bottle: 17
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBIHOUSTONDOD.sub
Target Version: 4.14
Processing Host: NAHSTW7056

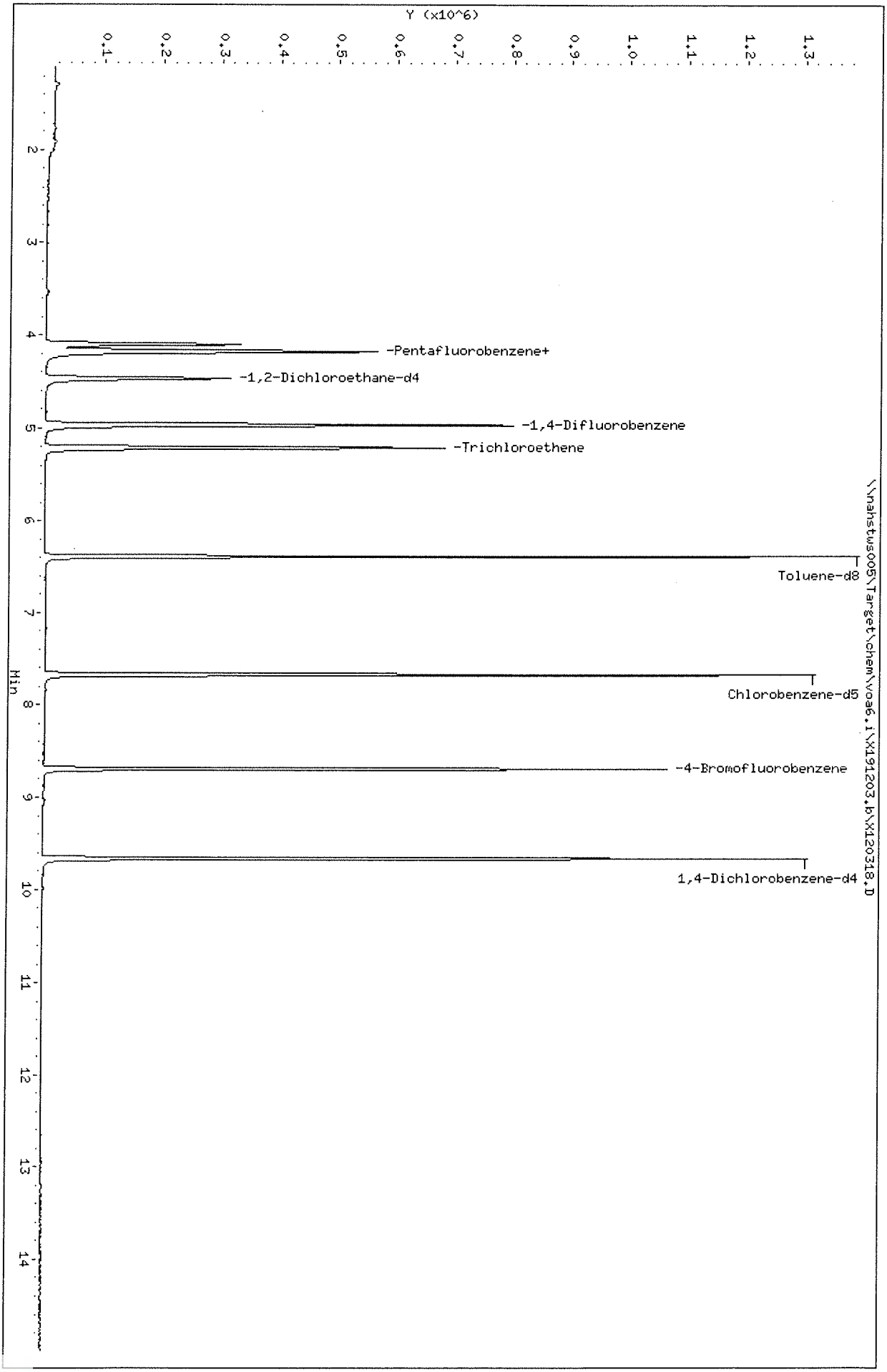
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	503038	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	708219	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	633549	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.669	(1.000)	321285	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	238047	50.2953	50.29
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	285807	48.5007	48.50
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	225734	49.3558	49.35
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	811125	48.5915	48.59
38 Trichloroethene	130	5.206	5.206	(1.048)	233658	47.1765	47.17

Data File: \\nahstws005\Target\chem\voa6.i\X191203.b\X120318.D
Date : 03-DEC-2019 16:54
Client ID: HS19111443-03
Sample Info: HS19111443-03;HS19111443-03;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18



Data File: \\nahstws005\Target\chem\voa6.i\X191203.b\X120318.D Page 3

Date : 03-DEC-2019 16:54

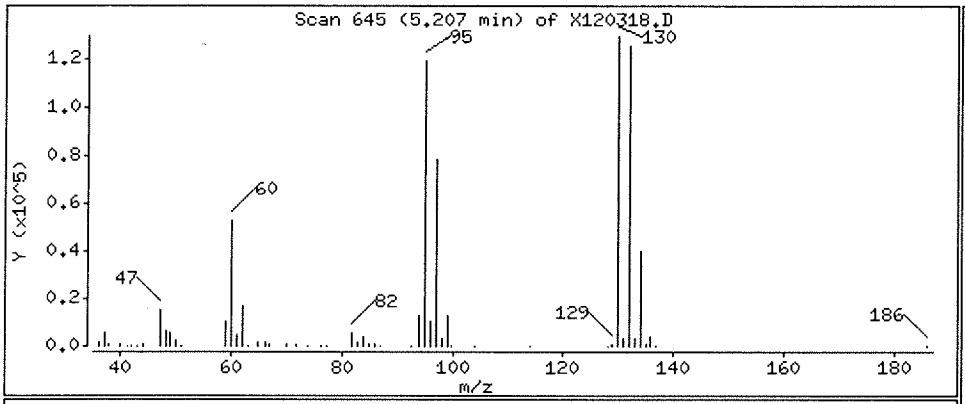
Client ID: HS19111443-03 Instrument: voa6.i

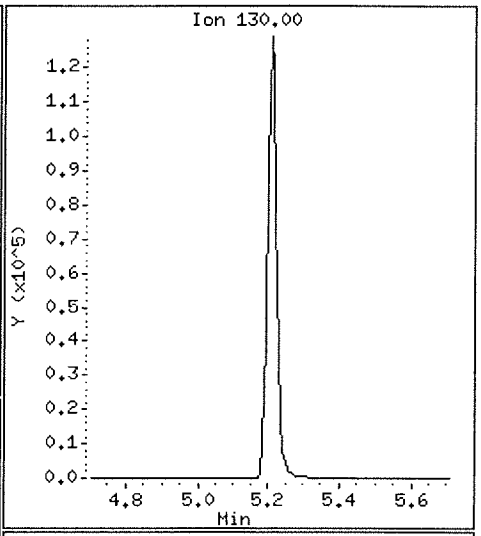
Sample Info: HS19111443-03;HS19111443-03;;;

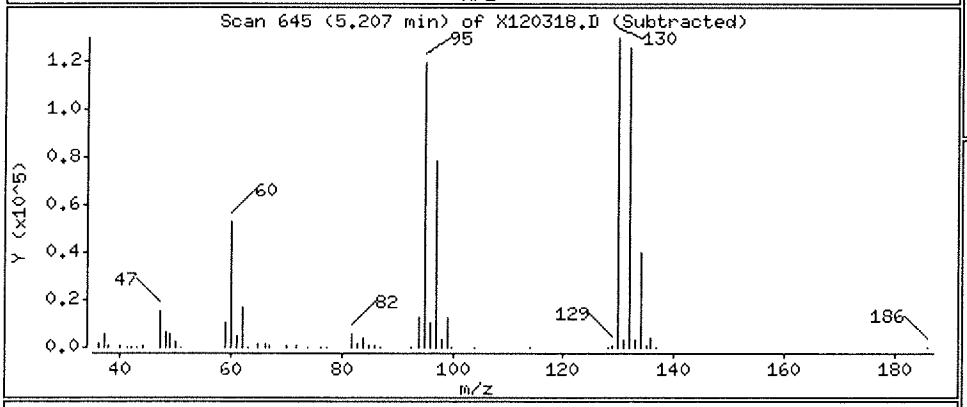
Purge Volume: 5.0 Operator: PC

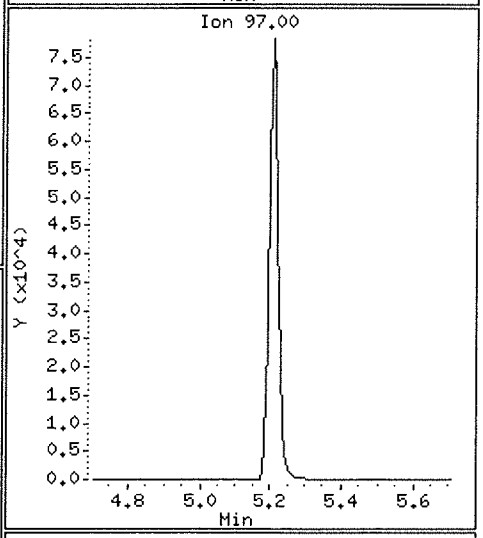
Column phase: DB624 Column diameter: 0.18

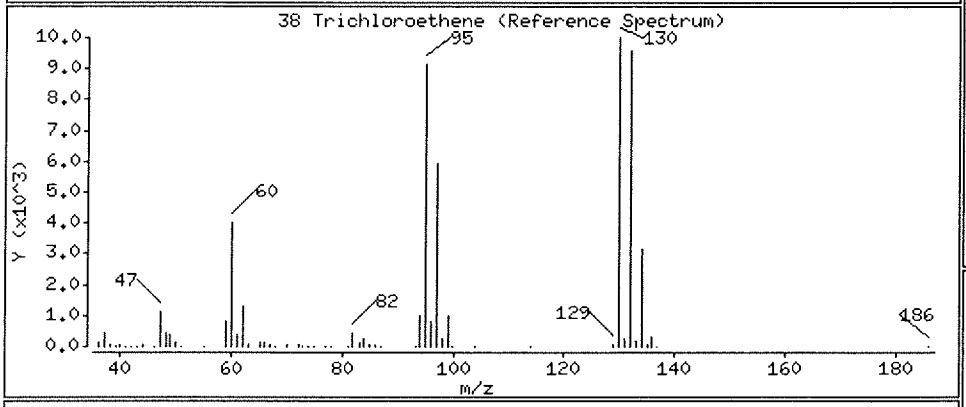
38 Trichloroethene Concentration: 47.17 ug/l

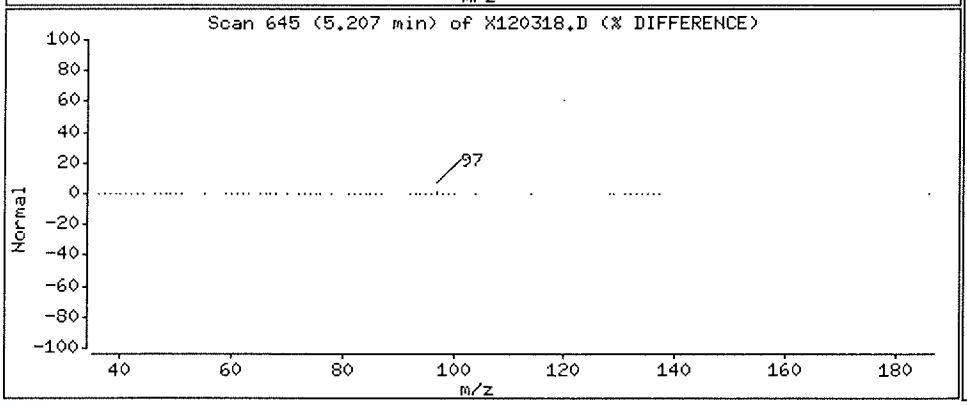


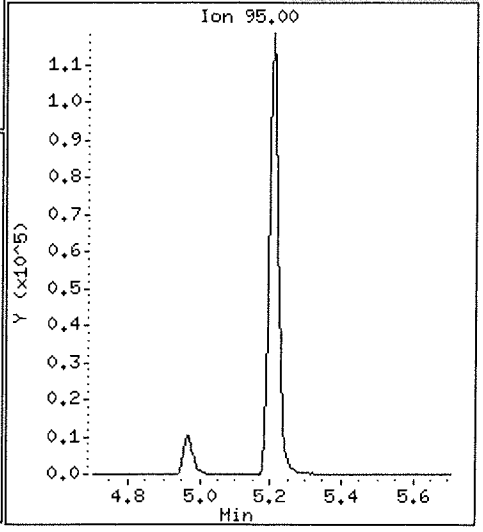












Data File: \\nahstws005\Target\chem\voa6.i\X191203.b\X120319.D Page 1
Report Date: 07-Dec-2019 10:44

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X191203.b\X120319.D
Lab Smp Id: HS19111443-04 Client Smp ID: HS19111443-04
Inj Date : 03-DEC-2019 17:18
Operator : PC Inst ID: voa6.i
Smp Info : HS19111443-04;HS19111443-04;;;
Misc Info : HS18090001;WATER;0;1;
Comment   :
Method   : \\nahstws005\Target\chem\voa6.i\X191203.b\8260W.m
Meth Date : 07-Dec-2019 10:43 DevakG Quant Type: ISTD
Cal Date : 18-NOV-2019 16:35 Cal File: X111808.D
Als bottle: 18
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBIHOUSTONDOD.sub
Target Version: 4.14
Processing Host: NAHSTW7056

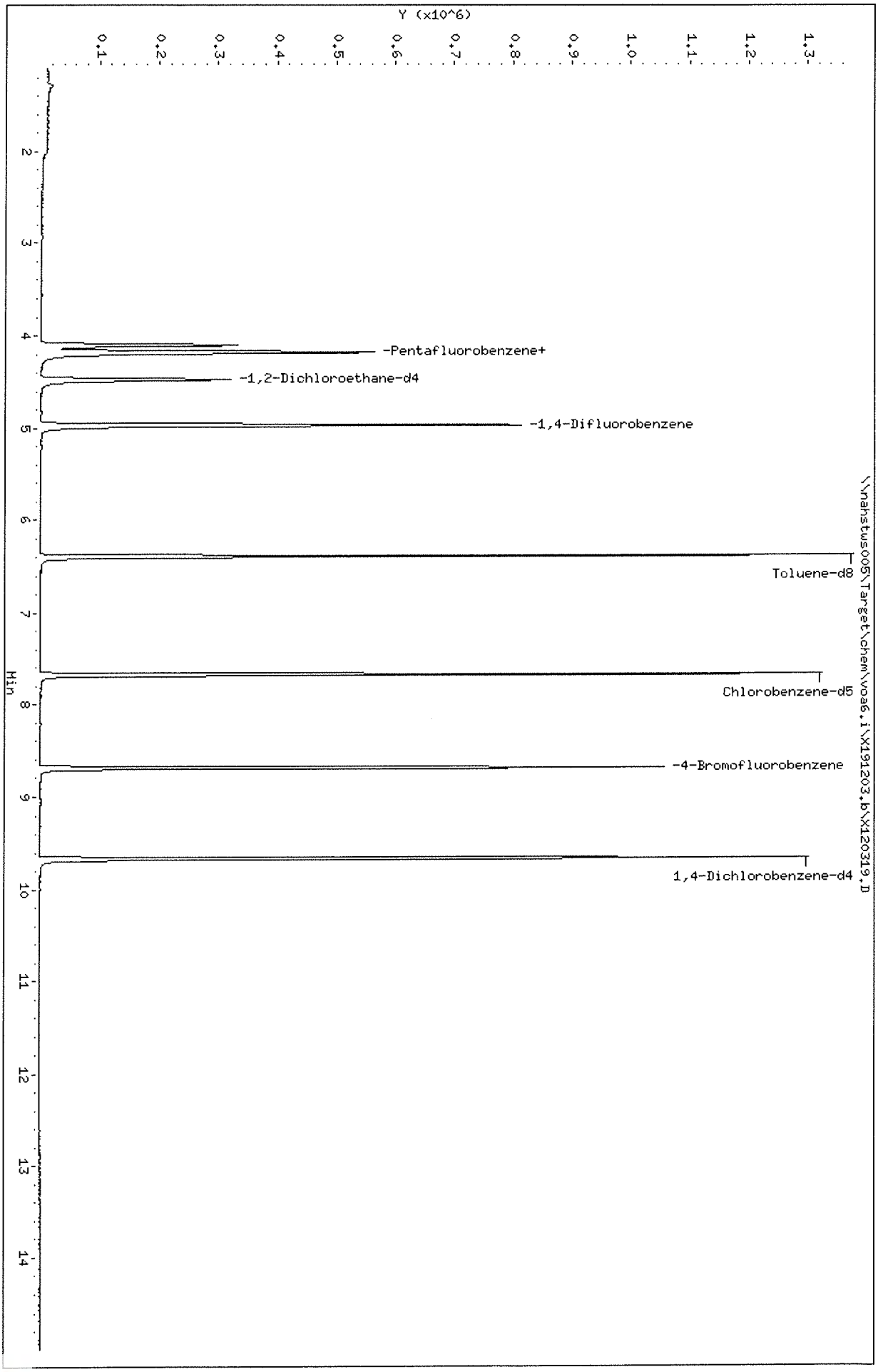
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	503185	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	709866	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	627020	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.669	(1.000)	320374	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	243641	51.4451	51.44
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	285835	49.0062	49.00
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	227099	49.6376	49.63
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	805053	48.7300	48.72

Data File: \\nahstws005\Target\chem\voa6.i\X191203.b\X120319.D
Date : 03-DEC-2019 17:18
Client ID: HS19111443-04
Sample Info: HS19111443-04;HS19111443-04;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18



Data File: \\nahstws005\Target\chem\voa6.i\X191203.b\X120320.D Page 1
Report Date: 07-Dec-2019 10:43

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X191203.b\X120320.D
Lab Smp Id: CCV-END Client Smp ID: CCV-END
Inj Date : 03-DEC-2019 17:41
Operator : PC Inst ID: voa6.i
Smp Info : CCV-END;CCV-END;2;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X191203.b\8260W.m
Meth Date : 07-Dec-2019 10:42 DevakG Quant Type: ISTD
Cal Date : 18-NOV-2019 16:35 Cal File: X111808.D
Als bottle: 19 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBIHOUSTONDOD.sub
Target Version: 4.14

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

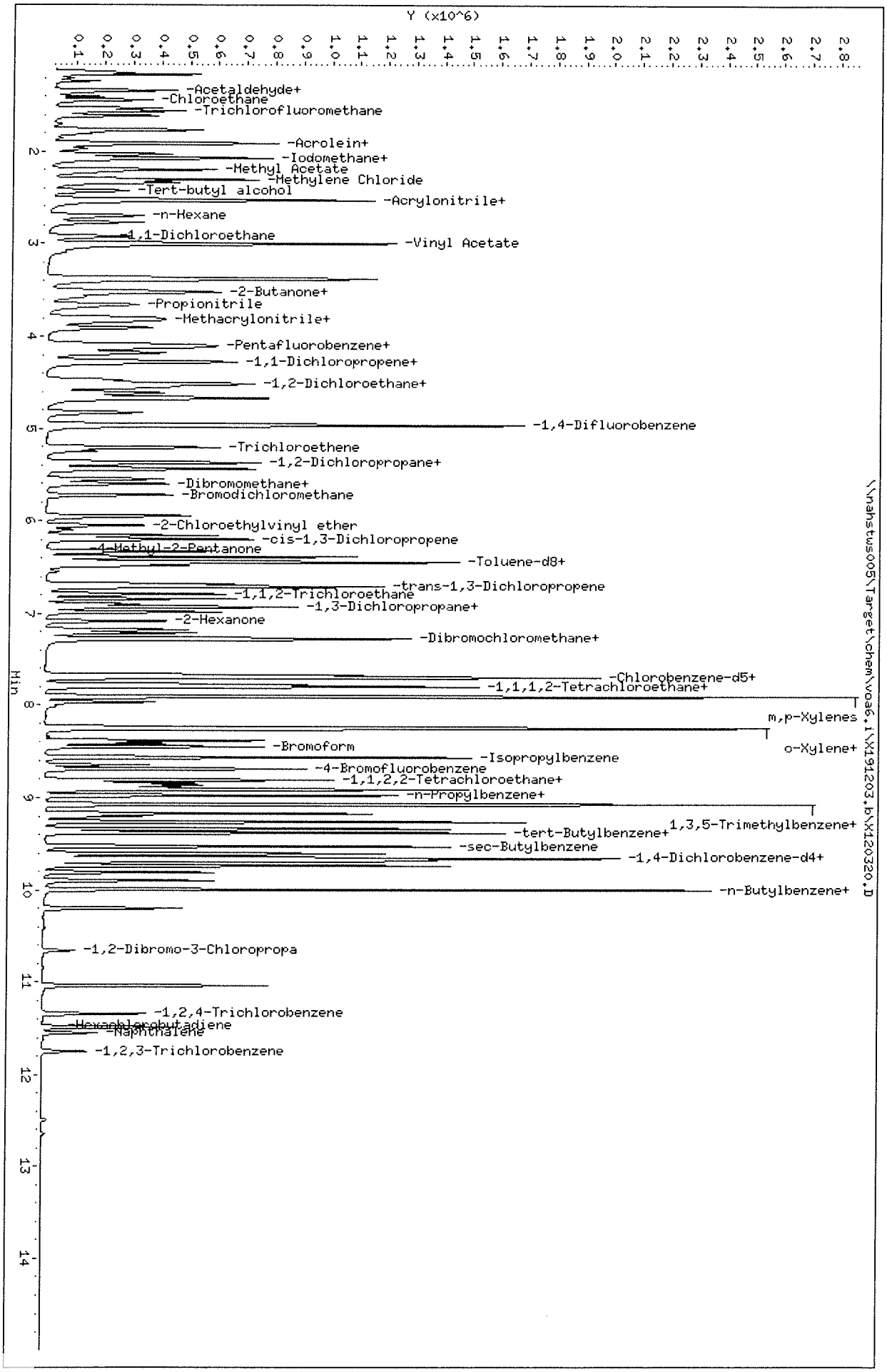
Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
*	1 Pentafluorobenzene	168	4.182	4.182	(1.000)	355924	50.0000	
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	549485	50.0000	
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	522310	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	270596	50.0000	
$	35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	194989	50.0000	58.11
$	69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	248901	50.0000	51.20
$	30 Dibromofluoromethane	113	4.103	4.103	(0.981)	177879	50.0000	54.92
$	48 Toluene-d8	98	6.388	6.388	(0.833)	627921	50.0000	45.62
	60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	207496	50.0000	54.75
	31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	289719	50.0000	60.33
	68 1,1,2,2-Tetrachloroethane	83	8.838	8.838	(0.914)	216941	50.0000	57.01
	138 Freon TF	101	1.919	1.919	(0.459)	160898	50.0000	51.92
	53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	148434	50.0000	54.36
	22 1,1-Dichloroethane	63	2.921	2.921	(0.699)	304028	50.0000	58.70
	11 1,1-Dichloroethene	96	1.911	1.911	(0.457)	162727	50.0000	53.94
	32 1,1-Dichloropropene	75	4.282	4.282	(0.862)	231117	50.0000	52.14
	93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.215)	46832	50.0000	46.49
	71 1,2,3-Trichloropropane	75	8.867	8.867	(0.917)	190029	50.0000	58.94(M)
	90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	105087	50.0000	46.10
	79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.970)	730162	50.0000	56.86
	89 1,2-Dibromo-3-Chloropropane	155	10.658	10.658	(1.102)	23243	50.0000	55.36
	57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	204782	50.0000	55.90
	88 1,2-Dichlorobenzene	146	9.999	9.999	(1.034)	393422	50.0000	54.78

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
33	1,2-Dichloroethane	62	4.562	4.562	(0.918)	259229	50.0000	59.42
42	1,2-Dichloropropane	63	5.436	5.436	(1.094)	174389	50.0000	53.12
75	1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	708289	50.0000	57.49
83	1,3-Dichlorobenzene	146	9.605	9.605	(0.993)	435756	50.0000	56.15
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	299492	50.0000	54.02
84	1,4-Dichlorobenzene	146	9.683	9.683	(1.001)	437125	50.0000	55.43
26	2,2-Dichloropropane	77	3.516	3.516	(0.841)	251953	50.0000	53.60
24	2-Butanone	43	3.573	3.573	(0.854)	128723	100.000	117.86
76	2-Chlorotoluene	91	8.974	8.974	(0.928)	584568	50.0000	60.04
52	2-Hexanone	43	7.083	7.083	(0.923)	226938	100.000	105.76
77	4-Chlorotoluene	91	9.074	9.074	(0.939)	682630	50.0000	57.84
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	730628	50.0000	55.18
45	4-Methyl-2-Pentanone	43	6.324	6.324	(0.824)	328212	100.000	107.24
10	Acetone	43	1.969	1.969	(0.471)	94519	100.000	102.67
37	Benzene	78	4.512	4.512	(0.908)	691094	50.0000	54.98
74	Bromobenzene	156	8.809	8.809	(0.911)	273571	50.0000	58.17
29	Bromochloromethane	128	3.795	3.795	(0.908)	113403	50.0000	58.81
39	Bromodichloromethane	83	5.729	5.729	(1.153)	260320	50.0000	57.24
66	Bromoform	173	8.415	8.415	(1.097)	167915	50.0000	53.91
6	Bromomethane	94	1.338	1.338	(0.320)	199769	50.0000	56.75
19	Carbon Disulfide	76	2.069	2.069	(0.495)	953001	100.000	116.13
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	253269	50.0000	52.16
59	Chlorobenzene	112	7.699	7.699	(1.004)	546890	50.0000	53.63
7	Chloroethane	64	1.403	1.403	(0.336)	118966	50.0000	53.08
28	Chloroform	83	3.910	3.910	(0.935)	338161	50.0000	58.66
3	Chloromethane	50	1.073	1.073	(0.257)	166110	50.0000	42.99
27	cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	205071	50.0000	60.75
46	cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	296786	50.0000	55.38
55	Dibromochloromethane	129	7.176	7.176	(0.936)	220511	50.0000	55.59
44	Dibromomethane	93	5.557	5.557	(1.118)	132339	50.0000	56.97
2	Dichlorodifluoromethane	85	0.973	0.973	(0.233)	204372	50.0000	62.78
61	Ethylbenzene	106	7.799	7.799	(1.017)	284225	50.0000	53.94
91	Hexachlorobutadiene	225	11.481	11.481	(1.187)	86927	50.0000	39.97
67	Isopropylbenzene	105	8.566	8.566	(1.117)	849060	50.0000	54.40
62	m,p-Xylenes	106	7.907	7.907	(1.031)	687265	100.000	108.09
17	Methylene Chloride	84	2.305	2.305	(0.551)	183625	50.0000	57.05
87	n-Butylbenzene	91	9.999	9.999	(1.034)	599670	50.0000	54.42
73	n-Propylbenzene	91	8.917	8.917	(0.922)	970405	50.0000	58.01
92	Naphthalene	128	11.546	11.546	(1.194)	131698	50.0000	45.04
63	o-Xylene	106	8.244	8.244	(1.075)	339489	50.0000	54.10
81	sec-Butylbenzene	105	9.526	9.526	(0.985)	820100	50.0000	56.44
64	Styrene	104	8.258	8.258	(1.077)	603970	50.0000	55.35
78	tert-Butylbenzene	119	9.340	9.340	(0.966)	601379	50.0000	57.00
56	Tetrachloroethene	164	6.933	6.933	(0.904)	182870	50.0000	49.82
50	Toluene	91	6.446	6.446	(0.840)	793848	50.0000	53.59
20	trans-1,2-Dichloroethene	96	2.527	2.527	(0.604)	174182	50.0000	59.47
51	trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	277874	50.0000	56.89
38	Trichloroethene	130	5.206	5.206	(1.048)	209114	50.0000	54.41
8	Trichlorofluoromethane	101	1.560	1.560	(0.373)	317940	50.0000	57.58
5	Vinyl Chloride	62	1.138	1.138	(0.272)	192607	50.0000	53.09

QC Flag Legend

M - Compound response manually integrated.

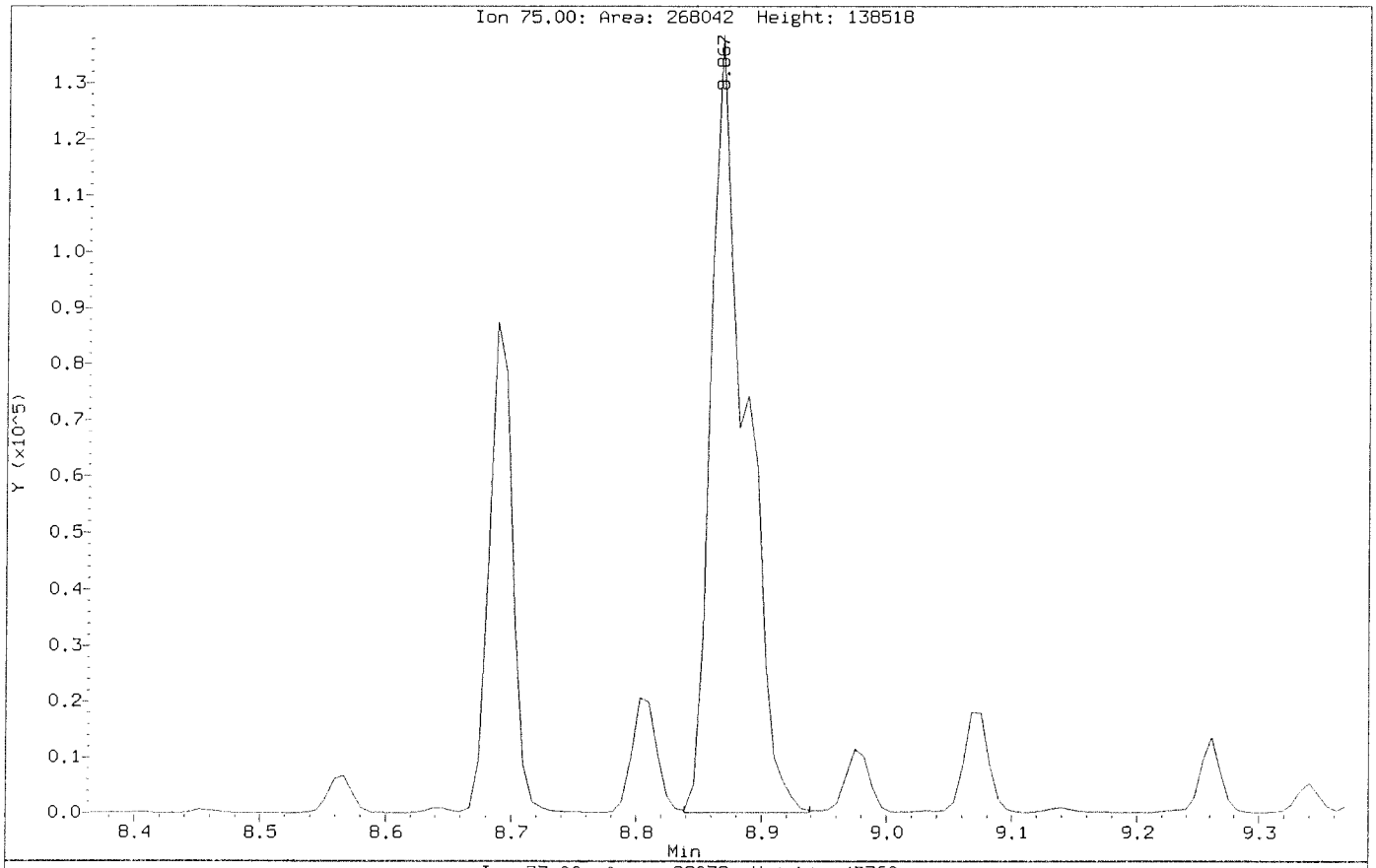


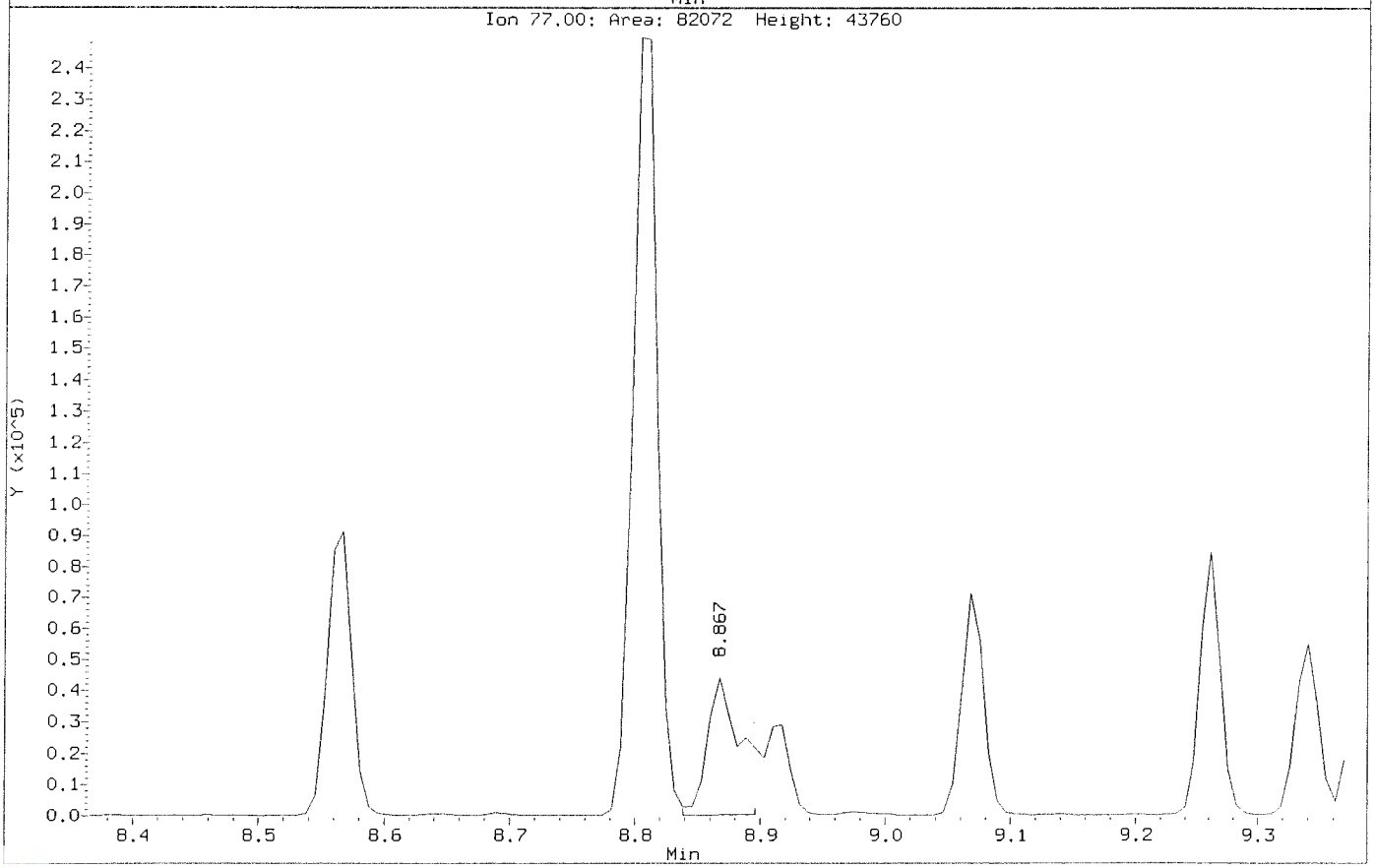
Data File: \\nahstws005\Target\chem\voa6.i\X191203.b\X120320.D
Date : 03-DEC-2019 17:41
Client ID: CCV-END
Sample Info: CCV-END;CCV-END;2;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: \\nahstws005\Target\chem\voa6.i\X191203.b\BEFORE\X120320.D
Injection Date: 03-DEC-2019 17:41
Instrument: voa6.i
Client Sample ID: CCV-END

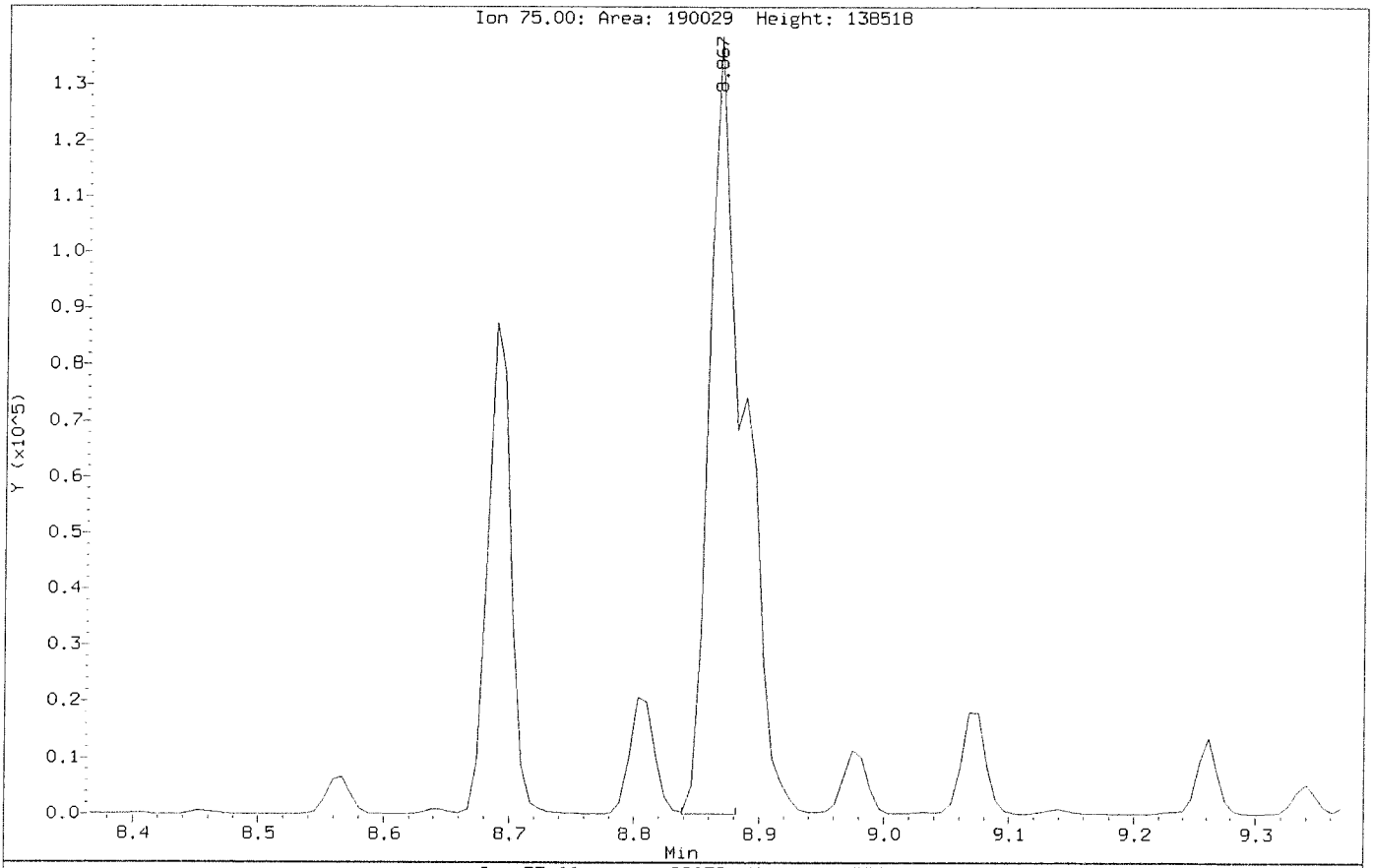
Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4

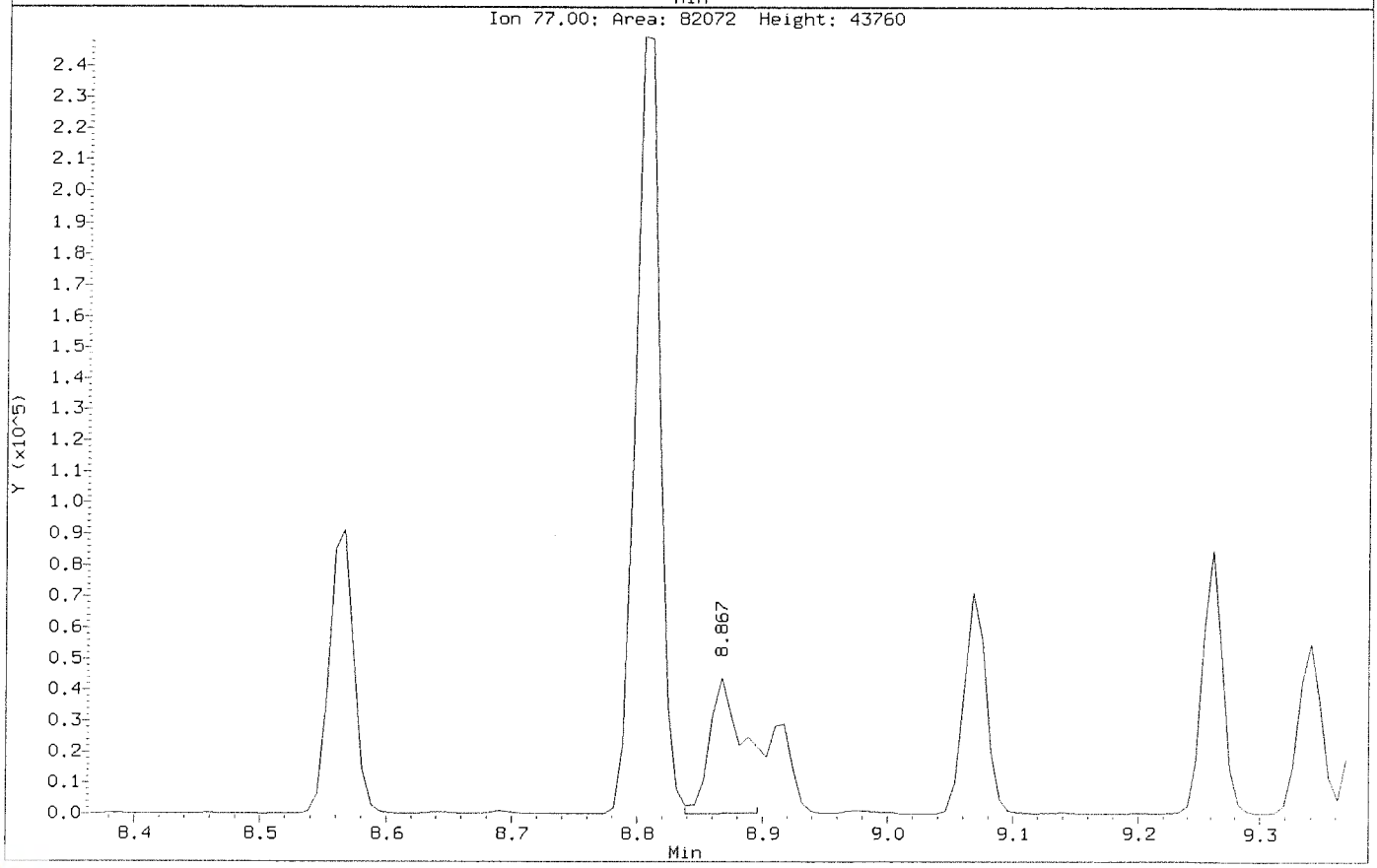




Data File: \\nahstws005\Target\chem\voa6.i\X191203.b\X120320.D
Injection Date: 03-DEC-2019 17:41
Instrument: voa6.i
Client Sample ID: CCV-END

Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4





10450 Stancliff Rd. Suite 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887
www.alsglobal.com

WorkOrder: HS20050234

Longhorn Army Ammunition Plant

Aptim Environmental & Infrastucture, Inc.

Susan Huang
2500 City West Blvd., Suite 1700
Houston TX 77042

29-May-2020

ALS Environmental
ALS Group USA, Corp
1317 South 13th Avenue
Kelso, WA 98626
T : +1 360 577 7222
F : +1 360 636 1068
www.alsglobal.com

Table of Contents

HS20050234
- CoverPage
- HS20050234 Longhorn Army Ammunition Plant Final
  - CoverLetter
  - Sample Summary
  - CaseNarrative
  - 35BWW10-200506
  - 35BWW05-200506
  - 35BWW11-200506
  - 35BWW01-200506
  - 35BWW01-200506-FD
  - 35BWW26-200506
  - 35BWW04-200506
  - 35BWW12-200506
  - 35BWW12-200506-FD
  - 35BWW08-200506
  - Trip Blank
  - Dates Report
  - QC
  - Acronyms
  - Certifications
  - SampleReceiptCheckList

Table of Contents (continued)

COC
HS20050234 ALS Kelso Sub Data K2003792.pdf
HS20050234 ALS Simi Valley Lab P2002523 Tier IV.pdf
HS20050234 8260 Raw Data
HS20050234 Wet Chem Raw Data (IC)

HS20050234

ALS WO# HS20050234

HS20050234 Longhorn Army Ammunition Plant
Final

ALS WO# HS20050234

10450 Stancliff Rd. Suite 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887

May 21, 2020

Susan Huang
Aptim Environmental & Infrastucture, Inc.
2500 City West Blvd., Suite 1700
Houston, TX 77042

Work Order: **HS20050234**

Laboratory Results for: **Longhorn Army Ammunition Plant**

Dear Susan,

ALS Environmental received 11 sample(s) on May 07, 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: 21-May-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
Work Order: HS20050234

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS20050234-01	35BWW10-200506	Groundwater		06-May-2020 07:40	07-May-2020 09:05	☐
HS20050234-02	35BWW05-200506	Groundwater		06-May-2020 08:25	07-May-2020 09:05	☐
HS20050234-03	35BWW11-200506	Groundwater		06-May-2020 09:10	07-May-2020 09:05	☐
HS20050234-04	35BWW01-200506	Groundwater		06-May-2020 09:55	07-May-2020 09:05	☐
HS20050234-05	35BWW01-200506-FD	Groundwater		06-May-2020 09:55	07-May-2020 09:05	☐
HS20050234-06	35BWW26-200506	Groundwater		06-May-2020 10:40	07-May-2020 09:05	☐
HS20050234-07	35BWW04-200506	Groundwater		06-May-2020 11:30	07-May-2020 09:05	☐
HS20050234-08	35BWW12-200506	Groundwater		06-May-2020 12:25	07-May-2020 09:05	☐
HS20050234-09	35BWW12-200506-FD	Groundwater		06-May-2020 12:25	07-May-2020 09:05	☐
HS20050234-10	35BWW08-200506	Groundwater		06-May-2020 13:20	07-May-2020 09:05	☐
HS20050234-11	Trip Blank	Water	CG-041420-01	06-May-2020 00:00	07-May-2020 09:05	☐

ALS Houston, US Date: 21-May-20

Client: Aptim Environmental & Infrastucture, Inc. **CASE NARRATIVE**
Project: Longhorn Army Ammunition Plant
Work Order: HS20050234

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 TOC was subcontracted to ALS Environmental in Kelso WA. Final report attached.

GCMS Volatiles by Method SW8260

Batch ID: R361452

Sample ID: 35BWW10-200506(HS20050234-01MSD)

- MS/MSD RPD recovered above the RPD limits for Naphthalene,

WetChemistry by Method SW9056

Batch ID: R361488

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

ALS Houston, US Date: 21-May-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
Sample ID: 35BWW10-200506
Collection Date: 06-May-2020 07:40

ANALYTICAL REPORT
WorkOrder:HS20050234
Lab ID:HS20050234-01
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	12-May-2020 15:38
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 15:38
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	UG/L	1	12-May-2020 15:38
1,1,2-Trichlor-1,2,2-trifluoroethane	1.0	U	0.50	1.0	1.0	UG/L	1	12-May-2020 15:38
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 15:38
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 15:38
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 15:38
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 15:38
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 15:38
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	UG/L	1	12-May-2020 15:38
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	UG/L	1	12-May-2020 15:38
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 15:38
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 15:38
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 15:38
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	UG/L	1	12-May-2020 15:38
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 15:38
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	UG/L	1	12-May-2020 15:38
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 15:38
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 15:38
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 15:38
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 15:38
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 15:38
2-Butanone	1.0	U	0.50	1.0	2.0	UG/L	1	12-May-2020 15:38
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 15:38
2-Hexanone	2.0	U	1.0	2.0	2.0	UG/L	1	12-May-2020 15:38
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 15:38
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 15:38
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	UG/L	1	12-May-2020 15:38
Acetone	1.0	U	0.40	1.0	2.0	UG/L	1	12-May-2020 15:38
Benzene	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 15:38
Bromobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 15:38
Bromochloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 15:38
Bromodichloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 15:38
Bromoform	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 15:38
Bromomethane	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 15:38
Carbon disulfide	1.0	U	0.60	1.0	2.0	UG/L	1	12-May-2020 15:38
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	UG/L	1	12-May-2020 15:38
Chlorobenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 15:38
Chloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 15:38

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

ALS Houston, US Date: 21-May-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
Sample ID: 35BWW10-200506
Collection Date: 06-May-2020 07:40

ANALYTICAL REPORT
WorkOrder:HS20050234
Lab ID:HS20050234-01
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	12-May-2020 15:38
Chloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 15:38
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 15:38
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	UG/L	1	12-May-2020 15:38
Dibromochloromethane	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 15:38
Dibromomethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 15:38
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 15:38
Ethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 15:38
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	UG/L	1	12-May-2020 15:38
Isopropylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 15:38
m,p-Xylene	1.0	U	0.50	1.0	2.0	UG/L	1	12-May-2020 15:38
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	12-May-2020 15:38
n-Butylbenzene	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 15:38
n-Propylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 15:38
Naphthalene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 15:38
o-Xylene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 15:38
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 15:38
Styrene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 15:38
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 15:38
Tetrachloroethene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 15:38
Toluene	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 15:38
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 15:38
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 15:38
Trichloroethene	**0.64**	J	**0.20**	**0.50**	**1.0**	**UG/L**	1	12-May-2020 15:38
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 15:38
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 15:38
Surr: 1,2-Dichloroethane-d4	*88.4*			**0**	*81-118*	*%REC*	*1*	*12-May-2020 15:38*
Surr: 4-Bromofluorobenzene	*100*			**0**	*85-114*	*%REC*	*1*	*12-May-2020 15:38*
Surr: Dibromofluoromethane	*90.9*			**0**	*80-119*	*%REC*	*1*	*12-May-2020 15:38*
Surr: Toluene-d8	*107*			**0**	*89-112*	*%REC*	*1*	*12-May-2020 15:38*

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

ALS Houston, US Date: 21-May-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
Sample ID: 35BWW05-200506
Collection Date: 06-May-2020 08:25

ANALYTICAL REPORT
WorkOrder:HS20050234
Lab ID:HS20050234-02
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	12-May-2020 16:02
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 16:02
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	UG/L	1	12-May-2020 16:02
1,1,2-Trichlor-1,2,2-trifluoroethane	1.0	U	0.50	1.0	1.0	UG/L	1	12-May-2020 16:02
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 16:02
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 16:02
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 16:02
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 16:02
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 16:02
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	UG/L	1	12-May-2020 16:02
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	UG/L	1	12-May-2020 16:02
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 16:02
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 16:02
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 16:02
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	UG/L	1	12-May-2020 16:02
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 16:02
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	UG/L	1	12-May-2020 16:02
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 16:02
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 16:02
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 16:02
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 16:02
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 16:02
2-Butanone	1.0	U	0.50	1.0	2.0	UG/L	1	12-May-2020 16:02
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 16:02
2-Hexanone	2.0	U	1.0	2.0	2.0	UG/L	1	12-May-2020 16:02
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 16:02
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 16:02
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	UG/L	1	12-May-2020 16:02
Acetone	1.0	U	0.40	1.0	2.0	UG/L	1	12-May-2020 16:02
Benzene	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 16:02
Bromobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 16:02
Bromochloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 16:02
Bromodichloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 16:02
Bromoform	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 16:02
Bromomethane	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 16:02
Carbon disulfide	1.0	U	0.60	1.0	2.0	UG/L	1	12-May-2020 16:02
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	UG/L	1	12-May-2020 16:02
Chlorobenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 16:02
Chloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 16:02

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

ALS Houston, US Date: 21-May-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
Sample ID: 35BWW05-200506
Collection Date: 06-May-2020 08:25

ANALYTICAL REPORT
WorkOrder:HS20050234
Lab ID:HS20050234-02
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	12-May-2020 16:02
Chloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 16:02
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 16:02
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	UG/L	1	12-May-2020 16:02
Dibromochloromethane	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 16:02
Dibromomethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 16:02
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 16:02
Ethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 16:02
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	UG/L	1	12-May-2020 16:02
Isopropylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 16:02
m,p-Xylene	1.0	U	0.50	1.0	2.0	UG/L	1	12-May-2020 16:02
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	12-May-2020 16:02
n-Butylbenzene	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 16:02
n-Propylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 16:02
Naphthalene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 16:02
o-Xylene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 16:02
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 16:02
Styrene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 16:02
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 16:02
Tetrachloroethene	**2.4**		**0.30**	**1.0**	**1.0**	**UG/L**	1	12-May-2020 16:02
Toluene	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 16:02
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 16:02
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 16:02
Trichloroethene	**7.3**		**0.20**	**0.50**	**1.0**	**UG/L**	1	12-May-2020 16:02
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 16:02
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 16:02
Surr: 1,2-Dichloroethane-d4	*90.8*			**0**	*81-118*	*%REC*	*1*	*12-May-2020 16:02*
Surr: 4-Bromofluorobenzene	*97.8*			**0**	*85-114*	*%REC*	*1*	*12-May-2020 16:02*
Surr: Dibromofluoromethane	*91.5*			**0**	*80-119*	*%REC*	*1*	*12-May-2020 16:02*
Surr: Toluene-d8	*107*			**0**	*89-112*	*%REC*	*1*	*12-May-2020 16:02*

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

ALS Houston, US Date: 21-May-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
Sample ID: 35BWW11-200506
Collection Date: 06-May-2020 09:10

ANALYTICAL REPORT
WorkOrder:HS20050234
Lab ID:HS20050234-03
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	12-May-2020 16:26
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 16:26
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	UG/L	1	12-May-2020 16:26
1,1,2-Trichlor-1,2,2-trifluoroethane	1.0	U	0.50	1.0	1.0	UG/L	1	12-May-2020 16:26
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 16:26
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 16:26
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 16:26
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 16:26
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 16:26
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	UG/L	1	12-May-2020 16:26
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	UG/L	1	12-May-2020 16:26
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 16:26
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 16:26
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 16:26
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	UG/L	1	12-May-2020 16:26
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 16:26
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	UG/L	1	12-May-2020 16:26
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 16:26
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 16:26
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 16:26
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 16:26
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 16:26
2-Butanone	1.0	U	0.50	1.0	2.0	UG/L	1	12-May-2020 16:26
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 16:26
2-Hexanone	2.0	U	1.0	2.0	2.0	UG/L	1	12-May-2020 16:26
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 16:26
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 16:26
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	UG/L	1	12-May-2020 16:26
Acetone	1.0	U	0.40	1.0	2.0	UG/L	1	12-May-2020 16:26
Benzene	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 16:26
Bromobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 16:26
Bromochloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 16:26
Bromodichloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 16:26
Bromoform	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 16:26
Bromomethane	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 16:26
Carbon disulfide	1.0	U	0.60	1.0	2.0	UG/L	1	12-May-2020 16:26
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	UG/L	1	12-May-2020 16:26
Chlorobenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 16:26
Chloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 16:26

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

ALS Houston, US Date: 21-May-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
Sample ID: 35BWW11-200506
Collection Date: 06-May-2020 09:10

ANALYTICAL REPORT
WorkOrder:HS20050234
Lab ID:HS20050234-03
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	12-May-2020 16:26
Chloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 16:26
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 16:26
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	UG/L	1	12-May-2020 16:26
Dibromochloromethane	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 16:26
Dibromomethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 16:26
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 16:26
Ethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 16:26
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	UG/L	1	12-May-2020 16:26
Isopropylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 16:26
m,p-Xylene	1.0	U	0.50	1.0	2.0	UG/L	1	12-May-2020 16:26
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	12-May-2020 16:26
n-Butylbenzene	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 16:26
n-Propylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 16:26
Naphthalene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 16:26
o-Xylene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 16:26
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 16:26
Styrene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 16:26
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 16:26
Tetrachloroethene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 16:26
Toluene	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 16:26
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 16:26
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 16:26
Trichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 16:26
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 16:26
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 16:26
Surr: 1,2-Dichloroethane-d4	*90.6*			**0**	*81-118*	*%REC*	*1*	*12-May-2020 16:26*
Surr: 4-Bromofluorobenzene	*100*			**0**	*85-114*	*%REC*	*1*	*12-May-2020 16:26*
Surr: Dibromofluoromethane	*90.2*			**0**	*80-119*	*%REC*	*1*	*12-May-2020 16:26*
Surr: Toluene-d8	*106*			**0**	*89-112*	*%REC*	*1*	*12-May-2020 16:26*

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

ALS Houston, US Date: 21-May-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
Sample ID: 35BWW01-200506
Collection Date: 06-May-2020 09:55

ANALYTICAL REPORT
WorkOrder:HS20050234
Lab ID:HS20050234-04
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	12-May-2020 16:50
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 16:50
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	UG/L	1	12-May-2020 16:50
1,1,2-Trichlor-1,2,2-trifluoroethane	1.0	U	0.50	1.0	1.0	UG/L	1	12-May-2020 16:50
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 16:50
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 16:50
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 16:50
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 16:50
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 16:50
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	UG/L	1	12-May-2020 16:50
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	UG/L	1	12-May-2020 16:50
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 16:50
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 16:50
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 16:50
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	UG/L	1	12-May-2020 16:50
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 16:50
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	UG/L	1	12-May-2020 16:50
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 16:50
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 16:50
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 16:50
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 16:50
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 16:50
2-Butanone	1.0	U	0.50	1.0	2.0	UG/L	1	12-May-2020 16:50
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 16:50
2-Hexanone	2.0	U	1.0	2.0	2.0	UG/L	1	12-May-2020 16:50
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 16:50
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 16:50
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	UG/L	1	12-May-2020 16:50
Acetone	1.0	U	0.40	1.0	2.0	UG/L	1	12-May-2020 16:50
Benzene	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 16:50
Bromobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 16:50
Bromochloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 16:50
Bromodichloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 16:50
Bromoform	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 16:50
Bromomethane	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 16:50
Carbon disulfide	1.0	U	0.60	1.0	2.0	UG/L	1	12-May-2020 16:50
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	UG/L	1	12-May-2020 16:50
Chlorobenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 16:50
Chloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 16:50

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

ALS Houston, US Date: 21-May-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
Sample ID: 35BWW01-200506
Collection Date: 06-May-2020 09:55

ANALYTICAL REPORT
WorkOrder:HS20050234
Lab ID:HS20050234-04
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	12-May-2020 16:50
Chloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 16:50
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 16:50
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	UG/L	1	12-May-2020 16:50
Dibromochloromethane	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 16:50
Dibromomethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 16:50
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 16:50
Ethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 16:50
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	UG/L	1	12-May-2020 16:50
Isopropylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 16:50
m,p-Xylene	1.0	U	0.50	1.0	2.0	UG/L	1	12-May-2020 16:50
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	12-May-2020 16:50
n-Butylbenzene	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 16:50
n-Propylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 16:50
Naphthalene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 16:50
o-Xylene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 16:50
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 16:50
Styrene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 16:50
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 16:50
Tetrachloroethene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 16:50
Toluene	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 16:50
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 16:50
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 16:50
Trichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 16:50
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 16:50
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 16:50
Surr: 1,2-Dichloroethane-d4	*90.5*			**0**	*81-118*	*%REC*	*1*	*12-May-2020 16:50*
Surr: 4-Bromofluorobenzene	*98.0*			**0**	*85-114*	*%REC*	*1*	*12-May-2020 16:50*
Surr: Dibromofluoromethane	*91.2*			**0**	*80-119*	*%REC*	*1*	*12-May-2020 16:50*
Surr: Toluene-d8	*108*			**0**	*89-112*	*%REC*	*1*	*12-May-2020 16:50*

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

ALS Houston, US Date: 21-May-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
Sample ID: 35BWW01-200506-FD
Collection Date: 06-May-2020 09:55

ANALYTICAL REPORT
WorkOrder:HS20050234
Lab ID:HS20050234-05
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	12-May-2020 17:14
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 17:14
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	UG/L	1	12-May-2020 17:14
1,1,2-Trichlor-1,2,2-trifluoroethane	1.0	U	0.50	1.0	1.0	UG/L	1	12-May-2020 17:14
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 17:14
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 17:14
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 17:14
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 17:14
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 17:14
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	UG/L	1	12-May-2020 17:14
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	UG/L	1	12-May-2020 17:14
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 17:14
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 17:14
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 17:14
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	UG/L	1	12-May-2020 17:14
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 17:14
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	UG/L	1	12-May-2020 17:14
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 17:14
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 17:14
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 17:14
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 17:14
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 17:14
2-Butanone	1.0	U	0.50	1.0	2.0	UG/L	1	12-May-2020 17:14
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 17:14
2-Hexanone	2.0	U	1.0	2.0	2.0	UG/L	1	12-May-2020 17:14
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 17:14
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 17:14
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	UG/L	1	12-May-2020 17:14
Acetone	1.0	U	0.40	1.0	2.0	UG/L	1	12-May-2020 17:14
Benzene	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 17:14
Bromobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 17:14
Bromochloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 17:14
Bromodichloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 17:14
Bromoform	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 17:14
Bromomethane	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 17:14
Carbon disulfide	1.0	U	0.60	1.0	2.0	UG/L	1	12-May-2020 17:14
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	UG/L	1	12-May-2020 17:14
Chlorobenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 17:14
Chloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 17:14

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

ALS Houston, US Date: 21-May-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
Sample ID: 35BWW01-200506-FD
Collection Date: 06-May-2020 09:55

ANALYTICAL REPORT
WorkOrder:HS20050234
Lab ID:HS20050234-05
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	12-May-2020 17:14
Chloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 17:14
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 17:14
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	UG/L	1	12-May-2020 17:14
Dibromochloromethane	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 17:14
Dibromomethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 17:14
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 17:14
Ethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 17:14
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	UG/L	1	12-May-2020 17:14
Isopropylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 17:14
m,p-Xylene	1.0	U	0.50	1.0	2.0	UG/L	1	12-May-2020 17:14
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	12-May-2020 17:14
n-Butylbenzene	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 17:14
n-Propylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 17:14
Naphthalene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 17:14
o-Xylene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 17:14
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 17:14
Styrene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 17:14
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 17:14
Tetrachloroethene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 17:14
Toluene	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 17:14
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 17:14
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 17:14
Trichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 17:14
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 17:14
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 17:14
Surr: 1,2-Dichloroethane-d4	*90.8*			**0**	*81-118*	*%REC*	*1*	*12-May-2020 17:14*
Surr: 4-Bromofluorobenzene	*97.2*			**0**	*85-114*	*%REC*	*1*	*12-May-2020 17:14*
Surr: Dibromofluoromethane	*91.3*			**0**	*80-119*	*%REC*	*1*	*12-May-2020 17:14*
Surr: Toluene-d8	*107*			**0**	*89-112*	*%REC*	*1*	*12-May-2020 17:14*

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

ALS Houston, US Date: 21-May-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
Sample ID: 35BWW26-200506
Collection Date: 06-May-2020 10:40

ANALYTICAL REPORT
WorkOrder:HS20050234
Lab ID:HS20050234-06
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	12-May-2020 17:38
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 17:38
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	UG/L	1	12-May-2020 17:38
1,1,2-Trichlor-1,2,2-trifluoroethane	1.0	U	0.50	1.0	1.0	UG/L	1	12-May-2020 17:38
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 17:38
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 17:38
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 17:38
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 17:38
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 17:38
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	UG/L	1	12-May-2020 17:38
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	UG/L	1	12-May-2020 17:38
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 17:38
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 17:38
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 17:38
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	UG/L	1	12-May-2020 17:38
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 17:38
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	UG/L	1	12-May-2020 17:38
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 17:38
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 17:38
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 17:38
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 17:38
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 17:38
2-Butanone	1.0	U	0.50	1.0	2.0	UG/L	1	12-May-2020 17:38
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 17:38
2-Hexanone	2.0	U	1.0	2.0	2.0	UG/L	1	12-May-2020 17:38
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 17:38
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 17:38
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	UG/L	1	12-May-2020 17:38
Acetone	1.0	U	0.40	1.0	2.0	UG/L	1	12-May-2020 17:38
Benzene	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 17:38
Bromobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 17:38
Bromochloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 17:38
Bromodichloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 17:38
Bromoform	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 17:38
Bromomethane	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 17:38
Carbon disulfide	1.0	U	0.60	1.0	2.0	UG/L	1	12-May-2020 17:38
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	UG/L	1	12-May-2020 17:38
Chlorobenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 17:38
Chloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 17:38

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

ALS Houston, US Date: 21-May-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
Sample ID: 35BWW26-200506
Collection Date: 06-May-2020 10:40

ANALYTICAL REPORT
WorkOrder:HS20050234
Lab ID:HS20050234-06
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	12-May-2020 17:38
Chloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 17:38
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 17:38
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	UG/L	1	12-May-2020 17:38
Dibromochloromethane	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 17:38
Dibromomethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 17:38
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 17:38
Ethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 17:38
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	UG/L	1	12-May-2020 17:38
Isopropylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 17:38
m,p-Xylene	1.0	U	0.50	1.0	2.0	UG/L	1	12-May-2020 17:38
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	12-May-2020 17:38
n-Butylbenzene	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 17:38
n-Propylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 17:38
Naphthalene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 17:38
o-Xylene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 17:38
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 17:38
Styrene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 17:38
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 17:38
Tetrachloroethene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 17:38
Toluene	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 17:38
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 17:38
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 17:38
Trichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 17:38
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 17:38
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 17:38
Surr: 1,2-Dichloroethane-d4	*89.8*			**0**	*81-118*	*%REC*	*1*	*12-May-2020 17:38*
Surr: 4-Bromofluorobenzene	*102*			**0**	*85-114*	*%REC*	*1*	*12-May-2020 17:38*
Surr: Dibromofluoromethane	*90.2*			**0**	*80-119*	*%REC*	*1*	*12-May-2020 17:38*
Surr: Toluene-d8	*108*			**0**	*89-112*	*%REC*	*1*	*12-May-2020 17:38*
ANIONS BY SW9056A		**Method:SW9056**						Analyst: JHD
Chloride	**31.0**		**0.200**	**0.500**	**0.500**	**mg/L**	1	07-May-2020 22:26
Nitrogen, Nitrate (As N)	**0.133**		**0.0300**	**0.100**	**0.100**	**mg/L**	1	07-May-2020 22:26
Sulfate	**25.3**		**0.200**	**0.500**	**0.500**	**mg/L**	1	07-May-2020 22:26
SUBCONTRACT ANALYSIS - RSK		**Method:NA**						Analyst: SUBCA
Subcontract Analysis	See Attached		0	0		NA	1	21-May-2020 12:34
SUBCONTRACT ANALYSIS - TOC ANALYSIS		**Method:NA**						Analyst: SUBK
Subcontract Analysis	See Attached		0	0		NA	1	15-May-2020 15:30

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

ALS Houston, US Date: 21-May-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
Sample ID: 35BWW04-200506
Collection Date: 06-May-2020 11:30

ANALYTICAL REPORT
WorkOrder:HS20050234
Lab ID:HS20050234-07
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	12-May-2020 18:02
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 18:02
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	UG/L	1	12-May-2020 18:02
1,1,2-Trichlor-1,2,2-trifluoroethane	1.0	U	0.50	1.0	1.0	UG/L	1	12-May-2020 18:02
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 18:02
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 18:02
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 18:02
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 18:02
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 18:02
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	UG/L	1	12-May-2020 18:02
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	UG/L	1	12-May-2020 18:02
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 18:02
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 18:02
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 18:02
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	UG/L	1	12-May-2020 18:02
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 18:02
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	UG/L	1	12-May-2020 18:02
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 18:02
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 18:02
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 18:02
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 18:02
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 18:02
2-Butanone	1.0	U	0.50	1.0	2.0	UG/L	1	12-May-2020 18:02
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 18:02
2-Hexanone	2.0	U	1.0	2.0	2.0	UG/L	1	12-May-2020 18:02
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 18:02
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 18:02
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	UG/L	1	12-May-2020 18:02
Acetone	1.0	U	0.40	1.0	2.0	UG/L	1	12-May-2020 18:02
Benzene	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 18:02
Bromobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 18:02
Bromochloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 18:02
Bromodichloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 18:02
Bromoform	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 18:02
Bromomethane	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 18:02
Carbon disulfide	1.0	U	0.60	1.0	2.0	UG/L	1	12-May-2020 18:02
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	UG/L	1	12-May-2020 18:02
Chlorobenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 18:02
Chloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 18:02

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

ALS Houston, US Date: 21-May-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
Sample ID: 35BWW04-200506
Collection Date: 06-May-2020 11:30

ANALYTICAL REPORT
WorkOrder:HS20050234
Lab ID:HS20050234-07
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	12-May-2020 18:02
Chloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 18:02
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 18:02
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	UG/L	1	12-May-2020 18:02
Dibromochloromethane	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 18:02
Dibromomethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 18:02
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 18:02
Ethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 18:02
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	UG/L	1	12-May-2020 18:02
Isopropylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 18:02
m,p-Xylene	1.0	U	0.50	1.0	2.0	UG/L	1	12-May-2020 18:02
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	12-May-2020 18:02
n-Butylbenzene	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 18:02
n-Propylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 18:02
Naphthalene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 18:02
o-Xylene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 18:02
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 18:02
Styrene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 18:02
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 18:02
Tetrachloroethene	**6.4**		**0.30**	**1.0**	**1.0**	**UG/L**	1	12-May-2020 18:02
Toluene	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 18:02
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 18:02
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 18:02
Trichloroethene	**0.71**	J	**0.20**	**0.50**	**1.0**	**UG/L**	1	12-May-2020 18:02
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 18:02
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 18:02
Surr: 1,2-Dichloroethane-d4	*91.5*			**0**	*81-118*	*%REC*	*1*	*12-May-2020 18:02*
Surr: 4-Bromofluorobenzene	*98.7*			**0**	*85-114*	*%REC*	*1*	*12-May-2020 18:02*
Surr: Dibromofluoromethane	*91.5*			**0**	*80-119*	*%REC*	*1*	*12-May-2020 18:02*
Surr: Toluene-d8	*108*			**0**	*89-112*	*%REC*	*1*	*12-May-2020 18:02*
ANIONS BY SW9056A		**Method:SW9056**						Analyst: JHD
Chloride	**4.52**		**0.200**	**0.500**	**0.500**	**mg/L**	1	07-May-2020 22:44
Nitrogen, Nitrate (As N)	**0.132**		**0.0300**	**0.100**	**0.100**	**mg/L**	1	07-May-2020 22:44
Sulfate	**26.6**		**0.200**	**0.500**	**0.500**	**mg/L**	1	07-May-2020 22:44
SUBCONTRACT ANALYSIS - RSK		**Method:NA**						Analyst: SUBCA
Subcontract Analysis	See Attached		0	0		NA	1	21-May-2020 12:34
SUBCONTRACT ANALYSIS - TOC ANALYSIS		**Method:NA**						Analyst: SUBK
Subcontract Analysis	See Attached		0	0		NA	1	15-May-2020 15:30

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

ALS Houston, US Date: 21-May-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
Sample ID: 35BWW12-200506
Collection Date: 06-May-2020 12:25

ANALYTICAL REPORT
WorkOrder:HS20050234
Lab ID:HS20050234-08
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	12-May-2020 18:26
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 18:26
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	UG/L	1	12-May-2020 18:26
1,1,2-Trichlor-1,2,2-trifluoroethane	1.0	U	0.50	1.0	1.0	UG/L	1	12-May-2020 18:26
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 18:26
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 18:26
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 18:26
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 18:26
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 18:26
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	UG/L	1	12-May-2020 18:26
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	UG/L	1	12-May-2020 18:26
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 18:26
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 18:26
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 18:26
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	UG/L	1	12-May-2020 18:26
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 18:26
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	UG/L	1	12-May-2020 18:26
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 18:26
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 18:26
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 18:26
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 18:26
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 18:26
2-Butanone	1.0	U	0.50	1.0	2.0	UG/L	1	12-May-2020 18:26
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 18:26
2-Hexanone	2.0	U	1.0	2.0	2.0	UG/L	1	12-May-2020 18:26
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 18:26
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 18:26
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	UG/L	1	12-May-2020 18:26
Acetone	1.0	U	0.40	1.0	2.0	UG/L	1	12-May-2020 18:26
Benzene	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 18:26
Bromobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 18:26
Bromochloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 18:26
Bromodichloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 18:26
Bromoform	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 18:26
Bromomethane	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 18:26
Carbon disulfide	1.0	U	0.60	1.0	2.0	UG/L	1	12-May-2020 18:26
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	UG/L	1	12-May-2020 18:26
Chlorobenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 18:26
Chloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 18:26

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

ALS Houston, US Date: 21-May-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
Sample ID: 35BWW12-200506
Collection Date: 06-May-2020 12:25

ANALYTICAL REPORT
WorkOrder:HS20050234
Lab ID:HS20050234-08
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	12-May-2020 18:26
Chloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 18:26
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 18:26
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	UG/L	1	12-May-2020 18:26
Dibromochloromethane	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 18:26
Dibromomethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 18:26
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 18:26
Ethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 18:26
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	UG/L	1	12-May-2020 18:26
Isopropylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 18:26
m,p-Xylene	1.0	U	0.50	1.0	2.0	UG/L	1	12-May-2020 18:26
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	12-May-2020 18:26
n-Butylbenzene	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 18:26
n-Propylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 18:26
Naphthalene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 18:26
o-Xylene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 18:26
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 18:26
Styrene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 18:26
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 18:26
Tetrachloroethene	**8.5**		**0.30**	**1.0**	**1.0**	**UG/L**	1	12-May-2020 18:26
Toluene	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 18:26
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 18:26
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 18:26
Trichloroethene	**0.61**	J	**0.20**	**0.50**	**1.0**	**UG/L**	1	12-May-2020 18:26
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 18:26
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 18:26
Surr: 1,2-Dichloroethane-d4	*89.7*			**0**	*81-118*	*%REC*	*1*	*12-May-2020 18:26*
Surr: 4-Bromofluorobenzene	*96.4*			**0**	*85-114*	*%REC*	*1*	*12-May-2020 18:26*
Surr: Dibromofluoromethane	*91.0*			**0**	*80-119*	*%REC*	*1*	*12-May-2020 18:26*
Surr: Toluene-d8	*110*			**0**	*89-112*	*%REC*	*1*	*12-May-2020 18:26*
ANIONS BY SW9056A		**Method:SW9056**						Analyst: JHD
Chloride	**7.21**		**0.200**	**0.500**	**0.500**	**mg/L**	1	07-May-2020 23:02
Nitrogen, Nitrate (As N)	0.100	U	0.0300	0.100	0.100	mg/L	1	07-May-2020 23:02
Sulfate	**41.2**		**0.200**	**0.500**	**0.500**	**mg/L**	1	07-May-2020 23:02
SUBCONTRACT ANALYSIS - RSK		**Method:NA**						Analyst: SUBCA
Subcontract Analysis	See Attached		0	0		NA	1	21-May-2020 12:34
SUBCONTRACT ANALYSIS - TOC ANALYSIS		**Method:NA**						Analyst: SUBK
Subcontract Analysis	See Attached		0	0		NA	1	15-May-2020 15:30

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

ALS Houston, US Date: 21-May-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
Sample ID: 35BWW12-200506-FD
Collection Date: 06-May-2020 12:25

ANALYTICAL REPORT
WorkOrder:HS20050234
Lab ID:HS20050234-09
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	12-May-2020 18:50
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 18:50
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	UG/L	1	12-May-2020 18:50
1,1,2-Trichlor-1,2,2-trifluoroethane	1.0	U	0.50	1.0	1.0	UG/L	1	12-May-2020 18:50
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 18:50
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 18:50
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 18:50
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 18:50
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 18:50
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	UG/L	1	12-May-2020 18:50
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	UG/L	1	12-May-2020 18:50
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 18:50
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 18:50
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 18:50
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	UG/L	1	12-May-2020 18:50
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 18:50
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	UG/L	1	12-May-2020 18:50
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 18:50
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 18:50
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 18:50
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 18:50
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 18:50
2-Butanone	1.0	U	0.50	1.0	2.0	UG/L	1	12-May-2020 18:50
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 18:50
2-Hexanone	2.0	U	1.0	2.0	2.0	UG/L	1	12-May-2020 18:50
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 18:50
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 18:50
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	UG/L	1	12-May-2020 18:50
Acetone	1.0	U	0.40	1.0	2.0	UG/L	1	12-May-2020 18:50
Benzene	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 18:50
Bromobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 18:50
Bromochloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 18:50
Bromodichloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 18:50
Bromoform	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 18:50
Bromomethane	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 18:50
Carbon disulfide	1.0	U	0.60	1.0	2.0	UG/L	1	12-May-2020 18:50
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	UG/L	1	12-May-2020 18:50
Chlorobenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 18:50
Chloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 18:50

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

ALS Houston, US Date: 21-May-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
Sample ID: 35BWW12-200506-FD
Collection Date: 06-May-2020 12:25

ANALYTICAL REPORT
WorkOrder:HS20050234
Lab ID:HS20050234-09
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	12-May-2020 18:50
Chloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 18:50
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 18:50
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	UG/L	1	12-May-2020 18:50
Dibromochloromethane	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 18:50
Dibromomethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 18:50
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 18:50
Ethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 18:50
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	UG/L	1	12-May-2020 18:50
Isopropylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 18:50
m,p-Xylene	1.0	U	0.50	1.0	2.0	UG/L	1	12-May-2020 18:50
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	12-May-2020 18:50
n-Butylbenzene	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 18:50
n-Propylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 18:50
Naphthalene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 18:50
o-Xylene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 18:50
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 18:50
Styrene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 18:50
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 18:50
Tetrachloroethene	**8.5**		**0.30**	**1.0**	**1.0**	**UG/L**	1	12-May-2020 18:50
Toluene	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 18:50
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 18:50
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 18:50
Trichloroethene	**0.72**	J	**0.20**	**0.50**	**1.0**	**UG/L**	1	12-May-2020 18:50
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 18:50
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 18:50
Surr: 1,2-Dichloroethane-d4	*89.2*			**0**	*81-118*	*%REC*	*1*	*12-May-2020 18:50*
Surr: 4-Bromofluorobenzene	*98.0*			**0**	*85-114*	*%REC*	*1*	*12-May-2020 18:50*
Surr: Dibromofluoromethane	*91.6*			**0**	*80-119*	*%REC*	*1*	*12-May-2020 18:50*
Surr: Toluene-d8	*106*			**0**	*89-112*	*%REC*	*1*	*12-May-2020 18:50*
ANIONS BY SW9056A		**Method:SW9056**						Analyst: JHD
Chloride	**7.23**		**0.200**	**0.500**	**0.500**	**mg/L**	1	07-May-2020 23:21
Nitrogen, Nitrate (As N)	0.100	U	0.0300	0.100	0.100	mg/L	1	07-May-2020 23:21
Sulfate	**39.4**		**0.200**	**0.500**	**0.500**	**mg/L**	1	07-May-2020 23:21
SUBCONTRACT ANALYSIS - RSK		**Method:NA**						Analyst: SUBCA
Subcontract Analysis	See Attached		0	0		NA	1	21-May-2020 12:34
SUBCONTRACT ANALYSIS - TOC ANALYSIS		**Method:NA**						Analyst: SUBK
Subcontract Analysis	See Attached		0	0		NA	1	15-May-2020 15:30

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

ALS Houston, US Date: 21-May-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
Sample ID: 35BWW08-200506
Collection Date: 06-May-2020 13:20

ANALYTICAL REPORT
WorkOrder:HS20050234
Lab ID:HS20050234-10
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	12-May-2020 19:14
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 19:14
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	UG/L	1	12-May-2020 19:14
1,1,2-Trichlor-1,2,2-trifluoroethane	1.0	U	0.50	1.0	1.0	UG/L	1	12-May-2020 19:14
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 19:14
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 19:14
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 19:14
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 19:14
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 19:14
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	UG/L	1	12-May-2020 19:14
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	UG/L	1	12-May-2020 19:14
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 19:14
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 19:14
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 19:14
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	UG/L	1	12-May-2020 19:14
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 19:14
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	UG/L	1	12-May-2020 19:14
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 19:14
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 19:14
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 19:14
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 19:14
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 19:14
2-Butanone	1.0	U	0.50	1.0	2.0	UG/L	1	12-May-2020 19:14
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 19:14
2-Hexanone	2.0	U	1.0	2.0	2.0	UG/L	1	12-May-2020 19:14
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 19:14
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 19:14
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	UG/L	1	12-May-2020 19:14
Acetone	1.0	U	0.40	1.0	2.0	UG/L	1	12-May-2020 19:14
Benzene	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 19:14
Bromobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 19:14
Bromochloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 19:14
Bromodichloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 19:14
Bromoform	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 19:14
Bromomethane	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 19:14
Carbon disulfide	1.0	U	0.60	1.0	2.0	UG/L	1	12-May-2020 19:14
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	UG/L	1	12-May-2020 19:14
Chlorobenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 19:14
Chloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 19:14

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

ALS Houston, US Date: 21-May-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
Sample ID: 35BWW08-200506
Collection Date: 06-May-2020 13:20

ANALYTICAL REPORT
WorkOrder:HS20050234
Lab ID:HS20050234-10
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	12-May-2020 19:14
Chloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 19:14
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 19:14
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	UG/L	1	12-May-2020 19:14
Dibromochloromethane	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 19:14
Dibromomethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 19:14
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 19:14
Ethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 19:14
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	UG/L	1	12-May-2020 19:14
Isopropylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 19:14
m,p-Xylene	1.0	U	0.50	1.0	2.0	UG/L	1	12-May-2020 19:14
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	12-May-2020 19:14
n-Butylbenzene	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 19:14
n-Propylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 19:14
Naphthalene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 19:14
o-Xylene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 19:14
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 19:14
Styrene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 19:14
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 19:14
Tetrachloroethene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 19:14
Toluene	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 19:14
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 19:14
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 19:14
Trichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 19:14
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 19:14
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 19:14
Surr: 1,2-Dichloroethane-d4	*90.5*			**0**	*81-118*	*%REC*	*1*	*12-May-2020 19:14*
Surr: 4-Bromofluorobenzene	*100*			**0**	*85-114*	*%REC*	*1*	*12-May-2020 19:14*
Surr: Dibromofluoromethane	*91.9*			**0**	*80-119*	*%REC*	*1*	*12-May-2020 19:14*
Surr: Toluene-d8	*107*			**0**	*89-112*	*%REC*	*1*	*12-May-2020 19:14*
ANIONS BY SW9056A		**Method:SW9056**						Analyst: JHD
Chloride	**2.38**		**0.200**	**0.500**	**0.500**	**mg/L**	1	07-May-2020 23:39
Nitrogen, Nitrate (As N)	**0.137**		**0.0300**	**0.100**	**0.100**	**mg/L**	1	07-May-2020 23:39
Sulfate	**15.9**		**0.200**	**0.500**	**0.500**	**mg/L**	1	07-May-2020 23:39
SUBCONTRACT ANALYSIS - RSK		**Method:NA**						Analyst: SUBCA
Subcontract Analysis	See Attached		0	0		NA	1	21-May-2020 12:34
SUBCONTRACT ANALYSIS - TOC ANALYSIS		**Method:NA**						Analyst: SUBK
Subcontract Analysis	See Attached		0	0		NA	1	15-May-2020 15:30

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

ALS Houston, US Date: 21-May-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
Sample ID: Trip Blank
Collection Date: 06-May-2020 00:00

ANALYTICAL REPORT
WorkOrder:HS20050234
Lab ID:HS20050234-11
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	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 14:01
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 14:01
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	UG/L	1	12-May-2020 14:01
1,1,2-Trichlor-1,2,2-trifluoroethane	1.0	U	0.50	1.0	1.0	UG/L	1	12-May-2020 14:01
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 14:01
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 14:01
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 14:01
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 14:01
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 14:01
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	UG/L	1	12-May-2020 14:01
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	UG/L	1	12-May-2020 14:01
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 14:01
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 14:01
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 14:01
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	UG/L	1	12-May-2020 14:01
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 14:01
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	UG/L	1	12-May-2020 14:01
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 14:01
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 14:01
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 14:01
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 14:01
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 14:01
2-Butanone	1.0	U	0.50	1.0	2.0	UG/L	1	12-May-2020 14:01
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 14:01
2-Hexanone	2.0	U	1.0	2.0	2.0	UG/L	1	12-May-2020 14:01
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 14:01
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 14:01
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	UG/L	1	12-May-2020 14:01
Acetone	1.0	U	0.40	1.0	2.0	UG/L	1	12-May-2020 14:01
Benzene	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 14:01
Bromobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 14:01
Bromochloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 14:01
Bromodichloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 14:01
Bromoform	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 14:01
Bromomethane	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 14:01
Carbon disulfide	1.0	U	0.60	1.0	2.0	UG/L	1	12-May-2020 14:01
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	UG/L	1	12-May-2020 14:01
Chlorobenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 14:01
Chloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 14:01

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

ALS Houston, US Date: 21-May-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
Sample ID: Trip Blank
Collection Date: 06-May-2020 00:00

ANALYTICAL REPORT
WorkOrder:HS20050234
Lab ID:HS20050234-11
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	12-May-2020 14:01
Chloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 14:01
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 14:01
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	UG/L	1	12-May-2020 14:01
Dibromochloromethane	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 14:01
Dibromomethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 14:01
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 14:01
Ethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 14:01
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	UG/L	1	12-May-2020 14:01
Isopropylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 14:01
m,p-Xylene	1.0	U	0.50	1.0	2.0	UG/L	1	12-May-2020 14:01
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	12-May-2020 14:01
n-Butylbenzene	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 14:01
n-Propylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 14:01
Naphthalene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 14:01
o-Xylene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 14:01
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 14:01
Styrene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 14:01
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 14:01
Tetrachloroethene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 14:01
Toluene	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 14:01
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 14:01
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 14:01
Trichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 14:01
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 14:01
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 14:01
Surr: 1,2-Dichloroethane-d4	*90.5*			**0**	*81-118*	*%REC*	*1*	*12-May-2020 14:01*
Surr: 4-Bromofluorobenzene	*100.0*			**0**	*85-114*	*%REC*	*1*	*12-May-2020 14:01*
Surr: Dibromofluoromethane	*92.0*			**0**	*80-119*	*%REC*	*1*	*12-May-2020 14:01*
Surr: Toluene-d8	*107*			**0**	*89-112*	*%REC*	*1*	*12-May-2020 14:01*

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

ALS Houston, US Date: 21-May-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
WorkOrder: HS20050234

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: R361452 (0)	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C				**Matrix:** Water	
HS20050234-11	Trip Blank	06 May 2020 00:00			12 May 2020 14:01	1
Batch ID: R361452 (0)	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C				**Matrix:** Groundwater	
HS20050234-01	35BWW10-200506	06 May 2020 07:40			12 May 2020 15:38	1
HS20050234-02	35BWW05-200506	06 May 2020 08:25			12 May 2020 16:02	1
HS20050234-03	35BWW11-200506	06 May 2020 09:10			12 May 2020 16:26	1
HS20050234-04	35BWW01-200506	06 May 2020 09:55			12 May 2020 16:50	1
HS20050234-05	35BWW01-200506-FD	06 May 2020 09:55			12 May 2020 17:14	1
HS20050234-06	35BWW26-200506	06 May 2020 10:40			12 May 2020 17:38	1
HS20050234-07	35BWW04-200506	06 May 2020 11:30			12 May 2020 18:02	1
HS20050234-08	35BWW12-200506	06 May 2020 12:25			12 May 2020 18:26	1
HS20050234-09	35BWW12-200506-FD	06 May 2020 12:25			12 May 2020 18:50	1
HS20050234-10	35BWW08-200506	06 May 2020 13:20			12 May 2020 19:14	1
Batch ID: R361488 (0)	**Test Name :** ANIONS BY SW9056A				**Matrix:** Groundwater	
HS20050234-06	35BWW26-200506	06 May 2020 10:40			07 May 2020 22:26	1
HS20050234-07	35BWW04-200506	06 May 2020 11:30			07 May 2020 22:44	1
HS20050234-08	35BWW12-200506	06 May 2020 12:25			07 May 2020 23:02	1
HS20050234-09	35BWW12-200506-FD	06 May 2020 12:25			07 May 2020 23:21	1
HS20050234-10	35BWW08-200506	06 May 2020 13:20			07 May 2020 23:39	1
Batch ID: R361636 (0)	**Test Name :** SUBCONTRACT ANALYSIS - TOC ANALYSIS				**Matrix:** Groundwater	
HS20050234-06	35BWW26-200506	06 May 2020 10:40			15 May 2020 15:30	1
HS20050234-07	35BWW04-200506	06 May 2020 11:30			15 May 2020 15:30	1
HS20050234-08	35BWW12-200506	06 May 2020 12:25			15 May 2020 15:30	1
HS20050234-09	35BWW12-200506-FD	06 May 2020 12:25			15 May 2020 15:30	1
HS20050234-10	35BWW08-200506	06 May 2020 13:20			15 May 2020 15:30	1
Batch ID: R361926 (0)	**Test Name :** SUBCONTRACT ANALYSIS - RSK				**Matrix:** Groundwater	
HS20050234-06	35BWW26-200506	06 May 2020 10:40			21 May 2020 12:34	1
HS20050234-07	35BWW04-200506	06 May 2020 11:30			21 May 2020 12:34	1
HS20050234-08	35BWW12-200506	06 May 2020 12:25			21 May 2020 12:34	1
HS20050234-09	35BWW12-200506-FD	06 May 2020 12:25			21 May 2020 12:34	1
HS20050234-10	35BWW08-200506	06 May 2020 13:20			21 May 2020 12:34	1

ALS Houston, US Date: 21-May-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
WorkOrder: HS20050234

QC BATCH REPORT

Batch ID: R361452 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MBLK Sample ID: **VBLKW-200512** Units: **UG/L** Analysis Date: **12-May-2020 12:25**
Client ID: Run ID: **VOA6_361452** SeqNo: **5582521** 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	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	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	1.0	1.0								U

ALS Houston, US Date: 21-May-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
WorkOrder: HS20050234

QC BATCH REPORT

Batch ID: R361452 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MBLK Sample ID: **VBLKW-200512** Units: **UG/L** Analysis Date: **12-May-2020 12:25**
Client ID: Run ID: **VOA6_361452** SeqNo: **5582521** 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	1.0	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	*44.7*	*1.0*	*50*	*0*	*89.4*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*49.57*	*1.0*	*50*	*0*	*99.1*	*85 - 114*				
Surr: Dibromofluoromethane	*46.11*	*1.0*	*50*	*0*	*92.2*	*80 - 119*				

ALS Houston, US Date: 21-May-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
WorkOrder: HS20050234

QC BATCH REPORT

Batch ID: R361452 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MBLK Sample ID: **VBLKW-200512** Units: **UG/L** Analysis Date: **12-May-2020 12:25**
Client ID: Run ID: **VOA6_361452** SeqNo: **5582521** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Surr: Toluene-d8	*54.07*	*1.0*	*50*	*0*	*108*	*89 - 112*				

ALS Houston, US Date: 21-May-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
WorkOrder: HS20050234

QC BATCH REPORT

Batch ID: R361452 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

LCS Sample ID: **VLCSW-200512** Units: **UG/L** Analysis Date: **12-May-2020 11:37**
Client ID: Run ID: **VOA6_361452** SeqNo: **5582520** 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	19.61	1.0	20	0	98.1	78 - 124				
1,1,1-Trichloroethane	19.19	1.0	20	0	96.0	74 - 131				
1,1,2,2-Tetrachloroethane	18.01	1.0	20	0	90.0	71 - 121				
1,1,2-Trichlor-1,2,2-trifluoroethane	18.88	1.0	20	0	94.4	70 - 136				
1,1,2-Trichloroethane	18.89	1.0	20	0	94.4	80 - 119				
1,1-Dichloroethane	17.97	1.0	20	0	89.8	77 - 125				
1,1-Dichloroethene	17.66	1.0	20	0	88.3	71 - 131				
1,1-Dichloropropene	18.43	1.0	20	0	92.2	78 - 125				
1,2,3-Trichlorobenzene	22.76	1.0	20	0	114	69 - 129				
1,2,3-Trichloropropane	18.46	1.0	20	0	92.3	73 - 122				
1,2,4-Trichlorobenzene	20.84	1.0	20	0	104	69 - 130				
1,2,4-Trimethylbenzene	19.25	1.0	20	0	96.3	76 - 124				
1,2-Dibromo-3-chloropropane	20.07	1.0	20	0	100	62 - 128				
1,2-Dibromoethane	19.75	1.0	20	0	98.7	77 - 121				
1,2-Dichlorobenzene	18.46	1.0	20	0	92.3	80 - 119				
1,2-Dichloroethane	19.71	1.0	20	0	98.6	73 - 128				
1,2-Dichloropropane	18.42	1.0	20	0	92.1	78 - 122				
1,3,5-Trimethylbenzene	19.22	1.0	20	0	96.1	75 - 124				
1,3-Dichlorobenzene	18.9	1.0	20	0	94.5	80 - 119				
1,3-Dichloropropane	18.95	1.0	20	0	94.7	80 - 119				
1,4-Dichlorobenzene	18.38	1.0	20	0	91.9	79 - 118				
2,2-Dichloropropane	19.49	1.0	20	0	97.4	60 - 139				
2-Butanone	37.8	2.0	40	0	94.5	56 - 143				
2-Chlorotoluene	18.22	1.0	20	0	91.1	79 - 122				
2-Hexanone	34.79	2.0	40	0	87.0	57 - 139				
4-Chlorotoluene	18.31	1.0	20	0	91.5	78 - 122				
4-Isopropyltoluene	19.46	1.0	20	0	97.3	77 - 127				
4-Methyl-2-pentanone	35.31	2.0	40	0	88.3	67 - 130				
Acetone	34.55	2.0	40	0	86.4	39 - 160				
Benzene	18.44	1.0	20	0	92.2	79 - 120				
Bromobenzene	18.93	1.0	20	0	94.6	80 - 120				
Bromochloromethane	19.61	1.0	20	0	98.0	78 - 123				
Bromodichloromethane	19.55	1.0	20	0	97.7	79 - 125				
Bromoform	19.43	1.0	20	0	97.2	66 - 130				

ALS Houston, US Date: 21-May-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
WorkOrder: HS20050234

QC BATCH REPORT

Batch ID: R361452 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

LCS Sample ID: **VLCSW-200512** Units: **UG/L** Analysis Date: **12-May-2020 11:37**
Client ID: Run ID: **VOA6_361452** SeqNo: **5582520** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromomethane	20.86	1.0	20	0	104	53 - 141				
Carbon disulfide	36.31	2.0	40	0	90.8	64 - 133				
Carbon tetrachloride	18.79	1.0	20	0	93.9	72 - 136				
Chlorobenzene	19.02	1.0	20	0	95.1	82 - 118				
Chloroethane	17.79	1.0	20	0	89.0	60 - 138				
Chloroform	19.41	1.0	20	0	97.0	79 - 124				
Chloromethane	16.8	1.0	20	0	84.0	50 - 139				
cis-1,2-Dichloroethene	19.12	1.0	20	0	95.6	78 - 123				
cis-1,3-Dichloropropene	19.06	1.0	20	0	95.3	75 - 124				
Dibromochloromethane	19.81	1.0	20	0	99.0	74 - 126				
Dibromomethane	19.61	1.0	20	0	98.1	79 - 123				
Dichlorodifluoromethane	18.52	1.0	20	0	92.6	32 - 152				
Ethylbenzene	19.18	1.0	20	0	95.9	79 - 121				
Hexachlorobutadiene	23.77	1.0	20	0	119	66 - 134				
Isopropylbenzene	19	1.0	20	0	95.0	72 - 131				
m,p-Xylene	38.39	2.0	40	0	96.0	80 - 121				
Methylene chloride	19.05	2.0	20	0	95.3	74 - 124				
Naphthalene	19.06	1.0	20	0	95.3	61 - 128				
n-Butylbenzene	19.91	1.0	20	0	99.5	75 - 128				
n-Propylbenzene	18.17	1.0	20	0	90.8	76 - 126				
o-Xylene	19.41	1.0	20	0	97.0	78 - 122				
sec-Butylbenzene	18.64	1.0	20	0	93.2	77 - 126				
Styrene	19.33	1.0	20	0	96.7	78 - 123				
tert-Butylbenzene	19.14	1.0	20	0	95.7	78 - 124				
Tetrachloroethene	19.03	1.0	20	0	95.2	74 - 129				
Toluene	19.1	1.0	20	0	95.5	80 - 121				
trans-1,2-Dichloroethene	19.3	1.0	20	0	96.5	75 - 124				
trans-1,3-Dichloropropene	19.62	1.0	20	0	98.1	73 - 127				
Trichloroethene	19.67	1.0	20	0	98.4	79 - 123				
Trichlorofluoromethane	18.51	1.0	20	0	92.5	65 - 141				
Vinyl chloride	16.9	1.0	20	0	84.5	58 - 137				
Surr: 1,2-Dichloroethane-d4	*50.11*	*1.0*	*50*	*0*	*100*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*50.36*	*1.0*	*50*	*0*	*101*	*85 - 114*				
Surr: Dibromofluoromethane	*49.47*	*1.0*	*50*	*0*	*98.9*	*80 - 119*				

ALS Houston, US Date: 21-May-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
WorkOrder: HS20050234

QC BATCH REPORT

Batch ID: R361452 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

LCS Sample ID: **VLCSW-200512** Units: **UG/L** Analysis Date: **12-May-2020 11:37**
Client ID: Run ID: **VOA6_361452** SeqNo: **5582520** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Surr: Toluene-d8	*50.79*	*1.0*	*50*	*0*	*102*	*89 - 112*				

ALS Houston, US Date: 21-May-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
WorkOrder: HS20050234

QC BATCH REPORT

Batch ID: R361452 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS20050234-01MS** Units: **UG/L** Analysis Date: **12-May-2020 19:38**
Client ID: **35BWW10-200506** Run ID: **VOA6_361452** SeqNo: **5582539** 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	20.75	1.0	20	0	104	78 - 124				
1,1,1-Trichloroethane	19.25	1.0	20	0	96.2	74 - 131				
1,1,2,2-Tetrachloroethane	19.41	1.0	20	0	97.0	71 - 121				
1,1,2-Trichlor-1,2,2-trifluoroethane	20.36	1.0	20	0	102	70 - 136				
1,1,2-Trichloroethane	20.08	1.0	20	0	100	80 - 119				
1,1-Dichloroethane	17.62	1.0	20	0	88.1	77 - 125				
1,1-Dichloroethene	17.98	1.0	20	0	89.9	71 - 131				
1,1-Dichloropropene	19.69	1.0	20	0	98.5	78 - 125				
1,2,3-Trichlorobenzene	15.14	1.0	20	0	75.7	69 - 129				
1,2,3-Trichloropropane	19.47	1.0	20	0	97.3	73 - 122				
1,2,4-Trichlorobenzene	15.61	1.0	20	0	78.1	69 - 130				
1,2,4-Trimethylbenzene	21.76	1.0	20	0	109	76 - 124				
1,2-Dibromo-3-chloropropane	19.29	1.0	20	0	96.5	62 - 128				
1,2-Dibromoethane	20.53	1.0	20	0	103	77 - 121				
1,2-Dichlorobenzene	20.23	1.0	20	0	101	80 - 119				
1,2-Dichloroethane	20.36	1.0	20	0	102	73 - 128				
1,2-Dichloropropane	18.83	1.0	20	0	94.2	78 - 122				
1,3,5-Trimethylbenzene	21.71	1.0	20	0	109	75 - 124				
1,3-Dichlorobenzene	21.2	1.0	20	0	106	80 - 119				
1,3-Dichloropropane	20.25	1.0	20	0	101	80 - 119				
1,4-Dichlorobenzene	20.3	1.0	20	0	102	79 - 118				
2,2-Dichloropropane	18.05	1.0	20	0	90.2	60 - 139				
2-Butanone	33.59	2.0	40	0	84.0	56 - 143				
2-Chlorotoluene	20.74	1.0	20	0	104	79 - 122				
2-Hexanone	35.9	2.0	40	0	89.7	57 - 139				
4-Chlorotoluene	20.73	1.0	20	0	104	78 - 122				
4-Isopropyltoluene	21.92	1.0	20	0	110	77 - 127				
4-Methyl-2-pentanone	36.78	2.0	40	0	91.9	67 - 130				
Acetone	25.1	2.0	40	0	62.8	39 - 160				
Benzene	19.33	1.0	20	0	96.7	79 - 120				
Bromobenzene	20.87	1.0	20	0	104	80 - 120				
Bromochloromethane	18.36	1.0	20	0	91.8	78 - 123				
Bromodichloromethane	19.5	1.0	20	0	97.5	79 - 125				
Bromoform	20.74	1.0	20	0	104	66 - 130				

ALS Houston, US Date: 21-May-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
WorkOrder: HS20050234

QC BATCH REPORT

Batch ID: R361452 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS20050234-01MS** Units: **UG/L** Analysis Date: **12-May-2020 19:38**
Client ID: **35BWW10-200506** Run ID: **VOA6_361452** SeqNo: **5582539** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromomethane	16.87	1.0	20	0	84.3	53 - 141				
Carbon disulfide	33.4	2.0	40	0	83.5	64 - 133				
Carbon tetrachloride	20.6	1.0	20	0	103	72 - 136				
Chlorobenzene	20.72	1.0	20	0	104	82 - 118				
Chloroethane	16.86	1.0	20	0	84.3	60 - 138				
Chloroform	18.61	1.0	20	0	93.1	79 - 124				
Chloromethane	13.71	1.0	20	0	68.6	50 - 139				
cis-1,2-Dichloroethene	18.56	1.0	20	0	92.8	78 - 123				
cis-1,3-Dichloropropene	19.01	1.0	20	0	95.1	75 - 124				
Dibromochloromethane	20.82	1.0	20	0	104	74 - 126				
Dibromomethane	19.08	1.0	20	0	95.4	79 - 123				
Dichlorodifluoromethane	11.71	1.0	20	0	58.5	32 - 152				
Ethylbenzene	21.47	1.0	20	0	107	79 - 121				
Hexachlorobutadiene	16.66	1.0	20	0	83.3	66 - 134				
Isopropylbenzene	21.89	1.0	20	0	109	72 - 131				
m,p-Xylene	41.88	2.0	40	0	105	80 - 121				
Methylene chloride	16.89	2.0	20	0	84.4	74 - 124				
Naphthalene	14.22	1.0	20	0	71.1	61 - 128				
n-Butylbenzene	21.73	1.0	20	0	109	75 - 128				
n-Propylbenzene	21.37	1.0	20	0	107	76 - 126				
o-Xylene	20.78	1.0	20	0	104	78 - 122				
sec-Butylbenzene	21.6	1.0	20	0	108	77 - 126				
Styrene	20.86	1.0	20	0	104	78 - 123				
tert-Butylbenzene	22.27	1.0	20	0	111	78 - 124				
Tetrachloroethene	22.57	1.0	20	0	113	74 - 129				
Toluene	20.94	1.0	20	0	105	80 - 121				
trans-1,2-Dichloroethene	19.22	1.0	20	0	96.1	75 - 124				
trans-1,3-Dichloropropene	19.56	1.0	20	0	97.8	73 - 127				
Trichloroethene	20.54	1.0	20	0.6405	99.5	79 - 123				
Trichlorofluoromethane	18.99	1.0	20	0	94.9	65 - 141				
Vinyl chloride	15	1.0	20	0	75.0	58 - 137				
Surr: 1,2-Dichloroethane-d4	*43.98*	*1.0*	*50*	*0*	*88.0*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*49.6*	*1.0*	*50*	*0*	*99.2*	*85 - 114*				
Surr: Dibromofluoromethane	*45.64*	*1.0*	*50*	*0*	*91.3*	*80 - 119*				

ALS Houston, US Date: 21-May-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
WorkOrder: HS20050234

QC BATCH REPORT

Batch ID: R361452 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS20050234-01MS** Units: **UG/L** Analysis Date: **12-May-2020 19:38**
Client ID: **35BWW10-200506** Run ID: **VOA6_361452** SeqNo: **5582539** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Surr: Toluene-d8	*53.19*	*1.0*	*50*	*0*	*106*	*89 - 112*				

ALS Houston, US Date: 21-May-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
WorkOrder: HS20050234

QC BATCH REPORT

Batch ID: R361452 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS20050234-01MSD** Units: **UG/L** Analysis Date: **12-May-2020 20:02**
Client ID: **35BWW10-200506** Run ID: **VOA6_361452** SeqNo: **5582540** 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	21.21	1.0	20	0	106	78 - 124	20.75	2.18	20	
1,1,1-Trichloroethane	18.87	1.0	20	0	94.4	74 - 131	19.25	1.97	20	
1,1,2,2-Tetrachloroethane	19.61	1.0	20	0	98.1	71 - 121	19.41	1.05	20	
1,1,2-Trichlor-1,2,2-trifluoroethane	19.03	1.0	20	0	95.2	70 - 136	20.36	6.75	20	
1,1,2-Trichloroethane	20.62	1.0	20	0	103	80 - 119	20.08	2.64	20	
1,1-Dichloroethane	16.79	1.0	20	0	84.0	77 - 125	17.62	4.79	20	
1,1-Dichloroethene	17.66	1.0	20	0	88.3	71 - 131	17.98	1.75	20	
1,1-Dichloropropene	19.14	1.0	20	0	95.7	78 - 125	19.69	2.82	20	
1,2,3-Trichlorobenzene	18.48	1.0	20	0	92.4	69 - 129	15.14	19.9	20	
1,2,3-Trichloropropane	20.35	1.0	20	0	102	73 - 122	19.47	4.42	20	
1,2,4-Trichlorobenzene	17.87	1.0	20	0	89.3	69 - 130	15.61	13.5	20	
1,2,4-Trimethylbenzene	21.4	1.0	20	0	107	76 - 124	21.76	1.65	20	
1,2-Dibromo-3-chloropropane	19.54	1.0	20	0	97.7	62 - 128	19.29	1.28	20	
1,2-Dibromoethane	21.17	1.0	20	0	106	77 - 121	20.53	3.06	20	
1,2-Dichlorobenzene	20.86	1.0	20	0	104	80 - 119	20.23	3.1	20	
1,2-Dichloroethane	20.25	1.0	20	0	101	73 - 128	20.36	0.556	20	
1,2-Dichloropropane	18.51	1.0	20	0	92.5	78 - 122	18.83	1.76	20	
1,3,5-Trimethylbenzene	21.76	1.0	20	0	109	75 - 124	21.71	0.191	20	
1,3-Dichlorobenzene	21.12	1.0	20	0	106	80 - 119	21.2	0.342	20	
1,3-Dichloropropane	20.37	1.0	20	0	102	80 - 119	20.25	0.583	20	
1,4-Dichlorobenzene	20.29	1.0	20	0	101	79 - 118	20.3	0.0672	20	
2,2-Dichloropropane	17.4	1.0	20	0	87.0	60 - 139	18.05	3.62	20	
2-Butanone	36.93	2.0	40	0	92.3	56 - 143	33.59	9.47	20	
2-Chlorotoluene	20.42	1.0	20	0	102	79 - 122	20.74	1.56	20	
2-Hexanone	35.98	2.0	40	0	89.9	57 - 139	35.9	0.21	20	
4-Chlorotoluene	20.5	1.0	20	0	102	78 - 122	20.73	1.12	20	
4-Isopropyltoluene	22.16	1.0	20	0	111	77 - 127	21.92	1.09	20	
4-Methyl-2-pentanone	37.73	2.0	40	0	94.3	67 - 130	36.78	2.56	20	
Acetone	26.47	2.0	40	0	66.2	39 - 160	25.1	5.29	20	
Benzene	18.72	1.0	20	0	93.6	79 - 120	19.33	3.25	20	
Bromobenzene	20.86	1.0	20	0	104	80 - 120	20.87	0.0491	20	
Bromochloromethane	18.29	1.0	20	0	91.5	78 - 123	18.36	0.376	20	
Bromodichloromethane	19.37	1.0	20	0	96.8	79 - 125	19.5	0.682	20	
Bromoform	20.45	1.0	20	0	102	66 - 130	20.74	1.41	20	

ALS Houston, US Date: 21-May-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
WorkOrder: HS20050234

QC BATCH REPORT

Batch ID: R361452 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS20050234-01MSD** Units: **UG/L** Analysis Date: **12-May-2020 20:02**
Client ID: **35BWW10-200506** Run ID: **VOA6_361452** SeqNo: **5582540** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Bromomethane	16.43	1.0	20	0	82.2	53 - 141	16.87	2.6	20	
Carbon disulfide	32.26	2.0	40	0	80.6	64 - 133	33.4	3.46	20	
Carbon tetrachloride	19.78	1.0	20	0	98.9	72 - 136	20.6	4.07	20	
Chlorobenzene	20.5	1.0	20	0	102	82 - 118	20.72	1.06	20	
Chloroethane	15.62	1.0	20	0	78.1	60 - 138	16.86	7.59	20	
Chloroform	18.13	1.0	20	0	90.6	79 - 124	18.61	2.63	20	
Chloromethane	13.23	1.0	20	0	66.2	50 - 139	13.71	3.56	20	
cis-1,2-Dichloroethene	18.23	1.0	20	0	91.2	78 - 123	18.56	1.76	20	
cis-1,3-Dichloropropene	19.07	1.0	20	0	95.3	75 - 124	19.01	0.27	20	
Dibromochloromethane	20.58	1.0	20	0	103	74 - 126	20.82	1.13	20	
Dibromomethane	19.14	1.0	20	0	95.7	79 - 123	19.08	0.299	20	
Dichlorodifluoromethane	11.37	1.0	20	0	56.9	32 - 152	11.71	2.89	20	
Ethylbenzene	21.13	1.0	20	0	106	79 - 121	21.47	1.62	20	
Hexachlorobutadiene	20.13	1.0	20	0	101	66 - 134	16.66	18.8	20	
Isopropylbenzene	21.2	1.0	20	0	106	72 - 131	21.89	3.18	20	
m,p-Xylene	41.44	2.0	40	0	104	80 - 121	41.88	1.07	20	
Methylene chloride	16.79	2.0	20	0	83.9	74 - 124	16.89	0.578	20	
Naphthalene	17.68	1.0	20	0	88.4	61 - 128	14.22	21.7	20	R
n-Butylbenzene	21.86	1.0	20	0	109	75 - 128	21.73	0.602	20	
n-Propylbenzene	21.02	1.0	20	0	105	76 - 126	21.37	1.64	20	
o-Xylene	20.78	1.0	20	0	104	78 - 122	20.78	0.0284	20	
sec-Butylbenzene	21.63	1.0	20	0	108	77 - 126	21.6	0.146	20	
Styrene	20.76	1.0	20	0	104	78 - 123	20.86	0.473	20	
tert-Butylbenzene	21.88	1.0	20	0	109	78 - 124	22.27	1.75	20	
Tetrachloroethene	21.78	1.0	20	0	109	74 - 129	22.57	3.58	20	
Toluene	20.64	1.0	20	0	103	80 - 121	20.94	1.45	20	
trans-1,2-Dichloroethene	18.44	1.0	20	0	92.2	75 - 124	19.22	4.15	20	
trans-1,3-Dichloropropene	19.18	1.0	20	0	95.9	73 - 127	19.56	1.96	20	
Trichloroethene	20.13	1.0	20	0.6405	97.4	79 - 123	20.54	2.04	20	
Trichlorofluoromethane	18.14	1.0	20	0	90.7	65 - 141	18.99	4.57	20	
Vinyl chloride	14.43	1.0	20	0	72.1	58 - 137	15	3.91	20	
Surr: 1,2-Dichloroethane-d4	*45.01*	*1.0*	*50*	*0*	*90.0*	*81 - 118*	*43.98*	*2.31*	*20*	
Surr: 4-Bromofluorobenzene	*50.18*	*1.0*	*50*	*0*	*100*	*85 - 114*	*49.6*	*1.16*	*20*	
Surr: Dibromofluoromethane	*46.04*	*1.0*	*50*	*0*	*92.1*	*80 - 119*	*45.64*	*0.86*	*20*	

ALS Houston, US Date: 21-May-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
WorkOrder: HS20050234

QC BATCH REPORT

Batch ID: R361452 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS20050234-01MSD** Units: **UG/L** Analysis Date: **12-May-2020 20:02**
Client ID: **35BWW10-200506** Run ID: **VOA6_361452** SeqNo: **5582540** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Surr: Toluene-d8	*53.86*	*1.0*	*50*	*0*	*108*	*89 - 112*	*53.19*	*1.24*	*20*	

The following samples were analyzed in this batch:

HS20050234-01	HS20050234-02	HS20050234-03	HS20050234-04
HS20050234-05	HS20050234-06	HS20050234-07	HS20050234-08
HS20050234-09	HS20050234-10	HS20050234-11	

ALS Houston, US Date: 21-May-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
WorkOrder: HS20050234

QC BATCH REPORT

Batch ID: R361488 (0) **Instrument: ICS-Integrion** **Method: ANIONS BY SW9056A**

MBLK Sample ID: **WBLKW1-050720** Units: **mg/L** Analysis Date: **08-May-2020 07:47**
Client ID: Run ID: **ICS-Integrion_361488** SeqNo: **5583327** 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: **WLCSW1-050720** Units: **mg/L** Analysis Date: **08-May-2020 08:05**
Client ID: Run ID: **ICS-Integrion_361488** SeqNo: **5583328** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	19.78	0.500	20	0	98.9	80 - 120				
Nitrogen, Nitrate (As N)	4.104	0.100	4	0	103	80 - 120				
Sulfate	19.53	0.500	20	0	97.7	80 - 120				

LCSD Sample ID: **WLCSDW1-050720** Units: **mg/L** Analysis Date: **08-May-2020 08:24**
Client ID: Run ID: **ICS-Integrion_361488** SeqNo: **5583329** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	19.75	0.500	20	0	98.7	80 - 120	19.78	0.162	20	
Nitrogen, Nitrate (As N)	4.09	0.100	4	0	102	80 - 120	4.104	0.354	20	
Sulfate	19.54	0.500	20	0	97.7	80 - 120	19.53	0.0276	20	

MS Sample ID: **HS20050230-01MS** Units: **mg/L** Analysis Date: **07-May-2020 21:32**
Client ID: Run ID: **ICS-Integrion_361488** SeqNo: **5583309** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	41.62	0.500	10	32	96.2	80 - 120				
Nitrogen, Nitrate (As N)	2.696	0.100	2	0.5868	105	80 - 120				
Sulfate	29.57	0.500	10	19.72	98.5	80 - 120				

ALS Houston, US Date: 21-May-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
WorkOrder: HS20050234

QC BATCH REPORT

Batch ID: R361488 (0) **Instrument: ICS-Integrion** **Method: ANIONS BY SW9056A**

MSD Sample ID: **HS20050230-01MSD** Units: **mg/L** Analysis Date: **07-May-2020 21:50**
Client ID: Run ID: **ICS-Integrion_361488** SeqNo: **5583310** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	41.17	0.500	10	32	91.8	80 - 120	41.62	1.07	20	
Nitrogen, Nitrate (As N)	2.567	0.100	2	0.5868	99.0	80 - 120	2.696	4.91	20	
Sulfate	28.98	0.500	10	19.72	92.7	80 - 120	29.57	2	20	

The following samples were analyzed in this batch: HS20050234-06 HS20050234-07 HS20050234-08 HS20050234-09 HS20050234-10

ALS Houston, US Date: 21-May-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
WorkOrder: **HS20050234**

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
Arkansas	20-030-0	26-Mar-2021
Dept of Defense	ANAB L2231 V009	22-Dec-2021
Florida	E87611-28	30-Jun-2020
Kansas	E-10352 2019-2020	31-Jul-2020
Louisiana	03087, 2019-2020	30-Jun-2020
Maryland	343, 2019-2020	30-Jun-2020
North Carolina	624-2020	31-Dec-2020
Oklahoma	2019-141	31-Aug-2020
Texas	T104704231-20-26	30-Apr-2021

ALS Houston, US Date: 21-May-20

Sample Receipt Checklist

Work Order ID: HS20050234 **Date/Time Received:** 07-May-2020 09:05

Client Name: CBI-Houston **Received by:** Paresh M. Giga

Completed By:	/S/ Paresh M. Giga	07-May-2020 12:28	**Reviewed by:**	/S/ RJ Modashia	07-May-2020 14:23
	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 ☐	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):	1.3C U/C	IR25	
Cooler(s)/Kit(s):	Blue		
Date/Time sample(s) sent to storage:	5/7/2020 12:50		
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:

CHAIN OF CUSTODY

Name Of Lab Shipping To: ALS 10450 Stancliff Rd. Suite 210 Houston, TX. 77099 (281) 530-5656 ATTN: R.J Modashia

Page 1 of 1

Project: APTIM LONGHORN
ARMY AMMN. PLANT (LHAAP)
GROUNDWATER TREATMENT PLANT (GWTP)
KARNACK, TEXAS

Project No. 501032

Job: **37MAY 2020_ALS**

Prepared By: Scott Beesinger

P.O. Number

HS20050234
Aptim Environmental & Infrastucture, Inc.
Longhorn Army Ammunition Plant

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.#
35BWW10-200506	WG	5/6/20/0740		3	X										
35BWW05-200506	WG	5/6/20/0825		3	X										
35BWW11-200506	WG	5/6/20/0910		3	X										
35BWW01-200506	WG	5/6/20/0955		3	X										
35BWW01-200506-FD	WG	5/6/20/0955		3	X										
35BWW26-200506	WG	5/6/20/1040		12	X	X	X	X	X						
35BWW04-200506	WG	5/6/20/1130		12	X	X	X	X	X						
35BWW12-200506	WG	5/6/20/1225		12	X	X	X	X	X						

Additional Remarks: **Standard TAT on all parameters. Please email results to Susan.Huang@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	5/6/20	1430									

For Lab Use Only

Received At Lab By:	Date	Time	Airbill No.	Opened By:	Date	Time	Temp of Container	Seal No.	Condition
PG	05/07/20	09:05							

Remarks: b/ue UTC 1.3 IR 25 CIF-0

(Word) S:\1-ces\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: R.J Modashia

Page 1 of 1

Project: APTIM LONGHORN
ARMY AMMN. PLANT (LHAAP)
GROUNDWATER TREATMENT PLANT (GWTP)
KARNACK, TEXAS

Project No. 501032

Job: 37MAY 2020_ALS

Prepared By: Scott Beesinger

P.O. Number

HS20050234
Aptim Environmental & Infrastucture, Inc.
Longhorn Army Ammunition Plant

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.#
35BWW12-200506-FD	WG	5/6/20/1225		12	X	X	X	X	X						
35BWW08-200506	WG	5/6/20/1320		12	X	X	X	X	X						
TRIP BLANK	W	5/6/20		2	X										

Additional Remarks: **Standard TAT on all parameters. Please email results to Susan.Huang@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	5/6/20	1430									

For Lab Use Only

Received At Lab By:	Date	Time	Airbill No.	Opened By:	Date	Time	Temp of Container	Seal No.	Condition
PG	05/07/20	9:05							

Remarks: blue 1.3 uic TR25 clr-0

(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

Blue

CUSTODY SEAL

Date: 5/6/20 Time: 1430
Name: Scott Beesinger
Company: BHHT9

Seal Broken By: BM
Date: 05/07/20

Blue MAY 0 7 2020

Must Deliver Next Business Day
Time and Tempature Sensitive!

Blue

ORIGIN ID:SGRA (803) 930-6193
SCOTT BEESINGER
APTIM
1203-B EAST GRAND AVE.
PM9202
MARSHALL, TX 75670
UNITED STATES US

SHIP DATE: 18APR20
ACTWGT: 1.00 LB MAN
CAD: 3001130/CAFE3211
DIMS: 19x16x13 IN

TO CLIENT SERVICES
ALS LABORATORY GROUP
10450 STANCLIFF ROAD
SUITE 210
HOUSTON TX 77099
(281) 530-5656
REF: LHAAP-37-BD.71452-RJ
RMA:

FedEx Express

FedEx
TRK# 0221 1251 0296 4935

THU - 07 MAY 10:30A
PRIORITY OVERNIGHT

AB SGRA

77099
TX-US
IAH

FID 162785 06MAY20 GGGA 58BC3/2925/05A2

ALS Environmental
ALS Group USA, Corp
1317 South 13th Avenue
Kelso, WA 98626
T : +1 360 577 7222
F : +1 360 636 1068
www.alsglobal.com

May 15, 2020

Analytical Report for Service Request No: K2003792

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

RE: ALS Houston DOD TOC / HS20050234

Dear RJ,

Enclosed are the results of the sample(s) submitted to our laboratory May 08, 2020
For your reference, these analyses have been assigned our service request number **K2003792.**

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

ALS Environmental
ALS Group USA, Corp
1317 South 13th Avenue
Kelso, WA 98626
T : +1 360 577 7222
F : +1 360 636 1068
www.alsglobal.com

Table of Contents

Acronyms
Qualifiers
State Certifications, Accreditations, And Licenses
Case Narrative
Chain of Custody
General Chemistry
Raw Data
    General Chemistry

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
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577- 7222 Fax (360)636-1 068
www.alsglobal.com

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

ALS Environmental

Client: ALS Environmental - US
Project: ALS Houston DOD TOC
Sample Matrix: Ground Water

Service Request: K2003792
Date Received: 05/08/2020

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:

Five ground water samples were received for analysis at ALS Environmental on 05/08/2020. 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:

No significant anomalies were noted with this analysis.

Approved by Noe D. Davis Date 05/15/2020

Chain of Custody

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577- 7222 Fax (360)636-1 068
www.alsglobal.com

K2003792

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:** **13867**

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:	HS20050234
TSR:	Sonia West

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS20050234-06**	**35BWW26-200506**	**Groundwater**	**06 May 2020 10:40**
	TOC Analysis with DOD Level IV/EQuIS APTIM EDD			21 May 2020
2.	**HS20050234-07**	**35BWW04-200506**	**Groundwater**	**06 May 2020 11:30**
	TOC Analysis with DOD Level IV/EQuIS APTIM EDD			21 May 2020
3.	**HS20050234-08**	**35BWW12-200506**	**Groundwater**	**06 May 2020 12:25**
	TOC Analysis with DOD Level IV/EQuIS APTIM EDD			21 May 2020
4.	**HS20050234-09**	**35BWW12-200506-FD**	**Groundwater**	**06 May 2020 12:25**
	TOC Analysis with DOD Level IV/EQuIS APTIM EDD			21 May 2020
5.	**HS20050234-10**	**35BWW08-200506**	**Groundwater**	**06 May 2020 13:20**
	TOC Analysis with DOD Level IV/EQuIS APTIM EDD			21 May 2020

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

QC Level: DOD IV (DoD Data Package)

K2003792

Subcontract Chain of Custody

SAMPLING STATE: **Dept of Defense** **COC ID:** **13867**

Relinquished By:	[signature]	Date/Time:	5/7/20 18:00
Received By:	[signature]	Date/Time:	518120 1000
Cooler ID(s):		Temperature(s):	

PC KL

Cooler Receipt and Preservation Form

Client Air - Houston Service Request K20 03792

Received: 5/8/20 Opened: 5/8/20 By: BR Unloaded: 5/8/20 By: BR

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

Temp Blank	Sample 1	Sample 2	Sample 3	Sample 4	IR GUN	Cooler / COC ID NA	Tracking Number NA	Filed
–	3.3	3.4	3.6	3.3	48900483		1251029684600	

4. Packing material: *Inserts* *Baggies* *Bubble Wrap* *Gel Packs* *Wet Ice* *Dry Ice* *Sleeves* _____
5. Were custody papers properly filled out (ink, signed, etc.)? NA Y N
6. Were samples received in good condition (temperature, unbroken)? *Indicate in the table below.* NA Y N

   If applicable, tissue samples were received: *Frozen* *Partially Thawed* *Thawed*
7. Were all sample labels complete (i.e analysis, preservation, etc.)? NA Y N
8. Did all sample labels and tags agree with custody papers? *Indicate major discrepancies in the table on page 2.* NA Y N
9. Were appropriate bottles/containers and volumes received for the tests indicated? NA Y N
10. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* NA Y N
11. Were VOA vials received without headspace? *Indicate in the table below.* NA Y N
12. Was C12/Res negative? NA Y N

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count Bottle Type	Out of Temp	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)636-1 068
www.alsglobal.com

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	K2003792
Project:	ALS Houston DOD TOC/HS20050234	**Date Collected:**	05/6/20
Sample Matrix:	Ground Water	**Date Received:**	05/8/20
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
35BWW26-200506	K2003792-001	**2.14**	0.50	0.20	0.07	1	05/13/20 06:19	
35BWW04-200506	K2003792-002	**1.96**	0.50	0.20	0.07	1	05/13/20 06:47	
35BWW12-200506	K2003792-003	**1.40**	0.50	0.20	0.07	1	05/13/20 07:15	
35BWW12-200506-FD	K2003792-004	**1.25**	0.50	0.20	0.07	1	05/13/20 07:43	
35BWW08-200506	K2003792-005	**1.14**	0.50	0.20	0.07	1	05/13/20 09:10	
Method Blank	K2003792-MB	ND U	0.50	0.20	0.07	1	05/12/20 23:41	

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	K2003792
Project	ALS Houston DOD TOC/HS20050234	**Date Collected:**	05/06/20
Sample Matrix:	Ground Water	**Date Received:**	05/08/20
Analysis Method:	SM 5310 C	**Units:**	mg/L
Prep Method:	None	**Basis:**	NA

Replicate Sample Summary
Carbon, Total Organic

Sample Name:	Lab Code:	MRL	LOQ	MDL	Sample Result	Duplicate Result	Average	RPD	RPD Limit	Date Analyzed
35BWW26-200506	K2003792-001DUP	0.50	0.20	0.07	2.14	1.48	1.81	37 #	10	05/13/20
35BWW04-200506	K2003792-002DUP	0.50	0.20	0.07	1.96	1.87	1.92	5	10	05/13/20
35BWW12-200506	K2003792-003DUP	0.50	0.20	0.07	1.40	1.27	1.33	10	10	05/13/20
35BWW12-200506-FD	K2003792-004DUP	0.50	0.20	0.07	1.25	1.18	1.21	6	10	05/13/20
35BWW08-200506	K2003792-005DUP	0.50	0.20	0.07	1.14	1.01	1.07	12 #	10	05/13/20

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:**	K2003792
Project:	ALS Houston DOD TOC/HS20050234	**Date Analyzed:**	05/12/20
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:	679905

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K2003792-LCS	25.5	25.0	102	83-117

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US **Service Request:** K2003792
Project: ALS Houston DOD TOC/HS20050234

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	679905	KQ2006459-01	05/12/20 23:11	25.0	26.0	104	90-110
CCV2	679905	KQ2006459-02	05/13/20 03:00	25.0	25.9	104	90-110
CCV3	679905	KQ2006459-03	05/13/20 08:11	25.0	25.8	103	90-110
CCV4	679905	KQ2006459-04	05/13/20 12:54	25.0	26.0	104	90-110

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US **Service Request:**K2003792
Project: ALS Houston DOD TOC/HS20050234

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	679905	KQ2006459-05	05/12/20 23:26	0.50	0.20	0.07	0.09	J
CCB2	679905	KQ2006459-06	05/13/20 03:16	0.50	0.20	0.07	ND	U
CCB3	679905	KQ2006459-07	05/13/20 08:26	0.50	0.20	0.07	0.15	J
CCB4	679905	KQ2006459-08	05/13/20 13:09	0.50	0.20	0.07	ND	U

Raw Data

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

General Chemistry

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577- 7222 Fax (360)636-1 068
www.alsglobal.com

Work Request # Original ( ) K2003631, 3711, 3723, 3737, 3742, 3746, 3791, 3792, 3793, 3814, 3842

Tier: IV II I II II II IV IV IV IV II

Date Analyzed: 5/12/20

Analyst: BCP

Analysis: DOC/DOC

TOC: 679905, 679906

Run # POC: 679907

DATA QUALITY REPORT
INORGANICS

Explain any "no" responses to questions below, and any corrective actions in the comments section below.

1.	Is the method name and number correct and appropriate?	yes/no/NA
2.	Holding times met for all analyses and for all samples?	yes/no/NA
3.	Are calculations correct?	yes/no/NA
4.	Is the reporting basis correct? (Dry Weight)	yes/no/NA
5.	All quality control criteria met?	yes/no
6.	Is the calibration curve correlation coefficient ≥ 0.995?	yes/no/NA
7.	MBs, CCVs, CCBs, LCSs, Dups, and Spikes, analyzed at proper frequency?	yes/no/NA
8.	Are ICVs, CCVs, and CCBs all within acceptance limits?	yes/no/NA
9.	Are results for methods blanks all ND?	yes/no/NA
10.	Are all QC samples within acceptance criteria? (LCS % rec, MS/DMS % rec, DUP or MS/DMS RPDs, etc.)	yes/no/NA 5/14/20
11.	Are all exceptions explained?	yes/no/NA
12.	Have all applicable service requests been reviewed?	yes/no/NA
13.	Are all samples labeled correctly?	yes/no/NA
14.	Have all instructions on the service request been followed? (e.g. Special MRLs, QC on a specific sample, Form V)	yes/no/NA
15.	Are detection limits and units reported correctly?	yes/no/NA
16.	Is the unused space on the benchsheet crossed out?	yes/no/NA
17.	Was analysis turned in by the due date? (n-2) (If not record SR#)	yes/no/NA

COMMENTS: K2003737-MB, 3792-1, 3792-S, 3814-1, 3814-2, 3814-3, 3842-10, 3842-4, 3842-S, 3842-6, 3842-7 and respective dups report a high %RSD. However, these samples are less than 5x the MRL.

Final Approved by: _____ Date: 5/14/20

DQREPORT

Analytical Results Summary

Instrument Name: K-TOC-03 **Analyst:** BDITZLER **Analysis Lot:** 679905 **Method/Testcode:** SM 5310 C/TOC T

Lab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Amt.	Final Result	Dil	MDL	PQL	% Rec	% RSD	Date Analyzed	QC?	Tier
K2003631-010	Carbon, Total Organic	N/A		Water	0.05 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			5/13/20 10:06:00	N	IV
K2003711-001	Carbon, Total Organic	N/A		Drinking Water	0.57 mg/L	10 mL	0.57 mg/L	1	0.07	0.50			5/13/20 00:39:00	N	II
K2003723-001	Carbon, Total Organic	N/A		Water	5.89 mg/L	10 mL	589 mg/L	100	7	50			5/13/20 02:04:00	N	I
K2003737-001	Carbon, Total Organic	N/A		Drinking Water	0.73 mg/L	10 mL	0.73 mg/L	1	0.07	0.50			5/13/20 02:32:00	N	II
K2003742-001	Carbon, Total Organic	N/A		Water	6.84 mg/L	10 mL	6.84 mg/L	1	0.07	0.50			5/13/20 01:36:00	N	II
K2003746-001	Carbon, Total Organic	N/A		Water	2.22 mg/L	10 mL	2.22 mg/L	1	0.07	0.50			5/13/20 03:30:00	N	II
K2003791-001	Carbon, Total Organic	N/A		Ground Water	2.64 mg/L	10 mL	2.64 mg/L	1	0.07	0.50			5/13/20 03:59:00	N	IV
K2003791-002	Carbon, Total Organic	N/A		Ground Water	16.72 mg/L	10 mL	334 mg/L	20	2	10			5/13/20 04:27:00	N	IV
K2003791-003	Carbon, Total Organic	N/A		Ground Water	4.37 mg/L	10 mL	4.37 mg/L	1	0.07	0.50			5/13/20 04:55:00	N	IV
K2003791-004	Carbon, Total Organic	N/A		Ground Water	4.52 mg/L	10 mL	4.52 mg/L	1	0.07	0.50			5/13/20 05:23:00	N	IV
K2003791-005	Carbon, Total Organic	N/A		Ground Water	24.99 mg/L	10 mL	25.0 mg/L	1	0.07	0.50			5/13/20 05:51:00	N	IV
K2003792-001	Carbon, Total Organic	N/A		Ground Water	2.14 mg/L	10 mL	2.14 mg/L	1	0.07	0.50			5/13/20 06:19:00	N	IV
K2003792-002	Carbon, Total Organic	N/A		Ground Water	1.96 mg/L	10 mL	1.96 mg/L	1	0.07	0.50			5/13/20 06:47:00	N	IV
K2003792-003	Carbon, Total Organic	N/A		Ground Water	1.40 mg/L	10 mL	1.40 mg/L	1	0.07	0.50			5/13/20 07:15:00	N	IV
K2003792-004	Carbon, Total Organic	N/A		Ground Water	1.25 mg/L	10 mL	1.25 mg/L	1	0.07	0.50			5/13/20 07:43:00	N	IV
K2003792-005	Carbon, Total Organic	N/A		Ground Water	1.14 mg/L	10 mL	1.14 mg/L	1	0.07	0.50			5/13/20 09:10:00	N	IV
K2003793-001	Carbon, Total Organic	N/A		Water	2.34 mg/L	10 mL	2.34 mg/L	1	0.07	0.50			5/13/20 09:38:00	N	IV
K2003814-001	Carbon, Total Organic	N/A		Water	0.42 mg/L	10 mL	0.42 mg/L J	1	0.07	0.50			5/13/20 10:34:00	N	IV
K2003814-002	Carbon, Total Organic	N/A		Water	0.40 mg/L	10 mL	0.40 mg/L J	1	0.07	0.50			5/13/20 11:02:00	N	IV
K2003814-003	Carbon, Total Organic	N/A		Water	0.41 mg/L	10 mL	0.41 mg/L J	1	0.07	0.50			5/13/20 11:30:00	N	IV
KQ2006459-01	Carbon, Total Organic	CCV		Drinking Water	26.03 mg/L	10 mL	26.0 mg/L	1					5/12/20 23:11:00	N	II
KQ2006459-02	Carbon, Total Organic	CCV		Drinking Water	25.90 mg/L	10 mL	25.9 mg/L	1					5/13/20 03:00:00	N	II
KQ2006459-03	Carbon, Total Organic	CCV		Drinking Water	25.77 mg/L	10 mL	25.8 mg/L	1					5/13/20 08:11:00	N	II
KQ2006459-04	Carbon, Total Organic	CCV		Drinking Water	26.05 mg/L	10 mL	26.0 mg/L	1					5/13/20 12:54:00	N	II
KQ2006459-05	Carbon, Total Organic	CCB		Drinking Water	0.09 mg/L	10 mL	0.09 mg/L J	1	0.07	0.50			5/12/20 23:26:00	N	II
KQ2006459-06	Carbon, Total Organic	CCB		Drinking Water	0.03 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			5/13/20 03:16:00	N	II
KQ2006459-07	Carbon, Total Organic	CCB		Drinking Water	0.15 mg/L	10 mL	0.15 mg/L J	1	0.07	0.50			5/13/20 08:26:00	N	II

# indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

Analytical Results Summary

Instrument Name: K-TOC-03 **Analyst:** BDITZLER **Analysis Lot:** 679905 **Method/Testcode:** SM 5310 C/TOC T

Lab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Amt.	Final Result	Dil	MDL	PQL	% Rec	% RSD	Date Analyzed	QC?	Tier
KQ2006459-08	Carbon, Total Organic	CCB		Drinking Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			5/13/20 13:09:00	N	II
KQ2006459-09	Carbon, Total Organic	MB		Drinking Water	0.03 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			5/12/20 23:41:00	N	II
KQ2006459-10	Carbon, Total Organic	LCS		Drinking Water	25.46 mg/L	10 mL	25.5 mg/L	1	0.07	0.50	102		5/12/20 23:55:00	N	II
KQ2006459-11	Carbon, Total Organic	MS	K2003711-001	Drinking Water	26.26 mg/L	10 mL	26.3 mg/L	1	0.07	0.50	103		5/13/20 01:07:00	N	II
KQ2006459-12	Carbon, Total Organic	DUP	K2003631-010	Water	0.01 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50		NC	5/13/20 10:06:00	N	IV
KQ2006459-13	Carbon, Total Organic	DUP	K2003711-001	Drinking Water	0.57 mg/L	10 mL	0.57 mg/L	1	0.07	0.50		<1	5/13/20 00:39:00	N	II
KQ2006459-14	Carbon, Total Organic	DUP	K2003723-001	Water	6.19 mg/L	10 mL	619 mg/L	100	7	50		5	5/13/20 02:04:00	N	I
KQ2006459-15	Carbon, Total Organic	DUP	K2003737-001	Drinking Water	0.58 mg/L	10 mL	0.58 mg/L	1	0.07	0.50		23*	5/13/20 02:32:00	N	II
KQ2006459-16	Carbon, Total Organic	DUP	K2003742-001	Water	6.87 mg/L	10 mL	6.87 mg/L	1	0.07	0.50		<1	5/13/20 01:36:00	N	II
KQ2006459-17	Carbon, Total Organic	DUP	K2003746-001	Water	2.10 mg/L	10 mL	2.10 mg/L	1	0.07	0.50		5	5/13/20 03:30:00	N	II
KQ2006459-18	Carbon, Total Organic	DUP	K2003791-002	Ground Water	17.08 mg/L	10 mL	342 mg/L	20	2	10		2	5/13/20 04:27:00	N	IV
KQ2006459-19	Carbon, Total Organic	DUP	K2003791-001	Ground Water	2.51 mg/L	10 mL	2.51 mg/L	1	0.07	0.50		5	5/13/20 03:59:00	N	IV
KQ2006459-20	Carbon, Total Organic	DUP	K2003791-003	Ground Water	4.37 mg/L	10 mL	4.37 mg/L	1	0.07	0.50		<1	5/13/20 04:55:00	N	IV
KQ2006459-21	Carbon, Total Organic	DUP	K2003791-004	Ground Water	4.29 mg/L	10 mL	4.29 mg/L	1	0.07	0.50		5	5/13/20 05:23:00	N	IV
KQ2006459-22	Carbon, Total Organic	DUP	K2003791-005	Ground Water	25.28 mg/L	10 mL	25.3 mg/L	1	0.07	0.50		1	5/13/20 05:51:00	N	IV
KQ2006459-23	Carbon, Total Organic	DUP	K2003792-002	Ground Water	1.87 mg/L	10 mL	1.87 mg/L	1	0.07	0.50		5	5/13/20 06:47:00	N	IV
KQ2006459-24	Carbon, Total Organic	DUP	K2003792-001	Ground Water	1.48 mg/L	10 mL	1.48 mg/L	1	0.07	0.50		37*	5/13/20 06:19:00	N	IV
KQ2006459-25	Carbon, Total Organic	DUP	K2003792-003	Ground Water	1.27 mg/L	10 mL	1.27 mg/L	1	0.07	0.50		10	5/13/20 07:15:00	N	IV
KQ2006459-26	Carbon, Total Organic	DUP	K2003792-004	Ground Water	1.18 mg/L	10 mL	1.18 mg/L	1	0.07	0.50		6	5/13/20 07:43:00	N	IV
KQ2006459-27	Carbon, Total Organic	DUP	K2003792-005	Ground Water	1.01 mg/L	10 mL	1.01 mg/L	1	0.07	0.50		12*	5/13/20 09:10:00	N	IV
KQ2006459-28	Carbon, Total Organic	DUP	K2003793-001	Water	2.37 mg/L	10 mL	2.37 mg/L	1	0.07	0.50		1	5/13/20 09:38:00	N	IV
KQ2006459-29	Carbon, Total Organic	DUP	K2003814-001	Water	0.38 mg/L	10 mL	0.38 mg/L J	1	0.07	0.50		11*	5/13/20 10:34:00	N	IV
KQ2006459-30	Carbon, Total Organic	DUP	K2003814-002	Water	0.34 mg/L	10 mL	0.34 mg/L J	1	0.07	0.50		15*	5/13/20 11:02:00	N	IV
KQ2006459-31	Carbon, Total Organic	DUP	K2003814-003	Water	0.35 mg/L	10 mL	0.35 mg/L J	1	0.07	0.50		15*	5/13/20 11:30:00	N	IV

# indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

Analytical Results Summary

Instrument Name: K-TOC-03 **Analyst:** BDITZLER **Analysis Lot:** 679906 **Method/Testcode:** SM 5310 C/TOC T

Lab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Amt.	Final Result	Dil	MDL	PQL	% Rec	% RSD	Date Analyzed	QC?	Tier
K2003842-001	Carbon, Total Organic	N/A		Water	1.82 mg/L	10 mL	1.82 mg/L	1	0.07	0.50			5/13/20 11:58:00	N	II
K2003842-002	Carbon, Total Organic	N/A		Water	1.08 mg/L	10 mL	1.08 mg/L	1	0.07	0.50			5/13/20 12:26:00	N	II
K2003842-003	Carbon, Total Organic	N/A		Water	0.62 mg/L	10 mL	0.62 mg/L	1	0.07	0.50			5/13/20 13:24:00	N	II
K2003842-004	Carbon, Total Organic	N/A		Water	0.56 mg/L	10 mL	0.56 mg/L	1	0.07	0.50			5/13/20 13:52:00	N	II
K2003842-005	Carbon, Total Organic	N/A		Water	0.58 mg/L	10 mL	0.58 mg/L	1	0.07	0.50			5/13/20 14:20:00	N	II
K2003842-006	Carbon, Total Organic	N/A		Water	0.54 mg/L	10 mL	0.54 mg/L	1	0.07	0.50			5/13/20 14:48:00	N	II
K2003842-007	Carbon, Total Organic	N/A		Water	0.43 mg/L	10 mL	0.43 mg/L J	1	0.07	0.50			5/13/20 15:16:00	N	II
K2003842-008	Carbon, Total Organic	N/A		Water	0.59 mg/L	10 mL	0.59 mg/L	1	0.07	0.50			5/13/20 15:44:00	N	II
K2003842-009	Carbon, Total Organic	N/A		Water	0.71 mg/L	10 mL	0.71 mg/L	1	0.07	0.50			5/13/20 16:12:00	N	II
K2003842-010	Carbon, Total Organic	N/A		Water	0.18 mg/L	10 mL	0.18 mg/L J	1	0.07	0.50			5/13/20 16:40:00	N	II
K2003842-011	Carbon, Total Organic	N/A		Water	0.56 mg/L	10 mL	0.56 mg/L	1	0.07	0.50			5/13/20 17:08:00	N	II
K2003842-012	Carbon, Total Organic	N/A		Water	0.81 mg/L	10 mL	0.81 mg/L	1	0.07	0.50			5/13/20 18:50:00	N	II
K2003842-013	Carbon, Total Organic	N/A		Water	0.96 mg/L	10 mL	0.96 mg/L	1	0.07	0.50			5/13/20 19:18:00	N	II
K2003842-014	Carbon, Total Organic	N/A		Water	0.46 mg/L	10 mL	0.46 mg/L J	1	0.07	0.50			5/13/20 19:46:00	N	II
K2003842-015	Carbon, Total Organic	N/A		Water	0.41 mg/L	10 mL	0.41 mg/L J	1	0.07	0.50			5/13/20 20:15:00	N	II
KQ2006460-01	Carbon, Total Organic	CCV		Water	25.77 mg/L	10 mL	25.8 mg/L	1					5/13/20 08:11:00	N	II
KQ2006460-02	Carbon, Total Organic	CCV		Water	26.05 mg/L	10 mL	26.0 mg/L	1					5/13/20 12:54:00	N	II
KQ2006460-03	Carbon, Total Organic	CCV		Water	25.97 mg/L	10 mL	26.0 mg/L	1					5/13/20 18:06:00	N	II
KQ2006460-04	Carbon, Total Organic	CCV		Water	25.18 mg/L	10 mL	25.2 mg/L	1					5/13/20 22:08:00	N	II
KQ2006460-05	Carbon, Total Organic	CCB		Water	0.15 mg/L	10 mL	0.15 mg/L J	1	0.07	0.50			5/13/20 08:26:00	N	II
KQ2006460-06	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			5/13/20 13:09:00	N	II
KQ2006460-07	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			5/13/20 18:21:00	N	II
KQ2006460-08	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			5/13/20 22:23:00	N	II
KQ2006460-09	Carbon, Total Organic	MB		Water	0.03 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			5/13/20 08:41:00	N	II
KQ2006460-10	Carbon, Total Organic	LCS		Water	25.27 mg/L	10 mL	25.3 mg/L	1	0.07	0.50	101		5/13/20 08:55:00	N	II
KQ2006460-11	Carbon, Total Organic	MS	K2003842-011	Water	26.42 mg/L	10 mL	26.4 mg/L	1	0.07	0.50	103		5/13/20 17:37:00	N	II
KQ2006460-12	Carbon, Total Organic	DUP	K2003842-015	Water	0.39 mg/L	10 mL	0.39 mg/L J	1	0.07	0.50		7	5/13/20 20:15:00	N	II
KQ2006460-13	Carbon, Total Organic	DUP	K2003842-001	Water	1.81 mg/L	10 mL	1.81 mg/L	1	0.07	0.50		<1	5/13/20 11:58:00	N	II
KQ2006460-14	Carbon, Total Organic	DUP	K2003842-002	Water	1.07 mg/L	10 mL	1.07 mg/L	1	0.07	0.50		<1	5/13/20 12:26:00	N	II
KQ2006460-15	Carbon, Total Organic	DUP	K2003842-003	Water	0.58 mg/L	10 mL	0.58 mg/L	1	0.07	0.50		7	5/13/20 13:24:00	N	II
KQ2006460-16	Carbon, Total Organic	DUP	K2003842-004	Water	0.53 mg/L	10 mL	0.53 mg/L	1	0.07	0.50		7	5/13/20 13:52:00	N	II
KQ2006460-17	Carbon, Total Organic	DUP	K2003842-005	Water	0.55 mg/L	10 mL	0.55 mg/L	1	0.07	0.50		5	5/13/20 14:20:00	N	II
KQ2006460-18	Carbon, Total Organic	DUP	K2003842-006	Water	0.54 mg/L	10 mL	0.54 mg/L	1	0.07	0.50		<1	5/13/20 14:48:00	N	II
KQ2006460-19	Carbon, Total Organic	DUP	K2003842-007	Water	0.41 mg/L	10 mL	0.41 mg/L J	1	0.07	0.50		5	5/13/20 15:16:00	N	II
KQ2006460-20	Carbon, Total Organic	DUP	K2003842-008	Water	0.56 mg/L	10 mL	0.56 mg/L	1	0.07	0.50		5	5/13/20 15:44:00	N	II
KQ2006460-21	Carbon, Total Organic	DUP	K2003842-009	Water	0.69 mg/L	10 mL	0.69 mg/L	1	0.07	0.50		3	5/13/20 16:12:00	N	II

# indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

Analytical Results Summary

Instrument Name: K-TOC-03 **Analyst:** BDITZLER **Analysis Lot:** 679906 **Method/Testcode:** SM 5310 C/TOC T

Lab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Amt.	Final Result	Dil	MDL	PQL	% Rec	% RSD	Date Analyzed	QC?	Tier
KQ2006460-22	Carbon, Total Organic	DUP	K2003842-010	Water	0.13 mg/L	10 mL	0.13 mg/L J	1	0.07	0.50		34*	5/13/20 16:40:00	N	II
KQ2006460-23	Carbon, Total Organic	DUP	K2003842-011	Water	0.53 mg/L	10 mL	0.53 mg/L	1	0.07	0.50		7	5/13/20 17:08:00	N	II
KQ2006460-24	Carbon, Total Organic	DUP	K2003842-012	Water	0.75 mg/L	10 mL	0.75 mg/L	1	0.07	0.50		8	5/13/20 18:50:00	N	II
KQ2006460-25	Carbon, Total Organic	DUP	K2003842-013	Water	0.91 mg/L	10 mL	0.91 mg/L	1	0.07	0.50		5	5/13/20 19:18:00	N	II
KQ2006460-26	Carbon, Total Organic	DUP	K2003842-014	Water	0.44 mg/L	10 mL	0.44 mg/L J	1	0.07	0.50		4	5/13/20 19:46:00	N	II

# indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

Analytical Results Summary

Instrument Name: K-TOC-03 **Analyst:** BDITZLER **Analysis Lot:** 679907 **Method/Testcode:** SM 5310 C/TOC D

Lab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Amt.	Final Result	Dil	MDL	PQL	% Rec	% RSD	Date Analyzed	QC?	Tier
K2003842-001	Carbon, Dissolved Organic (DOC)	N/A		Water	1.24 mg/L	10 mL	1.24 mg/L	1	0.07	0.50			5/13/20 21:11:00	N	II
K2003842-002	Carbon, Dissolved Organic (DOC)	N/A		Water	0.71 mg/L	10 mL	0.71 mg/L	1	0.07	0.50			5/13/20 22:37:00	N	II
K2003842-003	Carbon, Dissolved Organic (DOC)	N/A		Water	0.33 mg/L	10 mL	0.33 mg/L J	1	0.07	0.50			5/13/20 23:06:00	N	II
K2003842-004	Carbon, Dissolved Organic (DOC)	N/A		Water	0.31 mg/L	10 mL	0.31 mg/L J	1	0.07	0.50			5/13/20 23:34:00	N	II
K2003842-005	Carbon, Dissolved Organic (DOC)	N/A		Water	0.34 mg/L	10 mL	0.34 mg/L J	1	0.07	0.50			5/14/20 00:02:00	N	II
K2003842-006	Carbon, Dissolved Organic (DOC)	N/A		Water	0.28 mg/L	10 mL	0.28 mg/L J	1	0.07	0.50			5/14/20 00:30:00	N	II
K2003842-007	Carbon, Dissolved Organic (DOC)	N/A		Water	0.14 mg/L	10 mL	0.14 mg/L J	1	0.07	0.50			5/14/20 00:58:00	N	II
K2003842-008	Carbon, Dissolved Organic (DOC)	N/A		Water	0.37 mg/L	10 mL	0.37 mg/L J	1	0.07	0.50			5/14/20 01:26:00	N	II
K2003842-009	Carbon, Dissolved Organic (DOC)	N/A		Water	0.40 mg/L	10 mL	0.40 mg/L J	1	0.07	0.50			5/14/20 01:54:00	N	II
K2003842-010	Carbon, Dissolved Organic (DOC)	N/A		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			5/14/20 02:22:00	N	II
K2003842-011	Carbon, Dissolved Organic (DOC)	N/A		Water	0.45 mg/L	10 mL	0.45 mg/L J	1	0.07	0.50			5/14/20 02:50:00	N	II
K2003842-012	Carbon, Dissolved Organic (DOC)	N/A		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			5/14/20 03:48:00	N	II
K2003842-013	Carbon, Dissolved Organic (DOC)	N/A		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			5/14/20 04:16:00	N	II
K2003842-014	Carbon, Dissolved Organic (DOC)	N/A		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			5/14/20 04:44:00	N	II
K2003842-015	Carbon, Dissolved Organic (DOC)	N/A		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			5/14/20 05:12:00	N	II
KQ2006461-01	Carbon, Dissolved Organic (DOC)	CCV		Water	25.97 mg/L	10 mL	26.0 mg/L	1					5/13/20 17:52:00	N	II
KQ2006461-02	Carbon, Dissolved Organic (DOC)	CCV		Water	25.18 mg/L	10 mL	25.2 mg/L	1					5/13/20 22:08:00	N	II
KQ2006461-03	Carbon, Dissolved Organic (DOC)	CCV		Water	24.88 mg/L	10 mL	24.9 mg/L	1					5/14/20 03:33:00	N	II
KQ2006461-04	Carbon, Dissolved Organic (DOC)	CCV		Water	24.56 mg/L	10 mL	24.6 mg/L	1					5/14/20 05:40:00	N	II
KQ2006461-05	Carbon, Dissolved Organic (DOC)	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			5/13/20 18:06:00	N	II
KQ2006461-06	Carbon, Dissolved Organic (DOC)	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			5/13/20 22:23:00	N	II
KQ2006461-07	Carbon, Dissolved Organic (DOC)	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			5/14/20 03:48:00	N	II
KQ2006461-08	Carbon, Dissolved Organic (DOC)	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			5/14/20 05:55:00	N	II

# indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

Analytical Results Summary

Instrument Name: K-TOC-03 **Analyst:** BDITZLER **Analysis Lot:** 679907 **Method/Testcode:** SM 5310 C/TOC D

Lab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Amt.	Final Result	Dil	MDL	PQL	% Rec	% RSD	Date Analyzed	QC?	Tier
KQ2006461-09	Carbon, Dissolved Organic (DOC)	MB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			5/14/20 18:21:00	N	II
KQ2006461-10	Carbon, Dissolved Organic (DOC)	LCS		Water	25.22 mg/L	10 mL	25.2 mg/L	1	0.07	0.50	101		5/14/20 18:36:00	N	II
KQ2006461-11	Carbon, Dissolved Organic (DOC)	MS	K2003842-001	Water	26.67 mg/L	10 mL	26.7 mg/L	1	0.07	0.50	102		5/13/20 21:39:00	N	II
KQ2006461-12	Carbon, Dissolved Organic (DOC)	DUP	K2003842-015	Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50		NC	5/14/20 05:12:00	N	II
KQ2006461-13	Carbon, Dissolved Organic (DOC)	DUP	K2003842-001	Water	1.20 mg/L	10 mL	1.20 mg/L	1	0.07	0.50		3	5/13/20 21:11:00	N	II
KQ2006461-14	Carbon, Dissolved Organic (DOC)	DUP	K2003842-002	Water	0.68 mg/L	10 mL	0.68 mg/L	1	0.07	0.50		4	5/13/20 22:37:00	N	II
KQ2006461-15	Carbon, Dissolved Organic (DOC)	DUP	K2003842-003	Water	0.30 mg/L	10 mL	0.30 mg/L J	1	0.07	0.50		9	5/13/20 23:06:00	N	II
KQ2006461-16	Carbon, Dissolved Organic (DOC)	DUP	K2003842-004	Water	0.27 mg/L	10 mL	0.27 mg/L J	1	0.07	0.50		14*	5/13/20 23:34:00	N	II
KQ2006461-17	Carbon, Dissolved Organic (DOC)	DUP	K2003842-005	Water	0.27 mg/L	10 mL	0.27 mg/L J	1	0.07	0.50		23*	5/14/20 00:02:00	N	II
KQ2006461-18	Carbon, Dissolved Organic (DOC)	DUP	K2003842-006	Water	0.25 mg/L	10 mL	0.25 mg/L J	1	0.07	0.50		12*	5/14/20 00:30:00	N	II
KQ2006461-19	Carbon, Dissolved Organic (DOC)	DUP	K2003842-007	Water	0.16 mg/L	10 mL	0.16 mg/L J	1	0.07	0.50		12*	5/14/20 00:58:00	N	II
KQ2006461-20	Carbon, Dissolved Organic (DOC)	DUP	K2003842-008	Water	0.36 mg/L	10 mL	0.36 mg/L J	1	0.07	0.50		3	5/14/20 01:26:00	N	II
KQ2006461-21	Carbon, Dissolved Organic (DOC)	DUP	K2003842-009	Water	0.39 mg/L	10 mL	0.39 mg/L J	1	0.07	0.50		4	5/14/20 01:54:00	N	II
KQ2006461-22	Carbon, Dissolved Organic (DOC)	DUP	K2003842-010	Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50		NC	5/14/20 02:22:00	N	II
KQ2006461-23	Carbon, Dissolved Organic (DOC)	DUP	K2003842-011	Water	0.42 mg/L	10 mL	0.42 mg/L J	1	0.07	0.50		5	5/14/20 02:50:00	N	II
KQ2006461-24	Carbon, Dissolved Organic (DOC)	DUP	K2003842-012	Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50		NC	5/14/20 03:48:00	N	II
KQ2006461-25	Carbon, Dissolved Organic (DOC)	DUP	K2003842-013	Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50		NC	5/14/20 04:16:00	N	II
KQ2006461-26	Carbon, Dissolved Organic (DOC)	DUP	K2003842-014	Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50		NC	5/14/20 04:44:00	N	II

# indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

ALS ENVIRONMENTAL

Matrix: WATER

Analysis: Total Organic Carbon (WATER) Method:Oxidation EPA 415.1/9060/5310C

Printout	Sample #	Dil. Factor	Solution Conc.,mg/L	Blank Correction, mg/L	Net mg/L	TOC mg/L	Reported TOC mg/L	
CBA	RB	1			0.0000	0	<0.5	
2	ccv	1	26.246	0.2169	26.0292	26.02924	26.0	5/12/2020
3	ccb	1	0.306	0.2169	0.0893	0.08934	<0.5	5/12/2020
4	mb	1	0.251	0.2169	0.0337	0.03374	<0.5	5/12/2020
5	lcs	1	25.675	0.2169	25.4577	25.45774	25.5	5/12/2020
6	K2003711-001	1	0.791	0.2169	0.5742	0.57424	0.57	5/13/2020
7	K2003711-001	1	0.788	0.2169	0.5707	0.57074	0.6	5/13/2020
8	K2003711-001ms	1	26.474	0.2169	26.2573	26.25734	26	5/13/2020
9	K2003742-001	1	7.054	0.2169	6.8371	6.83714	6.84	5/13/2020
10	K2003742-001	1	7.087	0.2169	6.8697	6.86974	6.87	5/13/2020
11	K2003723-001	100	6.107	0.2169	5.8905	589.054	589.1	5/13/2020
12	K2003723-001	100	6.404	0.2169	6.1867	618.674	618.67	5/13/2020
13	K2003737-001	1	0.947	0.2169	0.7300	0.73004	0.73	5/13/2020
14	K2003737-001	1	0.796	0.2169	0.5787	0.57874	0.58	5/13/2020
15	ccv	1	26.117	0.2169	25.8997	25.89974	25.9	5/13/2020
16	ccb	1	0.242	0.2169	0.0250	0.02504	<0.5	5/13/2020
17	K2003746-001	1	2.433	0.2169	2.2165	2.21654	2.22	5/13/2020
18	K2003746-001	1	2.316	0.2169	2.0995	2.09954	2.1	5/13/2020
19	K2003791-001	1	2.857	0.2169	2.6398	2.63984	2.6	5/13/2020
20	K2003791-001	1	2.728	0.2169	2.5109	2.51094	2.51	5/13/2020
21	K2003791-002	20	16.934	0.2169	16.7174	334.3488	334.35	5/13/2020
22	K2003791-002	20	17.298	0.2169	17.0808	341.6168	341.6	5/13/2020
23	K2003791-003	1	4.588	0.2169	4.3706	4.37064	4.4	5/13/2020
24	K2003791-003	1	4.588	0.2169	4.3712	4.37124	4.37	5/13/2020
25	K2003791-004	1	4.735	0.2169	4.5185	4.51854	4.52	5/13/2020

ICAL Date 10/20/16 ICAL ID#:11-GEN-05-51A

LCS =24.0 ppm APG 4013 Lot #010615 (REF# 11-GEN-05-50N)

CCV = 25.0 ppm (Ref.#11-GEN-05-52E)

Spike: 0.05 ml of 5000 ppm stock ----> 10.0 ml =25.0 ppm x Dilution Factor (Ref.# 11-GEN-05-51M)

		date	time
Analyzed By: KP	Date Analyzed	5/12/20	
Reviewed By:	Date Reviewed	5/14/20	

ALS ENVIRONMENTAL

Matrix: WATER

Analysis: Total Organic Carbon (WATER) Method:Oxidation EPA 415.1/9060/5310C

Printout	Sample #	Dil. Factor	Solution Conc.,mg/L	Blank Correction, mg/L	Net mg/L	TOC mg/L	Reported TOC mg/L	
26	K2003791-004	1	4.506	0.2169	4.2891	4.28914	4.29	5/13/2020
27	K2003791-005	1	25.209	0.2169	24.9917	24.99174	24.99	5/13/2020
28	K2003791-005	1	25.496	0.2169	25.2794	25.27944	25.3	5/13/2020
29	K2003792-001	1	2.361	0.2169	2.1438	2.14384	2.1	5/13/2020
30	K2003792-001	1	1.697	0.2169	1.4797	1.47974	1.5	5/13/2020
31	K2003792-002	1	2.180	0.2169	1.9627	1.96274	2.0	5/13/2020
32	K2003792-002	1	2.087	0.2169	1.8704	1.87044	1.9	5/13/2020
33	K2003792-003	1	1.614	0.2169	1.3968	1.39684	1.4	5/13/2020
34	K2003792-003	1	1.486	0.2169	1.2690	1.26904	1.3	5/13/2020
35	K2003792-004	1	1.465	0.2169	1.2482	1.24824	1.2	5/13/2020
36	K2003792-004	1	1.397	0.2169	1.1798	1.17984	1.2	5/13/2020
37	ccv	1	25.990	0.2169	25.7728	25.77284	25.8	5/13/2020
38	ccb	1	0.372	0.2169	0.1549	0.15494	<0.5	5/13/2020
39	K2003792-005	1	1.353	0.2169	1.1357	1.13574	1.1	5/13/2020
40	K2003792-005	1	1.228	0.2169	1.0106	1.01064	1.0	5/13/2020
41	K2003793-001	1	2.559	0.2169	2.3419	2.34194	2.3	5/13/2020
42	K2003793-001	1	2.591	0.2169	2.3744	2.37444	2.4	5/13/2020
43	K2003631-010	1	0.267	0.2169	0.0505	0.05054	<0.5	5/13/2020
44	K2003631-010	1	0.229	0.2169	0.0124	0.01244	<0.5	5/13/2020
45	K2003814-001	1	0.636	0.2169	0.4191	0.41914	<0.5	5/13/2020
46	K2003814-001	1	0.592	0.2169	0.3750	0.37504	<0.5	5/13/2020
47	K2003814-002	1	0.618	0.2169	0.4015	0.40154	<0.5	5/13/2020
48	K2003814-002	1	0.561	0.2169	0.3439	0.34394	<0.5	5/13/2020
49	K2003814-003	1	0.624	0.2169	0.4070	0.40704	<0.5	5/13/2020
50	K2003814-003	1	0.569	0.2169	0.3518	0.35184	<0.5	5/13/2020

Analyzed By:	BCH	Date Analyzed	5/12/20
Reviewed By:	JC	Date Reviewed	5/14/20

ALS ENVIRONMENTAL

Matrix: WATER

Analysis: Total Organic Carbon (WATER) Method:Oxidation EPA 415.1/9060/5310C

Printout	Sample #	Dil. Factor	Solution Conc.,mg/L	Blank Correction, mg/L	Net mg/L	TOC mg/L	Reported TOC mg/L	
51	ccv	1	26.263	0.2169	26.0461	26.04614	26.05	5/13/2020
52	ccb	1	0.181	0.2169	-0.0363	-0.03626	<0.5	5/13/2020
53		1		0.0000	0.0000	0	<0.5	
54		1		0.0000	0.0000	0	<0.5	
55		1		0.0000	0.0000	0	<0.5	
56		1		0.0000	0.0000	0	<0.5	
57		1		0.0000	0.0000	0	<0.5	
58		1		0.0000	0.0000	0	<0.5	
59		1		0.0000	0.0000	0	<0.5	
60		1		0.0000	0.0000	0	<0.5	
61		1		0.0000	0.0000	0	<0.5	
62		1		0.0000	0.0000	0	<0.5	
63		1		0.0000	0.0000	0	<0.5	
64		1		0.0000	0.0000	0	<0.5	
65		1		0.0000	0.0000	0	<0.5	
66		1		0.0000	0.0000	0	<0.5	
67		1		0.0000	0.0000	0	<0.5	
68		1		0.0000	0.0000	0	<0.5	
69		1		0.0000	0.0000	0	<0.5	
70		1		0.0000	0.0000	0	<0.5	
71		1		0.0000	0.0000	0	<0.5	
72		1		0.0000	0.0000	0	<0.5	
73		1		0.0000	0.0000	0	<0.5	
74		1		0.0000	0.0000	0	<0.5	
75		1		0.0000	0.0000	0	<0.5	

Analyzed By:	BKP	Date Analyzed	5/12/20
Reviewed By:	JC	Date Reviewed	5/13/20 5/14/20

ALS ENVIRONMENTAL

Matrix: WATER

Analysis: Total Organic Carbon (WATER) Method:Oxidation EPA 415.1/9060/5310C

Printout	Sample #	Dil. Factor	Solution Conc.,mg/L	Blank Correction, mg/L	Net mg/L	TOC mg/L	Reported TOC mg/L	
CBA	RB	1			0.0000	0	<0.5	
2	ccv	1	25.990	0.2169	25.7728	25.77284	25.8	5/13/2020
3	ccb	1	0.372	0.2169	0.1549	0.15494	<0.5	5/13/2020
4	mb	1	0.251	0.2169	0.0344	0.03444	<0.5	5/13/2020
5	lcs	1	25.492	0.2169	25.2747	25.27474	25.3	5/13/2020
6	K2003842-001	1	2.041	0.2169	1.8245	1.82454	1.82	5/13/2020
7	K2003842-001	1	2.027	0.2169	1.8102	1.81024	1.8	5/13/2020
8	K2003842-002	1	1.295	0.2169	1.0776	1.07764	1	5/13/2020
9	K2003842-002	1	1.284	0.2169	1.0672	1.06724	1.07	5/13/2020
10	ccv	1	26.263	0.2169	26.0461	26.04614	26.05	5/13/2020
11	ccb	1	0.181	0.2169	-0.0363	-0.03626	<0.5	5/13/2020
12	K2003842-003	1	0.840	0.2169	0.6233	0.62334	0.62	5/13/2020
13	K2003842-003	1	0.801	0.2169	0.5840	0.58404	0.58	5/13/2020
14	K2003842-004	1	0.780	0.2169	0.5629	0.56294	0.56	5/13/2020
15	K2003842-004	1	0.742	0.2169	0.5253	0.52534	0.5	5/13/2020
16	K2003842-005	1	0.794	0.2169	0.5773	0.57734	0.6	5/13/2020
17	K2003842-005	1	0.766	0.2169	0.5487	0.54874	0.55	5/13/2020
18	K2003842-006	1	0.755	0.2169	0.5382	0.53824	0.5	5/13/2020
19	K2003842-006	1	0.759	0.2169	0.5418	0.54184	0.5	5/13/2020
20	K2003842-007	1	0.642	0.2169	0.4254	0.42544	<0.5	5/13/2020
21	K2003842-007	1	0.623	0.2169	0.4056	0.40564	<0.5	5/13/2020
22	K2003842-008	1	0.804	0.2169	0.5870	0.58704	0.6	5/13/2020
23	K2003842-008	1	0.778	0.2169	0.5608	0.56084	0.6	5/13/2020
24	K2003842-009	1	0.924	0.2169	0.7072	0.70724	0.71	5/13/2020
25	K2003842-009	1	0.903	0.2169	0.6865	0.68654	0.69	5/13/2020

ICAL Date 10/20/16 ICAL ID#:11-GEN-05-51A

LCS =24.0 ppm APG 4013 Lot #010615 (REF# 11-GEN-05-50N)

CCV = 25.0 ppm (Ref.#11-GEN-05-52E)

Spike: 0.05 ml of 5000 ppm stock ----> 10.0 ml =25.0 ppm x Dilution Factor (Ref.# 11-GEN-05-51M)

	date	time
Analyzed By: BCP	Date Analyzed 5/12/20	
Reviewed By: JC	Date Reviewed 5/14/20	

ALS ENVIRONMENTAL

Matrix: WATER

Analysis: Total Organic Carbon (WATER) Method:Oxidation EPA 415.1/9060/5310C

Printout	Sample #	Dil. Factor	Solution Conc.,mg/L	Blank Correction, mg/L	Net mg/L	TOC mg/L	Reported TOC mg/L	
26	K2003842-010	1	0.398	0.2169	0.1812	0.18124	<0.5	5/13/2020
27	K2003842-010	1	0.345	0.2169	0.1282	0.12824	<0.5	5/13/2020
28	K2003842-011	1	0.781	0.2169	0.5641	0.56414	0.6	5/13/2020
29	K2003842-011	1	0.745	0.2169	0.5282	0.52824	0.5	5/13/2020
30	K2003842-011ms	1	26.641	0.2169	26.4239	26.42394	26.4	5/13/2020
31	ccv	1	26.186	0.2169	25.9687	25.96874	26.0	5/13/2020
32	ccb	1	0.089	0.2169	-0.1280	-0.12796	<0.5	5/13/2020
33	K2003842-012	1	1.025	0.2169	0.8082	0.80824	0.8	5/13/2020
34	K2003842-012	1	0.966	0.2169	0.7487	0.74874	0.7	5/13/2020
35	K2003842-013	1	1.175	0.2169	0.9580	0.95804	1.0	5/13/2020
36	K2003842-013	1	1.124	0.2169	0.9072	0.90724	0.9	5/13/2020
37	K2003842-014	1	0.681	0.2169	0.4641	0.46414	<0.5	5/13/2020
38	K2003842-014	1	0.661	0.2169	0.4443	0.44434	<0.5	5/13/2020
39	K2003842-015	1	0.629	0.2169	0.4125	0.41254	<0.5	5/13/2020
40	K2003842-015	1	0.603	0.2169	0.3857	0.38574	<0.5	5/13/2020
41	ccv	1	25.401	0.2169	25.1845	25.18454	25.2	5/13/2020
42	ccb	1	0.013	0.2169	-0.2036	-0.20356	<0.5	5/13/2020
43	K2003631-010	1	0.267	0.2169	0.0505	0.05054	<0.5	5/13/2020
44	K2003631-010	1	0.229	0.2169	0.0124	0.01244	<0.5	5/13/2020
45	K2003814-001	1	0.636	0.2169	0.4191	0.41914	<0.5	5/13/2020
46	K2003814-001	1	0.592	0.2169	0.3750	0.37504	<0.5	5/13/2020
47	K2003814-002	1	0.618	0.2169	0.4015	0.40154	<0.5	5/13/2020
48	K2003814-002	1	0.561	0.2169	0.3439	0.34394	<0.5	5/13/2020
49	K2003814-003	1	0.624	0.2169	0.4070	0.40704	<0.5	5/13/2020
50	K2003814-003	1	0.569	0.2169	0.3518	0.35184	<0.5	5/13/2020

Analyzed By:	BLP	Date Analyzed	5/12/20
Reviewed By:		Date Reviewed	5/14/20

ALS ENVIRONMENTAL

Matrix: WATER

Analysis: Total Organic Carbon (WATER) Method:Oxidation EPA 415.1/9060/5310C

Printout	Sample #	Dil. Factor	Solution Conc.,mg/L	Blank Correction, mg/L	Net mg/L	TOC mg/L	Reported TOC mg/L	
CBA	RB	1			0.0000	0	<0.5	
2	ccv	1	26.186	0.2169	25.9687	25.96874	26.0	5/13/2020
3	ccb	1	0.089	0.2169	-0.1280	-0.12796	<0.5	5/13/2020
4	mb	1	0.160	0.2169	-0.0570	-0.05696	<0.5	5/13/2020
5	lcs	1	25.441	0.2169	25.2239	25.22394	25.2	5/13/2020
6	K2003842-001.06 doc	1	1.456	0.2169	1.2386	1.23864	1.24	5/13/2020
7	K2003842-001.06 doc	1	1.417	0.2169	1.2003	1.20034	1.2	5/13/2020
8	2003842-001.06 ms d	1	26.884	0.2169	26.6668	26.66684	27	5/13/2020
9	ccv	1	25.401	0.2169	25.1845	25.18454	25.18	5/13/2020
10	ccb	1	0.013	0.2169	-0.2036	-0.20356	<0.5	5/13/2020
11	K2003842-002.06 doc	1	0.930	0.2169	0.7128	0.71284	0.7	5/13/2020
12	K2003842-002.06 doc	1	0.902	0.2169	0.6847	0.68474	0.68	5/13/2020
13	K2003842-003.06 doc	1	0.550	0.2169	0.3330	0.33304	<0.5	5/13/2020
14	K2003842-003.06 doc	1	0.522	0.2169	0.3047	0.30474	<0.5	5/13/2020
15	K2003842-004.06 doc	1	0.531	0.2169	0.3145	0.31454	<0.5	5/13/2020
16	K2003842-004.06 doc	1	0.491	0.2169	0.2744	0.27444	<0.5	5/13/2020
17	K2003842-005.06 doc	1	0.558	0.2169	0.3415	0.34154	<0.5	5/14/2020
18	K2003842-005.06 doc	1	0.488	0.2169	0.2706	0.27064	<0.5	5/14/2020
19	K2003842-006.06 doc	1	0.494	0.2169	0.2768	0.27684	<0.5	5/14/2020
20	K2003842-006.06 doc	1	0.463	0.2169	0.2461	0.24614	<0.5	5/14/2020
21	K2003842-007.06 doc	1	0.359	0.2169	0.1416	0.14164	<0.5	5/14/2020
22	K2003842-007.06 doc	1	0.377	0.2169	0.1601	0.16014	<0.5	5/14/2020
23	K2003842-008.06 doc	1	0.583	0.2169	0.3663	0.36634	<0.5	5/14/2020
24	K2003842-008.06 doc	1	0.572	0.2169	0.3552	0.35524	<0.5	5/14/2020
25	K2003842-009.06 doc	1	0.621	0.2169	0.4042	0.40424	<0.5	5/14/2020

ICAL Date 10/20/16 ICAL ID#:11-GEN-05-51A

LCS =24.0 ppm APG 4013 Lot #010615 (REF# 11-GEN-05-50N)

CCV = 25.0 ppm (Ref.#11-GEN-05-52E)

Spike: 0.05 ml of 5000 ppm stock ----> 10.0 ml =25.0 ppm x Dilution Factor (Ref.# 11-GEN-05-51M)

	date	time
Analyzed By: BCD	Date Analyzed 5/12/20	
Reviewed By: JC	Date Reviewed 5/14/20	

ALS ENVIRONMENTAL

Matrix: WATER

Analysis: Total Organic Carbon (WATER) Method:Oxidation EPA 415.1/9060/5310C

Printout	Sample #	Dil. Factor	Solution Conc.,mg/L	Blank Correction, mg/L	Net mg/L	TOC mg/L	Reported TOC mg/L	
26	K2003842-009.06 doc	1	0.607	0.2169	0.3900	0.39004	<0.5	5/14/2020
27	K2003842-010.06 doc	1	0.193	0.2169	-0.0235	-0.02346	<0.5	5/14/2020
28	K2003842-010.06 doc	1	0.137	0.2169	-0.0801	-0.08006	<0.5	5/14/2020
29	K2003842-011.06 doc	1	0.662	0.2169	0.4451	0.44514	<0.5	5/14/2020
30	K2003842-011.06 doc	1	0.640	0.2169	0.4229	0.42294	<0.5	5/14/2020
31	ccv	1	25.097	0.2169	24.8796	24.87964	24.9	5/14/2020
32	ccb	1	0.000	0.2169	-0.2169	-0.21686	<0.5	5/14/2020
33	K2003842-012.06 doc	1	0.000	0.2169	-0.2169	-0.21686	<0.5	5/14/2020
34	K2003842-012.06 doc	1	0.000	0.2169	-0.2169	-0.21686	<0.5	5/14/2020
35	K2003842-013.06 doc	1	0.000	0.2169	-0.2169	-0.21686	<0.5	5/14/2020
36	K2003842-013.06 doc	1	0.000	0.2169	-0.2169	-0.21686	<0.5	5/14/2020
37	K2003842-014.06 doc	1	0.000	0.2169	-0.2169	-0.21686	<0.5	5/14/2020
38	K2003842-014.06 doc	1	0.000	0.2169	-0.2169	-0.21686	<0.5	5/14/2020
39	K2003842-015.06 doc	1	0.000	0.2169	-0.2169	-0.21686	<0.5	5/14/2020
40	K2003842-015.06 doc	1	0.000	0.2169	-0.2169	-0.21686	<0.5	5/14/2020
41	ccv	1	24.776	0.2169	24.5592	24.55924	24.6	5/14/2020
42	ccb	1	0.000	0.2169	-0.2169	-0.21686	<0.5	5/14/2020
43		1			0.0000	0	<0.5	
44		1			0.0000	0	<0.5	
45		1			0.0000	0	<0.5	
46		1			0.0000	0	<0.5	
47		1			0.0000	0	<0.5	
48		1			0.0000	0	<0.5	
49		1			0.0000	0	<0.5	
50		1			0.0000	0	<0.5	

Analyzed By: BKD	Date Analyzed 5/12/20
Reviewed By:	Date Reviewed 5/14/20

TOC: 679905, 679906
DOC: 679907

Schedule: 05122020

Version: 2
Instrument: Fusion1
Last Saved by: Fusion1 (Fusion1)
Last Saved on: 2020/05/12 20:13 - Tuesday

Position	Sample Type	Sample ID	Method ID (Calibration ID)	Reps	Use	State
(Clean)	Clean	Clean		1	True	Ready
(Clean)	Clean	Clean		1	True	Ready
(Clean)	Clean	Clean		1	True	Ready
(Blank)	Blank	Reagent/Acid Blank		1	True	Ready
D	Sample	RB	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
1	Sample	MB1	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
C	Check Standard	[TOC] LCS [24.0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
2	Sample	ICS	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
3	Sample	LOT 041320-3DQL	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
4	Sample	K2003711-001.02	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
5	Sample	K2003711-001.02 ms	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
6	Sample	RB	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
7	Sample	K2003742-001.01	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
8	Sample	K2003723-001.01 100x	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
9	Sample	K2003737-001.01	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
10	Sample	K2003746-001.01	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
11	Sample	K2003791-001.01	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
12	Sample	K2003791-002.01 20x	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
13	Sample	K2003791-003.01	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
14	Sample	K2003791-004.01	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
15	Sample	K2003791-005.01	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
16	Sample	K2003792-001.01	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
17	Sample	K2003792-002.01	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
18	Sample	K2003792-003.01	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
19	Sample	K2003792-004.01	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
20	Sample	MB2	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
C	Check Standard	[TOC] LCS [24.0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
21	Sample	K2003792-005.01	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
22	Sample	K2003793-001.01	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
23	Sample	K2003631-010.01	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
24	Sample	K2003814-001.01	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
25	Sample	K2003814-002.01	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
26	Sample	K2003814-003.01	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
27	Sample	K2003842-001.02	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
28	Sample	K2003842-002.02	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
29	Sample	K2003842-003.02	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
30	Sample	K2003842-004.02	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
31	Sample	K2003842-005.02	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
32	Sample	K2003842-006.02	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
33	Sample	K2003842-007.02	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
34	Sample	K2003842-008.02	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
35	Sample	K2003842-009.02	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
36	Sample	K2003842-010.02	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
37	Sample	K2003842-011.02	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
38	Sample	K2003842-011.02 ms	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready

Schedule: 05122020

Position	Sample Type	Sample ID	Method ID (Calibration ID)	Reps	Use	State
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
39	Sample	MB3	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
C	Check Standard	[TOC] LCS [25.0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
40	Sample	K2003842-012.02	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
41	Sample	K2003842-013.02	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
42	Sample	K2003842-014.02	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
43	Sample	K2003842-015.02	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
44	Sample	FB 5/12/2020 1819	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
45	Sample	K2003842-001.06 doc	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
46	Sample	K2003842-001.06 ms doc	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
47	Sample	RB	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
48	Sample	K2003842-002.06 doc	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
49	Sample	K2003842-003.06 doc	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
50	Sample	K2003842-004.06 doc	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
51	Sample	K2003842-005.06 doc	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
52	Sample	K2003842-006.06 doc	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
53	Sample	K2003842-007.06 doc	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
54	Sample	K2003842-008.06 doc	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
55	Sample	K2003842-009.06 doc	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
56	Sample	K2003842-010.06 doc	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
57	Sample	K2003842-011.06 doc	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
58	Sample	K2003842-012.06 doc	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
59	Sample	K2003842-013.06 doc	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
60	Sample	K2003842-014.06 doc	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
61	Sample	K2003842-015.06 doc	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
					False	

Fusion Report - 05122020
Tuesday, May 12, 2020 08:22 PM

(View - Reps, Unused Reps, Meta-Data, Signature, History)
Printed on 2020/05/14 09:15 - Thursday

Report Summary Information

Company Location:	Gen Chem Lab		
Schedule Name:	05122020	Engine Version:	1.1.5.1
Instrument Name:	Fusion1	Firmware Version:	1.2.0696
Report Version:	1 of 1	Connection:	RS232 COM1
Report Creation by Operators (schedule version):	Fusion1 (Fusion1) (v2)		
Comment:			

Report Results

Sample Type: Clean — From Schedule Version 2

	Pos	Analysis Type	Sample ID	Start Time
◆	(clean)		Clean	2020/05/12 20:22

Rep #	Base Analysis Type	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	IC Clean	10.91	18.44	7.53	49.78	07:58
2	TC Clean	19.05	23.51	4.47	49.55	07:17
3	TC Clean	2.85	7.17	4.32	49.56	07:02
4	TC Clean	2.04	6.17	4.13	49.57	07:02

Sample Type: Clean — From Schedule Version 2

	Pos	Analysis Type	Sample ID	Start Time
◆	(clean)		Clean	2020/05/12 20:56

Rep #	Base Analysis Type	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	IC Clean	1.19	5.33	4.14	49.83	07:59
2	TC Clean	5.70	9.81	4.11	49.59	07:18
3	TC Clean	2.16	6.30	4.14	49.61	07:02
4	TC Clean	1.68	5.83	4.14	49.62	07:01

Sample Type: Clean

From Schedule Version 2

	Pos	Analysis Type	Sample ID	Start Time
◆	(clean)		Clean	2020/05/12 21:31

Rep #	Base Analysis Type	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	IC Clean	1.03	5.25	4.22	49.87	08:01
2	TC Clean	5.31	9.47	4.15	49.63	07:17
3	TC Clean	2.60	6.72	4.13	49.64	07:05
4	TC Clean	1.90	6.02	4.12	49.65	07:04

Sample Type: Blank (Creating v1382)

From Schedule Version 2

	Pos	Analysis Type	Sample ID	Start Time
◆	(blank)		Reagent/Acid Blank	2020/05/12 22:05

Rep #	Base Analysis Type	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	IC Clean	1.00	5.17	4.17	49.89	08:02
2	TC Clean	5.31	9.57	4.27	49.66	07:16
3	TC Clean	2.42	6.66	4.24	49.68	07:01
4	TC Clean	2.21	6.28	4.07	49.67	07:03
5	Reagent Blank	8.08	12.04	3.97	49.70	08:11
6	Acid Blank	1.48	5.63	4.15	49.92	08:01

Sample Type: Sample

From Schedule Version 2

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	D	TOC	RB	0.5610 ppm	0.0000 ppm	0.0000%	2020/05/12 22:56

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.5610	5.6098	10.80	15.06	4.26	49.64	10:33

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.8101 (IC) (v1382)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

Sample Type: Check Standard --> CCV 25 ppm

From Schedule Version 2

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	26.2461 ppm (PASS)	0.0000 ppm	0%	2020/05/12 23:11

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	26.2461	262.4610	193.46	197.82	4.36	49.68	10:30

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)	50 ppmC

Sample Type: Check Standard --> CCB From Schedule Version 2

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.3062 ppm (PASS)	0.0000 ppm	0%	2020/05/12 23:26

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.3062	3.0618	9.14	13.48	4.34	49.72	10:34

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)	0 ppmC

Sample Type: Sample From Schedule Version 2

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	1	TOC	MB1	0.2506 ppm	0.0000 ppm	0.0000%	2020/05/12 23:41

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.2506	2.5065	8.59	12.72	4.12	49.74	10:30

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.8101 (IC) (v1382)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

Sample Type: Check Standard --> LCS From Schedule Version 2

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	C	TOC	25.0000	1:1	[TOC] LCS [24.0 ppm]	0 / infinity (NA / NA)	25.6746 ppm (PASS)	0.0000 ppm	0%	2020/05/12 23:55

Pos	Base Analysis	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time

	Type									
C	TOC	25.0 ppm	1	25.6746	256.7456	189.40	193.45	4.06	49.74	10:33

Completion State	Success Action	Method	Calibration	STD Conc - Pos C
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)	25 ppmC

Sample Type: Sample From Schedule Version 2

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	2	TOC	ICS	0.8501 ppm	0.0000 ppm	0.0000%	2020/05/13 00:10

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.8501	8.5005	12.85	17.07	4.22	49.77	10:30

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.8101 (IC) (v1382)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	3	TOC	LOT 041320-3DQL	0.2298 ppm	0.0000 ppm	0.0000%	2020/05/13 00:25

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.2298	2.2982	8.44	12.54	4.10	49.79	10:31

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.8101 (IC) (v1382)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	4	TOC	K2003711-001.02	0.7893 ppm	0.0025 ppm	0.3200%	2020/05/13 00:39

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.7911	7.9108	12.43	16.56	4.13	49.80	10:26
2	TOC	0.7876	7.8757	12.41	16.51	4.10	49.79	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.8101 (IC) (v1382)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	5	TOC	K2003711-001.02 ms	26.4742 ppm	0.0000 ppm	0.0000%	2020/05/13 01:07

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	26.4742	264.7415	194.92	199.03	4.11	49.81	10:31

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.8101 (IC) (v1382)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	6	TOC	RB	0.2847 ppm	0.0000 ppm	0.0000%	2020/05/13 01:22

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.2847	2.8470	8.83	12.98	4.15	49.78	10:33

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.8101 (IC) (v1382)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	7	TOC	K2003742-001.01	7.0703 ppm	0.0231 ppm	0.3300%	2020/05/13 01:36

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	7.0540	70.5398	56.93	61.07	4.14	49.83	10:28
2	TOC	7.0866	70.8663	57.16	61.22	4.05	49.83	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.8101 (IC) (v1382)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	8	TOC	K2003723-001.01 100x	6.2555 ppm	0.2095 ppm	3.3500%	2020/05/13 02:04

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	6.1074	61.0737	50.20	54.35	4.15	49.84	10:28
2	TOC	6.4036	64.0362	52.31	56.53	4.22	49.83	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.8101 (IC) (v1382)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	9	TOC	K2003737-001.01	0.8712 ppm	0.1070 ppm	12.2800%	2020/05/13 02:32

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.9469	9.4688	13.54	17.65	4.11	49.81	10:28
2	TOC	0.7956	7.9559	12.46	16.80	4.33	49.84	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.8101 (IC) (v1382)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 2

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	26.1166 ppm (PASS)	0.0000 ppm	0%	2020/05/13 03:00

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	26.1166	261.1662	192.54	196.67	4.13	49.86	10:31

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)	50 ppmC

Sample Type: Check Standard --> CCB

From Schedule Version 2

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.2419 ppm (PASS)	0.0000 ppm	0%	2020/05/13 03:16

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.2419	2.4187	8.69	12.92	4.23	49.86	10:29

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)	0 ppmC

Sample Type: Sample

From Schedule Version 2

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	10	TOC	K2003746-001.01	2.3749 ppm	0.0827 ppm	3.4800%	2020/05/13 03:30

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.4334	24.3337	24.10	28.15	4.05	49.88	10:28
2	TOC	2.3164	23.1641	23.27	27.58	4.31	49.88	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.8101 (IC) (v1382)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	11	TOC	K2003791-001.01	2.7923 ppm	0.0912 ppm	3.2600%	2020/05/13 03:59

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.8567	28.5671	27.11	31.38	4.27	49.88	10:27
2	TOC	2.7278	27.2780	26.19	30.32	4.13	49.89	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.8101 (IC) (v1382)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	12	TOC	K2003791-002.01 20x	17.1160 ppm	0.2570 ppm	1.5000%	2020/05/13 04:27

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	16.9343	169.3429	127.13	131.34	4.20	49.91	10:28
2	TOC	17.2977	172.9768	129.72	133.98	4.26	49.90	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.8101 (IC) (v1382)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	13	TOC	K2003791-003.01	4.5878 ppm	0.0004 ppm	0.0100%	2020/05/13 04:55

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	4.5875	45.8752	39.41	43.63	4.22	49.90	10:28
2	TOC	4.5881	45.8809	39.41	43.48	4.07	49.91	10:24

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.8101 (IC) (v1382)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	14	TOC	K2003791-004.01	4.6207 ppm	0.1622 ppm	3.5100%	2020/05/13 05:23

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	4.7354	47.3544	40.46	44.52	4.07	49.92	10:27
2	TOC	4.5060	45.0604	38.83	43.02	4.19	49.94	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.8101 (IC) (v1382)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	15	TOC	K2003791-005.01	25.3525 ppm	0.2034 ppm	0.8000%	2020/05/13 05:51

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	25.2086	252.0863	185.93	190.25	4.32	49.94	10:25
2	TOC	25.4963	254.9630	187.97	192.29	4.32	49.94	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.8101 (IC) (v1382)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	16	TOC	K2003792-001.01	2.0287 ppm	0.4696 ppm	23.1500%	2020/05/13 06:19

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.3607	23.6075	23.58	27.81	4.23	49.94	10:27
2	TOC	1.6966	16.9660	18.87	23.07	4.21	49.97	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.8101 (IC)	CAS_salt_010711	CAS_salt_010711

(v1382) (v4) (v35)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	17	TOC	K2003792-002.01	2.1335 ppm	0.0653 ppm	3.0600%	2020/05/13 06:47

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.1796	21.7962	22.30	26.53	4.23	49.99	10:28
2	TOC	2.0873	20.8729	21.64	25.67	4.03	49.97	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.8101 (IC) (v1382)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	18	TOC	K2003792-003.01	1.5498 ppm	0.0904 ppm	5.8300%	2020/05/13 07:15

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.6137	16.1370	18.28	22.32	4.04	49.96	10:30
2	TOC	1.4859	14.8591	17.37	21.48	4.11	49.97	10:30

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.8101 (IC) (v1382)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	19	TOC	K2003792-004.01	1.4309 ppm	0.0484 ppm	3.3800%	2020/05/13 07:43

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.4651	14.6508	17.22	21.36	4.14	49.96	10:28
2	TOC	1.3967	13.9668	16.73	20.89	4.16	49.97	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.8101 (IC) (v1382)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 2

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	25.9897 ppm (PASS)	0.0000 ppm	0%	2020/05/13 08:11

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	25.9897	259.8968	191.63	195.74	4.11	49.96	10:35

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)	50 ppmC

Sample Type: Check Standard --> CCB From Schedule Version 2

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.3718 ppm (PASS)	0.0000 ppm	0%	2020/05/13 08:26

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.3718	3.7177	9.61	13.81	4.20	49.92	10:32

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)	0 ppmC

Sample Type: Sample From Schedule Version 2

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	20	TOC	MB2	0.2513 ppm	0.0000 ppm	0.0000%	2020/05/13 08:41

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.2513	2.5135	8.60	12.85	4.26	49.91	10:31

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.8101 (IC) (v1382)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

Sample Type: Check Standard --> LCS From Schedule Version 2

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	C	TOC	25.0000	1:1	[TOC] LCS [24.0 ppm]	0 / infinity (NA / NA)	25.4916 ppm (PASS)	0.0000 ppm	0%	2020/05/13 08:55

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
C	TOC	25.0 ppm	1	25.4916	254.9160	188.10	192.35	4.26	49.91	10:32

Completion State	Success Action	Method	Calibration	STD Conc - Pos C
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)	25 ppmC

Sample Type: Sample From Schedule Version 2

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	21	TOC	K2003792-005.01	1.2901 ppm	0.0885 ppm	6.8600%	2020/05/13 09:10

Rep	Base			Adjusted		Baseline	Pressure	Run

#	Analysis Type	ppm	µg	(Abs)	NDIR (Abs)	(Abs)	(psig)	Time
1	TOC	1.3526	13.5263	16.42	20.76	4.34	49.91	10:30
2	TOC	1.2275	12.2752	15.53	19.53	4.00	49.91	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.8101 (IC) (v1382)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	22	TOC	K2003793-001.01	2.5750 ppm	0.0230 ppm	0.8900%	2020/05/13 09:38

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.5588	25.5877	24.99	29.15	4.15	49.88	10:26
2	TOC	2.5913	25.9128	25.22	29.33	4.11	49.92	10:24

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.8101 (IC) (v1382)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	23	TOC	K2003631-010.01	0.2483 ppm	0.0270 ppm	10.8600%	2020/05/13 10:06

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.2674	2.6739	8.71	12.70	3.99	49.88	10:28
2	TOC	0.2293	2.2925	8.44	12.56	4.12	49.85	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.8101 (IC) (v1382)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	24	TOC	K2003814-001.01	0.6140 ppm	0.0311 ppm	5.0700%	2020/05/13 10:34

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.6360	6.3599	11.33	15.40	4.07	49.86	10:30
2	TOC	0.5919	5.9194	11.02	15.10	4.09	49.86	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.8101 (IC) (v1382)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	25	TOC	K2003814-002.01	0.5896 ppm	0.0407 ppm	6.9000%	2020/05/13 11:02

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.6184	6.1840	11.20	15.33	4.12	49.84	10:31
2	TOC	0.5608	5.6083	10.80	14.90	4.10	49.83	10:30

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.8101 (IC) (v1382)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.6239	6.2389	11.24	15.28	4.04	49.83	10:29
2	TOC	0.5687	5.6872	10.85	15.00	4.14	49.84	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.8101 (IC) (v1382)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	27	TOC	K2003842-001.02	2.0342 ppm	0.0102 ppm	0.5000%	2020/05/13 11:58

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.0414	20.4141	21.32	25.53	4.22	49.81	10:26
2	TOC	2.0271	20.2706	21.21	25.37	4.16	49.81	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.8101 (IC) (v1382)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	28	TOC	K2003842-002.02	1.2893 ppm	0.0074 ppm	0.5700%	2020/05/13 12:26

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.2945	12.9451	16.01	20.17	4.16	49.78	10:26
2	TOC	1.2841	12.8409	15.93	19.92	3.98	49.79	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.8101 (IC) (v1382)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 2

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	26.2630 ppm (PASS)	0.0000 ppm	0%	2020/05/13 12:54

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	26.2630	262.6299	193.58	197.63	4.06	49.79	10:32

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)	50 ppmC

Sample Type: Check Standard --> CCB From Schedule Version 2

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.1806 ppm (PASS)	0.0000 ppm	0%	2020/05/13 13:09

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.1806	1.8064	8.25	12.40	4.15	49.68	10:31

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)	0 ppmC

Sample Type: Sample From Schedule Version 2

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	29	TOC	K2003842-003.02	0.8206 ppm	0.0278 ppm	3.3800%	2020/05/13 13:24

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.8402	8.4020	12.78	16.79	4.01	49.73	10:26
2	TOC	0.8009	8.0094	12.50	16.64	4.14	49.76	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.8101 (IC) (v1382)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	30	TOC	K2003842-004.02	0.7610 ppm	0.0266 ppm	3.4900%	2020/05/13 13:52

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.7798	7.7982	12.35	16.48	4.12	49.71	10:31
2	TOC	0.7422	7.4225	12.08	16.16	4.08	49.74	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.8101 (IC) (v1382)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	31	TOC	K2003842-005.02	0.7799 ppm	0.0202 ppm	2.5900%	2020/05/13 14:20

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.7942	7.9418	12.45	16.41	3.96	49.75	10:29
2	TOC	0.7656	7.6561	12.25	16.21	3.96	49.74	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.8101 (IC) (v1382)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	32	TOC	K2003842-006.02	0.7569 ppm	0.0026 ppm	0.3400%	2020/05/13 14:48

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.7551	7.5505	12.18	16.24	4.07	49.69	10:28
2	TOC	0.7587	7.5871	12.20	16.30	4.10	49.72	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.8101 (IC) (v1382)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	33	TOC	K2003842-007.02	0.6324 ppm	0.0140 ppm	2.2200%	2020/05/13 15:16

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.6423	6.4232	11.37	15.36	3.98	49.74	10:28
2	TOC	0.6225	6.2248	11.23	15.10	3.87	49.72	10:24

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.8101 (IC) (v1382)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	34	TOC	K2003842-008.02	0.7908 ppm	0.0185 ppm	2.3400%	2020/05/13 15:44

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.8039	8.0389	12.52	16.65	4.13	49.69	10:27
2	TOC	0.7777	7.7771	12.34	16.41	4.07	49.70	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.8101 (IC) (v1382)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	35	TOC	K2003842-009.02	0.9137 ppm	0.0146 ppm	1.6000%	2020/05/13 16:12

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.9241	9.2408	13.38	17.26	3.88	49.66	10:25
2	TOC	0.9034	9.0339	13.23	17.22	3.99	49.66	10:30

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.8101 (IC) (v1382)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	36	TOC	K2003842-010.02	0.3716 ppm	0.0375 ppm	10.1000%	2020/05/13 16:40

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.3981	3.9814	9.64	13.65	4.01	49.64	10:31
2	TOC	0.3451	3.4508	9.26	13.32	4.06	49.64	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.8101 (IC) (v1382)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	37	TOC	K2003842-011.02	0.7630 ppm	0.0254 ppm	3.3300%	2020/05/13 17:08

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.7810	7.8095	12.36	16.39	4.03	49.64	10:26
2	TOC	0.7451	7.4506	12.10	16.19	4.09	49.62	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.8101 (IC) (v1382)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	38	TOC	K2003842-011.02 ms	26.6408 ppm	0.0000 ppm	0.0000%	2020/05/13 17:37

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	26.6408	266.4079	196.10	200.12	4.01	49.61	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.8101 (IC) (v1382)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 2

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	26.1856 ppm (PASS)	0.0000 ppm	0%	2020/05/13 17:52

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	26.1856	261.8559	193.03	197.08	4.06	49.58	10:30

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)	50 ppmC

Sample Type: Check Standard --> CCB From Schedule Version 2

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.0869 ppm (PASS)	0.0000 ppm	0%	2020/05/13 18:06

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time

D	TOC	0 ppm	1	0.0889	0.8888	7.60	11.54	3.94	49.57	10:33

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)	0 ppmC

Sample Type: Sample From Schedule Version 2

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	39	TOC	MB3	0.1599 ppm	0.0000 ppm	0.0000%	2020/05/13 18:21

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.1599	1.5987	7.95	11.94	4.00	49.54	10:33

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.8101 (IC) (v1382)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

Sample Type: Check Standard --> LCS From Schedule Version 2

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	C	TOC	25.0000	1:1	[TOC] LCS [25.0 ppm]	0 / infinity (NA / NA)	25.4408 ppm (PASS)	0.0000 ppm	0%	2020/05/13 18:36

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
C	TOC	25.0 ppm	1	25.4408	254.4079	187.73	191.70	3.97	49.56	10:29

Completion State	Success Action	Method	Calibration	STD Conc - Pos C
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)	25 ppmC

Sample Type: Sample From Schedule Version 2

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	40	TOC	K2003842-012.02	0.9954 ppm	0.0421 ppm	4.2300%	2020/05/13 18:50

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.0251	10.2513	14.09	18.39	4.30	49.58	10:28
2	TOC	0.9656	9.6560	13.67	17.71	4.03	49.59	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.8101 (IC) (v1382)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	41	TOC	K2003842-013.02	1.1495 ppm	0.0359 ppm	3.1300%	2020/05/13 19:18

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.1749	11.7488	15.16	19.14	3.98	49.61	10:27
2	TOC	1.1241	11.2407	14.80	18.78	3.99	49.64	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.8101 (IC) (v1382)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	42	TOC	K2003842-014.02	0.6711 ppm	0.0140 ppm	2.0900%	2020/05/13 19:46

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.6810	6.8103	11.65	15.60	3.95	49.62	10:29
2	TOC	0.6612	6.6118	11.51	15.47	3.96	49.67	10:30

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.8101 (IC) (v1382)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	43	TOC	K2003842-015.02	0.6160 ppm	0.0189 ppm	3.0700%	2020/05/13 20:15

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.6294	6.2937	11.28	15.43	4.15	49.67	10:31
2	TOC	0.6026	6.0263	11.09	15.30	4.21	49.70	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.8101 (IC) (v1382)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	44	TOC	FB 5/12/2020 1819	0.0000 ppm	0.0000 ppm	0.0000%	2020/05/13 20:43

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	6.32	10.50	4.17	49.70	10:25
2	TOC	0.0000	0.0000	6.23	10.23	4.00	49.71	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.8101 (IC) (v1382)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	45	TOC	K2003842-001.06 doc	1.4364 ppm	0.0271 ppm	1.8800%	2020/05/13 21:11

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.4555	14.5551	17.15	21.18	4.03	49.75	10:30
2	TOC	1.4172	14.1723	16.88	20.86	3.98	49.77	10:32

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.8101 (IC)	CAS_salt_010711	CAS_salt_010711

(v1382) (v4) (v35)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	46	TOC	K2003842-001.06 ms doc	26.8837 ppm	0.0000 ppm	0.0000%	2020/05/13 21:39

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	26.8837	268.8371	197.83	201.92	4.10	49.77	10:31

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.8101 (IC) (v1382)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	47	TOC	RB	0.0577 ppm	0.0000 ppm	0.0000%	2020/05/13 21:54

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0577	0.5769	7.22	11.30	4.08	49.80	10:34

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.8101 (IC) (v1382)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 2

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	25.4014 ppm (PASS)	0.0000 ppm	0%	2020/05/13 22:08

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	25.4014	254.0139	187.45	191.64	4.19	49.80	10:29

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)	50 ppmC

Sample Type: Check Standard --> CCB From Schedule Version 2

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.0133 ppm (PASS)	0.0000 ppm	0%	2020/05/13 22:23

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.0133	0.1331	7.06	10.91	3.85	49.80	10:31

Completion State	Success Action	Method	Calibration	STD Conc - Pos D

Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)	0 ppmC

Sample Type: Sample From Schedule Version 2

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	48	TOC	K2003842-002.06 doc	0.9156 ppm	0.0199 ppm	2.1700%	2020/05/13 22:37

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.9297	9.2971	13.42	17.48	4.06	49.82	10:30
2	TOC	0.9016	9.0156	13.22	17.31	4.09	49.85	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.8101 (IC) (v1382)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	49	TOC	K2003842-003.06 doc	0.5357 ppm	0.0200 ppm	3.7300%	2020/05/13 23:06

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.5499	5.4986	10.72	14.74	4.02	49.84	10:31
2	TOC	0.5216	5.2157	10.52	14.68	4.17	49.86	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.8101 (IC) (v1382)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	50	TOC	K2003842-004.06 doc	0.5114 ppm	0.0284 ppm	5.5500%	2020/05/13 23:34

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.5314	5.3142	10.59	14.80	4.22	49.86	10:27
2	TOC	0.4913	4.9131	10.30	14.46	4.16	49.86	10:24

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.8101 (IC) (v1382)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	51	TOC	K2003842-005.06 doc	0.5230 ppm	0.0502 ppm	9.5900%	2020/05/14 00:02

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.5584	5.5844	10.78	14.94	4.16	49.87	10:30
2	TOC	0.4875	4.8751	10.27	14.37	4.10	49.89	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.8101 (IC) (v1382)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

		Analysis			Std. Dev.		

	Pos	Type	Sample ID	Result (ppmC)	(ppmC)	RSD	Start Time
◆	52	TOC	K2003842-006.06 doc	0.4784 ppm	0.0217 ppm	4.5400%	2020/05/14 00:30

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.4937	4.9370	10.32	14.55	4.23	49.87	10:27
2	TOC	0.4630	4.6302	10.10	14.19	4.09	49.88	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.8101 (IC) (v1382)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	53	TOC	K2003842-007.06 doc	0.3677 ppm	0.0131 ppm	3.5700%	2020/05/14 00:58

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.3585	3.5845	9.36	13.52	4.16	49.91	10:28
2	TOC	0.3770	3.7703	9.49	13.59	4.10	49.89	10:24

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.8101 (IC) (v1382)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	54	TOC	K2003842-008.06 doc	0.5777 ppm	0.0079 ppm	1.3600%	2020/05/14 01:26

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.5832	5.8321	10.95	15.09	4.14	49.89	10:27
2	TOC	0.5721	5.7209	10.88	14.94	4.06	49.90	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.8101 (IC) (v1382)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	55	TOC	K2003842-009.06 doc	0.6140 ppm	0.0101 ppm	1.6400%	2020/05/14 01:54

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.6211	6.2107	11.22	15.39	4.17	49.93	10:29
2	TOC	0.6069	6.0686	11.12	15.29	4.16	49.92	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.8101 (IC) (v1382)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	56	TOC	K2003842-010.06 doc	0.1651 ppm	0.0400 ppm	24.2300%	2020/05/14 02:22

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.1934	1.9336	8.18	12.25	4.07	49.92	10:25
2	TOC	0.1368	1.3679	7.78	11.99	4.20	49.94	10:25

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	57	TOC	K2003842-011.06 doc	0.6509 ppm	0.0157 ppm	2.4200%	2020/05/14 02:50

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.6620	6.6203	11.51	15.65	4.14	49.95	10:26
2	TOC	0.6398	6.3979	11.36	15.34	3.99	49.96	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.8101 (IC) (v1382)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 2

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	25.0965 ppm (PASS)	0.0000 ppm	0%	2020/05/14 03:18

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	25.0965	250.9655	185.29	189.37	4.08	49.92	10:29

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)	50 ppmC

Sample Type: Check Standard --> CCB From Schedule Version 2

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.0000 ppm (PASS)	0.0000 ppm	0%	2020/05/14 03:33

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.0000	0.0000	6.62	10.70	4.08	49.96	10:32

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)	0 ppmC

Sample Type: Sample From Schedule Version 2

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	58	TOC	K2003842-012.06 doc	0.0000 ppm	0.0000 ppm	0.0000%	2020/05/14 03:48

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	6.27	10.10	3.83	49.97	10:27
2	TOC	0.0000	0.0000	5.89	9.90	4.00	49.98	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.8101 (IC) (v1382)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	59	TOC	K2003842-013.06 doc	0.0000 ppm	0.0000 ppm	0.0000%	2020/05/14 04:16

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	6.25	10.24	4.00	49.98	10:28
2	TOC	0.0000	0.0000	5.76	9.81	4.05	50.01	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.8101 (IC) (v1382)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	60	TOC	K2003842-014.06 doc	0.0000 ppm	0.0000 ppm	0.0000%	2020/05/14 04:44

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	5.64	9.81	4.17	50.00	10:28
2	TOC	0.0000	0.0000	5.67	9.69	4.02	50.01	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.8101 (IC) (v1382)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	61	TOC	K2003842-015.06 doc	0.0000 ppm	0.0000 ppm	0.0000%	2020/05/14 05:12

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	5.84	10.05	4.21	50.05	10:28
2	TOC	0.0000	0.0000	5.77	9.69	3.92	50.05	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.8101 (IC) (v1382)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 2

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	24.7761 ppm (PASS)	0.0000 ppm	0%	2020/05/14 05:40

Pos	Base Analysis	ID	Rep	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run

	Type		#							Time
B	TOC	25 ppm	1	24.7761	247.7608	183.01	187.21	4.20	50.04	10:30

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)	50 ppmC

Sample Type: Check Standard --> CCB From Schedule Version 2

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.0000 ppm (PASS)	0.0000 ppm	0%	2020/05/14 05:55

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.0000	0.0000	6.44	10.65	4.21	50.06	10:28

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)	0 ppmC

Meta Data Used in this Report

Blanks

Version	Reagent (Abs)	Acid (Abs)	DI IC (Abs)	DI TC (Abs)	DI TOC (Abs)	Save Time	Operator
v1381	1.1450	0.7350	0.0000	0.0000	0.0000	2020/05/09 14:55	Fusion1 (Fusion1)
v1382	2.6923	1.4840	0.0000	0.0000	0.0000	2020/05/12 22:56	Fusion1 (Fusion1)

Calibrations

Name: CAS_salt_010711 (TOC)

Version: v35
Ver Creation: 2020/05/09 16:50
Comment:
Operator: Fusion1 (Fusion1)
Basic Analysis Type: TOC
Calibration curve formula: TOC: y = 7.105x + 6.969
r^2 value: TOC: r^2 = 0.99936

Basic Analysis Type: TOC

Sample ID	Y Raw Value	X Expected	Message	End Time
DI Water	6.6220	0.0000		2020/05/09 15:23

0.500 ppm	9.3820	0.5000		2020/05/09 15:38
1.0 ppm	12.1910	1.0000		2020/05/09 15:52
5.0 ppm	39.9300	5.0000		2020/05/09 16:06
10 ppm	81.4900	10.0000		2020/05/09 16:20
25 ppm	190.3090	25.0000		2020/05/09 16:35
50 ppm	358.9940	50.0000		2020/05/09 16:49

Methods

Name: CAS_salt_010711 (TOC)

Version: v4 Operator: Fusion1 (Fusion1)
Ver Creation: 2019/02/21 17:57
Comment:

Parameter	Value
SampleVolume	10.0 mL
Dilution	1:10
AcidVolume	0.5 ml
ReagentVolume	2.0 ml
UVReactorPrerinse	Off
UVReactorPrerinseVolume	5.0
NumberOfUVReactorPrerinses	1
ICSpargeTime	1.00 mins
DetectorSweepFlow	500 ml/min
PreSpargeTime	2.00 mins
SystemFlow	500 ml/min

Advanced Parameter	Value
NeedleRinseVolume	5.0 ml
VialPrimeVolume	2.0 ml
ICSamplePrimeVolume	2.0 ml
ICSpargeRinseVolume	12.0 ml
BaselineStabilizeTime	0.70 min
DetectorPressureFlow	150 ml/min
SyringeSpeedWaste	10
SyringeSpeedAcid	7
SyringeSpeedReagent	7
SyringeSpeedDIWater	7
NDIRPressurization	60 psig
SyringeSpeedSampleDispense	5
SyringeSpeedSampleAspirate	4
SyringeSpeedUVDispense	5
SyringeSpeedUVAspirate	5
SyringeSpeedICDispense	5
SyringeSpeedICAspirate	5
NDIRPressureStabilize	1.75 min
SampleMixing	Off
SampleMixingCycles	1
SampleMixingVolume	10.0
LowLevelFilterNDIR	Off

Acceptance / Approval

Electronic Signatures

Report Version	User Name	Acceptance	Reason	Date

Report History

Report History

Report Version	User Name	System Reason	User Reason	Date
1	Fusion1 (Fusion1)	Schedule completed	Schedule completed	2020/05/14 06:10

ALS Environmental

StarLIMS Run: 679905, 679906, 679907

Analysis: DOC/TOC

Method: SM 5310 C, 9060A, 415.1, 9060

CCV: 11-GEN-05-82C 50 ppm LCS: 11-GEN-05-79J 25.0 ppm

ICAL Date: 5/9/20

ICAL ID: 19-GEN-17-E->J

ICS ID: 19-GEN-8-4-G

ICS TV: 25.0 ppm ICS % R < 1

Spike ID: 19-GEN-8-15-B 0.05 ml of 5000 ppm stock ---> 10.0 ml = 25.0 ppm x dilution factor

Sodium Persulfate: 19-GEN-08-17-K

21 % H3PO4: 19-GEN-08-17-L

Equipment ID: K-TOC-03

PIPETTE ID: 124276B, 129001F, N11314F, Marge

FILTER ID: 16967789

Analyzed By:	Date Analyzed: 5/12/20
Reviewed By:	Date Reviewed: 5/14/20

LABORATORY REPORT

May 21, 2020

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

RE: HS20050234

Dear RJ:

Enclosed are the results of the samples submitted to our laboratory on May 8, 2020. For your reference, these analyses have been assigned our service request number P2002523.

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 9:54 am, May 21, 2020

Hayden Akers
Project Manager

Client: ALS Laboratory Group Service Request No: P2002523
Project: HS20050234

CASE NARRATIVE

The samples were received intact under chain of custody on May 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.

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. 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
Project ID: HS20050234

Service Request: P2002523

Date Received: 5/8/2020
Time Received: 09:30

Client Sample ID	Lab Code	Matrix	Date Collected	Time Collected	RSK 175 - CO2	RSK 175 - Gases
35BWW26-200506	P2002523-001	Water	5/6/2020	10:40	X	X
35BWW04-200506	P2002523-002	Water	5/6/2020	11:30	X	X
35BWW12-200506	P2002523-003	Water	5/6/2020	12:25	X	X
35BWW12-200506-FD	P2002523-004	Water	5/6/2020	12:25	X	X
35BWW08-200506	P2002523-005	Water	5/6/2020	13:20	X	X

P2002523

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:** **13868**

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:	HS20050234
TSR:	Sonia West

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS20050234-06**	**35BWW26-200506**	**Groundwater**	**06 May 2020 10:40**
	MEE + CO2. DOD IV. Equis EDD. EQuIS 5.0 - Longhorn			21 May 2020
2.	**HS20050234-07**	**35BWW04-200506**	**Groundwater**	**06 May 2020 11:30**
	MEE + CO2. DOD IV. Equis EDD. EQuIS 5.0 - Longhorn			21 May 2020
3.	**HS20050234-08**	**35BWW12-200506**	**Groundwater**	**06 May 2020 12:25**
	MEE + CO2. DOD IV. Equis EDD. EQuIS 5.0 - Longhorn			21 May 2020
4.	**HS20050234-09**	**35BWW12-200506-FD**	**Groundwater**	**06 May 2020 12:25**
	MEE + CO2. DOD IV. Equis EDD. EQuIS 5.0 - Longhorn			21 May 2020
5.	**HS20050234-10**	**35BWW08-200506**	**Groundwater**	**06 May 2020 13:20**
	MEE + CO2. DOD IV. Equis EDD. EQuIS 5.0 - Longhorn			21 May 2020

Comments: Please analyze for the analysis listed above.
Send report to the emails shown above.
VOA Neat & HCL Vials

QC Level: DOD IV (DoD Data Package)

P2002543

Subcontract Chain of Custody

SAMPLING STATE: **Dept of Defense** **COC ID:** **13868**

Relinquished By: J. MARTIN Date/Time: 5/7/20 18:00

Received By: Date/Time: 5-8-20 0930 3° HOT

Cooler ID(s): Temperature(s):

ALS Environmental
Sample Acceptance Check Form

Client: ALS Laboratory Group Work order: P2002523

Project: HS20050234

Sample(s) received on: 05/08/20 Date opened: 05/08/20 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: 3° C Blank Temperature: ° C Thermometer ID T-111 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
P2002523-001.01	40mL VOA NP		6		A	LD 05/12/2020
P2002523-001.02	40mL VOA NP				A	
P2002523-001.03	40mL VOA NP				A	
P2002523-001.04	40ml VOA HCL		1		A	LD 05/18/20
P2002523-001.05	40ml VOA HCL				A	
P2002523-001.06	40ml VOA HCL				A	
P2002523-002.01	40mL VOA NP		6		A	LD 05/12/2020
P2002523-002.02	40mL VOA NP				A	
P2002523-002.03	40mL VOA NP				A	
P2002523-002.04	40ml VOA HCL		1		A	LD 05/18/20
P2002523-002.05	40ml VOA HCL				A	
P2002523-002.06	40ml VOA HCL				A	
P2002523-003.01	40mL VOA NP		6		A	LD 05/12/2020
P2002523-003.02	40mL VOA NP				A	
P2002523-003.03	40mL VOA NP				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: P2002523

Project: HS20050234

Sample(s) received on: 05/08/20 Date opened: 05/08/20 by: ADAVID

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P2002523-003.04	40ml VOA HCL		1		A	LD 05/18/20
P2002523-003.05	40ml VOA HCL				A	
P2002523-003.06	40ml VOA HCL				A	
P2002523-004.01	40mL VOA NP		6		A	LD 05/12/2020
P2002523-004.02	40mL VOA NP				A	
P2002523-004.03	40mL VOA NP				A	
P2002523-004.04	40ml VOA HCL		1		A	LD 05/18/20
P2002523-004.05	40ml VOA HCL				A	
P2002523-004.06	40ml VOA HCL				A	
P2002523-005.01	40mL VOA NP		6		A	LD 05/12/2020
P2002523-005.02	40mL VOA NP				A	
P2002523-005.03	40mL VOA NP				A	
P2002523-005.04	40ml VOA HCL		1		A	LD 05/18/20
P2002523-005.05	40ml VOA HCL				A	
P2002523-005.06	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: **HS20050234** ALS Project ID: P2002523

Carbon Dioxide

Test Code: RSK 175
Instrument ID: HP5890A/GC10/TCD
Analyst: Li Donghao
Matrix: Liquid
Test Notes:

Date(s) Collected: 5/6/20
Date Received: 5/8/20
Date Analyzed: 5/12/20

Client Sample ID	ALS Sample ID	Injection Volume ml(s)	Result µg/L	LOQ µg/L	LOD µg/L	MDL µg/L	Data Qualifier
35BWW26-200506	P2002523-001	0.10	**87,000**	1,000	860	370	
35BWW04-200506	P2002523-002	0.10	**46,000**	1,000	860	370	
35BWW12-200506	P2002523-003	0.10	**94,000**	1,000	860	370	
35BWW12-200506-FD	P2002523-004	0.10	**88,000**	1,000	860	370	
35BWW08-200506	P2002523-005	0.10	**11,000**	1,000	860	370	
Method Control Sample	P200512-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**
Client Project ID: **HS20050234**

ALS Project ID: P2002523
ALS Sample ID: P200512-DLCS

Test Code: RSK 175
Instrument ID: HP5890A/GC10/TCD
Analyst: Li Donghao
Matrix: Liquid
Test Notes:

Date Collected: NA
Date Received: NA
Date Analyzed: 5/12/20
Volume(s) Analyzed: NA ml(s)

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	19,200	19,700	**84**	**86**	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: **35BWW26-200506**
Client Project ID: **HS20050234**

ALS Project ID: P2002523
ALS Sample ID: P2002523-001

Test Code: RSK 175
Instrument ID: HP5890A/GC10/FID
Analyst: Li Donghao
Matrix: Water
Test Notes:

Date Collected: 05/06/20
Date Received: 05/08/20
Date Analyzed: 05/18/20
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**

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: **35BWW04-200506**
Client Project ID: **HS20050234**

ALS Project ID: P2002523
ALS Sample ID: P2002523-002

Test Code: RSK 175
Instrument ID: HP5890A/GC10/FID
Analyst: Li Donghao
Matrix: Water
Test Notes:

Date Collected: 05/06/20
Date Received: 05/08/20
Date Analyzed: 05/18/20
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**

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: **35BWW12-200506**
Client Project ID: **HS20050234**

ALS Project ID: P2002523
ALS Sample ID: P2002523-003

Test Code: RSK 175
Instrument ID: HP5890A/GC10/FID
Analyst: Li Donghao
Matrix: Water
Test Notes:

Date Collected: 05/06/20
Date Received: 05/08/20
Date Analyzed: 05/18/20
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	**0.93**	1.3	1.0	0.51	**J**
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.
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: **35BWW12-200506-FD**
Client Project ID: **HS20050234**

ALS Project ID: P2002523
ALS Sample ID: P2002523-004

Test Code: RSK 175
Instrument ID: HP5890A/GC10/FID
Analyst: Li Donghao
Matrix: Water
Test Notes:

Date Collected: 05/06/20
Date Received: 05/08/20
Date Analyzed: 05/18/20
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	**0.81**	1.3	1.0	0.51	**J**
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.
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: **35BWW08-200506**
Client Project ID: **HS20050234**

ALS Project ID: P2002523
ALS Sample ID: P2002523-005

Test Code: RSK 175
Instrument ID: HP5890A/GC10/FID
Analyst: Li Donghao
Matrix: Water
Test Notes:

Date Collected: 05/06/20
Date Received: 05/08/20
Date Analyzed: 05/18/20
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**

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: **HS20050234**

ALS Project ID: P2002523
ALS Sample ID: P200518-MB

Test Code: RSK 175
Instrument ID: HP5890A/GC10/FID
Analyst: Li Donghao
Matrix: Water
Test Notes:

Date Collected: NA
Date Received: NA
Date Analyzed: 5/18/20
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: **HS20050234**

ALS Project ID: P2002523
ALS Sample ID: P200518-LCS
P200518-DLCS

Test Code: RSK 175
Instrument ID: HP5890A/GC10/FID
Analyst: Li Donghao
Matrix: Water
Test Notes:

Date Collected: NA
Date Received: NA
Date Analyzed: 5/18/20
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	2.27	2.27	**90**	**90**	73-125	0	26	
74-85-1	Ethene	4.40	4.46	4.26	**101**	**97**	72-133	4	11	
74-84-0	Ethane	4.72	4.45	4.39	**94**	**93**	74-131	1	10	

$_1$ = The concentration shown includes a subtraction of the Method Control Sample value, even if the result is less than the MRL.

Quantitation Report (QT Reviewed)

Data Path : I:\GC10\DATA\RSK_FID\2020_05\12CO2\
Data File : 05122008.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 12-May-2020, 17:58:30
Operator : LD
Sample : P2002523-001 0.1ml
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 12 18:08:01 2020
Quant Method : I:\GC10\METHODS\RS082817_CO2.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Tue Aug 29 16:13:13 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

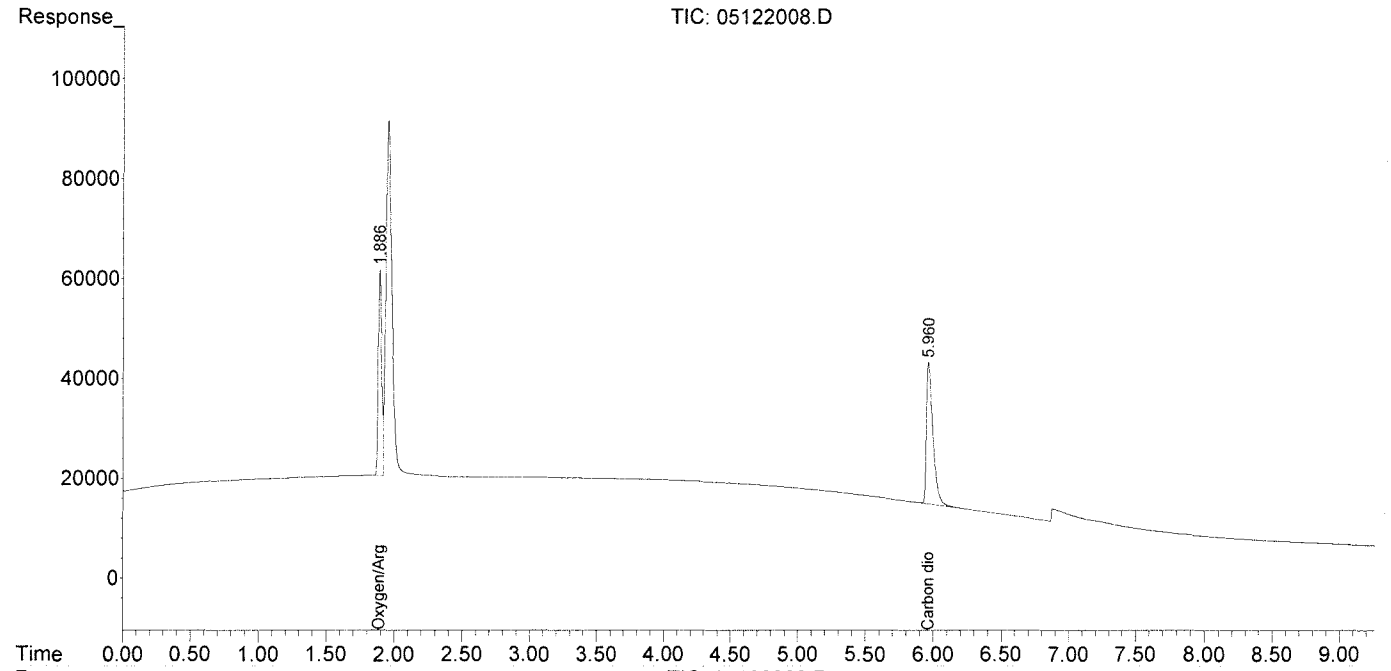
	Compound	R.T.	Response	Conc	Units
Target Compounds					
1)	Oxygen/Argon	1.887	705678	0.148	ppm
2)	Carbon monoxide	1.887	705678	N.D.	ppm
3)	Methane (TCD)	0.000	0	N.D.	ppm
4)	Carbon dioxide	5.960	939358	4001.882	ppm
6)	Methane (FID)	0.000	0	N.D.	ppm
7)	Ethylene	0.000	0	N.D.	ppm
8)	Ethane	0.000	0	N.D.	ppm
9)	Propylene	0.000	0	N.D.	ppm
10)	Propane	0.000	0	N.D.	ppm
11)	Isobutylene	0.000	0	N.D.	ppm
12)	Isobutane	0.000	0	N.D.	ppm
13)	n-Butane	0.000	0	N.D.	ppm

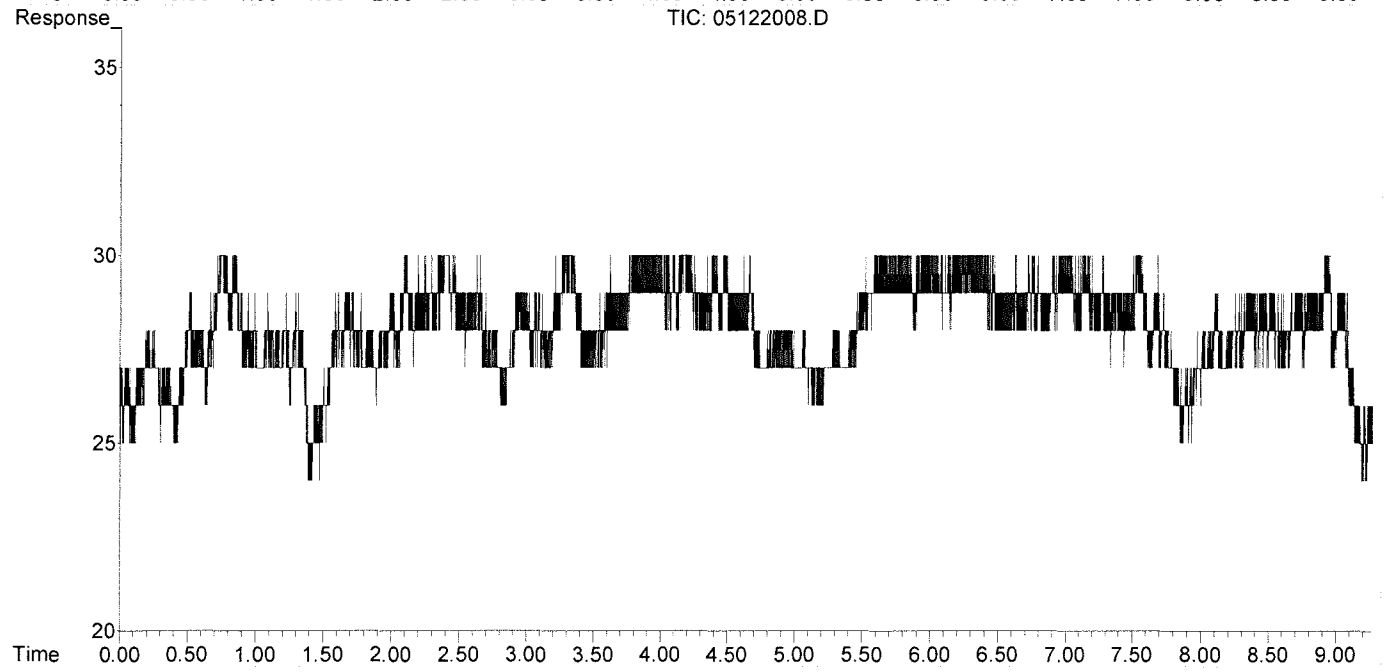
(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : I:\GC10\DATA\RSK_FID\2020_05\12CO2\
Data File : 05122008.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 12-May-2020, 17:58:30
Operator : LD
Sample : P2002523-001 0.1ml
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 12 18:08:01 2020
Quant Method : I:\GC10\METHODS\RS082817_CO2.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Tue Aug 29 16:13:13 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





Data Path : I:\GC10\DATA\RSK_FID\2020_05\12CO2\
Data File : 05122009.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 12-May-2020, 18:10:52
Operator : LD
Sample : P2002523-002 0.1ml
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 12 18:26:09 2020
Quant Method : I:\GC10\METHODS\RS082817_CO2.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Tue Aug 29 16:13:13 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

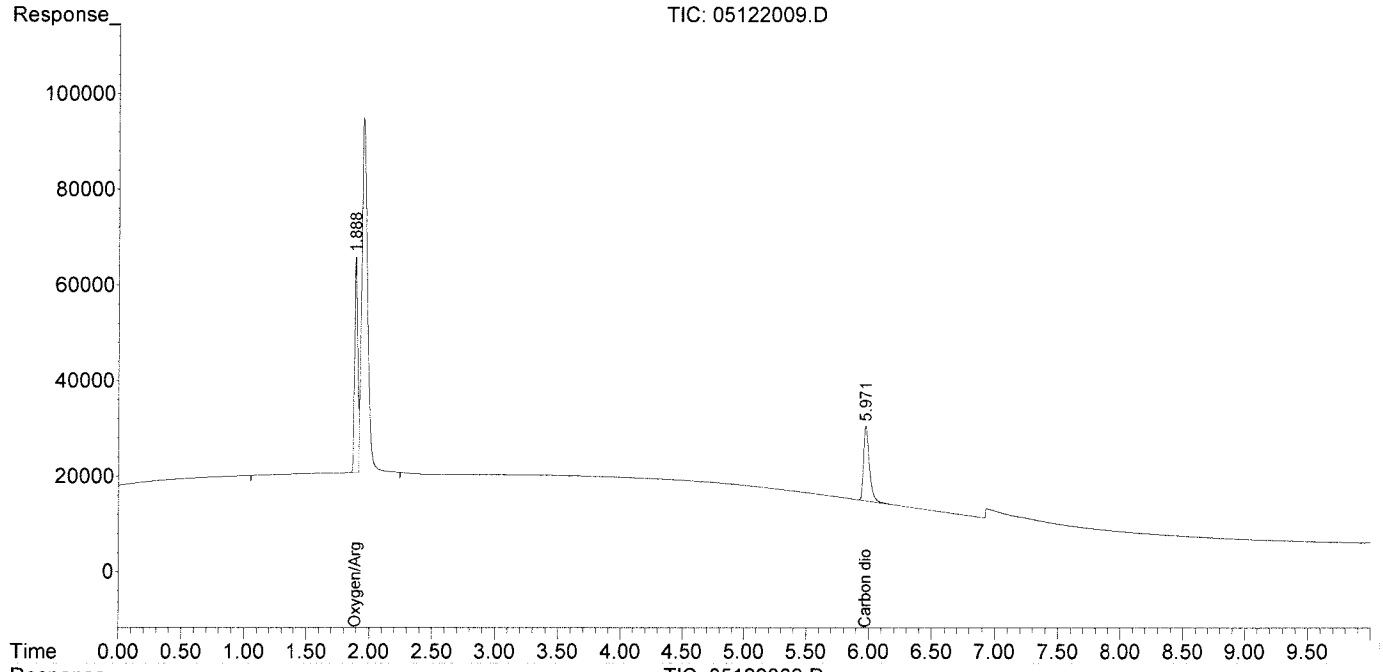
	Compound	R.T.	Response	Conc	Units
Target Compounds					
1)	Oxygen/Argon	1.888	776266	0.163	ppm
2)	Carbon monoxide	1.888	776266	N.D.	ppm
3)	Methane (TCD)	0.000	0	N.D.	ppm
4)	Carbon dioxide	5.971	489597	2085.795	ppm
6)	Methane (FID)	0.000	0	N.D.	ppm
7)	Ethylene	0.000	0	N.D.	ppm
8)	Ethane	0.000	0	N.D.	ppm
9)	Propylene	0.000	0	N.D.	ppm
10)	Propane	0.000	0	N.D.	ppm
11)	Isobutylene	0.000	0	N.D.	ppm
12)	Isobutane	0.000	0	N.D.	ppm
13)	n-Butane	0.000	0	N.D.	ppm

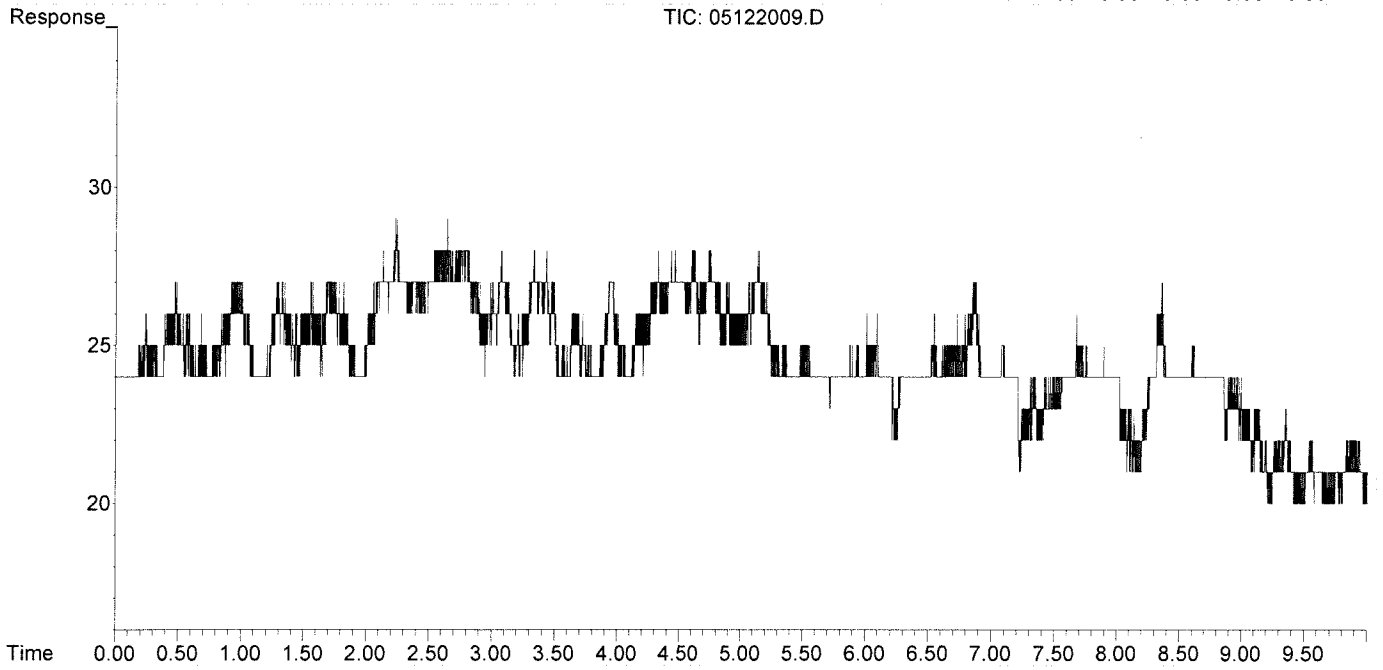
(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : I:\GC10\DATA\RSK_FID\2020_05\12CO2\
Data File : 05122009.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 12-May-2020, 18:10:52
Operator : LD
Sample : P2002523-002 0.1ml
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 12 18:26:09 2020
Quant Method : I:\GC10\METHODS\RS082817_CO2.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Tue Aug 29 16:13:13 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





Data Path : I:\GC10\DATA\RSK_FID\2020_05\12CO2\
Data File : 05122010.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 12-May-2020, 18:25:16
Operator : LD
Sample : P2002523-003 0.1ml
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 12 18:39:35 2020
Quant Method : I:\GC10\METHODS\RS082817_CO2.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Tue Aug 29 16:13:13 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

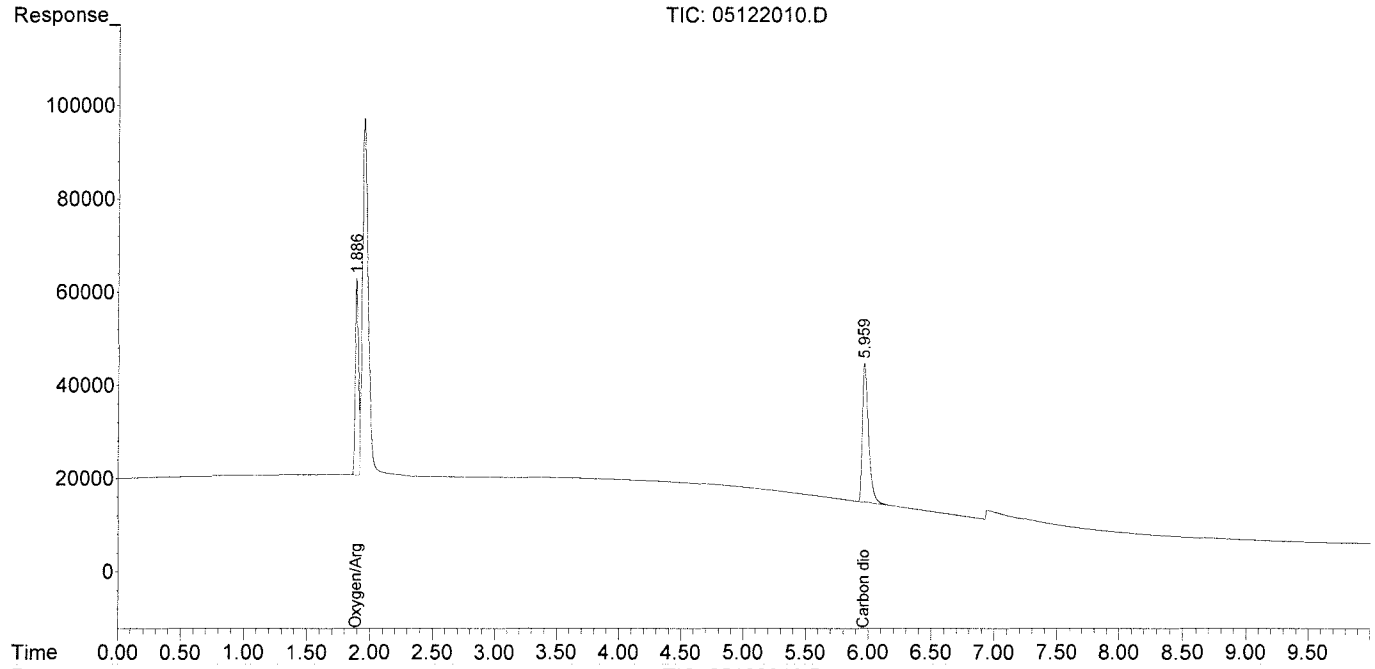
	Compound	R.T.	Response	Conc	Units
Target Compounds					
1)	Oxygen/Argon	1.887	718008	0.151	ppm
2)	Carbon monoxide	1.887	718008	N.D.	ppm
3)	Methane (TCD)	0.000	0	N.D.	ppm
4)	Carbon dioxide	5.961	1010532	4305.096	ppm
6)	Methane (FID)	0.000	0	N.D.	ppm
7)	Ethylene	0.000	0	N.D.	ppm
8)	Ethane	0.000	0	N.D.	ppm
9)	Propylene	0.000	0	N.D.	ppm
10)	Propane	0.000	0	N.D.	ppm
11)	Isobutylene	0.000	0	N.D.	ppm
12)	Isobutane	0.000	0	N.D.	ppm
13)	n-Butane	0.000	0	N.D.	ppm

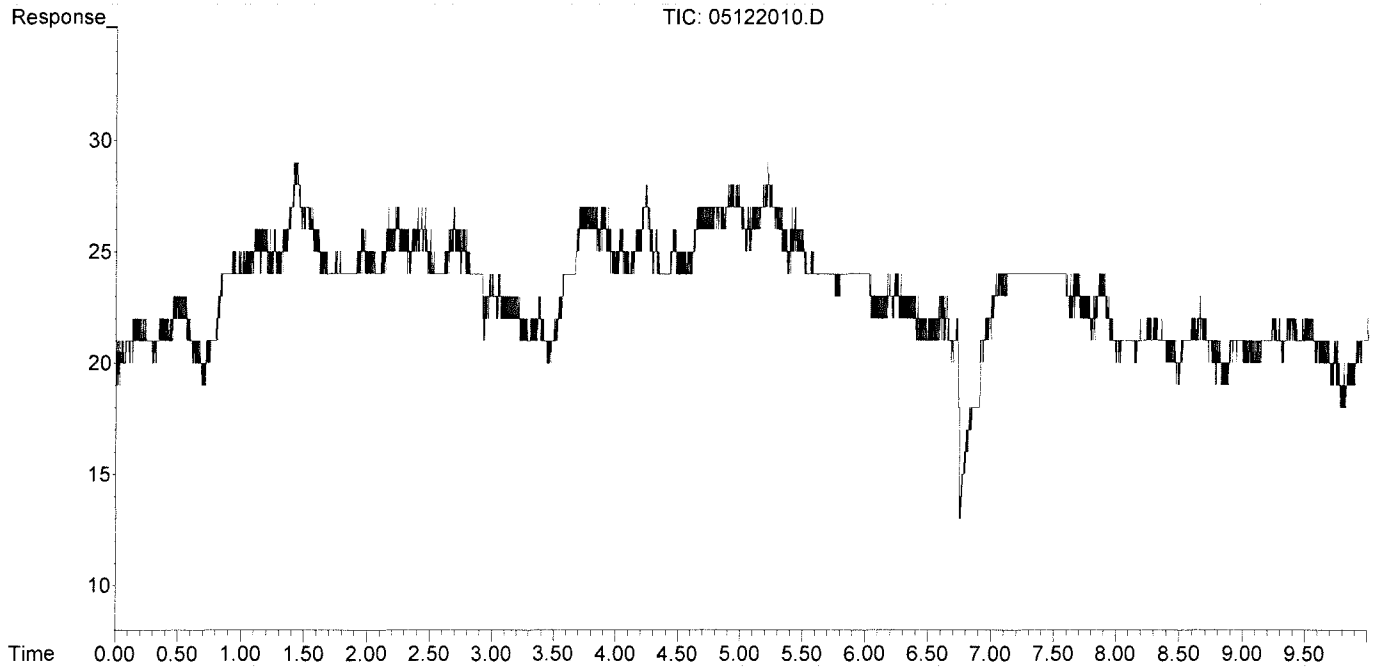
(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : I:\GC10\DATA\RSK_FID\2020_05\12CO2\
Data File : 05122010.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 12-May-2020, 18:25:16
Operator : LD
Sample : P2002523-003 0.1ml
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 12 18:39:35 2020
Quant Method : I:\GC10\METHODS\RS082817_CO2.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Tue Aug 29 16:13:13 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





Data Path : I:\GC10\DATA\RSK_FID\2020_05\12CO2\
Data File : 05122011.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 12-May-2020, 18:38:29
Operator : LD
Sample : P2002523-004 0.1ml
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 12 18:51:58 2020
Quant Method : I:\GC10\METHODS\RS082817_CO2.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Tue Aug 29 16:13:13 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

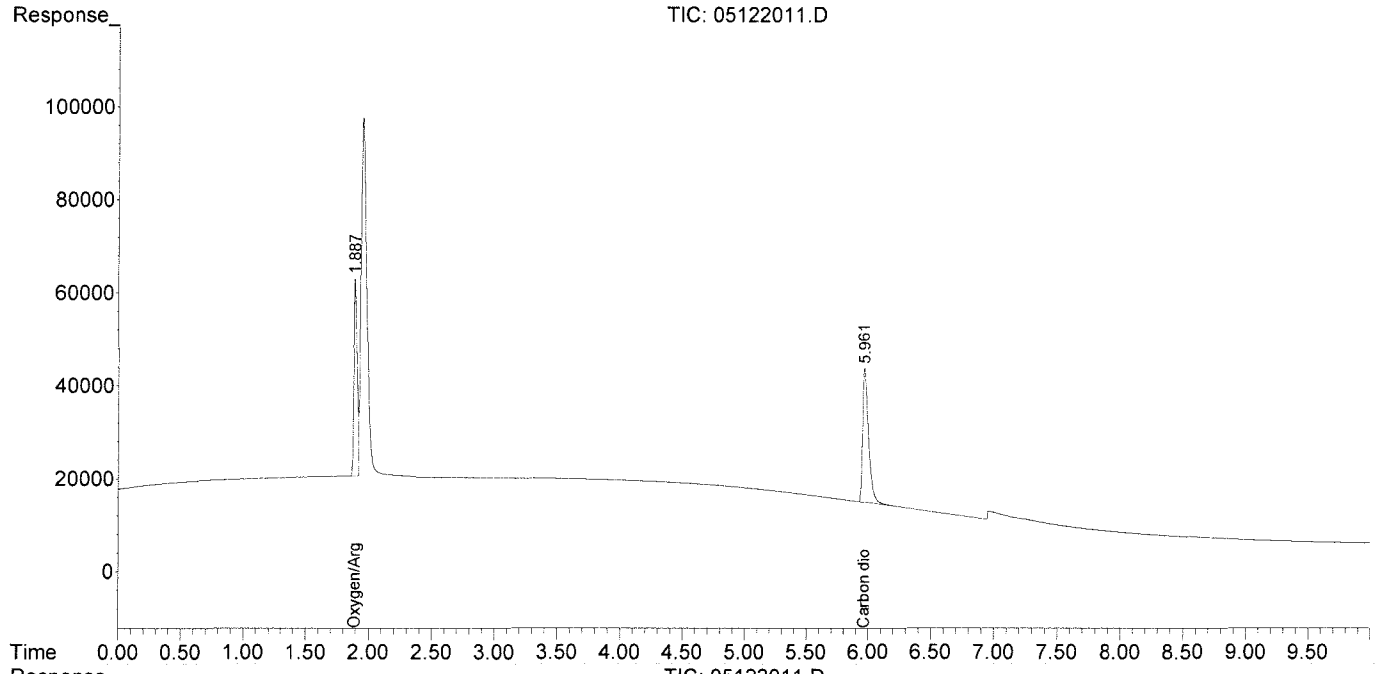
	Compound	R.T.	Response	Conc	Units
Target Compounds					
1)	Oxygen/Argon	1.888	719041	0.151	ppm
2)	Carbon monoxide	1.888	719041	N.D.	ppm
3)	Methane (TCD)	0.000	0	N.D.	ppm
4)	Carbon dioxide	5.962	949651	4045.732	ppm
6)	Methane (FID)	0.000	0	N.D.	ppm
7)	Ethylene	0.000	0	N.D.	ppm
8)	Ethane	0.000	0	N.D.	ppm
9)	Propylene	0.000	0	N.D.	ppm
10)	Propane	0.000	0	N.D.	ppm
11)	Isobutylene	0.000	0	N.D.	ppm
12)	Isobutane	0.000	0	N.D.	ppm
13)	n-Butane	0.000	0	N.D.	ppm

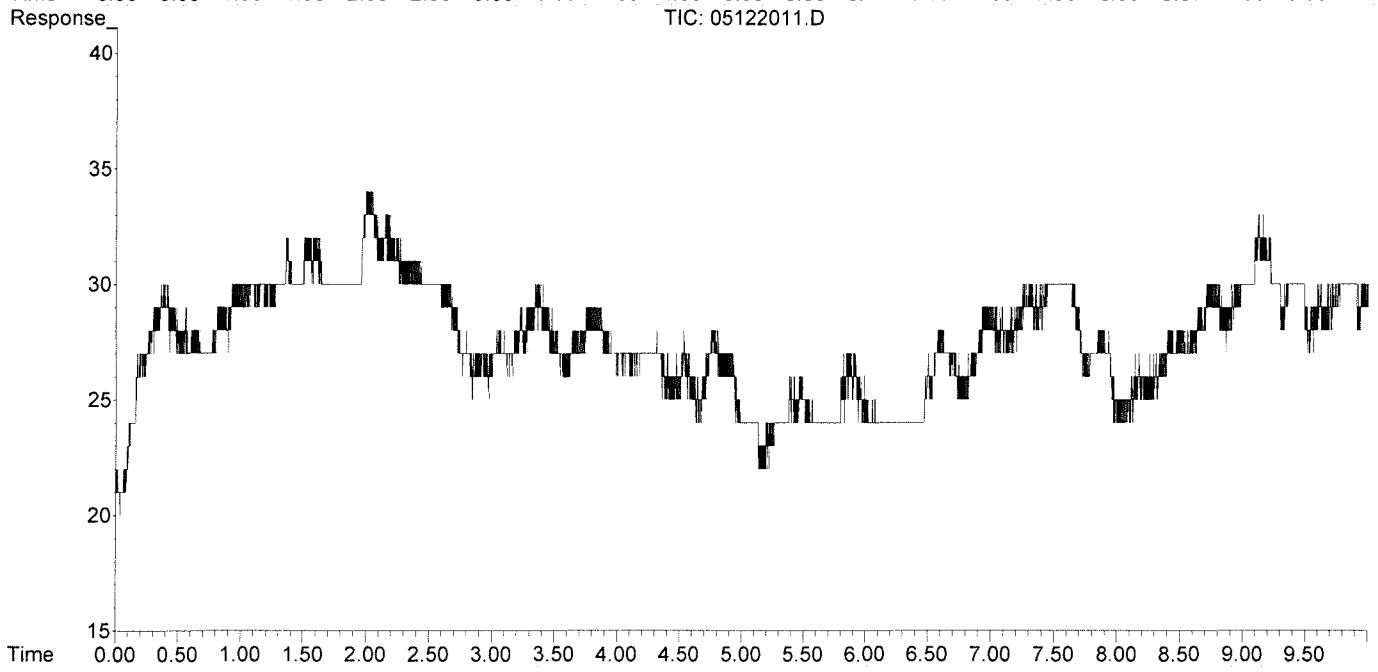
(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : I:\GC10\DATA\RSK_FID\2020_05\12CO2\
Data File : 05122011.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 12-May-2020, 18:38:29
Operator : LD
Sample : P2002523-004 0.1ml
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 12 18:51:58 2020
Quant Method : I:\GC10\METHODS\RS082817_CO2.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Tue Aug 29 16:13:13 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





Data Path : I:\GC10\DATA\RSK_FID\2020_05\12CO2\
Data File : 05122012.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 12-May-2020, 18:51:32
Operator : LD
Sample : P2002523-005 0.1ml
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 12 19:08:44 2020
Quant Method : I:\GC10\METHODS\RS082817_CO2.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Tue Aug 29 16:13:13 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

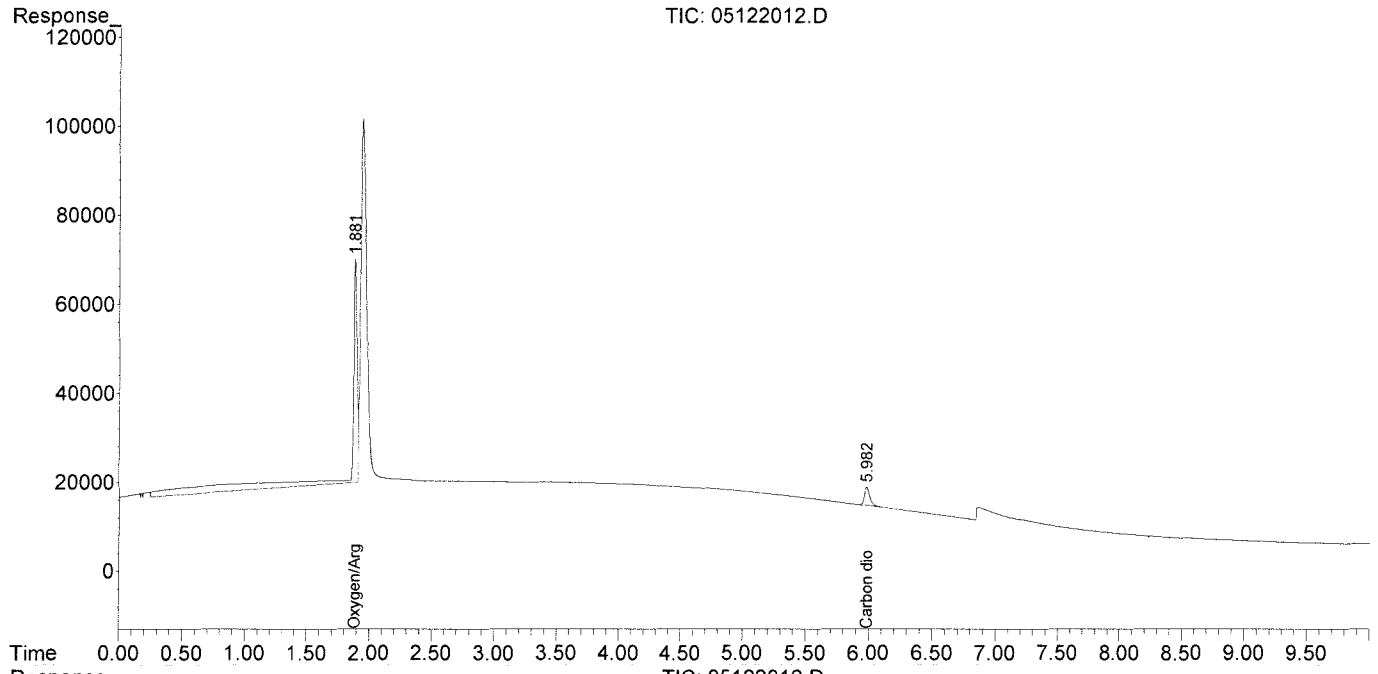
	Compound	R.T.	Response	Conc	Units
Target Compounds					
1)	Oxygen/Argon	1.882	2043925	0.429	ppm
2)	Carbon monoxide	1.882	2043925	N.D.	ppm
3)	Methane (TCD)	0.000	0	N.D.	ppm
4)	Carbon dioxide	5.982	119178	507.725	ppm
6)	Methane (FID)	0.000	0	N.D.	ppm
7)	Ethylene	0.000	0	N.D.	ppm
8)	Ethane	0.000	0	N.D.	ppm
9)	Propylene	0.000	0	N.D.	ppm
10)	Propane	0.000	0	N.D.	ppm
11)	Isobutylene	0.000	0	N.D.	ppm
12)	Isobutane	0.000	0	N.D.	ppm
13)	n-Butane	0.000	0	N.D.	ppm

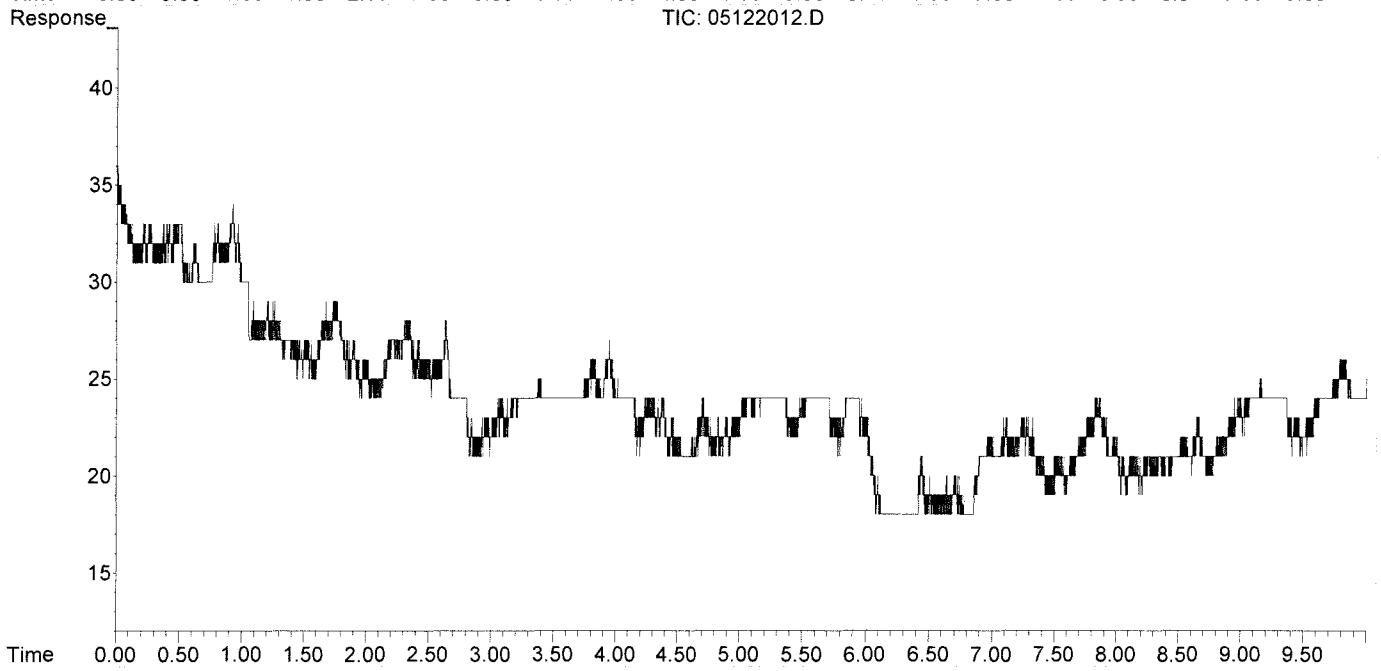
(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : I:\GC10\DATA\RSK_FID\2020_05\12CO2\
Data File : 05122012.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 12-May-2020, 18:51:32
Operator : LD
Sample : P2002523-005 0.1ml
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 12 19:08:44 2020
Quant Method : I:\GC10\METHODS\RS082817_CO2.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Tue Aug 29 16:13:13 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





01006594

Data Path : I:\GC10\DATA\RSK_FID\2020_05\12CO2\
Data File : 05122003.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 12-May-2020, 16:07:14
Operator : LD
Sample : MCS 0.1ml
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 12 16:26:26 2020
Quant Method : I:\GC10\METHODS\RS082817_CO2.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Tue Aug 29 16:13:13 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

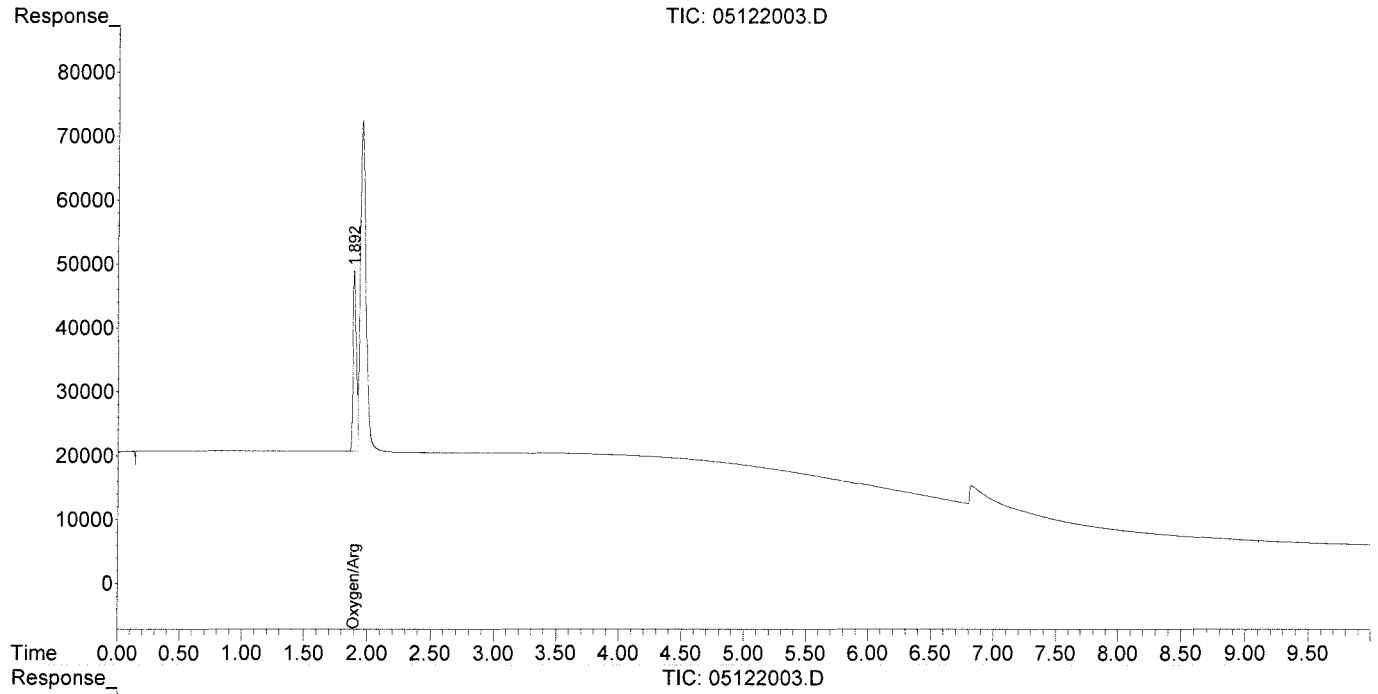
	Compound	R.T.	Response	Conc	Units
Target Compounds					
1)	Oxygen/Argon	1.893	498630	0.105	ppm
2)	Carbon monoxide	1.893	498630	N.D.	ppm
3)	Methane (TCD)	0.000	0	N.D.	ppm
4)	Carbon dioxide	0.000	0	N.D.	ppm
6)	Methane (FID)	0.000	0	N.D.	ppm
7)	Ethylene	0.000	0	N.D.	ppm
8)	Ethane	0.000	0	N.D.	ppm
9)	Propylene	0.000	0	N.D.	ppm
10)	Propane	0.000	0	N.D.	ppm
11)	Isobutylene	0.000	0	N.D.	ppm
12)	Isobutane	0.000	0	N.D.	ppm
13)	n-Butane	0.000	0	N.D.	ppm

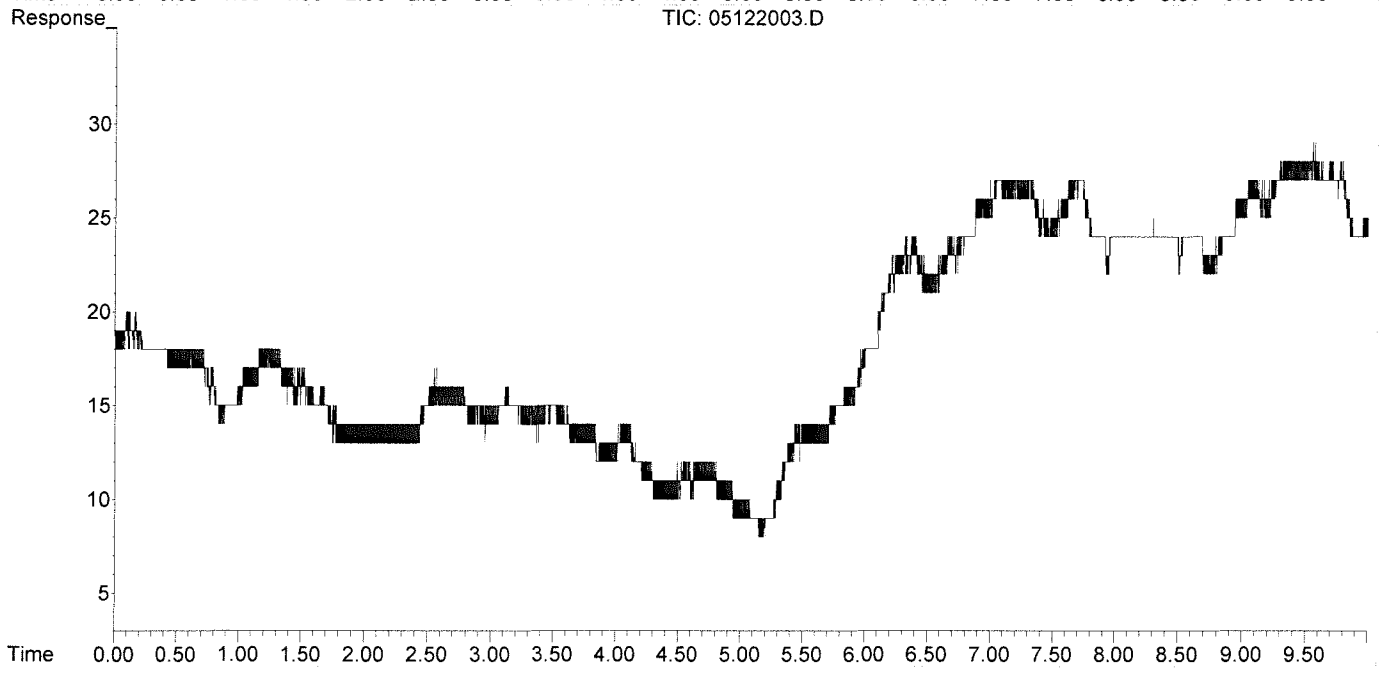
(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : I:\GC10\DATA\RSK_FID\2020_05\12CO2\
Data File : 05122003.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 12-May-2020, 16:07:14
Operator : LD
Sample : MCS 0.1ml
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 12 16:26:26 2020
Quant Method : I:\GC10\METHODS\RS082817_CO2.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Tue Aug 29 16:13:13 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





Data Path : I:\GC10\DATA\RSK_FID\2020_05\12CO2\
Data File : 05122006.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 12-May-2020, 17:33:10
Operator : LD
Sample : LCS S32-01212003
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 12 17:45:37 2020
Quant Method : I:\GC10\METHODS\RS082817_CO2.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Tue Aug 29 16:13:13 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

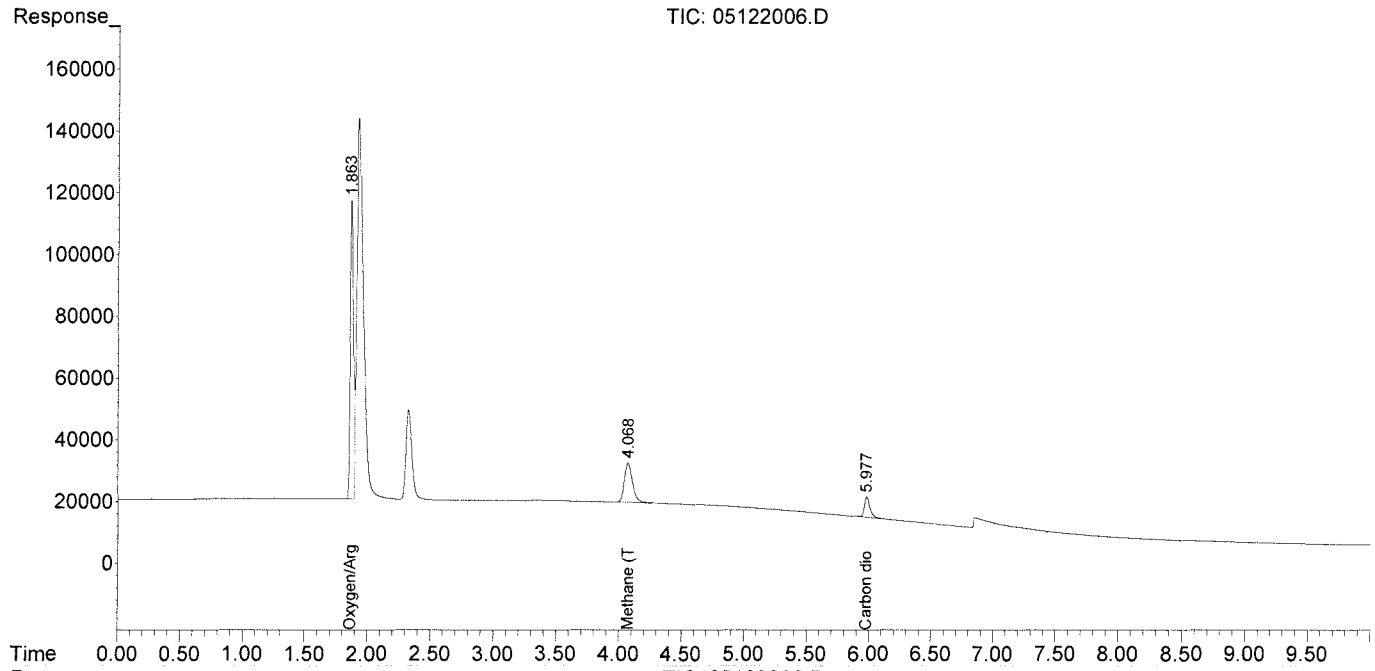
	Compound	R.T.	Response	Conc	Units
Target Compounds					
1)	Oxygen/Argon	1.864	1771518	0.372	ppm
2)	Carbon monoxide	1.864	1771518	N.D.	ppm
3)	Methane (TCD)	4.069f	587276	62097.268	ppm
4)	Carbon dioxide	5.978	206701	880.595	ppm
6)	Methane (FID)	0.000	0	N.D.	ppm
7)	Ethylene	0.000	0	N.D.	ppm
8)	Ethane	0.000	0	N.D.	ppm
9)	Propylene	0.000	0	N.D.	ppm
10)	Propane	0.000	0	N.D.	ppm
11)	Isobutylene	0.000	0	N.D.	ppm
12)	Isobutane	0.000	0	N.D.	ppm
13)	n-Butane	0.000	0	N.D.	ppm

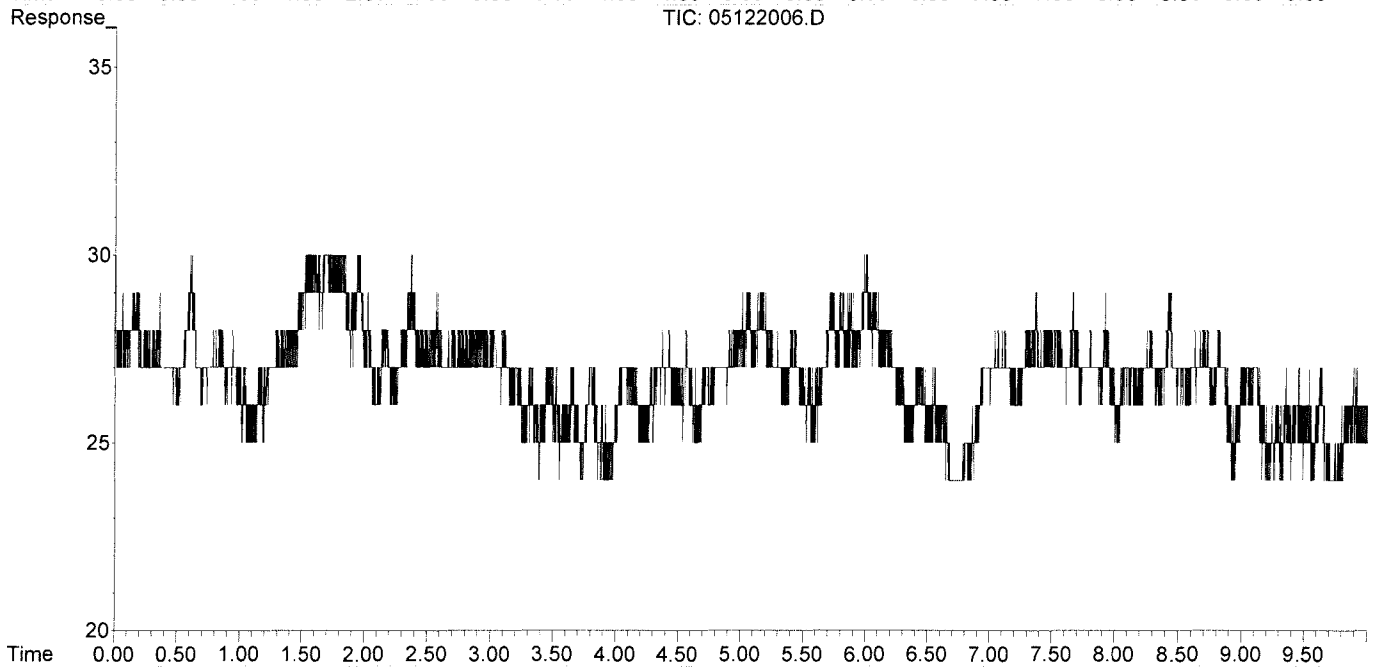
(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : I:\GC10\DATA\RSK_FID\2020_05\12CO2\
Data File : 05122006.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 12-May-2020, 17:33:10
Operator : LD
Sample : LCS S32-01212003
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 12 17:45:37 2020
Quant Method : I:\GC10\METHODS\RS082817_CO2.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Tue Aug 29 16:13:13 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





Data Path : I:\GC10\DATA\RSK_FID\2020_05\12CO2\
Data File : 05122007.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 12-May-2020, 17:46:54
Operator : LD
Sample : LCSD S32-01212003
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 12 17:55:51 2020
Quant Method : I:\GC10\METHODS\RS082817_CO2.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Tue Aug 29 16:13:13 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

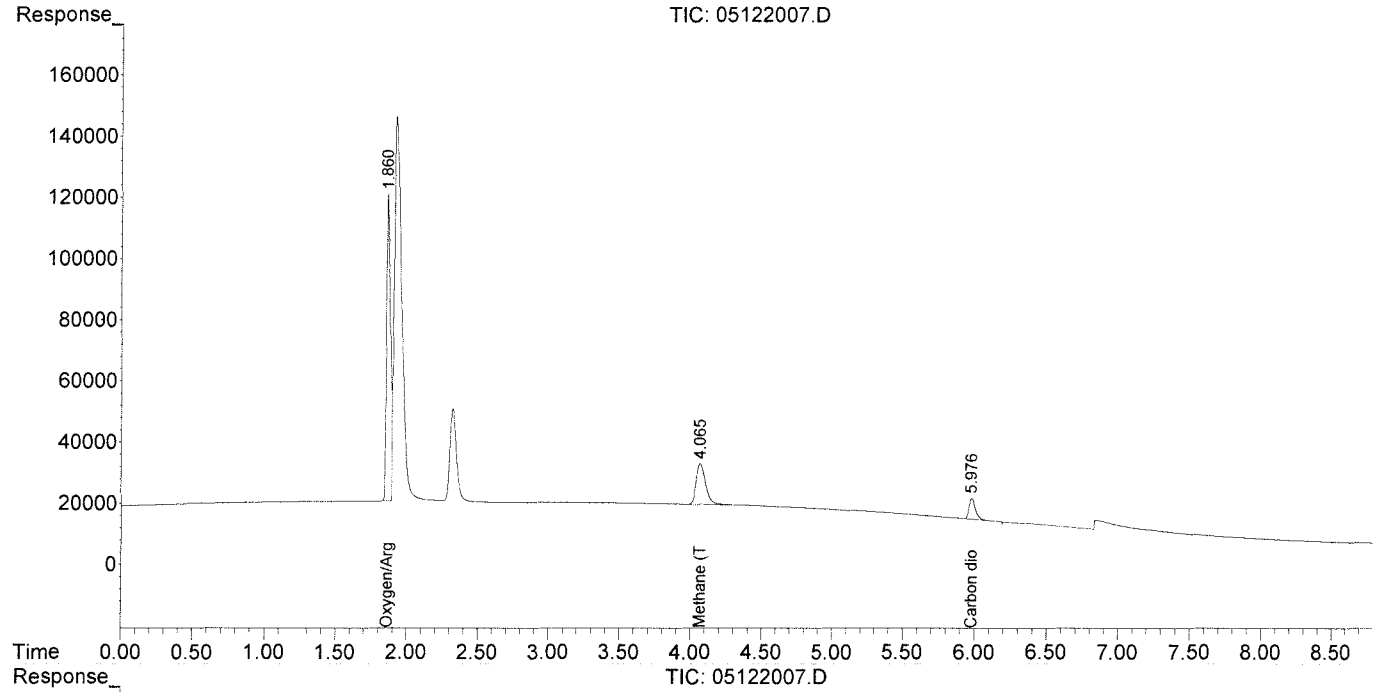
	Compound	R.T.	Response	Conc	Units
Target Compounds					
1)	Oxygen/Argon	1.860	1833598	0.385	ppm
2)	Carbon monoxide	1.860	1833598	N.D.	ppm
3)	Methane (TCD)	4.066f	607463	64231.823	ppm
4)	Carbon dioxide	5.976	212434	905.016	ppm
6)	Methane (FID)	0.000	0	N.D.	ppm
7)	Ethylene	0.000	0	N.D.	ppm
8)	Ethane	0.000	0	N.D.	ppm
9)	Propylene	0.000	0	N.D.	ppm
10)	Propane	0.000	0	N.D.	ppm
11)	Isobutylene	0.000	0	N.D.	ppm
12)	Isobutane	0.000	0	N.D.	ppm
13)	n-Butane	0.000	0	N.D.	ppm

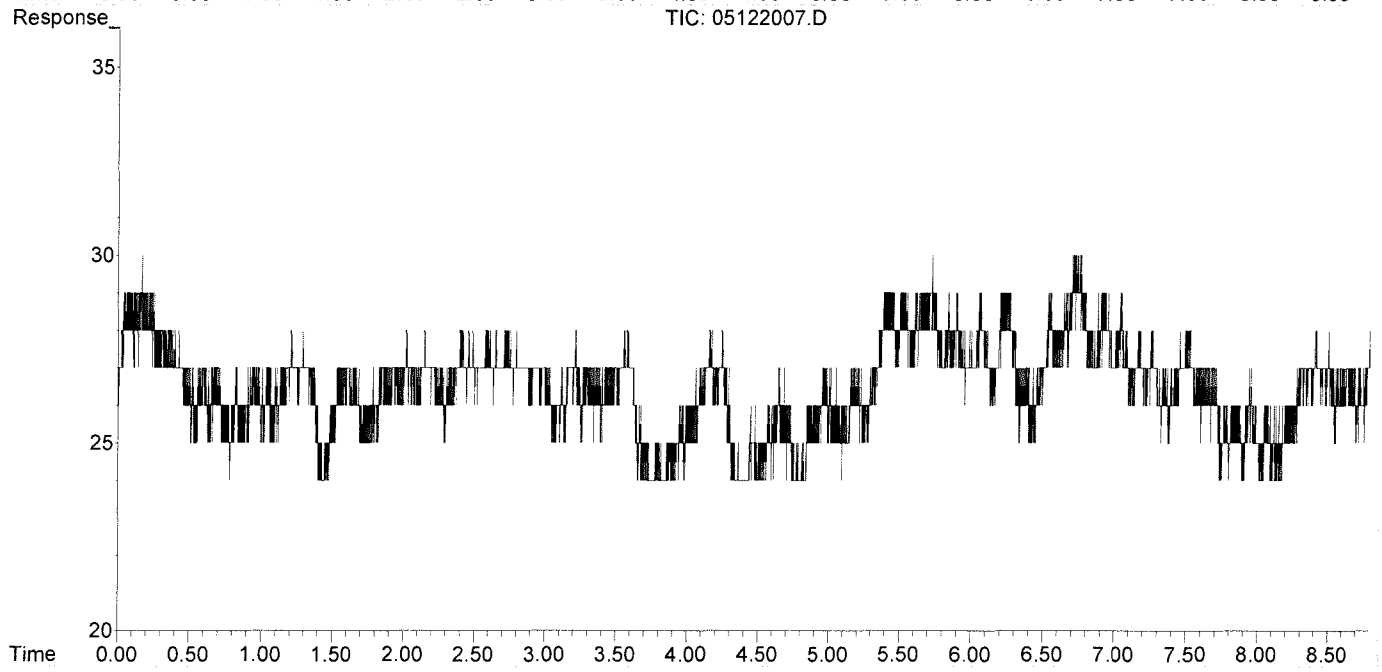
(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : I:\GC10\DATA\RSK_FID\2020_05\12CO2\
Data File : 05122007.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 12-May-2020, 17:46:54
Operator : LD
Sample : LCSD S32-01212003
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 12 17:55:51 2020
Quant Method : I:\GC10\METHODS\RS082817_CO2.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Tue Aug 29 16:13:13 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





Response Factor Report HP5890

Method Path : I:\GC10\METHODS\
Method File : RS082817_CO2.M
Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
Last Update : Tue Aug 29 16:13:13 2017
Response Via : Initial Calibration

Calibration Files
1 =08291715.D 2 =08291716.D 3 =08291717.D
4 =08291719.D 5 =08291720.D 6 =08291721.D

	Compound	1	2	3	4	5	6	Avg		%RSD
1)	Oxygen/Argon	4.760						4.760	E6	0.00
2)	Carbon monoxide	2.775		1.066	0.043	0.033	0.027	0.657	E6	170.12
3)	Methane (TCD)							9.457		0.00
4)	Carbon dioxide	2.717	2.193	2.338	2.272	2.265	2.298	2.347	E2	7.99

Signal #2 Calibration Files
1 =08291715.D 2 =08291716.D 3 =08291717.D
4 =08291719.D 5 =08291720.D 6 =08291721.D

	Compound	1	2	3	4	5	6	Avg		%RSD
6)	Methane (FID)	1.253	1.160	1.005	0.927	0.848	0.848	0.945	E4	15.85
7)	Ethylene	1.677	1.605	1.900	1.749	1.597	1.579	1.684	E4	7.30
8)	Ethane	1.769	1.631	1.866	1.767	1.639	1.667	1.723	E4	5.40
9)	Propylene	2.402	2.309	2.767	2.551	2.331	2.333	2.449	E4	7.32
10)	Propane	2.906	2.737	2.817	2.639	2.410	2.420	2.655	E4	7.75
11)	Isobutylene							0.000		-1.00
12)	Isobutane							0.000		-1.00
13)	n-Butane							0.000		-1.00

(#) = Out of Range ### Number of calibration levels exceeded format ###

RS082817_CO2.M Wed Aug 30 13:24:19 2017

Compounds -- Compound #4 -- Carbon dioxide

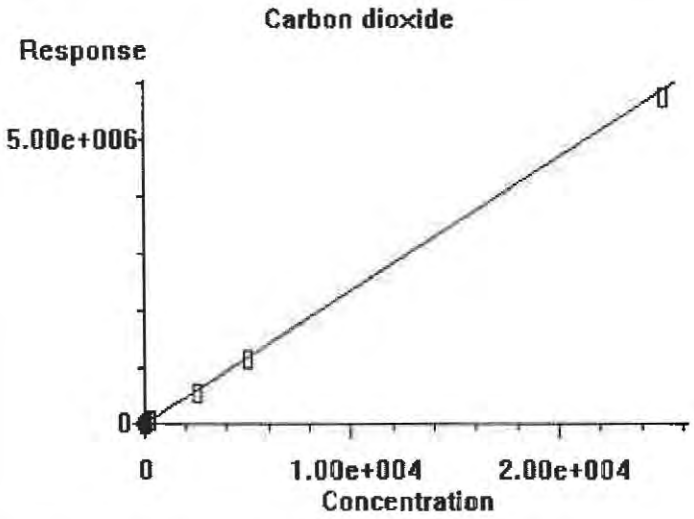
Search by: Ret Time | Name | Index | Find Compound

- Compound Database
- External Standard Compoun
  - Oxygen/Argon
  - Carbon monoxide
  - Methane (TCD)
  - Carbon dioxide
  - Signal #2
  - Methane (FID)
  - Ethylene
  - Ethane
  - Propylene
  - Propane
  - Isobutylene
  - Isobutane
  - n-Butane

Identification | Calibration | User-Defined | Advanced | Reporting

Lvl ID	Concentration	Response
1	25.000000	6793.665186
2	100.000000	21932.418000
3	250.000000	58460.642510
4	2500.000000	568043.388750
5	5000.000000	1132363.215937
6	25000.000000	5744294.891563
7	25000.000000	
8	25000.000000	
9	2000.000000	
10	30000.000000	

Lvl ID	Concentration	Response



0.000e+000	Quadratic term
2.347e+002	Linear term
0.000e+000	Constant term
7.987%	RF Rel Std Dev

OK | Cancel | Help | Print Calibration Curve | Copy Calibration Curve

01006601

Calibration Status Report HP5890

Method Path : I:\GC10\METHODS\
Method File : RS082817_CO2.M
Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
Last Update : Tue Aug 29 16:13:13 2017
Response Via : Initial Calibration

#	ID	Conc	ISTD Conc	Path\File
1	1	0	0	J:\GC10\DATA\RSK_FID\2017_08\29\08291715.D
2	2	0	0	J:\GC10\DATA\RSK_FID\2017_08\29\08291716.D
3	3	3	0	J:\GC10\DATA\RSK_FID\2017_08\29\08291717.D
4	4	10	0	J:\GC10\DATA\RSK_FID\2017_08\29\08291719.D
5	5	25	0	J:\GC10\DATA\RSK_FID\2017_08\29\08291720.D
6	6	125	0	J:\GC10\DATA\RSK_FID\2017_08\29\08291721.D
7	7	5000	0	J:\GC10\DATA\RSK_FID\2017_08\24\08241708.D
8	8	25000	0	J:\GC10\DATA\RSK_FID\2017_08\24\08241709.D
9	9	2000	0	J:\GC10\DATA\RSK_FID\2017_08\24\08241710.D
10	10	30000	0	J:\GC10\DATA\RSK_FID\2017_08\24\08241711.D

#	ID	Update Time	Quant Time	Acquisition Time
1	1	Aug 29 14:21 2017	Aug 29 14:20 2017	29-Aug-2017, 14:07
2	2	Aug 29 14:52 2017	Aug 29 14:51 2017	29-Aug-2017, 14:22
3	3	Aug 29 15:04 2017	Aug 29 15:04 2017	29-Aug-2017, 14:53
4	4	Aug 29 15:36 2017	Aug 29 15:36 2017	29-Aug-2017, 15:23
5	5	Aug 29 15:57 2017	Aug 29 15:57 2017	29-Aug-2017, 15:44
6	6	Aug 29 16:13 2017	Aug 29 16:13 2017	29-Aug-2017, 16:00
7	7	Aug 25 09:05 2017	Aug 24 16:00 2017	24-Aug-2017, 15:44
8	8	Aug 25 09:06 2017	Aug 24 16:13 2017	24-Aug-2017, 16:02
9	9	Aug 25 09:06 2017	Aug 24 16:31 2017	24-Aug-2017, 16:16
10	10	Aug 25 09:07 2017	Aug 24 16:42 2017	24-Aug-2017, 16:33

RS082817_CO2.M Wed Aug 30 13:24:30 2017

Data Path : J:\GC10\DATA\RSK_FID\2017_08\29\
Data File : 08291715.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 29-Aug-2017, 14:07
Operator : MC
Sample : 25ppm s32-08291701 0.25ml
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Aug 29 14:20:06 2017
Quant Method : I:\GC10\METHODS\RS082417.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Fri Aug 25 09:19:14 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

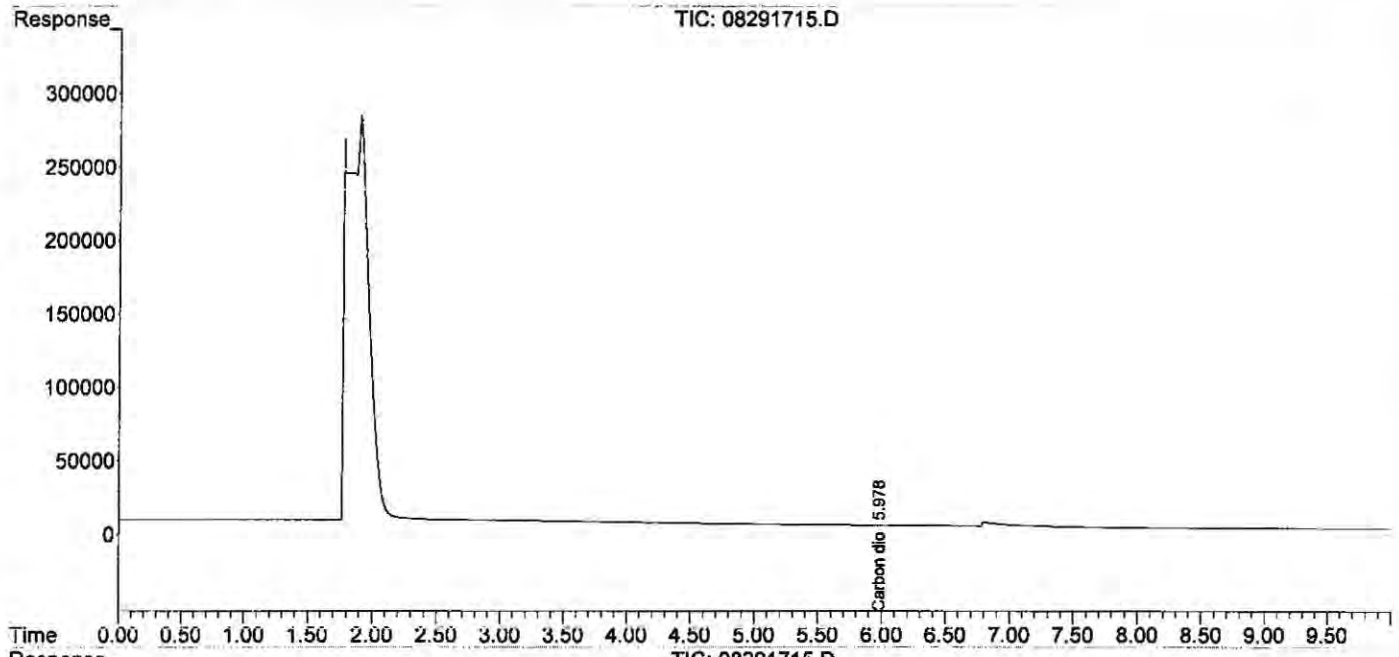
	Compound	R.T.	Response	Conc	Units	
Target Compounds						
1)	Oxygen/Argon	0.000	0	N.D.	ppm	d
2)	Carbon monoxide	1.776	277465	N.D.	ppm	
3)	Methane (TCD)	0.000	0	N.D.	ppm	
4)	Carbon dioxide	5.978	6794	27.870	ppm	m
6)	Methane (FID)	0.000	0	N.D.	ppm	d
7)	Ethylene	0.000	0	N.D.	ppm	
8)	Ethane	0.000	0	N.D.	ppm	
9)	Propylene	0.000	0	N.D.	ppm	
10)	Propane	0.000	0	N.D.	ppm	
11)	Isobutylene	0.000	0	N.D.	ppm	
12)	Isobutane	0.000	0	N.D.	ppm	
13)	n-Butane	0.000	0	N.D.	ppm	

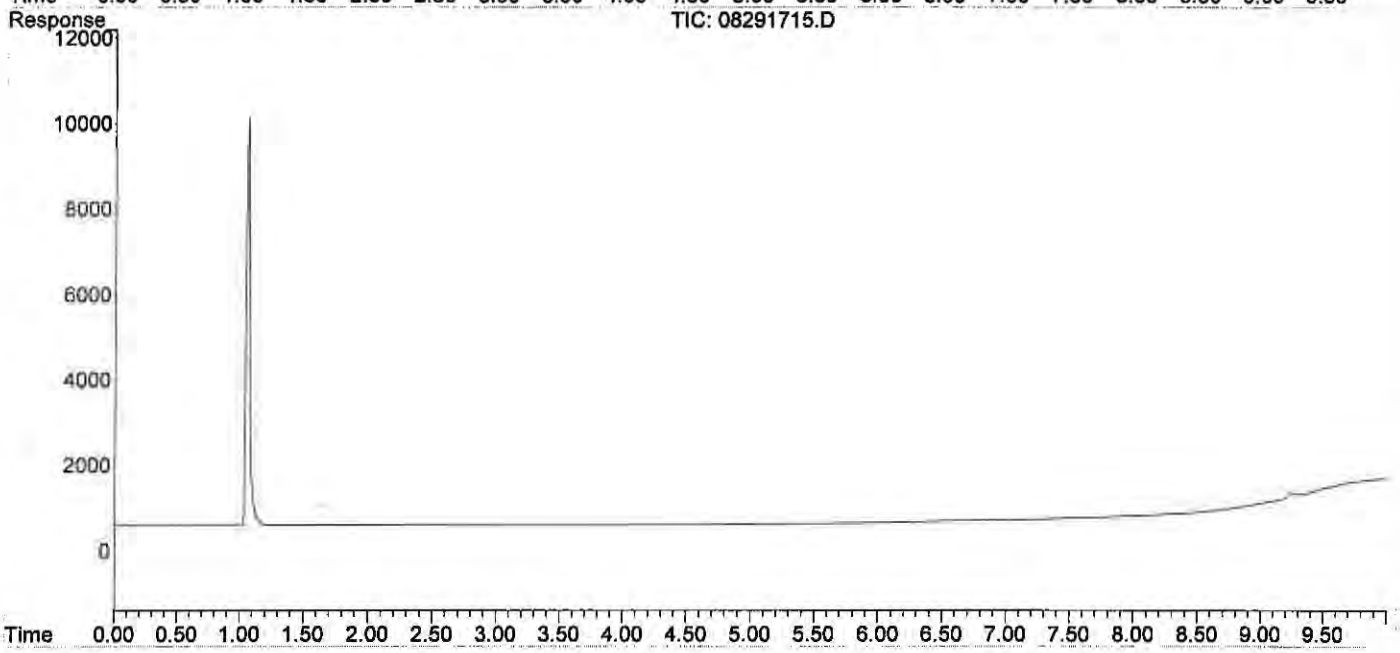
(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : J:\GC10\DATA\RSK_FID\2017_08\29\
Data File : 08291715.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 29-Aug-2017, 14:07
Operator : MC
Sample : 25ppm s32-08291701 0.25ml
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Aug 29 14:20:06 2017
Quant Method : I:\GC10\METHODS\RS082417.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Fri Aug 25 09:19:14 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



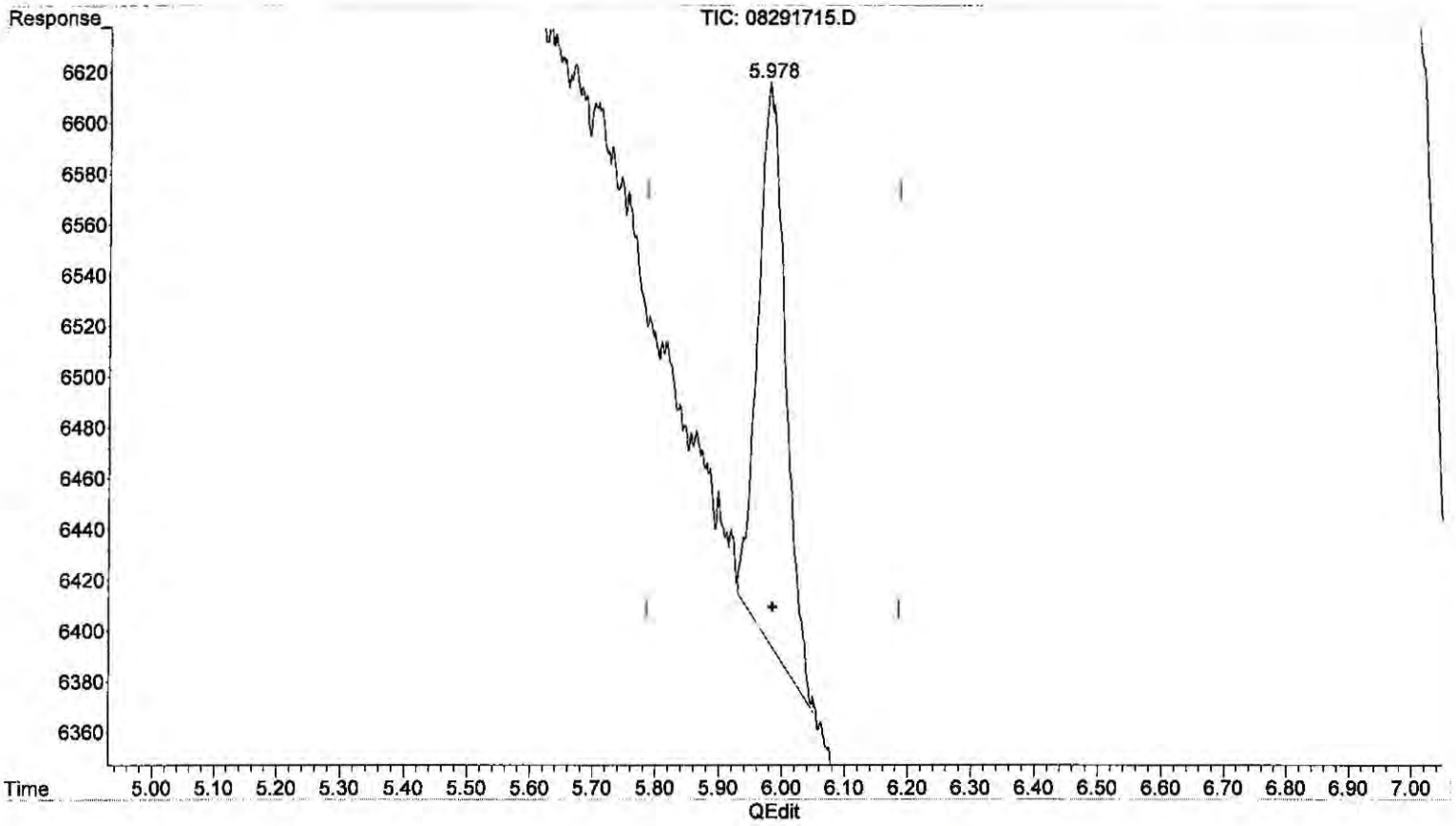


Quantitation Report (Qedit)

Data Path : J:\GC10\DATA\RSK_FID\2017_08\29\
Data File : 08291715.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 29-Aug-2017, 14:07
Operator : MC
Sample : 25ppm s32-08291701 0.25ml
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Aug 29 14:20:06 2017
Quant Method : I:\GC10\METHODS\RS082417.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Fri Aug 25 09:19:14 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



(4) Carbon dioxide
5.978min 27.870 ppm m
response 6794

(+) = Expected Retention Time

RS082817_CO2.M Wed Aug 30 13:17:47 2017

Page: 1

Data Path : J:\GC10\DATA\RSK_FID\2017_08\29\
Data File : 08291716.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 29-Aug-2017, 14:22
Operator : MC
Sample : 100ppm s32-08291702 0.2ml
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Aug 29 14:51:38 2017
Quant Method : I:\GC10\METHODS\RS082817_CO2.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Tue Aug 29 14:21:08 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

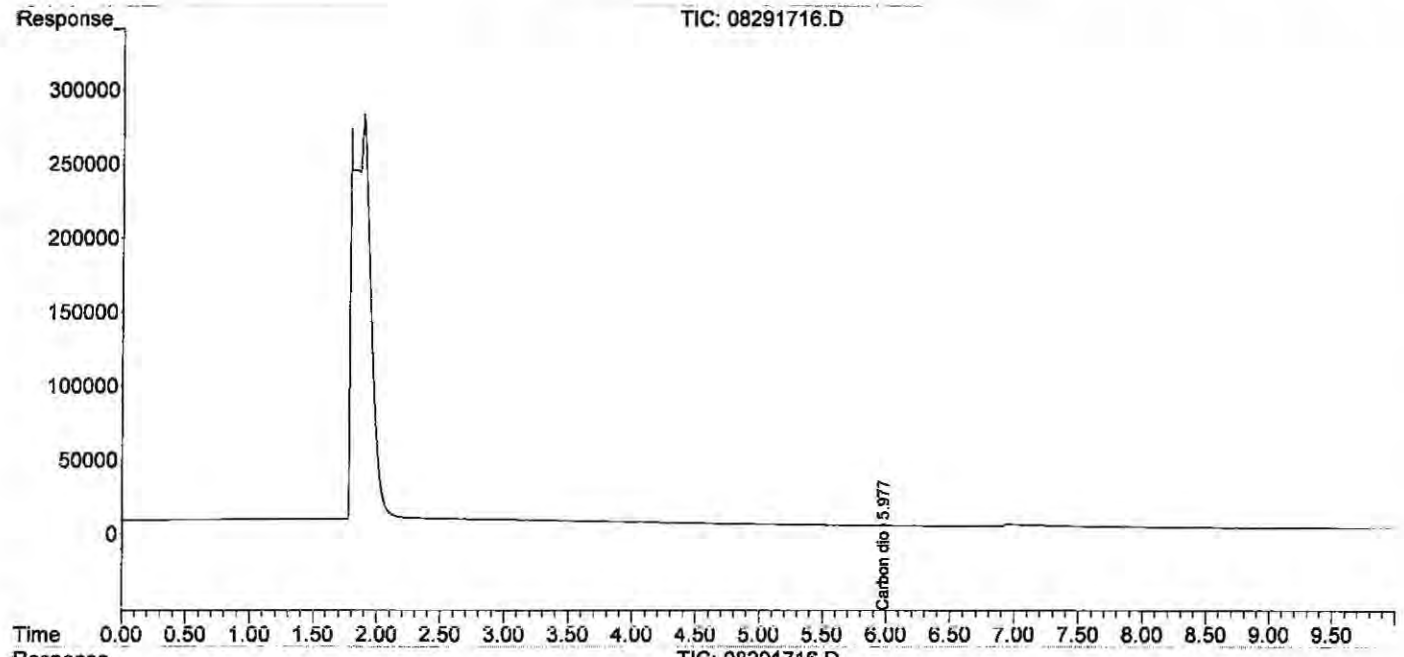
	Compound	R.T.	Response	Conc	Units	
Target Compounds						
1)	Oxygen/Argon	1.790	-598962	N.D.	ppm	
2)	Carbon monoxide	0.000	0	N.D.	ppm	d
3)	Methane (TCD)	0.000	0	N.D.	ppm	
4)	Carbon dioxide	5.978	21932	87.858	ppm	
6)	Methane (FID)	0.000	0	N.D.	ppm	d
7)	Ethylene	0.000	0	N.D.	ppm	
8)	Ethane	0.000	0	N.D.	ppm	
9)	Propylene	0.000	0	N.D.	ppm	
10)	Propane	0.000	0	N.D.	ppm	
11)	Isobutylene	0.000	0	N.D.	ppm	
12)	Isobutane	0.000	0	N.D.	ppm	
13)	n-Butane	0.000	0	N.D.	ppm	

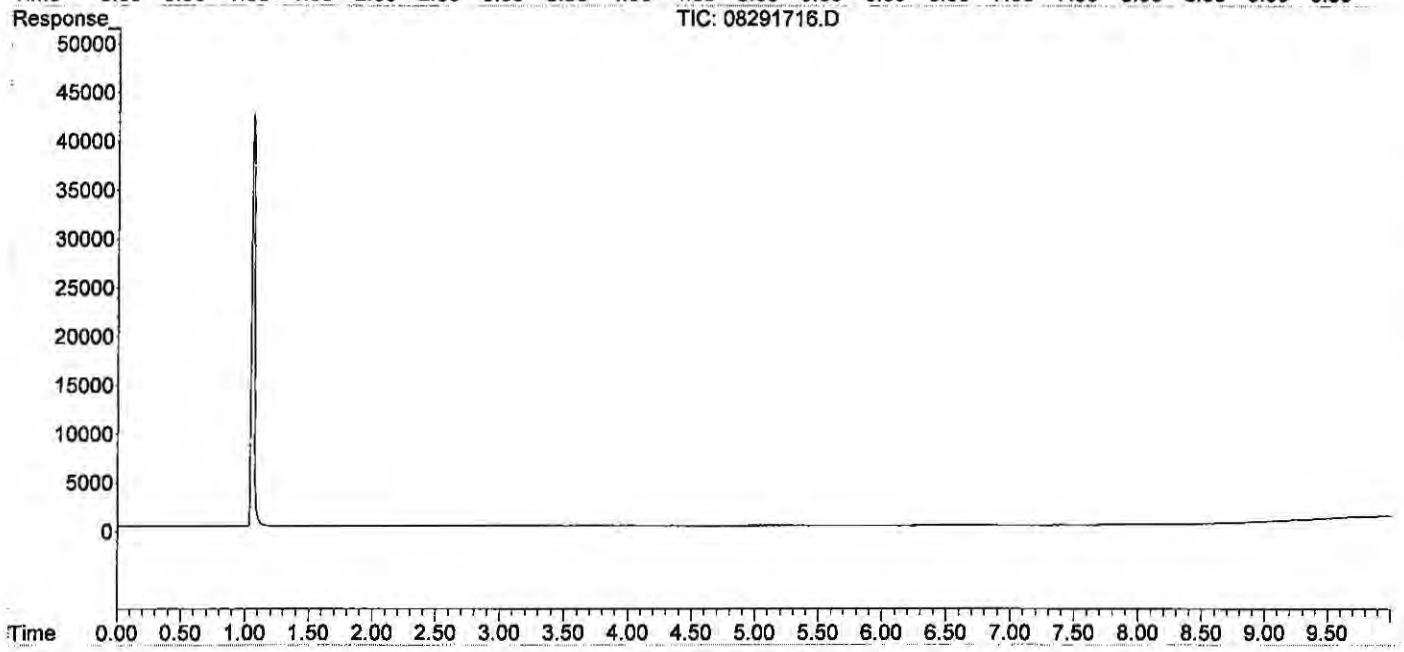
(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : J:\GC10\DATA\RSK_FID\2017_08\29\
Data File : 08291716.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 29-Aug-2017, 14:22
Operator : MC
Sample : 100ppm s32-08291702 0.2ml
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Aug 29 14:51:38 2017
Quant Method : I:\GC10\METHODS\RS082817_CO2.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Tue Aug 29 14:21:08 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





Quantitation Report (QT Reviewed)

Data Path : J:\GC10\DATA\RSK_FID\2017_08\29\
Data File : 08291717.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 29-Aug-2017, 14:53
Operator : MC
Sample : 250ppm s32-08291702 0.5ml
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Aug 29 15:03:42 2017
Quant Method : I:\GC10\METHODS\RS082817_CO2.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Tue Aug 29 14:52:06 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

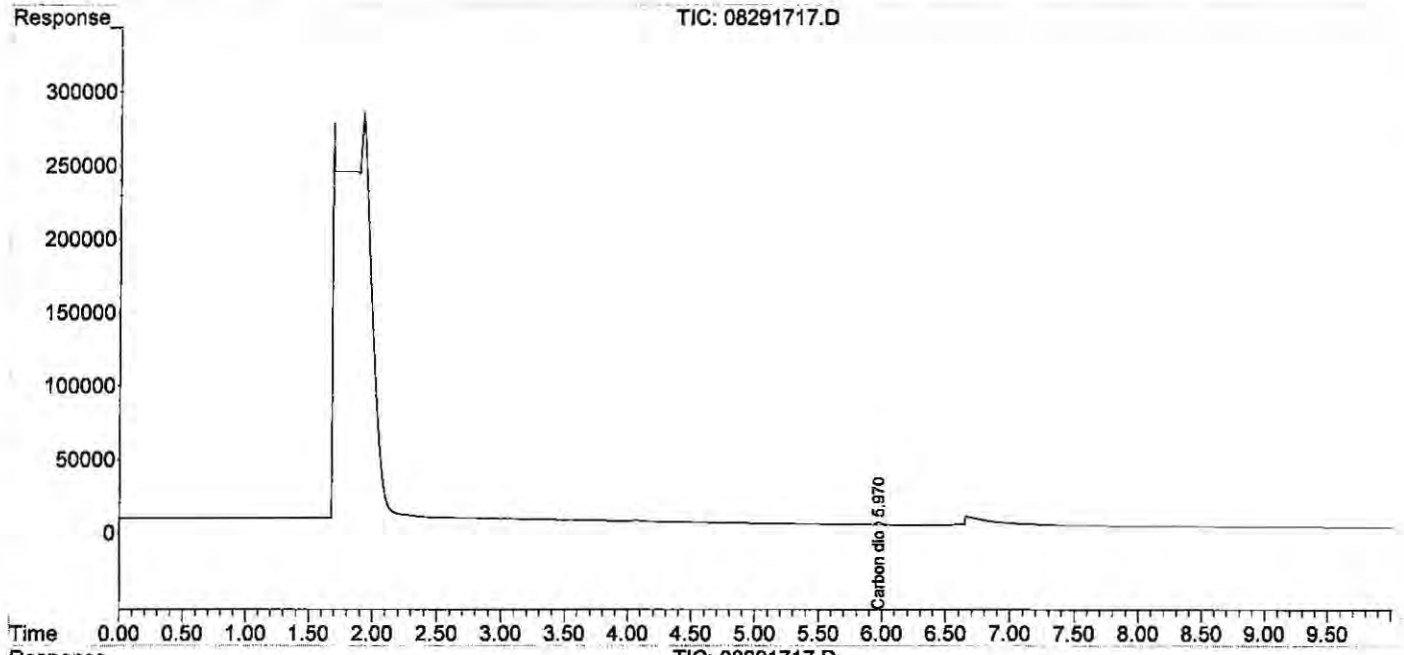
	Compound	R.T.	Response	Conc	Units	
Target Compounds						
1)	Oxygen/Argon	1.920f	-30716454	N.D.	ppm	
2)	Carbon monoxide	0.000	0	N.D.	ppm	d
3)	Methane (TCD)	0.000	0	N.D.	ppm	d
4)	Carbon dioxide	5.970	58461	240.204	ppm	m
6)	Methane (FID)	0.000	0	N.D.	ppm	d
7)	Ethylene	0.000	0	N.D.	ppm	
8)	Ethane	0.000	0	N.D.	ppm	
9)	Propylene	0.000	0	N.D.	ppm	
10)	Propane	0.000	0	N.D.	ppm	
11)	Isobutylene	0.000	0	N.D.	ppm	
12)	Isobutane	0.000	0	N.D.	ppm	
13)	n-Butane	0.000	0	N.D.	ppm	

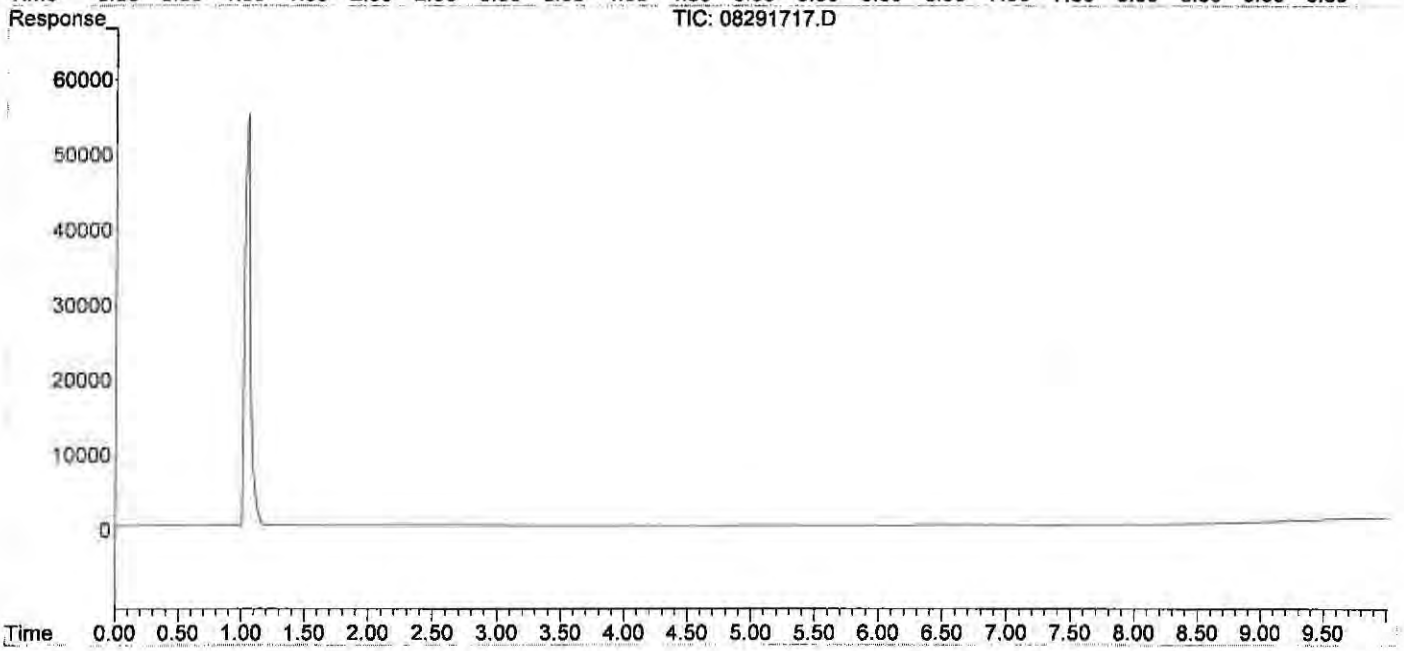
(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : J:\GC10\DATA\RSK_FID\2017_08\29\
Data File : 08291717.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 29-Aug-2017, 14:53
Operator : MC
Sample : 250ppm s32-08291702 0.5ml
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Aug 29 15:03:42 2017
Quant Method : I:\GC10\METHODS\RS082817_CO2.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Tue Aug 29 14:52:06 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



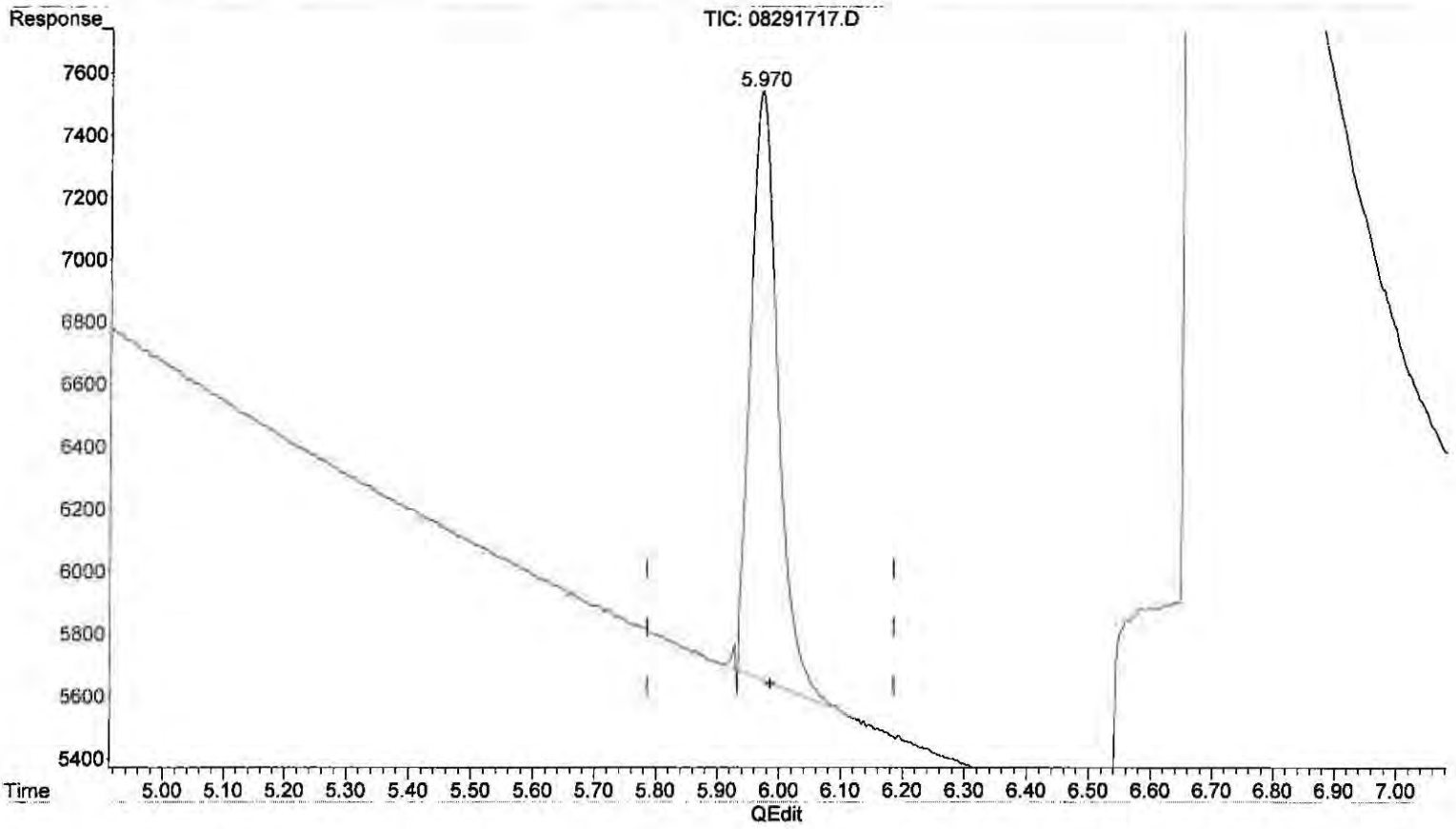


Quantitation Report (Qedit)

Data Path : J:\GC10\DATA\RSK_FID\2017_08\29\
Data File : 08291717.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 29-Aug-2017, 14:53
Operator : MC
Sample : 250ppm s32-08291702 0.5ml
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Aug 29 15:03:42 2017
Quant Method : I:\GC10\METHODS\RS082817_CO2.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Tue Aug 29 14:52:06 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



(4) Carbon dioxide

5.970min 240.204 ppm m

response 58461

(+) = Expected Retention Time

Quantitation Report (QT Reviewed)

Data Path : J:\GC10\DATA\RSK_FID\2017_08\29\
Data File : 08291719.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 29-Aug-2017, 15:23
Operator : MC
Sample : 2500ppm s32-08231701 50ul
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Aug 29 15:35:50 2017
Quant Method : I:\GC10\METHODS\RS082817_CO2.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Tue Aug 29 15:04:14 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

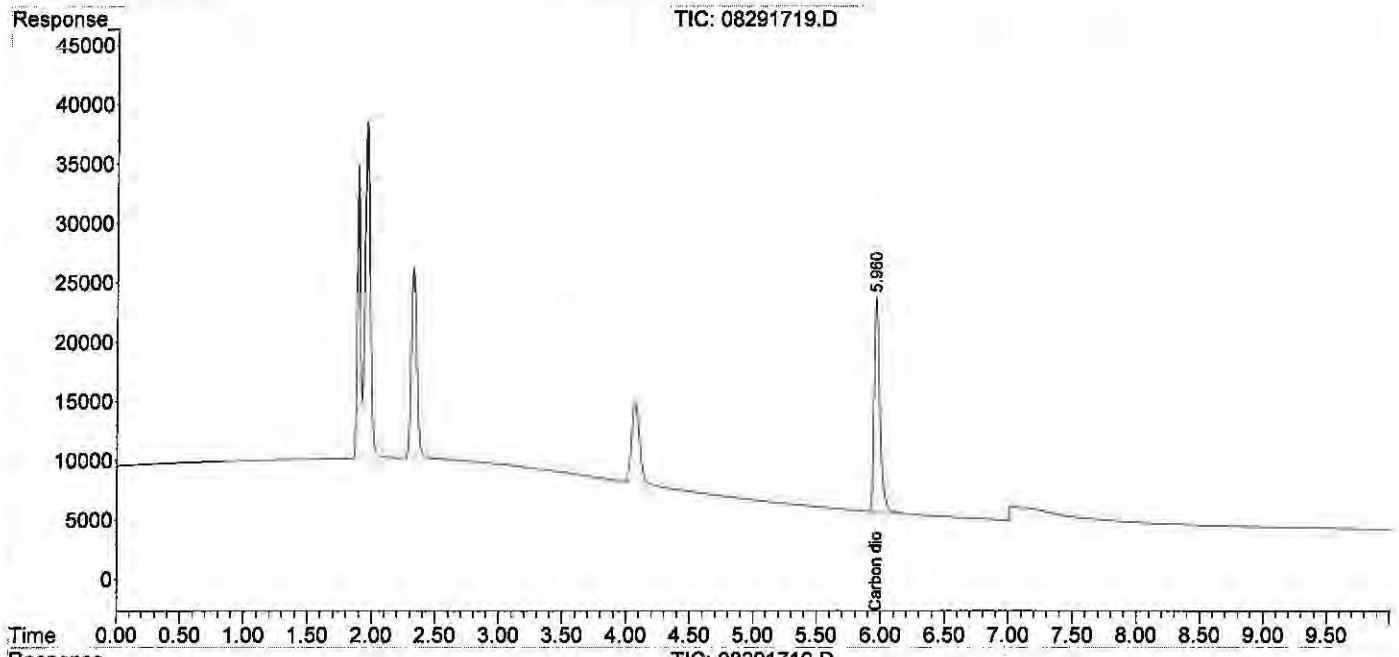
	Compound	R.T.	Response	Conc	Units	
Target Compounds						
1)	Oxygen/Argon	0.000	0	N.D.	ppm	d
2)	Carbon monoxide	1.891	425113	N.D.	ppm	
3)	Methane (TCD)	0.000	0	N.D.	ppm	d
4)	Carbon dioxide	5.962	568043	2369.673	ppm	
6)	Methane (FID)	0.000	0	N.D.	ppm	d
7)	Ethylene	0.000	0	N.D.	ppm	
8)	Ethane	0.000	0	N.D.	ppm	
9)	Propylene	0.000	0	N.D.	ppm	
10)	Propane	0.000	0	N.D.	ppm	
11)	Isobutylene	0.000	0	N.D.	ppm	
12)	Isobutane	0.000	0	N.D.	ppm	
13)	n-Butane	0.000	0	N.D.	ppm	

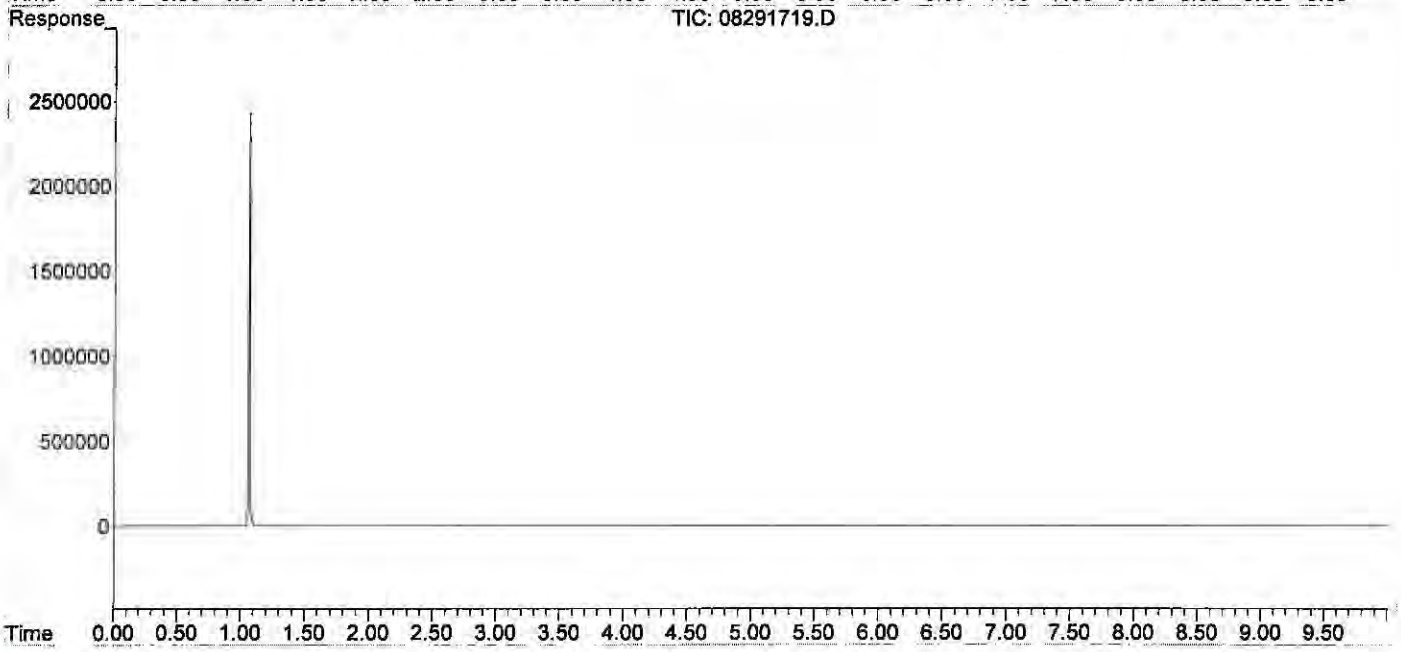
(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : J:\GC10\DATA\RSK_FID\2017_08\29\
Data File : 08291719.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 29-Aug-2017, 15:23
Operator : MC
Sample : 2500ppm s32-08231701 50ul
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Aug 29 15:35:50 2017
Quant Method : I:\GC10\METHODS\RS082817_CO2.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Tue Aug 29 15:04:14 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





Quantitation Report (QT Reviewed)

Data Path : J:\GC10\DATA\RSK_FID\2017_08\29\
Data File : 08291720.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 29-Aug-2017, 15:44
Operator : MC
Sample : 5000ppm s32-08231701 0.1ml
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Aug 29 15:57:17 2017
Quant Method : I:\GC10\METHODS\RS082817_CO2.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Tue Aug 29 15:36:14 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	R.T.	Response	Conc	Units	
Target Compounds						
1)	Oxygen/Argon	0.000	0	N.D.	ppm	d
2)	Carbon monoxide	1.880	819221	N.D.	ppm	
3)	Methane (TCD)	0.000	0	N.D.	ppm	d
4)	Carbon dioxide	5.948	1132363	4753.126	ppm	
6)	Methane (FID)	0.000	0	N.D.	ppm	d
7)	Ethylene	0.000	0	N.D.	ppm	
8)	Ethane	0.000	0	N.D.	ppm	
9)	Propylene	0.000	0	N.D.	ppm	
10)	Propane	0.000	0	N.D.	ppm	
11)	Isobutylene	0.000	0	N.D.	ppm	
12)	Isobutane	0.000	0	N.D.	ppm	
13)	n-Butane	0.000	0	N.D.	ppm	

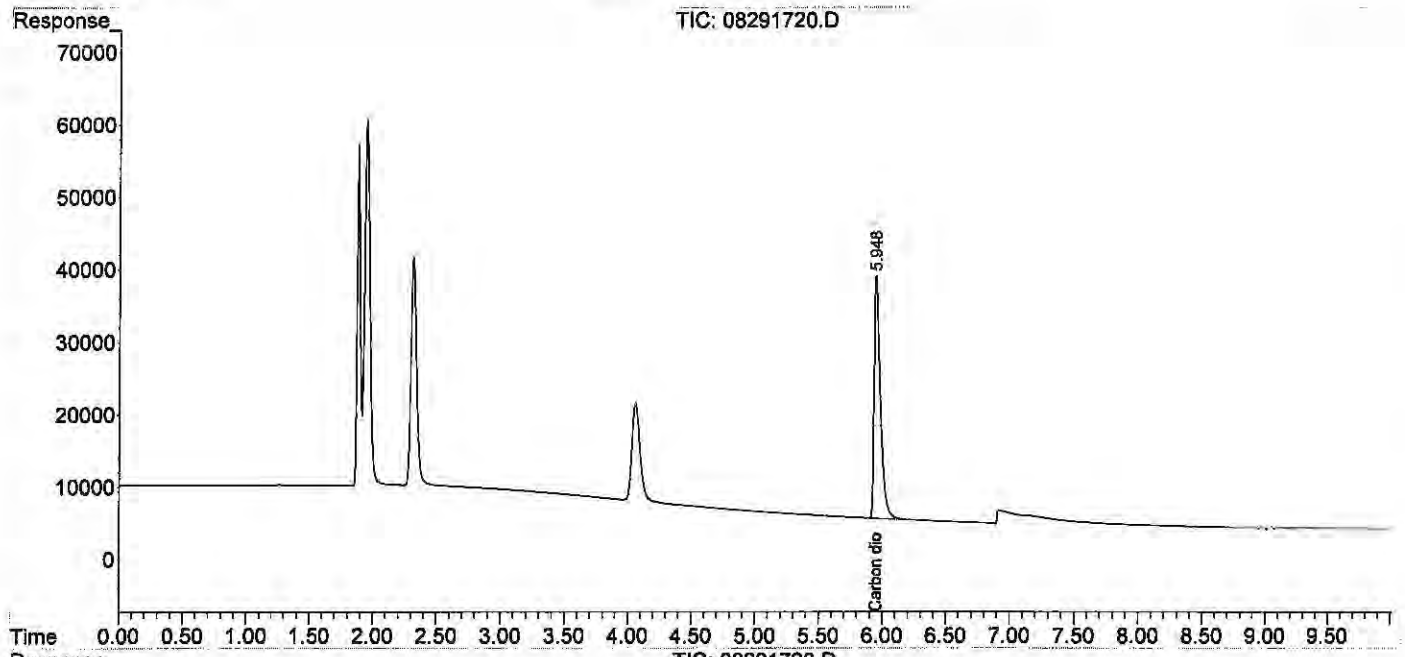
(f)=RT Delta > 1/2 Window (m)=manual int.

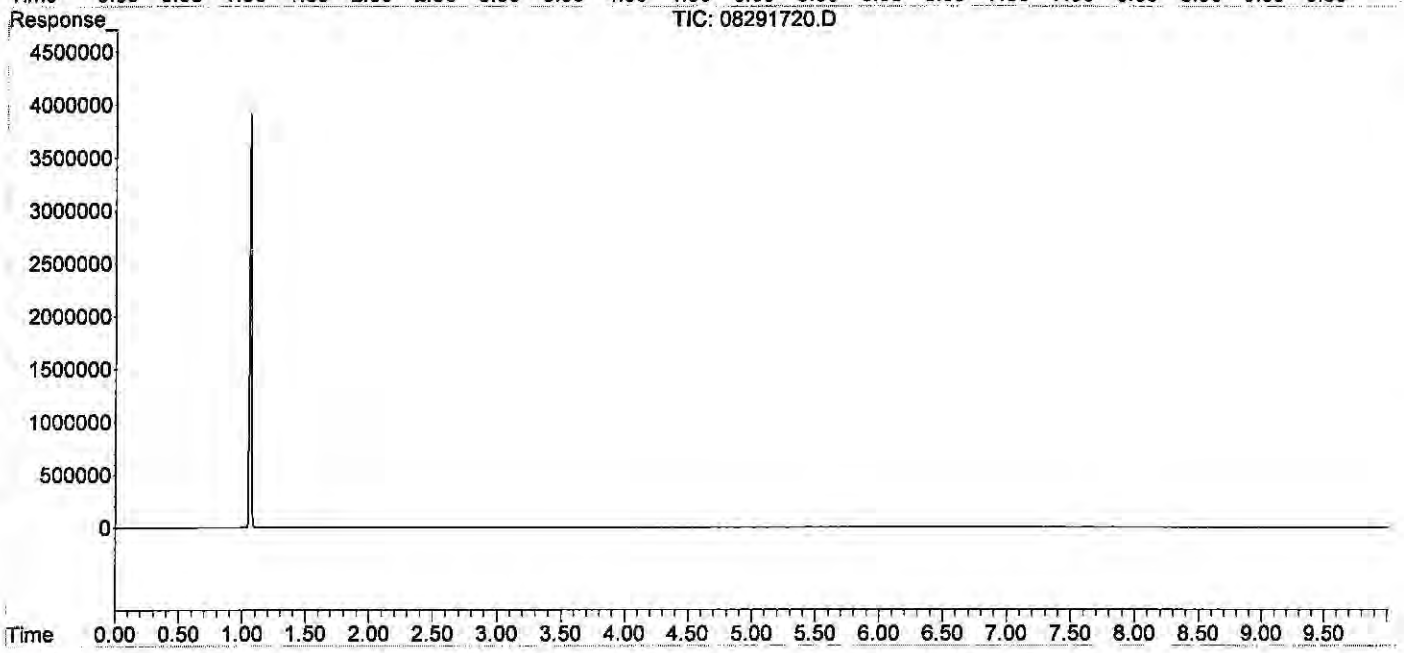
Quantitation Report (QT Reviewed)

Data Path : J:\GC10\DATA\RSK_FID\2017_08\29\
Data File : 08291720.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 29-Aug-2017, 15:44
Operator : MC
Sample : 5000ppm s32-08231701 0.1ml
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Aug 29 15:57:17 2017
Quant Method : I:\GC10\METHODS\RS082817_CO2.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Tue Aug 29 15:36:14 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





Quantitation Report (QT Reviewed)

Data Path : J:\GC10\DATA\RSK_FID\2017_08\29\
Data File : 08291721.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 29-Aug-2017, 16:00
Operator : MC
Sample : 25000ppm s32-08231701 0.5ml
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Aug 29 16:12:53 2017
Quant Method : I:\GC10\METHODS\RS082817_CO2.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Tue Aug 29 15:57:37 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	R.T.	Response	Conc	Units	
Target Compounds						
1)	Oxygen/Argon	0.000	0	N.D.	ppm	d
2)	Carbon monoxide	1.827	3325463	N.D.	ppm	
3)	Methane (TCD)	0.000	0	N.D.	ppm	d
4)	Carbon dioxide	5.879f	5744295	24443.288	ppm	
6)	Methane (FID)	0.000	0	N.D.	ppm	d
7)	Ethylene	0.000	0	N.D.	ppm	
8)	Ethane	0.000	0	N.D.	ppm	
9)	Propylene	0.000	0	N.D.	ppm	
10)	Propane	0.000	0	N.D.	ppm	
11)	Isobutylene	0.000	0	N.D.	ppm	
12)	Isobutane	0.000	0	N.D.	ppm	
13)	n-Butane	0.000	0	N.D.	ppm	

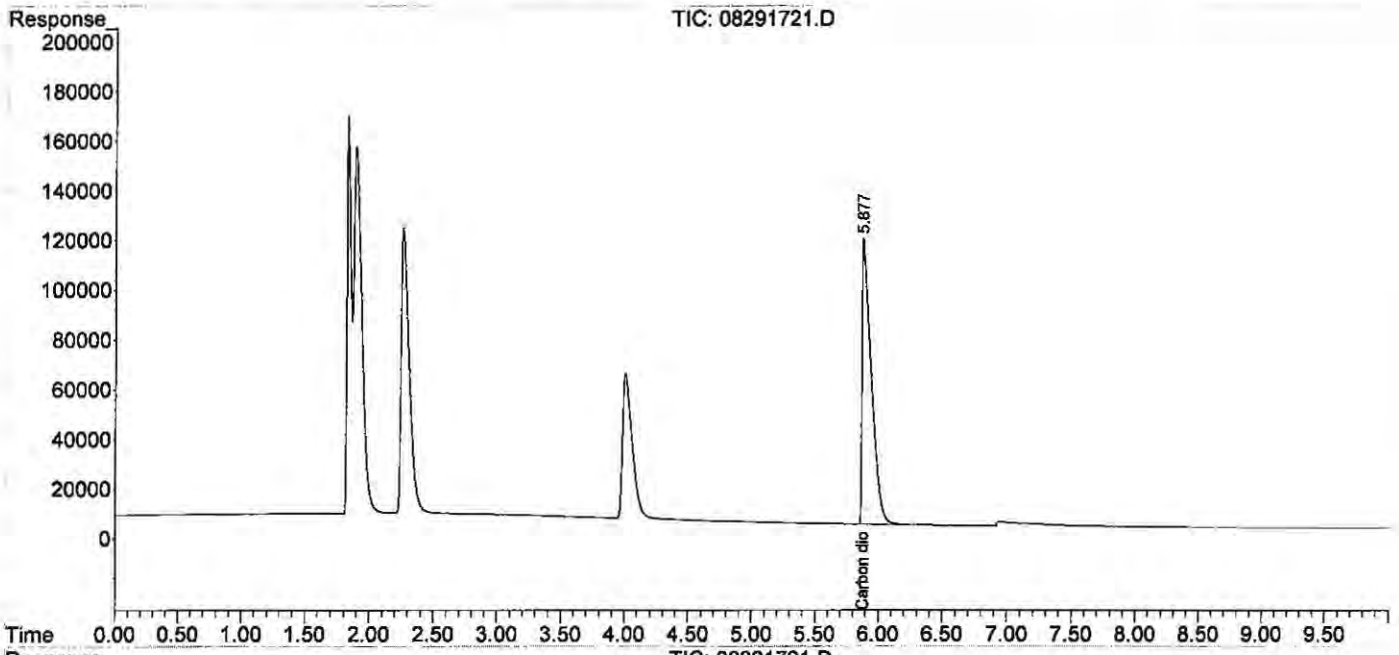
(f)=RT Delta > 1/2 Window (m)=manual int.

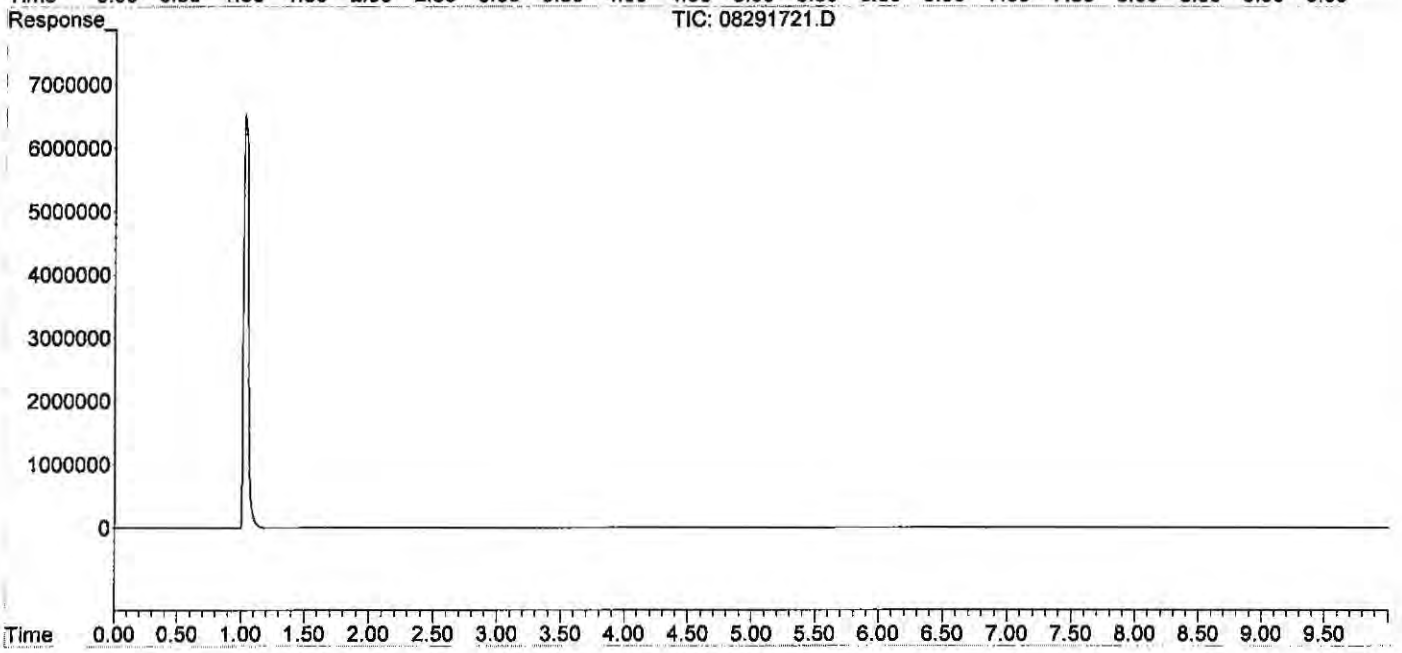
Quantitation Report (QT Reviewed)

Data Path : J:\GC10\DATA\RSK_FID\2017_08\29\
Data File : 08291721.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 29-Aug-2017, 16:00
Operator : MC
Sample : 25000ppm s32-08231701 0.5ml
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Aug 29 16:12:53 2017
Quant Method : I:\GC10\METHODS\RS082817_CO2.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Tue Aug 29 15:57:37 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





Data Path : J:\GC10\DATA\RSK_FID\2017_08\29\
Data File : 08291723.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 29-Aug-2017, 16:35
Operator : MC
Sample : icv s30-07071701
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Aug 29 16:54:07 2017
Quant Method : I:\GC10\METHODS\RS082817_CO2.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Tue Aug 29 16:13:13 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	R.T.	Response	Conc	Units
Target Compounds					
1)	Oxygen/Argon	1.886	536422	0.113	ppm
2)	Carbon monoxide	1.886	536422	N.D.	ppm
3)	Methane (TCD)	4.059f	626500	66244.710	ppm
4)	Carbon dioxide	5.947	1163775	4957.948	ppm
6)	Methane (FID)	1.062	37290742	3947.023	ppm
7)	Ethylene	0.000	0	N.D.	ppm
8)	Ethane	0.000	0	N.D.	ppm
9)	Propylene	0.000	0	N.D.	ppm
10)	Propane	0.000	0	N.D.	ppm
11)	Isobutylene	0.000	0	N.D.	ppm
12)	Isobutane	0.000	0	N.D.	ppm
13)	n-Butane	0.000	0	N.D.	ppm

Actual %D
5000 99.16

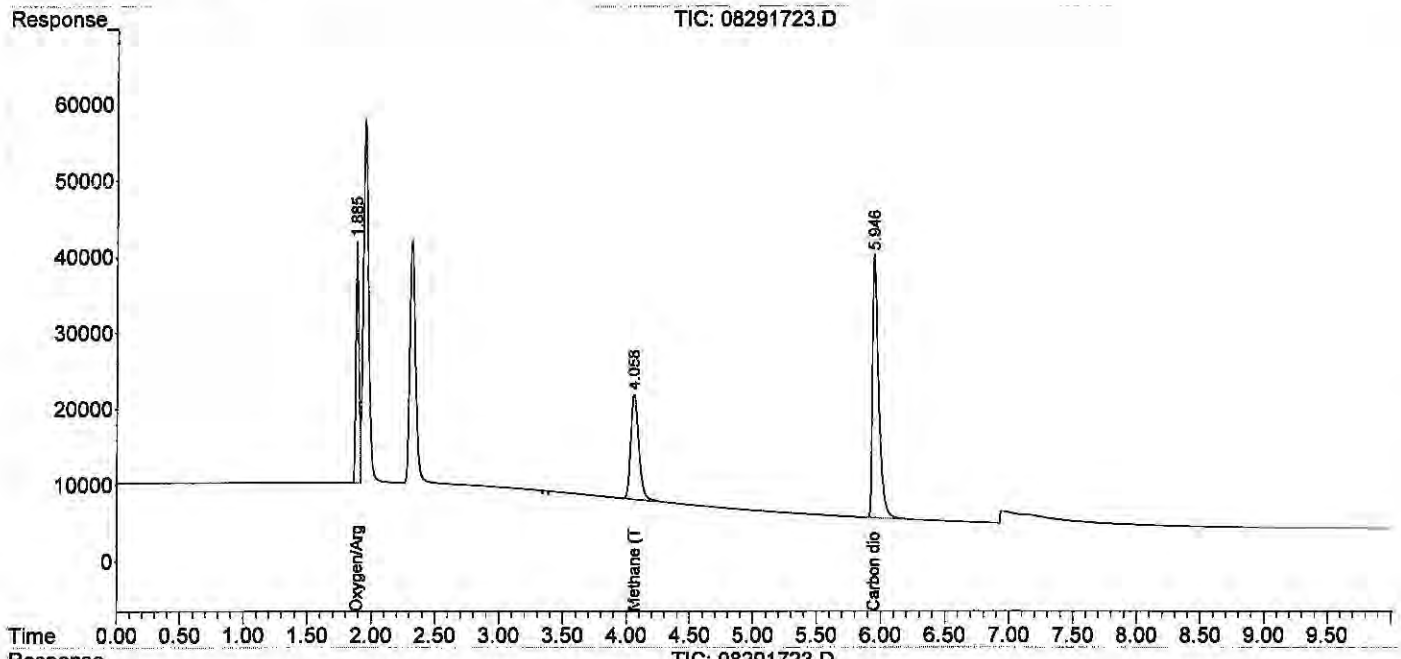
(f)=RT Delta > 1/2 Window (m)=manual int.

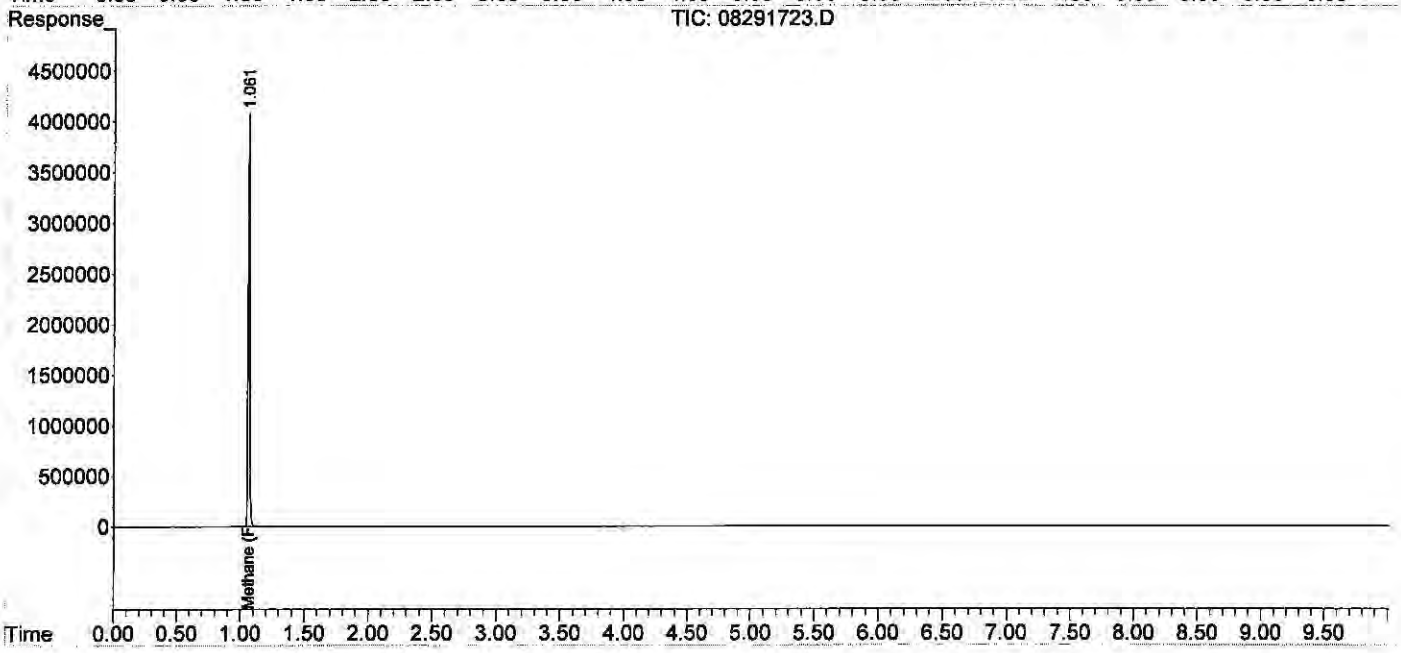
W 9/4/17

Data Path : J:\GC10\DATA\RSK_FID\2017_08\29\
Data File : 08291723.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 29-Aug-2017, 16:35
Operator : MC
Sample : icv s30-07071701
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Aug 29 16:54:07 2017
Quant Method : I:\GC10\METHODS\RS082817_CO2.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Tue Aug 29 16:13:13 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





ALS Environmental

Method : RSK175 Headspace Method for Dissolved Hydrocarbon in Water by FID/TCD
Client : ALS Laboratory Group
Service Request: P2002523
Sample Vol. (ml) : 32.00 ml
Analyst : LD
Date Analysis : 05/12/20
Head Space Vol.(ml) : 8.00 ml
Instrument : GC#10
Detector : FID#10, TCD#10
Gas Constant : 24.05684 (20°C)

HEAD SPACE RESULT (ppm)

Sample ID	Inj. Vol.	Carbon Dioxide
STD S32-01312001	0.100	4934.504
ACTUAL		5000.00
%Difference		1.3%
MCS 0.1ml	0.100	0.000
RB 0.1ml	0.100	0.000
LCS S32-01212003	0.100	880.595
LCSD S32-01212003	0.100	905.016
P2002523-001 0.1ml	0.100	4001.882
P2002523-002 0.1ml	0.100	2085.795
P2002523-003 0.1ml	0.100	4305.096
P2002523-004 0.1ml	0.100	4045.732
P2002523-005 0.1ml	0.100	507.725

WWt.	44.10
HENRY'S CONSTANT	1.42E+03
RL	100.00

FINAL HEAD SPACE RESULT (ppm)

	Carbon Dioxide
MCS 0.1ml	0.000
LCS S32-01212003	8805.950
LCSD S32-01212003	9050.160
P2002523-001 0.1ml	40018.820
P2002523-002 0.1ml	20857.950
P2002523-003 0.1ml	43050.960
P2002523-004 0.1ml	40457.320
P2002523-005 0.1ml	5077.250

164 of 389

STD S32-01312001	5000.533
ACTUAL	5000.00
%Difference	0.0%

LV
05/12

Quantitation Report (QT Reviewed)

Data Path : I:\GC10\DATA\RSK_FID\2020_05\12CO2\
Data File : 05122001.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 12-May-2020, 12:13:38
Operator : LD
Sample : STD S32-01312001
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 12 12:27:53 2020
Quant Method : I:\GC10\METHODS\RS082817_CO2.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Tue Aug 29 16:13:13 2017
Response via : Initial Calibration
Integrator: ChemStation

LP 05/12

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

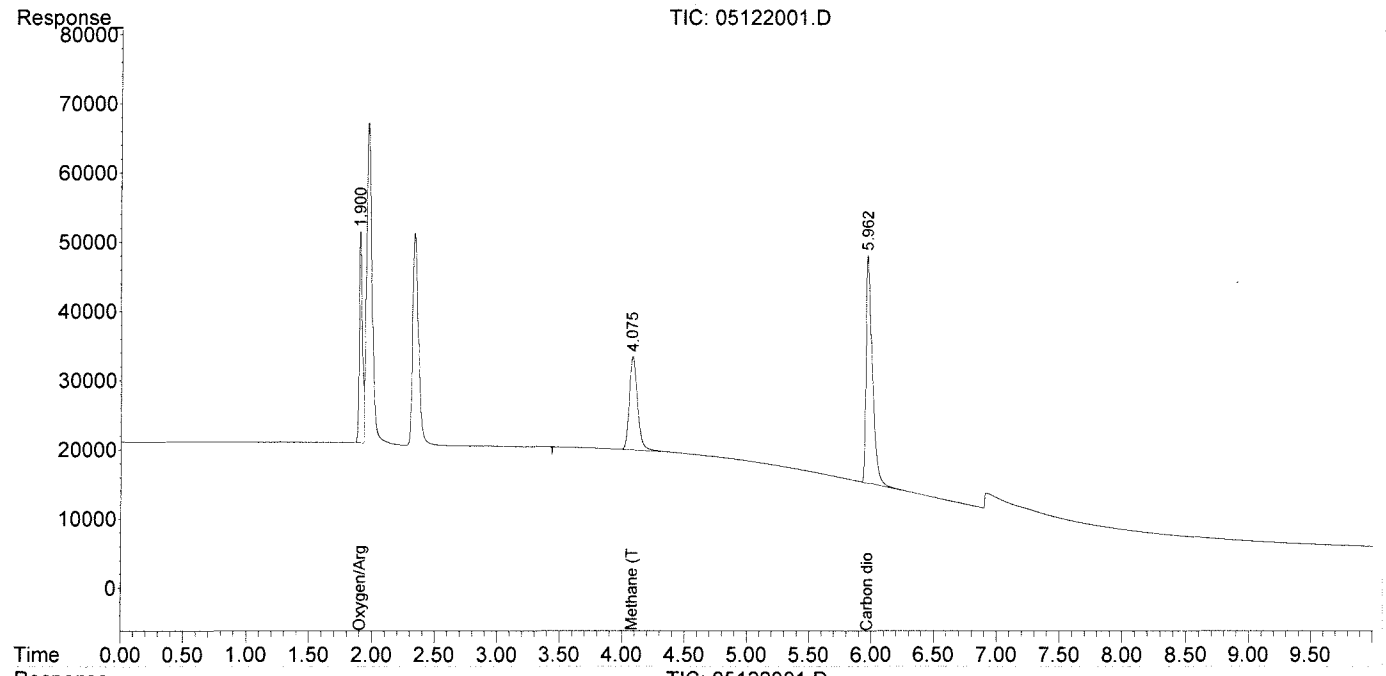
	Compound	R.T.	Response	Conc	Units
Target Compounds					
1)	Oxygen/Argon	1.901	535037	0.112	ppm
2)	Carbon monoxide	1.901	535037	N.D.	ppm
3)	Methane (TCD)	4.076f	616844	65223.750	ppm
4)	Carbon dioxide	5.963	1158272	4934.504	ppm
6)	Methane (FID)	0.000	0	N.D.	ppm
7)	Ethylene	0.000	0	N.D.	ppm
8)	Ethane	0.000	0	N.D.	ppm
9)	Propylene	0.000	0	N.D.	ppm
10)	Propane	0.000	0	N.D.	ppm
11)	Isobutylene	0.000	0	N.D.	ppm
12)	Isobutane	0.000	0	N.D.	ppm
13)	n-Butane	0.000	0	N.D.	ppm

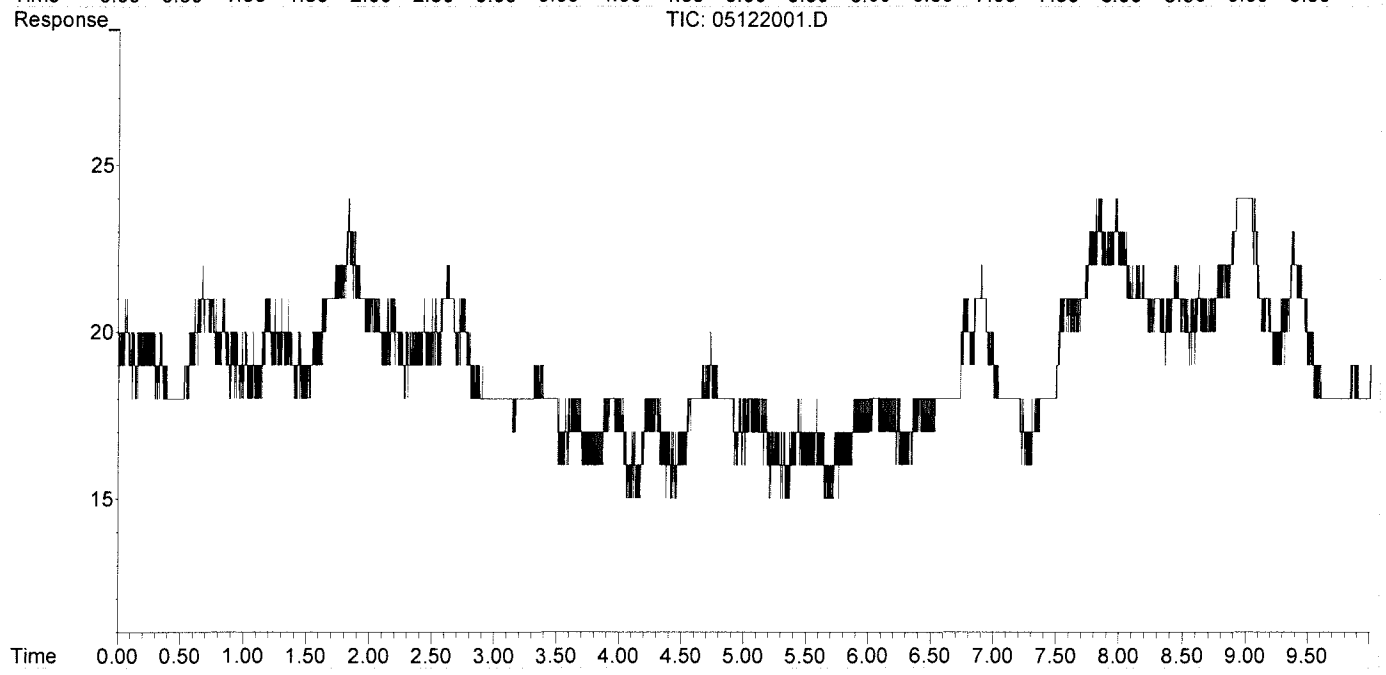
(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : I:\GC10\DATA\RSK_FID\2020_05\12CO2\
Data File : 05122001.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 12-May-2020, 12:13:38
Operator : LD
Sample : STD S32-01312001
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 12 12:27:53 2020
Quant Method : I:\GC10\METHODS\RS082817_CO2.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Tue Aug 29 16:13:13 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





Data Path : I:\GC10\DATA\RSK_FID\2020_05\12CO2\
Data File : 05122013.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 12-May-2020, 19:04:36
Operator : LD
Sample : STD S32-01312001
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 12 19:18:03 2020
Quant Method : I:\GC10\METHODS\RS082817_CO2.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Tue Aug 29 16:13:13 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

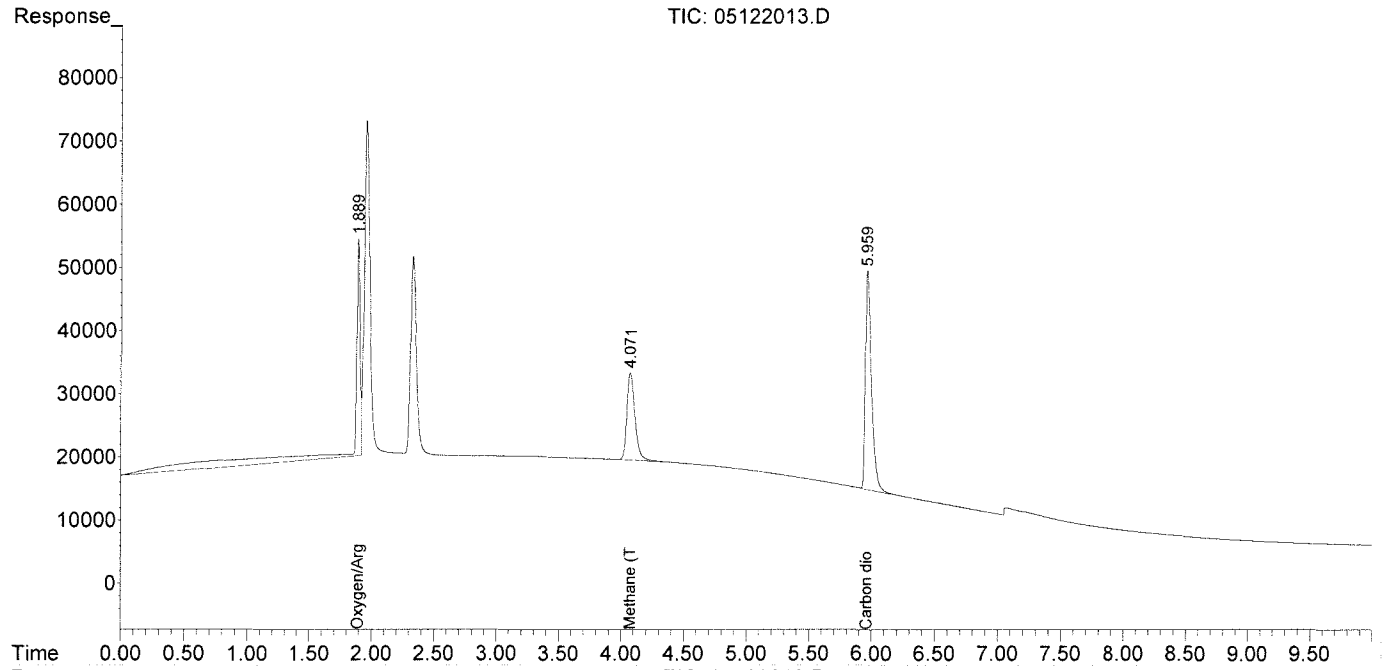
	Compound	R.T.	Response	Conc	Units
Target Compounds					
1)	Oxygen/Argon	1.890	1461018	0.307	ppm
2)	Carbon monoxide	1.890	1461018	N.D.	ppm
3)	Methane (TCD)	4.072f	635758	67223.691	ppm
4)	Carbon dioxide	5.960	1173771	5000.533	ppm
6)	Methane (FID)	0.000	0	N.D.	ppm
7)	Ethylene	0.000	0	N.D.	ppm
8)	Ethane	0.000	0	N.D.	ppm
9)	Propylene	0.000	0	N.D.	ppm
10)	Propane	0.000	0	N.D.	ppm
11)	Isobutylene	0.000	0	N.D.	ppm
12)	Isobutane	0.000	0	N.D.	ppm
13)	n-Butane	0.000	0	N.D.	ppm

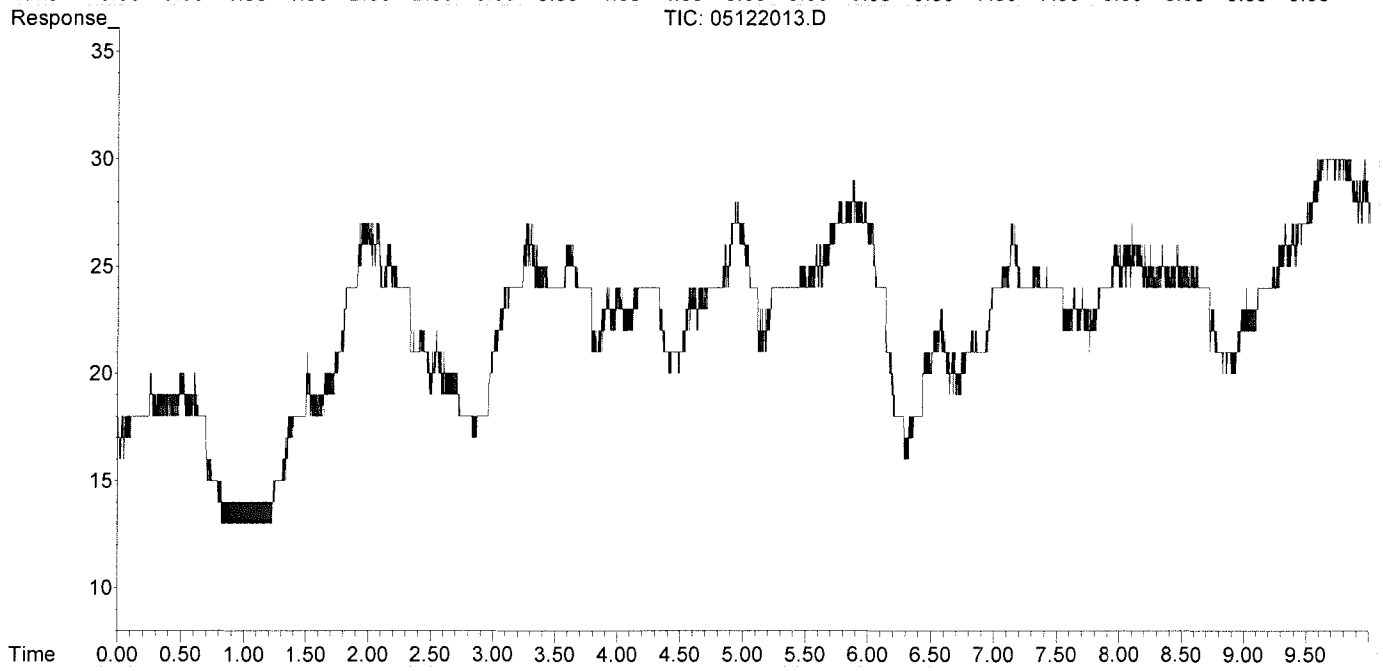
(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : I:\GC10\DATA\RSK_FID\2020_05\12CO2\
Data File : 05122013.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 12-May-2020, 19:04:36
Operator : LD
Sample : STD S32-01312001
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 12 19:18:03 2020
Quant Method : I:\GC10\METHODS\RS082817_CO2.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Tue Aug 29 16:13:13 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





Injection Log

Directory: I:\GC10\DATA\RSK_FID\2017_08\29\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Acquisition Method	Comments
1	29-Aug-17, 07:58:00	08291701.D	std s30-06161601		MC	RSKBOTH.M	Pass
2	29-Aug-17, 08:11:02	08291702.D	mb 0.5ml		MC	RSKBOTH.M	Pass
3	29-Aug-17, 08:24:13	08291703.D	4089-001 0.5ml		MC	RSKBOTH.M	
4	29-Aug-17, 08:39:29	08291704.D	4089-002 0.5ml		MC	RSKBOTH.M	
5	29-Aug-17, 08:53:38	08291705.D	4089-003 0.5ml		MC	RSKBOTH.M	
6	29-Aug-17, 09:33:52	08291706.D	4089-004 0.5ml		MC	RSKBOTH.M	
7	29-Aug-17, 09:50:51	08291707.D	4089-005 0.5ml		MC	RSKBOTH.M	
8	29-Aug-17, 10:07:54	08291708.D	4089-006 0.5ml		MC	RSKBOTH.M	
9	29-Aug-17, 10:42:34	08291709.D	4089-007 0.5ml		MC	RSKBOTH.M	
10	29-Aug-17, 11:06:01	08291710.D	4089-008 0.5ml		MC	RSKBOTH.M	
11	29-Aug-17, 11:23:53	08291711.D	4089-009 0.5ml		MC	RSKBOTH.M	
12	29-Aug-17, 11:37:17	08291712.D	lcs s30-05241604		MC	RSKBOTH.M	Pass
13	29-Aug-17, 11:50:31	08291713.D	lcs s30-05241604		MC	RSKBOTH.M	Pass
14	29-Aug-17, 12:29:45	08291714.D	std s30-06161601		MC	RSKBOTH.M	Pass
15	29-Aug-17, 14:07:01	08291715.D	25ppm s32-08291701 0.25ml		MC	RSKBOTH.M	Curve
16	29-Aug-17, 14:22:12	08291716.D	100ppm s32-08291702 0.2ml		MC	RSKBOTH.M	Curve
17	29-Aug-17, 14:53:00	08291717.D	250ppm s32-08291702 0.5ml		MC	RSKBOTH.M	Curve
18	29-Aug-17, 15:07:43	08291718.D	mls inject		MC	RSKBOTH.M	
19	29-Aug-17, 15:23:21	08291719.D	2500ppm s32-08231701 50ul		MC	RSKBOTH.M	Curve
20	29-Aug-17, 15:44:54	08291720.D	5000ppm s32-08231701 0.1ml		MC	RSKBOTH.M	Curve
21	29-Aug-17, 16:00:09	08291721.D	25000ppm s32-08231701 0.5ml		MC	RSKBOTH.M	Curve
22	29-Aug-17, 16:15:43	08291722.D	mb 0.1ml		MC	RSKBOTH.M	Pass
23	29-Aug-17, 16:35:37	08291723.D	lcv s30-07071701		MC	RSKBOTH.M	Pass

Injection Log

Directory: I:\GC10\DATA\RSK_TCD\2020_05\12\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Acquisition Method	Comments
1	12-May-20, 12:13:38	05122001.D	STD S32-01312001		LD	RSKBOTH.M	pass
2	12-May-20, 12:29:16	05122002.D	RB 0.1ml		LD	RSKBOTH.M	pass
3	12-May-20, 16:07:14	05122003.D	MCS 0.1ml		LD	RSKBOTH.M	pass
4	12-May-20, 16:27:21	05122004.D	xxxxxLCS S32-01212003		LD	RSKBOTH.M	fail
5	12-May-20, 17:00:01	05122005.D	xxxxxxxxLCS S32-01212003		LD	RSKBOTH.M	fail
6	12-May-20, 17:33:10	05122006.D	LCS S32-01212003		LD	RSKBOTH.M	pass
7	12-May-20, 17:46:54	05122007.D	LCSD S32-01212003		LD	RSKBOTH.M	pass
8	12-May-20, 17:58:30	05122008.D	P2002523-001 0.1ml		LD	RSKBOTH.M	
9	12-May-20, 18:10:52	05122009.D	P2002523-002 0.1ml		LD	RSKBOTH.M	
10	12-May-20, 18:25:16	05122010.D	P2002523-003 0.1ml		LD	RSKBOTH.M	
11	12-May-20, 18:38:29	05122011.D	P2002523-004 0.1ml		LD	RSKBOTH.M	
12	12-May-20, 18:51:32	05122012.D	P2002523-005 0.1ml		LD	RSKBOTH.M	
13	12-May-20, 19:04:36	05122013.D	STD S32-01312001		LD	RSKBOTH.M	pass

Data Path : I:\GC10\DATA\RSK_FID\2020_05\18\
Data File : 05182006.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 18-May-2020, 14:47:12
Operator : LD
Sample : P2002523-001 0.1ml
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 18 15:20:07 2020
Quant Method : I:\GC10\METHODS\RS091217_R.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Wed Sep 13 11:14:47 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

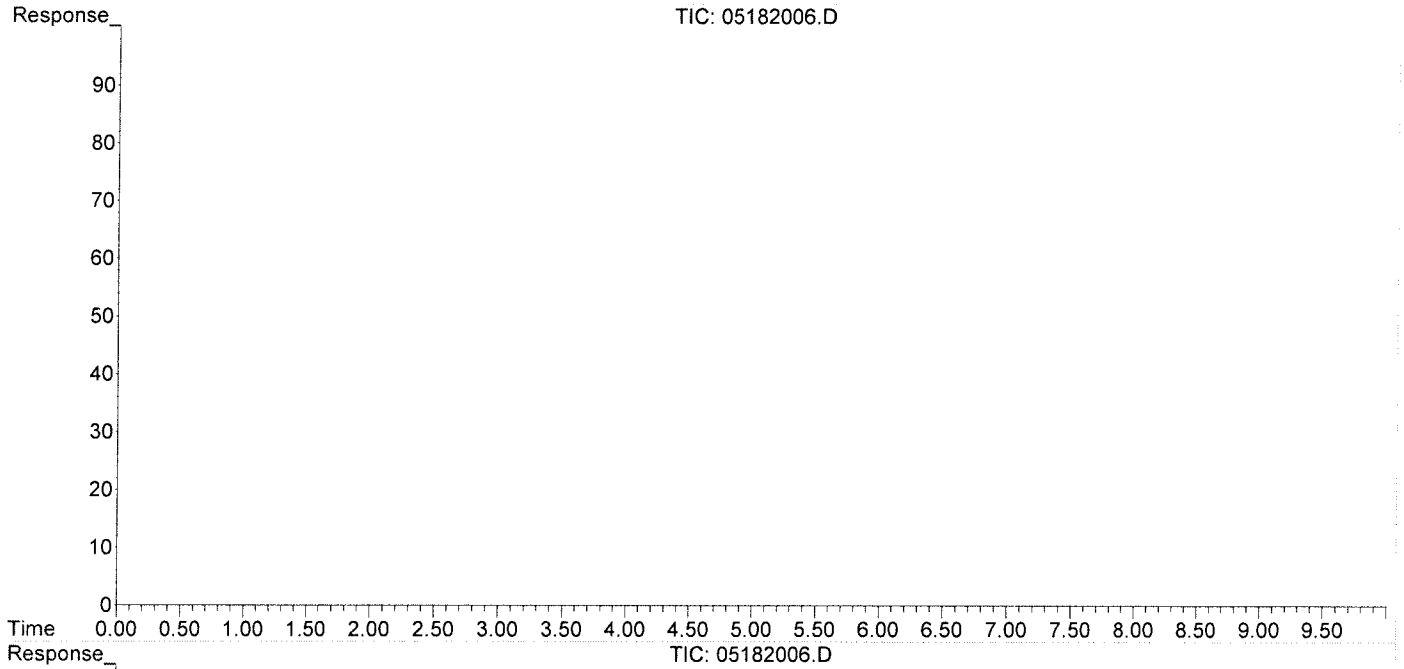
	Compound	R.T.	Response	Conc	Units
Target Compounds					
1)	Oxygen/Argon	0.000	0	N.D.	ppm
2)	Carbon monoxide	0.000	0	N.D.	ppm
3)	Methane (TCD)	0.000	0	N.D.	ppm
4)	Carbon dioxide	0.000	0	N.D.	ppm
6)	Methane (FID)	1.096	1099	0.121	ppm
7)	Ethylene	0.000	0	N.D.	ppm
8)	Ethane	0.000	0	N.D.	ppm
9)	Propylene	0.000	0	N.D.	ppm
10)	Propane	0.000	0	N.D.	ppm
11)	Isobutylene	0.000	0	N.D.	ppm
12)	Isobutane	0.000	0	N.D.	ppm
13)	n-Butane	0.000	0	N.D.	ppm

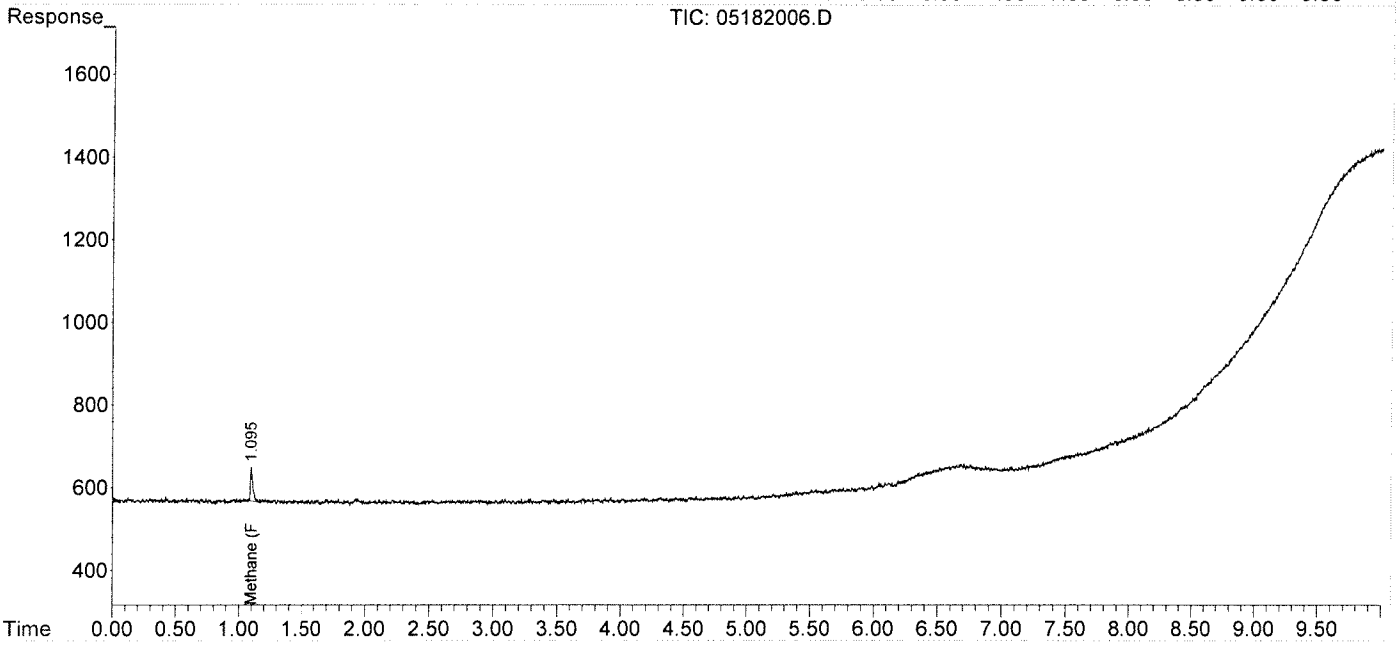
(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : I:\GC10\DATA\RSK_FID\2020_05\18\
Data File : 05182006.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 18-May-2020, 14:47:12
Operator : LD
Sample : P2002523-001 0.1ml
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 18 15:20:07 2020
Quant Method : I:\GC10\METHODS\RS091217_R.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Wed Sep 13 11:14:47 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





Data Path : I:\GC10\DATA\RSK_FID\2020_05\18\
Data File : 05182007.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 18-May-2020, 15:10:04
Operator : LD
Sample : P2002523-002 0.1ml
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 18 15:30:34 2020
Quant Method : I:\GC10\METHODS\RS091217_R.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Wed Sep 13 11:14:47 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

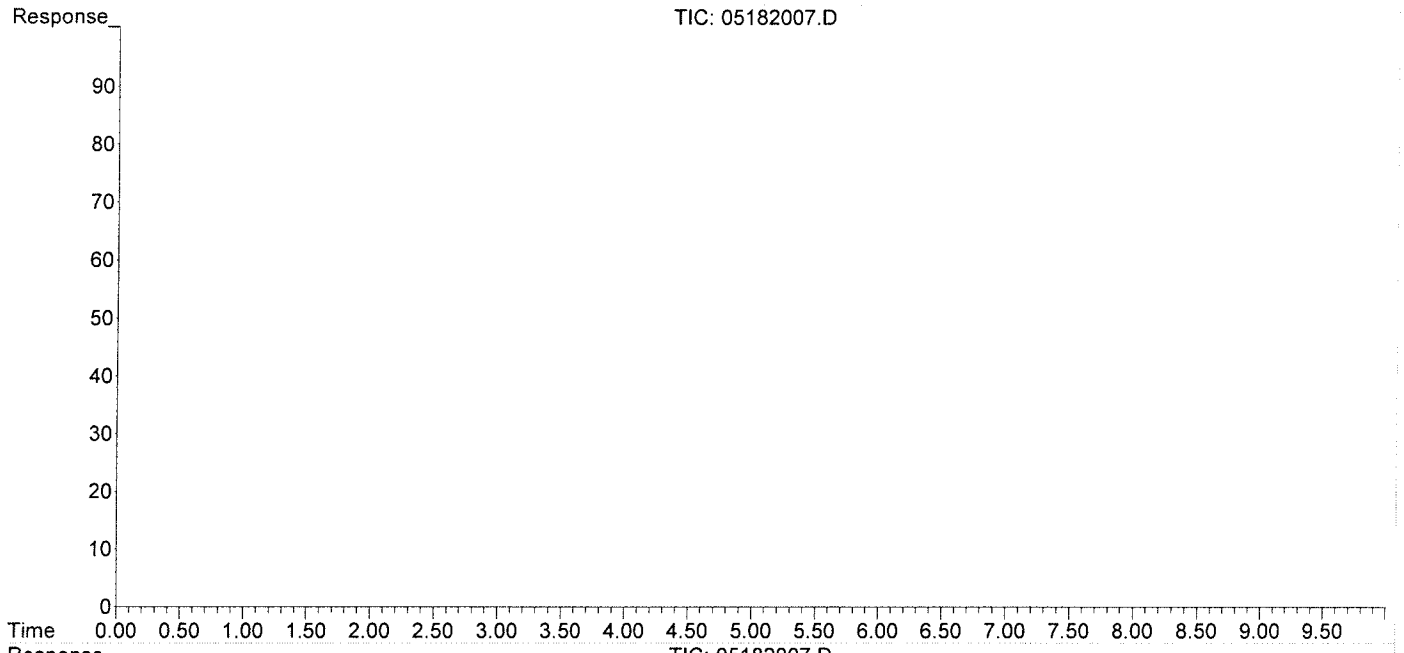
	Compound	R.T.	Response	Conc	Units
Target	Compounds				
1)	Oxygen/Argon	0.000	0	N.D.	ppm
2)	Carbon monoxide	0.000	0	N.D.	ppm
3)	Methane (TCD)	0.000	0	N.D.	ppm
4)	Carbon dioxide	0.000	0	N.D.	ppm
6)	Methane (FID)	0.000	0	N.D.	ppm
7)	Ethylene	0.000	0	N.D.	ppm
8)	Ethane	0.000	0	N.D.	ppm
9)	Propylene	0.000	0	N.D.	ppm
10)	Propane	0.000	0	N.D.	ppm
11)	Isobutylene	0.000	0	N.D.	ppm
12)	Isobutane	0.000	0	N.D.	ppm
13)	n-Butane	0.000	0	N.D.	ppm

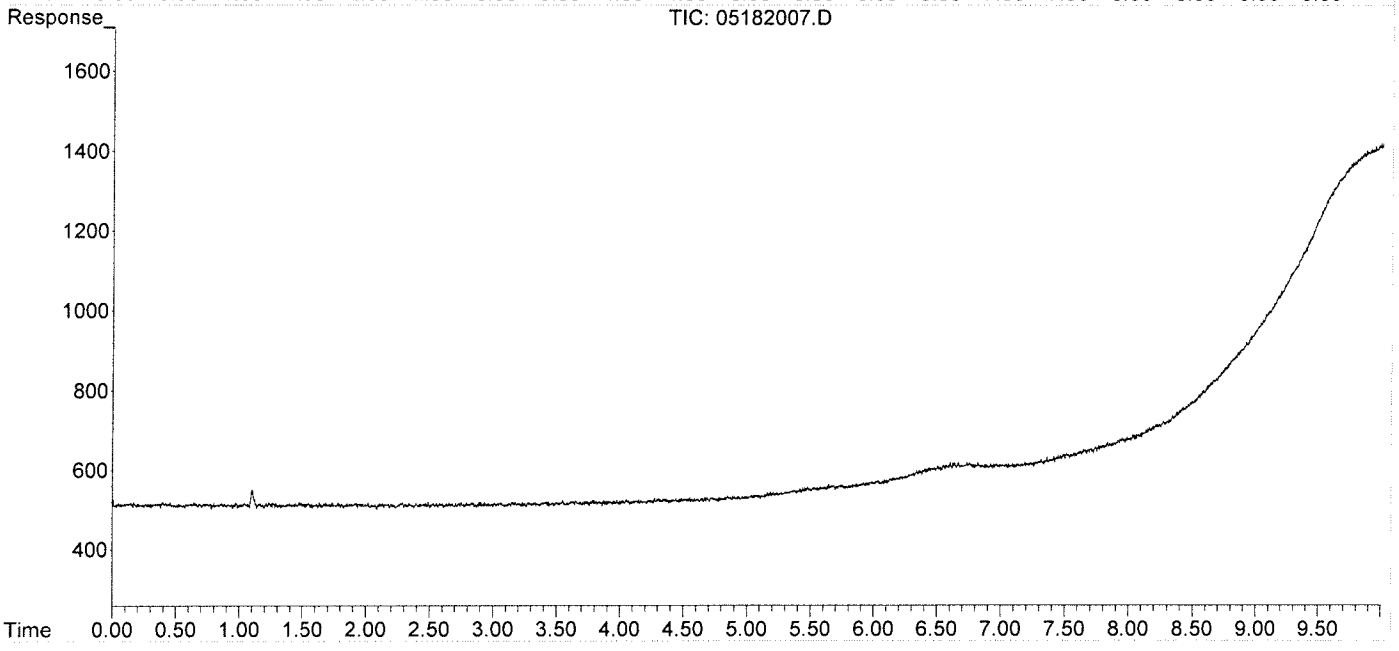
(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : I:\GC10\DATA\RSK_FID\2020_05\18\
Data File : 05182007.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 18-May-2020, 15:10:04
Operator : LD
Sample : P2002523-002 0.1ml
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 18 15:30:34 2020
Quant Method : I:\GC10\METHODS\RS091217_R.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Wed Sep 13 11:14:47 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





Data Path : I:\GC10\DATA\RSK_FID\2020_05\18\
Data File : 05182008.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 18-May-2020, 15:24:54
Operator : LD
Sample : P2002523-003 0.1ml
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 18 15:48:19 2020
Quant Method : I:\GC10\METHODS\RS091217_R.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Wed Sep 13 11:14:47 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

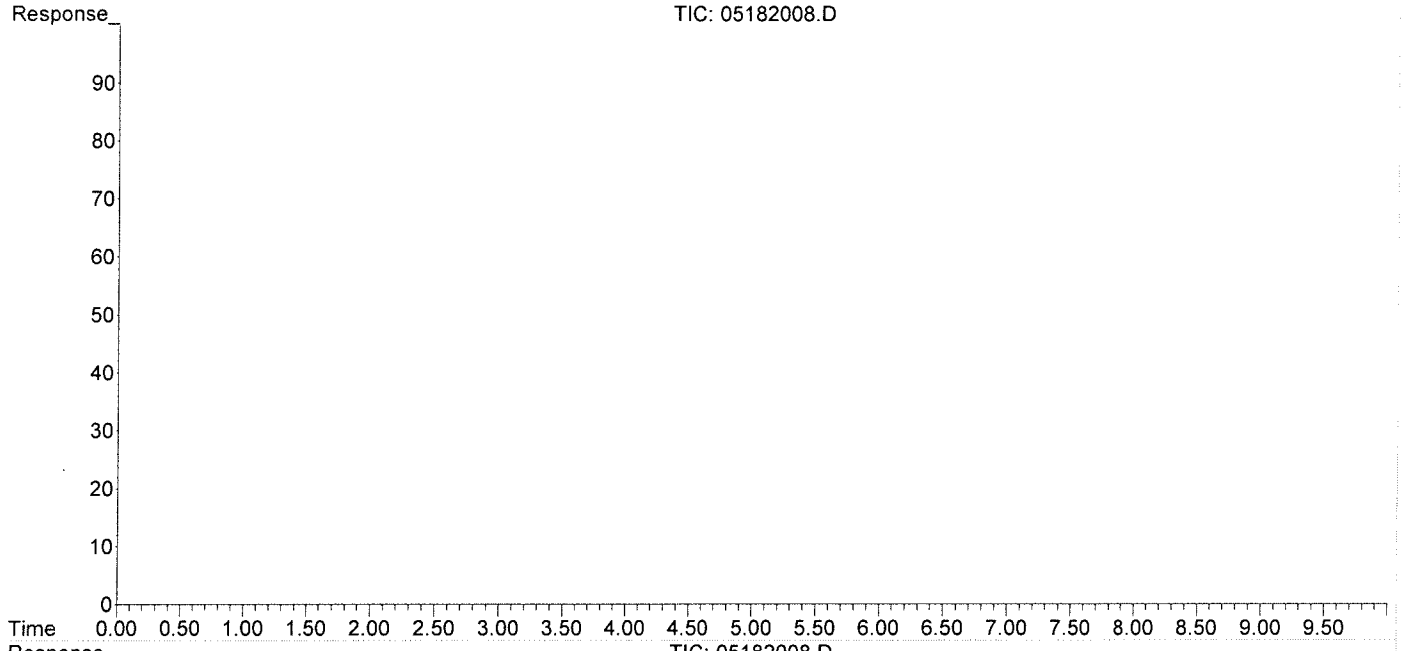
	Compound	R.T.	Response	Conc	Units
Target Compounds					
1)	Oxygen/Argon	0.000	0	N.D.	ppm
2)	Carbon monoxide	0.000	0	N.D.	ppm
3)	Methane (TCD)	0.000	0	N.D.	ppm
4)	Carbon dioxide	0.000	0	N.D.	ppm
6)	Methane (FID)	1.105	4445	0.490	ppm
7)	Ethylene	0.000	0	N.D.	ppm
8)	Ethane	0.000	0	N.D.	ppm
9)	Propylene	0.000	0	N.D.	ppm
10)	Propane	0.000	0	N.D.	ppm
11)	Isobutylene	0.000	0	N.D.	ppm
12)	Isobutane	0.000	0	N.D.	ppm
13)	n-Butane	0.000	0	N.D.	ppm

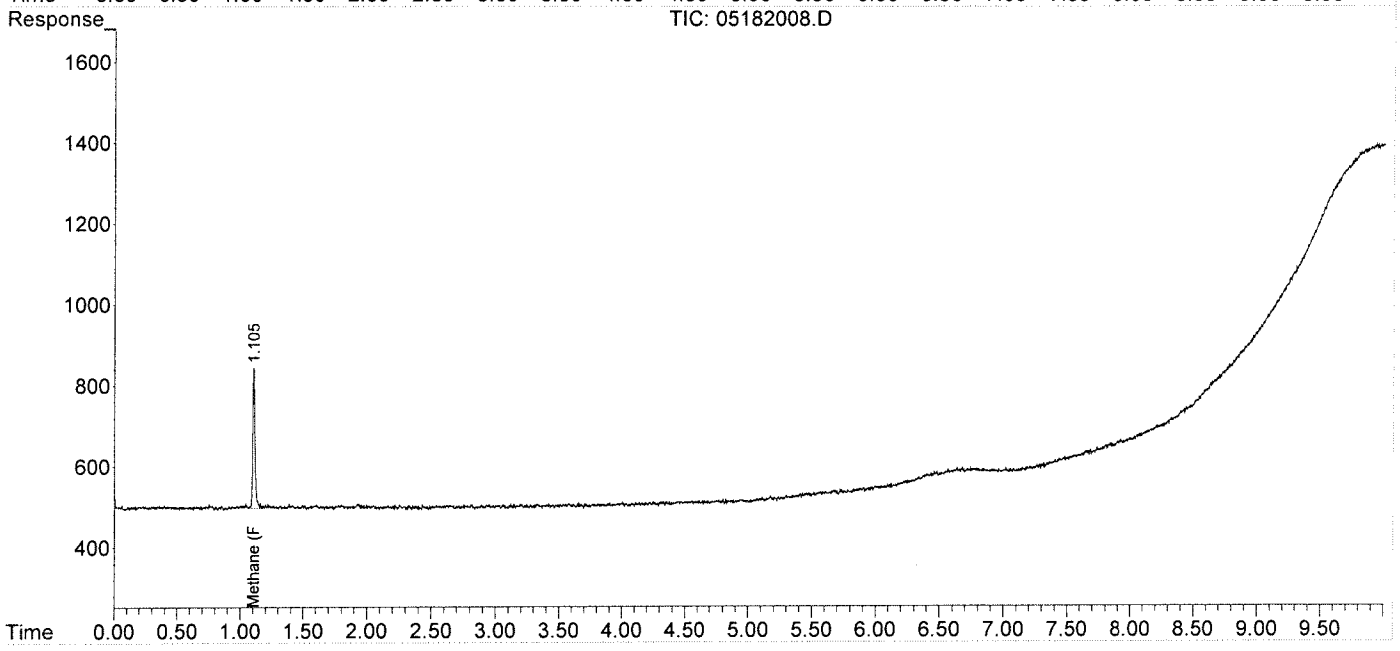
(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : I:\GC10\DATA\RSK_FID\2020_05\18\
Data File : 05182008.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 18-May-2020, 15:24:54
Operator : LD
Sample : P2002523-003 0.1ml
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 18 15:48:19 2020
Quant Method : I:\GC10\METHODS\RS091217_R.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Wed Sep 13 11:14:47 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





Data Path : I:\GC10\DATA\RSK_FID\2020_05\18\
Data File : 05182009.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 18-May-2020, 15:37:51
Operator : LD
Sample : P2002523-004 0.1ml
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 18 15:48:38 2020
Quant Method : I:\GC10\METHODS\RS091217_R.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Wed Sep 13 11:14:47 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

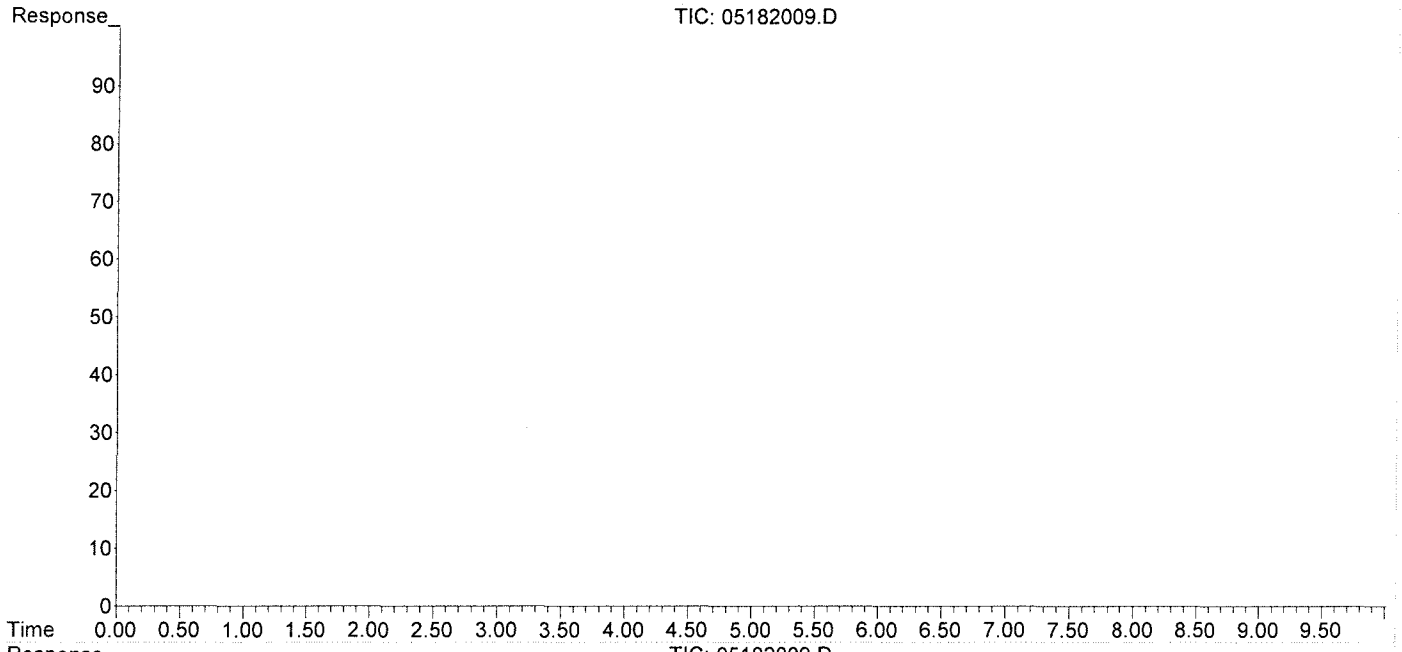
	Compound	R.T.	Response	Conc	Units
Target Compounds					
1)	Oxygen/Argon	0.000	0	N.D.	ppm
2)	Carbon monoxide	0.000	0	N.D.	ppm
3)	Methane (TCD)	0.000	0	N.D.	ppm
4)	Carbon dioxide	0.000	0	N.D.	ppm
6)	Methane (FID)	1.102	3835	0.423	ppm
7)	Ethylene	0.000	0	N.D.	ppm
8)	Ethane	0.000	0	N.D.	ppm
9)	Propylene	0.000	0	N.D.	ppm
10)	Propane	0.000	0	N.D.	ppm
11)	Isobutylene	0.000	0	N.D.	ppm
12)	Isobutane	0.000	0	N.D.	ppm
13)	n-Butane	0.000	0	N.D.	ppm

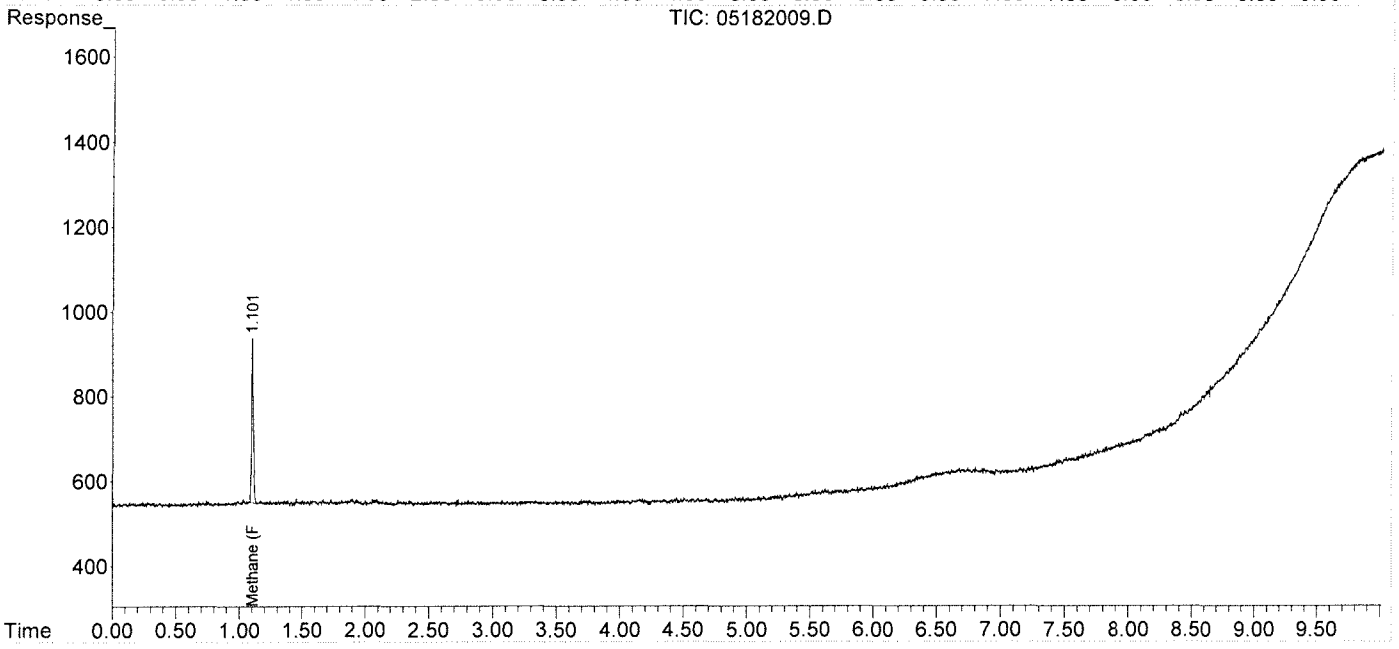
(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : I:\GC10\DATA\RSK_FID\2020_05\18\
Data File : 05182009.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 18-May-2020, 15:37:51
Operator : LD
Sample : P2002523-004 0.1ml
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 18 15:48:38 2020
Quant Method : I:\GC10\METHODS\RS091217_R.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Wed Sep 13 11:14:47 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





Data Path : I:\GC10\DATA\RSK_FID\2020_05\18\
Data File : 05182010.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 18-May-2020, 15:51:02
Operator : LD
Sample : P2002523-005 0.1ml
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 18 16:07:04 2020
Quant Method : I:\GC10\METHODS\RS091217_R.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Wed Sep 13 11:14:47 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

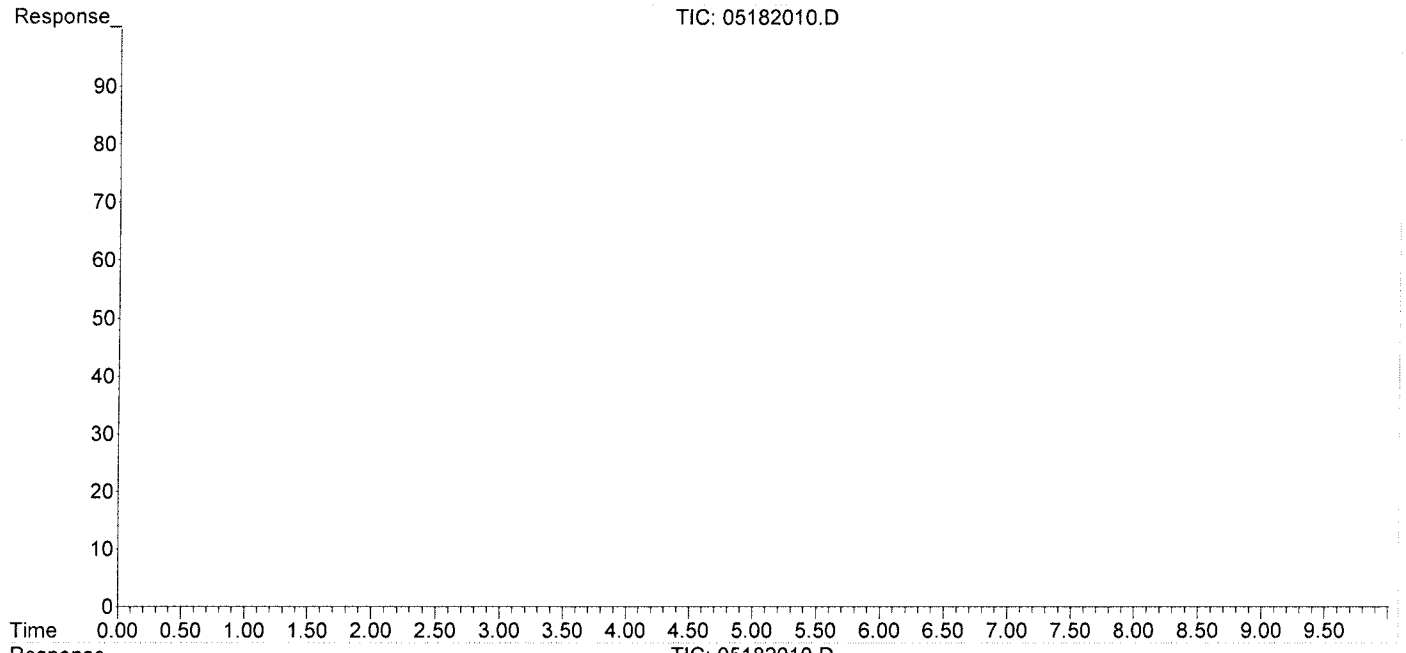
	Compound	R.T.	Response	Conc	Units
Target Compounds					
1)	Oxygen/Argon	0.000	0	N.D.	ppm
2)	Carbon monoxide	0.000	0	N.D.	ppm
3)	Methane (TCD)	0.000	0	N.D.	ppm
4)	Carbon dioxide	0.000	0	N.D.	ppm
6)	Methane (FID)	0.000	0	N.D.	ppm
7)	Ethylene	0.000	0	N.D.	ppm
8)	Ethane	0.000	0	N.D.	ppm
9)	Propylene	0.000	0	N.D.	ppm
10)	Propane	0.000	0	N.D.	ppm
11)	Isobutylene	0.000	0	N.D.	ppm
12)	Isobutane	0.000	0	N.D.	ppm
13)	n-Butane	0.000	0	N.D.	ppm

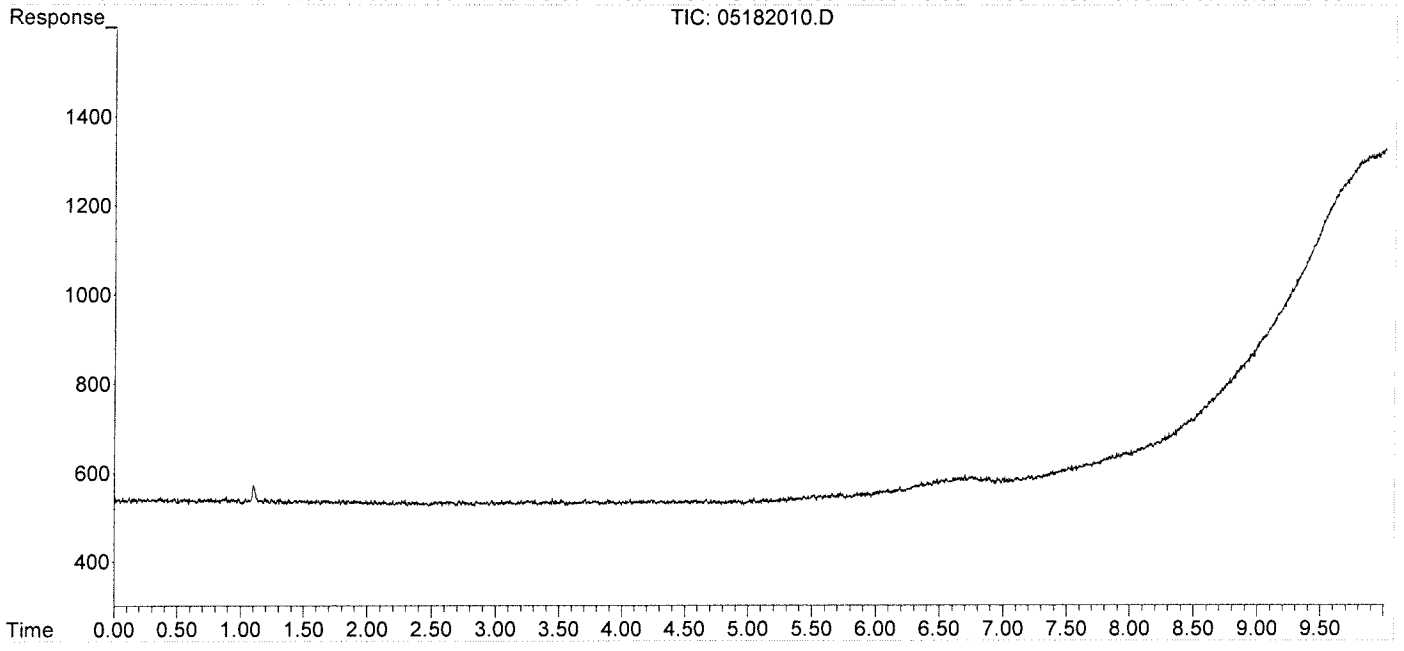
(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : I:\GC10\DATA\RSK_FID\2020_05\18\
Data File : 05182010.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 18-May-2020, 15:51:02
Operator : LD
Sample : P2002523-005 0.1ml
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 18 16:07:04 2020
Quant Method : I:\GC10\METHODS\RS091217_R.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Wed Sep 13 11:14:47 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





Data Path : I:\GC10\DATA\RSK_FID\2020_05\18\
Data File : 05182003.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 18-May-2020, 14:00:38
Operator : LD
Sample : MCS 0.1ml
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 18 14:31:16 2020
Quant Method : I:\GC10\METHODS\RS091217_R.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Wed Sep 13 11:14:47 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

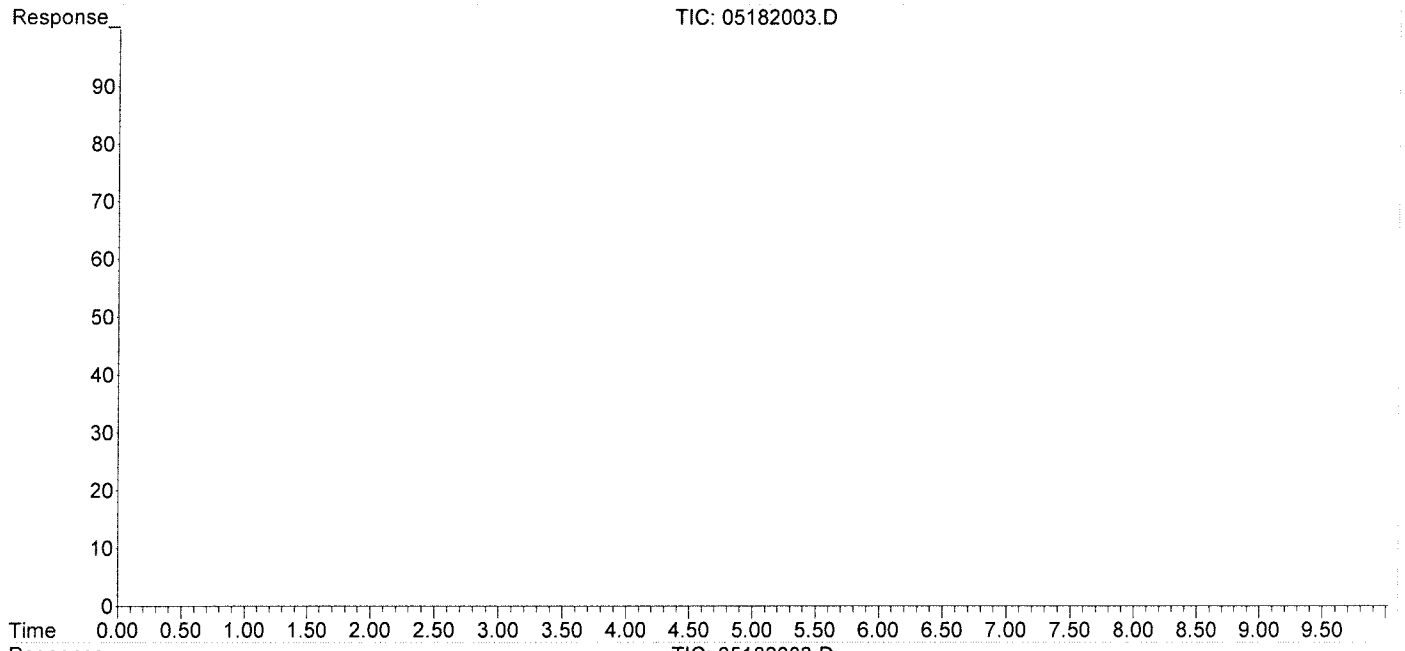
	Compound	R.T.	Response	Conc	Units
Target Compounds					
1)	Oxygen/Argon	0.000	0	N.D.	ppm
2)	Carbon monoxide	0.000	0	N.D.	ppm
3)	Methane (TCD)	0.000	0	N.D.	ppm
4)	Carbon dioxide	0.000	0	N.D.	ppm
6)	Methane (FID)	1.094	1633	0.180	ppm
7)	Ethylene	0.000	0	N.D.	ppm
8)	Ethane	0.000	0	N.D.	ppm
9)	Propylene	0.000	0	N.D.	ppm
10)	Propane	0.000	0	N.D.	ppm
11)	Isobutylene	0.000	0	N.D.	ppm
12)	Isobutane	0.000	0	N.D.	ppm
13)	n-Butane	0.000	0	N.D.	ppm

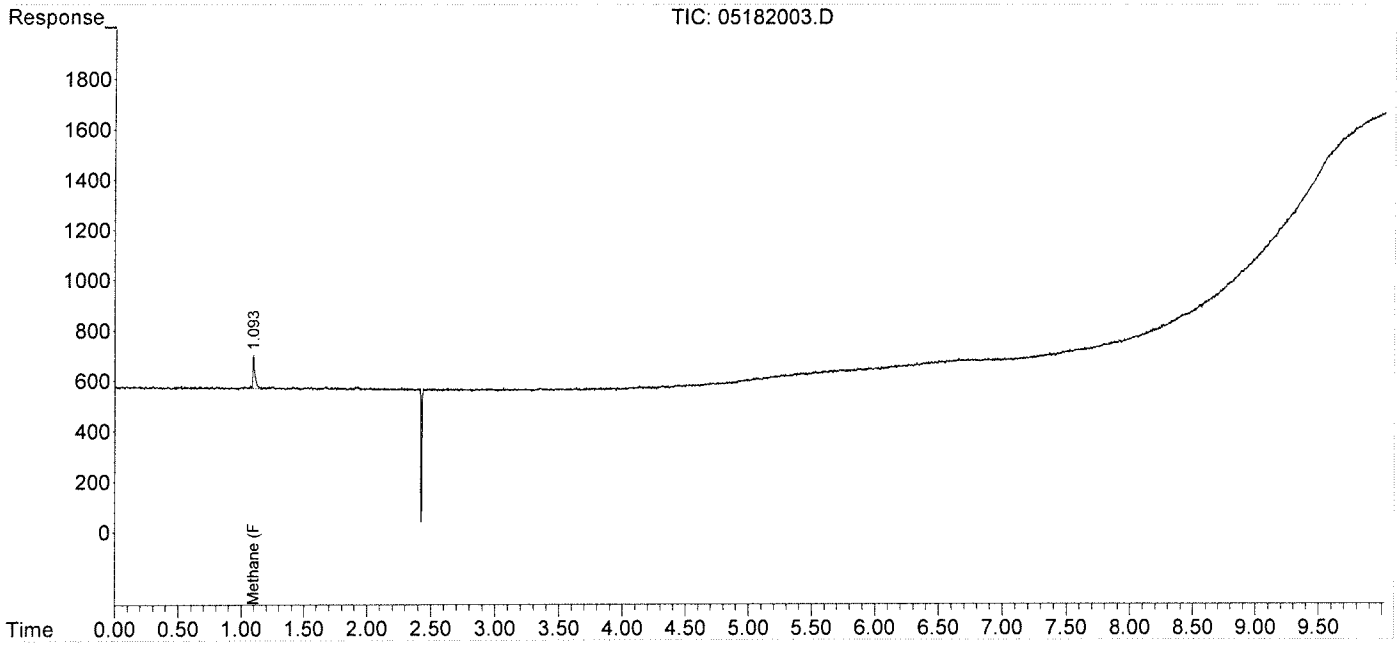
(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : I:\GC10\DATA\RSK_FID\2020_05\18\
Data File : 05182003.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 18-May-2020, 14:00:38
Operator : LD
Sample : MCS 0.1ml
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 18 14:31:16 2020
Quant Method : I:\GC10\METHODS\RS091217_R.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Wed Sep 13 11:14:47 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





Data Path : I:\GC10\DATA\RSK_FID\2020_05\18\
Data File : 05182004.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 18-May-2020, 14:17:35
Operator : LD
Sample : LCS FID 0.1ml
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 18 14:31:29 2020
Quant Method : I:\GC10\METHODS\RS091217_R.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Wed Sep 13 11:14:47 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

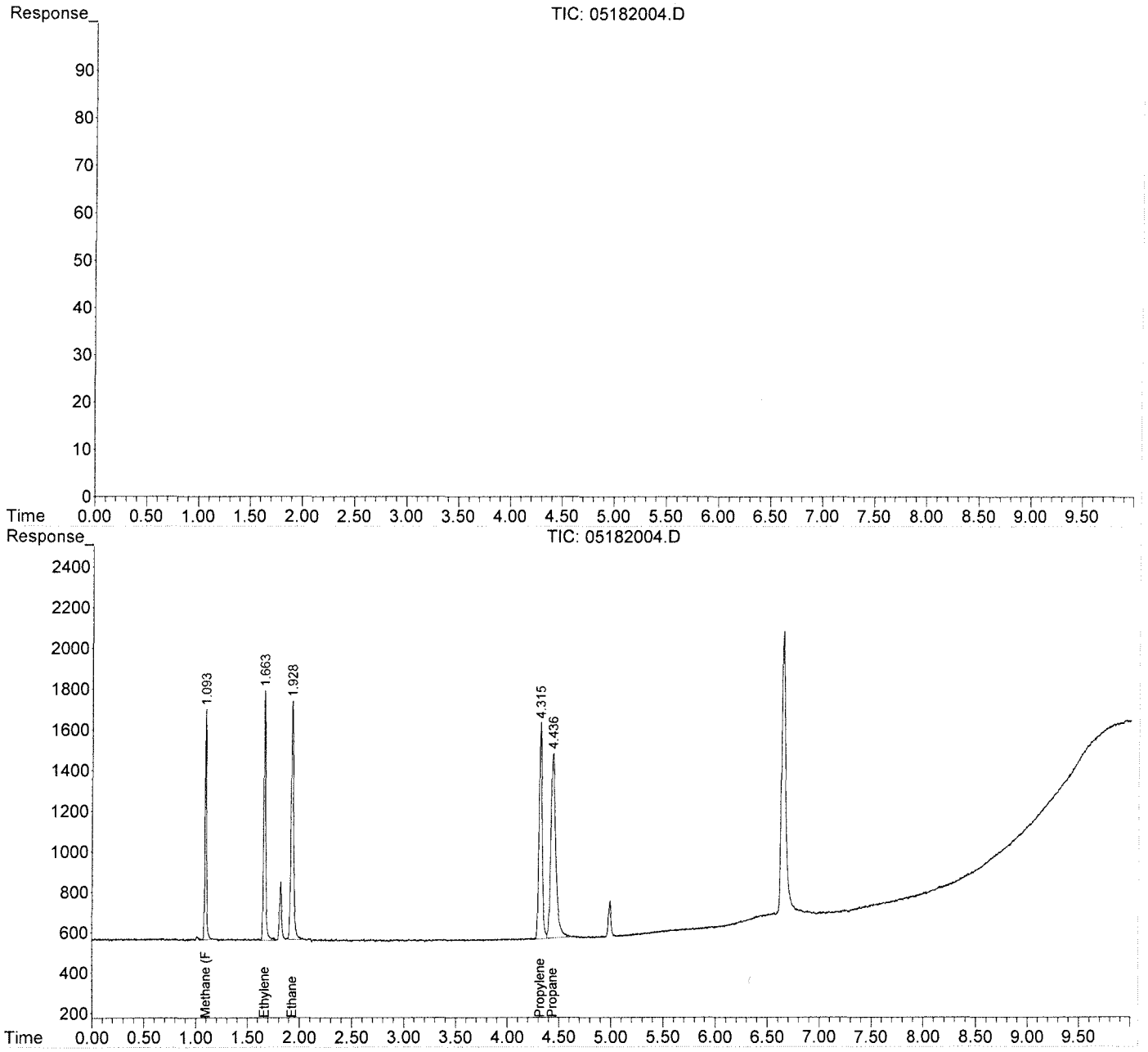
	Compound	R.T.	Response	Conc	Units	
Target	Compounds					
1)	Oxygen/Argon	0.000	0	N.D.	ppm	
2)	Carbon monoxide	0.000	0	N.D.	ppm	
3)	Methane (TCD)	0.000	0	N.D.	ppm	
4)	Carbon dioxide	0.000	0	N.D.	ppm	
6)	Methane (FID)	1.094	12432	1.371	ppm	
7)	Ethylene	1.664	16806	1.004	ppm	
8)	Ethane	1.929	20066	1.184	ppm	
9)	Propylene	4.316	22598	0.964	ppm	
10)	Propane	4.438	30536	1.227	ppm	
11)	Isobutylene	0.000	0	N.D.	ppm	
12)	Isobutane	0.000	0	N.D.	ppm	d
13)	n-Butane	0.000	0	N.D.	ppm	d

(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : I:\GC10\DATA\RSK_FID\2020_05\18\
Data File : 05182004.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 18-May-2020, 14:17:35
Operator : LD
Sample : LCS FID 0.1ml
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 18 14:31:29 2020
Quant Method : I:\GC10\METHODS\RS091217_R.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Wed Sep 13 11:14:47 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Data Path : I:\GC10\DATA\RSK_FID\2020_05\18\
Data File : 05182005.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 18-May-2020, 14:31:00
Operator : LD
Sample : LCSD FID 0.1ml
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 18 14:46:07 2020
Quant Method : I:\GC10\METHODS\RS091217_R.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Wed Sep 13 11:14:47 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

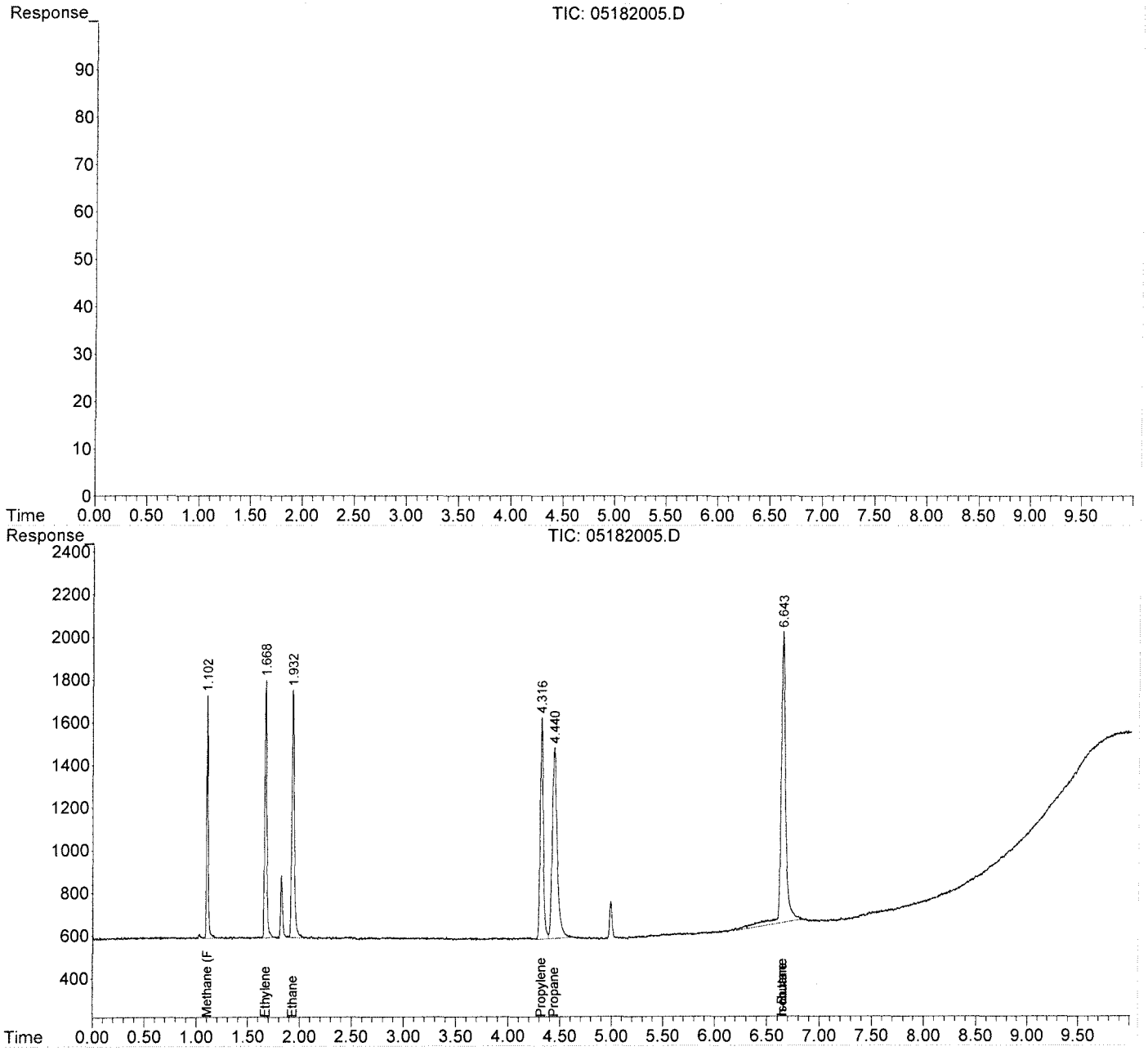
	Compound	R.T.	Response	Conc	Units
Target Compounds					
1)	Oxygen/Argon	0.000	0	N.D.	ppm
2)	Carbon monoxide	0.000	0	N.D.	ppm
3)	Methane (TCD)	0.000	0	N.D.	ppm
4)	Carbon dioxide	0.000	0	N.D.	ppm
6)	Methane (FID)	1.102	12454	1.373	ppm
7)	Ethylene	1.669	16047	0.959	ppm
8)	Ethane	1.933	19804	1.168	ppm
9)	Propylene	4.317	21906	0.935	ppm
10)	Propane	4.439	29481	1.185	ppm
11)	Isobutylene	0.000	0	N.D.	ppm
12)	Isobutane	6.645f	42991	1.615	ppm
13)	n-Butane	6.645f	42991	1.615	ppm

(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : I:\GC10\DATA\RSK_FID\2020_05\18\
Data File : 05182005.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 18-May-2020, 14:31:00
Operator : LD
Sample : LCSD FID 0.1ml
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 18 14:46:07 2020
Quant Method : I:\GC10\METHODS\RS091217_R.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Wed Sep 13 11:14:47 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Response Factor Report HP5890

Method Path : J:\GC10\METHODS\
Method File : RS091217_R.M
Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
Last Update : Wed Sep 13 11:14:47 2017
Response Via : Initial Calibration

Calibration Files
1 =09121702.D 2 =09121703.D 3 =09121704.D
4 =09121705.D 5 =09121706.D 6 =09121707.D

	Compound	1	2	3	4	5	6	Avg		%RSD
1)	Oxygen/Argon	3.739		1.014			0.001	0.793	E6	189.17
2)	Carbon monoxide	3.739		1.014			0.001	0.594	E6	221.92
3)	Methane (TCD)						2.161	0.951	E2	106.37
4)	Carbon dioxide	2.365	2.569	2.558	2.361	2.459	2.314	2.438	E2	4.44

Signal #2 Calibration Files
1 =09121702.D 2 =09121703.D 3 =09121704.D
4 =09121705.D 5 =09121706.D 6 =09121707.D

	Compound	1	2	3	4	5	6	Avg		%RSD
6)	Methane (FID)		1.180	0.975	0.908	0.870	0.868	0.907	E4	11.66
7)	Ethylene	1.736	1.638	1.780	1.720	1.628	1.670	1.673	E4	3.90
8)	Ethane	1.781	1.676	1.784	1.730	1.692	1.675	1.695	E4	3.83
9)	Propylene	2.505	2.296	2.592	2.480	2.346	2.252	2.343	E4	6.56
10)	Propane	2.439	2.283	2.645	2.555	2.433	2.522	2.488	E4	4.20
11)	Isobutylene							0.652	E1	138.46
12)	Isobutane	6.058	4.793	2.214	1.553	1.353		2.662	E4	86.17
13)	n-Butane	6.058	4.793	2.214	1.553	1.353		2.662	E4	86.17

(#) = Out of Range ### Number of calibration levels exceeded format ###

RS091217_R.M Wed Sep 13 15:11:48 2017

Edit Compounds -- Compound #6 -- Methane (FID)

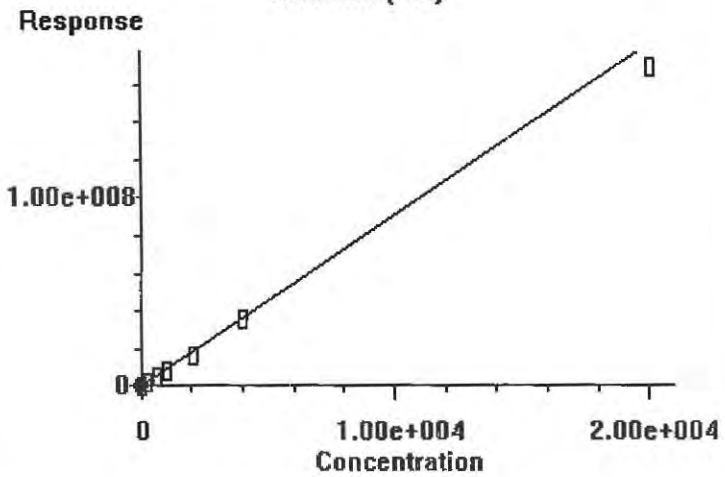
Search by: Ret Time | Name | Index | Find Compound

- Compound Database
- External Standard Compoun
  - Oxygen/Argon
  - Carbon monoxide
  - Methane (TCD)
  - Carbon dioxide
  - Signal #2
  - Methane (FID)
  - Ethylene
  - Ethane
  - Propylene
  - Propane
  - Isobutylene
  - Isobutane
  - n-Butane

Identification | Calibration | User-Defined | Advanced | Reporting

Lvl ID	Concentration	Response
1	0.151000	
2	0.302000	3564.400000
3	1.510000	14725.268625
4	4.530000	41128.575000
5	10.570000	91966.784531
6	200.000000	1735997.497500
7	600.000000	5189848.900000
8	1000.000000	8598533.570000
9	2000.000000	16098209.390000
10	4000.000000	35776839.311362
11	20000.000000	169009160.49199

Methane (FID)



0.000e+000	Quadratic term
9.071e+003	Linear term
0.000e+000	Constant term
11.657%	RF Rel Std Dev

OK | Cancel | Help | Print Calibration Curve | Copy Calibration Curve

Edit Compounds -- Compound #7 -- Ethylene

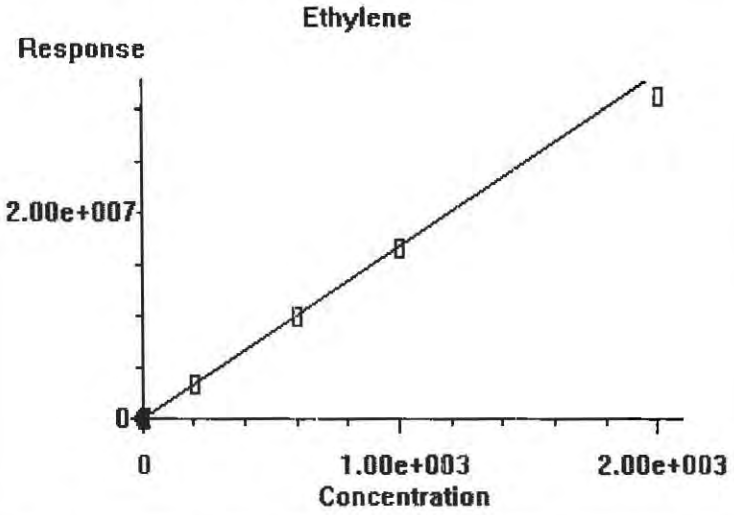
Search by: Ret Time | Name | Index | Find Compound

Compound Database
External Standard Compoun
- Oxygen/Argon
- Carbon monoxide
- Methane (TCD)
- Carbon dioxide
- Signal #2
- Methane (FID)
- Ethylene
- Ethane
- Propylene
- Propane
- Isobutylene
- Isobutane
- n-Butane

Identification | Calibration | User-Defined | Advanced | Reporting

Lvl ID	Concentration	Response
1	0.151000	2621.970000
2	0.302000	4946.731301
3	1.510000	26884.746847
4	4.530000	77902.721497
5	10.570000	172085.529560
6	200.000000	3339702.313219
7	600.000000	10007758.776971
8	1000.000000	16608503.805988
9	2000.000000	31192443.898600
10	4000.000000	

Lvl ID	Concentration	Response
11	20000.000000	



0.000e+000	Quadratic term
1.673e+004	Linear term
0.000e+000	Constant term
3.897%	RF Rel Std Dev

OK | Cancel | Help | Print Calibration Curve | Copy Calibration Curve

Edit Compounds -- Compound #8 -- Ethane

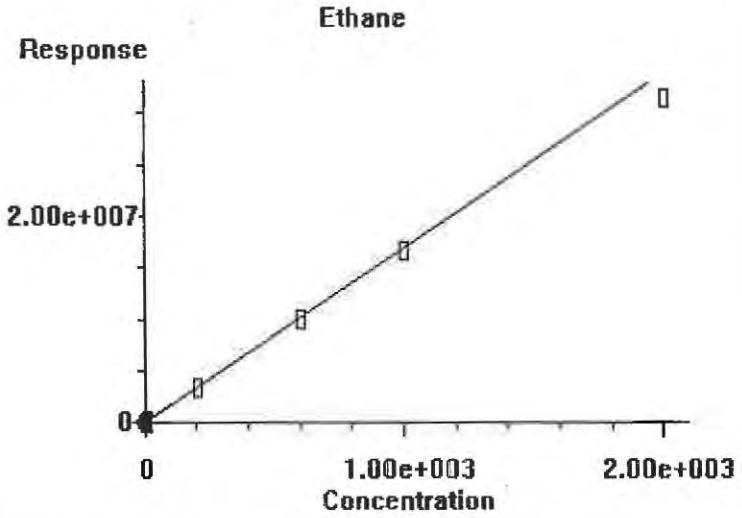
Search by: Ret Time | Name | Index — Find Compound

- Compound Database
- External Standard Compoun
  - Oxygen/Argon
  - Carbon monoxide
  - Methane (TCD)
  - Carbon dioxide
  - Signal #2
  - Methane (FID)
  - Ethylene
  - Ethane
  - Propylene
  - Propane
  - Isobutylene
  - Isobutane
  - n-Butane

Identification | Calibration | User-Defined | Advanced | Reporting

Lvl ID	Concentration	Response
1	0.151000	2689.928008
2	0.302000	5060.331943
3	1.510000	26943.667500
4	4.530000	78353.525045
5	10.570000	178840.731148
6	200.000000	3350442.319129
7	600.000000	10048964.218029
8	1000.000000	16703164.879012
9	2000.000000	31424217.938900
10	4000.000000	

Lvl ID	Concentration	Response
11	20000.000000	



0.000e+000	Quadratic term
1.695e+004	Linear term
0.000e+000	Constant term
3.831%	RF Rel Std Dev

OK | Cancel | Help | Print Calibration Curve | Copy Calibration Curve

Edit Compounds -- Compound #9 -- Propylene

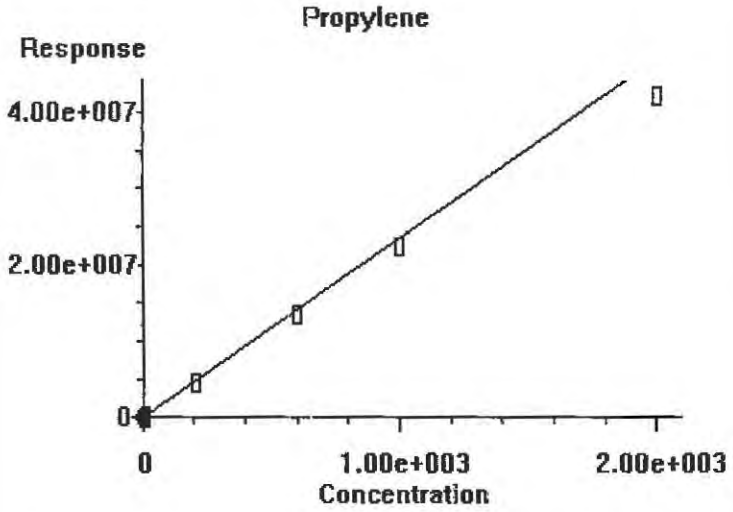
Search by: Ret Time | Name | Index | Find Compound

- Compound Database
- External Standard Compoun
  - Oxygen/Argon
  - Carbon monoxide
  - Methane (TCD)
  - Carbon dioxide
  - Signal #2
  - Methane (FID)
  - Ethylene
  - Ethane
  - Propylene
  - Propane
  - Isobutylene
  - Isobutane
  - n-Butane

Identification | Calibration | User-Defined | Advanced | Reporting

Lvl ID	Concentration	Response
1	0.151000	3782.537646
2	0.302000	6933.285530
3	1.510000	39139.518208
4	4.530000	112341.896872
5	10.570000	248003.903623
6	200.000000	4504060.086084
7	600.000000	13569342.761419
8	1000.000000	22494887.720990
9	2000.000000	42124689.656800
10	4000.000000	

Lvl ID	Concentration	Response
11	20000.000000	



0.000e+000	Quadratic term
2.343e+004	Linear term
0.000e+000	Constant term
6.559%	RF Rel Std Dev

OK | Cancel | Help | Print Calibration Curve | Copy Calibration Curve

Edit Compounds -- Compound #10 -- Propane

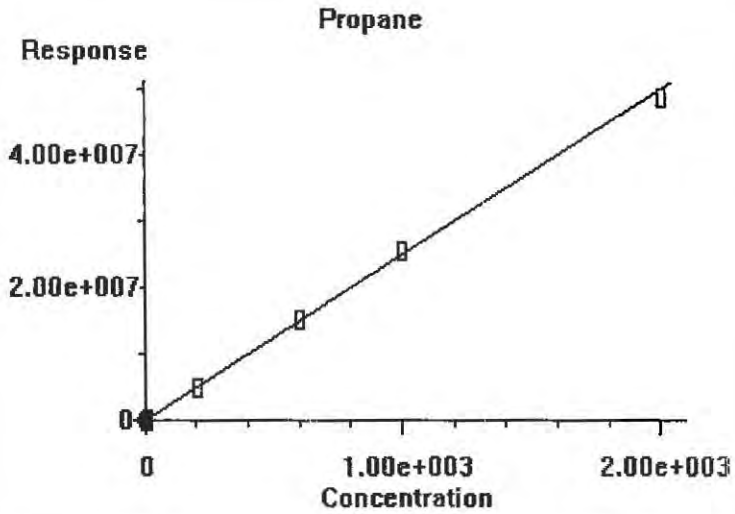
Search by: Ret Time | Name | Index — Find Compound

- Compound Database
- External Standard Compoun
  - Oxygen/Argon
  - Carbon monoxide
  - Methane (TCD)
  - Carbon dioxide
  - Signal #2
  - Methane (FID)
  - Ethylene
  - Ethane
  - Propylene
  - Propane
  - Isobutylene
  - Isobutane
  - n-Butane

Identification | Calibration | User-Defined | Advanced | Reporting

Lvl ID	Concentration	Response
1	0.151000	3682.897354
2	0.302000	6894.237803
3	1.510000	39934.166792
4	4.530000	115723.428128
5	10.570000	257124.432806
6	200.000000	5043035.663316
7	600.000000	15251325.797404
8	1000.000000	25459410.657938
9	2000.000000	48583085.287451
10	4000.000000	

Lvl ID	Concentration	Response
11	20000.000000	



0.000e+000	Quadratic term
2.488e+004	Linear term
0.000e+000	Constant term
4.200%	RF Rel Std Dev

OK | Cancel | Help | Print Calibration Curve | Copy Calibration Curve

01006647

Calibration Status Report HP5890

Method Path : J:\GC10\METHODS\
Method File : RS091217_R.M
Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
Last Update : Wed Sep 13 11:14:47 2017
Response Via : Initial Calibration

#	ID	Conc	ISTD Conc	Path\File
1	1	0	0	J:\GC10\DATA\RSK_FID\2017_09\12\09121702.D
2	2	0	0	J:\GC10\DATA\RSK_FID\2017_09\12\09121703.D
3	3	3	0	J:\GC10\DATA\RSK_FID\2017_09\12\09121704.D
4	4	10	0	J:\GC10\DATA\RSK_FID\2017_09\12\09121705.D
5	5	25	0	J:\GC10\DATA\RSK_FID\2017_09\12\09121706.D
6	6	125	0	J:\GC10\DATA\RSK_FID\2017_09\12\09121707.D
7	7	5000	0	J:\GC10\DATA\RSK_FID\2017_09\12\09121708.D
8	8	25000	0	J:\GC10\DATA\RSK_FID\2017_09\12\09121709.D
9	9	2000	0	J:\GC10\DATA\RSK_FID\2017_09\12\09121710.D
10	10	30000	0	J:\GC10\DATA\RSK_FID\2017_09\12\09121711.D
11	11	20000	0	J:\GC10\DATA\RSK_FID\2017_09\12\09121712.D

#	ID	Update Time	Quant Time	Acquisition Time
1	1	Sep 13 11:04 2017	Sep 12 15:03 2017	12-Sep-2017, 10:52
2	2	Sep 13 11:05 2017	Sep 13 11:05 2017	12-Sep-2017, 11:05
3	3	Sep 13 11:06 2017	Sep 13 11:05 2017	12-Sep-2017, 11:45
4	4	Sep 13 11:09 2017	Sep 13 11:06 2017	12-Sep-2017, 12:09
5	5	Sep 13 11:09 2017	Sep 13 11:09 2017	12-Sep-2017, 12:30
6	6	Sep 13 11:10 2017	Sep 13 11:10 2017	12-Sep-2017, 12:47
7	7	Sep 13 11:11 2017	Sep 13 11:10 2017	12-Sep-2017, 13:00
8	8	Sep 13 11:12 2017	Sep 13 11:11 2017	12-Sep-2017, 13:47
9	9	Sep 13 11:12 2017	Sep 13 11:12 2017	12-Sep-2017, 14:07
10	10	Sep 13 11:14 2017	Sep 13 11:13 2017	12-Sep-2017, 14:48
11	11	Sep 13 11:14 2017	Sep 13 11:14 2017	12-Sep-2017, 15:21

RS091217_R.M Wed Sep 13 15:11:22 2017

Quantitation Report (QT Reviewed)

Data Path : J:\GC10\DATA\RSK_FID\2017_09\12\
Data File : 09121702.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 12-Sep-2017, 10:52
Operator : MC
Sample : 0.151ppm 0.250ml s32-09121702
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Sep 12 11:03:15 2017
Quant Method : I:\GC10\METHODS\RS082417.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Fri Aug 25 09:19:14 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	R.T.	Response	Conc	Units	
Target Compounds						
1)	Oxygen/Argon	1.767	373920	0.128	ppm	
2)	Carbon monoxide	1.767	373920	N.D.	ppm	
3)	Methane (TCD)	0.000	0	N.D.	ppm	
4)	Carbon dioxide	0.000	0	N.D.	ppm	
6)	Methane (FID)	0.000	0	N.D.	ppm	d
7)	Ethylene	1.595	2622	0.156	ppm	
8)	Ethane	1.848	2690	0.156	ppm	
9)	Propylene	4.222	3783	0.154	ppm	
10)	Propane	4.348	3683	0.139	ppm	
11)	Isobutylene	0.000	0	N.D.	ppm	
12)	Isobutane	6.582f	6058	NoCal	ppm	
13)	n-Butane	6.582f	6058	NoCal	ppm	

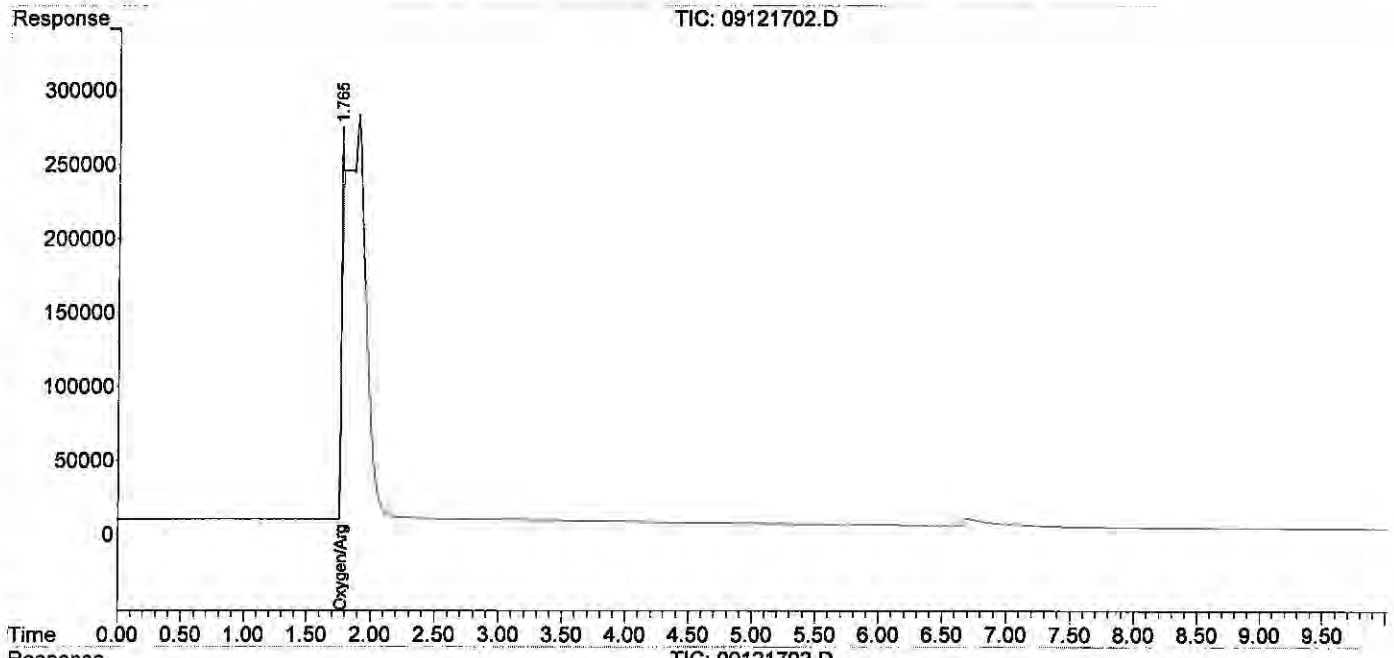
(f)=RT Delta > 1/2 Window (m)=manual int.

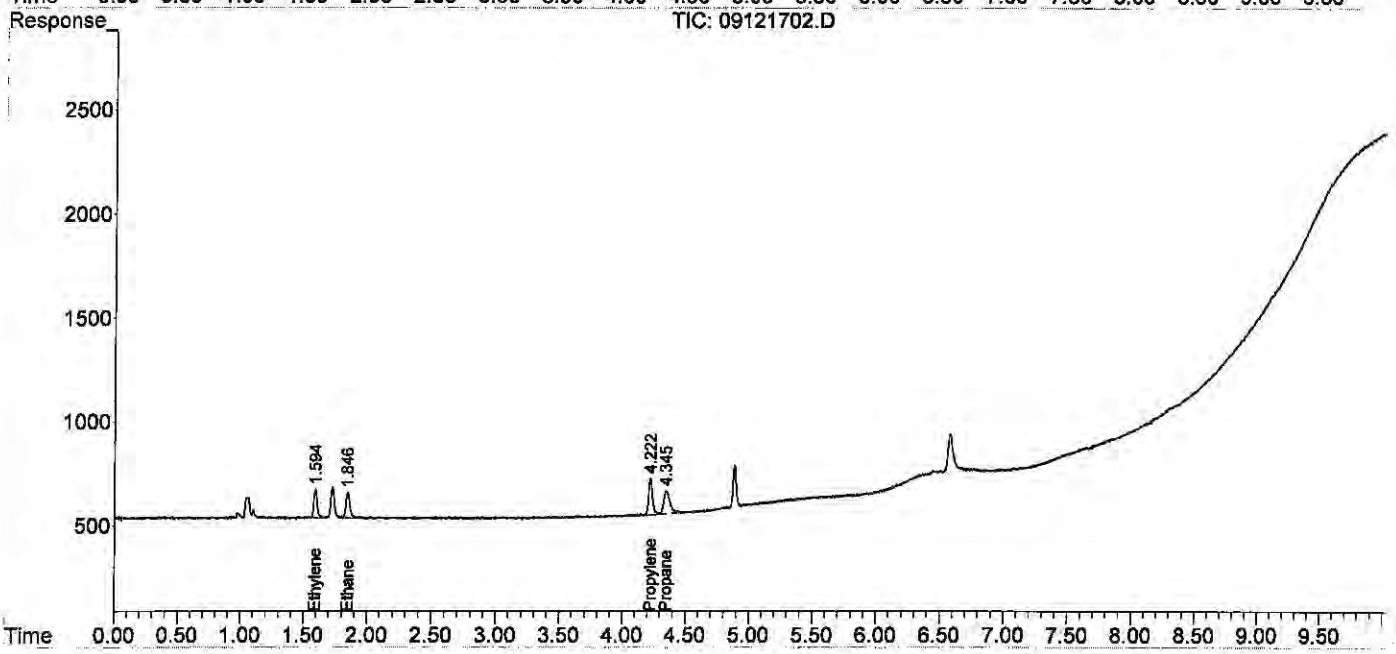
9/13/17

Data Path : J:\GC10\DATA\RSK_FID\2017_09\12\
Data File : 09121702.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 12-Sep-2017, 10:52
Operator : MC
Sample : 0.151ppm 0.250ml s32-09121702
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Sep 12 11:03:15 2017
Quant Method : I:\GC10\METHODS\RS082417.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Fri Aug 25 09:19:14 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





Quantitation Report (QT Reviewed)

Data Path : J:\GC10\DATA\RSK_FID\2017_09\12\
Data File : 09121703.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 12-Sep-2017, 11:05
Operator : MC
Sample : 0.302ppm 0.5ml s32-09121702
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Sep 13 11:05:03 2017
Quant Method : J:\GC10\METHODS\RS091217_R.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Wed Sep 13 11:04:50 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	R.T.	Response	Conc	Units	
Target Compounds						
1)	Oxygen/Argon	1.913f	-25181981	N.D.	ppm	
2)	Carbon monoxide	1.913f	-25181981	1.089	ppm	
3)	Methane (TCD)	0.000	0	N.D.	ppm	
4)	Carbon dioxide	0.000	0	N.D.	ppm	
6)	Methane (FID)	1.049	3564	0.391	ppm	m
7)	Ethylene	1.577	4947	0.292	ppm	
8)	Ethane	1.828	5060	0.293	ppm	
9)	Propylene	4.207	6933	0.281	ppm	
10)	Propane	4.337	6894	0.268	ppm	
11)	Isobutylene	0.000	0	N.D.	ppm	
12)	Isobutane	6.579f	9587	0.158	ppm	
13)	n-Butane	6.579f	9587	0.158	ppm	

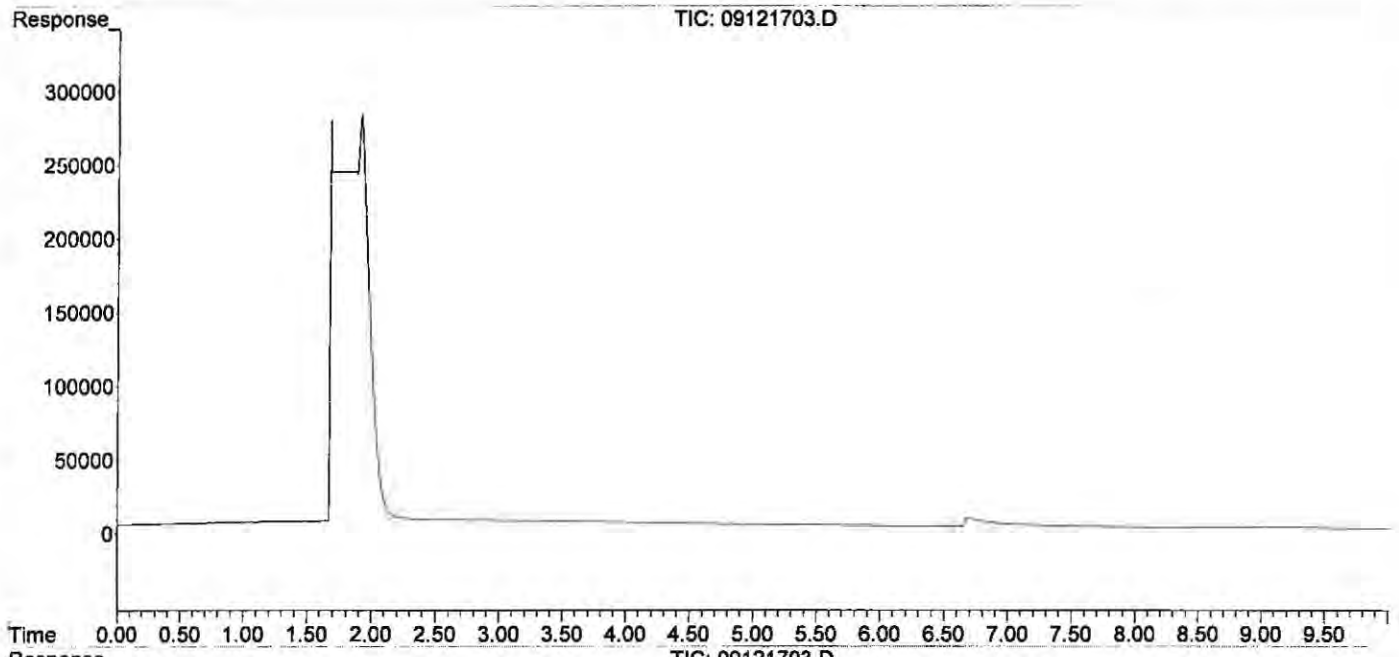
(f)=RT Delta > 1/2 Window (m)=manual int.

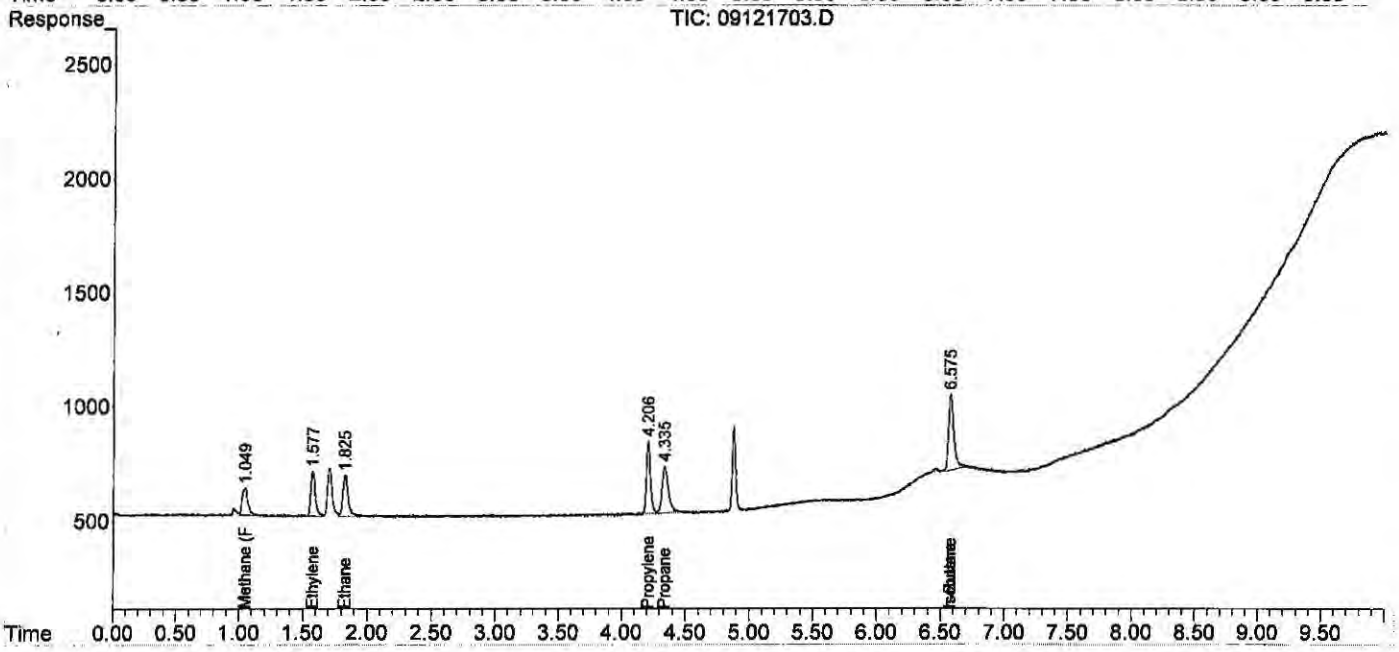
Quantitation Report (QT Reviewed)

Data Path : J:\GC10\DATA\RSK_FID\2017_09\12\
Data File : 09121703.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 12-Sep-2017, 11:05
Operator : MC
Sample : 0.302ppm 0.5ml s32-09121702
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Sep 13 11:05:03 2017
Quant Method : J:\GC10\METHODS\RS091217_R.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Wed Sep 13 11:04:50 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

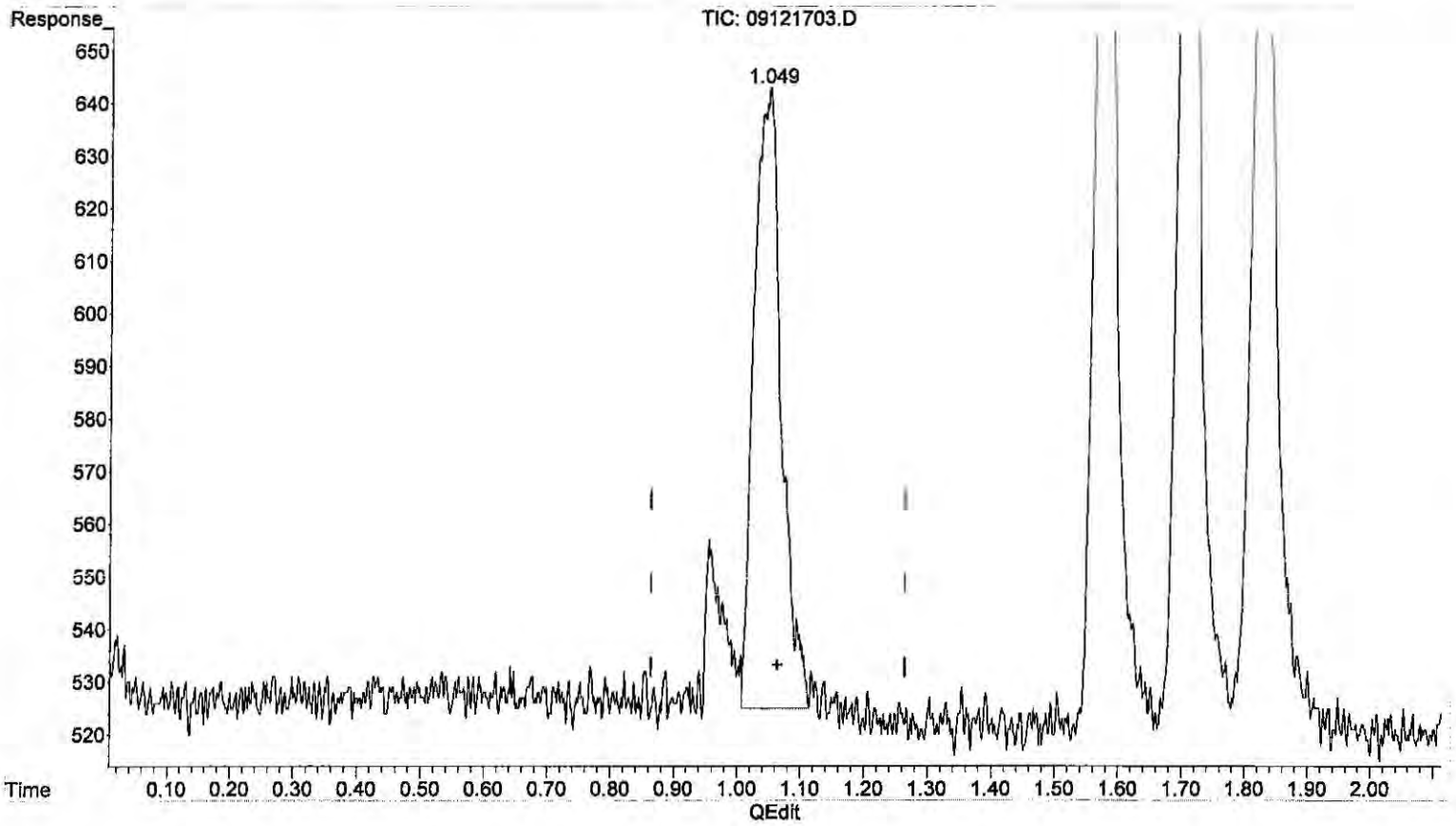




Data Path : J:\GC10\DATA\RSK_FID\2017_09\12\
Data File : 09121703.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 12-Sep-2017, 11:05
Operator : MC
Sample : 0.302ppm 0.5ml s32-09121702
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Sep 13 11:05:03 2017
Quant Method : J:\GC10\METHODS\RS091217_R.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Wed Sep 13 11:04:50 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



(6) Methane (FID)
1.049min 0.391 ppm m
response 3564

(+) = Expected Retention Time

Quantitation Report (QT Reviewed)

Data Path : J:\GC10\DATA\RSK_FID\2017_09\12\
Data File : 09121704.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 12-Sep-2017, 11:45
Operator : MC
Sample : 1.51ppm 0.1ml s32-09051701
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Sep 13 11:05:55 2017
Quant Method : J:\GC10\METHODS\RS091217_R.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Wed Sep 13 11:04:50 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

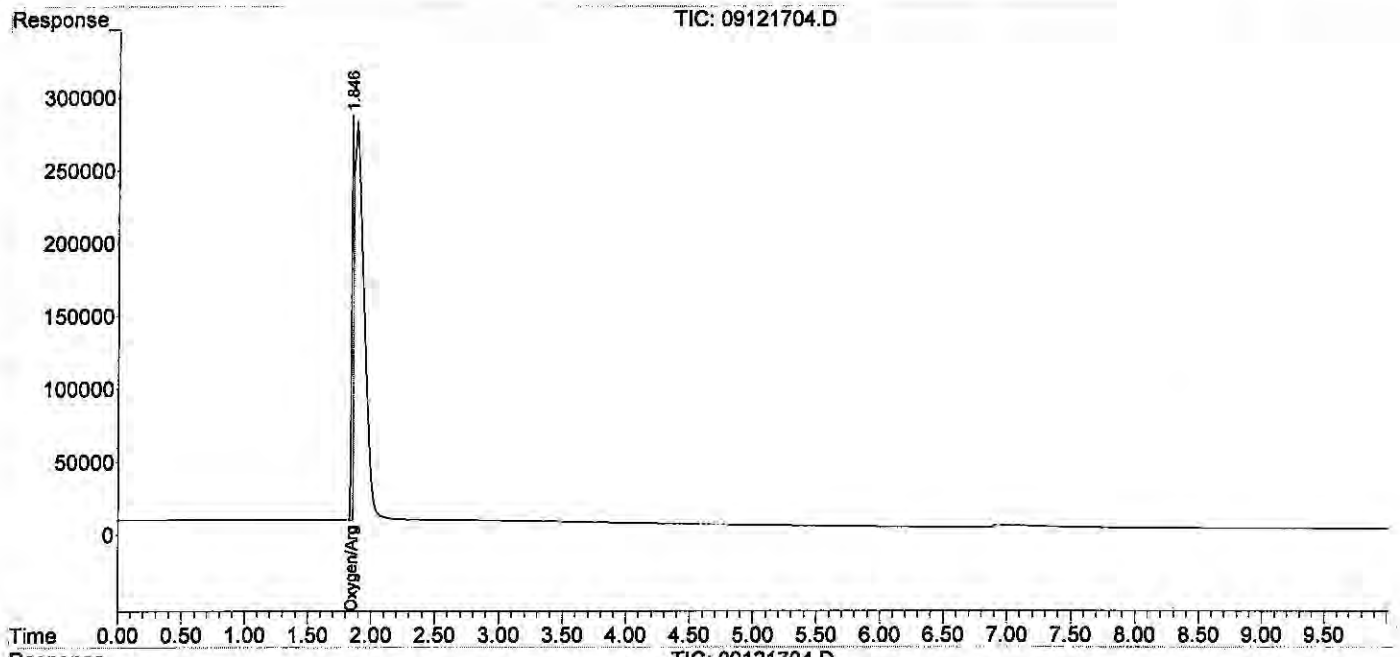
	Compound	R.T.	Response	Conc	Units
Target Compounds					
1)	Oxygen/Argon	1.847	2536230	1.056	ppm
2)	Carbon monoxide	1.847	2536230	N.D.	ppm
3)	Methane (TCD)	0.000	0	N.D.	ppm
4)	Carbon dioxide	0.000	0	N.D.	ppm
6)	Methane (FID)	1.064	14725	1.613	ppm
7)	Ethylene	1.598	26885	1.582	ppm
8)	Ethane	1.851	26944	1.555	ppm
9)	Propylene	4.220	39140	1.589	ppm
10)	Propane	4.349	39934	1.596	ppm
11)	Isobutylene	0.000	0	N.D.	ppm
12)	Isobutane	6.578f	55348	1.020	ppm
13)	n-Butane	6.578f	55348	1.020	ppm

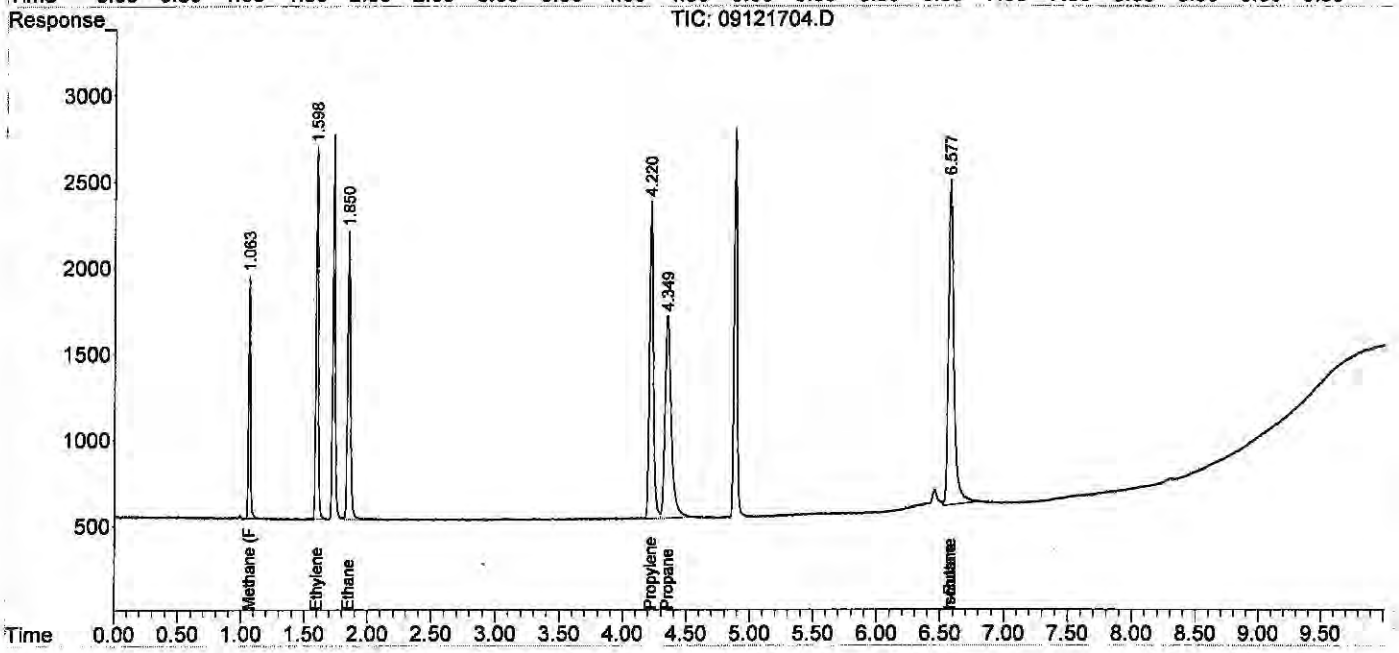
(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : J:\GC10\DATA\RSK_FID\2017_09\12\
Data File : 09121704.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 12-Sep-2017, 11:45
Operator : MC
Sample : 1.51ppm 0.1ml s32-09051701
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Sep 13 11:05:55 2017
Quant Method : J:\GC10\METHODS\RS091217_R.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Wed Sep 13 11:04:50 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





Quantitation Report (QT Reviewed)

Data Path : J:\GC10\DATA\RSK_FID\2017_09\12\
Data File : 09121705.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 12-Sep-2017, 12:09
Operator : MC
Sample : 4.53ppm 0.3ml s32-09051701
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Sep 13 11:06:32 2017
Quant Method : J:\GC10\METHODS\RS091217_R.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Wed Sep 13 11:04:50 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

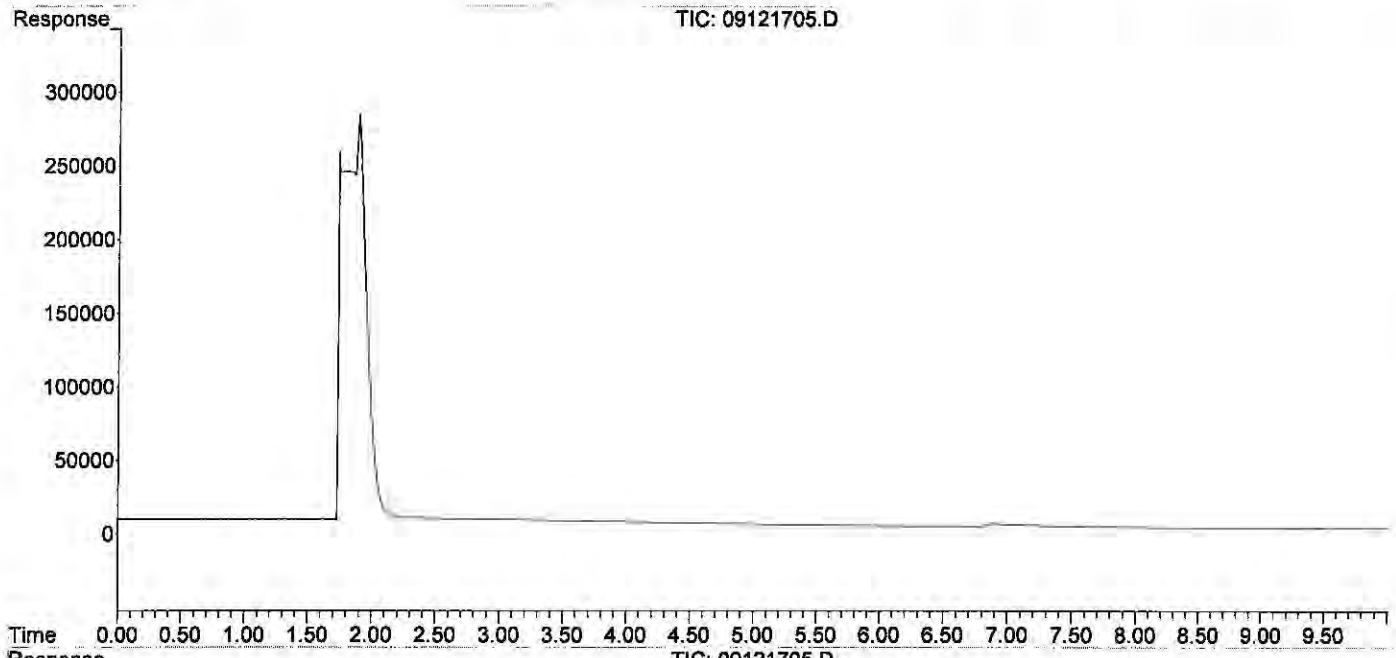
	Compound	R.T.	Response	Conc	Units
Target Compounds					
1)	Oxygen/Argon	1.738	-331216	N.D.	ppm
2)	Carbon monoxide	1.738	-331216	0.019	ppm
3)	Methane (TCD)	0.000	0	N.D.	ppm
4)	Carbon dioxide	0.000	0	N.D.	ppm
6)	Methane (FID)	1.052	41129	4.522	ppm
7)	Ethylene	1.586	77903	4.637	ppm
8)	Ethane	1.838	78354	4.558	ppm
9)	Propylene	4.218	112342	4.614	ppm
10)	Propane	4.347	115723	4.680	ppm
11)	Isobutylene	0.000	0	N.D.	ppm
12)	Isobutane	6.580f	155256	3.565	ppm
13)	n-Butane	6.580f	155256	3.565	ppm

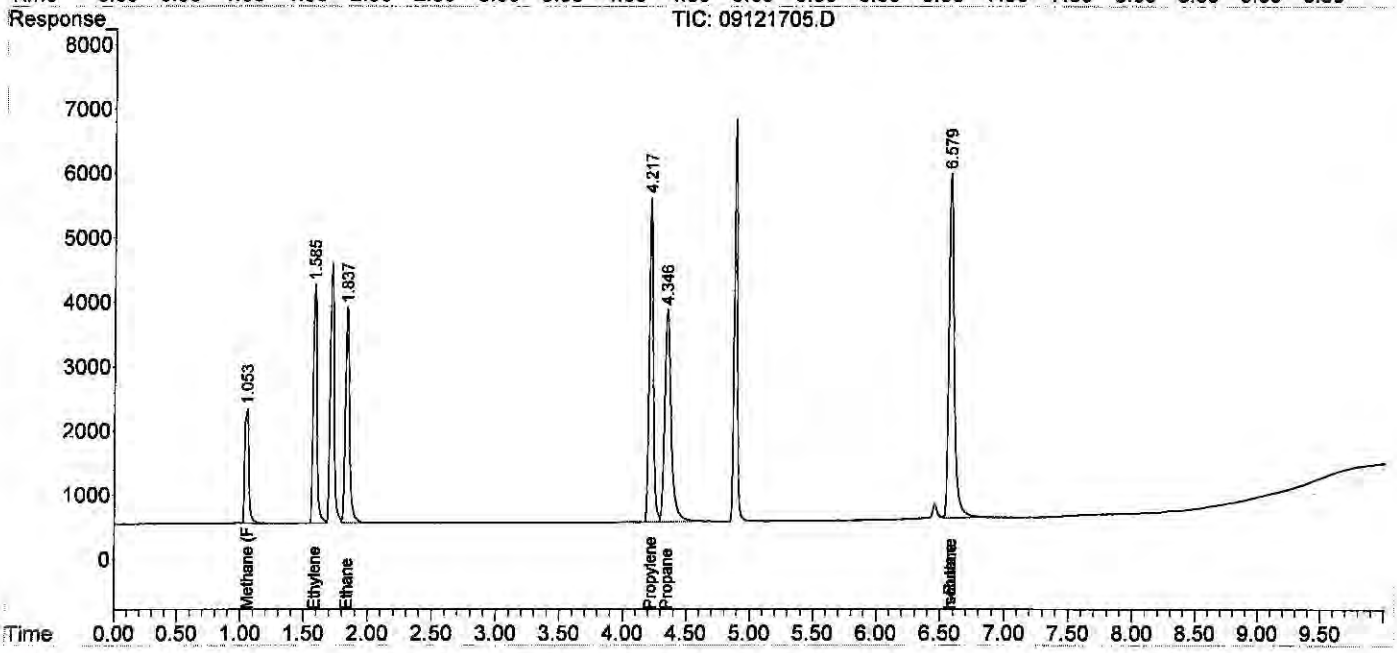
(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : J:\GC10\DATA\RSK_FID\2017_09\12\
Data File : 09121705.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 12-Sep-2017, 12:09
Operator : MC
Sample : 4.53ppm 0.3ml s32-09051701
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Sep 13 11:06:32 2017
Quant Method : J:\GC10\METHODS\RS091217_R.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Wed Sep 13 11:04:50 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





Quantitation Report (QT Reviewed)

Data Path : J:\GC10\DATA\RSK_FID\2017_09\12\
Data File : 09121706.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 12-Sep-2017, 12:30
Operator : MC
Sample : 10.57ppm 0.7ml s32-09051701
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Sep 13 11:09:24 2017
Quant Method : J:\GC10\METHODS\RS091217_R.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Wed Sep 13 11:04:50 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	R.T.	Response	Conc	Units
Target Compounds					
1)	Oxygen/Argon	1.929f	-31871242	N.D.	ppm
2)	Carbon monoxide	1.929f	-31871242	1.818	ppm
3)	Methane (TCD)	0.000	0	N.D.	ppm
4)	Carbon dioxide	0.000	0	N.D.	ppm
6)	Methane (FID)	1.025	91967	10.135	ppm
7)	Ethylene	1.568	172086	10.273	ppm
8)	Ethane	1.822	178841	10.441	ppm
9)	Propylene	4.214	248004	10.236	ppm
10)	Propane	4.344	257124	10.458	ppm
11)	Isobutylene	0.000	0	N.D.	ppm
12)	Isobutane	6.578f	338181	9.254	ppm
13)	n-Butane	6.578f	338181	9.254	ppm

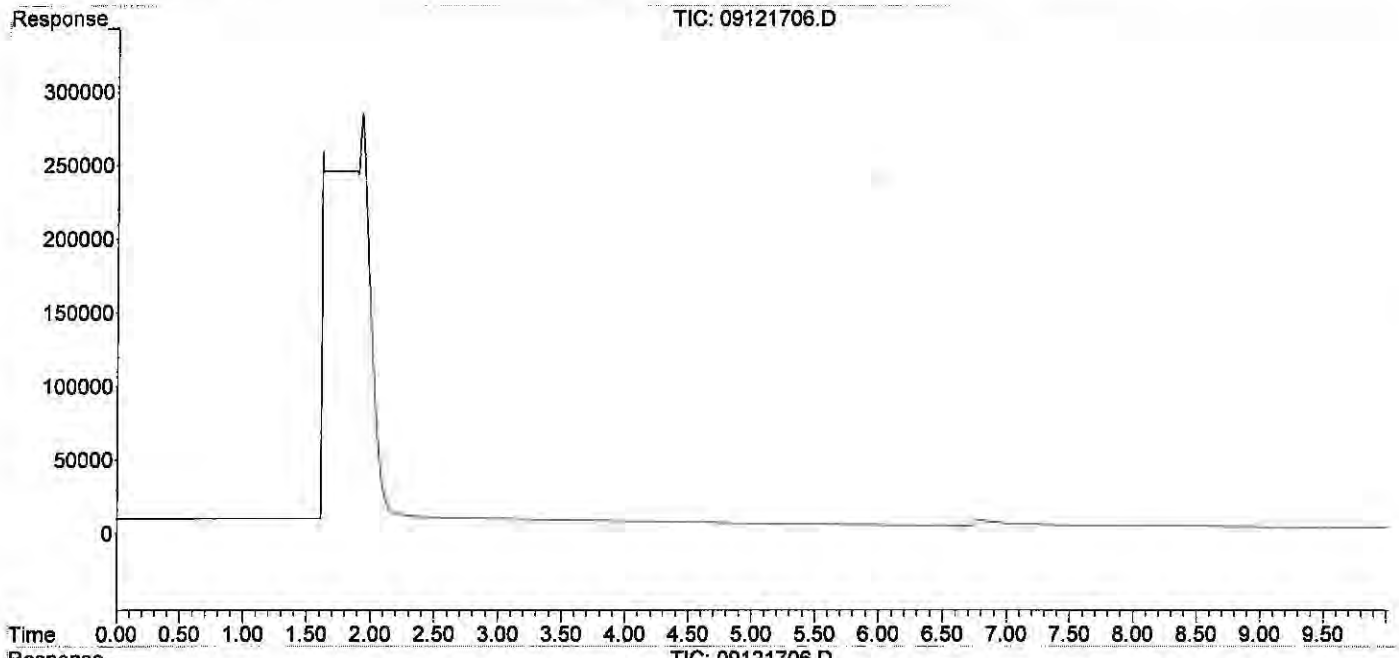
(f)=RT Delta > 1/2 Window (m)=manual int.

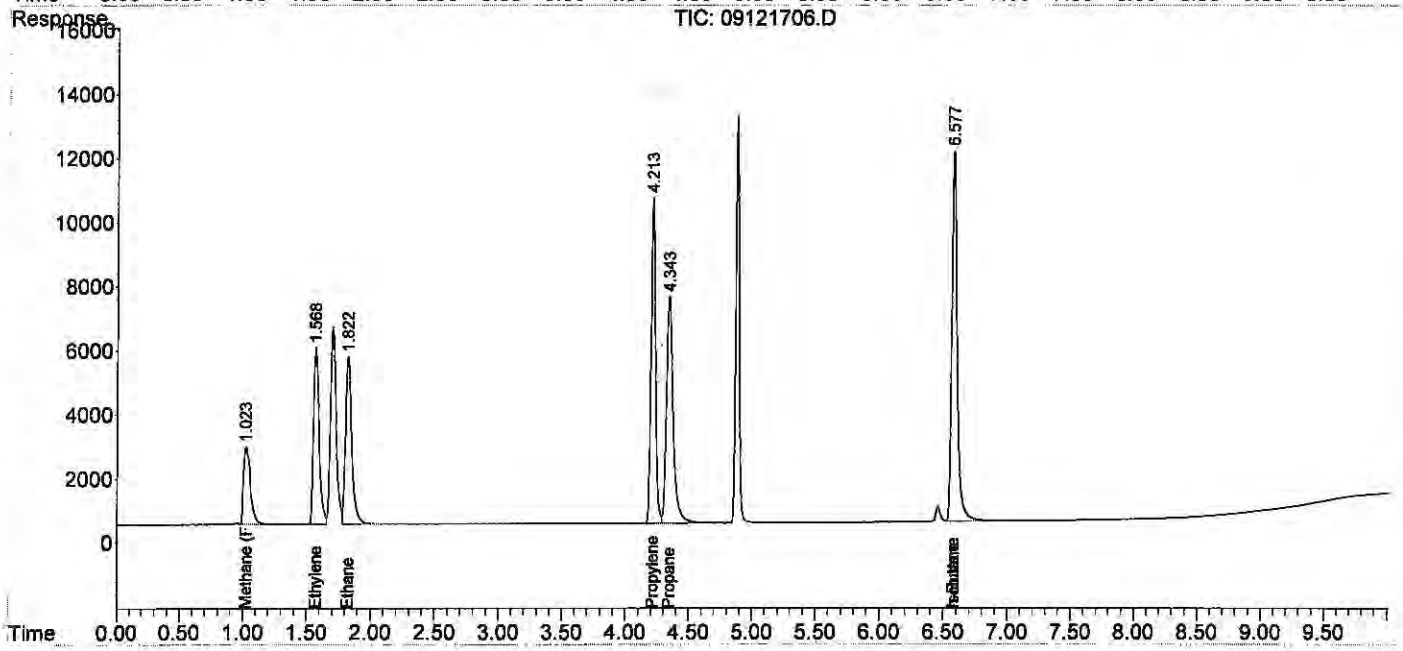
Quantitation Report (QT Reviewed)

Data Path : J:\GC10\DATA\RSK_FID\2017_09\12\
Data File : 09121706.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 12-Sep-2017, 12:30
Operator : MC
Sample : 10.57ppm 0.7ml s32-09051701
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Sep 13 11:09:24 2017
Quant Method : J:\GC10\METHODS\RS091217_R.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Wed Sep 13 11:04:50 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





Quantitation Report (QT Reviewed)

Data Path : J:\GC10\DATA\RSK_FID\2017_09\12\
Data File : 09121707.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 12-Sep-2017, 12:47
Operator : MC
Sample : 200ppm 0.1ml s32-09121701
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Sep 13 11:09:59 2017
Quant Method : J:\GC10\METHODS\RS091217_R.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Wed Sep 13 11:04:50 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

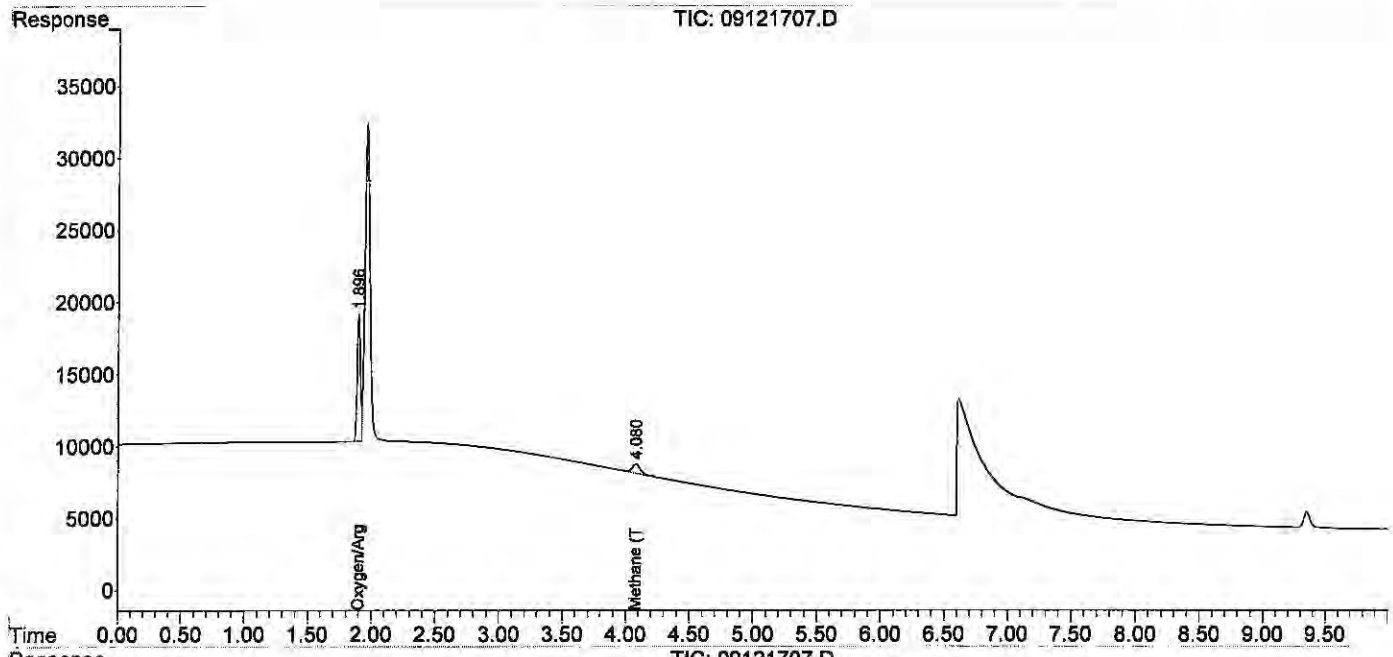
	Compound	R.T.	Response	Conc	Units
Target Compounds					
1)	Oxygen/Argon	1.897	155286	0.065	ppm
2)	Carbon monoxide	1.897	155286	N.D.	ppm
3)	Methane (TCD)	4.079f	27015	2856.472	ppm
4)	Carbon dioxide	0.000	0	N.D.	ppm
6)	Methane (FID)	1.063	1735997	190.792	ppm
7)	Ethylene	1.597	3339702	198.758	ppm
8)	Ethane	1.849	3350442	194.597	ppm
9)	Propylene	4.201	4504060	185.706	ppm
10)	Propane	4.333	5043036	204.809	ppm
11)	Isobutylene	0.000	0	N.D.	ppm
12)	Isobutane	0.000	0	N.D.	ppm
13)	n-Butane	0.000	0	N.D.	ppm

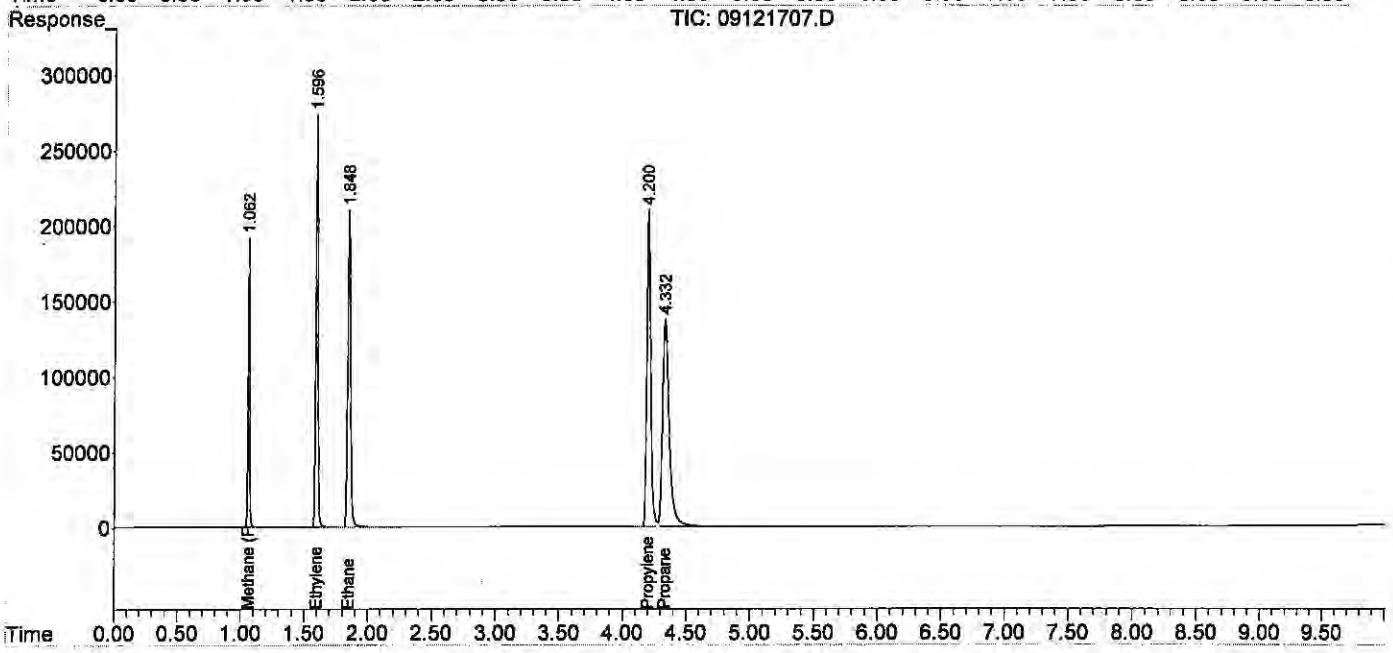
(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : J:\GC10\DATA\RSK_FID\2017_09\12\
Data File : 09121707.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 12-Sep-2017, 12:47
Operator : MC
Sample : 200ppm 0.1ml s32-09121701
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Sep 13 11:09:59 2017
Quant Method : J:\GC10\METHODS\RS091217_R.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Wed Sep 13 11:04:50 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





Quantitation Report (QT Reviewed)

Data Path : J:\GC10\DATA\RSK_FID\2017_09\12\
Data File : 09121708.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 12-Sep-2017, 13:00
Operator : MC
Sample : 600ppm 0.3ml s32-09121701
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Sep 13 11:10:57 2017
Quant Method : J:\GC10\METHODS\RS091217_R.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Wed Sep 13 11:10:50 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

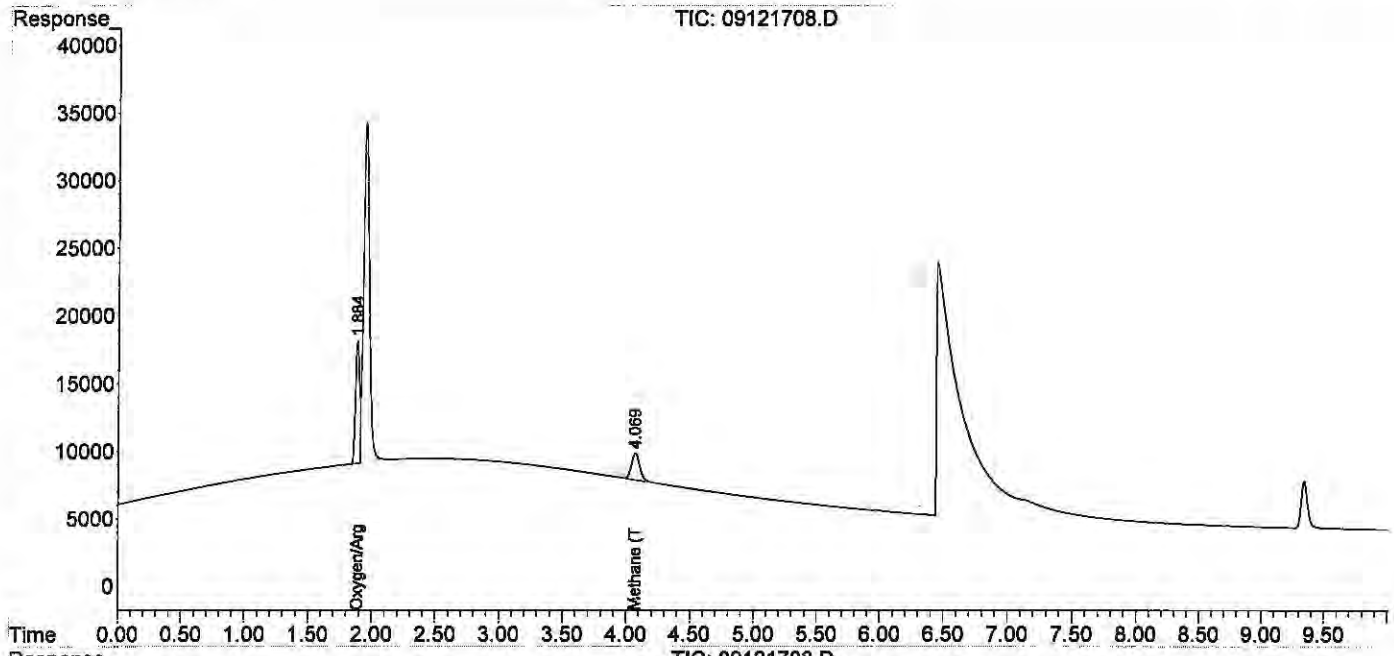
	Compound	R.T.	Response	Conc	Units
Target Compounds					
1)	Oxygen/Argon	1.884	196022	0.124	ppm
2)	Carbon monoxide	1.884	196022	N.D.	ppm
3)	Methane (TCD)	4.070f	88282	782.730	ppm
4)	Carbon dioxide	0.000	0	N.D.	ppm
6)	Methane (FID)	1.044	5189849	539.759	ppm
7)	Ethylene	1.573	10007759	590.286	ppm
8)	Ethane	1.822	10048964	583.213	ppm
9)	Propylene	4.160	13569343	562.612	ppm
10)	Propane	4.300	15251326	615.171	ppm
11)	Isobutylene	6.143	9815	NoCal	ppm
12)	Isobutane	0.000	0	N.D.	ppm
13)	n-Butane	0.000	0	N.D.	ppm

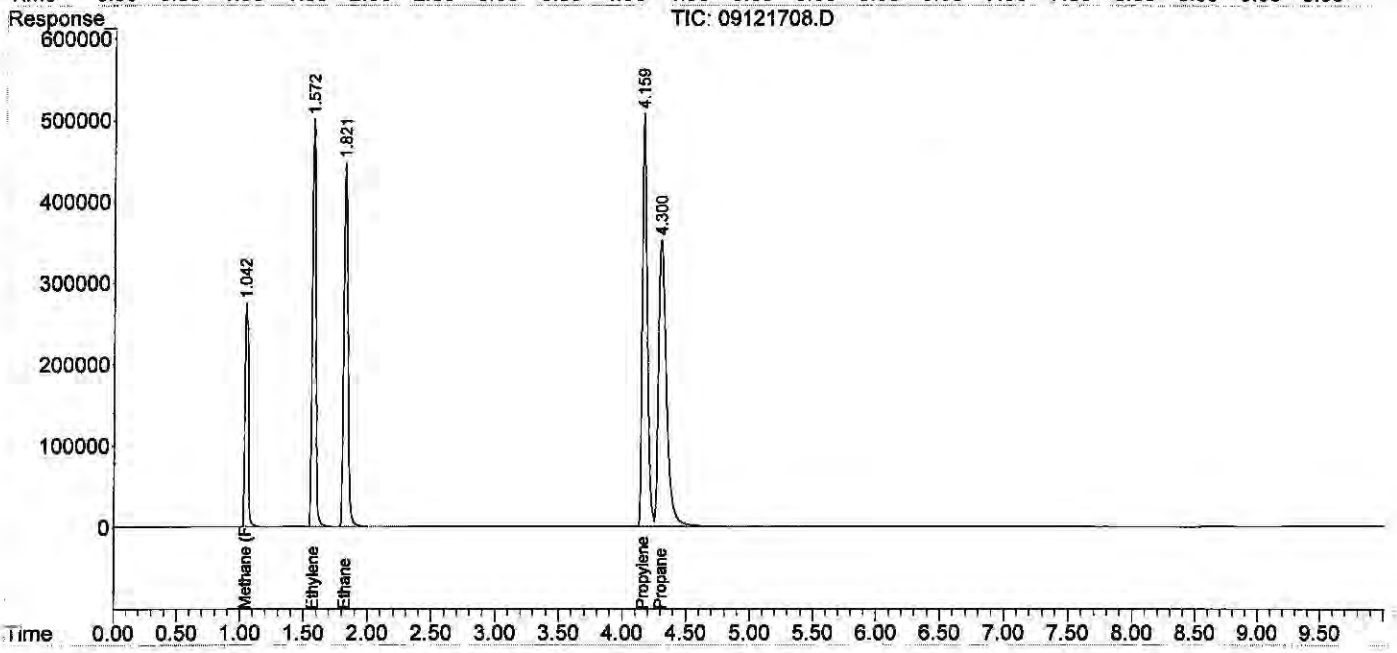
(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : J:\GC10\DATA\RSK_FID\2017_09\12\
Data File : 09121708.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 12-Sep-2017, 13:00
Operator : MC
Sample : 600ppm 0.3ml s32-09121701
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Sep 13 11:10:57 2017
Quant Method : J:\GC10\METHODS\RS091217_R.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Wed Sep 13 11:10:50 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





Quantitation Report (QT Reviewed)

Data Path : J:\GC10\DATA\RSK_FID\2017_09\12\
Data File : 09121709.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 12-Sep-2017, 13:47
Operator : MC
Sample : 1000ppm 0.5ml s32-09121701
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Sep 13 11:11:46 2017
Quant Method : J:\GC10\METHODS\RS091217_R.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Wed Sep 13 11:11:38 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

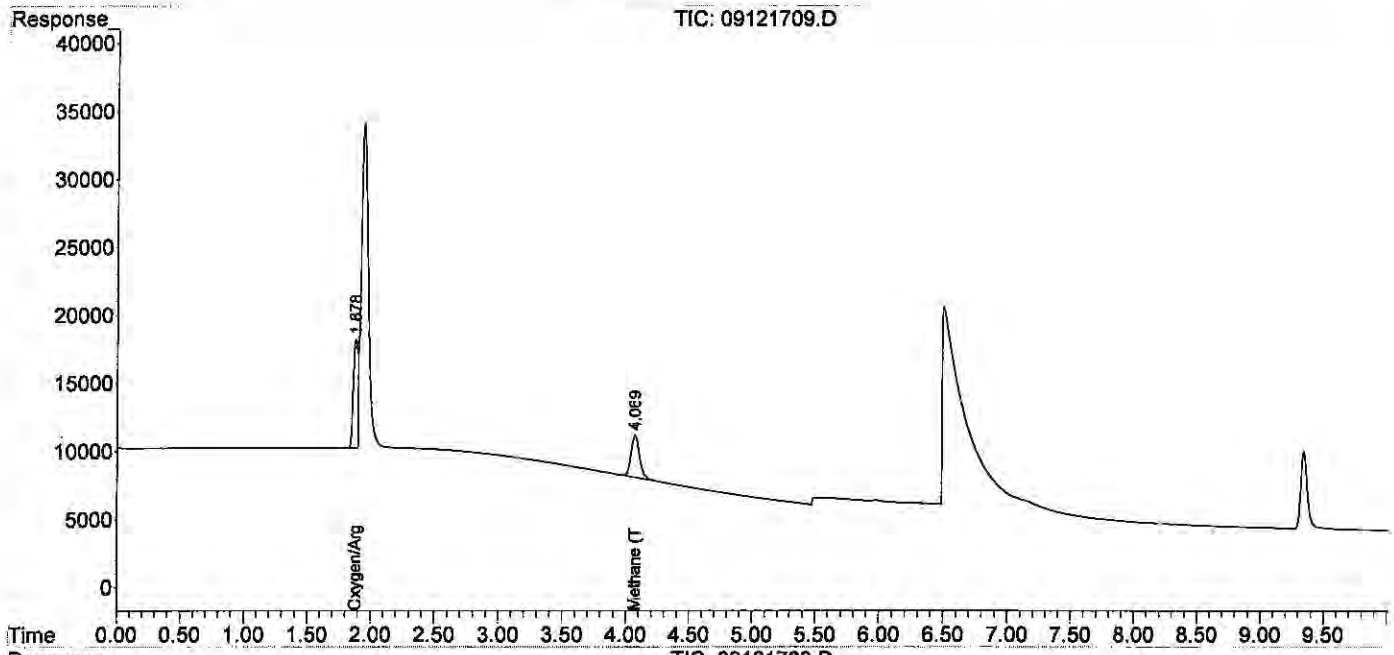
	Compound	R.T.	Response	Conc	Units
Target Compounds					
1)	Oxygen/Argon	1.879	192611	0.162	ppm
2)	Carbon monoxide	1.879	192611	N.D.	ppm
3)	Methane (TCD)	4.070f	145492	1244.729	ppm
4)	Carbon dioxide	0.000	0	N.D.	ppm
6)	Methane (FID)	1.039	8598534	945.644	ppm
7)	Ethylene	1.576	16608504	981.887	ppm
8)	Ethane	1.827	16709165	973.644	ppm
9)	Propylene	4.161	22494888	941.060	ppm
10)	Propane	4.298	25459411	1023.223	ppm
11)	Isobutylene	6.138	16970	8645.243	ppm
12)	Isobutane	0.000	0	N.D.	ppm
13)	n-Butane	0.000	0	N.D.	ppm

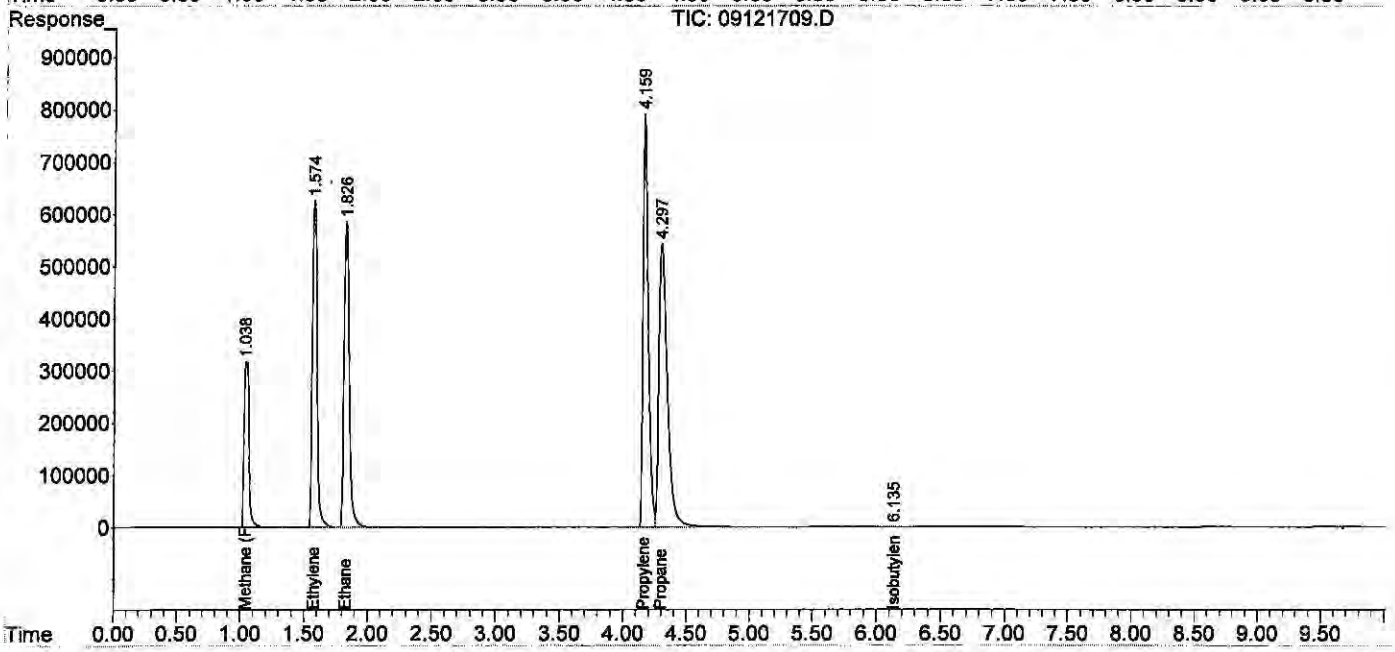
(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : J:\GC10\DATA\RSK_FID\2017_09\12\
Data File : 09121709.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 12-Sep-2017, 13:47
Operator : MC
Sample : 1000ppm 0.5ml s32-09121701
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Sep 13 11:11:46 2017
Quant Method : J:\GC10\METHODS\RS091217_R.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Wed Sep 13 11:11:38 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





Quantitation Report (QT Reviewed)

Data Path : J:\GC10\DATA\RSK_FID\2017_09\12\
Data File : 09121710.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 12-Sep-2017, 14:07
Operator : MC
Sample : 2000ppm 1ml s32-09121701
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Sep 13 11:12:33 2017
Quant Method : J:\GC10\METHODS\RS091217_R.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Wed Sep 13 11:12:25 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

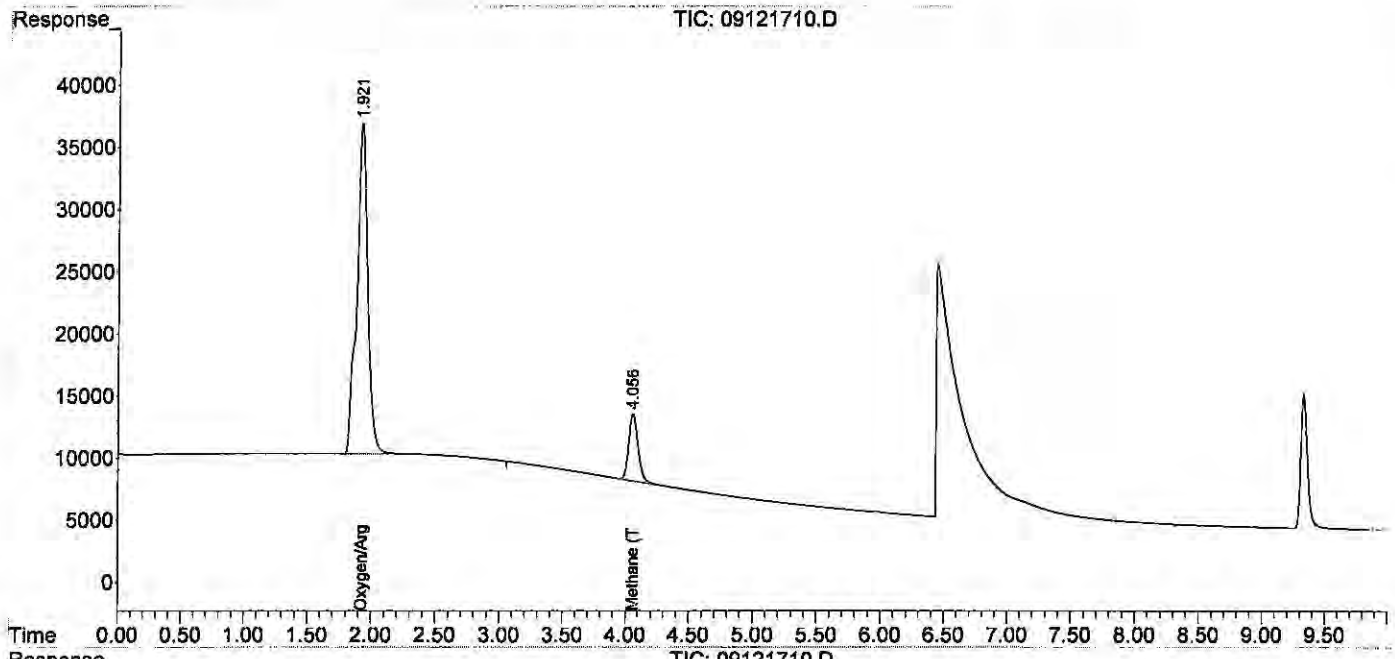
	Compound	R.T.	Response	Conc	Units	
Target Compounds						
1)	Oxygen/Argon	1.922f	1578147	1.659	ppm	
2)	Carbon monoxide	1.922f	1578147	N.D.	ppm	
3)	Methane (TCD)	4.057f	281651	3526.607	ppm	
4)	Carbon dioxide	0.000	0	N.D.	ppm	
6)	Methane (FID)	1.016	16098209	1763.622	ppm	
7)	Ethylene	1.552	31192444	1848.268	ppm	
8)	Ethane	1.801	31424218	1837.143	ppm	
9)	Propylene	4.129	42124690	1775.341	ppm	m
10)	Propane	4.269	48583085	1946.921	ppm	
11)	Isobutylene	6.136	33832	25613.603	ppm	
12)	Isobutane	6.576f	3845	0.120	ppm	
13)	n-Butane	6.576f	3845	0.120	ppm	

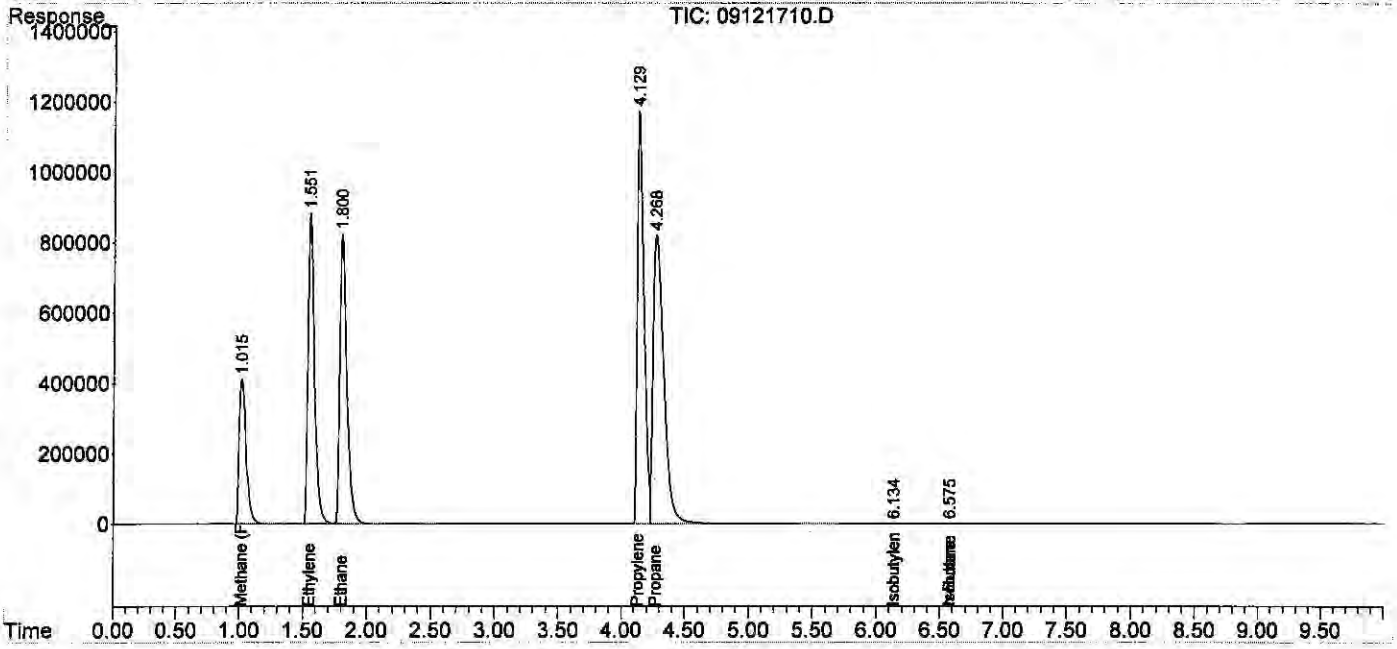
(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : J:\GC10\DATA\RSK_FID\2017_09\12\
Data File : 09121710.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 12-Sep-2017, 14:07
Operator : MC
Sample : 2000ppm 1ml s32-09121701
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Sep 13 11:12:33 2017
Quant Method : J:\GC10\METHODS\RS091217_R.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Wed Sep 13 11:12:25 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



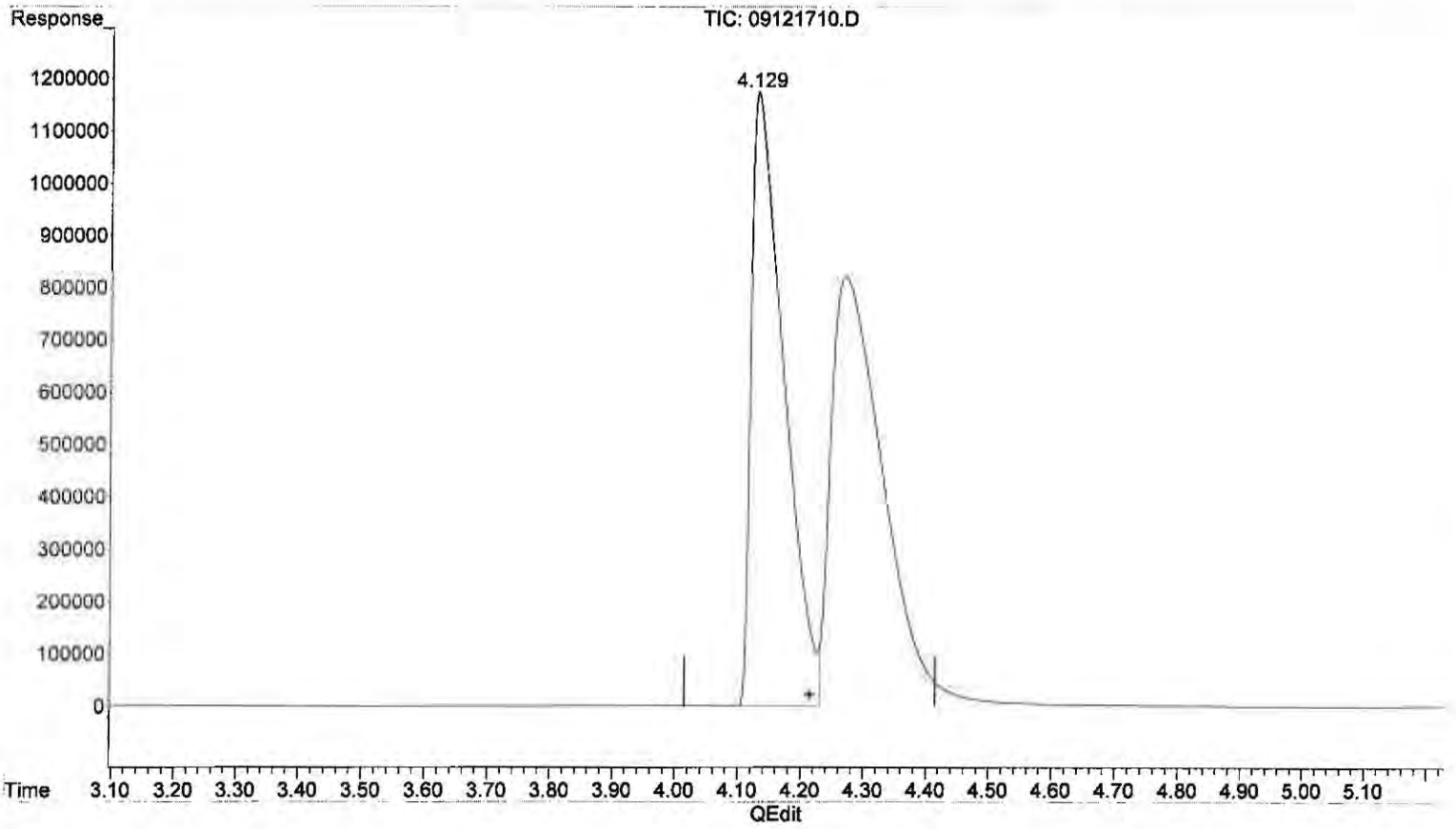


Quantitation Report (Qedit)

Data Path : J:\GC10\DATA\RSK_FID\2017_09\12\
Data File : 09121710.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 12-Sep-2017, 14:07
Operator : MC
Sample : 2000ppm 1ml s32-09121701
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Sep 13 11:12:33 2017
Quant Method : J:\GC10\METHODS\RS091217_R.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Wed Sep 13 11:12:25 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase :
Signal #1 Info :
Signal #2 Phase:
Signal #2 Info :



(9) Propylene
4.129min 1775.341 ppm m
response 42124690

(+) = Expected Retention Time

Quantitation Report (QT Reviewed)

Data Path : J:\GC10\DATA\RSK_FID\2017_09\12\
Data File : 09121711.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 12-Sep-2017, 14:48
Operator : MC
Sample : 4000ppm 0.1ml s32-08231701
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Sep 13 11:13:37 2017
Quant Method : J:\GC10\METHODS\RS091217_R.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Wed Sep 13 11:13:29 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

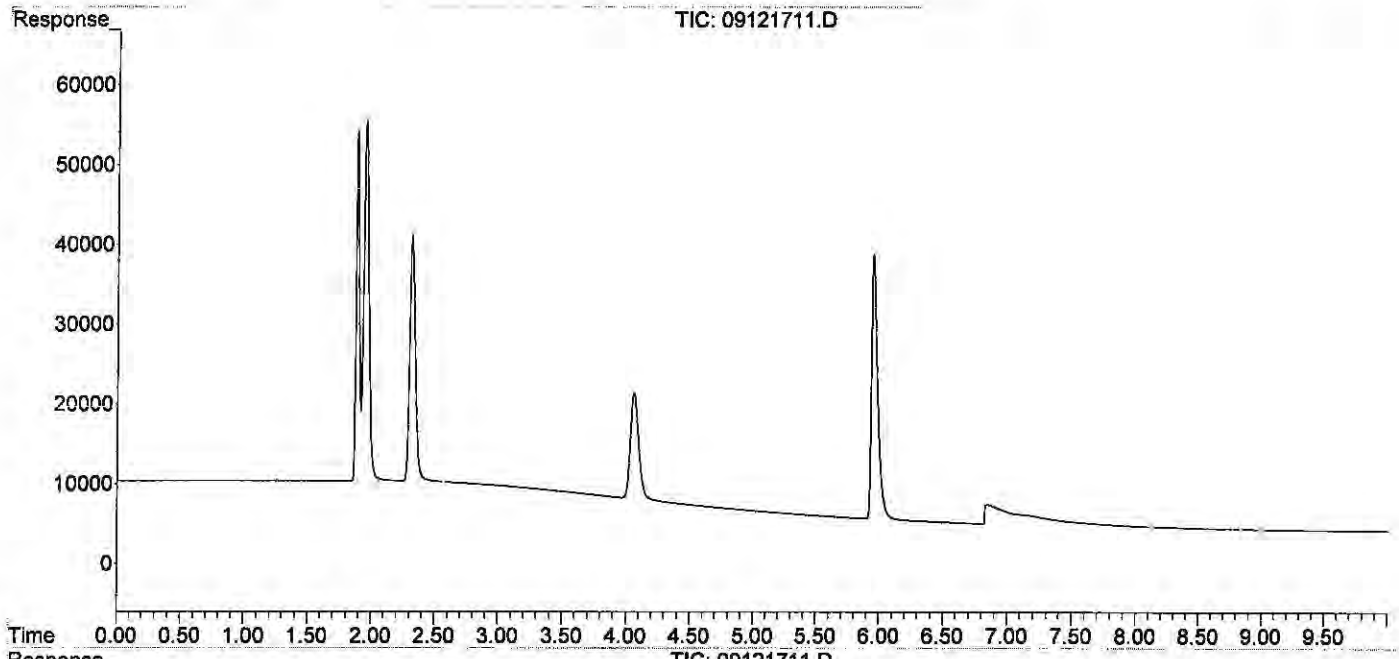
	Compound	R.T.	Response	Conc	Units	
Target Compounds						
1)	Oxygen/Argon	0.000	0	N.D.	ppm	d
2)	Carbon monoxide	0.000	0	N.D.	ppm	d
3)	Methane (TCD)	0.000	0	N.D.	ppm	d
4)	Carbon dioxide	0.000	0	N.D.	ppm	d
6)	Methane (FID)	1.059	35776839	3925.122	ppm	
7)	Ethylene	0.000	0	N.D.	ppm	
8)	Ethane	0.000	0	N.D.	ppm	
9)	Propylene	0.000	0	N.D.	ppm	
10)	Propane	0.000	0	N.D.	ppm	
11)	Isobutylene	0.000	0	N.D.	ppm	
12)	Isobutane	0.000	0	N.D.	ppm	
13)	n-Butane	0.000	0	N.D.	ppm	

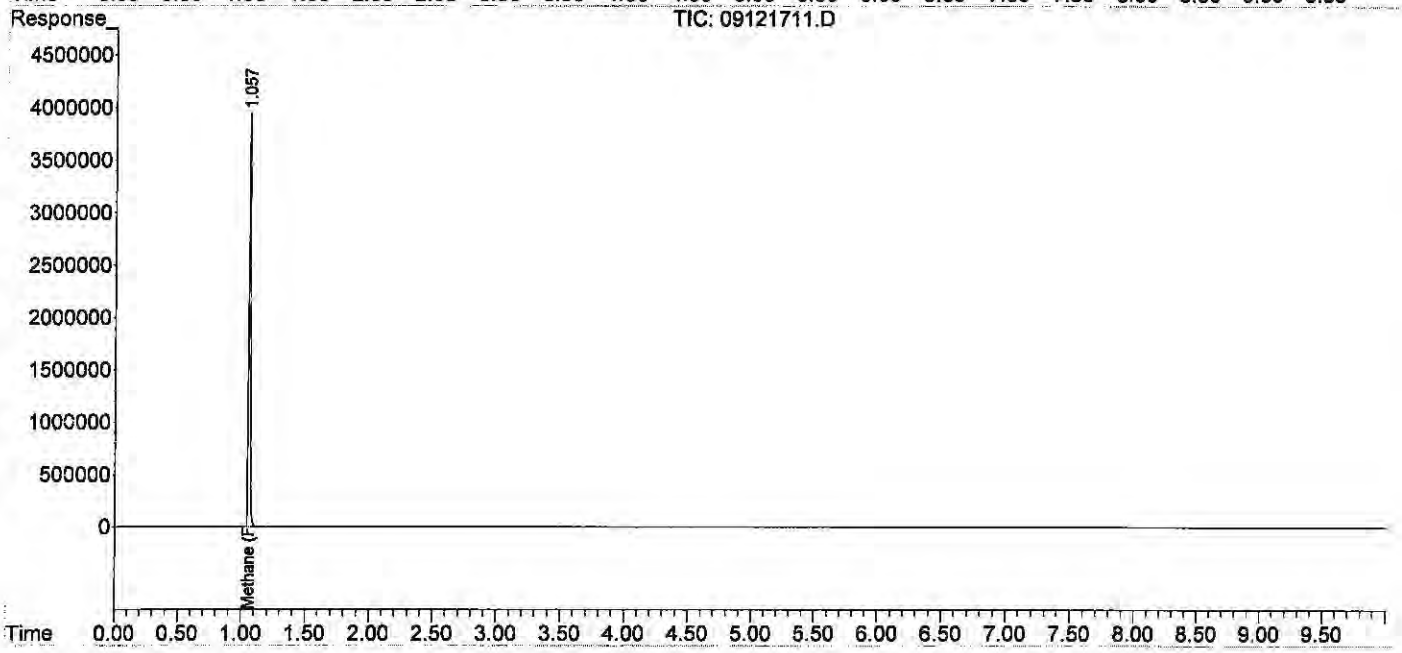
(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : J:\GC10\DATA\RSK_FID\2017_09\12\
Data File : 09121711.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 12-Sep-2017, 14:48
Operator : MC
Sample : 4000ppm 0.1ml s32-08231701
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Sep 13 11:13:37 2017
Quant Method : J:\GC10\METHODS\RS091217_R.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Wed Sep 13 11:13:29 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase :
Signal #1 Info :
Signal #2 Phase:
Signal #2 Info :





Quantitation Report (QT Reviewed)

Data Path : J:\GC10\DATA\RSK_FID\2017_09\12\
Data File : 09121712.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 12-Sep-2017, 15:21
Operator : MC
Sample : 20000ppm 0.5ml s32-08231701
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Sep 13 11:14:17 2017
Quant Method : J:\GC10\METHODS\RS091217_R.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Wed Sep 13 11:13:29 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

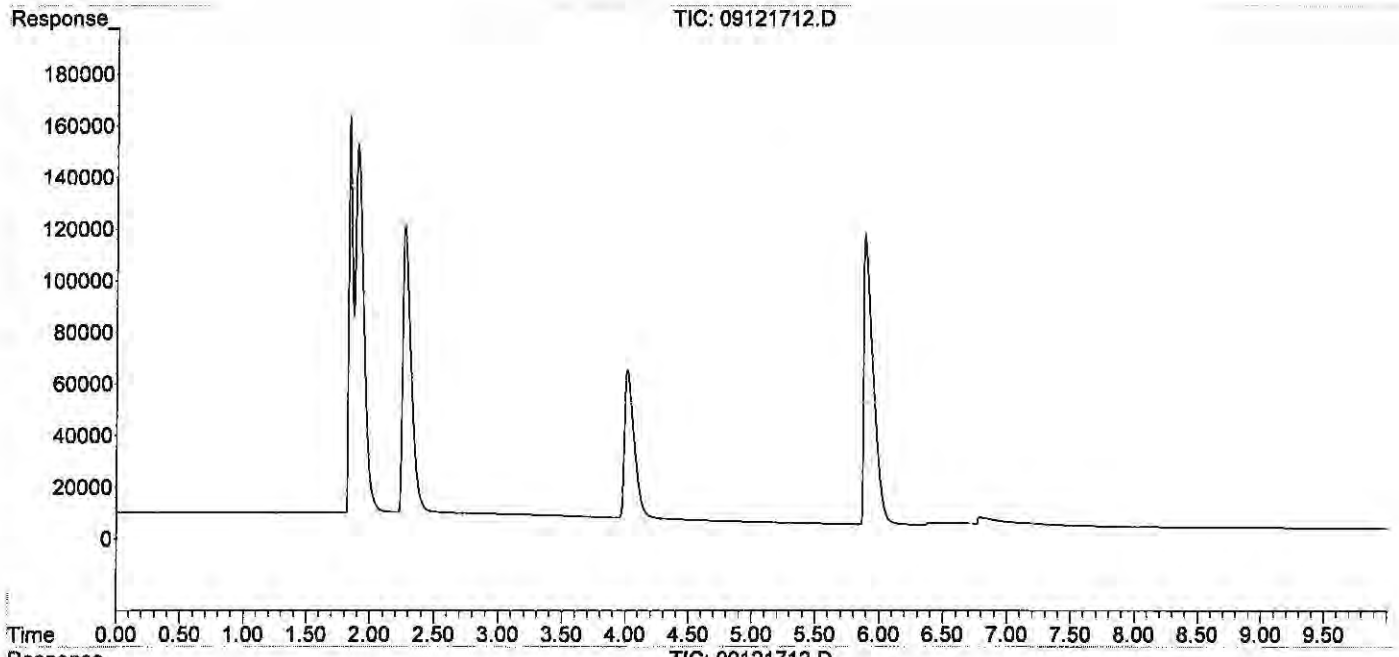
	Compound	R.T.	Response	Conc	Units	
Target Compounds						
1)	Oxygen/Argon	0.000	0	N.D.	ppm	d
2)	Carbon monoxide	1.836	3190788	N.D.	ppm	
3)	Methane (TCD)	0.000	0	N.D.	ppm	d
4)	Carbon dioxide	0.000	0	N.D.	ppm	d
6)	Methane (FID)	1.034	169009160	18492.064	ppm	
7)	Ethylene	0.000	0	N.D.	ppm	
8)	Ethane	0.000	0	N.D.	ppm	
9)	Propylene	0.000	0	N.D.	ppm	
10)	Propane	0.000	0	N.D.	ppm	
11)	Isobutylene	0.000	0	N.D.	ppm	
12)	Isobutane	0.000	0	N.D.	ppm	
13)	n-Butane	0.000	0	N.D.	ppm	

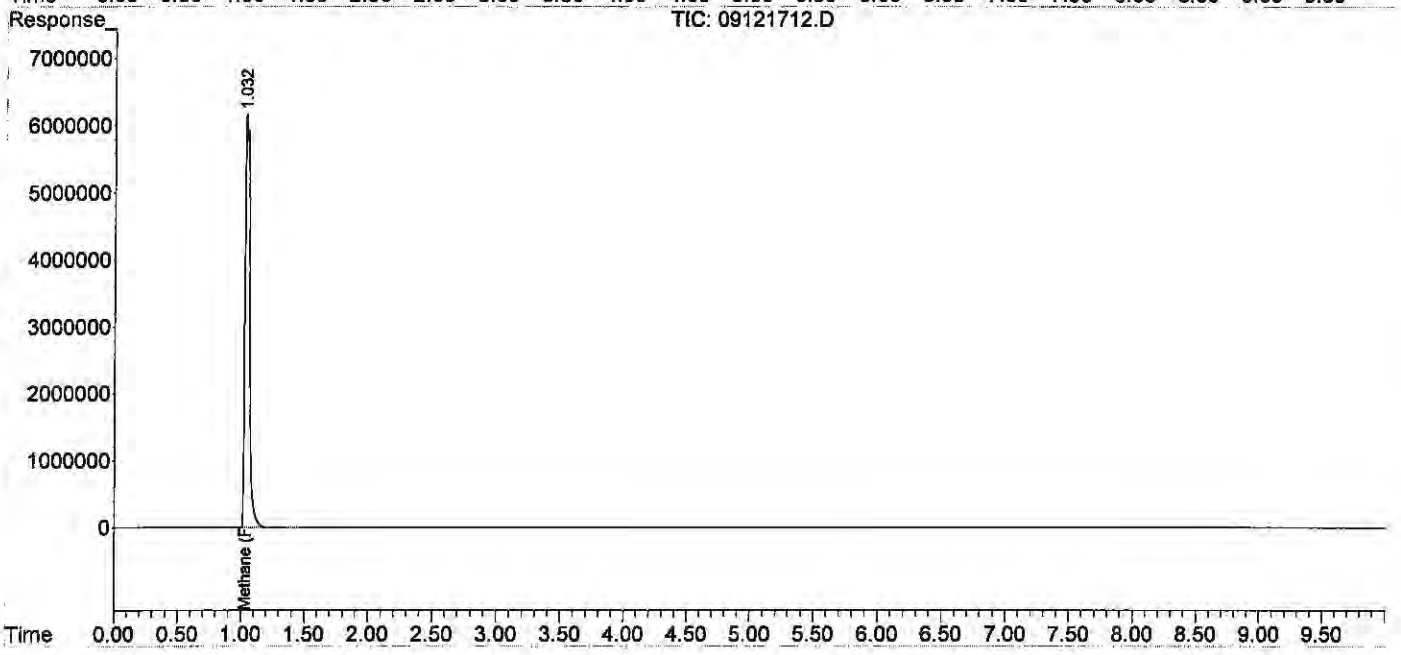
(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : J:\GC10\DATA\RSK_FID\2017_09\12\
Data File : 09121712.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 12-Sep-2017, 15:21
Operator : MC
Sample : 20000ppm 0.5ml s32-08231701
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Sep 13 11:14:17 2017
Quant Method : J:\GC10\METHODS\RS091217_R.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Wed Sep 13 11:13:29 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





Quantitation Report (QT Reviewed)

Data Path : J:\GC10\DATA\RSK_FID\2017_09\12\
Data File : 09121715.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 12-Sep-2017, 16:15
Operator : MC
Sample : icv s30-05241604
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Sep 13 11:15:11 2017
Quant Method : J:\GC10\METHODS\RS091217_R.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Wed Sep 13 11:13:29 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	R.T.	Response	Conc	Units	
Target Compounds						
1)	Oxygen/Argon	1.843	2922459	3.687	ppm	
2)	Carbon monoxide	1.843	2922459	N.D.	ppm	
3)	Methane (TCD)	0.000	0	N.D.	ppm	actual %D
4)	Carbon dioxide	0.000	0	N.D.	ppm	
6)	Methane (FID)	1.063	13748	1.516	ppm	1.50 101.1
7)	Ethylene	1.598	24153	1.443	ppm	1.50 96.2
8)	Ethane	1.850	24488	1.445	ppm	1.50 96.3
9)	Propylene	4.221	36004	1.537	ppm	1.50 102.5
10)	Propane	4.350	37738	1.517	ppm	1.51 100.5
11)	Isobutylene	0.000	0	N.D.	ppm	
12)	Isobutane	6.579f	48019	1.804	ppm	9/14/2
13)	n-Butane	6.579f	48019	1.804	ppm	

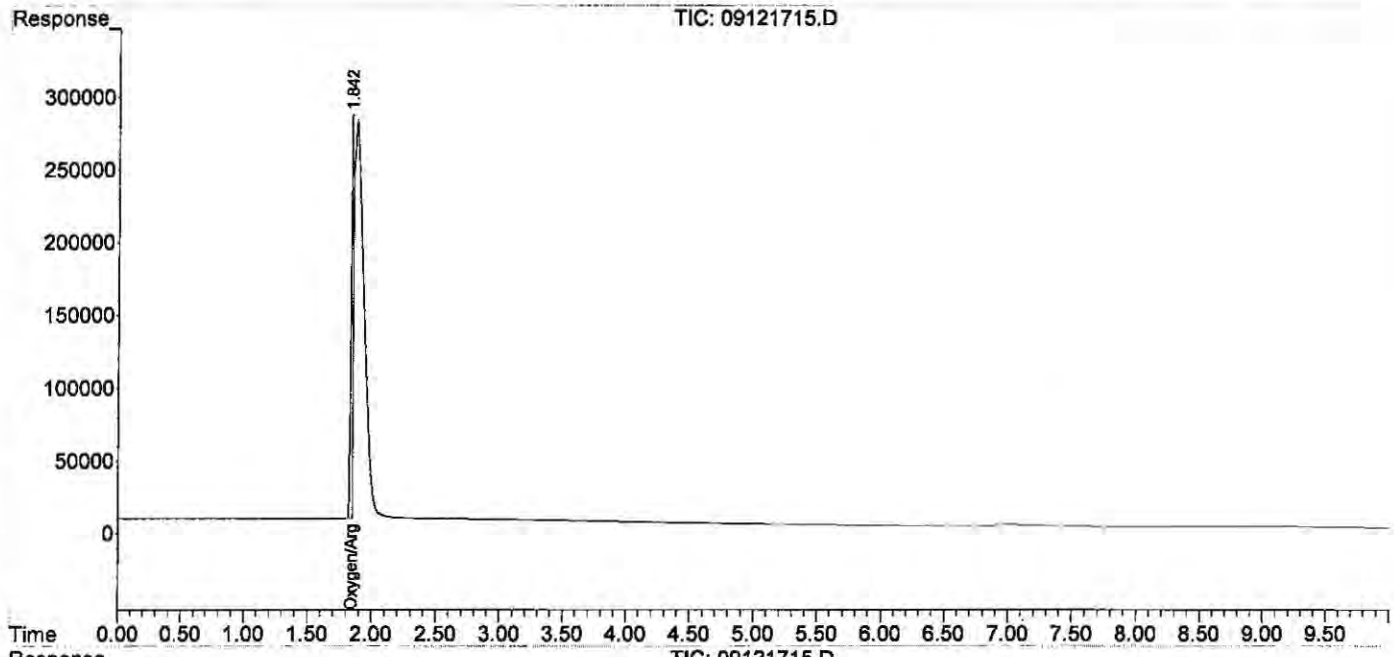
(f)=RT Delta > 1/2 Window (m)=manual int.

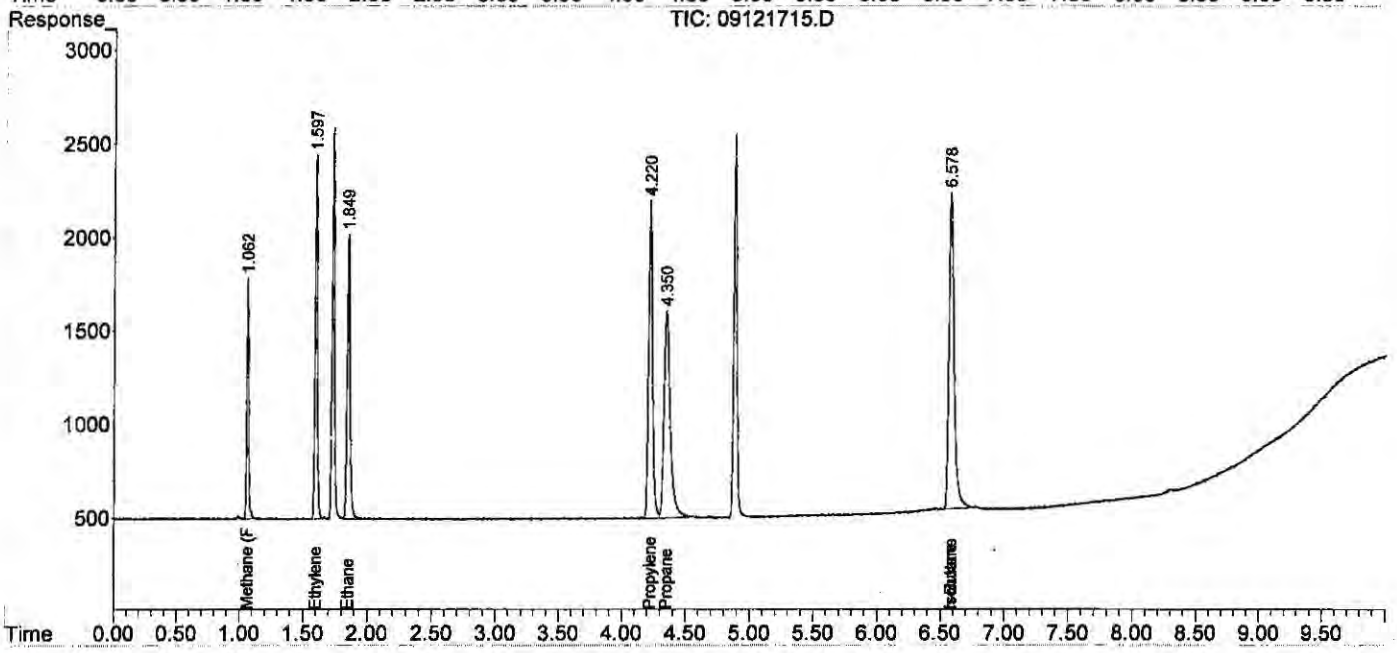
9/14/2017

Data Path : J:\GC10\DATA\RSK_FID\2017_09\12\
Data File : 09121715.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 12-Sep-2017, 16:15
Operator : MC
Sample : icv s30-05241604
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Sep 13 11:15:11 2017
Quant Method : J:\GC10\METHODS\RS091217_R.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Wed Sep 13 11:13:29 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





Dissolved Gases by RSK175

ALS Environmental

Method : RSK175 Headspace Method for Dissolved Hydrocarbon in Water by FID/TCD
Client : ALS Laboratory Group
Service Request: P2002523
Sample Vol. (ml) : 32.00 ml
Analyst : LD
Date Analysis : 05/18/20
Head Space Vol.(ml) : 8.00 ml
Instrument : GC#10
Detector : FID#10, TCD#10
Gas Constant : 24.05684 (20°C)

HEAD SPACE RESULT (ppm)

Sample ID	Inj. Vol.	Methane	Ethylene	Ethane
STD S32-05221901	0.100	92.624	98.612	98.095
ACTUAL		101.50	100.90	101.40
%Difference		8.7%	2.3%	3.3%
MCS 0.1ml	0.100	0.180	0.000	0.000
RB 0.1ml	0.100	0.000	0.000	0.000
LCS FID 0.1ml	0.100	1.371	1.004	1.184
LCSD FID 0.1ml	0.100	1.373	0.959	1.168
P2002523-001 0.1ml	0.100	0.121	0.000	0.000
P2002523-002 0.1ml	0.100	0.000	0.000	0.000
P2002523-003 0.1ml	0.100	0.490	0.000	0.000
P2002523-004 0.1ml	0.100	0.423	0.000	0.000
P2002523-005 0.1ml	0.100	0.000	0.000	0.000

FINAL HEAD SPACE RESULT (ppm)

	Methane	Ethylene	Ethane
WWt.	16.04	28.05	30.07
HENRY'S CONSTANT	3.76E+04	1.02E+04	2.63E+04
RL	1.30	1.00	0.60
MCS 0.1ml	1.800	0.000	0.000
LCS FID 0.1ml	13.710	10.040	11.840
LCSD FID 0.1ml	13.730	9.590	11.680
P2002523-001 0.1ml	1.210	0.000	0.000
P2002523-002 0.1ml	0.000	0.000	0.000
P2002523-003 0.1ml	4.900	0.000	0.000
P2002523-004 0.1ml	4.230	0.000	0.000
P2002523-005 0.1ml	0.000	0.000	0.000

220 of 389

LD 05/18

STD S32-05221901	91.772	97.621	97.391
ACTUAL	101.50	100.90	101.40
%Difference	9.6%	3.2%	4.0%

Quantitation Report (QT Reviewed)

Data Path : I:\GC10\DATA\RSK_FID\2020_05\18\
Data File : 05182001.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 18-May-2020, 12:01:00
Operator : LD
Sample : STD S32-05221901
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 18 12:27:52 2020
Quant Method : I:\GC10\METHODS\RS091217_R.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Wed Sep 13 11:14:47 2017
Response via : Initial Calibration
Integrator: ChemStation

LD 05/18

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

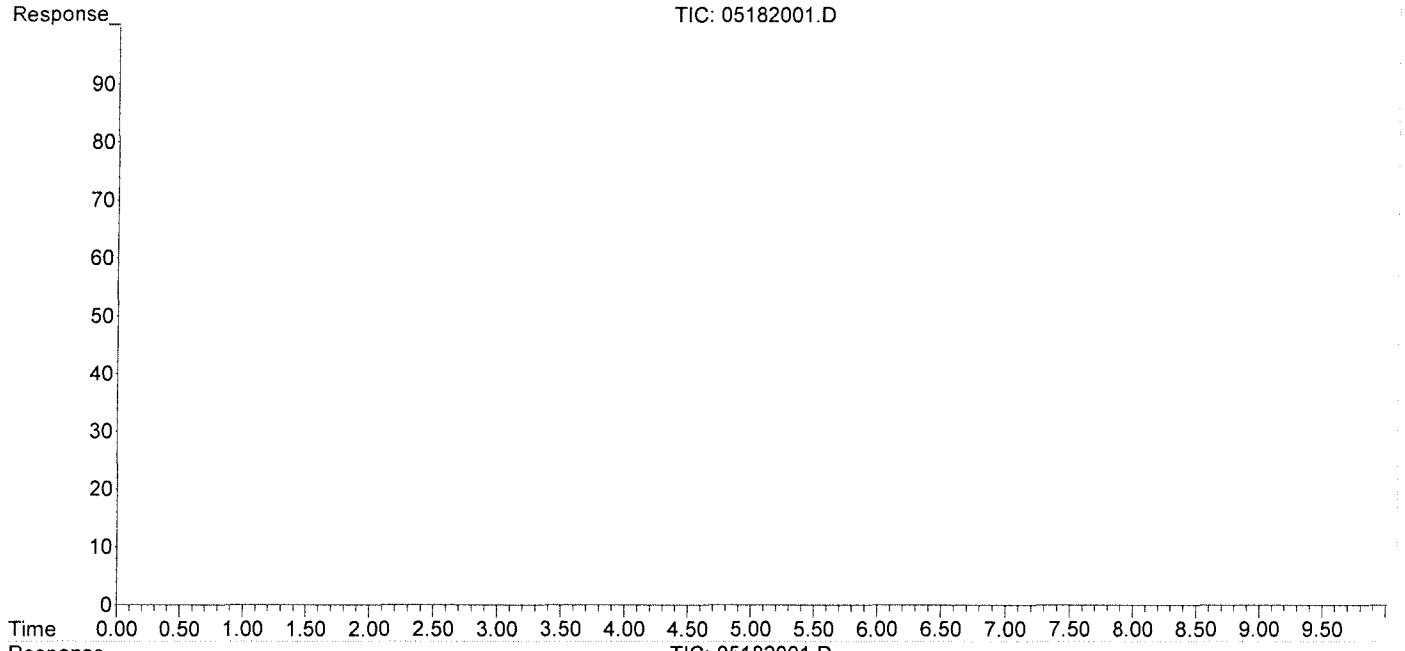
	Compound	R.T.	Response	Conc	Units
Target Compounds					
1)	Oxygen/Argon	0.000	0	N.D.	ppm
2)	Carbon monoxide	0.000	0	N.D.	ppm
3)	Methane (TCD)	0.000	0	N.D.	ppm
4)	Carbon dioxide	0.000	0	N.D.	ppm
6)	Methane (FID)	1.100	840163	92.624	ppm
7)	Ethylene	1.669	1650199	98.612	ppm
8)	Ethane	1.933	1662732	98.095	ppm
9)	Propylene	4.313	2432970	103.833	ppm
10)	Propane	4.436	2499918	100.478	ppm
11)	Isobutylene	0.000	0	N.D.	ppm
12)	Isobutane	0.000	0	N.D.	ppm
13)	n-Butane	0.000	0	N.D.	ppm

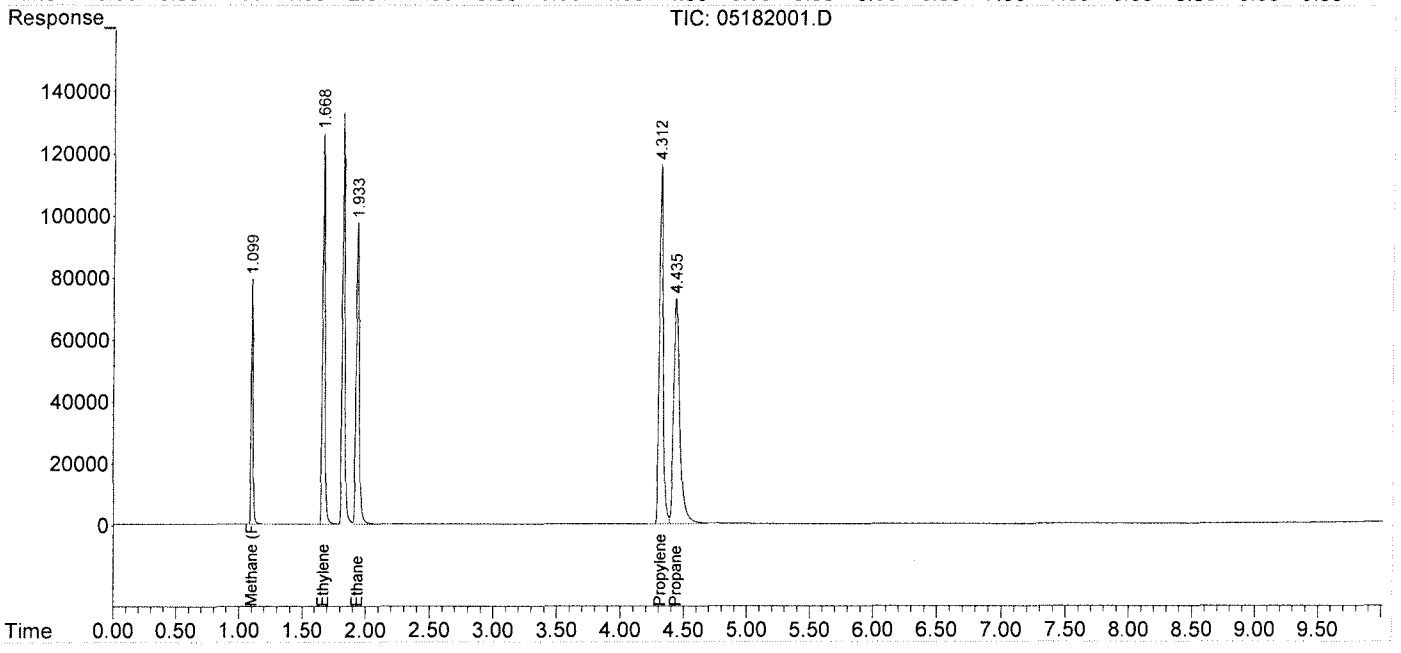
(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : I:\GC10\DATA\RSK_FID\2020_05\18\
Data File : 05182001.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 18-May-2020, 12:01:00
Operator : LD
Sample : STD S32-05221901
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 18 12:27:52 2020
Quant Method : I:\GC10\METHODS\RS091217_R.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Wed Sep 13 11:14:47 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





Data Path : I:\GC10\DATA\RSK_FID\2020_05\18\
Data File : 05182012.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 18-May-2020, 16:18:38
Operator : LD
Sample : STD S32-05221901
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 18 16:28:38 2020
Quant Method : I:\GC10\METHODS\RS091217_R.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Wed Sep 13 11:14:47 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

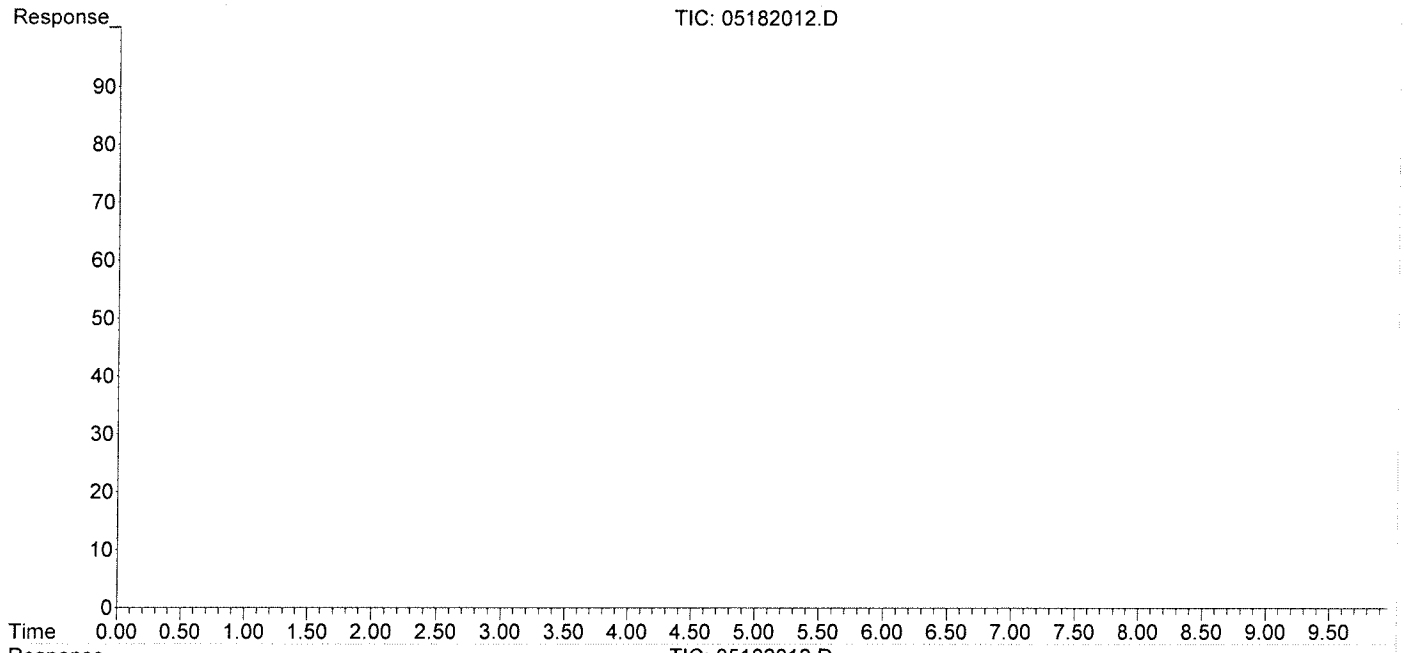
	Compound	R.T.	Response	Conc	Units
Target Compounds					
1)	Oxygen/Argon	0.000	0	N.D.	ppm
2)	Carbon monoxide	0.000	0	N.D.	ppm
3)	Methane (TCD)	0.000	0	N.D.	ppm
4)	Carbon dioxide	0.000	0	N.D.	ppm
6)	Methane (FID)	1.095	832430	91.772	ppm
7)	Ethylene	1.654	1633626	97.621	ppm
8)	Ethane	1.916	1650800	97.391	ppm
9)	Propylene	4.304	2411770	102.928	ppm
10)	Propane	4.427	2483926	99.835	ppm
11)	Isobutylene	0.000	0	N.D.	ppm
12)	Isobutane	0.000	0	N.D.	ppm
13)	n-Butane	0.000	0	N.D.	ppm

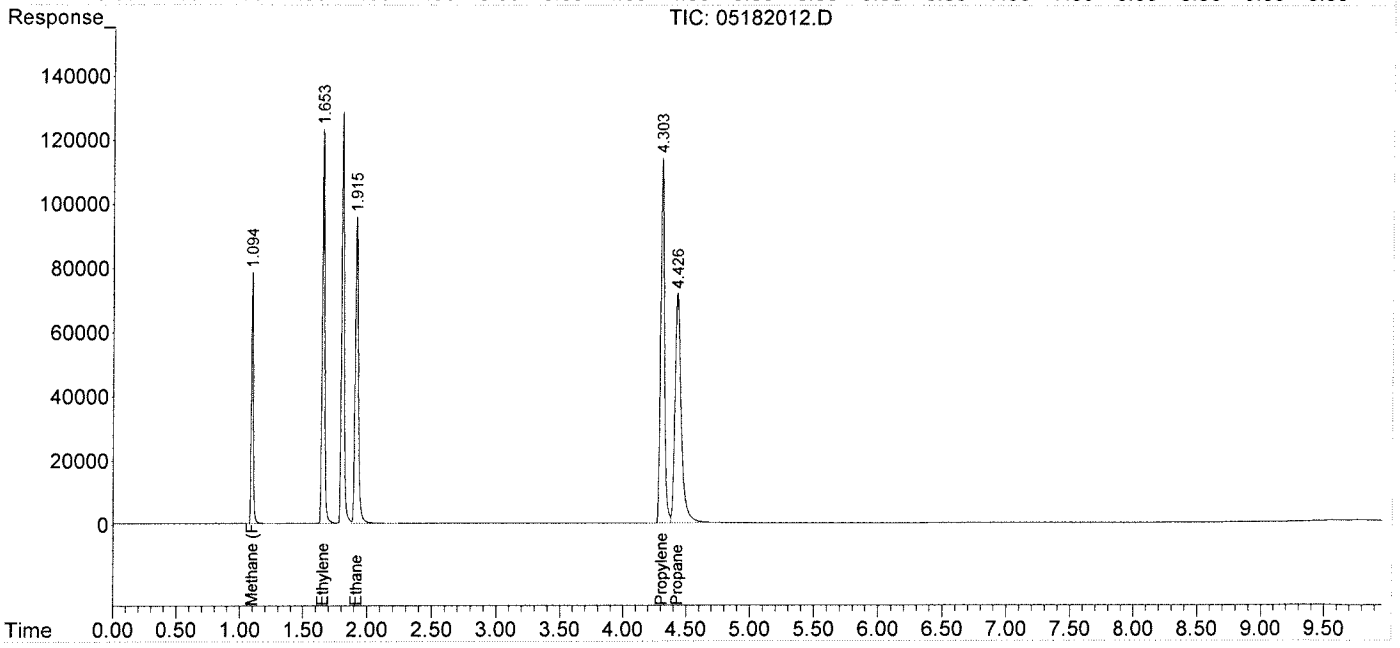
(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : I:\GC10\DATA\RSK_FID\2020_05\18\
Data File : 05182012.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 18-May-2020, 16:18:38
Operator : LD
Sample : STD S32-05221901
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 18 16:28:38 2020
Quant Method : I:\GC10\METHODS\RS091217_R.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Wed Sep 13 11:14:47 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





Injection Log

Directory: I:\GC10\DATA\RSK_FID\2017_09\12\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Acquisition Method	Comments
1	12-Sep-17, 08:38:08	09121701.D	test		MC	RSKBOTH.M	
2	12-Sep-17, 10:52:40	09121702.D	0.151ppm 0.250ml s32-09121702		MC	RSKBOTH.M	Curve
3	12-Sep-17, 11:05:49	09121703.D	0.302ppm 0.5ml s32-09121702		MC	RSKBOTH.M	Curve
4	12-Sep-17, 11:45:34	09121704.D	1.51ppm 0.1ml s32-09051701		MC	RSKBOTH.M	Curve
5	12-Sep-17, 12:09:33	09121705.D	4.53ppm 0.3ml s32-09051701		MC	RSKBOTH.M	Curve
6	12-Sep-17, 12:30:23	09121706.D	10.57ppm 0.7ml s32-09051701		MC	RSKBOTH.M	Curve
7	12-Sep-17, 12:47:18	09121707.D	200ppm 0.1ml s32-09121701		MC	RSKBOTH.M	Curve
8	12-Sep-17, 13:00:22	09121708.D	600ppm 0.3ml s32-09121701		MC	RSKBOTH.M	Curve
9	12-Sep-17, 13:47:48	09121709.D	1000ppm 0.5ml s32-09121701		MC	RSKBOTH.M	Curve
10	12-Sep-17, 14:07:58	09121710.D	2000ppm 1ml s32-09121701		MC	RSKBOTH.M	Curve
11	12-Sep-17, 14:48:48	09121711.D	4000ppm 0.1ml s32-08231701		MC	RSKBOTH.M	Curve
12	12-Sep-17, 15:21:51	09121712.D	20000ppm 0.5ml s32-08231701		MC	RSKBOTH.M	Curve
13	12-Sep-17, 15:38:59	09121713.D	mb 0.5ml		MC	RSKBOTH.M	Pass
14	12-Sep-17, 15:55:35	09121714.D	mb 0.1ml		MC	RSKBOTH.M	Pass
15	12-Sep-17, 16:15:26	09121715.D	icv s30-05241604		MC	RSKBOTH.M	Pass

Injection Log

Directory: I:\GC10\DATA\RSK_FID\2020_05\18\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Acquisition Method	Comments
1	18-May-20, 12:01:00	05182001.D	STD S32-05221901		LD	RSKBOTH.M	pass
2	18-May-20, 12:29:26	05182002.D	RB 0.1ml		LD	RSKBOTH.M	pass
3	18-May-20, 14:00:38	05182003.D	MCS 0.1ml		LD	RSKBOTH.M	pass
4	18-May-20, 14:17:35	05182004.D	LCS FID 0.1ml		LD	RSKBOTH.M	pass
5	18-May-20, 14:31:00	05182005.D	LCSD FID 0.1ml		LD	RSKBOTH.M	pass
6	18-May-20, 14:47:12	05182006.D	P2002523-001 0.1ml		LD	RSKBOTH.M	
7	18-May-20, 15:10:04	05182007.D	P2002523-002 0.1ml		LD	RSKBOTH.M	
8	18-May-20, 15:24:54	05182008.D	P2002523-003 0.1ml		LD	RSKBOTH.M	
9	18-May-20, 15:37:51	05182009.D	P2002523-004 0.1ml		LD	RSKBOTH.M	
10	18-May-20, 15:51:02	05182010.D	P2002523-005 0.1ml		LD	RSKBOTH.M	
11	18-May-20, 16:06:18	05182011.D	xxxxxxxSTD S32-05221901		LD	RSKBOTH.M	fail
12	18-May-20, 16:18:38	05182012.D	STD S32-05221901		LD	RSKBOTH.M	pass

HS20050234 8260 Raw Data

ALS WO# HS20050234

FORM 2
WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: ALS GROUP Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20050234

	CLIENT SAMPLE NO.	SMC1 #	SMC2 (DCE)#	SMC3 (TOL)#	OTHER #	TOT OUT
01	VLCSW-200512	99	100	102	101	0
02	VBLKW-200512	92	89	108	99	0
03	HS20050234-11	92	90	107	100	0
04	HS20050234-01	91	88	107	100	0
05	HS20050234-02	92	91	107	98	0
06	HS20050234-03	90	90	106	100	0
07	HS20050234-05	91	90	108	98	0
08	HS20050234-05	91	91	107	97	0
09	HS20050234-06	90	90	108	102	0
10	HS20050234-07	92	92	108	99	0
11	HS20050234-08	91	90	110	96	0
12	HS20050234-09	92	89	106	98	0
13	HS20050234-10	92	90	107	100	0
14	HS20050234-01	91	88	106	99	0
15	HS20050234-01	92	90	108	100	0
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						

		QC LIMITS
SMC1	= Dibromofluoromethane	(74-125)
SMC2 (DCE)	= 1,2-Dichloroethane-d4	(71-125)
SMC3 (TOL)	= Toluene-d8	(78-123)
OTHER	= 4-Bromofluorobenzene	(70-125)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D System Monitoring Compound diluted out

FORM 3
WATER VOLATILE METHOD SPIKE RECOVERY

Lab Name: ALS GROUP Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20050234

Matrix Spike - Sample No.: ICV

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE AMOUNT ()	% REC #	QC. LIMITS REC.
Bromochloromethane	50.00	47.43	95	80-120
Vinyl Chloride	50.00	46.46	93	80-120
Chloromethane	50.00	44.04	88	80-120
Bromomethane	50.00	50.90	102	80-120
Chloroethane	50.00	44.86	90	80-120
Methylene Chloride	50.00	47.67	95	80-120
Acetone	100.00	96.04	96	80-120
1,1-Dichloroethene	50.00	47.66	95	80-120
trans-1,2-Dichloroethen	50.00	47.92	96	80-120
Carbon Tetrachloride	50.00	47.41	95	80-120
1,1-Dichloroethane	50.00	45.20	90	80-120
Bromodichloromethane	50.00	48.69	97	80-120
1,2-Dichloropropane	50.00	47.53	95	80-120
cis-1,3-Dichloropropene	50.00	49.61	99	80-120
2-Butanone	100.00	107.79	108	80-120
Dibromochloromethane	50.00	49.74	99	80-120
cis-1,2-Dichloroethene	50.00	47.90	96	80-120
1,1,2-Trichloroethane	50.00	47.86	96	80-120
Chloroform	50.00	48.19	96	80-120
Benzene	50.00	47.92	96	80-120
trans-1,3-Dichloroprope	50.00	49.97	100	80-120
Bromoform	50.00	50.11	100	80-120
4-Methyl-2-Pentanone	100.00	92.90	93	80-120
1,1,1-Trichloroethane	50.00	47.51	95	80-120
2-Hexanone	100.00	94.75	95	80-120
1,2-Dichloroethane	50.00	49.48	99	80-120
1,1,2,2-Tetrachloroetha	50.00	46.16	92	80-120
Trichloroethene	50.00	49.38	99	80-120

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

COMMENTS: _____

_____

FORM III VOA

FORM 3
WATER VOLATILE METHOD SPIKE RECOVERY

Lab Name: ALS GROUP Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20050234

Matrix Spike - Sample No.: ICV

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE AMOUNT ()	% REC #	QC. LIMITS REC.
Toluene	50.00	48.70	97	80-120
Dichlorodifluoromethane	50.00	46.95	94	80-120
Trichlorofluoromethane	50.00	48.67	97	80-120
Tetrachloroethene	50.00	49.21	98	80-120
1,2-Dibromoethane	50.00	50.22	100	80-120
Chlorobenzene	50.00	48.90	98	80-120
1,3-Dichlorobenzene	50.00	48.89	98	80-120
1,4-Dichlorobenzene	50.00	47.77	96	80-120
1,2-Dichlorobenzene	50.00	48.42	97	80-120
Ethylbenzene	50.00	48.80	98	80-120
m,p-Xylenes	100.00	98.10	98	80-120
o-Xylene	50.00	49.08	98	80-120
Styrene	50.00	49.46	99	80-120
Carbon Disulfide	100.00	95.54	96	80-120
2,2-Dichloropropane	50.00	47.48	95	80-120
1,1-Dichloropropene	50.00	48.00	96	80-120
Dibromomethane	50.00	49.84	100	80-120
1,3-Dichloropropane	50.00	48.33	97	80-120
1,1,1,2-Tetrachloroetha	50.00	48.99	98	80-120
Isopropylbenzene	50.00	49.54	99	80-120
Bromobenzene	50.00	48.32	97	80-120
1,2,3-Trichloropropane	50.00	46.59	93	80-120
n-Propylbenzene	50.00	48.00	96	80-120
2-Chlorotoluene	50.00	46.75	94	80-120
1,3,5-Trimethylbenzene	50.00	49.68	99	80-120
4-Chlorotoluene	50.00	47.20	94	80-120
tert-Butylbenzene	50.00	48.50	97	80-120
1,2,4-Trimethylbenzene	50.00	49.86	100	80-120

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

COMMENTS: _____

_____

FORM III VOA

FORM 3
WATER VOLATILE METHOD SPIKE RECOVERY

Lab Name: ALS GROUP Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20050234

Matrix Spike - Sample No.: ICV

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE AMOUNT ()	% REC #	QC. LIMITS REC.
sec-Butylbenzene	50.00	48.50	97	80-120
p-Isopropyltoluene	50.00	50.33	101	80-120
n-Butylbenzene	50.00	50.73	101	80-120
1,2-Dibromo-3-Chloropro	50.00	46.37	93	80-120
1,2,4-Trichlorobenzene	50.00	47.52	95	80-120
Hexachlorobutadiene	50.00	49.71	99	80-120
Naphthalene	50.00	53.21	106	80-120
1,2,3-Trichlorobenzene	50.00	54.69	109	80-120
Freon TF	50.00	48.97	98	80-120

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

COMMENTS: _____

_____

FORM III VOA

FORM 5
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: ALS GROUP Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20050234

Lab File ID: X051101 BFB Injection Date: 05/11/20

Instrument ID: VOA6 BFB Injection Time: 1248

GC Column: DB624 ID: 0.25 (mm) Heated Purge: (Y/N) N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	24.2
75	30.0 - 60.0% of mass 95	46.9
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	7.1
173	Less than 2.0% of mass 174	0.4 (0.7)1
174	Greater than 50.0% of mass 95	58.1
175	5.0 - 9.0% of mass 174	5.0 (8.6)1
176	95.0 - 101.0% of mass 174	57.6 (99.1)1
177	5.0 - 9.0% of mass 176	4.7 (8.2)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD000.5	VSTD000.5	X051103	05/11/20	1400
02	VSTD001	VSTD001	X051104	05/11/20	1424
03	VSTD002	VSTD002	X051105	05/11/20	1448
04	VSTD005	VSTD005	X051106	05/11/20	1512
05	VSTD020	VSTD020	X051107	05/11/20	1536
06	VSTD050	VSTD050	X051108	05/11/20	1600
07	VSTD100	VSTD100	X051109	05/11/20	1624
08	VSTD150	VSTD150	X051110	05/11/20	1647
09	VSTD200	VSTD200	X051111	05/11/20	1711
10	ICV	ICV	X051114	05/11/20	1823
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ALS GROUP Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20050234

Instrument ID: VOA6 Calibration Date(s): 05/11/20 05/11/20

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1312 1711

LAB FILE ID: RF0.5: X051103 RF1: X051104 RF2: X051105
RF5: X051106 RF20: X051107 RF50: X051108

COMPOUND	RF0.5	RF1	RF2	RF5	RF20	RF50
Bromochloromethane	0.363	0.313	0.285	0.299	0.276	0.275
Vinyl Chloride	0.756	0.651	0.677	0.656	0.679	0.684
Chloromethane	2464	4677	8356	19497	77009	185773
Bromomethane	1460	2788	5327	11539	40170	86417
Chloroethane	1364	2214	3636	10011	35750	85402
Methylene Chloride	1939	3655	6641	14433	52520	120730
Acetone	1874	3027	5040	9390	35665	95313
1,1-Dichloroethene	0.461	0.404	0.370	0.376	0.386	0.384
trans-1,2-Dichloroethene	0.523	0.408	0.446	0.450	0.457	0.446
Carbon Tetrachloride	0.629	0.525	0.488	0.473	0.462	0.468
1,1-Dichloroethane	1.312	1.108	1.104	1.086	1.050	1.019
Bromodichloromethane	0.525	0.432	0.461	0.461	0.456	0.457
1,2-Dichloropropane	0.483	0.403	0.398	0.404	0.401	0.395
cis-1,3-Dichloropropene	0.603	0.536	0.520	0.534	0.536	0.541
2-Butanone	0.188	0.183	0.186	0.220	0.241	0.263
Dibromochloromethane	0.441	0.380	0.411	0.397	0.396	0.396
cis-1,2-Dichloroethene	0.543	0.472	0.583	0.527	0.536	0.514
1,1,2-Trichloroethane	0.332	0.252	0.293	0.293	0.271	0.267
Chloroform	1.057	0.803	0.890	0.923	0.881	0.861
Benzene	1.483	1.317	1.243	1.210	1.258	1.234
trans-1,3-Dichloropropene	0.537	0.462	0.480	0.485	0.483	0.486
Bromoform	0.318	0.258	0.306	0.286	0.283	0.274
4-Methyl-2-Pentanone	0.503	0.400	0.504	0.456	0.451	0.430
1,1,1-Trichloroethane	0.928	0.796	0.766	0.770	0.780	0.766
2-Hexanone	0.373	0.243	0.350	0.304	0.307	0.304
1,2-Dichloroethane	0.587	0.485	0.477	0.510	0.523	0.527
1,1,2,2-Tetrachloroethane	0.939	0.812	0.883	0.798	0.789	0.746
Trichloroethene	0.425	0.329	0.342	0.341	0.347	0.350
Toluene	1.729	1.419	1.522	1.489	1.484	1.431
Dichlorodifluoromethane	1503	2633	5304	13068	55700	135443
Trichlorofluoromethane	0.888	0.754	0.749	0.761	0.781	0.796
Tetrachloroethene	0.362	0.327	0.345	0.324	0.321	0.319
1,2-Dibromoethane	0.385	0.308	0.373	0.358	0.364	0.351
Chlorobenzene	1.224	0.910	1.008	0.984	0.965	0.948
1,3-Dichlorobenzene	1.771	1.441	1.502	1.497	1.508	1.462
1,4-Dichlorobenzene	2.196	1.462	1.507	1.543	1.491	1.488
1,2-Dichlorobenzene	1.694	1.345	1.445	1.362	1.340	1.326
Ethylbenzene	0.595	0.494	0.526	0.496	0.513	0.506
m,p-Xylenes	0.749	0.582	0.637	0.617	0.627	0.617
o-Xylene	0.671	0.590	0.652	0.604	0.617	0.595
Styrene	1.220	1.068	1.068	1.028	1.061	1.034
Carbon Disulfide	1.559	1.278	1.317	1.321	1.317	1.321
2,2-Dichloropropane	0.934	0.845	0.817	0.768	0.765	0.739
1,1-Dichloropropene	0.542	0.467	0.464	0.436	0.437	0.429

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ALS GROUP Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS2005023 4

Instrument ID: VOA6 Calibration Date(s): 05/11/20 05/11/20

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1312 1711

LAB FILE ID: RF0.5: X051103 RF1: X051104 RF2: X051105
RF5: X051106 RF20: X051107 RF50: X051108

COMPOUND	RF0.5	RF1	RF2	RF5	RF20	RF50
Dibromomethane	0.272	0.187	0.211	0.223	0.213	0.217
1,3-Dichloropropane	0.667	0.536	0.609	0.586	0.581	0.558
1,1,1,2-Tetrachloroethane	0.441	0.401	0.388	0.383	0.384	0.380
Isopropylbenzene	1.838	1.487	1.440	1.550	1.543	1.499
Bromobenzene	1.160	0.908	0.931	0.886	0.907	0.902
1,2,3-Trichloropropane	0.825	0.629	0.829	0.664	0.661	0.681
n-Propylbenzene	4.517	3.295	3.337	3.514	3.496	3.465
2-Chlorotoluene	2.730	2.379	2.191	2.204	2.100	2.070
1,3,5-Trimethylbenzene	2.835	2.374	2.552	2.616	2.533	2.515
4-Chlorotoluene	3.235	2.656	2.511	2.448	2.492	2.419
tert-Butylbenzene	2.511	2.130	2.115	2.215	2.151	2.088
1,2,4-Trimethylbenzene	3.200	2.288	2.506	2.550	2.590	2.573
sec-Butylbenzene	3.786	2.605	2.991	3.022	2.939	2.872
p-Isopropyltoluene	3.242	2.169	2.411	2.533	2.612	2.578
n-Butylbenzene	2.569	1.648	1.842	2.072	2.142	2.132
1,2-Dibromo-3-Chloropropane	114	128	532	1596	5237	12187
1,2,4-Trichlorobenzene	505	762	1924	5746	23261	54809
Hexachlorobutadiene	605	736	2177	5460	21311	41952
Naphthalene	0.460	0.409	0.406	0.433	0.467	0.465
1,2,3-Trichlorobenzene	385	431	1047	3164	11186	27245
Freon TF	0.351	0.375	0.391	0.378	0.379	0.386
Dibromofluoromethane	1793	3147	5198	14036	51294	118264
1,2-Dichloroethane-d4	2117	3902	7290	17135	62012	143586
Toluene-d8	5920	10982	18430	47142	176771	410250
4-Bromofluorobenzene	2708	6819	8380	19241	69563	152557

FORM VI VOA

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ALS GROUP Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS2005023~~4~~

Instrument ID: VOA6 Calibration Date(s): 05/11/20 05/11/20

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1312 1711

LAB FILE ID: RF100: X051109 RF150: X051110 RF200: X051111

COMPOUND	RF100	RF150	RF200
Bromochloromethane	0.269	0.272	0.259
Vinyl Chloride	0.715	0.722	0.698
Chloromethane	352150	510038	668216
Bromomethane	166042	236806	301011
Chloroethane	162411	229270	289295
Methylene Chloride	224234	318789	395941
Acetone	157042	214208	
1,1-Dichloroethene	0.398	0.407	0.394
trans-1,2-Dichloroethene	0.457	0.461	0.444
Carbon Tetrachloride	0.489	0.496	0.491
1,1-Dichloroethane	1.046	1.051	1.004
Bromodichloromethane	0.466	0.477	0.465
1,2-Dichloropropane	0.399	0.395	0.384
cis-1,3-Dichloropropene	0.550	0.556	0.544
2-Butanone	0.253	0.253	0.241
Dibromochloromethane	0.410	0.407	0.403
cis-1,2-Dichloroethene	0.526	0.533	0.512
1,1,2-Trichloroethane	0.267	0.266	0.262
Chloroform	0.878	0.889	0.859
Benzene	1.256	1.263	1.238
trans-1,3-Dichloropropene	0.504	0.517	0.506
Bromoform	0.283	0.285	0.285
4-Methyl-2-Pentanone	0.441	0.443	0.435
1,1,1-Trichloroethane	0.796	0.813	0.790
2-Hexanone	0.303	0.300	0.298
1,2-Dichloroethane	0.527	0.530	0.518
1,1,2,2-Tetrachloroethane	0.749	0.756	0.761
Trichloroethene	0.367	0.367	0.360
Toluene	1.433	1.414	1.396
Dichlorodifluoromethane	264084	377623	499972
Trichlorofluoromethane	0.833	0.843	0.836
Tetrachloroethene	0.326	0.324	0.320
1,2-Dibromoethane	0.352	0.357	0.348
Chlorobenzene	0.963	0.964	0.949
1,3-Dichlorobenzene	1.500	1.522	1.508
1,4-Dichlorobenzene	1.506	1.517	1.512
1,2-Dichlorobenzene	1.337	1.360	1.327
Ethylbenzene	0.523	0.514	0.512
m,p-Xylenes	0.622	0.618	0.610
o-Xylene	0.603	0.605	0.588
Styrene	1.048	1.031	1.019
Carbon Disulfide	1.365	1.385	1.334
2,2-Dichloropropane	0.754	0.769	0.733
1,1-Dichloropropene	0.452	0.452	0.441

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ALS GROUP Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS2005023-4

Instrument ID: VOA6 Calibration Date(s): 05/11/20 05/11/20

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1312 1711

LAB FILE ID: RF100: X051109 RF150: X051110 RF200: X051111

COMPOUND	RF100	RF150	RF200
Dibromomethane	0.222	0.224	0.218
1,3-Dichloropropane	0.557	0.557	0.550
1,1,1,2-Tetrachloroethane	0.387	0.387	0.385
Isopropylbenzene	1.568	1.560	1.547
Bromobenzene	0.907	0.911	0.925
1,2,3-Trichloropropane	0.669	0.656	0.658
n-Propylbenzene	3.577	3.585	3.566
2-Chlorotoluene	2.149	2.144	2.118
1,3,5-Trimethylbenzene	2.613	2.611	2.585
4-Chlorotoluene	2.476	2.464	2.454
tert-Butylbenzene	2.180	2.179	2.160
1,2,4-Trimethylbenzene	2.630	2.656	2.612
sec-Butylbenzene	3.026	3.020	2.996
p-Isopropyltoluene	2.679	2.702	2.709
n-Butylbenzene	2.216	2.237	2.212
1,2-Dibromo-3-Chloropropane	23938	35913	47270
1,2,4-Trichlorobenzene	103966	161556	221042
Hexachlorobutadiene	77175	122993	160116
Naphthalene	0.480	0.544	0.572
1,2,3-Trichlorobenzene	50765	82626	114644
Freon TF	0.410	0.412	0.396
Dibromofluoromethane	228909	320906	412124
1,2-Dichloroethane-d4	281127	402302	508534
Toluene-d8	778769	1109628	1416689
4-Bromofluorobenzene	294185	420723	537390

FORM VI VOA

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ALS GROUP Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS2005023-4

Instrument ID: VOA6 Calibration Date(s): 05/11/20 05/11/20

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1312 1711

COMPOUND	CURVE	COEFFICENTS A0	COEFFICENTS A1	COEFFICENTS A2	%RSD OR R^2	MAX %RSD OR R^2
Bromochloromethane	AVRG		0.29010501		10.972	15.000
Vinyl Chloride	AVRG		0.69311531		4.827	15.000
Chloromethane	LINR	1.254e-002	1.25307618		0.9996990	0.9900000
Bromomethane	LINR	-1.49e-002	2.76010828		0.9992442	0.9900000
Chloroethane	LINR	-8.42e-003	2.85056864		0.9990197	0.9900000
Methylene Chloride	LINR	-2.15e-002	2.07576331		0.9984246	0.9900000
Acetone	LINR	-5.26e-002	5.86673099		0.9980780	0.9900000
1,1-Dichloroethene	AVRG		0.39779340		6.695	15.000
trans-1,2-Dichloroethene	AVRG		0.45484162		6.601	15.000
Carbon Tetrachloride	AVRG		0.50236564		10.139	15.000
1,1-Dichloroethane	AVRG		1.08665862		8.445	15.000
Bromodichloromethane	AVRG		0.46672354		5.340	15.000
1,2-Dichloropropane	AVRG		0.40699172		7.156	15.000
cis-1,3-Dichloropropene	AVRG		0.54659701		4.308	15.000
2-Butanone	AVRG		0.22534364		14.170	15.000
Dibromochloromethane	AVRG		0.40468890		4.114	15.000
cis-1,2-Dichloroethene	AVRG		0.52746114		5.587	15.000
1,1,2-Trichloroethane	AVRG		0.27813289		8.790	15.000
Chloroform	AVRG		0.89352495		7.768	15.000
Benzene	AVRG		1.27806051		6.430	15.000
trans-1,3-Dichloropropene	AVRG		0.49569616		4.508	15.000
Bromoform	AVRG		0.28647071		5.980	15.000
4-Methyl-2-Pentanone	AVRG		0.45144990		7.411	15.000
1,1,1-Trichloroethane	AVRG		0.80070947		6.298	15.000
2-Hexanone	AVRG		0.30919632		11.650	15.000
1,2-Dichloroethane	AVRG		0.52059797		6.006	15.000
1,1,2,2-Tetrachloroethane	AVRG		0.80353274		8.275	15.000
Trichloroethene	AVRG		0.35876630		7.774	15.000
Toluene	AVRG		1.47974156		6.910	15.000
Dichlorodifluoromethane	LINR	2.129e-002	1.67614322		0.9997226	0.9900000
Trichlorofluoromethane	AVRG		0.80446144		5.962	15.000
Tetrachloroethene	AVRG		0.32982532		4.351	15.000
1,2-Dibromoethane	AVRG		0.35522808		5.929	15.000
Chlorobenzene	AVRG		0.99065323		9.243	15.000
1,3-Dichlorobenzene	AVRG		1.52362325		6.309	15.000
1,4-Dichlorobenzene	AVRG		1.58040454		14.681	15.000
1,2-Dichlorobenzene	AVRG		1.39289493		8.511	15.000
Ethylbenzene	AVRG		0.51992575		5.830	15.000
m,p-Xylenes	AVRG		0.63108004		7.383	15.000
o-Xylene	AVRG		0.61400525		4.669	15.000
Styrene	AVRG		1.06414813		5.759	15.000
Carbon Disulfide	AVRG		1.35528961		6.080	15.000
2,2-Dichloropropane	AVRG		0.79166371		8.135	15.000
1,1-Dichloropropene	AVRG		0.45772621		7.432	15.000

FORM VI VOA

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ALS GROUP Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS2005023-4

Instrument ID: VOA6 Calibration Date(s): 05/11/20 05/11/20

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1312 1711

COMPOUND	CURVE	COEFFICENTS A0	A1	A2	%RSD OR R^2	MAX %RSD OR R^2
Dibromomethane	AVRG		0.22074683		10.081	15.000
1,3-Dichloropropane	AVRG		0.57818454		6.898	15.000
1,1,1,2-Tetrachloroethane	AVRG		0.39300458		4.846	15.000
Isopropylbenzene	AVRG		1.55920520		7.226	15.000
Bromobenzene	AVRG		0.93740919		9.001	15.000
1,2,3-Trichloropropane	AVRG		0.69674447		10.773	15.000
n-Propylbenzene	AVRG		3.59467414		10.034	15.000
2-Chlorotoluene	AVRG		2.23175124		9.279	15.000
1,3,5-Trimethylbenzene	AVRG		2.58168968		4.708	15.000
4-Chlorotoluene	AVRG		2.57286118		10.008	15.000
tert-Butylbenzene	AVRG		2.19201247		5.722	15.000
1,2,4-Trimethylbenzene	AVRG		2.62277408		9.226	15.000
sec-Butylbenzene	AVRG		3.02845002		10.363	15.000
p-Isopropyltoluene	AVRG		2.62630864		10.952	15.000
n-Butylbenzene	AVRG		2.11900949		12.212	15.000
1,2-Dibromo-3-Chloropropane	LINR	2.938e-002	12.1217534		0.9986839	0.9900000
1,2,4-Trichlorobenzene	LINR	5.285e-002	2.62316086		0.9957908	0.9900000
Hexachlorobutadiene	LINR	1.932e-002	3.59227170		0.9969896	0.9900000
Naphthalene	AVRG		0.47073223		11.912	15.000
1,2,3-Trichlorobenzene	2ORDR	-8.18e-003	6.59831211	-2.0506170	0.9995281	0.9900000
Freon TF	AVRG		0.38639662		4.893	15.000
Dibromofluoromethane	LINR	-4.86e-003	2.01455990		0.9994974	0.9900000
1,2-Dichloroethane-d4	LINR	-7.35e-004	1.62396266		0.9990167	0.9900000
Toluene-d8	LINR	-9.31e-003	0.80376231		0.9999444	0.9900000
4-Bromofluorobenzene	LINR	-1.54e-002	2.12571618		0.9999166	0.9900000

FORM VI VOA

MSVOA06 -Logbook

Batch: 40533
Date: 05-11-2020
Method: 8260
Comments:

Analyst: Presenta Cabascango
Reviewer:
Laboratory: Houston

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
1	BFB	TUNE	05-11-2020 12:48 pm	1.00	50 mL	50 mL	X051101.D	Liquid	Y	NA
2	*Auto find / Purged* VSTD000.25	ICAL1	05-11-2020 01:12 pm	1.00	50 mL	50 mL	X051102.D	Liquid	Y	NA
3	*0.10 uL cal std/100 mL DI* VSTD000.5	ICAL2	05-11-2020 02:00 pm	1.00	50 mL	50 mL	X051103.D	Liquid	Y	NA
4	*0.10 uL cal std/50 mL DI* VSTD001	ICAL3	05-11-2020 02:24 pm	1.00	50 mL	50 mL	X051104.D	Liquid	Y	NA
5	*0.20 uL cal std/50 mL DI* VSTD002	ICAL4	05-11-2020 02:48 pm	1.00	50 mL	50 mL	X051105.D	Liquid	Y	NA
6	*0.40 uL cal std/50 mL DI* VSTD005	ICAL5	05-11-2020 03:12 pm	1.00	50 mL	50 mL	X051106.D	Liquid	Y	NA
7	*1.0 uL cal std/50 mL DI* VSTD020	ICAL6	05-11-2020 03:36 pm	1.00	50 mL	50 mL	X051107.D	Liquid	Y	NA
8	*4.0 uL cal std/50 mL DI* VSTD050	ICAL7	05-11-2020 04:00 pm	1.00	50 mL	50 mL	X051108.D	Liquid	Y	NA
9	*10 uL cal std/50 mL DI* VSTD100	ICAL8	05-11-2020 04:24 pm	1.00	50 mL	50 mL	X051109.D	Liquid	Y	NA
10	*20 uL cal std/50 mL DI* VSTD150	ICAL9	05-11-2020 04:47 pm	1.00	50 mL	50 mL	X051110.D	Liquid	Y	NA
11	*30 uL cal std/50 mL DI* VSTD200	ICAL	05-11-2020 05:11 pm	1.00	50 mL	50 mL	X051111.D	Liquid	Y	NA
12	*40 uL cal std/50 mL DI* BLANK	SAMP	05-11-2020 05:35 pm	1.00	50 mL	50 mL	X051112.D	Liquid	Y	NA
13	BLANK	SAMP	05-11-2020 05:59 pm	1.00	50 mL	50 mL	X051113.D	Liquid	Y	NA
14	ICV	CCV	05-11-2020 06:23 pm	1.00	50 mL	50 mL	X051114.D	Liquid	Y	NA
15	*10 uL icv std/50 mL DI* BLANK	SAMP	05-11-2020 06:47 pm	1.00	50 mL	50 mL	X051115.D	Liquid	Y	NA
16	VLCSW-200511	LCS	05-11-2020 07:11 pm	1.00	50 mL	50 mL	X051116.D	Liquid	Y	NA
17	*4.0 uL cal std/50 mL DI* BLANK	SAMP	05-11-2020 07:35 pm	1.00	50 mL	50 mL	X051117.D	Liquid	Y	NA
18	BLANK	SAMP	05-11-2020 07:59 pm	1.00	50 mL	50 mL	X051118.D	Liquid	Y	NA
19	VBLKW-200511	MBLK	05-11-2020 08:24 pm	1.00	50 mL	50 mL	X051119.D	Liquid	Y	NA
20	HS20050202-17	SAMP	05-11-2020 08:48 pm	1.00	50 mL	50 mL	X051120.D	Liquid	Y	NA
21	*neat samples* HS20050202-18	SAMP	05-11-2020 09:12 pm	1.00	50 mL	50 mL	X051121.D	Liquid	Y	NA
22	HS20050202-18	SAMP	05-11-2020 09:36 pm	5.00	10 mL	50 mL	X051122.D	Liquid	Y	NA
23	HS20050292-01	SAMP	05-11-2020 10:00 pm	1.00	50 mL	50 mL	X051123.D	Liquid	Y	NA
24	HS20050292-02	SAMP	05-11-2020 10:24 pm	1.00	50 mL	50 mL	X051124.D	Liquid	Y	NA
25	HS20050292-03	SAMP	05-11-2020 10:48 pm	1.00	50 mL	50 mL	X051125.D	Liquid	Y	<2
26	HS20050292-03MS	MS	05-11-2020 11:12 pm	1.00	50 mL	50 mL	X051126.D	Liquid	Y	<2
27	*3.5 uL cal std/40 mL samp* HS20050292-03MSD	MSD	05-11-2020 11:36 pm	1.00	50 mL	50 mL	X051127.D	Liquid	Y	<2
28	*3.5 uL cal std/40 mL samp* CCV-END	CCV	05-12-2020 12:00 am	1.00	50 mL	50 mL	X051128.D	Liquid	Y	NA
29	*10 uL cal std/50 mL DI* HS20050337-02	SAMP	05-12-2020 12:24 am	1.00	50 mL	50 mL	X051129.D	Liquid	Y	<2

MSVOA06 -Logbook

Chemical	Value
SURR SPK ID	31106-26-06
IS ID	31106-26-06
CAL STD ID	31106-29-01/02
BFB ID	31106-26-06
pH Paper	634-64-11

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051101.D

Date : 11-MAY-2020 12:48

Client ID: BFB

Instrument: voa6.i

Sample Info: BFB;BFB;3;;BFB

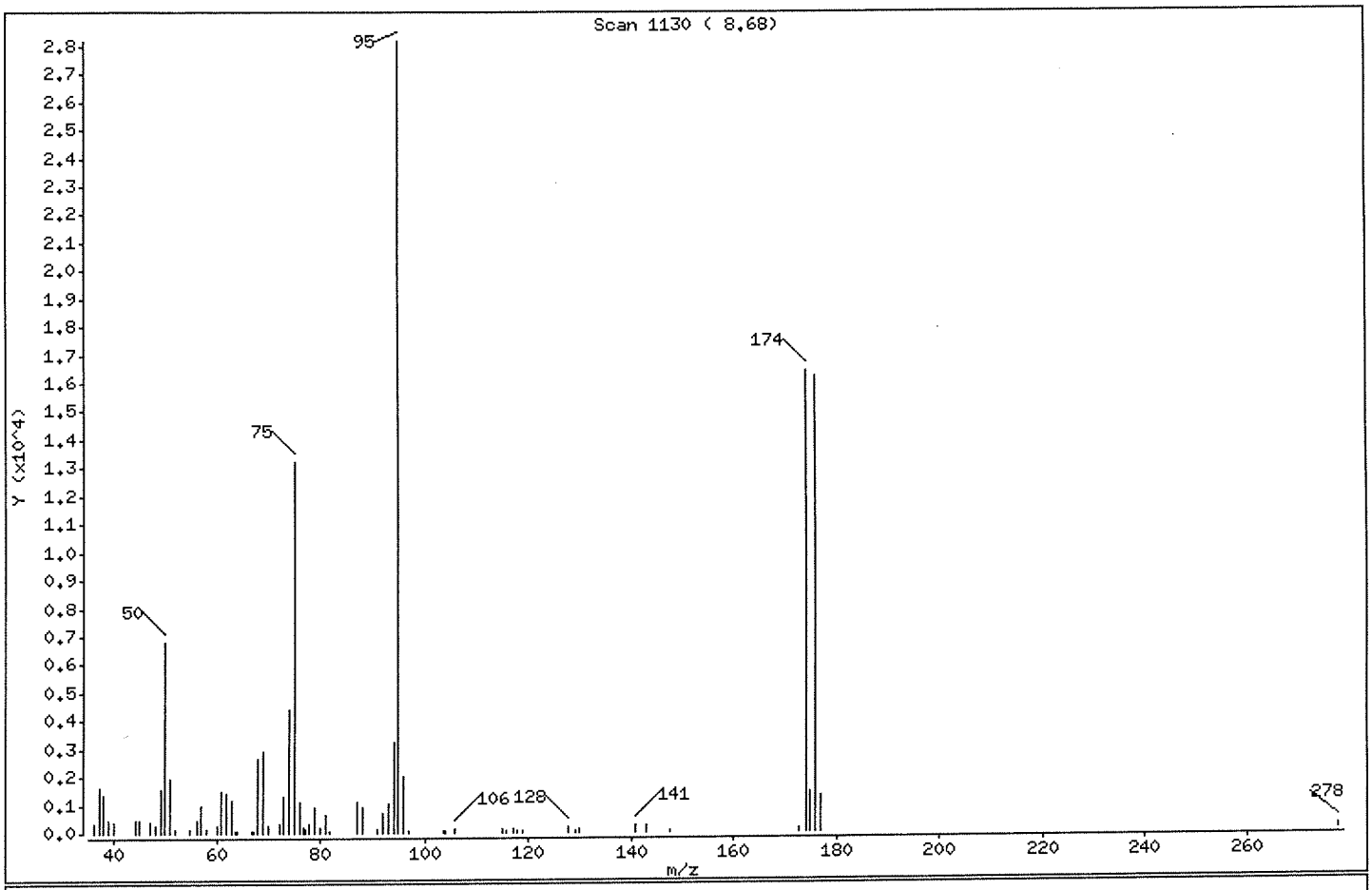
Volume Injected (uL): 2.0

Operator: PC

Column phase: DB624

Column diameter: 0.25

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	24.23
75	30.00 - 60.00% of mass 95	46.94
96	5.00 - 9.00% of mass 95	7.07
173	Less than 2.00% of mass 174	0.40 (0.70)
174	Greater than 50.00% of mass 95	58.12
175	5.00 - 9.00% of mass 174	5.01 (8.63)
176	95.00 - 101.00% of mass 174	57.57 (99.06)
177	5.00 - 9.00% of mass 176	4.70 (8.16)

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051101.D

Date : 11-MAY-2020 12:48

Client ID: BFB

Instrument: voa6.i

Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0

Operator: PC

Column phase: DB624

Column diameter: 0.25

Data File: X051101.D
Spectrum: Scan 1130 (8.68)
Location of Maximum: 95.00
Number of points: 69

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	344	61.00	1469	78.80	878	117.00	116
37.00	1597	62.00	1437	80.00	215	118.00	62
38.00	1339	63.00	1157	80.90	656	119.00	80
39.00	476	63.80	94	81.90	63	127.90	221
40.00	388	64.00	94	87.00	1132	129.00	87
44.10	480	66.70	60	88.00	930	130.00	133
45.00	427	67.10	88	91.10	98	141.00	245
47.00	412	68.00	2631	92.00	714	142.90	244
48.00	286	69.00	2930	93.00	1015	147.70	93
49.00	1548	70.00	291	94.00	3223	172.70	114
50.00	6829	72.00	332	95.00	28184	174.00	16380
51.00	1936	73.00	1275	96.00	1993	174.90	1413
52.10	99	74.00	4408	96.90	91	176.00	16226
55.00	155	75.00	13230	103.60	76	176.90	1324
56.10	426	76.00	1105	104.00	94	277.90	107
57.00	975	76.80	194	105.80	140		
58.00	122	77.10	149	114.90	135		
60.10	288	77.90	324	115.70	61		

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051101.D

Date : 11-MAY-2020 12:48

Client ID: BFB

Instrument: voa6.i

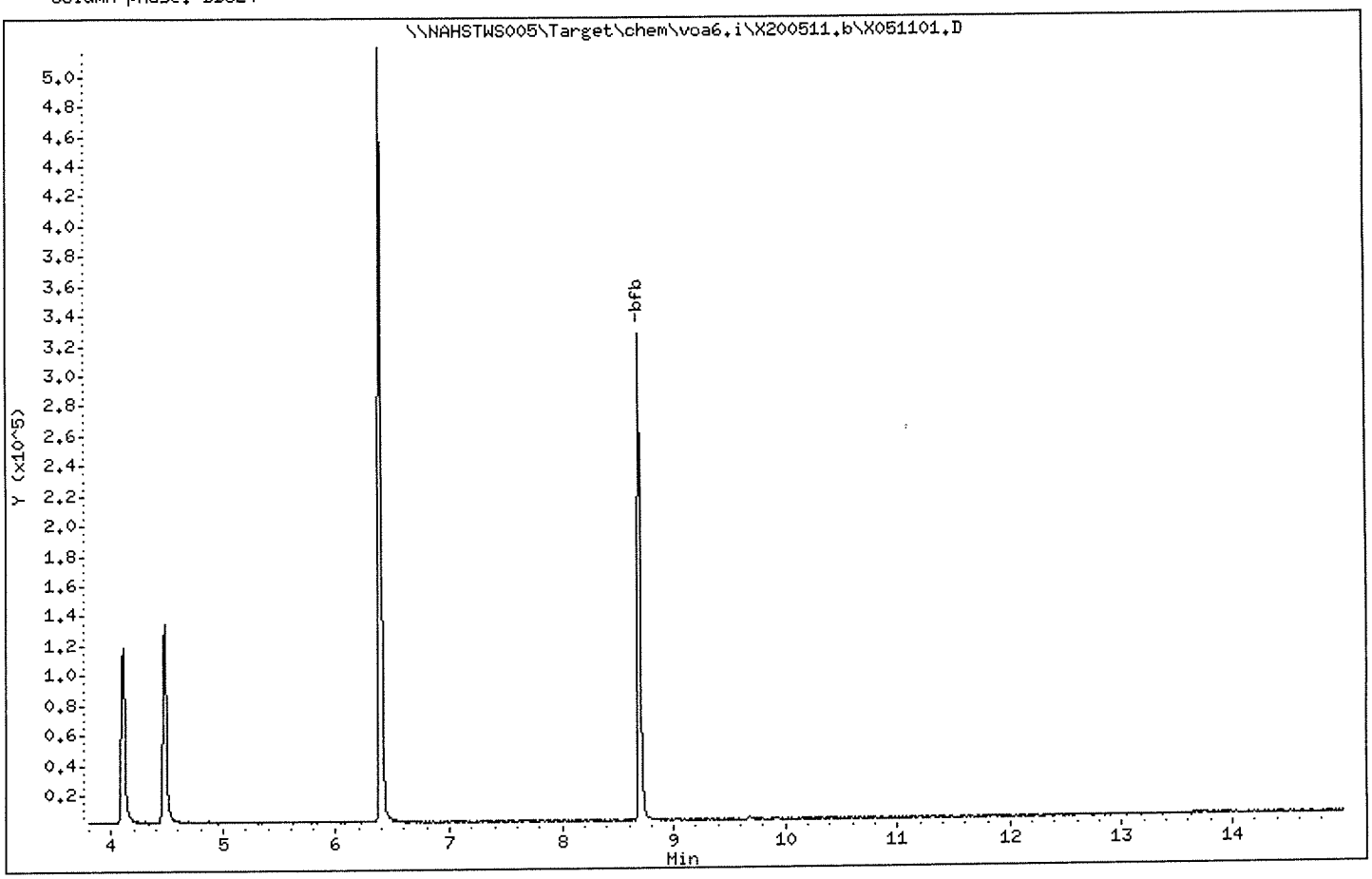
Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0

Operator: PC

Column phase: DB624

Column diameter: 0.25



Data File: \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051103.D Page 1
Report Date: 22-May-2020 16:12

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051103.D
Lab Smp Id: VSTD000.5 Client Smp ID: VSTD000.5
Inj Date : 11-MAY-2020 14:00
Operator : PC Inst ID: voa6.i
Smp Info : VSTD000.5;VSTD000.5;1;2;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X200511.b\8260W.m
Meth Date : 22-May-2020 16:12 voa6.i Quant Type: ISTD
Cal Date : 11-MAY-2020 17:11 Cal File: X051111.D
Als bottle: 4 Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000000_CBI.sub
Target Version: 4.14
Processing Host: NAHSTW7142

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	264457	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	403047	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	360066	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	172614	50.0000	
$ 30 Dibromofluoromethane	113	4.118	4.118	(0.985)	1793	0.50000	0.43(a)
$ 35 1,2-Dichloroethane-d4	65	4.483	4.483	(1.072)	2117	0.50000	0.61(TaM)
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	5920	0.50000	0.19(Ta)
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	2708	0.50000	0.02(aM)
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	1589	0.50000	0.56(a)
31 1,1,1-Trichloroethane	97	4.082	4.082	(0.976)	2455	0.50000	0.57(a)
68 1,1,2,2-Tetrachloroethane	83	8.845	8.845	(0.915)	1621	0.50000	0.58(aM)
138 Freon TF	101	1.911	1.911	(0.457)	928	0.50000	0.45(a)
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	1197	0.50000	0.59(a)
22 1,1-Dichloroethane	63	2.921	2.921	(0.699)	3470	0.50000	0.60(Ta)
11 1,1-Dichloroethene	96	1.911	1.911	(0.457)	1219	0.50000	0.57(a)
32 1,1-Dichloropropene	75	4.290	4.290	(0.863)	2183	0.50000	0.59(aM)
93 1,2,3-Trichlorobenzene	180	11.768	11.768	(1.218)	385	0.50000	0.32(aM)
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.918)	1424	0.50000	0.59(aM)
90 1,2,4-Trichlorobenzene	180	11.352	11.352	(1.175)	505	0.50000	3.02(aM)
79 1,2,4-Trimethylbenzene	105	9.382	9.382	(0.971)	5523	0.50000	0.60(a)
89 1,2-Dibromo-3-Chloropropane	155	10.665	10.665	(1.104)	114	0.50000	1.86(aM)
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	1387	0.50000	0.54(a)

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051103.D Page 2
Report Date: 22-May-2020 16:12

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
88	1,2-Dichlorobenzene	146	10.006	10.006	(1.036)	2924	0.50000	0.60(a)
33	1,2-Dichloroethane	62	4.562	4.562	(0.918)	2366	0.50000	0.56(a)
42	1,2-Dichloropropane	63	5.436	5.436	(1.094)	1947	0.50000	0.59(aM)
75	1,3,5-Trimethylbenzene	105	9.074	9.074	(0.939)	4894	0.50000	0.54(a)
83	1,3-Dichlorobenzene	146	9.612	9.612	(0.995)	3057	0.50000	0.58(a)
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	2403	0.50000	0.57(a)
84	1,4-Dichlorobenzene	146	9.683	9.683	(1.002)	3791	0.50000	0.69(aM)
26	2,2-Dichloropropane	77	3.509	3.509	(0.839)	2471	0.50000	0.59(aM)
24	2-Butanone	43	3.609	3.609	(0.863)	996	1.00000	0.83(aM)
76	2-Chlorotoluene	91	8.981	8.981	(0.930)	4712	0.50000	0.61(a)
52	2-Hexanone	43	7.105	7.105	(0.926)	2689	1.00000	1.20(a)
77	4-Chlorotoluene	91	9.082	9.082	(0.940)	5584	0.50000	0.62(a)
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	5597	0.50000	0.61(a)
45	4-Methyl-2-Pentanone	43	6.338	6.338	(0.826)	3621	1.00000	1.11(a)
37	Benzene	78	4.519	4.519	(0.909)	5977	0.50000	0.58(a)
74	Bromobenzene	156	8.817	8.817	(0.913)	2002	0.50000	0.61(a)
29	Bromochloromethane	128	3.817	3.817	(0.913)	960	0.50000	0.62(aM)
39	Bromodichloromethane	83	5.729	5.729	(1.153)	2116	0.50000	0.56(aM)
66	Bromoform	173	8.415	8.415	(1.097)	1144	0.50000	0.55(aM)
19	Carbon Disulfide	76	2.069	2.069	(0.495)	8247	1.00000	1.15(a)
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	2535	0.50000	0.62(a)
59	Chlorobenzene	112	7.699	7.699	(1.004)	4408	0.50000	0.61(a)
7	Chloroethane	64	1.403	1.403	(0.336)	1364	0.50000	0.31(aM)
28	Chloroform	83	3.917	3.917	(0.937)	2796	0.50000	0.59(aM)
3	Chloromethane	50	1.073	1.073	(0.257)	2464	0.50000	1.21(a)
27	cis-1,2-Dichloroethene	96	3.537	3.537	(0.846)	1435	0.50000	0.51(a)
46	cis-1,3-Dichloropropene	75	6.166	6.166	(1.241)	2430	0.50000	0.55(a)
55	Dibromochloromethane	129	7.176	7.176	(0.936)	1589	0.50000	0.54(a)
44	Dibromomethane	93	5.557	5.557	(1.118)	1096	0.50000	0.61(a)
2	Dichlorodifluoromethane	85	0.973	0.973	(0.233)	1503	0.50000	1.54(aM)
61	Ethylbenzene	106	7.799	7.799	(1.017)	2144	0.50000	0.57(a)
91	Hexachlorobutadiene	225	11.481	11.481	(1.188)	605	0.50000	1.59(aM)
67	Isopropylbenzene	105	8.566	8.566	(1.117)	6620	0.50000	0.58(a)
62	m,p-Xylenes	106	7.914	7.914	(1.032)	5392	1.00000	1.18(a)
87	n-Butylbenzene	91	9.998	9.998	(1.035)	4435	0.50000	0.60(a)
73	n-Propylbenzene	91	8.917	8.917	(0.923)	7797	0.50000	0.62(a)
92	Naphthalene	128	11.567	11.567	(1.197)	795	0.50000	0.48(a)
63	o-Xylene	106	8.244	8.244	(1.075)	2416	0.50000	0.54(a)
81	sec-Butylbenzene	105	9.526	9.526	(0.986)	6535	0.50000	0.62(a)
64	Styrene	104	8.272	8.272	(1.078)	4394	0.50000	0.57(a)
78	tert-Butylbenzene	119	9.339	9.339	(0.967)	4334	0.50000	0.57(aM)
56	Tetrachloroethene	164	6.933	6.933	(0.904)	1303	0.50000	0.54(a)
50	Toluene	91	6.460	6.460	(0.842)	6225	0.50000	0.58(a)
20	trans-1,2-Dichloroethene	96	2.535	2.535	(0.606)	1384	0.50000	0.57(a)
51	trans-1,3-Dichloropropene	75	6.696	6.696	(1.347)	2163	0.50000	0.54(a)
38	Trichloroethene	130	5.221	5.221	(1.050)	1714	0.50000	0.59(a)
8	Trichlorofluoromethane	101	1.560	1.560	(0.373)	2348	0.50000	0.55(a)
5	Vinyl Chloride	62	1.138	1.138	(0.272)	1998	0.50000	0.54(aM)

QC Flag Legend

T - Target compound detected outside RT window.
a - Target compound detected but, quantitated amount Below Limit Of Quantitation(BLOQ).

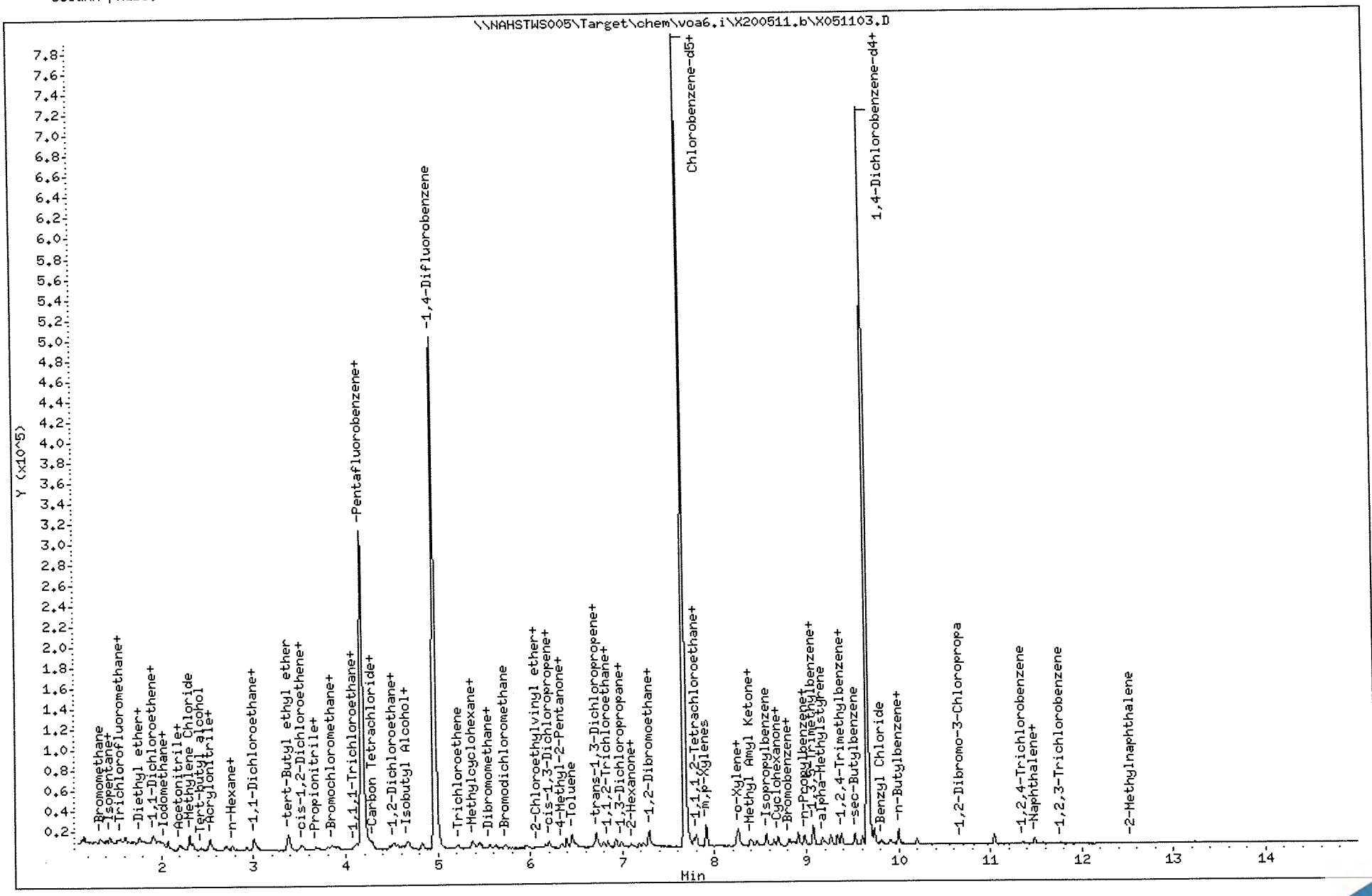
QC Flag Legend

M - Compound response manually integrated.

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051103.D
Date : 11-MAY-2020 14:00
Client ID: VSTD000.5
Sample Info: VSTD000.5;VSTD000.5;1;2;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i

Operator: PC
Column diameter: 0.18



Data File: \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051104.D Page 1
Report Date: 22-May-2020 16:12

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051104.D
Lab Smp Id: VSTD001 Client Smp ID: VSTD001
Inj Date : 11-MAY-2020 14:24
Operator : PC Inst ID: voa6.i
Smp Info : VSTD001;VSTD001;1;3;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200511.b\8260W.m
Meth Date : 22-May-2020 16:12 voa6.i Quant Type: ISTD
Cal Date : 11-MAY-2020 14:00 Cal File: X051103.D
Als bottle: 5 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000000_CBI.sub
Target Version: 4.14
Processing Host: NAHSTW7142

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

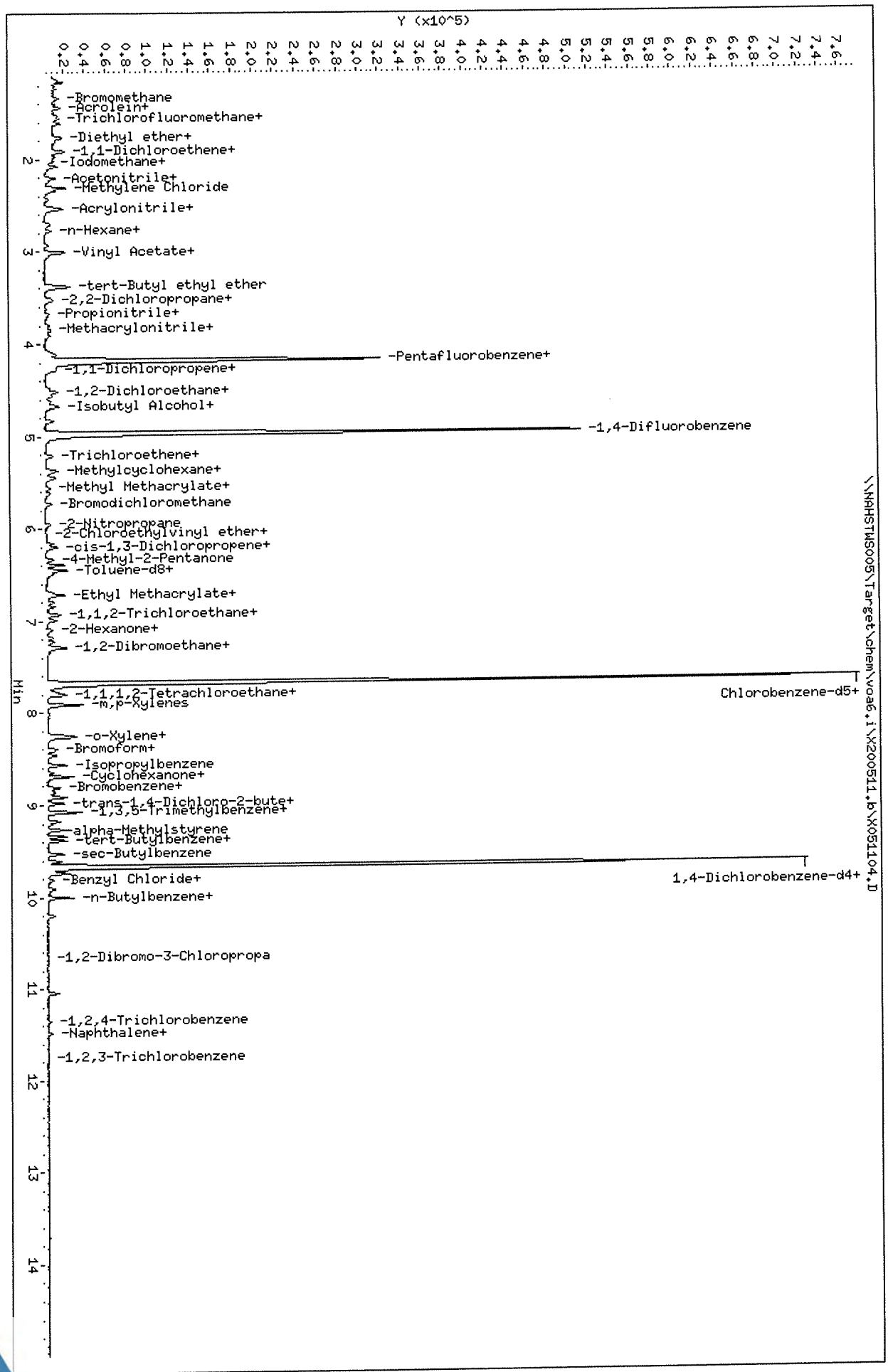
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	275272	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	406059	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	364006	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	178611	50.0000	
$ 30 Dibromofluoromethane	113	4.111	4.111	(0.983)	3147	1.00000	0.90(a)
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	3902	1.00000	1.11
$ 48 Toluene-d8	98	6.396	6.396	(0.834)	10982	1.00000	0.74(a)
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	6819	1.00000	1.22(M)
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	2921	1.00000	1.02(a)
31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	4385	1.00000	0.99(a)
68 1,1,2,2-Tetrachloroethane	83	8.845	8.845	(0.915)	2901	1.00000	1.01(aM)
138 Freon TF	101	1.919	1.919	(0.459)	2064	1.00000	0.97(a)
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	1834	1.00000	0.90(a)
22 1,1-Dichloroethane	63	2.929	2.929	(0.700)	6103	1.00000	1.02
11 1,1-Dichloroethene	96	1.911	1.911	(0.457)	2222	1.00000	1.01(a)
32 1,1-Dichloropropene	75	4.282	4.282	(0.862)	3792	1.00000	1.02(a)
93 1,2,3-Trichlorobenzene	180	11.753	11.753	(1.216)	431	1.00000	0.38(aM)
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.917)	2246	1.00000	0.90(aM)
90 1,2,4-Trichlorobenzene	180	11.352	11.352	(1.174)	762	1.00000	3.20(aM)
79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.970)	8175	1.00000	0.87(a)
89 1,2-Dibromo-3-Chloropropane	155	10.658	10.658	(1.102)	128	1.00000	1.90(aM)
57 1,2-Dibromoethane	107	7.269	7.269	(0.948)	2246	1.00000	0.86(a)

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051104.D Page 2
Report Date: 22-May-2020 16:12

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
88	1,2-Dichlorobenzene	146	9.999	9.999	(1.034)	4805	1.00000	0.96(a)
33	1,2-Dichloroethane	62	4.562	4.562	(0.918)	3942	1.00000	0.93(a)
42	1,2-Dichloropropane	63	5.436	5.436	(1.094)	3276	1.00000	0.99(aM)
75	1,3,5-Trimethylbenzene	105	9.074	9.074	(0.939)	8480	1.00000	0.91(a)
83	1,3-Dichlorobenzene	146	9.612	9.612	(0.994)	5149	1.00000	0.94(a)
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	3905	1.00000	0.92(a)
84	1,4-Dichlorobenzene	146	9.683	9.683	(1.001)	5222	1.00000	0.92(a)
26	2,2-Dichloropropane	77	3.509	3.509	(0.839)	4652	1.00000	1.06(a)
24	2-Butanone	43	3.616	3.616	(0.865)	2014	2.00000	1.62(aM)
76	2-Chlorotoluene	91	8.981	8.981	(0.929)	8499	1.00000	1.06(a)
52	2-Hexanone	43	7.097	7.097	(0.925)	3544	2.00000	1.57(a)
77	4-Chlorotoluene	91	9.074	9.074	(0.939)	9489	1.00000	1.03(a)
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	7748	1.00000	0.82(a)
45	4-Methyl-2-Pentanone	43	6.331	6.331	(0.825)	5818	2.00000	1.77(a)
37	Benzene	78	4.519	4.519	(0.909)	10698	1.00000	1.03
74	Bromobenzene	156	8.809	8.809	(0.911)	3242	1.00000	0.96(a)
29	Bromochloromethane	128	3.810	3.810	(0.911)	1724	1.00000	1.07(aM)
39	Bromodichloromethane	83	5.729	5.729	(1.153)	3508	1.00000	0.92(aM)
66	Bromoform	173	8.415	8.415	(1.097)	1878	1.00000	0.90(Ta)
6	Bromomethane	94	1.338	1.338	(0.320)	2788	1.00000	0.65(aM)
19	Carbon Disulfide	76	2.069	2.069	(0.495)	14075	2.00000	1.88(a)
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	4264	1.00000	1.04(a)
59	Chlorobenzene	112	7.699	7.699	(1.004)	6626	1.00000	0.91(a)
7	Chloroethane	64	1.403	1.403	(0.336)	2214	1.00000	0.72(aM)
28	Chloroform	83	3.917	3.917	(0.937)	4419	1.00000	0.89(a)
3	Chloromethane	50	1.073	1.073	(0.257)	4677	1.00000	1.69(a)
27	cis-1,2-Dichloroethene	96	3.537	3.537	(0.846)	2598	1.00000	0.89(a)
46	cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	4354	1.00000	0.98(a)
55	Dibromochloromethane	129	7.183	7.183	(0.937)	2769	1.00000	0.93(a)
44	Dibromomethane	93	5.557	5.557	(1.118)	1516	1.00000	0.84(a)
2	Dichlorodifluoromethane	85	0.966	0.966	(0.231)	2633	1.00000	1.86(a)
61	Ethylbenzene	106	7.807	7.807	(1.018)	3595	1.00000	0.94(a)
91	Hexachlorobutadiene	225	11.481	11.481	(1.187)	736	1.00000	1.70(aM)
67	Isopropylbenzene	105	8.566	8.566	(1.117)	10828	1.00000	0.95(a)
62	m,p-Xylenes	106	7.907	7.907	(1.031)	8477	2.00000	1.84(a)
17	Methylene Chloride	84	2.305	2.305	(0.551)	3655	1.00000	0.30(aM)
87	n-Butylbenzene	91	9.999	9.999	(1.034)	5888	1.00000	0.77(a)
73	n-Propylbenzene	91	8.917	8.917	(0.922)	11772	1.00000	0.91(a)
92	Naphthalene	128	11.567	11.567	(1.196)	1462	1.00000	0.86(a)
63	o-Xylene	106	8.244	8.244	(1.075)	4297	1.00000	0.96(a)
81	sec-Butylbenzene	105	9.526	9.526	(0.985)	9307	1.00000	0.86(a)
64	Styrene	104	8.265	8.265	(1.078)	7774	1.00000	1.00
78	tert-Butylbenzene	119	9.340	9.340	(0.966)	7608	1.00000	0.97(a)
56	Tetrachloroethene	164	6.933	6.933	(0.904)	2384	1.00000	0.99(a)
50	Toluene	91	6.453	6.453	(0.841)	10333	1.00000	0.95(a)
20	trans-1,2-Dichloroethene	96	2.535	2.535	(0.606)	2248	1.00000	0.89(a)
51	trans-1,3-Dichloropropene	75	6.689	6.689	(1.346)	3756	1.00000	0.93(a)
38	Trichloroethene	130	5.221	5.221	(1.050)	2673	1.00000	0.91(a)
8	Trichlorofluoromethane	101	1.560	1.560	(0.373)	4149	1.00000	0.93(a)
5	Vinyl Chloride	62	1.138	1.138	(0.272)	3583	1.00000	0.93(a)

QC Flag Legend

T - Target compound detected outside RT window.
a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.



Data File: \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051104.D
Date : 11-MAY-2020 14:24
Client ID: VSTD001
Sample Info: VSTD001;VSTD001;1;3;
Purge Volume: 5.0
Column phase: DB624

\\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051104.D
Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051105.D Page 1
Report Date: 22-May-2020 16:12

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051105.D
Lab Smp Id: VSTD002 Client Smp ID: VSTD002
Inj Date : 11-MAY-2020 14:48
Operator : PC Inst ID: voa6.i
Smp Info : VSTD002;VSTD002;1;4;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200511.b\8260W.m
Meth Date : 22-May-2020 16:12 voa6.i Quant Type: ISTD
Cal Date : 11-MAY-2020 14:24 Cal File: X051104.D
Als bottle: 6 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000000_CBI.sub
Target Version: 4.14
Processing Host: NAHSTW7142

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

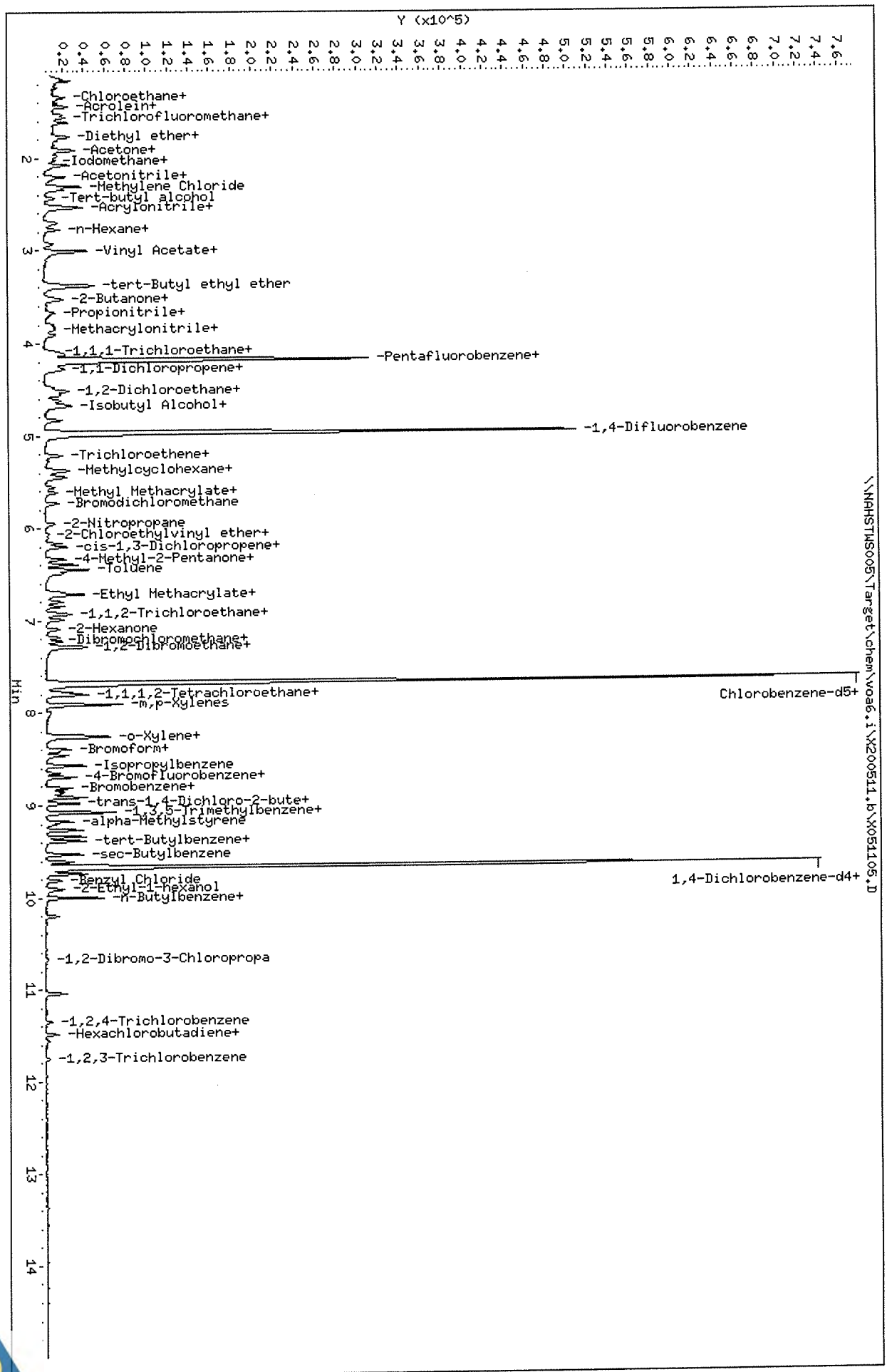
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
*	1 Pentafluorobenzene	168	4.182	4.182	(1.000)	263591	50.0000	
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	396279	50.0000	
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	351963	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	178242	50.0000	
$	30 Dibromofluoromethane	113	4.103	4.103	(0.981)	5198	2.00000	1.74
$	35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	7290	2.00000	2.20
$	48 Toluene-d8	98	6.388	6.388	(0.833)	18430	2.00000	1.63
$	69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	8380	2.00000	1.75
	60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	5459	2.00000	1.97(a)
	31 1,1,1-Trichloroethane	97	4.082	4.082	(0.976)	8079	2.00000	1.91
	68 1,1,2,2-Tetrachloroethane	83	8.845	8.845	(0.915)	6293	2.00000	2.19(aM)
	138 Freon TF	101	1.919	1.919	(0.459)	4120	2.00000	2.02(a)
	53 1,1,2-Trichloroethane	83	6.847	6.847	(0.893)	4127	2.00000	2.10(a)
	22 1,1-Dichloroethane	63	2.922	2.922	(0.699)	11643	2.00000	2.03
	11 1,1-Dichloroethene	96	1.912	1.912	(0.457)	3905	2.00000	1.86(a)
	32 1,1-Dichloropropene	75	4.283	4.283	(0.862)	7360	2.00000	2.02(a)
	93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.216)	1047	2.00000	1.52(a)
	71 1,2,3-Trichloropropane	75	8.867	8.867	(0.918)	5909	2.00000	2.37(aM)
	90 1,2,4-Trichlorobenzene	180	11.345	11.345	(1.174)	1924	2.00000	4.05(a)
	79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.971)	17865	2.00000	1.91(a)
	89 1,2-Dibromo-3-Chloropropane	155	10.665	10.665	(1.104)	532	2.00000	3.27(aM)
	57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	5252	2.00000	2.10

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051105.D Page 2
Report Date: 22-May-2020 16:12

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
88	1,2-Dichlorobenzene	146	9.999	9.999	(1.035)	10304	2.00000	2.07(a)
33	1,2-Dichloroethane	62	4.569	4.569	(0.919)	7567	2.00000	1.83
42	1,2-Dichloropropane	63	5.443	5.443	(1.095)	6309	2.00000	1.95(aM)
75	1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	18199	2.00000	1.97(a)
83	1,3-Dichlorobenzene	146	9.612	9.612	(0.995)	10710	2.00000	1.97(a)
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	8570	2.00000	2.10(a)
84	1,4-Dichlorobenzene	146	9.683	9.683	(1.002)	10744	2.00000	1.90(a)
26	2,2-Dichloropropane	77	3.516	3.516	(0.841)	8610	2.00000	2.06(a)
24	2-Butanone	43	3.595	3.595	(0.860)	3931	4.00000	3.30
76	2-Chlorotoluene	91	8.974	8.974	(0.929)	15622	2.00000	1.96(a)
52	2-Hexanone	43	7.090	7.090	(0.924)	9844	4.00000	4.52(a)
77	4-Chlorotoluene	91	9.075	9.075	(0.939)	17906	2.00000	1.95(a)
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	17190	2.00000	1.83(a)
45	4-Methyl-2-Pentanone	43	6.331	6.331	(0.825)	14181	4.00000	4.46(a)
10	Acetone	43	1.969	1.969	(0.471)	5040	4.00000	2.97(a)
37	Benzene	78	4.519	4.519	(0.909)	19710	2.00000	1.94
74	Bromobenzene	156	8.810	8.810	(0.912)	6636	2.00000	1.98(a)
29	Bromochloromethane	128	3.795	3.795	(0.908)	3004	2.00000	1.96(a)
39	Bromodichloromethane	83	5.729	5.729	(1.153)	7310	2.00000	1.97(a)
66	Bromoform	173	8.416	8.416	(1.097)	4311	2.00000	2.13(Ta)
6	Bromomethane	94	1.339	1.339	(0.320)	5327	2.00000	2.04(aM)
19	Carbon Disulfide	76	2.069	2.069	(0.495)	27764	4.00000	3.88(a)
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	7736	2.00000	1.94(a)
59	Chlorobenzene	112	7.699	7.699	(1.004)	14195	2.00000	2.03
7	Chloroethane	64	1.403	1.403	(0.336)	3636	2.00000	1.54(a)
28	Chloroform	83	3.917	3.917	(0.937)	9385	2.00000	1.99
3	Chloromethane	50	1.074	1.074	(0.257)	8356	2.00000	2.61(a)
27	cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	6149	2.00000	2.21(a)
46	cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	8237	2.00000	1.90(a)
55	Dibromochloromethane	129	7.176	7.176	(0.936)	5789	2.00000	2.03(a)
44	Dibromomethane	93	5.558	5.558	(1.118)	3352	2.00000	1.91(a)
2	Dichlorodifluoromethane	85	0.973	0.973	(0.233)	5304	2.00000	2.75(a)
61	Ethylbenzene	106	7.800	7.800	(1.017)	7402	2.00000	2.02
91	Hexachlorobutadiene	225	11.481	11.481	(1.188)	2177	2.00000	3.15(a)
67	Isopropylbenzene	105	8.566	8.566	(1.117)	20273	2.00000	1.84(a)
62	m,p-Xylenes	106	7.907	7.907	(1.031)	17933	4.00000	4.03
17	Methylene Chloride	84	2.306	2.306	(0.551)	6641	2.00000	1.54(aM)
87	n-Butylbenzene	91	9.999	9.999	(1.035)	13137	2.00000	1.73(a)
73	n-Propylbenzene	91	8.917	8.917	(0.923)	23793	2.00000	1.85(a)
92	Naphthalene	128	11.553	11.553	(1.196)	2896	2.00000	1.72(a)
63	o-Xylene	106	8.244	8.244	(1.075)	9179	2.00000	2.12
81	sec-Butylbenzene	105	9.526	9.526	(0.986)	21323	2.00000	1.97(a)
64	Styrene	104	8.265	8.265	(1.078)	15041	2.00000	2.00
78	tert-Butylbenzene	119	9.340	9.340	(0.967)	15079	2.00000	1.92(a)
56	Tetrachloroethene	164	6.933	6.933	(0.904)	4860	2.00000	2.09
50	Toluene	91	6.453	6.453	(0.841)	21432	2.00000	2.05
20	trans-1,2-Dichloroethene	96	2.535	2.535	(0.606)	4704	2.00000	1.96(a)
51	trans-1,3-Dichloropropene	75	6.689	6.689	(1.346)	7614	2.00000	1.93(a)
38	Trichloroethene	130	5.214	5.214	(1.049)	5425	2.00000	1.90
8	Trichlorofluoromethane	101	1.561	1.561	(0.373)	7899	2.00000	1.86(a)
5	Vinyl Chloride	62	1.138	1.138	(0.272)	7135	2.00000	1.95(a)

QC Flag Legend

T - Target compound detected outside RT window.
a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.



Data File: \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051105.D
Date : 11-MAY-2020 14:48
Client ID: VSTD002
Sample Info: VSTD002,VSTD002,1,4,
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051106.D Page 1
Report Date: 22-May-2020 16:12

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051106.D
Lab Smp Id: VSTD005 Client Smp ID: VSTD005
Inj Date : 11-MAY-2020 15:12
Operator : PC Inst ID: voa6.i
Smp Info : VSTD005;VSTD005;1;5;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200511.b\8260W.m
Meth Date : 22-May-2020 16:12 voa6.i Quant Type: ISTD
Cal Date : 11-MAY-2020 14:48 Cal File: X051105.D
Als bottle: 7 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000000_CBI.sub
Target Version: 4.14
Processing Host: NAHSTW7142

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	260790	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	393985	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	352401	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	175544	50.0000	
$ 30 Dibromofluoromethane	113	4.111	4.111	(0.983)	14036	5.00000	5.17
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	17135	5.00000	5.29
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	47142	5.00000	4.91
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	19241	5.00000	5.03
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	13494	5.00000	4.87(a)
31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	20093	5.00000	4.81
68 1,1,2,2-Tetrachloroethane	83	8.845	8.845	(0.915)	14006	5.00000	4.96(a)
138 Freon TF	101	1.911	1.911	(0.457)	9855	5.00000	4.88(a)
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	10314	5.00000	5.26
22 1,1-Dichloroethane	63	2.921	2.921	(0.699)	28324	5.00000	4.99
11 1,1-Dichloroethene	96	1.911	1.911	(0.457)	9809	5.00000	4.72(a)
32 1,1-Dichloropropene	75	4.282	4.282	(0.862)	17168	5.00000	4.75(a)
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.215)	3164	5.00000	5.50
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.917)	11655	5.00000	4.76(aM)
90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	5746	5.00000	6.93
79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.970)	44767	5.00000	4.86(a)
89 1,2-Dibromo-3-Chloropropane	155	10.665	10.665	(1.103)	1596	5.00000	6.97
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	12610	5.00000	5.03

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051106.D Page 2
Report Date: 22-May-2020 16:12

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
88 1,2-Dichlorobenzene	146	9.999	9.999	(1.034)	23909	5.00000	4.88(a)
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	20100	5.00000	4.89
42 1,2-Dichloropropane	63	5.436	5.436	(1.094)	15911	5.00000	4.96(a)
75 1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	45927	5.00000	5.06
83 1,3-Dichlorobenzene	146	9.605	9.605	(0.993)	26279	5.00000	4.91(a)
54 1,3-Dichloropropane	76	6.983	6.983	(0.910)	20663	5.00000	5.07
84 1,4-Dichlorobenzene	146	9.683	9.683	(1.001)	27091	5.00000	4.88(a)
26 2,2-Dichloropropane	77	3.509	3.509	(0.839)	20032	5.00000	4.85(a)
24 2-Butanone	43	3.588	3.588	(0.858)	11452	10.0000	9.74
76 2-Chlorotoluene	91	8.974	8.974	(0.928)	38693	5.00000	4.93(a)
52 2-Hexanone	43	7.090	7.090	(0.924)	21406	10.0000	9.82
77 4-Chlorotoluene	91	9.075	9.075	(0.939)	42965	5.00000	4.75(a)
82 p-Isopropyltoluene	119	9.655	9.655	(0.999)	44464	5.00000	4.82(a)
45 4-Methyl-2-Pentanone	43	6.331	6.331	(0.825)	32131	10.0000	10.09
10 Acetone	43	1.976	1.976	(0.473)	9390	10.0000	7.93
37 Benzene	78	4.519	4.519	(0.909)	47662	5.00000	4.73
74 Bromobenzene	156	8.809	8.809	(0.911)	15558	5.00000	4.72(a)
29 Bromochloromethane	128	3.795	3.795	(0.908)	7793	5.00000	5.15
39 Bromodichloromethane	83	5.729	5.729	(1.153)	18153	5.00000	4.93(a)
66 Bromoform	173	8.416	8.416	(1.097)	10062	5.00000	4.98(a)
6 Bromomethane	94	1.338	1.338	(0.320)	11539	5.00000	5.35(M)
19 Carbon Disulfide	76	2.069	2.069	(0.495)	68909	10.0000	9.74
34 Carbon Tetrachloride	117	4.268	4.268	(0.859)	18629	5.00000	4.70(a)
59 Chlorobenzene	112	7.699	7.699	(1.004)	34696	5.00000	4.96
7 Chloroethane	64	1.403	1.403	(0.336)	10011	5.00000	5.05
28 Chloroform	83	3.910	3.910	(0.935)	24061	5.00000	5.16
3 Chloromethane	50	1.073	1.073	(0.257)	19497	5.00000	5.31
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	13752	5.00000	4.99(a)
46 cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	21020	5.00000	4.88(a)
55 Dibromochloromethane	129	7.176	7.176	(0.936)	13999	5.00000	4.90(a)
44 Dibromomethane	93	5.557	5.557	(1.118)	8792	5.00000	5.05
2 Dichlorodifluoromethane	85	0.966	0.966	(0.231)	13068	5.00000	5.26
61 Ethylbenzene	106	7.800	7.800	(1.017)	17464	5.00000	4.76
91 Hexachlorobutadiene	225	11.481	11.481	(1.187)	5460	5.00000	6.55
67 Isopropylbenzene	105	8.566	8.566	(1.117)	54621	5.00000	4.97(a)
62 m,p-Xylenes	106	7.907	7.907	(1.031)	43516	10.0000	9.78
17 Methylene Chloride	84	2.305	2.305	(0.551)	14433	5.00000	4.67(aM)
87 n-Butylbenzene	91	9.999	9.999	(1.034)	36372	5.00000	4.88(a)
73 n-Propylbenzene	91	8.917	8.917	(0.922)	61681	5.00000	4.88(a)
92 Naphthalene	128	11.546	11.546	(1.194)	7604	5.00000	4.60(a)
63 o-Xylene	106	8.244	8.244	(1.075)	21272	5.00000	4.91
81 sec-Butylbenzene	105	9.526	9.526	(0.985)	53044	5.00000	4.98(a)
64 Styrene	104	8.265	8.265	(1.078)	36239	5.00000	4.83
78 tert-Butylbenzene	119	9.340	9.340	(0.966)	38878	5.00000	5.05
56 Tetrachloroethene	164	6.933	6.933	(0.904)	11417	5.00000	4.91
50 Toluene	91	6.446	6.446	(0.840)	52487	5.00000	5.03
20 trans-1,2-Dichloroethene	96	2.535	2.535	(0.606)	11735	5.00000	4.94(a)
51 trans-1,3-Dichloropropene	75	6.689	6.689	(1.346)	19122	5.00000	4.89(a)
38 Trichloroethene	130	5.206	5.206	(1.048)	13453	5.00000	4.75
8 Trichlorofluoromethane	101	1.561	1.561	(0.373)	19847	5.00000	4.73(a)
5 Vinyl Chloride	62	1.138	1.138	(0.272)	17119	5.00000	4.73(a)

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.

01006714

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051106.D

Date : 11-MAY-2020 15:12

Client ID: VSTD005

Sample Info: VSTD005;VSTD005;1;5;

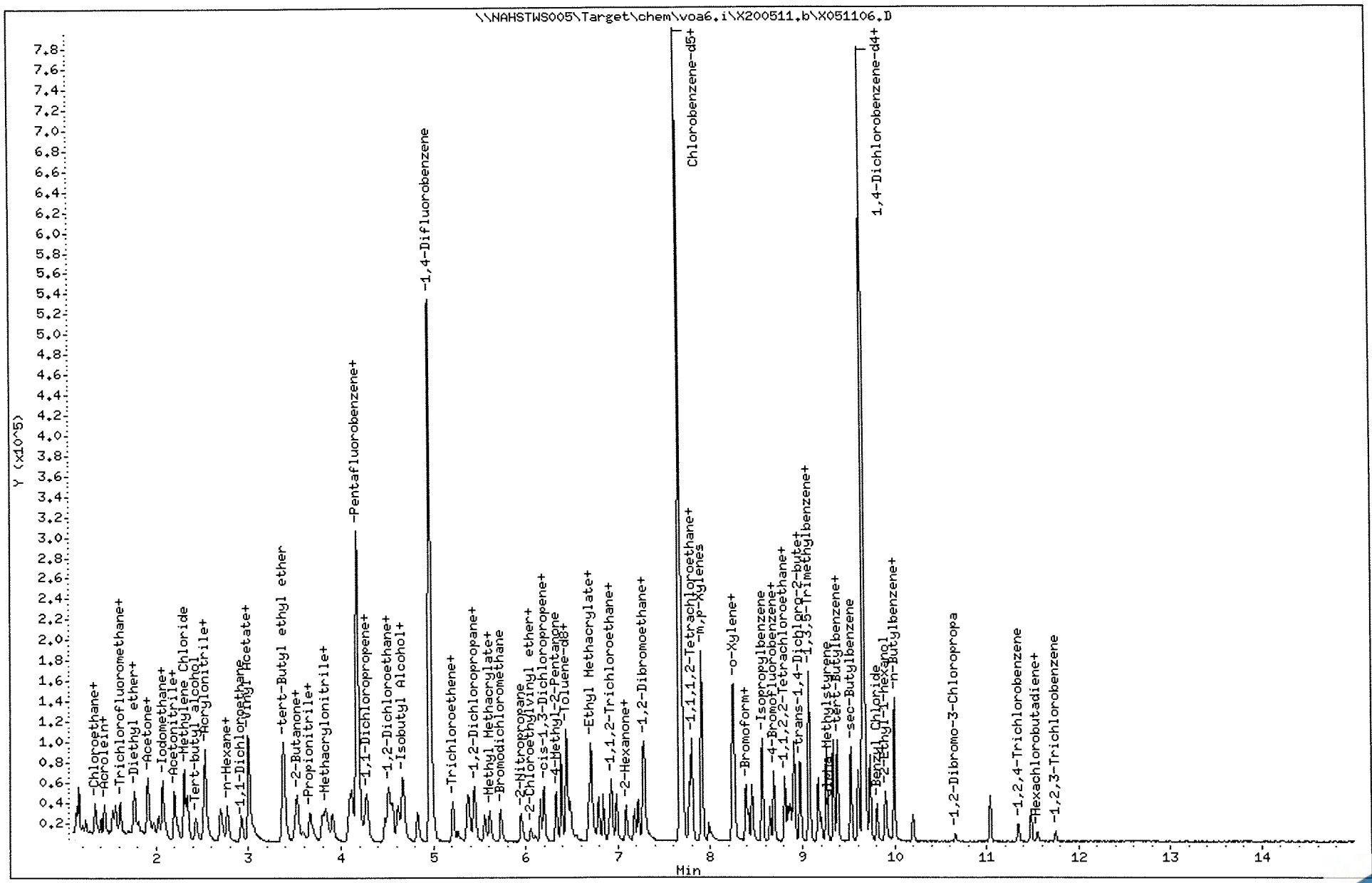
Purge Volume: 5.0

Column phase: DB624

Instrument: voa6.i

Operator: PC

Column diameter: 0.18



Data File: \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051107.D Page 1
Report Date: 22-May-2020 16:12

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051107.D
Lab Smp Id: VSTD020 Client Smp ID: VSTD020
Inj Date : 11-MAY-2020 15:36
Operator : PC Inst ID: voa6.i
Smp Info : VSTD020;VSTD020;1;6;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200511.b\8260W.m
Meth Date : 22-May-2020 16:12 voa6.i Quant Type: ISTD
Cal Date : 11-MAY-2020 15:12 Cal File: X051106.D
Als bottle: 8 Calibration Sample, Level: 6
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000000_CBI.sub
Target Version: 4.14
Processing Host: NAHSTW7142

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

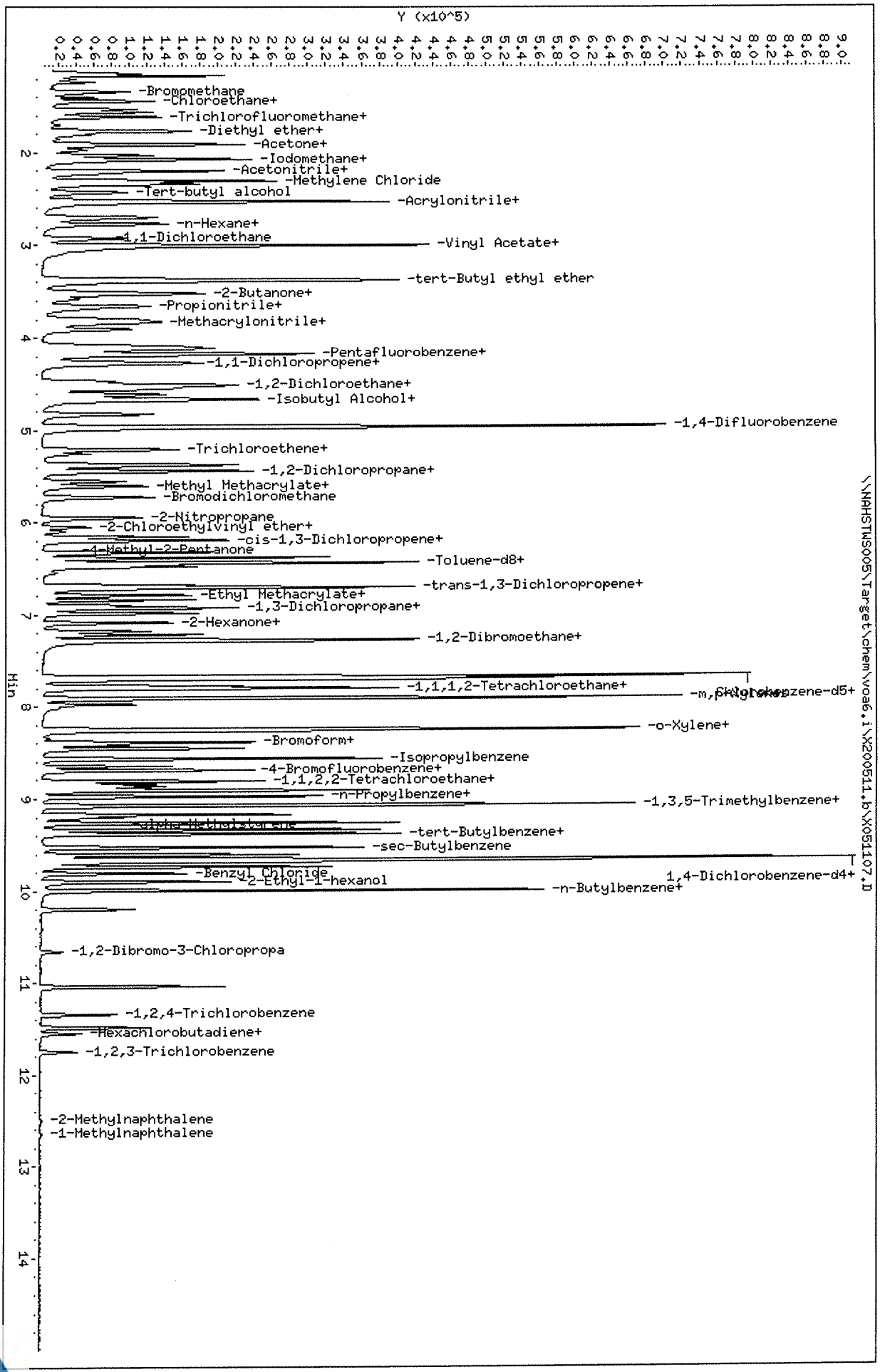
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
*	1 Pentafluorobenzene	168	4.182	4.182	(1.000)	255700	50.0000	
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	378254	50.0000	
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	339256	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	171130	50.0000	
$	30 Dibromofluoromethane	113	4.103	4.103	(0.981)	51294	20.0000	19.96
$	35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	62012	20.0000	19.65
$	48 Toluene-d8	98	6.388	6.388	(0.833)	176771	20.0000	20.47
$	69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	69563	20.0000	21.02
	60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	52095	20.0000	19.53
	31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	79732	20.0000	19.47
	68 1,1,2,2-Tetrachloroethane	83	8.838	8.838	(0.915)	53986	20.0000	19.63
	138 Freon TF	101	1.919	1.919	(0.459)	38765	20.0000	19.61
	53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	36817	20.0000	19.50
	22 1,1-Dichloroethane	63	2.921	2.921	(0.699)	107343	20.0000	19.31
	11 1,1-Dichloroethene	96	1.911	1.911	(0.457)	39440	20.0000	19.38
	32 1,1-Dichloropropene	75	4.282	4.282	(0.862)	66167	20.0000	19.10
	93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.216)	11186	20.0000	20.71
	71 1,2,3-Trichloropropane	75	8.867	8.867	(0.918)	45232	20.0000	18.96(M)
	90 1,2,4-Trichlorobenzene	180	11.345	11.345	(1.174)	23261	20.0000	20.47
	79 1,2,4-Trimethylbenzene	105	9.382	9.382	(0.971)	177262	20.0000	19.74
	89 1,2-Dibromo-3-Chloropropane	155	10.657	10.657	(1.103)	5237	20.0000	20.01
	57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	49329	20.0000	20.46

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051107.D Page 2
Report Date: 22-May-2020 16:12

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
88	1,2-Dichlorobenzene	146	9.991	9.991	(1.034)	91741	20.0000	19.24
33	1,2-Dichloroethane	62	4.562	4.562	(0.918)	79106	20.0000	20.08
42	1,2-Dichloropropane	63	5.443	5.443	(1.095)	60696	20.0000	19.71
75	1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	173374	20.0000	19.62
83	1,3-Dichlorobenzene	146	9.605	9.605	(0.994)	103242	20.0000	19.79
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	78846	20.0000	20.09
84	1,4-Dichlorobenzene	146	9.683	9.683	(1.002)	102094	20.0000	18.87
26	2,2-Dichloropropane	77	3.509	3.509	(0.839)	78288	20.0000	19.33
24	2-Butanone	43	3.580	3.580	(0.856)	49330	40.0000	42.80
76	2-Chlorotoluene	91	8.974	8.974	(0.929)	143786	20.0000	18.82
52	2-Hexanone	43	7.090	7.090	(0.924)	83306	40.0000	39.70
77	4-Chlorotoluene	91	9.074	9.074	(0.939)	170619	20.0000	19.37
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	178794	20.0000	19.89
45	4-Methyl-2-Pentanone	43	6.324	6.324	(0.824)	122401	40.0000	39.95
10	Acetone	43	1.969	1.969	(0.471)	35665	40.0000	38.28
37	Benzene	78	4.512	4.512	(0.908)	190323	20.0000	19.68
74	Bromobenzene	156	8.809	8.809	(0.912)	62061	20.0000	19.34
29	Bromochloromethane	128	3.795	3.795	(0.908)	28180	20.0000	18.99
39	Bromodichloromethane	83	5.729	5.729	(1.153)	69054	20.0000	19.55
66	Bromoform	173	8.415	8.415	(1.097)	38468	20.0000	19.79
6	Bromomethane	94	1.338	1.338	(0.320)	40170	20.0000	20.93
19	Carbon Disulfide	76	2.069	2.069	(0.495)	269383	40.0000	38.86
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	69941	20.0000	18.40
59	Chlorobenzene	112	7.699	7.699	(1.004)	130918	20.0000	19.47
7	Chloroethane	64	1.403	1.403	(0.336)	35750	20.0000	19.50
28	Chloroform	83	3.910	3.910	(0.935)	90107	20.0000	19.71
3	Chloromethane	50	1.073	1.073	(0.257)	77009	20.0000	19.49
27	cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	54813	20.0000	20.32
46	cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	81116	20.0000	19.61
55	Dibromochloromethane	129	7.176	7.176	(0.936)	53715	20.0000	19.56
44	Dibromomethane	93	5.557	5.557	(1.118)	32219	20.0000	19.29
2	Dichlorodifluoromethane	85	0.966	0.966	(0.231)	55700	20.0000	19.32
61	Ethylbenzene	106	7.799	7.799	(1.017)	69660	20.0000	19.74
91	Hexachlorobutadiene	225	11.481	11.481	(1.188)	21311	20.0000	23.33
67	Isopropylbenzene	105	8.566	8.566	(1.117)	209344	20.0000	19.78
62	m,p-Xylenes	106	7.907	7.907	(1.031)	170236	40.0000	39.75
17	Methylene Chloride	84	2.305	2.305	(0.551)	52520	20.0000	20.24
87	n-Butylbenzene	91	9.998	9.998	(1.035)	146592	20.0000	20.21
73	n-Propylbenzene	91	8.917	8.917	(0.923)	239282	20.0000	19.44
92	Naphthalene	128	11.546	11.546	(1.195)	31970	20.0000	19.84
63	o-Xylene	106	8.244	8.244	(1.075)	83788	20.0000	20.11
81	sec-Butylbenzene	105	9.526	9.526	(0.986)	201174	20.0000	19.40
64	Styrene	104	8.258	8.258	(1.077)	143940	20.0000	19.93
78	tert-Butylbenzene	119	9.339	9.339	(0.967)	147263	20.0000	19.62
56	Tetrachloroethene	164	6.933	6.933	(0.904)	43566	20.0000	19.46
50	Toluene	91	6.446	6.446	(0.840)	201457	20.0000	20.06
20	trans-1,2-Dichloroethene	96	2.527	2.527	(0.604)	46791	20.0000	20.11
51	trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	73152	20.0000	19.50
38	Trichloroethene	130	5.206	5.206	(1.048)	52492	20.0000	19.34
8	Trichlorofluoromethane	101	1.560	1.560	(0.373)	79846	20.0000	19.40
5	Vinyl Chloride	62	1.138	1.138	(0.272)	69422	20.0000	19.58

QC Flag Legend

M - Compound response manually integrated.



Data File: \\NAHSTWS005\Target\chem\voa6,i\X200511,b\X051107,D
Date : 11-MAY-2020 15:36
Client ID: VSTD020
Sample Info: VSTD020;VSTD020;1;6;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6,i
Operator: PC
Column diameter: 0.18

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051108.D Page 1
Report Date: 22-May-2020 16:12

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051108.D
Lab Smp Id: VSTD050 Client Smp ID: VSTD050
Inj Date : 11-MAY-2020 16:00
Operator : PC Inst ID: voa6.i
Smp Info : VSTD050;VSTD050;1;7;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200511.b\8260W.m
Meth Date : 22-May-2020 16:12 voa6.i Quant Type: ISTD
Cal Date : 11-MAY-2020 15:36 Cal File: X051107.D
Als bottle: 9 Calibration Sample, Level: 7
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000000_CBI.sub
Target Version: 4.14
Processing Host: NAHSTW7142

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
*	1 Pentafluorobenzene	168	4.182	4.182	(1.000)	244879	50.0000	
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	357125	50.0000	
*	47 Chlorobenzene-d5	117	7.670	7.670	(1.000)	326341	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	163130	50.0000	
$	30 Dibromofluoromethane	113	4.103	4.103	(0.981)	118264	50.0000	48.40
$	35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	143586	50.0000	47.57
$	48 Toluene-d8	98	6.388	6.388	(0.833)	410250	50.0000	50.05
$	69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	152557	50.0000	48.91
	60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	124113	50.0000	48.38
	31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	187573	50.0000	47.83
	68 1,1,2,2-Tetrachloroethane	83	8.838	8.838	(0.914)	121679	50.0000	46.41
	138 Freon TF	101	1.911	1.911	(0.457)	94407	50.0000	49.88
	53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	87053	50.0000	47.95
	22 1,1-Dichloroethane	63	2.921	2.921	(0.699)	249560	50.0000	46.89
	11 1,1-Dichloroethene	96	1.911	1.911	(0.457)	94156	50.0000	48.32
	32 1,1-Dichloropropene	75	4.282	4.282	(0.862)	153095	50.0000	46.82
	93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.215)	27245	50.0000	51.83
	71 1,2,3-Trichloropropane	75	8.867	8.867	(0.917)	111062	50.0000	48.85 (M)
	90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	54809	50.0000	46.70
	79 1,2,4-Trimethylbenzene	105	9.382	9.382	(0.970)	419671	50.0000	49.04
	89 1,2-Dibromo-3-Chloropropane	155	10.657	10.657	(1.102)	12187	50.0000	46.74
	57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	114686	50.0000	49.46

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051108.D Page 2
Report Date: 22-May-2020 16:12

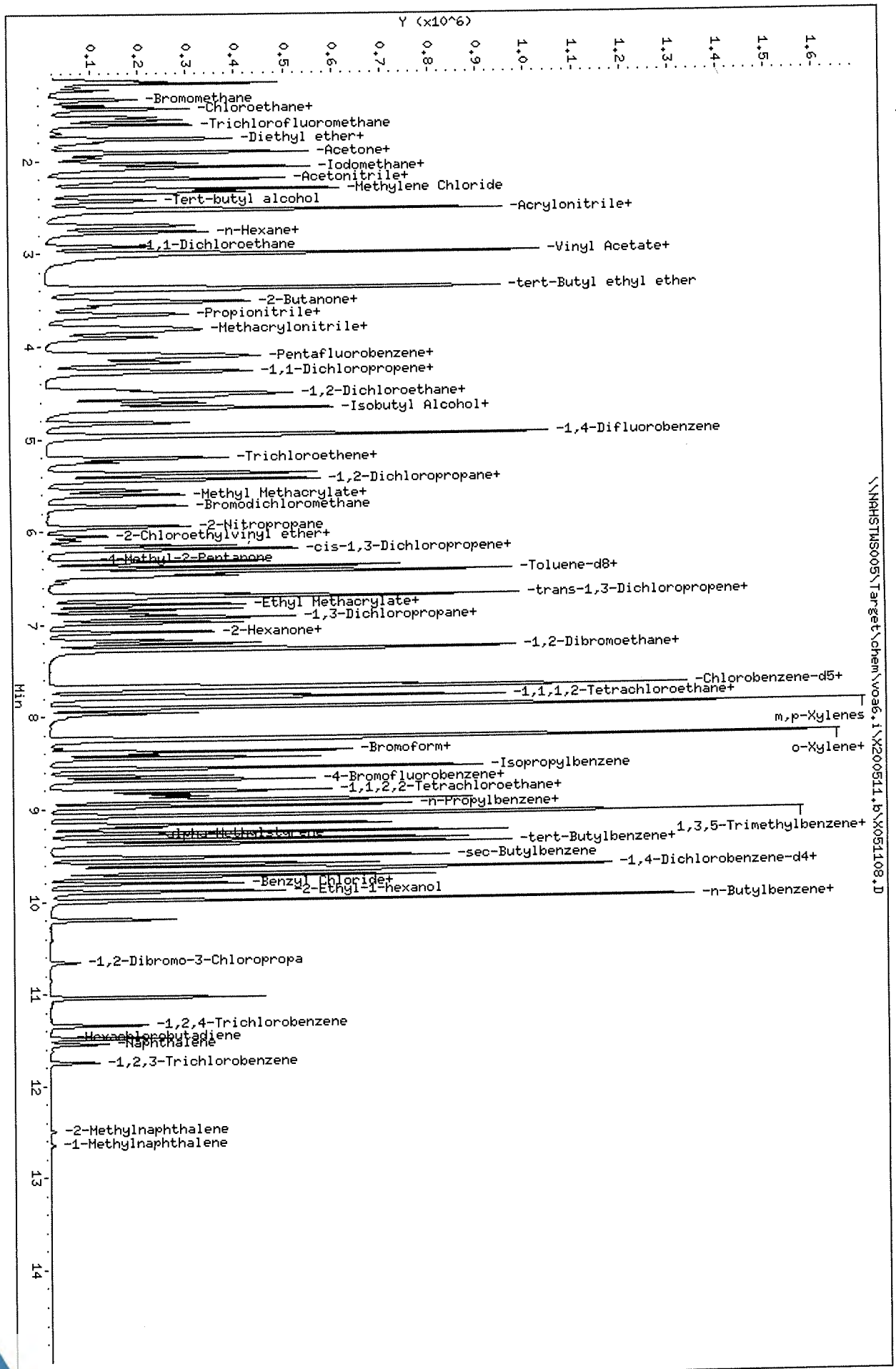
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
88 1,2-Dichlorobenzene	146	9.998	9.998	(1.034)	216357	50.0000	47.60
33 1,2-Dichloroethane	62	4.555	4.555	(0.916)	188212	50.0000	50.61
42 1,2-Dichloropropane	63	5.436	5.436	(1.094)	141074	50.0000	48.53
75 1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	410269	50.0000	48.70
83 1,3-Dichlorobenzene	146	9.605	9.605	(0.993)	238547	50.0000	47.98
54 1,3-Dichloropropane	76	6.983	6.983	(0.910)	182269	50.0000	48.29
84 1,4-Dichlorobenzene	146	9.683	9.683	(1.001)	242693	50.0000	47.06
26 2,2-Dichloropropane	77	3.509	3.509	(0.839)	180990	50.0000	46.68
24 2-Butanone	43	3.573	3.573	(0.854)	128765	100.000	116.67
76 2-Chlorotoluene	91	8.974	8.974	(0.928)	337693	50.0000	46.37
52 2-Hexanone	43	7.083	7.083	(0.923)	198319	100.000	98.27
77 4-Chlorotoluene	91	9.074	9.074	(0.939)	394561	50.0000	47.00
82 p-Isopropyltoluene	119	9.655	9.655	(0.999)	420632	50.0000	49.08
45 4-Methyl-2-Pentanone	43	6.324	6.324	(0.824)	280968	100.000	95.35
10 Acetone	43	1.969	1.969	(0.471)	95313	100.000	111.54
37 Benzene	78	4.512	4.512	(0.908)	440626	50.0000	48.26
74 Bromobenzene	156	8.809	8.809	(0.911)	147210	50.0000	48.13
29 Bromochloromethane	128	3.795	3.795	(0.908)	67372	50.0000	47.41
39 Bromodichloromethane	83	5.729	5.729	(1.153)	163351	50.0000	49.00
66 Bromoform	173	8.415	8.415	(1.097)	89604	50.0000	47.92
6 Bromomethane	94	1.338	1.338	(0.320)	86417	50.0000	47.95
19 Carbon Disulfide	76	2.069	2.069	(0.495)	646964	100.000	97.46
34 Carbon Tetrachloride	117	4.268	4.268	(0.859)	167086	50.0000	46.56
59 Chlorobenzene	112	7.699	7.699	(1.004)	309412	50.0000	47.85
7 Chloroethane	64	1.403	1.403	(0.336)	85402	50.0000	49.28
28 Chloroform	83	3.910	3.910	(0.935)	210954	50.0000	48.20
3 Chloromethane	50	1.073	1.073	(0.257)	185773	50.0000	48.15
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	126004	50.0000	48.77
46 cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	193147	50.0000	49.47
55 Dibromochloromethane	129	7.176	7.176	(0.936)	129345	50.0000	48.96
44 Dibromomethane	93	5.557	5.557	(1.118)	77674	50.0000	49.26
2 Dichlorodifluoromethane	85	0.966	0.966	(0.231)	135443	50.0000	47.41
61 Ethylbenzene	106	7.799	7.799	(1.017)	165225	50.0000	48.68
91 Hexachlorobutadiene	225	11.481	11.481	(1.187)	41952	50.0000	47.15
67 Isopropylbenzene	105	8.566	8.566	(1.117)	489328	50.0000	48.08
62 m,p-Xylenes	106	7.907	7.907	(1.031)	402602	100.000	97.74
17 Methylene Chloride	84	2.305	2.305	(0.551)	120730	50.0000	50.09
87 n-Butylbenzene	91	9.998	9.998	(1.034)	347792	50.0000	50.30
73 n-Propylbenzene	91	8.917	8.917	(0.922)	565315	50.0000	48.20
92 Naphthalene	128	11.546	11.546	(1.194)	75806	50.0000	49.35
63 o-Xylene	106	8.244	8.244	(1.075)	194330	50.0000	48.49
81 sec-Butylbenzene	105	9.526	9.526	(0.985)	468460	50.0000	47.41
64 Styrene	104	8.258	8.258	(1.077)	337378	50.0000	48.57
78 tert-Butylbenzene	119	9.339	9.339	(0.966)	340560	50.0000	47.61
56 Tetrachloroethene	164	6.933	6.933	(0.904)	104173	50.0000	48.39
50 Toluene	91	6.446	6.446	(0.840)	467021	50.0000	48.35
20 trans-1,2-Dichloroethene	96	2.527	2.527	(0.604)	109110	50.0000	48.98
51 trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	173577	50.0000	49.02
38 Trichloroethene	130	5.206	5.206	(1.048)	124926	50.0000	48.75
8 Trichlorofluoromethane	101	1.560	1.560	(0.373)	194926	50.0000	49.47
5 Vinyl Chloride	62	1.138	1.138	(0.272)	167564	50.0000	49.36

QC Flag Legend

M - Compound response manually integrated.

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051108.D
Date : 11-MAY-2020 16:00
Client ID: VSTD050
Sample Info: VSTD050;VSTD050;1;7;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18



Data File: \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051109.D Page 1
Report Date: 22-May-2020 16:12

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051109.D
Lab Smp Id: VSTD100 Client Smp ID: VSTD100
Inj Date : 11-MAY-2020 16:24
Operator : PC Inst ID: voa6.i
Smp Info : VSTD100;VSTD100;1;8;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200511.b\8260W.m
Meth Date : 22-May-2020 16:12 voa6.i Quant Type: ISTD
Cal Date : 11-MAY-2020 16:00 Cal File: X051108.D
Als bottle: 10 Calibration Sample, Level: 8
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000000_CBI.sub
Target Version: 4.14
Processing Host: NAHSTW7142

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

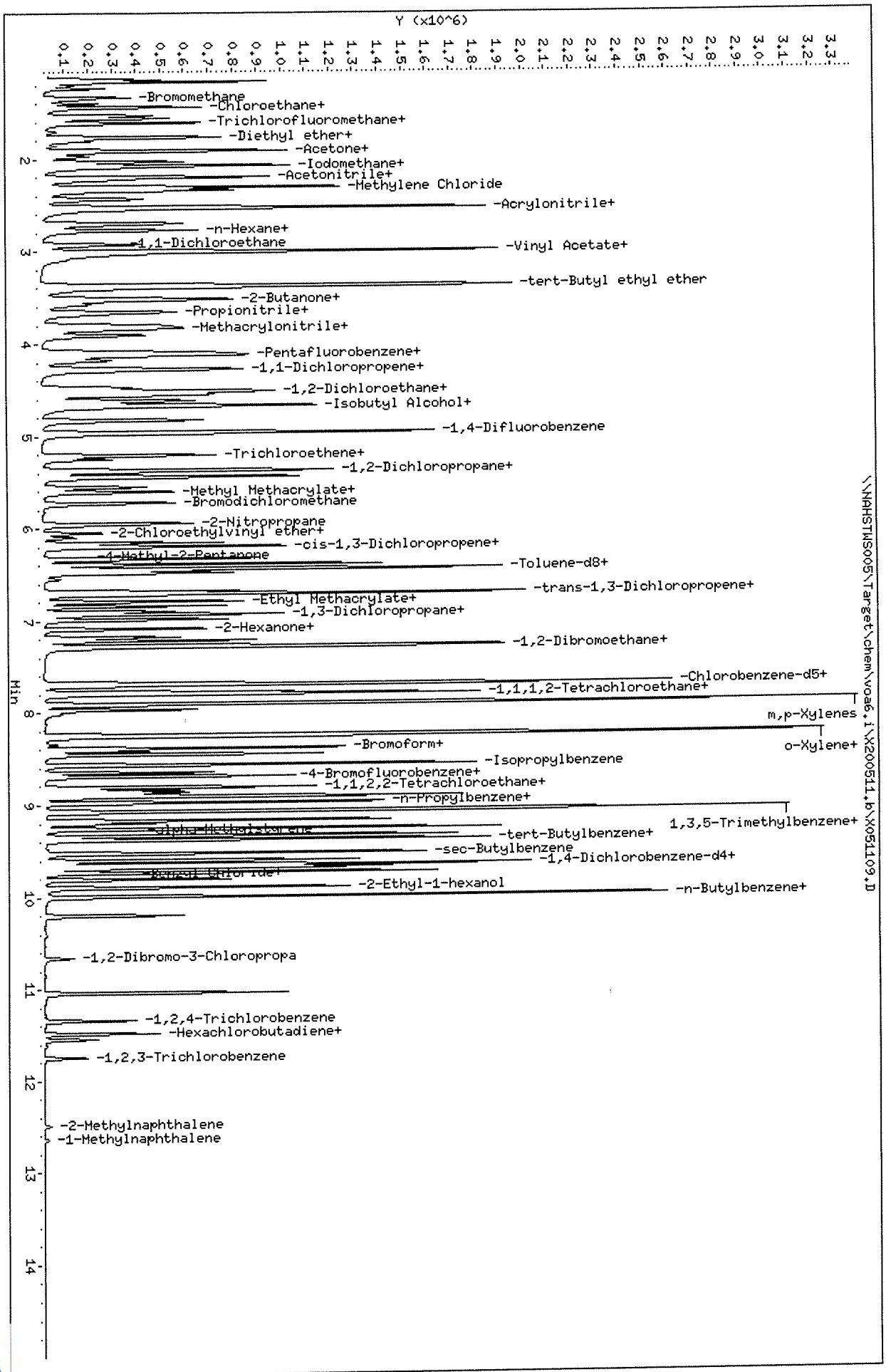
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	226332	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	331288	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	309250	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	155032	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	228909	100.000	101.63
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	281127	100.000	100.81
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	778769	100.000	100.73
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	294185	100.000	100.33
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	239360	100.000	98.47
31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	360299	100.000	99.40
68 1,1,2,2-Tetrachloroethane	83	8.845	8.845	(0.915)	232257	100.000	93.22
138 Freon TF	101	1.912	1.912	(0.457)	185402	100.000	105.99
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	165216	100.000	96.04
22 1,1-Dichloroethane	63	2.922	2.922	(0.699)	473292	100.000	96.21
11 1,1-Dichloroethene	96	1.912	1.912	(0.457)	180100	100.000	100.01
32 1,1-Dichloropropene	75	4.283	4.283	(0.862)	299678	100.000	98.81
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.215)	50765	100.000	96.62
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.917)	207372	100.000	95.98 (M)
90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	103966	100.000	90.59
79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.970)	815497	100.000	100.27
89 1,2-Dibromo-3-Chloropropane	155	10.658	10.658	(1.102)	23938	100.000	95.05
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	217918	100.000	99.18

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051109.D Page 2
Report Date: 22-May-2020 16:12

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
88	1,2-Dichlorobenzene	146	9.991	9.991	(1.033)	414523	100.000	95.97
33	1,2-Dichloroethane	62	4.555	4.555	(0.916)	349387	100.000	101.29(A)
42	1,2-Dichloropropane	63	5.436	5.436	(1.094)	264442	100.000	98.06
75	1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	810286	100.000	101.22
83	1,3-Dichlorobenzene	146	9.605	9.605	(0.993)	465093	100.000	98.44
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	344709	100.000	96.39
84	1,4-Dichlorobenzene	146	9.683	9.683	(1.001)	467125	100.000	95.32
26	2,2-Dichloropropane	77	3.509	3.509	(0.839)	341084	100.000	95.17
24	2-Butanone	43	3.573	3.573	(0.854)	229095	200.000	224.59(A)
76	2-Chlorotoluene	91	8.974	8.974	(0.928)	666346	100.000	96.29
52	2-Hexanone	43	7.090	7.090	(0.924)	374858	200.000	196.01
77	4-Chlorotoluene	91	9.075	9.075	(0.939)	767875	100.000	96.25
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	830752	100.000	102.01
45	4-Methyl-2-Pentanone	43	6.324	6.324	(0.824)	545954	200.000	195.52
10	Acetone	43	1.969	1.969	(0.471)	157042	200.000	200.90
37	Benzene	78	4.512	4.512	(0.908)	832105	100.000	98.26
74	Bromobenzene	156	8.810	8.810	(0.911)	281193	100.000	96.74
29	Bromochloromethane	128	3.795	3.795	(0.908)	121892	100.000	92.82
39	Bromodichloromethane	83	5.729	5.729	(1.153)	308906	100.000	99.89
66	Bromoform	173	8.416	8.416	(1.097)	175012	100.000	98.77
6	Bromomethane	94	1.331	1.331	(0.318)	166042	100.000	100.49
19	Carbon Disulfide	76	2.069	2.069	(0.495)	1236060	200.000	201.47(A)
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	324110	100.000	97.37
59	Chlorobenzene	112	7.699	7.699	(1.004)	595488	100.000	97.18
7	Chloroethane	64	1.396	1.396	(0.334)	162411	100.000	101.85
28	Chloroform	83	3.910	3.910	(0.935)	397623	100.000	98.30
3	Chloromethane	50	1.073	1.073	(0.257)	352150	100.000	98.11
27	cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	238323	100.000	99.81
46	cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	364351	100.000	100.60
55	Dibromochloromethane	129	7.176	7.176	(0.936)	253688	100.000	101.35
44	Dibromomethane	93	5.558	5.558	(1.118)	146927	100.000	100.45
2	Dichlorodifluoromethane	85	0.966	0.966	(0.231)	264084	100.000	98.85
61	Ethylbenzene	106	7.800	7.800	(1.017)	323615	100.000	100.63(A)
91	Hexachlorobutadiene	225	11.481	11.481	(1.187)	77175	100.000	90.37
67	Isopropylbenzene	105	8.566	8.566	(1.117)	969801	100.000	100.56
62	m,p-Xylenes	106	7.907	7.907	(1.031)	769824	200.000	197.22
17	Methylene Chloride	84	2.306	2.306	(0.551)	224234	100.000	101.75
87	n-Butylbenzene	91	9.999	9.999	(1.034)	687209	100.000	104.59
73	n-Propylbenzene	91	8.917	8.917	(0.922)	1109073	100.000	99.50
92	Naphthalene	128	11.546	11.546	(1.194)	148845	100.000	101.97
63	o-Xylene	106	8.244	8.244	(1.075)	372835	100.000	98.17
81	sec-Butylbenzene	105	9.526	9.526	(0.985)	938229	100.000	99.91
64	Styrene	104	8.258	8.258	(1.077)	648150	100.000	98.47
78	tert-Butylbenzene	119	9.340	9.340	(0.966)	675938	100.000	99.45
56	Tetrachloroethene	164	6.933	6.933	(0.904)	201864	100.000	98.95
50	Toluene	91	6.446	6.446	(0.840)	886141	100.000	96.82
20	trans-1,2-Dichloroethene	96	2.528	2.528	(0.604)	207011	100.000	100.54
51	trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	333810	100.000	101.63
38	Trichloroethene	130	5.207	5.207	(1.048)	243052	100.000	102.24(A)
8	Trichlorofluoromethane	101	1.561	1.561	(0.373)	376917	100.000	103.50
5	Vinyl Chloride	62	1.138	1.138	(0.272)	323682	100.000	103.16

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.
M - Compound response manually integrated.



Data File: \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051109.D
Date : 11-MAY-2020 16:24
Client ID: VSTD100
Sample Info: VSTD100;VSTD100;1;8;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051110.D Page 1
Report Date: 22-May-2020 16:12

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051110.D
Lab Smp Id: VSTD150 Client Smp ID: VSTD150
Inj Date : 11-MAY-2020 16:47
Operator : PC Inst ID: voa6.i
Smp Info : VSTD150;VSTD150;1;9;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200511.b\8260W.m
Meth Date : 22-May-2020 16:12 voa6.i Quant Type: ISTD
Cal Date : 11-MAY-2020 16:24 Cal File: X051109.D
Als bottle: 11 Calibration Sample, Level: 9
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000000_CBI.sub
Target Version: 4.14
Processing Host: NAHSTW7142

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	210896	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	312188	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	295010	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	147624	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	320906	150.000	153.02
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	402302	150.000	154.85
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	1109628	150.000	150.69
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	420723	150.000	150.80
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	342668	150.000	147.77
31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	514515	150.000	152.34(A)
68 1,1,2,2-Tetrachloroethane	83	8.845	8.845	(0.915)	334626	150.000	141.04
138 Freon TF	101	1.911	1.911	(0.457)	260990	150.000	160.13
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	235212	150.000	143.33
22 1,1-Dichloroethane	63	2.921	2.921	(0.699)	664765	150.000	145.03(A)
11 1,1-Dichloroethene	96	1.911	1.911	(0.457)	257690	150.000	153.58
32 1,1-Dichloropropene	75	4.282	4.282	(0.862)	423104	150.000	148.04
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.215)	82626	150.000	152.12
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.917)	290589	150.000	141.25(M)
90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	161556	150.000	146.17
79 1,2,4-Trimethylbenzene	105	9.382	9.382	(0.970)	1176422	150.000	151.92
89 1,2-Dibromo-3-Chloropropane	155	10.657	10.657	(1.102)	35913	150.000	148.91
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	315920	150.000	150.73(A)

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051110.D Page 2
Report Date: 22-May-2020 16:12

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
88	1,2-Dichlorobenzene	146	9.998	9.998	(1.034)	602146	150.000	146.41
33	1,2-Dichloroethane	62	4.555	4.555	(0.916)	496703	150.000	152.80(A)
42	1,2-Dichloropropane	63	5.443	5.443	(1.095)	369792	150.000	145.52
75	1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	1156269	150.000	151.69
83	1,3-Dichlorobenzene	146	9.612	9.612	(0.994)	674171	150.000	149.86
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	493264	150.000	144.59
84	1,4-Dichlorobenzene	146	9.683	9.683	(1.001)	672004	150.000	144.01
26	2,2-Dichloropropane	77	3.516	3.516	(0.841)	486844	150.000	145.79
24	2-Butanone	43	3.573	3.573	(0.854)	320319	300.000	337.00(A)
76	2-Chlorotoluene	91	8.981	8.981	(0.929)	949403	150.000	144.08
52	2-Hexanone	43	7.090	7.090	(0.924)	531716	300.000	291.45
77	4-Chlorotoluene	91	9.074	9.074	(0.939)	1091030	150.000	143.62
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	1196736	150.000	154.33
45	4-Methyl-2-Pentanone	43	6.324	6.324	(0.824)	784939	300.000	294.68
10	Acetone	43	1.969	1.969	(0.471)	214208	300.000	295.31
37	Benzene	78	4.512	4.512	(0.908)	1182839	150.000	148.22(A)
74	Bromobenzene	156	8.809	8.809	(0.911)	403596	150.000	145.82
29	Bromochloromethane	128	3.795	3.795	(0.908)	172062	150.000	140.61
39	Bromodichloromethane	83	5.729	5.729	(1.153)	446504	150.000	153.22
66	Bromoform	173	8.415	8.415	(1.097)	252342	150.000	149.29
6	Bromomethane	94	1.331	1.331	(0.318)	236806	150.000	154.21
19	Carbon Disulfide	76	2.069	2.069	(0.495)	1753146	300.000	306.68(A)
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	464237	150.000	148.00
59	Chlorobenzene	112	7.699	7.699	(1.004)	852770	150.000	145.89(A)
7	Chloroethane	64	1.396	1.396	(0.334)	229270	150.000	154.52
28	Chloroform	83	3.910	3.910	(0.935)	562576	150.000	149.27(A)
3	Chloromethane	50	1.073	1.073	(0.257)	510038	150.000	152.15
27	cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	337533	150.000	151.71(A)
46	cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	521162	150.000	152.70
55	Dibromochloromethane	129	7.176	7.176	(0.936)	360158	150.000	150.83
44	Dibromomethane	93	5.557	5.557	(1.118)	209387	150.000	151.91
2	Dichlorodifluoromethane	85	0.966	0.966	(0.231)	377623	150.000	151.12
61	Ethylbenzene	106	7.799	7.799	(1.017)	454714	150.000	148.22(A)
91	Hexachlorobutadiene	225	11.488	11.488	(1.188)	122993	150.000	150.61
67	Isopropylbenzene	105	8.566	8.566	(1.117)	1380555	150.000	150.06
62	m,p-Xylenes	106	7.907	7.907	(1.031)	1094132	300.000	293.84(A)
17	Methylene Chloride	84	2.305	2.305	(0.551)	318789	150.000	155.81
87	n-Butylbenzene	91	9.998	9.998	(1.034)	990914	150.000	158.38
73	n-Propylbenzene	91	8.917	8.917	(0.922)	1587708	150.000	149.59
92	Naphthalene	128	11.546	11.546	(1.194)	240798	150.000	173.25
63	o-Xylene	106	8.244	8.244	(1.075)	535459	150.000	147.80(A)
81	sec-Butylbenzene	105	9.526	9.526	(0.985)	1337568	150.000	149.59
64	Styrene	104	8.265	8.265	(1.078)	912591	150.000	145.34(A)
78	tert-Butylbenzene	119	9.339	9.339	(0.966)	965175	150.000	149.13
56	Tetrachloroethene	164	6.933	6.933	(0.904)	286458	150.000	147.20(A)
50	Toluene	91	6.446	6.446	(0.840)	1251009	150.000	143.28(A)
20	trans-1,2-Dichloroethene	96	2.527	2.527	(0.604)	291868	150.000	152.13
51	trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	484238	150.000	156.45
38	Trichloroethene	130	5.206	5.206	(1.048)	343427	150.000	153.31(A)
8	Trichlorofluoromethane	101	1.553	1.553	(0.371)	533118	150.000	157.11
5	Vinyl Chloride	62	1.138	1.138	(0.272)	457160	150.000	156.37

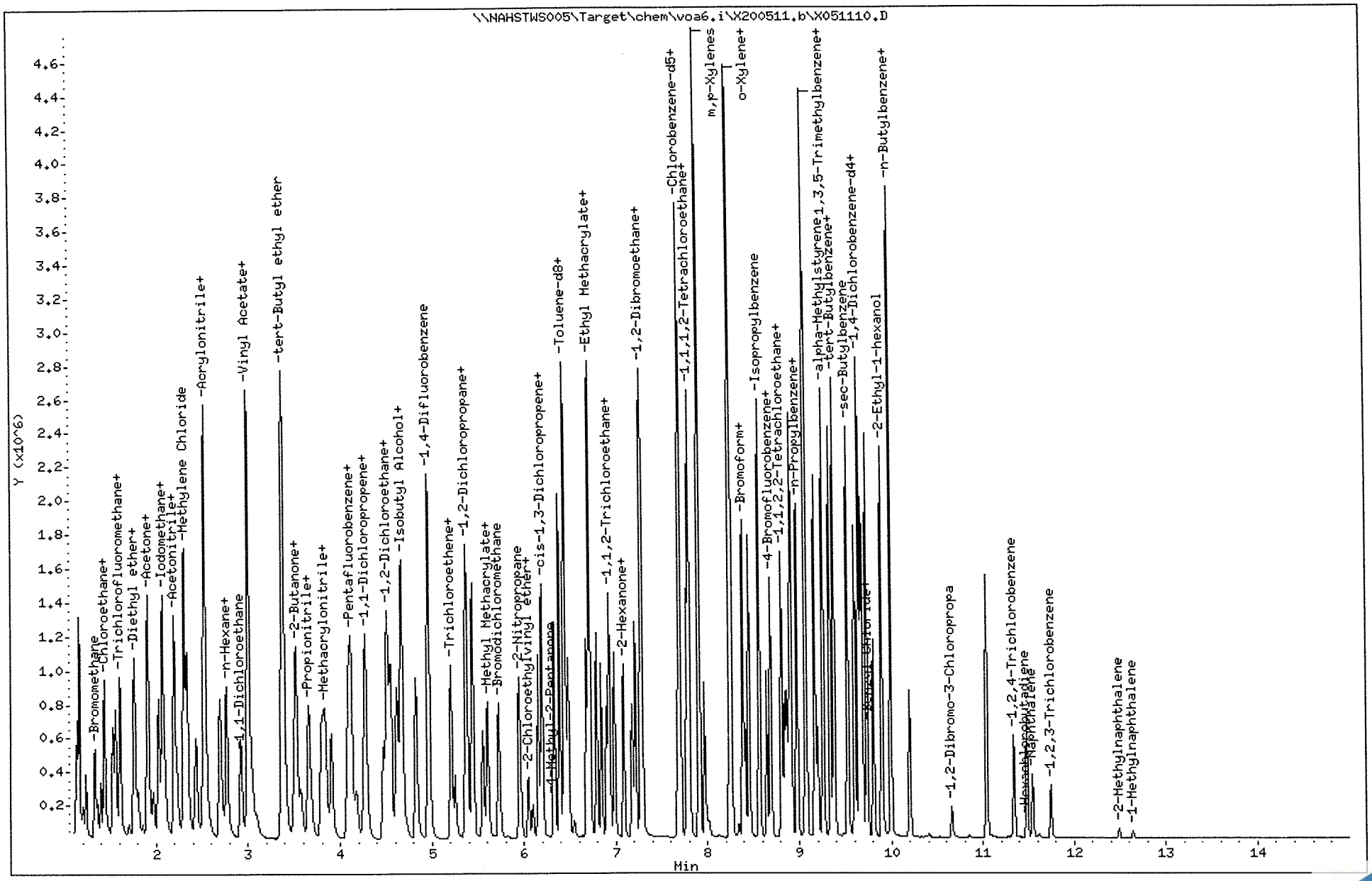
QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.
M - Compound response manually integrated.

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051110.D
Date : 11-MAY-2020 16:47
Client ID: VSTD150
Sample Info: VSTD150;VSTD150;1;9;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i

Operator: PC
Column diameter: 0.18



ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051111.D
Lab Smp Id: VSTD200 Client Smp ID: VSTD200
Inj Date : 11-MAY-2020 17:11
Operator : PC Inst ID: voa6.i
Smp Info : VSTD200;VSTD200;1;10;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200511.b\8260W.m
Meth Date : 22-May-2020 16:12 voa6.i Quant Type: ISTD
Cal Date : 11-MAY-2020 16:47 Cal File: X051110.D
Als bottle: 12 Calibration Sample, Level: 10
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000000_CBI.sub
Target Version: 4.14
Processing Host: NAHSTW7142

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

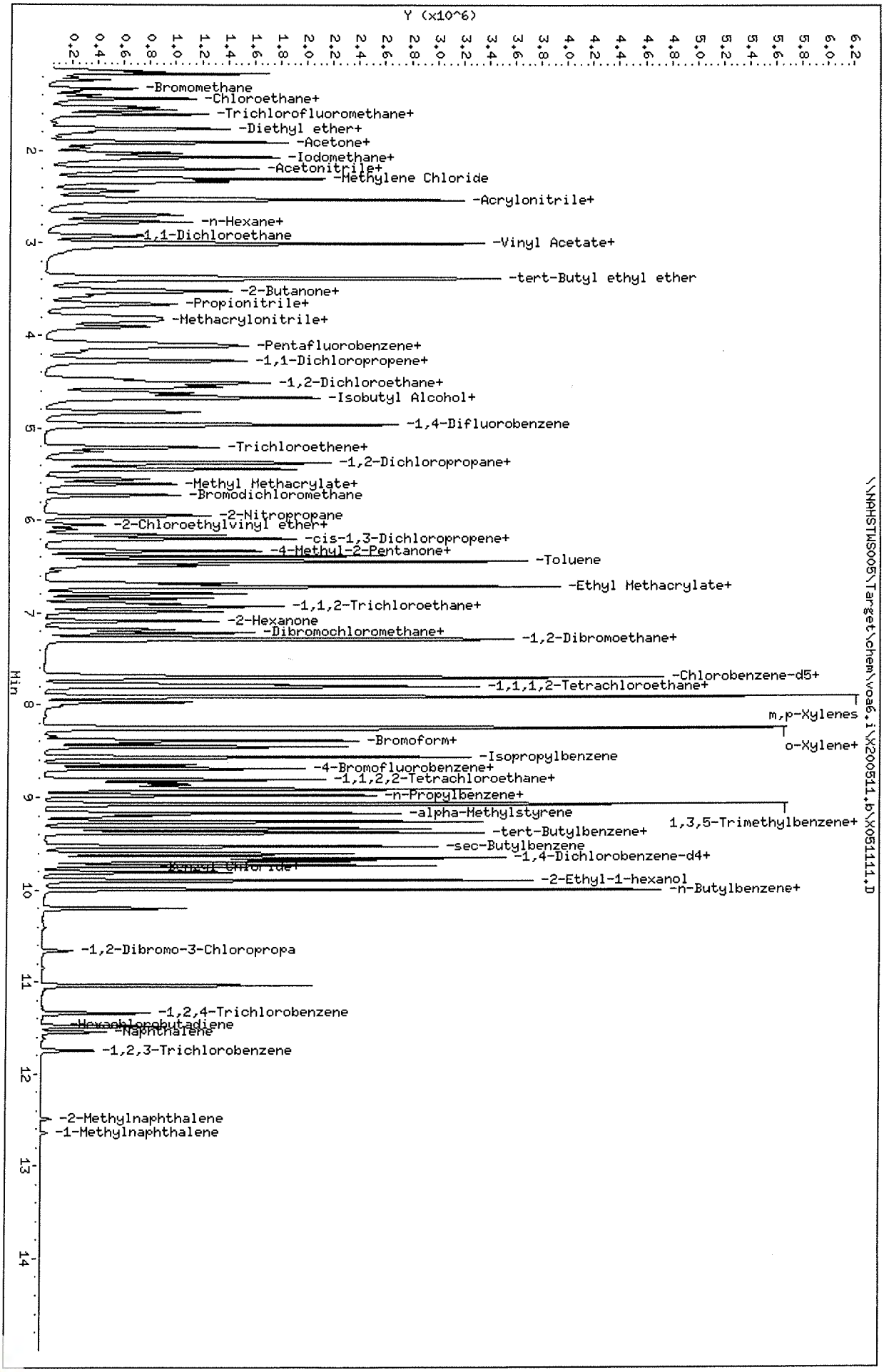
Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	210247	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	305929	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	285371	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	141643	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	412124	200.000	197.20
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	508534	200.000	196.36
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	1416689	200.000	199.04
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	537390	200.000	199.37
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	439976	200.000	196.15
31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	664524	200.000	197.36(A)
68 1,1,2,2-Tetrachloroethane	83	8.845	8.845	(0.915)	431093	200.000	189.38
138 Freon TF	101	1.911	1.911	(0.457)	333443	200.000	205.22(A)
53 1,1,2-Trichloroethane	83	6.847	6.847	(0.893)	299144	200.000	188.44
22 1,1-Dichloroethane	63	2.921	2.921	(0.699)	844374	200.000	184.79(A)
11 1,1-Dichloroethene	96	1.911	1.911	(0.457)	331210	200.000	198.00
32 1,1-Dichloropropene	75	4.282	4.282	(0.862)	539478	200.000	192.62
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.215)	114644	200.000	199.45
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.917)	372645	200.000	188.79(M)
90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	221042	200.000	207.32(A)
79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.970)	1480057	200.000	199.20
89 1,2-Dibromo-3-Chloropropane	155	10.658	10.658	(1.102)	47270	200.000	203.73(A)
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	397489	200.000	196.05(A)

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
88	1,2-Dichlorobenzene	146	9.999	9.999	(1.034)	751691	200.000	190.50
33	1,2-Dichloroethane	62	4.555	4.555	(0.916)	633747	200.000	198.95(A)
42	1,2-Dichloropropane	63	5.443	5.443	(1.095)	470477	200.000	188.93
75	1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	1464802	200.000	200.28(A)
83	1,3-Dichlorobenzene	146	9.612	9.612	(0.994)	854514	200.000	197.97
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	628497	200.000	190.45
84	1,4-Dichlorobenzene	146	9.683	9.683	(1.001)	856803	200.000	191.37
26	2,2-Dichloropropane	77	3.509	3.509	(0.839)	616758	200.000	185.27
24	2-Butanone	43	3.573	3.573	(0.854)	404738	400.000	427.13(A)
76	2-Chlorotoluene	91	8.981	8.981	(0.929)	1200031	200.000	189.81
52	2-Hexanone	43	7.090	7.090	(0.924)	681249	400.000	386.03
77	4-Chlorotoluene	91	9.075	9.075	(0.939)	1390472	200.000	190.77
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	1535054	200.000	206.32(A)
45	4-Methyl-2-Pentanone	43	6.331	6.331	(0.825)	992720	400.000	385.28
10	Acetone	43	1.969	1.969	(0.471)	258020	400.000	357.35
37	Benzene	78	4.512	4.512	(0.908)	1515661	200.000	193.82(A)
74	Bromobenzene	156	8.810	8.810	(0.911)	524098	200.000	197.35
29	Bromochloromethane	128	3.795	3.795	(0.908)	217972	200.000	178.68
39	Bromodichloromethane	83	5.729	5.729	(1.153)	568861	200.000	199.20
66	Bromoform	173	8.416	8.416	(1.097)	324965	200.000	198.75
6	Bromomethane	94	1.324	1.324	(0.317)	301011	200.000	196.83
19	Carbon Disulfide	76	2.069	2.069	(0.495)	2243154	400.000	393.61(A)
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	601378	200.000	195.64
59	Chlorobenzene	112	7.699	7.699	(1.004)	1083798	200.000	191.68(A)
7	Chloroethane	64	1.396	1.396	(0.334)	289295	200.000	195.69
28	Chloroform	83	3.910	3.910	(0.935)	722440	200.000	192.28(A)
3	Chloromethane	50	1.073	1.073	(0.257)	668216	200.000	199.75
27	cis-1,2-Dichloroethene	96	3.523	3.523	(0.842)	430307	200.000	194.01(A)
46	cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	665512	200.000	198.99
55	Dibromochloromethane	129	7.176	7.176	(0.936)	459803	200.000	199.07
44	Dibromomethane	93	5.557	5.557	(1.118)	266444	200.000	197.26
2	Dichlorodifluoromethane	85	0.966	0.966	(0.231)	499972	200.000	200.36(A)
61	Ethylbenzene	106	7.800	7.800	(1.017)	584558	200.000	196.99(A)
91	Hexachlorobutadiene	225	11.481	11.481	(1.187)	160116	200.000	204.00(A)
67	Isopropylbenzene	105	8.566	8.566	(1.117)	1765878	200.000	198.43
62	m,p-Xylenes	106	7.907	7.907	(1.031)	1392396	400.000	386.57(A)
17	Methylene Chloride	84	2.298	2.298	(0.550)	395941	200.000	194.38
87	n-Butylbenzene	91	9.999	9.999	(1.034)	1253039	200.000	208.74(A)
73	n-Propylbenzene	91	8.917	8.917	(0.922)	2020256	200.000	198.39
92	Naphthalene	128	11.546	11.546	(1.194)	324019	200.000	242.98(A)
63	o-Xylene	106	8.244	8.244	(1.075)	671719	200.000	191.67(A)
81	sec-Butylbenzene	105	9.526	9.526	(0.985)	1697221	200.000	197.83
64	Styrene	104	8.265	8.265	(1.078)	1162998	200.000	191.48(A)
78	tert-Butylbenzene	119	9.340	9.340	(0.966)	1223524	200.000	197.03
56	Tetrachloroethene	164	6.933	6.933	(0.904)	364813	200.000	193.79(A)
50	Toluene	91	6.446	6.446	(0.840)	1593362	200.000	188.66(A)
20	trans-1,2-Dichloroethene	96	2.528	2.528	(0.604)	373493	200.000	195.28
51	trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	619261	200.000	204.17(A)
38	Trichloroethene	130	5.206	5.206	(1.048)	441183	200.000	200.98(A)
8	Trichlorofluoromethane	101	1.553	1.553	(0.371)	703498	200.000	207.96(A)
5	Vinyl Chloride	62	1.138	1.138	(0.272)	586952	200.000	201.38(A)

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.
M - Compound response manually integrated.



Data File: \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051111.D
Date : 11-MAY-2020 17:11
Client ID: VSTD200
Sample Info: VSTD200;VSTD200;1;10;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051114.D
Lab Smp Id: ICV Client Smp ID: ICV
Inj Date : 11-MAY-2020 18:23
Operator : PC Inst ID: voa6.i
Smp Info : CCV;CCV;2;;;ICV
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200511.b\8260W.m
Meth Date : 22-May-2020 16:12 voa6.i Quant Type: ISTD
Cal Date : 11-MAY-2020 17:11 Cal File: X051111.D
Als bottle: 15 QC Sample: METHSPIKE
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000000_CBI.sub
Target Version: 4.14
Processing Host: NAHSTW7142

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

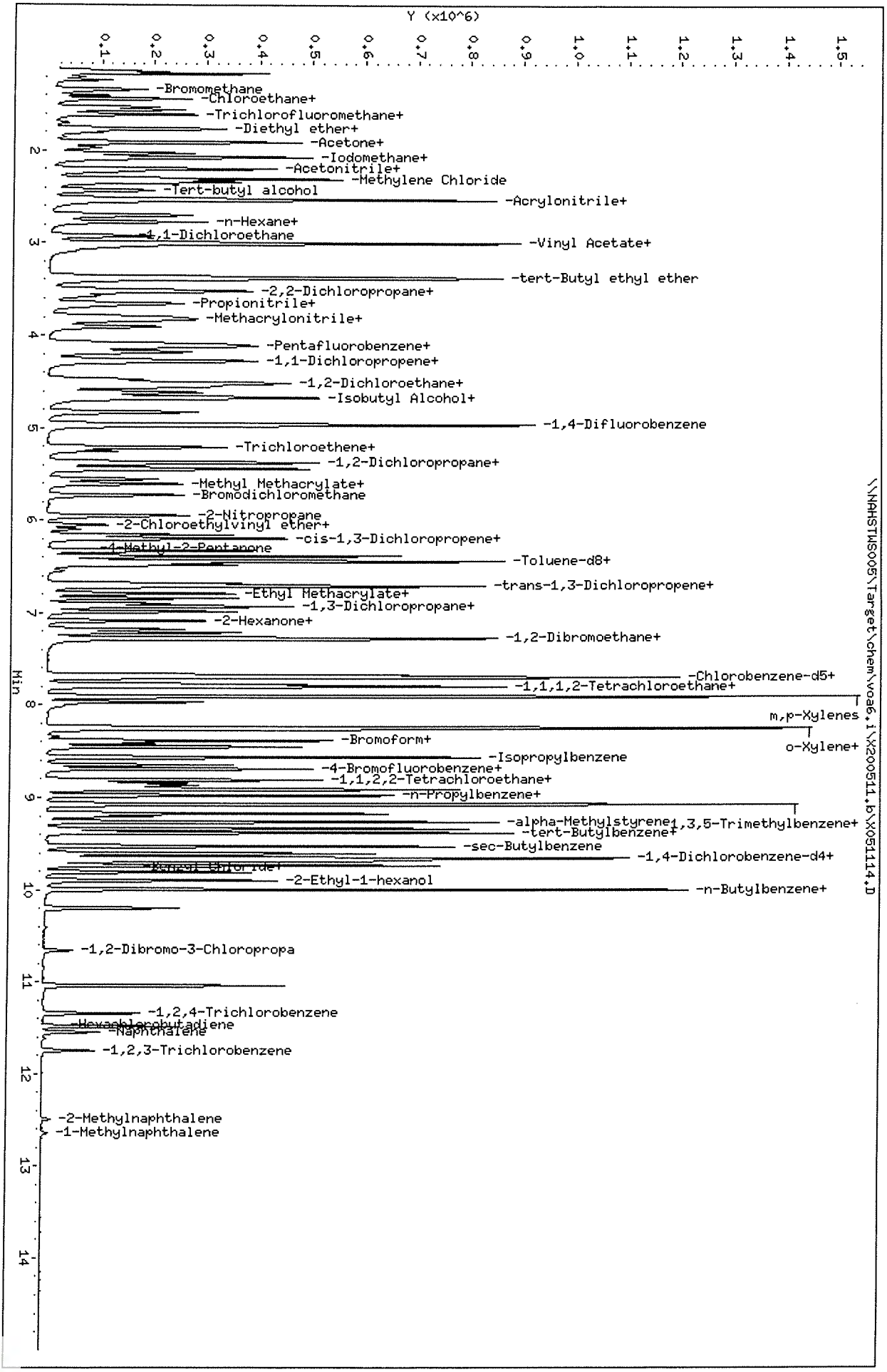
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	223155	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	318483	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	291498	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.669	(1.000)	148250	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	108653	48.8010	48.80
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	131529	47.8219	47.82
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	373137	50.9781	50.97
$ 69 4-Bromofluorobenzene	95	8.688	8.695	(1.133)	139766	50.1904	50.19
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	112251	48.9922	48.99
31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	169785	47.5103	47.51
68 1,1,2,2-Tetrachloroethane	83	8.838	8.845	(0.915)	109996	46.1688	46.16
138 Freon TF	101	1.911	1.911	(0.457)	84460	48.9758	48.97
53 1,1,2-Trichloroethane	83	6.840	6.847	(0.892)	77614	47.8655	47.86
22 1,1-Dichloroethane	63	2.921	2.921	(0.699)	219255	45.2085	45.20
11 1,1-Dichloroethene	96	1.911	1.911	(0.457)	84626	47.6661	47.66
32 1,1-Dichloropropene	75	4.282	4.282	(0.862)	139963	48.0055	48.00
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.216)	26202	54.6983	54.69
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.918)	96248	46.5901	46.59(M)
90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	50727	47.5210	47.52
79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.971)	387802	49.8683	49.86
89 1,2-Dibromo-3-Chloropropane	155	10.658	10.658	(1.103)	10984	46.3748	46.37
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	104018	50.2268	50.22

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051114.D Page 2
Report Date: 22-May-2020 16:12

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
88	1,2-Dichlorobenzene	146	9.999	9.999	(1.035)	200012	48.4298	48.42
33	1,2-Dichloroethane	62	4.555	4.555	(0.916)	164095	49.4853	49.48
42	1,2-Dichloropropane	63	5.436	5.443	(1.094)	123226	47.5336	47.53
75	1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	380301	49.6820	49.68
83	1,3-Dichlorobenzene	146	9.605	9.612	(0.994)	220872	48.8921	48.89
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	162939	48.3385	48.33
84	1,4-Dichlorobenzene	146	9.683	9.683	(1.002)	223856	47.7723	47.77
26	2,2-Dichloropropane	77	3.509	3.509	(0.839)	167781	47.4860	47.48
24	2-Butanone	43	3.573	3.573	(0.854)	108411	107.793	107.79(H)
76	2-Chlorotoluene	91	8.974	8.981	(0.929)	309354	46.7504	46.75
52	2-Hexanone	43	7.090	7.090	(0.924)	170807	94.7558	94.75
77	4-Chlorotoluene	91	9.074	9.075	(0.939)	360081	47.2019	47.20
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	391936	50.3321	50.33
45	4-Methyl-2-Pentanone	43	6.324	6.331	(0.824)	244532	92.9096	92.90
10	Acetone	43	1.969	1.969	(0.471)	75065	96.0427	96.04
37	Benzene	78	4.512	4.512	(0.908)	390116	47.9210	47.92
74	Bromobenzene	156	8.809	8.810	(0.912)	134325	48.3285	48.32
29	Bromochloromethane	128	3.795	3.795	(0.908)	61420	47.4371	47.43
39	Bromodichloromethane	83	5.729	5.729	(1.153)	144777	48.6994	48.69
66	Bromoform	173	8.415	8.416	(1.097)	83698	50.1152	50.11
6	Bromomethane	94	1.338	1.324	(0.320)	83523	50.9059	50.90
19	Carbon Disulfide	76	2.069	2.069	(0.495)	577912	95.5417	95.54
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	151724	47.4153	47.41
59	Chlorobenzene	112	7.699	7.699	(1.004)	282458	48.9065	48.90
7	Chloroethane	64	1.403	1.396	(0.336)	70901	44.8631	44.86
28	Chloroform	83	3.910	3.910	(0.935)	192179	48.1906	48.19
3	Chloromethane	50	1.073	1.073	(0.257)	154639	44.0442	44.04
27	cis-1,2-Dichloroethene	96	3.523	3.523	(0.842)	112778	47.9068	47.90
46	cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	172729	49.6114	49.61
55	Dibromochloromethane	129	7.176	7.176	(0.936)	117363	49.7444	49.74
44	Dibromomethane	93	5.557	5.557	(1.118)	70080	49.8406	49.84
2	Dichlorodifluoromethane	85	0.966	0.966	(0.231)	122199	46.9573	46.95
61	Ethylbenzene	106	7.799	7.800	(1.017)	147940	48.8066	48.80
91	Hexachlorobutadiene	225	11.481	11.481	(1.188)	40239	49.7181	49.71
67	Isopropylbenzene	105	8.566	8.566	(1.117)	450333	49.5410	49.54
62	m,p-Xylenes	106	7.907	7.907	(1.031)	360956	98.1080	98.10
17	Methylene Chloride	84	2.305	2.298	(0.551)	104805	47.6717	47.67
87	n-Butylbenzene	91	9.999	9.999	(1.035)	318734	50.7307	50.73
73	n-Propylbenzene	91	8.917	8.917	(0.923)	511675	48.0076	48.00
92	Naphthalene	128	11.546	11.546	(1.195)	74280	53.2198	53.21
63	o-Xylene	106	8.244	8.244	(1.075)	175723	49.0898	49.08
81	sec-Butylbenzene	105	9.526	9.526	(0.986)	435579	48.5089	48.50
64	Styrene	104	8.258	8.265	(1.077)	306849	49.4603	49.46
78	tert-Butylbenzene	119	9.340	9.340	(0.967)	315264	48.5073	48.50
56	Tetrachloroethene	164	6.933	6.933	(0.904)	94634	49.2150	49.21
50	Toluene	91	6.446	6.446	(0.840)	420170	48.7050	48.70
20	trans-1,2-Dichloroethene	96	2.527	2.528	(0.604)	97294	47.9280	47.92
51	trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	157780	49.9712	49.97
38	Trichloroethene	130	5.206	5.206	(1.048)	112860	49.3869	49.38
8	Trichlorofluoromethane	101	1.560	1.553	(0.373)	174748	48.6710	48.67
5	Vinyl Chloride	62	1.138	1.138	(0.272)	143744	46.4673	46.46

QC Flag Legend

M - Compound response manually integrated.
H - Operator selected an alternate compound hit.



Data File: \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051114.D
Date : 11-MAY-2020 18:23
Client ID: ICV
Sample Info: CCV;CCV;2;;;ICV
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

FORM 5
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: ALS GROUP Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20050234

Lab File ID: X051201 BFB Injection Date: 05/12/20

Instrument ID: VOA6 BFB Injection Time: 1001

GC Column: DB624 ID: 0.25 (mm) Heated Purge: (Y/N) N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	23.9
75	30.0 - 60.0% of mass 95	52.2
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.6
173	Less than 2.0% of mass 174	0.8 (1.2)1
174	Greater than 50.0% of mass 95	68.2
175	5.0 - 9.0% of mass 174	5.7 (8.4)1
176	95.0 - 101.0% of mass 174	65.4 (95.9)1
177	5.0 - 9.0% of mass 176	4.4 (6.7)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	CCV	CCV	X051203	05/12/20	1049
02	VLCSW-200512	VLCSW-200512	X051205	05/12/20	1137
03	VBLKW-200512	VBLKW-200512	X051207	05/12/20	1225
04	HS20050234-1	HS20050234-11	X051211	05/12/20	1401
05	HS20050234-0	HS20050234-01	X051215	05/12/20	1538
06	HS20050234-0	HS20050234-02	X051216	05/12/20	1602
07	HS20050234-0	HS20050234-03	X051217	05/12/20	1626
08	HS20050234-0	HS20050234-04	X051218	05/12/20	1650
09	HS20050234-0	HS20050234-05	X051219	05/12/20	1714
10	HS20050234-0	HS20050234-06	X051220	05/12/20	1738
11	HS20050234-0	HS20050234-07	X051221	05/12/20	1802
12	HS20050234-0	HS20050234-08	X051222	05/12/20	1826
13	HS20050234-0	HS20050234-09	X051223	05/12/20	1850
14	HS20050234-1	HS20050234-10	X051224	05/12/20	1914
15	HS20050234-0	HS20050234-01M	X051225	05/12/20	1938
16	HS20050234-0	HS20050234-01M	X051226	05/12/20	2002
17	CCV-END	CCV-END	X051227	05/12/20	2026
18					
19					
20					
21					
22					

FORM V VOA

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: ALS GROUP Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20050234

Instrument ID: VOA6 Calibration Date: 05/12/20 Time: 1049

Lab File ID: X051203 Init. Calib. Date(s): 05/11/20 05/11/20

Init. Calib. Times: 1312 1711

GC Column: DB624 ID: 0.18 (mm)

COMPOUND	RRF or AMOUNT	RRF50.000 or AMOUNT	CCAL RRF50.000	MIN RRF	%D or %DRIFT	MAX %D or %DRIFT	CURV TYPE
Bromochloromethane	0.2900000	0.2674167	0.2674167	0.1	7.79	20.00	AVRG
Vinyl Chloride	0.6930000	0.5949731	0.5949731	0.1	14.14	20.00	AVRG
Chloromethane	40.714081	50.000000	0.6606656	0.1	18.57	20.00	LINR
Bromomethane	47.787126	50.000000	0.3309279	0.1	4.42	20.00	LINR
Chloroethane	43.962815	50.000000	0.3070035	0.1	12.07	20.00	LINR
Methylene Chloride	47.204545	50.000000	0.4671189	0.1	5.59	20.00	LINR
Acetone	88.468172	100.00000	0.1339225	0.1	11.53	20.00	LINR
1,1-Dichloroethene	0.3980000	0.3544589	0.3544589	0.1	10.94	20.00	AVRG
trans-1,2-Dichloroethene	0.4550000	0.4300719	0.4300719	0.1	5.48	20.00	AVRG
Carbon Tetrachloride	0.5020000	0.4713252	0.4713252	0.1	6.11	20.00	AVRG
1,1-Dichloroethane	1.0870000	0.9636701	0.9636701	0.2	11.34	20.00	AVRG
Bromodichloromethane	0.4670000	0.4483614	0.4483614	0.2	3.99	20.00	AVRG
1,2-Dichloropropane	0.4070000	0.3588734	0.3588734	0.1	11.82	20.00	AVRG
cis-1,3-Dichloropropene	0.5470000	0.5152761	0.5152761	0.2	5.80	20.00	AVRG
2-Butanone	0.2250000	0.2151156	0.2151156	0.1	4.39	20.00	AVRG
Dibromochloromethane	0.4040000	0.3944112	0.3944112	0.1	2.37	20.00	AVRG
cis-1,2-Dichloroethene	0.5270000	0.5081948	0.5081948	0.1	3.57	20.00	AVRG
1,1,2-Trichloroethane	0.2780000	0.2504295	0.2504295	0.1	9.92	20.00	AVRG
Chloroform	0.8930000	0.8581019	0.8581019	0.2	3.91	20.00	AVRG
Benzene	1.2780000	1.1849918	1.1849918	0.5	7.28	20.00	AVRG
trans-1,3-Dichloropropene	0.4960000	0.4806197	0.4806197	0.1	3.10	20.00	AVRG
Bromoform	0.2860000	0.2768591	0.2768591	0.1	3.20	20.00	AVRG
4-Methyl-2-Pentanone	0.4510000	0.3929375	0.3929375	0.1	12.87	20.00	AVRG
1,1,1-Trichloroethane	0.8000000	0.7628773	0.7628773	0.1	4.64	20.00	AVRG
2-Hexanone	0.3090000	0.2663565	0.2663565	0.1	13.80	20.00	AVRG
1,2-Dichloroethane	0.5200000	0.5067079	0.5067079	0.1	2.56	20.00	AVRG
1,1,2,2-Tetrachloroethane	0.8040000	0.7202899	0.7202899	0.3	10.41	20.00	AVRG
Trichloroethene	0.3590000	0.3410827	0.3410827	0.2	4.99	20.00	AVRG
Toluene	1.4800000	1.3588508	1.3588508	0.4	8.18	20.00	AVRG
Dichlorodifluoromethane	45.296910	50.000000	0.5370694	0.1	9.41	20.00	LINR
Trichlorofluoromethane	0.8040000	0.7648843	0.7648843	0.1	4.86	20.00	AVRG
Tetrachloroethene	0.3300000	0.3054844	0.3054844	0.2	7.43	20.00	AVRG
1,2-Dibromoethane	0.3550000	0.3430479	0.3430479	0.1	3.37	20.00	AVRG
Chlorobenzene	0.9900000	0.9262023	0.9262023	0.5	6.44	20.00	AVRG
1,3-Dichlorobenzene	1.5230000	1.4536286	1.4536286	0.6	4.55	20.00	AVRG
1,4-Dichlorobenzene	1.5800000	1.4700318	1.4700318	0.4	6.96	20.00	AVRG
1,2-Dichlorobenzene	1.3930000	1.2975215	1.2975215	0.4	6.85	20.00	AVRG
Ethylbenzene	0.5200000	0.4803426	0.4803426	0.1	7.63	20.00	AVRG
m,p-Xylenes	0.6310000	0.5872014	0.5872014	0.1	6.94	20.00	AVRG
o-Xylene	0.6140000	0.5767451	0.5767451	0.3	6.07	20.00	AVRG
Styrene	1.0640000	1.0134814	1.0134814	0.3	4.75	20.00	AVRG
Carbon Disulfide	1.3550000	1.2241545	1.2241545	0.1	9.66	20.00	AVRG

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: ALS GROUP Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS2005023 4

Instrument ID: VOA6 Calibration Date: 05/12/20 Time: 1049

Lab File ID: X051203 Init. Calib. Date(s): 05/11/20 05/11/20

Init. Calib. Times: 1312 1711

GC Column: DB624 ID: 0.18 (mm)

COMPOUND	RRF or AMOUNT	RRF50.000 or AMOUNT	CCAL RRF50.000	MIN RRF	%D or %DRIFT	MAX %D or %DRIFT	CURV TYPE
2,2-Dichloropropane	0.7920000	0.6905014	0.6905014	0.1	12.82	20.00	AVRG
1,1-Dichloropropene	0.4580000	0.4176550	0.4176550	0.1	8.81	20.00	AVRG
Dibromomethane	0.2210000	0.2094253	0.2094253	0.1	5.24	20.00	AVRG
1,3-Dichloropropane	0.5780000	0.5336239	0.5336239	0.1	7.68	20.00	AVRG
1,1,1,2-Tetrachloroethane	0.3930000	0.3779899	0.3779899	0.1	3.82	20.00	AVRG
Isopropylbenzene	1.5590000	1.4643286	1.4643286	0.1	6.07	20.00	AVRG
Bromobenzene	0.9370000	0.8827519	0.8827519	0.1	5.79	20.00	AVRG
1,2,3-Trichloropropane	0.6970000	0.6461620	0.6461620	0.1	7.29	20.00	AVRG
n-Propylbenzene	3.5950000	3.3120521	3.3120521	0.1	7.87	20.00	AVRG
2-Chlorotoluene	2.2320000	2.0198829	2.0198829	0.1	9.50	20.00	AVRG
1,3,5-Trimethylbenzene	2.5820000	2.4635811	2.4635811	0.1	4.59	20.00	AVRG
4-Chlorotoluene	2.5730000	2.3521940	2.3521940	0.1	8.58	20.00	AVRG
tert-Butylbenzene	2.1920000	2.0498953	2.0498953	0.1	6.48	20.00	AVRG
1,2,4-Trimethylbenzene	2.6230000	2.5250509	2.5250509	0.1	3.73	20.00	AVRG
sec-Butylbenzene	3.0280000	2.8024387	2.8024387	0.1	7.45	20.00	AVRG
p-Isopropyltoluene	2.6260000	2.5167202	2.5167202	0.1	4.16	20.00	AVRG
n-Butylbenzene	2.1190000	2.0490549	2.0490549	0.5	3.30	20.00	AVRG
1,2-Dibromo-3-Chloropropane	47.779442	50.000000	7.74e-002	0.05	4.44	20.00	LINR
1,2,4-Trichlorobenzene	42.852173	50.000000	0.2928622	0.2	14.30	20.00	LINR
Hexachlorobutadiene	43.675022	50.000000	0.2461443	0.1	12.65	20.00	LINR
Naphthalene	0.4710000	0.4197458	0.4197458	0.2	10.88	20.00	AVRG
1,2,3-Trichlorobenzene	49.741557	50.000000	0.1486096	0.1	0.52	20.00	2RDR
Freon TF	0.3860000	0.3581243	0.3581243	0.1	7.22	20.00	AVRG
Dibromofluoromethane	50.186059	50.000000	0.4852564	0.1	-0.37	20.00	LINR
1,2-Dichloroethane-d4	49.715055	50.000000	0.6074482	0.1	0.57	20.00	LINR
Toluene-d8	50.735661	50.000000	1.2201788	0.1	-1.47	20.00	LINR
4-Bromofluorobenzene	50.625078	50.000000	0.4635140	0.1	-1.25	20.00	LINR

FORM VII VOA

FORM 8
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ALS GROUP Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20050234

Lab File ID (Standard): X051203 Date Analyzed: 05/12/20

Instrument ID: VOA6 Time Analyzed: 1049

GC Column: DB624 ID: 0.18 (mm) Heated Purge: (Y/N) N

		IS1 AREA #	IS1 RT #	IS2(DFB) AREA #	IS2(DFB) RT #	IS3(CBZ) AREA #	IS3(CBZ) RT #
	12 HOUR STD	199856	4.18	288768	4.97	266171	7.67
	UPPER LIMIT	399712	4.68	577536	5.47	532342	8.17
	LOWER LIMIT	99928	3.68	144384	4.47	133086	7.17
	CLIENT SAMPLE NO.						
01	VLCSW-200512	207525	4.18	299977	4.97	276008	7.67
02	VBLKW-200512	255183	4.18	350554	4.97	301980	7.67
03	HS20050234-11	254610	4.18	359141	4.97	307451	7.67
04	HS20050234-01	260658	4.18	357709	4.97	307637	7.67
05	HS20050234-02	259220	4.18	358027	4.97	309425	7.67
06	HS20050234-03	261392	4.18	361924	4.97	307725	7.67
07	HS20050234-05	258329	4.18	358697	4.97	306113	7.67
08	HS20050234-05	259295	4.18	358495	4.97	307575	7.67
09	HS20050234-06	260487	4.18	356311	4.97	304859	7.67
10	HS20050234-07	259615	4.18	362636	4.97	308313	7.67
11	HS20050234-08	256825	4.18	353692	4.97	295213	7.67
12	HS20050234-09	264123	4.18	363304	4.97	315402	7.67
13	HS20050234-10	263784	4.18	366194	4.97	312025	7.67
14	HS20050234-01	254610	4.18	345884	4.97	298962	7.67
15	HS20050234-01	244179	4.18	336747	4.97	287002	7.67
16							
17							
18							
19							
20							

IS1 = Pentafluorobenzene
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = + 0.50 minutes of internal standard RT
RT LOWER LIMIT = - 0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

FORM VIII VOA

FORM 8
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ALS GROUP Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20050234

Lab File ID (Standard): X051203 Date Analyzed: 05/12/20

Instrument ID: VOA6 Time Analyzed: 1049

GC Column: DB624 ID: 0.18 (mm) Heated Purge: (Y/N) N

		IS4 (DCB) AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	136045	9.66				
	UPPER LIMIT	272090	10.16				
	LOWER LIMIT	68023	9.16				
	CLIENT SAMPLE NO.						
01	VLCSW-200512	141106	9.67				
02	VBLKW-200512	145248	9.67				
03	HS20050234-11	146378	9.67				
04	HS20050234-01	146853	9.67				
05	HS20050234-02	151659	9.67				
06	HS20050234-03	152254	9.67				
07	HS20050234-05	141829	9.67				
08	HS20050234-05	145903	9.67				
09	HS20050234-06	153378	9.67				
10	HS20050234-07	147994	9.67				
11	HS20050234-08	140161	9.67				
12	HS20050234-09	150601	9.67				
13	HS20050234-10	151347	9.67				
14	HS20050234-01	147916	9.66				
15	HS20050234-01	142658	9.67				
16							
17							
18							
19							
20							

IS4 (DCB) = 1,4-Dichlorobenzene-d4

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = + 0.50 minutes of internal standard RT
RT LOWER LIMIT = - 0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: ALS GROUP Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20050234

Instrument ID: VOA6 Calibration Date: 05/12/20 Time: 2026

Lab File ID: X051227 Init. Calib. Date(s): 05/11/20 05/11/20

Init. Calib. Times: 1312 1711

GC Column: DB624 ID: 0.18 (mm)

COMPOUND	RRF or AMOUNT	RRF50.000 or AMOUNT	CCAL RRF50.000	MIN RRF	%D or %DRIFT	MAX %D or %DRIFT	CURV TYPE	
Bromochloromethane	0.2900000	0.2674167	0.2674167	0.1	7.79	20.00	AVRG	
Vinyl Chloride	0.6930000	0.5949731	0.5949731	0.1	14.14	20.00	AVRG	
Chloromethane	42.020411	50.000000	0.6606656	0.1	15.96	20.00	LINR	
Bromomethane	44.922786	50.000000	0.3309279	0.1	10.15	20.00	LINR	
Chloroethane	43.335591	50.000000	0.3070035	0.1	13.33	20.00	LINR	
Methylene Chloride	47.408899	50.000000	0.4671189	0.1	5.18	20.00	LINR	
Acetone	75.938700	100.00000	0.1339225	0.1	24.06	20.00	LINR	<-
1,1-Dichloroethene	0.3980000	0.3544589	0.3544589	0.1	10.94	20.00	AVRG	
trans-1,2-Dichloroethene	0.4550000	0.4300719	0.4300719	0.1	5.48	20.00	AVRG	
Carbon Tetrachloride	0.5020000	0.4713252	0.4713252	0.1	6.11	20.00	AVRG	
1,1-Dichloroethane	1.0870000	0.9636701	0.9636701	0.2	11.34	20.00	AVRG	
Bromodichloromethane	0.4670000	0.4483614	0.4483614	0.2	3.99	20.00	AVRG	
1,2-Dichloropropane	0.4070000	0.3588734	0.3588734	0.1	11.82	20.00	AVRG	
cis-1,3-Dichloropropene	0.5470000	0.5152761	0.5152761	0.2	5.80	20.00	AVRG	
2-Butanone	0.2250000	0.2151156	0.2151156	0.1	4.39	20.00	AVRG	
Dibromochloromethane	0.4040000	0.3944112	0.3944112	0.1	2.37	20.00	AVRG	
cis-1,2-Dichloroethene	0.5270000	0.5081948	0.5081948	0.1	3.57	20.00	AVRG	
1,1,2-Trichloroethane	0.2780000	0.2504295	0.2504295	0.1	9.92	20.00	AVRG	
Chloroform	0.8930000	0.8581019	0.8581019	0.2	3.91	20.00	AVRG	
Benzene	1.2780000	1.1849918	1.1849918	0.5	7.28	20.00	AVRG	
trans-1,3-Dichloropropene	0.4960000	0.4806197	0.4806197	0.1	3.10	20.00	AVRG	
Bromoform	0.2860000	0.2768591	0.2768591	0.1	3.20	20.00	AVRG	
4-Methyl-2-Pentanone	0.4510000	0.3929375	0.3929375	0.1	12.87	20.00	AVRG	
1,1,1-Trichloroethane	0.8000000	0.7628773	0.7628773	0.1	4.64	20.00	AVRG	
2-Hexanone	0.3090000	0.2663565	0.2663565	0.1	13.80	20.00	AVRG	
1,2-Dichloroethane	0.5200000	0.5067079	0.5067079	0.1	2.56	20.00	AVRG	
1,1,2,2-Tetrachloroethane	0.8040000	0.7202899	0.7202899	0.3	10.41	20.00	AVRG	
Trichloroethene	0.3590000	0.3410827	0.3410827	0.2	4.99	20.00	AVRG	
Toluene	1.4800000	1.3588508	1.3588508	0.4	8.18	20.00	AVRG	
Dichlorodifluoromethane	46.075009	50.000000	0.5370694	0.1	7.85	20.00	LINR	
Trichlorofluoromethane	0.8040000	0.7648843	0.7648843	0.1	4.86	20.00	AVRG	
Tetrachloroethene	0.3300000	0.3054844	0.3054844	0.2	7.43	20.00	AVRG	
1,2-Dibromoethane	0.3550000	0.3430479	0.3430479	0.1	3.37	20.00	AVRG	
Chlorobenzene	0.9900000	0.9262023	0.9262023	0.5	6.44	20.00	AVRG	
1,3-Dichlorobenzene	1.5230000	1.4536286	1.4536286	0.6	4.55	20.00	AVRG	
1,4-Dichlorobenzene	1.5800000	1.4700318	1.4700318	0.4	6.96	20.00	AVRG	
1,2-Dichlorobenzene	1.3930000	1.2975215	1.2975215	0.4	6.85	20.00	AVRG	
Ethylbenzene	0.5200000	0.4803426	0.4803426	0.1	7.63	20.00	AVRG	
m,p-Xylenes	0.6310000	0.5872014	0.5872014	0.1	6.94	20.00	AVRG	
o-Xylene	0.6140000	0.5767451	0.5767451	0.3	6.07	20.00	AVRG	
Styrene	1.0640000	1.0134814	1.0134814	0.3	4.75	20.00	AVRG	
Carbon Disulfide	1.3550000	1.2241545	1.2241545	0.1	9.66	20.00	AVRG	

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: ALS GROUP Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20050234

Instrument ID: VOA6 Calibration Date: 05/12/20 Time: 2026

Lab File ID: X051227 Init. Calib. Date(s): 05/11/20 05/11/20

Init. Calib. Times: 1312 1711

GC Column: DB624 ID: 0.18 (mm)

COMPOUND	RRF or AMOUNT	RRF50.000 or AMOUNT	CCAL RRF50.000	MIN RRF	%D or %DRIFT	MAX %D or %DRIFT	CURV TYPE
2,2-Dichloropropane	0.7920000	0.6905014	0.6905014	0.1	12.82	20.00	AVRG
1,1-Dichloropropene	0.4580000	0.4176550	0.4176550	0.1	8.81	20.00	AVRG
Dibromomethane	0.2210000	0.2094253	0.2094253	0.1	5.24	20.00	AVRG
1,3-Dichloropropane	0.5780000	0.5336239	0.5336239	0.1	7.68	20.00	AVRG
1,1,1,2-Tetrachloroethane	0.3930000	0.3779899	0.3779899	0.1	3.82	20.00	AVRG
Isopropylbenzene	1.5590000	1.4643286	1.4643286	0.1	6.07	20.00	AVRG
Bromobenzene	0.9370000	0.8827519	0.8827519	0.1	5.79	20.00	AVRG
1,2,3-Trichloropropane	0.6970000	0.6461620	0.6461620	0.1	7.29	20.00	AVRG
n-Propylbenzene	3.5950000	3.3120521	3.3120521	0.1	7.87	20.00	AVRG
2-Chlorotoluene	2.2320000	2.0198829	2.0198829	0.1	9.50	20.00	AVRG
1,3,5-Trimethylbenzene	2.5820000	2.4635811	2.4635811	0.1	4.59	20.00	AVRG
4-Chlorotoluene	2.5730000	2.3521940	2.3521940	0.1	8.58	20.00	AVRG
tert-Butylbenzene	2.1920000	2.0498953	2.0498953	0.1	6.48	20.00	AVRG
1,2,4-Trimethylbenzene	2.6230000	2.5250509	2.5250509	0.1	3.73	20.00	AVRG
sec-Butylbenzene	3.0280000	2.8024387	2.8024387	0.1	7.45	20.00	AVRG
p-Isopropyltoluene	2.6260000	2.5167202	2.5167202	0.1	4.16	20.00	AVRG
n-Butylbenzene	2.1190000	2.0490549	2.0490549	0.5	3.30	20.00	AVRG
1,2-Dibromo-3-Chloropropane	48.354234	50.000000	7.74e-002	0.05	3.29	20.00	LINR
1,2,4-Trichlorobenzene	41.053625	50.000000	0.2928622	0.2	17.89	20.00	LINR
Hexachlorobutadiene	45.177077	50.000000	0.2461443	0.1	9.64	20.00	LINR
Naphthalene	0.4710000	0.4197458	0.4197458	0.2	10.88	20.00	AVRG
1,2,3-Trichlorobenzene	46.355457	50.000000	0.1486096	0.1	7.29	20.00	2RDR
Freon TF	0.3860000	0.3581243	0.3581243	0.1	7.22	20.00	AVRG
Dibromofluoromethane	48.635950	50.000000	0.4852564	0.1	2.73	20.00	LINR
1,2-Dichloroethane-d4	49.286904	50.000000	0.6074482	0.1	1.43	20.00	LINR
Toluene-d8	48.571306	50.000000	1.2201788	0.1	2.86	20.00	LINR
4-Bromofluorobenzene	48.493930	50.000000	0.4635140	0.1	3.01	20.00	LINR

FORM VII VOA

MSVOA06 -Logbook

Batch: 40534
Date: 05-12-2020
Method: 8260
Comments:

Analyst: Presenta Cabascango
Reviewer:
Laboratory: Houston

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
1	BFB	TUNE	05-12-2020 10:01 am	1.00	50 mL	50 mL	X051201.D	Liquid	Y	NA
	Auto find/ purged									
2	CCV	CCV	05-12-2020 10:25 am	1.00	50 mL	50 mL	X051202a.D	Liquid	Y	NA
	10 uL cal std/50 mL DI									
3	CCV	CCV	05-12-2020 10:49 am	1.00	50 mL	50 mL	X051203.D	Liquid	Y	NA
	10 uL cal std/50 mL DI									
4	CCB	SAMP	05-12-2020 11:13 am	1.00	50 mL	50 mL	X051204.D	Liquid	Y	NA
5	VLCSW-200512	LCS	05-12-2020 11:37 am	1.00	50 mL	50 mL	X051205.D	Liquid	Y	NA
	4.0 uL cal std/50 mL DI									
6	BLANK	SAMP	05-12-2020 12:01 pm	1.00	50 mL	50 mL	X051206.D	Liquid	Y	NA
7	VBLKW-200512	MBLK	05-12-2020 12:25 pm	1.00	50 mL	50 mL	X051207.D	Liquid	Y	<2
8	HS20050292-04	SAMP	05-12-2020 12:49 pm	1.00	50 mL	50 mL	X051208.D	Liquid	Y	<2
9	HS20050292-05	SAMP	05-12-2020 01:13 pm	1.00	50 mL	50 mL	X051209.D	Liquid	Y	<2
10	HS20050292-09	SAMP	05-12-2020 01:37 pm	1.00	50 mL	50 mL	X051210.D	Liquid	Y	<2
11	HS20050234-11	SAMP	05-12-2020 02:01 pm	1.00	50 mL	50 mL	X051211.D	Liquid	Y	<2
12	HS20050292-06	SAMP	05-12-2020 02:25 pm	1.00	50 mL	50 mL	X051212.D	Liquid	Y	<2
13	HS20050292-07	SAMP	05-12-2020 02:49 pm	1.00	50 mL	50 mL	X051213.D	Liquid	Y	<2
14	HS20050292-08	SAMP	05-12-2020 03:13 pm	1.00	50 mL	50 mL	X051214.D	Liquid	Y	<2
15	HS20050234-01	SAMP	05-12-2020 03:38 pm	1.00	50 mL	50 mL	X051215.D	Liquid	Y	<2
16	HS20050234-02	SAMP	05-12-2020 04:02 pm	1.00	50 mL	50 mL	X051216.D	Liquid	Y	<2
17	HS20050234-03	SAMP	05-12-2020 04:26 pm	1.00	50 mL	50 mL	X051217.D	Liquid	Y	<2
18	HS20050234-04	SAMP	05-12-2020 04:50 pm	1.00	50 mL	50 mL	X051218.D	Liquid	Y	<2
19	HS20050234-05	SAMP	05-12-2020 05:14 pm	1.00	50 mL	50 mL	X051219.D	Liquid	Y	<2
20	HS20050234-06	SAMP	05-12-2020 05:38 pm	1.00	50 mL	50 mL	X051220.D	Liquid	Y	<2
21	HS20050234-07	SAMP	05-12-2020 06:02 pm	1.00	50 mL	50 mL	X051221.D	Liquid	Y	<2
22	HS20050234-08	SAMP	05-12-2020 06:26 pm	1.00	50 mL	50 mL	X051222.D	Liquid	Y	<2
23	HS20050234-09	SAMP	05-12-2020 06:50 pm	1.00	50 mL	50 mL	X051223.D	Liquid	Y	<2
24	HS20050234-10	SAMP	05-12-2020 07:14 pm	1.00	50 mL	50 mL	X051224.D	Liquid	Y	<2
25	HS20050234-01MS	MS	05-12-2020 07:38 pm	1.00	50 mL	50 mL	X051225.D	Liquid	Y	<2
	3.5 uL cal std/40 mL samp									
26	HS20050234-01MSD	MSD	05-12-2020 08:02 pm	1.00	50 mL	50 mL	X051226.D	Liquid	Y	<2
	3.5 uL cal std/40 mL samp									
27	CCV-END	CCV	05-12-2020 08:26 pm	1.00	50 mL	50 mL	X051227.D	Liquid	Y	na
	10 uL cal std/50 mL DI									
28	HS20050231-02	SAMP	05-12-2020 08:50 pm	1.00	50 mL	50 mL	X051228.D	Liquid	Y	<2
29	HS20050305-03	SAMP	05-12-2020 09:14 pm	1.00	50 mL	50 mL	X051229.D	Liquid	Y	<2
30	HS20050305-02	SAMP	05-12-2020 09:38 pm	1.00	50 mL	50 mL	X051230.D	Liquid	Y	<2
31	BFB	TUNE	05-12-2020 10:02 pm	1.00	50 mL	50 mL	Y051201.D	Liquid	Y	Na
	Auto find/ purged									
32	CCV	CCV	05-12-2020 10:26 pm	1.00	50 mL	50 mL	Y051202a.D	Liquid	Y	Na
	10 uL cal std/50 mL DI									
33	CCV	CCV	05-12-2020 10:50 pm	1.00	50 mL	50 mL	Y051203.D	Liquid	Y	Na
	10 uL cal std/50 mL DI									
34	CCB	SAMP	05-12-2020 11:14 pm	1.00	50 mL	50 mL	Y051204.D	Liquid	Y	Na
35	VLCSW-200512	LCS	05-12-2020 11:38 pm	1.00	50 mL	50 mL	Y051205.D	Liquid	Y	Na
	4.0 uL cal std/50 mL DI									

MSVOA06 -Logbook

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
36	BLANK	SAMP	05-13-2020 12:02 am	1.00	50 mL	50 mL	Y051206.D	Liquid	Y	Na
37	VBLKW-200512	MBLK	05-13-2020 12:26 am	1.00	50 mL	50 mL	Y051207.D	Liquid	Y	<2
38	HS20050374-01	SAMP	05-13-2020 12:50 am	1.00	50 mL	50 mL	Y051208.D	Liquid	Y	<2
39	HS20050322-04	SAMP	05-13-2020 01:14 am	1.00	50 mL	50 mL	Y051209.D	Liquid	Y	<2
40	HS20050322-02	SAMP	05-13-2020 01:38 am	1.00	50 mL	50 mL	Y051210.D	Liquid	Y	<2
41	HS20050322-03	SAMP	05-13-2020 02:02 am	1.00	50 mL	50 mL	Y051211.D	Liquid	Y	<2
42	HS20050320-06	SAMP	05-13-2020 02:26 am	5.00	10 mL	50 mL	Y051212.D	Liquid	Y	<2
43	HS20050320-07	SAMP	05-13-2020 02:50 am	50.00	1 mL	50 mL	Y051213.D	Liquid	Y	<2
44	HS20050322-01	SAMP	05-13-2020 03:14 am	25.00	2 mL	50 mL	Y051214.D	Liquid	Y	<2
45	HS20050320-07MS	MS	05-13-2020 03:38 am	50.00	1 mL	50 mL	Y051215.D	Liquid	Y	<2
	3.5 uL cal std/40 mL samp									
46	HS20050320-07MSD	MSD	05-13-2020 04:02 am	50.00	1 mL	50 mL	Y051216.D	Liquid	Y	<2
	3.5 uL cal std/40 mL samp									
47	HS20050320-11	SAMP	05-13-2020 04:27 am	20.00	2.5 mL	50 mL	Y051217.D	Liquid	Y	<2
48	HS20050322-01	SAMP	05-13-2020 04:51 am	250.0(	200 µL	50 mL	Y051218.D	Liquid	Y	<2
49	HS20050320-13	SAMP	05-13-2020 05:15 am	5.00	10 mL	50 mL	Y051219.D	Liquid	Y	<2
50	HS20050330-01	SAMP	05-13-2020 05:39 am	1.00	50 mL	50 mL	Y051220.D	Liquid	Y	<2
51	HS20050339-03	SAMP	05-13-2020 06:03 am	1.00	50 mL	50 mL	Y051221.D	Liquid	Y	<2
52	HS20050339-07	SAMP	05-13-2020 06:27 am	1.00	50 mL	50 mL	Y051222.D	Liquid	Y	<2
53	HS20050337-03	SAMP	05-13-2020 06:51 am	1.00	50 mL	50 mL	Y051223.D	Liquid	Y	<2
54	HS20050337-01	SAMP	05-13-2020 07:15 am	1.00	50 mL	50 mL	Y051224.D	Liquid	Y	<2
55	HS20050293-12	SAMP	05-13-2020 07:39 am	5.00	10 mL	50 mL	Y051225.D	Liquid	Y	<2
56	HS20050293-17	SAMP	05-13-2020 08:03 am	10.00	5 mL	50 mL	Y051226.D	Liquid	Y	<2
57	HS20050369-04	SAMP	05-13-2020 08:27 am	1.00	50 mL	50 mL	Y051227.D	Liquid	Y	<2
58	HS20050369-06	SAMP	05-13-2020 08:51 am	5.00	10 mL	50 mL	Y051228.D	Liquid	Y	<2
59	HS20050369-06	SAMP	05-13-2020 09:15 am	50.00	1 mL	50 mL	Y051229.D	Liquid	Y	<2
60	BLANK	SAMP	05-13-2020 09:39 am	1.00	50 mL	50 mL	Y051240.D	Liquid	Y	<2

Chemical	Value
SURR SPK ID	31106-26-06
IS ID	31106-26-06
CAL STD ID	31106-29-01/02
BFB ID	31106-26-06
pH Paper	634-64-11

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200512.b\X051201.D Page 2

Date : 12-MAY-2020 10:01

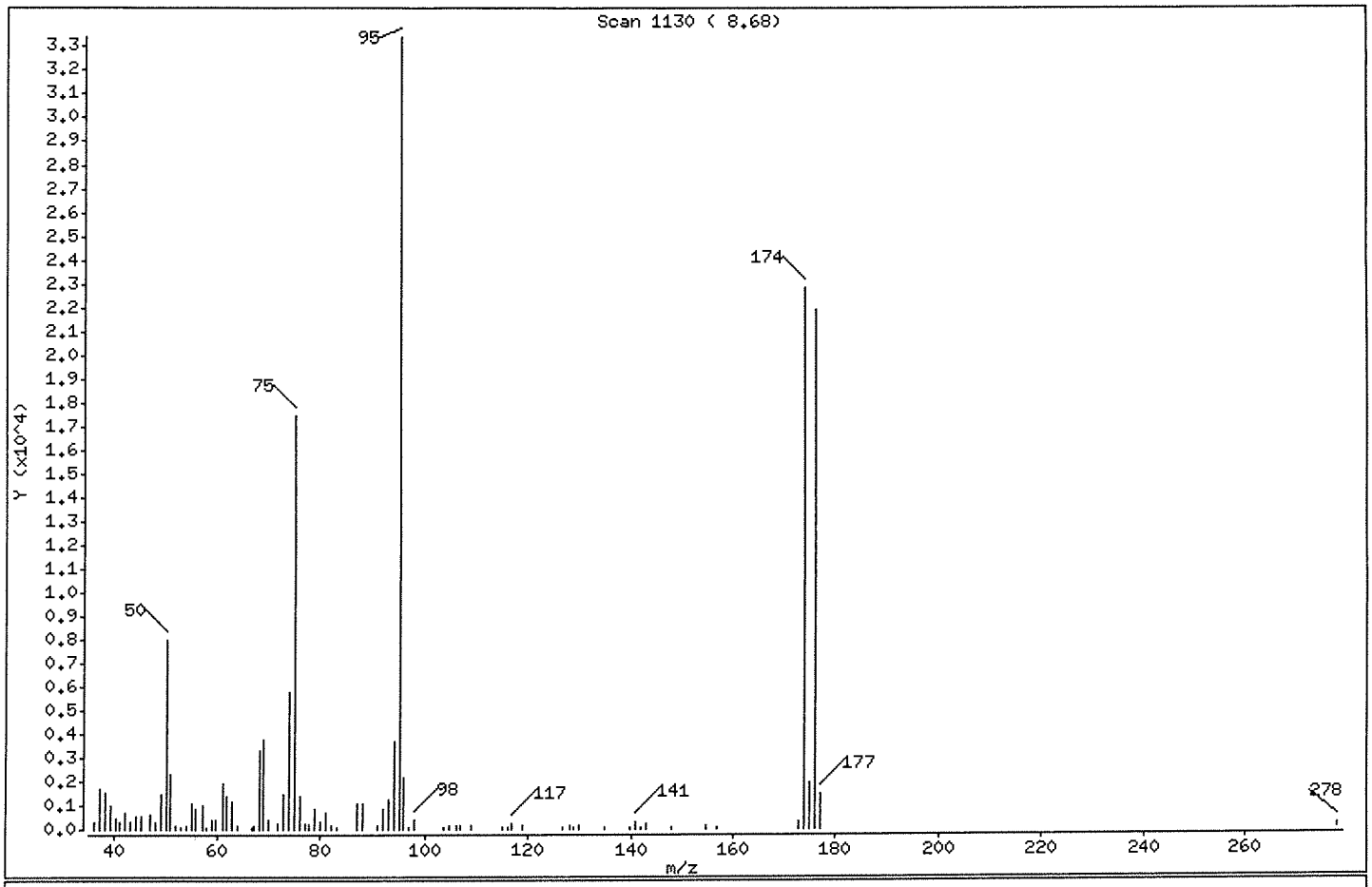
Client ID: BFB Instrument: voa6.i

Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0 Operator: PC

Column phase: DB624 Column diameter: 0.25

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	23.87
75	30.00 - 60.00% of mass 95	52.21
96	5.00 - 9.00% of mass 95	6.55
173	Less than 2.00% of mass 174	0.83 (1.22)
174	Greater than 50.00% of mass 95	68.18
175	5.00 - 9.00% of mass 174	5.72 (8.40)
176	95.00 - 101.00% of mass 174	65.41 (95.93)
177	5.00 - 9.00% of mass 176	4.37 (6.68)

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200512.b\X051201.D

Date : 12-MAY-2020 10:01

Client ID: BFB Instrument: voa6.i

Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0 Operator: PC

Column phase: DB624 Column diameter: 0.25

Data File: X051201.D
Spectrum: Scan 1130 (8.68)
Location of Maximum: 95.00
Number of points: 82

m/z	Y	m/z	Y	m/z	Y	m/z	Y
35.90	329	57.90	112	81.00	665	118.80	162
37.00	1679	59.00	400	81.90	120	126.80	97
38.00	1515	59.80	353	83.10	83	128.00	132
39.00	970	61.00	1928	86.90	1051	128.90	63
40.10	455	62.00	1416	88.10	1107	129.80	170
41.00	340	63.00	1166	90.90	161	134.90	72
42.00	667	64.00	168	91.90	848	139.80	58
43.00	307	66.70	62	93.00	1221	140.80	276
44.10	501	67.20	138	94.10	3677	141.90	95
45.10	558	68.10	3322	95.00	33416	143.00	218
47.10	603	69.00	3795	96.00	2189	147.90	95
47.90	297	70.00	359	97.00	64	154.80	142
49.00	1432	71.90	223	97.90	407	156.90	74
50.00	7975	73.00	1464	103.70	97	172.80	279
51.00	2301	74.00	5734	104.80	117	174.00	22784
52.00	160	75.00	17448	106.10	145	175.00	1913
53.10	54	76.00	1378	106.80	173	176.00	21856
54.10	189	76.90	222	109.00	179	177.00	1460
55.00	1071	77.90	198	115.10	93	278.10	176
55.90	839	78.90	861	115.90	88		
57.10	1022	80.00	314	116.80	200		

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200512.b\X051201.D

Date : 12-MAY-2020 10:01

Client ID: BFB

Instrument: voa6.i

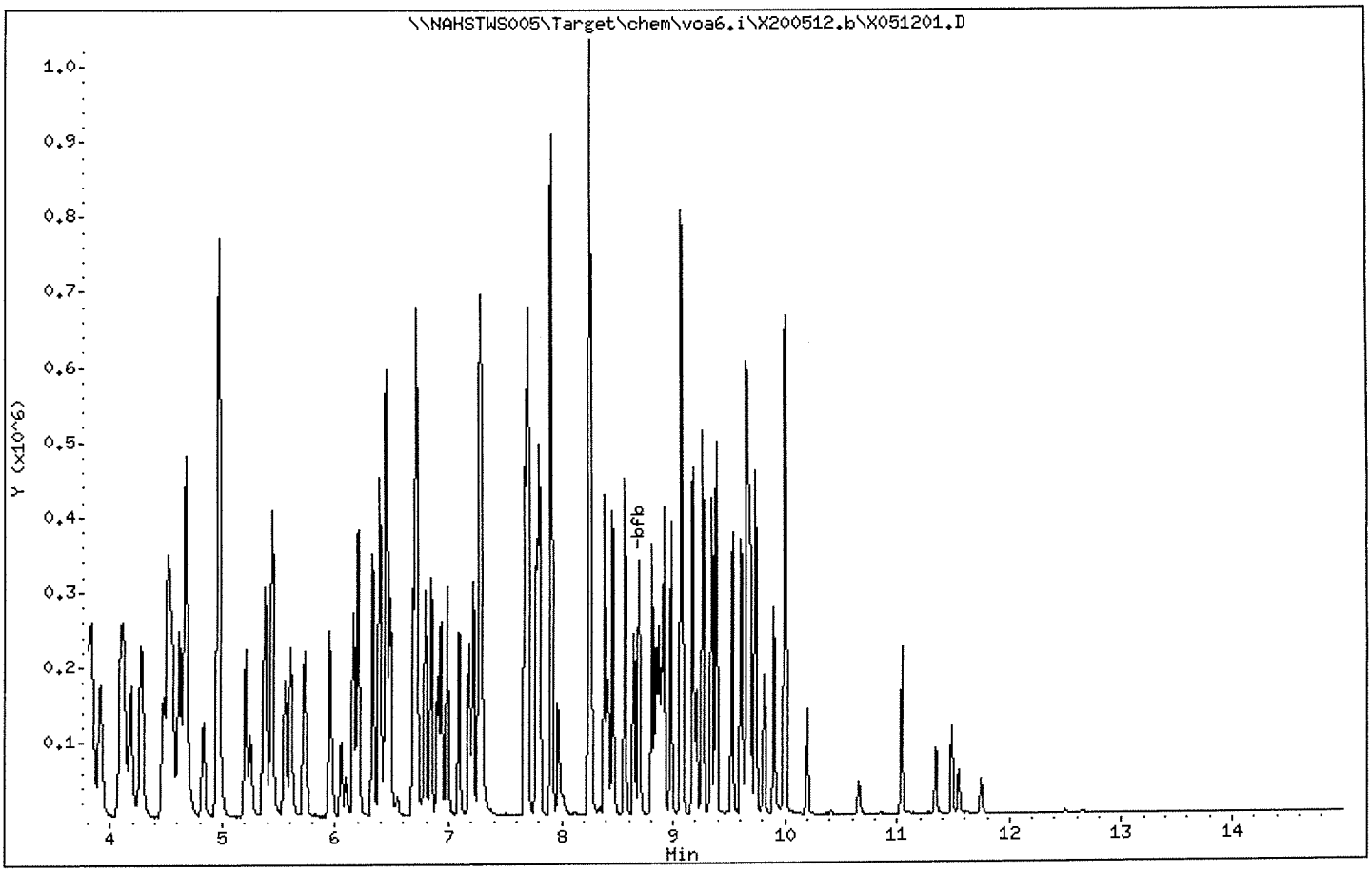
Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0

Operator: PC

Column phase: DB624

Column diameter: 0.25



Data File: \\NAHSTWS005\Target\chem\voa6.i\X200512.b\X051203.D Page 1
Report Date: 22-May-2020 16:20

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X200512.b\X051203.D
Lab Smp Id: CCV Client Smp ID: CCV
Inj Date : 12-MAY-2020 10:49
Operator : PC Inst ID: voa6.i
Smp Info : CCV;CCV;2;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200512.b\8260W.m
Meth Date : 22-May-2020 16:20 voa6.i Quant Type: ISTD
Cal Date : 11-MAY-2020 16:00 Cal File: X051108.D
Als bottle: 3 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000000_CBI.sub
Target Version: 4.14
Processing Host: NAHSTW7142

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

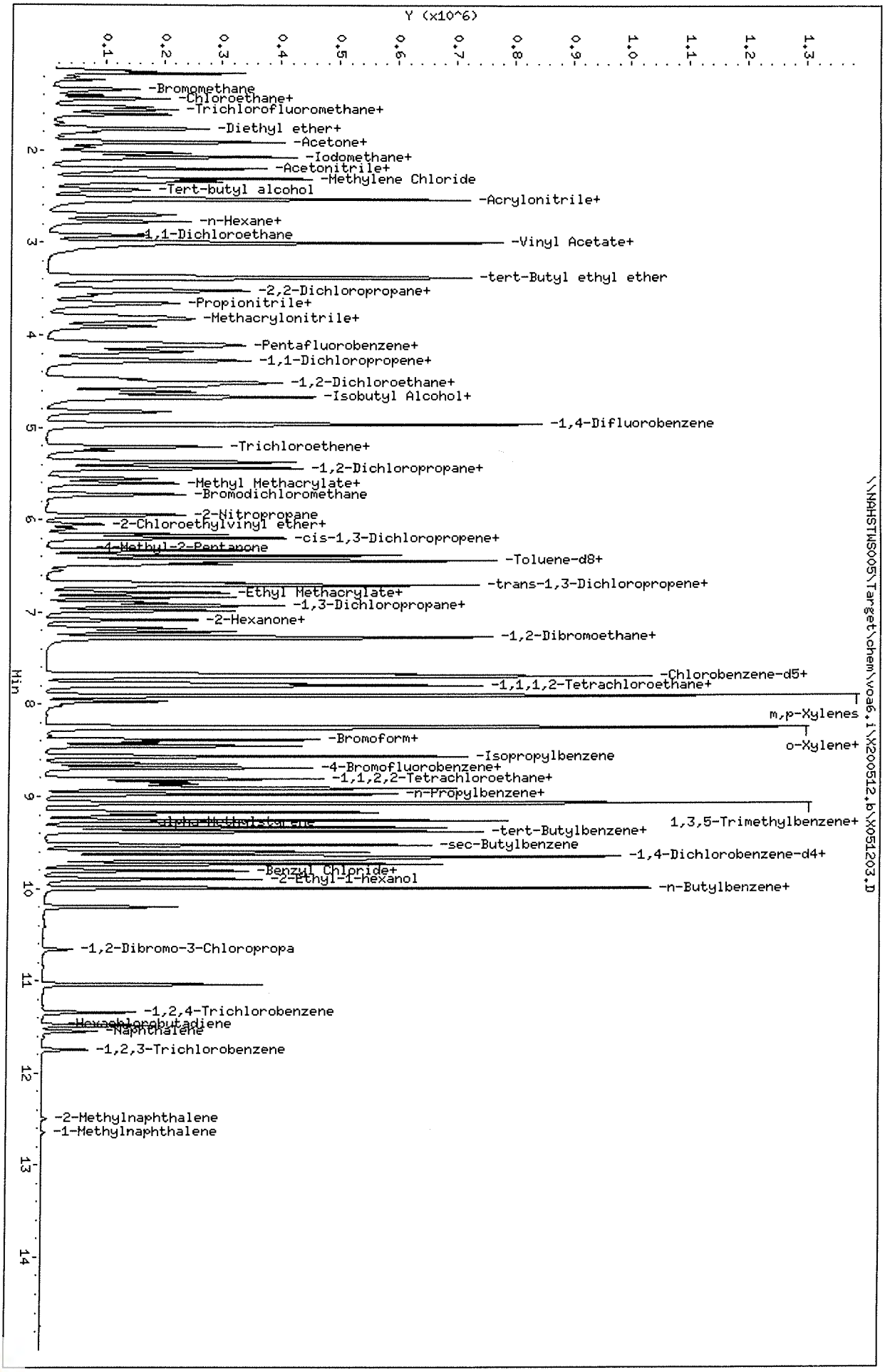
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	199856	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	288768	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	266171	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	136045	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	100057	50.0000	50.18
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	122456	50.0000	49.71
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	339111	50.0000	50.73
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	128711	50.0000	50.62
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	103602	50.0000	49.51
31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	153628	50.0000	48.00
68 1,1,2,2-Tetrachloroethane	83	8.838	8.838	(0.915)	99042	50.0000	45.30
138 Freon TF	101	1.911	1.911	(0.457)	70336	50.0000	45.54
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	69364	50.0000	46.84
22 1,1-Dichloroethane	63	2.921	2.921	(0.699)	194206	50.0000	44.71
11 1,1-Dichloroethene	96	1.911	1.911	(0.457)	70884	50.0000	44.58
32 1,1-Dichloropropene	75	4.282	4.282	(0.862)	122392	50.0000	46.29
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.216)	21762	50.0000	49.74
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.918)	89251	50.0000	47.07 (M)
90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	41708	50.0000	42.85
79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.971)	338960	50.0000	47.49
89 1,2-Dibromo-3-Chloropropane	155	10.658	10.658	(1.103)	10395	50.0000	47.77
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	94600	50.0000	50.02

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200512.b\X051203.D Page 2
Report Date: 22-May-2020 16:20

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
88	1,2-Dichlorobenzene	146	9.991	9.991	(1.034)	179001	50.0000	47.23
33	1,2-Dichloroethane	62	4.555	4.555	(0.916)	155452	50.0000	51.70
42	1,2-Dichloropropane	63	5.436	5.436	(1.094)	109688	50.0000	46.66
75	1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	331955	50.0000	47.25
83	1,3-Dichlorobenzene	146	9.605	9.605	(0.994)	199284	50.0000	48.07
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	148009	50.0000	48.08
84	1,4-Dichlorobenzene	146	9.683	9.683	(1.002)	201689	50.0000	46.90
26	2,2-Dichloropropane	77	3.509	3.509	(0.839)	152998	50.0000	48.35
24	2-Butanone	43	3.573	3.573	(0.854)	93134	100.000	103.39(H)
76	2-Chlorotoluene	91	8.974	8.974	(0.929)	278237	50.0000	45.82
52	2-Hexanone	43	7.083	7.083	(0.923)	143621	100.000	87.25
77	4-Chlorotoluene	91	9.074	9.074	(0.939)	321478	50.0000	45.92
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	335863	50.0000	47.00
45	4-Methyl-2-Pentanone	43	6.324	6.324	(0.824)	209397	100.000	87.13
10	Acetone	43	1.969	1.969	(0.471)	62067	100.000	88.46
37	Benzene	78	4.512	4.512	(0.908)	345446	50.0000	46.80
74	Bromobenzene	156	8.809	8.809	(0.912)	123460	50.0000	48.40
29	Bromochloromethane	128	3.795	3.795	(0.908)	54279	50.0000	46.80
39	Bromodichloromethane	83	5.729	5.729	(1.153)	133217	50.0000	49.42
66	Bromoform	173	8.415	8.415	(1.097)	76899	50.0000	50.42
6	Bromomethane	94	1.338	1.338	(0.320)	70286	50.0000	47.78
19	Carbon Disulfide	76	2.069	2.069	(0.495)	492647	100.000	90.94
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	136954	50.0000	47.20
59	Chlorobenzene	112	7.692	7.692	(1.003)	254166	50.0000	48.19
7	Chloroethane	64	1.403	1.403	(0.336)	62236	50.0000	43.96
28	Chloroform	83	3.910	3.910	(0.935)	171513	50.0000	48.02
3	Chloromethane	50	1.073	1.073	(0.257)	127871	50.0000	40.71
27	cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	101220	50.0000	48.00
46	cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	155271	50.0000	49.18
55	Dibromochloromethane	129	7.176	7.176	(0.936)	107852	50.0000	50.06
44	Dibromomethane	93	5.557	5.557	(1.118)	62913	50.0000	49.34
2	Dichlorodifluoromethane	85	0.966	0.966	(0.231)	105481	50.0000	45.29
61	Ethylbenzene	106	7.799	7.799	(1.017)	132390	50.0000	47.83
91	Hexachlorobutadiene	225	11.481	11.481	(1.188)	32349	50.0000	43.67
67	Isopropylbenzene	105	8.566	8.566	(1.117)	392699	50.0000	47.31
62	m,p-Xylenes	106	7.907	7.907	(1.031)	321064	100.000	95.56
17	Methylene Chloride	84	2.305	2.305	(0.551)	92963	50.0000	47.20
87	n-Butylbenzene	91	9.999	9.999	(1.035)	271580	50.0000	47.10
73	n-Propylbenzene	91	8.917	8.917	(0.923)	444735	50.0000	45.47
92	Naphthalene	128	11.546	11.546	(1.195)	62488	50.0000	48.78
63	o-Xylene	106	8.244	8.244	(1.075)	157531	50.0000	48.19
81	sec-Butylbenzene	105	9.526	9.526	(0.986)	372053	50.0000	45.15
64	Styrene	104	8.258	8.258	(1.077)	276232	50.0000	48.76
78	tert-Butylbenzene	119	9.340	9.340	(0.967)	274198	50.0000	45.97
56	Tetrachloroethene	164	6.933	6.933	(0.904)	83449	50.0000	47.52
50	Toluene	91	6.446	6.446	(0.840)	375679	50.0000	47.69
20	trans-1,2-Dichloroethene	96	2.527	2.527	(0.604)	87393	50.0000	48.06
51	trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	144647	50.0000	50.52
38	Trichloroethene	130	5.206	5.206	(1.048)	100047	50.0000	48.28
8	Trichlorofluoromethane	101	1.560	1.560	(0.373)	151858	50.0000	47.22
5	Vinyl Chloride	62	1.138	1.138	(0.272)	115944	50.0000	41.85

QC Flag Legend

M - Compound response manually integrated.
H - Operator selected an alternate compound hit.



Data File: \\NAHSTWS005\Target\chem\voa6.i\X200512.b\X051203.D
Date : 12-MAY-2020 10:49
Client ID: CCV
Sample Info: CCV;CCV;2;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X200512.b\X051205.D
Lab Smp Id: VLCSW-200512 Client Smp ID: VLCSW-200512
Inj Date : 12-MAY-2020 11:37
Operator : PC Inst ID: voa6.i
Smp Info : VLCSW-200512;VLCSW-200512;3;;LCS
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200512.b\8260W.m
Meth Date : 22-May-2020 16:20 voa6.i Quant Type: ISTD
Cal Date : 11-MAY-2020 16:00 Cal File: X051108.D
Als bottle: 5 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000000_CBI.sub
Target Version: 4.14
Processing Host: NAHSTW7142

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

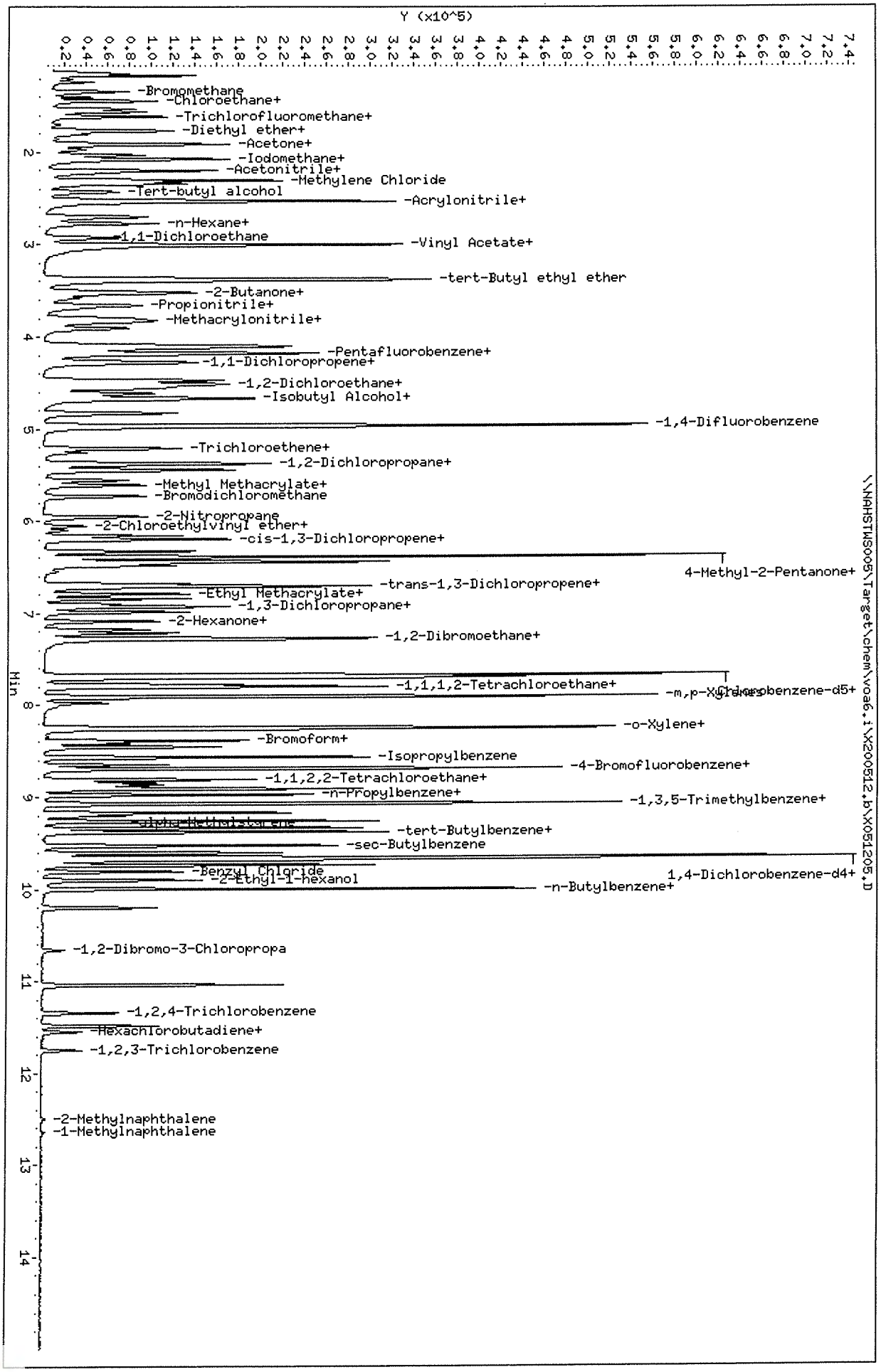
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	207525	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	299977	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	276008	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.662	(1.000)	141106	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	102421	49.4699	49.46
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	128165	50.1103	50.11
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	351995	50.7868	50.78
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	132774	50.3579	50.35
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	42552	19.6142	19.61
31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	63790	19.1945	19.19
68 1,1,2,2-Tetrachloroethane	83	8.838	8.838	(0.914)	40837	18.0084	18.00
138 Freon TF	101	1.919	1.911	(0.459)	30282	18.8821	18.88
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	29001	18.8890	18.88
22 1,1-Dichloroethane	63	2.921	2.921	(0.699)	81032	17.9665	17.96
11 1,1-Dichloroethene	96	1.911	1.911	(0.457)	29161	17.6622	17.66
32 1,1-Dichloropropene	75	4.282	4.282	(0.862)	50620	18.4331	18.43
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.215)	10136	22.7608	22.76
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.917)	36306	18.4642	18.46(M)
90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	19577	20.8392	20.83
79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.970)	142520	19.2548	19.25
89 1,2-Dibromo-3-Chloropropane	155	10.658	10.658	(1.102)	4331	20.0720	20.07
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	38720	19.7459	19.74

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200512.b\X051205.D Page 2
Report Date: 22-May-2020 16:20

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
88	1,2-Dichlorobenzene	146	9.999	9.991	(1.034)	72580	18.4639	18.46
33	1,2-Dichloroethane	62	4.562	4.555	(0.918)	61569	19.7125	19.71
42	1,2-Dichloropropane	63	5.443	5.436	(1.095)	44986	18.4236	18.42
75	1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	140052	19.2225	19.22
83	1,3-Dichlorobenzene	146	9.612	9.605	(0.994)	81271	18.9009	18.90
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	60471	18.9465	18.94
84	1,4-Dichlorobenzene	146	9.683	9.683	(1.001)	81957	18.3756	18.37
26	2,2-Dichloropropane	77	3.516	3.509	(0.841)	64035	19.4884	19.48
24	2-Butanone	43	3.580	3.573	(0.856)	35353	37.7990	37.79
76	2-Chlorotoluene	91	8.974	8.974	(0.928)	114765	18.2217	18.22
52	2-Hexanone	43	7.090	7.083	(0.924)	59386	34.7935	34.79
77	4-Chlorotoluene	91	9.075	9.074	(0.939)	132941	18.3091	18.30
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	144261	19.4638	19.46
45	4-Methyl-2-Pentanone	43	6.324	6.324	(0.824)	87994	35.3095	35.30
10	Acetone	43	1.969	1.969	(0.471)	26300	34.5450	34.54
37	Benzene	78	4.512	4.512	(0.908)	141422	18.4437	18.44
74	Bromobenzene	156	8.809	8.809	(0.911)	50071	18.9270	18.92
29	Bromochloromethane	128	3.795	3.795	(0.908)	23607	19.6058	19.60
39	Bromodichloromethane	83	5.729	5.729	(1.153)	54737	19.5480	19.54
66	Bromoform	173	8.416	8.415	(1.097)	30726	19.4301	19.43
6	Bromomethane	94	1.338	1.338	(0.320)	32486	20.8563	20.85
19	Carbon Disulfide	76	2.069	2.069	(0.495)	204254	36.3110	36.31
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	56623	18.7869	18.78
59	Chlorobenzene	112	7.699	7.692	(1.004)	103992	19.0163	19.01
7	Chloroethane	64	1.403	1.403	(0.336)	26519	17.7921	17.79
28	Chloroform	83	3.910	3.910	(0.935)	71972	19.4069	19.40
3	Chloromethane	50	1.073	1.073	(0.257)	53558	16.7969	16.79
27	cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	41859	19.1204	19.12
46	cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	62508	19.0612	19.06
55	Dibromochloromethane	129	7.176	7.176	(0.936)	44249	19.8075	19.80
44	Dibromomethane	93	5.557	5.557	(1.118)	25974	19.6122	19.61
2	Dichlorodifluoromethane	85	0.966	0.966	(0.231)	43218	18.5180	18.51
61	Ethylbenzene	106	7.800	7.799	(1.017)	55050	19.1807	19.18
91	Hexachlorobutadiene	225	11.481	11.481	(1.187)	17918	23.7740	23.77
67	Isopropylbenzene	105	8.566	8.566	(1.117)	163505	18.9966	18.99
62	m,p-Xylenes	106	7.907	7.907	(1.031)	133722	38.3855	38.38
17	Methylene Chloride	84	2.305	2.305	(0.551)	40237	19.0510	19.05
87	n-Butylbenzene	91	9.999	9.999	(1.034)	119050	19.9077	19.90
73	n-Propylbenzene	91	8.917	8.917	(0.922)	184323	18.1696	18.16
92	Naphthalene	128	11.546	11.546	(1.194)	25322	19.0611	19.06
63	o-Xylene	106	8.244	8.244	(1.075)	65786	19.4093	19.40
81	sec-Butylbenzene	105	9.526	9.526	(0.985)	159338	18.6433	18.64
64	Styrene	104	8.258	8.258	(1.077)	113567	19.3330	19.33
78	tert-Butylbenzene	119	9.340	9.340	(0.966)	118397	19.1391	19.13
56	Tetrachloroethene	164	6.933	6.933	(0.904)	34650	19.0313	19.03
50	Toluene	91	6.446	6.446	(0.840)	156014	19.0997	19.09
20	trans-1,2-Dichloroethene	96	2.528	2.527	(0.604)	36426	19.2953	19.29
51	trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	58335	19.6153	19.61
38	Trichloroethene	130	5.206	5.206	(1.048)	42349	19.6749	19.67
8	Trichlorofluoromethane	101	1.561	1.560	(0.373)	61791	18.5063	18.50
5	Vinyl Chloride	62	1.138	1.138	(0.272)	48606	16.8960	16.89

QC Flag Legend

M - Compound response manually integrated.



Data File: \\NAHSTWS005\Target\chem\voa6,i\X200512,b\X051205,D
Date : 12-MAY-2020 11:37
Client ID: VLCSW-200512
Sample Info: VLCSW-200512;VLCSW-200512;3;;LCS
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6,i
Operator: PC
Column diameter: 0.18

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200512.b\X051207.D Page 1
Report Date: 22-May-2020 16:20

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X200512.b\X051207.D
Lab Smp Id: VBLKW-200512 Client Smp ID: VBLKW-200512
Inj Date : 12-MAY-2020 12:25
Operator : PC Inst ID: voa6.i
Smp Info : VBLKW-200512;VBLKW-200512;3;;BLANK
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200512.b\8260W.m
Meth Date : 22-May-2020 16:20 voa6.i Quant Type: ISTD
Cal Date : 11-MAY-2020 16:00 Cal File: X051108.D
Als bottle: 7 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000000_CBI.sub
Target Version: 4.14
Processing Host: NAHSTW7142

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	255183	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	350554	50.0000	
* 47 Chlorobenzene-d5	117	7.670	7.671	(1.000)	301980	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.662	(1.000)	145248	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	117431	46.1104	46.11
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	140604	44.7028	44.70
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	409818	54.0740	54.07
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	143035	49.5720	49.57

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200512.b\X051207.D

Date : 12-MAY-2020 12:25

Client ID: VBLKW-200512

Instrument: voa6.i

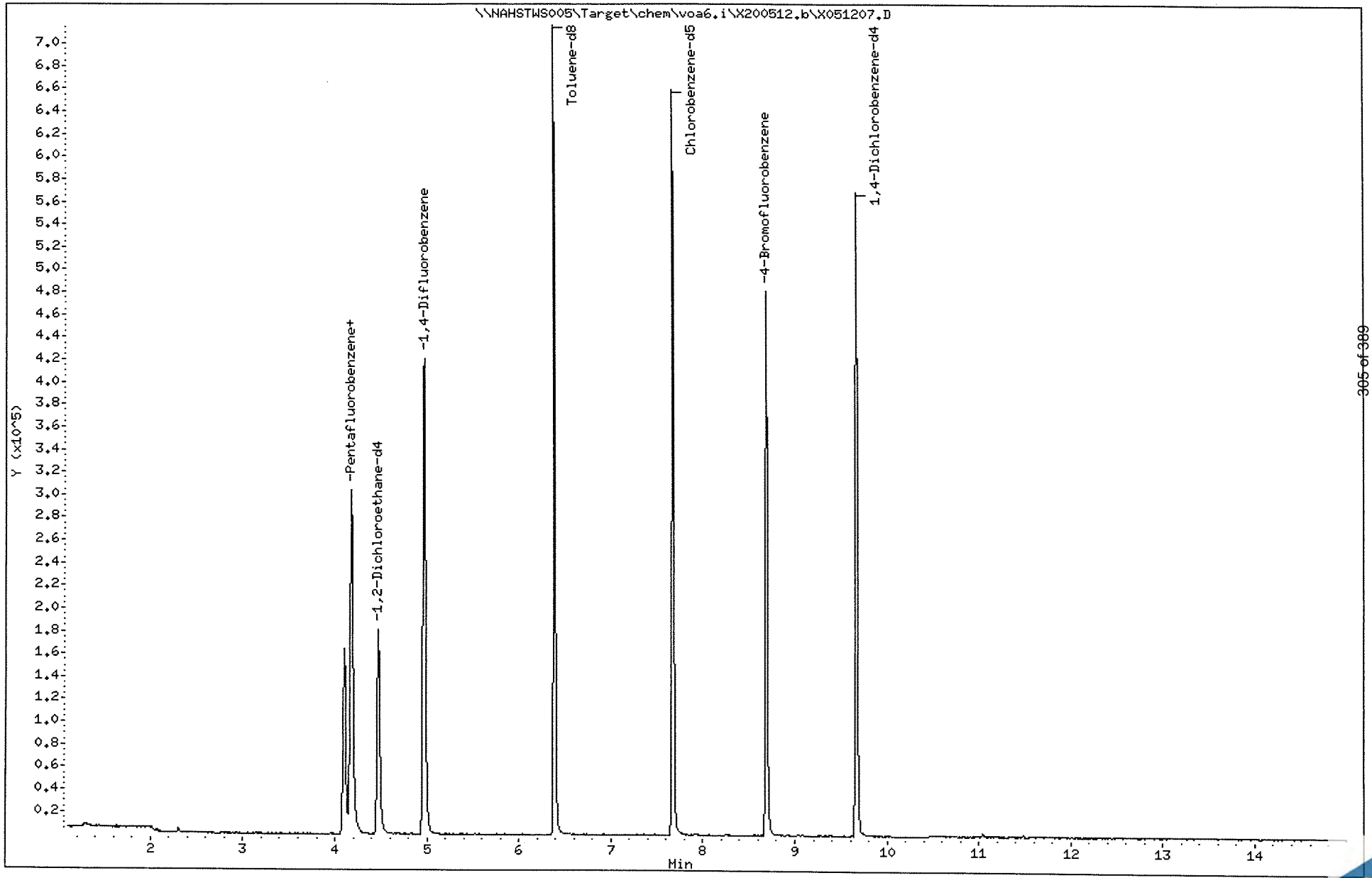
Sample Info: VBLKW-200512;VBLKW-200512;3;;BLANK

Purge Volume: 5.0

Operator: PC

Column phase: DB624

Column diameter: 0.18



Data File: \\NAHSTWS005\Target\chem\voa6.i\X200512.b\X051211.D Page 1
Report Date: 22-May-2020 16:20

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X200512.b\X051211.D
Lab Smp Id: HS20050234-11 Client Smp ID: HS20050234-11
Inj Date : 12-MAY-2020 14:01
Operator : PC Inst ID: voa6.i
Smp Info : HS20050234-11;HS20050234-11;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200512.b\8260W.m
Meth Date : 22-May-2020 16:20 voa6.i Quant Type: ISTD
Cal Date : 11-MAY-2020 16:00 Cal File: X051108.D
Als bottle: 11
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000000_CBI.sub
Target Version: 4.14
Processing Host: NAHSTW7142

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	254610	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	359141	50.0000	
* 47 Chlorobenzene-d5	117	7.670	7.671	(1.000)	307451	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.662	(1.000)	146378	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	116929	46.0161	46.01
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	142052	45.2653	45.26
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	413722	53.6138	53.61
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	146812	49.9819	49.98

01006762

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200512.b\X051211.D

Date : 12-MAY-2020 14:01

Client ID: HS20050234-11

Instrument: voa6.i

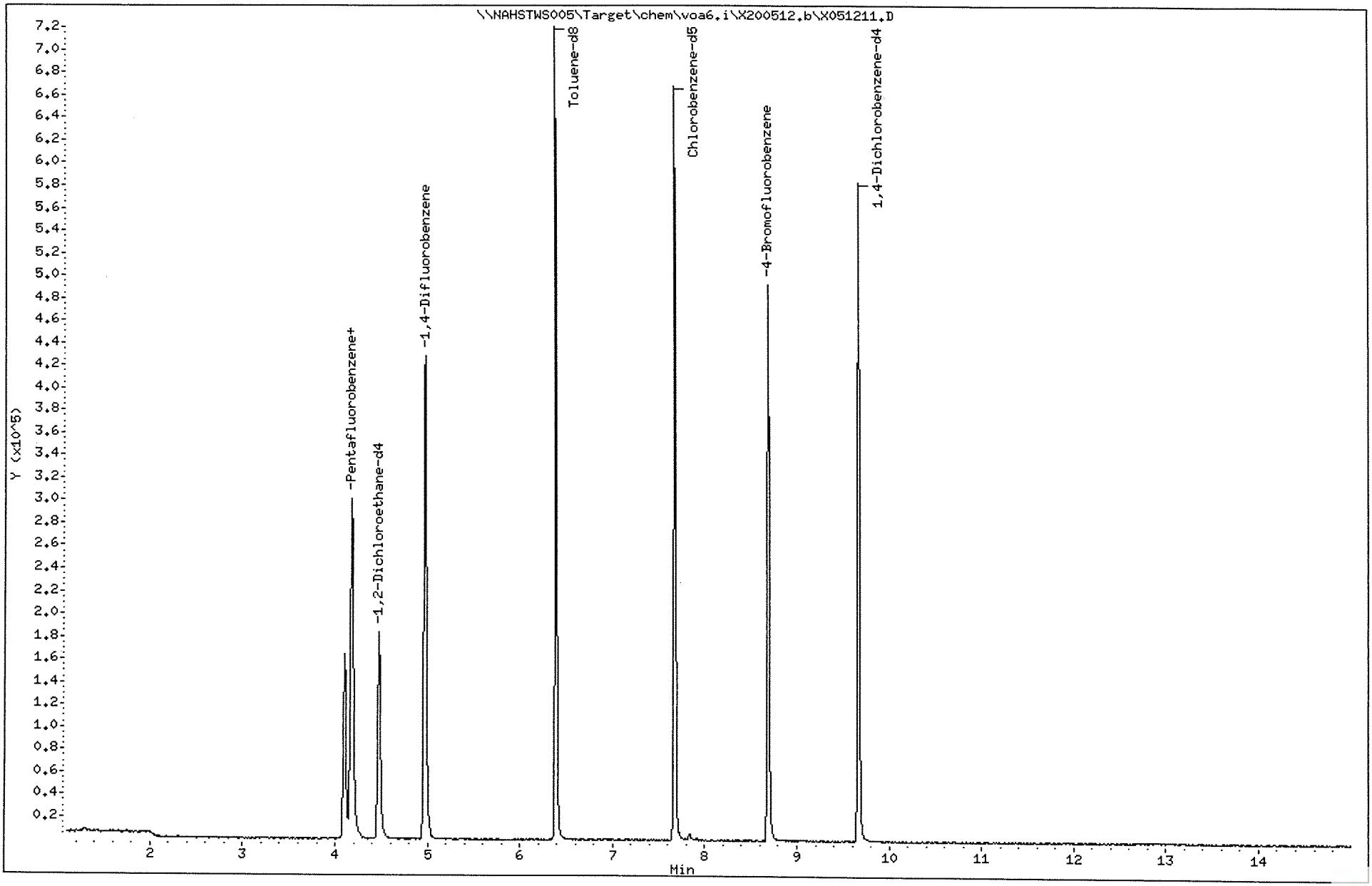
Sample Info: HS20050234-11;HS20050234-11;;;

Purge Volume: 5.0

Operator: PC

Column phase: DB624

Column diameter: 0.18



Data File: \\NAHSTWS005\Target\chem\voa6.i\X200512.b\X051215.D Page 1
Report Date: 22-May-2020 16:20

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X200512.b\X051215.D
Lab Smp Id: HS20050234-01 Client Smp ID: HS20050234-01
Inj Date : 12-MAY-2020 15:38
Operator : PC Inst ID: voa6.i
Smp Info : HS20050234-01;HS20050234-01;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200512.b\8260W.m
Meth Date : 22-May-2020 16:20 voa6.i Quant Type: ISTD
Cal Date : 11-MAY-2020 16:00 Cal File: X051108.D
Als bottle: 15
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000000_CBI.sub
Target Version: 4.14
Processing Host: NAHSTW7142

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	260658	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	357709	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	307637	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.662	(1.000)	146853	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	118179	45.4258	45.42
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	142079	44.2226	44.22
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	414070	53.6266	53.62
$ 69 4-Bromofluorobenzene	95	8.695	8.688	(1.134)	147280	50.1129	50.11
38 Trichloroethene	130	5.214	5.206	(1.049)	1644	0.64052	0.64(a)

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

01006764

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200512.b\X051215.D

Date : 12-MAY-2020 15:38

Client ID: HS20050234-01

Instrument: voa6.i

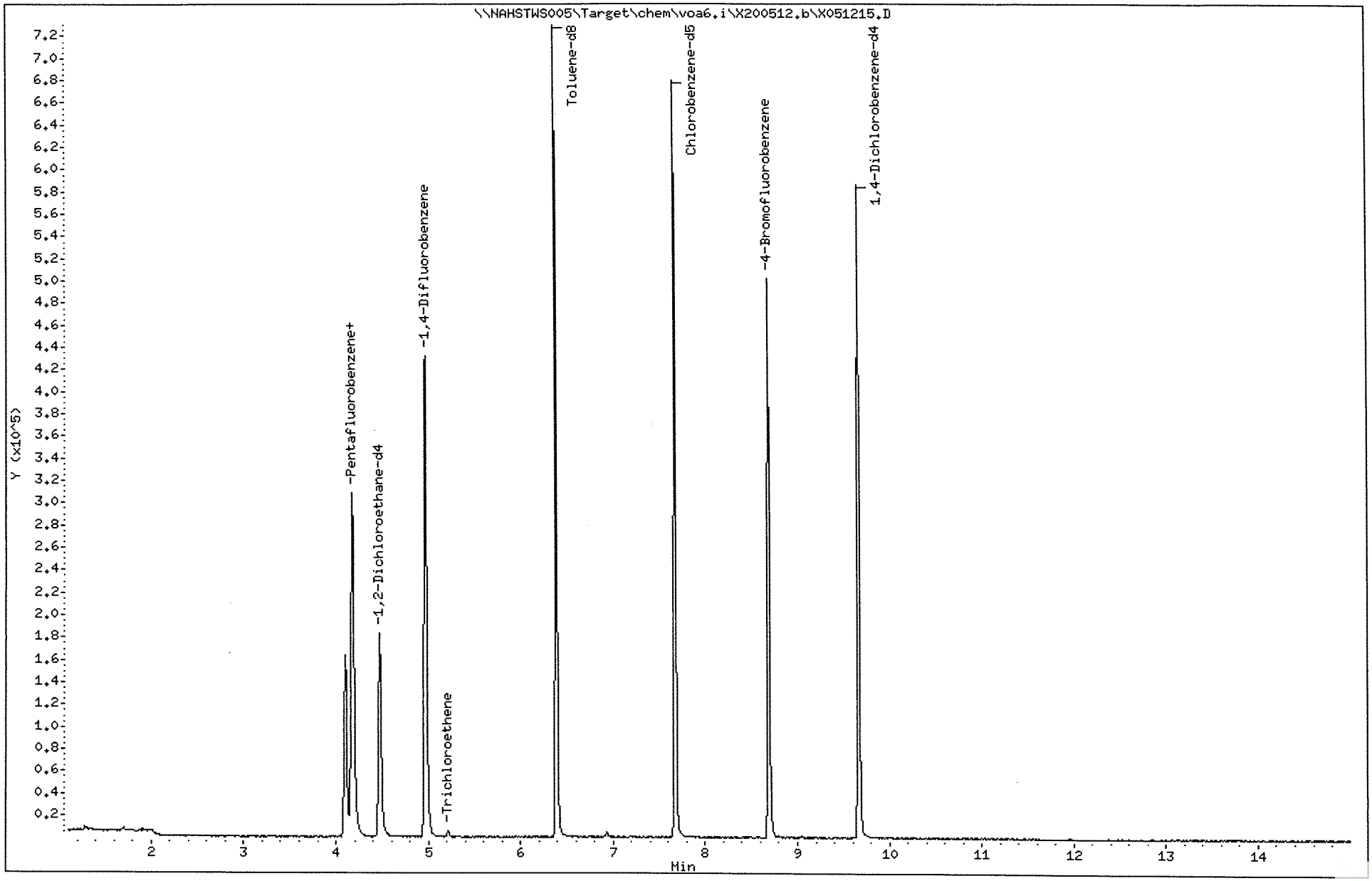
Sample Info: HS20050234-01;HS20050234-01;;;

Purge Volume: 5.0

Operator: PC

Column phase: DB624

Column diameter: 0.18



Data File: \\NAHSTWS005\Target\chem\voa6.i\X200512.b\X051215.D

Date : 12-MAY-2020 15:38

Client ID: HS20050234-01

Instrument: voa6.i

Sample Info: HS20050234-01;HS20050234-01;;;

Purge Volume: 5.0

Operator: PC

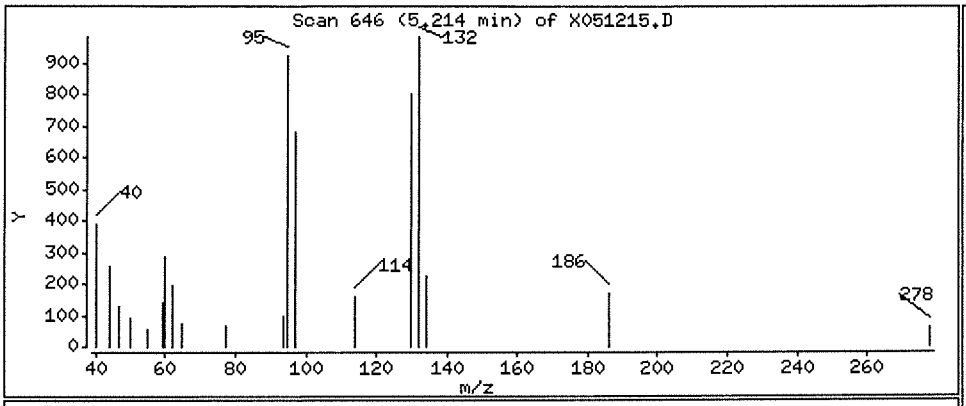
Column phase: DB624

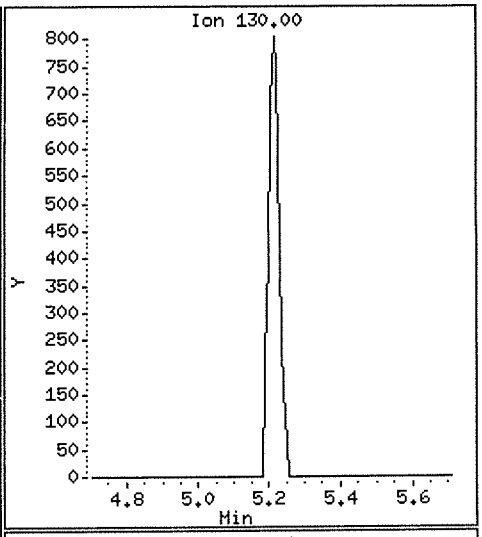
Column diameter: 0.18

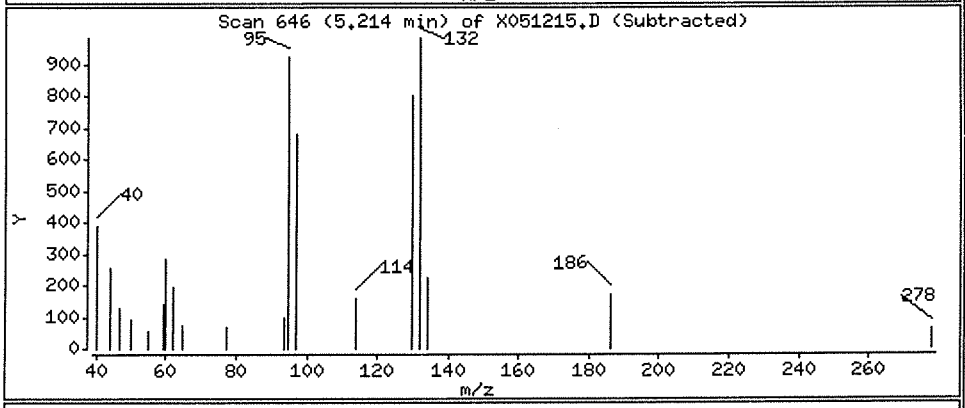
38 Trichloroethene

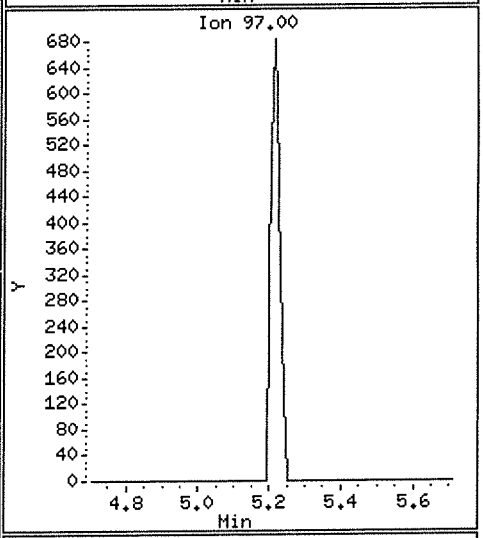
Concentration: 0.64 ug/l

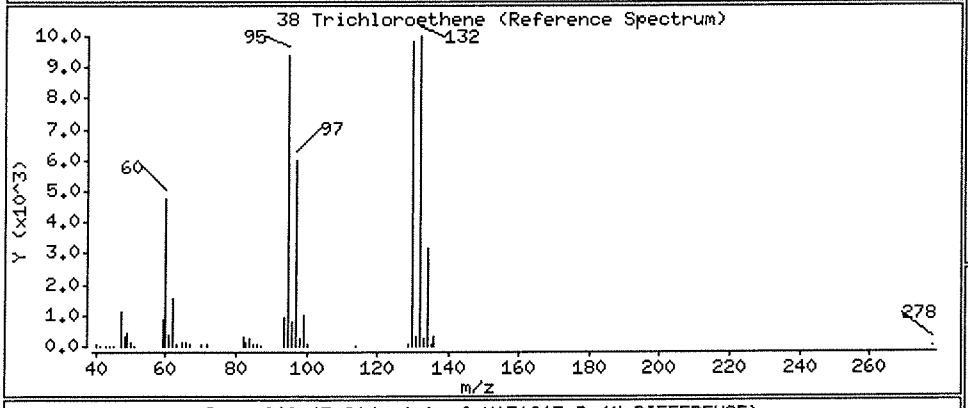
Review Code:

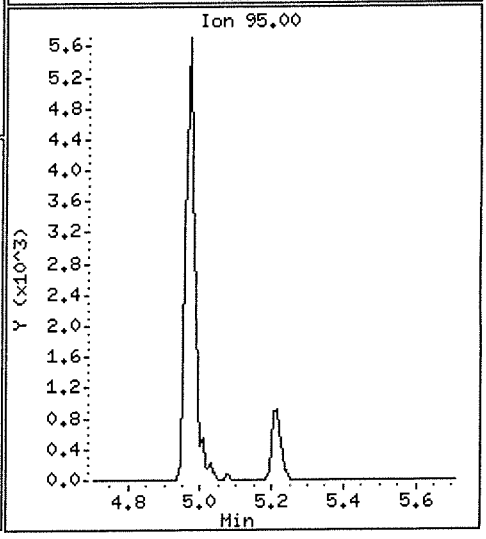


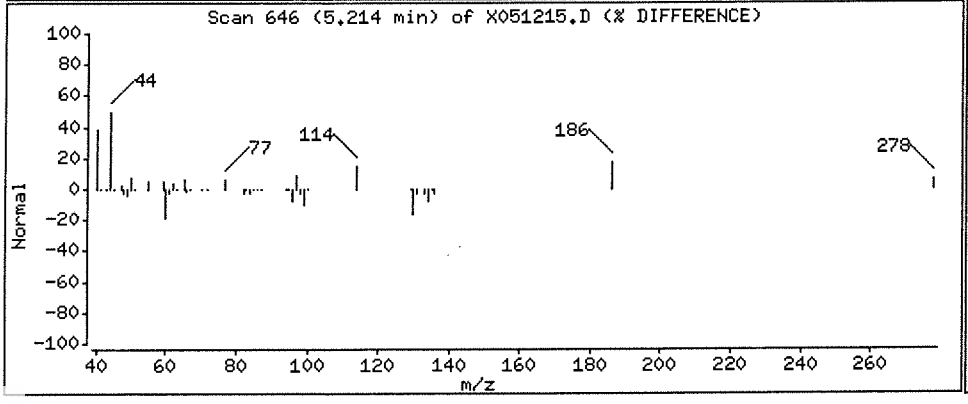












ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X200512.b\X051216.D
Lab Smp Id: HS20050234-02 Client Smp ID: HS20050234-02
Inj Date : 12-MAY-2020 16:02
Operator : PC Inst ID: voa6.i
Smp Info : HS20050234-02;HS20050234-02;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200512.b\8260W.m
Meth Date : 22-May-2020 16:20 voa6.i Quant Type: ISTD
Cal Date : 11-MAY-2020 16:00 Cal File: X051108.D
Als bottle: 16
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000000_CBI.sub
Target Version: 4.14
Processing Host: NAHSTW7142

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	259220	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	358027	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	309425	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.662	(1.000)	151659	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	118404	45.7666	45.76
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	145081	45.4084	45.40
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	414146	53.3239	53.32
$ 69 4-Bromofluorobenzene	95	8.695	8.688	(1.134)	144627	48.9076	48.90
56 Tetrachloroethene	164	6.933	6.933	(0.904)	4830	2.36634	2.36
38 Trichloroethene	130	5.214	5.206	(1.049)	18849	7.33721	7.33

01006767

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200512.b\X051216.D

Date : 12-MAY-2020 16:02

Client ID: HS20050234-02

Instrument: voa6.i

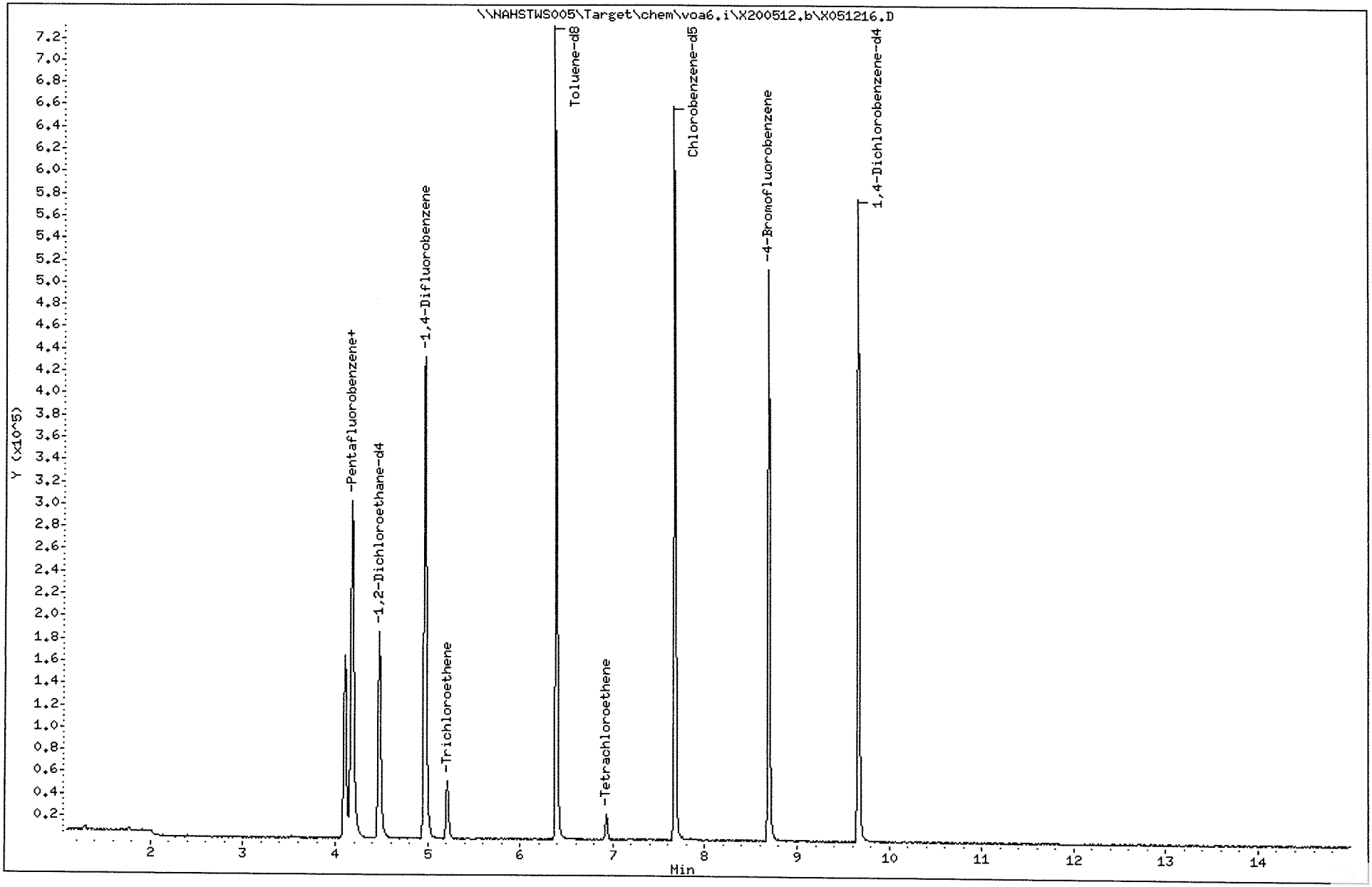
Sample Info: HS20050234-02;HS20050234-02;;;

Purge Volume: 5.0

Operator: PC

Column phase: DB624

Column diameter: 0.18



Data File: \\NAHSTWS005\Target\chem\voa6.i\X200512.b\X051216.D

Date : 12-MAY-2020 16:02

Client ID: HS20050234-02

Instrument: voa6.i

Sample Info: HS20050234-02;HS20050234-02;;;

Purge Volume: 5.0

Operator: PC

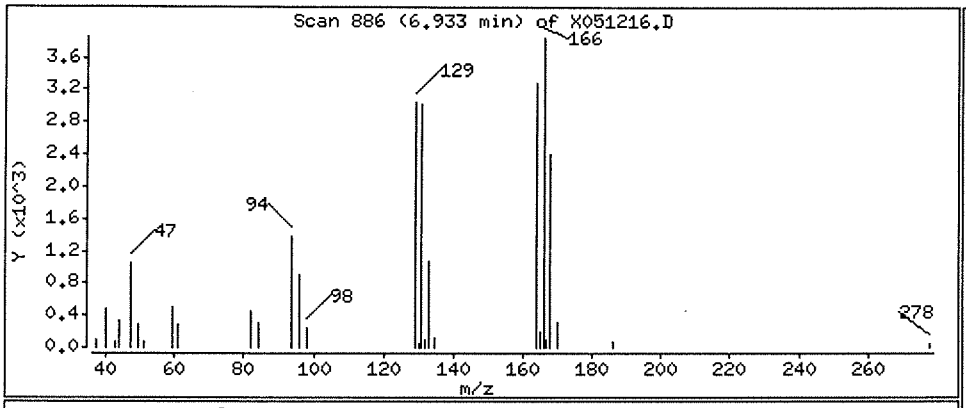
Column phase: DB624

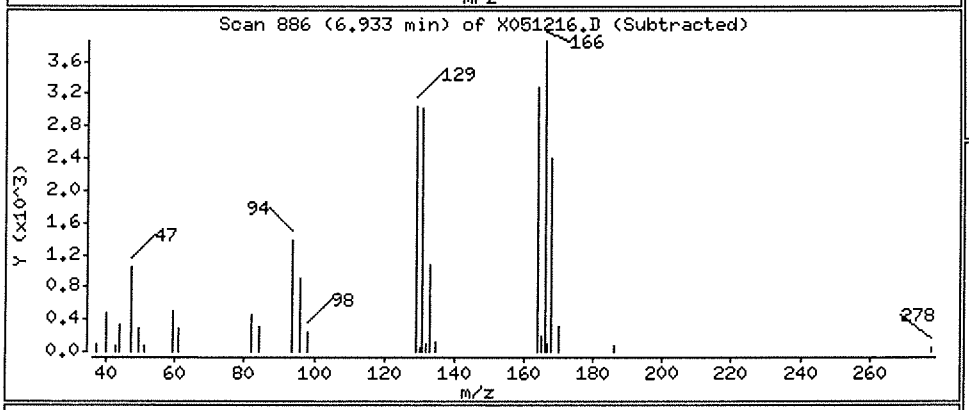
Column diameter: 0.18

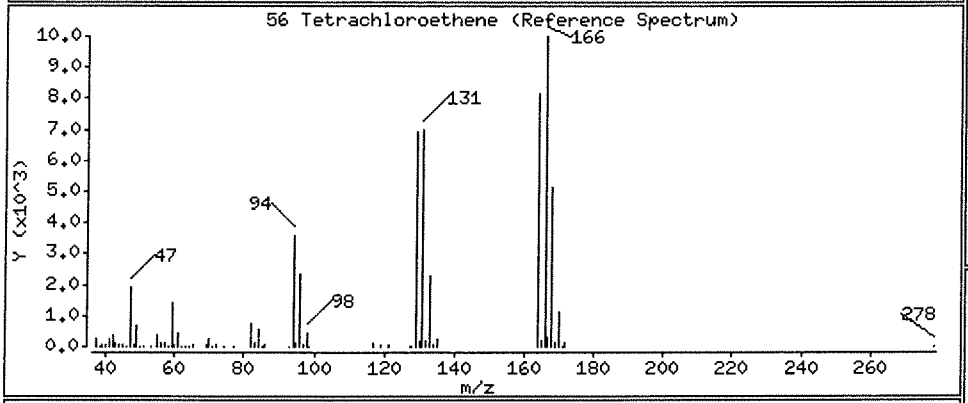
56 Tetrachloroethene

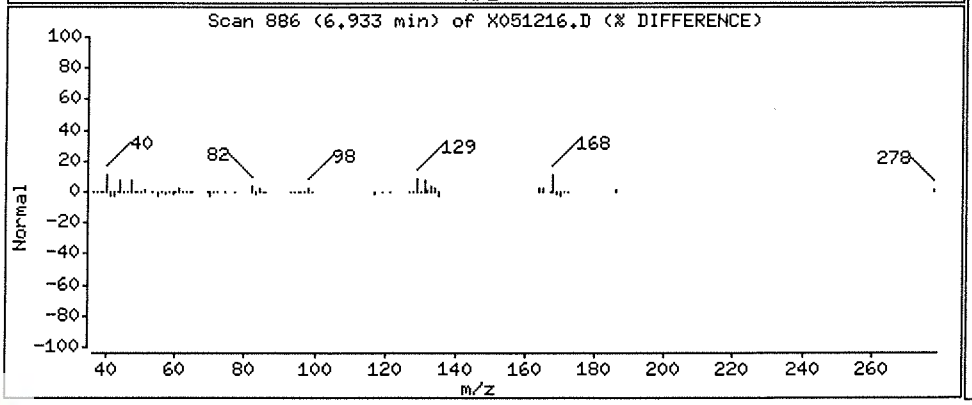
Concentration: 2.36 ug/l

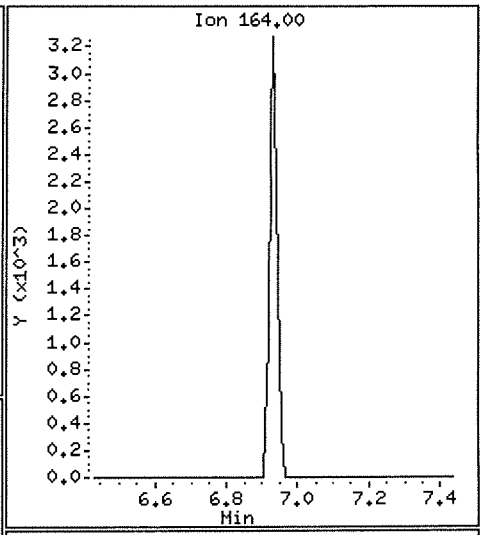
Review Code:

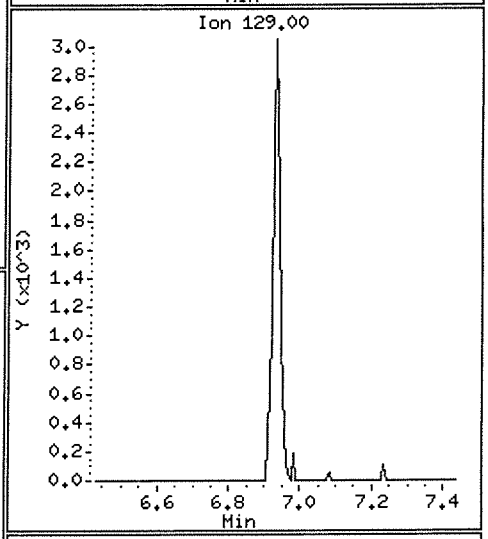


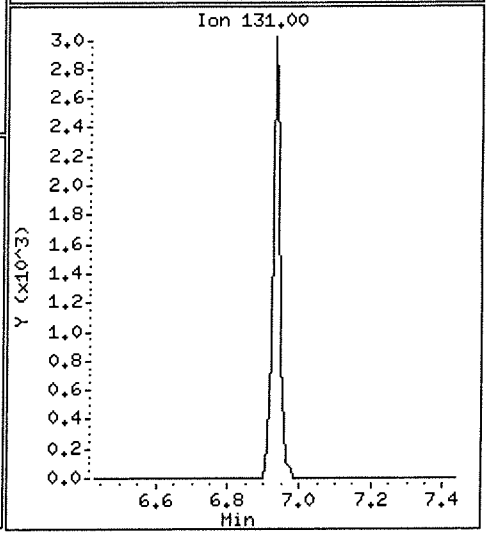












Data File: \\NAHSTWS005\Target\chem\voa6.i\X200512.b\X051216.D

Date : 12-MAY-2020 16:02

Client ID: HS20050234-02

Instrument: voa6.i

Sample Info: HS20050234-02;HS20050234-02;;;

Purge Volume: 5.0

Operator: PC

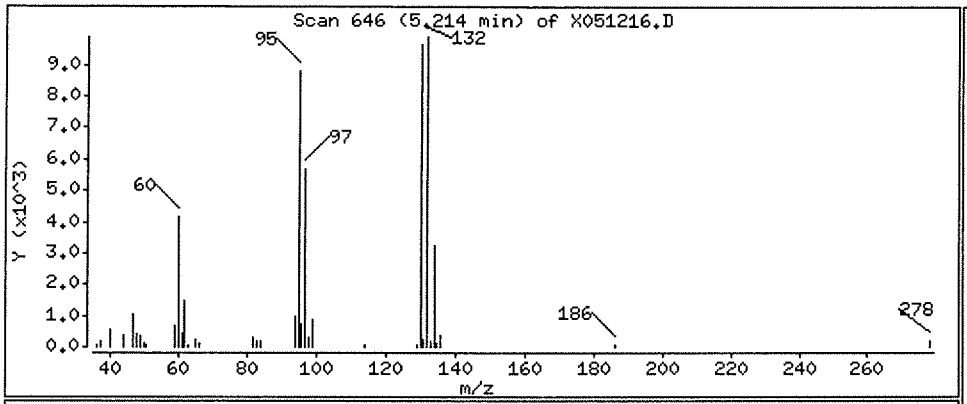
Column phase: DB624

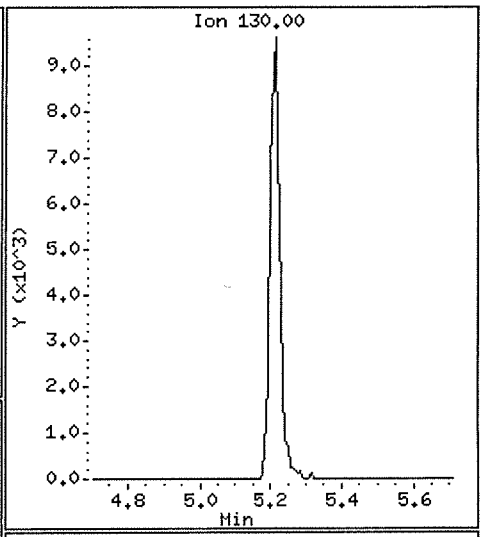
Column diameter: 0.18

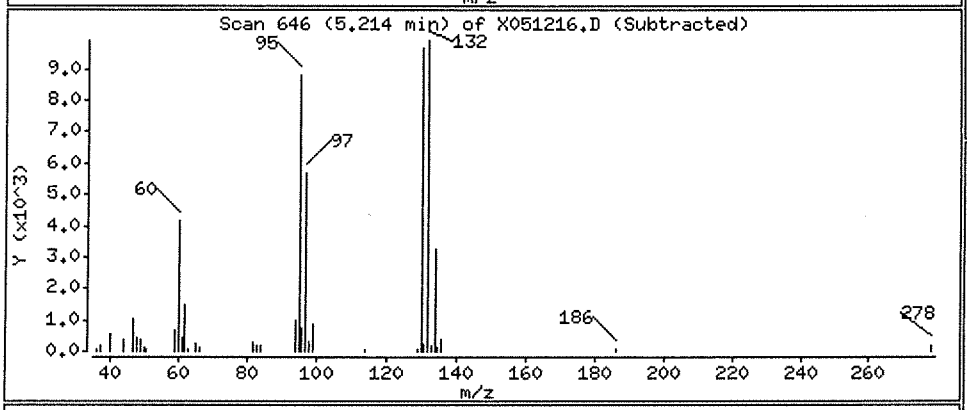
38 Trichloroethene

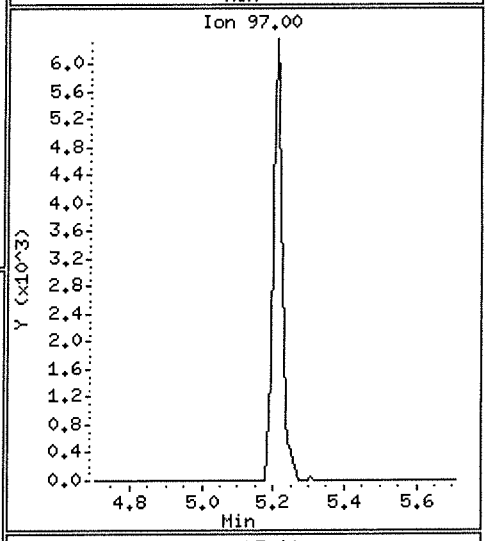
Concentration: 7.33 ug/l

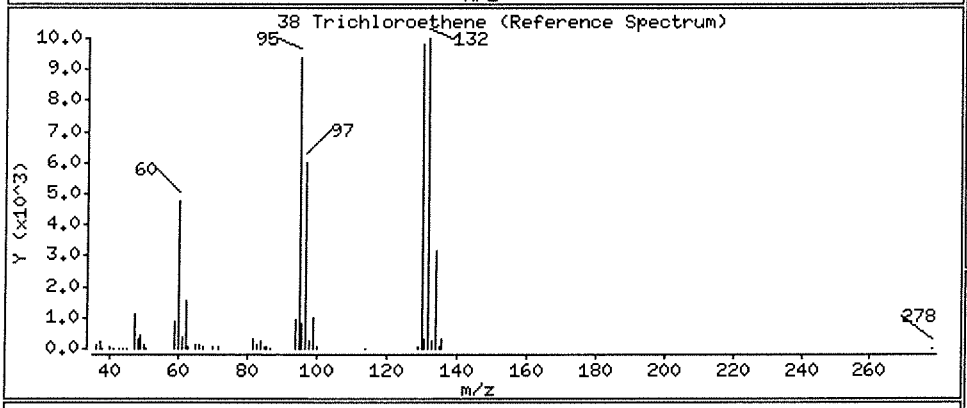
Review Code:

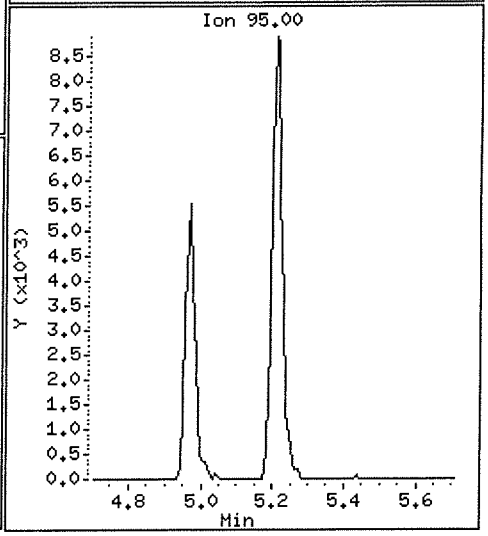


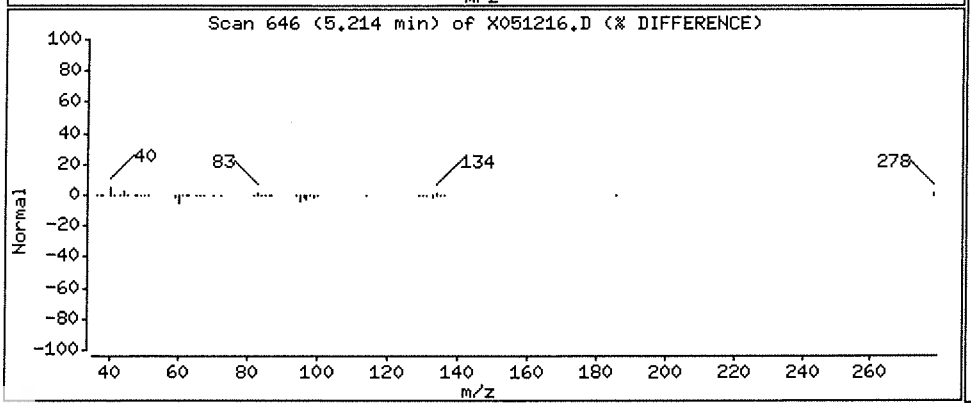












Data File: \\NAHSTWS005\Target\chem\voa6.i\X200512.b\X051217.D Page 1
Report Date: 22-May-2020 16:20

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X200512.b\X051217.D
Lab Smp Id: HS20050234-03 Client Smp ID: HS20050234-03
Inj Date : 12-MAY-2020 16:26
Operator : PC Inst ID: voa6.i
Smp Info : HS20050234-03;HS20050234-03;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200512.b\8260W.m
Meth Date : 22-May-2020 16:20 voa6.i Quant Type: ISTD
Cal Date : 11-MAY-2020 16:00 Cal File: X051108.D
Als bottle: 17
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000000_CBI.sub
Target Version: 4.14
Processing Host: NAHSTW7142

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	261392	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	361924	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	307725	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.662	(1.000)	152254	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	117681	45.1057	45.10
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	145930	45.2946	45.29
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	411105	53.2239	53.22
$ 69 4-Bromofluorobenzene	95	8.695	8.688	(1.134)	147290	50.1018	50.10

01006771

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200512.b\X051217.D

Date : 12-MAY-2020 16:26

Client ID: HS20050234-03

Instrument: voa6.i

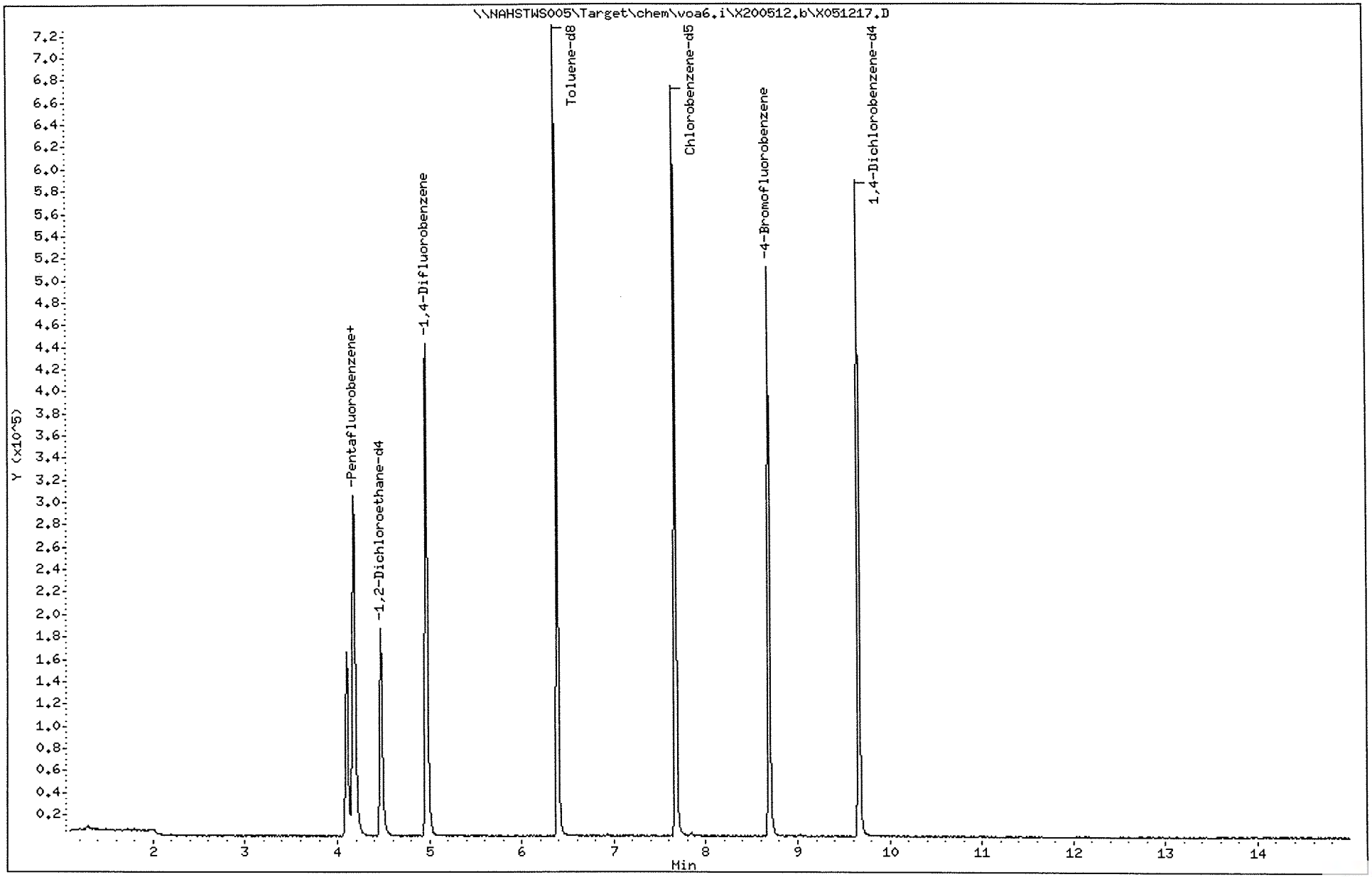
Sample Info: HS20050234-03;HS20050234-03;;;

Purge Volume: 5.0

Operator: PC

Column phase: DB624

Column diameter: 0.18



ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X200512.b\X051218.D
Lab Smp Id: HS20050234-04 Client Smp ID: HS20050234-05
Inj Date : 12-MAY-2020 16:50
Operator : PC Inst ID: voa6.i
Smp Info : HS20050234-04;HS20050234-05;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200512.b\8260W.m
Meth Date : 22-May-2020 16:20 voa6.i Quant Type: ISTD
Cal Date : 11-MAY-2020 16:00 Cal File: X051108.D
Als bottle: 18
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000000_CBI.sub
Target Version: 4.14
Processing Host: NAHSTW7142

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	258329	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	358697	50.0000	
* 47 Chlorobenzene-d5	117	7.670	7.671	(1.000)	306113	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.662	(1.000)	141829	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	117541	45.5888	45.58
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	144000	45.2254	45.22
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	413057	53.7629	53.76
$ 69 4-Bromofluorobenzene	95	8.695	8.688	(1.134)	143355	49.0034	49.00

01006773

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200512.b\X051218.D

Date : 12-MAY-2020 16:50

Client ID: HS20050234-05

Instrument: voa6.i

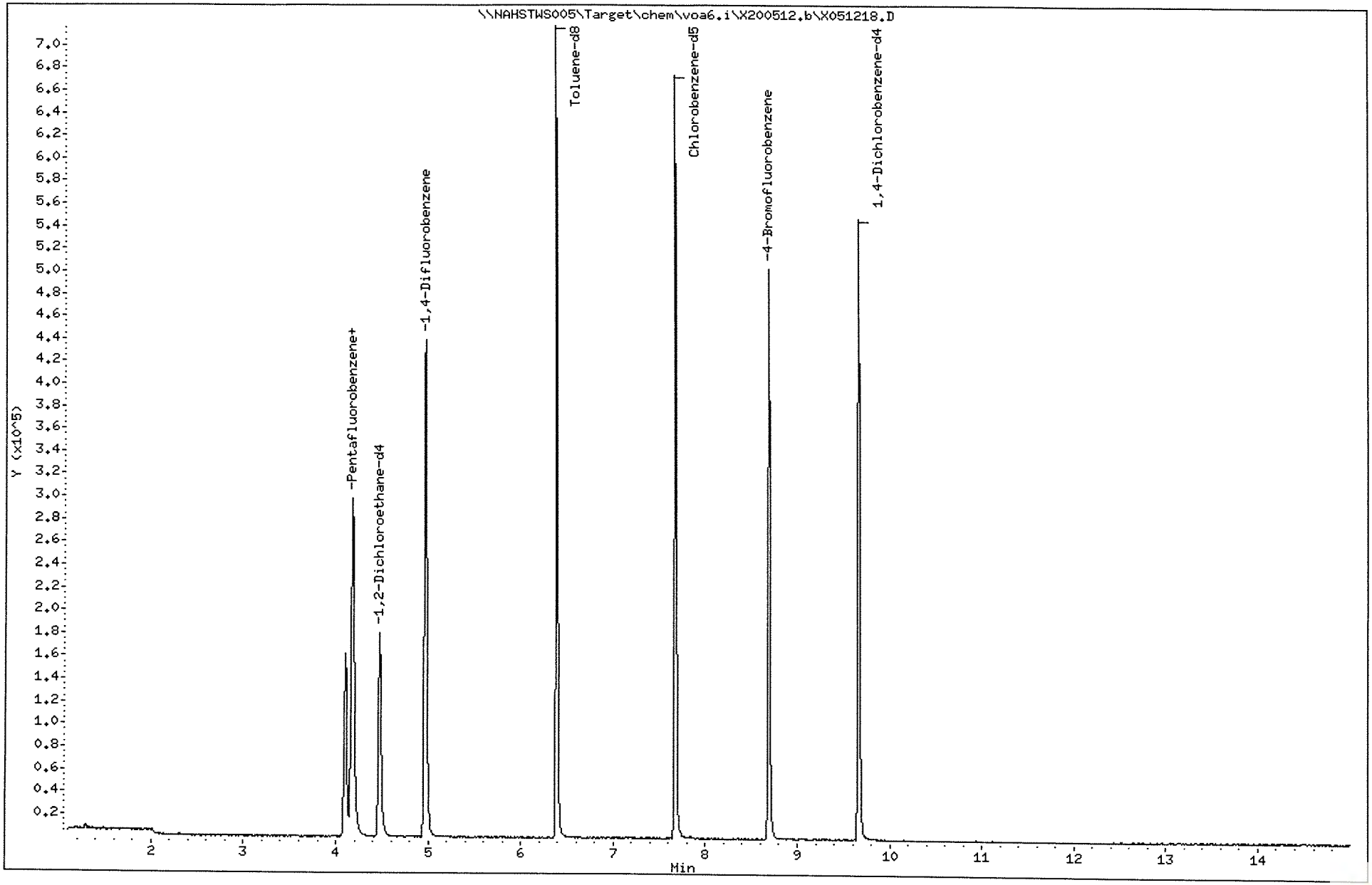
Sample Info: HS20050234-04;HS20050234-05;;;

Purge Volume: 5.0

Operator: PC

Column phase: DB624

Column diameter: 0.18



Data File: \\NAHSTWS005\Target\chem\voa6.i\X200512.b\X051219.D Page 1
Report Date: 22-May-2020 16:20

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X200512.b\X051219.D
Lab Smp Id: HS20050234-05 Client Smp ID: HS20050234-05
Inj Date : 12-MAY-2020 17:14
Operator : PC Inst ID: voa6.i
Smp Info : HS20050234-05;HS20050234-05;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200512.b\8260W.m
Meth Date : 22-May-2020 16:20 voa6.i Quant Type: ISTD
Cal Date : 11-MAY-2020 16:00 Cal File: X051108.D
Als bottle: 19
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000000_CBI.sub
Target Version: 4.14
Processing Host: NAHSTW7142

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	259295	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	358495	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	307575	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.662	(1.000)	145903	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	118130	45.6469	45.64
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	145133	45.4116	45.41
$ 48 Toluene-d8	98	6.389	6.388	(0.833)	414047	53.6345	53.63
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	142895	48.6079	48.60

01006775

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200512.b\X051219.D

Date : 12-MAY-2020 17:14

Client ID: HS20050234-05

Instrument: voa6.i

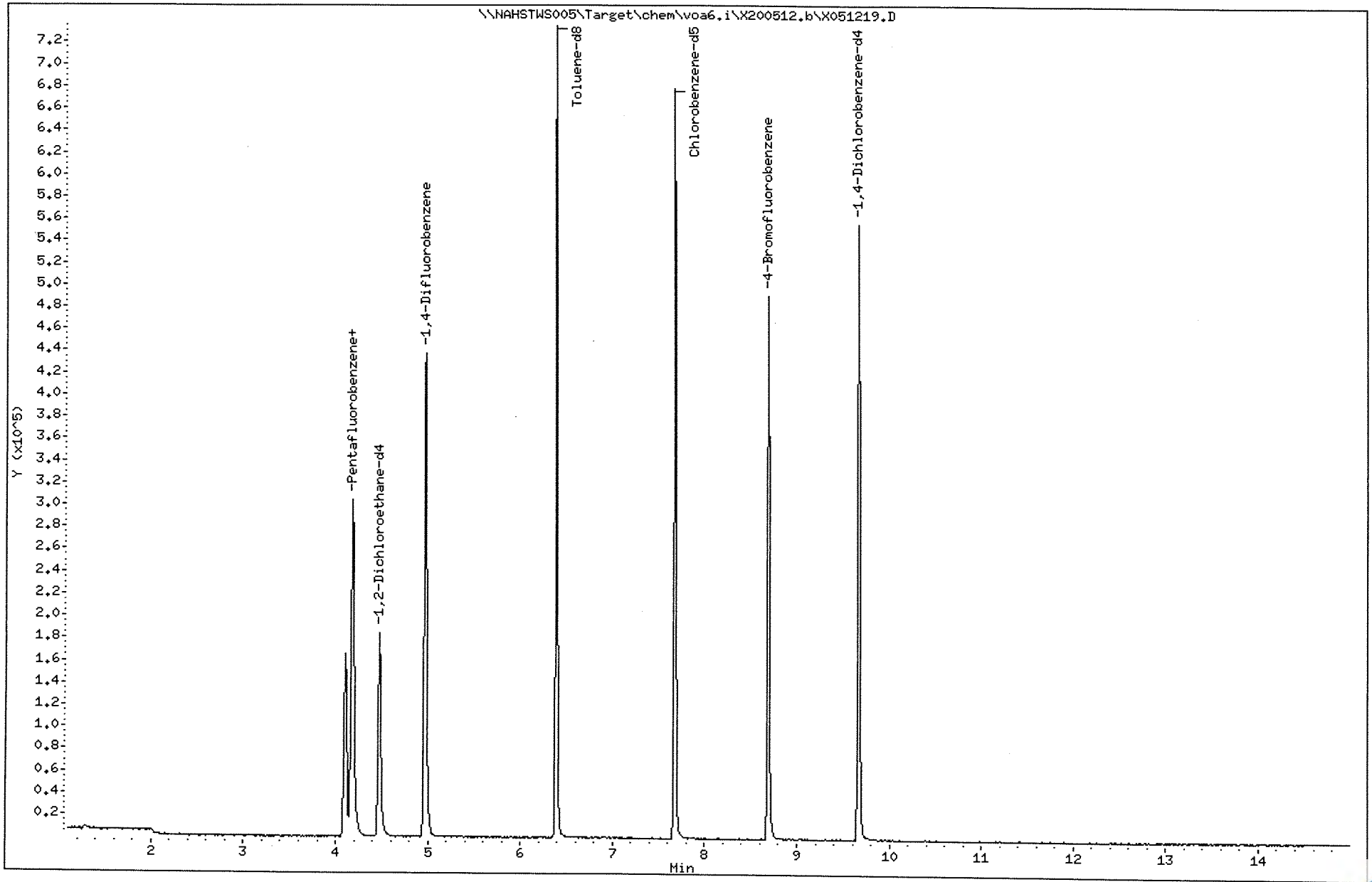
Sample Info: HS20050234-05;HS20050234-05;;;

Purge Volume: 5.0

Operator: PC

Column phase: DB624

Column diameter: 0.18



ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X200512.b\X051220.D
Lab Smp Id: HS20050234-06 Client Smp ID: HS20050234-06
Inj Date : 12-MAY-2020 17:38
Operator : PC Inst ID: voa6.i
Smp Info : HS20050234-06;HS20050234-06;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200512.b\8260W.m
Meth Date : 22-May-2020 16:20 voa6.i Quant Type: ISTD
Cal Date : 11-MAY-2020 16:00 Cal File: X051108.D
Als bottle: 20
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000000_CBI.sub
Target Version: 4.14
Processing Host: NAHSTW7142

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	260487	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	356311	50.0000	
* 47 Chlorobenzene-d5	117	7.670	7.671	(1.000)	304859	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.662	(1.000)	153378	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	117221	45.0854	45.08
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	144171	44.9037	44.90
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	412096	53.8593	53.85
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	148853	51.1250	51.12

01006777

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200512.b\X051220.D

Date : 12-MAY-2020 17:38

Client ID: HS20050234-06

Instrument: voa6.i

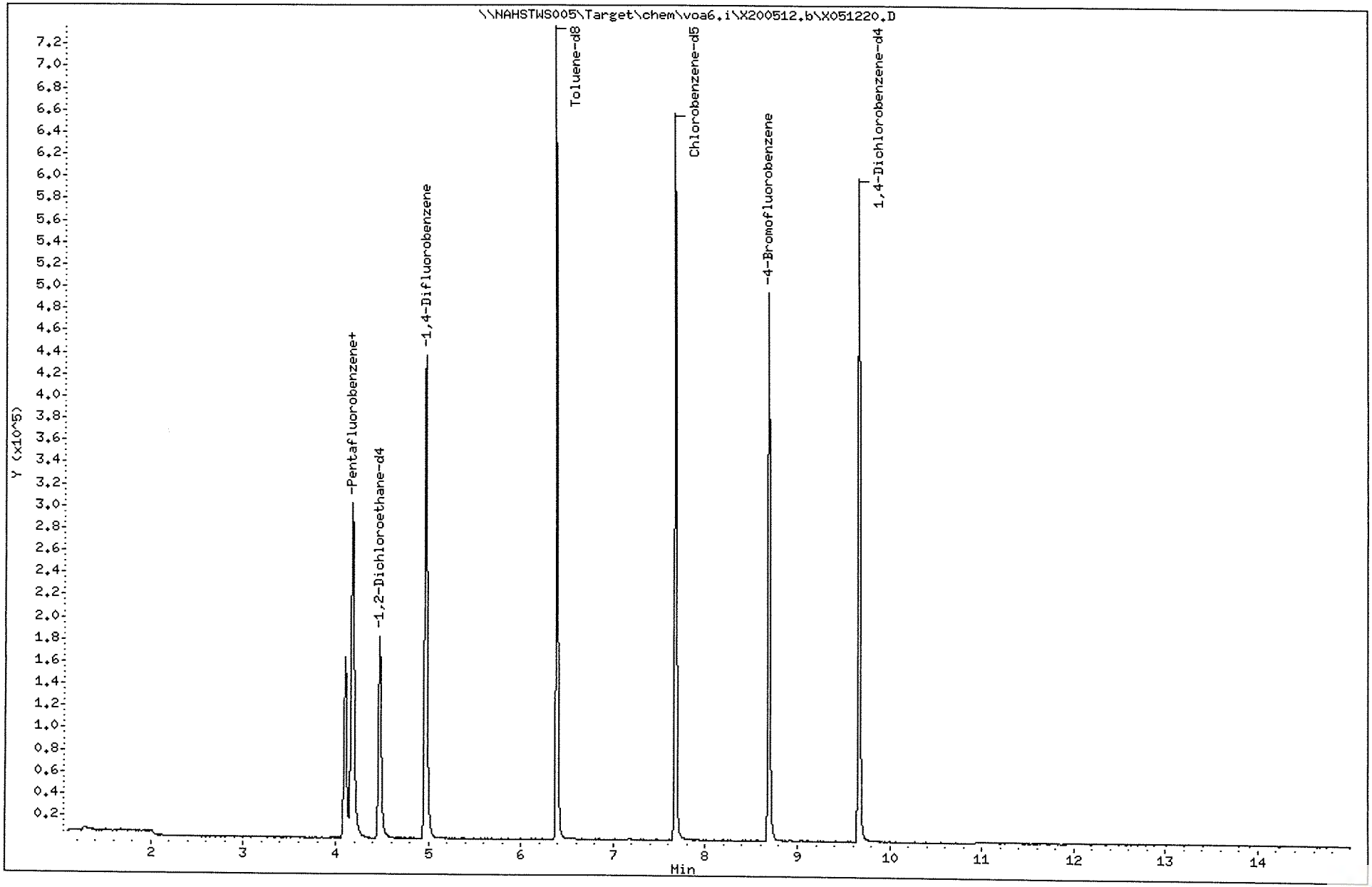
Sample Info: HS20050234-06;HS20050234-06;;;

Purge Volume: 5.0

Operator: PC

Column phase: DB624

Column diameter: 0.18



Data File: \\NAHSTWS005\Target\chem\voa6.i\X200512.b\X051221.D Page 1
Report Date: 22-May-2020 16:20

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X200512.b\X051221.D
Lab Smp Id: HS20050234-07 Client Smp ID: HS20050234-07
Inj Date : 12-MAY-2020 18:02
Operator : PC Inst ID: voa6.i
Smp Info : HS20050234-07;HS20050234-07;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200512.b\8260W.m
Meth Date : 22-May-2020 16:20 voa6.i Quant Type: ISTD
Cal Date : 11-MAY-2020 16:00 Cal File: X051108.D
Als bottle: 21
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000000_CBI.sub
Target Version: 4.14
Processing Host: NAHSTW7142

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	259615	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	362636	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	308313	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.662	(1.000)	147994	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	118582	45.7657	45.76
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	146443	45.7653	45.76
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	417869	54.0032	54.00
$ 69 4-Bromofluorobenzene	95	8.695	8.688	(1.134)	145428	49.3629	49.36
56 Tetrachloroethene	164	6.933	6.933	(0.904)	13100	6.44118	6.44
38 Trichloroethene	130	5.206	5.206	(1.048)	1851	0.71137	0.71(a)

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

01006779

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200512.b\X051221.D

Date : 12-MAY-2020 18:02

Client ID: HS20050234-07

Sample Info: HS20050234-07;HS20050234-07;;;

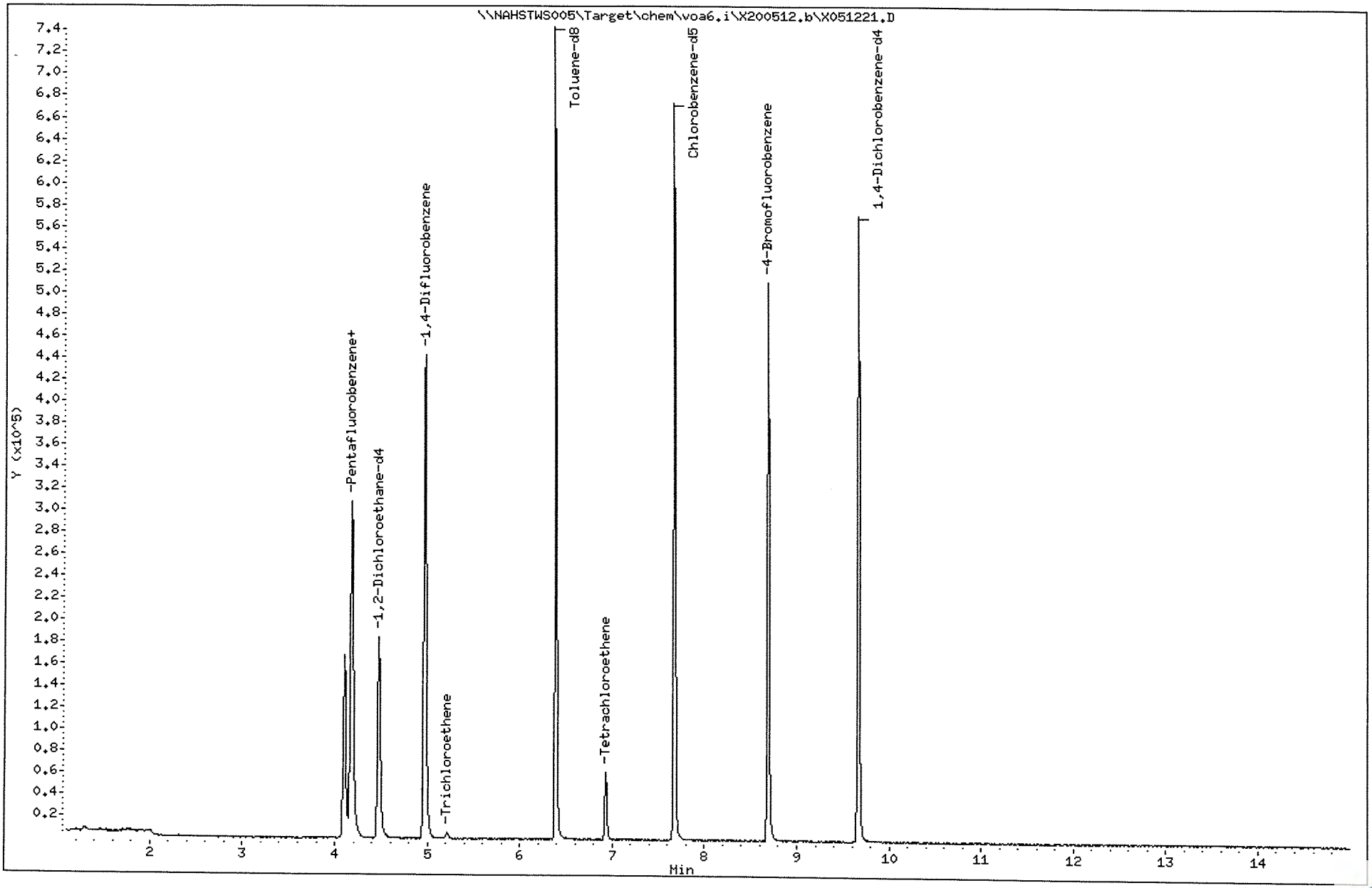
Purge Volume: 5.0

Column phase: DB624

Instrument: voa6.i

Operator: PC

Column diameter: 0.18



Data File: \\NAHSTWS005\Target\chem\voa6.i\X200512.b\X051221.D

Date : 12-MAY-2020 18:02

Client ID: HS20050234-07

Instrument: voa6.i

Sample Info: HS20050234-07;HS20050234-07;;;

Purge Volume: 5.0

Operator: PC

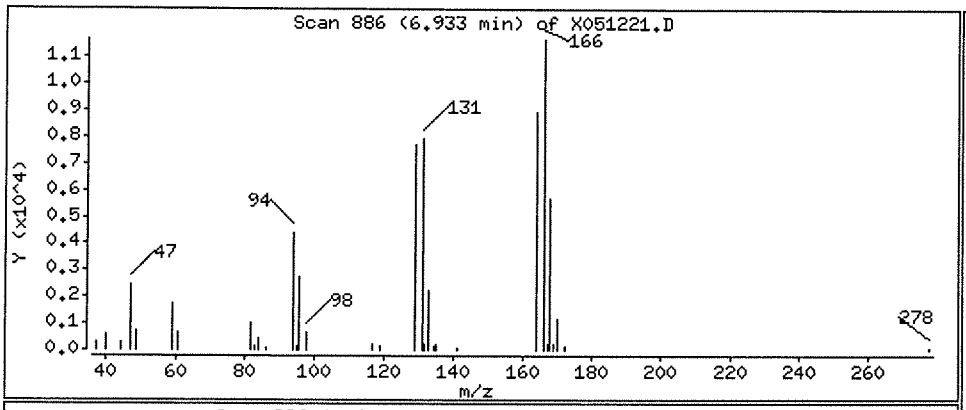
Column phase: DB624

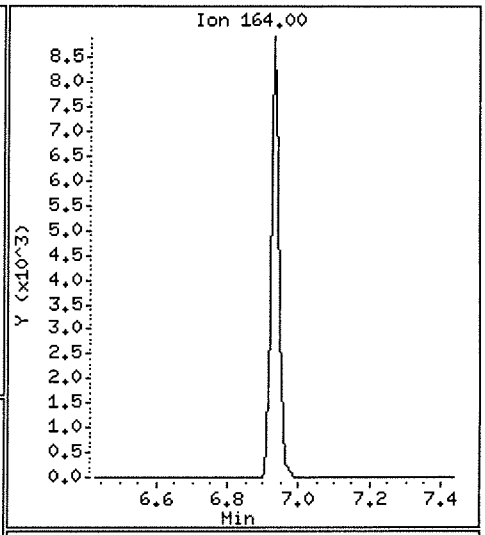
Column diameter: 0.18

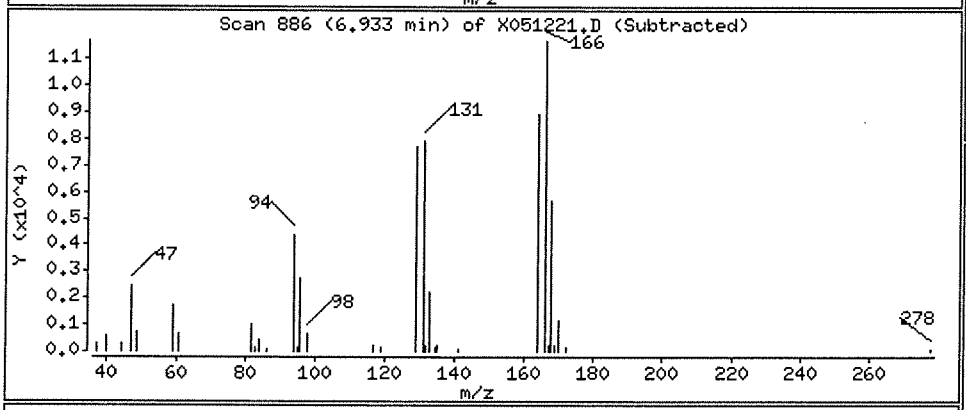
56 Tetrachloroethene

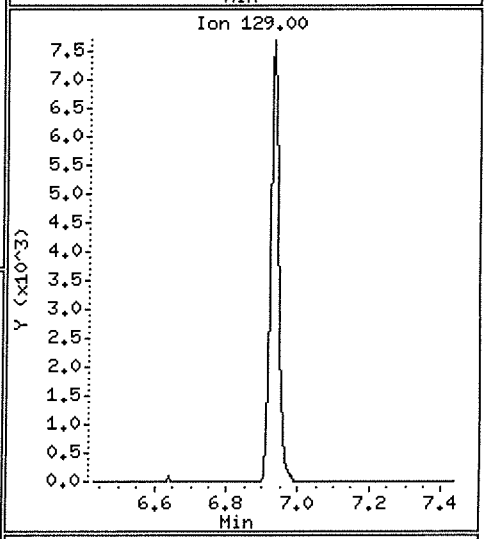
Concentration: 6.44 ug/l

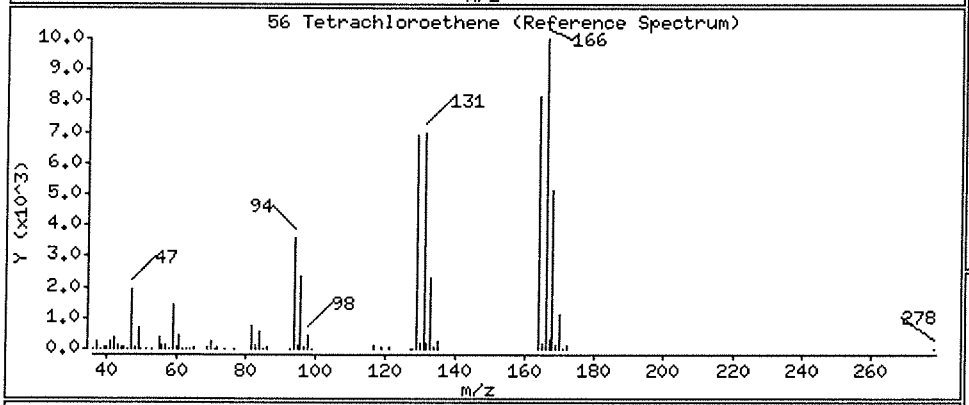
Review Code:

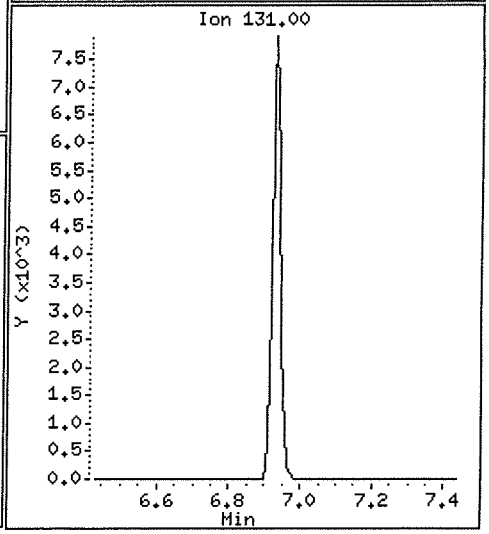


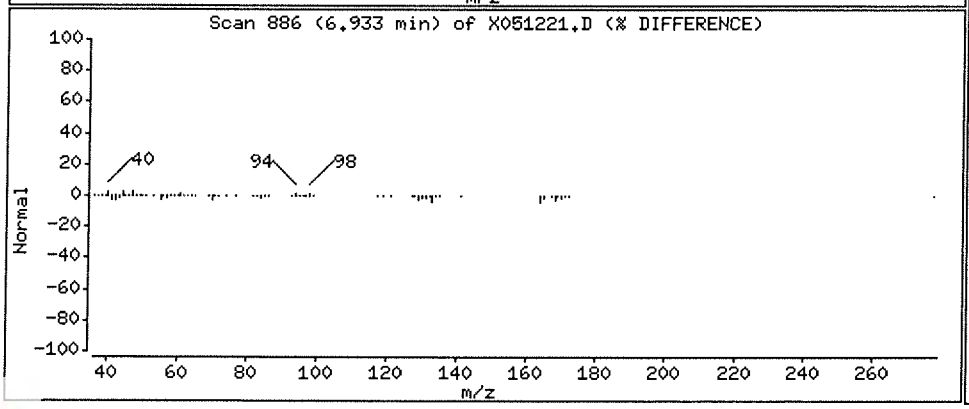












Data File: \\NAHSTWS005\Target\chem\voa6.i\X200512.b\X051221.D

Date : 12-MAY-2020 18:02

Client ID: HS20050234-07

Instrument: voa6.i

Sample Info: HS20050234-07;HS20050234-07;;;

Purge Volume: 5.0

Operator: PC

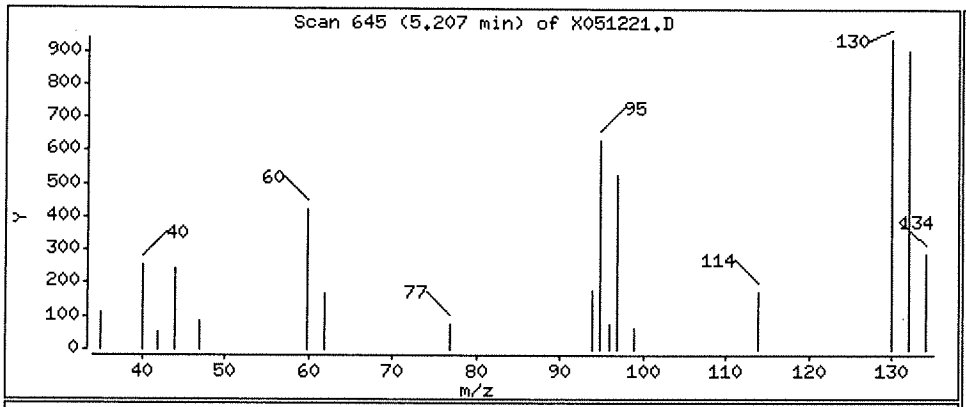
Column phase: DB624

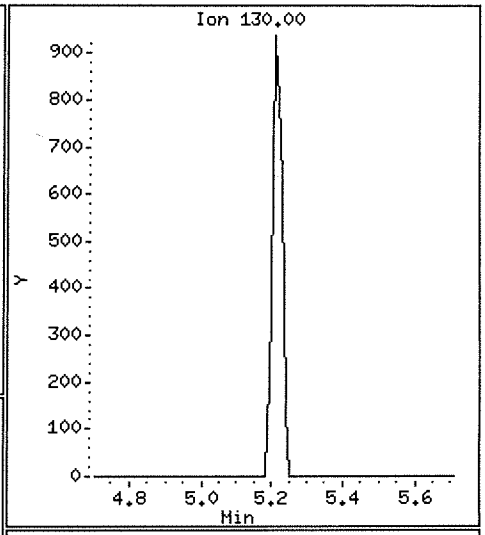
Column diameter: 0.18

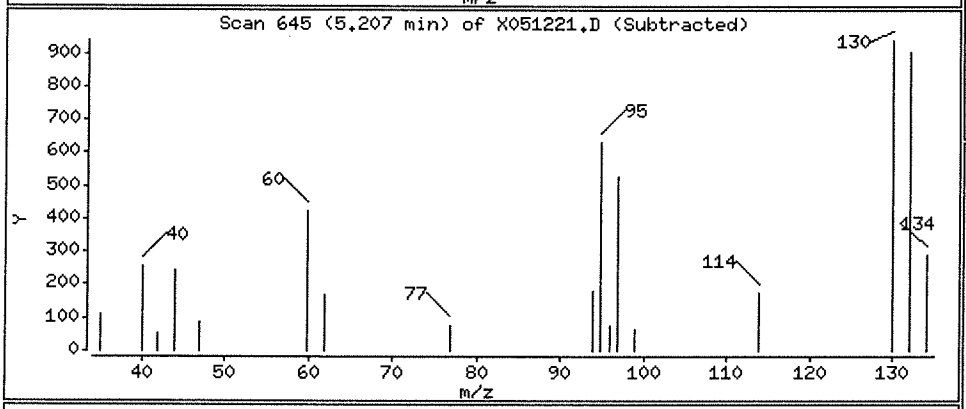
38 Trichloroethene

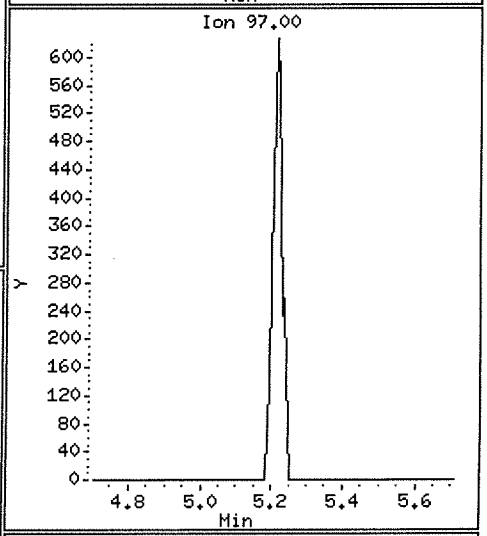
Concentration: 0.71 ug/l

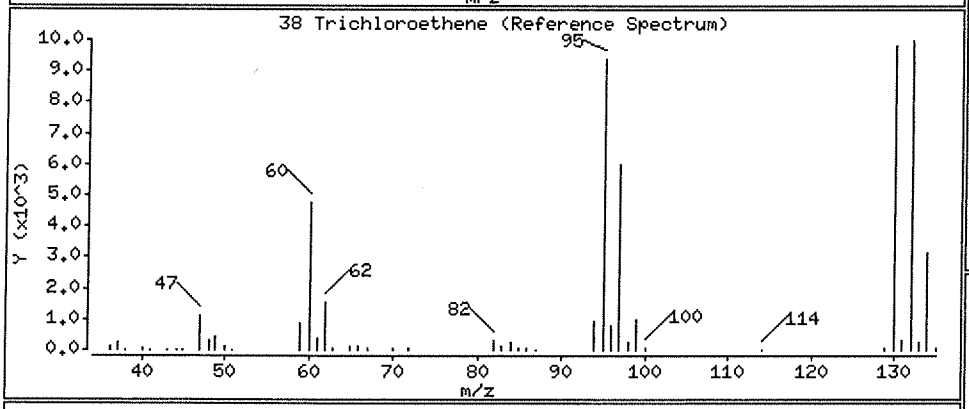
Review Code:

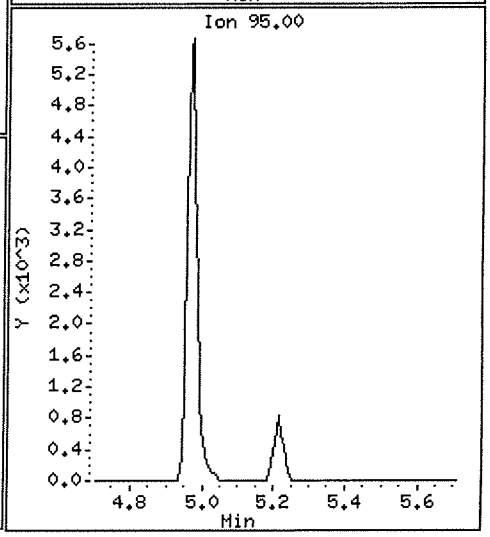


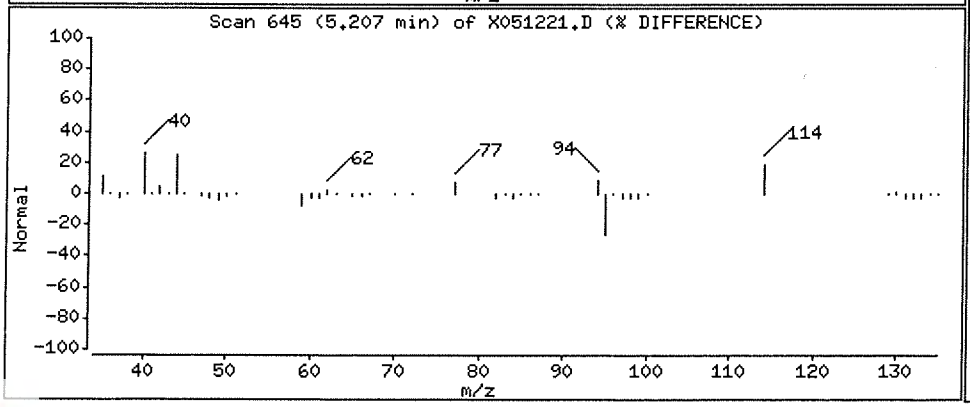












Data File: \\NAHSTWS005\Target\chem\voa6.i\X200512.b\X051222.D Page 1
Report Date: 22-May-2020 16:20

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X200512.b\X051222.D
Lab Smp Id: HS20050234-08 Client Smp ID: HS20050234-08
Inj Date : 12-MAY-2020 18:26
Operator : PC Inst ID: voa6.i
Smp Info : HS20050234-08;HS20050234-08;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200512.b\8260W.m
Meth Date : 22-May-2020 16:20 voa6.i Quant Type: ISTD
Cal Date : 11-MAY-2020 16:00 Cal File: X051108.D
Als bottle: 22
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000000_CBI.sub
Target Version: 4.14
Processing Host: NAHSTW7142

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	256825	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	353692	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	295213	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.662	(1.000)	140161	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	116589	45.4838	45.48
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	141980	44.8518	44.85
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	405989	54.8030	54.80
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	136071	48.2187	48.21
56 Tetrachloroethene	164	6.933	6.933	(0.904)	16636	8.54278	8.54
38 Trichloroethene	130	5.214	5.206	(1.049)	1541	0.60721	0.60(a)

QC Flag Legend

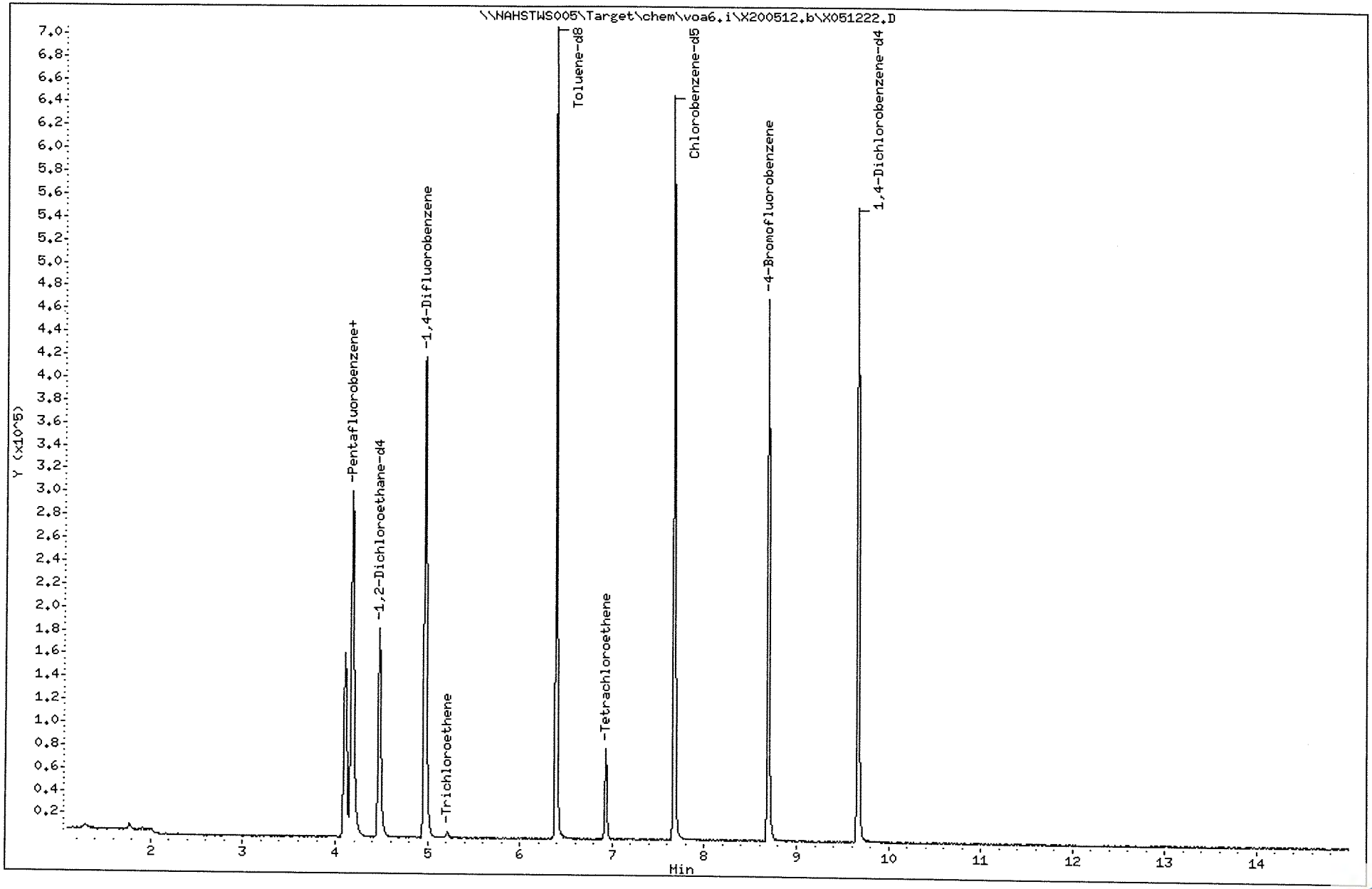
a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

01006783

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200512.b\X051222.D
Date : 12-MAY-2020 18:26
Client ID: HS20050234-08
Sample Info: HS20050234-08;HS20050234-08;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i

Operator: PC
Column diameter: 0.18



Data File: \\NAHSTWS005\Target\chem\voa6.i\X200512.b\X051222.D

Date : 12-MAY-2020 18:26

Client ID: HS20050234-08

Instrument: voa6.i

Sample Info: HS20050234-08;HS20050234-08;;;

Purge Volume: 5.0

Operator: PC

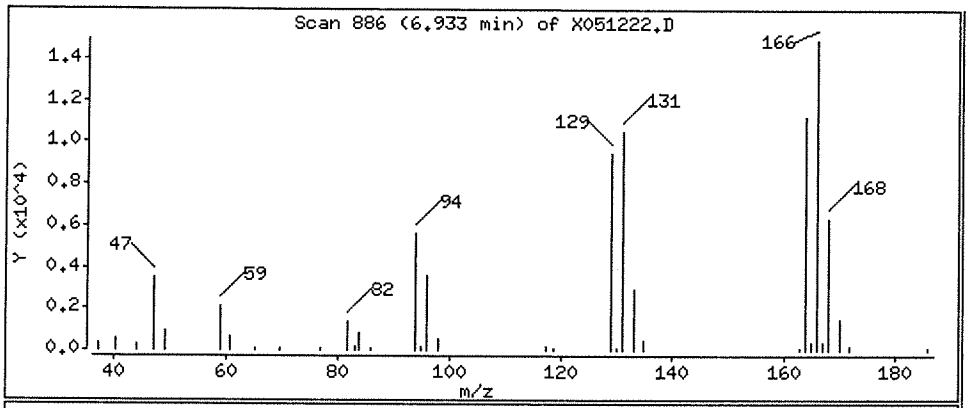
Column phase: DB624

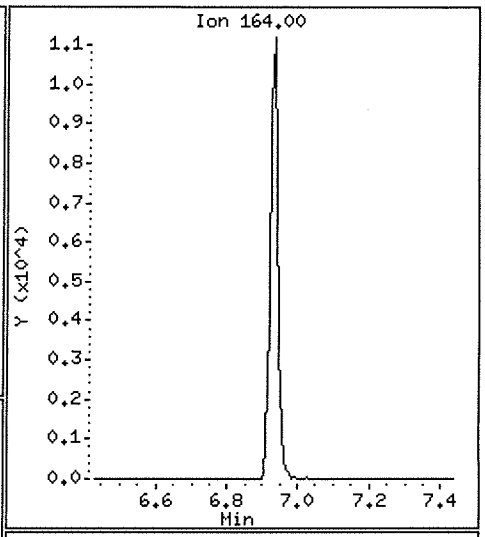
Column diameter: 0.18

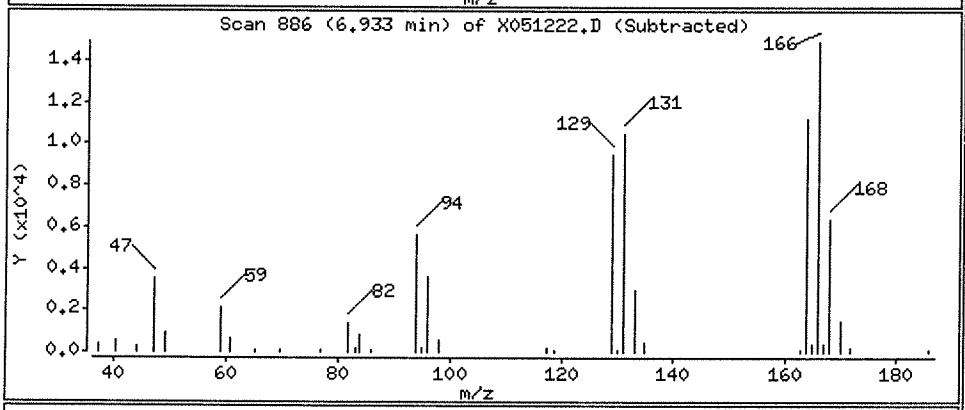
56 Tetrachloroethene

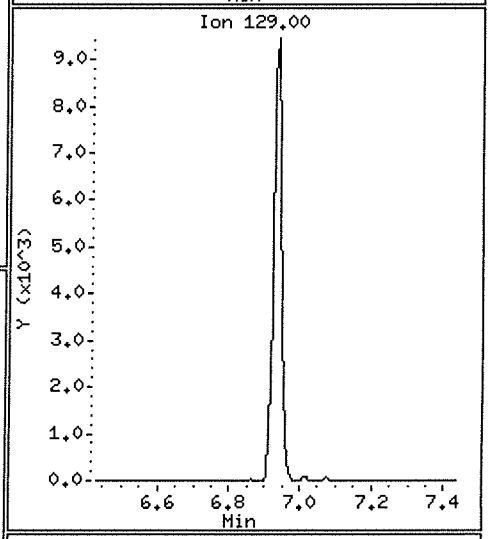
Concentration: 8.54 ug/l

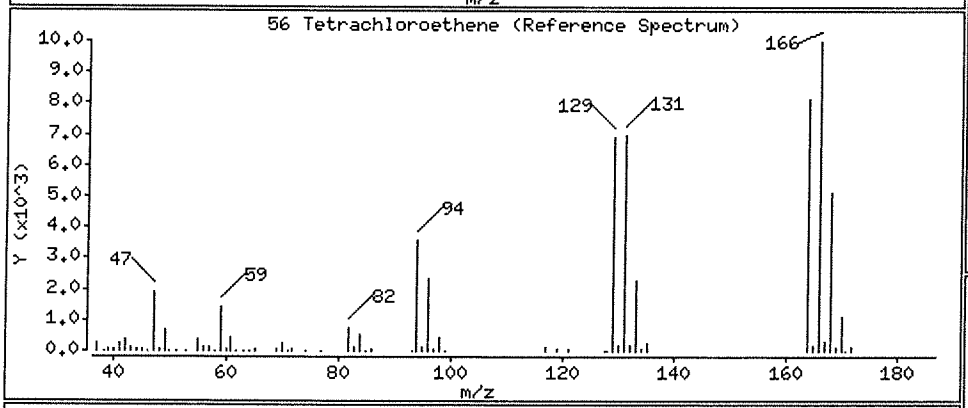
Review Code:

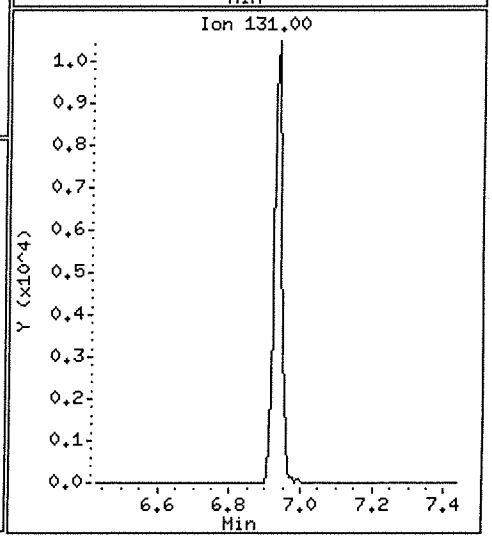


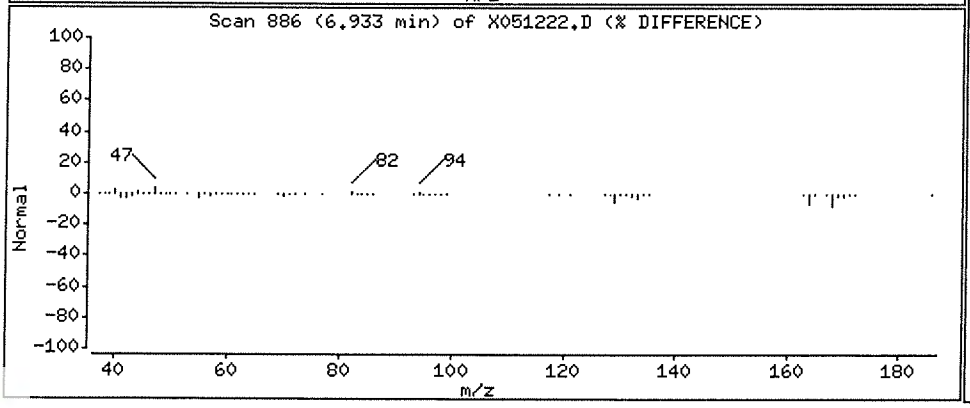












Data File: \\NAHSTWS005\Target\chem\voa6.i\X200512.b\X051222.D

Date : 12-MAY-2020 18:26

Client ID: HS20050234-08

Instrument: voa6.i

Sample Info: HS20050234-08;HS20050234-08;;;

Purge Volume: 5.0

Operator: PC

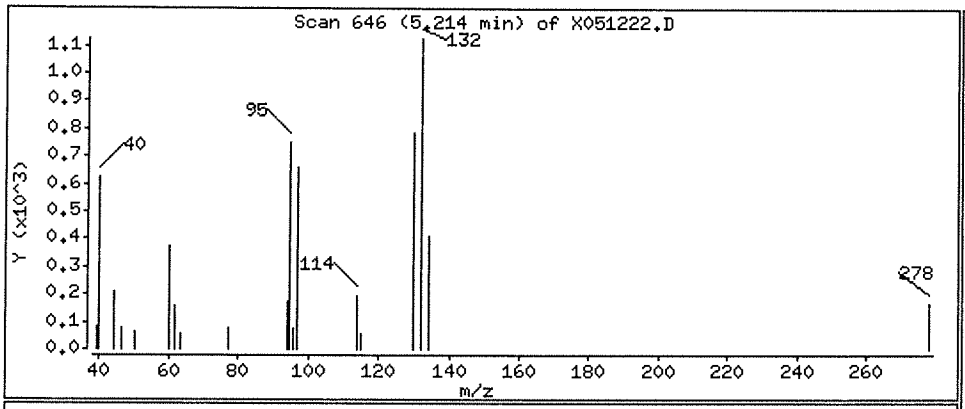
Column phase: DB624

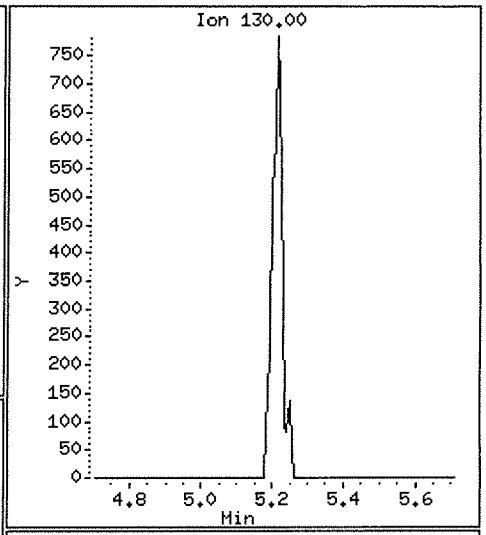
Column diameter: 0.18

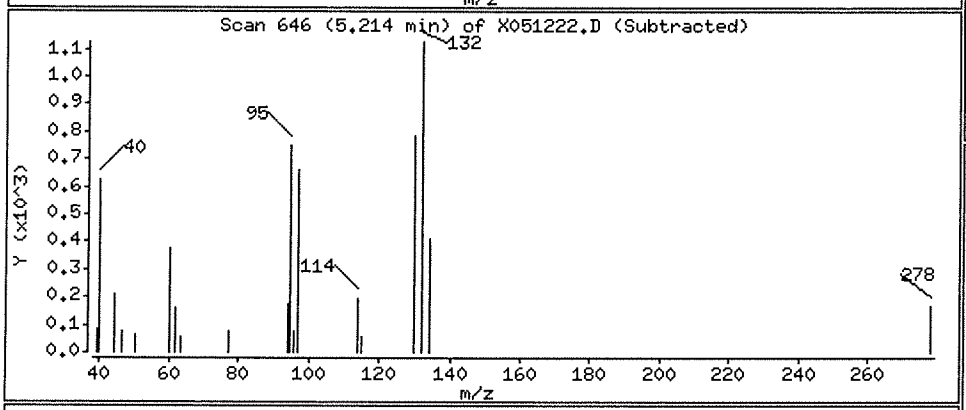
38 Trichloroethene

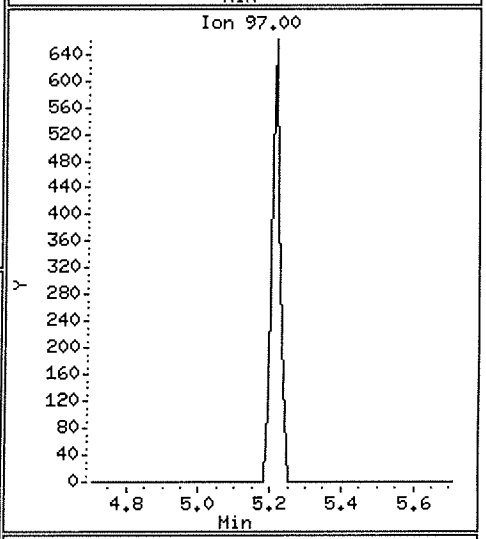
Concentration: 0.60 ug/l

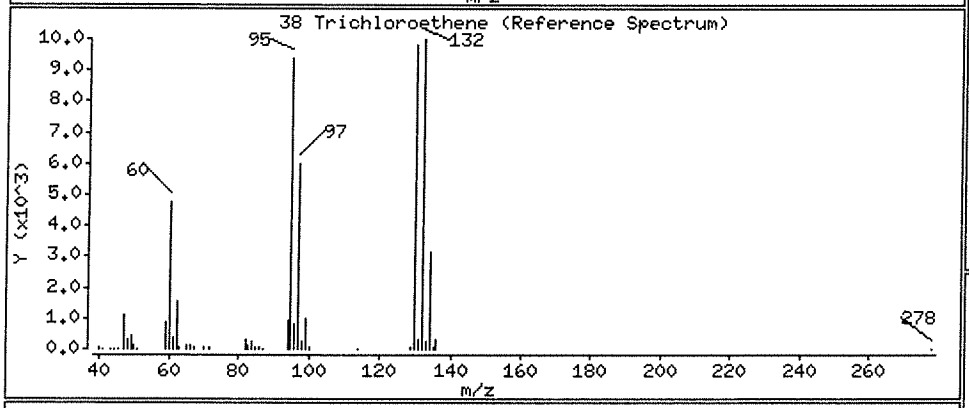
Review Code:

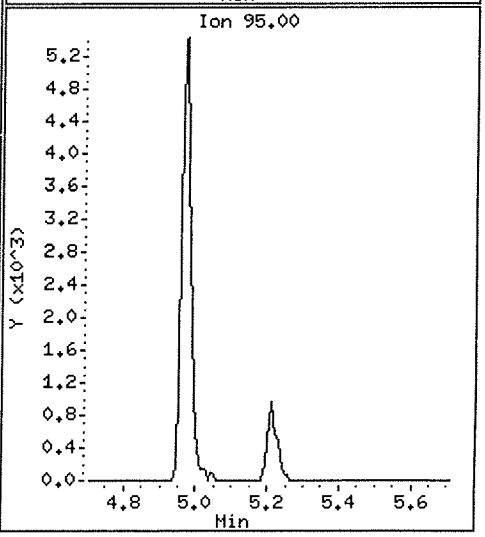


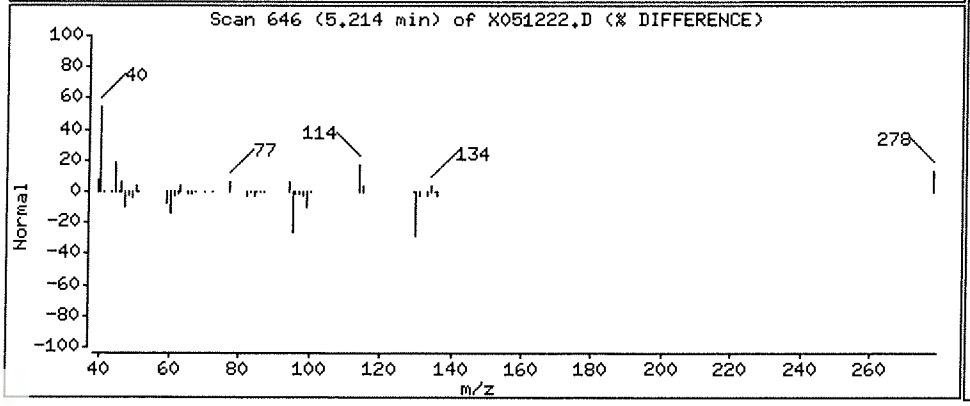












Data File: \\NAHSTWS005\Target\chem\voa6.i\X200512.b\X051223.D Page 1
Report Date: 22-May-2020 16:20

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X200512.b\X051223.D
Lab Smp Id: HS20050234-09 Client Smp ID: HS20050234-09
Inj Date : 12-MAY-2020 18:50
Operator : PC Inst ID: voa6.i
Smp Info : HS20050234-09;HS20050234-09;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200512.b\8260W.m
Meth Date : 22-May-2020 16:20 voa6.i Quant Type: ISTD
Cal Date : 11-MAY-2020 16:00 Cal File: X051108.D
Als bottle: 23
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000000_CBI.sub
Target Version: 4.14
Processing Host: NAHSTW7142

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	264123	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	363304	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	315402	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.662	(1.000)	150601	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	120689	45.7839	45.78
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	145118	44.5762	44.57
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	420593	53.1260	53.12
$ 69 4-Bromofluorobenzene	95	8.695	8.688	(1.134)	147653	48.9858	48.98
56 Tetrachloroethene	164	6.933	6.933	(0.904)	17770	8.54101	8.54
38 Trichloroethene	130	5.214	5.206	(1.049)	1877	0.72003	0.72(a)

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

01006787

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200512.b\X051223.D

Date : 12-MAY-2020 18:50

Client ID: HS20050234-09

Instrument: voa6.i

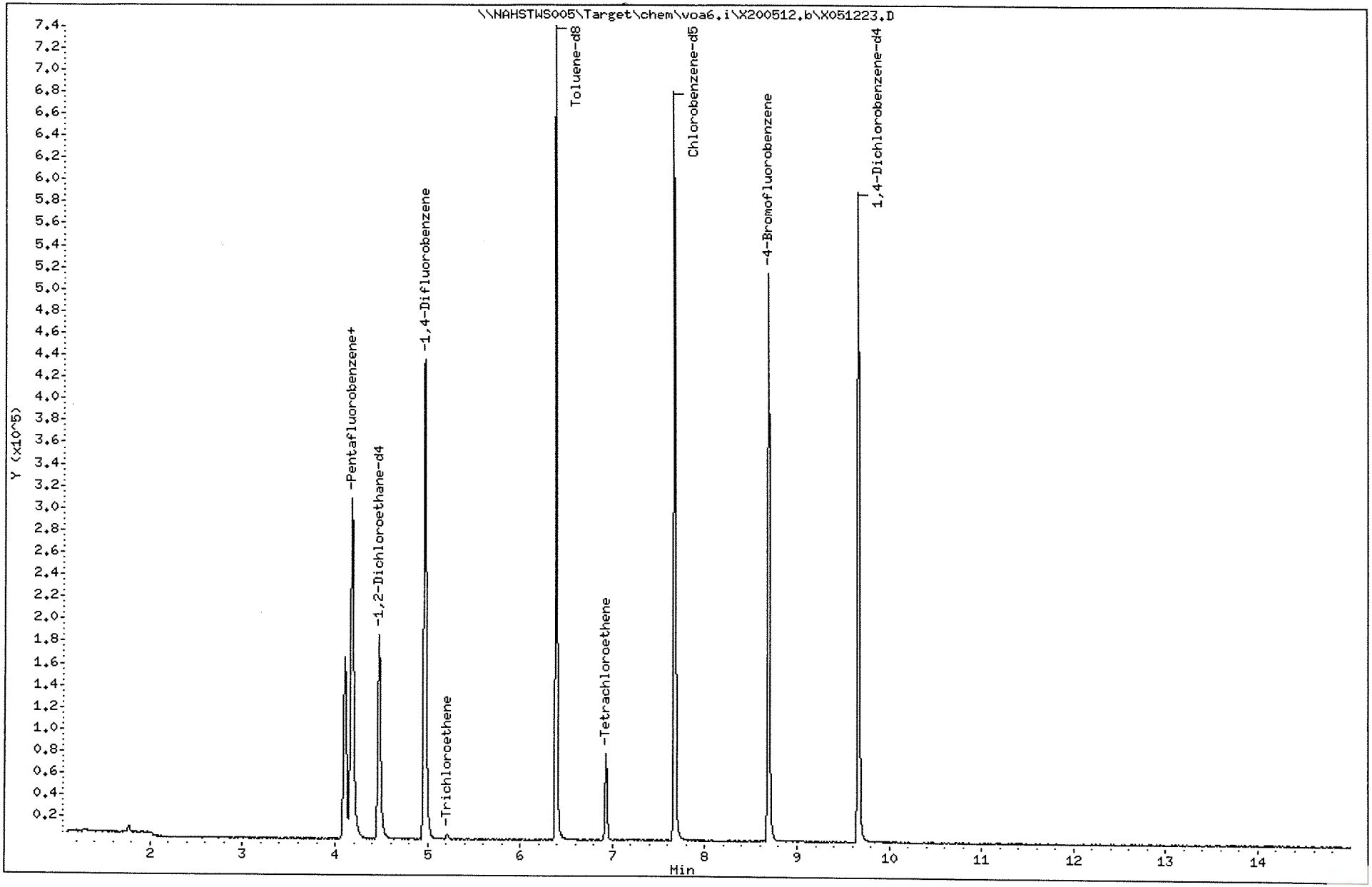
Sample Info: HS20050234-09;HS20050234-09;;;

Purge Volume: 5.0

Operator: PC

Column phase: DB624

Column diameter: 0.18



Data File: \\NAHSTWS005\Target\chem\voa6.i\X200512.b\X051223.D Page 3

Date : 12-MAY-2020 18:50

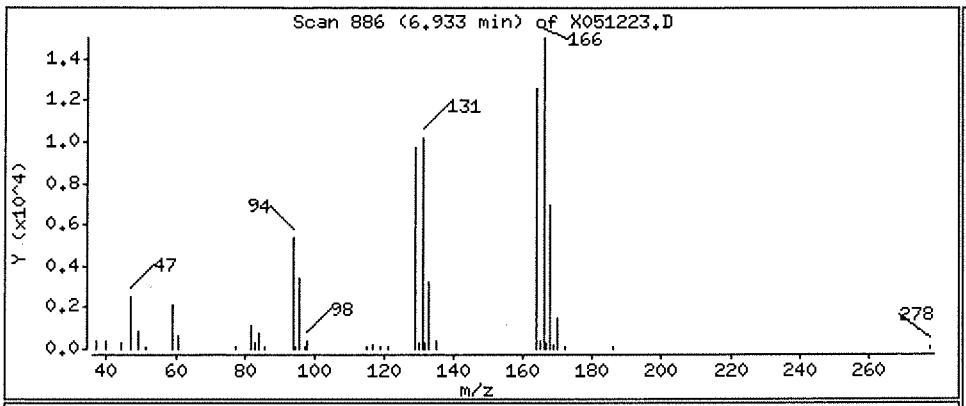
Client ID: HS20050234-09 Instrument: voa6.i

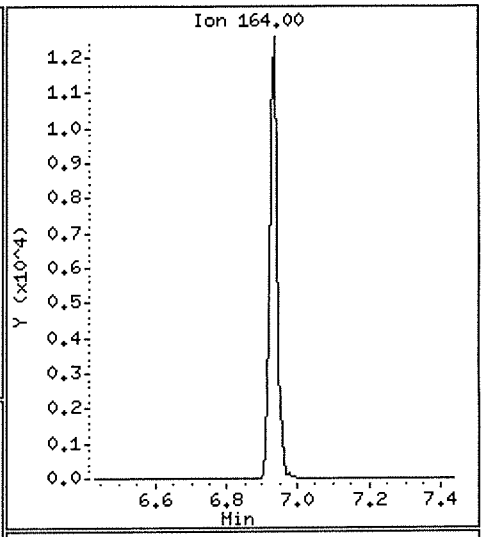
Sample Info: HS20050234-09;HS20050234-09;;;

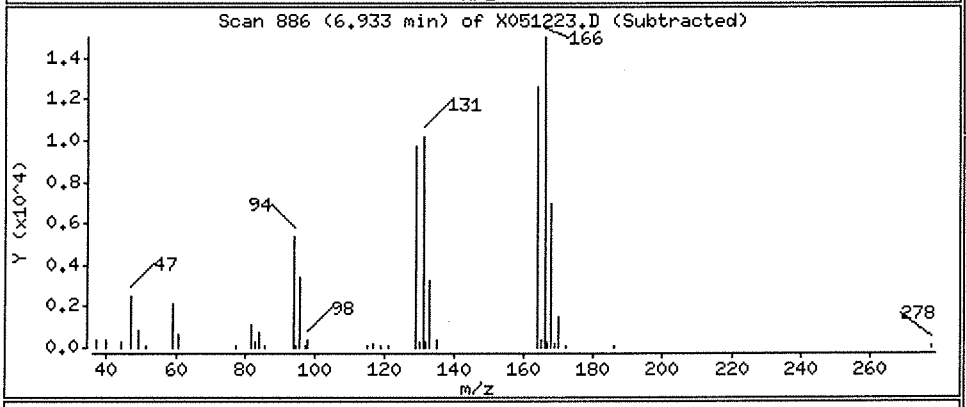
Purge Volume: 5.0 Operator: PC

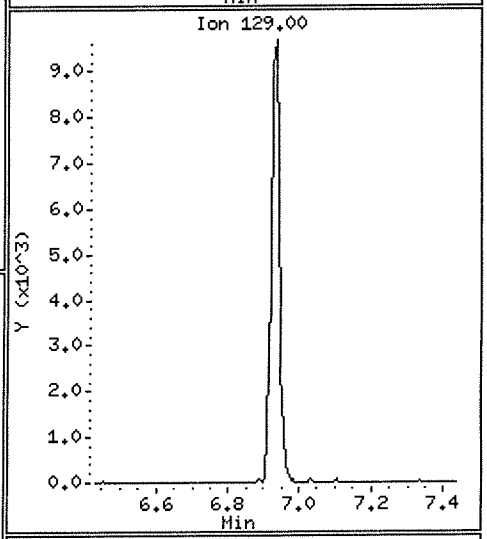
Column phase: DB624 Column diameter: 0.18

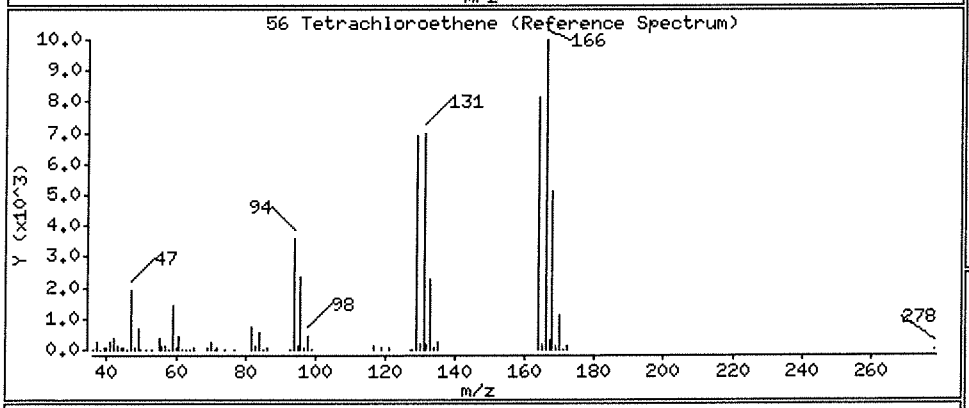
56 Tetrachloroethene Concentration: 8.54 ug/l Review Code:

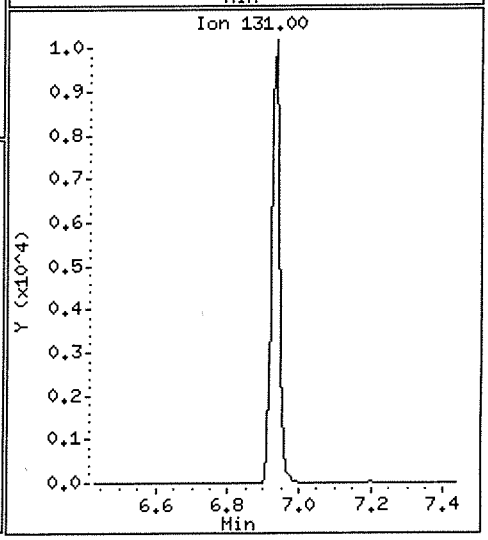


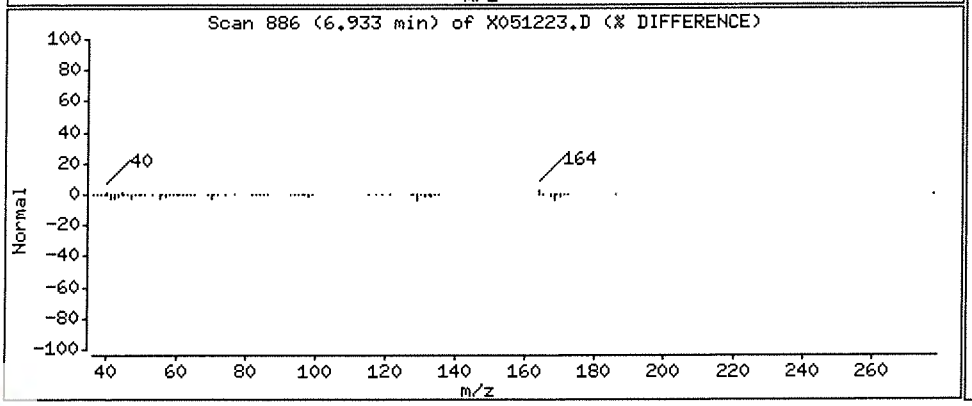












Data File: \\NAHSTWS005\Target\chem\voa6.i\X200512.b\X051223.D

Date : 12-MAY-2020 18:50

Client ID: HS20050234-09

Instrument: voa6.i

Sample Info: HS20050234-09;HS20050234-09;;;

Purge Volume: 5.0

Operator: PC

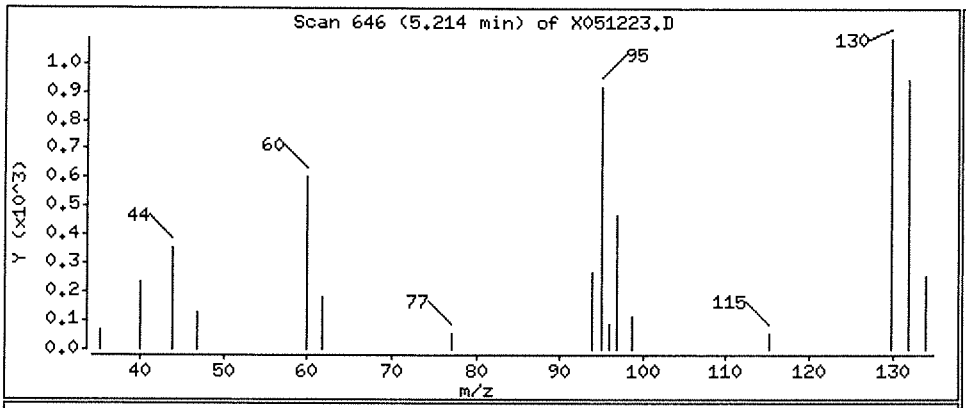
Column phase: DB624

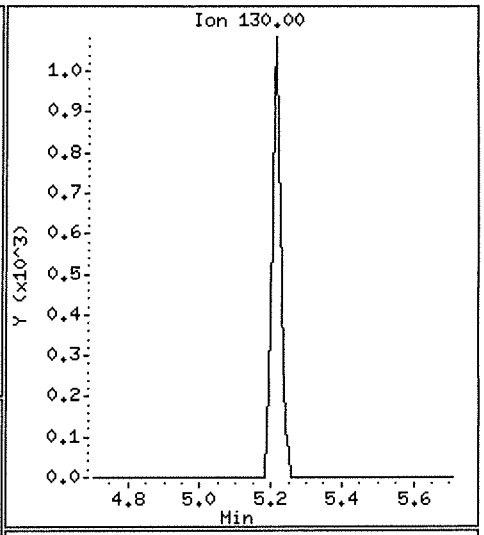
Column diameter: 0.18

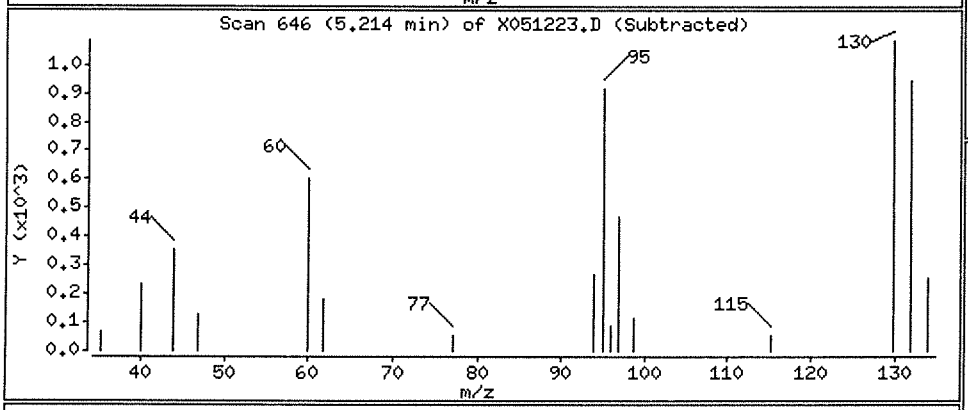
38 Trichloroethene

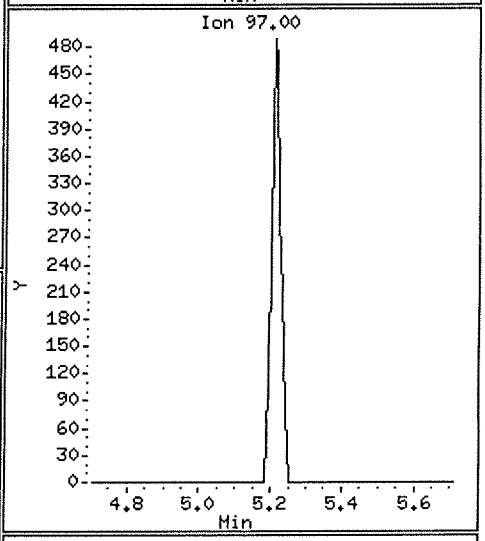
Concentration: 0.72 ug/l

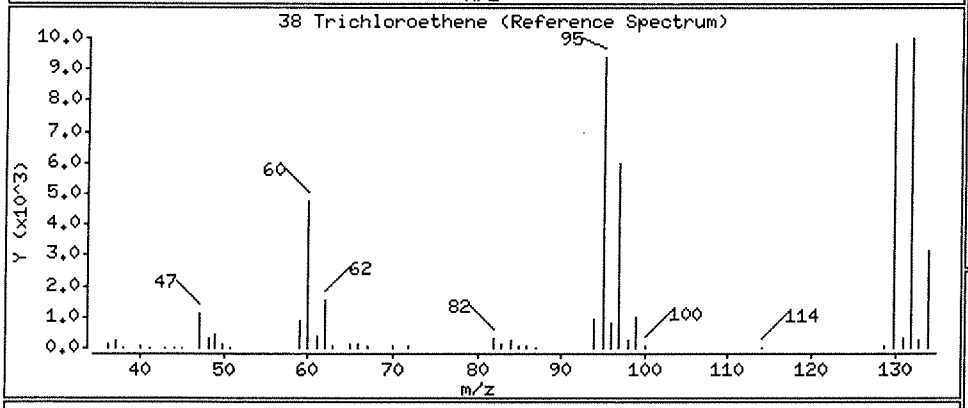
Review Code:

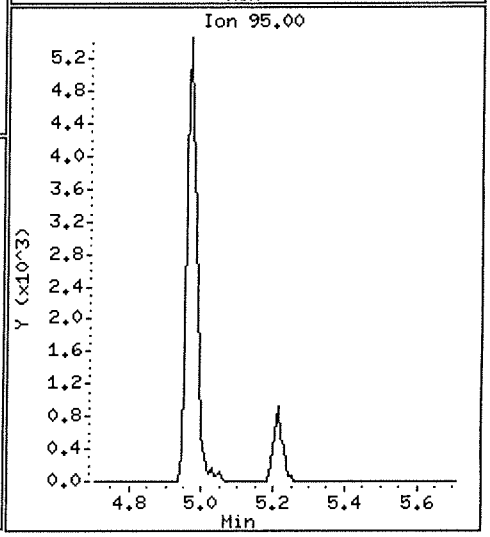


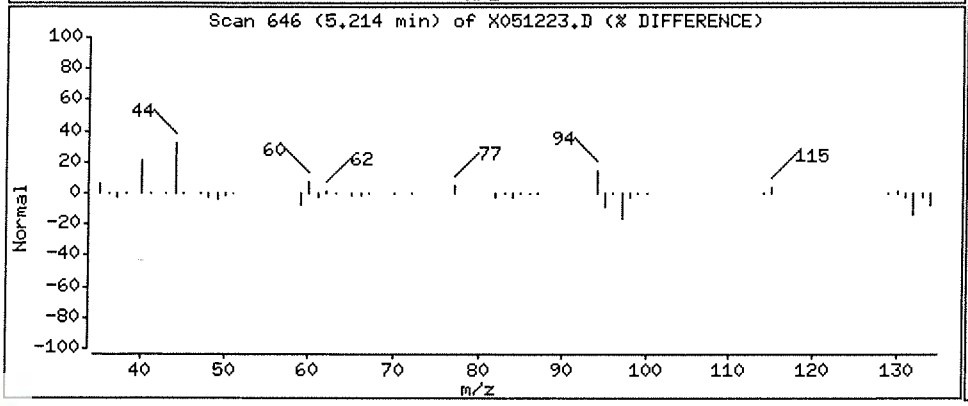












ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X200512.b\X051224.D
Lab Smp Id: HS20050234-10 Client Smp ID: HS20050234-10
Inj Date : 12-MAY-2020 19:14
Operator : PC Inst ID: voa6.i
Smp Info : HS20050234-10;HS20050234-10;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200512.b\8260W.m
Meth Date : 22-May-2020 16:20 voa6.i Quant Type: ISTD
Cal Date : 11-MAY-2020 16:00 Cal File: X051108.D
Als bottle: 24
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000000_CBI.sub
Target Version: 4.14
Processing Host: NAHSTW7142

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

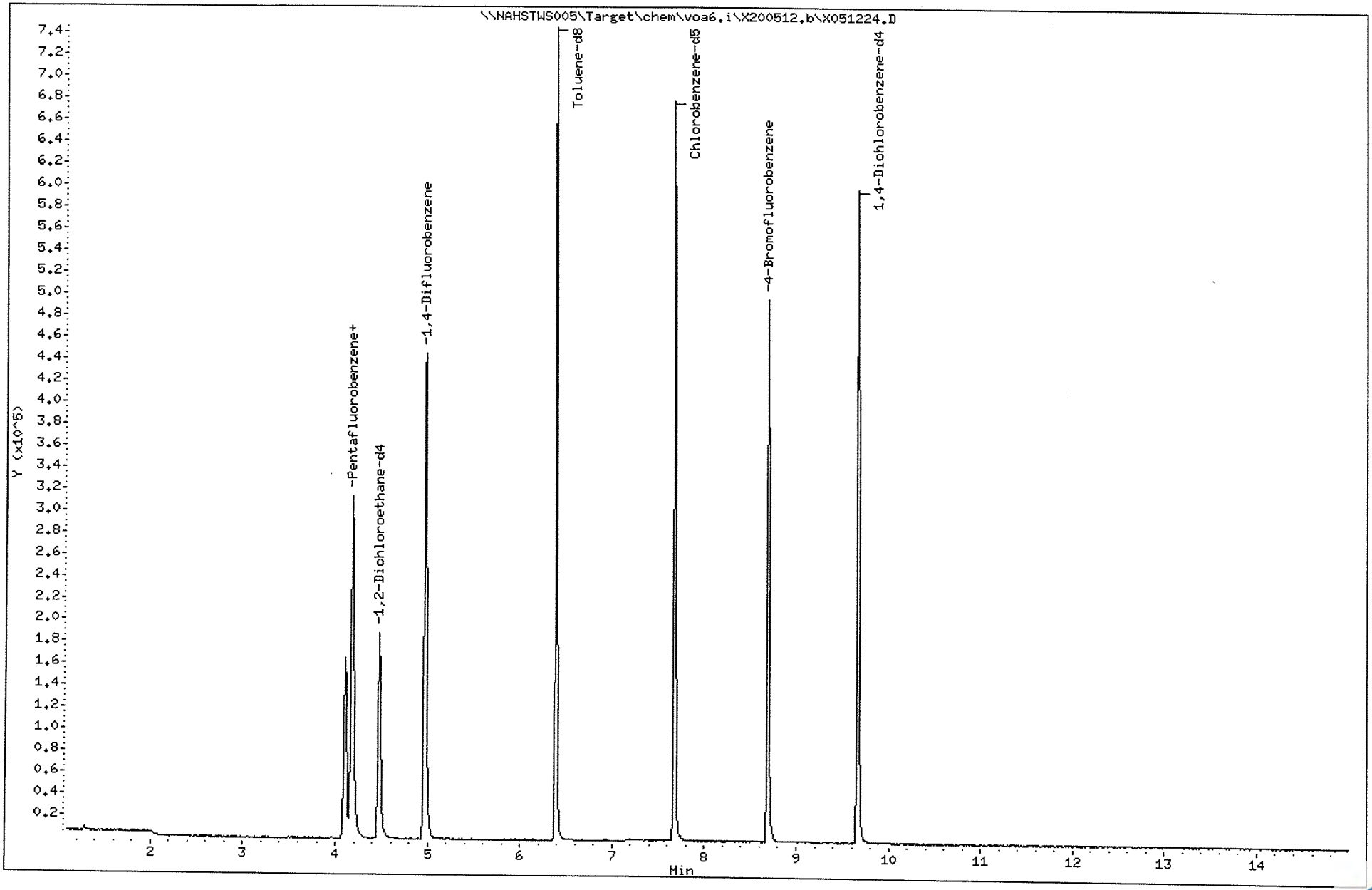
Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	263784	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	366194	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	312025	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.662	(1.000)	151347	50.0000	
$ 30 Dibromofluoromethane	113	4.104	4.103	(0.981)	120995	45.9599	45.95
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	147072	45.2350	45.23
$ 48 Toluene-d8	98	6.389	6.388	(0.833)	418851	53.4817	53.48
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	149305	50.0871	50.08

01006791

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200512.b\X051224.D
Date : 12-MAY-2020 19:14
Client ID: HS20050234-10
Sample Info: HS20050234-10;HS20050234-10;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18



Data File: \\NAHSTWS005\Target\chem\voa6.i\X200512.b\X051225.D Page 1
Report Date: 22-May-2020 16:20

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X200512.b\X051225.D
Lab Smp Id: HS20050234-01MS Client Smp ID: HS20050234-01MS
Inj Date : 12-MAY-2020 19:38
Operator : PC Inst ID: voa6.i
Smp Info : HS20050234-01MS;HS20050234-01MS;3;;MS
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200512.b\8260W.m
Meth Date : 22-May-2020 16:20 voa6.i Quant Type: ISTD
Cal Date : 11-MAY-2020 16:00 Cal File: X051108.D
Als bottle: 25 QC Sample: MS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000000_CBI.sub
Target Version: 4.14
Processing Host: NAHSTW7142

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

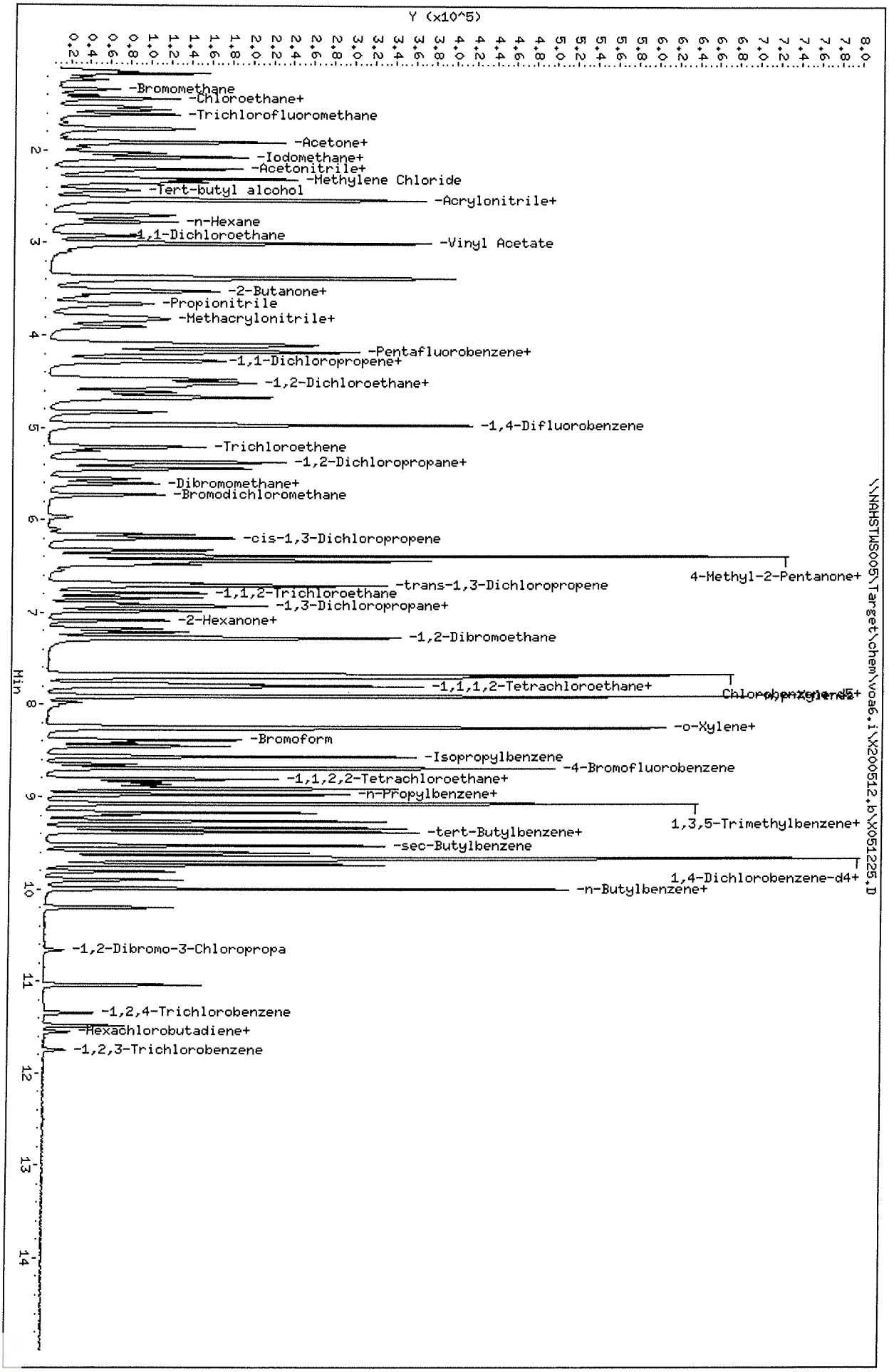
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
*	1 Pentafluorobenzene	168	4.182	4.182	(1.000)	254610	50.0000	
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	345884	50.0000	
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	298962	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	147916	50.0000	
$	30 Dibromofluoromethane	113	4.104	4.103	(0.981)	115981	45.6411	45.64
$	35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	138033	43.9836	43.98
$	48 Toluene-d8	98	6.389	6.388	(0.833)	399173	53.1936	53.19
$	69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	141695	49.6038	49.60
	60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	48762	20.7509	20.75
	31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	78488	19.2497	19.24
	68 1,1,2,2-Tetrachloroethane	83	8.838	8.838	(0.915)	46131	19.4064	19.40
	138 Freon TF	101	1.912	1.911	(0.457)	40066	20.3628	20.36
	53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	33393	20.0797	20.07
	22 1,1-Dichloroethane	63	2.922	2.921	(0.699)	97476	17.6157	17.61
	11 1,1-Dichloroethene	96	1.912	1.911	(0.457)	36413	17.9760	17.97
	32 1,1-Dichloropropene	75	4.283	4.282	(0.862)	62351	19.6914	19.69
	93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.216)	7075	15.1369	15.13
	71 1,2,3-Trichloropropane	75	8.867	8.867	(0.918)	40129	19.4688	19.46(M)
	90 1,2,4-Trichlorobenzene	180	11.345	11.338	(1.174)	14626	15.6114	15.61
	79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.971)	168819	21.7578	21.75
	89 1,2-Dibromo-3-Chloropropane	155	10.665	10.658	(1.104)	4350	19.2933	19.29
	57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	43601	20.5278	20.52

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200512.b\X051225.D Page 2
Report Date: 22-May-2020 16:20

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
88 1,2-Dichlorobenzene	146	9.999	9.991	(1.035)	83355	20.2287	20.22
33 1,2-Dichloroethane	62	4.562	4.555	(0.918)	73322	20.3597	20.35
42 1,2-Dichloropropane	63	5.436	5.436	(1.094)	53026	18.8340	18.83
75 1,3,5-Trimethylbenzene	105	9.068	9.067	(0.938)	165846	21.7148	21.71
83 1,3-Dichlorobenzene	146	9.605	9.605	(0.994)	95535	21.1953	21.19
54 1,3-Dichloropropane	76	6.983	6.983	(0.910)	70013	20.2519	20.25
84 1,4-Dichlorobenzene	146	9.684	9.683	(1.002)	94930	20.3044	20.30
26 2,2-Dichloropropane	77	3.509	3.509	(0.839)	72749	18.0460	18.04
24 2-Butanone	43	3.581	3.573	(0.856)	38546	33.5914	33.59
76 2-Chlorotoluene	91	8.974	8.974	(0.929)	136960	20.7445	20.74
52 2-Hexanone	43	7.091	7.083	(0.924)	66370	35.8998	35.89
77 4-Chlorotoluene	91	9.075	9.074	(0.939)	157788	20.7306	20.73
82 p-Isopropyltoluene	119	9.655	9.655	(0.999)	170285	21.9172	21.91
45 4-Methyl-2-Pentanone	43	6.324	6.324	(0.824)	99278	36.7788	36.77
10 Acetone	43	1.969	1.969	(0.471)	24073	25.1045	25.10
37 Benzene	78	4.519	4.512	(0.909)	170924	19.3326	19.33
74 Bromobenzene	156	8.810	8.809	(0.912)	57883	20.8726	20.87
29 Bromochloromethane	128	3.796	3.795	(0.908)	27125	18.3615	18.36
39 Bromodichloromethane	83	5.730	5.729	(1.153)	62966	19.5023	19.50
66 Bromoform	173	8.416	8.415	(1.097)	35530	20.7429	20.74
6 Bromomethane	94	1.339	1.338	(0.320)	32496	16.8666	16.86
19 Carbon Disulfide	76	2.069	2.069	(0.495)	230483	33.3965	33.39
34 Carbon Tetrachloride	117	4.268	4.268	(0.859)	71601	20.6034	20.60
59 Chlorobenzene	112	7.699	7.692	(1.004)	122718	20.7177	20.71
7 Chloroethane	64	1.403	1.403	(0.336)	30864	16.8563	16.85
28 Chloroform	83	3.910	3.910	(0.935)	84678	18.6105	18.61
3 Chloromethane	50	1.074	1.073	(0.257)	53176	13.7126	13.71
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	49842	18.5566	18.55
46 cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	71897	19.0144	19.01
55 Dibromochloromethane	129	7.176	7.176	(0.936)	50372	20.8172	20.81
44 Dibromomethane	93	5.558	5.557	(1.118)	29143	19.0844	19.08
2 Dichlorodifluoromethane	85	0.966	0.966	(0.231)	32331	11.7068	11.70
61 Ethylbenzene	106	7.800	7.799	(1.017)	66751	21.4719	21.47
91 Hexachlorobutadiene	225	11.481	11.481	(1.188)	12927	16.6634	16.66
67 Isopropylbenzene	105	8.566	8.566	(1.117)	204042	21.8862	21.88
62 m,p-Xylenes	106	7.907	7.907	(1.031)	158042	41.8834	41.88
17 Methylene Chloride	84	2.306	2.305	(0.551)	44057	16.8867	16.88
87 n-Butylbenzene	91	9.999	9.999	(1.035)	136239	21.7332	21.73
73 n-Propylbenzene	91	8.917	8.917	(0.923)	227267	21.3713	21.37
92 Naphthalene	128	11.546	11.546	(1.195)	19803	14.2204	14.22
63 o-Xylene	106	8.244	8.244	(1.075)	76285	20.7788	20.77
81 sec-Butylbenzene	105	9.526	9.526	(0.986)	193517	21.6000	21.59
64 Styrene	104	8.258	8.258	(1.077)	132732	20.8606	20.86
78 tert-Butylbenzene	119	9.340	9.340	(0.967)	144421	22.2711	22.27
56 Tetrachloroethene	164	6.933	6.933	(0.904)	44519	22.5744	22.57
50 Toluene	91	6.446	6.446	(0.840)	185258	20.9385	20.93
20 trans-1,2-Dichloroethene	96	2.528	2.527	(0.604)	44513	19.2186	19.21
51 trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	67071	19.5595	19.55
38 Trichloroethene	130	5.207	5.206	(1.048)	50979	20.5409	20.54
8 Trichlorofluoromethane	101	1.561	1.560	(0.373)	77791	18.9897	18.98
5 Vinyl Chloride	62	1.138	1.138	(0.272)	52953	15.0031	15.00

QC Flag Legend

M - Compound response manually integrated.



Data File: \\NAHSTWS005\Target\chem\voa6.i\X200512.b\X051225.D
Date : 12-MAY-2020 19:38
Client ID: HS20050234-01MS
Sample Info: HS20050234-01MS;HS20050234-01MS;3;;MS
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200512.b\X051226.D Page 1
Report Date: 22-May-2020 16:20

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X200512.b\X051226.D
Lab Smp Id: HS20050234-01MSD Client Smp ID: HS20050234-01MSD
Inj Date : 12-MAY-2020 20:02
Operator : PC Inst ID: voa6.i
Smp Info : HS20050234-01MSD;HS20050234-01MSD;3;;MSD
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200512.b\8260W.m
Meth Date : 22-May-2020 16:20 voa6.i Quant Type: ISTD
Cal Date : 11-MAY-2020 16:00 Cal File: X051108.D
Als bottle: 25 QC Sample: MSD
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000000_CBI.sub
Target Version: 4.14
Processing Host: NAHSTW7142

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

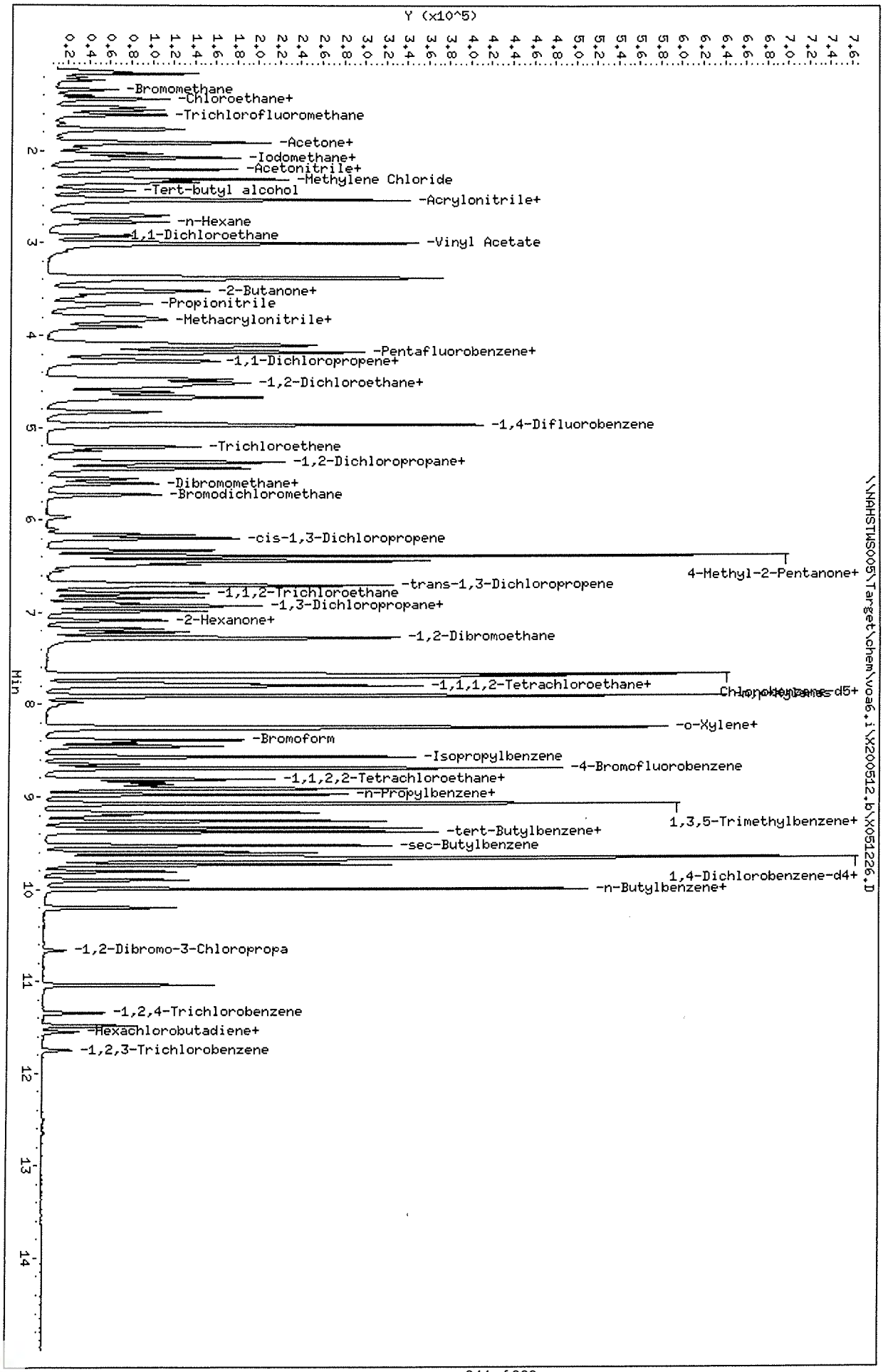
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	244179	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	336747	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	287002	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.662	(1.000)	142658	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	112185	46.0353	46.03
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	135465	45.0101	45.01
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	387950	53.8582	53.85
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	137584	50.1806	50.18
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	47845	21.2092	21.20
31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	73807	18.8749	18.87
68 1,1,2,2-Tetrachloroethane	83	8.845	8.838	(0.915)	44962	19.6117	19.61
138 Freon TF	101	1.911	1.911	(0.457)	35917	19.0339	19.03
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	32914	20.6164	20.61
22 1,1-Dichloroethane	63	2.921	2.921	(0.699)	89108	16.7913	16.79
11 1,1-Dichloroethene	96	1.911	1.911	(0.457)	34317	17.6650	17.66
32 1,1-Dichloropropene	75	4.282	4.282	(0.862)	59016	19.1439	19.14
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.215)	8320	18.4836	18.48
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.917)	40450	20.3479	20.34(M)
90 1,2,4-Trichlorobenzene	180	11.345	11.338	(1.173)	16558	17.8656	17.86
79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.970)	160154	21.4018	21.40
89 1,2-Dibromo-3-Chloropropane	155	10.665	10.658	(1.103)	4254	19.5424	19.54
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	43159	21.1665	21.16

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200512.b\X051226.D Page 2
Report Date: 22-May-2020 16:20

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
88 1,2-Dichlorobenzene	146	9.999	9.991	(1.034)	82920	20.8648	20.86
33 1,2-Dichloroethane	62	4.562	4.555	(0.918)	70989	20.2467	20.24
42 1,2-Dichloropropane	63	5.443	5.436	(1.095)	50726	18.5059	18.50
75 1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	160256	21.7563	21.75
83 1,3-Dichlorobenzene	146	9.605	9.605	(0.993)	91824	21.1228	21.12
54 1,3-Dichloropropane	76	6.983	6.983	(0.910)	67605	20.3703	20.37
84 1,4-Dichlorobenzene	146	9.683	9.683	(1.001)	91494	20.2908	20.29
26 2,2-Dichloropropane	77	3.509	3.509	(0.839)	67290	17.4049	17.40
24 2-Butanone	43	3.580	3.573	(0.856)	40643	36.9319	36.93
76 2-Chlorotoluene	91	8.974	8.974	(0.928)	130041	20.4225	20.42
52 2-Hexanone	43	7.090	7.083	(0.924)	63849	35.9753	35.97
77 4-Chlorotoluene	91	9.075	9.074	(0.939)	150485	20.4999	20.49
82 p-Isopropyltoluene	119	9.655	9.655	(0.999)	166039	22.1584	22.15
45 4-Methyl-2-Pentanone	43	6.324	6.324	(0.824)	97780	37.7334	37.73
10 Acetone	43	1.969	1.969	(0.471)	24223	26.4695	26.46
37 Benzene	78	4.519	4.512	(0.909)	161093	18.7151	18.71
74 Bromobenzene	156	8.809	8.809	(0.911)	55798	20.8624	20.86
29 Bromochloromethane	128	3.803	3.795	(0.909)	25916	18.2926	18.29
39 Bromodichloromethane	83	5.729	5.729	(1.153)	60886	19.3697	19.36
66 Bromoform	173	8.416	8.415	(1.097)	33630	20.4518	20.45
6 Bromomethane	94	1.338	1.338	(0.320)	30398	16.4333	16.43
19 Carbon Disulfide	76	2.069	2.069	(0.495)	213516	32.2597	32.25
34 Carbon Tetrachloride	117	4.268	4.268	(0.859)	66927	19.7810	19.78
59 Chlorobenzene	112	7.699	7.692	(1.004)	116570	20.4998	20.49
7 Chloroethane	64	1.403	1.403	(0.336)	27489	15.6243	15.62
28 Chloroform	83	3.910	3.910	(0.935)	79104	18.1281	18.12
3 Chloromethane	50	1.073	1.073	(0.257)	49129	13.2332	13.23
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	46965	18.2325	18.23
46 cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	70187	19.0658	19.06
55 Dibromochloromethane	129	7.176	7.176	(0.936)	47815	20.5839	20.58
44 Dibromomethane	93	5.557	5.557	(1.118)	28458	19.1415	19.14
2 Dichlorodifluoromethane	85	0.966	0.966	(0.231)	30036	11.3737	11.37
61 Ethylbenzene	106	7.799	7.799	(1.017)	63052	21.1272	21.12
91 Hexachlorobutadiene	225	11.481	11.481	(1.187)	15219	20.1277	20.12
67 Isopropylbenzene	105	8.566	8.566	(1.117)	189739	21.2001	21.20
62 m,p-Xylenes	106	7.907	7.907	(1.031)	150105	41.4377	41.43
17 Methylene Chloride	84	2.305	2.305	(0.551)	42023	16.7893	16.78
87 n-Butylbenzene	91	9.999	9.999	(1.034)	132190	21.8645	21.86
73 n-Propylbenzene	91	8.917	8.917	(0.922)	215616	21.0230	21.02
92 Naphthalene	128	11.546	11.546	(1.194)	23740	17.6759	17.67
63 o-Xylene	106	8.244	8.244	(1.075)	73254	20.7847	20.78
81 sec-Butylbenzene	105	9.526	9.526	(0.985)	186910	21.6315	21.63
64 Styrene	104	8.258	8.258	(1.077)	126821	20.7622	20.76
78 tert-Butylbenzene	119	9.340	9.340	(0.966)	136869	21.8845	21.88
56 Tetrachloroethene	164	6.933	6.933	(0.904)	41234	21.7799	21.77
50 Toluene	91	6.446	6.446	(0.840)	175279	20.6362	20.63
20 trans-1,2-Dichloroethene	96	2.527	2.527	(0.604)	40953	18.4369	18.43
51 trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	64030	19.1794	19.17
38 Trichloroethene	130	5.206	5.206	(1.048)	48631	20.1265	20.12
8 Trichlorofluoromethane	101	1.560	1.560	(0.373)	71268	18.1406	18.14
5 Vinyl Chloride	62	1.138	1.138	(0.272)	48835	14.4274	14.42

QC Flag Legend

M - Compound response manually integrated.



Data File: \\NAHSTWS005\Target\chem\voa6.i\X200512.b\X051226.D
Date : 12-MAY-2020 20:02
Client ID: HS20050234-01MSD
Sample Info: HS20050234-01MSD;HS20050234-01MSD;3;;MSD
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200512.b\X051227.D Page 1
Report Date: 22-May-2020 16:20

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X200512.b\X051227.D
Lab Smp Id: CCV-END Client Smp ID: CCV-END
Inj Date : 12-MAY-2020 20:26
Operator : PC Inst ID: voa6.i
Smp Info : CCV-END;CCV-END;2;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200512.b\8260W.m
Meth Date : 22-May-2020 16:20 voa6.i Quant Type: ISTD
Cal Date : 11-MAY-2020 16:00 Cal File: X051108.D
Als bottle: 26 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000000_CBI.sub
Target Version: 4.14
Processing Host: NAHSTW7142

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

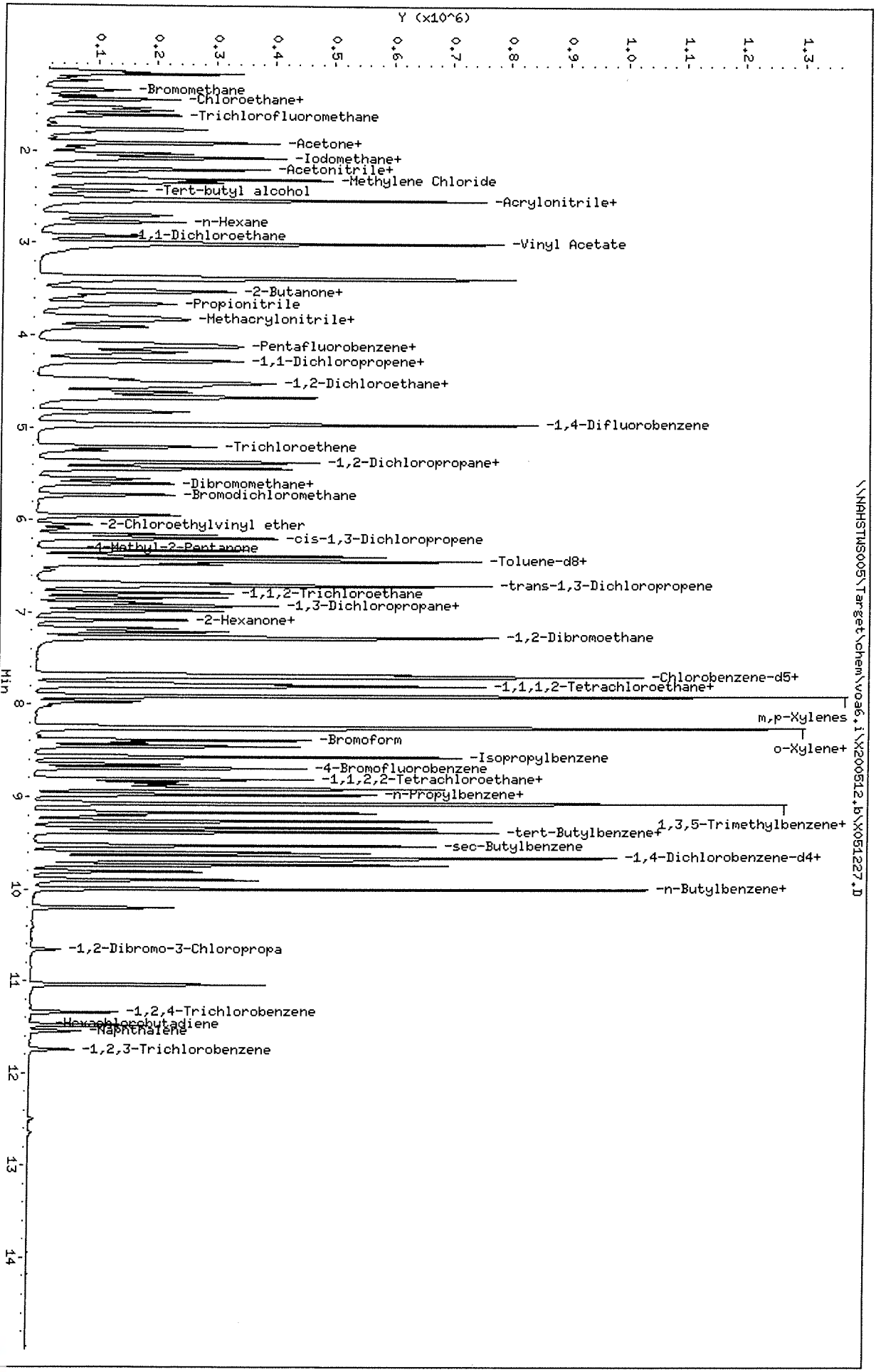
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
*	1 Pentafluorobenzene	168	4.182	4.182	(1.000)	200799	50.0000	
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	291894	50.0000	
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	270076	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	135644	50.0000	
$	30 Dibromofluoromethane	113	4.103	4.103	(0.981)	97439	50.0000	48.63
$	35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	121975	50.0000	49.28
$	48 Toluene-d8	98	6.388	6.388	(0.833)	329541	50.0000	48.57
$	69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	125184	50.0000	48.49
	60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	102086	50.0000	48.08
	31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	153185	50.0000	47.63
	68 1,1,2,2-Tetrachloroethane	83	8.838	8.838	(0.915)	97703	50.0000	44.82
	138 Freon TF	101	1.912	1.912	(0.457)	71911	50.0000	46.34
	53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	67635	50.0000	45.01
	22 1,1-Dichloroethane	63	2.922	2.922	(0.699)	193504	50.0000	44.34
	11 1,1-Dichloroethene	96	1.912	1.912	(0.457)	71175	50.0000	44.55
	32 1,1-Dichloropropene	75	4.283	4.283	(0.862)	121911	50.0000	45.62
	93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.216)	20158	50.0000	46.35
	71 1,2,3-Trichloropropane	75	8.867	8.867	(0.918)	87648	50.0000	46.37(M)
	90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	39725	50.0000	41.05
	79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.971)	342508	50.0000	48.13
	89 1,2-Dibromo-3-Chloropropane	155	10.658	10.658	(1.103)	10493	50.0000	48.35
	57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	92649	50.0000	48.28

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200512.b\X051227.D Page 2
Report Date: 22-May-2020 16:20

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
88	1,2-Dichlorobenzene	146	9.991	9.991	(1.034)	176001	50.0000	46.57
33	1,2-Dichloroethane	62	4.555	4.555	(0.916)	147905	50.0000	48.66
42	1,2-Dichloropropane	63	5.436	5.436	(1.094)	104753	50.0000	44.08
75	1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	334170	50.0000	47.71
83	1,3-Dichlorobenzene	146	9.605	9.605	(0.994)	197176	50.0000	47.70
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	144119	50.0000	46.14
84	1,4-Dichlorobenzene	146	9.683	9.683	(1.002)	199401	50.0000	46.50
26	2,2-Dichloropropane	77	3.509	3.509	(0.839)	138652	50.0000	43.61
24	2-Butanone	43	3.573	3.573	(0.854)	86390	100.000	95.46
76	2-Chlorotoluene	91	8.974	8.974	(0.929)	273985	50.0000	45.25
52	2-Hexanone	43	7.083	7.083	(0.923)	143873	100.000	86.14
77	4-Chlorotoluene	91	9.075	9.075	(0.939)	319061	50.0000	45.71
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	341378	50.0000	47.91
45	4-Methyl-2-Pentanone	43	6.324	6.324	(0.824)	212246	100.000	87.03
10	Acetone	43	1.969	1.969	(0.471)	53783	100.000	75.93
37	Benzene	78	4.512	4.512	(0.908)	345892	50.0000	46.35
74	Bromobenzene	156	8.810	8.810	(0.912)	119740	50.0000	47.08
29	Bromochloromethane	128	3.795	3.795	(0.908)	53697	50.0000	46.08
39	Bromodichloromethane	83	5.729	5.729	(1.153)	130874	50.0000	48.03
66	Bromoform	173	8.416	8.416	(1.097)	74773	50.0000	48.32
6	Bromomethane	94	1.339	1.339	(0.320)	66450	50.0000	44.92
19	Carbon Disulfide	76	2.069	2.069	(0.495)	491618	100.000	90.32
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	137577	50.0000	46.91
59	Chlorobenzene	112	7.699	7.699	(1.004)	250145	50.0000	46.74
7	Chloroethane	64	1.403	1.403	(0.336)	61646	50.0000	43.33
28	Chloroform	83	3.910	3.910	(0.935)	172306	50.0000	48.01
3	Chloromethane	50	1.073	1.073	(0.257)	132661	50.0000	42.02
27	cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	102045	50.0000	48.17
46	cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	150406	50.0000	47.13
55	Dibromochloromethane	129	7.176	7.176	(0.936)	106521	50.0000	48.73
44	Dibromomethane	93	5.558	5.558	(1.118)	61130	50.0000	47.43
2	Dichlorodifluoromethane	85	0.966	0.966	(0.231)	107843	50.0000	46.07
61	Ethylbenzene	106	7.800	7.800	(1.017)	129729	50.0000	46.19
91	Hexachlorobutadiene	225	11.481	11.481	(1.188)	33388	50.0000	45.17
67	Isopropylbenzene	105	8.566	8.566	(1.117)	395480	50.0000	46.95
62	m,p-Xylenes	106	7.907	7.907	(1.031)	317178	100.000	93.04
17	Methylene Chloride	84	2.306	2.306	(0.551)	93797	50.0000	47.40
87	n-Butylbenzene	91	9.999	9.999	(1.035)	277942	50.0000	48.34
73	n-Propylbenzene	91	8.917	8.917	(0.923)	449260	50.0000	46.06
92	Naphthalene	128	11.546	11.546	(1.195)	56936	50.0000	44.58
63	o-Xylene	106	8.244	8.244	(1.075)	155765	50.0000	46.96
81	sec-Butylbenzene	105	9.526	9.526	(0.986)	380134	50.0000	46.26
64	Styrene	104	8.258	8.258	(1.077)	273717	50.0000	47.61
78	tert-Butylbenzene	119	9.340	9.340	(0.967)	278056	50.0000	46.75
56	Tetrachloroethene	164	6.933	6.933	(0.904)	82504	50.0000	46.31
50	Toluene	91	6.446	6.446	(0.840)	366993	50.0000	45.91
20	trans-1,2-Dichloroethene	96	2.528	2.528	(0.604)	86358	50.0000	47.27
51	trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	140290	50.0000	48.47
38	Trichloroethene	130	5.207	5.207	(1.048)	99560	50.0000	47.53
8	Trichlorofluoromethane	101	1.561	1.561	(0.373)	153588	50.0000	47.54
5	Vinyl Chloride	62	1.138	1.138	(0.272)	119470	50.0000	42.92

QC Flag Legend

M - Compound response manually integrated.



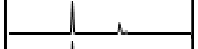
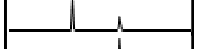
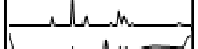
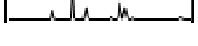
Data File: \\NAHSTWS005\Target\chem\voa6.i\X200512.b\X051227.D
Date : 12-MAY-2020 20:26
Client ID: CCV-END
Sample Info: CCV-END;CCV-END;2;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

HS20050234 Wet Chem Raw Data (IC)

ALS WO# HS20050234

Sequence: 050720
Last Update Operator: alshs.nouser

CD	Name	Comment	Type	Position	Dilution	Level	Instrument Method	Processing Method	Volume [ul]	Status
	STD1	2970209205	Calibration	GA1	1.0000	1	Anions Program 02052020.1	Anions Pro	5.0	Finished
	STD2	NEW PRGM	Calibration	GA2	1.0000	2	Anions Program 02052020.1	Anions Pro	5.0	Finished
	STD3		Calibration	GA3	1.0000	3	Anions Program 02052020.1	Anions Pro	5.0	Finished
	STD4		Calibration	GA4	1.0000	4	Anions Program 02052020.1	Anions Pro	5.0	Finished
	STD5	NO2/PO4	Calibration	GA5	1.0000	5	Anions Program 02052020.1	Anions Pro	5.0	Finished
	STD6	MAX 10PPM	Calibration	GA6	1.0000	6	Anions Program 02052020.1	Anions Pro	5.0	Finished
	ICV	2970209123	Unknown	GA7	1.0000		Anions Program 02052020.1	Anions Pro	5.0	Finished
	ICB		Unknown	GA8	1.0000		Anions Program 02052020.1	Anions Pro	5.0	Finished
	CCV1		Unknown	RA4	1.0000		Anions Program 02052020.1	Anions Pro	5.0	Finished
	CCB		Unknown	RA5	1.0000		Anions Program 02052020.1	Anions Pro	5.0	Finished
	HS20050230-01		Unknown	RB4	1.0000		Anions Program 02052020.1	Anions Pro	5.0	Finished
	HS20050230-01MS		Unknown	RB5	1.0000		Anions Program 02052020.1	Anions Pro	5.0	Finished
	HS20050230-01MSD		Unknown	RB6	1.0000		Anions Program 02052020.1	Anions Pro	5.0	Finished
	HS20050234-06		Unknown	RB8	1.0000		Anions Program 02052020.1	Anions Pro	5.0	Finished
	HS20050234-07		Unknown	RC1	1.0000		Anions Program 02052020.1	Anions Pro	5.0	Finished
	HS20050234-08		Unknown	RC2	1.0000		Anions Program 02052020.1	Anions Pro	5.0	Finished
	HS20050234-09		Unknown	RC3	1.0000		Anions Program 02052020.1	Anions Pro	5.0	Finished
	HS20050234-10		Unknown	RC4	1.0000		Anions Program 02052020.1	Anions Pro	5.0	Finished
	CCV		Unknown	RA2	1.0000		Anions Program 02052020.1	Anions Pro	5.0	Finished
	CCB		Unknown	RA3	1.0000		Anions Program 02052020.1	Anions Pro	5.0	Finished
	CCV1		Unknown	RA4	1.0000		Anions Program 02052020.1	Anions Pro	5.0	Finished
	CCB		Unknown	RA5	1.0000		Anions Program 02052020.1	Anions Pro	5.0	Finished
	HS20050234-06DF10		Unknown	RE4	10.0000		Anions Program 02052020.1	Anions Pro	5.0	Finished
	HS20050234-07DF10		Unknown	RE5	10.0000		Anions Program 02052020.1	Anions Pro	5.0	Finished
	HS20050234-08DF10		Unknown	RE6	10.0000		Anions Program 02052020.1	Anions Pro	5.0	Finished
	HS20050234-09DF10		Unknown	RE7	10.0000		Anions Program 02052020.1	Anions Pro	5.0	Finished
	HS20050234-10DF10		Unknown	RE8	10.0000		Anions Program 02052020.1	Anions Pro	5.0	Finished
	CCV		Unknown	RA2	1.0000		Anions Program 02052020.1	Anions Pro	5.0	Finished

Sequence: 050720
Last Update Operator: alshs.nouser

CD	Name	Comment	Type	Position	Dilution	Level	Instrument Method	Processing Method	Volume [ul]	Status
	CCB		Unknown	RA3	1.0000		Anions Program 02052020.1	Anions Pro	5.0	Finished
	WBLKW1-050720	9056	Unknown	RB1	1.0000		Anions Program 02052020.1	Anions Pro	5.0	Finished
	WLCSW1-050720	9056	Unknown	RB2	1.0000		Anions Program 02052020.1	Anions Pro	5.0	Finished
	WLCSDW1-050720	9056	Unknown	RB3	1.0000		Anions Program 02052020.1	Anions Pro	5.0	Finished
	CCV1		Unknown	RA4	1.0000		Anions Program 02052020.1	Anions Pro	5.0	Finished
	CCB		Unknown	RA5	1.0000		Anions Program 02052020.1	Anions Pro	5.0	Finished

Sequence: 050720
Last Update Operator: alshs.nouser

Inject Time
2/5/2020 7:39:11 PM -06:00
2/5/2020 7:57:16 PM -06:00
2/5/2020 8:15:24 PM -06:00
2/5/2020 8:33:31 PM -06:00
2/5/2020 8:51:36 PM -06:00
2/5/2020 9:09:41 PM -06:00
2/5/2020 9:27:48 PM -06:00
2/5/2020 9:45:53 PM -06:00
5/7/2020 8:38:06 PM -05:00
5/7/2020 8:56:14 PM -05:00
5/7/2020 9:14:20 PM -05:00
5/7/2020 9:32:27 PM -05:00
5/7/2020 9:50:33 PM -05:00
5/7/2020 10:26:44 PM -05:00
5/7/2020 10:44:52 PM -05:00
5/7/2020 11:02:57 PM -05:00
5/7/2020 11:21:06 PM -05:00
5/7/2020 11:39:12 PM -05:00
5/7/2020 11:57:20 PM -05:00
5/8/2020 12:15:25 AM -05:00
5/8/2020 3:34:31 AM -05:00
5/8/2020 3:52:37 AM -05:00
5/8/2020 5:41:10 AM -05:00
5/8/2020 5:59:17 AM -05:00
5/8/2020 6:17:22 AM -05:00
5/8/2020 6:35:29 AM -05:00
5/8/2020 6:53:33 AM -05:00
5/8/2020 7:11:41 AM -05:00

Sequence: 050720
Last Update Operator: alshs.nouser

Inject Time
5/8/2020 7:29:47 AM -05:00
5/8/2020 7:47:53 AM -05:00
5/8/2020 8:05:58 AM -05:00
5/8/2020 8:24:05 AM -05:00
5/8/2020 9:36:35 AM -05:00
5/8/2020 9:54:40 AM -05:00

Calibration

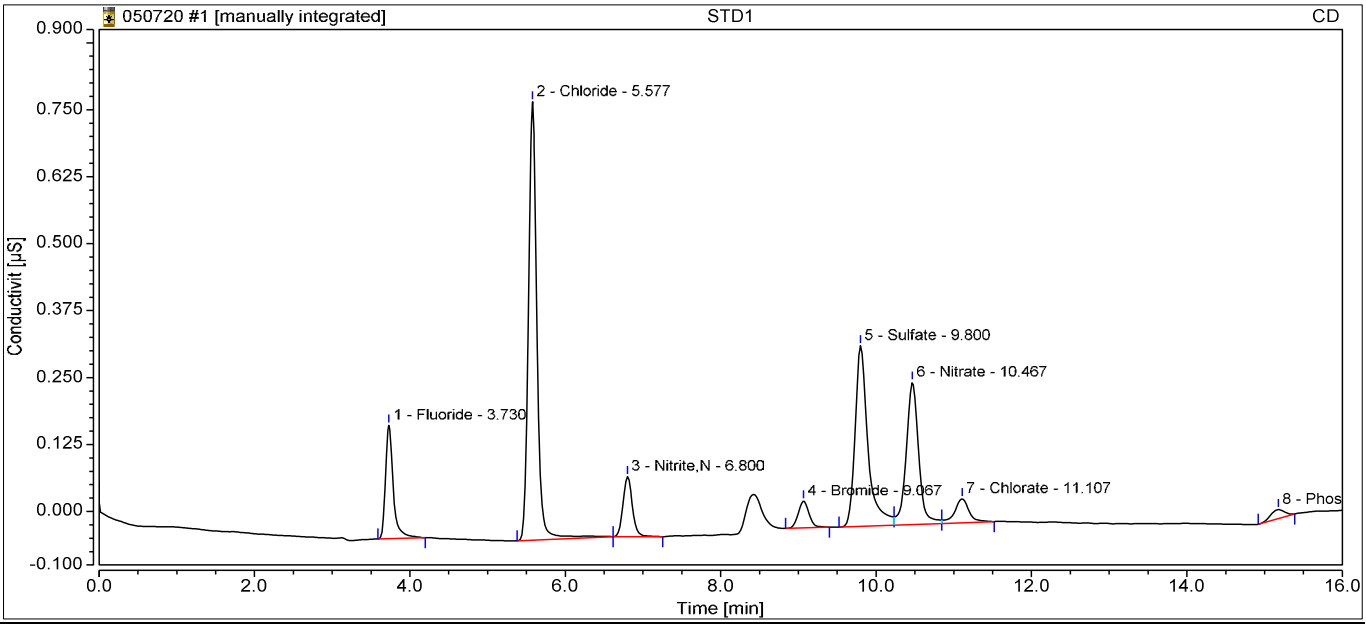
Sequence: 042320
Injection #6: STD6

Peak No.	Peak Name	Cal.Type	Eval.Type	Number of Points	Rel.Std.Dev. %	Coeff.of Determination	C0 (Offset)	C1 (Slope)	C2 (Curve)
1	*Fluoride*	*Lin, WithOffset, 1/*	*Area*	*6*	*13.4314*	*0.99915*	*-0.0083*	*0.3414*	*0.0000*
2	Chloride	Lin, WithOffset, 1/	Area	6	2.2020	0.99998	-0.0141	0.2320	0.0000
3	Nitrite,N	Lin, WithOffset, 1/	Area	5	19.9747	0.99771	-0.0251	0.4962	0.0000
4	Bromide	Lin, WithOffset, 1/	Area	6	12.1436	0.99933	-0.0033	0.0991	0.0000
5	Sulfate	Lin, WithOffset, 1/	Area	6	4.2312	0.99991	-0.0170	0.1679	0.0000
6	Nitrate	Lin, WithOffset, 1/	Area	6	2.3081	0.99997	-0.0076	0.5843	0.0000
7	Chlorate	Lin, WithOffset, 1/	Area	6	9.7729	0.99945	0.0017	0.0949	0.0000
8	Phosphate	Lin, WithOffset, 1/	Area	5	18.6678	0.99857	-0.0214	0.2119	0.0000
Maximum					**19.9747**	0.99998			
Minimum					2.2020	**0.99771**			

Instrument:ICSINTEG Sequence:050720

1 STD1			
Sample Name:	**STD1**	*Injection Volume:*	**5.00**
Vial Number:	**GA1**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program 02052020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**02/05/2020 19:39**	*Sample Weight:*	**1.0000**

Run Time:



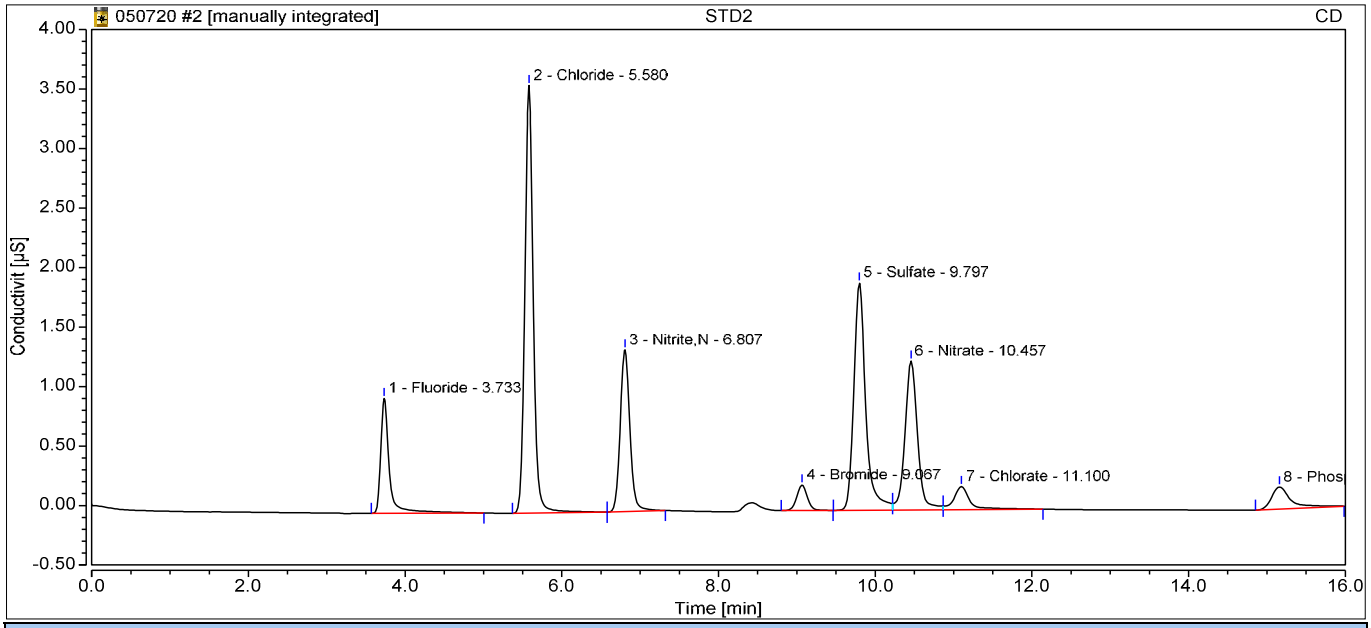
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.73	Fluoride	BMB	0.024	0.0955	0.0955	1.0000
2	5.58	Chloride	BMB	0.103	0.5065	0.5065	1.0000
3	6.80	Nitrite,N	BMB	0.016	0.0821	0.0821	1.0000
4	9.07	Bromide	BMB	0.008	0.1156	0.1156	1.0000
5	9.80	Sulfate	BM	0.065	0.4885	0.4885	1.0000
6	10.47	Nitrate	M	0.049	0.0974	0.0974	1.0000
7	11.11	Chlorate	MB	0.010	0.0834	0.0834	1.0000
8	15.18	Phosphate	BMB*	0.003	0.1173	0.1173	1.0000
Total:			**0.000**	**0.279**		**1.59**	

Instrument:ICSINTEG Sequence:050720

2 STD2			
Sample Name:	**STD2**	*Injection Volume:*	**5.00**
Vial Number:	**GA2**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program 02052020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**02/05/2020 19:57**	*Sample Weight:*	**1.0000**

Run Time:



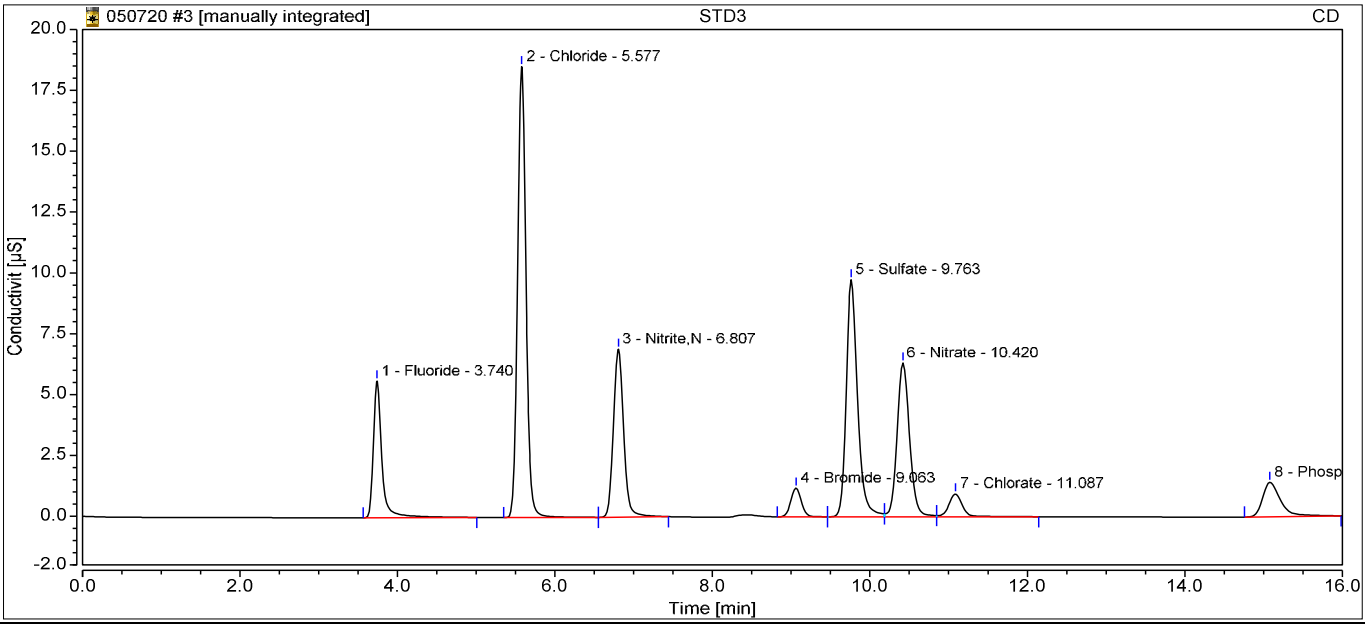
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.73	Fluoride	BMB	0.123	0.3833	0.3833	1.0000
2	5.58	Chloride	BMb*	0.449	1.9963	1.9963	1.0000
3	6.81	Nitrite,N	bMB*	0.194	0.4423	0.4423	1.0000
4	9.07	Bromide	BMB	0.034	0.3722	0.3722	1.0000
5	9.80	Sulfate	BM	0.335	2.0973	2.0973	1.0000
6	10.46	Nitrate	M	0.232	0.4103	0.4103	1.0000
7	11.10	Chlorate	MB	0.047	0.4759	0.4759	1.0000
8	15.16	Phosphate	BMB	0.053	0.3518	0.3518	1.0000
Total:			**0.000**	**1.467**		**6.53**	

Instrument:ICSINTEG Sequence:050720

3 STD3			
Sample Name:	**STD3**	*Injection Volume:*	**5.00**
Vial Number:	**GA3**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program 02052020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**02/05/2020 20:15**	*Sample Weight:*	**1.0000**

Run Time:



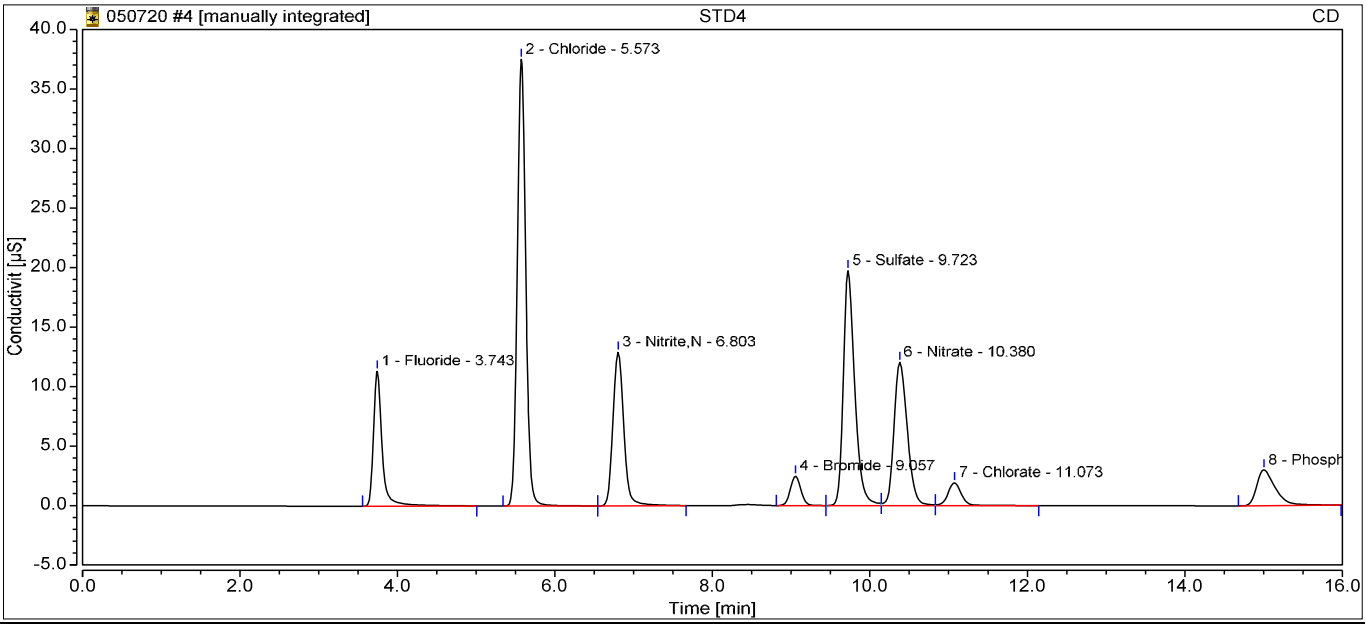
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	0.701	2.0769	2.0769	1.0000
2	5.58	Chloride	BMb*	2.284	9.9073	9.9073	1.0000
3	6.81	Nitrite,N	bMB*	1.029	2.1245	2.1245	1.0000
4	9.06	Bromide	BM	0.182	1.8657	1.8657	1.0000
5	9.76	Sulfate	M	1.624	9.7730	9.7730	1.0000
6	10.42	Nitrate	M	1.160	1.9980	1.9980	1.0000
7	11.09	Chlorate	MB	0.189	1.9689	1.9689	1.0000
8	15.08	Phosphate	BMB	0.374	1.8664	1.8664	1.0000
Total:			**0.000**	**7.542**		**31.58**	

Instrument:ICSINTEG Sequence:050720

4 STD4			
Sample Name:	**STD4**	*Injection Volume:*	**5.00**
Vial Number:	**GA4**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program 02052020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**02/05/2020 20:33**	*Sample Weight:*	**1.0000**

Run Time:



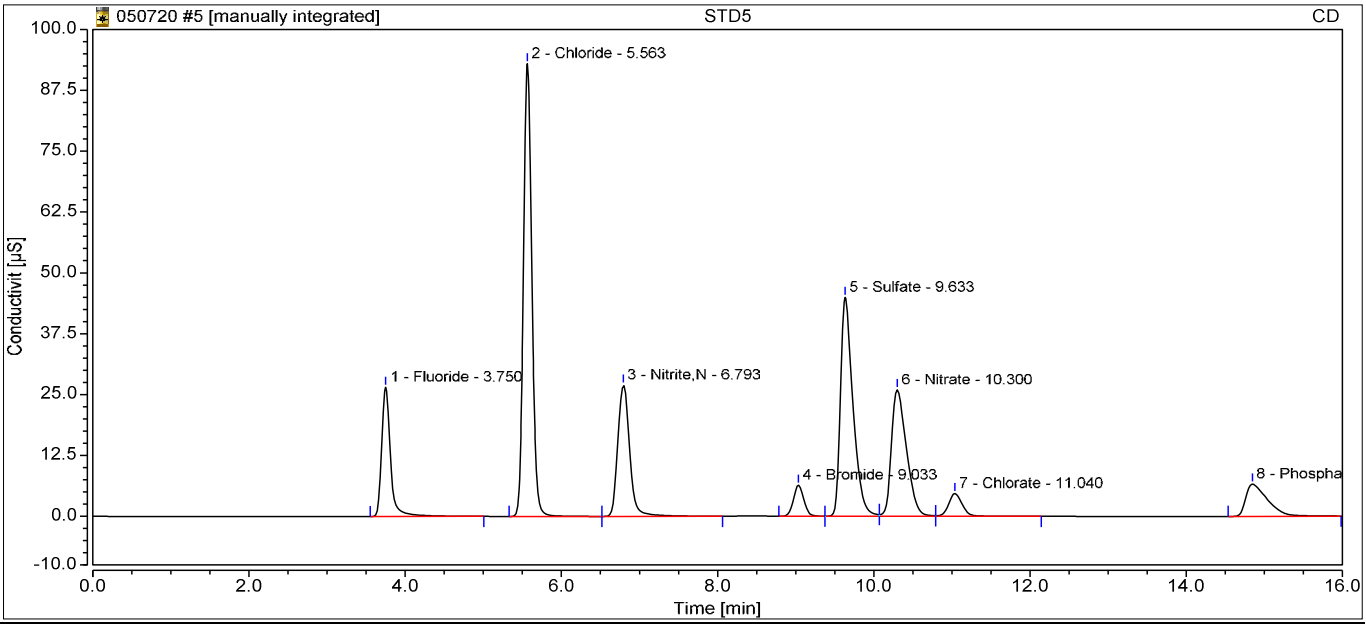
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	1.428	4.2080	4.2080	1.0000
2	5.57	Chloride	BMb*	4.627	20.0069	20.0069	1.0000
3	6.80	Nitrite,N	bMB*	2.046	4.1745	4.1745	1.0000
4	9.06	Bromide	BM	0.382	3.8871	3.8871	1.0000
5	9.72	Sulfate	M	3.337	19.9713	19.9713	1.0000
6	10.38	Nitrate	M	2.343	4.0228	4.0228	1.0000
7	11.07	Chlorate	MB	0.380	3.9830	3.9830	1.0000
8	15.00	Phosphate	BMB	0.824	3.9874	3.9874	1.0000
Total:			**0.000**	**15.366**		**64.24**	

Instrument:ICSINTEG Sequence:050720

5 STD5			
Sample Name:	**STD5**	*Injection Volume:*	**5.00**
Vial Number:	**GA5**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program 02052020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**02/05/2020 20:51**	*Sample Weight:*	**1.0000**

Run Time:



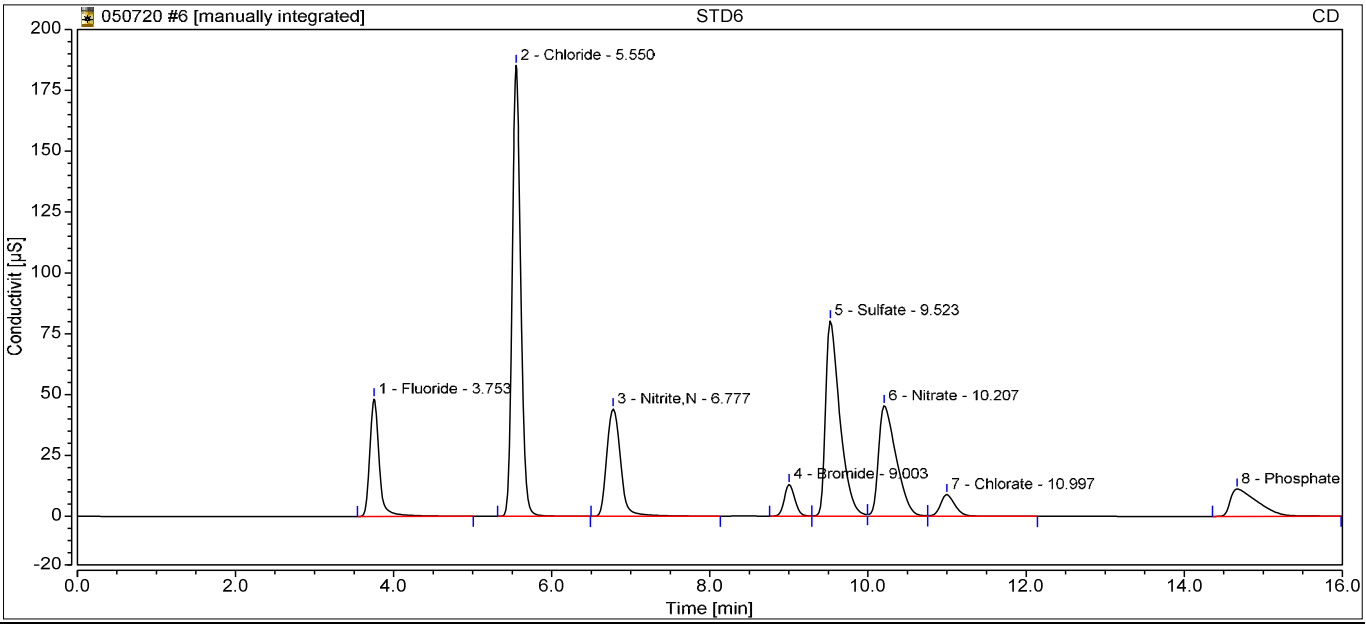
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.75	Fluoride	BMB	3.472	10.1940	10.1940	1.0000
2	5.56	Chloride	BMB	11.516	49.7057	49.7057	1.0000
3	6.79	Nitrite,N	BMB*	4.776	9.6766	9.6766	1.0000
4	9.03	Bromide	BM	0.981	9.9279	9.9279	1.0000
5	9.63	Sulfate	M	8.325	49.6811	49.6811	1.0000
6	10.30	Nitrate	M	5.799	9.9382	9.9382	1.0000
7	11.04	Chlorate	MB	0.944	9.9252	9.9252	1.0000
8	14.85	Phosphate	BMB	2.135	10.1771	10.1771	1.0000
Total:			**0.000**	**37.949**		**159.23**	

Instrument:ICSINTEG Sequence:050720

6 STD6			
Sample Name:	**STD6**	*Injection Volume:*	**5.00**
Vial Number:	**GA6**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program 02052020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**02/05/2020 21:09**	*Sample Weight:*	**1.0000**

Run Time:



Integration Results

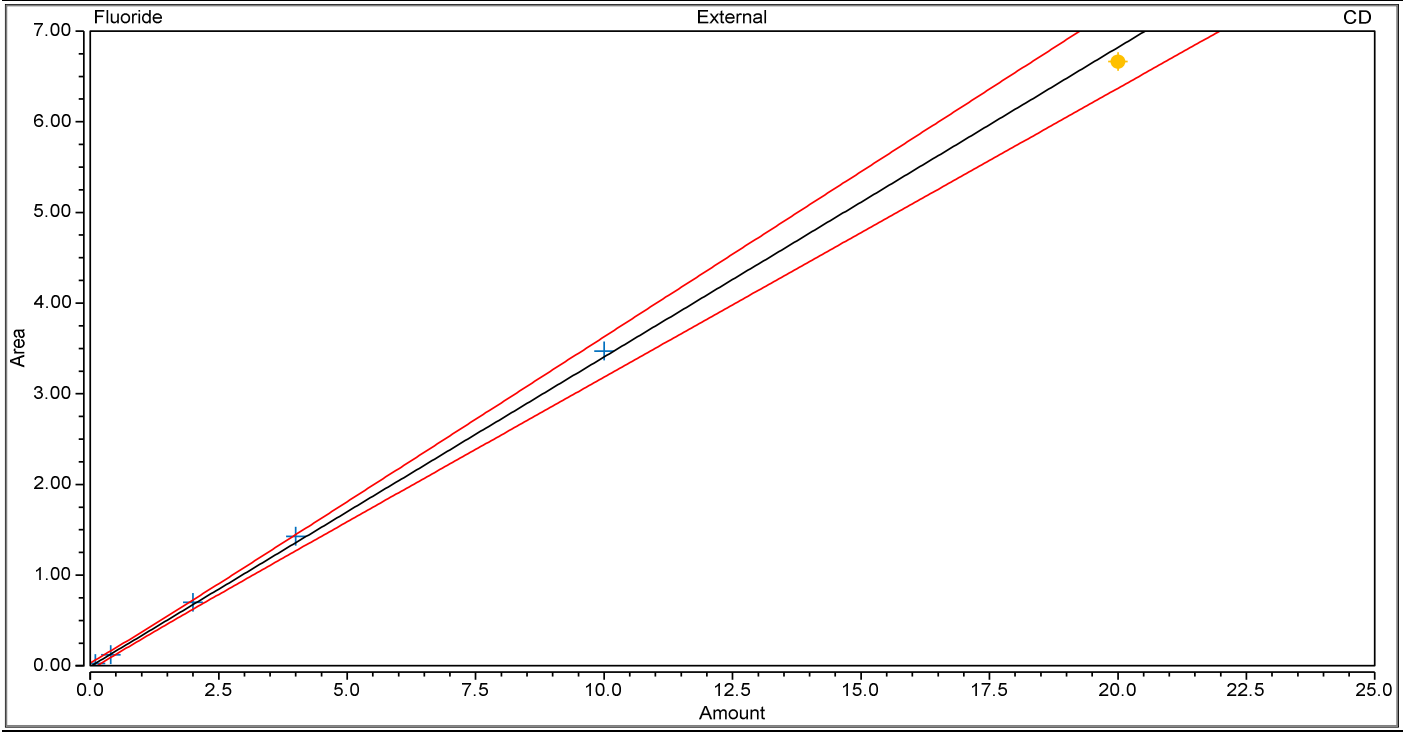
No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.75	Fluoride	BMB	6.664	19.5424	19.5424	1.0000
2	5.55	Chloride	BMB	23.270	100.3774	100.3774	1.0000
3	6.78	Nitrite,N	BMB*	8.893	17.9725	17.9725	1.0000
4	9.00	Bromide	BM	2.012	20.3316	20.3316	1.0000
5	9.52	Sulfate	M	16.857	100.4888	100.4888	1.0000
6	10.21	Nitrate	M	11.698	20.0333	20.0333	1.0000
7	11.00	Chlorate	MB	1.906	20.0635	20.0635	1.0000
8	14.67	Phosphate	BMB	4.450	21.0985	21.0985	1.0000
Total:			**0.000**	**75.750**		**319.91**	

Instrument:ICSINTEG Sequence:050720

Calibration

Calibration Details	Fluoride		
Calibration Type	Lin, WithOffset, 1/A	*Offset (C0)*	-0.0083
Evaluation Type	Area	*Slope (C1)*	0.3414
Number of Calibration Points	6	*Curve (C2)*	0.0000
Number of disabled Calibration Points	0	*R-Square*	0.9991

Calibration Plot **Fluoride**



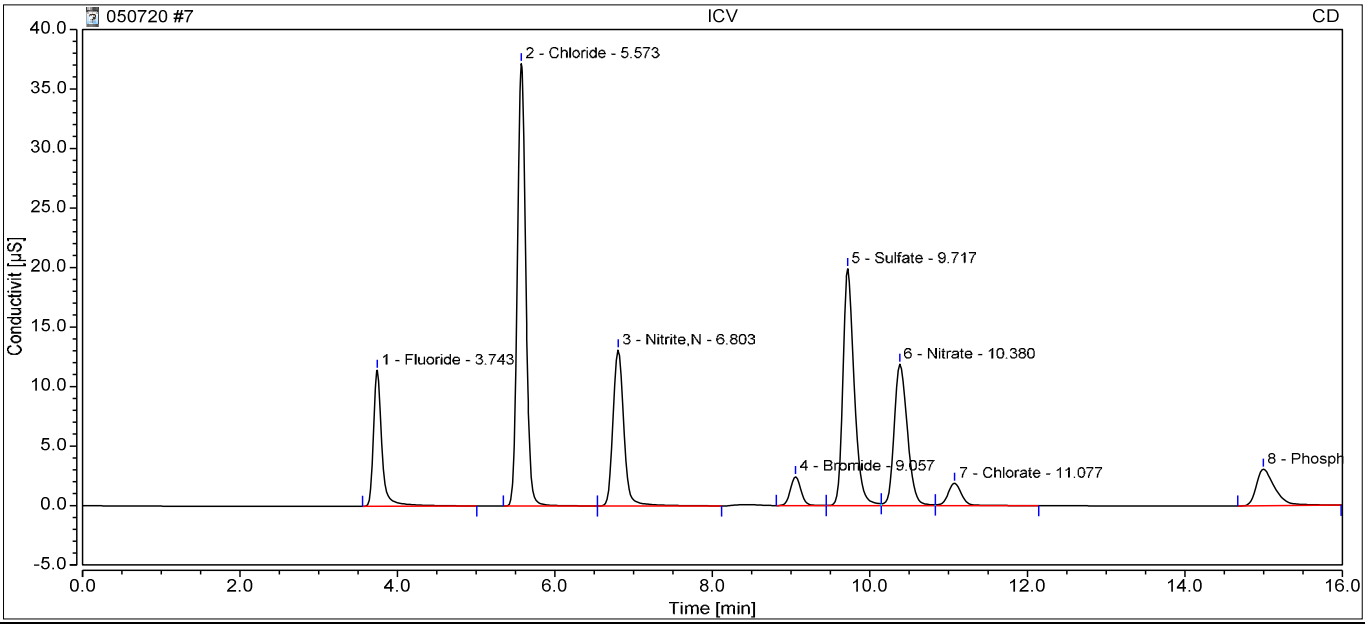
Calibration Results **Fluoride**

No.	Injection Name	Calibration Level	X Value CD Fluoride	Y Value CD Fluoride	Y Value CD Fluoride	Area µS*min CD Fluoride	Height µS CD Fluoride
1	STD1	1	0.1000	0.0243	0.0243	0.024	0.212
2	STD2	2	0.4000	0.1226	0.1226	0.123	0.964
3	STD3	3	2.0000	0.7008	0.7008	0.701	5.614
4	STD4	4	4.0000	1.4284	1.4284	1.428	11.345
5	STD5	5	10.0000	3.4723	3.4723	3.472	26.547
6	STD6	6	20.0000	6.6641	6.6641	6.664	48.233

Instrument:ICSINTEG Sequence:050720

7 ICV			
Sample Name:	**ICV**	*Injection Volume:*	**5.00**
Vial Number:	**GA7**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 02052020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**02/05/2020 21:27**	*Sample Weight:*	**1.0000**

Run Time:



Integration Results

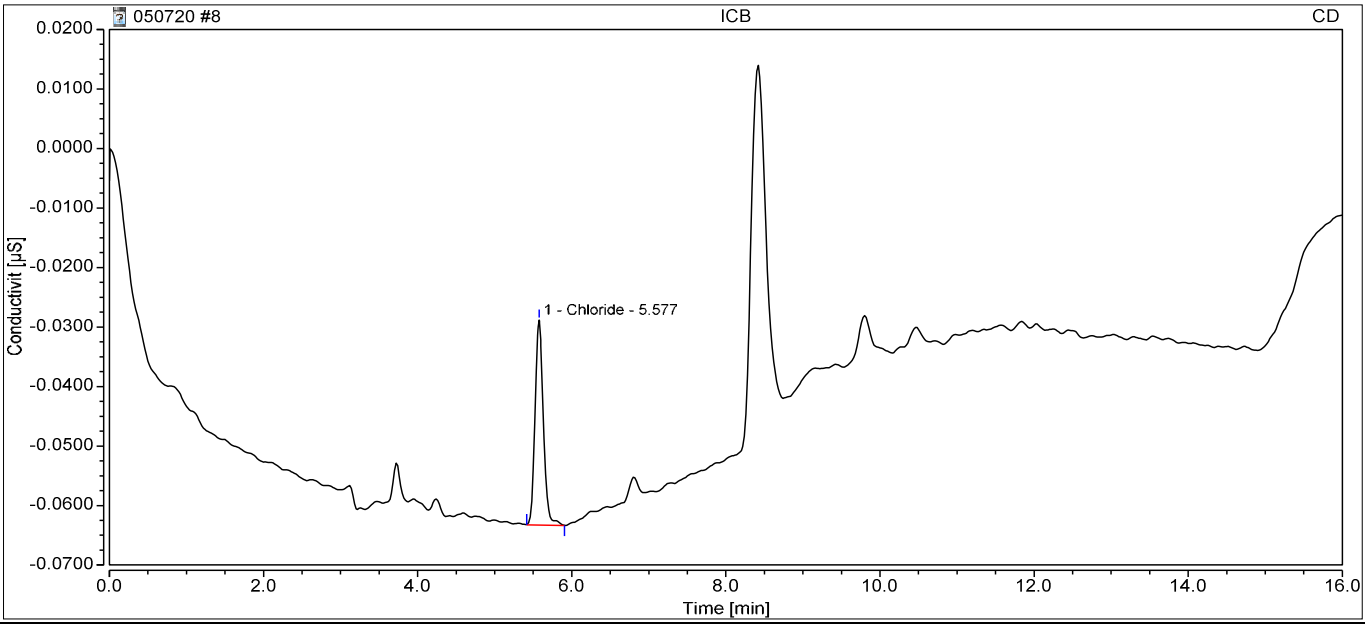
No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	1.412	4.1607	4.1607	1.0000
2	5.57	Chloride	BMB	4.570	19.7627	19.7627	1.0000
3	6.80	Nitrite,N	BMB	2.081	4.2442	4.2442	1.0000
4	9.06	Bromide	BM	0.374	3.8104	3.8104	1.0000
5	9.72	Sulfate	M	3.327	19.9126	19.9126	1.0000
6	10.38	Nitrate	M	2.299	3.9478	3.9478	1.0000
7	11.08	Chlorate	MB	0.379	3.9799	3.9799	1.0000
8	15.00	Phosphate	BMB	0.835	4.0417	4.0417	1.0000
Total:			**0.000**	**15.278**		**63.86**	

Instrument:ICSINTEG Sequence:050720

8 ICB

Sample Name:	**ICB**	*Injection Volume:*	**5.00**
Vial Number:	**GA8**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 02052020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**02/05/2020 21:45**	*Sample Weight:*	**1.0000**

Run Time:



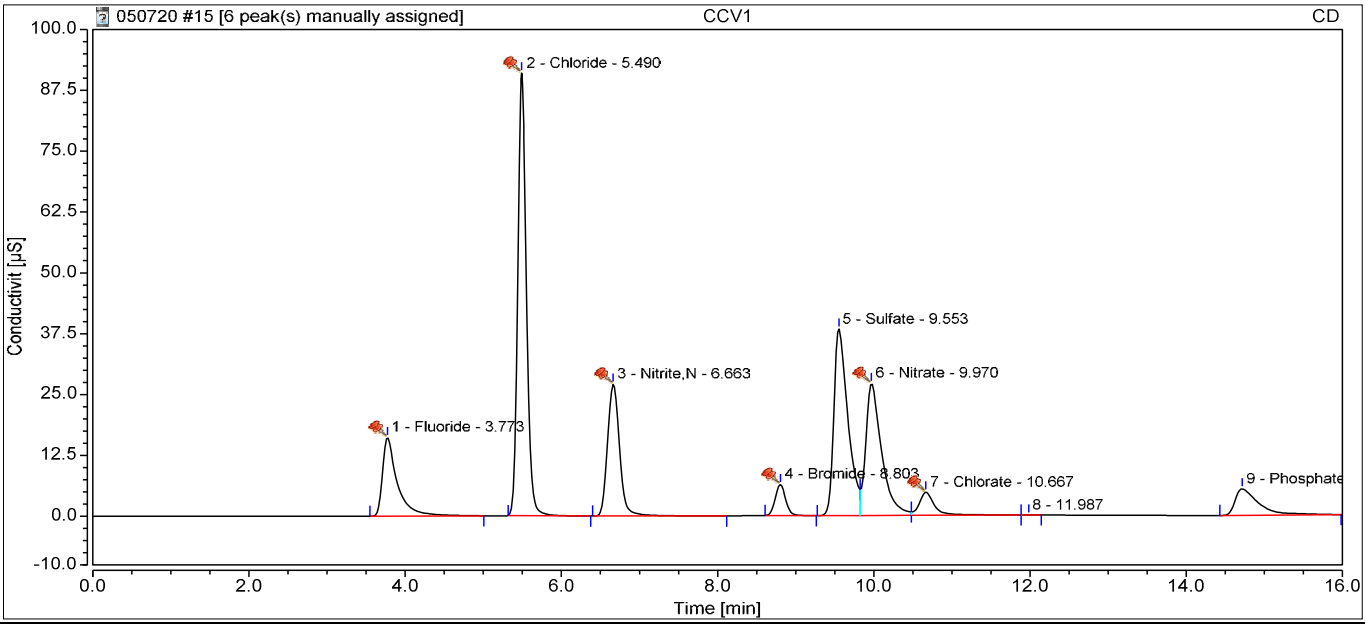
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
1	5.58	Chloride	BMB	0.004	0.0794	0.0794	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Sulfate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.004**		**0.08**	

Instrument:ICSINTEG Sequence:050720

15 CCV1			
Sample Name:	**CCV1**	*Injection Volume:*	**5.00**
Vial Number:	**RA4**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 02052020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**05/07/2020 20:38**	*Sample Weight:*	**1.0000**

Run Time:



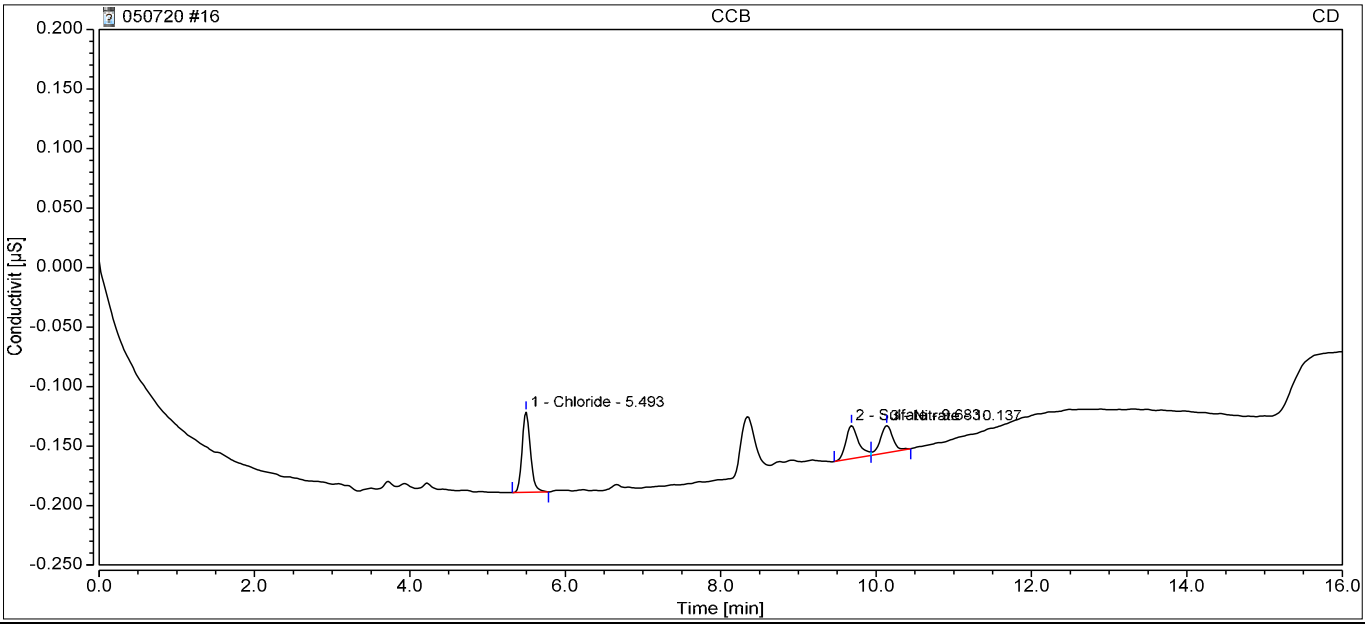
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.77	Fluoride	BMB^	3.567	10.4726	10.4726	1.0000
2	5.49	Chloride	BMB^	11.587	50.0140	50.0140	1.0000
3	6.66	Nitrite,N	BMB^	4.859	9.8435	9.8435	1.0000
4	8.80	Bromide	BMB^	0.977	9.8887	9.8887	1.0000
5	9.55	Sulfate	BM	8.020	47.8630	47.8630	1.0000
6	9.97	Nitrate	M ^	6.367	10.9090	10.9090	1.0000
7	10.67	Chlorate	M ^	1.097	11.5357	11.5357	1.0000
9	14.72	Phosphate	BMB	1.907	9.0993	9.0993	1.0000
Total:			**0.000**	**38.381**		**159.63**	

Instrument:ICSINTEG Sequence:050720

16 CCB			
Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**RA5**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 02052020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**05/07/2020 20:56**	*Sample Weight:*	**1.0000**

Run Time:



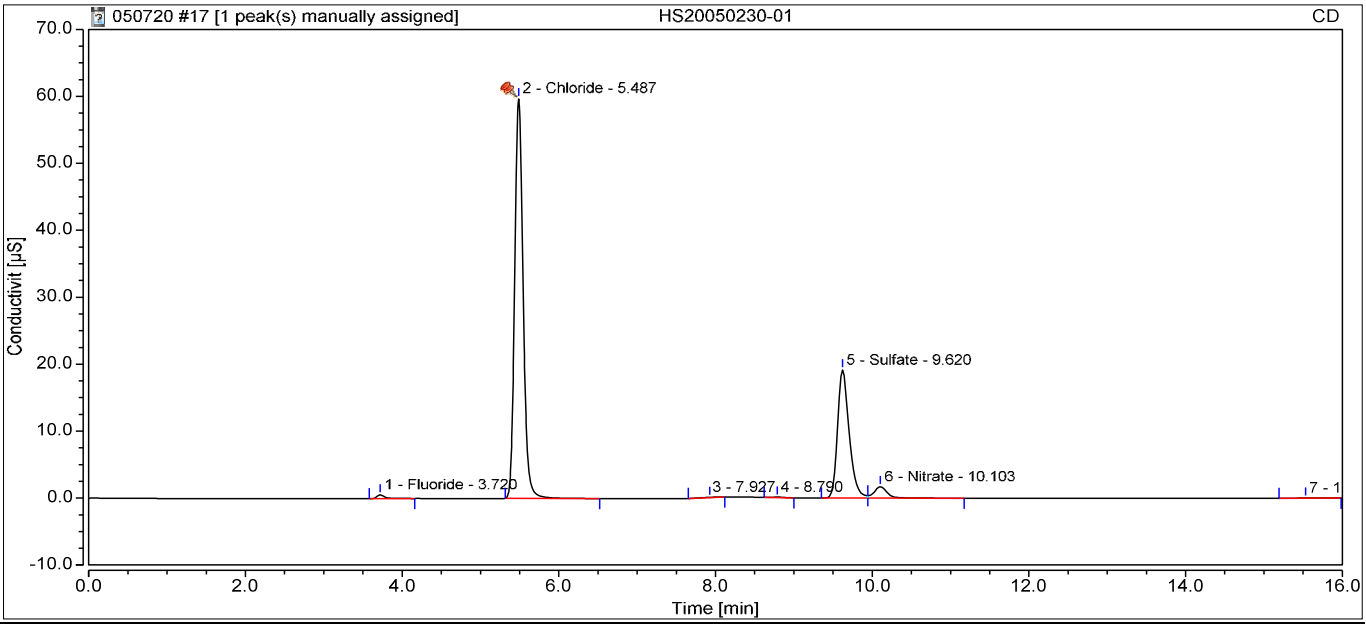
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
1	5.49	Chloride	BMB	0.008	0.0971	0.0971	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
2	9.68	Sulfate	BM	0.005	0.1327	0.1327	1.0000
3	10.14	Nitrate	MB	0.004	0.0202	0.0202	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.018**		**0.25**	

Instrument:ICSINTEG Sequence:050720

17	*HS20050230-01*		
Sample Name:	**HS20050230-01**	*Injection Volume:*	**5.00**
Vial Number:	**RB4**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 02052020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**05/07/2020 21:14**	*Sample Weight:*	**1.0000**

Run Time:



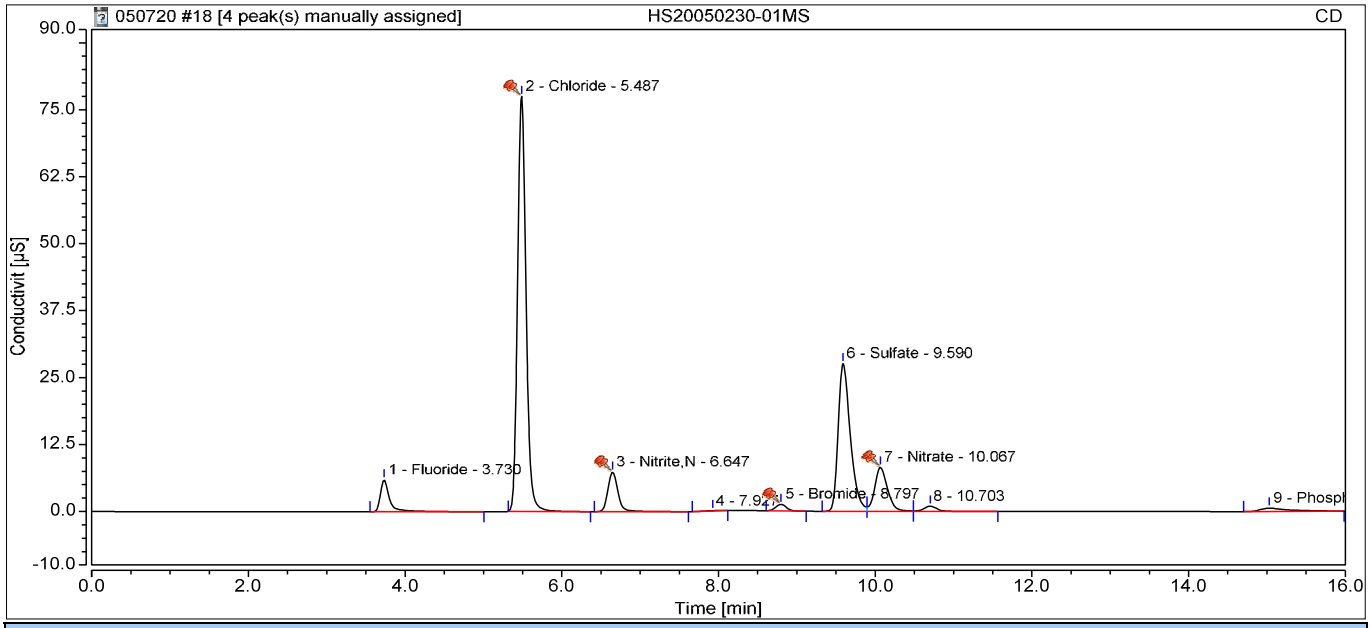
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.72	Fluoride	BMB	0.068	0.2224	0.2224	1.0000
2	5.49	Chloride	BMB^	7.408	31.9952	31.9952	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
5	9.62	Sulfate	BM	3.294	19.7157	19.7157	1.0000
6	10.10	Nitrate	MB	0.335	0.5868	0.5868	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**11.104**		**52.52**	

Instrument:ICSINTEG Sequence:050720

18 HS20050230-01MS			
Sample Name:	**HS20050230-01MS**	*Injection Volume:*	**5.00**
Vial Number:	**RB5**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 02052020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**05/07/2020 21:32**	*Sample Weight:*	**1.0000**

Run Time:



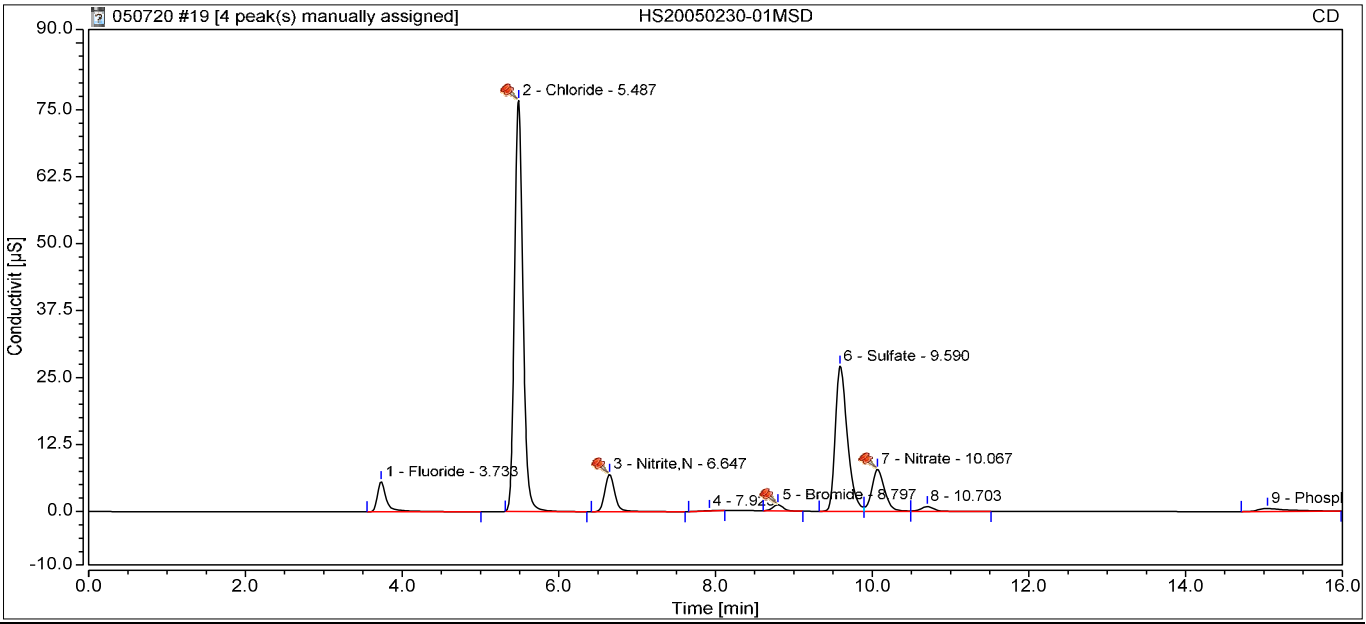
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.73	Fluoride	BMB	0.828	2.4502	2.4502	1.0000
2	5.49	Chloride	BMB^	9.639	41.6149	41.6149	1.0000
3	6.65	Nitrite,N	BMB^	1.097	2.2624	2.2624	1.0000
5	8.80	Bromide	BMB^	0.189	1.9436	1.9436	1.0000
6	9.59	Sulfate	BM	4.948	29.5699	29.5699	1.0000
7	10.07	Nitrate	M ^	1.568	2.6964	2.6964	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
9	15.03	Phosphate	BMB	0.268	1.3637	1.3637	1.0000
Total:			**0.000**	**18.538**		**81.90**	

Instrument:ICSINTEG Sequence:050720

19 HS20050230-01MSD			
Sample Name:	**HS20050230-01MSD**	*Injection Volume:*	**5.00**
Vial Number:	**RB6**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 02052020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**05/07/2020 21:50**	*Sample Weight:*	**1.0000**

Run Time:



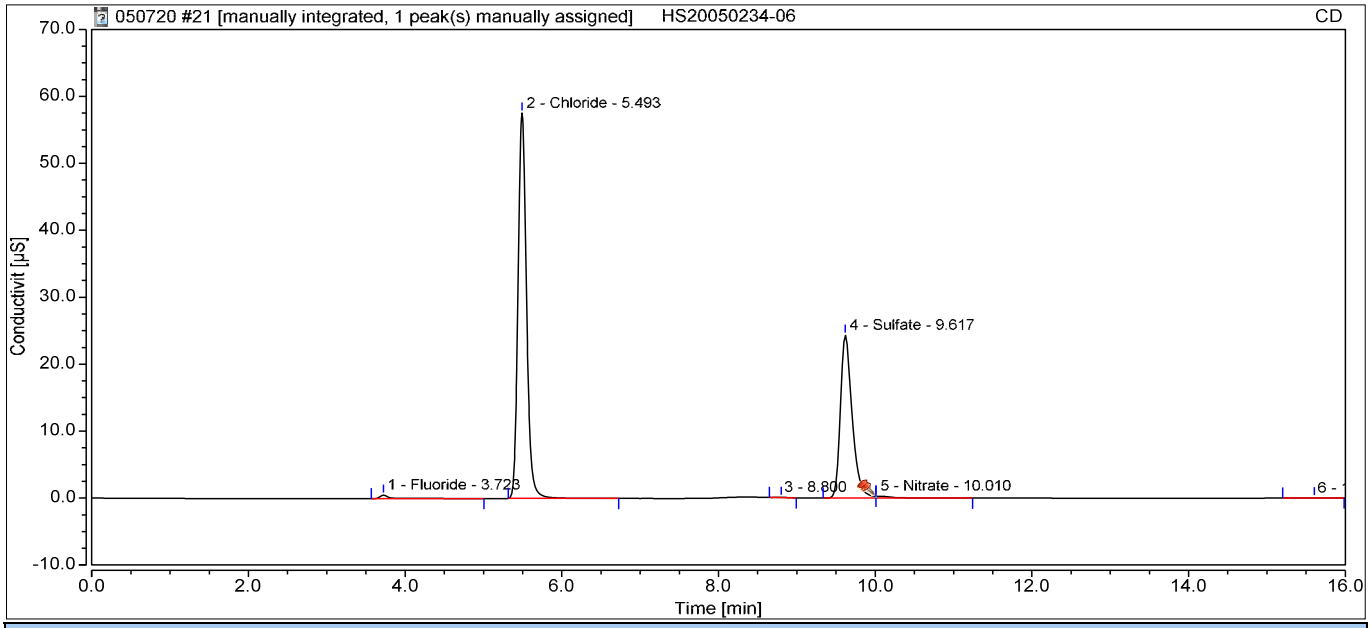
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.73	Fluoride	BMB	0.778	2.3022	2.3022	1.0000
2	5.49	Chloride	BMB^	9.536	41.1714	41.1714	1.0000
3	6.65	Nitrite,N	BMB^	1.030	2.1255	2.1255	1.0000
5	8.80	Bromide	BMB^	0.177	1.8193	1.8193	1.0000
6	9.59	Sulfate	BM	4.850	28.9848	28.9848	1.0000
7	10.07	Nitrate	M ^	1.493	2.5673	2.5673	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
9	15.04	Phosphate	BMB	0.250	1.2788	1.2788	1.0000
Total:			**0.000**	**18.113**		**80.25**	

Instrument:ICSINTEG Sequence:050720

21	*HS20050234-06*		
Sample Name:	**HS20050234-06**	*Injection Volume:*	**5.00**
Vial Number:	**RB8**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 02052020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**05/07/2020 22:26**	*Sample Weight:*	**1.0000**

Run Time:



Integration Results

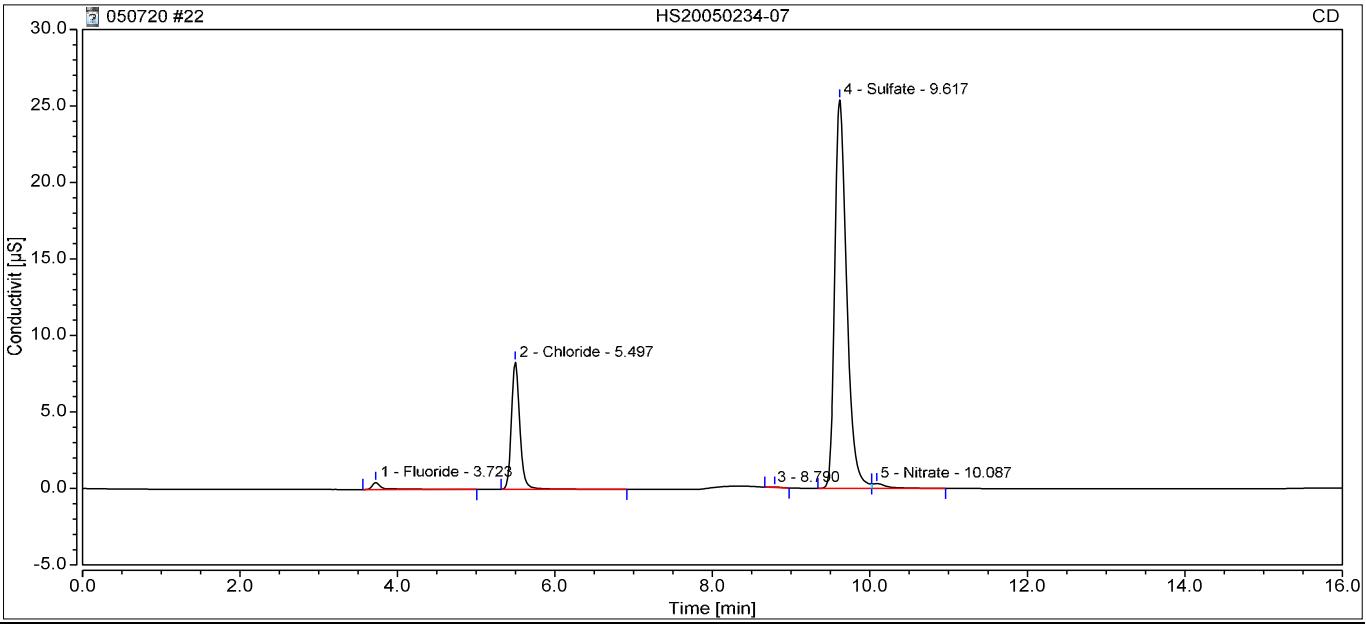
No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.72	Fluoride	BMB	0.078	0.2529	0.2529	1.0000
2	5.49	Chloride	BMB	7.181	31.0201	31.0201	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
4	9.62	Sulfate	BM *	4.236	25.3298	25.3298	1.0000
5	10.01	Nitrate	MB*^	0.070	0.1329	0.1329	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**11.566**		**56.74**	

Instrument:ICSINTEG Sequence:050720

22 HS20050234-07

Sample Name:	**HS20050234-07**	*Injection Volume:*	**5.00**
Vial Number:	**RC1**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 02052020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**05/07/2020 22:44**	*Sample Weight:*	**1.0000**

Run Time:



Integration Results

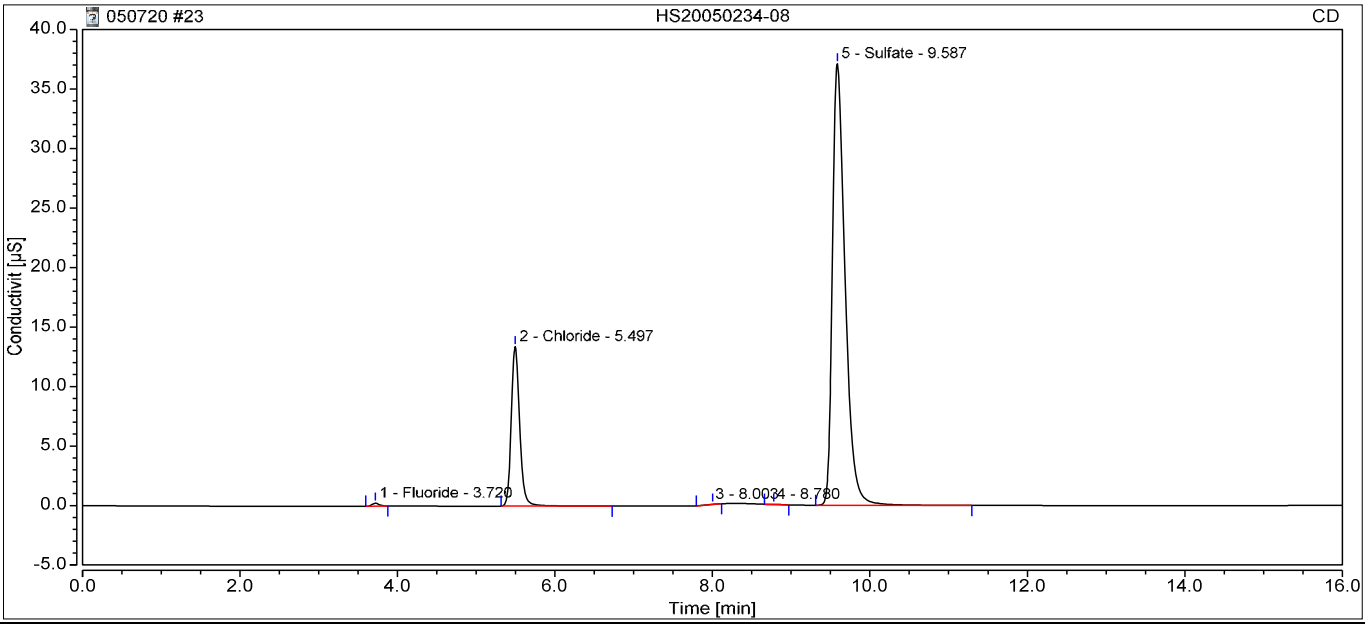
No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.72	Fluoride	BMB	0.071	0.2322	0.2322	1.0000
2	5.50	Chloride	BMB	1.034	4.5183	4.5183	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
4	9.62	Sulfate	BM	4.455	26.6317	26.6317	1.0000
5	10.09	Nitrate	MB	0.070	0.1325	0.1325	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**5.630**		**31.51**	

Instrument:ICSINTEG Sequence:050720

23 HS20050234-08

Sample Name:	**HS20050234-08**	*Injection Volume:*	**5.00**
Vial Number:	**RC2**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 02052020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**05/07/2020 23:02**	*Sample Weight:*	**1.0000**

Run Time:



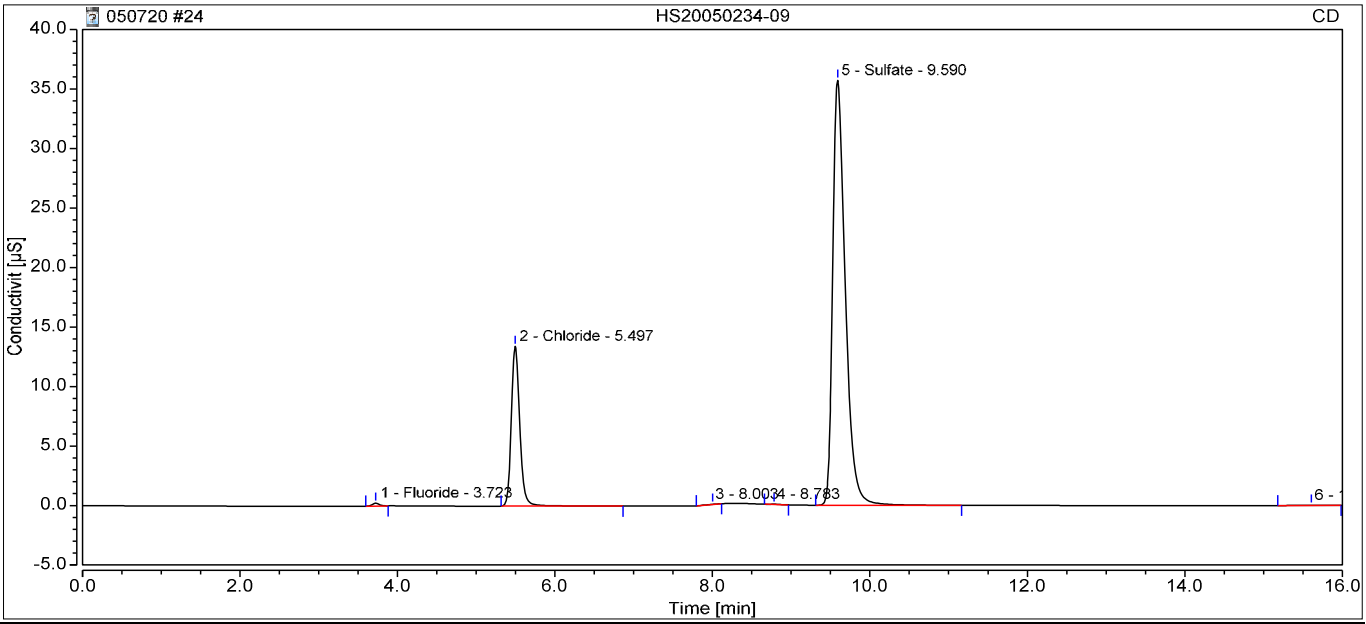
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.72	Fluoride	BMB	0.024	0.0933	0.0933	1.0000
2	5.50	Chloride	BMB	1.658	7.2071	7.2071	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
5	9.59	Sulfate	BMB	6.908	41.2401	41.2401	1.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**8.589**		**48.54**	

Instrument:ICSINTEG Sequence:050720

24	*HS20050234-09*		
Sample Name:	**HS20050234-09**	*Injection Volume:*	**5.00**
Vial Number:	**RC3**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 02052020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**05/07/2020 23:21**	*Sample Weight:*	**1.0000**

Run Time:



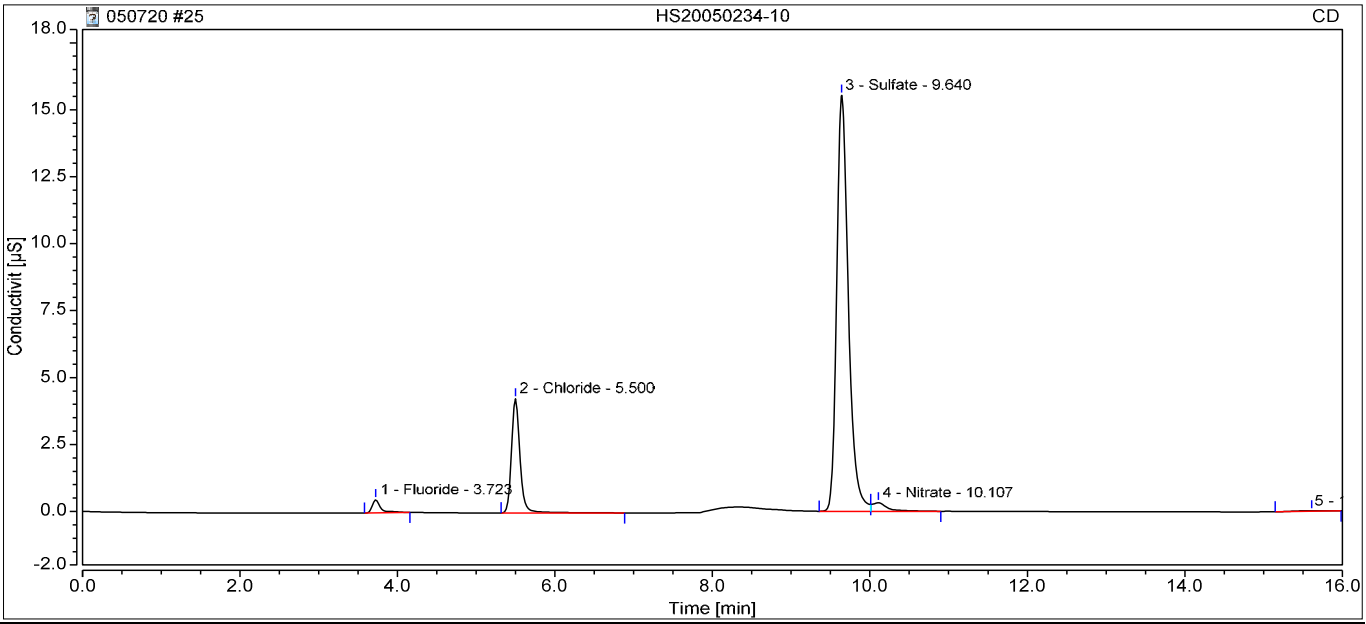
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.72	Fluoride	BMB	0.023	0.0930	0.0930	1.0000
2	5.50	Chloride	BMB	1.662	7.2271	7.2271	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
5	9.59	Sulfate	BMB	6.599	39.3991	39.3991	1.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**8.285**		**46.72**	

Instrument:ICSINTEG Sequence:050720

25 HS20050234-10			
Sample Name:	**HS20050234-10**	*Injection Volume:*	**5.00**
Vial Number:	**RC4**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 02052020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**05/07/2020 23:39**	*Sample Weight:*	**1.0000**

Run Time:



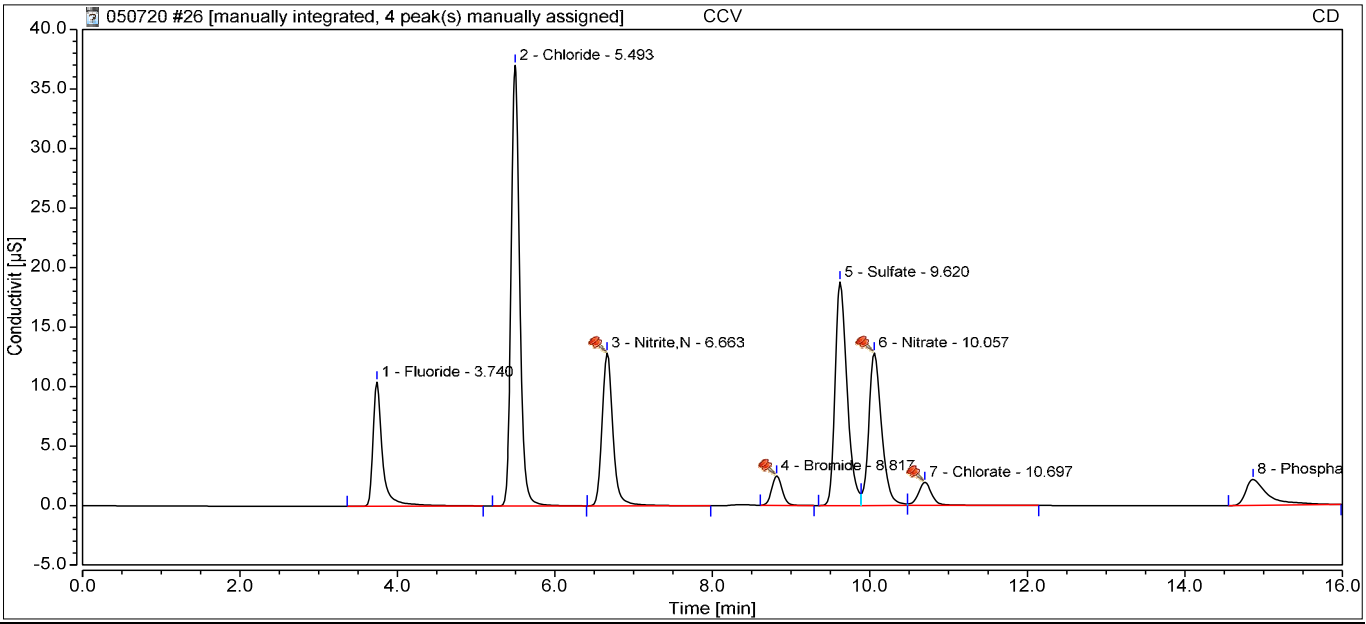
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.72	Fluoride	BMB	0.060	0.1995	0.1995	1.0000
2	5.50	Chloride	BMB	0.538	2.3782	2.3782	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
3	9.64	Sulfate	BM	2.659	15.9373	15.9373	1.0000
4	10.11	Nitrate	MB	0.073	0.1371	0.1371	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**3.329**		**18.65**	

Instrument:ICSINTEG Sequence:050720

26 CCV			
Sample Name:	**CCV**	*Injection Volume:*	**5.00**
Vial Number:	**RA2**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 02052020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**05/07/2020 23:57**	*Sample Weight:*	**1.0000**

Run Time:



Integration Results

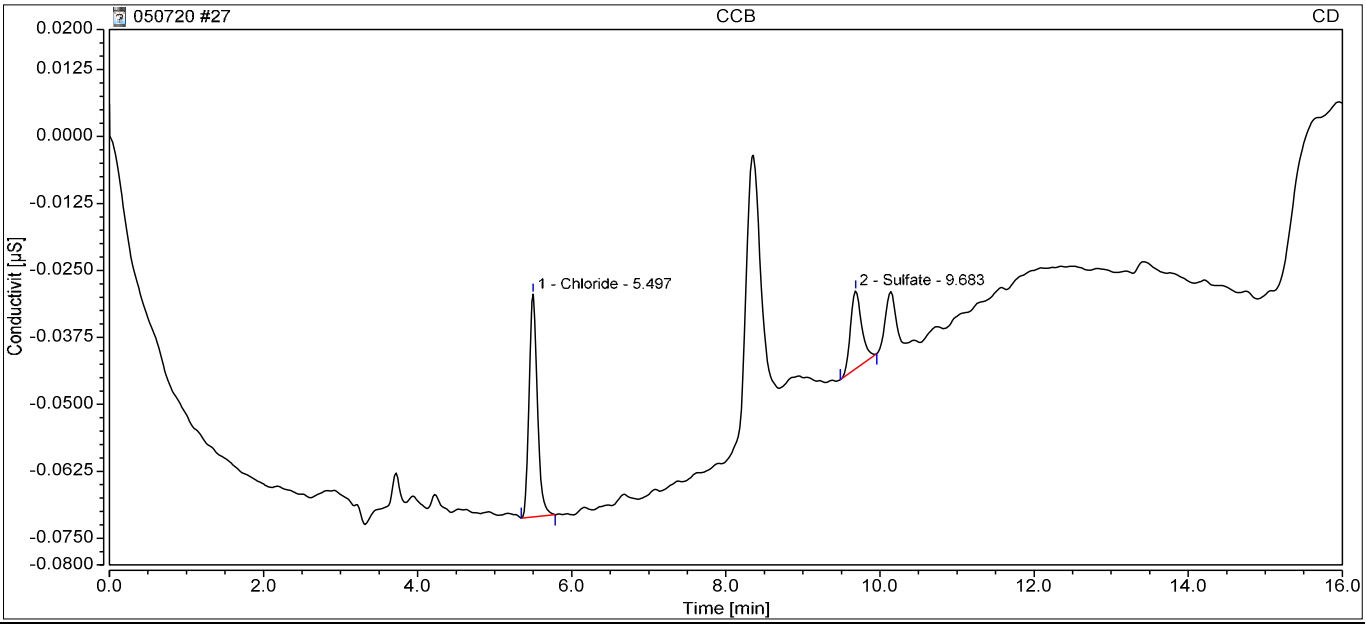
No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB*	1.445	4.2557	4.2557	1.0000
2	5.49	Chloride	BMB*	4.636	20.0487	20.0487	1.0000
3	6.66	Nitrite,N	BMB^	2.068	4.2176	4.2176	1.0000
4	8.82	Bromide	BMB^	0.378	3.8442	3.8442	1.0000
5	9.62	Sulfate	BM	3.307	19.7944	19.7944	1.0000
6	10.06	Nitrate	M ^	2.415	4.1453	4.1453	1.0000
7	10.70	Chlorate	MB^	0.396	4.1580	4.1580	1.0000
8	14.87	Phosphate	BMB	0.724	3.5181	3.5181	1.0000
Total:			**0.000**	**15.368**		**63.98**	

Instrument:ICSINTEG Sequence:050720

27 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**RA3**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 02052020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**05/08/2020 00:15**	*Sample Weight:*	**1.0000**

Run Time:



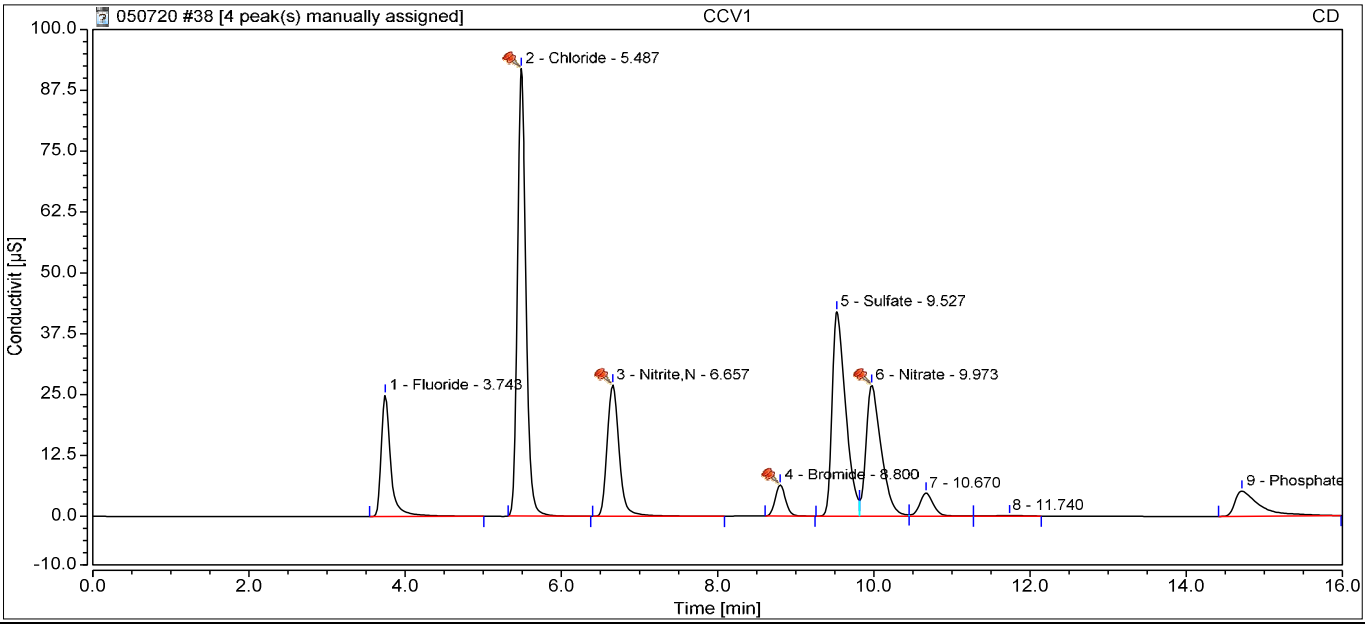
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
1	5.50	Chloride	BMB	0.005	0.0834	0.0834	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
2	9.68	Sulfate	BMB	0.002	0.1159	0.1159	1.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.008**		**0.20**	

Instrument:ICSINTEG Sequence:050720

38 CCV1			
Sample Name:	**CCV1**	*Injection Volume:*	**5.00**
Vial Number:	**RA4**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 02052020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**05/08/2020 03:34**	*Sample Weight:*	**1.0000**

Run Time:



Integration Results

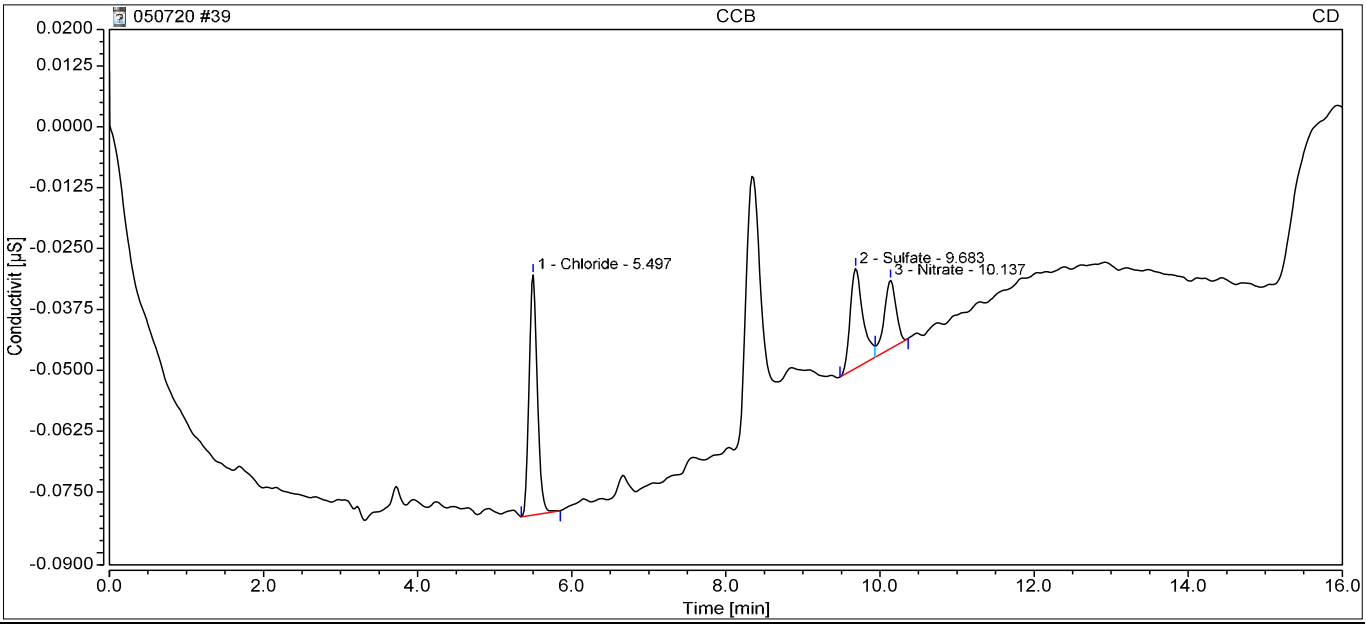
No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	3.538	10.3856	10.3856	1.0000
2	5.49	Chloride	BMB^	11.586	50.0089	50.0089	1.0000
3	6.66	Nitrite,N	BMB^	4.838	9.8013	9.8013	1.0000
4	8.80	Bromide	BMB^	0.979	9.9085	9.9085	1.0000
5	9.53	Sulfate	BM	8.462	50.4945	50.4945	1.0000
6	9.97	Nitrate	M ^	6.070	10.4007	10.4007	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
9	14.71	Phosphate	BMB	1.913	9.1268	9.1268	1.0000
Total:			**0.000**	**37.385**		**150.13**	

Instrument:ICSINTEG Sequence:050720

39 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**RA5**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 02052020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**05/08/2020 03:52**	*Sample Weight:*	**1.0000**

Run Time:



Integration Results

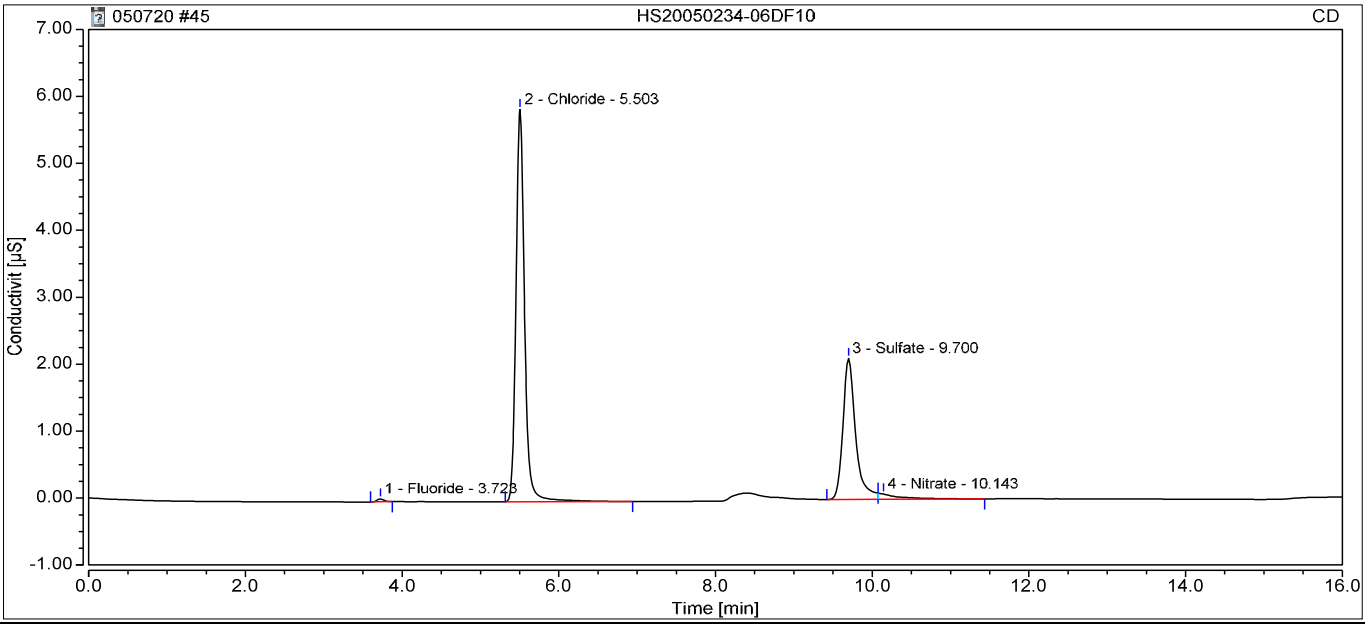
No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
1	5.50	Chloride	BMB	0.006	0.0873	0.0873	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
2	9.68	Sulfate	BM	0.004	0.1247	0.1247	1.0000
3	10.14	Nitrate	MB	0.003	0.0173	0.0173	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.013**		**0.23**	

Instrument:ICSINTEG Sequence:050720

45 HS20050234-06DF10

Sample Name:	**HS20050234-06DF10**	*Injection Volume:*	**5.00**
Vial Number:	**RE4**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 02052020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**10.0000**
Recording Time:	**05/08/2020 05:41**	*Sample Weight:*	**1.0000**

Run Time:



Integration Results

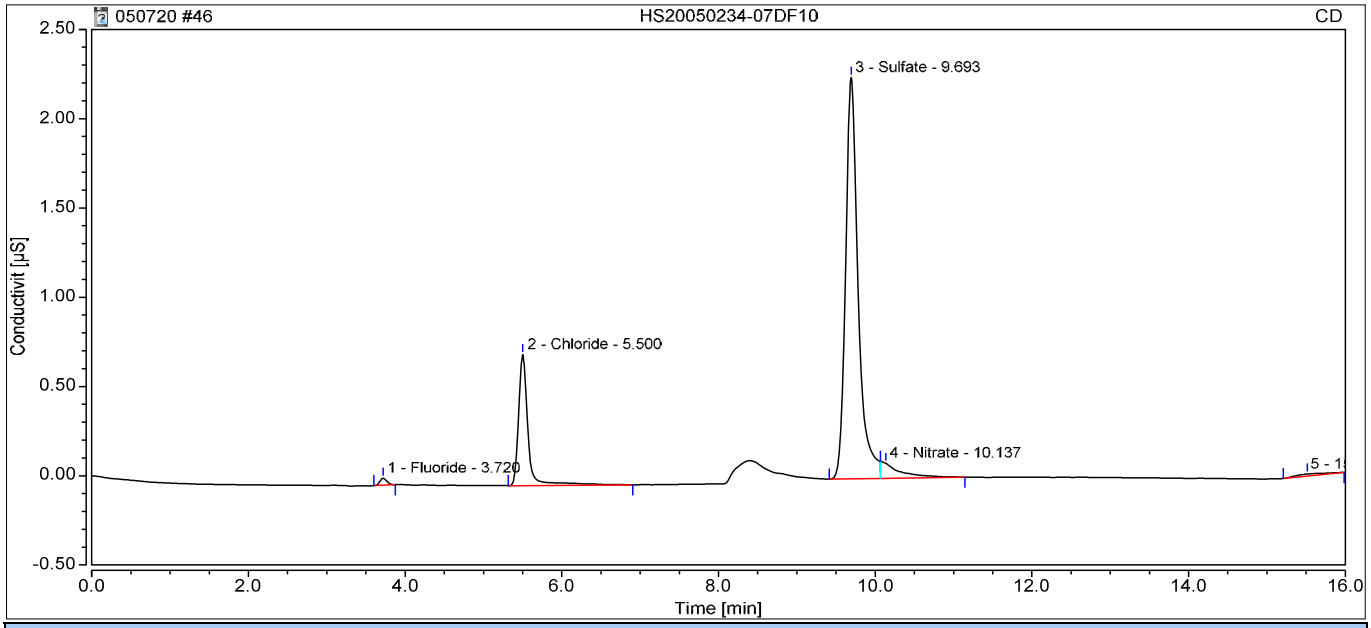
No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.72	Fluoride	BMB	0.004	0.0369	0.3687	10.0000
2	5.50	Chloride	BMB	0.741	3.2553	32.5529	10.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	10.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	10.0000
3	9.70	Sulfate	BM	0.395	2.4517	24.5170	10.0000
4	10.14	Nitrate	MB	0.027	0.0589	0.5890	10.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	10.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	10.0000
Total:			**0.000**	**1.167**		**58.03**	

Instrument:ICSINTEG Sequence:050720

46 HS20050234-07DF10

Sample Name:	**HS20050234-07DF10**	*Injection Volume:*	**5.00**
Vial Number:	**RE5**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 02052020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**10.0000**
Recording Time:	**05/08/2020 05:59**	*Sample Weight:*	**1.0000**

Run Time:



Integration Results

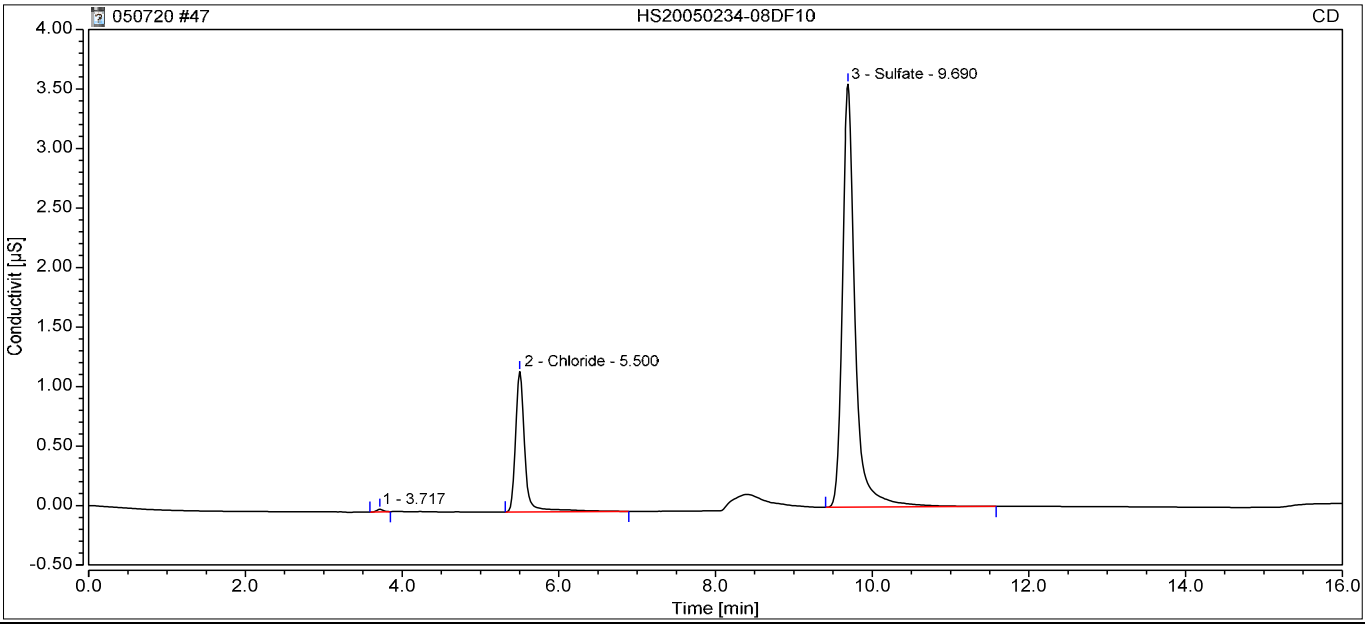
No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.72	Fluoride	BMB	0.004	0.0358	0.3580	10.0000
2	5.50	Chloride	BMB	0.102	0.5004	5.0043	10.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	10.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	10.0000
3	9.69	Sulfate	BM	0.418	2.5917	25.9170	10.0000
4	10.14	Nitrate	MB	0.026	0.0573	0.5733	10.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	10.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	10.0000
Total:			**0.000**	**0.550**		**31.85**	

Instrument:ICSINTEG Sequence:050720

47 HS20050234-08DF10

Sample Name:	**HS20050234-08DF10**	*Injection Volume:*	**5.00**
Vial Number:	**RE6**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 02052020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**10.0000**
Recording Time:	**05/08/2020 06:17**	*Sample Weight:*	**1.0000**

Run Time:



Integration Results

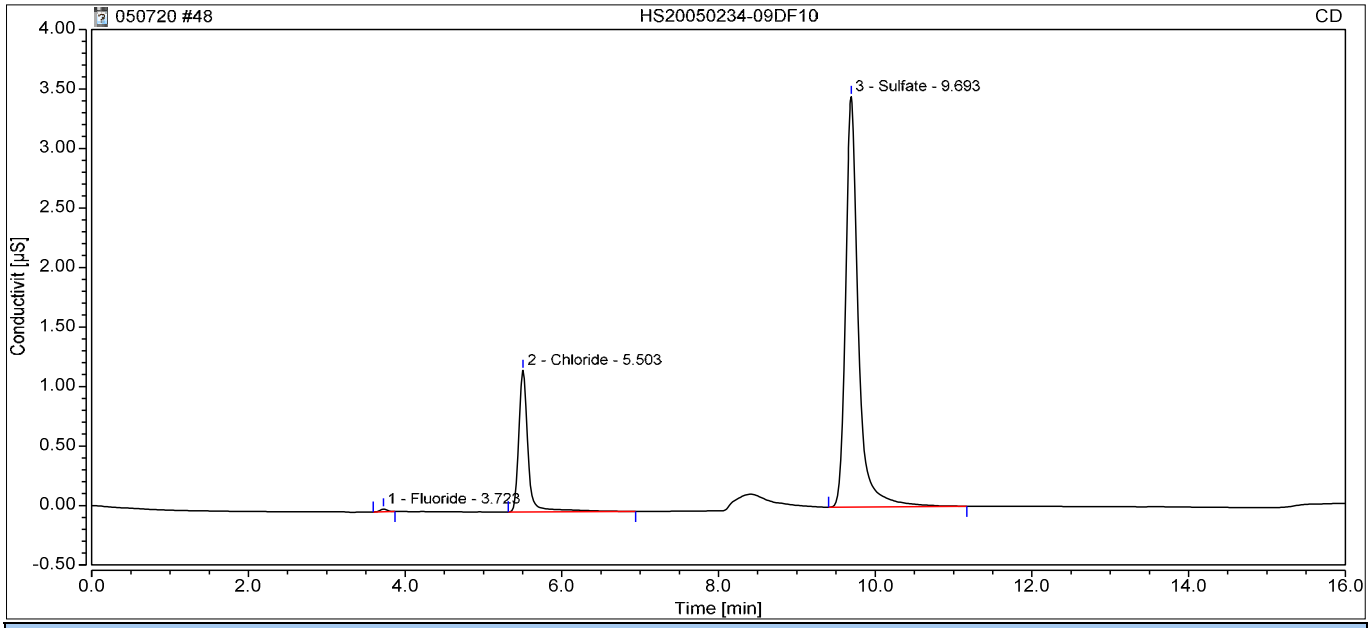
No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	10.0000
2	5.50	Chloride	BMB	0.162	0.7589	7.5889	10.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	10.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	10.0000
3	9.69	Sulfate	BMB	0.668	4.0801	40.8006	10.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	10.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	10.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	10.0000
Total:			**0.000**	**0.830**		**48.39**	

Instrument:ICSINTEG Sequence:050720

48 HS20050234-09DF10

Sample Name:	**HS20050234-09DF10**	*Injection Volume:*	**5.00**
Vial Number:	**RE7**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 02052020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**10.0000**
Recording Time:	**05/08/2020 06:35**	*Sample Weight:*	**1.0000**

Run Time:



Integration Results

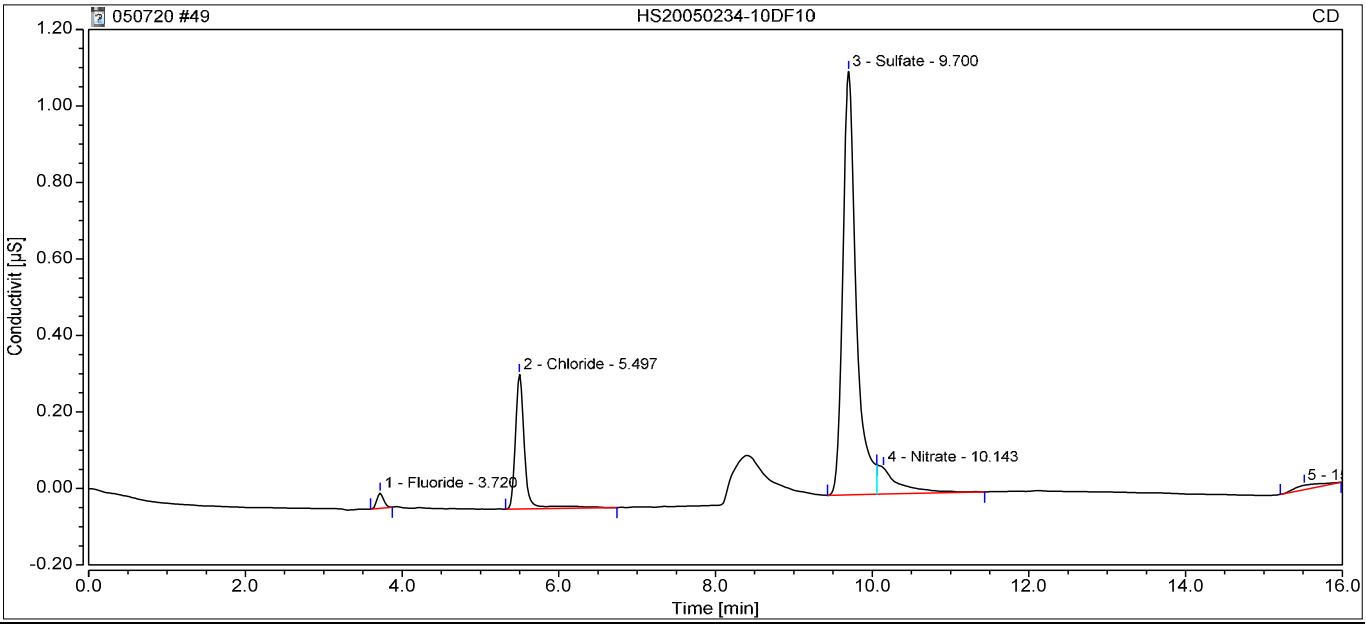
No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.72	Fluoride	BMB	0.002	0.0309	0.3092	10.0000
2	5.50	Chloride	BMB	0.163	0.7655	7.6554	10.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	10.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	10.0000
3	9.69	Sulfate	BMB	0.651	3.9766	39.7662	10.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	10.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	10.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	10.0000
Total:			**0.000**	**0.816**		**47.73**	

Instrument:ICSINTEG Sequence:050720

49 HS20050234-10DF10

Sample Name:	**HS20050234-10DF10**	*Injection Volume:*	**5.00**
Vial Number:	**RE8**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 02052020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**10.0000**
Recording Time:	**05/08/2020 06:53**	*Sample Weight:*	**1.0000**

Run Time:



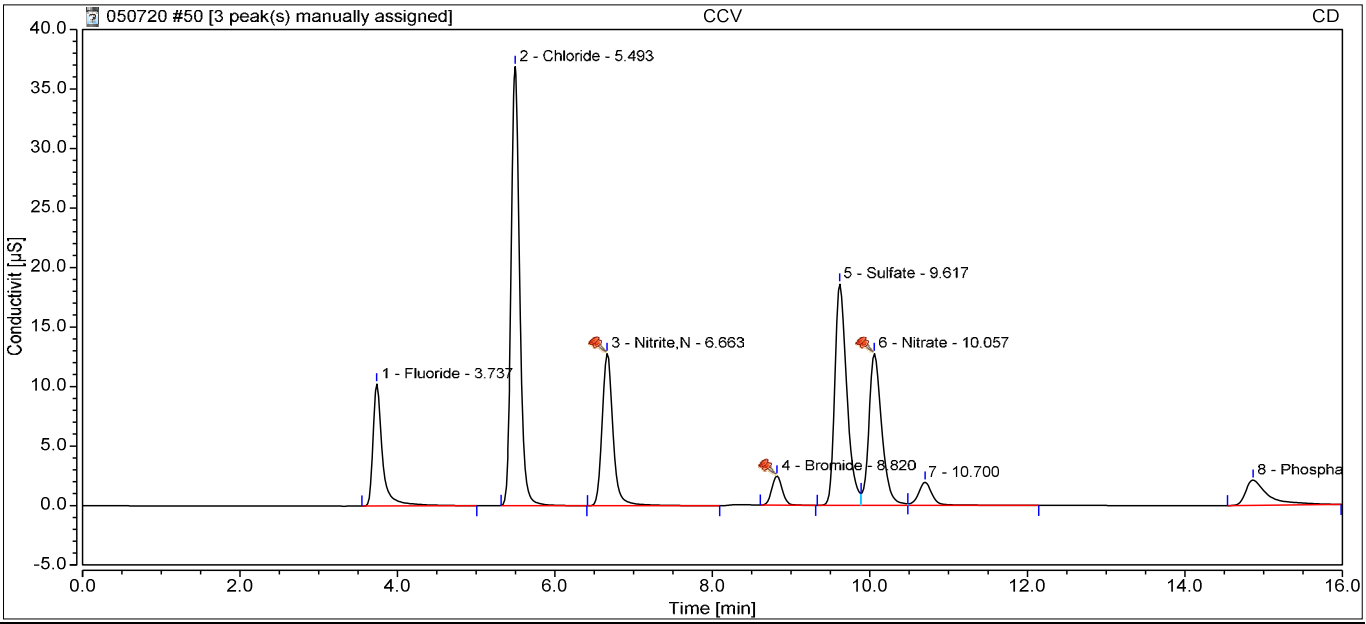
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.72	Fluoride	BMB	0.004	0.0357	0.3573	10.0000
2	5.50	Chloride	BMB	0.047	0.2653	2.6526	10.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	10.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	10.0000
3	9.70	Sulfate	BM	0.220	1.4091	14.0908	10.0000
4	10.14	Nitrate	MB	0.023	0.0525	0.5247	10.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	10.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	10.0000
Total:			**0.000**	**0.294**		**17.63**	

Instrument:ICSINTEG Sequence:050720

50 CCV			
Sample Name:	**CCV**	*Injection Volume:*	**5.00**
Vial Number:	**RA2**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 02052020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**05/08/2020 07:11**	*Sample Weight:*	**1.0000**

Run Time:



Integration Results

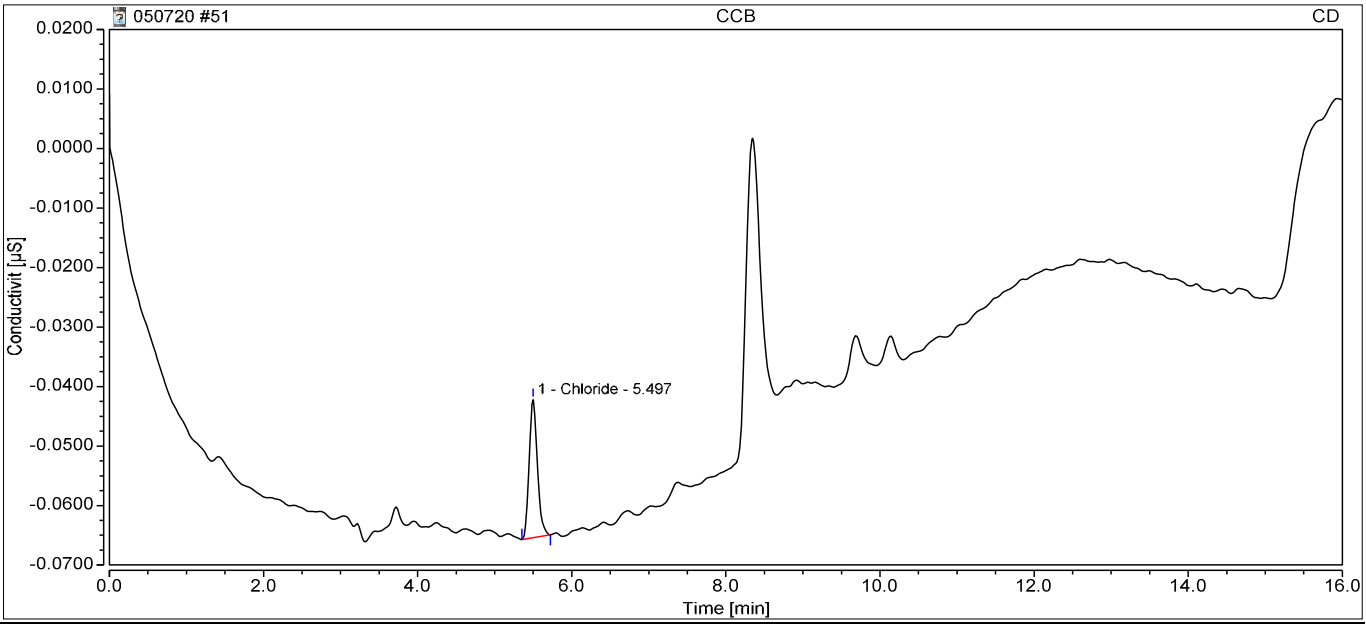
No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	1.437	4.2339	4.2339	1.0000
2	5.49	Chloride	BMB	4.615	19.9582	19.9582	1.0000
3	6.66	Nitrite,N	BMB^	2.069	4.2198	4.2198	1.0000
4	8.82	Bromide	BMB^	0.377	3.8373	3.8373	1.0000
5	9.62	Sulfate	BM	3.286	19.6727	19.6727	1.0000
6	10.06	Nitrate	M ^	2.421	4.1556	4.1556	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
8	14.87	Phosphate	BMB	0.705	3.4297	3.4297	1.0000
Total:			**0.000**	**14.911**		**59.51**	

Instrument:ICSINTEG Sequence:050720

51 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**RA3**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 02052020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**05/08/2020 07:29**	*Sample Weight:*	**1.0000**

Run Time:



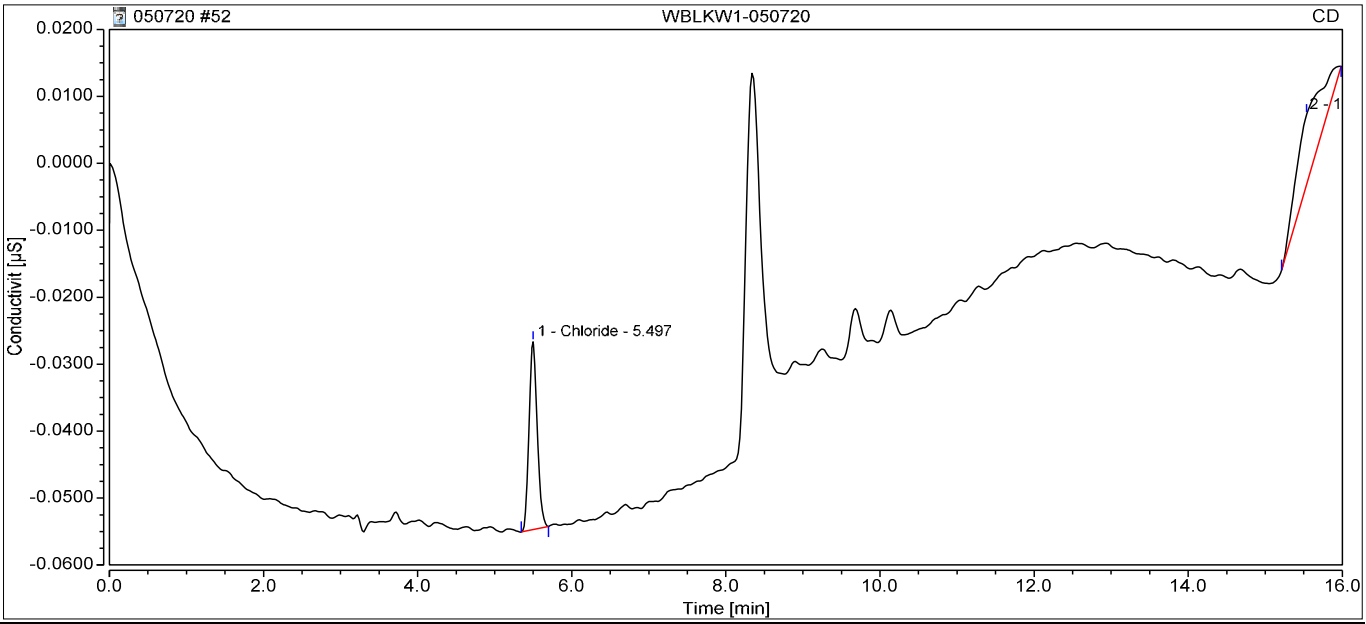
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
1	5.50	Chloride	BMB	0.003	0.0734	0.0734	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Sulfate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.003**		**0.07**	

Instrument:ICSINTEG Sequence:050720

52 WBLKW1-050720			
Sample Name:	**WBLKW1-050720**	*Injection Volume:*	**5.00**
Vial Number:	**RB1**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 02052020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**05/08/2020 07:47**	*Sample Weight:*	**1.0000**

Run Time:



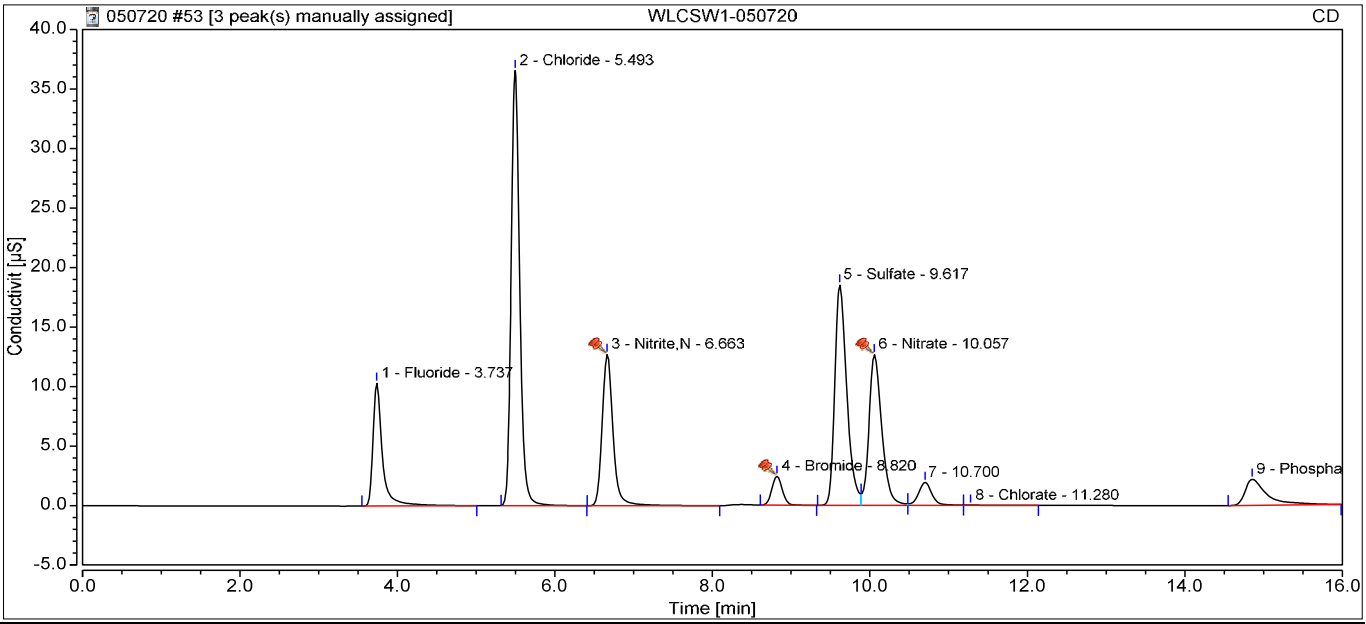
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
1	5.50	Chloride	BMB	0.003	0.0759	0.0759	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Sulfate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.003**		**0.08**	

Instrument:ICSINTEG Sequence:050720

53 WLCSW1-050720			
Sample Name:	**WLCSW1-050720**	*Injection Volume:*	**5.00**
Vial Number:	**RB2**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 02052020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**05/08/2020 08:05**	*Sample Weight:*	**1.0000**

Run Time:



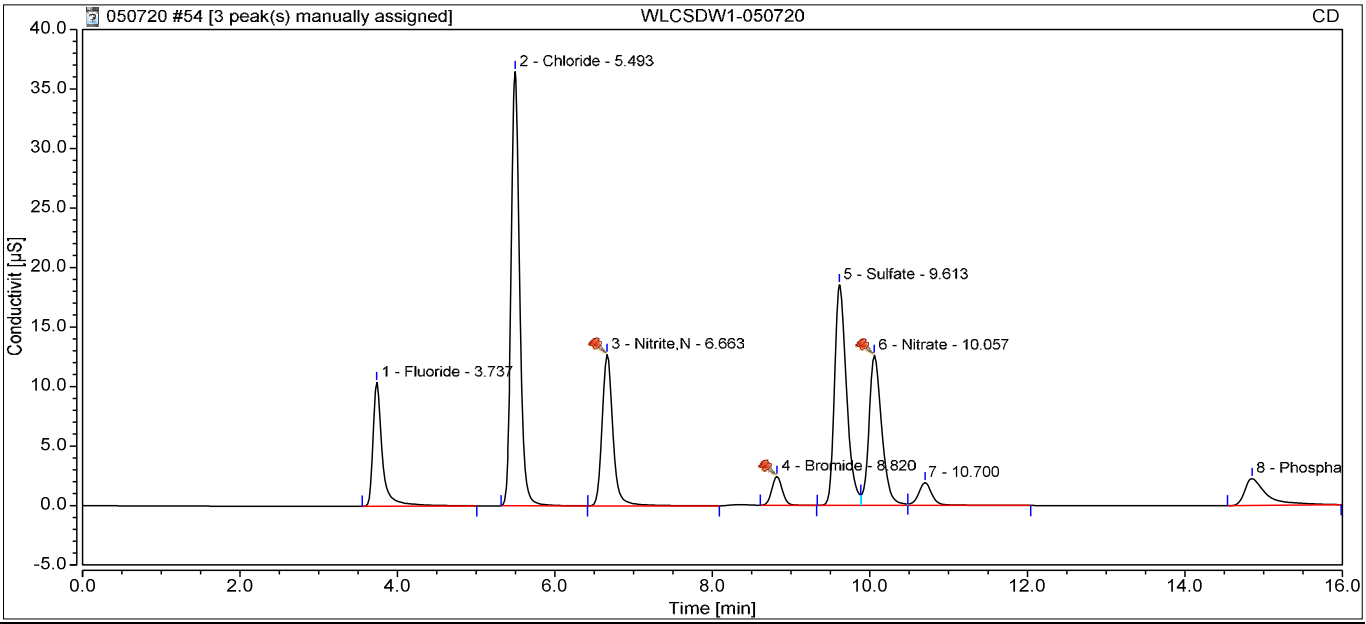
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	1.431	4.2146	4.2146	1.0000
2	5.49	Chloride	BMB	4.574	19.7787	19.7787	1.0000
3	6.66	Nitrite,N	BMB^	2.052	4.1868	4.1868	1.0000
4	8.82	Bromide	BMB^	0.373	3.7975	3.7975	1.0000
5	9.62	Sulfate	BM	3.263	19.5311	19.5311	1.0000
6	10.06	Nitrate	M ^	2.390	4.1040	4.1040	1.0000
8	11.28	Chlorate	MB	0.010	0.0854	0.0854	1.0000
9	14.86	Phosphate	BMB	0.715	3.4766	3.4766	1.0000
Total:			**0.000**	**14.808**		**59.17**	

Instrument:ICSINTEG Sequence:050720

54	*WLCSDW1-050720*		
Sample Name:	**WLCSDW1-050720**	*Injection Volume:*	**5.00**
Vial Number:	**RB3**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 02052020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**05/08/2020 08:24**	*Sample Weight:*	**1.0000**

Run Time:



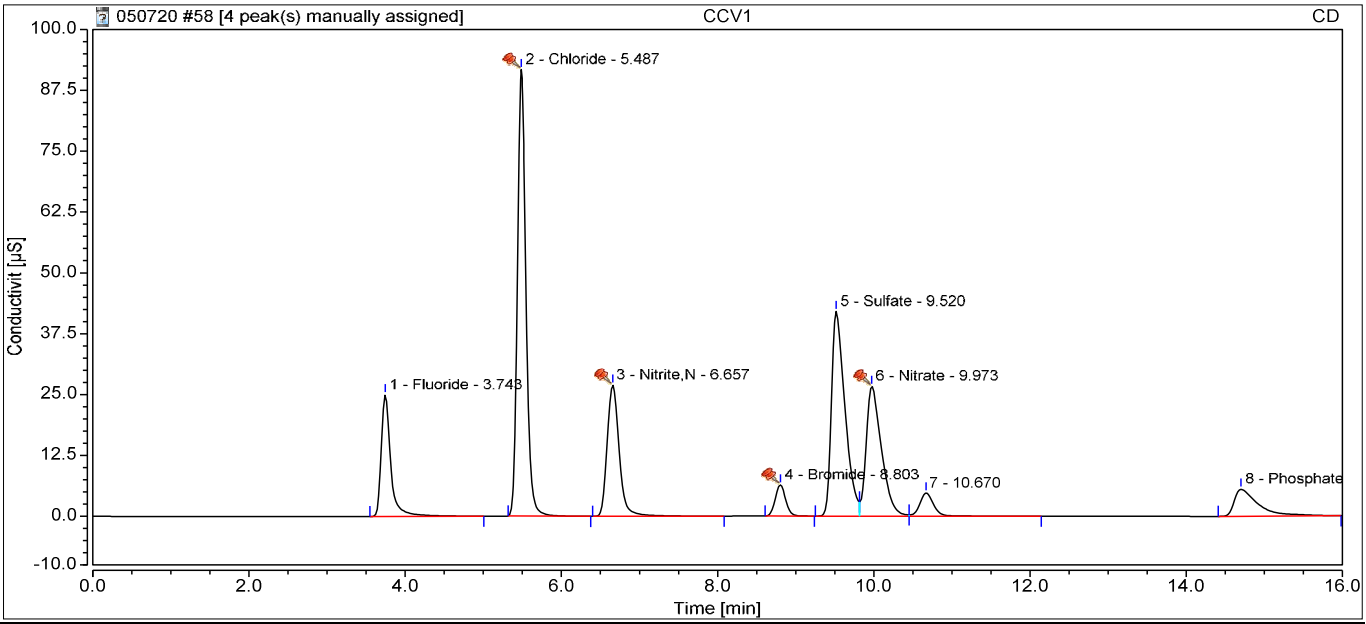
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	1.430	4.2117	4.2117	1.0000
2	5.49	Chloride	BMB	4.567	19.7472	19.7472	1.0000
3	6.66	Nitrite,N	BMB^	2.049	4.1811	4.1811	1.0000
4	8.82	Bromide	BMB^	0.372	3.7829	3.7829	1.0000
5	9.61	Sulfate	BM	3.264	19.5365	19.5365	1.0000
6	10.06	Nitrate	M ^	2.382	4.0895	4.0895	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
8	14.85	Phosphate	BMB	0.734	3.5661	3.5661	1.0000
Total:			**0.000**	**14.797**		**59.12**	

Instrument:ICSINTEG Sequence:050720

58 CCV1			
Sample Name:	**CCV1**	*Injection Volume:*	**5.00**
Vial Number:	**RA4**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 02052020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**05/08/2020 09:36**	*Sample Weight:*	**1.0000**

Run Time:



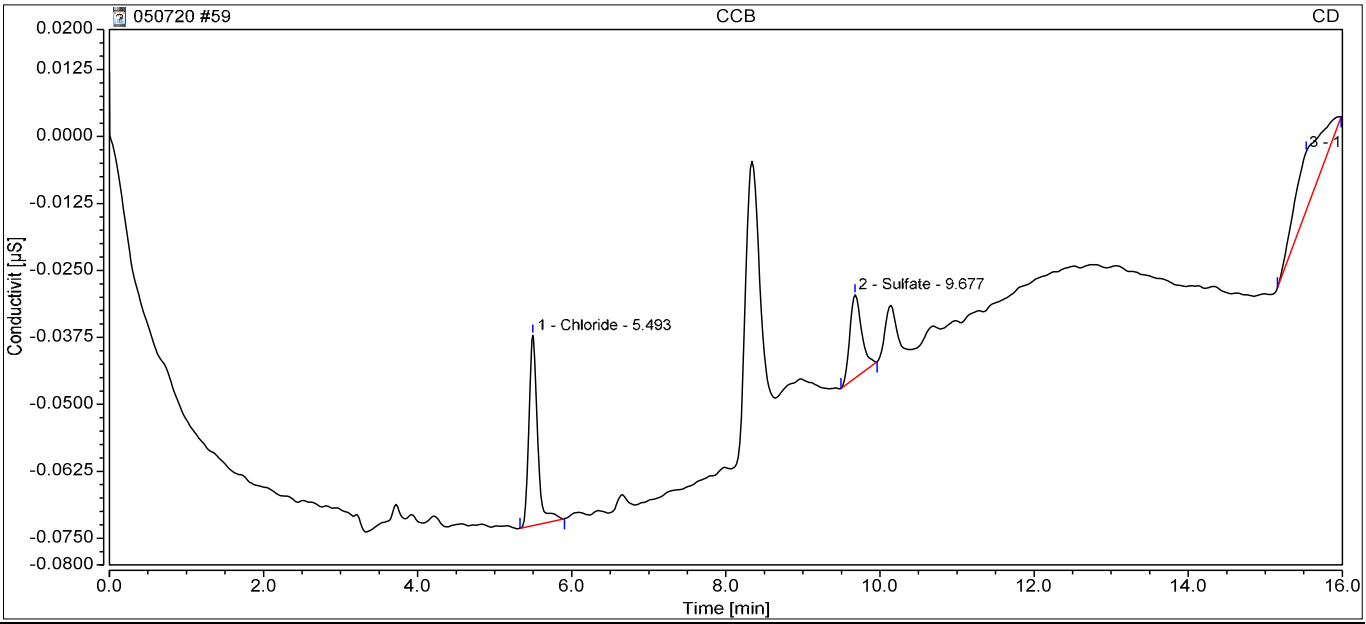
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	3.534	10.3748	10.3748	1.0000
2	5.49	Chloride	BMB^	11.576	49.9634	49.9634	1.0000
3	6.66	Nitrite,N	BMB^	4.842	9.8087	9.8087	1.0000
4	8.80	Bromide	BMB^	0.980	9.9220	9.9220	1.0000
5	9.52	Sulfate	BM	8.452	50.4369	50.4369	1.0000
6	9.97	Nitrate	M ^	6.047	10.3624	10.3624	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
8	14.70	Phosphate	BMB	1.975	9.4189	9.4189	1.0000
Total:			**0.000**	**37.406**		**150.29**	

Instrument:ICSINTEG Sequence:050720

59 CCB			
Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**RA5**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 02052020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**05/08/2020 09:54**	*Sample Weight:*	**1.0000**

Run Time:



Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
1	5.49	Chloride	BMB	0.005	0.0808	0.0808	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
2	9.68	Sulfate	BMB	0.003	0.1178	0.1178	1.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.007**		**0.20**	

10450 Stancliff Rd. Suite 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887
www.alsglobal.com

WorkOrder: HS20050292

Longhorn Army Ammunition Plant

Aptim Environmental & Infrastucture, Inc.

Susan Huang
2500 City West Blvd., Suite 1700
Houston TX 77042

03-Jun-2020

ALS Environmental
ALS Group USA, Corp
1317 South 13th Avenue
Kelso, WA 98626
T : +1 360 577 7222
F : +1 360 636 1068
www.alsglobal.com

Table of Contents

HS20050292
- CoverPage
- HS20050292 Longhorn Army Ammunition Plant Final
  - CoverLetter
  - Sample Summary
  - CaseNarrative
  - 35BWW14-200507
  - 35BWW15-200507
  - 35BWW17-200507
  - 35BWW16-200507
  - 35BWW13-200507
  - 35BWW23-200507
  - 35BWW24-200507
  - 35BWW25-200507
  - Trip Blank-200507
  - Dates Report
  - QC
  - Acronyms
  - Certifications
  - Sample Tracking Record
  - SampleReceiptCheckList
  - COC

Table of Contents (continued)

HS20050292 ALS Kelso Sub Data K2003887

HS20050292 ALS Simi Valley Tier IV

HS20050292 8260 Raw Data

HS20050292 Wet Chem Raw Data (IC)

HS20050292 Longhorn Army Ammunition Plant
Final

ALS WO# HS20050292

10450 Stancliff Rd. Suite 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887

May 27, 2020

Susan Huang
Aptim Environmental & Infrastucture, Inc.
2500 City West Blvd., Suite 1700
Houston, TX 77042

Work Order: **HS20050292**

Laboratory Results for: **Longhorn Army Ammunition Plant**

Dear Susan,

ALS Environmental received 9 sample(s) on May 08, 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: 27-May-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
Work Order: HS20050292

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS20050292-01	35BWW14-200507	Groundwater		07-May-2020 07:45	08-May-2020 09:45	☐
HS20050292-02	35BWW15-200507	Groundwater		07-May-2020 08:35	08-May-2020 09:45	☐
HS20050292-03	35BWW17-200507	Groundwater		07-May-2020 09:20	08-May-2020 09:45	☐
HS20050292-04	35BWW16-200507	Groundwater		07-May-2020 10:05	08-May-2020 09:45	☐
HS20050292-05	35BWW13-200507	Groundwater		07-May-2020 10:50	08-May-2020 09:45	☐
HS20050292-06	35BWW23-200507	Groundwater		07-May-2020 11:40	08-May-2020 09:45	☐
HS20050292-07	35BWW24-200507	Groundwater		07-May-2020 12:30	08-May-2020 09:45	☐
HS20050292-08	35BWW25-200507	Groundwater		07-May-2020 13:15	08-May-2020 09:45	☐
HS20050292-09	Trip Blank-200507	Groundwater	CG-041420-03	07-May-2020 00:00	08-May-2020 09:45	☐

ALS Houston, US Date: 27-May-20

Client: Aptim Environmental & Infrastucture, Inc. **CASE NARRATIVE**
Project: Longhorn Army Ammunition Plant
Work Order: HS20050292

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

GCMS Volatiles by Method SW8260

Batch ID: R361452

Sample ID: HS20050234-01

- MS/MSD was performed on unrelated sample

Batch ID: R361378

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

WetChemistry by Method SW9056

Batch ID: R361551

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

ALS Houston, US Date: 27-May-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
Sample ID: 35BWW14-200507
Collection Date: 07-May-2020 07:45

ANALYTICAL REPORT
WorkOrder:HS20050292
Lab ID:HS20050292-01
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-May-2020 22:00
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	11-May-2020 22:00
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	UG/L	1	11-May-2020 22:00
1,1,2-Trichlor-1,2,2-trifluoroethane	**19**		**0.50**	**1.0**	**1.0**	**UG/L**	1	11-May-2020 22:00
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	11-May-2020 22:00
1,1-Dichloroethane	**0.65**	J	**0.20**	**0.50**	**1.0**	**UG/L**	1	11-May-2020 22:00
1,1-Dichloroethene	**3.6**		**0.20**	**0.50**	**1.0**	**UG/L**	1	11-May-2020 22:00
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	UG/L	1	11-May-2020 22:00
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	11-May-2020 22:00
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	UG/L	1	11-May-2020 22:00
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	UG/L	1	11-May-2020 22:00
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	11-May-2020 22:00
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	11-May-2020 22:00
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	UG/L	1	11-May-2020 22:00
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	UG/L	1	11-May-2020 22:00
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	11-May-2020 22:00
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	UG/L	1	11-May-2020 22:00
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	11-May-2020 22:00
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	11-May-2020 22:00
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	UG/L	1	11-May-2020 22:00
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	11-May-2020 22:00
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	11-May-2020 22:00
2-Butanone	1.0	U	0.50	1.0	2.0	UG/L	1	11-May-2020 22:00
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	UG/L	1	11-May-2020 22:00
2-Hexanone	2.0	U	1.0	2.0	2.0	UG/L	1	11-May-2020 22:00
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	UG/L	1	11-May-2020 22:00
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	UG/L	1	11-May-2020 22:00
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	UG/L	1	11-May-2020 22:00
Acetone	1.0	U	0.40	1.0	2.0	UG/L	1	11-May-2020 22:00
Benzene	0.50	U	0.20	0.50	1.0	UG/L	1	11-May-2020 22:00
Bromobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	11-May-2020 22:00
Bromochloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	11-May-2020 22:00
Bromodichloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	11-May-2020 22:00
Bromoform	1.0	U	0.40	1.0	1.0	UG/L	1	11-May-2020 22:00
Bromomethane	1.0	U	0.40	1.0	1.0	UG/L	1	11-May-2020 22:00
Carbon disulfide	1.0	U	0.60	1.0	2.0	UG/L	1	11-May-2020 22:00
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	UG/L	1	11-May-2020 22:00
Chlorobenzene	1.0	U	0.30	1.0	1.0	UG/L	1	11-May-2020 22:00

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

ALS Houston, US Date: 27-May-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
Sample ID: 35BWW14-200507
Collection Date: 07-May-2020 07:45

ANALYTICAL REPORT
WorkOrder:HS20050292
Lab ID:HS20050292-01
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	11-May-2020 22:00
Chloroform	0.50	U	0.20	0.50	1.0	UG/L	1	11-May-2020 22:00
Chloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	11-May-2020 22:00
cis-1,2-Dichloroethene	**1.2**		**0.20**	**0.50**	**1.0**	**UG/L**	1	11-May-2020 22:00
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	UG/L	1	11-May-2020 22:00
Dibromochloromethane	1.0	U	0.30	1.0	1.0	UG/L	1	11-May-2020 22:00
Dibromomethane	0.50	U	0.20	0.50	1.0	UG/L	1	11-May-2020 22:00
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	UG/L	1	11-May-2020 22:00
Ethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	11-May-2020 22:00
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	UG/L	1	11-May-2020 22:00
Isopropylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	11-May-2020 22:00
m,p-Xylene	1.0	U	0.50	1.0	2.0	UG/L	1	11-May-2020 22:00
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	11-May-2020 22:00
n-Butylbenzene	1.0	U	0.40	1.0	1.0	UG/L	1	11-May-2020 22:00
n-Propylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	11-May-2020 22:00
Naphthalene	1.0	U	0.30	1.0	1.0	UG/L	1	11-May-2020 22:00
o-Xylene	1.0	U	0.30	1.0	1.0	UG/L	1	11-May-2020 22:00
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	11-May-2020 22:00
Styrene	1.0	U	0.30	1.0	1.0	UG/L	1	11-May-2020 22:00
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	11-May-2020 22:00
Tetrachloroethene	**40**		**0.30**	**1.0**	**1.0**	**UG/L**	1	11-May-2020 22:00
Toluene	0.50	U	0.20	0.50	1.0	UG/L	1	11-May-2020 22:00
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	11-May-2020 22:00
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	UG/L	1	11-May-2020 22:00
Trichloroethene	**14**		**0.20**	**0.50**	**1.0**	**UG/L**	1	11-May-2020 22:00
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	UG/L	1	11-May-2020 22:00
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	11-May-2020 22:00
Surr: 1,2-Dichloroethane-d4	*89.6*			**0**	*81-118*	*%REC*	*1*	*11-May-2020 22:00*
Surr: 4-Bromofluorobenzene	*101*			**0**	*85-114*	*%REC*	*1*	*11-May-2020 22:00*
Surr: Dibromofluoromethane	*92.5*			**0**	*80-119*	*%REC*	*1*	*11-May-2020 22:00*
Surr: Toluene-d8	*106*			**0**	*89-112*	*%REC*	*1*	*11-May-2020 22:00*
ANIONS BY SW9056A		**Method:SW9056**						Analyst: JHD
Chloride	**18.0**		**0.200**	**0.500**	**0.500**	**mg/L**	1	08-May-2020 14:41
Nitrogen, Nitrate (As N)	**0.394**		**0.0300**	**0.100**	**0.100**	**mg/L**	1	08-May-2020 14:41
Sulfate	**73.7**		**0.200**	**0.500**	**0.500**	**mg/L**	1	08-May-2020 14:41
SUBCONTRACT ANALYSIS - RSK		**Method:NA**						Analyst: SUBCA
Subcontract Analysis	See Attached		0	0		NA	1	22-May-2020 18:00

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

ALS Houston, US Date: 27-May-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
Sample ID: 35BWW14-200507
Collection Date: 07-May-2020 07:45

ANALYTICAL REPORT
WorkOrder:HS20050292
Lab ID:HS20050292-01
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	27-May-2020 10:47

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

ALS Houston, US Date: 27-May-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
Sample ID: 35BWW15-200507
Collection Date: 07-May-2020 08:35

ANALYTICAL REPORT
WorkOrder:HS20050292
Lab ID:HS20050292-02
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-May-2020 22:24
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	11-May-2020 22:24
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	UG/L	1	11-May-2020 22:24
1,1,2-Trichlor-1,2,2-trifluoroethane	**2.8**		**0.50**	**1.0**	**1.0**	**UG/L**	1	11-May-2020 22:24
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	11-May-2020 22:24
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	11-May-2020 22:24
1,1-Dichloroethene	**0.87**	J	**0.20**	**0.50**	**1.0**	**UG/L**	1	11-May-2020 22:24
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	UG/L	1	11-May-2020 22:24
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	11-May-2020 22:24
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	UG/L	1	11-May-2020 22:24
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	UG/L	1	11-May-2020 22:24
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	11-May-2020 22:24
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	11-May-2020 22:24
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	UG/L	1	11-May-2020 22:24
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	UG/L	1	11-May-2020 22:24
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	11-May-2020 22:24
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	UG/L	1	11-May-2020 22:24
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	11-May-2020 22:24
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	11-May-2020 22:24
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	UG/L	1	11-May-2020 22:24
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	11-May-2020 22:24
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	11-May-2020 22:24
2-Butanone	1.0	U	0.50	1.0	2.0	UG/L	1	11-May-2020 22:24
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	UG/L	1	11-May-2020 22:24
2-Hexanone	2.0	U	1.0	2.0	2.0	UG/L	1	11-May-2020 22:24
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	UG/L	1	11-May-2020 22:24
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	UG/L	1	11-May-2020 22:24
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	UG/L	1	11-May-2020 22:24
Acetone	1.0	U	0.40	1.0	2.0	UG/L	1	11-May-2020 22:24
Benzene	0.50	U	0.20	0.50	1.0	UG/L	1	11-May-2020 22:24
Bromobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	11-May-2020 22:24
Bromochloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	11-May-2020 22:24
Bromodichloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	11-May-2020 22:24
Bromoform	1.0	U	0.40	1.0	1.0	UG/L	1	11-May-2020 22:24
Bromomethane	1.0	U	0.40	1.0	1.0	UG/L	1	11-May-2020 22:24
Carbon disulfide	1.0	U	0.60	1.0	2.0	UG/L	1	11-May-2020 22:24
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	UG/L	1	11-May-2020 22:24
Chlorobenzene	1.0	U	0.30	1.0	1.0	UG/L	1	11-May-2020 22:24

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

ALS Houston, US Date: 27-May-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
Sample ID: 35BWW15-200507
Collection Date: 07-May-2020 08:35

ANALYTICAL REPORT
WorkOrder:HS20050292
Lab ID:HS20050292-02
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	11-May-2020 22:24
Chloroform	0.50	U	0.20	0.50	1.0	UG/L	1	11-May-2020 22:24
Chloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	11-May-2020 22:24
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	11-May-2020 22:24
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	UG/L	1	11-May-2020 22:24
Dibromochloromethane	1.0	U	0.30	1.0	1.0	UG/L	1	11-May-2020 22:24
Dibromomethane	0.50	U	0.20	0.50	1.0	UG/L	1	11-May-2020 22:24
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	UG/L	1	11-May-2020 22:24
Ethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	11-May-2020 22:24
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	UG/L	1	11-May-2020 22:24
Isopropylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	11-May-2020 22:24
m,p-Xylene	1.0	U	0.50	1.0	2.0	UG/L	1	11-May-2020 22:24
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	11-May-2020 22:24
n-Butylbenzene	1.0	U	0.40	1.0	1.0	UG/L	1	11-May-2020 22:24
n-Propylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	11-May-2020 22:24
Naphthalene	1.0	U	0.30	1.0	1.0	UG/L	1	11-May-2020 22:24
o-Xylene	1.0	U	0.30	1.0	1.0	UG/L	1	11-May-2020 22:24
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	11-May-2020 22:24
Styrene	1.0	U	0.30	1.0	1.0	UG/L	1	11-May-2020 22:24
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	11-May-2020 22:24
Tetrachloroethene	**13**		**0.30**	**1.0**	**1.0**	**UG/L**	1	11-May-2020 22:24
Toluene	0.50	U	0.20	0.50	1.0	UG/L	1	11-May-2020 22:24
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	11-May-2020 22:24
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	UG/L	1	11-May-2020 22:24
Trichloroethene	**7.7**		**0.20**	**0.50**	**1.0**	**UG/L**	1	11-May-2020 22:24
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	UG/L	1	11-May-2020 22:24
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	11-May-2020 22:24
Surr: 1,2-Dichloroethane-d4	*88.8*			**0**	*81-118*	*%REC*	*1*	*11-May-2020 22:24*
Surr: 4-Bromofluorobenzene	*100*			**0**	*85-114*	*%REC*	*1*	*11-May-2020 22:24*
Surr: Dibromofluoromethane	*90.6*			**0**	*80-119*	*%REC*	*1*	*11-May-2020 22:24*
Surr: Toluene-d8	*106*			**0**	*89-112*	*%REC*	*1*	*11-May-2020 22:24*

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

ALS Houston, US Date: 27-May-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
Sample ID: 35BWW17-200507
Collection Date: 07-May-2020 09:20

ANALYTICAL REPORT
WorkOrder:HS20050292
Lab ID:HS20050292-03
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	11-May-2020 22:48
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	11-May-2020 22:48
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	UG/L	1	11-May-2020 22:48
1,1,2-Trichlor-1,2,2-trifluoroethane	1.0	U	0.50	1.0	1.0	UG/L	1	11-May-2020 22:48
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	11-May-2020 22:48
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	11-May-2020 22:48
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	11-May-2020 22:48
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	UG/L	1	11-May-2020 22:48
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	11-May-2020 22:48
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	UG/L	1	11-May-2020 22:48
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	UG/L	1	11-May-2020 22:48
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	11-May-2020 22:48
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	11-May-2020 22:48
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	UG/L	1	11-May-2020 22:48
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	UG/L	1	11-May-2020 22:48
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	11-May-2020 22:48
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	UG/L	1	11-May-2020 22:48
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	11-May-2020 22:48
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	11-May-2020 22:48
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	UG/L	1	11-May-2020 22:48
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	11-May-2020 22:48
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	11-May-2020 22:48
2-Butanone	1.0	U	0.50	1.0	2.0	UG/L	1	11-May-2020 22:48
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	UG/L	1	11-May-2020 22:48
2-Hexanone	2.0	U	1.0	2.0	2.0	UG/L	1	11-May-2020 22:48
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	UG/L	1	11-May-2020 22:48
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	UG/L	1	11-May-2020 22:48
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	UG/L	1	11-May-2020 22:48
Acetone	1.0	U	0.40	1.0	2.0	UG/L	1	11-May-2020 22:48
Benzene	0.50	U	0.20	0.50	1.0	UG/L	1	11-May-2020 22:48
Bromobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	11-May-2020 22:48
Bromochloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	11-May-2020 22:48
Bromodichloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	11-May-2020 22:48
Bromoform	1.0	U	0.40	1.0	1.0	UG/L	1	11-May-2020 22:48
Bromomethane	1.0	U	0.40	1.0	1.0	UG/L	1	11-May-2020 22:48
Carbon disulfide	1.0	U	0.60	1.0	2.0	UG/L	1	11-May-2020 22:48
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	UG/L	1	11-May-2020 22:48
Chlorobenzene	1.0	U	0.30	1.0	1.0	UG/L	1	11-May-2020 22:48
Chloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	11-May-2020 22:48

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

ALS Houston, US Date: 27-May-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
Sample ID: 35BWW17-200507
Collection Date: 07-May-2020 09:20

ANALYTICAL REPORT
WorkOrder:HS20050292
Lab ID:HS20050292-03
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	11-May-2020 22:48
Chloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	11-May-2020 22:48
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	11-May-2020 22:48
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	UG/L	1	11-May-2020 22:48
Dibromochloromethane	1.0	U	0.30	1.0	1.0	UG/L	1	11-May-2020 22:48
Dibromomethane	0.50	U	0.20	0.50	1.0	UG/L	1	11-May-2020 22:48
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	UG/L	1	11-May-2020 22:48
Ethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	11-May-2020 22:48
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	UG/L	1	11-May-2020 22:48
Isopropylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	11-May-2020 22:48
m,p-Xylene	1.0	U	0.50	1.0	2.0	UG/L	1	11-May-2020 22:48
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	11-May-2020 22:48
n-Butylbenzene	1.0	U	0.40	1.0	1.0	UG/L	1	11-May-2020 22:48
n-Propylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	11-May-2020 22:48
Naphthalene	1.0	U	0.30	1.0	1.0	UG/L	1	11-May-2020 22:48
o-Xylene	1.0	U	0.30	1.0	1.0	UG/L	1	11-May-2020 22:48
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	11-May-2020 22:48
Styrene	1.0	U	0.30	1.0	1.0	UG/L	1	11-May-2020 22:48
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	11-May-2020 22:48
Tetrachloroethene	1.0	U	0.30	1.0	1.0	UG/L	1	11-May-2020 22:48
Toluene	0.50	U	0.20	0.50	1.0	UG/L	1	11-May-2020 22:48
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	11-May-2020 22:48
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	UG/L	1	11-May-2020 22:48
Trichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	11-May-2020 22:48
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	UG/L	1	11-May-2020 22:48
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	11-May-2020 22:48
Surr: 1,2-Dichloroethane-d4	*88.2*			**0**	*81-118*	*%REC*	*1*	*11-May-2020 22:48*
Surr: 4-Bromofluorobenzene	*99.0*			**0**	*85-114*	*%REC*	*1*	*11-May-2020 22:48*
Surr: Dibromofluoromethane	*92.6*			**0**	*80-119*	*%REC*	*1*	*11-May-2020 22:48*
Surr: Toluene-d8	*107*			**0**	*89-112*	*%REC*	*1*	*11-May-2020 22:48*

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

ALS Houston, US Date: 27-May-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
Sample ID: 35BWW16-200507
Collection Date: 07-May-2020 10:05

ANALYTICAL REPORT
WorkOrder:HS20050292
Lab ID:HS20050292-04
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	12-May-2020 12:49
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 12:49
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	UG/L	1	12-May-2020 12:49
1,1,2-Trichlor-1,2,2-trifluoroethane	**8.0**		**0.50**	**1.0**	**1.0**	**UG/L**	1	12-May-2020 12:49
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 12:49
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 12:49
1,1-Dichloroethene	**0.61**	J	**0.20**	**0.50**	**1.0**	**UG/L**	1	12-May-2020 12:49
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 12:49
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 12:49
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	UG/L	1	12-May-2020 12:49
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	UG/L	1	12-May-2020 12:49
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 12:49
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 12:49
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 12:49
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	UG/L	1	12-May-2020 12:49
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 12:49
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	UG/L	1	12-May-2020 12:49
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 12:49
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 12:49
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 12:49
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 12:49
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 12:49
2-Butanone	1.0	U	0.50	1.0	2.0	UG/L	1	12-May-2020 12:49
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 12:49
2-Hexanone	2.0	U	1.0	2.0	2.0	UG/L	1	12-May-2020 12:49
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 12:49
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 12:49
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	UG/L	1	12-May-2020 12:49
Acetone	1.0	U	0.40	1.0	2.0	UG/L	1	12-May-2020 12:49
Benzene	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 12:49
Bromobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 12:49
Bromochloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 12:49
Bromodichloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 12:49
Bromoform	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 12:49
Bromomethane	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 12:49
Carbon disulfide	1.0	U	0.60	1.0	2.0	UG/L	1	12-May-2020 12:49
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	UG/L	1	12-May-2020 12:49
Chlorobenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 12:49

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

ALS Houston, US Date: 27-May-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
Sample ID: 35BWW16-200507
Collection Date: 07-May-2020 10:05

ANALYTICAL REPORT
WorkOrder:HS20050292
Lab ID:HS20050292-04
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	12-May-2020 12:49
Chloroform	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 12:49
Chloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 12:49
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 12:49
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	UG/L	1	12-May-2020 12:49
Dibromochloromethane	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 12:49
Dibromomethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 12:49
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 12:49
Ethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 12:49
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	UG/L	1	12-May-2020 12:49
Isopropylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 12:49
m,p-Xylene	1.0	U	0.50	1.0	2.0	UG/L	1	12-May-2020 12:49
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	12-May-2020 12:49
n-Butylbenzene	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 12:49
n-Propylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 12:49
Naphthalene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 12:49
o-Xylene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 12:49
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 12:49
Styrene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 12:49
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 12:49
Tetrachloroethene	**9.9**		**0.30**	**1.0**	**1.0**	**UG/L**	1	12-May-2020 12:49
Toluene	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 12:49
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 12:49
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 12:49
Trichloroethene	**3.3**		**0.20**	**0.50**	**1.0**	**UG/L**	1	12-May-2020 12:49
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 12:49
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 12:49
Surr: 1,2-Dichloroethane-d4	*87.9*			**0**	*81-118*	*%REC*	*1*	*12-May-2020 12:49*
Surr: 4-Bromofluorobenzene	*98.9*			**0**	*85-114*	*%REC*	*1*	*12-May-2020 12:49*
Surr: Dibromofluoromethane	*90.3*			**0**	*80-119*	*%REC*	*1*	*12-May-2020 12:49*
Surr: Toluene-d8	*106*			**0**	*89-112*	*%REC*	*1*	*12-May-2020 12:49*

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

ALS Houston, US Date: 27-May-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
Sample ID: 35BWW13-200507
Collection Date: 07-May-2020 10:50

ANALYTICAL REPORT
WorkOrder:HS20050292
Lab ID:HS20050292-05
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	12-May-2020 13:13
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 13:13
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	UG/L	1	12-May-2020 13:13
1,1,2-Trichlor-1,2,2-trifluoroethane	1.0	U	0.50	1.0	1.0	UG/L	1	12-May-2020 13:13
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 13:13
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 13:13
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 13:13
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 13:13
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 13:13
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	UG/L	1	12-May-2020 13:13
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	UG/L	1	12-May-2020 13:13
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 13:13
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 13:13
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 13:13
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	UG/L	1	12-May-2020 13:13
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 13:13
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	UG/L	1	12-May-2020 13:13
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 13:13
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 13:13
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 13:13
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 13:13
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 13:13
2-Butanone	1.0	U	0.50	1.0	2.0	UG/L	1	12-May-2020 13:13
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 13:13
2-Hexanone	2.0	U	1.0	2.0	2.0	UG/L	1	12-May-2020 13:13
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 13:13
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 13:13
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	UG/L	1	12-May-2020 13:13
Acetone	1.0	U	0.40	1.0	2.0	UG/L	1	12-May-2020 13:13
Benzene	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 13:13
Bromobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 13:13
Bromochloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 13:13
Bromodichloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 13:13
Bromoform	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 13:13
Bromomethane	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 13:13
Carbon disulfide	1.0	U	0.60	1.0	2.0	UG/L	1	12-May-2020 13:13
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	UG/L	1	12-May-2020 13:13
Chlorobenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 13:13
Chloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 13:13

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

ALS Houston, US Date: 27-May-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
Sample ID: 35BWW13-200507
Collection Date: 07-May-2020 10:50

ANALYTICAL REPORT
WorkOrder:HS20050292
Lab ID:HS20050292-05
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	12-May-2020 13:13
Chloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 13:13
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 13:13
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	UG/L	1	12-May-2020 13:13
Dibromochloromethane	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 13:13
Dibromomethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 13:13
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 13:13
Ethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 13:13
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	UG/L	1	12-May-2020 13:13
Isopropylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 13:13
m,p-Xylene	1.0	U	0.50	1.0	2.0	UG/L	1	12-May-2020 13:13
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	12-May-2020 13:13
n-Butylbenzene	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 13:13
n-Propylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 13:13
Naphthalene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 13:13
o-Xylene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 13:13
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 13:13
Styrene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 13:13
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 13:13
Tetrachloroethene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 13:13
Toluene	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 13:13
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 13:13
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 13:13
Trichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 13:13
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 13:13
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 13:13
Surr: 1,2-Dichloroethane-d4	*90.3*			**0**	*81-118*	*%REC*	*1*	*12-May-2020 13:13*
Surr: 4-Bromofluorobenzene	*99.6*			**0**	*85-114*	*%REC*	*1*	*12-May-2020 13:13*
Surr: Dibromofluoromethane	*93.0*			**0**	*80-119*	*%REC*	*1*	*12-May-2020 13:13*
Surr: Toluene-d8	*108*			**0**	*89-112*	*%REC*	*1*	*12-May-2020 13:13*

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

ALS Houston, US Date: 27-May-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
Sample ID: 35BWW23-200507
Collection Date: 07-May-2020 11:40

ANALYTICAL REPORT
WorkOrder:HS20050292
Lab ID:HS20050292-06
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	12-May-2020 14:25
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 14:25
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	UG/L	1	12-May-2020 14:25
1,1,2-Trichlor-1,2,2-trifluoroethane	1.0	U	0.50	1.0	1.0	UG/L	1	12-May-2020 14:25
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 14:25
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 14:25
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 14:25
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 14:25
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 14:25
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	UG/L	1	12-May-2020 14:25
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	UG/L	1	12-May-2020 14:25
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 14:25
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 14:25
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 14:25
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	UG/L	1	12-May-2020 14:25
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 14:25
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	UG/L	1	12-May-2020 14:25
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 14:25
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 14:25
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 14:25
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 14:25
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 14:25
2-Butanone	1.0	U	0.50	1.0	2.0	UG/L	1	12-May-2020 14:25
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 14:25
2-Hexanone	2.0	U	1.0	2.0	2.0	UG/L	1	12-May-2020 14:25
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 14:25
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 14:25
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	UG/L	1	12-May-2020 14:25
Acetone	1.0	U	0.40	1.0	2.0	UG/L	1	12-May-2020 14:25
Benzene	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 14:25
Bromobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 14:25
Bromochloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 14:25
Bromodichloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 14:25
Bromoform	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 14:25
Bromomethane	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 14:25
Carbon disulfide	1.0	U	0.60	1.0	2.0	UG/L	1	12-May-2020 14:25
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	UG/L	1	12-May-2020 14:25
Chlorobenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 14:25
Chloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 14:25

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

ALS Houston, US Date: 27-May-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
Sample ID: 35BWW23-200507
Collection Date: 07-May-2020 11:40

ANALYTICAL REPORT
WorkOrder:HS20050292
Lab ID:HS20050292-06
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	12-May-2020 14:25
Chloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 14:25
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 14:25
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	UG/L	1	12-May-2020 14:25
Dibromochloromethane	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 14:25
Dibromomethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 14:25
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 14:25
Ethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 14:25
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	UG/L	1	12-May-2020 14:25
Isopropylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 14:25
m,p-Xylene	1.0	U	0.50	1.0	2.0	UG/L	1	12-May-2020 14:25
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	12-May-2020 14:25
n-Butylbenzene	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 14:25
n-Propylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 14:25
Naphthalene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 14:25
o-Xylene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 14:25
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 14:25
Styrene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 14:25
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 14:25
Tetrachloroethene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 14:25
Toluene	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 14:25
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 14:25
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 14:25
Trichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 14:25
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 14:25
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 14:25
Surr: 1,2-Dichloroethane-d4	*90.2*			**0**	*81-118*	*%REC*	*1*	*12-May-2020 14:25*
Surr: 4-Bromofluorobenzene	*98.9*			**0**	*85-114*	*%REC*	*1*	*12-May-2020 14:25*
Surr: Dibromofluoromethane	*91.2*			**0**	*80-119*	*%REC*	*1*	*12-May-2020 14:25*
Surr: Toluene-d8	*110*			**0**	*89-112*	*%REC*	*1*	*12-May-2020 14:25*
ANIONS BY SW9056A		**Method:SW9056**						Analyst: JHD
Chloride	**21.1**		**0.200**	**0.500**	**0.500**	**mg/L**	1	08-May-2020 15:17
Nitrogen, Nitrate (As N)	0.100	U	0.0300	0.100	0.100	mg/L	1	08-May-2020 15:17
Sulfate	**83.8**		**0.200**	**0.500**	**0.500**	**mg/L**	1	08-May-2020 15:17
SUBCONTRACT ANALYSIS - RSK		**Method:NA**						Analyst: SUBCA
Subcontract Analysis	See Attached		0	0		NA	1	22-May-2020 18:00
SUBCONTRACT ANALYSIS - TOC ANALYSIS		**Method:NA**						Analyst: SUBK
Subcontract Analysis	See Attached		0	0		NA	1	27-May-2020 10:47

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

ALS Houston, US Date: 27-May-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
Sample ID: 35BWW24-200507
Collection Date: 07-May-2020 12:30

ANALYTICAL REPORT
WorkOrder:HS20050292
Lab ID:HS20050292-07
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	12-May-2020 14:49
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 14:49
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	UG/L	1	12-May-2020 14:49
1,1,2-Trichlor-1,2,2-trifluoroethane	**5.7**		**0.50**	**1.0**	**1.0**	**UG/L**	1	12-May-2020 14:49
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 14:49
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 14:49
1,1-Dichloroethene	**0.54**	J	**0.20**	**0.50**	**1.0**	**UG/L**	1	12-May-2020 14:49
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 14:49
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 14:49
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	UG/L	1	12-May-2020 14:49
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	UG/L	1	12-May-2020 14:49
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 14:49
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 14:49
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 14:49
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	UG/L	1	12-May-2020 14:49
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 14:49
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	UG/L	1	12-May-2020 14:49
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 14:49
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 14:49
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 14:49
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 14:49
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 14:49
2-Butanone	1.0	U	0.50	1.0	2.0	UG/L	1	12-May-2020 14:49
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 14:49
2-Hexanone	2.0	U	1.0	2.0	2.0	UG/L	1	12-May-2020 14:49
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 14:49
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 14:49
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	UG/L	1	12-May-2020 14:49
Acetone	1.0	U	0.40	1.0	2.0	UG/L	1	12-May-2020 14:49
Benzene	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 14:49
Bromobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 14:49
Bromochloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 14:49
Bromodichloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 14:49
Bromoform	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 14:49
Bromomethane	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 14:49
Carbon disulfide	1.0	U	0.60	1.0	2.0	UG/L	1	12-May-2020 14:49
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	UG/L	1	12-May-2020 14:49
Chlorobenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 14:49

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

ALS Houston, US Date: 27-May-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
Sample ID: 35BWW24-200507
Collection Date: 07-May-2020 12:30

ANALYTICAL REPORT
WorkOrder:HS20050292
Lab ID:HS20050292-07
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	12-May-2020 14:49
Chloroform	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 14:49
Chloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 14:49
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 14:49
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	UG/L	1	12-May-2020 14:49
Dibromochloromethane	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 14:49
Dibromomethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 14:49
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 14:49
Ethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 14:49
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	UG/L	1	12-May-2020 14:49
Isopropylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 14:49
m,p-Xylene	1.0	U	0.50	1.0	2.0	UG/L	1	12-May-2020 14:49
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	12-May-2020 14:49
n-Butylbenzene	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 14:49
n-Propylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 14:49
Naphthalene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 14:49
o-Xylene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 14:49
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 14:49
Styrene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 14:49
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 14:49
Tetrachloroethene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 14:49
Toluene	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 14:49
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 14:49
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 14:49
Trichloroethene	**2.3**		**0.20**	**0.50**	**1.0**	**UG/L**	1	12-May-2020 14:49
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 14:49
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 14:49
Surr: 1,2-Dichloroethane-d4	*90.7*			**0**	*81-118*	*%REC*	*1*	*12-May-2020 14:49*
Surr: 4-Bromofluorobenzene	*98.0*			**0**	*85-114*	*%REC*	*1*	*12-May-2020 14:49*
Surr: Dibromofluoromethane	*90.8*			**0**	*80-119*	*%REC*	*1*	*12-May-2020 14:49*
Surr: Toluene-d8	*107*			**0**	*89-112*	*%REC*	*1*	*12-May-2020 14:49*

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

ALS Houston, US Date: 27-May-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
Sample ID: 35BWW25-200507
Collection Date: 07-May-2020 13:15

ANALYTICAL REPORT
WorkOrder:HS20050292
Lab ID:HS20050292-08
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	12-May-2020 15:13
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 15:13
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	UG/L	1	12-May-2020 15:13
1,1,2-Trichlor-1,2,2-trifluoroethane	1.0	U	0.50	1.0	1.0	UG/L	1	12-May-2020 15:13
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 15:13
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 15:13
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 15:13
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 15:13
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 15:13
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	UG/L	1	12-May-2020 15:13
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	UG/L	1	12-May-2020 15:13
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 15:13
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 15:13
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 15:13
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	UG/L	1	12-May-2020 15:13
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 15:13
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	UG/L	1	12-May-2020 15:13
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 15:13
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 15:13
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 15:13
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 15:13
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 15:13
2-Butanone	1.0	U	0.50	1.0	2.0	UG/L	1	12-May-2020 15:13
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 15:13
2-Hexanone	2.0	U	1.0	2.0	2.0	UG/L	1	12-May-2020 15:13
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 15:13
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 15:13
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	UG/L	1	12-May-2020 15:13
Acetone	1.0	U	0.40	1.0	2.0	UG/L	1	12-May-2020 15:13
Benzene	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 15:13
Bromobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 15:13
Bromochloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 15:13
Bromodichloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 15:13
Bromoform	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 15:13
Bromomethane	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 15:13
Carbon disulfide	1.0	U	0.60	1.0	2.0	UG/L	1	12-May-2020 15:13
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	UG/L	1	12-May-2020 15:13
Chlorobenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 15:13
Chloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 15:13

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

ALS Houston, US Date: 27-May-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
Sample ID: 35BWW25-200507
Collection Date: 07-May-2020 13:15

ANALYTICAL REPORT
WorkOrder:HS20050292
Lab ID:HS20050292-08
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	12-May-2020 15:13
Chloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 15:13
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 15:13
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	UG/L	1	12-May-2020 15:13
Dibromochloromethane	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 15:13
Dibromomethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 15:13
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 15:13
Ethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 15:13
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	UG/L	1	12-May-2020 15:13
Isopropylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 15:13
m,p-Xylene	1.0	U	0.50	1.0	2.0	UG/L	1	12-May-2020 15:13
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	12-May-2020 15:13
n-Butylbenzene	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 15:13
n-Propylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 15:13
Naphthalene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 15:13
o-Xylene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 15:13
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 15:13
Styrene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 15:13
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 15:13
Tetrachloroethene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 15:13
Toluene	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 15:13
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 15:13
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 15:13
Trichloroethene	**13**		**0.20**	**0.50**	**1.0**	**UG/L**	1	12-May-2020 15:13
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 15:13
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 15:13
Surr: 1,2-Dichloroethane-d4	*89.8*			**0**	*81-118*	*%REC*	*1*	*12-May-2020 15:13*
Surr: 4-Bromofluorobenzene	*97.2*			**0**	*85-114*	*%REC*	*1*	*12-May-2020 15:13*
Surr: Dibromofluoromethane	*92.7*			**0**	*80-119*	*%REC*	*1*	*12-May-2020 15:13*
Surr: Toluene-d8	*108*			**0**	*89-112*	*%REC*	*1*	*12-May-2020 15:13*

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

ALS Houston, US Date: 27-May-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
Sample ID: Trip Blank-200507
Collection Date: 07-May-2020 00:00

ANALYTICAL REPORT
WorkOrder:HS20050292
Lab ID:HS20050292-09
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	12-May-2020 13:37
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 13:37
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	UG/L	1	12-May-2020 13:37
1,1,2-Trichlor-1,2,2-trifluoroethane	1.0	U	0.50	1.0	1.0	UG/L	1	12-May-2020 13:37
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 13:37
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 13:37
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 13:37
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 13:37
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 13:37
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	UG/L	1	12-May-2020 13:37
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	UG/L	1	12-May-2020 13:37
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 13:37
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 13:37
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 13:37
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	UG/L	1	12-May-2020 13:37
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 13:37
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	UG/L	1	12-May-2020 13:37
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 13:37
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 13:37
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 13:37
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 13:37
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 13:37
2-Butanone	1.0	U	0.50	1.0	2.0	UG/L	1	12-May-2020 13:37
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 13:37
2-Hexanone	2.0	U	1.0	2.0	2.0	UG/L	1	12-May-2020 13:37
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 13:37
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 13:37
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	UG/L	1	12-May-2020 13:37
Acetone	1.0	U	0.40	1.0	2.0	UG/L	1	12-May-2020 13:37
Benzene	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 13:37
Bromobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 13:37
Bromochloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 13:37
Bromodichloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 13:37
Bromoform	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 13:37
Bromomethane	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 13:37
Carbon disulfide	1.0	U	0.60	1.0	2.0	UG/L	1	12-May-2020 13:37
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	UG/L	1	12-May-2020 13:37
Chlorobenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 13:37
Chloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 13:37

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

ALS Houston, US Date: 27-May-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
Sample ID: Trip Blank-200507
Collection Date: 07-May-2020 00:00

ANALYTICAL REPORT
WorkOrder:HS20050292
Lab ID:HS20050292-09
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	12-May-2020 13:37
Chloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 13:37
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 13:37
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	UG/L	1	12-May-2020 13:37
Dibromochloromethane	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 13:37
Dibromomethane	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 13:37
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 13:37
Ethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 13:37
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	UG/L	1	12-May-2020 13:37
Isopropylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 13:37
m,p-Xylene	1.0	U	0.50	1.0	2.0	UG/L	1	12-May-2020 13:37
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	12-May-2020 13:37
n-Butylbenzene	1.0	U	0.40	1.0	1.0	UG/L	1	12-May-2020 13:37
n-Propylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 13:37
Naphthalene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 13:37
o-Xylene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 13:37
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 13:37
Styrene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 13:37
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 13:37
Tetrachloroethene	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 13:37
Toluene	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 13:37
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 13:37
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 13:37
Trichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 13:37
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	UG/L	1	12-May-2020 13:37
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	12-May-2020 13:37
Surr: 1,2-Dichloroethane-d4	*90.2*			**0**	*81-118*	*%REC*	*1*	*12-May-2020 13:37*
Surr: 4-Bromofluorobenzene	*97.6*			**0**	*85-114*	*%REC*	*1*	*12-May-2020 13:37*
Surr: Dibromofluoromethane	*92.1*			**0**	*80-119*	*%REC*	*1*	*12-May-2020 13:37*
Surr: Toluene-d8	*108*			**0**	*89-112*	*%REC*	*1*	*12-May-2020 13:37*

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

ALS Houston, US Date: 27-May-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
WorkOrder: HS20050292

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: R361378 (0)	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C				**Matrix:** Groundwater	
HS20050292-01	35BWW14-200507	07 May 2020 07:45			11 May 2020 22:00	1
HS20050292-02	35BWW15-200507	07 May 2020 08:35			11 May 2020 22:24	1
HS20050292-03	35BWW17-200507	07 May 2020 09:20			11 May 2020 22:48	1
Batch ID: R361452 (0)	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C				**Matrix:** Groundwater	
HS20050292-04	35BWW16-200507	07 May 2020 10:05			12 May 2020 12:49	1
HS20050292-05	35BWW13-200507	07 May 2020 10:50			12 May 2020 13:13	1
HS20050292-06	35BWW23-200507	07 May 2020 11:40			12 May 2020 14:25	1
HS20050292-07	35BWW24-200507	07 May 2020 12:30			12 May 2020 14:49	1
HS20050292-08	35BWW25-200507	07 May 2020 13:15			12 May 2020 15:13	1
HS20050292-09	Trip Blank-200507	07 May 2020 00:00			12 May 2020 13:37	1
Batch ID: R361551 (0)	**Test Name :** ANIONS BY SW9056A				**Matrix:** Groundwater	
HS20050292-01	35BWW14-200507	07 May 2020 07:45			08 May 2020 14:41	1
HS20050292-06	35BWW23-200507	07 May 2020 11:40			08 May 2020 15:17	1
Batch ID: R362045 (0)	**Test Name :** SUBCONTRACT ANALYSIS - RSK				**Matrix:** Groundwater	
HS20050292-01	35BWW14-200507	07 May 2020 07:45			22 May 2020 18:00	1
HS20050292-06	35BWW23-200507	07 May 2020 11:40			22 May 2020 18:00	1
Batch ID: R362179 (0)	**Test Name :** SUBCONTRACT ANALYSIS - TOC ANALYSIS				**Matrix:** Groundwater	
HS20050292-01	35BWW14-200507	07 May 2020 07:45			27 May 2020 10:47	1
HS20050292-06	35BWW23-200507	07 May 2020 11:40			27 May 2020 10:47	1

ALS Houston, US Date: 27-May-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
WorkOrder: HS20050292

QC BATCH REPORT

Batch ID: R361378 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MBLK Sample ID: **VBLKW-200511** Units: **UG/L** Analysis Date: **11-May-2020 20:24**
Client ID: Run ID: **VOA6_361378** SeqNo: **5580772** 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	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	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	1.0	1.0								U

ALS Houston, US Date: 27-May-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
WorkOrder: HS20050292

QC BATCH REPORT

Batch ID: R361378 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MBLK Sample ID: **VBLKW-200511** Units: **UG/L** Analysis Date: **11-May-2020 20:24**
Client ID: Run ID: **VOA6_361378** SeqNo: **5580772** 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	1.0	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	*45.1*	*1.0*	*50*	*0*	*90.2*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*49.12*	*1.0*	*50*	*0*	*98.2*	*85 - 114*				
Surr: Dibromofluoromethane	*45.57*	*1.0*	*50*	*0*	*91.1*	*80 - 119*				

ALS Houston, US Date: 27-May-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
WorkOrder: HS20050292

QC BATCH REPORT

Batch ID: R361378 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MBLK Sample ID: **VBLKW-200511** Units: **UG/L** Analysis Date: **11-May-2020 20:24**
Client ID: Run ID: **VOA6_361378** SeqNo: **5580772** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Surr: Toluene-d8	*52.62*	*1.0*	*50*	*0*	*105*	*89 - 112*				

ALS Houston, US Date: 27-May-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
WorkOrder: HS20050292

QC BATCH REPORT

Batch ID: R361378 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

LCS Sample ID: **VLCSW-200511** Units: **UG/L** Analysis Date: **11-May-2020 19:11**
Client ID: Run ID: **VOA6_361378** SeqNo: **5580770** 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	19.86	1.0	20	0	99.3	78 - 124				
1,1,1-Trichloroethane	19.87	1.0	20	0	99.3	74 - 131				
1,1,2,2-Tetrachloroethane	19.2	1.0	20	0	96.0	71 - 121				
1,1,2-Trichlor-1,2,2-trifluoroethane	19.76	1.0	20	0	98.8	70 - 136				
1,1,2-Trichloroethane	19.68	1.0	20	0	98.4	80 - 119				
1,1-Dichloroethane	19.17	1.0	20	0	95.8	77 - 125				
1,1-Dichloroethene	19.38	1.0	20	0	96.9	71 - 131				
1,1-Dichloropropene	18.75	1.0	20	0	93.8	78 - 125				
1,2,3-Trichlorobenzene	24.42	1.0	20	0	122	69 - 129				
1,2,3-Trichloropropane	18.57	1.0	20	0	92.9	73 - 122				
1,2,4-Trichlorobenzene	21.98	1.0	20	0	110	69 - 130				
1,2,4-Trimethylbenzene	19.61	1.0	20	0	98.0	76 - 124				
1,2-Dibromo-3-chloropropane	19.66	1.0	20	0	98.3	62 - 128				
1,2-Dibromoethane	20.42	1.0	20	0	102	77 - 121				
1,2-Dichlorobenzene	19.4	1.0	20	0	97.0	80 - 119				
1,2-Dichloroethane	20.44	1.0	20	0	102	73 - 128				
1,2-Dichloropropane	19.07	1.0	20	0	95.4	78 - 122				
1,3,5-Trimethylbenzene	19.58	1.0	20	0	97.9	75 - 124				
1,3-Dichlorobenzene	19.11	1.0	20	0	95.5	80 - 119				
1,3-Dichloropropane	19.77	1.0	20	0	98.8	80 - 119				
1,4-Dichlorobenzene	18.92	1.0	20	0	94.6	79 - 118				
2,2-Dichloropropane	20.14	1.0	20	0	101	60 - 139				
2-Butanone	40.97	2.0	40	0	102	56 - 143				
2-Chlorotoluene	18.39	1.0	20	0	92.0	79 - 122				
2-Hexanone	37.98	2.0	40	0	94.9	57 - 139				
4-Chlorotoluene	18.64	1.0	20	0	93.2	78 - 122				
4-Isopropyltoluene	19.75	1.0	20	0	98.7	77 - 127				
4-Methyl-2-pentanone	37.58	2.0	40	0	94.0	67 - 130				
Acetone	36.17	2.0	40	0	90.4	39 - 160				
Benzene	19.04	1.0	20	0	95.2	79 - 120				
Bromobenzene	19.38	1.0	20	0	96.9	80 - 120				
Bromochloromethane	19.63	1.0	20	0	98.2	78 - 123				
Bromodichloromethane	19.7	1.0	20	0	98.5	79 - 125				
Bromoform	20.08	1.0	20	0	100	66 - 130				

ALS Houston, US Date: 27-May-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
WorkOrder: HS20050292

QC BATCH REPORT

Batch ID: R361378 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

LCS Sample ID: **VLCSW-200511** Units: **UG/L** Analysis Date: **11-May-2020 19:11**
Client ID: Run ID: **VOA6_361378** SeqNo: **5580770** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromomethane	22.58	1.0	20	0	113	53 - 141				
Carbon disulfide	39.41	2.0	40	0	98.5	64 - 133				
Carbon tetrachloride	18.71	1.0	20	0	93.6	72 - 136				
Chlorobenzene	19.78	1.0	20	0	98.9	82 - 118				
Chloroethane	19.44	1.0	20	0	97.2	60 - 138				
Chloroform	20.1	1.0	20	0	101	79 - 124				
Chloromethane	18.59	1.0	20	0	93.0	50 - 139				
cis-1,2-Dichloroethene	20.1	1.0	20	0	100	78 - 123				
cis-1,3-Dichloropropene	19.81	1.0	20	0	99.0	75 - 124				
Dibromochloromethane	20.49	1.0	20	0	102	74 - 126				
Dibromomethane	19.97	1.0	20	0	99.9	79 - 123				
Dichlorodifluoromethane	19.81	1.0	20	0	99.0	32 - 152				
Ethylbenzene	19.54	1.0	20	0	97.7	79 - 121				
Hexachlorobutadiene	24.38	1.0	20	0	122	66 - 134				
Isopropylbenzene	20.02	1.0	20	0	100	72 - 131				
m,p-Xylene	38.97	2.0	40	0	97.4	80 - 121				
Methylene chloride	20.4	2.0	20	0	102	74 - 124				
Naphthalene	20.82	1.0	20	0	104	61 - 128				
n-Butylbenzene	19.96	1.0	20	0	99.8	75 - 128				
n-Propylbenzene	19.1	1.0	20	0	95.5	76 - 126				
o-Xylene	19.44	1.0	20	0	97.2	78 - 122				
sec-Butylbenzene	19.19	1.0	20	0	96.0	77 - 126				
Styrene	19.77	1.0	20	0	98.9	78 - 123				
tert-Butylbenzene	19.31	1.0	20	0	96.5	78 - 124				
Tetrachloroethene	19.89	1.0	20	0	99.5	74 - 129				
Toluene	19.66	1.0	20	0	98.3	80 - 121				
trans-1,2-Dichloroethene	20.22	1.0	20	0	101	75 - 124				
trans-1,3-Dichloropropene	19.84	1.0	20	0	99.2	73 - 127				
Trichloroethene	19.86	1.0	20	0	99.3	79 - 123				
Trichlorofluoromethane	19.55	1.0	20	0	97.8	65 - 141				
Vinyl chloride	19.09	1.0	20	0	95.4	58 - 137				
Surr: 1,2-Dichloroethane-d4	*51.78*	*1.0*	*50*	*0*	*104*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*50.12*	*1.0*	*50*	*0*	*100*	*85 - 114*				
Surr: Dibromofluoromethane	*51.63*	*1.0*	*50*	*0*	*103*	*80 - 119*				

ALS Houston, US Date: 27-May-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
WorkOrder: HS20050292

QC BATCH REPORT

Batch ID: R361378 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

LCS Sample ID: **VLCSW-200511** Units: **UG/L** Analysis Date: **11-May-2020 19:11**
Client ID: Run ID: **VOA6_361378** SeqNo: **5580770** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Surr: Toluene-d8	*51.03*	*1.0*	*50*	*0*	*102*	*89 - 112*				

ALS Houston, US Date: 27-May-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
WorkOrder: HS20050292

QC BATCH REPORT

Batch ID: R361378 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS20050292-03MS** Units: **UG/L** Analysis Date: **11-May-2020 23:12**
Client ID: **35BWW17-200507** Run ID: **VOA6_361378** SeqNo: **5580779** 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	20.97	1.0	20	0	105	78 - 124				
1,1,1-Trichloroethane	19.03	1.0	20	0	95.1	74 - 131				
1,1,2,2-Tetrachloroethane	18.33	1.0	20	0	91.6	71 - 121				
1,1,2-Trichlor-1,2,2-trifluoroethane	19.44	1.0	20	0	97.2	70 - 136				
1,1,2-Trichloroethane	19.74	1.0	20	0	98.7	80 - 119				
1,1-Dichloroethane	17.4	1.0	20	0	87.0	77 - 125				
1,1-Dichloroethene	18.24	1.0	20	0	91.2	71 - 131				
1,1-Dichloropropene	19.56	1.0	20	0	97.8	78 - 125				
1,2,3-Trichlorobenzene	15.11	1.0	20	0	75.6	69 - 129				
1,2,3-Trichloropropane	19.01	1.0	20	0	95.1	73 - 122				
1,2,4-Trichlorobenzene	16.3	1.0	20	0	81.5	69 - 130				
1,2,4-Trimethylbenzene	20.98	1.0	20	0	105	76 - 124				
1,2-Dibromo-3-chloropropane	17.69	1.0	20	0	88.4	62 - 128				
1,2-Dibromoethane	20.57	1.0	20	0	103	77 - 121				
1,2-Dichlorobenzene	19.34	1.0	20	0	96.7	80 - 119				
1,2-Dichloroethane	19.72	1.0	20	0	98.6	73 - 128				
1,2-Dichloropropane	18.3	1.0	20	0	91.5	78 - 122				
1,3,5-Trimethylbenzene	21.49	1.0	20	0	107	75 - 124				
1,3-Dichlorobenzene	20.46	1.0	20	0	102	80 - 119				
1,3-Dichloropropane	19.81	1.0	20	0	99.1	80 - 119				
1,4-Dichlorobenzene	19.49	1.0	20	0	97.5	79 - 118				
2,2-Dichloropropane	17.54	1.0	20	0	87.7	60 - 139				
2-Butanone	30.77	2.0	40	0	76.9	56 - 143				
2-Chlorotoluene	19.99	1.0	20	0	100.0	79 - 122				
2-Hexanone	34.17	2.0	40	0	85.4	57 - 139				
4-Chlorotoluene	20.22	1.0	20	0	101	78 - 122				
4-Isopropyltoluene	21.31	1.0	20	0	107	77 - 127				
4-Methyl-2-pentanone	35.48	2.0	40	0	88.7	67 - 130				
Acetone	24.11	2.0	40	0	60.3	39 - 160				
Benzene	19.22	1.0	20	0	96.1	79 - 120				
Bromobenzene	21.24	1.0	20	0	106	80 - 120				
Bromochloromethane	17.39	1.0	20	0	87.0	78 - 123				
Bromodichloromethane	19.27	1.0	20	0	96.4	79 - 125				
Bromoform	19.69	1.0	20	0	98.5	66 - 130				

ALS Houston, US Date: 27-May-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
WorkOrder: HS20050292

QC BATCH REPORT

Batch ID: R361378 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS20050292-03MS** Units: **UG/L** Analysis Date: **11-May-2020 23:12**
Client ID: **35BWW17-200507** Run ID: **VOA6_361378** SeqNo: **5580779** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromomethane	18.39	1.0	20	0	91.9	53 - 141				
Carbon disulfide	33.75	2.0	40	0	84.4	64 - 133				
Carbon tetrachloride	20.08	1.0	20	0	100	72 - 136				
Chlorobenzene	20.87	1.0	20	0	104	82 - 118				
Chloroethane	16.9	1.0	20	0	84.5	60 - 138				
Chloroform	18.91	1.0	20	0	94.5	79 - 124				
Chloromethane	13.92	1.0	20	0	69.6	50 - 139				
cis-1,2-Dichloroethene	19.13	1.0	20	0	95.7	78 - 123				
cis-1,3-Dichloropropene	18.71	1.0	20	0	93.5	75 - 124				
Dibromochloromethane	20.05	1.0	20	0	100	74 - 126				
Dibromomethane	19.14	1.0	20	0	95.7	79 - 123				
Dichlorodifluoromethane	12.62	1.0	20	0	63.1	32 - 152				
Ethylbenzene	21.12	1.0	20	0	106	79 - 121				
Hexachlorobutadiene	19.18	1.0	20	0	95.9	66 - 134				
Isopropylbenzene	21.05	1.0	20	0	105	72 - 131				
m,p-Xylene	41.15	2.0	40	0	103	80 - 121				
Methylene chloride	17.6	2.0	20	0	88.0	74 - 124				
Naphthalene	14.16	1.0	20	0	70.8	61 - 128				
n-Butylbenzene	20.87	1.0	20	0	104	75 - 128				
n-Propylbenzene	20.92	1.0	20	0	105	76 - 126				
o-Xylene	20.37	1.0	20	0	102	78 - 122				
sec-Butylbenzene	21.16	1.0	20	0	106	77 - 126				
Styrene	20.3	1.0	20	0	101	78 - 123				
tert-Butylbenzene	21.91	1.0	20	0	110	78 - 124				
Tetrachloroethene	21.27	1.0	20	0	106	74 - 129				
Toluene	20.75	1.0	20	0	104	80 - 121				
trans-1,2-Dichloroethene	19.06	1.0	20	0	95.3	75 - 124				
trans-1,3-Dichloropropene	18.81	1.0	20	0	94.0	73 - 127				
Trichloroethene	19.99	1.0	20	0	100.0	79 - 123				
Trichlorofluoromethane	18.93	1.0	20	0	94.7	65 - 141				
Vinyl chloride	15.25	1.0	20	0	76.2	58 - 137				
Surr: 1,2-Dichloroethane-d4	*44.51*	*1.0*	*50*	*0*	*89.0*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*49.54*	*1.0*	*50*	*0*	*99.1*	*85 - 114*				
Surr: Dibromofluoromethane	*45.89*	*1.0*	*50*	*0*	*91.8*	*80 - 119*				

ALS Houston, US Date: 27-May-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
WorkOrder: HS20050292

QC BATCH REPORT

Batch ID: R361378 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS20050292-03MS** Units: **UG/L** Analysis Date: **11-May-2020 23:12**
Client ID: **35BWW17-200507** Run ID: **VOA6_361378** SeqNo: **5580779** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Surr: Toluene-d8	*53.64*	*1.0*	*50*	*0*	*107*	*89 - 112*				

ALS Houston, US Date: 27-May-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
WorkOrder: HS20050292

QC BATCH REPORT

Batch ID: R361378 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS20050292-03MSD** Units: **UG/L** Analysis Date: **11-May-2020 23:36**
Client ID: **35BWW17-200507** Run ID: **VOA6_361378** SeqNo: **5580780** 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	19.89	1.0	20	0	99.5	78 - 124	20.97	5.28	20	
1,1,1-Trichloroethane	18.46	1.0	20	0	92.3	74 - 131	19.03	3.05	20	
1,1,2,2-Tetrachloroethane	18.72	1.0	20	0	93.6	71 - 121	18.33	2.13	20	
1,1,2-Trichlor-1,2,2-trifluoroethane	18.8	1.0	20	0	94.0	70 - 136	19.44	3.36	20	
1,1,2-Trichloroethane	19.17	1.0	20	0	95.9	80 - 119	19.74	2.91	20	
1,1-Dichloroethane	16.71	1.0	20	0	83.6	77 - 125	17.4	4.01	20	
1,1-Dichloroethene	17.1	1.0	20	0	85.5	71 - 131	18.24	6.47	20	
1,1-Dichloropropene	18.04	1.0	20	0	90.2	78 - 125	19.56	8.11	20	
1,2,3-Trichlorobenzene	15.46	1.0	20	0	77.3	69 - 129	15.11	2.28	20	
1,2,3-Trichloropropane	19.02	1.0	20	0	95.1	73 - 122	19.01	0.0253	20	
1,2,4-Trichlorobenzene	16.92	1.0	20	0	84.6	69 - 130	16.3	3.74	20	
1,2,4-Trimethylbenzene	21.2	1.0	20	0	106	76 - 124	20.98	1.02	20	
1,2-Dibromo-3-chloropropane	18.43	1.0	20	0	92.1	62 - 128	17.69	4.11	20	
1,2-Dibromoethane	20.18	1.0	20	0	101	77 - 121	20.57	1.91	20	
1,2-Dichlorobenzene	19.64	1.0	20	0	98.2	80 - 119	19.34	1.56	20	
1,2-Dichloroethane	19.41	1.0	20	0	97.1	73 - 128	19.72	1.57	20	
1,2-Dichloropropane	18.24	1.0	20	0	91.2	78 - 122	18.3	0.314	20	
1,3,5-Trimethylbenzene	21.11	1.0	20	0	106	75 - 124	21.49	1.79	20	
1,3-Dichlorobenzene	20.03	1.0	20	0	100	80 - 119	20.46	2.12	20	
1,3-Dichloropropane	18.97	1.0	20	0	94.9	80 - 119	19.81	4.33	20	
1,4-Dichlorobenzene	19.78	1.0	20	0	98.9	79 - 118	19.49	1.46	20	
2,2-Dichloropropane	16.51	1.0	20	0	82.5	60 - 139	17.54	6.05	20	
2-Butanone	31.54	2.0	40	0	78.8	56 - 143	30.77	2.45	20	
2-Chlorotoluene	20.03	1.0	20	0	100	79 - 122	19.99	0.179	20	
2-Hexanone	33.71	2.0	40	0	84.3	57 - 139	34.17	1.35	20	
4-Chlorotoluene	20.02	1.0	20	0	100	78 - 122	20.22	1.02	20	
4-Isopropyltoluene	21.35	1.0	20	0	107	77 - 127	21.31	0.216	20	
4-Methyl-2-pentanone	34.73	2.0	40	0	86.8	67 - 130	35.48	2.12	20	
Acetone	24.8	2.0	40	0	62.0	39 - 160	24.11	2.82	20	
Benzene	18.4	1.0	20	0	92.0	79 - 120	19.22	4.33	20	
Bromobenzene	20.75	1.0	20	0	104	80 - 120	21.24	2.35	20	
Bromochloromethane	17.82	1.0	20	0	89.1	78 - 123	17.39	2.46	20	
Bromodichloromethane	18.98	1.0	20	0	94.9	79 - 125	19.27	1.53	20	
Bromoform	18.95	1.0	20	0	94.8	66 - 130	19.69	3.82	20	

ALS Houston, US Date: 27-May-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
WorkOrder: HS20050292

QC BATCH REPORT

Batch ID: R361378 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS20050292-03MSD** Units: **UG/L** Analysis Date: **11-May-2020 23:36**
Client ID: **35BWW17-200507** Run ID: **VOA6_361378** SeqNo: **5580780** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Bromomethane	16.94	1.0	20	0	84.7	53 - 141	18.39	8.2	20	
Carbon disulfide	31.81	2.0	40	0	79.5	64 - 133	33.75	5.9	20	
Carbon tetrachloride	19.53	1.0	20	0	97.6	72 - 136	20.08	2.8	20	
Chlorobenzene	19.58	1.0	20	0	97.9	82 - 118	20.87	6.4	20	
Chloroethane	15.57	1.0	20	0	77.8	60 - 138	16.9	8.23	20	
Chloroform	18.08	1.0	20	0	90.4	79 - 124	18.91	4.5	20	
Chloromethane	13.39	1.0	20	0	66.9	50 - 139	13.92	3.85	20	
cis-1,2-Dichloroethene	17.77	1.0	20	0	88.8	78 - 123	19.13	7.38	20	
cis-1,3-Dichloropropene	18.27	1.0	20	0	91.3	75 - 124	18.71	2.37	20	
Dibromochloromethane	20.15	1.0	20	0	101	74 - 126	20.05	0.514	20	
Dibromomethane	18.62	1.0	20	0	93.1	79 - 123	19.14	2.75	20	
Dichlorodifluoromethane	11.81	1.0	20	0	59.0	32 - 152	12.62	6.61	20	
Ethylbenzene	20.42	1.0	20	0	102	79 - 121	21.12	3.41	20	
Hexachlorobutadiene	18.5	1.0	20	0	92.5	66 - 134	19.18	3.6	20	
Isopropylbenzene	20.48	1.0	20	0	102	72 - 131	21.05	2.75	20	
m,p-Xylene	39.64	2.0	40	0	99.1	80 - 121	41.15	3.73	20	
Methylene chloride	16.52	2.0	20	0	82.6	74 - 124	17.6	6.33	20	
Naphthalene	15.5	1.0	20	0	77.5	61 - 128	14.16	9.04	20	
n-Butylbenzene	20.6	1.0	20	0	103	75 - 128	20.87	1.31	20	
n-Propylbenzene	20.36	1.0	20	0	102	76 - 126	20.92	2.7	20	
o-Xylene	19.9	1.0	20	0	99.5	78 - 122	20.37	2.37	20	
sec-Butylbenzene	20.67	1.0	20	0	103	77 - 126	21.16	2.34	20	
Styrene	19.15	1.0	20	0	95.7	78 - 123	20.3	5.84	20	
tert-Butylbenzene	21.4	1.0	20	0	107	78 - 124	21.91	2.36	20	
Tetrachloroethene	19.84	1.0	20	0	99.2	74 - 129	21.27	6.98	20	
Toluene	19.57	1.0	20	0	97.8	80 - 121	20.75	5.85	20	
trans-1,2-Dichloroethene	17.46	1.0	20	0	87.3	75 - 124	19.06	8.77	20	
trans-1,3-Dichloropropene	18.52	1.0	20	0	92.6	73 - 127	18.81	1.54	20	
Trichloroethene	19.21	1.0	20	0	96.0	79 - 123	19.99	4.01	20	
Trichlorofluoromethane	17.51	1.0	20	0	87.6	65 - 141	18.93	7.79	20	
Vinyl chloride	14.78	1.0	20	0	73.9	58 - 137	15.25	3.1	20	
Surr: 1,2-Dichloroethane-d4	*43.68*	*1.0*	*50*	*0*	*87.4*	*81 - 118*	*44.51*	*1.9*	*20*	
Surr: 4-Bromofluorobenzene	*49.21*	*1.0*	*50*	*0*	*98.4*	*85 - 114*	*49.54*	*0.676*	*20*	
Surr: Dibromofluoromethane	*46.6*	*1.0*	*50*	*0*	*93.2*	*80 - 119*	*45.89*	*1.55*	*20*	

ALS Houston, US Date: 27-May-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
WorkOrder: HS20050292

QC BATCH REPORT

Batch ID: R361378 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS20050292-03MSD** Units: **UG/L** Analysis Date: **11-May-2020 23:36**
Client ID: **35BWW17-200507** Run ID: **VOA6_361378** SeqNo: **5580780** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Surr: Toluene-d8	*53.65*	*1.0*	*50*	*0*	*107*	*89 - 112*	*53.64*	*0.00585*	*20*	

The following samples were analyzed in this batch: HS20050292-01 HS20050292-02 HS20050292-03

ALS Houston, US Date: 27-May-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
WorkOrder: HS20050292

QC BATCH REPORT

Batch ID: R361452 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MBLK Sample ID: **VBLKW-200512** Units: **UG/L** Analysis Date: **12-May-2020 12:25**
Client ID: Run ID: **VOA6_361452** SeqNo: **5582521** 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	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	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	1.0	1.0								U

ALS Houston, US Date: 27-May-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
WorkOrder: HS20050292

QC BATCH REPORT

Batch ID: R361452 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MBLK Sample ID: **VBLKW-200512** Units: **UG/L** Analysis Date: **12-May-2020 12:25**
Client ID: Run ID: **VOA6_361452** SeqNo: **5582521** 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	1.0	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	*44.7*	*1.0*	*50*	*0*	*89.4*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*49.57*	*1.0*	*50*	*0*	*99.1*	*85 - 114*				
Surr: Dibromofluoromethane	*46.11*	*1.0*	*50*	*0*	*92.2*	*80 - 119*				

ALS Houston, US Date: 27-May-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
WorkOrder: HS20050292

QC BATCH REPORT

Batch ID: R361452 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MBLK Sample ID: **VBLKW-200512** Units: **UG/L** Analysis Date: **12-May-2020 12:25**
Client ID: Run ID: **VOA6_361452** SeqNo: **5582521** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Surr: Toluene-d8	*54.07*	*1.0*	*50*	*0*	*108*	*89 - 112*				

ALS Houston, US Date: 27-May-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
WorkOrder: HS20050292

QC BATCH REPORT

Batch ID: R361452 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

LCS Sample ID: **VLCSW-200512** Units: **UG/L** Analysis Date: **12-May-2020 11:37**
Client ID: Run ID: **VOA6_361452** SeqNo: **5582520** 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	19.61	1.0	20	0	98.1	78 - 124				
1,1,1-Trichloroethane	19.19	1.0	20	0	96.0	74 - 131				
1,1,2,2-Tetrachloroethane	18.01	1.0	20	0	90.0	71 - 121				
1,1,2-Trichlor-1,2,2-trifluoroethane	18.88	1.0	20	0	94.4	70 - 136				
1,1,2-Trichloroethane	18.89	1.0	20	0	94.4	80 - 119				
1,1-Dichloroethane	17.97	1.0	20	0	89.8	77 - 125				
1,1-Dichloroethene	17.66	1.0	20	0	88.3	71 - 131				
1,1-Dichloropropene	18.43	1.0	20	0	92.2	78 - 125				
1,2,3-Trichlorobenzene	22.76	1.0	20	0	114	69 - 129				
1,2,3-Trichloropropane	18.46	1.0	20	0	92.3	73 - 122				
1,2,4-Trichlorobenzene	20.84	1.0	20	0	104	69 - 130				
1,2,4-Trimethylbenzene	19.25	1.0	20	0	96.3	76 - 124				
1,2-Dibromo-3-chloropropane	20.07	1.0	20	0	100	62 - 128				
1,2-Dibromoethane	19.75	1.0	20	0	98.7	77 - 121				
1,2-Dichlorobenzene	18.46	1.0	20	0	92.3	80 - 119				
1,2-Dichloroethane	19.71	1.0	20	0	98.6	73 - 128				
1,2-Dichloropropane	18.42	1.0	20	0	92.1	78 - 122				
1,3,5-Trimethylbenzene	19.22	1.0	20	0	96.1	75 - 124				
1,3-Dichlorobenzene	18.9	1.0	20	0	94.5	80 - 119				
1,3-Dichloropropane	18.95	1.0	20	0	94.7	80 - 119				
1,4-Dichlorobenzene	18.38	1.0	20	0	91.9	79 - 118				
2,2-Dichloropropane	19.49	1.0	20	0	97.4	60 - 139				
2-Butanone	37.8	2.0	40	0	94.5	56 - 143				
2-Chlorotoluene	18.22	1.0	20	0	91.1	79 - 122				
2-Hexanone	34.79	2.0	40	0	87.0	57 - 139				
4-Chlorotoluene	18.31	1.0	20	0	91.5	78 - 122				
4-Isopropyltoluene	19.46	1.0	20	0	97.3	77 - 127				
4-Methyl-2-pentanone	35.31	2.0	40	0	88.3	67 - 130				
Acetone	34.55	2.0	40	0	86.4	39 - 160				
Benzene	18.44	1.0	20	0	92.2	79 - 120				
Bromobenzene	18.93	1.0	20	0	94.6	80 - 120				
Bromochloromethane	19.61	1.0	20	0	98.0	78 - 123				
Bromodichloromethane	19.55	1.0	20	0	97.7	79 - 125				
Bromoform	19.43	1.0	20	0	97.2	66 - 130				

ALS Houston, US Date: 27-May-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
WorkOrder: HS20050292

QC BATCH REPORT

Batch ID: R361452 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

LCS Sample ID: **VLCSW-200512** Units: **UG/L** Analysis Date: **12-May-2020 11:37**
Client ID: Run ID: **VOA6_361452** SeqNo: **5582520** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromomethane	20.86	1.0	20	0	104	53 - 141				
Carbon disulfide	36.31	2.0	40	0	90.8	64 - 133				
Carbon tetrachloride	18.79	1.0	20	0	93.9	72 - 136				
Chlorobenzene	19.02	1.0	20	0	95.1	82 - 118				
Chloroethane	17.79	1.0	20	0	89.0	60 - 138				
Chloroform	19.41	1.0	20	0	97.0	79 - 124				
Chloromethane	16.8	1.0	20	0	84.0	50 - 139				
cis-1,2-Dichloroethene	19.12	1.0	20	0	95.6	78 - 123				
cis-1,3-Dichloropropene	19.06	1.0	20	0	95.3	75 - 124				
Dibromochloromethane	19.81	1.0	20	0	99.0	74 - 126				
Dibromomethane	19.61	1.0	20	0	98.1	79 - 123				
Dichlorodifluoromethane	18.52	1.0	20	0	92.6	32 - 152				
Ethylbenzene	19.18	1.0	20	0	95.9	79 - 121				
Hexachlorobutadiene	23.77	1.0	20	0	119	66 - 134				
Isopropylbenzene	19	1.0	20	0	95.0	72 - 131				
m,p-Xylene	38.39	2.0	40	0	96.0	80 - 121				
Methylene chloride	19.05	2.0	20	0	95.3	74 - 124				
Naphthalene	19.06	1.0	20	0	95.3	61 - 128				
n-Butylbenzene	19.91	1.0	20	0	99.5	75 - 128				
n-Propylbenzene	18.17	1.0	20	0	90.8	76 - 126				
o-Xylene	19.41	1.0	20	0	97.0	78 - 122				
sec-Butylbenzene	18.64	1.0	20	0	93.2	77 - 126				
Styrene	19.33	1.0	20	0	96.7	78 - 123				
tert-Butylbenzene	19.14	1.0	20	0	95.7	78 - 124				
Tetrachloroethene	19.03	1.0	20	0	95.2	74 - 129				
Toluene	19.1	1.0	20	0	95.5	80 - 121				
trans-1,2-Dichloroethene	19.3	1.0	20	0	96.5	75 - 124				
trans-1,3-Dichloropropene	19.62	1.0	20	0	98.1	73 - 127				
Trichloroethene	19.67	1.0	20	0	98.4	79 - 123				
Trichlorofluoromethane	18.51	1.0	20	0	92.5	65 - 141				
Vinyl chloride	16.9	1.0	20	0	84.5	58 - 137				
Surr: 1,2-Dichloroethane-d4	*50.11*	*1.0*	*50*	*0*	*100*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*50.36*	*1.0*	*50*	*0*	*101*	*85 - 114*				
Surr: Dibromofluoromethane	*49.47*	*1.0*	*50*	*0*	*98.9*	*80 - 119*				

ALS Houston, US Date: 27-May-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
WorkOrder: HS20050292

QC BATCH REPORT

Batch ID: R361452 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

LCS Sample ID: **VLCSW-200512** Units: **UG/L** Analysis Date: **12-May-2020 11:37**
Client ID: Run ID: **VOA6_361452** SeqNo: **5582520** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Surr: Toluene-d8	*50.79*	*1.0*	*50*	*0*	*102*	*89 - 112*				

ALS Houston, US Date: 27-May-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
WorkOrder: HS20050292

QC BATCH REPORT

Batch ID: R361452 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS20050234-01MS** Units: **UG/L** Analysis Date: **12-May-2020 19:38**
Client ID: Run ID: **VOA6_361452** SeqNo: **5582539** 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	20.75	1.0	20	0	104	78 - 124				
1,1,1-Trichloroethane	19.25	1.0	20	0	96.2	74 - 131				
1,1,2,2-Tetrachloroethane	19.41	1.0	20	0	97.0	71 - 121				
1,1,2-Trichlor-1,2,2-trifluoroethane	20.36	1.0	20	0	102	70 - 136				
1,1,2-Trichloroethane	20.08	1.0	20	0	100	80 - 119				
1,1-Dichloroethane	17.62	1.0	20	0	88.1	77 - 125				
1,1-Dichloroethene	17.98	1.0	20	0	89.9	71 - 131				
1,1-Dichloropropene	19.69	1.0	20	0	98.5	78 - 125				
1,2,3-Trichlorobenzene	15.14	1.0	20	0	75.7	69 - 129				
1,2,3-Trichloropropane	19.47	1.0	20	0	97.3	73 - 122				
1,2,4-Trichlorobenzene	15.61	1.0	20	0	78.1	69 - 130				
1,2,4-Trimethylbenzene	21.76	1.0	20	0	109	76 - 124				
1,2-Dibromo-3-chloropropane	19.29	1.0	20	0	96.5	62 - 128				
1,2-Dibromoethane	20.53	1.0	20	0	103	77 - 121				
1,2-Dichlorobenzene	20.23	1.0	20	0	101	80 - 119				
1,2-Dichloroethane	20.36	1.0	20	0	102	73 - 128				
1,2-Dichloropropane	18.83	1.0	20	0	94.2	78 - 122				
1,3,5-Trimethylbenzene	21.71	1.0	20	0	109	75 - 124				
1,3-Dichlorobenzene	21.2	1.0	20	0	106	80 - 119				
1,3-Dichloropropane	20.25	1.0	20	0	101	80 - 119				
1,4-Dichlorobenzene	20.3	1.0	20	0	102	79 - 118				
2,2-Dichloropropane	18.05	1.0	20	0	90.2	60 - 139				
2-Butanone	33.59	2.0	40	0	84.0	56 - 143				
2-Chlorotoluene	20.74	1.0	20	0	104	79 - 122				
2-Hexanone	35.9	2.0	40	0	89.7	57 - 139				
4-Chlorotoluene	20.73	1.0	20	0	104	78 - 122				
4-Isopropyltoluene	21.92	1.0	20	0	110	77 - 127				
4-Methyl-2-pentanone	36.78	2.0	40	0	91.9	67 - 130				
Acetone	25.1	2.0	40	0	62.8	39 - 160				
Benzene	19.33	1.0	20	0	96.7	79 - 120				
Bromobenzene	20.87	1.0	20	0	104	80 - 120				
Bromochloromethane	18.36	1.0	20	0	91.8	78 - 123				
Bromodichloromethane	19.5	1.0	20	0	97.5	79 - 125				
Bromoform	20.74	1.0	20	0	104	66 - 130				

ALS Houston, US Date: 27-May-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
WorkOrder: HS20050292

QC BATCH REPORT

Batch ID: R361452 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS20050234-01MS** Units: **UG/L** Analysis Date: **12-May-2020 19:38**
Client ID: Run ID: **VOA6_361452** SeqNo: **5582539** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromomethane	16.87	1.0	20	0	84.3	53 - 141				
Carbon disulfide	33.4	2.0	40	0	83.5	64 - 133				
Carbon tetrachloride	20.6	1.0	20	0	103	72 - 136				
Chlorobenzene	20.72	1.0	20	0	104	82 - 118				
Chloroethane	16.86	1.0	20	0	84.3	60 - 138				
Chloroform	18.61	1.0	20	0	93.1	79 - 124				
Chloromethane	13.71	1.0	20	0	68.6	50 - 139				
cis-1,2-Dichloroethene	18.56	1.0	20	0	92.8	78 - 123				
cis-1,3-Dichloropropene	19.01	1.0	20	0	95.1	75 - 124				
Dibromochloromethane	20.82	1.0	20	0	104	74 - 126				
Dibromomethane	19.08	1.0	20	0	95.4	79 - 123				
Dichlorodifluoromethane	11.71	1.0	20	0	58.5	32 - 152				
Ethylbenzene	21.47	1.0	20	0	107	79 - 121				
Hexachlorobutadiene	16.66	1.0	20	0	83.3	66 - 134				
Isopropylbenzene	21.89	1.0	20	0	109	72 - 131				
m,p-Xylene	41.88	2.0	40	0	105	80 - 121				
Methylene chloride	16.89	2.0	20	0	84.4	74 - 124				
Naphthalene	14.22	1.0	20	0	71.1	61 - 128				
n-Butylbenzene	21.73	1.0	20	0	109	75 - 128				
n-Propylbenzene	21.37	1.0	20	0	107	76 - 126				
o-Xylene	20.78	1.0	20	0	104	78 - 122				
sec-Butylbenzene	21.6	1.0	20	0	108	77 - 126				
Styrene	20.86	1.0	20	0	104	78 - 123				
tert-Butylbenzene	22.27	1.0	20	0	111	78 - 124				
Tetrachloroethene	22.57	1.0	20	0	113	74 - 129				
Toluene	20.94	1.0	20	0	105	80 - 121				
trans-1,2-Dichloroethene	19.22	1.0	20	0	96.1	75 - 124				
trans-1,3-Dichloropropene	19.56	1.0	20	0	97.8	73 - 127				
Trichloroethene	20.54	1.0	20	0.6405	99.5	79 - 123				
Trichlorofluoromethane	18.99	1.0	20	0	94.9	65 - 141				
Vinyl chloride	15	1.0	20	0	75.0	58 - 137				
Surr: 1,2-Dichloroethane-d4	*43.98*	*1.0*	*50*	*0*	*88.0*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*49.6*	*1.0*	*50*	*0*	*99.2*	*85 - 114*				
Surr: Dibromofluoromethane	*45.64*	*1.0*	*50*	*0*	*91.3*	*80 - 119*				

ALS Houston, US Date: 27-May-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
WorkOrder: HS20050292

QC BATCH REPORT

Batch ID: R361452 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS20050234-01MS** Units: **UG/L** Analysis Date: **12-May-2020 19:38**
Client ID: Run ID: **VOA6_361452** SeqNo: **5582539** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Surr: Toluene-d8	*53.19*	*1.0*	*50*	*0*	*106*	*89 - 112*				

ALS Houston, US Date: 27-May-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
WorkOrder: HS20050292

QC BATCH REPORT

Batch ID: R361452 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS20050234-01MSD** Units: **UG/L** Analysis Date: **12-May-2020 20:02**
Client ID: Run ID: **VOA6_361452** SeqNo: **5582540** 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	21.21	1.0	20	0	106	78 - 124	20.75	2.18	20	
1,1,1-Trichloroethane	18.87	1.0	20	0	94.4	74 - 131	19.25	1.97	20	
1,1,2,2-Tetrachloroethane	19.61	1.0	20	0	98.1	71 - 121	19.41	1.05	20	
1,1,2-Trichlor-1,2,2-trifluoroethane	19.03	1.0	20	0	95.2	70 - 136	20.36	6.75	20	
1,1,2-Trichloroethane	20.62	1.0	20	0	103	80 - 119	20.08	2.64	20	
1,1-Dichloroethane	16.79	1.0	20	0	84.0	77 - 125	17.62	4.79	20	
1,1-Dichloroethene	17.66	1.0	20	0	88.3	71 - 131	17.98	1.75	20	
1,1-Dichloropropene	19.14	1.0	20	0	95.7	78 - 125	19.69	2.82	20	
1,2,3-Trichlorobenzene	18.48	1.0	20	0	92.4	69 - 129	15.14	19.9	20	
1,2,3-Trichloropropane	20.35	1.0	20	0	102	73 - 122	19.47	4.42	20	
1,2,4-Trichlorobenzene	17.87	1.0	20	0	89.3	69 - 130	15.61	13.5	20	
1,2,4-Trimethylbenzene	21.4	1.0	20	0	107	76 - 124	21.76	1.65	20	
1,2-Dibromo-3-chloropropane	19.54	1.0	20	0	97.7	62 - 128	19.29	1.28	20	
1,2-Dibromoethane	21.17	1.0	20	0	106	77 - 121	20.53	3.06	20	
1,2-Dichlorobenzene	20.86	1.0	20	0	104	80 - 119	20.23	3.1	20	
1,2-Dichloroethane	20.25	1.0	20	0	101	73 - 128	20.36	0.556	20	
1,2-Dichloropropane	18.51	1.0	20	0	92.5	78 - 122	18.83	1.76	20	
1,3,5-Trimethylbenzene	21.76	1.0	20	0	109	75 - 124	21.71	0.191	20	
1,3-Dichlorobenzene	21.12	1.0	20	0	106	80 - 119	21.2	0.342	20	
1,3-Dichloropropane	20.37	1.0	20	0	102	80 - 119	20.25	0.583	20	
1,4-Dichlorobenzene	20.29	1.0	20	0	101	79 - 118	20.3	0.0672	20	
2,2-Dichloropropane	17.4	1.0	20	0	87.0	60 - 139	18.05	3.62	20	
2-Butanone	36.93	2.0	40	0	92.3	56 - 143	33.59	9.47	20	
2-Chlorotoluene	20.42	1.0	20	0	102	79 - 122	20.74	1.56	20	
2-Hexanone	35.98	2.0	40	0	89.9	57 - 139	35.9	0.21	20	
4-Chlorotoluene	20.5	1.0	20	0	102	78 - 122	20.73	1.12	20	
4-Isopropyltoluene	22.16	1.0	20	0	111	77 - 127	21.92	1.09	20	
4-Methyl-2-pentanone	37.73	2.0	40	0	94.3	67 - 130	36.78	2.56	20	
Acetone	26.47	2.0	40	0	66.2	39 - 160	25.1	5.29	20	
Benzene	18.72	1.0	20	0	93.6	79 - 120	19.33	3.25	20	
Bromobenzene	20.86	1.0	20	0	104	80 - 120	20.87	0.0491	20	
Bromochloromethane	18.29	1.0	20	0	91.5	78 - 123	18.36	0.376	20	
Bromodichloromethane	19.37	1.0	20	0	96.8	79 - 125	19.5	0.682	20	
Bromoform	20.45	1.0	20	0	102	66 - 130	20.74	1.41	20	

ALS Houston, US Date: 27-May-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
WorkOrder: HS20050292

QC BATCH REPORT

Batch ID: R361452 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS20050234-01MSD** Units: **UG/L** Analysis Date: **12-May-2020 20:02**
Client ID: Run ID: **VOA6_361452** SeqNo: **5582540** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Bromomethane	16.43	1.0	20	0	82.2	53 - 141	16.87	2.6	20	
Carbon disulfide	32.26	2.0	40	0	80.6	64 - 133	33.4	3.46	20	
Carbon tetrachloride	19.78	1.0	20	0	98.9	72 - 136	20.6	4.07	20	
Chlorobenzene	20.5	1.0	20	0	102	82 - 118	20.72	1.06	20	
Chloroethane	15.62	1.0	20	0	78.1	60 - 138	16.86	7.59	20	
Chloroform	18.13	1.0	20	0	90.6	79 - 124	18.61	2.63	20	
Chloromethane	13.23	1.0	20	0	66.2	50 - 139	13.71	3.56	20	
cis-1,2-Dichloroethene	18.23	1.0	20	0	91.2	78 - 123	18.56	1.76	20	
cis-1,3-Dichloropropene	19.07	1.0	20	0	95.3	75 - 124	19.01	0.27	20	
Dibromochloromethane	20.58	1.0	20	0	103	74 - 126	20.82	1.13	20	
Dibromomethane	19.14	1.0	20	0	95.7	79 - 123	19.08	0.299	20	
Dichlorodifluoromethane	11.37	1.0	20	0	56.9	32 - 152	11.71	2.89	20	
Ethylbenzene	21.13	1.0	20	0	106	79 - 121	21.47	1.62	20	
Hexachlorobutadiene	20.13	1.0	20	0	101	66 - 134	16.66	18.8	20	
Isopropylbenzene	21.2	1.0	20	0	106	72 - 131	21.89	3.18	20	
m,p-Xylene	41.44	2.0	40	0	104	80 - 121	41.88	1.07	20	
Methylene chloride	16.79	2.0	20	0	83.9	74 - 124	16.89	0.578	20	
Naphthalene	17.68	1.0	20	0	88.4	61 - 128	14.22	21.7	20	R
n-Butylbenzene	21.86	1.0	20	0	109	75 - 128	21.73	0.602	20	
n-Propylbenzene	21.02	1.0	20	0	105	76 - 126	21.37	1.64	20	
o-Xylene	20.78	1.0	20	0	104	78 - 122	20.78	0.0284	20	
sec-Butylbenzene	21.63	1.0	20	0	108	77 - 126	21.6	0.146	20	
Styrene	20.76	1.0	20	0	104	78 - 123	20.86	0.473	20	
tert-Butylbenzene	21.88	1.0	20	0	109	78 - 124	22.27	1.75	20	
Tetrachloroethene	21.78	1.0	20	0	109	74 - 129	22.57	3.58	20	
Toluene	20.64	1.0	20	0	103	80 - 121	20.94	1.45	20	
trans-1,2-Dichloroethene	18.44	1.0	20	0	92.2	75 - 124	19.22	4.15	20	
trans-1,3-Dichloropropene	19.18	1.0	20	0	95.9	73 - 127	19.56	1.96	20	
Trichloroethene	20.13	1.0	20	0.6405	97.4	79 - 123	20.54	2.04	20	
Trichlorofluoromethane	18.14	1.0	20	0	90.7	65 - 141	18.99	4.57	20	
Vinyl chloride	14.43	1.0	20	0	72.1	58 - 137	15	3.91	20	
Surr: 1,2-Dichloroethane-d4	*45.01*	*1.0*	*50*	*0*	*90.0*	*81 - 118*	*43.98*	*2.31*	*20*	
Surr: 4-Bromofluorobenzene	*50.18*	*1.0*	*50*	*0*	*100*	*85 - 114*	*49.6*	*1.16*	*20*	
Surr: Dibromofluoromethane	*46.04*	*1.0*	*50*	*0*	*92.1*	*80 - 119*	*45.64*	*0.86*	*20*	

ALS Houston, US Date: 27-May-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
WorkOrder: HS20050292

QC BATCH REPORT

Batch ID: R361452 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS20050234-01MSD** Units: **UG/L** Analysis Date: **12-May-2020 20:02**
Client ID: Run ID: **VOA6_361452** SeqNo: **5582540** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Surr: Toluene-d8	*53.86*	*1.0*	*50*	*0*	*108*	*89 - 112*	*53.19*	*1.24*	*20*	

The following samples were analyzed in this batch: HS20050292-04 HS20050292-05 HS20050292-06 HS20050292-07 HS20050292-08 HS20050292-09

ALS Houston, US Date: 27-May-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
WorkOrder: HS20050292

QC BATCH REPORT

Batch ID: R361551 (0) **Instrument: ICS-Integrion** **Method: ANIONS BY SW9056A**

MBLK Sample ID: **WBLKW1-050820** Units: **mg/L** Analysis Date: **08-May-2020 13:46**
Client ID: Run ID: **ICS-Integrion_361551** SeqNo: **5584522** 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: **WLCSW1-05020** Units: **mg/L** Analysis Date: **08-May-2020 14:04**
Client ID: Run ID: **ICS-Integrion_361551** SeqNo: **5584523** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	19.83	0.500	20	0	99.2	80 - 120				
Nitrogen, Nitrate (As N)	4.105	0.100	4	0	103	80 - 120				
Sulfate	19.62	0.500	20	0	98.1	80 - 120				

LCSD Sample ID: **WLCSDW1-050820** Units: **mg/L** Analysis Date: **08-May-2020 14:23**
Client ID: Run ID: **ICS-Integrion_361551** SeqNo: **5584524** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	19.8	0.500	20	0	99.0	80 - 120	19.83	0.161	20	
Nitrogen, Nitrate (As N)	4.083	0.100	4	0	102	80 - 120	4.105	0.533	20	
Sulfate	19.58	0.500	20	0	97.9	80 - 120	19.62	0.223	20	

MS Sample ID: **HS20050292-06MS** Units: **mg/L** Analysis Date: **08-May-2020 15:53**
Client ID: **35BWW23-200507** Run ID: **ICS-Integrion_361551** SeqNo: **5584529** PrepDate: DF: **5**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	72.56	2.50	50	21.16	103	80 - 120				
Nitrogen, Nitrate (As N)	10.99	0.500	10	0	110	80 - 120				
Sulfate	132.8	2.50	50	83.57	98.5	80 - 120				

ALS Houston, US Date: 27-May-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
WorkOrder: HS20050292

QC BATCH REPORT

Batch ID: R361551 (0) **Instrument:** ICS-Integrion **Method:** ANIONS BY SW9056A

MSD Sample ID: **HS20050292-06MSD** Units: **mg/L** Analysis Date: **08-May-2020 16:11**
Client ID: **35BWW23-200507** Run ID: **ICS-Integrion_361551** SeqNo: **5584530** PrepDate: DF: **5**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	72.72	2.50	50	21.16	103	80 - 120	72.56	0.206	20	
Nitrogen, Nitrate (As N)	11.02	0.500	10	0	110	80 - 120	10.99	0.314	20	
Sulfate	133.1	2.50	50	83.57	99.1	80 - 120	132.8	0.218	20	

The following samples were analyzed in this batch: HS20050292-01 HS20050292-06

ALS Houston, US Date: 27-May-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
WorkOrder: **HS20050292**

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
Arkansas	20-030-0	26-Mar-2021
Dept of Defense	ANAB L2231 V009	22-Dec-2021
Florida	E87611-28	30-Jun-2020
Kansas	E-10352 2019-2020	31-Jul-2020
Louisiana	03087, 2019-2020	30-Jun-2020
Maryland	343, 2019-2020	30-Jun-2020
North Carolina	624-2020	31-Dec-2020
Oklahoma	2019-141	31-Aug-2020
Texas	T104704231-20-26	30-Apr-2021

ALS Houston, US Date: 27-May-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
Work Order: HS20050292

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS20050292-01	35BWW14-200507	Login	5/8/2020 11:09:16 AM	PMG	WET389
HS20050292-01	35BWW14-200507	Login	5/8/2020 11:09:16 AM	PMG	VOA090
HS20050292-01	35BWW14-200507	Login	5/8/2020 11:09:16 AM	PMG	Sub
HS20050292-01	35BWW14-200507	Login	5/8/2020 11:09:16 AM	PMG	Sub
HS20050292-02	35BWW15-200507	Login	5/8/2020 11:09:16 AM	PMG	VOA090

ALS Houston, US Date: 27-May-20

Sample Receipt Checklist

Work Order ID: HS20050292 **Date/Time Received:** 08-May-2020 09:45

Client Name: CBI-Houston **Received by:** Asad Chaudhry

Completed By: /S/ Paresh M. Giga (eSignature) 08-May-2020 11:14 (Date/Time) **Reviewed by:** /S/ Andy C. Neir (eSignature) 08-May-2020 15:04 (Date/Time)

Matrices: GW 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):	42890	
Date/Time sample(s) sent to storage:	5/8/2020 11:30	

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: Sample 35BWW15-200507
checked off for all analysis.
Received 3 vials only per chain.
Logged for VOC only

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

Page 1 of 1

Project: APTIM LONGHORN
ARMY AMMN. PLANT (LHAAP)
GROUNDWATER TREATMENT PLANT (GWTP)
KARNACK, TEXAS

Project No. 501032

Job: 37MAY 2020_ALS

Prepared By: Scott Beesinger

P.O. Number

HS20050292
Aptim Environmental & Infrastucture, Inc.
Longhorn Army Ammunition Plant

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.#
35BWW14-200507	WG	5/7/20/0745		12	X	X	X	X	X							
35BWW15-200507	WG	5/7/20/0835		3	X	X	X	X	X							
35BWW17-200507	WG	5/7/20/0920		3	X											
35BWW17-200507-MS	WG	5/7/20/0920		3	X											
35BWW17-200507-MSD	WG	5/7/20/0920		3	X											
35BWW16-200507	WG	5/7/20/1005		3	X											
35BWW13-200507	WG	5/7/20/1050		3	X											
35BWW23-200507	WG	5/7/20/1140		12	X	X	X	X	X							

Additional Remarks: **Standard TAT on all parameters. Please email results to Susan.Huang@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	5/7/20	1430							AC	5/8/2020	09:45

For Lab Use Only

Received At Lab By:	Date	Time	Airbill No.	Opened By:	Date	Time	Temp of Container	Seal No.	Condition

Remarks:

U/C 1.2 IR#25 CFO 42890

(Word) S:\1-ces\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: R.J Modashia

Page 1 of 1

Project: APTIM LONGHORN
ARMY AMMN. PLANT (LHAAP)
GROUNDWATER TREATMENT PLANT (GWTP)
KARNACK, TEXAS

Project No. 501032

Job: 37MAY 2020_ALS

Prepared By: Scott Beesinger

P.O. Number

HS20050292
Aptim Environmental & Infrastucture, Inc.
Longhorn Army Ammunition Plant

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.#
35BWW24-200507	WG	5/7/20/1230		3	X											
35BWW25-200507	WG	5/7/20/1315		3	X											
TRIP BLANK	W	5/7/20		2	X											

Additional Remarks: **Standard TAT on all parameters. Please email results to Susan.Huang@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	5/7/20	1430							AC	5/8/2020	09:45

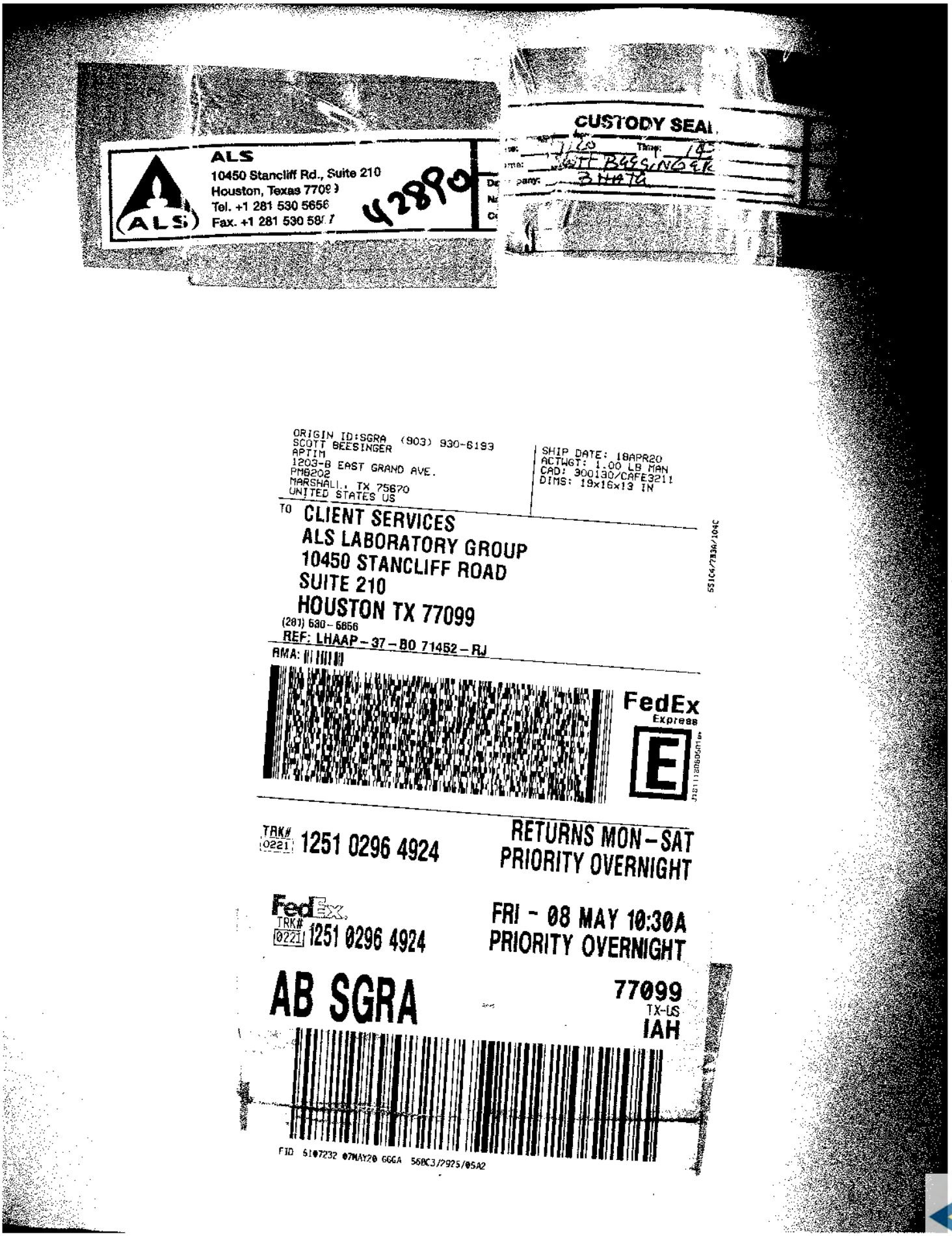
For Lab Use Only

Received At Lab By:	Date	Time	Airbill No.	Opened By:	Date	Time	Temp of Container	Seal No.	Condition

Remarks:

u/c 1.2 IR#25 CFO:0 42890

(Word) S:\1-ces\Forms\Chain of Custody - BiWeekly



ALS
10450 Stancliff Rd., Suite 210
Houston, Texas 7709
Tel. +1 281 530 5656
Fax. +1 281 530 58

CUSTODY SEAL

ORIGIN ID:SGRA (903) 930-6199
SCOTT BEESINGER
APTIM
1203-B EAST GRAND AVE.
PMB202
MARSHALL, TX 75670
UNITED STATES US

SHIP DATE: 18APR20
ACTWGT: 1.00 LB MAN
CAD: 900130/CAFE3211
DIMS: 19x16x13 IN

TO CLIENT SERVICES
ALS LABORATORY GROUP
10450 STANCLIFF ROAD
SUITE 210
HOUSTON TX 77099
(281) 530-5656
REF: LHAAP-37-B0 71452-RJ
RMA:

FedEx Express

TRK# 0221 1251 0296 4924

RETURNS MON-SAT
PRIORITY OVERNIGHT

FedEx
TRK# 0221 1251 0296 4924

FRI - 08 MAY 10:30A
PRIORITY OVERNIGHT

AB SGRA

77099
TX-US
IAH

FID 5107232 07MAY20 GGGA 56BC3/2925/05A2

ALS Environmental
ALS Group USA, Corp
1317 South 13th Avenue
Kelso, WA 98626
T : +1 360 577 7222
F : +1 360 636 1068
www.alsglobal.com

May 26, 2020

Analytical Report for Service Request No: K2003887

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

RE: HS20050292

Dear RJ,

Enclosed are the results of the sample(s) submitted to our laboratory May 13, 2020
For your reference, these analyses have been assigned our service request number **K2003887.**

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

Kelley Lovejoy
Project Manager

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Environmental
ALS Group USA, Corp
1317 South 13th Avenue
Kelso, WA 98626
T : +1 360 577 7222
F : +1 360 636 1068
www.alsglobal.com

Table of Contents

Acronyms
Qualifiers
State Certifications, Accreditations, And Licenses
Case Narrative
Chain of Custody
General Chemistry
Raw Data
    General Chemistry

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

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

ALS Environmental

Client: ALS Environmental - US
Project: HS20050292
Sample Matrix: Ground Water

Service Request: K2003887
Date Received: 05/13/2020

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:

Two ground water samples were received for analysis at ALS Environmental on 05/13/2020. 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, 05/21/2020: The matrix spike recovery of Total Organic Carbon for sample 35BWW14-200507 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 Kelley Lovejoy Date 05/26/2020

Chain of Custody

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

10450 Stancliff Rd, Ste 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887
www.alsglobal.com

K 2003887

Subcontract Chain of Custody

SAMPLING STATE: **Dept of Defense** **COC ID:** **13875**

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: HS20050292
TSR: Sonia West

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS20050292-01**	**35BWW14-200507**	**Groundwater**	**07 May 2020 07:45**
	TOC Analysis with DOD Level IV/EQuIS APTIM EDD			22 May 2020
2.	**HS20050292-06**	**35BWW23-200507**	**Groundwater**	**07 May 2020 11:40**
	TOC Analysis with DOD Level IV/EQuIS APTIM EDD			22 May 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: 5/11/2020 1800

Received By: _____ Date/Time: 5/13/2020 1000

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

01006914

PC KL

Cooler Receipt and Preservation Form

Client ALS Houston Service Request K20 03887

Received: 5/13/2020 Opened: 5/13/2020 By: CG Unloaded: 5/13/2020 By: CG

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

Temp Blank	Sample 1	Sample 2	Sample 3	Sample 4	IR GUN	Cooler / COC ID NA	Tracking Number NA	Filed
2.4					48900483	13875	1251 0297 0426	

4. Packing material: *Inserts* (*Baggies*) *Bubble Wrap* *Gel Packs* (*Wet Ice*) *Dry Ice* *Sleeves* _____
5. Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N
6. Were samples received in good condition (temperature, unbroken)? *Indicate in the table below.* NA (Y) N
   If applicable, tissue samples were received: *Frozen* *Partially Thawed* *Thawed*
7. Were all sample labels complete (i.e analysis, preservation, etc.)? NA (Y) N
8. Did all sample labels and tags agree with custody papers? *Indicate major discrepancies in the table on page 2.* NA (Y) N
9. Were appropriate bottles/containers and volumes received for the tests indicated? NA (Y) N
10. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* NA (Y) N
11. Were VOA vials received without headspace? *Indicate in the table below.* (NA) Y N
12. Was C12/Res negative? (NA) Y N

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count Bottle Type	Out of Temp	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:**	K2003887
Project:	HS20050292	**Date Collected:**	05/7/20
Sample Matrix:	Ground Water	**Date Received:**	05/13/20
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
35BWW14-200507	K2003887-001	**0.83**	0.50	0.20	0.07	1	05/21/20 22:28	
35BWW23-200507	K2003887-002	**0.52**	0.50	0.20	0.07	1	05/21/20 23:25	
Method Blank	K2003887-MB	ND U	0.50	0.20	0.07	1	05/21/20 21:43	

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	K2003887
Project	HS20050292	**Date Collected:**	05/07/20
Sample Matrix:	Ground Water	**Date Received:**	05/13/20
Analysis Method:	SM 5310 C	**Units:**	mg/L
Prep Method:	None	**Basis:**	NA

Replicate Sample Summary
Carbon, Total Organic

Sample Name:	Lab Code:	LOQ	LOD	MDL	Sample Result	Duplicate Result	Average	RPD	RPD Limit	Date Analyzed
35BWW14-200507	K2003887-001DUP	0.50	0.20	0.07	0.83	0.73	0.778	14 #	10	05/21/20
35BWW23-200507	K2003887-002DUP	0.50	0.20	0.07	0.52	0.48 J	0.498	9	10	05/21/20

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:**	K2003887
Project:	HS20050292	**Date Collected:**	05/07/20
Sample Matrix:	Ground Water	**Date Received:**	05/13/20
		Date Analyzed:	05/21/20
		Date Extracted:	NA

Matrix Spike Summary
Carbon, Total Organic

Sample Name:	35BWW14-200507	**Units:**	mg/L
Lab Code:	K2003887-001	**Basis:**	NA
Analysis Method:	SM 5310 C		
Prep Method:	None		

Matrix Spike
K2003887-001MS

Analyte Name	Sample Result	Result	Spike Amount	% Rec	% Rec Limits
Carbon, Total Organic	0.83	40.2	50.0	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:**	K2003887
Project:	HS20050292	**Date Analyzed:**	05/21/20
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:	680710

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K2003887-LCS	24.2	25.0	97	83-117

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US **Service Request:** K2003887
Project: HS20050292

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	680710	KQ2006709-01	05/21/20 21:14	25.0	24.2	97	90-110
CCV2	680710	KQ2006709-02	05/22/20 01:17	25.0	23.0	92	90-110
CCV3	680710	KQ2006709-03	05/22/20 06:27	25.0	22.8	91	90-110

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US **Service Request:**K2003887
Project: HS20050292

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	680710	KQ2006709-05	05/21/20 21:43	0.50	0.20	0.07	ND	U
CCB2	680710	KQ2006709-06	05/22/20 01:32	0.50	0.20	0.07	ND	U
CCB3	680710	KQ2006709-07	05/22/20 06:42	0.50	0.20	0.07	ND	U

Raw Data

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

General Chemistry

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

Work Request # Original ( ) K2003876, 3887, 4022, 4023
Tier: II, IV, II, II
Date Analyzed: 5/21/20
Analyst: BCP
Run # 698710
Analysis: TOC

DATA QUALITY REPORT
INORGANICS

Explain any "no" responses to questions below, and any corrective actions in the comments section below.

1.	Is the method name and number correct and appropriate?	yes/no/NA
2.	Holding times met for all analyses and for all samples?	yes/no/NA
3.	Are calculations correct?	yes/no/NA
4.	Is the reporting basis correct? (Dry Weight)	yes/no/NA
5.	All quality control criteria met?	yes/no
6.	Is the calibration curve correlation coefficient ≥ 0.995?	yes/no/NA
7.	MBs, CCVs, CCBs, LCSs, Dups, and Spikes, analyzed at proper frequency?	yes/no/NA
8.	Are ICVs, CCVs, and CCBs all within acceptance limits?	yes/no/NA
9.	Are results for methods blanks all ND?	yes/no/NA
10.	Are all QC samples within acceptance criteria? (LCS % rec, MS/DMS % rec, DUP or MS/DMS RPDs, etc.)	yes/no/NA
11.	Are all exceptions explained?	yes/no/NA
12.	Have all applicable service requests been reviewed?	yes/no/NA
13.	Are all samples labeled correctly?	yes/no/NA
14.	Have all instructions on the service request been followed? (e.g. Special MRLs, QC on a specific sample, Form V)	yes/no/NA
15.	Are detection limits and units reported correctly?	yes/no/NA
16.	Is the unused space on the benchsheet crossed out?	yes/no/NA
17.	Was analysis turned in by the due date? (n-2) (If not record SR#)	yes/no/NA

COMMENTS: K2003887-1MS reports a low % Rec. due to suspected matrix interference. K2003887-1Ld reports a high %RSD. However, these samples are less than 5x the MRL.

Final Approved by: _____ Date: 5/26/20

DQREPORT

Analytical Results Summary

Instrument Name: K-TOC-03 **Analyst:** BDITZLER **Analysis Lot:** 680710 **Method/Testcode:** SM 5310 C/TOC T

Lab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Amt.	Final Result	Dil	MDL	PQL	% Rec	% RSD	Date Analyzed	QC?	Tier
K2003876-001	Carbon, Total Organic	N/A		Water	3.74 mg/L	10 mL	3.74 mg/L	1	0.07	0.50			5/21/20 23:53:00	N	II
K2003876-003	Carbon, Total Organic	N/A		Water	2.83 mg/L	10 mL	2.83 mg/L	1	0.07	0.50			5/22/20 00:21:00	N	II
K2003887-001	Carbon, Total Organic	N/A		Ground Water	0.83 mg/L	10 mL	0.83 mg/L	1	0.07	0.50			5/21/20 22:28:00	N	IV
K2003887-002	Carbon, Total Organic	N/A		Ground Water	0.52 mg/L	10 mL	0.52 mg/L	1	0.07	0.50			5/21/20 23:25:00	N	IV
K2004022-001	Carbon, Total Organic	N/A		Water	3.06 mg/L	10 mL	3.06 mg/L	1	0.07	0.50			5/22/20 00:49:00	N	II
K2004022-002	Carbon, Total Organic	N/A		Water	2.09 mg/L	10 mL	2.09 mg/L	1	0.07	0.50			5/22/20 01:46:00	N	II
K2004022-003	Carbon, Total Organic	N/A		Water	3.77 mg/L	10 mL	3.77 mg/L	1	0.07	0.50			5/22/20 02:14:00	N	II
K2004022-004	Carbon, Total Organic	N/A		Water	2.22 mg/L	10 mL	440 mg/L	200	20	100			5/22/20 02:43:00	N	II
K2004022-005	Carbon, Total Organic	N/A		Water	17.59 mg/L	10 mL	70.3 mg/L	4	0.3	2.0			5/22/20 03:11:00	N	II
K2004022-006	Carbon, Total Organic	N/A		Water	32.90 mg/L	10 mL	32.9 mg/L	1	0.07	0.50			5/22/20 03:39:00	N	II
K2004022-007	Carbon, Total Organic	N/A		Water	2.12 mg/L	10 mL	420 mg/L	200	20	100			5/22/20 04:07:00	N	II
K2004022-008	Carbon, Total Organic	N/A		Water	17.07 mg/L	10 mL	17.1 mg/L	1	0.07	0.50			5/22/20 04:35:00	N	II
K2004022-009	Carbon, Total Organic	N/A		Water	1.49 mg/L	10 mL	300 mg/L	200	20	100			5/22/20 05:03:00	N	II
K2004023-001	Carbon, Total Organic	N/A		Water	8.72 mg/L	10 mL	8.72 mg/L	1	0.07	0.50			5/22/20 05:31:00	N	II
K2004023-002	Carbon, Total Organic	N/A		Water	23.46 mg/L	10 mL	23.5 mg/L	1	0.07	0.50			5/22/20 05:59:00	N	II
KQ2006709-01	Carbon, Total Organic	CCV		Ground Water	24.17 mg/L	10 mL	24.2 mg/L	1					5/21/20 21:14:00	N	IV
KQ2006709-02	Carbon, Total Organic	CCV		Ground Water	23.00 mg/L	10 mL	23.0 mg/L	1					5/22/20 01:17:00	N	IV
KQ2006709-03	Carbon, Total Organic	CCV		Ground Water	22.78 mg/L	10 mL	22.8 mg/L	1					5/22/20 06:27:00	N	IV
KQ2006709-05	Carbon, Total Organic	CCB		Ground Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			5/21/20 21:43:00	N	IV
KQ2006709-06	Carbon, Total Organic	CCB		Ground Water	0.01 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			5/22/20 01:32:00	N	IV
KQ2006709-07	Carbon, Total Organic	CCB		Ground Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			5/22/20 06:42:00	N	IV
KQ2006709-09	Carbon, Total Organic	MB		Ground Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			5/21/20 21:43:00	N	IV
KQ2006709-10	Carbon, Total Organic	LCS		Ground Water	24.17 mg/L	10 mL	24.2 mg/L	1	0.07	0.50	97		5/21/20 21:58:00	N	IV
KQ2006709-11	Carbon, Total Organic	MS	K2003887-001	Ground Water	20.11 mg/L	10 mL	40.2 mg/L	2	0.2	1.0	79*		5/21/20 22:56:00	N	IV
KQ2006709-12	Carbon, Total Organic	DUP	K2003876-001	Water	3.79 mg/L	10 mL	3.79 mg/L	1	0.07	0.50		1	5/21/20 23:53:00	N	II
KQ2006709-13	Carbon, Total Organic	DUP	K2003876-003	Water	2.75 mg/L	10 mL	2.75 mg/L	1	0.07	0.50		3	5/22/20 00:21:00	N	II
KQ2006709-14	Carbon, Total Organic	DUP	K2003887-001	Ground Water	0.73 mg/L	10 mL	0.73 mg/L	1	0.07	0.50		14*	5/21/20 22:28:00	N	IV
KQ2006709-15	Carbon, Total Organic	DUP	K2003887-002	Ground Water	0.48 mg/L	10 mL	0.48 mg/L J	1	0.07	0.50		9	5/21/20 23:25:00	N	IV
KQ2006709-16	Carbon, Total Organic	DUP	K2004022-002	Water	2.11 mg/L	10 mL	2.11 mg/L	1	0.07	0.50		<1	5/22/20 01:46:00	N	II

# indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

Analytical Results Summary

Instrument Name: K-TOC-03 **Analyst:** BDITZLER **Analysis Lot:** 680710 **Method/Testcode:** SM 5310 C/TOC T

Lab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Amt.	Final Result	Dil	MDL	PQL	% Rec	% RSD	Date Analyzed	QC?	Tier
KQ2006709-17	Carbon, Total Organic	DUP	K2004022-003	Water	3.68 mg/L	10 mL	3.68 mg/L	1	0.07	0.50		2	5/22/20 02:14:00	N	II
KQ2006709-18	Carbon, Total Organic	DUP	K2004022-001	Water	3.04 mg/L	10 mL	3.04 mg/L	1	0.07	0.50		<1	5/22/20 00:49:00	N	II
KQ2006709-19	Carbon, Total Organic	DUP	K2004022-004	Water	2.18 mg/L	10 mL	440 mg/L	200	20	100		2	5/22/20 02:43:00	N	II
KQ2006709-20	Carbon, Total Organic	DUP	K2004022-005	Water	17.57 mg/L	10 mL	70.3 mg/L	4	0.3	2.0		<1	5/22/20 03:11:00	N	II
KQ2006709-21	Carbon, Total Organic	DUP	K2004022-006	Water	32.11 mg/L	10 mL	32.1 mg/L	1	0.07	0.50		2	5/22/20 03:39:00	N	II
KQ2006709-22	Carbon, Total Organic	DUP	K2004022-007	Water	1.98 mg/L	10 mL	400 mg/L	200	20	100		7	5/22/20 04:07:00	N	II
KQ2006709-23	Carbon, Total Organic	DUP	K2004022-008	Water	17.33 mg/L	10 mL	17.3 mg/L	1	0.07	0.50		2	5/22/20 04:35:00	N	II
KQ2006709-24	Carbon, Total Organic	DUP	K2004022-009	Water	1.37 mg/L	10 mL	270 mg/L	200	20	100		8	5/22/20 05:03:00	N	II
KQ2006709-25	Carbon, Total Organic	DUP	K2004023-002	Water	23.48 mg/L	10 mL	23.5 mg/L	1	0.07	0.50		<1	5/22/20 05:59:00	N	II
KQ2006709-28	Carbon, Total Organic	DUP	K2004023-001	Water	8.63 mg/L	10 mL	8.63 mg/L	1	0.07	0.50		<1	5/22/20 05:31:00	N	II

# indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

0.016	OBSERVATIONS	4	ABOVE
0.000	STD Deviation	0.00780	0
0.000	AVERAGE	0.00390	0
0.000	UCL	0.01170	0
	LCL	-0.00390	0
			0
			0
	OBSERVATIONS	0	0
	STD Deviation	0.00000	0
	AVERAGE	#DIV/0!	0
	UCL	#DIV/0!	0
	LCL	#DIV/0!	0
			0
			0
	OBSERVATIONS	0	0
	STD Deviation	0.00000	0
	AVERAGE	#DIV/0!	0
	UCL	#DIV/0!	0
	LCL	#DIV/0!	0
			0
			0
	OBSERVATIONS	0	0
	STD Deviation	#DIV/0!	0
	AVERAGE	#DIV/0!	0
			0
			0
			0
			0
			0
			0

BCP 5/23/20

ALS ENVIRONMENTAL

Matrix: WATER

Analysis: Total Organic Carbon (WATER) Method:Oxidation EPA 415.1/9060/5310C

Printout	Sample #	Dil. Factor	Solution Conc.,mg/L	Blank Correction, mg/L	Net mg/L	TOC mg/L	Reported TOC mg/L	
CBA	RB	1			0.0000	0	<0.5	
2	ccv	1	24.171	0.0039	24.1669	24.1669	24.2	5/21/2020
3	ccb	1	0.000	0.0039	-0.0039	-0.0039	<0.5	5/21/2020
4	mb	1	0.000	0.0039	-0.0039	-0.0039	<0.5	5/21/2020
5	lcs	1	24.174	0.0039	24.1705	24.1705	24.2	5/21/2020
6	K2003887-001	1	0.835	0.0039	0.8312	0.8312	0.83	5/21/2020
7	K2003887-001	1	0.730	0.0039	0.7257	0.7257	0.7	5/21/2020
8	KQ2006709-11	2	20.115	0.0039	20.1107	40.2214	40	5/21/2020
9	K2003887-002	1	0.523	0.0039	0.5193	0.5193	0.52	5/21/2020
10	K2003887-002	1	0.480	0.0039	0.4759	0.4759	<0.5	5/21/2020
11	K2003876-001	1	3.746	0.0039	3.7422	3.7422	3.7	5/21/2020
12	K2003876-001	1	3.792	0.0039	3.7885	3.7885	3.79	5/21/2020
13	K2003876-003	1	2.834	0.0039	2.8304	2.8304	2.83	5/22/2020
14	K2003876-003	1	2.756	0.0039	2.7522	2.7522	2.75	5/22/2020
15	K2004022-001	1	3.069	0.0039	3.0647	3.0647	3.1	5/22/2020
16	K2004022-001	1	3.041	0.0039	3.0374	3.0374	3.0	5/22/2020
17	ccv	1	23.004	0.0039	23.0000	23	23.00	5/22/2020
18	ccb	1	0.016	0.0039	0.0117	0.0117	<0.5	5/22/2020
19	K2004022-002	1	2.098	0.0039	2.0936	2.0936	2.1	5/22/2020
20	K2004022-002	1	2.113	0.0039	2.1086	2.1086	2.11	5/22/2020
21	K2004022-003	1	3.774	0.0039	3.7698	3.7698	3.77	5/22/2020
22	K2004022-003	1	3.684	0.0039	3.6797	3.6797	3.7	5/22/2020
23	K2004022-004	200	2.225	0.0039	2.2211	444.22	444.2	5/22/2020
24	K2004022-004	200	2.182	0.0039	2.1776	435.52	435.52	5/22/2020
25	K2004022-005	4	17.590	0.0039	17.5857	70.3428	70.34	5/22/2020

ICAL Date 10/20/16 ICAL ID#:11-GEN-05-51A

LCS =24.0 ppm APG 4013 Lot #010615 (REF# 11-GEN-05-50N)

CCV = 25.0 ppm (Ref.#11-GEN-05-52E)

Spike: 0.05 ml of 5000 ppm stock ----> 10.0 ml =25.0 ppm x Dilution Factor (Ref.# 11-GEN-05-51M)

		date	time
Analyzed By:	KD	Date Analyzed	5/23/20
Reviewed By:	JC	Date Reviewed	5/26/20

ALS ENVIRONMENTAL

Matrix: WATER

Analysis: Total Organic Carbon (WATER) Method:Oxidation EPA 415.1/9060/5310C

Printout	Sample #	Dil. Factor	Solution Conc.,mg/L	Blank Correction, mg/L	Net mg/L	TOC mg/L	Reported TOC mg/L	
26	K2004022-005	4	17.579	0.0039	17.5746	70.2984	70.30	5/22/2020
27	K2004022-006	1	32.905	0.0039	32.9014	32.9014	32.90	5/22/2020
28	K2004022-006	1	32.118	0.0039	32.1144	32.1144	32.1	5/22/2020
29	K2004022-007	200	2.120	0.0039	2.1164	423.28	423.3	5/22/2020
30	K2004022-007	200	1.986	0.0039	1.9820	396.4	396.4	5/22/2020
31	K2004022-008	1	17.072	0.0039	17.0678	17.0678	17.1	5/22/2020
32	K2004022-008	1	17.335	0.0039	17.3314	17.3314	17.3	5/22/2020
33	K2004022-009	200	1.489	0.0039	1.4853	297.06	297.1	5/22/2020
34	K2004022-009	200	1.372	0.0039	1.3681	273.62	273.6	5/22/2020
35	K2004023-001	1	8.721	0.0039	8.7171	8.7171	8.7	5/22/2020
36	K2004023-001	1	8.638	0.0039	8.6337	8.6337	8.6	5/22/2020
37	K2004023-002	1	23.459	0.0039	23.4555	23.4555	23.5	5/22/2020
38	K2004023-002	1	23.484	0.0039	23.4799	23.4799	23.5	5/22/2020
39	ccv	1	22.780	0.0039	22.7759	22.7759	22.8	5/22/2020
40	ccb	1	0.000	0.0039	-0.0039	-0.0039	<0.5	5/22/2020
41		1			0.0000	0	<0.5	
42		1			0.0000	0	<0.5	
43		1			0.0000	0	<0.5	
44		1			0.0000	0	<0.5	
45		1			0.0000	0	<0.5	
46		1			0.0000	0	<0.5	
47		1			0.0000	0	<0.5	
48		1			0.0000	0	<0.5	
49		1			0.0000	0	<0.5	
50		1			0.0000	0	<0.5	

Analyzed By:	Date Analyzed 5/23/20
Reviewed By:	Date Reviewed 5/26/20

Schedule: 05212020b

L80710

Version: 2
Instrument: Fusion1
Last Saved by: Fusion1 (Fusion1)
Last Saved on: 2020/05/21 15:11 - Thursday

Position	Sample Type	Sample ID	Method ID (Calibration ID)	Reps	Use	State
(Clean)	Clean	Clean		1	True	Ready
(Clean)	Clean	Clean		1	True	Ready
(Clean)	Clean	Clean		1	True	Ready
(Blank)	Blank	Reagent/Acid Blank		1	True	Ready
D	Sample	RB	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
1	Sample	MB1	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
C	Check Standard	[TOC] LCS [24.0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
2	Sample	ICS	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
3	Sample	K2003887-001.01	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
4	Sample	K2003887-001.01 ms 2x	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
5	Sample	RB	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
6	Sample	K2003887-002.01	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
7	Sample	K2003876-001.01	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
8	Sample	K2003876-003.01	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
9	Sample	K2004022-001.01	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
10	Sample	K2004022-002.01	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
11	Sample	K2004022-003.01	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
12	Sample	K2004022-004.01 200x	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
13	Sample	K2004022-005.01 4x	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
14	Sample	K2004022-006.01	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
15	Sample	K2004022-007.01 200x	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
16	Sample	K2004022-008.01	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
17	Sample	K2004022-009.01 200x	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
18	Sample	K2004023-001.01	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
19	Sample	K2004023-002.01	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
20	Sample	MB2	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
C	Check Standard	[TOC] LCS [24.0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
21	Sample	K2004023-003.01	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
22	Sample	K2004023-004.01 200x	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
23	Sample	K2004023-005.01 4x	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
24	Sample	K2004023-006.01	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
25	Sample	K2004023-007.01	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
26	Sample	K2004023-008.01	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
27	Sample	K2004023-009.01 200x	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
28	Sample	K2004023-010.01 200x	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
29	Sample	K2004023-011.01 2x	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
30	Sample	K2003957-001.01	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
31	Sample	K2004021-001.01	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
32	Sample	K2003982-001.01	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
33	Sample	K2003982-002.01	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
34	Sample	K2003982-003.01	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
35	Sample	K2003982-003.01 ms 4x	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
36	Sample	RB	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
37	Sample	K2003982-004.01	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
38	Sample	K2003982-005.01	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready

Fusion Report - 05212020b
Thursday, May 21, 2020 06:36 PM

(View - Reps, Unused Reps, Meta-Data, Signature, History)
Printed on 2020/05/23 09:18 - Saturday

Report Summary Information

Company Location:	Gen Chem Lab		
Schedule Name:	05212020b	Engine Version:	1.1.5.1
Instrument Name:	Fusion1	Firmware Version:	1.2.0696
Report Version:	1 of 1	Connection:	RS232 COM1
Report Creation by Operators (schedule version):	Fusion1 (Fusion1) (v2)		
Comment:			

Report Results

Sample Type: Clean — From Schedule Version 2

	Pos	Analysis Type	Sample ID	Start Time
◆	(clean)		Clean	2020/05/21 18:36

Rep #	Base Analysis Type	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	IC Clean	13.10	16.72	3.63	49.93	08:00
2	TC Clean	3.33	6.85	3.52	49.69	07:16
3	TC Clean	1.23	4.88	3.65	49.71	07:00
4	TC Clean	1.04	4.61	3.57	49.73	06:59

Sample Type: Clean — From Schedule Version 2

	Pos	Analysis Type	Sample ID	Start Time
◆	(clean)		Clean	2020/05/21 19:10

Rep #	Base Analysis Type	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	IC Clean	0.56	4.18	3.62	49.93	07:57
2	TC Clean	2.82	6.41	3.59	49.74	07:17
3	TC Clean	1.49	4.91	3.42	49.76	07:02
4	TC Clean	1.32	4.76	3.44	49.80	07:01

Sample Type: Clean

From Schedule Version 2

	Pos	Analysis Type	Sample ID	Start Time
◆	(clean)		Clean	2020/05/21 19:44

Rep #	Base Analysis Type	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	IC Clean	0.51	4.02	3.51	49.66	05:26
2	TC Clean	2.97	6.59	3.62	49.78	07:19
3	TC Clean	1.63	5.12	3.49	49.86	06:59
4	TC Clean	1.58	5.18	3.60	49.83	07:03

Sample Type: Blank (Creating v1386)

From Schedule Version 2

	Pos	Analysis Type	Sample ID	Start Time
◆	(blank)		Reagent/Acid Blank	2020/05/21 20:16

Rep #	Base Analysis Type	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	IC Clean	0.56	4.03	3.46	49.60	05:24
2	TC Clean	3.09	6.69	3.60	49.85	07:18
3	TC Clean	1.72	5.11	3.38	49.82	07:01
4	TC Clean	1.38	4.95	3.57	49.86	07:00
5	Reagent Blank	3.16	6.55	3.39	49.96	05:08
6	Acid Blank	0.80	4.32	3.53	49.67	05:27

Sample Type: Sample

From Schedule Version 2

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	D	TOC	RB	0.1450 ppm	0.0000 ppm	0.0000%	2020/05/21 20:59

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.1450	1.4502	7.51	11.09	3.58	49.90	10:31

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.4826 (IC) (v1386)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

Sample Type: Check Standard --> CCV 25 ppm

From Schedule Version 2

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	24.1708 ppm (PASS)	0.0000 ppm	0%	2020/05/21 21:14

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	24.1708	241.7076	178.71	182.15	3.44	49.97	10:32

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)	50 ppmC

Sample Type: Check Standard --> CCB From Schedule Version 2

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.0000 ppm (PASS)	0.0000 ppm	0%	2020/05/21 21:29

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.0000	0.0000	6.24	9.83	3.60	49.99	10:30

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)	0 ppmC

Sample Type: Sample From Schedule Version 2

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	1	TOC	MB1	0.0000 ppm	0.0000 ppm	0.0000%	2020/05/21 21:43

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	5.62	9.23	3.61	50.01	10:30

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.4826 (IC) (v1386)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

Sample Type: Check Standard --> LCS From Schedule Version 2

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	C	TOC	25.0000	1:1	[TOC] LCS [24.0 ppm]	0 / infinity (NA / NA)	24.1744 ppm (PASS)	0.0000 ppm	0%	2020/05/21 21:58

Pos	Base Analysis	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time

	Type									
C	TOC	25.0 ppm	1	24.1744	241.7442	178.74	182.28	3.55	50.03	10:33

Completion State	Success Action	Method	Calibration	STD Conc - Pos C
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)	25 ppmC

Sample Type: Sample From Schedule Version 2

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	2	TOC	ICS	0.3197 ppm	0.0000 ppm	0.0000%	2020/05/21 22:13

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.3197	3.1967	8.75	12.22	3.46	50.02	10:33

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.4826 (IC) (v1386)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	3	TOC	K2003887-001.01	0.7824 ppm	0.0745 ppm	9.5300%	2020/05/21 22:28

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.8351	8.3506	12.42	15.80	3.38	50.05	10:31
2	TOC	0.7296	7.2965	11.67	15.15	3.48	50.06	10:30

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.4826 (IC) (v1386)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	4	TOC	K2003887-001.01 ms 2x	20.1146 ppm	0.0000 ppm	0.0000%	2020/05/21 22:56

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	20.1146	201.1464	149.40	152.85	3.45	50.06	10:33

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.4826 (IC) (v1386)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	5	TOC	RB	0.0000 ppm	0.0000 ppm	0.0000%	2020/05/21 23:10

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	5.58	9.03	3.46	50.09	10:32

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.4826 (IC) (v1386)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	6	TOC	K2003887-002.01	0.5015 ppm	0.0307 ppm	6.1100%	2020/05/21 23:25

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.5232	5.2318	10.20	13.62	3.42	50.10	10:28
2	TOC	0.4798	4.7983	9.89	13.40	3.51	50.11	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.4826 (IC) (v1386)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	7	TOC	K2003876-001.01	3.7693 ppm	0.0327 ppm	0.8700%	2020/05/21 23:53

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	3.7461	37.4611	33.10	36.67	3.57	50.12	10:27
2	TOC	3.7924	37.9241	33.43	36.87	3.44	50.12	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.4826 (IC) (v1386)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	8	TOC	K2003876-003.01	2.7952 ppm	0.0552 ppm	1.9800%	2020/05/22 00:21

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.8343	28.3426	26.62	30.15	3.53	50.12	10:29
2	TOC	2.7561	27.5615	26.07	29.66	3.59	50.13	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.4826 (IC) (v1386)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	9	TOC	K2004022-001.01	3.0549 ppm	0.0193 ppm	0.6300%	2020/05/22 00:49

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	3.0686	30.6859	28.29	31.91	3.62	50.16	10:27
2	TOC	3.0413	30.4129	28.09	31.57	3.48	50.16	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.4826 (IC) (v1386)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 2

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	23.0039 ppm	0.0000 ppm	0%	2020/05/22 01:17

						(PASS)				

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	23.0039	230.0390	170.42	173.89	3.47	50.17	10:30

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)	50 ppmC

Sample Type: Check Standard --> CCB From Schedule Version 2

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.0156 ppm (PASS)	0.0000 ppm	0%	2020/05/22 01:32

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.0156	0.1556	7.08	10.46	3.38	50.18	10:29

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)	0 ppmC

Sample Type: Sample From Schedule Version 2

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	10	TOC	K2004022-002.01	2.1050 ppm	0.0106 ppm	0.5100%	2020/05/22 01:46

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.0975	20.9749	21.39	24.87	3.48	50.19	10:29
2	TOC	2.1125	21.1255	21.49	24.99	3.50	50.20	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.4826 (IC) (v1386)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	11	TOC	K2004022-003.01	3.7287 ppm	0.0637 ppm	1.7100%	2020/05/22 02:14

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	3.7737	37.7369	33.30	36.80	3.51	50.20	10:32
2	TOC	3.6836	36.8362	32.66	36.29	3.64	50.19	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.4826 (IC) (v1386)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

	Pos	Analysis	Sample ID	Result (ppmC)	Std. Dev.	RSD	Start Time

		Type			(ppmC)		
◆	12	TOC	K2004022-004.01 200x	2.2033 ppm	0.0308 ppm	1.4000%	2020/05/22 02:43

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.2250	22.2500	22.29	25.82	3.53	50.21	10:28
2	TOC	2.1815	21.8151	21.98	25.33	3.34	50.21	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.4826 (IC) (v1386)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	13	TOC	K2004022-005.01 4x	17.5841 ppm	0.0079 ppm	0.0400%	2020/05/22 03:11

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	17.5896	175.8964	131.46	134.93	3.47	50.23	10:28
2	TOC	17.5785	175.7852	131.38	134.80	3.42	50.23	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.4826 (IC) (v1386)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	14	TOC	K2004022-006.01	32.5118 ppm	0.5565 ppm	1.7100%	2020/05/22 03:39

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	32.9053	329.0530	240.29	243.81	3.52	50.21	10:27
2	TOC	32.1183	321.1828	234.69	238.22	3.53	50.24	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.4826 (IC) (v1386)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	15	TOC	K2004022-007.01 200x	2.0531 ppm	0.0950 ppm	4.6300%	2020/05/22 04:07

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.1203	21.2029	21.55	25.13	3.59	50.25	10:28
2	TOC	1.9859	19.8588	20.59	24.11	3.52	50.25	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.4826 (IC) (v1386)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	16	TOC	K2004022-008.01	17.2035 ppm	0.1864 ppm	1.0800%	2020/05/22 04:35

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	17.0717	170.7172	127.78	131.32	3.54	50.26	10:30
2	TOC	17.3353	173.3532	129.66	133.04	3.38	50.26	10:29

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	17	TOC	K2004022-009.01 200x	1.4306 ppm	0.0829 ppm	5.7900%	2020/05/22 05:03

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.4892	14.8922	17.06	20.44	3.38	50.26	10:31
2	TOC	1.3720	13.7198	16.23	19.64	3.41	50.26	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.4826 (IC) (v1386)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	18	TOC	K2004023-001.01	8.6793 ppm	0.0589 ppm	0.6800%	2020/05/22 05:31

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	8.7210	87.2096	68.45	71.92	3.47	50.26	10:27
2	TOC	8.6376	86.3764	67.86	71.40	3.55	50.28	10:30

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.4826 (IC) (v1386)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	19	TOC	K2004023-002.01	23.4716 ppm	0.0172 ppm	0.0700%	2020/05/22 05:59

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	23.4594	234.5945	173.17	176.67	3.50	50.27	10:26
2	TOC	23.4838	234.8379	173.34	176.77	3.43	50.27	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.4826 (IC) (v1386)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 2

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◈	B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	22.7798 ppm (PASS)	0.0000 ppm	0%	2020/05/22 06:27

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	22.7798	227.7984	168.83	172.36	3.54	50.30	10:36

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria	Do Nothing	CAS_salt_010711	CAS_salt_010711	50 ppmC

met.	(v4)	(v35)

Sample Type: Check Standard --> CCB — From Schedule Version 2

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.0000 ppm (PASS)	0.0000 ppm	0%	2020/05/22 06:42

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.0000	0.0000	5.98	9.58	3.60	50.30	10:33

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)	0 ppmC

Sample Type: Sample — From Schedule Version 2

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	20	TOC	MB2	0.0000 ppm	0.0000 ppm	0.0000%	2020/05/22 06:57

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	5.86	9.33	3.47	50.28	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.4826 (IC) (v1386)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

Sample Type: Check Standard --> LCS — From Schedule Version 2

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	C	TOC	25.0000	1:1	[TOC] LCS [24.0 ppm]	0 / infinity (NA / NA)	22.5351 ppm (PASS)	0.0000 ppm	0%	2020/05/22 07:12

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
C	TOC	25.0 ppm	1	22.5351	225.3509	167.09	170.46	3.37	50.28	10:33

Completion State	Success Action	Method	Calibration	STD Conc - Pos C
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)	25 ppmC

Sample Type: Sample — From Schedule Version 2

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.4826 (IC) (v1386)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◉	32	TOC	K2003982-001.01	0.0000 ppm	0.0000 ppm	0.0000%	2020/05/22 13:19

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	-56.96	0.00	56.96	0.00	00:42

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 6.4826 (IC) (v1386)	CAS_salt_010711 (v4)	CAS_salt_010711 (v35)

Meta Data Used in this Report

Blanks

Version	Reagent (Abs)	Acid (Abs)	DI IC (Abs)	DI TC (Abs)	DI TOC (Abs)	Save Time	Operator
v1385	1.3080	1.0450	0.0000	0.0000	0.0000	2020/05/21 17:32	Fusion1 (Fusion1)
v1386	1.0550	0.7970	0.0000	0.0000	0.0000	2020/05/21 20:59	Fusion1 (Fusion1)

Calibrations

Name: CAS_salt_010711 (TOC)

Version: v35

Ver Creation: 2020/05/09 16:50

Comment:

Operator: Fusion1 (Fusion1)

Basic Analysis Type: TOC

Calibration curve formula: TOC: y = 7.105x + 6.969

r^2 value: TOC: r^2 = 0.99936

Basic Analysis Type: TOC

Sample ID	Y Raw Value	X Expected	Message	End Time
DI Water	6.6220	0.0000		2020/05/09 15:23
0.500 ppm	9.3820	0.5000		2020/05/09 15:38
1.0 ppm	12.1910	1.0000		2020/05/09 15:52
5.0 ppm	39.9300	5.0000		2020/05/09 16:06
10 ppm	81.4900	10.0000		2020/05/09 16:20
25 ppm	190.3090	25.0000		2020/05/09 16:35
50 ppm	358.9940	50.0000		2020/05/09 16:49

Methods

Name: CAS_salt_010711 (TOC)

Version: v4 Operator: Fusion1 (Fusion1)
Ver Creation: 2019/02/21 17:57
Comment:

Parameter	Value
SampleVolume	10.0 mL
Dilution	1:10
AcidVolume	0.5 ml
ReagentVolume	2.0 ml
UVReactorPrerinse	Off
UVReactorPrerinseVolume	5.0
NumberOfUVReactorPrerinses	1
ICSpargeTime	1.00 mins
DetectorSweepFlow	500 ml/min
PreSpargeTime	2.00 mins
SystemFlow	500 ml/min

Advanced Parameter	Value
NeedleRinseVolume	5.0 ml
VialPrimeVolume	2.0 ml
ICSamplePrimeVolume	2.0 ml
ICSpargeRinseVolume	12.0 ml
BaselineStabilizeTime	0.70 min
DetectorPressureFlow	150 ml/min
SyringeSpeedWaste	10
SyringeSpeedAcid	7
SyringeSpeedReagent	7
SyringeSpeedDIWater	7
NDIRPressurization	60 psig
SyringeSpeedSampleDispense	5
SyringeSpeedSampleAspirate	4
SyringeSpeedUVDispense	5
SyringeSpeedUVAspirate	5
SyringeSpeedICDispense	5
SyringeSpeedICAspirate	5
NDIRPressureStabilize	1.75 min
SampleMixing	Off
SampleMixingCycles	1
SampleMixingVolume	10.0
LowLevelFilterNDIR	Off

Acceptance / Approval

Electronic Signatures

Report Version	User Name	Acceptance	Reason	Date

Report History

Report History

Report Version	User Name	System Reason	User Reason	Date
1	Fusion1 (Fusion1)	Schedule completed	Schedule completed	2020/05/22 13:23

ALS Environmental

StarLIMS Run: 680710

Analysis: DOC/TOC

Method: SM 5310 C, 9060A, 415.1, 9060

CCV: 11-GEN-05-82C 50 ppm LCS: 11-GEN-05-79J 25.0 ppm

ICAL Date: 5/9/20

ICAL ID: 19-GEN-17-E->J

ICS ID: 19-GEN-8-4-G

ICS TV: 25.0 ppm ICS % R < 1

Spike ID: 19-GEN-8-15-B 0.05 ml of 5000 ppm stock ---> 10.0 ml = 25.0 ppm x dilution factor

Sodium Persulfate: 19-GEN-08-17-K

21 % H3PO4: 19-GEN-08-17-L

Equipment ID: K-TOC-03

PIPETTE ID: 124276B, 129001F, N11314F, Marge

FILTER ID: 16967789

Analyzed By:		Date Analyzed:	5/23/20
Reviewed By:		Date Reviewed:	5/26/20

LABORATORY REPORT

May 22, 2020

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

RE: HS20050292

Dear RJ:

Enclosed are the results of the samples submitted to our laboratory on May 13, 2020. For your reference, these analyses have been assigned our service request number P2002598.

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 2:41 pm, May 22, 2020

Hayden Akers
Project Manager

Client: ALS Laboratory Group Service Request No: P2002598
Project: HS20050292

CASE NARRATIVE

The samples were received intact under chain of custody on May 13, 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.

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. 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: P2002598
Project ID: HS20050292

Date Received: 5/13/2020
Time Received: 09:15

Client Sample ID	Lab Code	Matrix	Date Collected	Time Collected	RSK 175 - CO2	RSK 175 - Gases
35BWW14-200507	P2002598-001	Water	5/7/2020	07:45	X	X
35BWW23-200507	P2002598-002	Water	5/7/2020	11:40	X	X

RJ0025298

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:** **13876**

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: HS20050292
TSR: Sonia West

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS20050292-01**	**35BWW14-200507**	**Groundwater**	**07 May 2020 07:45**
	MEE + CO2. DOD IV. Equis EDD. EQuIS 5.0 - Longhorn			22 May 2020
2.	**HS20050292-06**	**35BWW23-200507**	**Groundwater**	**07 May 2020 11:40**
	MEE + CO2. DOD IV. Equis EDD. EQuIS 5.0 - Longhorn			22 May 2020

Comments: Please analyze for the analysis listed above.
Send report to the emails shown above.
VOA Neat & HCL Vials

QC Level: DOD IV (DoD Data Package)

Short hold time - Expires 05/14/20

Relinquished By: _____ Date/Time: 5/12/2020 1800.

Received By: _____ Date/Time: 5-13-20 0915 3° not

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

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Environmental
Sample Acceptance Check Form

Client: ALS Laboratory Group Work order: P2002598

Project: HS20050292

Sample(s) received on: 05/13/20 Date opened: 05/13/20 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: 3° C Thermometer ID T-111 Wet Ice			
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
P2002598-001.01	40mL VOA NP		6		A	LD 05/13/2020
P2002598-001.02	40mL VOA NP				A	
P2002598-001.03	40mL VOA NP				A	
P2002598-001.04	40ml VOA HCL		1		A	LD 05/13/2020
P2002598-001.05	40ml VOA HCL				A	
P2002598-001.06	40ml VOA HCL				A	
P2002598-002.01	40mL VOA NP		6		A	LD 05/13/2020
P2002598-002.02	40mL VOA NP				A	
P2002598-002.03	40mL VOA NP				A	
P2002598-002.04	40ml VOA HCL		1		A	LD 05/13/2020
P2002598-002.05	40ml VOA HCL				A	
P2002598-002.06	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: **HS20050292** ALS Project ID: P2002598

Carbon Dioxide

Test Code: RSK 175
Instrument ID: HP5890A/GC10/TCD
Analyst: Li Donghao
Matrix: Liquid
Test Notes:

Date(s) Collected: 5/7/20
Date Received: 5/13/20
Date Analyzed: 5/14/20

Client Sample ID	ALS Sample ID	Injection Volume ml(s)	Result µg/L	LOQ µg/L	LOD µg/L	MDL µg/L	Data Qualifier
35BWW14-200507	P2002598-001	0.10	**29,000**	1,000	860	370	
35BWW23-200507	P2002598-002	0.10	**42,000**	1,000	860	370	
Method Control Sample	P200514-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**
Client Project ID: **HS20050292**

ALS Project ID: P2002598
ALS Sample ID: P200514-DLCS

Test Code: RSK 175
Instrument ID: HP5890A/GC10/TCD
Analyst: Li Donghao
Matrix: Liquid
Test Notes:

Date Collected: NA
Date Received: NA
Date Analyzed: 5/14/20
Volume(s) Analyzed: NA ml(s)

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	24,100	21,800	**105**	**95**	80-122	10	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: **35BWW14-200507**
Client Project ID: **HS20050292**

ALS Project ID: P2002598
ALS Sample ID: P2002598-001

Test Code: RSK 175
Instrument ID: HP5890A/GC10/FID
Analyst: Li Donghao
Matrix: Water
Test Notes:

Date Collected: 05/07/20
Date Received: 05/13/20
Date Analyzed: 05/13/20
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**

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: **35BWW23-200507**
Client Project ID: **HS20050292**

ALS Project ID: P2002598
ALS Sample ID: P2002598-002

Test Code: RSK 175
Instrument ID: HP5890A/GC10/FID
Analyst: Li Donghao
Matrix: Water
Test Notes:

Date Collected: 05/07/20
Date Received: 05/13/20
Date Analyzed: 05/13/20
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**

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: **HS20050292**

ALS Project ID: P2002598
ALS Sample ID: P200513-MB

Test Code: RSK 175
Instrument ID: HP5890A/GC10/FID
Analyst: Li Donghao
Matrix: Water
Test Notes:

Date Collected: NA
Date Received: NA
Date Analyzed: 5/13/20
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: **HS20050292**

ALS Project ID: P2002598
ALS Sample ID: P200513-LCS
P200513-DLCS

Test Code: RSK 175
Instrument ID: HP5890A/GC10/FID
Analyst: Li Donghao
Matrix: Water
Test Notes:

Date Collected: NA
Date Received: NA
Date Analyzed: 5/13/20
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	2.63	2.67	**104**	**106**	73-125	2	26	
74-85-1	Ethene	4.40	4.45	4.42	**101**	**100**	72-133	1	11	
74-84-0	Ethane	4.72	4.65	4.62	**99**	**98**	74-131	1	10	

$_1$ = The concentration shown includes a subtraction of the Method Control Sample value, even if the result is less than the MRL.

Data Path : I:\GC10\DATA\RSK_FID\2020_05\14CO2\
Data File : 05142006.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 14-May-2020, 16:22:25
Operator : LD
Sample : P2002598-001 0.1ml
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 14 16:38:18 2020
Quant Method : I:\GC10\METHODS\RS082817_CO2.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Tue Aug 29 16:13:13 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

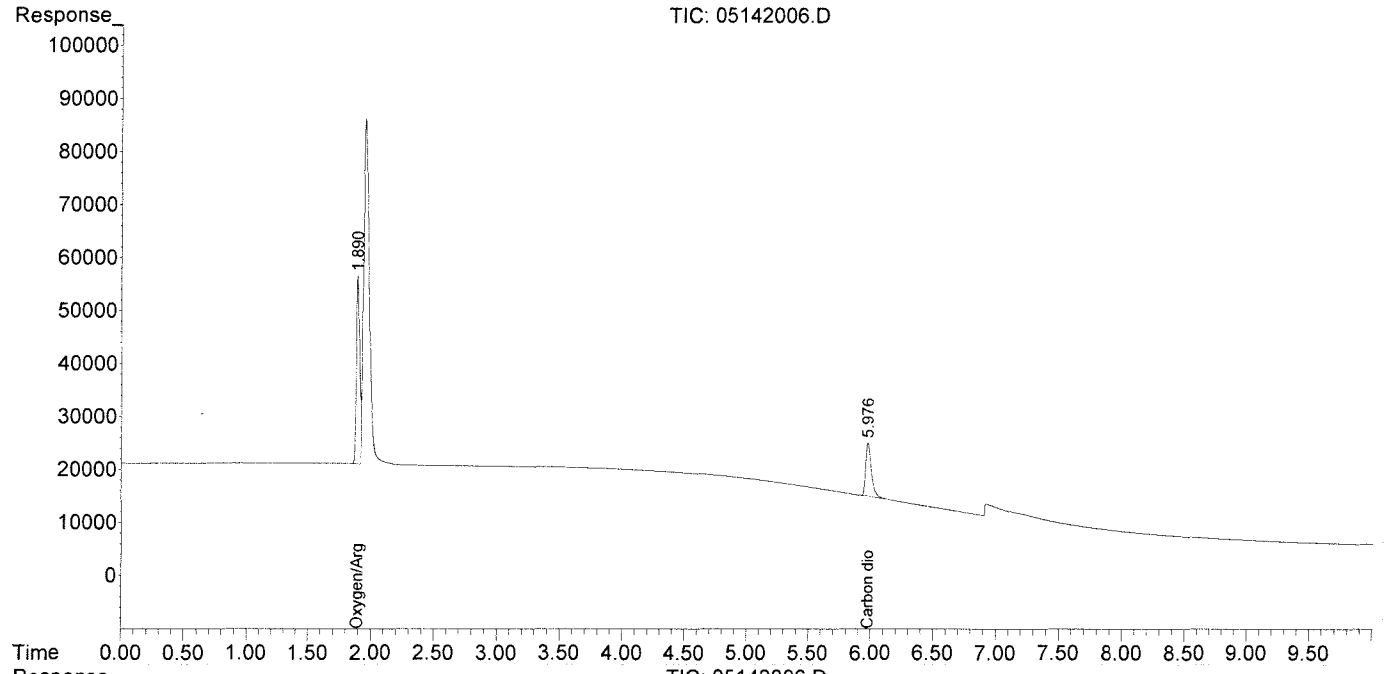
	Compound	R.T.	Response	Conc	Units
Target Compounds					
1)	Oxygen/Argon	1.890	627003	0.132	ppm
2)	Carbon monoxide	1.890	627003	N.D.	ppm
3)	Methane (TCD)	0.000	0	N.D.	ppm
4)	Carbon dioxide	5.977	311003	1324.942	ppm
6)	Methane (FID)	0.000	0	N.D.	ppm
7)	Ethylene	0.000	0	N.D.	ppm
8)	Ethane	0.000	0	N.D.	ppm
9)	Propylene	0.000	0	N.D.	ppm
10)	Propane	0.000	0	N.D.	ppm
11)	Isobutylene	0.000	0	N.D.	ppm
12)	Isobutane	0.000	0	N.D.	ppm
13)	n-Butane	0.000	0	N.D.	ppm

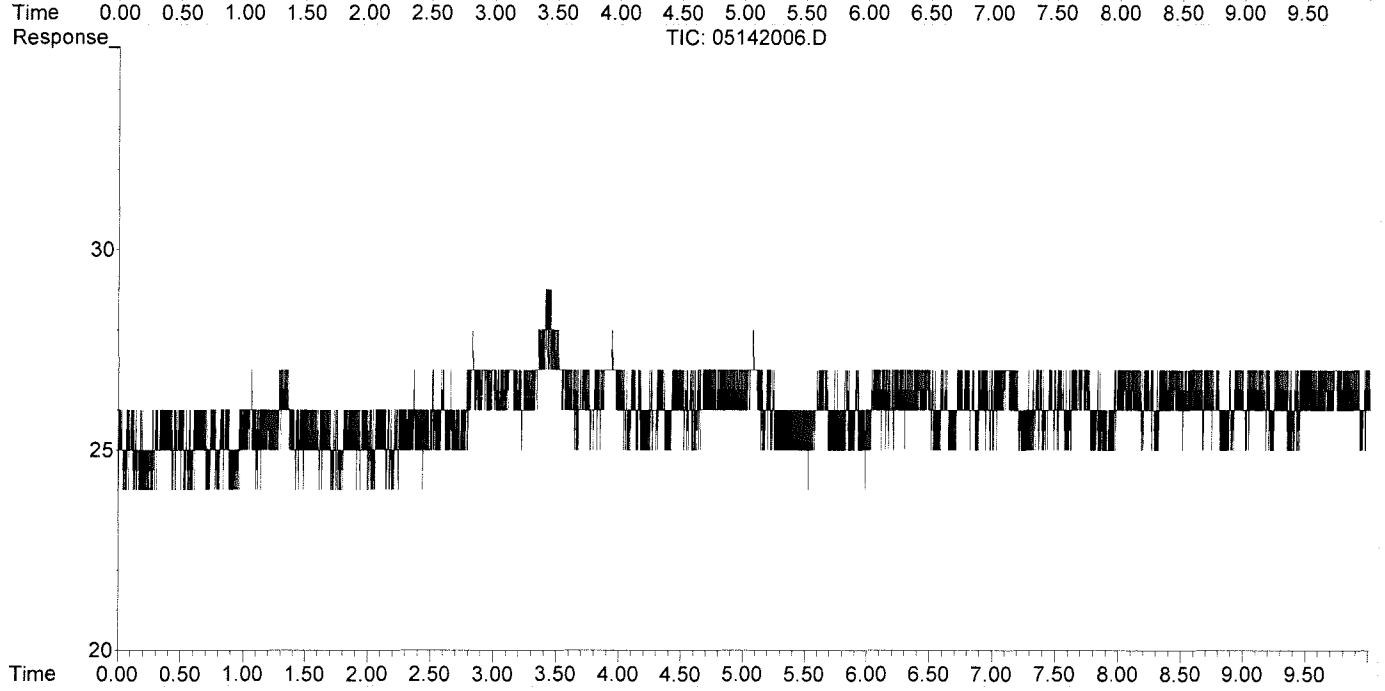
(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : I:\GC10\DATA\RSK_FID\2020_05\14CO2\
Data File : 05142006.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 14-May-2020, 16:22:25
Operator : LD
Sample : P2002598-001 0.1ml
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 14 16:38:18 2020
Quant Method : I:\GC10\METHODS\RS082817_CO2.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Tue Aug 29 16:13:13 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





Data Path : I:\GC10\DATA\RSK_FID\2020_05\14CO2\
Data File : 05142007.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 14-May-2020, 16:35:38
Operator : LD
Sample : P2002598-002 0.1ml
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 14 17:04:47 2020
Quant Method : I:\GC10\METHODS\RS082817_CO2.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Tue Aug 29 16:13:13 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

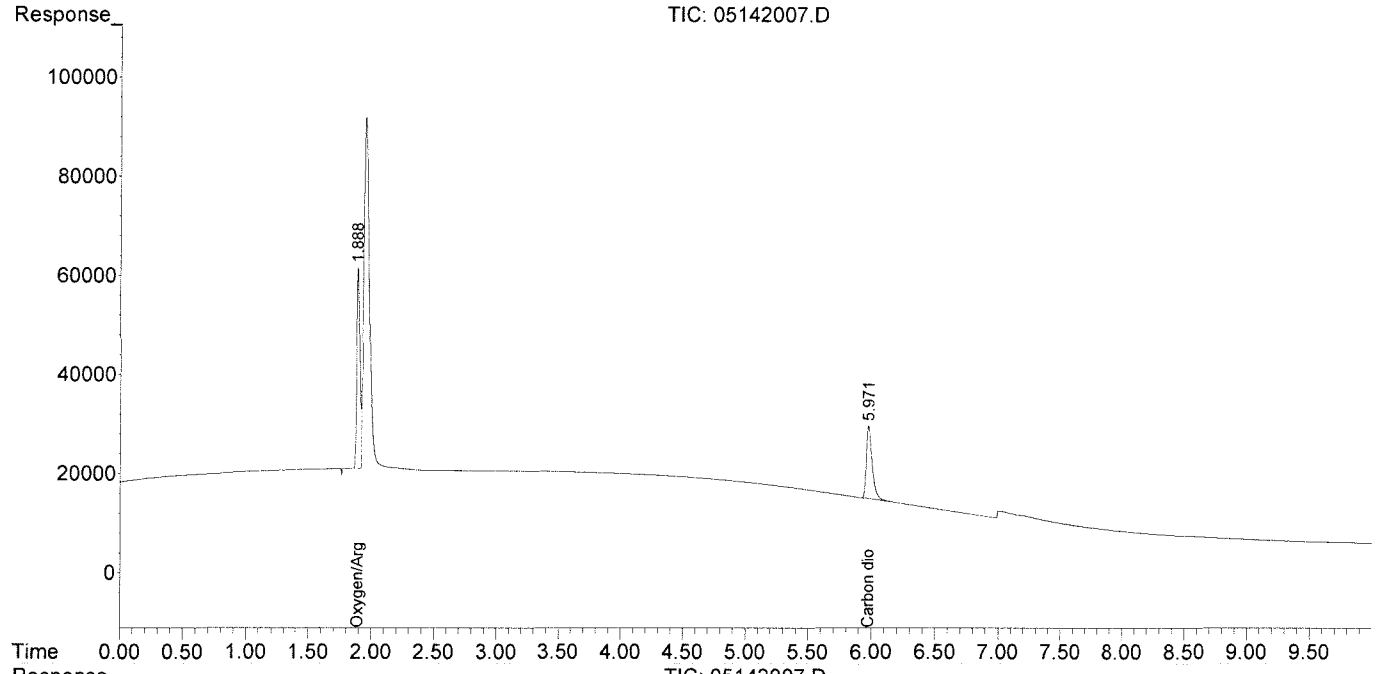
	Compound	R.T.	Response	Conc	Units
Target Compounds					
1)	Oxygen/Argon	1.889	695263	0.146	ppm
2)	Carbon monoxide	1.889	695263	N.D.	ppm
3)	Methane (TCD)	0.000	0	N.D.	ppm
4)	Carbon dioxide	5.972	451880	1925.111	ppm
6)	Methane (FID)	0.000	0	N.D.	ppm
7)	Ethylene	0.000	0	N.D.	ppm
8)	Ethane	0.000	0	N.D.	ppm
9)	Propylene	0.000	0	N.D.	ppm
10)	Propane	0.000	0	N.D.	ppm
11)	Isobutylene	0.000	0	N.D.	ppm
12)	Isobutane	0.000	0	N.D.	ppm
13)	n-Butane	0.000	0	N.D.	ppm

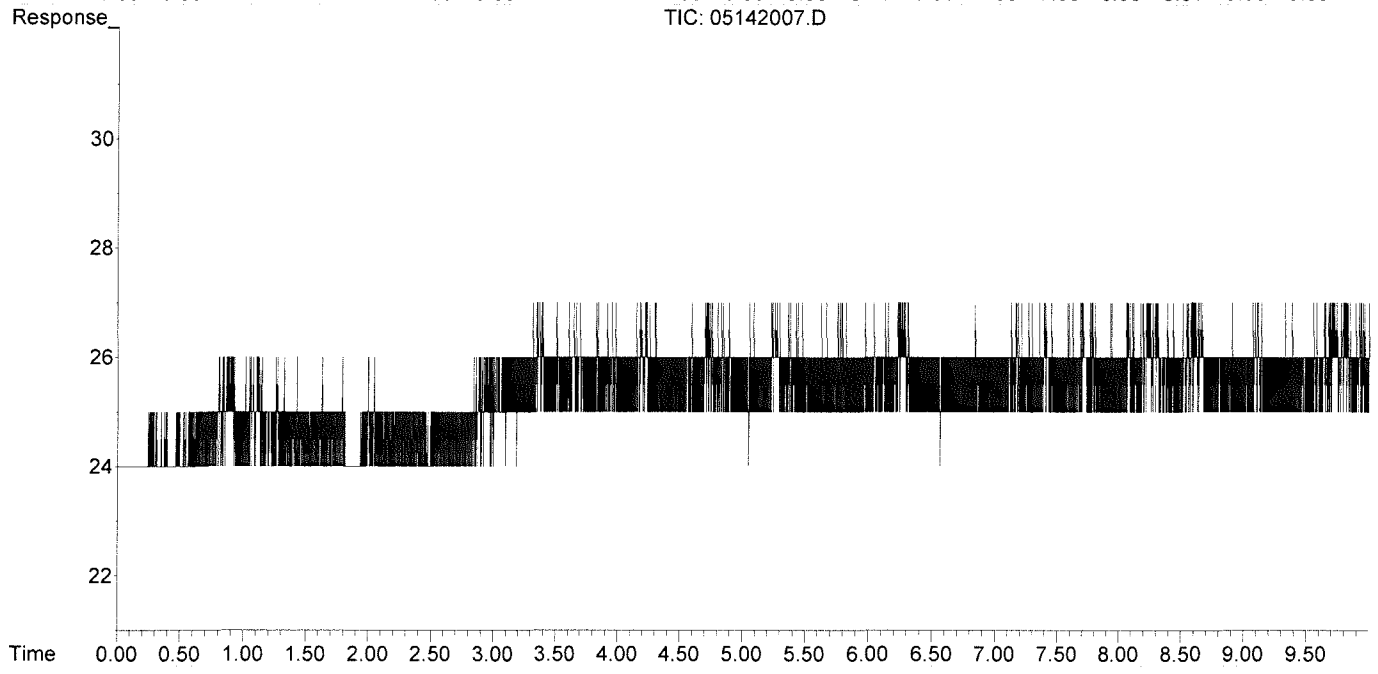
(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : I:\GC10\DATA\RSK_FID\2020_05\14CO2\
Data File : 05142007.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 14-May-2020, 16:35:38
Operator : LD
Sample : P2002598-002 0.1ml
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 14 17:04:47 2020
Quant Method : I:\GC10\METHODS\RS082817_CO2.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Tue Aug 29 16:13:13 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





Data Path : I:\GC10\DATA\RSK_FID\2020_05\14CO2\
Data File : 05142003.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 14-May-2020, 15:35:05
Operator : LD
Sample : MCS 0.1ml
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 14 16:15:20 2020
Quant Method : I:\GC10\METHODS\RS082817_CO2.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Tue Aug 29 16:13:13 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

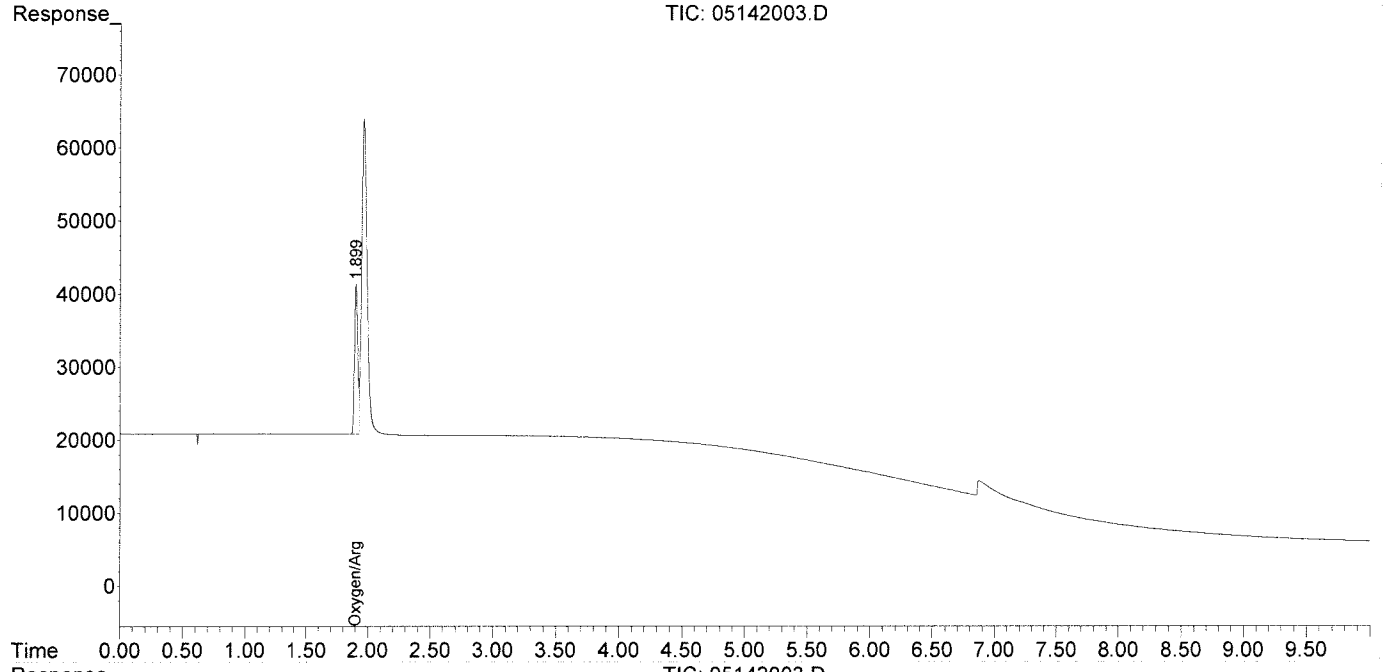
	Compound	R.T.	Response	Conc	Units
Target Compounds					
1)	Oxygen/Argon	1.900	362727	0.076	ppm
2)	Carbon monoxide	1.900	362727	N.D.	ppm
3)	Methane (TCD)	0.000	0	N.D.	ppm
4)	Carbon dioxide	0.000	0	N.D.	ppm
6)	Methane (FID)	0.000	0	N.D.	ppm
7)	Ethylene	0.000	0	N.D.	ppm
8)	Ethane	0.000	0	N.D.	ppm
9)	Propylene	0.000	0	N.D.	ppm
10)	Propane	0.000	0	N.D.	ppm
11)	Isobutylene	0.000	0	N.D.	ppm
12)	Isobutane	0.000	0	N.D.	ppm
13)	n-Butane	0.000	0	N.D.	ppm

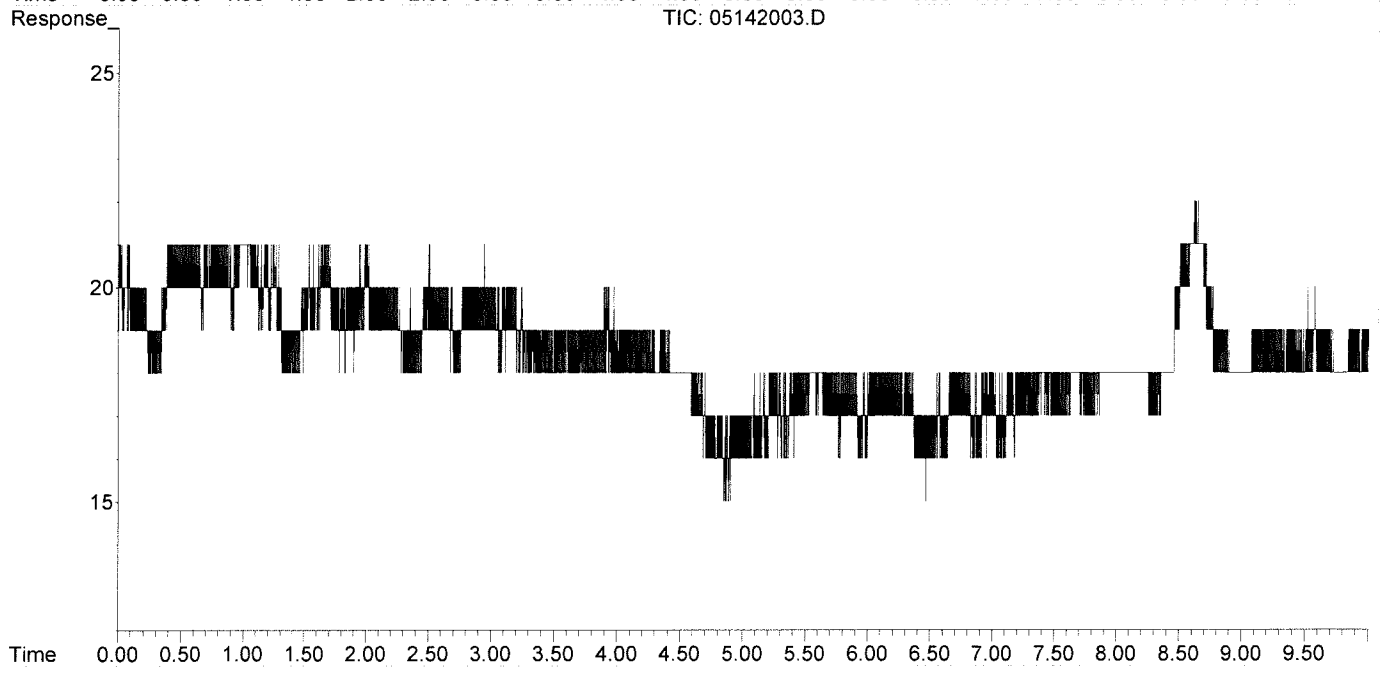
(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : I:\GC10\DATA\RSK_FID\2020_05\14CO2\
Data File : 05142003.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 14-May-2020, 15:35:05
Operator : LD
Sample : MCS 0.1ml
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 14 16:15:20 2020
Quant Method : I:\GC10\METHODS\RS082817_CO2.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Tue Aug 29 16:13:13 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





Data Path : I:\GC10\DATA\RSK_FID\2020_05\14CO2\
Data File : 05142004.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 14-May-2020, 15:50:49
Operator : LD
Sample : LCS S32-01212003
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 14 16:15:31 2020
Quant Method : I:\GC10\METHODS\RS082817_CO2.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Tue Aug 29 16:13:13 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

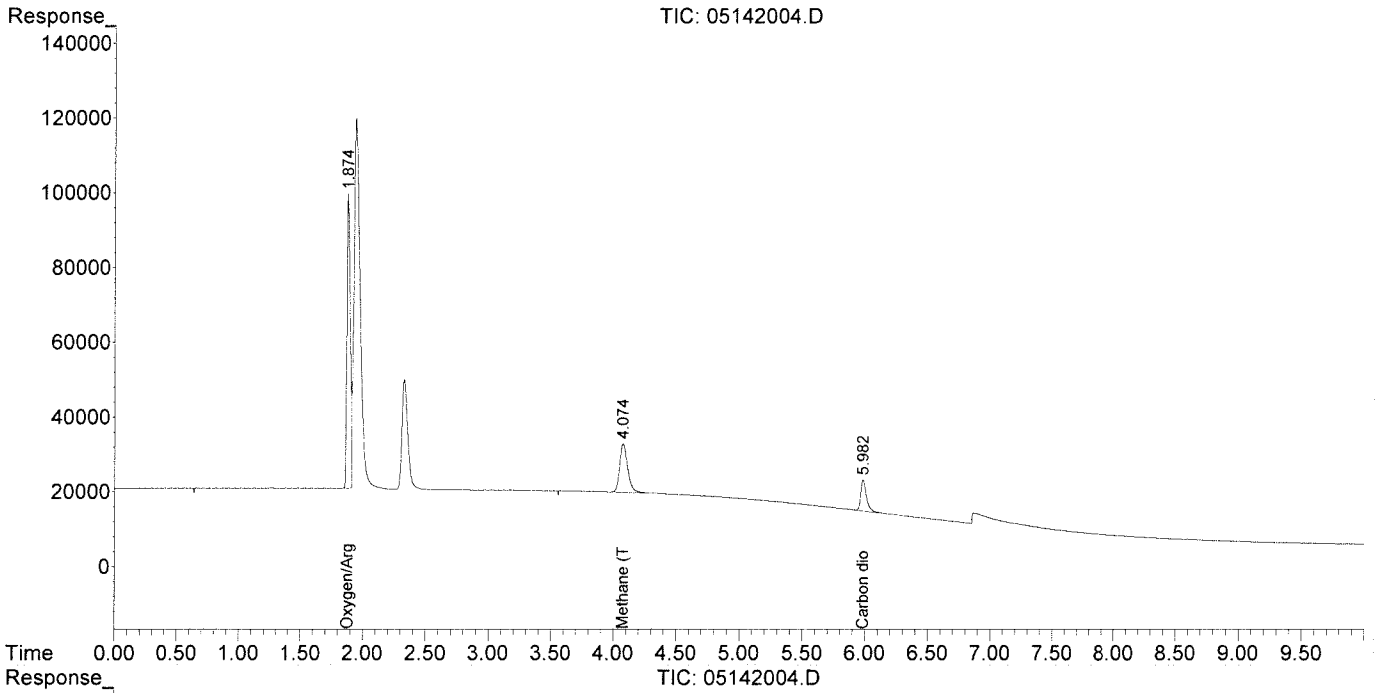
	Compound	R.T.	Response	Conc	Units
Target Compounds					
1)	Oxygen/Argon	1.875	1428417	0.300	ppm
2)	Carbon monoxide	1.875	1428417	N.D.	ppm
3)	Methane (TCD)	4.075f	597264	63153.423	ppm
4)	Carbon dioxide	5.983	259310	1104.718	ppm
6)	Methane (FID)	0.000	0	N.D.	ppm
7)	Ethylene	0.000	0	N.D.	ppm
8)	Ethane	0.000	0	N.D.	ppm
9)	Propylene	0.000	0	N.D.	ppm
10)	Propane	0.000	0	N.D.	ppm
11)	Isobutylene	0.000	0	N.D.	ppm
12)	Isobutane	0.000	0	N.D.	ppm
13)	n-Butane	0.000	0	N.D.	ppm

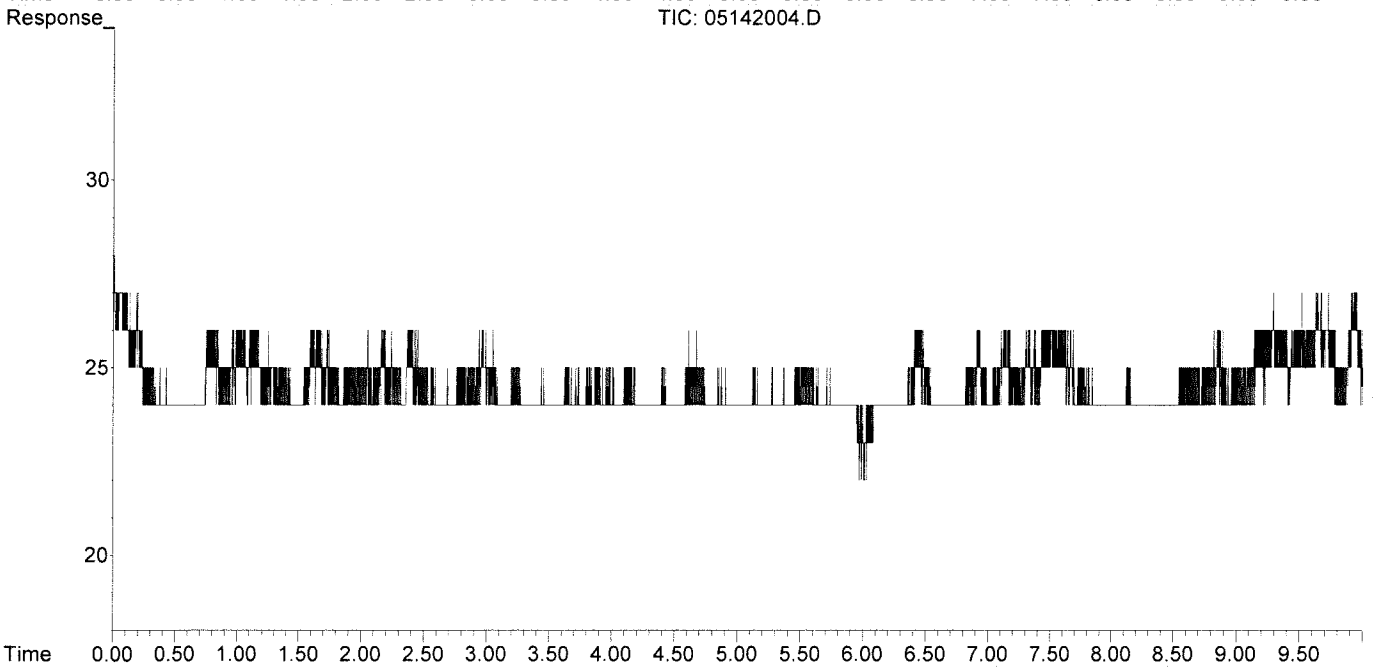
(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : I:\GC10\DATA\RSK_FID\2020_05\14CO2\
Data File : 05142004.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 14-May-2020, 15:50:49
Operator : LD
Sample : LCS S32-01212003
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 14 16:15:31 2020
Quant Method : I:\GC10\METHODS\RS082817_CO2.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Tue Aug 29 16:13:13 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





Data Path : I:\GC10\DATA\RSK_FID\2020_05\14CO2\
Data File : 05142005.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 14-May-2020, 16:06:17
Operator : LD
Sample : LCSD S32-01212003
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 14 16:17:43 2020
Quant Method : I:\GC10\METHODS\RS082817_CO2.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Tue Aug 29 16:13:13 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

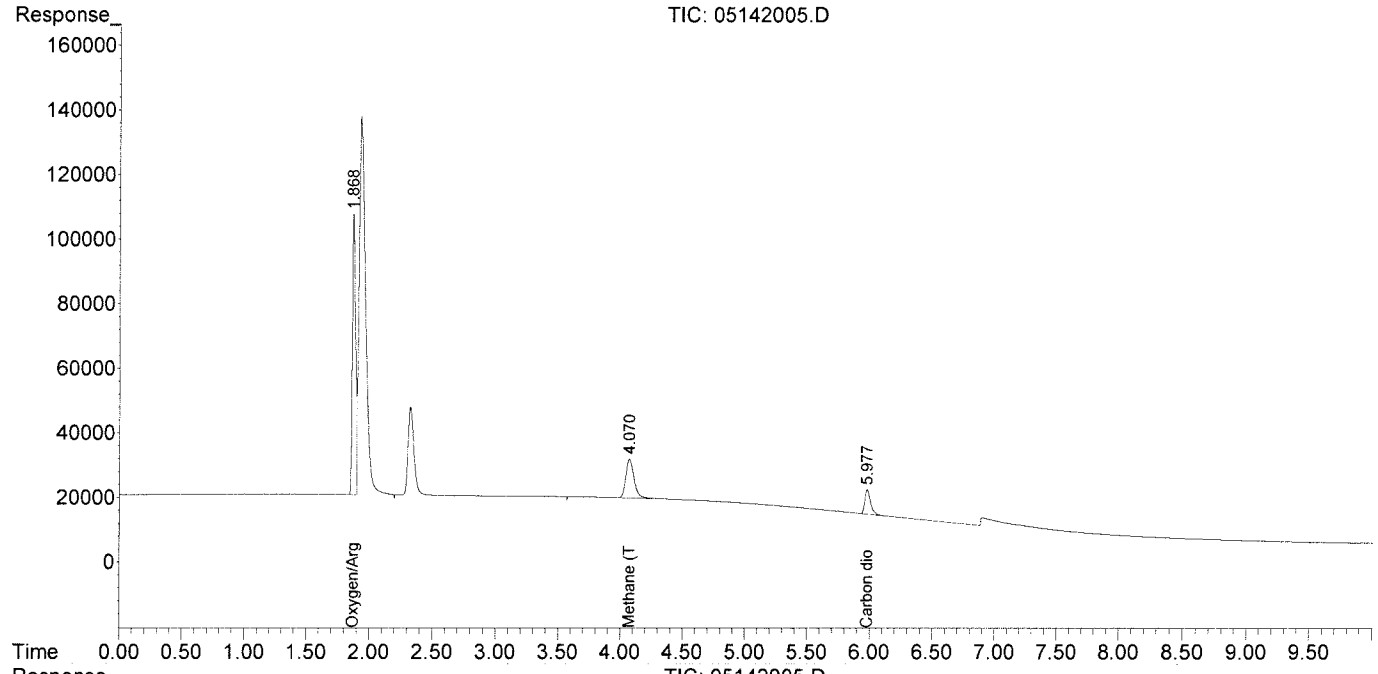
	Compound	R.T.	Response	Conc	Units
Target Compounds					
1)	Oxygen/Argon	1.869	1555063	0.327	ppm
2)	Carbon monoxide	1.869	1555063	N.D.	ppm
3)	Methane (TCD)	4.071f	553341	58509.104	ppm
4)	Carbon dioxide	5.978	234583	999.376	ppm
6)	Methane (FID)	0.000	0	N.D.	ppm
7)	Ethylene	0.000	0	N.D.	ppm
8)	Ethane	0.000	0	N.D.	ppm
9)	Propylene	0.000	0	N.D.	ppm
10)	Propane	0.000	0	N.D.	ppm
11)	Isobutylene	0.000	0	N.D.	ppm
12)	Isobutane	0.000	0	N.D.	ppm
13)	n-Butane	0.000	0	N.D.	ppm

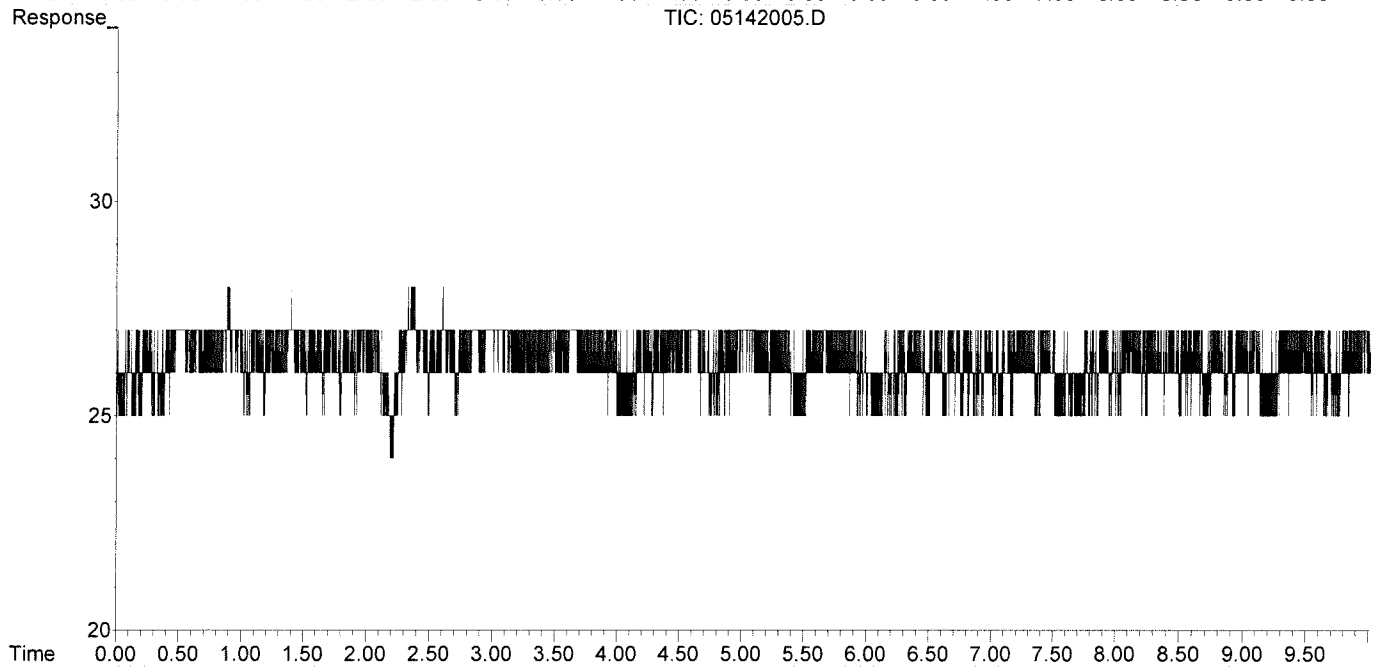
(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : I:\GC10\DATA\RSK_FID\2020_05\14CO2\
Data File : 05142005.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 14-May-2020, 16:06:17
Operator : LD
Sample : LCSD S32-01212003
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 14 16:17:43 2020
Quant Method : I:\GC10\METHODS\RS082817_CO2.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Tue Aug 29 16:13:13 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





Response Factor Report HP5890

Method Path : I:\GC10\METHODS\
Method File : RS082817_CO2.M
Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
Last Update : Tue Aug 29 16:13:13 2017
Response Via : Initial Calibration

Calibration Files
1 =08291715.D 2 =08291716.D 3 =08291717.D
4 =08291719.D 5 =08291720.D 6 =08291721.D

	Compound	1	2	3	4	5	6	Avg		%RSD
1)	Oxygen/Argon	4.760						4.760	E6	0.00
2)	Carbon monoxide	2.775		1.066	0.043	0.033	0.027	0.657	E6	170.12
3)	Methane (TCD)							9.457		0.00
4)	Carbon dioxide	2.717	2.193	2.338	2.272	2.265	2.298	2.347	E2	7.99

Signal #2 Calibration Files
1 =08291715.D 2 =08291716.D 3 =08291717.D
4 =08291719.D 5 =08291720.D 6 =08291721.D

	Compound	1	2	3	4	5	6	Avg		%RSD
6)	Methane (FID)	1.253	1.160	1.005	0.927	0.848	0.848	0.945	E4	15.85
7)	Ethylene	1.677	1.605	1.900	1.749	1.597	1.579	1.684	E4	7.30
8)	Ethane	1.769	1.631	1.866	1.767	1.639	1.667	1.723	E4	5.40
9)	Propylene	2.402	2.309	2.767	2.551	2.331	2.333	2.449	E4	7.32
10)	Propane	2.906	2.737	2.817	2.639	2.410	2.420	2.655	E4	7.75
11)	Isobutylene							0.000		-1.00
12)	Isobutane							0.000		-1.00
13)	n-Butane							0.000		-1.00

(#) = Out of Range ### Number of calibration levels exceeded format ###

RS082817_CO2.M Wed Aug 30 13:24:19 2017

dit Compounds -- Compound #4 -- Carbon dioxide

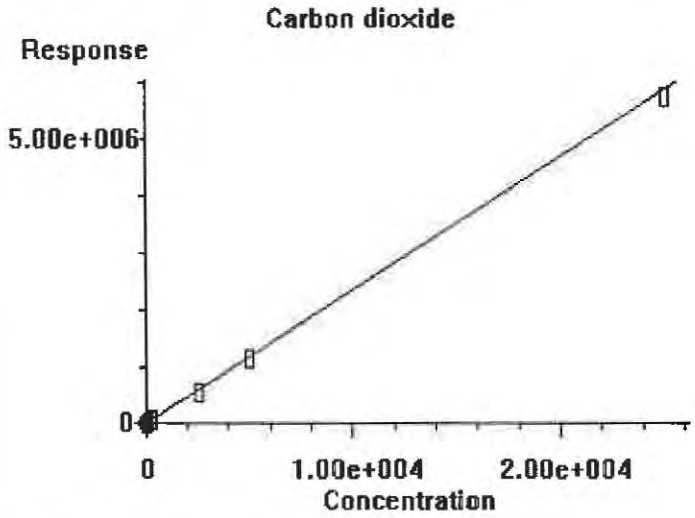
Search by: Ret Time | Name | Index | Find Compound

- Compound Database
- External Standard Compoun
  - Oxygen/Argon
  - Carbon monoxide
  - Methane (TCD)
  - Carbon dioxide
  - Signal #2
  - Methane (FID)
  - Ethylene
  - Ethane
  - Propylene
  - Propane
  - Isobutylene
  - Isobutane
  - n-Butane

Identification | Calibration | User-Defined | Advanced | Reporting

Lvl ID	Concentration	Response
1	25.000000	6793.665186
2	100.000000	21932.418000
3	250.000000	58460.642510
4	2500.000000	568043.388750
5	5000.000000	1132363.215937
6	25000.000000	5744294.891563
7	25000.000000	
8	25000.000000	
9	2000.000000	
10	30000.000000	

Lvl ID	Concentration	Response



0.000e+000	Quadratic term
2.347e+002	Linear term
0.000e+000	Constant term
7.987%	RF Rel Std Dev

OK | Cancel | Help | Print Calibration Curve | Copy Calibration Curve

01006967

Calibration Status Report HP5890

Method Path : I:\GC10\METHODS\
Method File : RS082817_CO2.M
Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
Last Update : Tue Aug 29 16:13:13 2017
Response Via : Initial Calibration

#	ID	Conc	ISTD Conc	Path\File
1	1	0	0	J:\GC10\DATA\RSK_FID\2017_08\29\08291715.D
2	2	0	0	J:\GC10\DATA\RSK_FID\2017_08\29\08291716.D
3	3	3	0	J:\GC10\DATA\RSK_FID\2017_08\29\08291717.D
4	4	10	0	J:\GC10\DATA\RSK_FID\2017_08\29\08291719.D
5	5	25	0	J:\GC10\DATA\RSK_FID\2017_08\29\08291720.D
6	6	125	0	J:\GC10\DATA\RSK_FID\2017_08\29\08291721.D
7	7	5000	0	J:\GC10\DATA\RSK_FID\2017_08\24\08241708.D
8	8	25000	0	J:\GC10\DATA\RSK_FID\2017_08\24\08241709.D
9	9	2000	0	J:\GC10\DATA\RSK_FID\2017_08\24\08241710.D
10	10	30000	0	J:\GC10\DATA\RSK_FID\2017_08\24\08241711.D

#	ID	Update Time	Quant Time	Acquisition Time
1	1	Aug 29 14:21 2017	Aug 29 14:20 2017	29-Aug-2017, 14:07
2	2	Aug 29 14:52 2017	Aug 29 14:51 2017	29-Aug-2017, 14:22
3	3	Aug 29 15:04 2017	Aug 29 15:04 2017	29-Aug-2017, 14:53
4	4	Aug 29 15:36 2017	Aug 29 15:36 2017	29-Aug-2017, 15:23
5	5	Aug 29 15:57 2017	Aug 29 15:57 2017	29-Aug-2017, 15:44
6	6	Aug 29 16:13 2017	Aug 29 16:13 2017	29-Aug-2017, 16:00
7	7	Aug 25 09:05 2017	Aug 24 16:00 2017	24-Aug-2017, 15:44
8	8	Aug 25 09:06 2017	Aug 24 16:13 2017	24-Aug-2017, 16:02
9	9	Aug 25 09:06 2017	Aug 24 16:31 2017	24-Aug-2017, 16:16
10	10	Aug 25 09:07 2017	Aug 24 16:42 2017	24-Aug-2017, 16:33

RS082817_CO2.M Wed Aug 30 13:24:30 2017

Data Path : J:\GC10\DATA\RSK_FID\2017_08\29\
Data File : 08291715.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 29-Aug-2017, 14:07
Operator : MC
Sample : 25ppm s32-08291701 0.25ml
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Aug 29 14:20:06 2017
Quant Method : I:\GC10\METHODS\RS082417.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Fri Aug 25 09:19:14 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

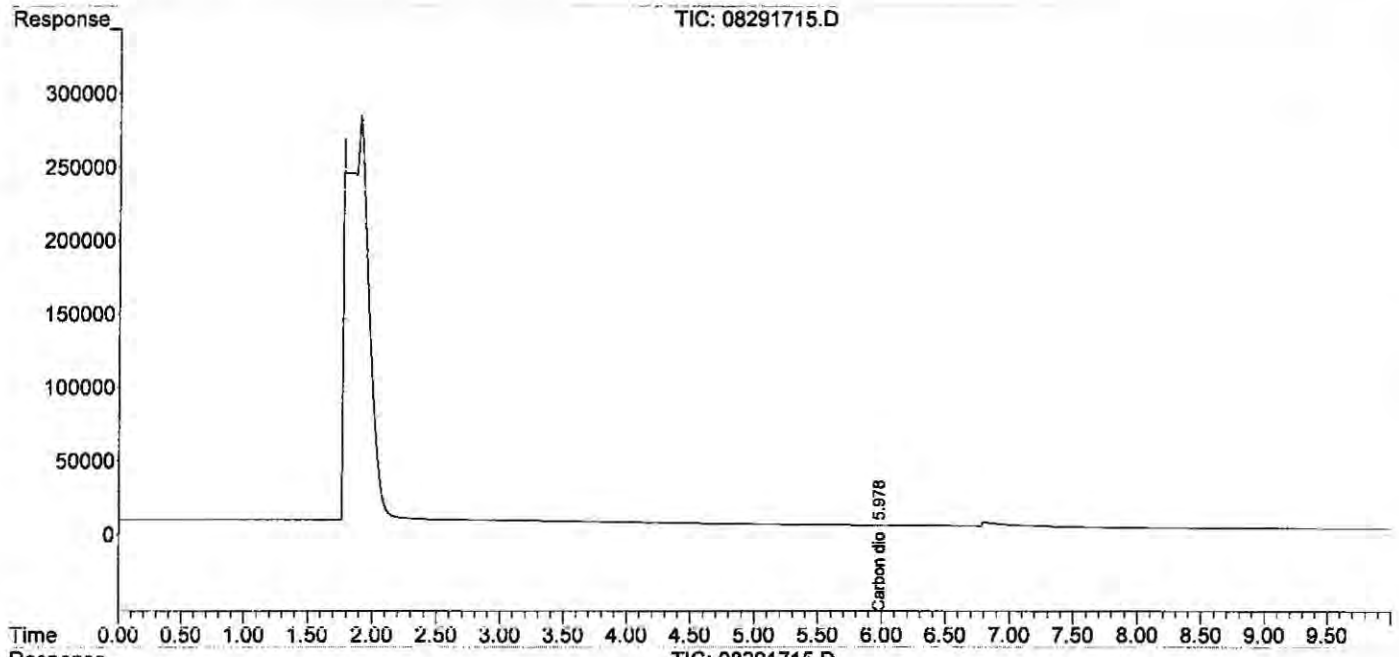
	Compound	R.T.	Response	Conc	Units	
Target Compounds						
1)	Oxygen/Argon	0.000	0	N.D.	ppm	d
2)	Carbon monoxide	1.776	277465	N.D.	ppm	
3)	Methane (TCD)	0.000	0	N.D.	ppm	
4)	Carbon dioxide	5.978	6794	27.870	ppm	m
6)	Methane (FID)	0.000	0	N.D.	ppm	d
7)	Ethylene	0.000	0	N.D.	ppm	
8)	Ethane	0.000	0	N.D.	ppm	
9)	Propylene	0.000	0	N.D.	ppm	
10)	Propane	0.000	0	N.D.	ppm	
11)	Isobutylene	0.000	0	N.D.	ppm	
12)	Isobutane	0.000	0	N.D.	ppm	
13)	n-Butane	0.000	0	N.D.	ppm	

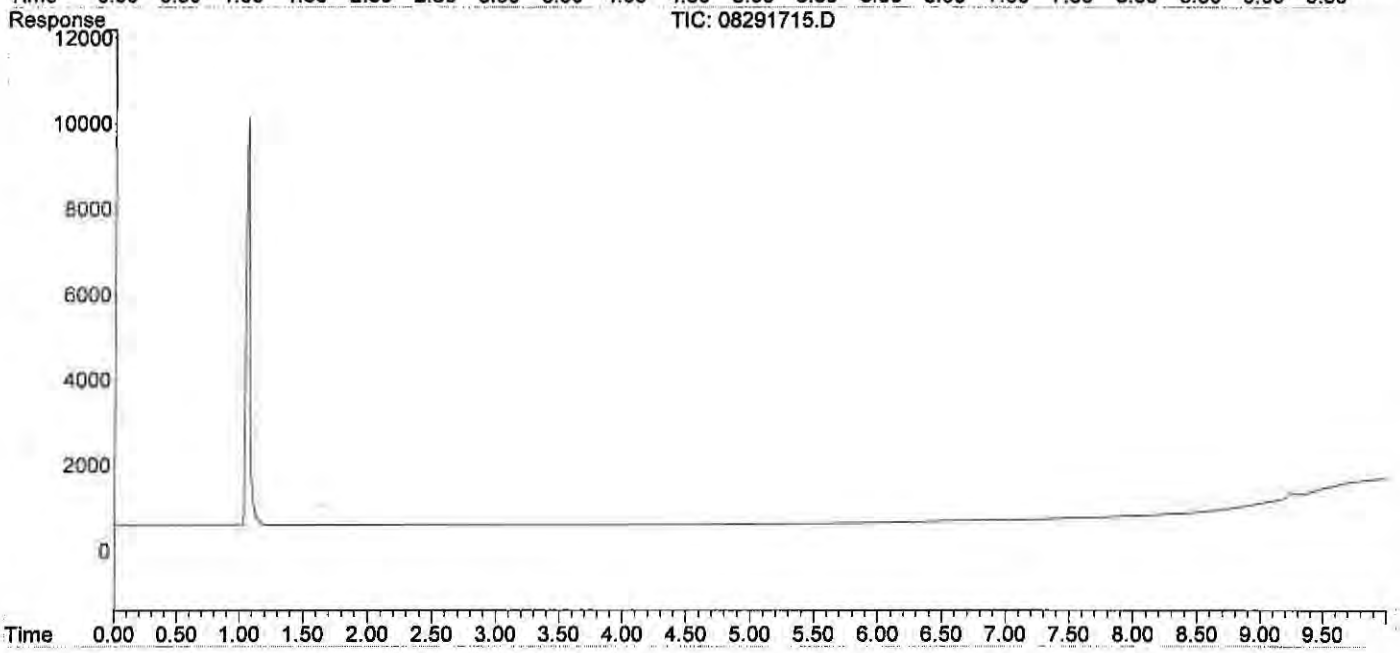
(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : J:\GC10\DATA\RSK_FID\2017_08\29\
Data File : 08291715.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 29-Aug-2017, 14:07
Operator : MC
Sample : 25ppm s32-08291701 0.25ml
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Aug 29 14:20:06 2017
Quant Method : I:\GC10\METHODS\RS082417.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Fri Aug 25 09:19:14 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





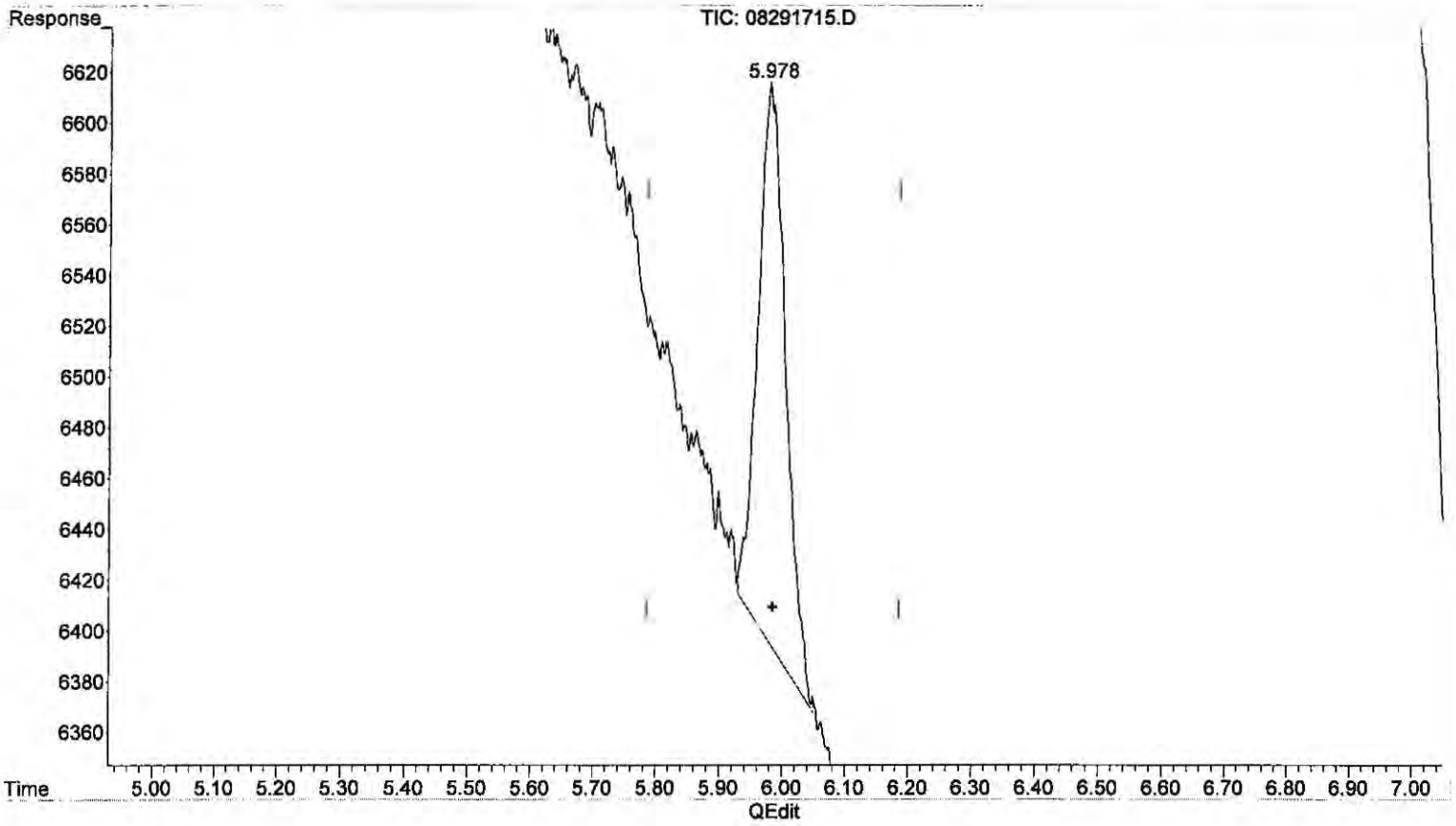
Quantitation Report (Qedit)

01006971

Data Path : J:\GC10\DATA\RSK_FID\2017_08\29\
Data File : 08291715.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 29-Aug-2017, 14:07
Operator : MC
Sample : 25ppm s32-08291701 0.25ml
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Aug 29 14:20:06 2017
Quant Method : I:\GC10\METHODS\RS082417.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Fri Aug 25 09:19:14 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



(4) Carbon dioxide

5.978min 27.870 ppm m

response 6794

(+) = Expected Retention Time

RS082817_CO2.M Wed Aug 30 13:17:47 2017

Page: 1

Data Path : J:\GC10\DATA\RSK_FID\2017_08\29\
Data File : 08291716.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 29-Aug-2017, 14:22
Operator : MC
Sample : 100ppm s32-08291702 0.2ml
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Aug 29 14:51:38 2017
Quant Method : I:\GC10\METHODS\RS082817_CO2.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Tue Aug 29 14:21:08 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

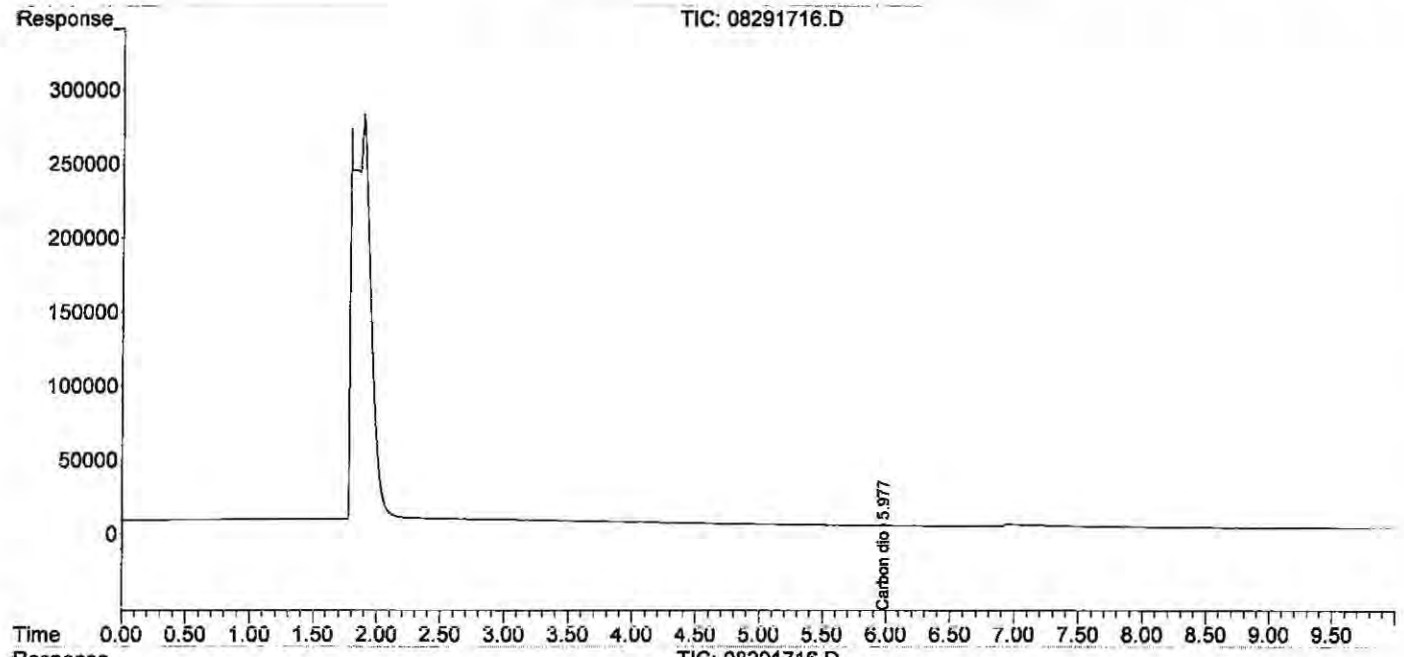
	Compound	R.T.	Response	Conc	Units	
Target Compounds						
1)	Oxygen/Argon	1.790	-598962	N.D.	ppm	
2)	Carbon monoxide	0.000	0	N.D.	ppm	d
3)	Methane (TCD)	0.000	0	N.D.	ppm	
4)	Carbon dioxide	5.978	21932	87.858	ppm	
6)	Methane (FID)	0.000	0	N.D.	ppm	d
7)	Ethylene	0.000	0	N.D.	ppm	
8)	Ethane	0.000	0	N.D.	ppm	
9)	Propylene	0.000	0	N.D.	ppm	
10)	Propane	0.000	0	N.D.	ppm	
11)	Isobutylene	0.000	0	N.D.	ppm	
12)	Isobutane	0.000	0	N.D.	ppm	
13)	n-Butane	0.000	0	N.D.	ppm	

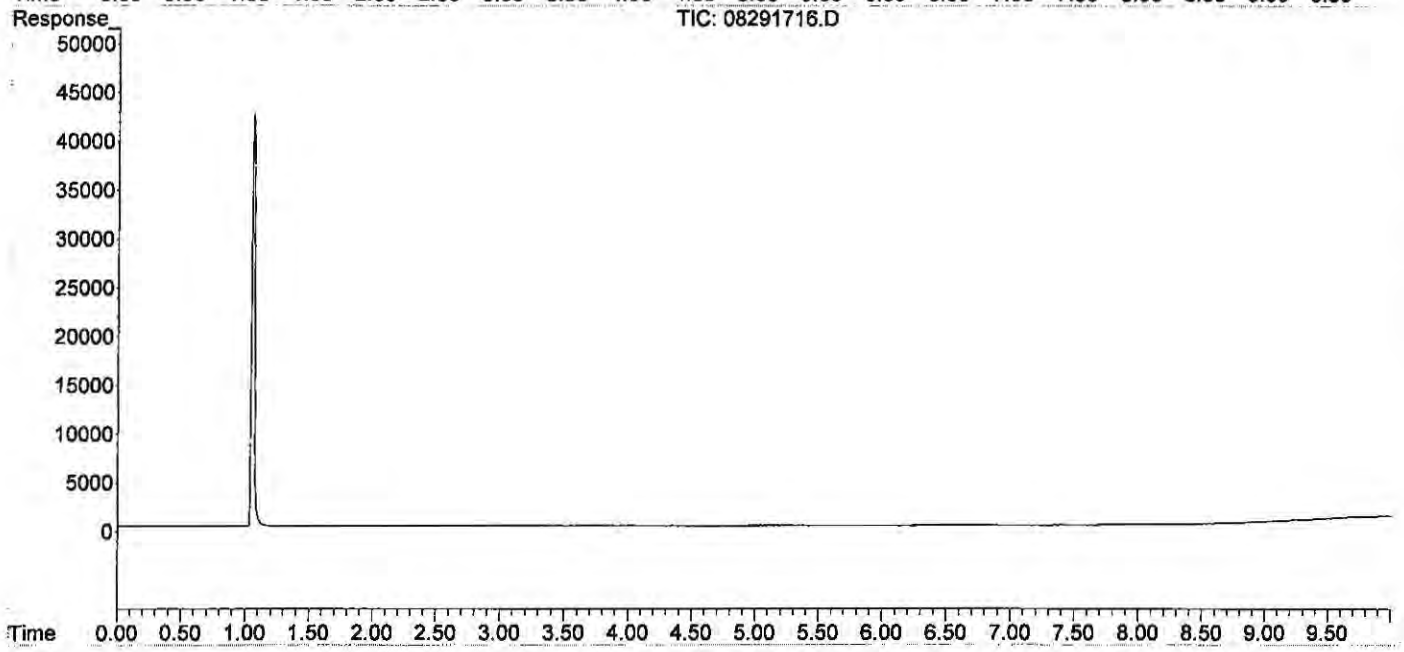
(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : J:\GC10\DATA\RSK_FID\2017_08\29\
Data File : 08291716.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 29-Aug-2017, 14:22
Operator : MC
Sample : 100ppm s32-08291702 0.2ml
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Aug 29 14:51:38 2017
Quant Method : I:\GC10\METHODS\RS082817_CO2.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Tue Aug 29 14:21:08 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





Quantitation Report (QT Reviewed)

Data Path : J:\GC10\DATA\RSK_FID\2017_08\29\
Data File : 08291717.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 29-Aug-2017, 14:53
Operator : MC
Sample : 250ppm s32-08291702 0.5ml
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Aug 29 15:03:42 2017
Quant Method : I:\GC10\METHODS\RS082817_CO2.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Tue Aug 29 14:52:06 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

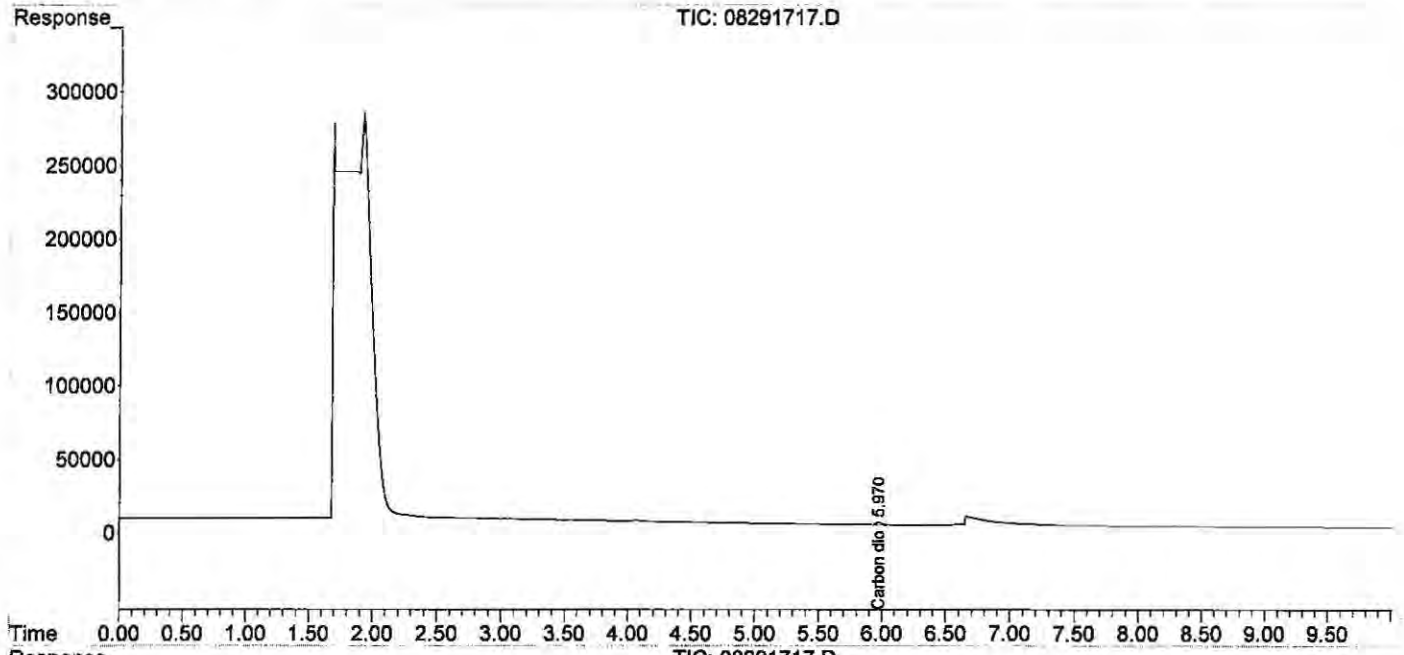
	Compound	R.T.	Response	Conc	Units	
Target Compounds						
1)	Oxygen/Argon	1.920f	-30716454	N.D.	ppm	
2)	Carbon monoxide	0.000	0	N.D.	ppm	d
3)	Methane (TCD)	0.000	0	N.D.	ppm	d
4)	Carbon dioxide	5.970	58461	240.204	ppm	m
6)	Methane (FID)	0.000	0	N.D.	ppm	d
7)	Ethylene	0.000	0	N.D.	ppm	
8)	Ethane	0.000	0	N.D.	ppm	
9)	Propylene	0.000	0	N.D.	ppm	
10)	Propane	0.000	0	N.D.	ppm	
11)	Isobutylene	0.000	0	N.D.	ppm	
12)	Isobutane	0.000	0	N.D.	ppm	
13)	n-Butane	0.000	0	N.D.	ppm	

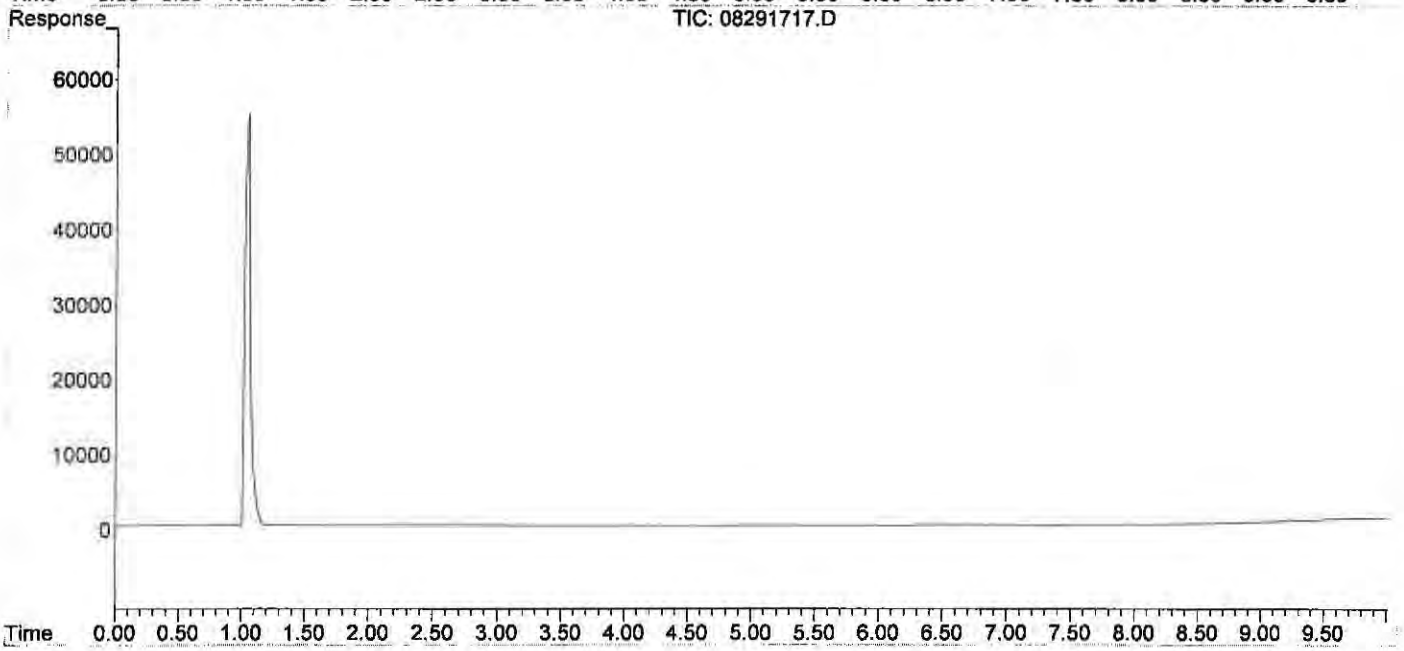
(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : J:\GC10\DATA\RSK_FID\2017_08\29\
Data File : 08291717.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 29-Aug-2017, 14:53
Operator : MC
Sample : 250ppm s32-08291702 0.5ml
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Aug 29 15:03:42 2017
Quant Method : I:\GC10\METHODS\RS082817_CO2.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Tue Aug 29 14:52:06 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

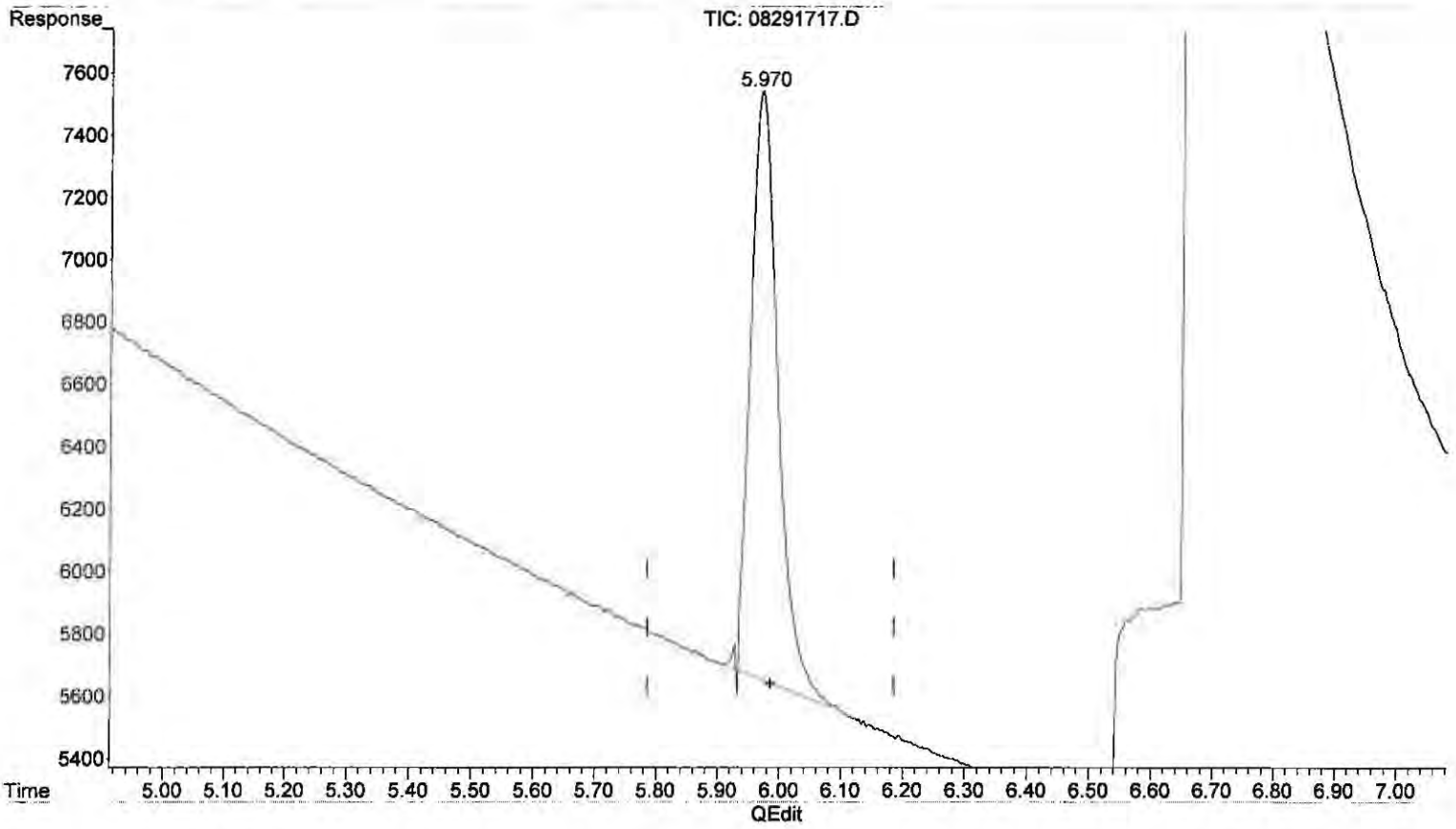




Data Path : J:\GC10\DATA\RSK_FID\2017_08\29\
Data File : 08291717.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 29-Aug-2017, 14:53
Operator : MC
Sample : 250ppm s32-08291702 0.5ml
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Aug 29 15:03:42 2017
Quant Method : I:\GC10\METHODS\RS082817_CO2.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Tue Aug 29 14:52:06 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



(4) Carbon dioxide
5.970min 240.204 ppm m
response 58461

(+) = Expected Retention Time

Quantitation Report (QT Reviewed)

Data Path : J:\GC10\DATA\RSK_FID\2017_08\29\
Data File : 08291719.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 29-Aug-2017, 15:23
Operator : MC
Sample : 2500ppm s32-08231701 50ul
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Aug 29 15:35:50 2017
Quant Method : I:\GC10\METHODS\RS082817_CO2.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Tue Aug 29 15:04:14 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

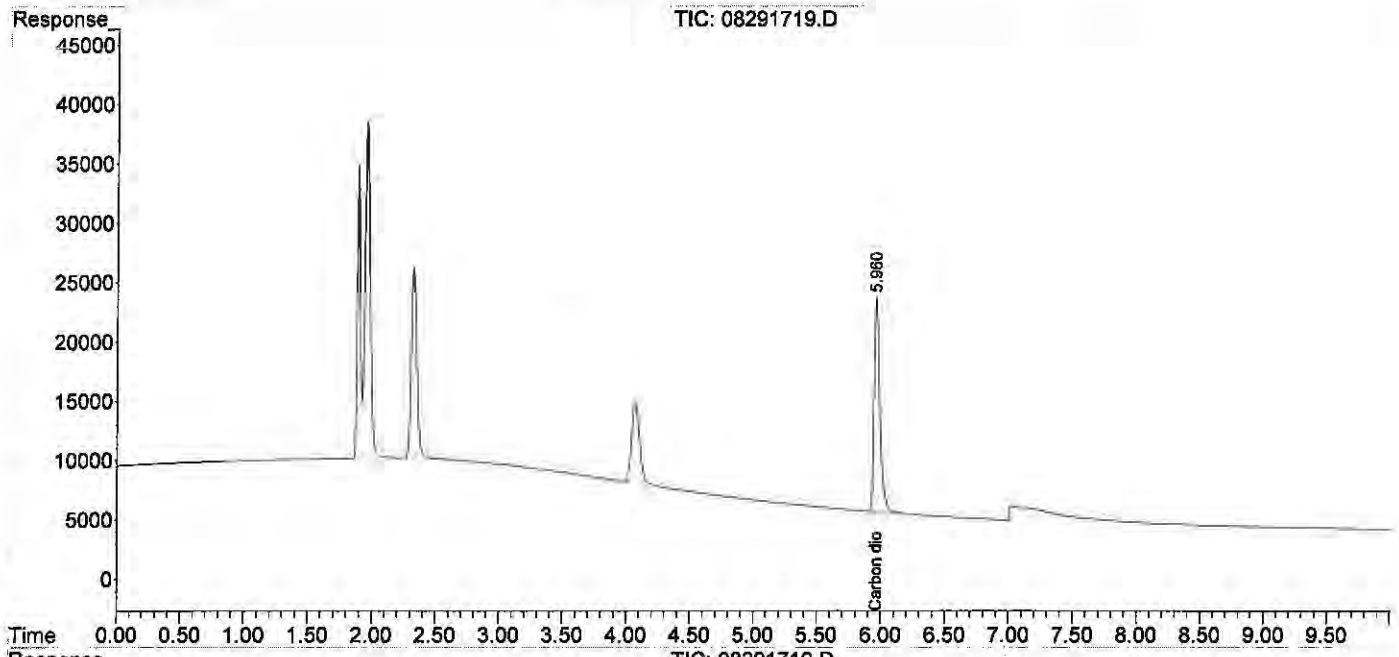
	Compound	R.T.	Response	Conc	Units	
Target Compounds						
1)	Oxygen/Argon	0.000	0	N.D.	ppm	d
2)	Carbon monoxide	1.891	425113	N.D.	ppm	
3)	Methane (TCD)	0.000	0	N.D.	ppm	d
4)	Carbon dioxide	5.962	568043	2369.673	ppm	
6)	Methane (FID)	0.000	0	N.D.	ppm	d
7)	Ethylene	0.000	0	N.D.	ppm	
8)	Ethane	0.000	0	N.D.	ppm	
9)	Propylene	0.000	0	N.D.	ppm	
10)	Propane	0.000	0	N.D.	ppm	
11)	Isobutylene	0.000	0	N.D.	ppm	
12)	Isobutane	0.000	0	N.D.	ppm	
13)	n-Butane	0.000	0	N.D.	ppm	

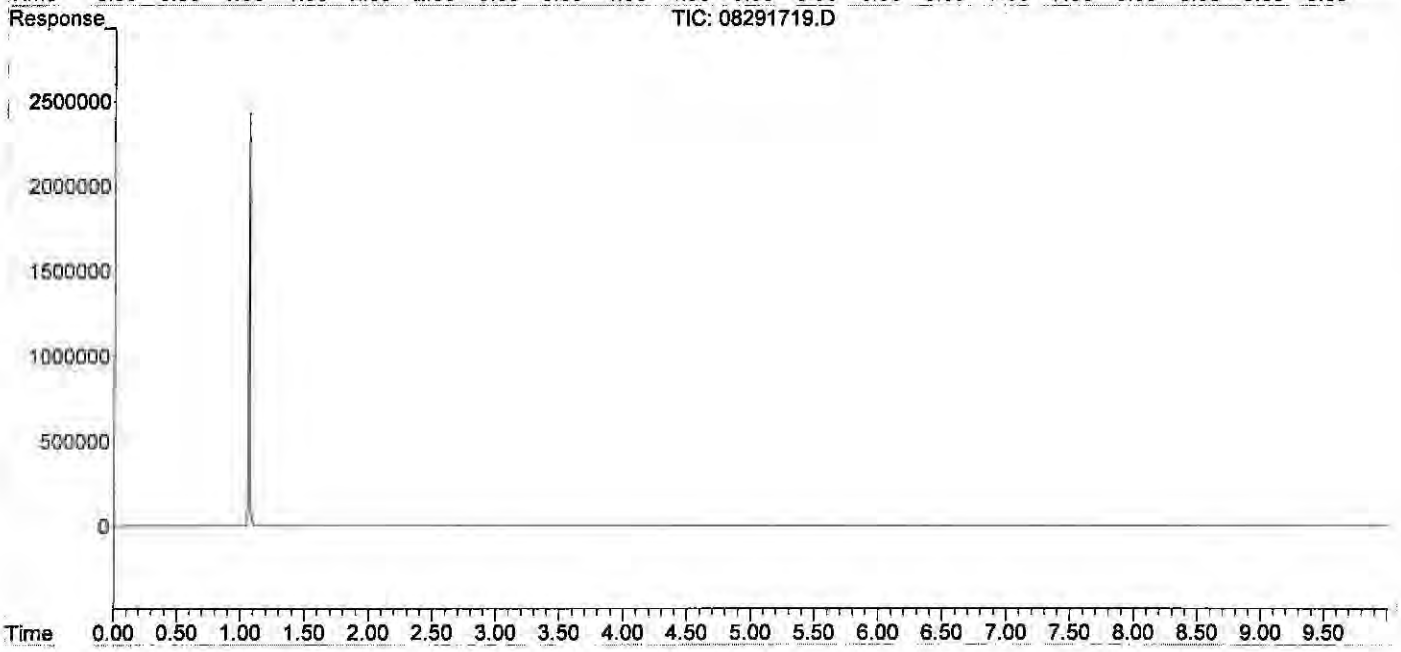
(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : J:\GC10\DATA\RSK_FID\2017_08\29\
Data File : 08291719.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 29-Aug-2017, 15:23
Operator : MC
Sample : 2500ppm s32-08231701 50ul
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Aug 29 15:35:50 2017
Quant Method : I:\GC10\METHODS\RS082817_CO2.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Tue Aug 29 15:04:14 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





Data Path : J:\GC10\DATA\RSK_FID\2017_08\29\
Data File : 08291720.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 29-Aug-2017, 15:44
Operator : MC
Sample : 5000ppm s32-08231701 0.1ml
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Aug 29 15:57:17 2017
Quant Method : I:\GC10\METHODS\RS082817_CO2.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Tue Aug 29 15:36:14 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

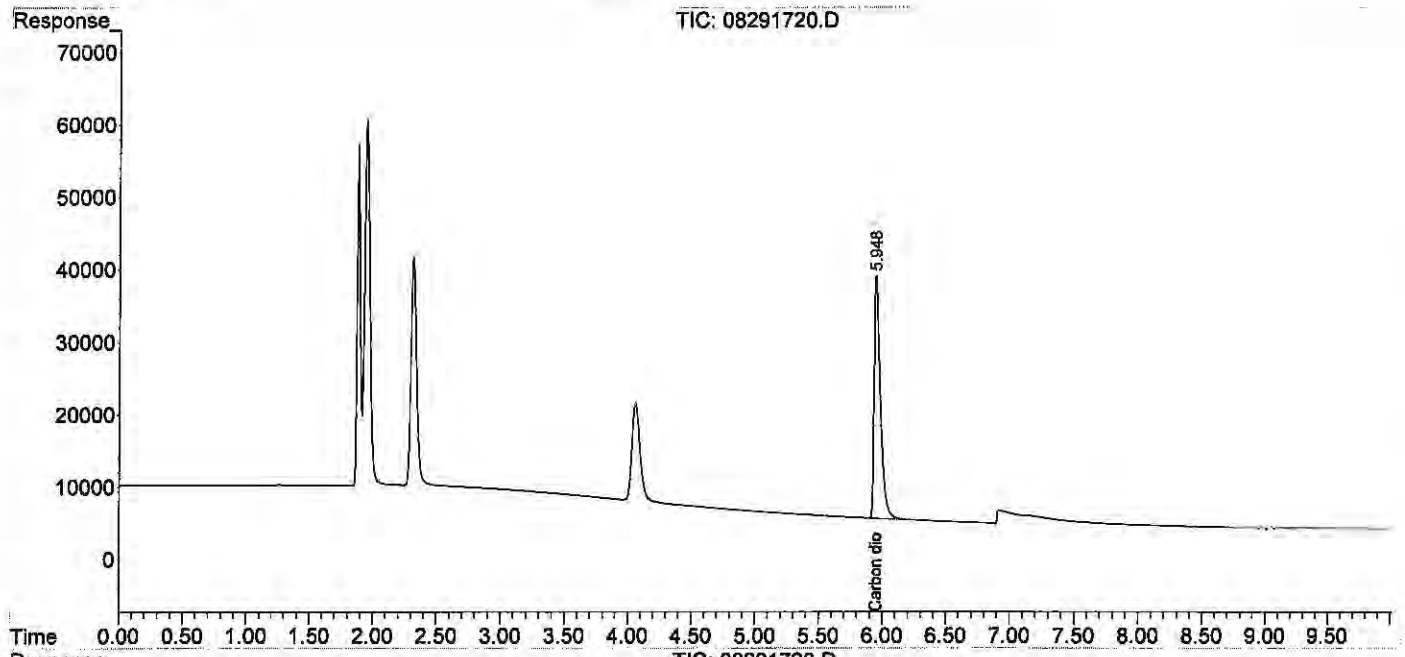
	Compound	R.T.	Response	Conc	Units	
Target Compounds						
1)	Oxygen/Argon	0.000	0	N.D.	ppm	d
2)	Carbon monoxide	1.880	819221	N.D.	ppm	
3)	Methane (TCD)	0.000	0	N.D.	ppm	d
4)	Carbon dioxide	5.948	1132363	4753.126	ppm	
6)	Methane (FID)	0.000	0	N.D.	ppm	d
7)	Ethylene	0.000	0	N.D.	ppm	
8)	Ethane	0.000	0	N.D.	ppm	
9)	Propylene	0.000	0	N.D.	ppm	
10)	Propane	0.000	0	N.D.	ppm	
11)	Isobutylene	0.000	0	N.D.	ppm	
12)	Isobutane	0.000	0	N.D.	ppm	
13)	n-Butane	0.000	0	N.D.	ppm	

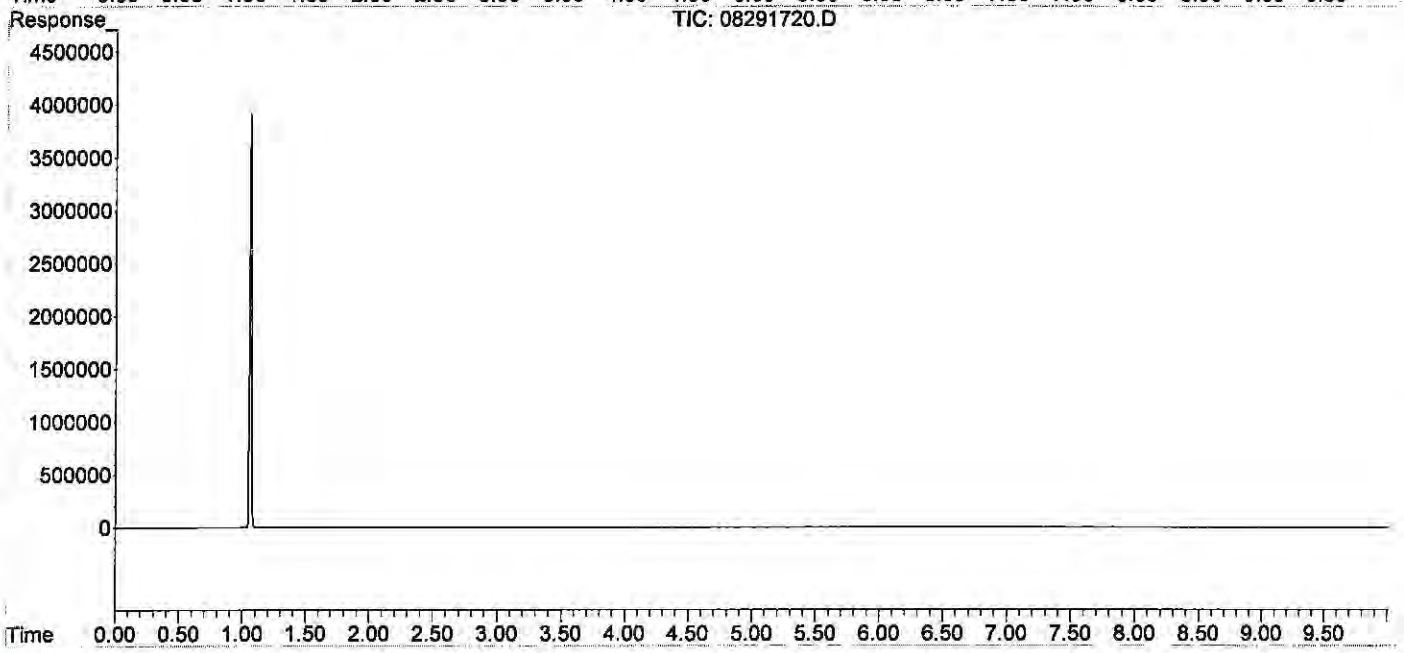
(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : J:\GC10\DATA\RSK_FID\2017_08\29\
Data File : 08291720.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 29-Aug-2017, 15:44
Operator : MC
Sample : 5000ppm s32-08231701 0.1ml
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Aug 29 15:57:17 2017
Quant Method : I:\GC10\METHODS\RS082817_CO2.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Tue Aug 29 15:36:14 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





Data Path : J:\GC10\DATA\RSK_FID\2017_08\29\
Data File : 08291721.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 29-Aug-2017, 16:00
Operator : MC
Sample : 25000ppm s32-08231701 0.5ml
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Aug 29 16:12:53 2017
Quant Method : I:\GC10\METHODS\RS082817_CO2.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Tue Aug 29 15:57:37 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

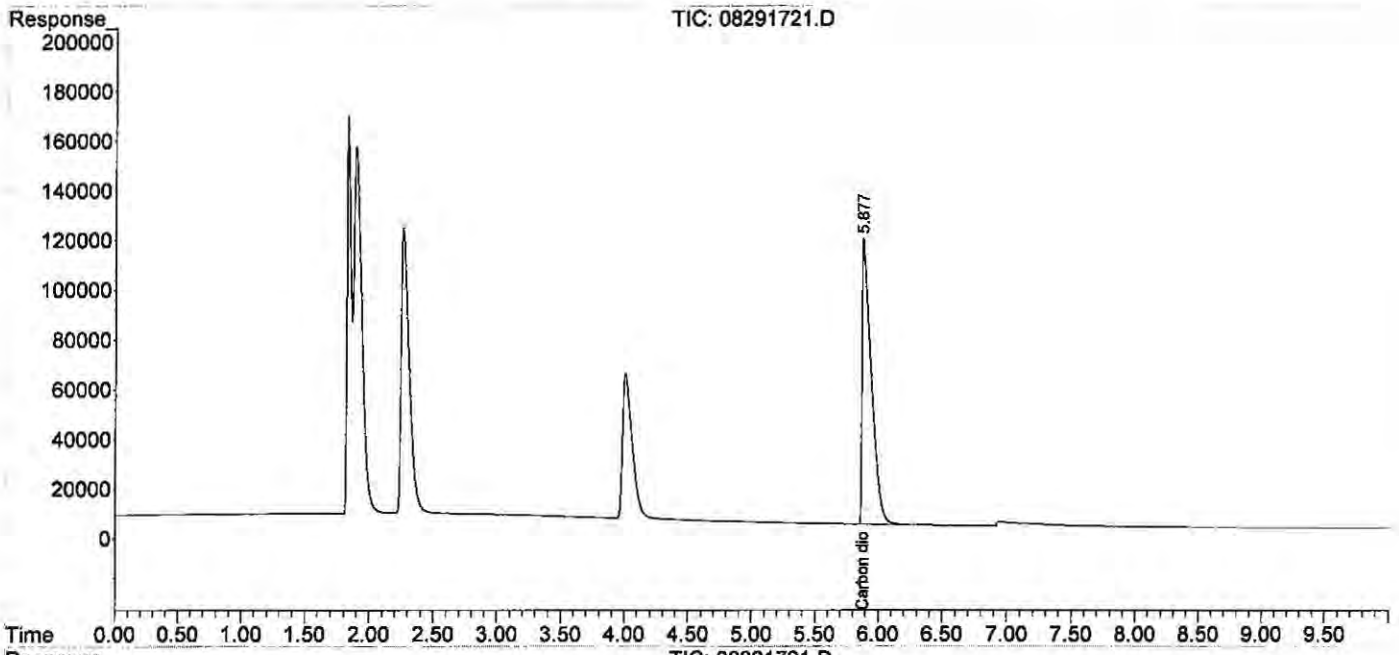
	Compound	R.T.	Response	Conc	Units	
Target Compounds						
1)	Oxygen/Argon	0.000	0	N.D.	ppm	d
2)	Carbon monoxide	1.827	3325463	N.D.	ppm	
3)	Methane (TCD)	0.000	0	N.D.	ppm	d
4)	Carbon dioxide	5.879f	5744295	24443.288	ppm	
6)	Methane (FID)	0.000	0	N.D.	ppm	d
7)	Ethylene	0.000	0	N.D.	ppm	
8)	Ethane	0.000	0	N.D.	ppm	
9)	Propylene	0.000	0	N.D.	ppm	
10)	Propane	0.000	0	N.D.	ppm	
11)	Isobutylene	0.000	0	N.D.	ppm	
12)	Isobutane	0.000	0	N.D.	ppm	
13)	n-Butane	0.000	0	N.D.	ppm	

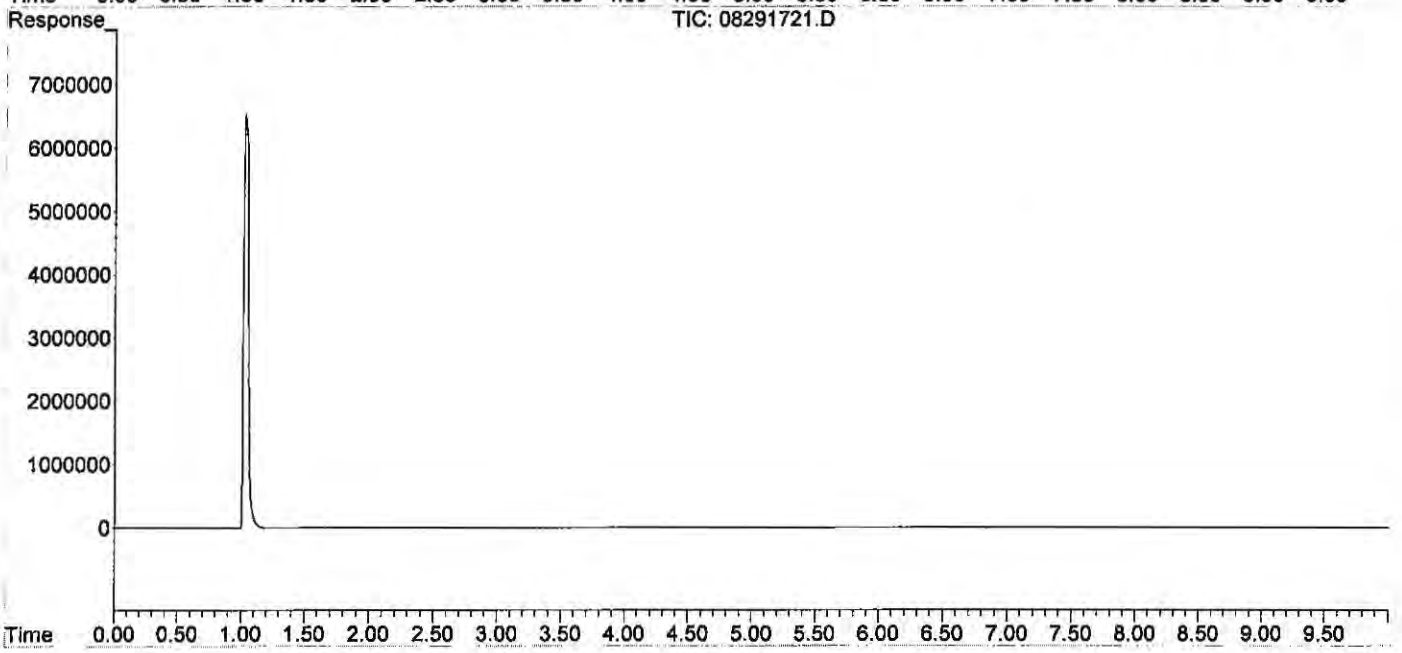
(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : J:\GC10\DATA\RSK_FID\2017_08\29\
Data File : 08291721.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 29-Aug-2017, 16:00
Operator : MC
Sample : 25000ppm s32-08231701 0.5ml
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Aug 29 16:12:53 2017
Quant Method : I:\GC10\METHODS\RS082817_CO2.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Tue Aug 29 15:57:37 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





Quantitation Report (QT Reviewed)

Data Path : J:\GC10\DATA\RSK_FID\2017_08\29\
Data File : 08291723.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 29-Aug-2017, 16:35
Operator : MC
Sample : icv s30-07071701
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Aug 29 16:54:07 2017
Quant Method : I:\GC10\METHODS\RS082817_CO2.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Tue Aug 29 16:13:13 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	R.T.	Response	Conc	Units
Target Compounds					
1)	Oxygen/Argon	1.886	536422	0.113	ppm
2)	Carbon monoxide	1.886	536422	N.D.	ppm
3)	Methane (TCD)	4.059f	626500	66244.710	ppm
4)	Carbon dioxide	5.947	1163775	4957.948	ppm
6)	Methane (FID)	1.062	37290742	3947.023	ppm
7)	Ethylene	0.000	0	N.D.	ppm
8)	Ethane	0.000	0	N.D.	ppm
9)	Propylene	0.000	0	N.D.	ppm
10)	Propane	0.000	0	N.D.	ppm
11)	Isobutylene	0.000	0	N.D.	ppm
12)	Isobutane	0.000	0	N.D.	ppm
13)	n-Butane	0.000	0	N.D.	ppm

Actual %D
5000 99.16

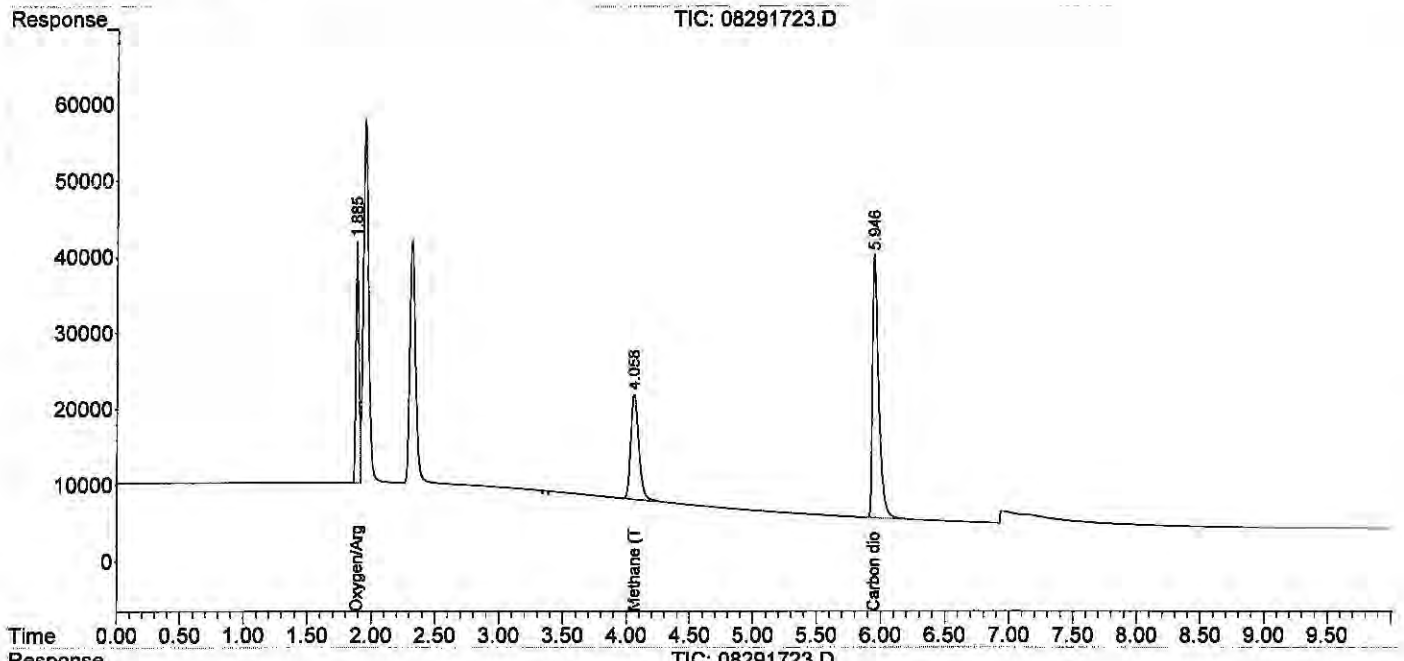
(f)=RT Delta > 1/2 Window (m)=manual int.

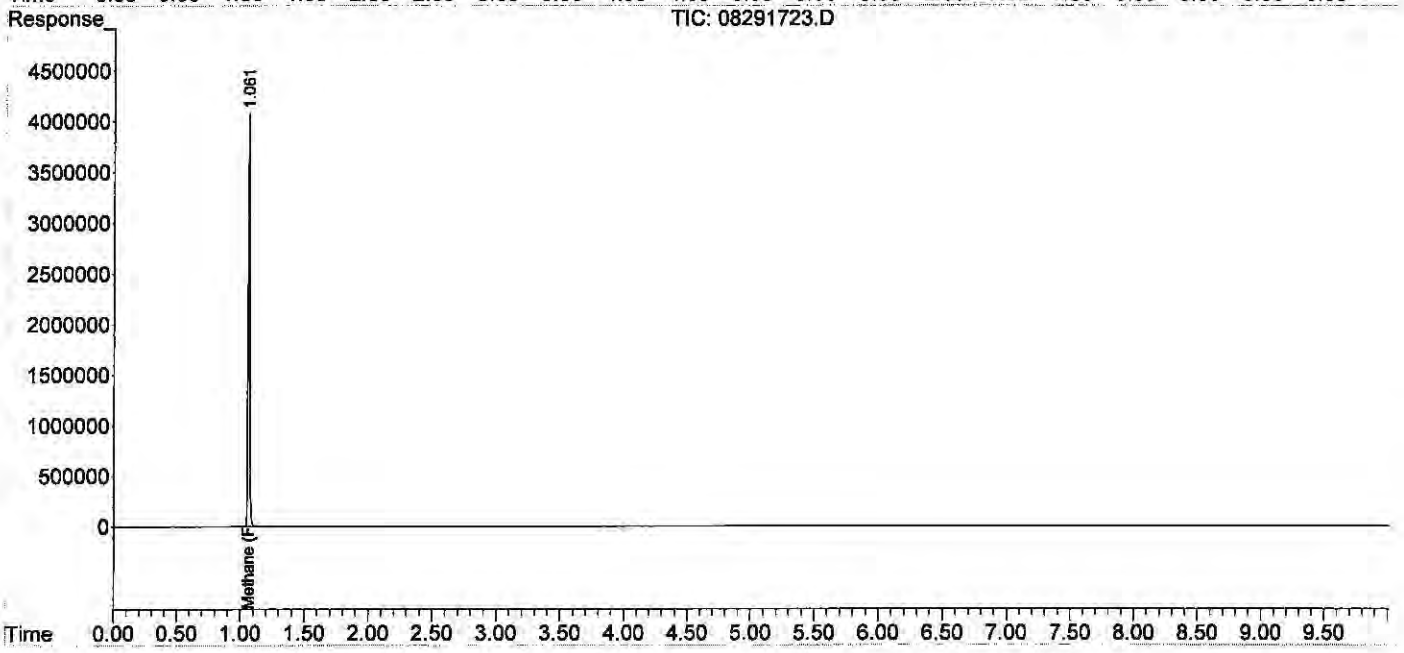
W 9/4/17

Data Path : J:\GC10\DATA\RSK_FID\2017_08\29\
Data File : 08291723.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 29-Aug-2017, 16:35
Operator : MC
Sample : icv s30-07071701
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Aug 29 16:54:07 2017
Quant Method : I:\GC10\METHODS\RS082817_CO2.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Tue Aug 29 16:13:13 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





Dissolved Gases by RSK175

ALS Environmental

Method : RSK175 Headspace Method for Dissolved Hydrocarbon in Water by FID/TCD
Client : ALS Laboratory Group | Analyst : LD | Instrument : GC#10
Service Request: P2002598 | Date Analysis : 05/14/20 | Detector : FID#10, TCD#10
Sample Vol. (ml) : 32.00 ml | Head Space Vol.(ml) : 8.00 ml | Gas Constant : 24.05684 (20°C)

HEAD SPACE RESULT (ppm)

Sample ID	Inj. Vol.	Carbon Dioxide
STD S32-01312001	0.100	4965.087
ACTUAL		5000.00
%Difference		0.7%
MCS 0.1ml	0.100	0.000
RB 0.1ml	0.100	0.000
LCS S32-01212003	0.100	1104.718
LCSD S32-01212003	0.100	999.376
P2002598-001 0.1ml	0.100	1324.942
P2002598-002 0.1ml	0.100	1925.111

FINAL HEAD SPACE RESULT (ppm)

	Carbon Dioxide
WWt.	44.10
HENRY'S CONSTANT	1.42E+03
RL	100.00
MCS 0.1ml	0.000
LCS S32-01212003	11047.180
LCSD S32-01212003	9993.760
P2002598-001 0.1ml	13249.420
P2002598-002 0.1ml	19251.110

141 of 320

05/14

STD S32-01312001	4871.402
ACTUAL	5000.00
%Difference	2.6%

01006986

Data Path : I:\GC10\DATA\RSK_FID\2020_05\14CO2\
Data File : 05142001.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 14-May-2020, 12:23:07
Operator : LD
Sample : STD S32-01312001
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 14 12:49:50 2020
Quant Method : I:\GC10\METHODS\RS082817_CO2.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Tue Aug 29 16:13:13 2017
Response via : Initial Calibration
Integrator: ChemStation

LD 05/14

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

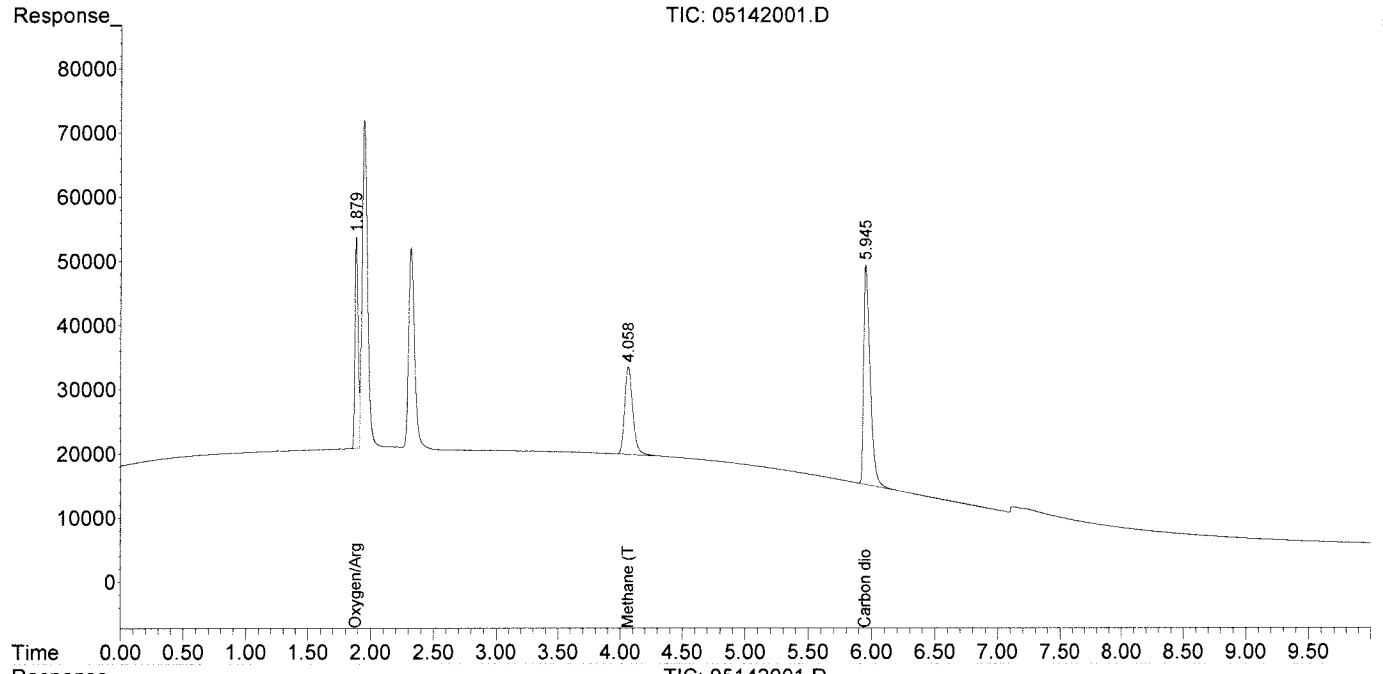
	Compound	R.T.	Response	Conc	Units
Target Compounds					
1)	Oxygen/Argon	1.880	571936	0.120	ppm
2)	Carbon monoxide	1.880	571936	N.D.	ppm
3)	Methane (TCD)	4.058f	627905	66393.267	ppm
4)	Carbon dioxide	5.947	1165451	4965.087	ppm
6)	Methane (FID)	0.000	0	N.D.	ppm
7)	Ethylene	0.000	0	N.D.	ppm
8)	Ethane	0.000	0	N.D.	ppm
9)	Propylene	0.000	0	N.D.	ppm
10)	Propane	0.000	0	N.D.	ppm
11)	Isobutylene	0.000	0	N.D.	ppm
12)	Isobutane	0.000	0	N.D.	ppm
13)	n-Butane	0.000	0	N.D.	ppm

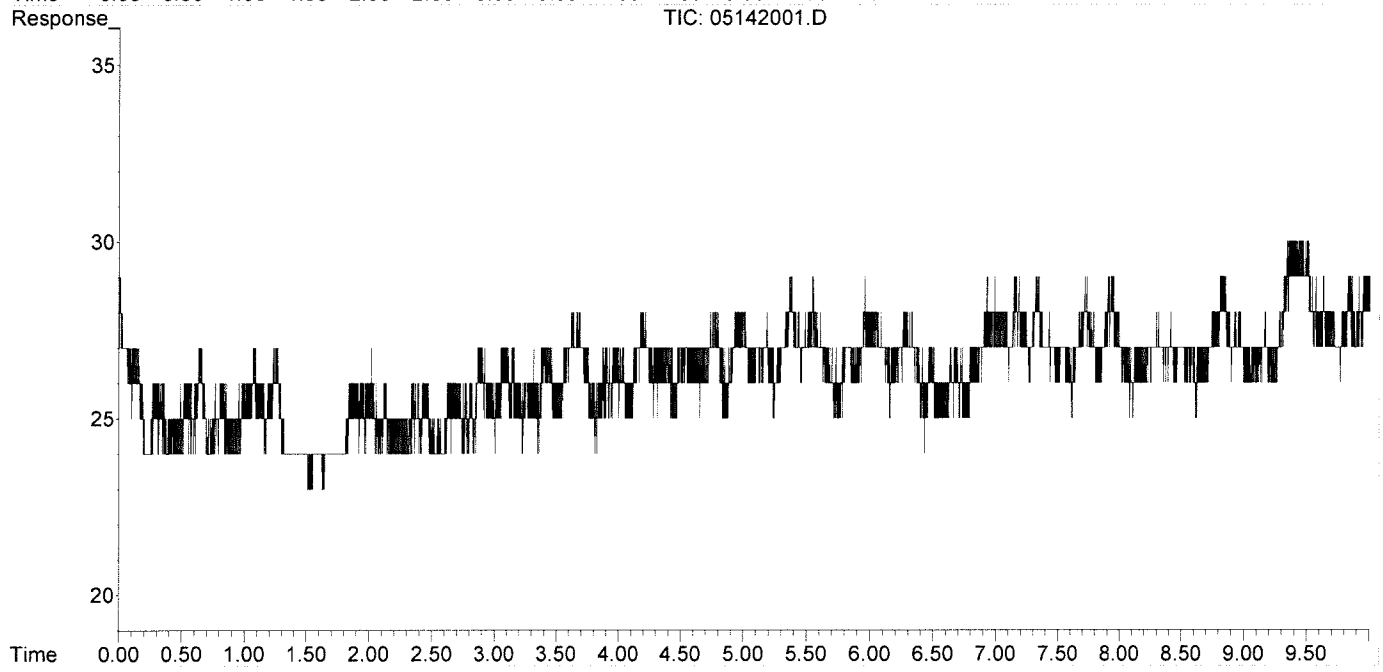
(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : I:\GC10\DATA\RSK_FID\2020_05\14CO2\
Data File : 05142001.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 14-May-2020, 12:23:07
Operator : LD
Sample : STD S32-01312001
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 14 12:49:50 2020
Quant Method : I:\GC10\METHODS\RS082817_CO2.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Tue Aug 29 16:13:13 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





01006988

Data Path : I:\GC10\DATA\RSK_FID\2020_05\14CO2\
Data File : 05142008.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 14-May-2020, 16:49:55
Operator : LD
Sample : STD S32-01312001
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 14 17:04:56 2020
Quant Method : I:\GC10\METHODS\RS082817_CO2.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Tue Aug 29 16:13:13 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

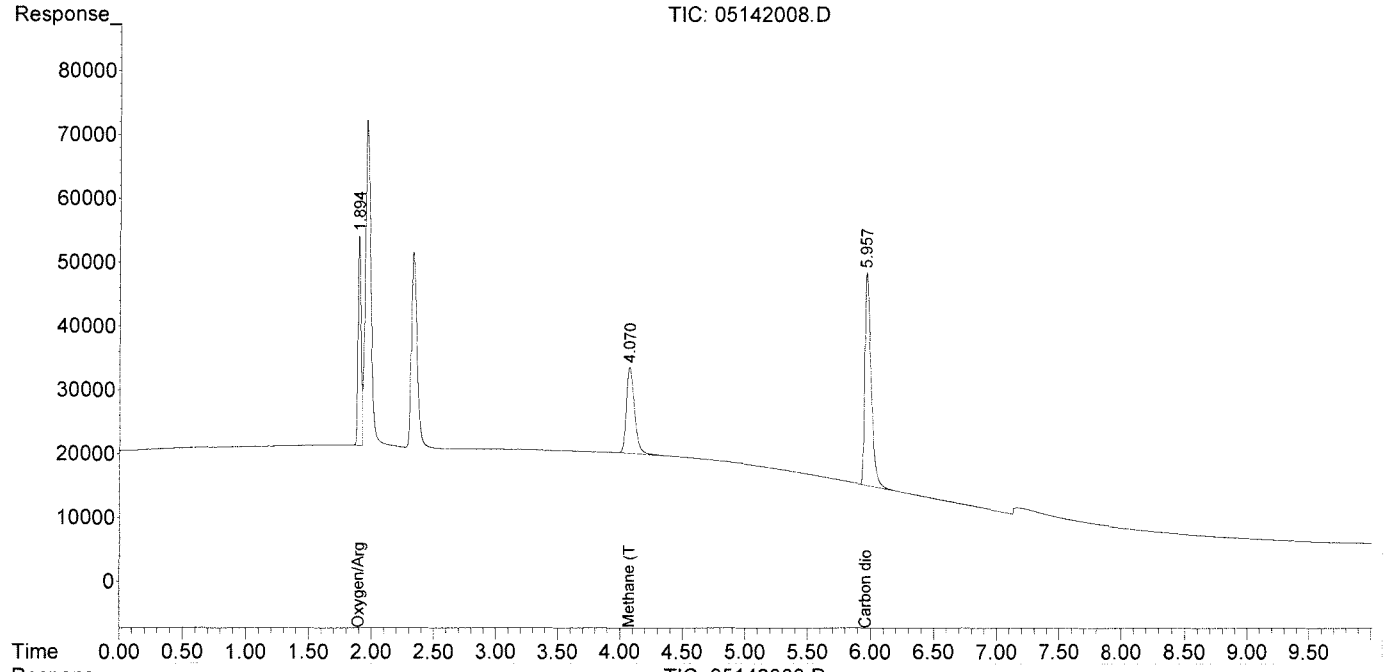
	Compound	R.T.	Response	Conc	Units
Target Compounds					
1)	Oxygen/Argon	1.895	571159	0.120	ppm
2)	Carbon monoxide	1.895	571159	N.D.	ppm
3)	Methane (TCD)	4.071f	618718	65421.940	ppm
4)	Carbon dioxide	5.959	1143460	4871.402	ppm
6)	Methane (FID)	0.000	0	N.D.	ppm
7)	Ethylene	0.000	0	N.D.	ppm
8)	Ethane	0.000	0	N.D.	ppm
9)	Propylene	0.000	0	N.D.	ppm
10)	Propane	0.000	0	N.D.	ppm
11)	Isobutylene	0.000	0	N.D.	ppm
12)	Isobutane	0.000	0	N.D.	ppm
13)	n-Butane	0.000	0	N.D.	ppm

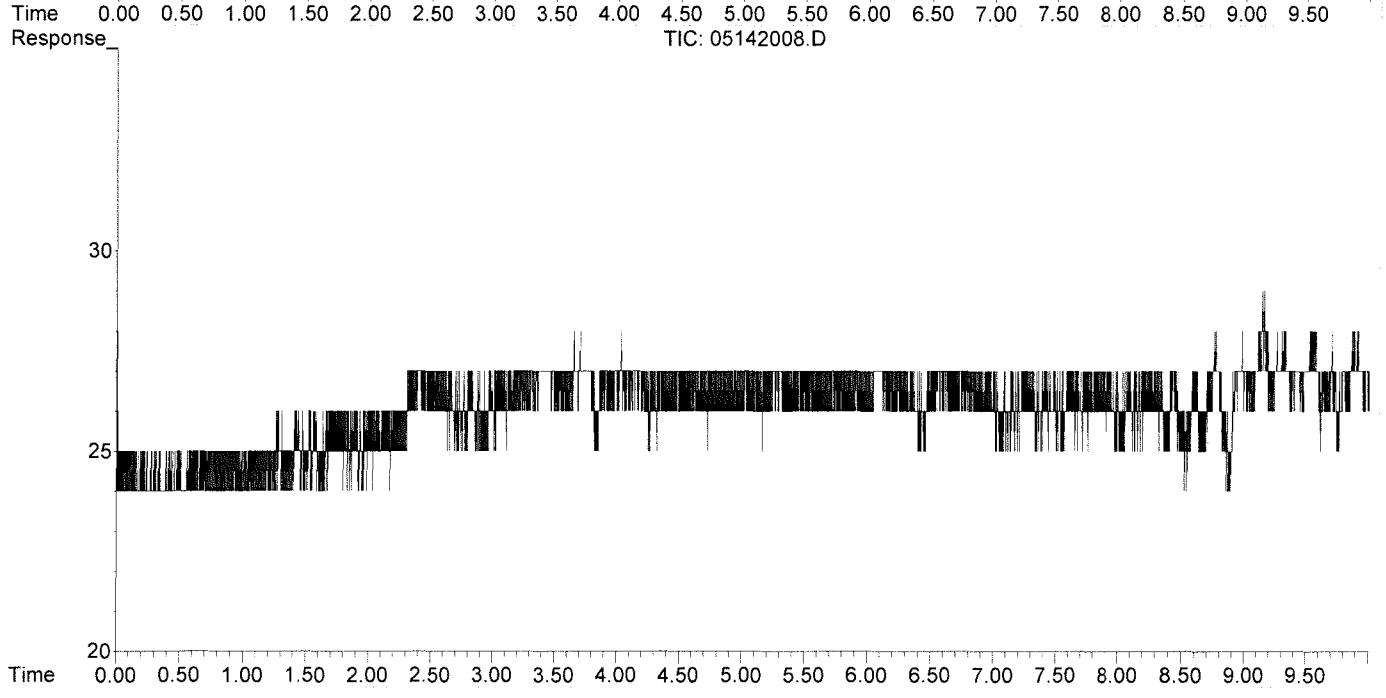
(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : I:\GC10\DATA\RSK_FID\2020_05\14CO2\
Data File : 05142008.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 14-May-2020, 16:49:55
Operator : LD
Sample : STD S32-01312001
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 14 17:04:56 2020
Quant Method : I:\GC10\METHODS\RS082817_CO2.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Tue Aug 29 16:13:13 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





Injection Log

Directory: I:\GC10\DATA\RSK_FID\2017_08\29\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Acquisition Method	Comments
1	29-Aug-17, 07:58:00	08291701.D	std s30-06161601		MC	RSKBOTH.M	Pass
2	29-Aug-17, 08:11:02	08291702.D	mb 0.5ml		MC	RSKBOTH.M	Pass
3	29-Aug-17, 08:24:13	08291703.D	4089-001 0.5ml		MC	RSKBOTH.M	
4	29-Aug-17, 08:39:29	08291704.D	4089-002 0.5ml		MC	RSKBOTH.M	
5	29-Aug-17, 08:53:38	08291705.D	4089-003 0.5ml		MC	RSKBOTH.M	
6	29-Aug-17, 09:33:52	08291706.D	4089-004 0.5ml		MC	RSKBOTH.M	
7	29-Aug-17, 09:50:51	08291707.D	4089-005 0.5ml		MC	RSKBOTH.M	
8	29-Aug-17, 10:07:54	08291708.D	4089-006 0.5ml		MC	RSKBOTH.M	
9	29-Aug-17, 10:42:34	08291709.D	4089-007 0.5ml		MC	RSKBOTH.M	
10	29-Aug-17, 11:06:01	08291710.D	4089-008 0.5ml		MC	RSKBOTH.M	
11	29-Aug-17, 11:23:53	08291711.D	4089-009 0.5ml		MC	RSKBOTH.M	
12	29-Aug-17, 11:37:17	08291712.D	lcs s30-05241604		MC	RSKBOTH.M	Pass
13	29-Aug-17, 11:50:31	08291713.D	lcs s30-05241604		MC	RSKBOTH.M	Pass
14	29-Aug-17, 12:29:45	08291714.D	std s30-06161601		MC	RSKBOTH.M	Pass
15	29-Aug-17, 14:07:01	08291715.D	25ppm s32-08291701 0.25ml		MC	RSKBOTH.M	Curve
16	29-Aug-17, 14:22:12	08291716.D	100ppm s32-08291702 0.2ml		MC	RSKBOTH.M	Curve
17	29-Aug-17, 14:53:00	08291717.D	250ppm s32-08291702 0.5ml		MC	RSKBOTH.M	Curve
18	29-Aug-17, 15:07:43	08291718.D	mls inject		MC	RSKBOTH.M	
19	29-Aug-17, 15:23:21	08291719.D	2500ppm s32-08231701 50ul		MC	RSKBOTH.M	Curve
20	29-Aug-17, 15:44:54	08291720.D	5000ppm s32-08231701 0.1ml		MC	RSKBOTH.M	Curve
21	29-Aug-17, 16:00:09	08291721.D	25000ppm s32-08231701 0.5ml		MC	RSKBOTH.M	Curve
22	29-Aug-17, 16:15:43	08291722.D	mb 0.1ml		MC	RSKBOTH.M	Pass
23	29-Aug-17, 16:35:37	08291723.D	lcv s30-07071701		MC	RSKBOTH.M	Pass

Injection Log

Directory: I:\GC10\DATA\RSK_TCD\2020_05\14\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Acquisition Method	Comments
1	14-May-20, 12:23:07	05142001.D	STD S32-01312001		LD	RSKBOTH.M	pass
2	14-May-20, 12:52:30	05142002.D	RB 0.1ml		LD	RSKBOTH.M	pass
3	14-May-20, 15:35:05	05142003.D	MCS 0.1ml		LD	RSKBOTH.M	pass
4	14-May-20, 15:50:49	05142004.D	LCS S32-01212003		LD	RSKBOTH.M	pass
5	14-May-20, 16:06:17	05142005.D	LCSD S32-01212003		LD	RSKBOTH.M	pass
6	14-May-20, 16:22:25	05142006.D	P2002598-001 0.1ml		LD	RSKBOTH.M	
7	14-May-20, 16:35:38	05142007.D	P2002598-002 0.1ml		LD	RSKBOTH.M	
8	14-May-20, 16:49:55	05142008.D	STD S32-01312001		LD	RSKBOTH.M	pass

01006992

Data Path : I:\GC10\DATA\RSK_FID\2020_05\13\
Data File : 05132016.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 13-May-2020, 17:48:43
Operator : LD
Sample : P2002598-001 0.1ml
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 13 18:32:43 2020
Quant Method : I:\GC10\METHODS\RS091217_R.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Wed Sep 13 11:14:47 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

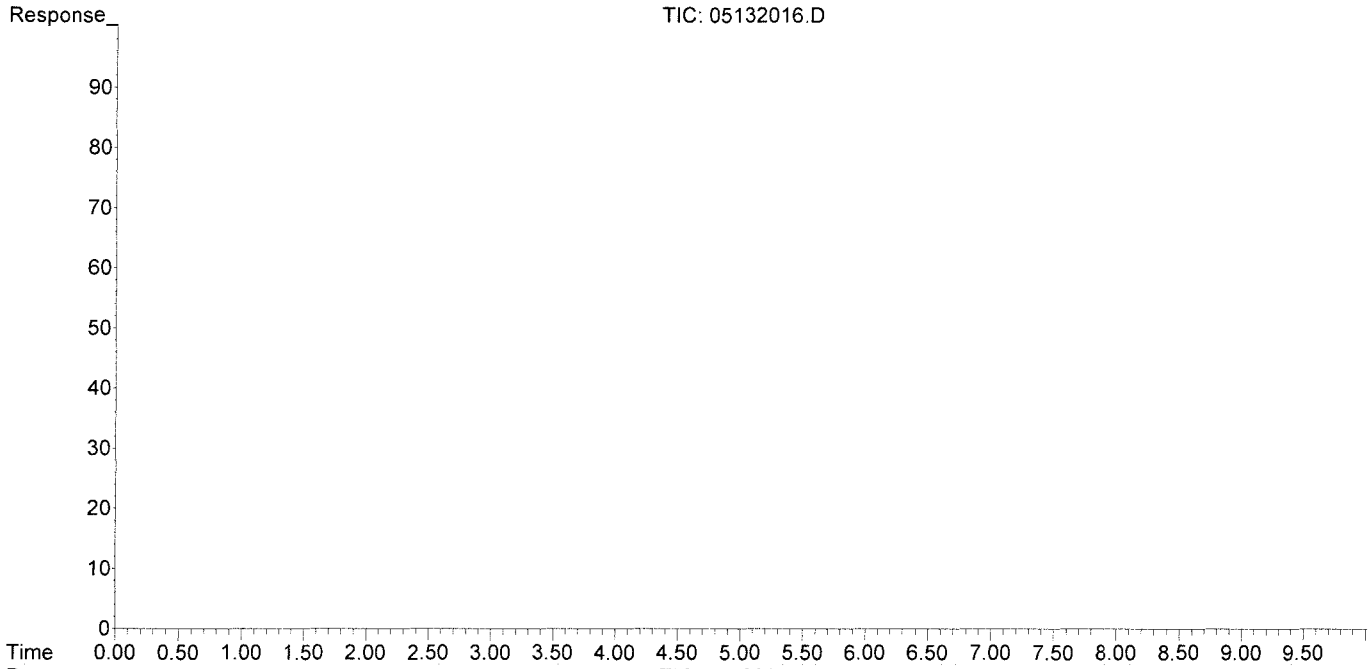
	Compound	R.T.	Response	Conc	Units
Target Compounds					
1)	Oxygen/Argon	0.000	0	N.D.	ppm
2)	Carbon monoxide	0.000	0	N.D.	ppm
3)	Methane (TCD)	0.000	0	N.D.	ppm
4)	Carbon dioxide	0.000	0	N.D.	ppm
6)	Methane (FID)	0.000	0	N.D.	ppm
7)	Ethylene	0.000	0	N.D.	ppm
8)	Ethane	0.000	0	N.D.	ppm
9)	Propylene	0.000	0	N.D.	ppm
10)	Propane	0.000	0	N.D.	ppm
11)	Isobutylene	0.000	0	N.D.	ppm
12)	Isobutane	0.000	0	N.D.	ppm
13)	n-Butane	0.000	0	N.D.	ppm

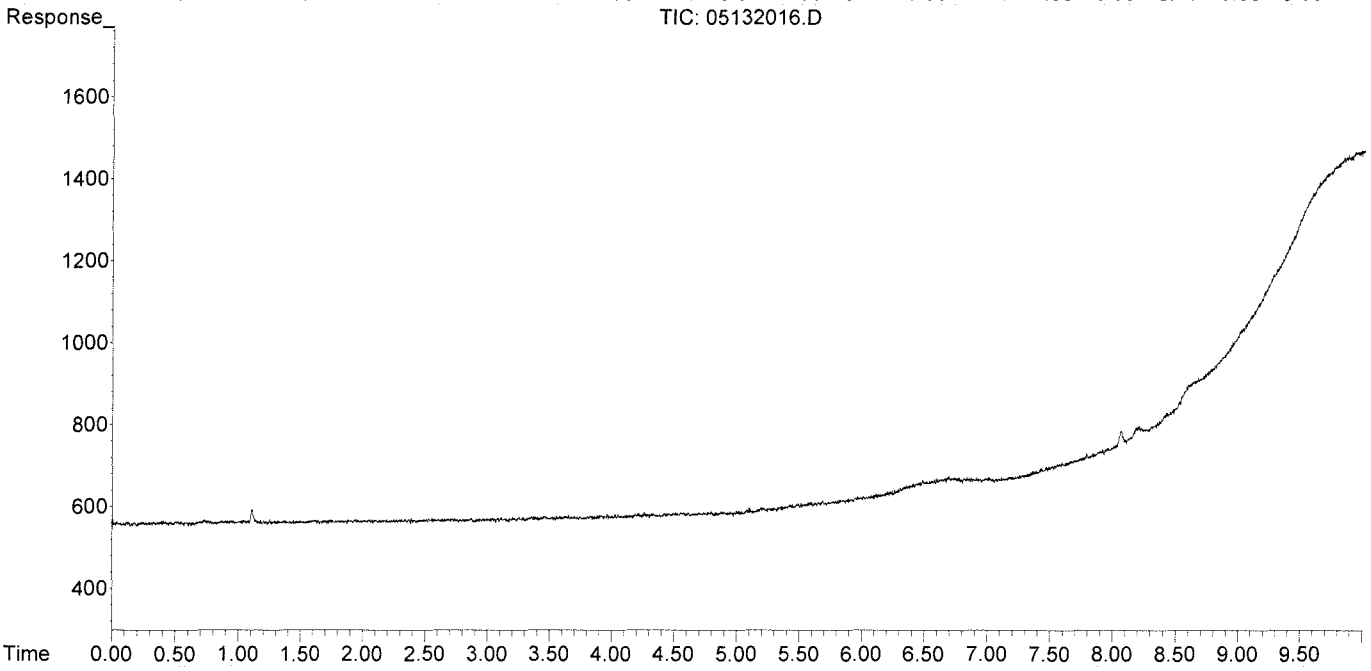
(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : I:\GC10\DATA\RSK_FID\2020_05\13\
Data File : 05132016.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 13-May-2020, 17:48:43
Operator : LD
Sample : P2002598-001 0.1ml
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 13 18:32:43 2020
Quant Method : I:\GC10\METHODS\RS091217_R.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Wed Sep 13 11:14:47 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





01006994

Data Path : I:\GC10\DATA\RSK_FID\2020_05\13\
Data File : 05132017.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 13-May-2020, 18:02:53
Operator : LD
Sample : P2002598-002 0.1ml
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 13 18:32:53 2020
Quant Method : I:\GC10\METHODS\RS091217_R.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Wed Sep 13 11:14:47 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

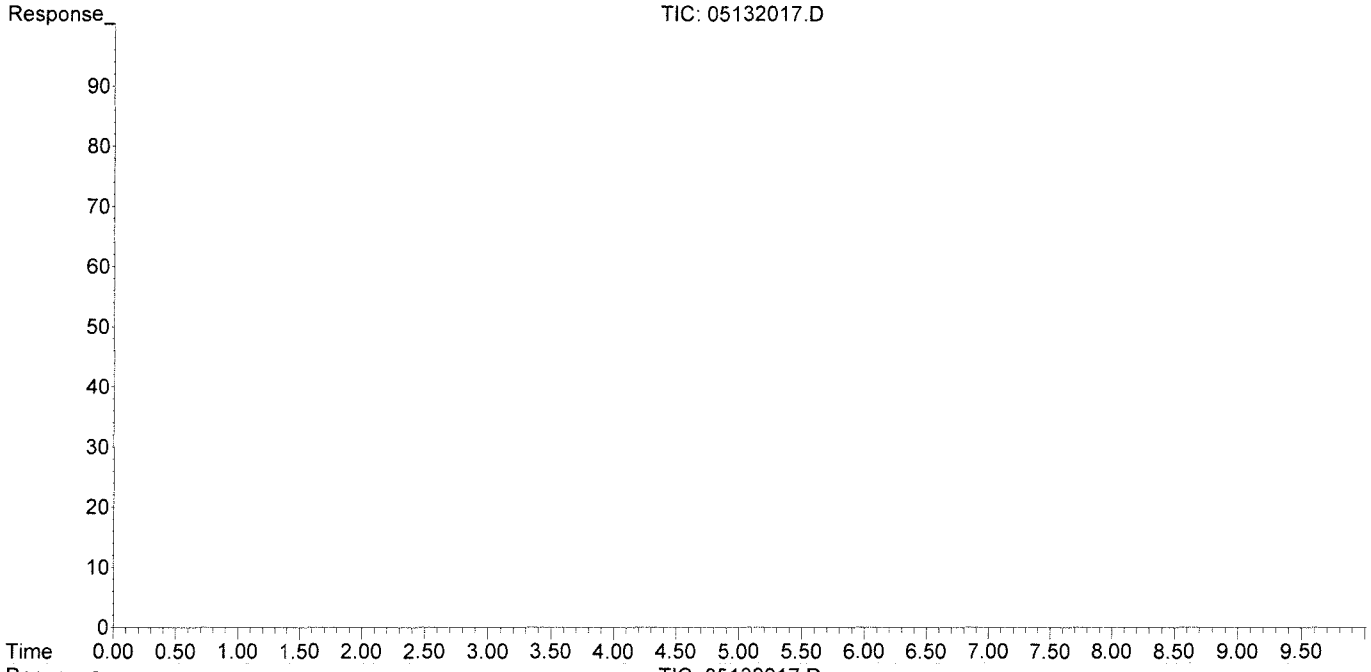
	Compound	R.T.	Response	Conc	Units
Target Compounds					
1)	Oxygen/Argon	0.000	0	N.D.	ppm
2)	Carbon monoxide	0.000	0	N.D.	ppm
3)	Methane (TCD)	0.000	0	N.D.	ppm
4)	Carbon dioxide	0.000	0	N.D.	ppm
6)	Methane (FID)	0.000	0	N.D.	ppm
7)	Ethylene	0.000	0	N.D.	ppm
8)	Ethane	0.000	0	N.D.	ppm
9)	Propylene	0.000	0	N.D.	ppm
10)	Propane	0.000	0	N.D.	ppm
11)	Isobutylene	0.000	0	N.D.	ppm
12)	Isobutane	0.000	0	N.D.	ppm
13)	n-Butane	0.000	0	N.D.	ppm

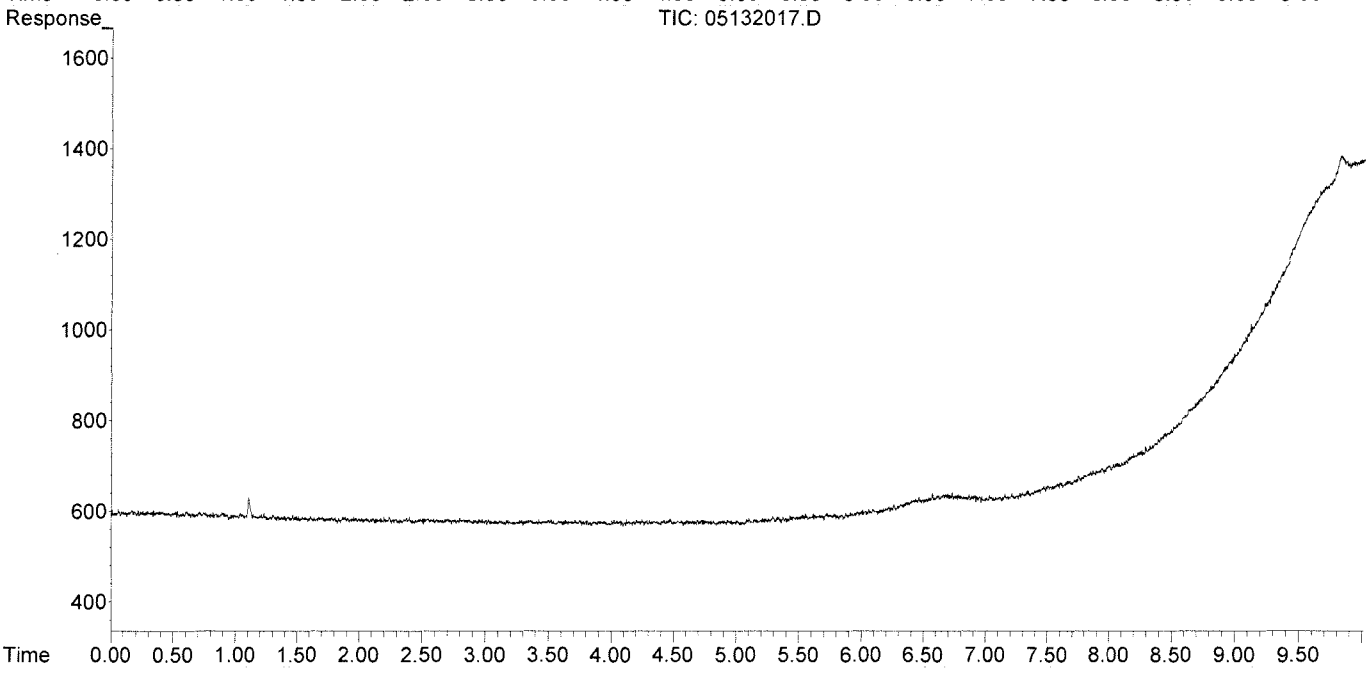
(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : I:\GC10\DATA\RSK_FID\2020_05\13\
Data File : 05132017.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 13-May-2020, 18:02:53
Operator : LD
Sample : P2002598-002 0.1ml
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 13 18:32:53 2020
Quant Method : I:\GC10\METHODS\RS091217_R.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Wed Sep 13 11:14:47 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





01006996

Data Path : I:\GC10\DATA\RSK_FID\2020_05\13\
Data File : 05132013.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 13-May-2020, 16:20:04
Operator : LD
Sample : MCS 0.1ml
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 13 17:34:07 2020
Quant Method : I:\GC10\METHODS\RS091217_R.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Wed Sep 13 11:14:47 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

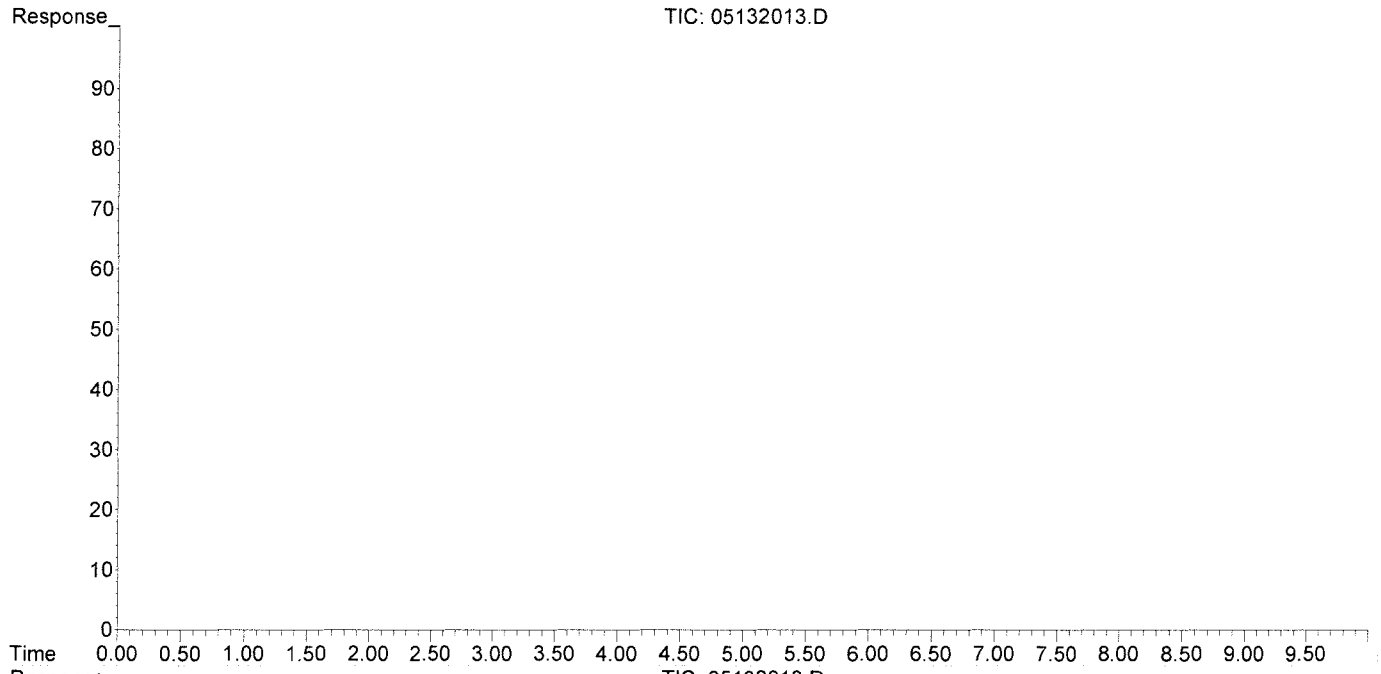
	Compound	R.T.	Response	Conc	Units
Target Compounds					
1)	Oxygen/Argon	0.000	0	N.D.	ppm
2)	Carbon monoxide	0.000	0	N.D.	ppm
3)	Methane (TCD)	0.000	0	N.D.	ppm
4)	Carbon dioxide	0.000	0	N.D.	ppm
6)	Methane (FID)	0.000	0	N.D.	ppm
7)	Ethylene	0.000	0	N.D.	ppm
8)	Ethane	0.000	0	N.D.	ppm
9)	Propylene	0.000	0	N.D.	ppm
10)	Propane	0.000	0	N.D.	ppm
11)	Isobutylene	0.000	0	N.D.	ppm
12)	Isobutane	0.000	0	N.D.	ppm
13)	n-Butane	0.000	0	N.D.	ppm

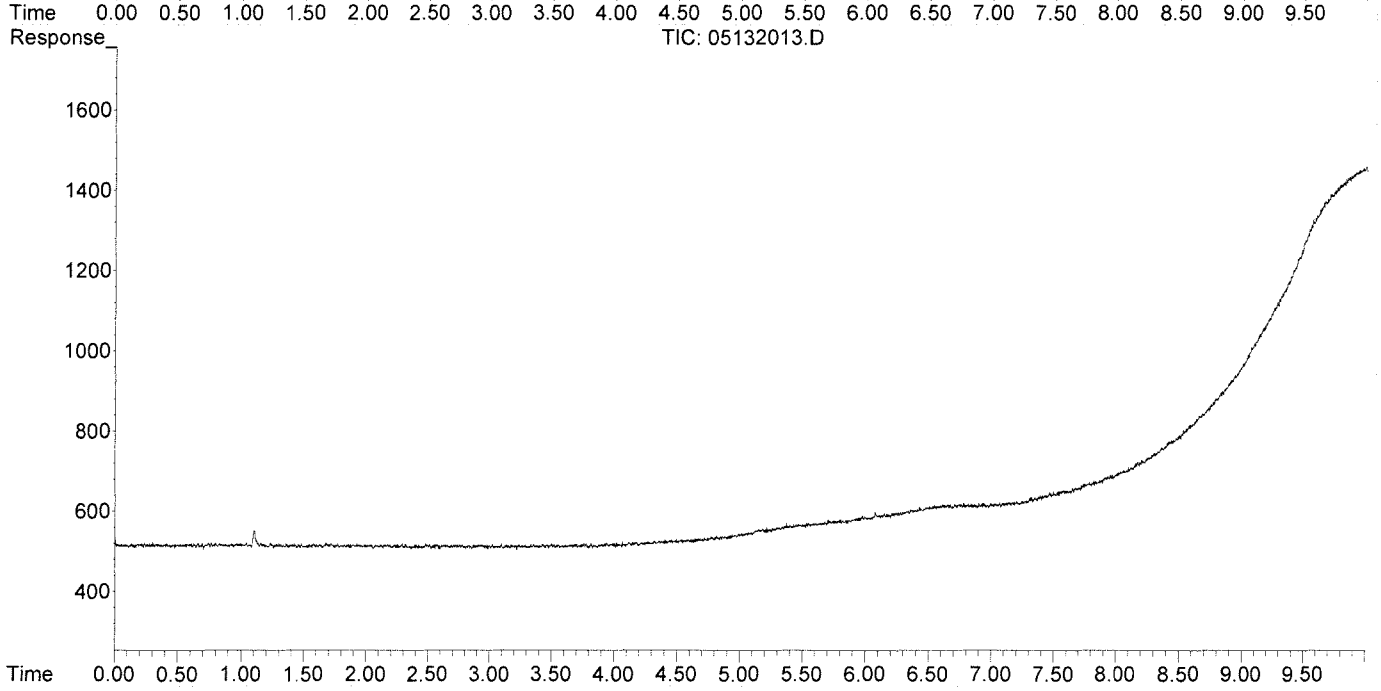
(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : I:\GC10\DATA\RSK_FID\2020_05\13\
Data File : 05132013.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 13-May-2020, 16:20:04
Operator : LD
Sample : MCS 0.1ml
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 13 17:34:07 2020
Quant Method : I:\GC10\METHODS\RS091217_R.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Wed Sep 13 11:14:47 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





Data Path : I:\GC10\DATA\RSK_FID\2020_05\13\
Data File : 05132014.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 13-May-2020, 17:10:36
Operator : LD
Sample : LCS FID 0.1ml
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 13 17:34:17 2020
Quant Method : I:\GC10\METHODS\RS091217_R.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Wed Sep 13 11:14:47 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

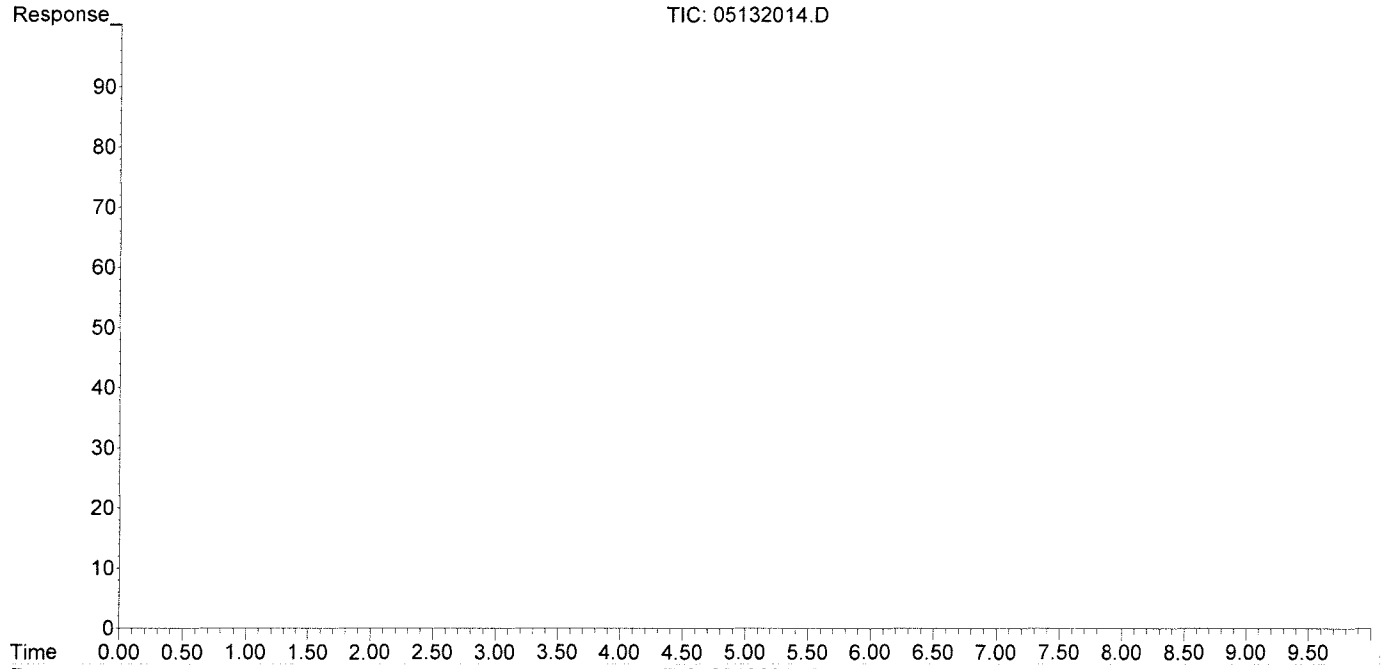
	Compound	R.T.	Response	Conc	Units	
Target Compounds						
1)	Oxygen/Argon	0.000	0	N.D.	ppm	
2)	Carbon monoxide	0.000	0	N.D.	ppm	
3)	Methane (TCD)	0.000	0	N.D.	ppm	
4)	Carbon dioxide	0.000	0	N.D.	ppm	
6)	Methane (FID)	1.106	12520	1.380	ppm	
7)	Ethylene	1.676	16749	1.001	ppm	
8)	Ethane	1.941	20981	1.238	ppm	
9)	Propylene	4.323	22200	0.947	ppm	
10)	Propane	4.445	31269	1.257	ppm	
11)	Isobutylene	0.000	0	N.D.	ppm	
12)	Isobutane	0.000	0	N.D.	ppm	d
13)	n-Butane	0.000	0	N.D.	ppm	d

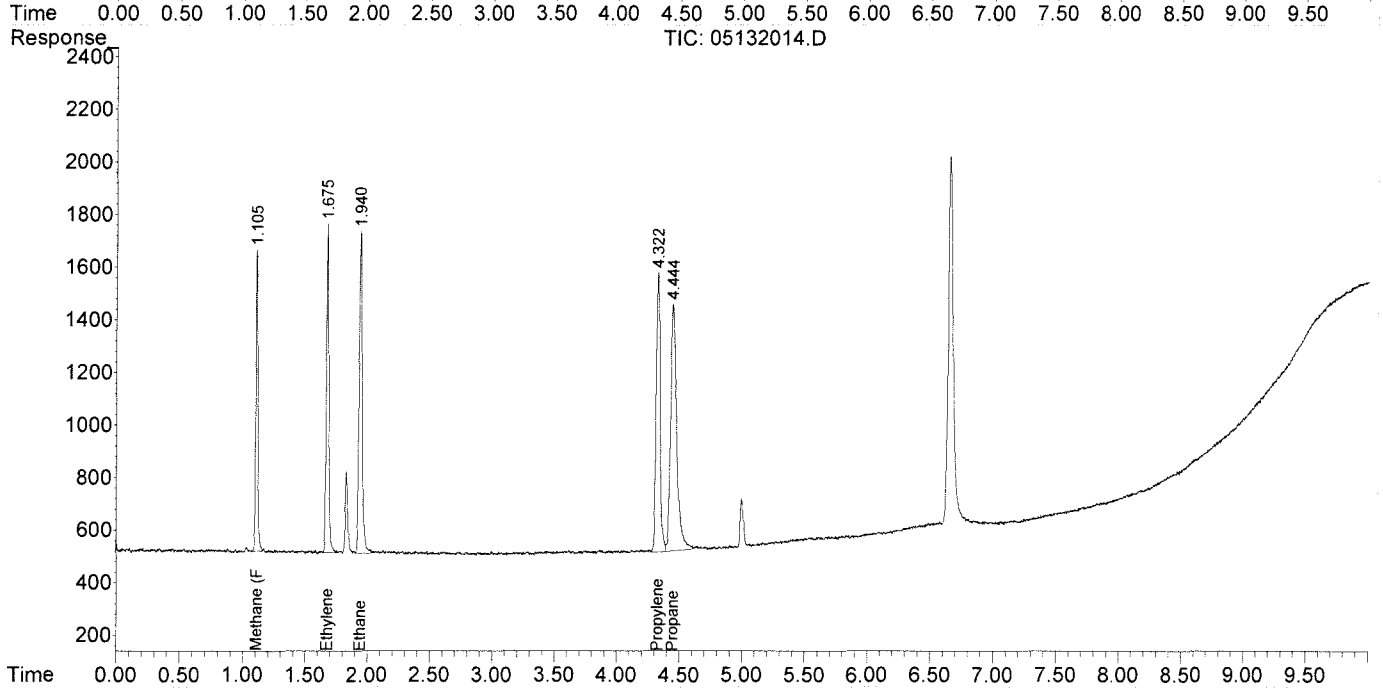
(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : I:\GC10\DATA\RSK_FID\2020_05\13\
Data File : 05132014.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 13-May-2020, 17:10:36
Operator : LD
Sample : LCS FID 0.1ml
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 13 17:34:17 2020
Quant Method : I:\GC10\METHODS\RS091217_R.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Wed Sep 13 11:14:47 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





Data Path : I:\GC10\DATA\RSK_FID\2020_05\13\
Data File : 05132015.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 13-May-2020, 17:29:50
Operator : LD
Sample : LCSD FID 0.1ml
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 13 17:47:35 2020
Quant Method : I:\GC10\METHODS\RS091217_R.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Wed Sep 13 11:14:47 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

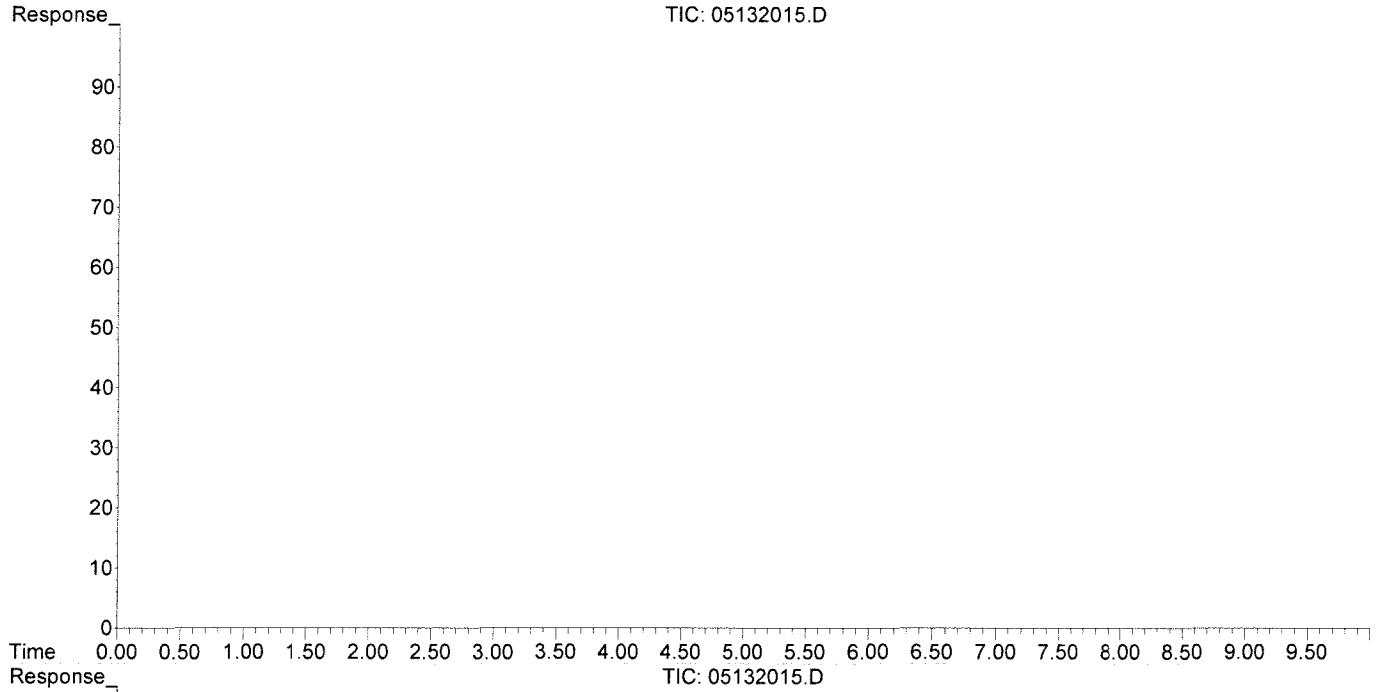
	Compound	R.T.	Response	Conc	Units	
Target Compounds						
1)	Oxygen/Argon	0.000	0	N.D.	ppm	
2)	Carbon monoxide	0.000	0	N.D.	ppm	
3)	Methane (TCD)	0.000	0	N.D.	ppm	
4)	Carbon dioxide	0.000	0	N.D.	ppm	
6)	Methane (FID)	1.103	12712	1.401	ppm	
7)	Ethylene	1.674	16646	0.995	ppm	
8)	Ethane	1.940	20809	1.228	ppm	
9)	Propylene	4.323	22388	0.955	ppm	
10)	Propane	4.445	31442	1.264	ppm	
11)	Isobutylene	0.000	0	N.D.	ppm	
12)	Isobutane	0.000	0	N.D.	ppm	d
13)	n-Butane	0.000	0	N.D.	ppm	d

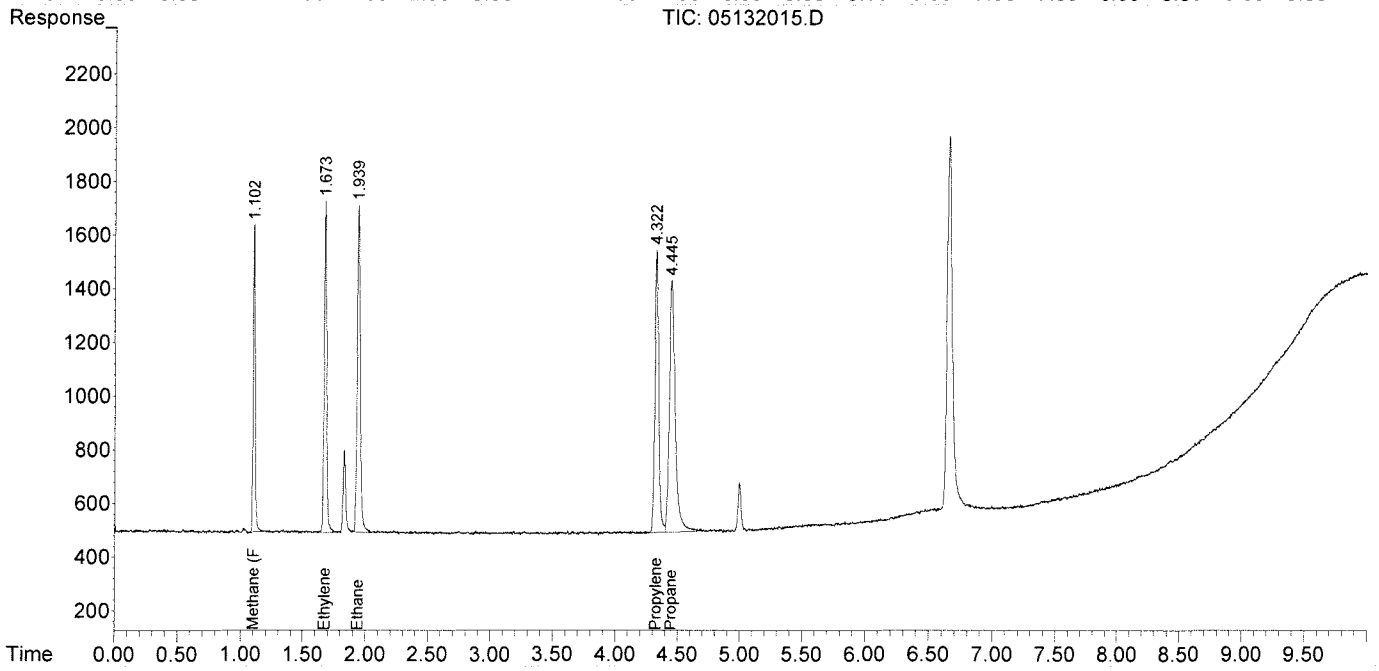
(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : I:\GC10\DATA\RSK_FID\2020_05\13\
Data File : 05132015.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 13-May-2020, 17:29:50
Operator : LD
Sample : LCSD FID 0.1ml
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 13 17:47:35 2020
Quant Method : I:\GC10\METHODS\RS091217_R.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Wed Sep 13 11:14:47 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





Response Factor Report HP5890

Method Path : J:\GC10\METHODS\
Method File : RS091217_R.M
Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
Last Update : Wed Sep 13 11:14:47 2017
Response Via : Initial Calibration

Calibration Files
1 =09121702.D 2 =09121703.D 3 =09121704.D
4 =09121705.D 5 =09121706.D 6 =09121707.D

	Compound	1	2	3	4	5	6	Avg		%RSD
1)	Oxygen/Argon	3.739		1.014			0.001	0.793	E6	189.17
2)	Carbon monoxide	3.739		1.014			0.001	0.594	E6	221.92
3)	Methane (TCD)						2.161	0.951	E2	106.37
4)	Carbon dioxide	2.365	2.569	2.558	2.361	2.459	2.314	2.438	E2	4.44

Signal #2 Calibration Files
1 =09121702.D 2 =09121703.D 3 =09121704.D
4 =09121705.D 5 =09121706.D 6 =09121707.D

	Compound	1	2	3	4	5	6	Avg		%RSD
6)	Methane (FID)		1.180	0.975	0.908	0.870	0.868	0.907	E4	11.66
7)	Ethylene	1.736	1.638	1.780	1.720	1.628	1.670	1.673	E4	3.90
8)	Ethane	1.781	1.676	1.784	1.730	1.692	1.675	1.695	E4	3.83
9)	Propylene	2.505	2.296	2.592	2.480	2.346	2.252	2.343	E4	6.56
10)	Propane	2.439	2.283	2.645	2.555	2.433	2.522	2.488	E4	4.20
11)	Isobutylene							0.652	E1	138.46
12)	Isobutane	6.058	4.793	2.214	1.553	1.353		2.662	E4	86.17
13)	n-Butane	6.058	4.793	2.214	1.553	1.353		2.662	E4	86.17

(#) = Out of Range ### Number of calibration levels exceeded format ###

RS091217_R.M Wed Sep 13 15:11:48 2017

Edit Compounds -- Compound #6 -- Methane (FID)

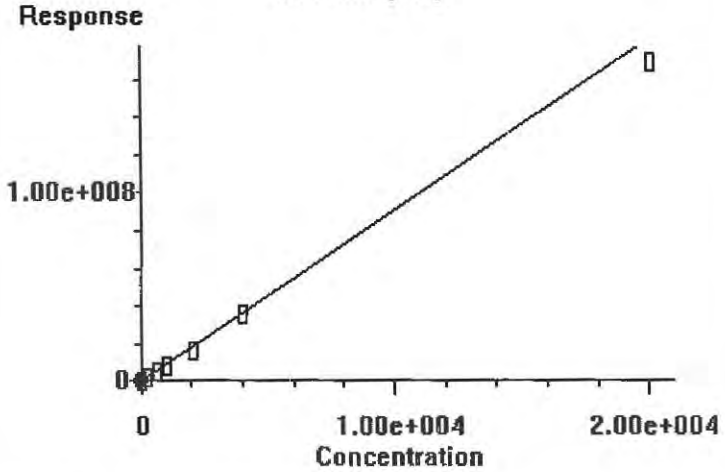
Search by: Ret Time | Name | Index | Find Compound

- Compound Database
- External Standard Compoun
  - Oxygen/Argon
  - Carbon monoxide
  - Methane (TCD)
  - Carbon dioxide
  - Signal #2
  - Methane (FID)
  - Ethylene
  - Ethane
  - Propylene
  - Propane
  - Isobutylene
  - Isobutane
  - n-Butane

Identification | Calibration | User-Defined | Advanced | Reporting

Lvl ID	Concentration	Response
1	0.151000	
2	0.302000	3564.400000
3	1.510000	14725.268625
4	4.530000	41128.575000
5	10.570000	91966.784531
6	200.000000	1735997.497500
7	600.000000	5189848.900000
8	1000.000000	8598533.570000
9	2000.000000	16098209.390000
10	4000.000000	35776839.311362
11	20000.000000	169009160.49199

Methane (FID)



0.000e+000	Quadratic term
9.071e+003	Linear term
0.000e+000	Constant term
11.657%	RF Rel Std Dev

OK | Cancel | Help | Print Calibration Curve | Copy Calibration Curve

Edit Compounds -- Compound #7 -- Ethylene

Search by: Ret Time | Name | Index | Find Compound

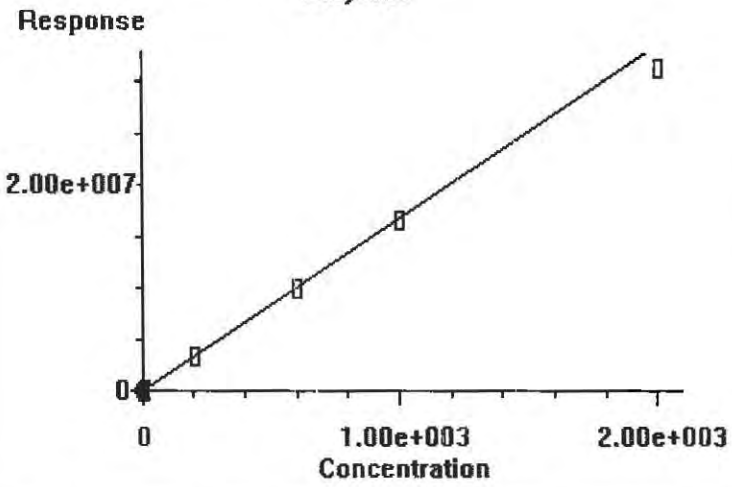
- Compound Database
- External Standard Compoun
  - Oxygen/Argon
  - Carbon monoxide
  - Methane (TCD)
  - Carbon dioxide
  - Signal #2
  - Methane (FID)
  - Ethylene
  - Ethane
  - Propylene
  - Propane
  - Isobutylene
  - Isobutane
  - n-Butane

Identification | Calibration | User-Defined | Advanced | Reporting

Lvl ID	Concentration	Response
1	0.151000	2621.970000
2	0.302000	4946.731301
3	1.510000	26884.746847
4	4.530000	77902.721497
5	10.570000	172085.529560
6	200.000000	3339702.313219
7	600.000000	10007758.776971
8	1000.000000	16608503.805988
9	2000.000000	31192443.898600
10	4000.000000	

Lvl ID	Concentration	Response
11	20000.000000	

Ethylene



0.000e+000	Quadratic term
1.673e+004	Linear term
0.000e+000	Constant term
3.897%	RF Rel Std Dev

OK | Cancel | Help | Print Calibration Curve | Copy Calibration Curve

Edit Compounds -- Compound #8 -- Ethane

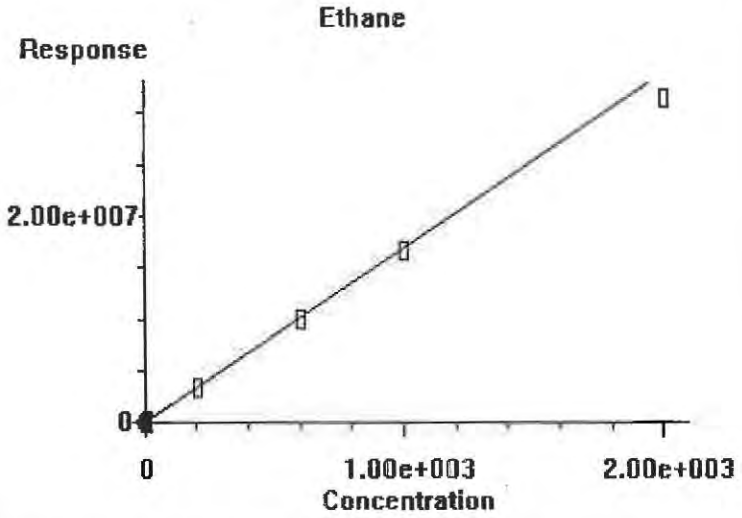
Search by: Ret Time | Name | Index — Find Compound

- Compound Database
- External Standard Compoun
  - Oxygen/Argon
  - Carbon monoxide
  - Methane (TCD)
  - Carbon dioxide
  - Signal #2
  - Methane (FID)
  - Ethylene
  - Ethane
  - Propylene
  - Propane
  - Isobutylene
  - Isobutane
  - n-Butane

Identification | Calibration | User-Defined | Advanced | Reporting

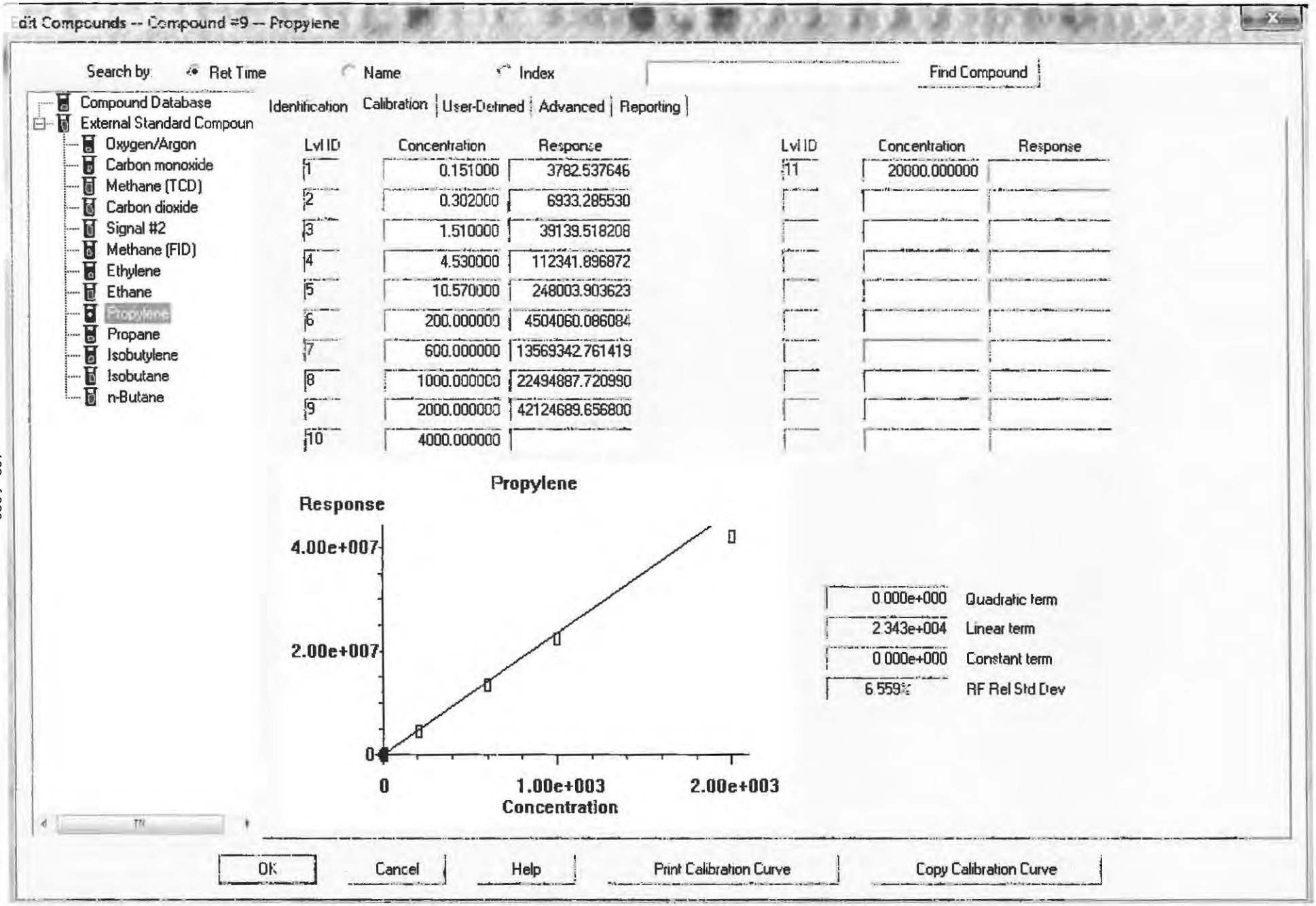
Lvl ID	Concentration	Response
1	0.151000	2689.928008
2	0.302000	5060.331943
3	1.510000	26943.667500
4	4.530000	78353.525045
5	10.570000	178840.731148
6	200.000000	3350442.319129
7	600.000000	10048964.218029
8	1000.000000	16703164.879012
9	2000.000000	31424217.938900
10	4000.000000	

Lvl ID	Concentration	Response
11	20000.000000	



0.000e+000	Quadratic term
1.695e+004	Linear term
0.000e+000	Constant term
3.831%	RF Rel Std Dev

OK | Cancel | Help | Print Calibration Curve | Copy Calibration Curve


Edit Compounds -- Compound #9 -- Propylene
Search by: Ret Time Name Index
Find Compound
Compound Database
External Standard Compoun
Oxygen/Argon
Carbon monoxide
Methane (TCD)
Carbon dioxide
Signal #2
Methane (FID)
Ethylene
Ethane
Propylene
Propane
Isobutylene
Isobutane
n-Butane
Identification
Calibration
User-Defined
Advanced
Reporting
Lvl ID
Concentration
Response
1 0.151000 3782.537646
2 0.302000 6933.285530
3 1.510000 39139.518208
4 4.530000 112341.896872
5 10.570000 248003.903623
6 200.000000 4504060.086084
7 600.000000 13569342.761419
8 1000.000000 22494887.720990
9 2000.000000 42124689.656800
10 4000.000000
11 20000.000000
Propylene
Response
4.00e+007
2.00e+007
0
0
1.00e+003
2.00e+003
Concentration
0.000e+000 Quadratic term
2.343e+004 Linear term
0.000e+000 Constant term
6.559% RF Rel Std Dev
OK
Cancel
Help
Print Calibration Curve
Copy Calibration Curve

Edit Compounds -- Compound #10 -- Propane

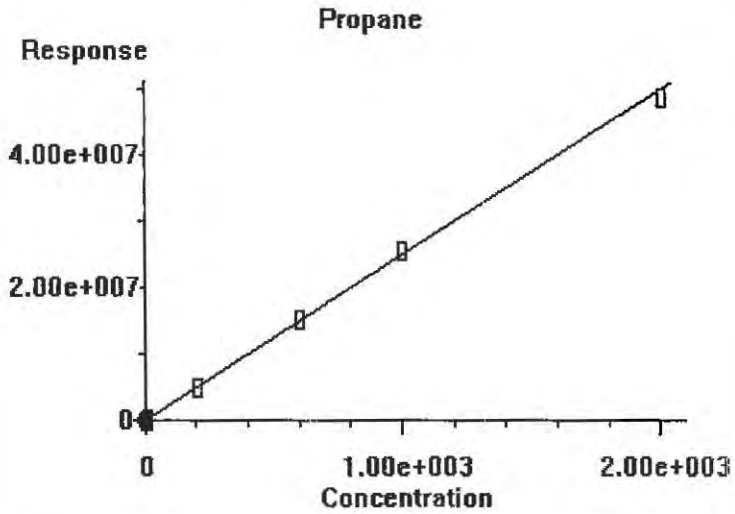
Search by: Ret Time | Name | Index — Find Compound

- Compound Database
- External Standard Compoun
  - Oxygen/Argon
  - Carbon monoxide
  - Methane (TCD)
  - Carbon dioxide
  - Signal #2
  - Methane (FID)
  - Ethylene
  - Ethane
  - Propylene
  - Propane
  - Isobutylene
  - Isobutane
  - n-Butane

Identification | Calibration | User-Defined | Advanced | Reporting

Lvl ID	Concentration	Response
1	0.151000	3682.897354
2	0.302000	6894.237803
3	1.510000	39934.166792
4	4.530000	115723.428128
5	10.570000	257124.432806
6	200.000000	5043035.663316
7	600.000000	15251325.797404
8	1000.000000	25459410.657938
9	2000.000000	48583085.287451
10	4000.000000	

Lvl ID	Concentration	Response
11	20000.000000	



0.000e+000	Quadratic term
2.488e+004	Linear term
0.000e+000	Constant term
4.200%	RF Rel Std Dev

OK | Cancel | Help | Print Calibration Curve | Copy Calibration Curve

Calibration Status Report HP5890

Method Path : J:\GC10\METHODS\
Method File : RS091217_R.M
Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
Last Update : Wed Sep 13 11:14:47 2017
Response Via : Initial Calibration

#	ID	Conc	ISTD Conc	Path\File
1	1	0	0	J:\GC10\DATA\RSK_FID\2017_09\12\09121702.D
2	2	0	0	J:\GC10\DATA\RSK_FID\2017_09\12\09121703.D
3	3	3	0	J:\GC10\DATA\RSK_FID\2017_09\12\09121704.D
4	4	10	0	J:\GC10\DATA\RSK_FID\2017_09\12\09121705.D
5	5	25	0	J:\GC10\DATA\RSK_FID\2017_09\12\09121706.D
6	6	125	0	J:\GC10\DATA\RSK_FID\2017_09\12\09121707.D
7	7	5000	0	J:\GC10\DATA\RSK_FID\2017_09\12\09121708.D
8	8	25000	0	J:\GC10\DATA\RSK_FID\2017_09\12\09121709.D
9	9	2000	0	J:\GC10\DATA\RSK_FID\2017_09\12\09121710.D
10	10	30000	0	J:\GC10\DATA\RSK_FID\2017_09\12\09121711.D
11	11	20000	0	J:\GC10\DATA\RSK_FID\2017_09\12\09121712.D

#	ID	Update Time	Quant Time	Acquisition Time
1	1	Sep 13 11:04 2017	Sep 12 15:03 2017	12-Sep-2017, 10:52
2	2	Sep 13 11:05 2017	Sep 13 11:05 2017	12-Sep-2017, 11:05
3	3	Sep 13 11:06 2017	Sep 13 11:05 2017	12-Sep-2017, 11:45
4	4	Sep 13 11:09 2017	Sep 13 11:06 2017	12-Sep-2017, 12:09
5	5	Sep 13 11:09 2017	Sep 13 11:09 2017	12-Sep-2017, 12:30
6	6	Sep 13 11:10 2017	Sep 13 11:10 2017	12-Sep-2017, 12:47
7	7	Sep 13 11:11 2017	Sep 13 11:10 2017	12-Sep-2017, 13:00
8	8	Sep 13 11:12 2017	Sep 13 11:11 2017	12-Sep-2017, 13:47
9	9	Sep 13 11:12 2017	Sep 13 11:12 2017	12-Sep-2017, 14:07
10	10	Sep 13 11:14 2017	Sep 13 11:13 2017	12-Sep-2017, 14:48
11	11	Sep 13 11:14 2017	Sep 13 11:14 2017	12-Sep-2017, 15:21

RS091217_R.M Wed Sep 13 15:11:22 2017

Quantitation Report (QT Reviewed)

Data Path : J:\GC10\DATA\RSK_FID\2017_09\12\
Data File : 09121702.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 12-Sep-2017, 10:52
Operator : MC
Sample : 0.151ppm 0.250ml s32-09121702
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Sep 12 11:03:15 2017
Quant Method : I:\GC10\METHODS\RS082417.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Fri Aug 25 09:19:14 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	R.T.	Response	Conc	Units	
Target Compounds						
1)	Oxygen/Argon	1.767	373920	0.128	ppm	
2)	Carbon monoxide	1.767	373920	N.D.	ppm	
3)	Methane (TCD)	0.000	0	N.D.	ppm	
4)	Carbon dioxide	0.000	0	N.D.	ppm	
6)	Methane (FID)	0.000	0	N.D.	ppm	d
7)	Ethylene	1.595	2622	0.156	ppm	
8)	Ethane	1.848	2690	0.156	ppm	
9)	Propylene	4.222	3783	0.154	ppm	
10)	Propane	4.348	3683	0.139	ppm	
11)	Isobutylene	0.000	0	N.D.	ppm	
12)	Isobutane	6.582f	6058	NoCal	ppm	
13)	n-Butane	6.582f	6058	NoCal	ppm	

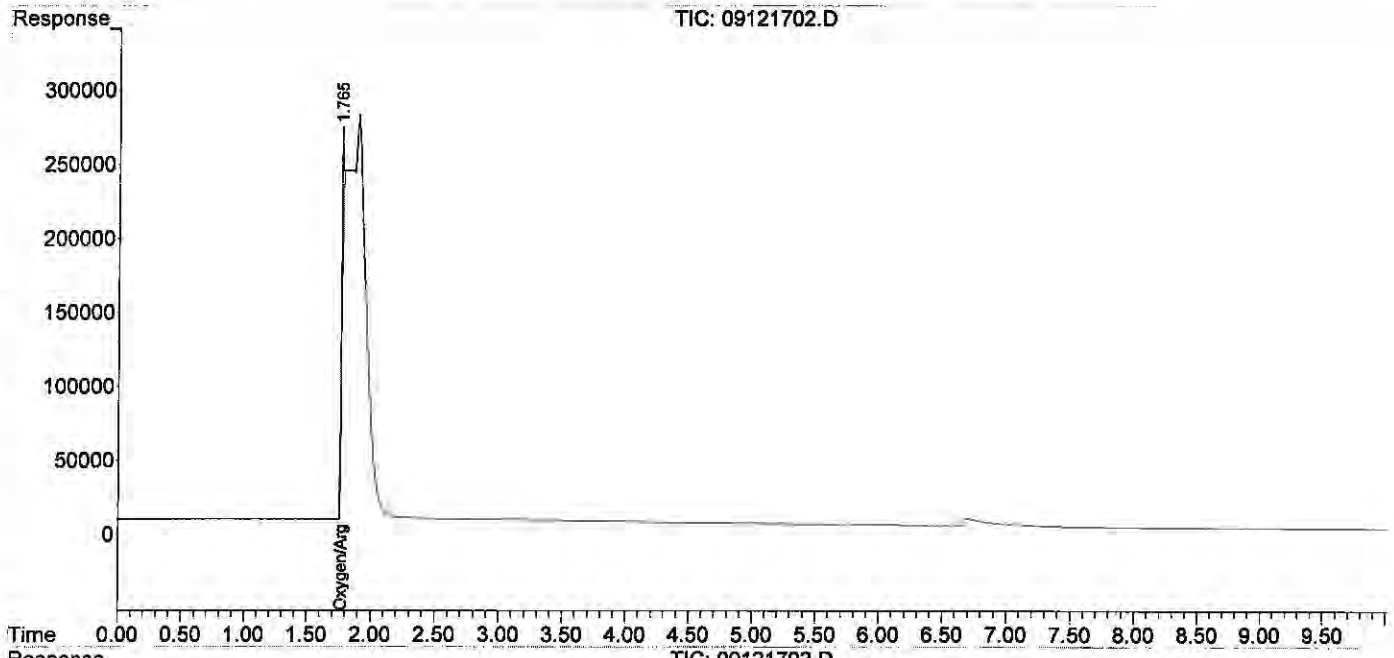
(f)=RT Delta > 1/2 Window (m)=manual int.

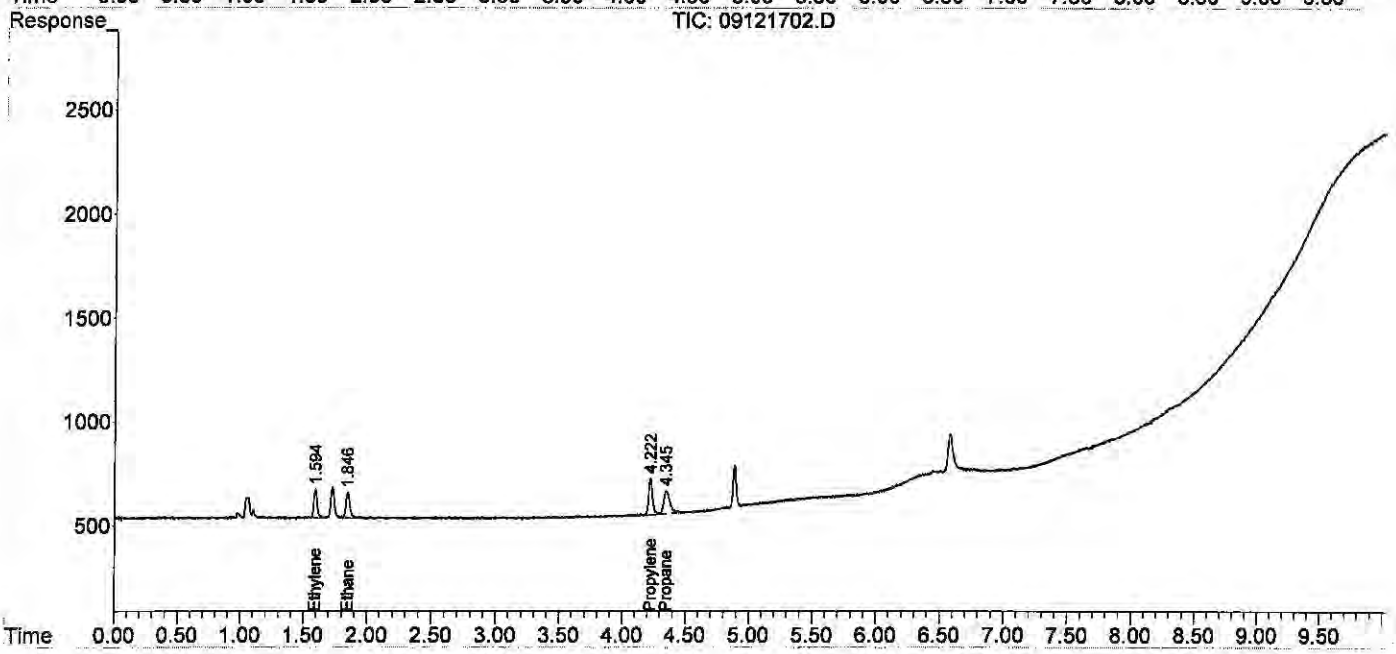
9/13/17

Data Path : J:\GC10\DATA\RSK_FID\2017_09\12\
Data File : 09121702.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 12-Sep-2017, 10:52
Operator : MC
Sample : 0.151ppm 0.250ml s32-09121702
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Sep 12 11:03:15 2017
Quant Method : I:\GC10\METHODS\RS082417.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Fri Aug 25 09:19:14 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





Quantitation Report (QT Reviewed)

Data Path : J:\GC10\DATA\RSK_FID\2017_09\12\
Data File : 09121703.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 12-Sep-2017, 11:05
Operator : MC
Sample : 0.302ppm 0.5ml s32-09121702
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Sep 13 11:05:03 2017
Quant Method : J:\GC10\METHODS\RS091217_R.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Wed Sep 13 11:04:50 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	R.T.	Response	Conc	Units	
Target Compounds						
1)	Oxygen/Argon	1.913f	-25181981	N.D.	ppm	
2)	Carbon monoxide	1.913f	-25181981	1.089	ppm	
3)	Methane (TCD)	0.000	0	N.D.	ppm	
4)	Carbon dioxide	0.000	0	N.D.	ppm	
6)	Methane (FID)	1.049	3564	0.391	ppm	m
7)	Ethylene	1.577	4947	0.292	ppm	
8)	Ethane	1.828	5060	0.293	ppm	
9)	Propylene	4.207	6933	0.281	ppm	
10)	Propane	4.337	6894	0.268	ppm	
11)	Isobutylene	0.000	0	N.D.	ppm	
12)	Isobutane	6.579f	9587	0.158	ppm	
13)	n-Butane	6.579f	9587	0.158	ppm	

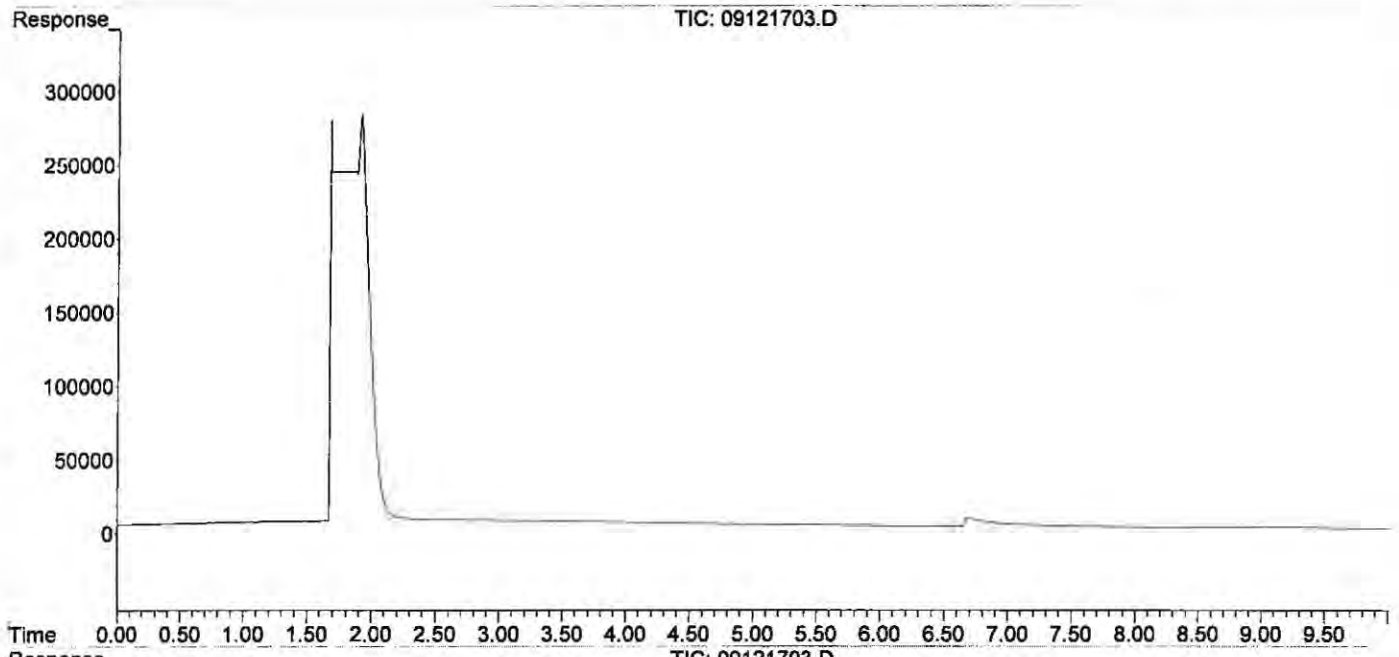
(f)=RT Delta > 1/2 Window (m)=manual int.

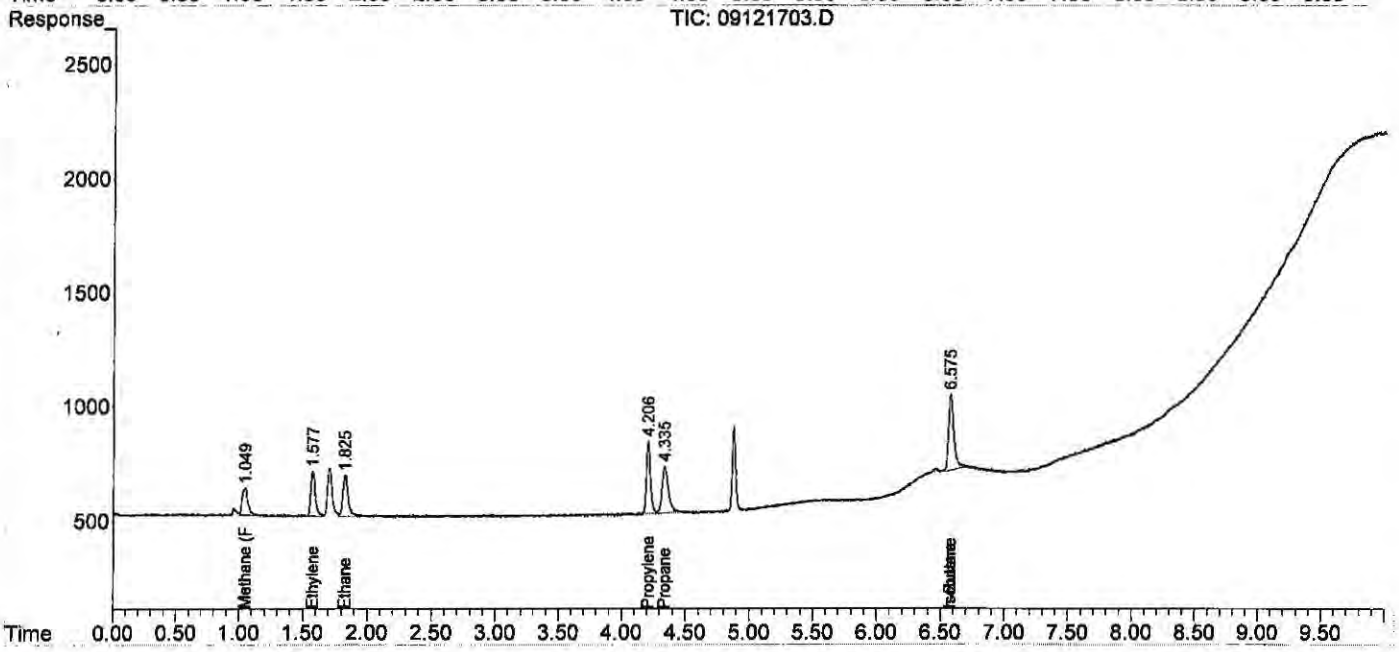
Quantitation Report (QT Reviewed)

Data Path : J:\GC10\DATA\RSK_FID\2017_09\12\
Data File : 09121703.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 12-Sep-2017, 11:05
Operator : MC
Sample : 0.302ppm 0.5ml s32-09121702
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Sep 13 11:05:03 2017
Quant Method : J:\GC10\METHODS\RS091217_R.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Wed Sep 13 11:04:50 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

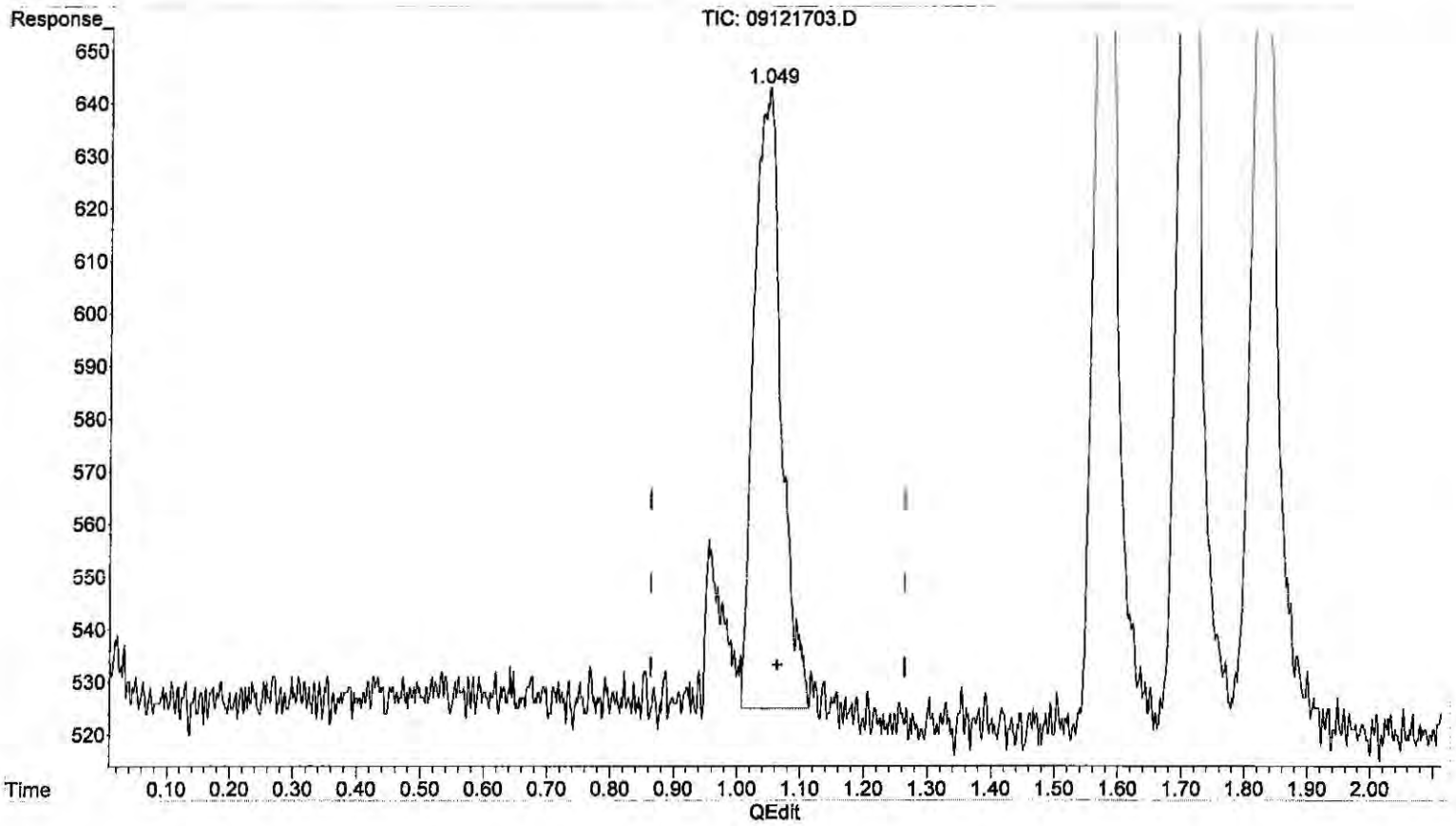




Data Path : J:\GC10\DATA\RSK_FID\2017_09\12\
Data File : 09121703.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 12-Sep-2017, 11:05
Operator : MC
Sample : 0.302ppm 0.5ml s32-09121702
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Sep 13 11:05:03 2017
Quant Method : J:\GC10\METHODS\RS091217_R.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Wed Sep 13 11:04:50 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



(6) Methane (FID)
1.049min 0.391 ppm m
response 3564

(+) = Expected Retention Time

Quantitation Report (QT Reviewed)

Data Path : J:\GC10\DATA\RSK_FID\2017_09\12\
Data File : 09121704.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 12-Sep-2017, 11:45
Operator : MC
Sample : 1.51ppm 0.1ml s32-09051701
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Sep 13 11:05:55 2017
Quant Method : J:\GC10\METHODS\RS091217_R.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Wed Sep 13 11:04:50 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

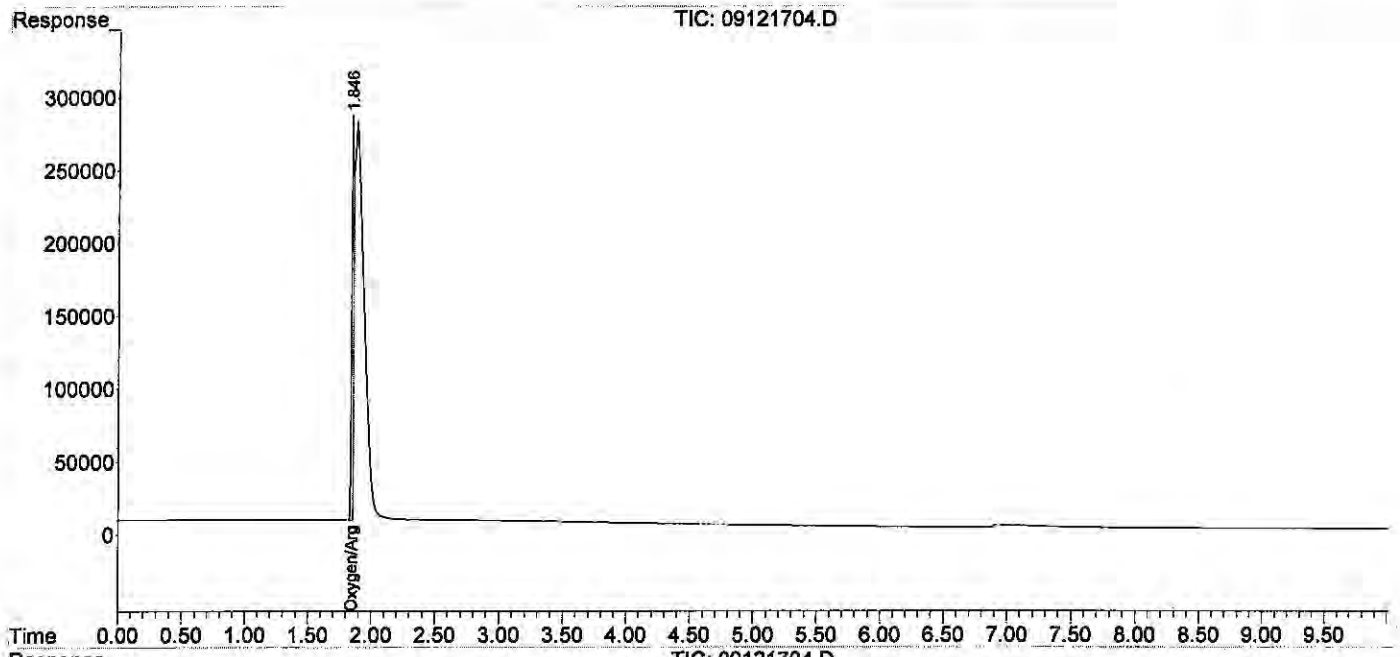
	Compound	R.T.	Response	Conc	Units
Target Compounds					
1)	Oxygen/Argon	1.847	2536230	1.056	ppm
2)	Carbon monoxide	1.847	2536230	N.D.	ppm
3)	Methane (TCD)	0.000	0	N.D.	ppm
4)	Carbon dioxide	0.000	0	N.D.	ppm
6)	Methane (FID)	1.064	14725	1.613	ppm
7)	Ethylene	1.598	26885	1.582	ppm
8)	Ethane	1.851	26944	1.555	ppm
9)	Propylene	4.220	39140	1.589	ppm
10)	Propane	4.349	39934	1.596	ppm
11)	Isobutylene	0.000	0	N.D.	ppm
12)	Isobutane	6.578f	55348	1.020	ppm
13)	n-Butane	6.578f	55348	1.020	ppm

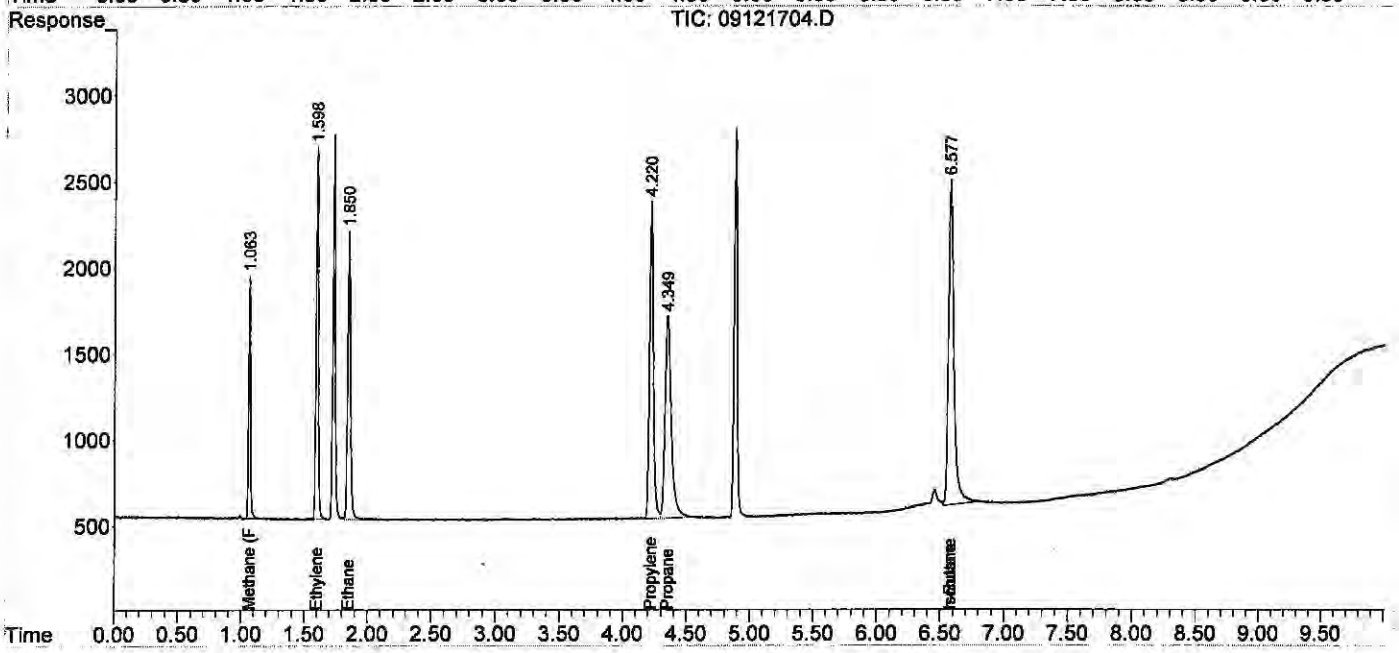
(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : J:\GC10\DATA\RSK_FID\2017_09\12\
Data File : 09121704.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 12-Sep-2017, 11:45
Operator : MC
Sample : 1.51ppm 0.1ml s32-09051701
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Sep 13 11:05:55 2017
Quant Method : J:\GC10\METHODS\RS091217_R.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Wed Sep 13 11:04:50 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





Quantitation Report (QT Reviewed)

Data Path : J:\GC10\DATA\RSK_FID\2017_09\12\
Data File : 09121705.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 12-Sep-2017, 12:09
Operator : MC
Sample : 4.53ppm 0.3ml s32-09051701
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Sep 13 11:06:32 2017
Quant Method : J:\GC10\METHODS\RS091217_R.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Wed Sep 13 11:04:50 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

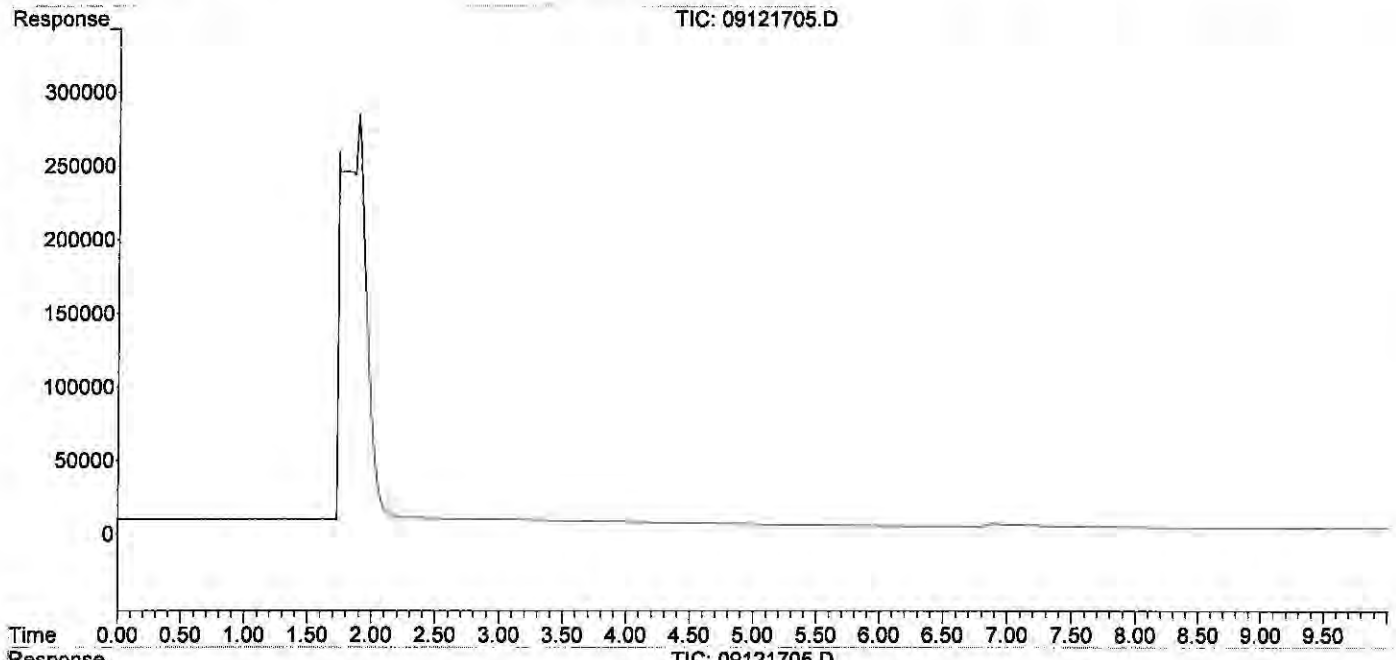
	Compound	R.T.	Response	Conc	Units
Target Compounds					
1)	Oxygen/Argon	1.738	-331216	N.D.	ppm
2)	Carbon monoxide	1.738	-331216	0.019	ppm
3)	Methane (TCD)	0.000	0	N.D.	ppm
4)	Carbon dioxide	0.000	0	N.D.	ppm
6)	Methane (FID)	1.052	41129	4.522	ppm
7)	Ethylene	1.586	77903	4.637	ppm
8)	Ethane	1.838	78354	4.558	ppm
9)	Propylene	4.218	112342	4.614	ppm
10)	Propane	4.347	115723	4.680	ppm
11)	Isobutylene	0.000	0	N.D.	ppm
12)	Isobutane	6.580f	155256	3.565	ppm
13)	n-Butane	6.580f	155256	3.565	ppm

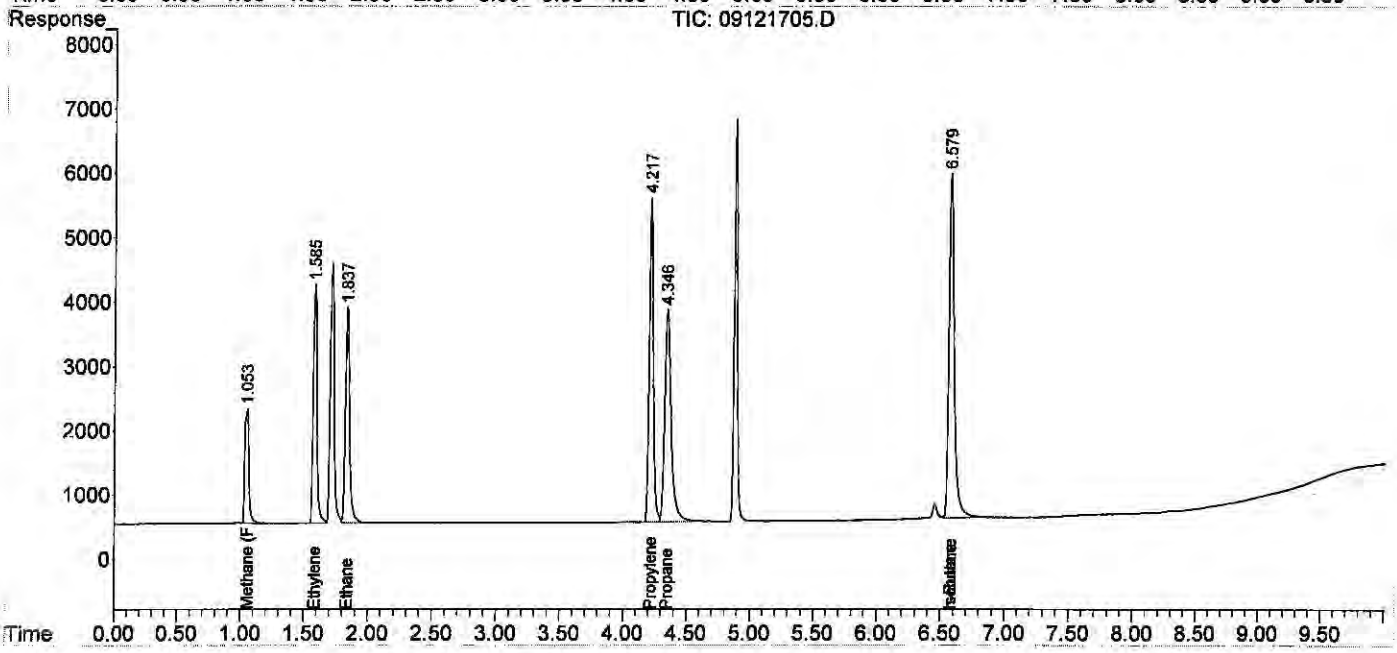
(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : J:\GC10\DATA\RSK_FID\2017_09\12\
Data File : 09121705.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 12-Sep-2017, 12:09
Operator : MC
Sample : 4.53ppm 0.3ml s32-09051701
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Sep 13 11:06:32 2017
Quant Method : J:\GC10\METHODS\RS091217_R.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Wed Sep 13 11:04:50 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





Quantitation Report (QT Reviewed)

Data Path : J:\GC10\DATA\RSK_FID\2017_09\12\
Data File : 09121706.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 12-Sep-2017, 12:30
Operator : MC
Sample : 10.57ppm 0.7ml s32-09051701
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Sep 13 11:09:24 2017
Quant Method : J:\GC10\METHODS\RS091217_R.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Wed Sep 13 11:04:50 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	R.T.	Response	Conc	Units
Target Compounds					
1)	Oxygen/Argon	1.929f	-31871242	N.D.	ppm
2)	Carbon monoxide	1.929f	-31871242	1.818	ppm
3)	Methane (TCD)	0.000	0	N.D.	ppm
4)	Carbon dioxide	0.000	0	N.D.	ppm
6)	Methane (FID)	1.025	91967	10.135	ppm
7)	Ethylene	1.568	172086	10.273	ppm
8)	Ethane	1.822	178841	10.441	ppm
9)	Propylene	4.214	248004	10.236	ppm
10)	Propane	4.344	257124	10.458	ppm
11)	Isobutylene	0.000	0	N.D.	ppm
12)	Isobutane	6.578f	338181	9.254	ppm
13)	n-Butane	6.578f	338181	9.254	ppm

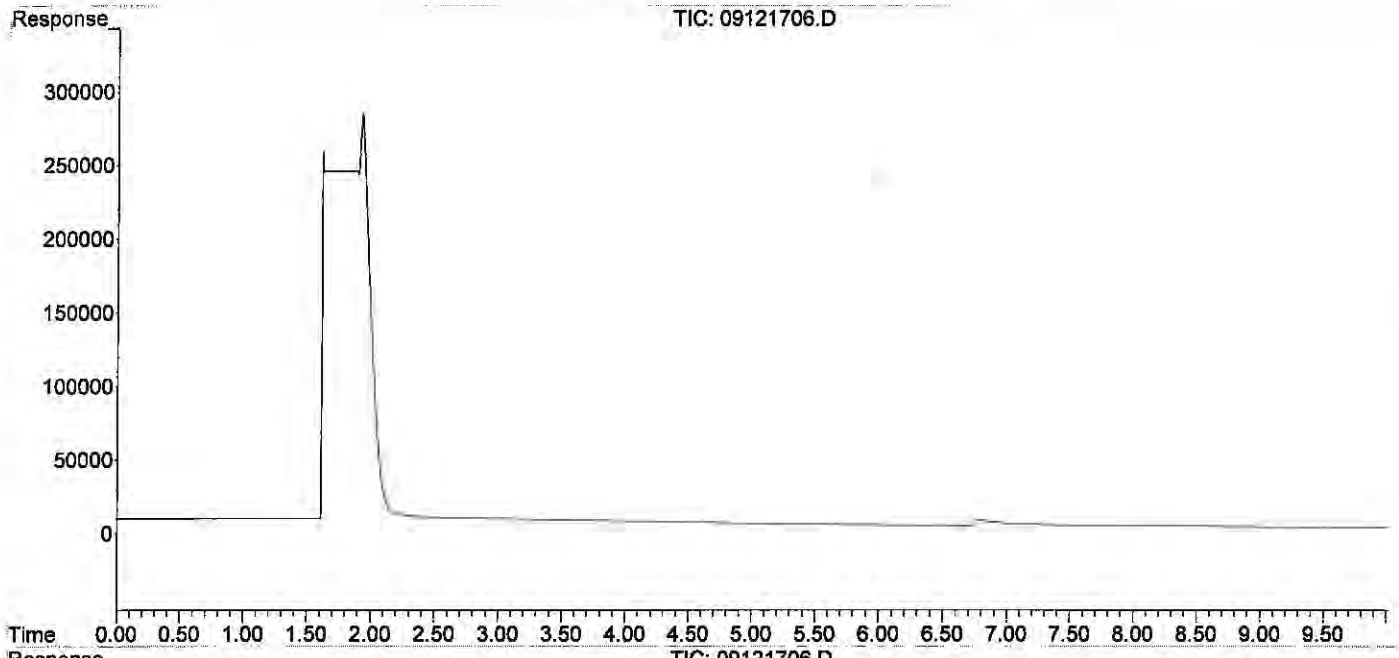
(f)=RT Delta > 1/2 Window (m)=manual int.

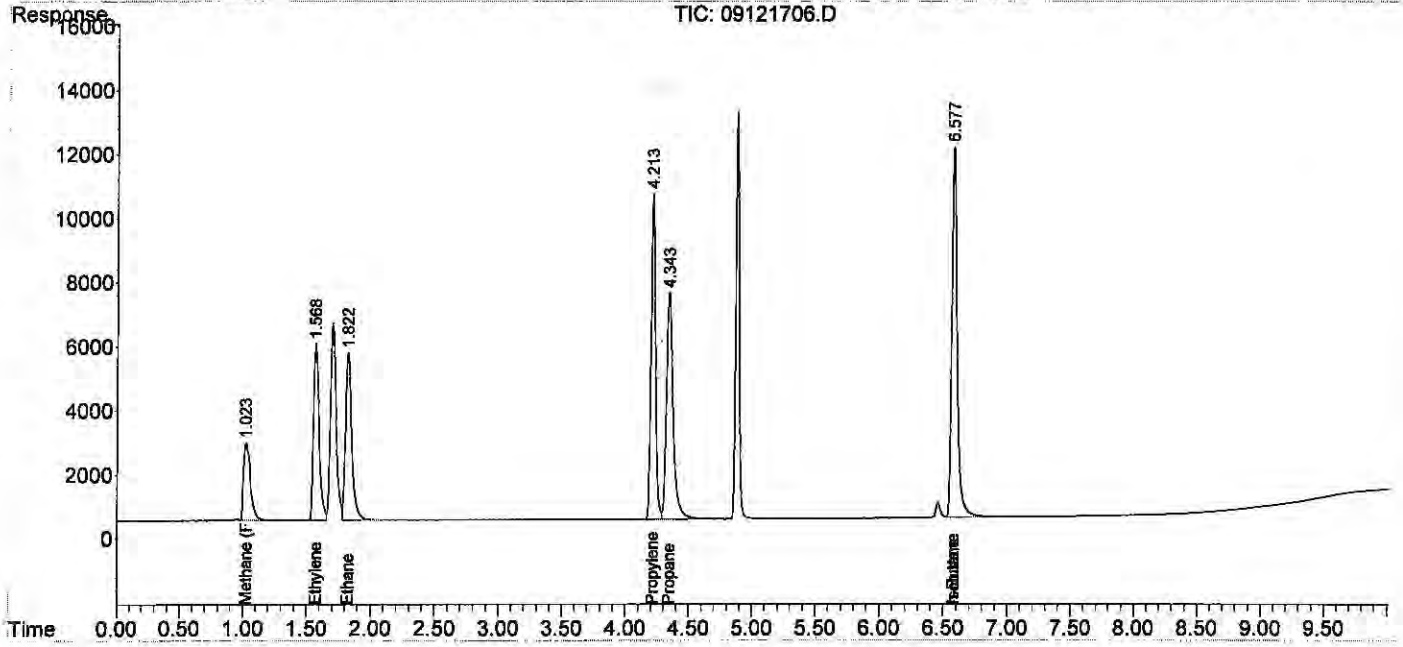
Quantitation Report (QT Reviewed)

Data Path : J:\GC10\DATA\RSK_FID\2017_09\12\
Data File : 09121706.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 12-Sep-2017, 12:30
Operator : MC
Sample : 10.57ppm 0.7ml s32-09051701
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Sep 13 11:09:24 2017
Quant Method : J:\GC10\METHODS\RS091217_R.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Wed Sep 13 11:04:50 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





Quantitation Report (QT Reviewed)

Data Path : J:\GC10\DATA\RSK_FID\2017_09\12\
Data File : 09121707.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 12-Sep-2017, 12:47
Operator : MC
Sample : 200ppm 0.1ml s32-09121701
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Sep 13 11:09:59 2017
Quant Method : J:\GC10\METHODS\RS091217_R.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Wed Sep 13 11:04:50 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

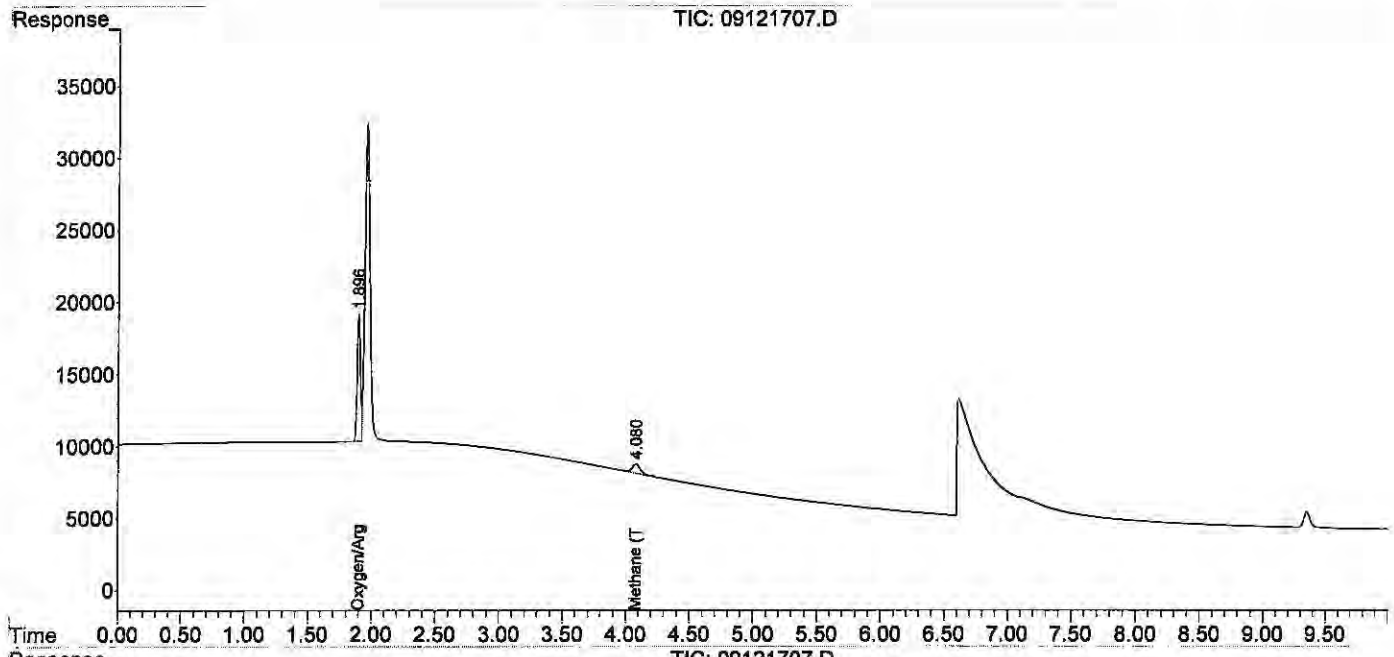
	Compound	R.T.	Response	Conc	Units
Target Compounds					
1)	Oxygen/Argon	1.897	155286	0.065	ppm
2)	Carbon monoxide	1.897	155286	N.D.	ppm
3)	Methane (TCD)	4.079f	27015	2856.472	ppm
4)	Carbon dioxide	0.000	0	N.D.	ppm
6)	Methane (FID)	1.063	1735997	190.792	ppm
7)	Ethylene	1.597	3339702	198.758	ppm
8)	Ethane	1.849	3350442	194.597	ppm
9)	Propylene	4.201	4504060	185.706	ppm
10)	Propane	4.333	5043036	204.809	ppm
11)	Isobutylene	0.000	0	N.D.	ppm
12)	Isobutane	0.000	0	N.D.	ppm
13)	n-Butane	0.000	0	N.D.	ppm

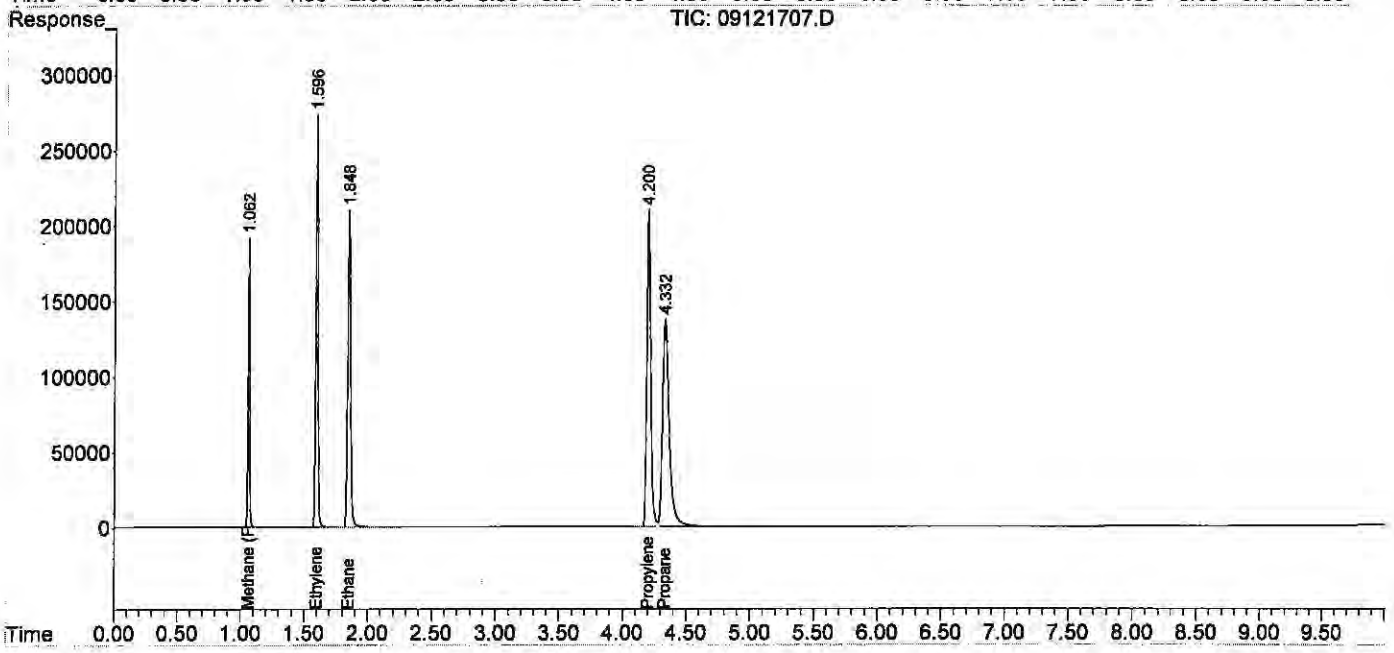
(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : J:\GC10\DATA\RSK_FID\2017_09\12\
Data File : 09121707.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 12-Sep-2017, 12:47
Operator : MC
Sample : 200ppm 0.1ml s32-09121701
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Sep 13 11:09:59 2017
Quant Method : J:\GC10\METHODS\RS091217_R.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Wed Sep 13 11:04:50 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





Quantitation Report (QT Reviewed)

Data Path : J:\GC10\DATA\RSK_FID\2017_09\12\
Data File : 09121708.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 12-Sep-2017, 13:00
Operator : MC
Sample : 600ppm 0.3ml s32-09121701
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Sep 13 11:10:57 2017
Quant Method : J:\GC10\METHODS\RS091217_R.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Wed Sep 13 11:10:50 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	R.T.	Response	Conc	Units
Target Compounds					
1)	Oxygen/Argon	1.884	196022	0.124	ppm
2)	Carbon monoxide	1.884	196022	N.D.	ppm
3)	Methane (TCD)	4.070f	88282	782.730	ppm
4)	Carbon dioxide	0.000	0	N.D.	ppm
6)	Methane (FID)	1.044	5189849	539.759	ppm
7)	Ethylene	1.573	10007759	590.286	ppm
8)	Ethane	1.822	10048964	583.213	ppm
9)	Propylene	4.160	13569343	562.612	ppm
10)	Propane	4.300	15251326	615.171	ppm
11)	Isobutylene	6.143	9815	NoCal	ppm
12)	Isobutane	0.000	0	N.D.	ppm
13)	n-Butane	0.000	0	N.D.	ppm

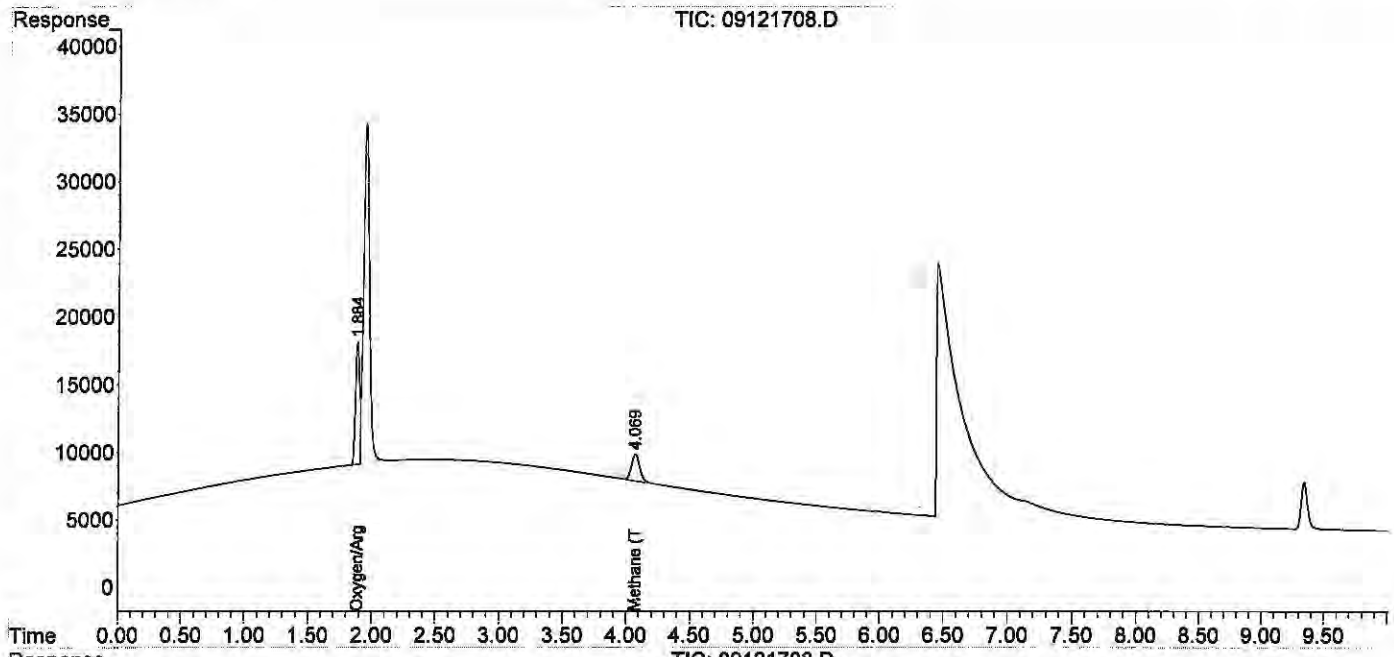
(f)=RT Delta > 1/2 Window (m)=manual int.

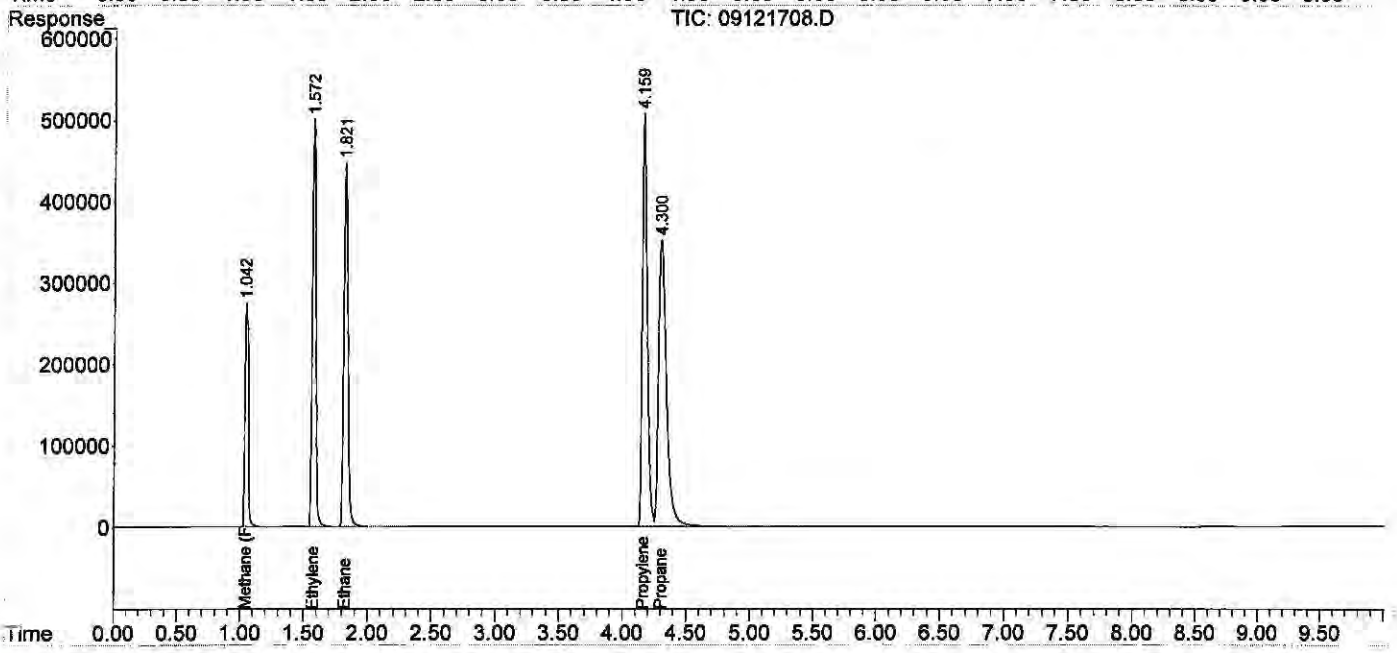
Quantitation Report (QT Reviewed)

Data Path : J:\GC10\DATA\RSK_FID\2017_09\12\
Data File : 09121708.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 12-Sep-2017, 13:00
Operator : MC
Sample : 600ppm 0.3ml s32-09121701
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Sep 13 11:10:57 2017
Quant Method : J:\GC10\METHODS\RS091217_R.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Wed Sep 13 11:10:50 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





Quantitation Report (QT Reviewed)

Data Path : J:\GC10\DATA\RSK_FID\2017_09\12\
Data File : 09121709.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 12-Sep-2017, 13:47
Operator : MC
Sample : 1000ppm 0.5ml s32-09121701
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Sep 13 11:11:46 2017
Quant Method : J:\GC10\METHODS\RS091217_R.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Wed Sep 13 11:11:38 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

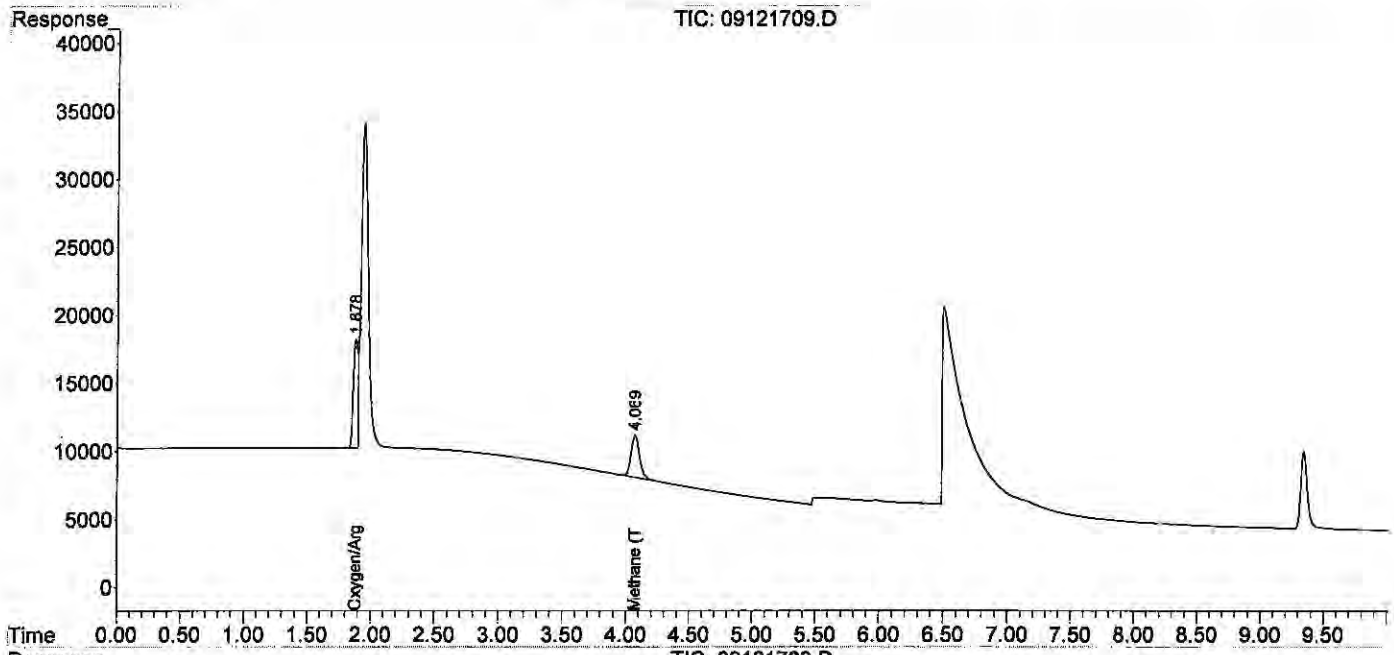
	Compound	R.T.	Response	Conc	Units
Target Compounds					
1)	Oxygen/Argon	1.879	192611	0.162	ppm
2)	Carbon monoxide	1.879	192611	N.D.	ppm
3)	Methane (TCD)	4.070f	145492	1244.729	ppm
4)	Carbon dioxide	0.000	0	N.D.	ppm
6)	Methane (FID)	1.039	8598534	945.644	ppm
7)	Ethylene	1.576	16608504	981.887	ppm
8)	Ethane	1.827	16709165	973.644	ppm
9)	Propylene	4.161	22494888	941.060	ppm
10)	Propane	4.298	25459411	1023.223	ppm
11)	Isobutylene	6.138	16970	8645.243	ppm
12)	Isobutane	0.000	0	N.D.	ppm
13)	n-Butane	0.000	0	N.D.	ppm

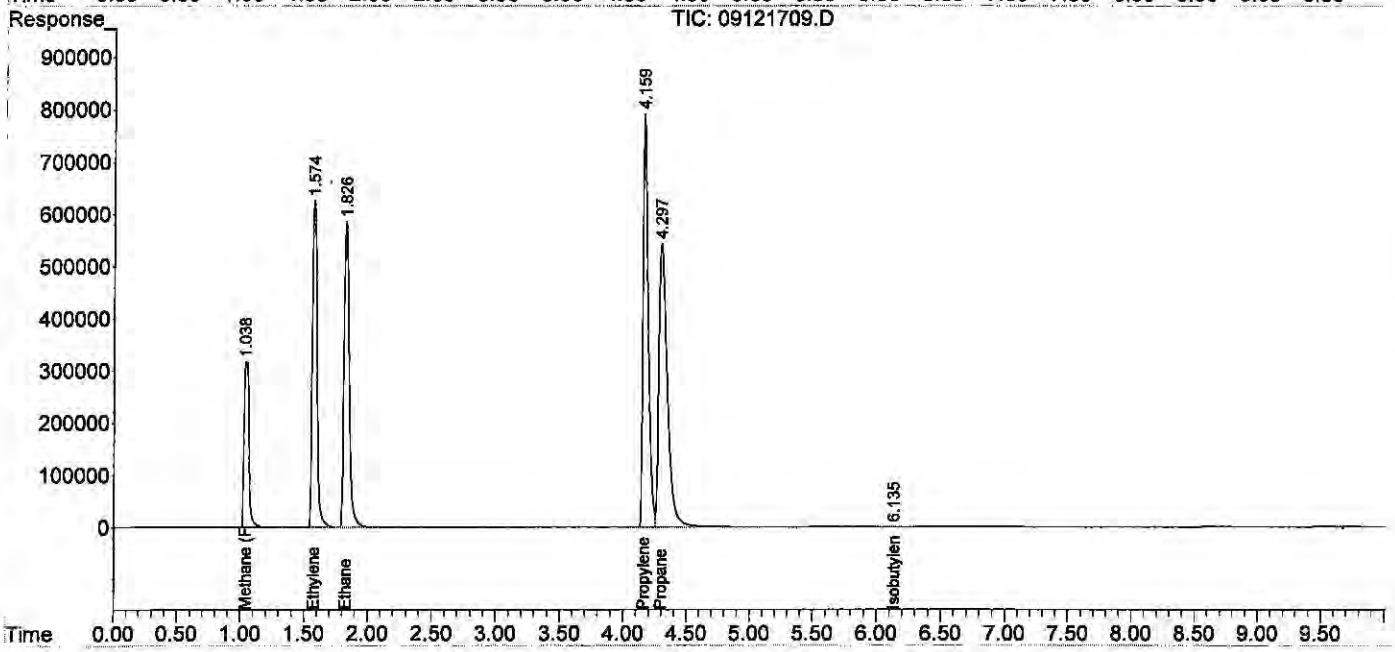
(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : J:\GC10\DATA\RSK_FID\2017_09\12\
Data File : 09121709.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 12-Sep-2017, 13:47
Operator : MC
Sample : 1000ppm 0.5ml s32-09121701
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Sep 13 11:11:46 2017
Quant Method : J:\GC10\METHODS\RS091217_R.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Wed Sep 13 11:11:38 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase :
Signal #1 Info :
Signal #2 Phase:
Signal #2 Info :





Quantitation Report (QT Reviewed)

Data Path : J:\GC10\DATA\RSK_FID\2017_09\12\
Data File : 09121710.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 12-Sep-2017, 14:07
Operator : MC
Sample : 2000ppm 1ml s32-09121701
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Sep 13 11:12:33 2017
Quant Method : J:\GC10\METHODS\RS091217_R.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Wed Sep 13 11:12:25 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

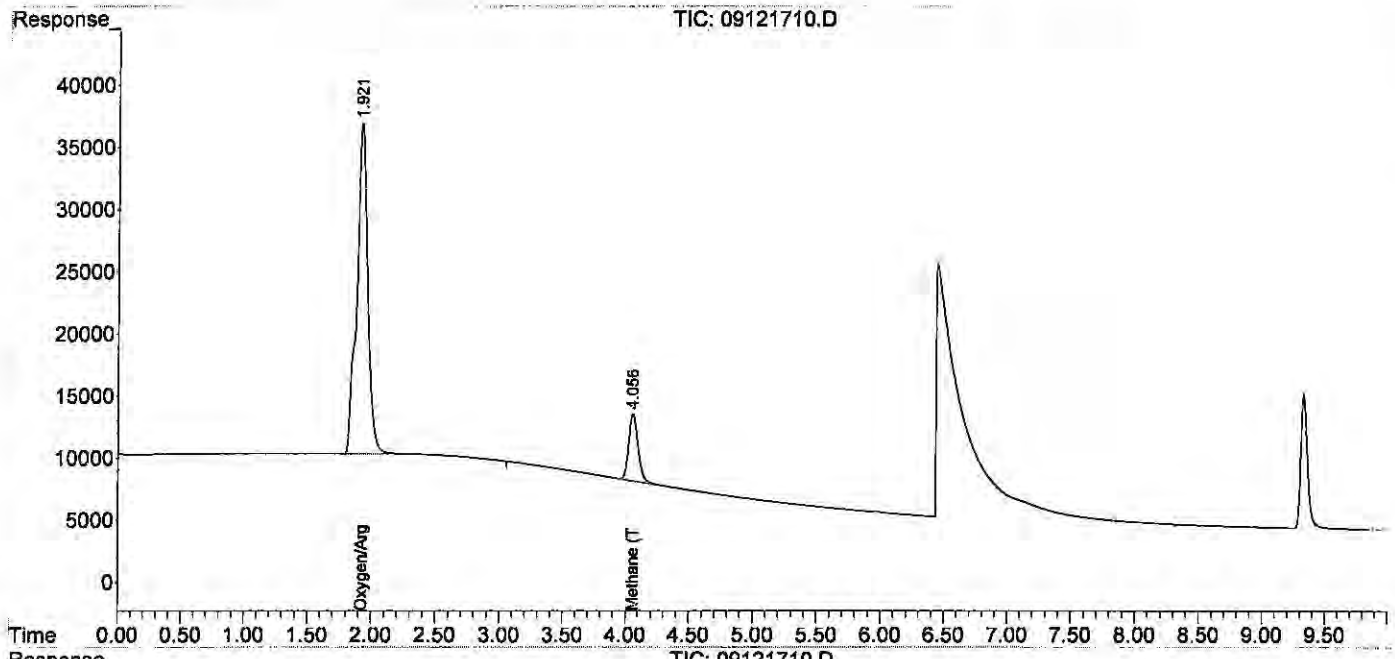
	Compound	R.T.	Response	Conc	Units	
Target Compounds						
1)	Oxygen/Argon	1.922f	1578147	1.659	ppm	
2)	Carbon monoxide	1.922f	1578147	N.D.	ppm	
3)	Methane (TCD)	4.057f	281651	3526.607	ppm	
4)	Carbon dioxide	0.000	0	N.D.	ppm	
6)	Methane (FID)	1.016	16098209	1763.622	ppm	
7)	Ethylene	1.552	31192444	1848.268	ppm	
8)	Ethane	1.801	31424218	1837.143	ppm	
9)	Propylene	4.129	42124690	1775.341	ppm	m
10)	Propane	4.269	48583085	1946.921	ppm	
11)	Isobutylene	6.136	33832	25613.603	ppm	
12)	Isobutane	6.576f	3845	0.120	ppm	
13)	n-Butane	6.576f	3845	0.120	ppm	

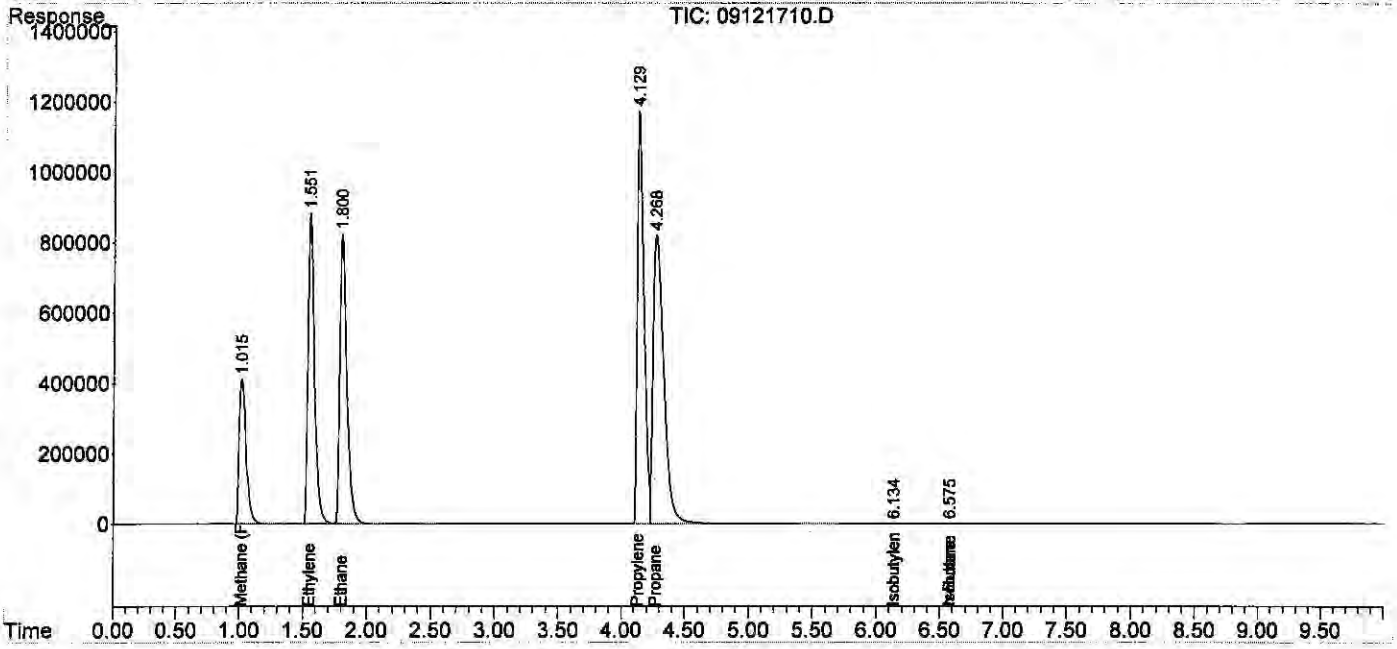
(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : J:\GC10\DATA\RSK_FID\2017_09\12\
Data File : 09121710.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 12-Sep-2017, 14:07
Operator : MC
Sample : 2000ppm 1ml s32-09121701
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Sep 13 11:12:33 2017
Quant Method : J:\GC10\METHODS\RS091217_R.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Wed Sep 13 11:12:25 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



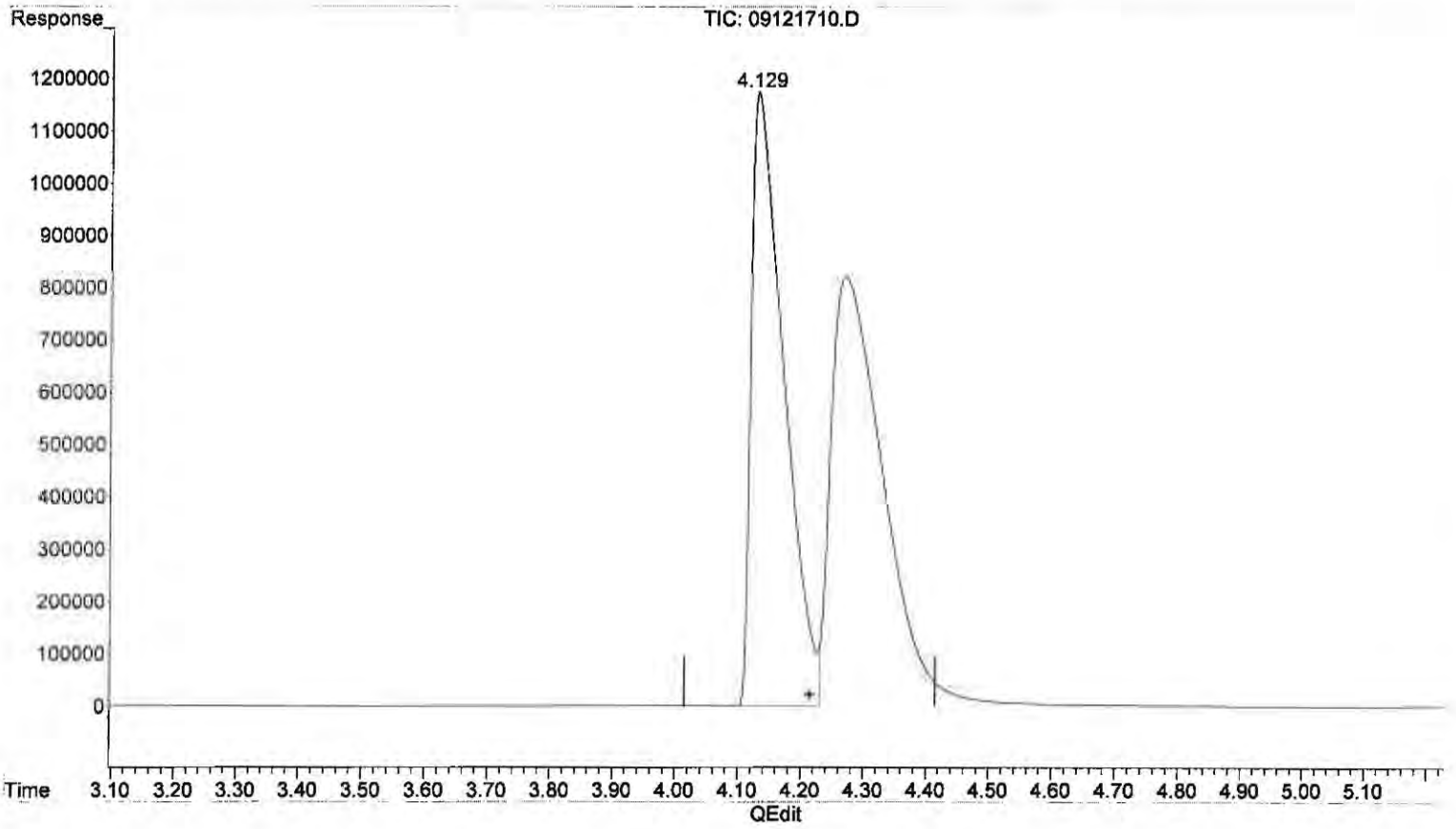


Quantitation Report (Qedit)

Data Path : J:\GC10\DATA\RSK_FID\2017_09\12\
Data File : 09121710.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 12-Sep-2017, 14:07
Operator : MC
Sample : 2000ppm 1ml s32-09121701
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Sep 13 11:12:33 2017
Quant Method : J:\GC10\METHODS\RS091217_R.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Wed Sep 13 11:12:25 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase :
Signal #1 Info :
Signal #2 Phase:
Signal #2 Info :



(9) Propylene

4.129min 1775.341 ppm m

response 42124690

(+) = Expected Retention Time

Quantitation Report (QT Reviewed)

Data Path : J:\GC10\DATA\RSK_FID\2017_09\12\
Data File : 09121711.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 12-Sep-2017, 14:48
Operator : MC
Sample : 4000ppm 0.1ml s32-08231701
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Sep 13 11:13:37 2017
Quant Method : J:\GC10\METHODS\RS091217_R.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Wed Sep 13 11:13:29 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

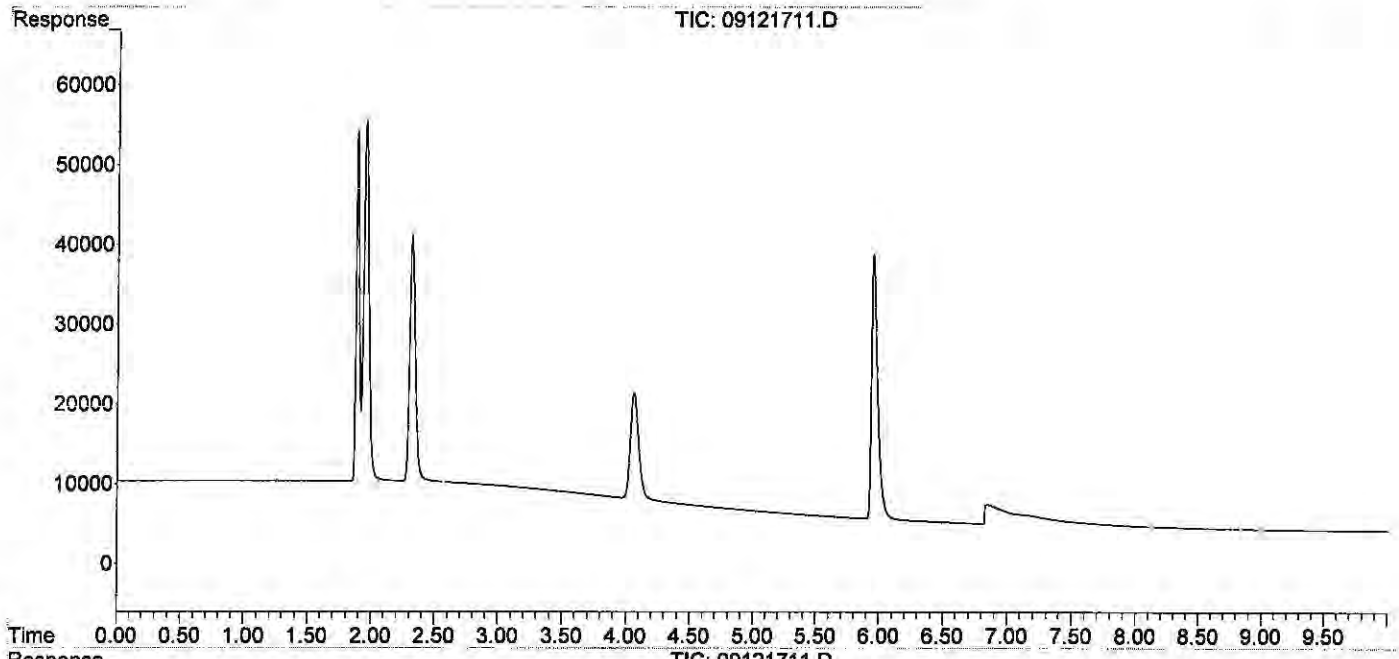
	Compound	R.T.	Response	Conc	Units	
Target Compounds						
1)	Oxygen/Argon	0.000	0	N.D.	ppm	d
2)	Carbon monoxide	0.000	0	N.D.	ppm	d
3)	Methane (TCD)	0.000	0	N.D.	ppm	d
4)	Carbon dioxide	0.000	0	N.D.	ppm	d
6)	Methane (FID)	1.059	35776839	3925.122	ppm	
7)	Ethylene	0.000	0	N.D.	ppm	
8)	Ethane	0.000	0	N.D.	ppm	
9)	Propylene	0.000	0	N.D.	ppm	
10)	Propane	0.000	0	N.D.	ppm	
11)	Isobutylene	0.000	0	N.D.	ppm	
12)	Isobutane	0.000	0	N.D.	ppm	
13)	n-Butane	0.000	0	N.D.	ppm	

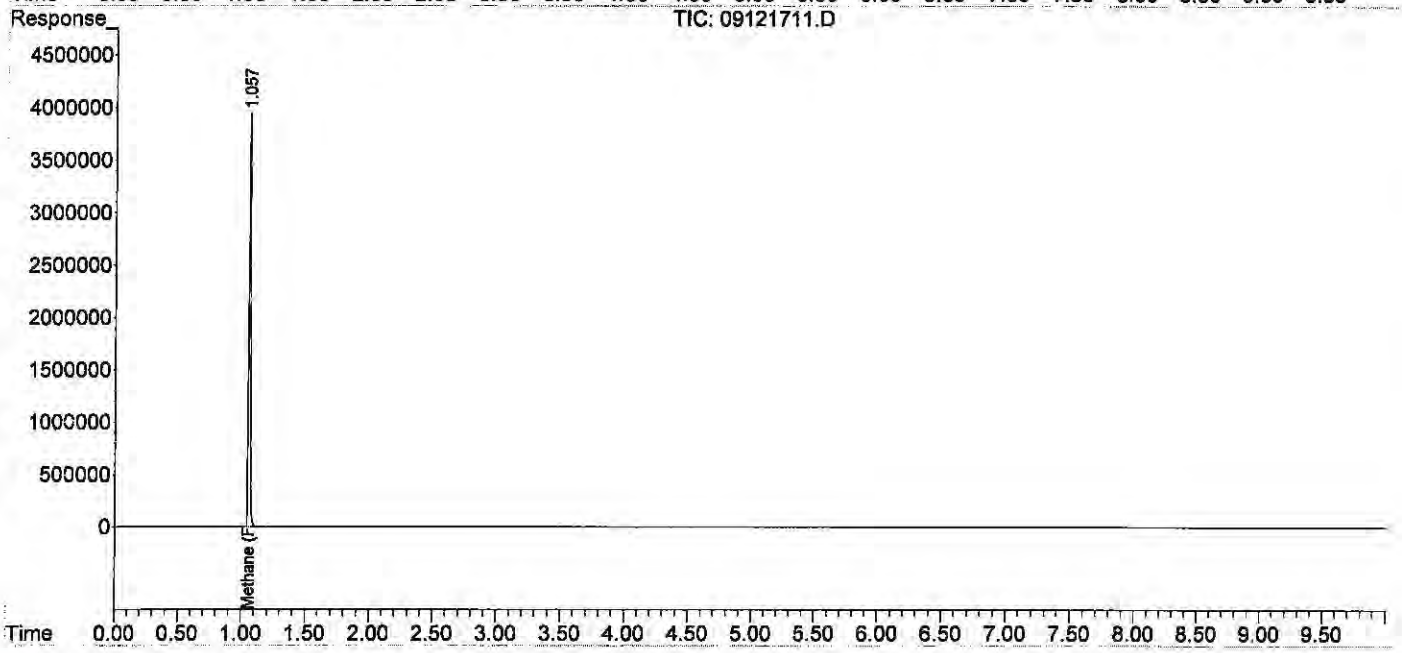
(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : J:\GC10\DATA\RSK_FID\2017_09\12\
Data File : 09121711.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 12-Sep-2017, 14:48
Operator : MC
Sample : 4000ppm 0.1ml s32-08231701
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Sep 13 11:13:37 2017
Quant Method : J:\GC10\METHODS\RS091217_R.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Wed Sep 13 11:13:29 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase :
Signal #1 Info :
Signal #2 Phase:
Signal #2 Info :





Data Path : J:\GC10\DATA\RSK_FID\2017_09\12\
Data File : 09121712.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 12-Sep-2017, 15:21
Operator : MC
Sample : 20000ppm 0.5ml s32-08231701
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Sep 13 11:14:17 2017
Quant Method : J:\GC10\METHODS\RS091217_R.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Wed Sep 13 11:13:29 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

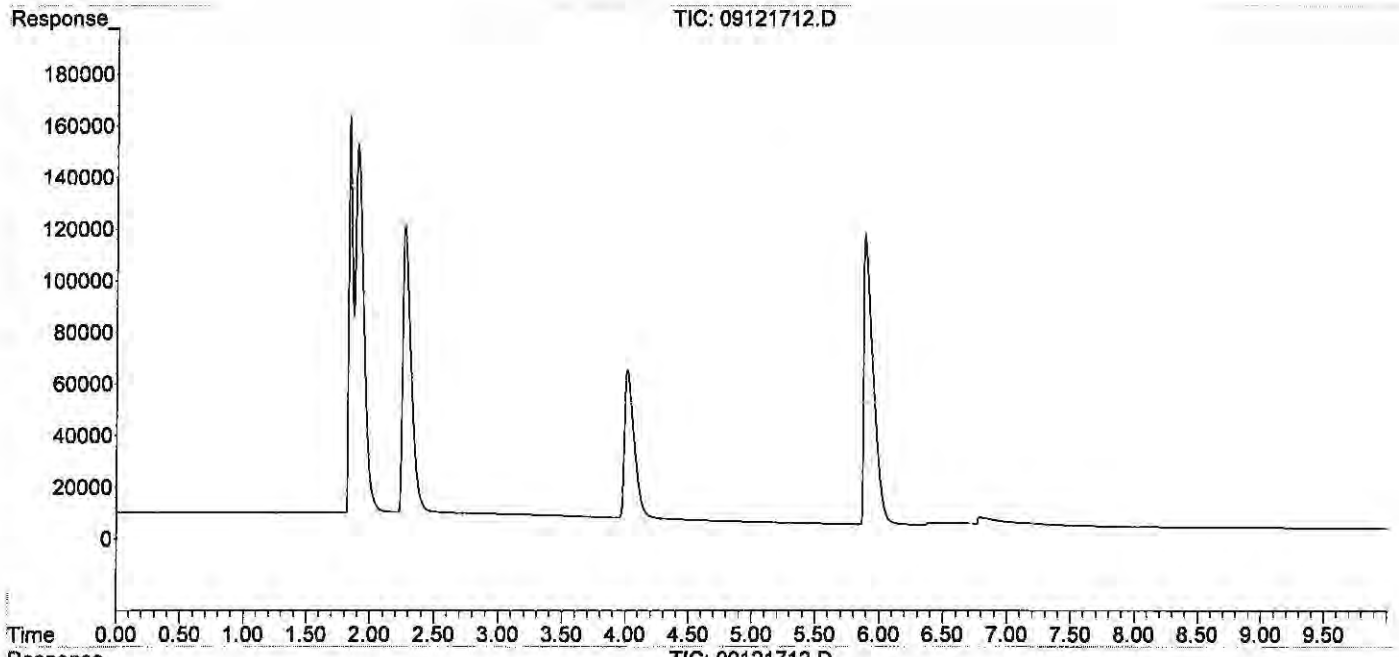
	Compound	R.T.	Response	Conc	Units	
Target Compounds						
1)	Oxygen/Argon	0.000	0	N.D.	ppm	d
2)	Carbon monoxide	1.836	3190788	N.D.	ppm	
3)	Methane (TCD)	0.000	0	N.D.	ppm	d
4)	Carbon dioxide	0.000	0	N.D.	ppm	d
6)	Methane (FID)	1.034	169009160	18492.064	ppm	
7)	Ethylene	0.000	0	N.D.	ppm	
8)	Ethane	0.000	0	N.D.	ppm	
9)	Propylene	0.000	0	N.D.	ppm	
10)	Propane	0.000	0	N.D.	ppm	
11)	Isobutylene	0.000	0	N.D.	ppm	
12)	Isobutane	0.000	0	N.D.	ppm	
13)	n-Butane	0.000	0	N.D.	ppm	

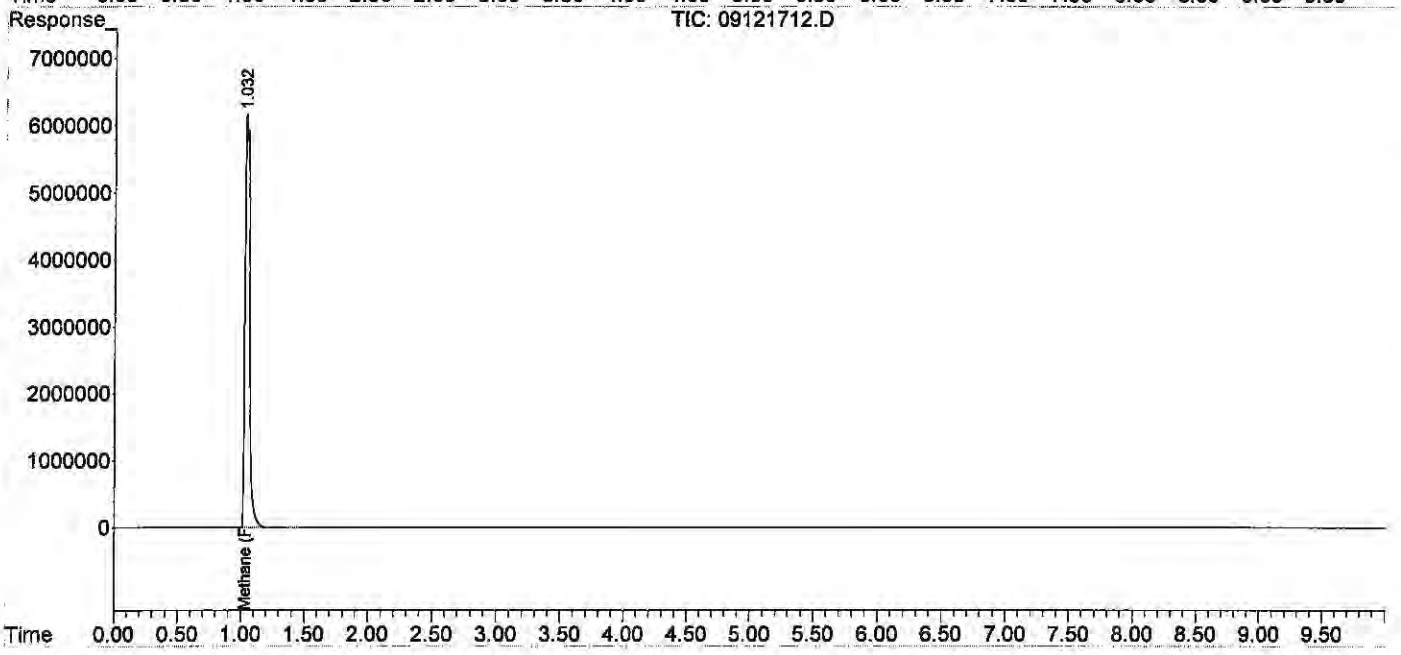
(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : J:\GC10\DATA\RSK_FID\2017_09\12\
Data File : 09121712.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 12-Sep-2017, 15:21
Operator : MC
Sample : 20000ppm 0.5ml s32-08231701
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Sep 13 11:14:17 2017
Quant Method : J:\GC10\METHODS\RS091217_R.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Wed Sep 13 11:13:29 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





Quantitation Report (QT Reviewed)

Data Path : J:\GC10\DATA\RSK_FID\2017_09\12\
Data File : 09121715.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 12-Sep-2017, 16:15
Operator : MC
Sample : icv s30-05241604
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Sep 13 11:15:11 2017
Quant Method : J:\GC10\METHODS\RS091217_R.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Wed Sep 13 11:13:29 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	R.T.	Response	Conc	Units	
Target Compounds						
1)	Oxygen/Argon	1.843	2922459	3.687	ppm	
2)	Carbon monoxide	1.843	2922459	N.D.	ppm	
3)	Methane (TCD)	0.000	0	N.D.	ppm	actual %D
4)	Carbon dioxide	0.000	0	N.D.	ppm	
6)	Methane (FID)	1.063	13748	1.516	ppm	1.50 101.1
7)	Ethylene	1.598	24153	1.443	ppm	1.50 96.2
8)	Ethane	1.850	24488	1.445	ppm	1.50 96.3
9)	Propylene	4.221	36004	1.537	ppm	1.50 102.5
10)	Propane	4.350	37738	1.517	ppm	1.51 100.5
11)	Isobutylene	0.000	0	N.D.	ppm	
12)	Isobutane	6.579f	48019	1.804	ppm	9/14/2
13)	n-Butane	6.579f	48019	1.804	ppm	

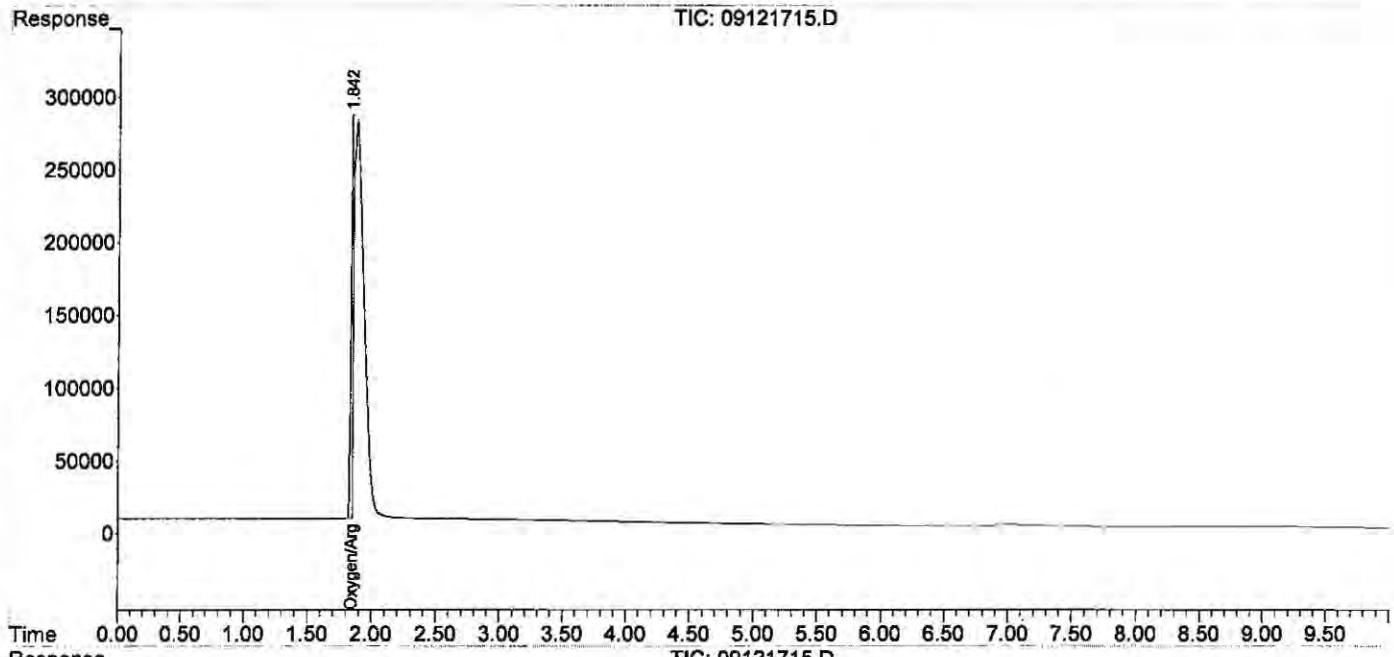
(f)=RT Delta > 1/2 Window (m)=manual int.

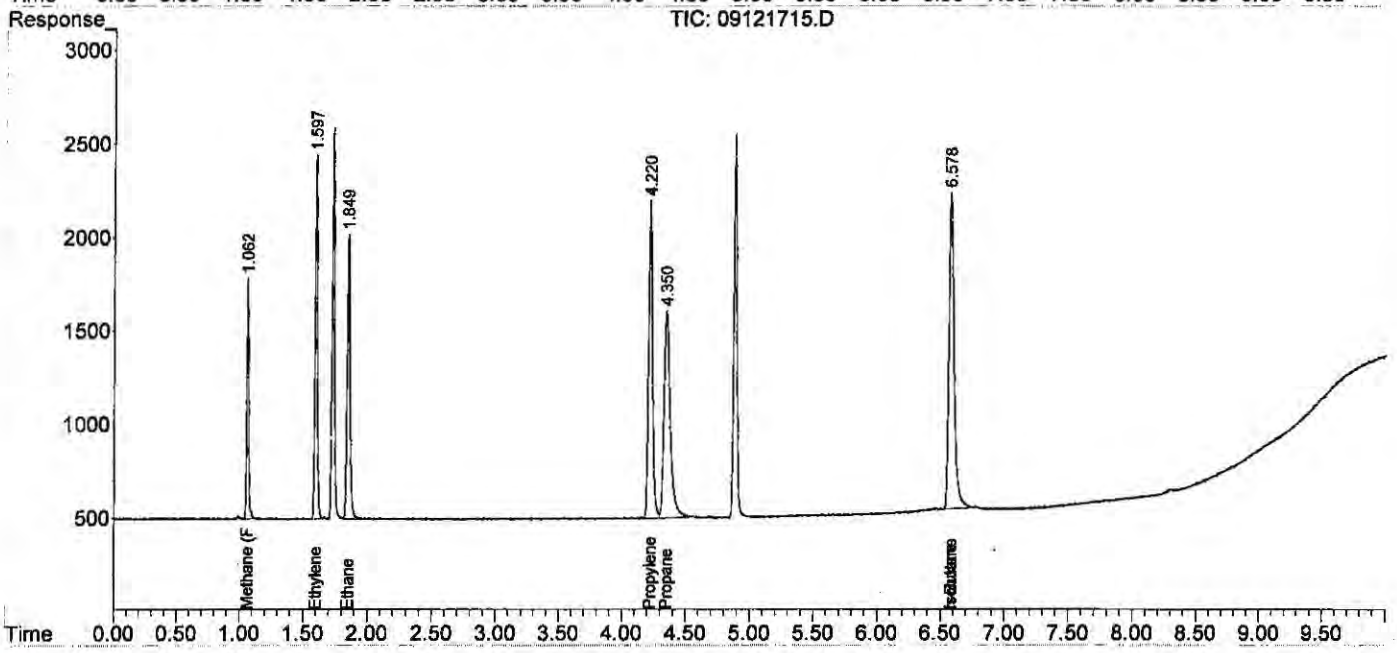
9/14/2017

Data Path : J:\GC10\DATA\RSK_FID\2017_09\12\
Data File : 09121715.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 12-Sep-2017, 16:15
Operator : MC
Sample : icv s30-05241604
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Sep 13 11:15:11 2017
Quant Method : J:\GC10\METHODS\RS091217_R.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Wed Sep 13 11:13:29 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





Dissolved Gases by RSK175

ALS Environmental

Method : RSK175 Headspace Method for Dissolved Hydrocarbon in Water by FID/TCD
Client : ALS Laboratory Group
Service Request: P2002598
Sample Vol. (ml) : 32.00 ml
Analyst : LD
Date Analysis : 05/13/20
Head Space Vol.(ml) : 8.00 ml
Instrument : GC#10
Detector : FID#10, TCD#10
Gas Constant : 24.05684 (20°C)

HEAD SPACE RESULT (ppm)

Sample ID	Ini. Vol.	Methane	Ethylene	Ethane
STD S32-05221901	0.100	95.492	101.940	101.504
ACTUAL		101.50	100.90	101.40
%Difference		5.9%	1.0%	0.1%
MCS 0.1ml	0.100	0.000	0.000	0.000
RB 0.1ml	0.100	0.000	0.000	0.000
LCS FID 0.1ml	0.100	1.380	1.001	1.238
LCSD FID 0.1ml	0.100	1.401	0.995	1.228
P2002598-001 0.1ml	0.100	0.000	0.000	0.000
P2002598-002 0.1ml	0.100	0.000	0.000	0.000

FINAL HEAD SPACE RESULT (ppm)

	Methane	Ethylene	Ethane
WWt.	16.04	28.05	30.07
HENRY'S CONSTANT	3.76E+04	1.02E+04	2.63E+04
RL	1.30	1.00	0.60
MCS 0.1ml	0.000	0.000	0.000
LCS FID 0.1ml	13.800	10.010	12.380
LCSD FID 0.1ml	14.010	9.950	12.280
P2002598-001 0.1ml	0.000	0.000	0.000
P2002598-002 0.1ml	0.000	0.000	0.000

191 of 320

LD
05/14

STD S32-05221901	95.924	102.149	101.660
ACTUAL	101.50	100.90	101.40
%Difference	5.5%	1.2%	0.3%

01007036

Data Path : I:\GC10\DATA\RSK_FID\2020_05\13\
Data File : 05132011.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 13-May-2020, 14:39:27
Operator : LD
Sample : STD S32-05221901
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 13 14:50:49 2020
Quant Method : I:\GC10\METHODS\RS091217_R.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Wed Sep 13 11:14:47 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

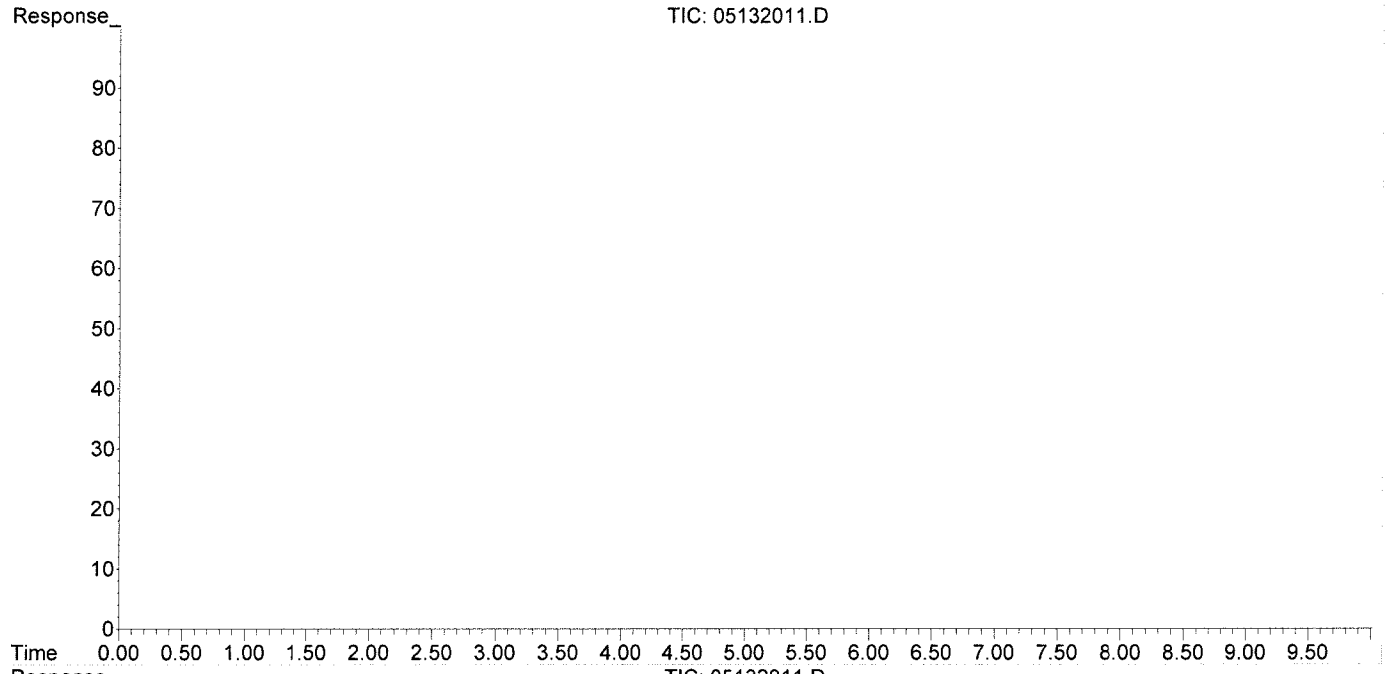
	Compound	R.T.	Response	Conc	Units
Target Compounds					
1)	Oxygen/Argon	0.000	0	N.D.	ppm
2)	Carbon monoxide	0.000	0	N.D.	ppm
3)	Methane (TCD)	0.000	0	N.D.	ppm
4)	Carbon dioxide	0.000	0	N.D.	ppm
6)	Methane (FID)	1.109	866177	95.492	ppm
7)	Ethylene	1.678	1705890	101.940	ppm
8)	Ethane	1.942	1720507	101.504	ppm
9)	Propylene	4.315	2523158	107.682	ppm
10)	Propane	4.437	2589266	104.069	ppm
11)	Isobutylene	0.000	0	N.D.	ppm
12)	Isobutane	0.000	0	N.D.	ppm
13)	n-Butane	0.000	0	N.D.	ppm

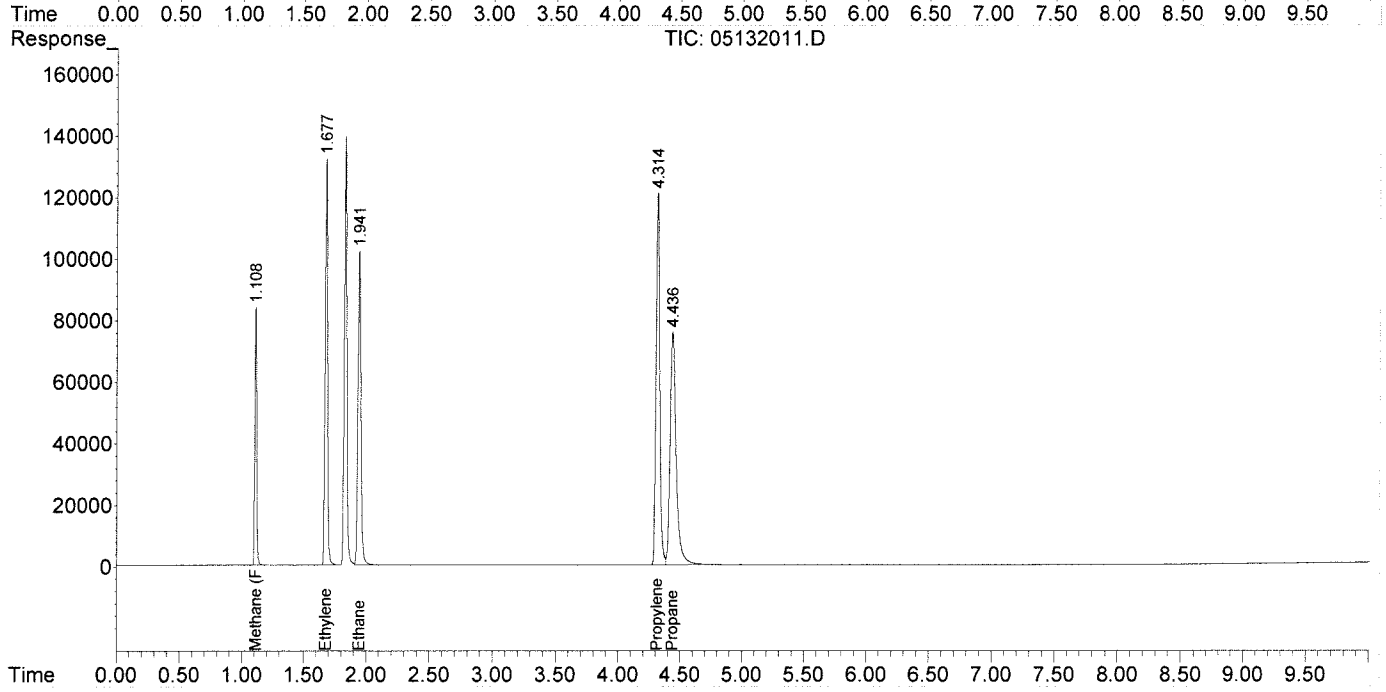
(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : I:\GC10\DATA\RSK_FID\2020_05\13\
Data File : 05132011.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 13-May-2020, 14:39:27
Operator : LD
Sample : STD S32-05221901
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 13 14:50:49 2020
Quant Method : I:\GC10\METHODS\RS091217_R.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Wed Sep 13 11:14:47 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





01007038

Data Path : I:\GC10\DATA\RSK_FID\2020_05\13\
Data File : 05132018.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 13-May-2020, 18:21:32
Operator : LD
Sample : STD S32-05221901
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 13 18:33:10 2020
Quant Method : I:\GC10\METHODS\RS091217_R.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Wed Sep 13 11:14:47 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

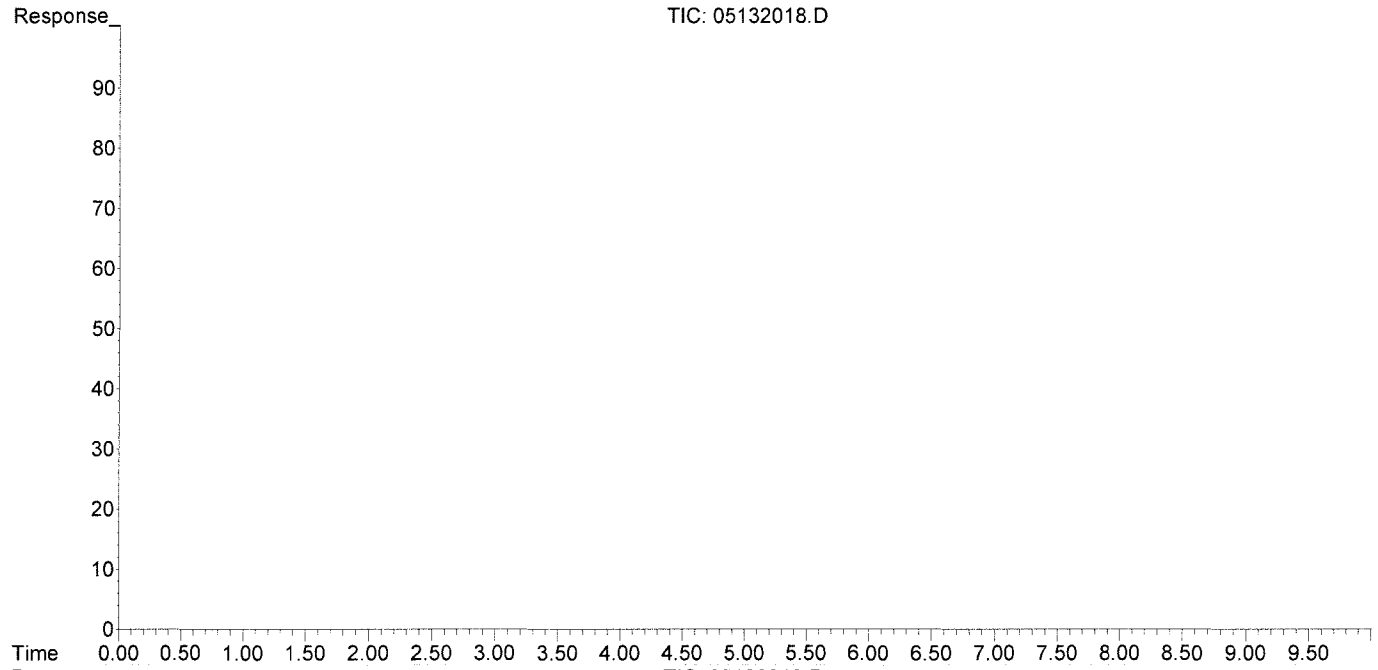
	Compound	R.T.	Response	Conc	Units
Target Compounds					
1)	Oxygen/Argon	0.000	0	N.D.	ppm
2)	Carbon monoxide	0.000	0	N.D.	ppm
3)	Methane (TCD)	0.000	0	N.D.	ppm
4)	Carbon dioxide	0.000	0	N.D.	ppm
6)	Methane (FID)	1.102	870096	95.924	ppm
7)	Ethylene	1.672	1709401	102.149	ppm
8)	Ethane	1.937	1723148	101.660	ppm
9)	Propylene	4.315	2527788	107.880	ppm
10)	Propane	4.438	2596090	104.344	ppm
11)	Isobutylene	0.000	0	N.D.	ppm
12)	Isobutane	0.000	0	N.D.	ppm
13)	n-Butane	0.000	0	N.D.	ppm

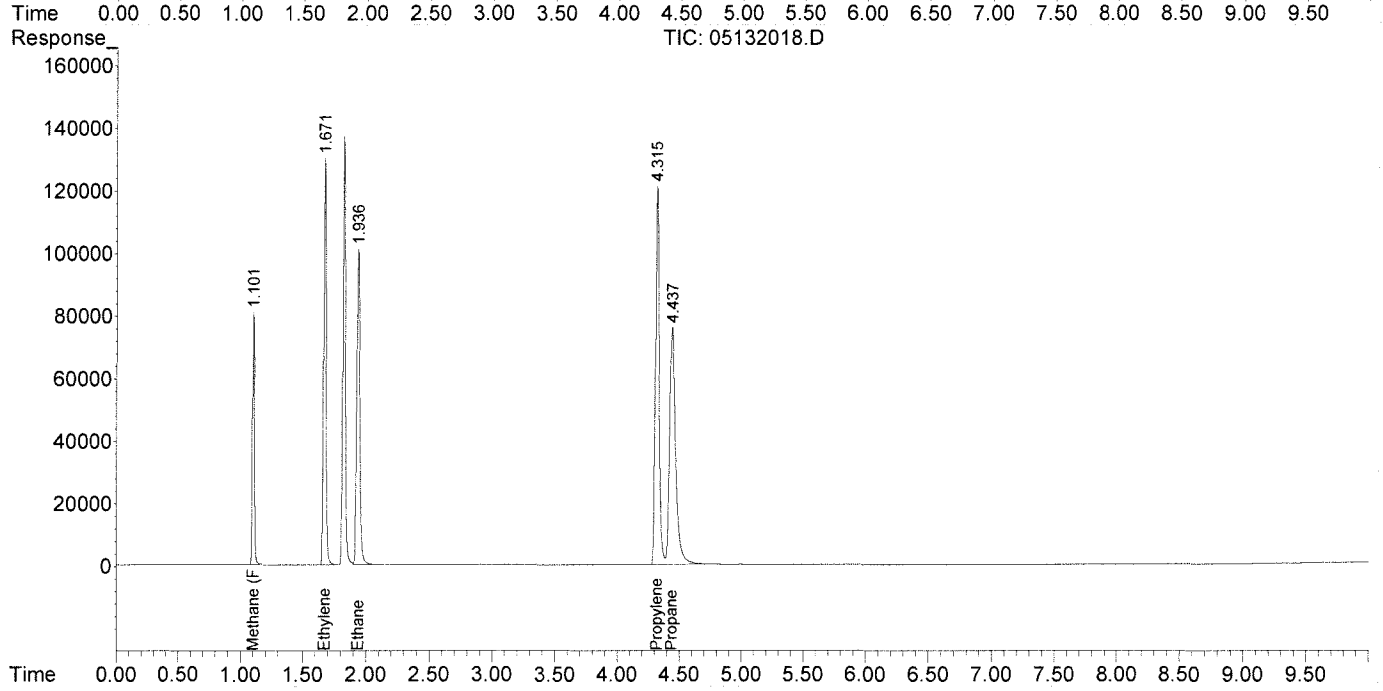
(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : I:\GC10\DATA\RSK_FID\2020_05\13\
Data File : 05132018.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 13-May-2020, 18:21:32
Operator : LD
Sample : STD S32-05221901
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 13 18:33:10 2020
Quant Method : I:\GC10\METHODS\RS091217_R.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Wed Sep 13 11:14:47 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





Injection Log

Directory: I:\GC10\DATA\RSK_FID\2017_09\12\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Acquisition Method	Comments
1	12-Sep-17, 08:38:08	09121701.D	test		MC	RSKBOTH.M	
2	12-Sep-17, 10:52:40	09121702.D	0.151ppm 0.250ml s32-09121702		MC	RSKBOTH.M	Curve
3	12-Sep-17, 11:05:49	09121703.D	0.302ppm 0.5ml s32-09121702		MC	RSKBOTH.M	Curve
4	12-Sep-17, 11:45:34	09121704.D	1.51ppm 0.1ml s32-09051701		MC	RSKBOTH.M	Curve
5	12-Sep-17, 12:09:33	09121705.D	4.53ppm 0.3ml s32-09051701		MC	RSKBOTH.M	Curve
6	12-Sep-17, 12:30:23	09121706.D	10.57ppm 0.7ml s32-09051701		MC	RSKBOTH.M	Curve
7	12-Sep-17, 12:47:18	09121707.D	200ppm 0.1ml s32-09121701		MC	RSKBOTH.M	Curve
8	12-Sep-17, 13:00:22	09121708.D	600ppm 0.3ml s32-09121701		MC	RSKBOTH.M	Curve
9	12-Sep-17, 13:47:48	09121709.D	1000ppm 0.5ml s32-09121701		MC	RSKBOTH.M	Curve
10	12-Sep-17, 14:07:58	09121710.D	2000ppm 1ml s32-09121701		MC	RSKBOTH.M	Curve
11	12-Sep-17, 14:48:48	09121711.D	4000ppm 0.1ml s32-08231701		MC	RSKBOTH.M	Curve
12	12-Sep-17, 15:21:51	09121712.D	20000ppm 0.5ml s32-08231701		MC	RSKBOTH.M	Curve
13	12-Sep-17, 15:38:59	09121713.D	mb 0.5ml		MC	RSKBOTH.M	Pass
14	12-Sep-17, 15:55:35	09121714.D	mb 0.1ml		MC	RSKBOTH.M	Pass
15	12-Sep-17, 16:15:26	09121715.D	icv s30-05241604		MC	RSKBOTH.M	Pass

Injection Log

Directory: I:\GC10\DATA\RSK_FID\2020_05\13\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Acquisition Method	Comments
1	13-May-20, 12:01:28	05132001.D	STD S32-05221901		LD	RSKBOTH.M	pass
2	13-May-20, 12:16:57	05132002.D	MB 1ml		LD	RSKBOTH.M	pass
3	13-May-20, 12:33:28	05132003.D	LCS S32-07231801		LD	RSKBOTH.M	pass
4	13-May-20, 12:46:31	05132004.D	LCSD S32-07231801		LD	RSKBOTH.M	pass
5	13-May-20, 12:59:56	05132005.D	P2002368-001 0.5ml		LD	RSKBOTH.M	
6	13-May-20, 13:13:55	05132006.D	P2002368-002 0.5ml		LD	RSKBOTH.M	
7	13-May-20, 13:33:44	05132007.D	P2002368-003 0.5ml		LD	RSKBOTH.M	
8	13-May-20, 13:46:56	05132008.D	P2002368-004 0.5ml		LD	RSKBOTH.M	
9	13-May-20, 14:07:52	05132009.D	P2002368-005 0.5ml		LD	RSKBOTH.M	
10	13-May-20, 14:21:47	05132010.D	P2002368-006 0.5ml		LD	RSKBOTH.M	
11	13-May-20, 14:39:27	05132011.D	STD S32-05221901		LD	RSKBOTH.M	pass
12	13-May-20, 15:01:51	05132012.D	RB 0.1ml		LD	RSKBOTH.M	pass
13	13-May-20, 16:20:04	05132013.D	MCS 0.1ml		LD	RSKBOTH.M	pass
14	13-May-20, 17:10:36	05132014.D	LCS FID 0.1ml		LD	RSKBOTH.M	pass
15	13-May-20, 17:29:50	05132015.D	LCSD FID 0.1ml		LD	RSKBOTH.M	pass
16	13-May-20, 17:48:43	05132016.D	P2002598-001 0.1ml		LD	RSKBOTH.M	
17	13-May-20, 18:02:53	05132017.D	P2002598-002 0.1ml		LD	RSKBOTH.M	
18	13-May-20, 18:21:32	05132018.D	STD S32-05221901		LD	RSKBOTH.M	pass

HS20050292 8260 Raw Data

ALS WO# HS20050292

FORM 2
WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: ALS GROUP Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20050292

	CLIENT SAMPLE NO.	SMC1 #	SMC2 (DCE)#	SMC3 (TOL)#	OTHER #	TOT OUT
01	ICV	98	96	102	100	0
02	VLCSW-200511	103	104	102	100	0
03	VBLKW-200508	91	90	105	98	0
04	HS20050292-01	92	90	106	101	0
05	HS20050292-02	91	89	106	100	0
06	HS20050292-03	92	88	106	99	0
07	HS20050292-03	92	89	107	99	0
08	HS20050292-03	93	87	107	98	0
09						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						

		QC LIMITS
SMC1	= Dibromofluoromethane	(74-125)
SMC2 (DCE)	= 1,2-Dichloroethane-d4	(71-125)
SMC3 (TOL)	= Toluene-d8	(78-123)
OTHER	= 4-Bromofluorobenzene	(70-125)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D System Monitoring Compound diluted out

FORM 2
WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: ALS GROUP Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20050292

	CLIENT SAMPLE NO.	SMC1 #	SMC2 (DCE)#	SMC3 (TOL)#	OTHER #	TOT OUT
01	VLCSW-200512	99	100	102	101	0
02	VBLKW-200512	92	89	108	99	0
03	HS20050292-04	90	88	106	99	0
04	HS20050292-05	93	90	108	100	0
05	HS20050292-09	92	90	108	98	0
06	HS20050292-06	91	90	110	99	0
07	HS20050292-07	91	91	107	98	0
08	HS20050292-08	93	90	108	97	0
09	HS20050234-01	91	88	106	99	0
10	HS20050234-01	92	90	108	100	0
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						

		QC LIMITS
SMC1	= Dibromofluoromethane	(74-125)
SMC2 (DCE)	= 1,2-Dichloroethane-d4	(71-125)
SMC3 (TOL)	= Toluene-d8	(78-123)
OTHER	= 4-Bromofluorobenzene	(70-125)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D System Monitoring Compound diluted out

FORM 3
WATER VOLATILE METHOD SPIKE RECOVERY

Lab Name: ALS GROUP Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20050292

Matrix Spike - Sample No.: ICV

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE AMOUNT ()	% REC #	QC. LIMITS REC.
Bromochloromethane	50.00	47.43	95	80-120
Vinyl Chloride	50.00	46.46	93	80-120
Chloromethane	50.00	44.04	88	80-120
Bromomethane	50.00	50.90	102	80-120
Chloroethane	50.00	44.86	90	80-120
Methylene Chloride	50.00	47.67	95	80-120
Acetone	100.00	96.04	96	80-120
1,1-Dichloroethene	50.00	47.66	95	80-120
trans-1,2-Dichloroethen	50.00	47.92	96	80-120
Carbon Tetrachloride	50.00	47.41	95	80-120
1,1-Dichloroethane	50.00	45.20	90	80-120
Bromodichloromethane	50.00	48.69	97	80-120
1,2-Dichloropropane	50.00	47.53	95	80-120
cis-1,3-Dichloropropene	50.00	49.61	99	80-120
2-Butanone	100.00	107.79	108	80-120
Dibromochloromethane	50.00	49.74	99	80-120
cis-1,2-Dichloroethene	50.00	47.90	96	80-120
1,1,2-Trichloroethane	50.00	47.86	96	80-120
Chloroform	50.00	48.19	96	80-120
Benzene	50.00	47.92	96	80-120
trans-1,3-Dichloroprope	50.00	49.97	100	80-120
Bromoform	50.00	50.11	100	80-120
4-Methyl-2-Pentanone	100.00	92.90	93	80-120
1,1,1-Trichloroethane	50.00	47.51	95	80-120
2-Hexanone	100.00	94.75	95	80-120
1,2-Dichloroethane	50.00	49.48	99	80-120
1,1,2,2-Tetrachloroetha	50.00	46.16	92	80-120
Trichloroethene	50.00	49.38	99	80-120

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

COMMENTS: _____

_____

FORM III VOA

FORM 3
WATER VOLATILE METHOD SPIKE RECOVERY

Lab Name: ALS GROUP Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20050292

Matrix Spike - Sample No.: ICV

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE AMOUNT ()	% REC #	QC. LIMITS REC.
Toluene	50.00	48.70	97	80-120
Dichlorodifluoromethane	50.00	46.95	94	80-120
Trichlorofluoromethane	50.00	48.67	97	80-120
Tetrachloroethene	50.00	49.21	98	80-120
1,2-Dibromoethane	50.00	50.22	100	80-120
Chlorobenzene	50.00	48.90	98	80-120
1,3-Dichlorobenzene	50.00	48.89	98	80-120
1,4-Dichlorobenzene	50.00	47.77	96	80-120
1,2-Dichlorobenzene	50.00	48.42	97	80-120
Ethylbenzene	50.00	48.80	98	80-120
m,p-Xylenes	100.00	98.10	98	80-120
o-Xylene	50.00	49.08	98	80-120
Styrene	50.00	49.46	99	80-120
Carbon Disulfide	100.00	95.54	96	80-120
2,2-Dichloropropane	50.00	47.48	95	80-120
1,1-Dichloropropene	50.00	48.00	96	80-120
Dibromomethane	50.00	49.84	100	80-120
1,3-Dichloropropane	50.00	48.33	97	80-120
1,1,1,2-Tetrachloroetha	50.00	48.99	98	80-120
Isopropylbenzene	50.00	49.54	99	80-120
Bromobenzene	50.00	48.32	97	80-120
1,2,3-Trichloropropane	50.00	46.59	93	80-120
n-Propylbenzene	50.00	48.00	96	80-120
2-Chlorotoluene	50.00	46.75	94	80-120
1,3,5-Trimethylbenzene	50.00	49.68	99	80-120
4-Chlorotoluene	50.00	47.20	94	80-120
tert-Butylbenzene	50.00	48.50	97	80-120
1,2,4-Trimethylbenzene	50.00	49.86	100	80-120

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

COMMENTS: _____

_____

FORM 3
WATER VOLATILE METHOD SPIKE RECOVERY

Lab Name: ALS GROUP Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20050292

Matrix Spike - Sample No.: ICV

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE AMOUNT ()	% REC #	QC. LIMITS REC.
sec-Butylbenzene	50.00	48.50	97	80-120
p-Isopropyltoluene	50.00	50.33	101	80-120
n-Butylbenzene	50.00	50.73	101	80-120
1,2-Dibromo-3-Chloropro	50.00	46.37	93	80-120
1,2,4-Trichlorobenzene	50.00	47.52	95	80-120
Hexachlorobutadiene	50.00	49.71	99	80-120
Naphthalene	50.00	53.21	106	80-120
1,2,3-Trichlorobenzene	50.00	54.69	109	80-120
Freon TF	50.00	48.97	98	80-120

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

COMMENTS: _____

_____

FORM 5
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: ALS GROUP Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20050292

Lab File ID: X051101 BFB Injection Date: 05/11/20

Instrument ID: VOA6 BFB Injection Time: 1248

GC Column: DB624 ID: 0.25 (mm) Heated Purge: (Y/N) N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	24.2
75	30.0 - 60.0% of mass 95	46.9
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	7.1
173	Less than 2.0% of mass 174	0.4 (0.7)1
174	Greater than 50.0% of mass 95	58.1
175	5.0 - 9.0% of mass 174	5.0 (8.6)1
176	95.0 - 101.0% of mass 174	57.6 (99.1)1
177	5.0 - 9.0% of mass 176	4.7 (8.2)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD000.5	VSTD000.5	X051103	05/11/20	1400
02	VSTD001	VSTD001	X051104	05/11/20	1424
03	VSTD002	VSTD002	X051105	05/11/20	1448
04	VSTD005	VSTD005	X051106	05/11/20	1512
05	VSTD020	VSTD020	X051107	05/11/20	1536
06	VSTD050	VSTD050	X051108	05/11/20	1600
07	VSTD100	VSTD100	X051109	05/11/20	1624
08	VSTD150	VSTD150	X051110	05/11/20	1647
09	VSTD200	VSTD200	X051111	05/11/20	1711
10	ICV	ICV	X051114	05/11/20	1823
11	VLCSW-200511	VLCSW-200511	X051116	05/11/20	1911
12	VBLKW-200508	VBLKW-200511	X051119	05/11/20	2024
13	HS20050292-0	HS20050292-01	X051123	05/11/20	2200
14	HS20050292-0	HS20050292-02	X051124	05/11/20	2224
15	HS20050292-0	HS20050292-03	X051125	05/11/20	2248
16	HS20050292-0	HS20050292-03M	X051126	05/11/20	2312
17	HS20050292-0	HS20050292-03M	X051127	05/11/20	2336
18	CCV-END	CCV-END	X051128	05/12/20	0000
19					
20					
21					
22					

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ALS GROUP Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20050292

Instrument ID: VOA6 Calibration Date(s): 05/11/20 05/11/20

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1312 1711

LAB FILE ID: RF0.5: X051103 RF1: X051104 RF2: X051105
RF5: X051106 RF20: X051107 RF50: X051108

COMPOUND	RF0.5	RF1	RF2	RF5	RF20	RF50
Bromochloromethane	0.363	0.313	0.285	0.299	0.276	0.275
Vinyl Chloride	0.756	0.651	0.677	0.656	0.679	0.684
Chloromethane	2464	4677	8356	19497	77009	185773
Bromomethane	1460	2788	5327	11539	40170	86417
Chloroethane	1364	2214	3636	10011	35750	85402
Methylene Chloride	1939	3655	6641	14433	52520	120730
Acetone	1874	3027	5040	9390	35665	95313
1,1-Dichloroethene	0.461	0.404	0.370	0.376	0.386	0.384
trans-1,2-Dichloroethene	0.523	0.408	0.446	0.450	0.457	0.446
Carbon Tetrachloride	0.629	0.525	0.488	0.473	0.462	0.468
1,1-Dichloroethane	1.312	1.108	1.104	1.086	1.050	1.019
Bromodichloromethane	0.525	0.432	0.461	0.461	0.456	0.457
1,2-Dichloropropane	0.483	0.403	0.398	0.404	0.401	0.395
cis-1,3-Dichloropropene	0.603	0.536	0.520	0.534	0.536	0.541
2-Butanone	0.188	0.183	0.186	0.220	0.241	0.263
Dibromochloromethane	0.441	0.380	0.411	0.397	0.396	0.396
cis-1,2-Dichloroethene	0.543	0.472	0.583	0.527	0.536	0.514
1,1,2-Trichloroethane	0.332	0.252	0.293	0.293	0.271	0.267
Chloroform	1.057	0.803	0.890	0.923	0.881	0.861
Benzene	1.483	1.317	1.243	1.210	1.258	1.234
trans-1,3-Dichloropropene	0.537	0.462	0.480	0.485	0.483	0.486
Bromoform	0.318	0.258	0.306	0.286	0.283	0.274
4-Methyl-2-Pentanone	0.503	0.400	0.504	0.456	0.451	0.430
1,1,1-Trichloroethane	0.928	0.796	0.766	0.770	0.780	0.766
2-Hexanone	0.373	0.243	0.350	0.304	0.307	0.304
1,2-Dichloroethane	0.587	0.485	0.477	0.510	0.523	0.527
1,1,2,2-Tetrachloroethane	0.939	0.812	0.883	0.798	0.789	0.746
Trichloroethene	0.425	0.329	0.342	0.341	0.347	0.350
Toluene	1.729	1.419	1.522	1.489	1.484	1.431
Dichlorodifluoromethane	1503	2633	5304	13068	55700	135443
Trichlorofluoromethane	0.888	0.754	0.749	0.761	0.781	0.796
Tetrachloroethene	0.362	0.327	0.345	0.324	0.321	0.319
1,2-Dibromoethane	0.385	0.308	0.373	0.358	0.364	0.351
Chlorobenzene	1.224	0.910	1.008	0.984	0.965	0.948
1,3-Dichlorobenzene	1.771	1.441	1.502	1.497	1.508	1.462
1,4-Dichlorobenzene	2.196	1.462	1.507	1.543	1.491	1.488
1,2-Dichlorobenzene	1.694	1.345	1.445	1.362	1.340	1.326
Ethylbenzene	0.595	0.494	0.526	0.496	0.513	0.506
m,p-Xylenes	0.749	0.582	0.637	0.617	0.627	0.617
o-Xylene	0.671	0.590	0.652	0.604	0.617	0.595
Styrene	1.220	1.068	1.068	1.028	1.061	1.034
Carbon Disulfide	1.559	1.278	1.317	1.321	1.317	1.321
2,2-Dichloropropane	0.934	0.845	0.817	0.768	0.765	0.739
1,1-Dichloropropene	0.542	0.467	0.464	0.436	0.437	0.429

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ALS GROUP Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS2005029

Instrument ID: VOA6 Calibration Date(s): 05/11/20 05/11/20

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1312 1711

LAB FILE ID: RF0.5: X051103 RF1: X051104 RF2: X051105
RF5: X051106 RF20: X051107 RF50: X051108

COMPOUND	RF0.5	RF1	RF2	RF5	RF20	RF50
Dibromomethane	0.272	0.187	0.211	0.223	0.213	0.217
1,3-Dichloropropane	0.667	0.536	0.609	0.586	0.581	0.558
1,1,1,2-Tetrachloroethane	0.441	0.401	0.388	0.383	0.384	0.380
Isopropylbenzene	1.838	1.487	1.440	1.550	1.543	1.499
Bromobenzene	1.160	0.908	0.931	0.886	0.907	0.902
1,2,3-Trichloropropane	0.825	0.629	0.829	0.664	0.661	0.681
n-Propylbenzene	4.517	3.295	3.337	3.514	3.496	3.465
2-Chlorotoluene	2.730	2.379	2.191	2.204	2.100	2.070
1,3,5-Trimethylbenzene	2.835	2.374	2.552	2.616	2.533	2.515
4-Chlorotoluene	3.235	2.656	2.511	2.448	2.492	2.419
tert-Butylbenzene	2.511	2.130	2.115	2.215	2.151	2.088
1,2,4-Trimethylbenzene	3.200	2.288	2.506	2.550	2.590	2.573
sec-Butylbenzene	3.786	2.605	2.991	3.022	2.939	2.872
p-Isopropyltoluene	3.242	2.169	2.411	2.533	2.612	2.578
n-Butylbenzene	2.569	1.648	1.842	2.072	2.142	2.132
1,2-Dibromo-3-Chloropropane	114	128	532	1596	5237	12187
1,2,4-Trichlorobenzene	505	762	1924	5746	23261	54809
Hexachlorobutadiene	605	736	2177	5460	21311	41952
Naphthalene	0.460	0.409	0.406	0.433	0.467	0.465
1,2,3-Trichlorobenzene	385	431	1047	3164	11186	27245
Freon TF	0.351	0.375	0.391	0.378	0.379	0.386
Dibromofluoromethane	1793	3147	5198	14036	51294	118264
1,2-Dichloroethane-d4	2117	3902	7290	17135	62012	143586
Toluene-d8	5920	10982	18430	47142	176771	410250
4-Bromofluorobenzene	2708	6819	8380	19241	69563	152557

FORM VI VOA

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ALS GROUP Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS2005029

Instrument ID: VOA6 Calibration Date(s): 05/11/20 05/11/20

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1312 1711

LAB FILE ID: RF100: X051109 RF150: X051110 RF200: X051111

COMPOUND	RF100	RF150	RF200
Bromochloromethane	0.269	0.272	0.259
Vinyl Chloride	0.715	0.722	0.698
Chloromethane	352150	510038	668216
Bromomethane	166042	236806	301011
Chloroethane	162411	229270	289295
Methylene Chloride	224234	318789	395941
Acetone	157042	214208	
1,1-Dichloroethene	0.398	0.407	0.394
trans-1,2-Dichloroethene	0.457	0.461	0.444
Carbon Tetrachloride	0.489	0.496	0.491
1,1-Dichloroethane	1.046	1.051	1.004
Bromodichloromethane	0.466	0.477	0.465
1,2-Dichloropropane	0.399	0.395	0.384
cis-1,3-Dichloropropene	0.550	0.556	0.544
2-Butanone	0.253	0.253	0.241
Dibromochloromethane	0.410	0.407	0.403
cis-1,2-Dichloroethene	0.526	0.533	0.512
1,1,2-Trichloroethane	0.267	0.266	0.262
Chloroform	0.878	0.889	0.859
Benzene	1.256	1.263	1.238
trans-1,3-Dichloropropene	0.504	0.517	0.506
Bromoform	0.283	0.285	0.285
4-Methyl-2-Pentanone	0.441	0.443	0.435
1,1,1-Trichloroethane	0.796	0.813	0.790
2-Hexanone	0.303	0.300	0.298
1,2-Dichloroethane	0.527	0.530	0.518
1,1,2,2-Tetrachloroethane	0.749	0.756	0.761
Trichloroethene	0.367	0.367	0.360
Toluene	1.433	1.414	1.396
Dichlorodifluoromethane	264084	377623	499972
Trichlorofluoromethane	0.833	0.843	0.836
Tetrachloroethene	0.326	0.324	0.320
1,2-Dibromoethane	0.352	0.357	0.348
Chlorobenzene	0.963	0.964	0.949
1,3-Dichlorobenzene	1.500	1.522	1.508
1,4-Dichlorobenzene	1.506	1.517	1.512
1,2-Dichlorobenzene	1.337	1.360	1.327
Ethylbenzene	0.523	0.514	0.512
m,p-Xylenes	0.622	0.618	0.610
o-Xylene	0.603	0.605	0.588
Styrene	1.048	1.031	1.019
Carbon Disulfide	1.365	1.385	1.334
2,2-Dichloropropane	0.754	0.769	0.733
1,1-Dichloropropene	0.452	0.452	0.441

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ALS GROUP Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS2005029

Instrument ID: VOA6 Calibration Date(s): 05/11/20 05/11/20

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1312 1711

LAB FILE ID: RF100: X051109 RF150: X051110 RF200: X051111

COMPOUND	RF100	RF150	RF200
Dibromomethane	0.222	0.224	0.218
1,3-Dichloropropane	0.557	0.557	0.550
1,1,1,2-Tetrachloroethane	0.387	0.387	0.385
Isopropylbenzene	1.568	1.560	1.547
Bromobenzene	0.907	0.911	0.925
1,2,3-Trichloropropane	0.669	0.656	0.658
n-Propylbenzene	3.577	3.585	3.566
2-Chlorotoluene	2.149	2.144	2.118
1,3,5-Trimethylbenzene	2.613	2.611	2.585
4-Chlorotoluene	2.476	2.464	2.454
tert-Butylbenzene	2.180	2.179	2.160
1,2,4-Trimethylbenzene	2.630	2.656	2.612
sec-Butylbenzene	3.026	3.020	2.996
p-Isopropyltoluene	2.679	2.702	2.709
n-Butylbenzene	2.216	2.237	2.212
1,2-Dibromo-3-Chloropropane	23938	35913	47270
1,2,4-Trichlorobenzene	103966	161556	221042
Hexachlorobutadiene	77175	122993	160116
Naphthalene	0.480	0.544	0.572
1,2,3-Trichlorobenzene	50765	82626	114644
Freon TF	0.410	0.412	0.396
Dibromofluoromethane	228909	320906	412124
1,2-Dichloroethane-d4	281127	402302	508534
Toluene-d8	778769	1109628	1416689
4-Bromofluorobenzene	294185	420723	537390

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ALS GROUP Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS2005029

Instrument ID: VOA6 Calibration Date(s): 05/11/20 05/11/20

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1312 1711

COMPOUND	CURVE	COEFFICENTS A0	COEFFICENTS A1	COEFFICENTS A2	%RSD OR R^2	MAX %RSD OR R^2
Bromochloromethane	AVRG		0.29010501		10.972	15.000
Vinyl Chloride	AVRG		0.69311531		4.827	15.000
Chloromethane	LINR	1.254e-002	1.25307618		0.9996990	0.9900000
Bromomethane	LINR	-1.49e-002	2.76010828		0.9992442	0.9900000
Chloroethane	LINR	-8.42e-003	2.85056864		0.9990197	0.9900000
Methylene Chloride	LINR	-2.15e-002	2.07576331		0.9984246	0.9900000
Acetone	LINR	-5.26e-002	5.86673099		0.9980780	0.9900000
1,1-Dichloroethene	AVRG		0.39779340		6.695	15.000
trans-1,2-Dichloroethene	AVRG		0.45484162		6.601	15.000
Carbon Tetrachloride	AVRG		0.50236564		10.139	15.000
1,1-Dichloroethane	AVRG		1.08665862		8.445	15.000
Bromodichloromethane	AVRG		0.46672354		5.340	15.000
1,2-Dichloropropane	AVRG		0.40699172		7.156	15.000
cis-1,3-Dichloropropene	AVRG		0.54659701		4.308	15.000
2-Butanone	AVRG		0.22534364		14.170	15.000
Dibromochloromethane	AVRG		0.40468890		4.114	15.000
cis-1,2-Dichloroethene	AVRG		0.52746114		5.587	15.000
1,1,2-Trichloroethane	AVRG		0.27813289		8.790	15.000
Chloroform	AVRG		0.89352495		7.768	15.000
Benzene	AVRG		1.27806051		6.430	15.000
trans-1,3-Dichloropropene	AVRG		0.49569616		4.508	15.000
Bromoform	AVRG		0.28647071		5.980	15.000
4-Methyl-2-Pentanone	AVRG		0.45144990		7.411	15.000
1,1,1-Trichloroethane	AVRG		0.80070947		6.298	15.000
2-Hexanone	AVRG		0.30919632		11.650	15.000
1,2-Dichloroethane	AVRG		0.52059797		6.006	15.000
1,1,2,2-Tetrachloroethane	AVRG		0.80353274		8.275	15.000
Trichloroethene	AVRG		0.35876630		7.774	15.000
Toluene	AVRG		1.47974156		6.910	15.000
Dichlorodifluoromethane	LINR	2.129e-002	1.67614322		0.9997226	0.9900000
Trichlorofluoromethane	AVRG		0.80446144		5.962	15.000
Tetrachloroethene	AVRG		0.32982532		4.351	15.000
1,2-Dibromoethane	AVRG		0.35522808		5.929	15.000
Chlorobenzene	AVRG		0.99065323		9.243	15.000
1,3-Dichlorobenzene	AVRG		1.52362325		6.309	15.000
1,4-Dichlorobenzene	AVRG		1.58040454		14.681	15.000
1,2-Dichlorobenzene	AVRG		1.39289493		8.511	15.000
Ethylbenzene	AVRG		0.51992575		5.830	15.000
m,p-Xylenes	AVRG		0.63108004		7.383	15.000
o-Xylene	AVRG		0.61400525		4.669	15.000
Styrene	AVRG		1.06414813		5.759	15.000
Carbon Disulfide	AVRG		1.35528961		6.080	15.000
2,2-Dichloropropane	AVRG		0.79166371		8.135	15.000
1,1-Dichloropropene	AVRG		0.45772621		7.432	15.000

FORM VI VOA

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ALS GROUP Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS2005029

Instrument ID: VOA6 Calibration Date(s): 05/11/20 05/11/20

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1312 1711

COMPOUND	CURVE	COEFFICENTS A0	COEFFICENTS A1	COEFFICENTS A2	%RSD OR R^2	MAX %RSD OR R^2
Dibromomethane	AVRG		0.22074683		10.081	15.000
1,3-Dichloropropane	AVRG		0.57818454		6.898	15.000
1,1,1,2-Tetrachloroethane	AVRG		0.39300458		4.846	15.000
Isopropylbenzene	AVRG		1.55920520		7.226	15.000
Bromobenzene	AVRG		0.93740919		9.001	15.000
1,2,3-Trichloropropane	AVRG		0.69674447		10.773	15.000
n-Propylbenzene	AVRG		3.59467414		10.034	15.000
2-Chlorotoluene	AVRG		2.23175124		9.279	15.000
1,3,5-Trimethylbenzene	AVRG		2.58168968		4.708	15.000
4-Chlorotoluene	AVRG		2.57286118		10.008	15.000
tert-Butylbenzene	AVRG		2.19201247		5.722	15.000
1,2,4-Trimethylbenzene	AVRG		2.62277408		9.226	15.000
sec-Butylbenzene	AVRG		3.02845002		10.363	15.000
p-Isopropyltoluene	AVRG		2.62630864		10.952	15.000
n-Butylbenzene	AVRG		2.11900949		12.212	15.000
1,2-Dibromo-3-Chloropropane	LINR	2.938e-002	12.1217534		0.9986839	0.9900000
1,2,4-Trichlorobenzene	LINR	5.285e-002	2.62316086		0.9957908	0.9900000
Hexachlorobutadiene	LINR	1.932e-002	3.59227170		0.9969896	0.9900000
Naphthalene	AVRG		0.47073223		11.912	15.000
1,2,3-Trichlorobenzene	2ORDR	-8.18e-003	6.59831211	-2.0506170	0.9995281	0.9900000
Freon TF	AVRG		0.38639662		4.893	15.000
Dibromofluoromethane	LINR	-4.86e-003	2.01455990		0.9994974	0.9900000
1,2-Dichloroethane-d4	LINR	-7.35e-004	1.62396266		0.9990167	0.9900000
Toluene-d8	LINR	-9.31e-003	0.80376231		0.9999444	0.9900000
4-Bromofluorobenzene	LINR	-1.54e-002	2.12571618		0.9999166	0.9900000

FORM VI VOA

FORM 8
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ALS GROUP Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20050292

Lab File ID (Standard): X051128 Date Analyzed: 05/12/20

Instrument ID: VOA6 Time Analyzed: 0000

GC Column: DB624 ID: 0.18 (mm) Heated Purge: (Y/N) N

		IS1 AREA #	IS1 RT #	IS2(DFB) AREA #	IS2(DFB) RT #	IS3(CBZ) AREA #	IS3(CBZ) RT #
	12 HOUR STD	201789	4.18	298953	4.97	278465	7.67
	UPPER LIMIT	403578	4.68	597906	5.47	556930	8.17
	LOWER LIMIT	100895	3.68	149477	4.47	139233	7.17
	CLIENT SAMPLE NO.						
01	ICV	223155	4.18	318483	4.97	291498	7.67
02	VLCSW-200511	217066	4.18	320952	4.97	295567	7.67
03	VBLKW-200508	270263	4.18	377770	4.97	325496	7.67
04	HS20050292-01	269531	4.18	374562	4.97	322184	7.67
05	HS20050292-02	270639	4.18	375035	4.97	327042	7.67
06	HS20050292-03	270232	4.18	373745	4.97	326017	7.67
07	HS20050292-03	257388	4.18	353311	4.97	304795	7.67
08	HS20050292-03	249785	4.18	345641	4.97	300879	7.67
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							

IS1 = Pentafluorobenzene
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = + 0.50 minutes of internal standard RT
RT LOWER LIMIT = - 0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: ALS GROUP Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20050292

Instrument ID: VOA6 Calibration Date: 05/11/20 Time: 1600

Lab File ID: X051108 Init. Calib. Date(s): 05/11/20 05/11/20

Init. Calib. Times: 1312 1711

GC Column: DB624 ID: 0.18 (mm)

COMPOUND	RRF or AMOUNT	RRF50.000 or AMOUNT	CCAL RRF50.000	MIN RRF	%D or %DRIFT	MAX %D or %DRIFT	CURV TYPE
Bromochloromethane	0.2900000	0.2740139	0.2740139	0.1	5.51	20.00	AVRG
Vinyl Chloride	0.6930000	0.5811318	0.5811318	0.1	16.14	20.00	AVRG
Chloromethane	48.158365	50.000000	0.6502535	0.1	3.68	20.00	LINR
Bromomethane	47.954599	50.000000	0.3343096	0.1	4.09	20.00	LINR
Chloroethane	49.285913	50.000000	0.3108049	0.1	1.43	20.00	LINR
Methylene Chloride	50.097027	50.000000	0.4682317	0.1	-0.19	20.00	LINR
Acetone	111.54387	100.00000	0.1306786	0.1	-11.54	20.00	LINR
1,1-Dichloroethene	0.3980000	0.3476602	0.3476602	0.1	12.65	20.00	AVRG
trans-1,2-Dichloroethene	0.4550000	0.4332149	0.4332149	0.1	4.79	20.00	AVRG
Carbon Tetrachloride	0.5020000	0.4463277	0.4463277	0.1	11.09	20.00	AVRG
1,1-Dichloroethane	1.0870000	0.9772089	0.9772089	0.2	10.10	20.00	AVRG
Bromodichloromethane	0.4670000	0.4403334	0.4403334	0.2	5.71	20.00	AVRG
1,2-Dichloropropane	0.4070000	0.3613277	0.3613277	0.1	11.22	20.00	AVRG
cis-1,3-Dichloropropene	0.5470000	0.5112008	0.5112008	0.2	6.54	20.00	AVRG
2-Butanone	0.2250000	0.2106706	0.2106706	0.1	6.37	20.00	AVRG
Dibromochloromethane	0.4040000	0.3812508	0.3812508	0.1	5.63	20.00	AVRG
cis-1,2-Dichloroethene	0.5270000	0.5051960	0.5051960	0.1	4.14	20.00	AVRG
1,1,2-Trichloroethane	0.2780000	0.2480743	0.2480743	0.1	10.76	20.00	AVRG
Chloroform	0.8930000	0.8551408	0.8551408	0.2	4.24	20.00	AVRG
Benzene	1.2780000	1.1736427	1.1736427	0.5	8.16	20.00	AVRG
trans-1,3-Dichloropropene	0.4960000	0.4651333	0.4651333	0.1	6.22	20.00	AVRG
Bromoform	0.2860000	0.2719372	0.2719372	0.1	4.92	20.00	AVRG
4-Methyl-2-Pentanone	0.4510000	0.3708383	0.3708383	0.1	17.77	20.00	AVRG
1,1,1-Trichloroethane	0.8000000	0.7488168	0.7488168	0.1	6.40	20.00	AVRG
2-Hexanone	0.3090000	0.2477762	0.2477762	0.1	19.81	20.00	AVRG
1,2-Dichloroethane	0.5200000	0.5064542	0.5064542	0.1	2.60	20.00	AVRG
1,1,2,2-Tetrachloroethane	0.8040000	0.6823172	0.6823172	0.3	15.13	20.00	AVRG
Trichloroethene	0.3590000	0.3345041	0.3345041	0.2	6.82	20.00	AVRG
Toluene	1.4800000	1.3432963	1.3432963	0.4	9.24	20.00	AVRG
Dichlorodifluoromethane	47.418633	50.000000	0.4904628	0.1	5.16	20.00	LINR
Trichlorofluoromethane	0.8040000	0.7262140	0.7262140	0.1	9.67	20.00	AVRG
Tetrachloroethene	0.3300000	0.2910312	0.2910312	0.2	11.81	20.00	AVRG
1,2-Dibromoethane	0.3550000	0.3331945	0.3331945	0.1	6.14	20.00	AVRG
Chlorobenzene	0.9900000	0.9073779	0.9073779	0.5	8.34	20.00	AVRG
1,3-Dichlorobenzene	1.5230000	1.4237995	1.4237995	0.6	6.51	20.00	AVRG
1,4-Dichlorobenzene	1.5800000	1.4182884	1.4182884	0.4	10.23	20.00	AVRG
1,2-Dichlorobenzene	1.3930000	1.2684635	1.2684635	0.4	8.94	20.00	AVRG
Ethylbenzene	0.5200000	0.4791446	0.4791446	0.1	7.86	20.00	AVRG
m,p-Xylenes	0.6310000	0.5768714	0.5768714	0.1	8.58	20.00	AVRG
o-Xylene	0.6140000	0.5674322	0.5674322	0.3	7.58	20.00	AVRG
Styrene	1.0640000	1.0078322	1.0078322	0.3	5.28	20.00	AVRG
Carbon Disulfide	1.3550000	1.2047411	1.2047411	0.1	11.09	20.00	AVRG

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: ALS GROUP Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS2005029

Instrument ID: VOA6 Calibration Date: 05/11/20 Time: 1600

Lab File ID: X051108 Init. Calib. Date(s): 05/11/20 05/11/20

Init. Calib. Times: 1312 1711

GC Column: DB624 ID: 0.18 (mm)

COMPOUND	RRF or AMOUNT	RRF50.000 or AMOUNT	CCAL RRF50.000	MIN RRF	%D or %DRIFT	MAX %D or %DRIFT	CURV TYPE
2,2-Dichloropropane	0.7920000	0.6591737	0.6591737	0.1	16.77	20.00	AVRG
1,1-Dichloropropene	0.4580000	0.4009159	0.4009159	0.1	12.46	20.00	AVRG
Dibromomethane	0.2210000	0.2027041	0.2027041	0.1	8.28	20.00	AVRG
1,3-Dichloropropane	0.5780000	0.5260948	0.5260948	0.1	8.98	20.00	AVRG
1,1,1,2-Tetrachloroethane	0.3930000	0.3643941	0.3643941	0.1	7.28	20.00	AVRG
Isopropylbenzene	1.5590000	1.4174887	1.4174887	0.1	9.08	20.00	AVRG
Bromobenzene	0.9370000	0.8650076	0.8650076	0.1	7.68	20.00	AVRG
1,2,3-Trichloropropane	0.6970000	0.6304501	0.6304501	0.1	9.55	20.00	AVRG
n-Propylbenzene	3.5950000	3.2005296	3.2005296	0.1	10.97	20.00	AVRG
2-Chlorotoluene	2.2320000	1.9938431	1.9938431	0.1	10.67	20.00	AVRG
1,3,5-Trimethylbenzene	2.5820000	2.3809309	2.3809309	0.1	7.79	20.00	AVRG
4-Chlorotoluene	2.5730000	2.3244209	2.3244209	0.1	9.66	20.00	AVRG
tert-Butylbenzene	2.1920000	2.0074127	2.0074127	0.1	8.42	20.00	AVRG
1,2,4-Trimethylbenzene	2.6230000	2.4362998	2.4362998	0.1	7.12	20.00	AVRG
sec-Butylbenzene	3.0280000	2.6258216	2.6258216	0.1	13.28	20.00	AVRG
p-Isopropyltoluene	2.6260000	2.3847197	2.3847197	0.1	9.19	20.00	AVRG
n-Butylbenzene	2.1190000	1.8978874	1.8978874	0.5	10.43	20.00	AVRG
1,2-Dibromo-3-Chloropropane	46.748334	50.000000	7.15e-002	0.05	6.50	20.00	LINR
1,2,4-Trichlorobenzene	46.709340	50.000000	0.2939378	0.2	6.58	20.00	LINR
Hexachlorobutadiene	47.157282	50.000000	0.2343423	0.1	5.68	20.00	LINR
Naphthalene	0.4710000	0.4092612	0.4092612	0.2	13.11	20.00	AVRG
1,2,3-Trichlorobenzene	51.831780	50.000000	0.1473708	0.1	-3.66	20.00	2RDR
Freon TF	0.3860000	0.3345623	0.3345623	0.1	13.32	20.00	AVRG
Dibromofluoromethane	48.403502	50.000000	0.5082041	0.1	3.19	20.00	LINR
1,2-Dichloroethane-d4	47.574163	50.000000	0.6174767	0.1	4.85	20.00	LINR
Toluene-d8	50.055929	50.000000	1.2549441	0.1	-0.11	20.00	LINR
4-Bromofluorobenzene	48.915172	50.000000	0.4703930	0.1	2.17	20.00	LINR

FORM VII VOA

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: ALS GROUP Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20050292

Instrument ID: VOA6 Calibration Date: 05/12/20 Time: 0000

Lab File ID: X051128 Init. Calib. Date(s): 05/11/20 05/11/20

Init. Calib. Times: 1312 1711

GC Column: DB624 ID: 0.18 (mm)

COMPOUND	RRF or AMOUNT	RRF50.000 or AMOUNT	CCAL RRF50.000	MIN RRF	%D or %DRIFT	MAX %D or %DRIFT	CURV TYPE	
Bromochloromethane	0.2900000	0.2740139	0.2740139	0.1	5.51	20.00	AVRG	
Vinyl Chloride	0.6930000	0.5811318	0.5811318	0.1	16.14	20.00	AVRG	
Chloromethane	41.368050	50.000000	0.6502535	0.1	17.26	20.00	LINR	
Bromomethane	45.389473	50.000000	0.3343096	0.1	9.22	20.00	LINR	
Chloroethane	43.877389	50.000000	0.3108049	0.1	12.24	20.00	LINR	
Methylene Chloride	47.524395	50.000000	0.4682317	0.1	4.95	20.00	LINR	
Acetone	74.035591	100.00000	0.1306786	0.1	25.96	20.00	LINR	<-
1,1-Dichloroethene	0.3980000	0.3476602	0.3476602	0.1	12.65	20.00	AVRG	
trans-1,2-Dichloroethene	0.4550000	0.4332149	0.4332149	0.1	4.79	20.00	AVRG	
Carbon Tetrachloride	0.5020000	0.4463277	0.4463277	0.1	11.09	20.00	AVRG	
1,1-Dichloroethane	1.0870000	0.9772089	0.9772089	0.2	10.10	20.00	AVRG	
Bromodichloromethane	0.4670000	0.4403334	0.4403334	0.2	5.71	20.00	AVRG	
1,2-Dichloropropane	0.4070000	0.3613277	0.3613277	0.1	11.22	20.00	AVRG	
cis-1,3-Dichloropropene	0.5470000	0.5112008	0.5112008	0.2	6.54	20.00	AVRG	
2-Butanone	0.2250000	0.2106706	0.2106706	0.1	6.37	20.00	AVRG	
Dibromochloromethane	0.4040000	0.3812508	0.3812508	0.1	5.63	20.00	AVRG	
cis-1,2-Dichloroethene	0.5270000	0.5051960	0.5051960	0.1	4.14	20.00	AVRG	
1,1,2-Trichloroethane	0.2780000	0.2480743	0.2480743	0.1	10.76	20.00	AVRG	
Chloroform	0.8930000	0.8551408	0.8551408	0.2	4.24	20.00	AVRG	
Benzene	1.2780000	1.1736427	1.1736427	0.5	8.16	20.00	AVRG	
trans-1,3-Dichloropropene	0.4960000	0.4651333	0.4651333	0.1	6.22	20.00	AVRG	
Bromoform	0.2860000	0.2719372	0.2719372	0.1	4.92	20.00	AVRG	
4-Methyl-2-Pentanone	0.4510000	0.3708383	0.3708383	0.1	17.77	20.00	AVRG	
1,1,1-Trichloroethane	0.8000000	0.7488168	0.7488168	0.1	6.40	20.00	AVRG	
2-Hexanone	0.3090000	0.2477762	0.2477762	0.1	19.81	20.00	AVRG	
1,2-Dichloroethane	0.5200000	0.5064542	0.5064542	0.1	2.60	20.00	AVRG	
1,1,2,2-Tetrachloroethane	0.8040000	0.6823172	0.6823172	0.3	15.13	20.00	AVRG	
Trichloroethene	0.3590000	0.3345041	0.3345041	0.2	6.82	20.00	AVRG	
Toluene	1.4800000	1.3432963	1.3432963	0.4	9.24	20.00	AVRG	
Dichlorodifluoromethane	42.169042	50.000000	0.4904628	0.1	15.66	20.00	LINR	
Trichlorofluoromethane	0.8040000	0.7262140	0.7262140	0.1	9.67	20.00	AVRG	
Tetrachloroethene	0.3300000	0.2910312	0.2910312	0.2	11.81	20.00	AVRG	
1,2-Dibromoethane	0.3550000	0.3331945	0.3331945	0.1	6.14	20.00	AVRG	
Chlorobenzene	0.9900000	0.9073779	0.9073779	0.5	8.34	20.00	AVRG	
1,3-Dichlorobenzene	1.5230000	1.4237995	1.4237995	0.6	6.51	20.00	AVRG	
1,4-Dichlorobenzene	1.5800000	1.4182884	1.4182884	0.4	10.23	20.00	AVRG	
1,2-Dichlorobenzene	1.3930000	1.2684635	1.2684635	0.4	8.94	20.00	AVRG	
Ethylbenzene	0.5200000	0.4791446	0.4791446	0.1	7.86	20.00	AVRG	
m,p-Xylenes	0.6310000	0.5768714	0.5768714	0.1	8.58	20.00	AVRG	
o-Xylene	0.6140000	0.5674322	0.5674322	0.3	7.58	20.00	AVRG	
Styrene	1.0640000	1.0078322	1.0078322	0.3	5.28	20.00	AVRG	
Carbon Disulfide	1.3550000	1.2047411	1.2047411	0.1	11.09	20.00	AVRG	

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: ALS GROUP Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS2005029

Instrument ID: VOA6 Calibration Date: 05/12/20 Time: 0000

Lab File ID: X051128 Init. Calib. Date(s): 05/11/20 05/11/20

Init. Calib. Times: 1312 1711

GC Column: DB624 ID: 0.18 (mm)

COMPOUND	RRF or AMOUNT	RRF50.000 or AMOUNT	CCAL RRF50.000	MIN RRF	%D or %DRIFT	MAX %D or %DRIFT	CURV TYPE
2,2-Dichloropropane	0.7920000	0.6591737	0.6591737	0.1	16.77	20.00	AVRG
1,1-Dichloropropene	0.4580000	0.4009159	0.4009159	0.1	12.46	20.00	AVRG
Dibromomethane	0.2210000	0.2027041	0.2027041	0.1	8.28	20.00	AVRG
1,3-Dichloropropane	0.5780000	0.5260948	0.5260948	0.1	8.98	20.00	AVRG
1,1,1,2-Tetrachloroethane	0.3930000	0.3643941	0.3643941	0.1	7.28	20.00	AVRG
Isopropylbenzene	1.5590000	1.4174887	1.4174887	0.1	9.08	20.00	AVRG
Bromobenzene	0.9370000	0.8650076	0.8650076	0.1	7.68	20.00	AVRG
1,2,3-Trichloropropane	0.6970000	0.6304501	0.6304501	0.1	9.55	20.00	AVRG
n-Propylbenzene	3.5950000	3.2005296	3.2005296	0.1	10.97	20.00	AVRG
2-Chlorotoluene	2.2320000	1.9938431	1.9938431	0.1	10.67	20.00	AVRG
1,3,5-Trimethylbenzene	2.5820000	2.3809309	2.3809309	0.1	7.79	20.00	AVRG
4-Chlorotoluene	2.5730000	2.3244209	2.3244209	0.1	9.66	20.00	AVRG
tert-Butylbenzene	2.1920000	2.0074127	2.0074127	0.1	8.42	20.00	AVRG
1,2,4-Trimethylbenzene	2.6230000	2.4362998	2.4362998	0.1	7.12	20.00	AVRG
sec-Butylbenzene	3.0280000	2.6258216	2.6258216	0.1	13.28	20.00	AVRG
p-Isopropyltoluene	2.6260000	2.3847197	2.3847197	0.1	9.19	20.00	AVRG
n-Butylbenzene	2.1190000	1.8978874	1.8978874	0.5	10.43	20.00	AVRG
1,2-Dibromo-3-Chloropropane	44.774192	50.000000	7.15e-002	0.05	10.45	20.00	LINR
1,2,4-Trichlorobenzene	41.194702	50.000000	0.2939378	0.2	17.61	20.00	LINR
Hexachlorobutadiene	43.057267	50.000000	0.2343423	0.1	13.88	20.00	LINR
Naphthalene	0.4710000	0.4092612	0.4092612	0.2	13.11	20.00	AVRG
1,2,3-Trichlorobenzene	45.984341	50.000000	0.1473708	0.1	8.03	20.00	2RDR
Freon TF	0.3860000	0.3345623	0.3345623	0.1	13.32	20.00	AVRG
Dibromofluoromethane	50.947427	50.000000	0.5082041	0.1	-1.89	20.00	LINR
1,2-Dichloroethane-d4	50.101193	50.000000	0.6174767	0.1	-0.20	20.00	LINR
Toluene-d8	49.968458	50.000000	1.2549441	0.1	0.06	20.00	LINR
4-Bromofluorobenzene	49.225078	50.000000	0.4703930	0.1	1.55	20.00	LINR

FORM VII VOA

FORM 8
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ALS GROUP Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20050292

Lab File ID (Standard): X051128 Date Analyzed: 05/12/20

Instrument ID: VOA6 Time Analyzed: 0000

GC Column: DB624 ID: 0.18 (mm) Heated Purge: (Y/N) N

		IS4 (DCB) AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	139356	9.66				
	UPPER LIMIT	278712	10.16				
	LOWER LIMIT	69678	9.16				
	CLIENT SAMPLE NO.						
01	ICV	148250	9.66				
02	VLCSW-200511	152035	9.66				
03	VBLKW-200508	155919	9.67				
04	HS20050292-01	155612	9.66				
05	HS20050292-02	155742	9.67				
06	HS20050292-03	154461	9.67				
07	HS20050292-03	148588	9.66				
08	HS20050292-03	144845	9.66				
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							

IS4 (DCB) = 1,4-Dichlorobenzene-d4

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = + 0.50 minutes of internal standard RT
RT LOWER LIMIT = - 0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

MSVOA06 -Logbook

Batch: 40533
Date: 05-11-2020
Method: 8260
Comments:

Analyst: Presenta Cabascango
Reviewer:
Laboratory: Houston

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
1	BFB	TUNE	05-11-2020 12:48 pm	1.00	50 mL	50 mL	X051101.D	Liquid	Y	NA
2	*Auto find / Purged* VSTD000.25	ICAL1	05-11-2020 01:12 pm	1.00	50 mL	50 mL	X051102.D	Liquid	Y	NA
3	*0.10 uL cal std/100 mL DI* VSTD000.5	ICAL2	05-11-2020 02:00 pm	1.00	50 mL	50 mL	X051103.D	Liquid	Y	NA
4	*0.10 uL cal std/50 mL DI* VSTD001	ICAL3	05-11-2020 02:24 pm	1.00	50 mL	50 mL	X051104.D	Liquid	Y	NA
5	*0.20 uL cal std/50 mL DI* VSTD002	ICAL4	05-11-2020 02:48 pm	1.00	50 mL	50 mL	X051105.D	Liquid	Y	NA
6	*0.40 uL cal std/50 mL DI* VSTD005	ICAL5	05-11-2020 03:12 pm	1.00	50 mL	50 mL	X051106.D	Liquid	Y	NA
7	*1.0 uL cal std/50 mL DI* VSTD020	ICAL6	05-11-2020 03:36 pm	1.00	50 mL	50 mL	X051107.D	Liquid	Y	NA
8	*4.0 uL cal std/50 mL DI* VSTD050	ICAL7	05-11-2020 04:00 pm	1.00	50 mL	50 mL	X051108.D	Liquid	Y	NA
9	*10 uL cal std/50 mL DI* VSTD100	ICAL8	05-11-2020 04:24 pm	1.00	50 mL	50 mL	X051109.D	Liquid	Y	NA
10	*20 uL cal std/50 mL DI* VSTD150	ICAL9	05-11-2020 04:47 pm	1.00	50 mL	50 mL	X051110.D	Liquid	Y	NA
11	*30 uL cal std/50 mL DI* VSTD200	ICAL	05-11-2020 05:11 pm	1.00	50 mL	50 mL	X051111.D	Liquid	Y	NA
12	*40 uL cal std/50 mL DI* BLANK	SAMP	05-11-2020 05:35 pm	1.00	50 mL	50 mL	X051112.D	Liquid	Y	NA
13	BLANK	SAMP	05-11-2020 05:59 pm	1.00	50 mL	50 mL	X051113.D	Liquid	Y	NA
14	ICV	CCV	05-11-2020 06:23 pm	1.00	50 mL	50 mL	X051114.D	Liquid	Y	NA
15	*10 uL icv std/50 mL DI* BLANK	SAMP	05-11-2020 06:47 pm	1.00	50 mL	50 mL	X051115.D	Liquid	Y	NA
16	VLCSW-200511	LCS	05-11-2020 07:11 pm	1.00	50 mL	50 mL	X051116.D	Liquid	Y	NA
17	*4.0 uL cal std/50 mL DI* BLANK	SAMP	05-11-2020 07:35 pm	1.00	50 mL	50 mL	X051117.D	Liquid	Y	NA
18	BLANK	SAMP	05-11-2020 07:59 pm	1.00	50 mL	50 mL	X051118.D	Liquid	Y	NA
19	VBLKW-200511	MBLK	05-11-2020 08:24 pm	1.00	50 mL	50 mL	X051119.D	Liquid	Y	NA
20	HS20050202-17	SAMP	05-11-2020 08:48 pm	1.00	50 mL	50 mL	X051120.D	Liquid	Y	NA
21	*neat samples* HS20050202-18	SAMP	05-11-2020 09:12 pm	1.00	50 mL	50 mL	X051121.D	Liquid	Y	NA
22	HS20050202-18	SAMP	05-11-2020 09:36 pm	5.00	10 mL	50 mL	X051122.D	Liquid	Y	NA
23	HS20050292-01	SAMP	05-11-2020 10:00 pm	1.00	50 mL	50 mL	X051123.D	Liquid	Y	NA
24	HS20050292-02	SAMP	05-11-2020 10:24 pm	1.00	50 mL	50 mL	X051124.D	Liquid	Y	NA
25	HS20050292-03	SAMP	05-11-2020 10:48 pm	1.00	50 mL	50 mL	X051125.D	Liquid	Y	<2
26	HS20050292-03MS	MS	05-11-2020 11:12 pm	1.00	50 mL	50 mL	X051126.D	Liquid	Y	<2
27	*3.5 uL cal std/40 mL samp* HS20050292-03MSD	MSD	05-11-2020 11:36 pm	1.00	50 mL	50 mL	X051127.D	Liquid	Y	<2
28	*3.5 uL cal std/40 mL samp* CCV-END	CCV	05-12-2020 12:00 am	1.00	50 mL	50 mL	X051128.D	Liquid	Y	NA
29	*10 uL cal std/50 mL DI* HS20050337-02	SAMP	05-12-2020 12:24 am	1.00	50 mL	50 mL	X051129.D	Liquid	Y	<2

MSVOA06 -Logbook

Chemical	Value
SURR SPK ID	31106-26-06
IS ID	31106-26-06
CAL STD ID	31106-29-01/02
BFB ID	31106-26-06
pH Paper	634-64-11

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051101.D

Date : 11-MAY-2020 12:48

Client ID: BFB

Instrument: voa6.i

Sample Info: BFB;BFB;3;;BFB

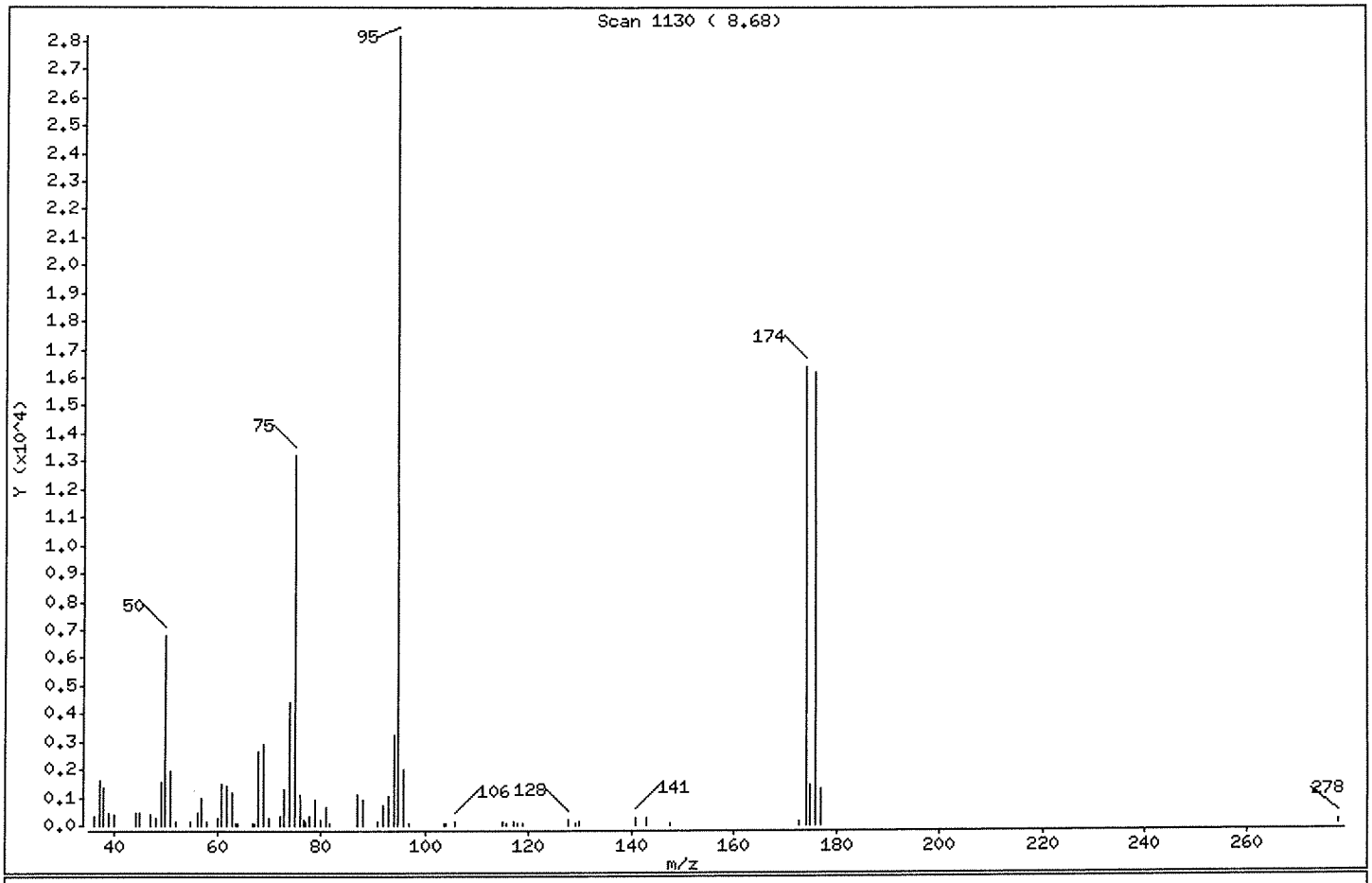
Volume Injected (uL): 2.0

Operator: PC

Column phase: DB624

Column diameter: 0.25

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	24.23
75	30.00 - 60.00% of mass 95	46.94
96	5.00 - 9.00% of mass 95	7.07
173	Less than 2.00% of mass 174	0.40 (0.70)
174	Greater than 50.00% of mass 95	58.12
175	5.00 - 9.00% of mass 174	5.01 (8.63)
176	95.00 - 101.00% of mass 174	57.57 (99.06)
177	5.00 - 9.00% of mass 176	4.70 (8.16)

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051101.D

Date : 11-MAY-2020 12:48

Client ID: BFB Instrument: voa6.i

Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0 Operator: PC

Column phase: DB624 Column diameter: 0.25

Data File: X051101.D
Spectrum: Scan 1130 (8.68)
Location of Maximum: 95.00
Number of points: 69

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	344	61.00	1469	78.80	878	117.00	116
37.00	1597	62.00	1437	80.00	215	118.00	62
38.00	1339	63.00	1157	80.90	656	119.00	80
39.00	476	63.80	94	81.90	63	127.90	221
40.00	388	64.00	94	87.00	1132	129.00	87
44.10	480	66.70	60	88.00	930	130.00	133
45.00	427	67.10	88	91.10	98	141.00	245
47.00	412	68.00	2631	92.00	714	142.90	244
48.00	286	69.00	2930	93.00	1015	147.70	93
49.00	1548	70.00	291	94.00	3223	172.70	114
50.00	6829	72.00	332	95.00	28184	174.00	16380
51.00	1936	73.00	1275	96.00	1993	174.90	1413
52.10	99	74.00	4408	96.90	91	176.00	16226
55.00	155	75.00	13230	103.60	76	176.90	1324
56.10	426	76.00	1105	104.00	94	277.90	107
57.00	975	76.80	194	105.80	140		
58.00	122	77.10	149	114.90	135		
60.10	288	77.90	324	115.70	61		

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051101.D

Date : 11-MAY-2020 12:48

Client ID: BFB

Instrument: voa6.i

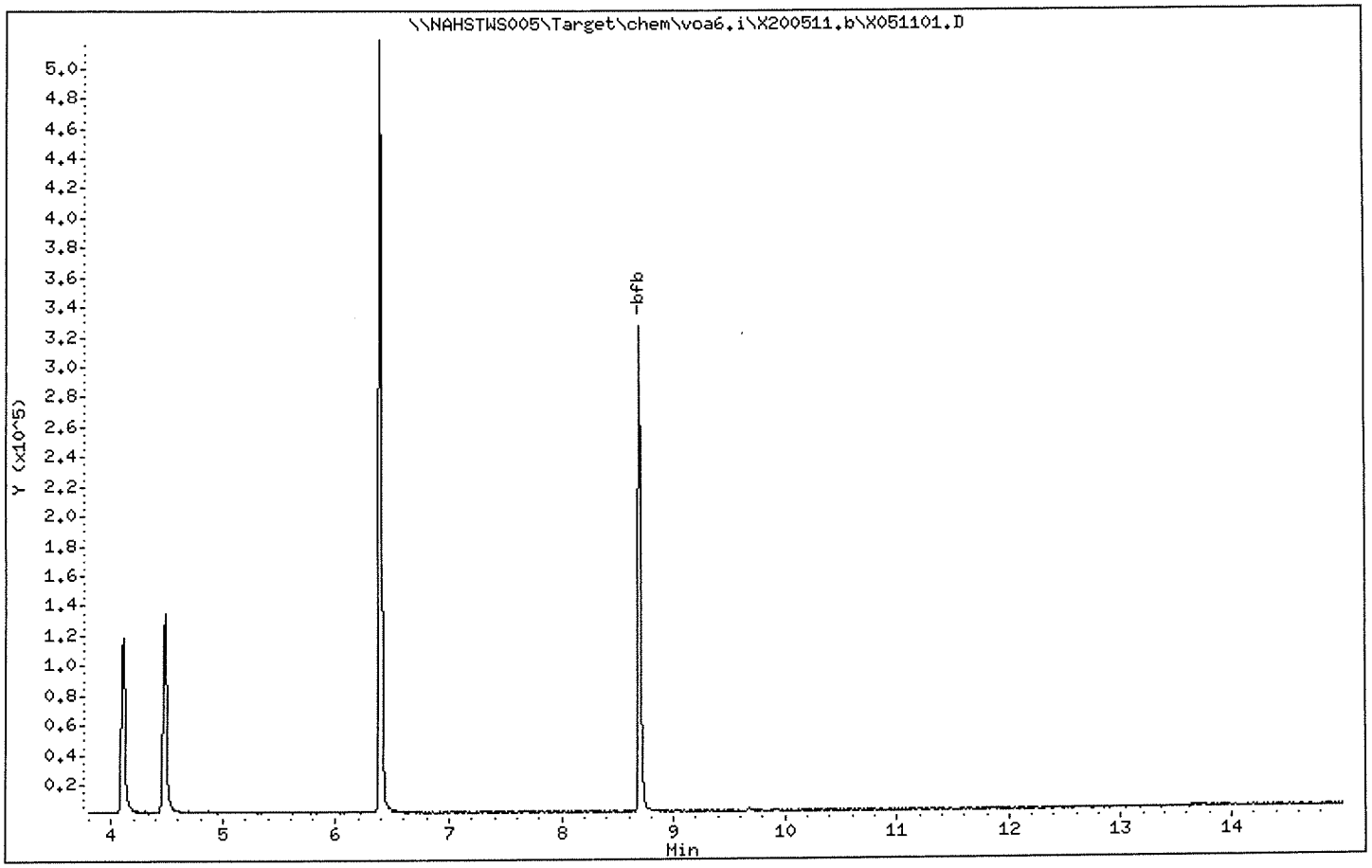
Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0

Operator: PC

Column phase: DB624

Column diameter: 0.25



Data File: \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051103.D Page 1
Report Date: 28-May-2020 16:11

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051103.D
Lab Smp Id: VSTD000.5 Client Smp ID: VSTD000.5
Inj Date : 11-MAY-2020 14:00
Operator : PC Inst ID: voa6.i
Smp Info : VSTD000.5;VSTD000.5;1;2;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X200511.b\8260W.m
Meth Date : 28-May-2020 16:11 voa6.i Quant Type: ISTD
Cal Date : 11-MAY-2020 17:11 Cal File: X051111.D
Als bottle: 4 Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000000_CBI.sub
Target Version: 4.14
Processing Host: NAHSTW7142

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
*	1 Pentafluorobenzene	168	4.182	4.182	(1.000)	264457	50.0000	
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	403047	50.0000	
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	360066	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	172614	50.0000	
$	30 Dibromofluoromethane	113	4.118	4.118	(0.985)	1793	0.50000	0.43(a)
$	35 1,2-Dichloroethane-d4	65	4.483	4.483	(1.072)	2117	0.50000	0.61(TaM)
$	48 Toluene-d8	98	6.388	6.388	(0.833)	5920	0.50000	0.19(Ta)
$	69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	2708	0.50000	0.02(aM)
	60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	1589	0.50000	0.56(a)
	31 1,1,1-Trichloroethane	97	4.082	4.082	(0.976)	2455	0.50000	0.57(a)
	68 1,1,2,2-Tetrachloroethane	83	8.845	8.845	(0.915)	1621	0.50000	0.58(aM)
	138 Freon TF	101	1.911	1.911	(0.457)	928	0.50000	0.45(a)
	53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	1197	0.50000	0.59(a)
	22 1,1-Dichloroethane	63	2.921	2.921	(0.699)	3470	0.50000	0.60(Ta)
	11 1,1-Dichloroethene	96	1.911	1.911	(0.457)	1219	0.50000	0.57(a)
	32 1,1-Dichloropropene	75	4.290	4.290	(0.863)	2183	0.50000	0.59(aM)
	93 1,2,3-Trichlorobenzene	180	11.768	11.768	(1.218)	385	0.50000	0.32(aM)
	71 1,2,3-Trichloropropane	75	8.867	8.867	(0.918)	1424	0.50000	0.59(aM)
	90 1,2,4-Trichlorobenzene	180	11.352	11.352	(1.175)	505	0.50000	3.02(aM)
	79 1,2,4-Trimethylbenzene	105	9.382	9.382	(0.971)	5523	0.50000	0.60(a)
	89 1,2-Dibromo-3-Chloropropane	155	10.665	10.665	(1.104)	114	0.50000	1.86(aM)
	57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	1387	0.50000	0.54(a)

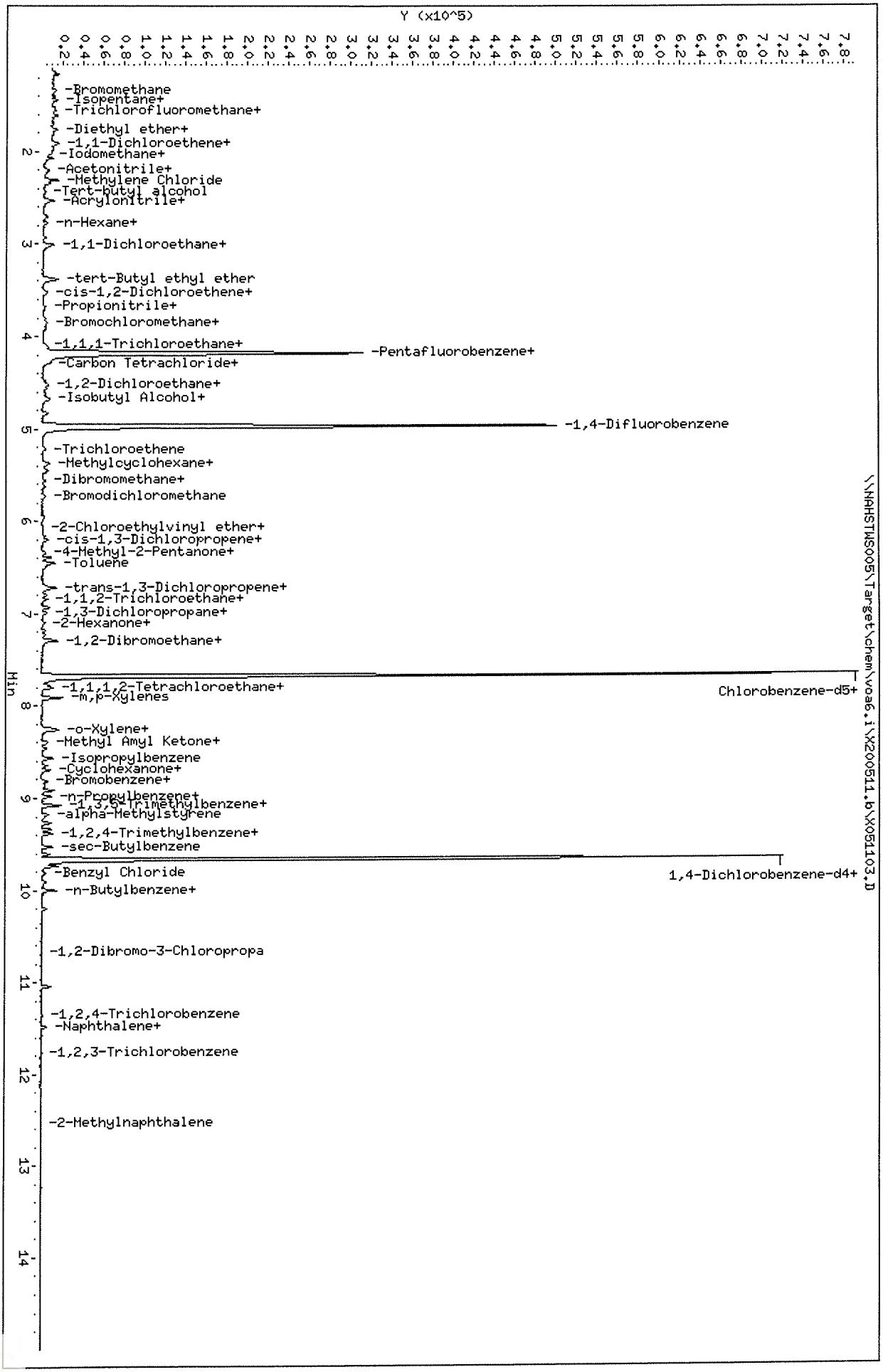
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
88 1,2-Dichlorobenzene	146	10.006	10.006	(1.036)	2924	0.50000	0.60(a)
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	2366	0.50000	0.56(a)
42 1,2-Dichloropropane	63	5.436	5.436	(1.094)	1947	0.50000	0.59(aM)
75 1,3,5-Trimethylbenzene	105	9.074	9.074	(0.939)	4894	0.50000	0.54(a)
83 1,3-Dichlorobenzene	146	9.612	9.612	(0.995)	3057	0.50000	0.58(a)
54 1,3-Dichloropropane	76	6.983	6.983	(0.910)	2403	0.50000	0.57(a)
84 1,4-Dichlorobenzene	146	9.683	9.683	(1.002)	3791	0.50000	0.69(aM)
26 2,2-Dichloropropane	77	3.509	3.509	(0.839)	2471	0.50000	0.59(aM)
24 2-Butanone	43	3.609	3.609	(0.863)	996	1.00000	0.83(aM)
76 2-Chlorotoluene	91	8.981	8.981	(0.930)	4712	0.50000	0.61(a)
52 2-Hexanone	43	7.105	7.105	(0.926)	2689	1.00000	1.20(a)
77 4-Chlorotoluene	91	9.082	9.082	(0.940)	5584	0.50000	0.62(a)
82 p-Isopropyltoluene	119	9.655	9.655	(0.999)	5597	0.50000	0.61(a)
45 4-Methyl-2-Pentanone	43	6.338	6.338	(0.826)	3621	1.00000	1.11(a)
37 Benzene	78	4.519	4.519	(0.909)	5977	0.50000	0.58(a)
74 Bromobenzene	156	8.817	8.817	(0.913)	2002	0.50000	0.61(a)
29 Bromochloromethane	128	3.817	3.817	(0.913)	960	0.50000	0.62(aM)
39 Bromodichloromethane	83	5.729	5.729	(1.153)	2116	0.50000	0.56(aM)
66 Bromoform	173	8.415	8.415	(1.097)	1144	0.50000	0.55(aM)
19 Carbon Disulfide	76	2.069	2.069	(0.495)	8247	1.00000	1.15(a)
34 Carbon Tetrachloride	117	4.268	4.268	(0.859)	2535	0.50000	0.62(a)
59 Chlorobenzene	112	7.699	7.699	(1.004)	4408	0.50000	0.61(a)
7 Chloroethane	64	1.403	1.403	(0.336)	1364	0.50000	0.31(aM)
28 Chloroform	83	3.917	3.917	(0.937)	2796	0.50000	0.59(aM)
3 Chloromethane	50	1.073	1.073	(0.257)	2464	0.50000	1.21(a)
27 cis-1,2-Dichloroethene	96	3.537	3.537	(0.846)	1435	0.50000	0.51(a)
46 cis-1,3-Dichloropropene	75	6.166	6.166	(1.241)	2430	0.50000	0.55(a)
55 Dibromochloromethane	129	7.176	7.176	(0.936)	1589	0.50000	0.54(a)
44 Dibromomethane	93	5.557	5.557	(1.118)	1096	0.50000	0.61(a)
2 Dichlorodifluoromethane	85	0.973	0.973	(0.233)	1503	0.50000	1.54(aM)
61 Ethylbenzene	106	7.799	7.799	(1.017)	2144	0.50000	0.57(a)
91 Hexachlorobutadiene	225	11.481	11.481	(1.188)	605	0.50000	1.59(aM)
67 Isopropylbenzene	105	8.566	8.566	(1.117)	6620	0.50000	0.58(a)
62 m,p-Xylenes	106	7.914	7.914	(1.032)	5392	1.00000	1.18(a)
87 n-Butylbenzene	91	9.998	9.998	(1.035)	4435	0.50000	0.60(a)
73 n-Propylbenzene	91	8.917	8.917	(0.923)	7797	0.50000	0.62(a)
92 Naphthalene	128	11.567	11.567	(1.197)	795	0.50000	0.48(a)
63 o-Xylene	106	8.244	8.244	(1.075)	2416	0.50000	0.54(a)
81 sec-Butylbenzene	105	9.526	9.526	(0.986)	6535	0.50000	0.62(a)
64 Styrene	104	8.272	8.272	(1.078)	4394	0.50000	0.57(a)
78 tert-Butylbenzene	119	9.339	9.339	(0.967)	4334	0.50000	0.57(aM)
56 Tetrachloroethene	164	6.933	6.933	(0.904)	1303	0.50000	0.54(a)
50 Toluene	91	6.460	6.460	(0.842)	6225	0.50000	0.58(a)
20 trans-1,2-Dichloroethene	96	2.535	2.535	(0.606)	1384	0.50000	0.57(a)
51 trans-1,3-Dichloropropene	75	6.696	6.696	(1.347)	2163	0.50000	0.54(a)
38 Trichloroethene	130	5.221	5.221	(1.050)	1714	0.50000	0.59(a)
8 Trichlorofluoromethane	101	1.560	1.560	(0.373)	2348	0.50000	0.55(a)
5 Vinyl Chloride	62	1.138	1.138	(0.272)	1998	0.50000	0.54(aM)

QC Flag Legend

T - Target compound detected outside RT window.
a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

QC Flag Legend

M - Compound response manually integrated.



Data File: \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051103.D
Date : 11-MAY-2020 14:00
Client ID: VSTD000.5
Sample Info: VSTD000.5;VSTD000.5;1;2;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

\\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051103.D

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051104.D Page 1
Report Date: 28-May-2020 16:11

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051104.D
Lab Smp Id: VSTD001 Client Smp ID: VSTD001
Inj Date : 11-MAY-2020 14:24
Operator : PC Inst ID: voa6.i
Smp Info : VSTD001;VSTD001;1;3;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X200511.b\8260W.m
Meth Date : 28-May-2020 16:11 voa6.i Quant Type: ISTD
Cal Date : 11-MAY-2020 14:00 Cal File: X051103.D
Als bottle: 5 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000000_CBI.sub
Target Version: 4.14
Processing Host: NAHSTW7142

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

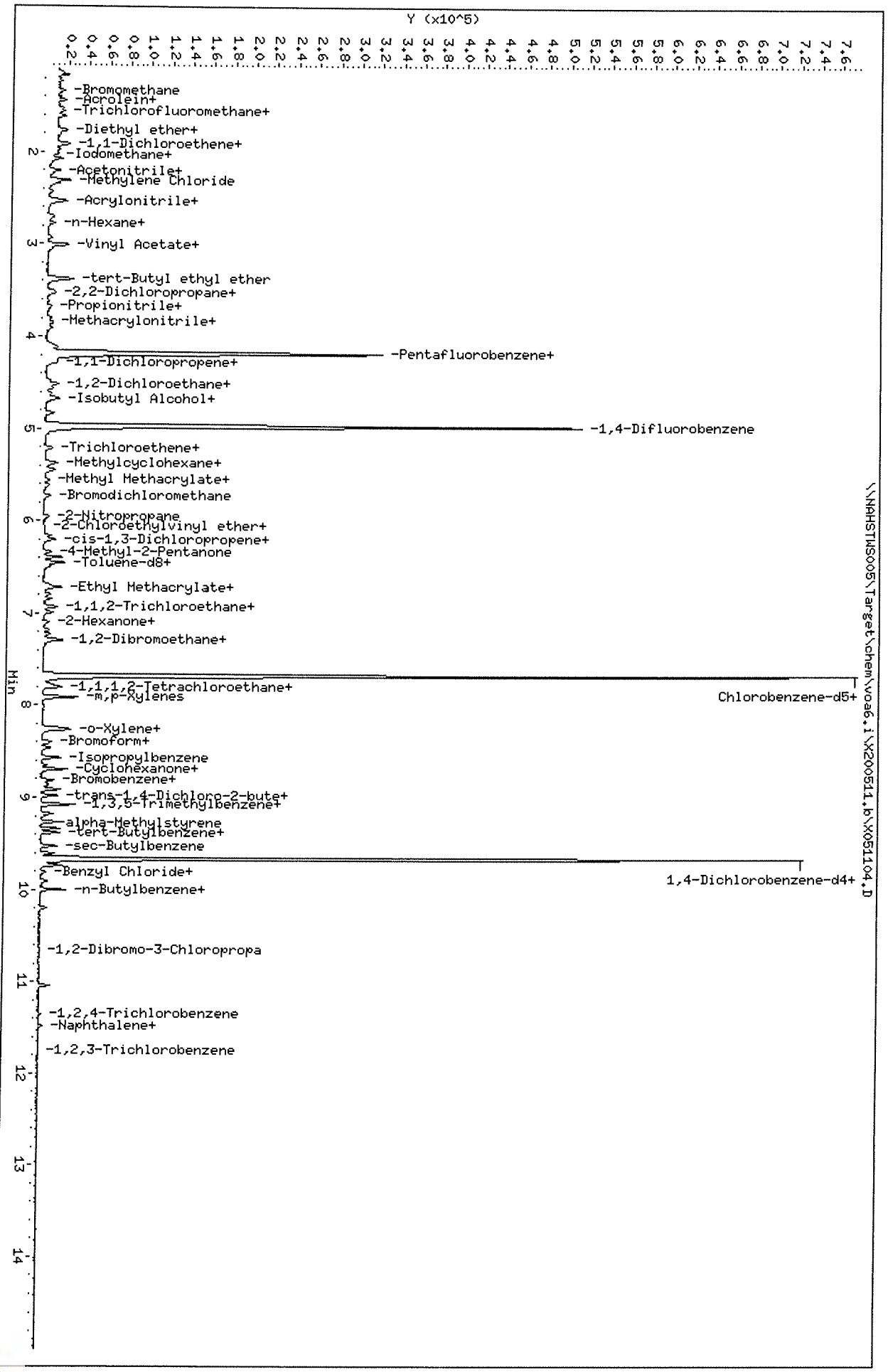
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	275272	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	406059	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	364006	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	178611	50.0000	
$ 30 Dibromofluoromethane	113	4.111	4.111	(0.983)	3147	1.00000	0.90(a)
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	3902	1.00000	1.11
$ 48 Toluene-d8	98	6.396	6.396	(0.834)	10982	1.00000	0.74(a)
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	6819	1.00000	1.22(M)
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	2921	1.00000	1.02(a)
31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	4385	1.00000	0.99(a)
68 1,1,2,2-Tetrachloroethane	83	8.845	8.845	(0.915)	2901	1.00000	1.01(aM)
138 Freon TF	101	1.919	1.919	(0.459)	2064	1.00000	0.97(a)
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	1834	1.00000	0.90(a)
22 1,1-Dichloroethane	63	2.929	2.929	(0.700)	6103	1.00000	1.02
11 1,1-Dichloroethene	96	1.911	1.911	(0.457)	2222	1.00000	1.01(a)
32 1,1-Dichloropropene	75	4.282	4.282	(0.862)	3792	1.00000	1.02(a)
93 1,2,3-Trichlorobenzene	180	11.753	11.753	(1.216)	431	1.00000	0.38(aM)
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.917)	2246	1.00000	0.90(aM)
90 1,2,4-Trichlorobenzene	180	11.352	11.352	(1.174)	762	1.00000	3.20(aM)
79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.970)	8175	1.00000	0.87(a)
89 1,2-Dibromo-3-Chloropropane	155	10.658	10.658	(1.102)	128	1.00000	1.90(aM)
57 1,2-Dibromoethane	107	7.269	7.269	(0.948)	2246	1.00000	0.86(a)

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051104.D Page 2
Report Date: 28-May-2020 16:11

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
88	1,2-Dichlorobenzene	146	9.999	9.999	(1.034)	4805	1.00000	0.96(a)
33	1,2-Dichloroethane	62	4.562	4.562	(0.918)	3942	1.00000	0.93(a)
42	1,2-Dichloropropane	63	5.436	5.436	(1.094)	3276	1.00000	0.99(aM)
75	1,3,5-Trimethylbenzene	105	9.074	9.074	(0.939)	8480	1.00000	0.91(a)
83	1,3-Dichlorobenzene	146	9.612	9.612	(0.994)	5149	1.00000	0.94(a)
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	3905	1.00000	0.92(a)
84	1,4-Dichlorobenzene	146	9.683	9.683	(1.001)	5222	1.00000	0.92(a)
26	2,2-Dichloropropane	77	3.509	3.509	(0.839)	4652	1.00000	1.06(a)
24	2-Butanone	43	3.616	3.616	(0.865)	2014	2.00000	1.62(aM)
76	2-Chlorotoluene	91	8.981	8.981	(0.929)	8499	1.00000	1.06(a)
52	2-Hexanone	43	7.097	7.097	(0.925)	3544	2.00000	1.57(a)
77	4-Chlorotoluene	91	9.074	9.074	(0.939)	9489	1.00000	1.03(a)
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	7748	1.00000	0.82(a)
45	4-Methyl-2-Pentanone	43	6.331	6.331	(0.825)	5818	2.00000	1.77(a)
37	Benzene	78	4.519	4.519	(0.909)	10698	1.00000	1.03
74	Bromobenzene	156	8.809	8.809	(0.911)	3242	1.00000	0.96(a)
29	Bromochloromethane	128	3.810	3.810	(0.911)	1724	1.00000	1.07(aM)
39	Bromodichloromethane	83	5.729	5.729	(1.153)	3508	1.00000	0.92(aM)
66	Bromoform	173	8.415	8.415	(1.097)	1878	1.00000	0.90(Ta)
6	Bromomethane	94	1.338	1.338	(0.320)	2788	1.00000	0.65(aM)
19	Carbon Disulfide	76	2.069	2.069	(0.495)	14075	2.00000	1.88(a)
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	4264	1.00000	1.04(a)
59	Chlorobenzene	112	7.699	7.699	(1.004)	6626	1.00000	0.91(a)
7	Chloroethane	64	1.403	1.403	(0.336)	2214	1.00000	0.72(aM)
28	Chloroform	83	3.917	3.917	(0.937)	4419	1.00000	0.89(a)
3	Chloromethane	50	1.073	1.073	(0.257)	4677	1.00000	1.69(a)
27	cis-1,2-Dichloroethene	96	3.537	3.537	(0.846)	2598	1.00000	0.89(a)
46	cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	4354	1.00000	0.98(a)
55	Dibromochloromethane	129	7.183	7.183	(0.937)	2769	1.00000	0.93(a)
44	Dibromomethane	93	5.557	5.557	(1.118)	1516	1.00000	0.84(a)
2	Dichlorodifluoromethane	85	0.966	0.966	(0.231)	2633	1.00000	1.86(a)
61	Ethylbenzene	106	7.807	7.807	(1.018)	3595	1.00000	0.94(a)
91	Hexachlorobutadiene	225	11.481	11.481	(1.187)	736	1.00000	1.70(aM)
67	Isopropylbenzene	105	8.566	8.566	(1.117)	10828	1.00000	0.95(a)
62	m,p-Xylenes	106	7.907	7.907	(1.031)	8477	2.00000	1.84(a)
17	Methylene Chloride	84	2.305	2.305	(0.551)	3655	1.00000	0.30(aM)
87	n-Butylbenzene	91	9.999	9.999	(1.034)	5888	1.00000	0.77(a)
73	n-Propylbenzene	91	8.917	8.917	(0.922)	11772	1.00000	0.91(a)
92	Naphthalene	128	11.567	11.567	(1.196)	1462	1.00000	0.86(a)
63	o-Xylene	106	8.244	8.244	(1.075)	4297	1.00000	0.96(a)
81	sec-Butylbenzene	105	9.526	9.526	(0.985)	9307	1.00000	0.86(a)
64	Styrene	104	8.265	8.265	(1.078)	7774	1.00000	1.00
78	tert-Butylbenzene	119	9.340	9.340	(0.966)	7608	1.00000	0.97(a)
56	Tetrachloroethene	164	6.933	6.933	(0.904)	2384	1.00000	0.99(a)
50	Toluene	91	6.453	6.453	(0.841)	10333	1.00000	0.95(a)
20	trans-1,2-Dichloroethene	96	2.535	2.535	(0.606)	2248	1.00000	0.89(a)
51	trans-1,3-Dichloropropene	75	6.689	6.689	(1.346)	3756	1.00000	0.93(a)
38	Trichloroethene	130	5.221	5.221	(1.050)	2673	1.00000	0.91(a)
8	Trichlorofluoromethane	101	1.560	1.560	(0.373)	4149	1.00000	0.93(a)
5	Vinyl Chloride	62	1.138	1.138	(0.272)	3583	1.00000	0.93(a)

QC Flag Legend

T - Target compound detected outside RT window.
a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.



Data File: \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051104.D
Date : 11-MAY-2020 14:24
Client ID: VSTD001
Sample Info: VSTD001;VSTD001;1;3;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051105.D Page 1
Report Date: 28-May-2020 16:11

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051105.D
Lab Smp Id: VSTD002 Client Smp ID: VSTD002
Inj Date : 11-MAY-2020 14:48
Operator : PC Inst ID: voa6.i
Smp Info : VSTD002;VSTD002;1;4;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X200511.b\8260W.m
Meth Date : 28-May-2020 16:11 voa6.i Quant Type: ISTD
Cal Date : 11-MAY-2020 14:24 Cal File: X051104.D
Als bottle: 6 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000000_CBI.sub
Target Version: 4.14
Processing Host: NAHSTW7142

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

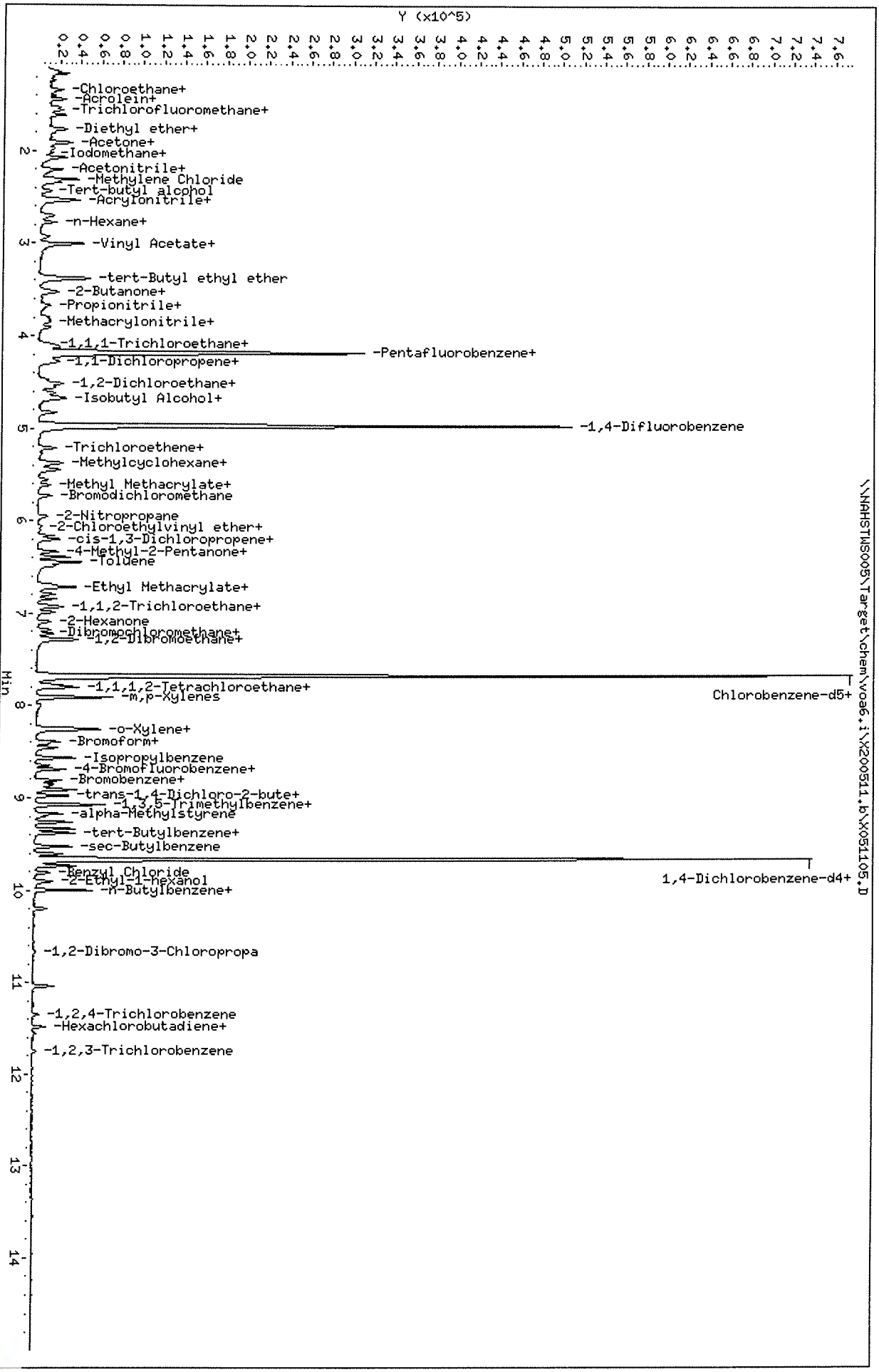
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	263591	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	396279	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	351963	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	178242	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	5198	2.00000	1.74
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	7290	2.00000	2.20
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	18430	2.00000	1.63
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	8380	2.00000	1.75
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	5459	2.00000	1.97(a)
31 1,1,1-Trichloroethane	97	4.082	4.082	(0.976)	8079	2.00000	1.91
68 1,1,2,2-Tetrachloroethane	83	8.845	8.845	(0.915)	6293	2.00000	2.19(aM)
138 Freon TF	101	1.919	1.919	(0.459)	4120	2.00000	2.02(a)
53 1,1,2-Trichloroethane	83	6.847	6.847	(0.893)	4127	2.00000	2.10(a)
22 1,1-Dichloroethane	63	2.922	2.922	(0.699)	11643	2.00000	2.03
11 1,1-Dichloroethene	96	1.912	1.912	(0.457)	3905	2.00000	1.86(a)
32 1,1-Dichloropropene	75	4.283	4.283	(0.862)	7360	2.00000	2.02(a)
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.216)	1047	2.00000	1.52(a)
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.918)	5909	2.00000	2.37(aM)
90 1,2,4-Trichlorobenzene	180	11.345	11.345	(1.174)	1924	2.00000	4.05(a)
79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.971)	17865	2.00000	1.91(a)
89 1,2-Dibromo-3-Chloropropane	155	10.665	10.665	(1.104)	532	2.00000	3.27(aM)
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	5252	2.00000	2.10

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051105.D Page 2
Report Date: 28-May-2020 16:11

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
88 1,2-Dichlorobenzene	146	9.999	9.999	(1.035)	10304	2.00000	2.07(a)
33 1,2-Dichloroethane	62	4.569	4.569	(0.919)	7567	2.00000	1.83
42 1,2-Dichloropropane	63	5.443	5.443	(1.095)	6309	2.00000	1.95(aM)
75 1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	18199	2.00000	1.97(a)
83 1,3-Dichlorobenzene	146	9.612	9.612	(0.995)	10710	2.00000	1.97(a)
54 1,3-Dichloropropane	76	6.983	6.983	(0.910)	8570	2.00000	2.10(a)
84 1,4-Dichlorobenzene	146	9.683	9.683	(1.002)	10744	2.00000	1.90(a)
26 2,2-Dichloropropane	77	3.516	3.516	(0.841)	8610	2.00000	2.06(a)
24 2-Butanone	43	3.595	3.595	(0.860)	3931	4.00000	3.30
76 2-Chlorotoluene	91	8.974	8.974	(0.929)	15622	2.00000	1.96(a)
52 2-Hexanone	43	7.090	7.090	(0.924)	9844	4.00000	4.52(a)
77 4-Chlorotoluene	91	9.075	9.075	(0.939)	17906	2.00000	1.95(a)
82 p-Isopropyltoluene	119	9.655	9.655	(0.999)	17190	2.00000	1.83(a)
45 4-Methyl-2-Pentanone	43	6.331	6.331	(0.825)	14181	4.00000	4.46(a)
10 Acetone	43	1.969	1.969	(0.471)	5040	4.00000	2.97(a)
37 Benzene	78	4.519	4.519	(0.909)	19710	2.00000	1.94
74 Bromobenzene	156	8.810	8.810	(0.912)	6636	2.00000	1.98(a)
29 Bromochloromethane	128	3.795	3.795	(0.908)	3004	2.00000	1.96(a)
39 Bromodichloromethane	83	5.729	5.729	(1.153)	7310	2.00000	1.97(a)
66 Bromoform	173	8.416	8.416	(1.097)	4311	2.00000	2.13(Ta)
6 Bromomethane	94	1.339	1.339	(0.320)	5327	2.00000	2.04(aM)
19 Carbon Disulfide	76	2.069	2.069	(0.495)	27764	4.00000	3.88(a)
34 Carbon Tetrachloride	117	4.268	4.268	(0.859)	7736	2.00000	1.94(a)
59 Chlorobenzene	112	7.699	7.699	(1.004)	14195	2.00000	2.03
7 Chloroethane	64	1.403	1.403	(0.336)	3636	2.00000	1.54(a)
28 Chloroform	83	3.917	3.917	(0.937)	9385	2.00000	1.99
3 Chloromethane	50	1.074	1.074	(0.257)	8356	2.00000	2.61(a)
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	6149	2.00000	2.21(a)
46 cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	8237	2.00000	1.90(a)
55 Dibromochloromethane	129	7.176	7.176	(0.936)	5789	2.00000	2.03(a)
44 Dibromomethane	93	5.558	5.558	(1.118)	3352	2.00000	1.91(a)
2 Dichlorodifluoromethane	85	0.973	0.973	(0.233)	5304	2.00000	2.75(a)
61 Ethylbenzene	106	7.800	7.800	(1.017)	7402	2.00000	2.02
91 Hexachlorobutadiene	225	11.481	11.481	(1.188)	2177	2.00000	3.15(a)
67 Isopropylbenzene	105	8.566	8.566	(1.117)	20273	2.00000	1.84(a)
62 m,p-Xylenes	106	7.907	7.907	(1.031)	17933	4.00000	4.03
17 Methylene Chloride	84	2.306	2.306	(0.551)	6641	2.00000	1.54(aM)
87 n-Butylbenzene	91	9.999	9.999	(1.035)	13137	2.00000	1.73(a)
73 n-Propylbenzene	91	8.917	8.917	(0.923)	23793	2.00000	1.85(a)
92 Naphthalene	128	11.553	11.553	(1.196)	2896	2.00000	1.72(a)
63 o-Xylene	106	8.244	8.244	(1.075)	9179	2.00000	2.12
81 sec-Butylbenzene	105	9.526	9.526	(0.986)	21323	2.00000	1.97(a)
64 Styrene	104	8.265	8.265	(1.078)	15041	2.00000	2.00
78 tert-Butylbenzene	119	9.340	9.340	(0.967)	15079	2.00000	1.92(a)
56 Tetrachloroethene	164	6.933	6.933	(0.904)	4860	2.00000	2.09
50 Toluene	91	6.453	6.453	(0.841)	21432	2.00000	2.05
20 trans-1,2-Dichloroethene	96	2.535	2.535	(0.606)	4704	2.00000	1.96(a)
51 trans-1,3-Dichloropropene	75	6.689	6.689	(1.346)	7614	2.00000	1.93(a)
38 Trichloroethene	130	5.214	5.214	(1.049)	5425	2.00000	1.90
8 Trichlorofluoromethane	101	1.561	1.561	(0.373)	7899	2.00000	1.86(a)
5 Vinyl Chloride	62	1.138	1.138	(0.272)	7135	2.00000	1.95(a)

QC Flag Legend

T - Target compound detected outside RT window.
a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.



Data File: \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051105.D
Date : 11-MAY-2020 14:48
Client ID: VSTD002
Sample Info: VSTD002;VSTD002;1;4;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051106.D
Lab Smp Id: VSTD005 Client Smp ID: VSTD005
Inj Date : 11-MAY-2020 15:12
Operator : PC Inst ID: voa6.i
Smp Info : VSTD005;VSTD005;1;5;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X200511.b\8260W.m
Meth Date : 28-May-2020 16:11 voa6.i Quant Type: ISTD
Cal Date : 11-MAY-2020 14:48 Cal File: X051105.D
Als bottle: 7 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000000_CBI.sub
Target Version: 4.14
Processing Host: NAHSTW7142

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	260790	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	393985	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	352401	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	175544	50.0000	
$ 30 Dibromofluoromethane	113	4.111	4.111	(0.983)	14036	5.00000	5.17
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	17135	5.00000	5.29
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	47142	5.00000	4.91
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	19241	5.00000	5.03
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	13494	5.00000	4.87(a)
31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	20093	5.00000	4.81
68 1,1,2,2-Tetrachloroethane	83	8.845	8.845	(0.915)	14006	5.00000	4.96(a)
138 Freon TF	101	1.911	1.911	(0.457)	9855	5.00000	4.88(a)
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	10314	5.00000	5.26
22 1,1-Dichloroethane	63	2.921	2.921	(0.699)	28324	5.00000	4.99
11 1,1-Dichloroethene	96	1.911	1.911	(0.457)	9809	5.00000	4.72(a)
32 1,1-Dichloropropene	75	4.282	4.282	(0.862)	17168	5.00000	4.75(a)
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.215)	3164	5.00000	5.50
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.917)	11655	5.00000	4.76(aM)
90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	5746	5.00000	6.93
79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.970)	44767	5.00000	4.86(a)
89 1,2-Dibromo-3-Chloropropane	155	10.665	10.665	(1.103)	1596	5.00000	6.97
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	12610	5.00000	5.03

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
88 1,2-Dichlorobenzene	146	9.999	9.999	(1.034)	23909	5.00000	4.88(a)
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	20100	5.00000	4.89
42 1,2-Dichloropropane	63	5.436	5.436	(1.094)	15911	5.00000	4.96(a)
75 1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	45927	5.00000	5.06
83 1,3-Dichlorobenzene	146	9.605	9.605	(0.993)	26279	5.00000	4.91(a)
54 1,3-Dichloropropane	76	6.983	6.983	(0.910)	20663	5.00000	5.07
84 1,4-Dichlorobenzene	146	9.683	9.683	(1.001)	27091	5.00000	4.88(a)
26 2,2-Dichloropropane	77	3.509	3.509	(0.839)	20032	5.00000	4.85(a)
24 2-Butanone	43	3.588	3.588	(0.858)	11452	10.0000	9.74
76 2-Chlorotoluene	91	8.974	8.974	(0.928)	38693	5.00000	4.93(a)
52 2-Hexanone	43	7.090	7.090	(0.924)	21406	10.0000	9.82
77 4-Chlorotoluene	91	9.075	9.075	(0.939)	42965	5.00000	4.75(a)
82 p-Isopropyltoluene	119	9.655	9.655	(0.999)	44464	5.00000	4.82(a)
45 4-Methyl-2-Pentanone	43	6.331	6.331	(0.825)	32131	10.0000	10.09
10 Acetone	43	1.976	1.976	(0.473)	9390	10.0000	7.93
37 Benzene	78	4.519	4.519	(0.909)	47662	5.00000	4.73
74 Bromobenzene	156	8.809	8.809	(0.911)	15558	5.00000	4.72(a)
29 Bromochloromethane	128	3.795	3.795	(0.908)	7793	5.00000	5.15
39 Bromodichloromethane	83	5.729	5.729	(1.153)	18153	5.00000	4.93(a)
66 Bromoform	173	8.416	8.416	(1.097)	10062	5.00000	4.98(a)
6 Bromomethane	94	1.338	1.338	(0.320)	11539	5.00000	5.35(M)
19 Carbon Disulfide	76	2.069	2.069	(0.495)	68909	10.0000	9.74
34 Carbon Tetrachloride	117	4.268	4.268	(0.859)	18629	5.00000	4.70(a)
59 Chlorobenzene	112	7.699	7.699	(1.004)	34696	5.00000	4.96
7 Chloroethane	64	1.403	1.403	(0.336)	10011	5.00000	5.05
28 Chloroform	83	3.910	3.910	(0.935)	24061	5.00000	5.16
3 Chloromethane	50	1.073	1.073	(0.257)	19497	5.00000	5.31
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	13752	5.00000	4.99(a)
46 cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	21020	5.00000	4.88(a)
55 Dibromochloromethane	129	7.176	7.176	(0.936)	13999	5.00000	4.90(a)
44 Dibromomethane	93	5.557	5.557	(1.118)	8792	5.00000	5.05
2 Dichlorodifluoromethane	85	0.966	0.966	(0.231)	13068	5.00000	5.26
61 Ethylbenzene	106	7.800	7.800	(1.017)	17464	5.00000	4.76
91 Hexachlorobutadiene	225	11.481	11.481	(1.187)	5460	5.00000	6.55
67 Isopropylbenzene	105	8.566	8.566	(1.117)	54621	5.00000	4.97(a)
62 m,p-Xylenes	106	7.907	7.907	(1.031)	43516	10.0000	9.78
17 Methylene Chloride	84	2.305	2.305	(0.551)	14433	5.00000	4.67(aM)
87 n-Butylbenzene	91	9.999	9.999	(1.034)	36372	5.00000	4.88(a)
73 n-Propylbenzene	91	8.917	8.917	(0.922)	61681	5.00000	4.88(a)
92 Naphthalene	128	11.546	11.546	(1.194)	7604	5.00000	4.60(a)
63 o-Xylene	106	8.244	8.244	(1.075)	21272	5.00000	4.91
81 sec-Butylbenzene	105	9.526	9.526	(0.985)	53044	5.00000	4.98(a)
64 Styrene	104	8.265	8.265	(1.078)	36239	5.00000	4.83
78 tert-Butylbenzene	119	9.340	9.340	(0.966)	38878	5.00000	5.05
56 Tetrachloroethene	164	6.933	6.933	(0.904)	11417	5.00000	4.91
50 Toluene	91	6.446	6.446	(0.840)	52487	5.00000	5.03
20 trans-1,2-Dichloroethene	96	2.535	2.535	(0.606)	11735	5.00000	4.94(a)
51 trans-1,3-Dichloropropene	75	6.689	6.689	(1.346)	19122	5.00000	4.89(a)
38 Trichloroethene	130	5.206	5.206	(1.048)	13453	5.00000	4.75
8 Trichlorofluoromethane	101	1.561	1.561	(0.373)	19847	5.00000	4.73(a)
5 Vinyl Chloride	62	1.138	1.138	(0.272)	17119	5.00000	4.73(a)

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051106.D

Page 4

Date : 11-MAY-2020 15:12

Client ID: VSTD005

Instrument: voa6.i

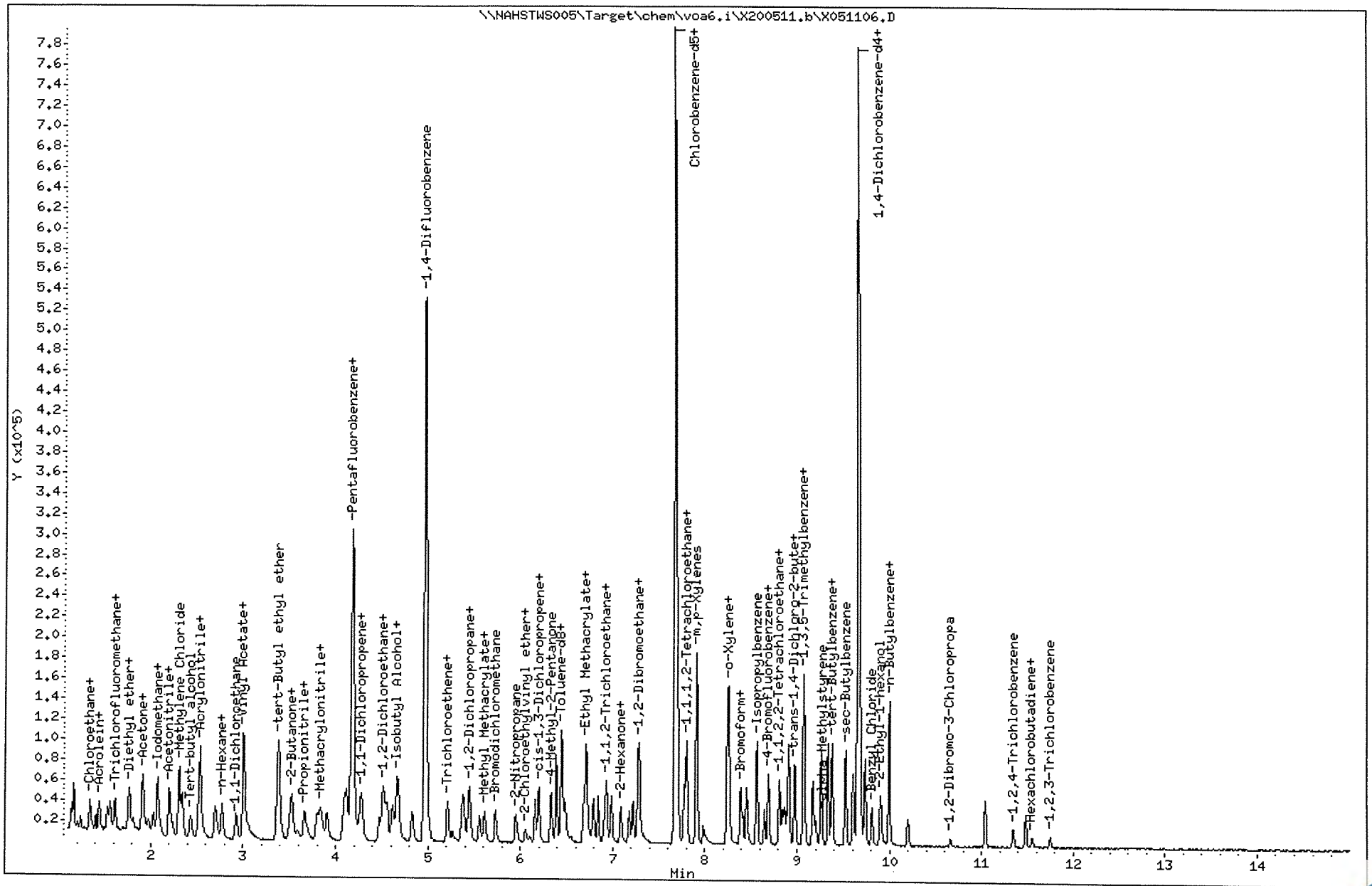
Sample Info: VSTD005;VSTD005;1;5;

Purge Volume: 5.0

Operator: PC

Column phase: DB624

Column diameter: 0.18



Data File: \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051107.D Page 1
Report Date: 28-May-2020 16:11

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051107.D
Lab Smp Id: VSTD020 Client Smp ID: VSTD020
Inj Date : 11-MAY-2020 15:36
Operator : PC Inst ID: voa6.i
Smp Info : VSTD020;VSTD020;1;6;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X200511.b\8260W.m
Meth Date : 28-May-2020 16:11 voa6.i Quant Type: ISTD
Cal Date : 11-MAY-2020 15:12 Cal File: X051106.D
Als bottle: 8 Calibration Sample, Level: 6
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000000_CBI.sub
Target Version: 4.14
Processing Host: NAHSTW7142

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

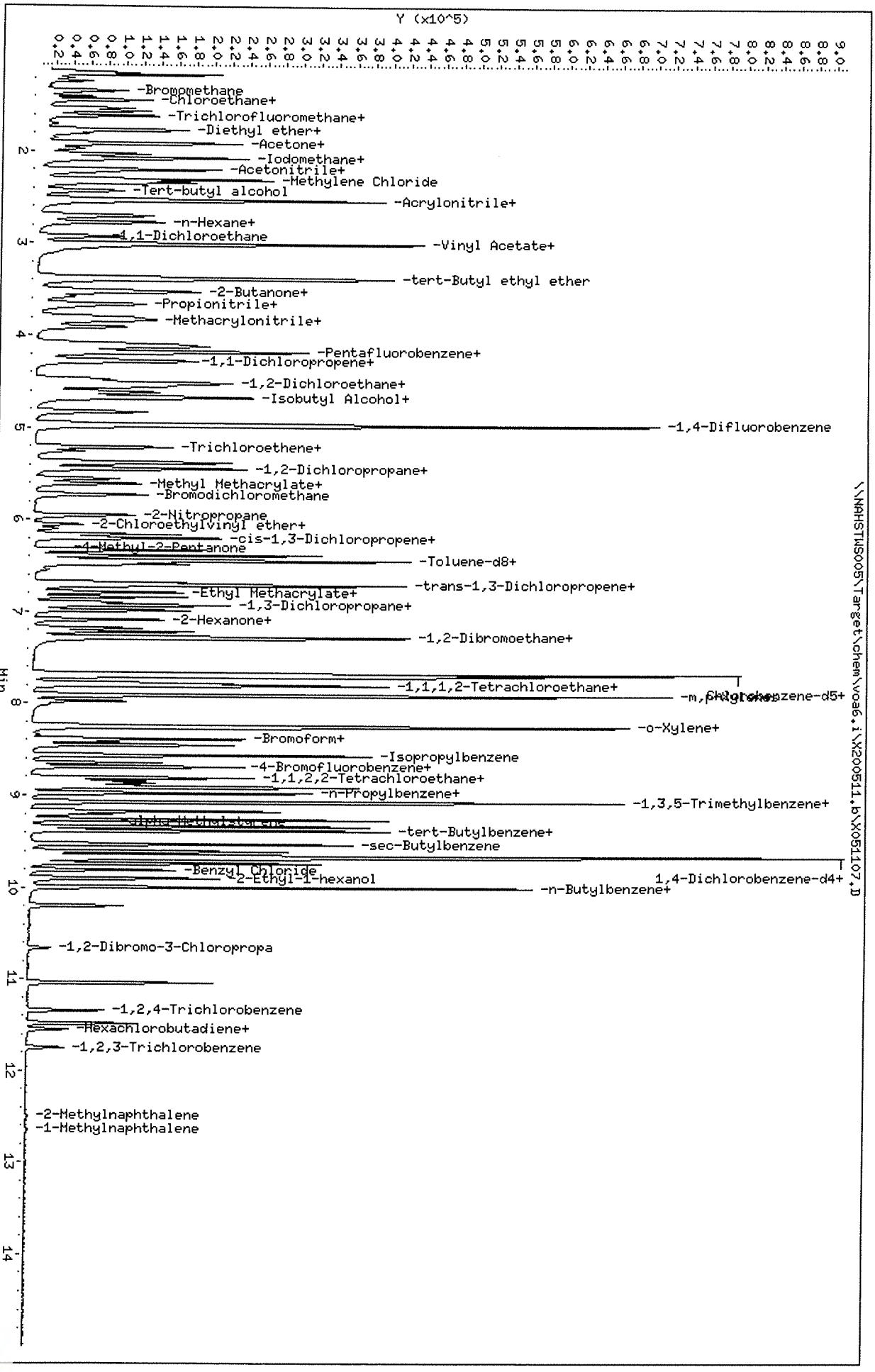
Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	255700	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	378254	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	339256	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	171130	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	51294	20.0000	19.96
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	62012	20.0000	19.65
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	176771	20.0000	20.47
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	69563	20.0000	21.02
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	52095	20.0000	19.53
31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	79732	20.0000	19.47
68 1,1,2,2-Tetrachloroethane	83	8.838	8.838	(0.915)	53986	20.0000	19.63
138 Freon TF	101	1.919	1.919	(0.459)	38765	20.0000	19.61
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	36817	20.0000	19.50
22 1,1-Dichloroethane	63	2.921	2.921	(0.699)	107343	20.0000	19.31
11 1,1-Dichloroethene	96	1.911	1.911	(0.457)	39440	20.0000	19.38
32 1,1-Dichloropropene	75	4.282	4.282	(0.862)	66167	20.0000	19.10
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.216)	11186	20.0000	20.71
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.918)	45232	20.0000	18.96(M)
90 1,2,4-Trichlorobenzene	180	11.345	11.345	(1.174)	23261	20.0000	20.47
79 1,2,4-Trimethylbenzene	105	9.382	9.382	(0.971)	177262	20.0000	19.74
89 1,2-Dibromo-3-Chloropropane	155	10.657	10.657	(1.103)	5237	20.0000	20.01
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	49329	20.0000	20.46

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
88	1,2-Dichlorobenzene	146	9.991	9.991	(1.034)	91741	20.0000	19.24
33	1,2-Dichloroethane	62	4.562	4.562	(0.918)	79106	20.0000	20.08
42	1,2-Dichloropropane	63	5.443	5.443	(1.095)	60696	20.0000	19.71
75	1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	173374	20.0000	19.62
83	1,3-Dichlorobenzene	146	9.605	9.605	(0.994)	103242	20.0000	19.79
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	78846	20.0000	20.09
84	1,4-Dichlorobenzene	146	9.683	9.683	(1.002)	102094	20.0000	18.87
26	2,2-Dichloropropane	77	3.509	3.509	(0.839)	78288	20.0000	19.33
24	2-Butanone	43	3.580	3.580	(0.856)	49330	40.0000	42.80
76	2-Chlorotoluene	91	8.974	8.974	(0.929)	143786	20.0000	18.82
52	2-Hexanone	43	7.090	7.090	(0.924)	83306	40.0000	39.70
77	4-Chlorotoluene	91	9.074	9.074	(0.939)	170619	20.0000	19.37
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	178794	20.0000	19.89
45	4-Methyl-2-Pentanone	43	6.324	6.324	(0.824)	122401	40.0000	39.95
10	Acetone	43	1.969	1.969	(0.471)	35665	40.0000	38.28
37	Benzene	78	4.512	4.512	(0.908)	190323	20.0000	19.68
74	Bromobenzene	156	8.809	8.809	(0.912)	62061	20.0000	19.34
29	Bromochloromethane	128	3.795	3.795	(0.908)	28180	20.0000	18.99
39	Bromodichloromethane	83	5.729	5.729	(1.153)	69054	20.0000	19.55
66	Bromoform	173	8.415	8.415	(1.097)	38468	20.0000	19.79
6	Bromomethane	94	1.338	1.338	(0.320)	40170	20.0000	20.93
19	Carbon Disulfide	76	2.069	2.069	(0.495)	269383	40.0000	38.86
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	69941	20.0000	18.40
59	Chlorobenzene	112	7.699	7.699	(1.004)	130918	20.0000	19.47
7	Chloroethane	64	1.403	1.403	(0.336)	35750	20.0000	19.50
28	Chloroform	83	3.910	3.910	(0.935)	90107	20.0000	19.71
3	Chloromethane	50	1.073	1.073	(0.257)	77009	20.0000	19.49
27	cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	54813	20.0000	20.32
46	cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	81116	20.0000	19.61
55	Dibromochloromethane	129	7.176	7.176	(0.936)	53715	20.0000	19.56
44	Dibromomethane	93	5.557	5.557	(1.118)	32219	20.0000	19.29
2	Dichlorodifluoromethane	85	0.966	0.966	(0.231)	55700	20.0000	19.32
61	Ethylbenzene	106	7.799	7.799	(1.017)	69660	20.0000	19.74
91	Hexachlorobutadiene	225	11.481	11.481	(1.188)	21311	20.0000	23.33
67	Isopropylbenzene	105	8.566	8.566	(1.117)	209344	20.0000	19.78
62	m,p-Xylenes	106	7.907	7.907	(1.031)	170236	40.0000	39.75
17	Methylene Chloride	84	2.305	2.305	(0.551)	52520	20.0000	20.24
87	n-Butylbenzene	91	9.998	9.998	(1.035)	146592	20.0000	20.21
73	n-Propylbenzene	91	8.917	8.917	(0.923)	239282	20.0000	19.44
92	Naphthalene	128	11.546	11.546	(1.195)	31970	20.0000	19.84
63	o-Xylene	106	8.244	8.244	(1.075)	83788	20.0000	20.11
81	sec-Butylbenzene	105	9.526	9.526	(0.986)	201174	20.0000	19.40
64	Styrene	104	8.258	8.258	(1.077)	143940	20.0000	19.93
78	tert-Butylbenzene	119	9.339	9.339	(0.967)	147263	20.0000	19.62
56	Tetrachloroethene	164	6.933	6.933	(0.904)	43566	20.0000	19.46
50	Toluene	91	6.446	6.446	(0.840)	201457	20.0000	20.06
20	trans-1,2-Dichloroethene	96	2.527	2.527	(0.604)	46791	20.0000	20.11
51	trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	73152	20.0000	19.50
38	Trichloroethene	130	5.206	5.206	(1.048)	52492	20.0000	19.34
8	Trichlorofluoromethane	101	1.560	1.560	(0.373)	79846	20.0000	19.40
5	Vinyl Chloride	62	1.138	1.138	(0.272)	69422	20.0000	19.58

QC Flag Legend

M - Compound response manually integrated.



Data File: \\NAHSTWS005\Target\chem\voa6,i\X200511,b\X051107,D
Date : 11-MAY-2020 15:36
Client ID: VSTD020
Sample Info: VSTD020;VSTD020;1;6;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6,i
Operator: PC
Column diameter: 0.18

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051108.D Page 1
Report Date: 28-May-2020 16:11

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051108.D
Lab Smp Id: VSTD050 Client Smp ID: VSTD050
Inj Date : 11-MAY-2020 16:00
Operator : PC Inst ID: voa6.i
Smp Info : VSTD050;VSTD050;1;7;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X200511.b\8260W.m
Meth Date : 28-May-2020 16:11 voa6.i Quant Type: ISTD
Cal Date : 11-MAY-2020 15:36 Cal File: X051107.D
Als bottle: 9 Calibration Sample, Level: 7
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000000_CBI.sub
Target Version: 4.14
Processing Host: NAHSTW7142

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

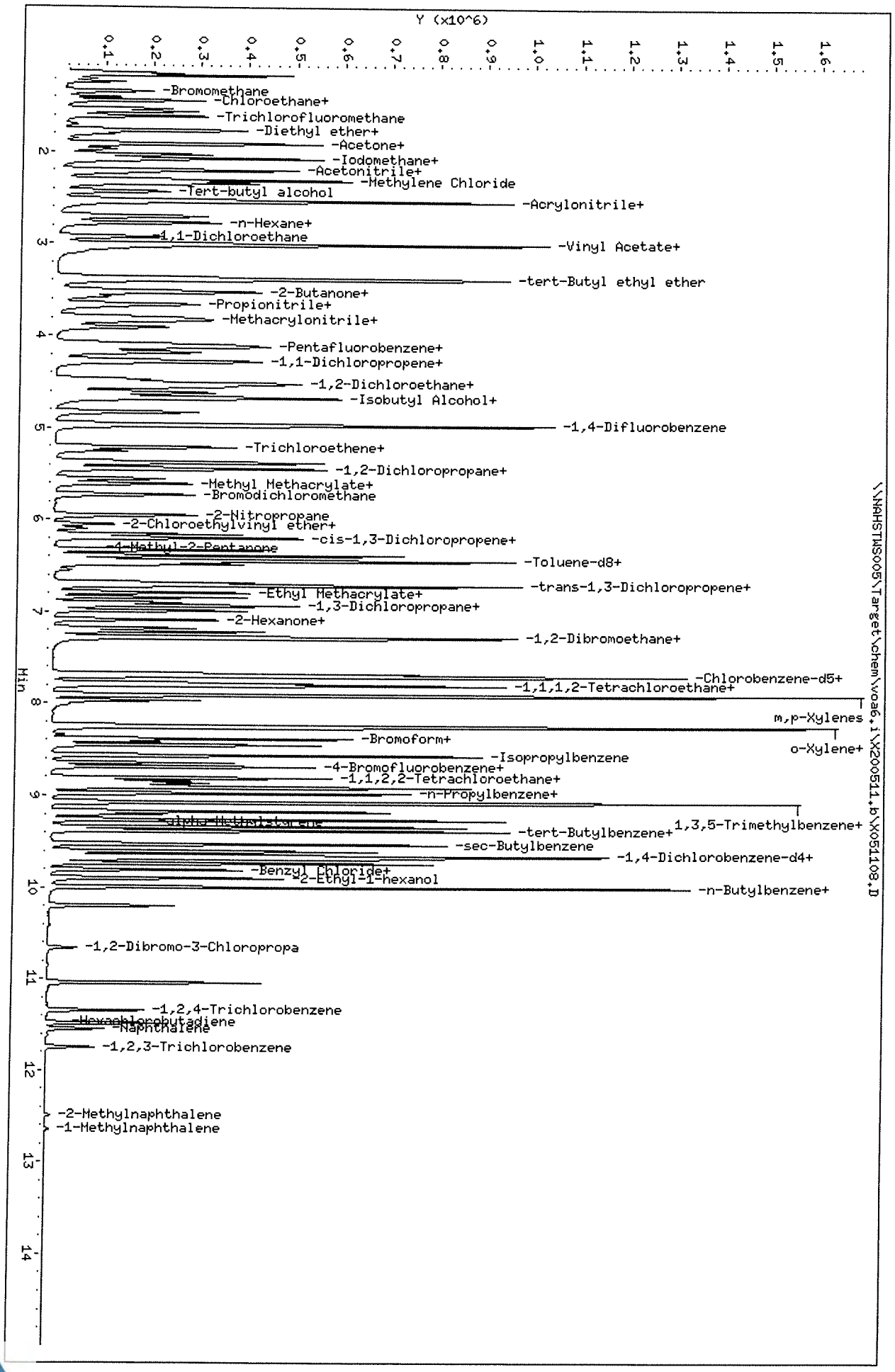
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	244879	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	357125	50.0000	
* 47 Chlorobenzene-d5	117	7.670	7.670	(1.000)	326341	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	163130	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	118264	50.0000	48.40
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	143586	50.0000	47.57
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	410250	50.0000	50.05
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	152557	50.0000	48.91
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	124113	50.0000	48.38
31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	187573	50.0000	47.83
68 1,1,2,2-Tetrachloroethane	83	8.838	8.838	(0.914)	121679	50.0000	46.41
138 Freon TF	101	1.911	1.911	(0.457)	94407	50.0000	49.88
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	87053	50.0000	47.95
22 1,1-Dichloroethane	63	2.921	2.921	(0.699)	249560	50.0000	46.89
11 1,1-Dichloroethene	96	1.911	1.911	(0.457)	94156	50.0000	48.32
32 1,1-Dichloropropene	75	4.282	4.282	(0.862)	153095	50.0000	46.82
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.215)	27245	50.0000	51.83
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.917)	111062	50.0000	48.85(M)
90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	54809	50.0000	46.70
79 1,2,4-Trimethylbenzene	105	9.382	9.382	(0.970)	419671	50.0000	49.04
89 1,2-Dibromo-3-Chloropropane	155	10.657	10.657	(1.102)	12187	50.0000	46.74
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	114686	50.0000	49.46

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051108.D Page 2
Report Date: 28-May-2020 16:11

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
88 1,2-Dichlorobenzene	146	9.998	9.998	(1.034)	216357	50.0000	47.60
33 1,2-Dichloroethane	62	4.555	4.555	(0.916)	188212	50.0000	50.61
42 1,2-Dichloropropane	63	5.436	5.436	(1.094)	141074	50.0000	48.53
75 1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	410269	50.0000	48.70
83 1,3-Dichlorobenzene	146	9.605	9.605	(0.993)	238547	50.0000	47.98
54 1,3-Dichloropropane	76	6.983	6.983	(0.910)	182269	50.0000	48.29
84 1,4-Dichlorobenzene	146	9.683	9.683	(1.001)	242693	50.0000	47.06
26 2,2-Dichloropropane	77	3.509	3.509	(0.839)	180990	50.0000	46.68
24 2-Butanone	43	3.573	3.573	(0.854)	128765	100.000	116.67
76 2-Chlorotoluene	91	8.974	8.974	(0.928)	337693	50.0000	46.37
52 2-Hexanone	43	7.083	7.083	(0.923)	198319	100.000	98.27
77 4-Chlorotoluene	91	9.074	9.074	(0.939)	394561	50.0000	47.00
82 p-Isopropyltoluene	119	9.655	9.655	(0.999)	420632	50.0000	49.08
45 4-Methyl-2-Pentanone	43	6.324	6.324	(0.824)	280968	100.000	95.35
10 Acetone	43	1.969	1.969	(0.471)	95313	100.000	111.54
37 Benzene	78	4.512	4.512	(0.908)	440626	50.0000	48.26
74 Bromobenzene	156	8.809	8.809	(0.911)	147210	50.0000	48.13
29 Bromochloromethane	128	3.795	3.795	(0.908)	67372	50.0000	47.41
39 Bromodichloromethane	83	5.729	5.729	(1.153)	163351	50.0000	49.00
66 Bromoform	173	8.415	8.415	(1.097)	89604	50.0000	47.92
6 Bromomethane	94	1.338	1.338	(0.320)	86417	50.0000	47.95
19 Carbon Disulfide	76	2.069	2.069	(0.495)	646964	100.000	97.46
34 Carbon Tetrachloride	117	4.268	4.268	(0.859)	167086	50.0000	46.56
59 Chlorobenzene	112	7.699	7.699	(1.004)	309412	50.0000	47.85
7 Chloroethane	64	1.403	1.403	(0.336)	85402	50.0000	49.28
28 Chloroform	83	3.910	3.910	(0.935)	210954	50.0000	48.20
3 Chloromethane	50	1.073	1.073	(0.257)	185773	50.0000	48.15
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	126004	50.0000	48.77
46 cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	193147	50.0000	49.47
55 Dibromochloromethane	129	7.176	7.176	(0.936)	129345	50.0000	48.96
44 Dibromomethane	93	5.557	5.557	(1.118)	77674	50.0000	49.26
2 Dichlorodifluoromethane	85	0.966	0.966	(0.231)	135443	50.0000	47.41
61 Ethylbenzene	106	7.799	7.799	(1.017)	165225	50.0000	48.68
91 Hexachlorobutadiene	225	11.481	11.481	(1.187)	41952	50.0000	47.15
67 Isopropylbenzene	105	8.566	8.566	(1.117)	489328	50.0000	48.08
62 m,p-Xylenes	106	7.907	7.907	(1.031)	402602	100.000	97.74
17 Methylene Chloride	84	2.305	2.305	(0.551)	120730	50.0000	50.09
87 n-Butylbenzene	91	9.998	9.998	(1.034)	347792	50.0000	50.30
73 n-Propylbenzene	91	8.917	8.917	(0.922)	565315	50.0000	48.20
92 Naphthalene	128	11.546	11.546	(1.194)	75806	50.0000	49.35
63 o-Xylene	106	8.244	8.244	(1.075)	194330	50.0000	48.49
81 sec-Butylbenzene	105	9.526	9.526	(0.985)	468460	50.0000	47.41
64 Styrene	104	8.258	8.258	(1.077)	337378	50.0000	48.57
78 tert-Butylbenzene	119	9.339	9.339	(0.966)	340560	50.0000	47.61
56 Tetrachloroethene	164	6.933	6.933	(0.904)	104173	50.0000	48.39
50 Toluene	91	6.446	6.446	(0.840)	467021	50.0000	48.35
20 trans-1,2-Dichloroethene	96	2.527	2.527	(0.604)	109110	50.0000	48.98
51 trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	173577	50.0000	49.02
38 Trichloroethene	130	5.206	5.206	(1.048)	124926	50.0000	48.75
8 Trichlorofluoromethane	101	1.560	1.560	(0.373)	194926	50.0000	49.47
5 Vinyl Chloride	62	1.138	1.138	(0.272)	167564	50.0000	49.36

QC Flag Legend

M - Compound response manually integrated.



Data File: \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051108.D
Date : 11-MAY-2020 16:00
Client ID: VSTD050
Sample Info: VSTD050;VSTD050;1;7;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051109.D Page 1
Report Date: 28-May-2020 16:11

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051109.D
Lab Smp Id: VSTD100 Client Smp ID: VSTD100
Inj Date : 11-MAY-2020 16:24
Operator : PC Inst ID: voa6.i
Smp Info : VSTD100;VSTD100;1;8;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X200511.b\8260W.m
Meth Date : 28-May-2020 16:11 voa6.i Quant Type: ISTD
Cal Date : 11-MAY-2020 16:00 Cal File: X051108.D
Als bottle: 10 Calibration Sample, Level: 8
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000000_CBI.sub
Target Version: 4.14
Processing Host: NAHSTW7142

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

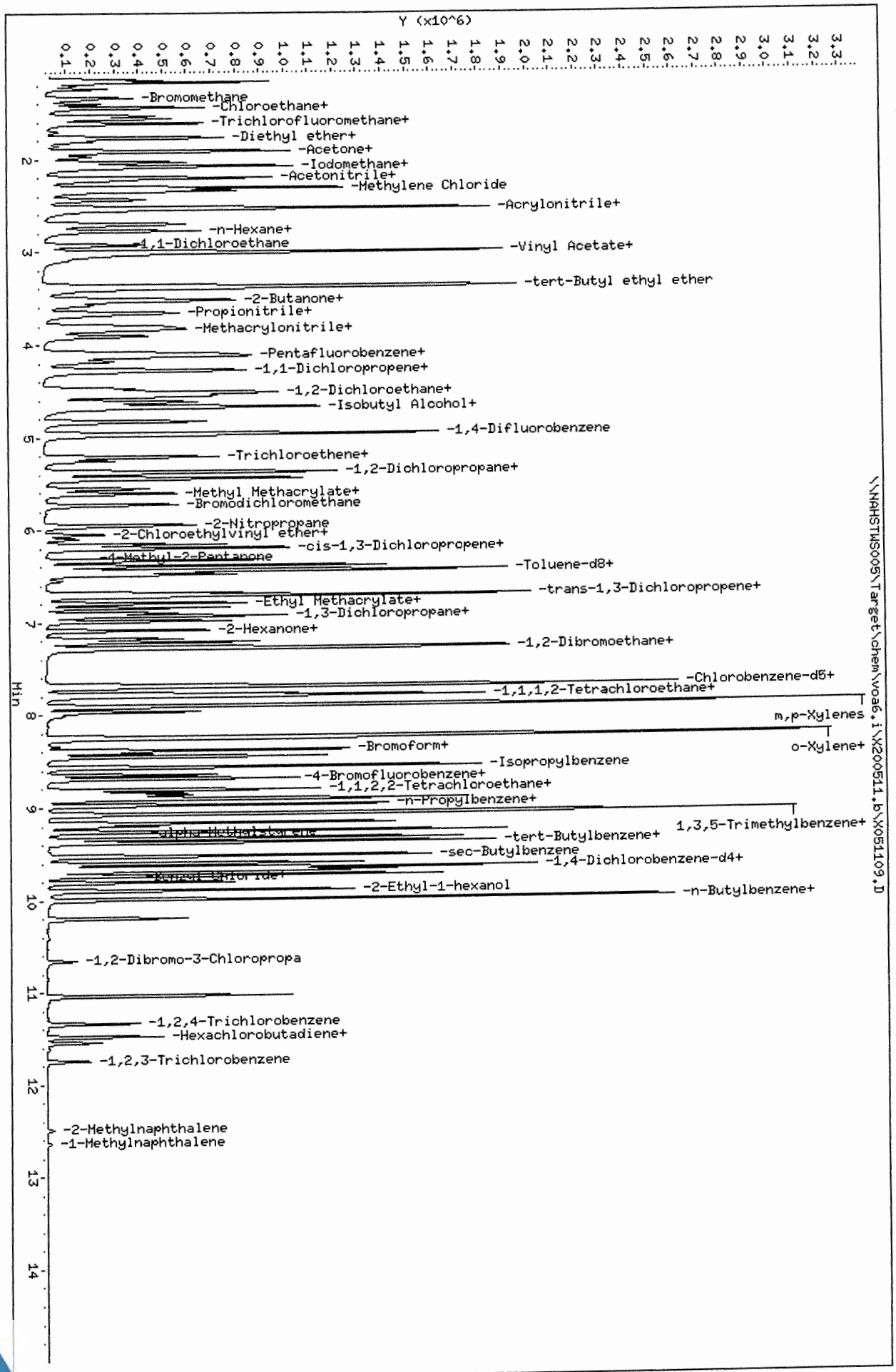
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	226332	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	331288	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	309250	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	155032	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	228909	100.000	101.63
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	281127	100.000	100.81
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	778769	100.000	100.73
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	294185	100.000	100.33
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	239360	100.000	98.47
31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	360299	100.000	99.40
68 1,1,2,2-Tetrachloroethane	83	8.845	8.845	(0.915)	232257	100.000	93.22
138 Freon TF	101	1.912	1.912	(0.457)	185402	100.000	105.99
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	165216	100.000	96.04
22 1,1-Dichloroethane	63	2.922	2.922	(0.699)	473292	100.000	96.21
11 1,1-Dichloroethene	96	1.912	1.912	(0.457)	180100	100.000	100.01
32 1,1-Dichloropropene	75	4.283	4.283	(0.862)	299678	100.000	98.81
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.215)	50765	100.000	96.62
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.917)	207372	100.000	95.98(M)
90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	103966	100.000	90.59
79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.970)	815497	100.000	100.27
89 1,2-Dibromo-3-Chloropropane	155	10.658	10.658	(1.102)	23938	100.000	95.05
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	217918	100.000	99.18

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051109.D Page 2
Report Date: 28-May-2020 16:11

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
88 1,2-Dichlorobenzene	146	9.991	9.991	(1.033)	414523	100.000	95.97
33 1,2-Dichloroethane	62	4.555	4.555	(0.916)	349387	100.000	101.29(A)
42 1,2-Dichloropropane	63	5.436	5.436	(1.094)	264442	100.000	98.06
75 1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	810286	100.000	101.22
83 1,3-Dichlorobenzene	146	9.605	9.605	(0.993)	465093	100.000	98.44
54 1,3-Dichloropropane	76	6.983	6.983	(0.910)	344709	100.000	96.39
84 1,4-Dichlorobenzene	146	9.683	9.683	(1.001)	467125	100.000	95.32
26 2,2-Dichloropropane	77	3.509	3.509	(0.839)	341084	100.000	95.17
24 2-Butanone	43	3.573	3.573	(0.854)	229095	200.000	224.59(A)
76 2-Chlorotoluene	91	8.974	8.974	(0.928)	666346	100.000	96.29
52 2-Hexanone	43	7.090	7.090	(0.924)	374858	200.000	196.01
77 4-Chlorotoluene	91	9.075	9.075	(0.939)	767875	100.000	96.25
82 p-Isopropyltoluene	119	9.655	9.655	(0.999)	830752	100.000	102.01
45 4-Methyl-2-Pentanone	43	6.324	6.324	(0.824)	545954	200.000	195.52
10 Acetone	43	1.969	1.969	(0.471)	157042	200.000	200.90
37 Benzene	78	4.512	4.512	(0.908)	832105	100.000	98.26
74 Bromobenzene	156	8.810	8.810	(0.911)	281193	100.000	96.74
29 Bromochloromethane	128	3.795	3.795	(0.908)	121892	100.000	92.82
39 Bromodichloromethane	83	5.729	5.729	(1.153)	308906	100.000	99.89
66 Bromoform	173	8.416	8.416	(1.097)	175012	100.000	98.77
6 Bromomethane	94	1.331	1.331	(0.318)	166042	100.000	100.49
19 Carbon Disulfide	76	2.069	2.069	(0.495)	1236060	200.000	201.47(A)
34 Carbon Tetrachloride	117	4.268	4.268	(0.859)	324110	100.000	97.37
59 Chlorobenzene	112	7.699	7.699	(1.004)	595488	100.000	97.18
7 Chloroethane	64	1.396	1.396	(0.334)	162411	100.000	101.85
28 Chloroform	83	3.910	3.910	(0.935)	397623	100.000	98.30
3 Chloromethane	50	1.073	1.073	(0.257)	352150	100.000	98.11
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	238323	100.000	99.81
46 cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	364351	100.000	100.60
55 Dibromochloromethane	129	7.176	7.176	(0.936)	253688	100.000	101.35
44 Dibromomethane	93	5.558	5.558	(1.118)	146927	100.000	100.45
2 Dichlorodifluoromethane	85	0.966	0.966	(0.231)	264084	100.000	98.85
61 Ethylbenzene	106	7.800	7.800	(1.017)	323615	100.000	100.63(A)
91 Hexachlorobutadiene	225	11.481	11.481	(1.187)	77175	100.000	90.37
67 Isopropylbenzene	105	8.566	8.566	(1.117)	969801	100.000	100.56
62 m,p-Xylenes	106	7.907	7.907	(1.031)	769824	200.000	197.22
17 Methylene Chloride	84	2.306	2.306	(0.551)	224234	100.000	101.75
87 n-Butylbenzene	91	9.999	9.999	(1.034)	687209	100.000	104.59
73 n-Propylbenzene	91	8.917	8.917	(0.922)	1109073	100.000	99.50
92 Naphthalene	128	11.546	11.546	(1.194)	148845	100.000	101.97
63 o-Xylene	106	8.244	8.244	(1.075)	372835	100.000	98.17
81 sec-Butylbenzene	105	9.526	9.526	(0.985)	938229	100.000	99.91
64 Styrene	104	8.258	8.258	(1.077)	648150	100.000	98.47
78 tert-Butylbenzene	119	9.340	9.340	(0.966)	675938	100.000	99.45
56 Tetrachloroethene	164	6.933	6.933	(0.904)	201864	100.000	98.95
50 Toluene	91	6.446	6.446	(0.840)	886141	100.000	96.82
20 trans-1,2-Dichloroethene	96	2.528	2.528	(0.604)	207011	100.000	100.54
51 trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	333810	100.000	101.63
38 Trichloroethene	130	5.207	5.207	(1.048)	243052	100.000	102.24(A)
8 Trichlorofluoromethane	101	1.561	1.561	(0.373)	376917	100.000	103.50
5 Vinyl Chloride	62	1.138	1.138	(0.272)	323682	100.000	103.16

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.
M - Compound response manually integrated.



Data File: \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051109.D
Date : 11-MAY-2020 16:24
Client ID: VSTD100
Sample Info: VSTD100;VSTD100;1;8;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051110.D Page 1
Report Date: 28-May-2020 16:11

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051110.D
Lab Smp Id: VSTD150 Client Smp ID: VSTD150
Inj Date : 11-MAY-2020 16:47
Operator : PC Inst ID: voa6.i
Smp Info : VSTD150;VSTD150;1;9;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X200511.b\8260W.m
Meth Date : 28-May-2020 16:11 voa6.i Quant Type: ISTD
Cal Date : 11-MAY-2020 16:24 Cal File: X051109.D
Als bottle: 11 Calibration Sample, Level: 9
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000000_CBI.sub
Target Version: 4.14
Processing Host: NAHSTW7142

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

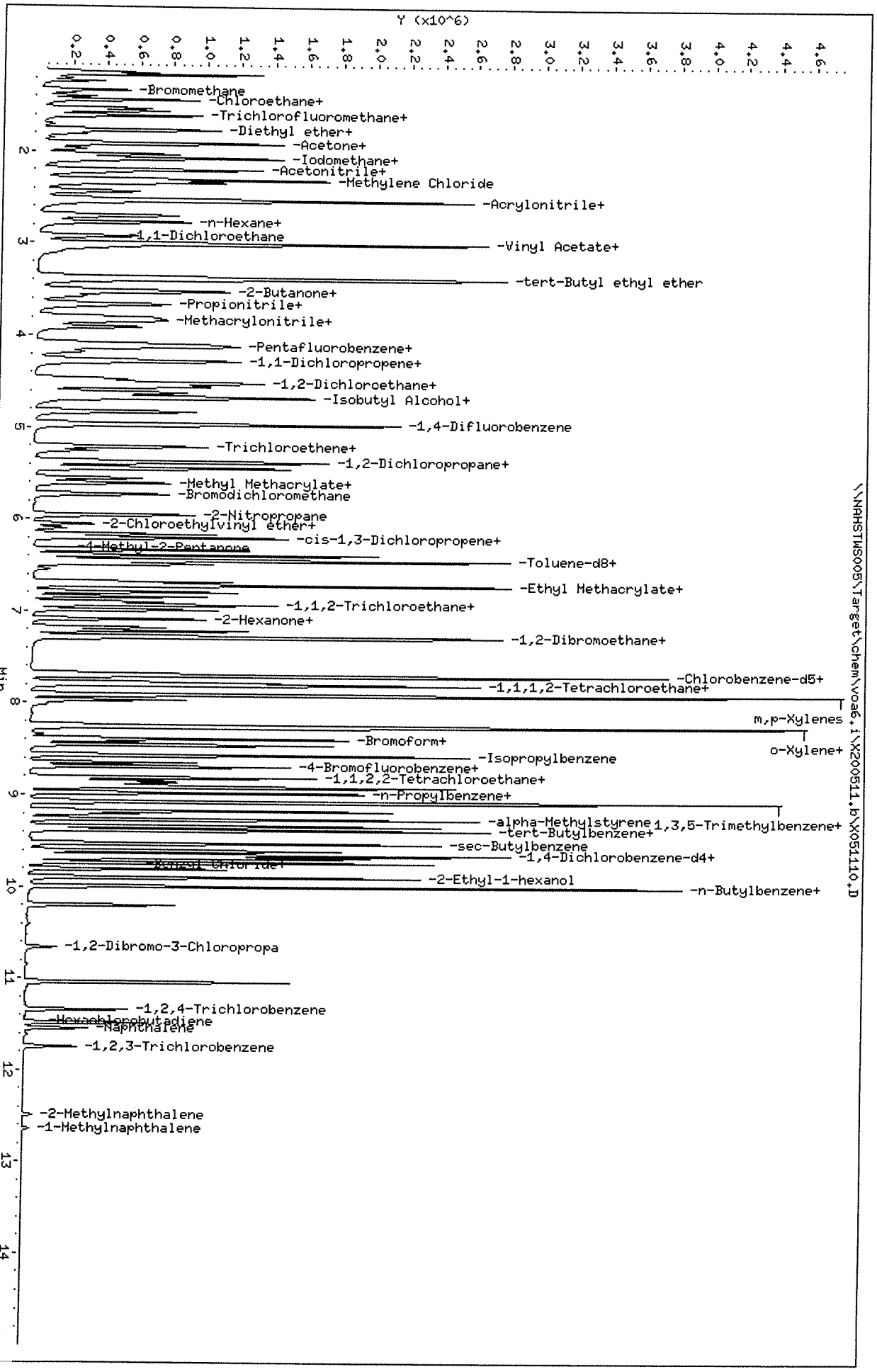
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	210896	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	312188	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	295010	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	147624	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	320906	150.000	153.02
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	402302	150.000	154.85
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	1109628	150.000	150.69
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	420723	150.000	150.80
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	342668	150.000	147.77
31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	514515	150.000	152.34(A)
68 1,1,2,2-Tetrachloroethane	83	8.845	8.845	(0.915)	334626	150.000	141.04
138 Freon TF	101	1.911	1.911	(0.457)	260990	150.000	160.13
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	235212	150.000	143.33
22 1,1-Dichloroethane	63	2.921	2.921	(0.699)	664765	150.000	145.03(A)
11 1,1-Dichloroethene	96	1.911	1.911	(0.457)	257690	150.000	153.58
32 1,1-Dichloropropene	75	4.282	4.282	(0.862)	423104	150.000	148.04
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.215)	82626	150.000	152.12
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.917)	290589	150.000	141.25(M)
90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	161556	150.000	146.17
79 1,2,4-Trimethylbenzene	105	9.382	9.382	(0.970)	1176422	150.000	151.92
89 1,2-Dibromo-3-Chloropropane	155	10.657	10.657	(1.102)	35913	150.000	148.91
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	315920	150.000	150.73(A)

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051110.D Page 2
Report Date: 28-May-2020 16:11

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
88 1,2-Dichlorobenzene	146	9.998	9.998	(1.034)	602146	150.000	146.41
33 1,2-Dichloroethane	62	4.555	4.555	(0.916)	496703	150.000	152.80(A)
42 1,2-Dichloropropane	63	5.443	5.443	(1.095)	369792	150.000	145.52
75 1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	1156269	150.000	151.69
83 1,3-Dichlorobenzene	146	9.612	9.612	(0.994)	674171	150.000	149.86
54 1,3-Dichloropropane	76	6.983	6.983	(0.910)	493264	150.000	144.59
84 1,4-Dichlorobenzene	146	9.683	9.683	(1.001)	672004	150.000	144.01
26 2,2-Dichloropropane	77	3.516	3.516	(0.841)	486844	150.000	145.79
24 2-Butanone	43	3.573	3.573	(0.854)	320319	300.000	337.00(A)
76 2-Chlorotoluene	91	8.981	8.981	(0.929)	949403	150.000	144.08
52 2-Hexanone	43	7.090	7.090	(0.924)	531716	300.000	291.45
77 4-Chlorotoluene	91	9.074	9.074	(0.939)	1091030	150.000	143.62
82 p-Isopropyltoluene	119	9.655	9.655	(0.999)	1196736	150.000	154.33
45 4-Methyl-2-Pentanone	43	6.324	6.324	(0.824)	784939	300.000	294.68
10 Acetone	43	1.969	1.969	(0.471)	214208	300.000	295.31
37 Benzene	78	4.512	4.512	(0.908)	1182839	150.000	148.22(A)
74 Bromobenzene	156	8.809	8.809	(0.911)	403596	150.000	145.82
29 Bromochloromethane	128	3.795	3.795	(0.908)	172062	150.000	140.61
39 Bromodichloromethane	83	5.729	5.729	(1.153)	446504	150.000	153.22
66 Bromoform	173	8.415	8.415	(1.097)	252342	150.000	149.29
6 Bromomethane	94	1.331	1.331	(0.318)	236806	150.000	154.21
19 Carbon Disulfide	76	2.069	2.069	(0.495)	1753146	300.000	306.68(A)
34 Carbon Tetrachloride	117	4.268	4.268	(0.859)	464237	150.000	148.00
59 Chlorobenzene	112	7.699	7.699	(1.004)	852770	150.000	145.89(A)
7 Chloroethane	64	1.396	1.396	(0.334)	229270	150.000	154.52
28 Chloroform	83	3.910	3.910	(0.935)	562576	150.000	149.27(A)
3 Chloromethane	50	1.073	1.073	(0.257)	510038	150.000	152.15
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	337533	150.000	151.71(A)
46 cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	521162	150.000	152.70
55 Dibromochloromethane	129	7.176	7.176	(0.936)	360158	150.000	150.83
44 Dibromomethane	93	5.557	5.557	(1.118)	209387	150.000	151.91
2 Dichlorodifluoromethane	85	0.966	0.966	(0.231)	377623	150.000	151.12
61 Ethylbenzene	106	7.799	7.799	(1.017)	454714	150.000	148.22(A)
91 Hexachlorobutadiene	225	11.488	11.488	(1.188)	122993	150.000	150.61
67 Isopropylbenzene	105	8.566	8.566	(1.117)	1380555	150.000	150.06
62 m,p-Xylenes	106	7.907	7.907	(1.031)	1094132	300.000	293.84(A)
17 Methylene Chloride	84	2.305	2.305	(0.551)	318789	150.000	155.81
87 n-Butylbenzene	91	9.998	9.998	(1.034)	990914	150.000	158.38
73 n-Propylbenzene	91	8.917	8.917	(0.922)	1587708	150.000	149.59
92 Naphthalene	128	11.546	11.546	(1.194)	240798	150.000	173.25
63 o-Xylene	106	8.244	8.244	(1.075)	535459	150.000	147.80(A)
81 sec-Butylbenzene	105	9.526	9.526	(0.985)	1337568	150.000	149.59
64 Styrene	104	8.265	8.265	(1.078)	912591	150.000	145.34(A)
78 tert-Butylbenzene	119	9.339	9.339	(0.966)	965175	150.000	149.13
56 Tetrachloroethene	164	6.933	6.933	(0.904)	286458	150.000	147.20(A)
50 Toluene	91	6.446	6.446	(0.840)	1251009	150.000	143.28(A)
20 trans-1,2-Dichloroethene	96	2.527	2.527	(0.604)	291868	150.000	152.13
51 trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	484238	150.000	156.45
38 Trichloroethene	130	5.206	5.206	(1.048)	343427	150.000	153.31(A)
8 Trichlorofluoromethane	101	1.553	1.553	(0.371)	533118	150.000	157.11
5 Vinyl Chloride	62	1.138	1.138	(0.272)	457160	150.000	156.37

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.
M - Compound response manually integrated.



Data File: \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051110.D
Date : 11-MAY-2020 16:47
Client ID: VSTD150
Sample Info: VSTD150;VSTD150;1;9;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051111.D
Lab Smp Id: VSTD200 Client Smp ID: VSTD200
Inj Date : 11-MAY-2020 17:11
Operator : PC Inst ID: voa6.i
Smp Info : VSTD200;VSTD200;1;10;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X200511.b\8260W.m
Meth Date : 28-May-2020 16:11 voa6.i Quant Type: ISTD
Cal Date : 11-MAY-2020 16:47 Cal File: X051110.D
Als bottle: 12 Calibration Sample, Level: 10
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000000_CBI.sub
Target Version: 4.14
Processing Host: NAHSTW7142

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

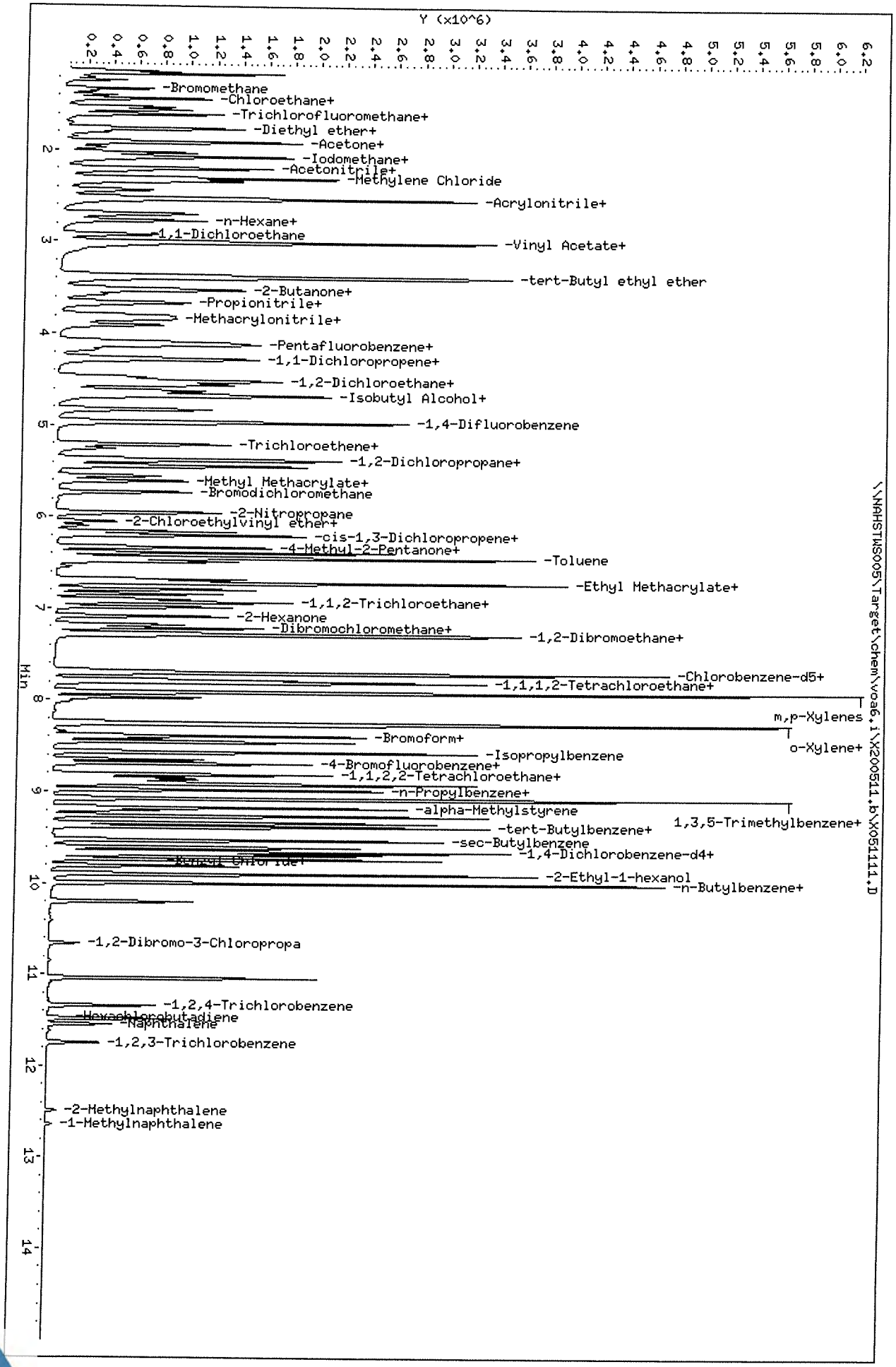
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	210247	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	305929	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	285371	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	141643	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	412124	200.000	197.20
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	508534	200.000	196.36
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	1416689	200.000	199.04
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	537390	200.000	199.37
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	439976	200.000	196.15
31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	664524	200.000	197.36(A)
68 1,1,2,2-Tetrachloroethane	83	8.845	8.845	(0.915)	431093	200.000	189.38
138 Freon TF	101	1.911	1.911	(0.457)	333443	200.000	205.22(A)
53 1,1,2-Trichloroethane	83	6.847	6.847	(0.893)	299144	200.000	188.44
22 1,1-Dichloroethane	63	2.921	2.921	(0.699)	844374	200.000	184.79(A)
11 1,1-Dichloroethene	96	1.911	1.911	(0.457)	331210	200.000	198.00
32 1,1-Dichloropropene	75	4.282	4.282	(0.862)	539478	200.000	192.62
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.215)	114644	200.000	199.45
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.917)	372645	200.000	188.79(M)
90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	221042	200.000	207.32(A)
79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.970)	1480057	200.000	199.20
89 1,2-Dibromo-3-Chloropropane	155	10.658	10.658	(1.102)	47270	200.000	203.73(A)
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	397489	200.000	196.05(A)

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051111.D Page 2
Report Date: 28-May-2020 16:11

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
88	1,2-Dichlorobenzene	146	9.999	9.999	(1.034)	751691	200.000	190.50
33	1,2-Dichloroethane	62	4.555	4.555	(0.916)	633747	200.000	198.95(A)
42	1,2-Dichloropropane	63	5.443	5.443	(1.095)	470477	200.000	188.93
75	1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	1464802	200.000	200.28(A)
83	1,3-Dichlorobenzene	146	9.612	9.612	(0.994)	854514	200.000	197.97
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	628497	200.000	190.45
84	1,4-Dichlorobenzene	146	9.683	9.683	(1.001)	856803	200.000	191.37
26	2,2-Dichloropropane	77	3.509	3.509	(0.839)	616758	200.000	185.27
24	2-Butanone	43	3.573	3.573	(0.854)	404738	400.000	427.13(A)
76	2-Chlorotoluene	91	8.981	8.981	(0.929)	1200031	200.000	189.81
52	2-Hexanone	43	7.090	7.090	(0.924)	681249	400.000	386.03
77	4-Chlorotoluene	91	9.075	9.075	(0.939)	1390472	200.000	190.77
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	1535054	200.000	206.32(A)
45	4-Methyl-2-Pentanone	43	6.331	6.331	(0.825)	992720	400.000	385.28
10	Acetone	43	1.969	1.969	(0.471)	258020	400.000	357.35
37	Benzene	78	4.512	4.512	(0.908)	1515661	200.000	193.82(A)
74	Bromobenzene	156	8.810	8.810	(0.911)	524098	200.000	197.35
29	Bromochloromethane	128	3.795	3.795	(0.908)	217972	200.000	178.68
39	Bromodichloromethane	83	5.729	5.729	(1.153)	568861	200.000	199.20
66	Bromoform	173	8.416	8.416	(1.097)	324965	200.000	198.75
6	Bromomethane	94	1.324	1.324	(0.317)	301011	200.000	196.83
19	Carbon Disulfide	76	2.069	2.069	(0.495)	2243154	400.000	393.61(A)
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	601378	200.000	195.64
59	Chlorobenzene	112	7.699	7.699	(1.004)	1083798	200.000	191.68(A)
7	Chloroethane	64	1.396	1.396	(0.334)	289295	200.000	195.69
28	Chloroform	83	3.910	3.910	(0.935)	722440	200.000	192.28(A)
3	Chloromethane	50	1.073	1.073	(0.257)	668216	200.000	199.75
27	cis-1,2-Dichloroethene	96	3.523	3.523	(0.842)	430307	200.000	194.01(A)
46	cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	665512	200.000	198.99
55	Dibromochloromethane	129	7.176	7.176	(0.936)	459803	200.000	199.07
44	Dibromomethane	93	5.557	5.557	(1.118)	266444	200.000	197.26
2	Dichlorodifluoromethane	85	0.966	0.966	(0.231)	499972	200.000	200.36(A)
61	Ethylbenzene	106	7.800	7.800	(1.017)	584558	200.000	196.99(A)
91	Hexachlorobutadiene	225	11.481	11.481	(1.187)	160116	200.000	204.00(A)
67	Isopropylbenzene	105	8.566	8.566	(1.117)	1765878	200.000	198.43
62	m,p-Xylenes	106	7.907	7.907	(1.031)	1392396	400.000	386.57(A)
17	Methylene Chloride	84	2.298	2.298	(0.550)	395941	200.000	194.38
87	n-Butylbenzene	91	9.999	9.999	(1.034)	1253039	200.000	208.74(A)
73	n-Propylbenzene	91	8.917	8.917	(0.922)	2020256	200.000	198.39
92	Naphthalene	128	11.546	11.546	(1.194)	324019	200.000	242.98(A)
63	o-Xylene	106	8.244	8.244	(1.075)	671719	200.000	191.67(A)
81	sec-Butylbenzene	105	9.526	9.526	(0.985)	1697221	200.000	197.83
64	Styrene	104	8.265	8.265	(1.078)	1162998	200.000	191.48(A)
78	tert-Butylbenzene	119	9.340	9.340	(0.966)	1223524	200.000	197.03
56	Tetrachloroethene	164	6.933	6.933	(0.904)	364813	200.000	193.79(A)
50	Toluene	91	6.446	6.446	(0.840)	1593362	200.000	188.66(A)
20	trans-1,2-Dichloroethene	96	2.528	2.528	(0.604)	373493	200.000	195.28
51	trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	619261	200.000	204.17(A)
38	Trichloroethene	130	5.206	5.206	(1.048)	441183	200.000	200.98(A)
8	Trichlorofluoromethane	101	1.553	1.553	(0.371)	703498	200.000	207.96(A)
5	Vinyl Chloride	62	1.138	1.138	(0.272)	586952	200.000	201.38(A)

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.
M - Compound response manually integrated.



Data File: \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051111.D
Date : 11-MAY-2020 17:11
Client ID: VSTD200
Sample Info: VSTD200;VSTD200;1;10;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051114.D Page 1
Report Date: 28-May-2020 16:11

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051114.D
Lab Smp Id: ICV Client Smp ID: ICV
Inj Date : 11-MAY-2020 18:23
Operator : PC Inst ID: voa6.i
Smp Info : ICV;ICV;2;;;ICV
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X200511.b\8260W.m
Meth Date : 28-May-2020 16:11 voa6.i Quant Type: ISTD
Cal Date : 11-MAY-2020 17:11 Cal File: X051111.D
Als bottle: 15 QC Sample: METHSPIKE
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000000_CBI.sub
Target Version: 4.14
Processing Host: NAHSTW7142

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

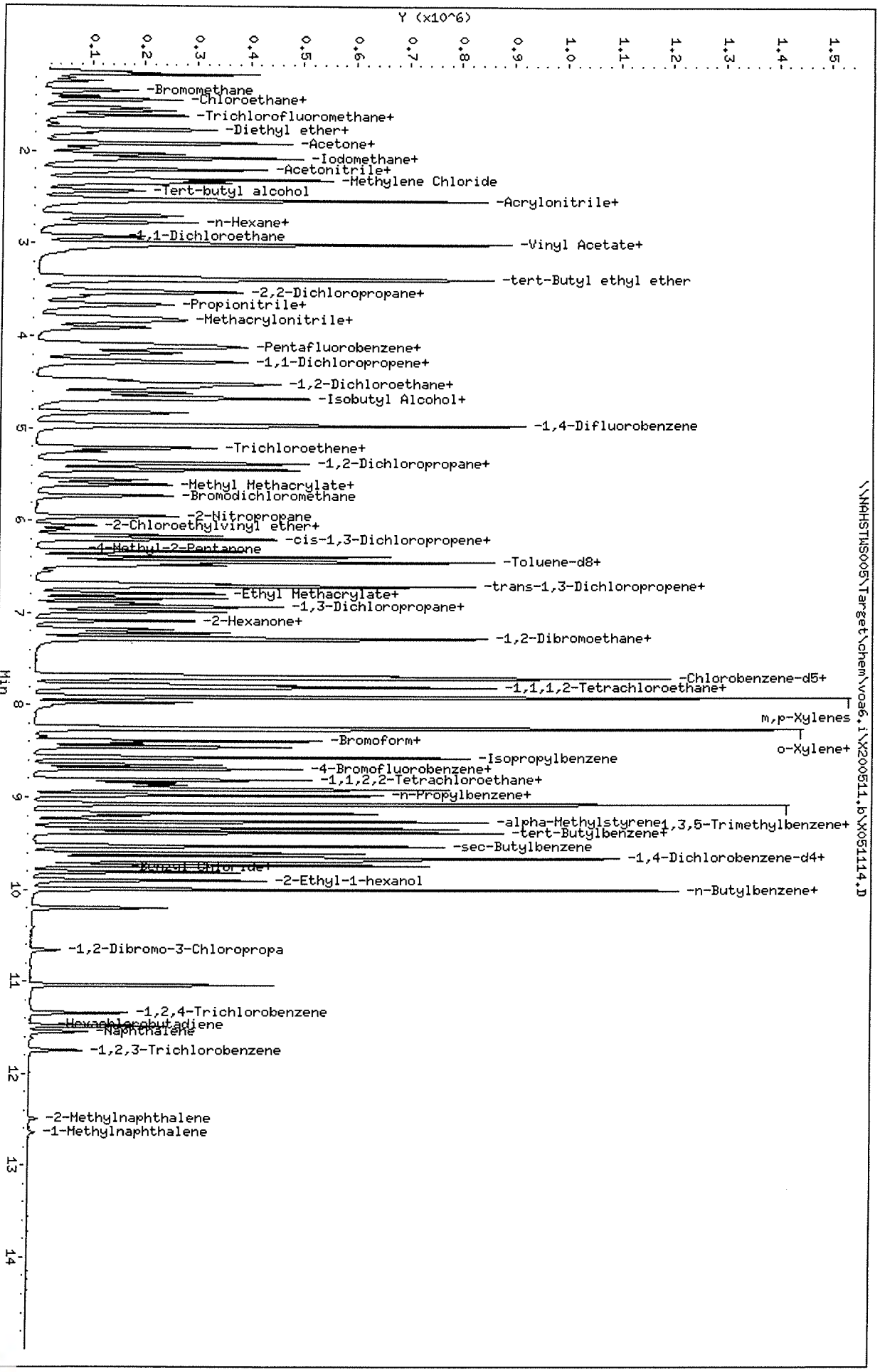
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	223155	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	318483	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	291498	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.669	(1.000)	148250	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	108653	48.8010	48.80
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	131529	47.8219	47.82
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	373137	50.9781	50.97
$ 69 4-Bromofluorobenzene	95	8.688	8.695	(1.133)	139766	50.1904	50.19
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	112251	48.9922	48.99
31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	169785	47.5103	47.51
68 1,1,2,2-Tetrachloroethane	83	8.838	8.845	(0.915)	109996	46.1688	46.16
138 Freon TF	101	1.911	1.911	(0.457)	84460	48.9758	48.97
53 1,1,2-Trichloroethane	83	6.840	6.847	(0.892)	77614	47.8655	47.86
22 1,1-Dichloroethane	63	2.921	2.921	(0.699)	219255	45.2085	45.20
11 1,1-Dichloroethene	96	1.911	1.911	(0.457)	84626	47.6661	47.66
32 1,1-Dichloropropene	75	4.282	4.282	(0.862)	139963	48.0055	48.00
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.216)	26202	54.6983	54.69
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.918)	96248	46.5901	46.59(M)
90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	50727	47.5210	47.52
79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.971)	387802	49.8683	49.86
89 1,2-Dibromo-3-Chloropropane	155	10.658	10.658	(1.103)	10984	46.3748	46.37
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	104018	50.2268	50.22

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051114.D Page 2
Report Date: 28-May-2020 16:11

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
88	1,2-Dichlorobenzene	146	9.999	9.999	(1.035)	200012	48.4298	48.42
33	1,2-Dichloroethane	62	4.555	4.555	(0.916)	164095	49.4853	49.48
42	1,2-Dichloropropane	63	5.436	5.443	(1.094)	123226	47.5336	47.53
75	1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	380301	49.6820	49.68
83	1,3-Dichlorobenzene	146	9.605	9.612	(0.994)	220872	48.8921	48.89
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	162939	48.3385	48.33
84	1,4-Dichlorobenzene	146	9.683	9.683	(1.002)	223856	47.7723	47.77
26	2,2-Dichloropropane	77	3.509	3.509	(0.839)	167781	47.4860	47.48
24	2-Butanone	43	3.573	3.573	(0.854)	108411	107.793	107.79(H)
76	2-Chlorotoluene	91	8.974	8.981	(0.929)	309354	46.7504	46.75
52	2-Hexanone	43	7.090	7.090	(0.924)	170807	94.7558	94.75
77	4-Chlorotoluene	91	9.074	9.075	(0.939)	360081	47.2019	47.20
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	391936	50.3321	50.33
45	4-Methyl-2-Pentanone	43	6.324	6.331	(0.824)	244532	92.9096	92.90
10	Acetone	43	1.969	1.969	(0.471)	75065	96.0427	96.04
37	Benzene	78	4.512	4.512	(0.908)	390116	47.9210	47.92
74	Bromobenzene	156	8.809	8.810	(0.912)	134325	48.3285	48.32
29	Bromochloromethane	128	3.795	3.795	(0.908)	61420	47.4371	47.43
39	Bromodichloromethane	83	5.729	5.729	(1.153)	144777	48.6994	48.69
66	Bromoform	173	8.415	8.416	(1.097)	83698	50.1152	50.11
6	Bromomethane	94	1.338	1.324	(0.320)	83523	50.9059	50.90
19	Carbon Disulfide	76	2.069	2.069	(0.495)	577912	95.5417	95.54
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	151724	47.4153	47.41
59	Chlorobenzene	112	7.699	7.699	(1.004)	282458	48.9065	48.90
7	Chloroethane	64	1.403	1.396	(0.336)	70901	44.8631	44.86
28	Chloroform	83	3.910	3.910	(0.935)	192179	48.1906	48.19
3	Chloromethane	50	1.073	1.073	(0.257)	154639	44.0442	44.04
27	cis-1,2-Dichloroethene	96	3.523	3.523	(0.842)	112778	47.9068	47.90
46	cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	172729	49.6114	49.61
55	Dibromochloromethane	129	7.176	7.176	(0.936)	117363	49.7444	49.74
44	Dibromomethane	93	5.557	5.557	(1.118)	70080	49.8406	49.84
2	Dichlorodifluoromethane	85	0.966	0.966	(0.231)	122199	46.9573	46.95
61	Ethylbenzene	106	7.799	7.800	(1.017)	147940	48.8066	48.80
91	Hexachlorobutadiene	225	11.481	11.481	(1.188)	40239	49.7181	49.71
67	Isopropylbenzene	105	8.566	8.566	(1.117)	450333	49.5410	49.54
62	m,p-Xylenes	106	7.907	7.907	(1.031)	360956	98.1080	98.10
17	Methylene Chloride	84	2.305	2.298	(0.551)	104805	47.6717	47.67
87	n-Butylbenzene	91	9.999	9.999	(1.035)	318734	50.7307	50.73
73	n-Propylbenzene	91	8.917	8.917	(0.923)	511675	48.0076	48.00
92	Naphthalene	128	11.546	11.546	(1.195)	74280	53.2198	53.21
63	o-Xylene	106	8.244	8.244	(1.075)	175723	49.0898	49.08
81	sec-Butylbenzene	105	9.526	9.526	(0.986)	435579	48.5089	48.50
64	Styrene	104	8.258	8.265	(1.077)	306849	49.4603	49.46
78	tert-Butylbenzene	119	9.340	9.340	(0.967)	315264	48.5073	48.50
56	Tetrachloroethene	164	6.933	6.933	(0.904)	94634	49.2150	49.21
50	Toluene	91	6.446	6.446	(0.840)	420170	48.7050	48.70
20	trans-1,2-Dichloroethene	96	2.527	2.528	(0.604)	97294	47.9280	47.92
51	trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	157780	49.9712	49.97
38	Trichloroethene	130	5.206	5.206	(1.048)	112860	49.3869	49.38
8	Trichlorofluoromethane	101	1.560	1.553	(0.373)	174748	48.6710	48.67
5	Vinyl Chloride	62	1.138	1.138	(0.272)	143744	46.4673	46.46

QC Flag Legend

M - Compound response manually integrated.
H - Operator selected an alternate compound hit.



Data File: \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051114.D
Date : 11-MAY-2020 18:23
Client ID: ICV
Sample Info: ICV;ICV;2;;;ICV
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051116.D Page 1
Report Date: 28-May-2020 16:11

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051116.D
Lab Smp Id: VLCSW-200511 Client Smp ID: VLCSW-200511
Inj Date : 11-MAY-2020 19:11
Operator : PC Inst ID: voa6.i
Smp Info : VLCSW-200511;VLCSW-200511;3;;LCS
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X200511.b\8260W.m
Meth Date : 28-May-2020 16:11 voa6.i Quant Type: ISTD
Cal Date : 11-MAY-2020 17:11 Cal File: X051111.D
Als bottle: 17 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000000_CBI.sub
Target Version: 4.14
Processing Host: NAHSTW7142

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

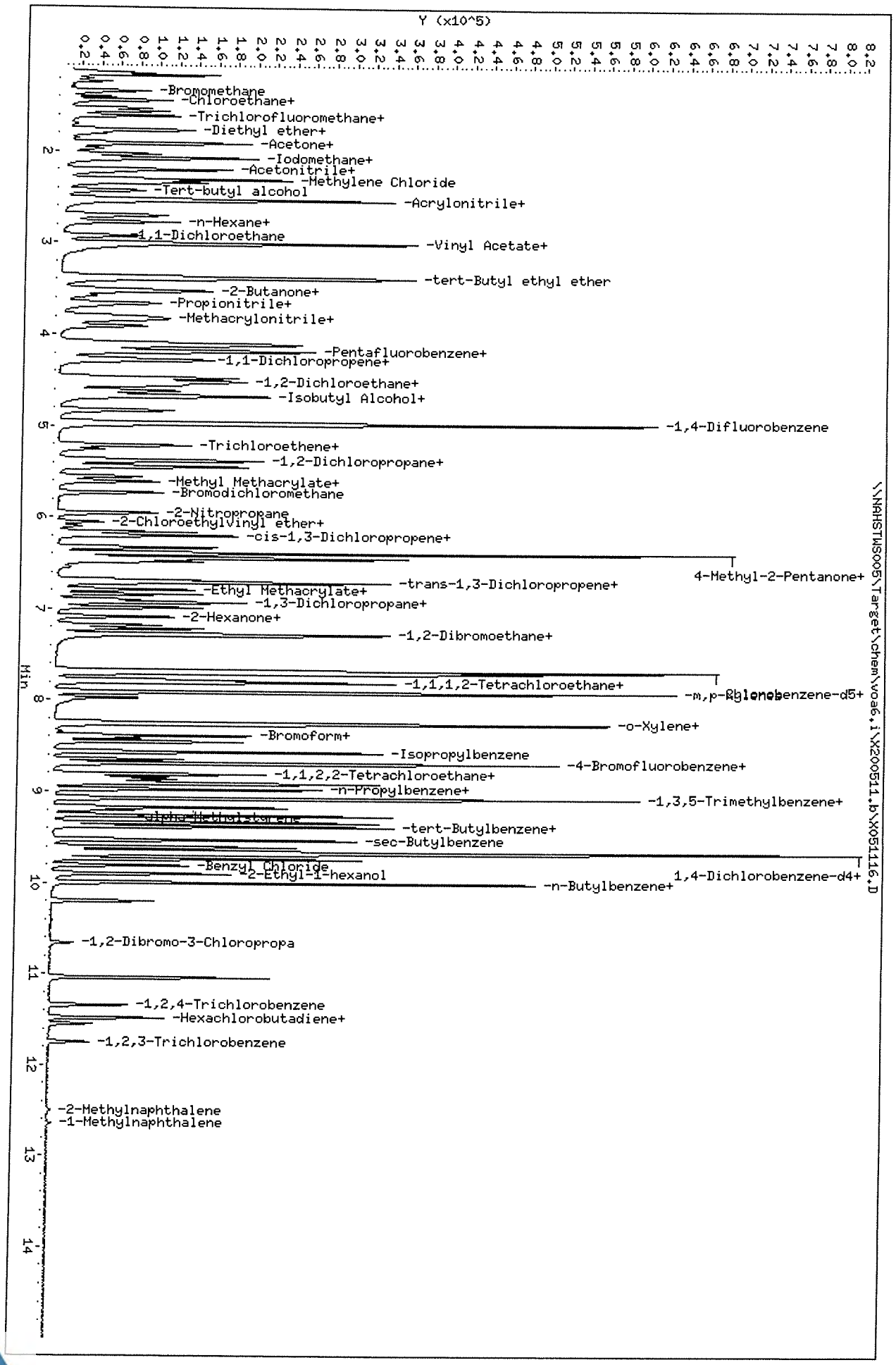
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	217066	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	320952	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	295567	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.669	(1.000)	152035	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	111790	51.6324	51.63
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	138520	51.7796	51.77
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	378759	51.0343	51.03
$ 69 4-Bromofluorobenzene	95	8.688	8.695	(1.133)	141525	50.1213	50.12
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	46138	19.8598	19.85
31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	69070	19.8698	19.86
68 1,1,2,2-Tetrachloroethane	83	8.838	8.845	(0.915)	46911	19.1998	19.19
138 Freon TF	101	1.919	1.911	(0.459)	33150	19.7619	19.76
53 1,1,2-Trichloroethane	83	6.840	6.847	(0.892)	32352	19.6772	19.67
22 1,1-Dichloroethane	63	2.921	2.921	(0.699)	90430	19.1689	19.16
11 1,1-Dichloroethene	96	1.911	1.911	(0.457)	33464	19.3775	19.37
32 1,1-Dichloropropene	75	4.282	4.282	(0.862)	55094	18.7512	18.75
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.216)	11721	24.4164	24.41
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.918)	39351	18.5741	18.57(M)
90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	22415	21.9794	21.97
79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.971)	156385	19.6092	19.60
89 1,2-Dibromo-3-Chloropropane	155	10.658	10.658	(1.103)	4564	19.6636	19.66
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	42870	20.4155	20.41

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051116.D Page 2
Report Date: 28-May-2020 16:11

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
88	1,2-Dichlorobenzene	146	9.991	9.999	(1.034)	82166	19.3999	19.39
33	1,2-Dichloroethane	62	4.562	4.555	(0.918)	68319	20.4441	20.44
42	1,2-Dichloropropane	63	5.436	5.443	(1.094)	49833	19.0749	19.07
75	1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	153742	19.5846	19.58
83	1,3-Dichlorobenzene	146	9.605	9.612	(0.994)	88534	19.1099	19.10
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	67558	19.7663	19.76
84	1,4-Dichlorobenzene	146	9.683	9.683	(1.002)	90924	18.9207	18.92
26	2,2-Dichloropropane	77	3.509	3.509	(0.839)	69216	20.1393	20.13
24	2-Butanone	43	3.580	3.573	(0.856)	40083	40.9726	40.97
76	2-Chlorotoluene	91	8.974	8.981	(0.929)	124813	18.3925	18.39
52	2-Hexanone	43	7.090	7.090	(0.924)	69412	37.9764	37.97
77	4-Chlorotoluene	91	9.075	9.075	(0.939)	145834	18.6410	18.64
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	157717	19.7496	19.74
45	4-Methyl-2-Pentanone	43	6.324	6.331	(0.824)	100295	37.5823	37.58
10	Acetone	43	1.969	1.969	(0.471)	28711	36.1692	36.16
37	Benzene	78	4.512	4.512	(0.908)	156192	19.0387	19.03
74	Bromobenzene	156	8.810	8.810	(0.912)	55251	19.3837	19.38
29	Bromochloromethane	128	3.795	3.795	(0.908)	24729	19.6349	19.63
39	Bromodichloromethane	83	5.729	5.729	(1.153)	59008	19.6961	19.69
66	Bromoform	173	8.416	8.416	(1.097)	34004	20.0800	20.08
6	Bromomethane	94	1.338	1.324	(0.320)	36687	22.5777	22.57
19	Carbon Disulfide	76	2.069	2.069	(0.495)	231871	39.4087	39.40
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	60345	18.7133	18.71
59	Chlorobenzene	112	7.699	7.699	(1.004)	115858	19.7842	19.78
7	Chloroethane	64	1.403	1.396	(0.336)	30245	19.4381	19.43
28	Chloroform	83	3.910	3.910	(0.935)	77981	20.1030	20.10
3	Chloromethane	50	1.073	1.073	(0.257)	62235	18.5907	18.59
27	cis-1,2-Dichloroethene	96	3.523	3.523	(0.842)	46018	20.0963	20.09
46	cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	69501	19.8086	19.80
55	Dibromochloromethane	129	7.176	7.176	(0.936)	49013	20.4882	20.48
44	Dibromomethane	93	5.557	5.557	(1.118)	28301	19.9727	19.97
2	Dichlorodifluoromethane	85	0.966	0.966	(0.231)	48545	19.8075	19.80
61	Ethylbenzene	106	7.800	7.800	(1.017)	60054	19.5396	19.53
91	Hexachlorobutadiene	225	11.481	11.481	(1.188)	19819	24.3803	24.38
67	Isopropylbenzene	105	8.566	8.566	(1.117)	184504	20.0178	20.01
62	m,p-Xylenes	106	7.907	7.907	(1.031)	145378	38.9698	38.96
17	Methylene Chloride	84	2.305	2.298	(0.551)	44909	20.4003	20.40
87	n-Butylbenzene	91	9.999	9.999	(1.035)	128604	19.9594	19.95
73	n-Propylbenzene	91	8.917	8.917	(0.923)	208770	19.1001	19.10
92	Naphthalene	128	11.546	11.546	(1.195)	29798	20.8180	20.81
63	o-Xylene	106	8.244	8.244	(1.075)	70546	19.4363	19.43
81	sec-Butylbenzene	105	9.526	9.526	(0.986)	176741	19.1930	19.19
64	Styrene	104	8.258	8.265	(1.077)	124394	19.7748	19.77
78	tert-Butylbenzene	119	9.340	9.340	(0.967)	128678	19.3058	19.30
56	Tetrachloroethene	164	6.933	6.933	(0.904)	38781	19.8907	19.89
50	Toluene	91	6.446	6.446	(0.840)	171997	19.6630	19.66
20	trans-1,2-Dichloroethene	96	2.528	2.528	(0.604)	39922	20.2176	20.21
51	trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	63144	19.8448	19.84
38	Trichloroethene	130	5.206	5.206	(1.048)	45742	19.8625	19.86
8	Trichlorofluoromethane	101	1.561	1.553	(0.373)	68294	19.5549	19.55
5	Vinyl Chloride	62	1.138	1.138	(0.272)	57430	19.0859	19.08

QC Flag Legend

M - Compound response manually integrated.



Data File: \\NAHSTWS005\Target\chem\voa6,i\X200511,b\X051116,D
Date : 11-MAY-2020 19:11
Client ID: VLCSW-200511
Sample Info: VLCSW-200511;VLCSW-200511;3;LCS
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6,i
Operator: PC
Column diameter: 0.18

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051119.D Page 1
Report Date: 28-May-2020 16:11

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051119.D
Lab Smp Id: VBLKW-200511 Client Smp ID: VBLKW-200508
Inj Date : 11-MAY-2020 20:24
Operator : PC Inst ID: voa6.i
Smp Info : VBLKW-200511;VBLKW-200508;3;;BLANK
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X200511.b\8260W.m
Meth Date : 28-May-2020 16:11 voa6.i Quant Type: ISTD
Cal Date : 11-MAY-2020 17:11 Cal File: X051111.D
Als bottle: 20 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000000_CBI.sub
Target Version: 4.14
Processing Host: NAHSTW7142

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
*	1 Pentafluorobenzene	168	4.182	4.182	(1.000)	270263	50.0000	
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	377770	50.0000	
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	325496	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	155919	50.0000	
$	30 Dibromofluoromethane	113	4.103	4.103	(0.981)	122921	45.5701	45.57
$	35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	150227	45.0976	45.09
$	48 Toluene-d8	98	6.388	6.388	(0.833)	429927	52.6166	52.61
$	69 4-Bromofluorobenzene	95	8.688	8.695	(1.133)	152804	49.1248	49.12

01007111

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051119.D

Page 2

Date : 11-MAY-2020 20:24

Client ID: VBLKW-200508

Instrument: voa6.i

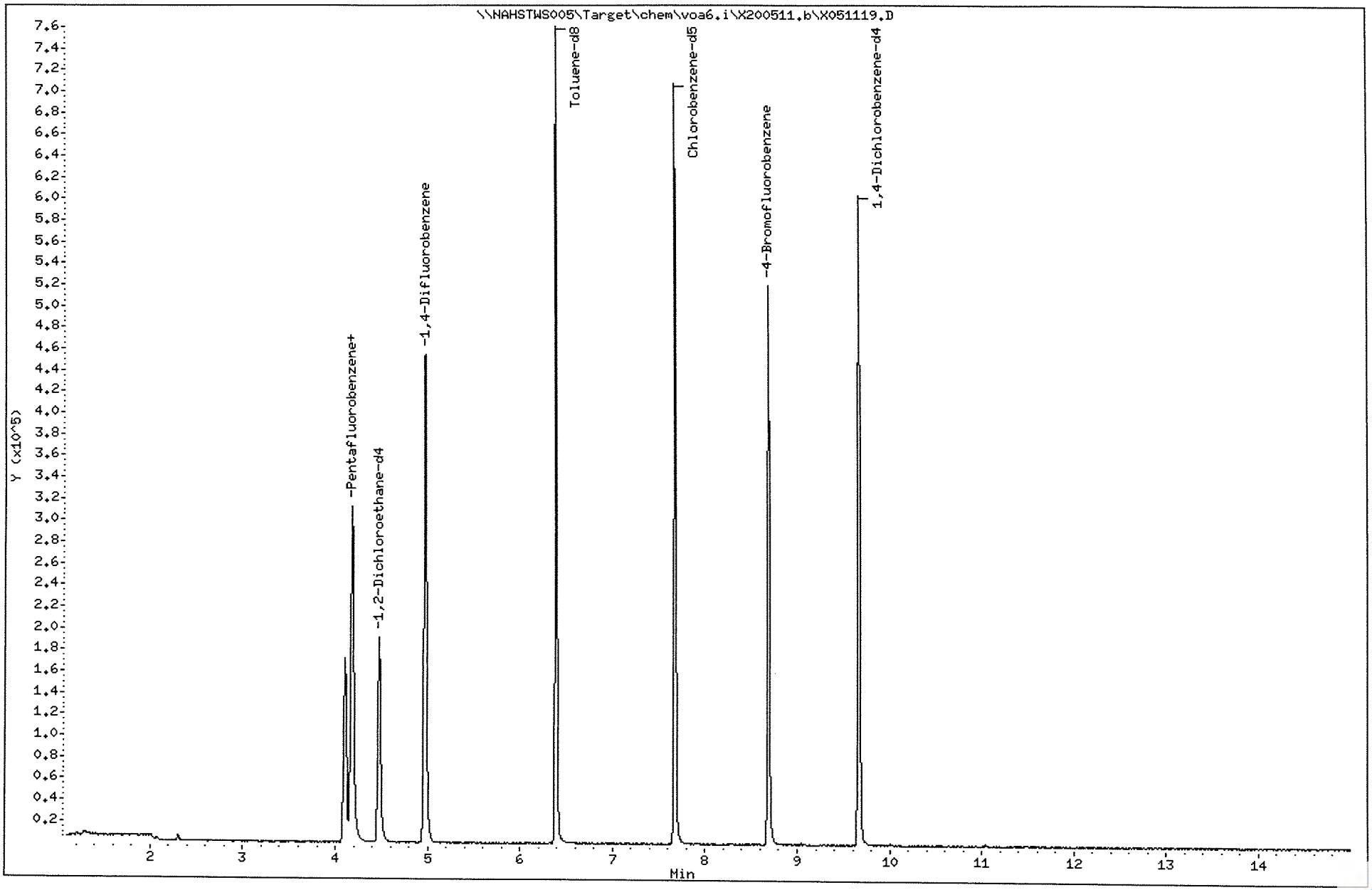
Sample Info: VBLKW-200511;VBLKW-200508;3;;BLANK

Purge Volume: 5.0

Operator: PC

Column phase: DB624

Column diameter: 0.18



Data File: \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051123.D Page 1
Report Date: 28-May-2020 16:11

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051123.D
Lab Smp Id: HS20050292-01 Client Smp ID: HS20050292-01
Inj Date : 11-MAY-2020 22:00
Operator : PC Inst ID: voa6.i
Smp Info : HS20050292-01;HS20050292-01;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X200511.b\8260W.m
Meth Date : 28-May-2020 16:11 voa6.i Quant Type: ISTD
Cal Date : 11-MAY-2020 17:11 Cal File: X051111.D
Als bottle: 24
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000000_CBI.sub
Target Version: 4.14
Processing Host: NAHSTW7142

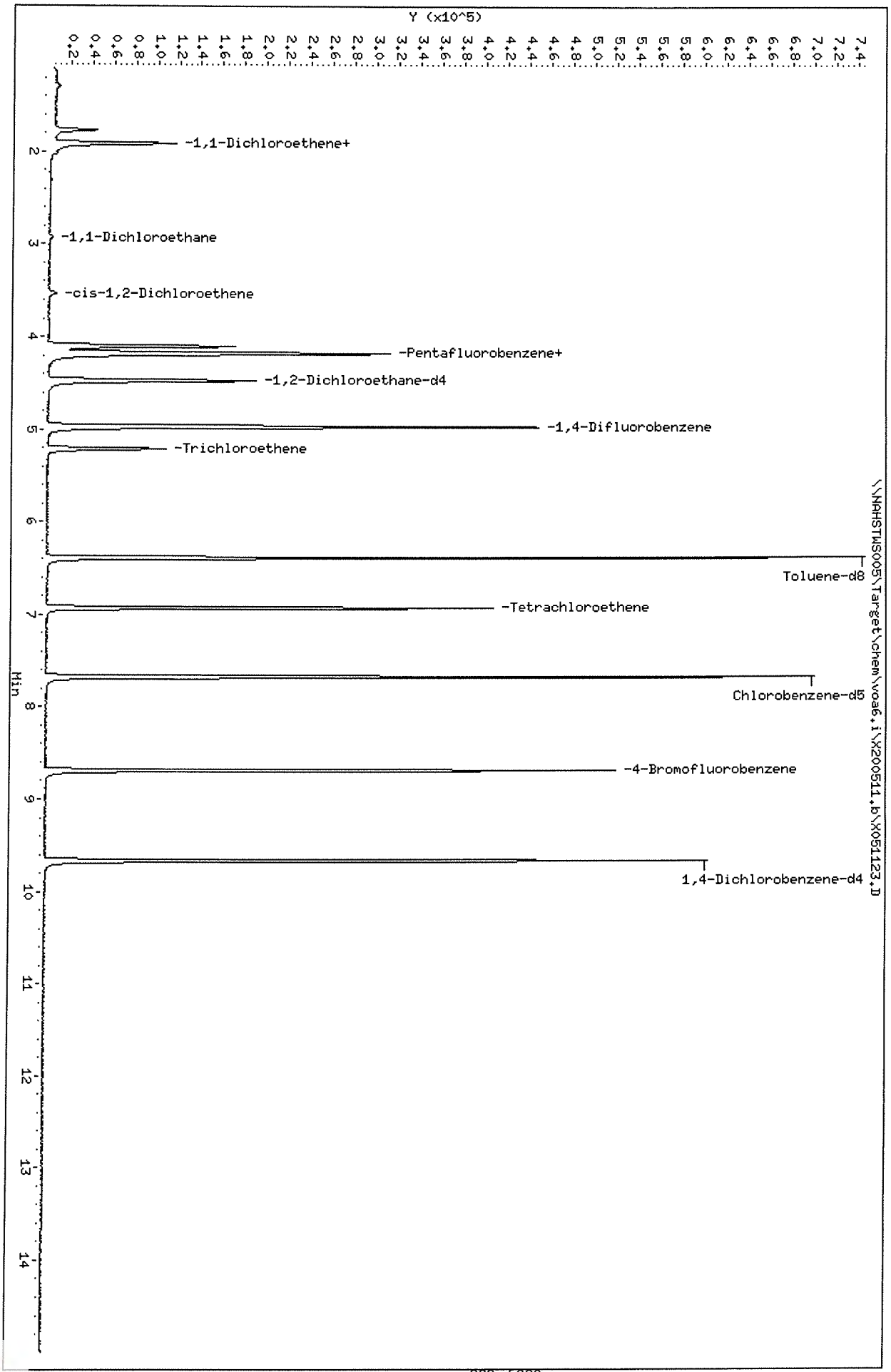
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	269531	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	374562	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	322184	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.669	(1.000)	155612	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	124353	46.2297	46.22
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	148830	44.7993	44.79
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	430317	53.2109	53.21
$ 69 4-Bromofluorobenzene	95	8.688	8.695	(1.133)	154823	50.3038	50.30
138 Freon TF	101	1.911	1.911	(0.457)	38706	18.5826	18.58
22 1,1-Dichloroethane	63	2.929	2.921	(0.700)	3792	0.64735	0.64(a)
11 1,1-Dichloroethene	96	1.911	1.911	(0.457)	7643	3.56425	3.56(a)
27 cis-1,2-Dichloroethene	96	3.530	3.523	(0.844)	3445	1.21160	1.21(a)
56 Tetrachloroethene	164	6.933	6.933	(0.904)	84773	39.8878	39.88
38 Trichloroethene	130	5.206	5.206	(1.048)	36494	13.5786	13.57

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).



Data File: \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051123.D
Date : 11-MAY-2020 22:00
Client ID: HS20050292-01
Sample Info: HS20050292-01;HS20050292-01;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051123.D

Date : 11-MAY-2020 22:00

Client ID: HS20050292-01

Instrument: voa6.i

Sample Info: HS20050292-01;HS20050292-01;;;

Purge Volume: 5.0

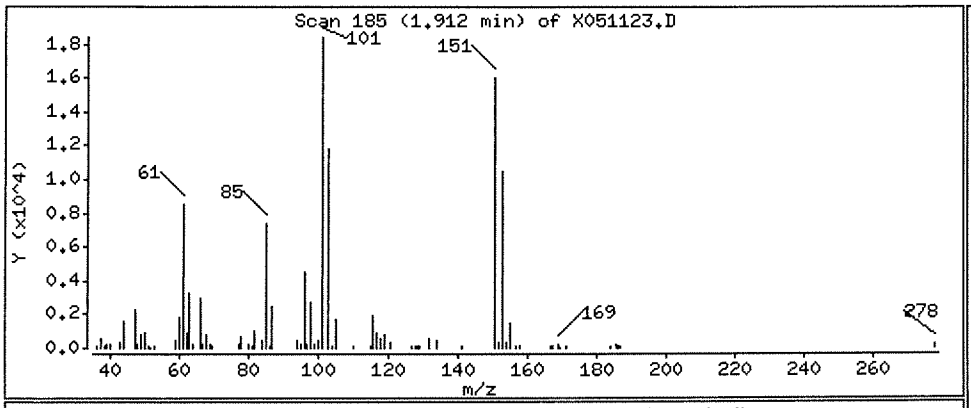
Operator: PC

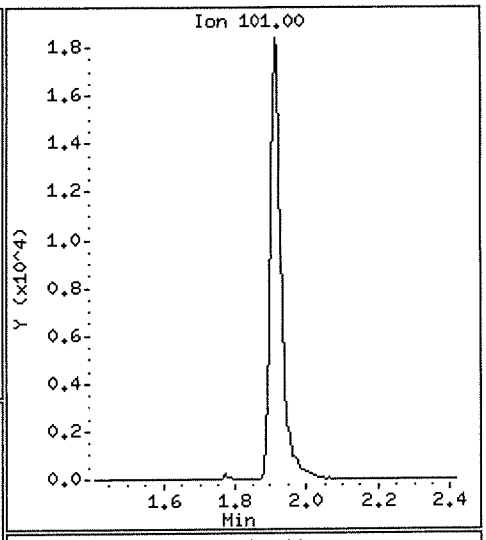
Column phase: DB624

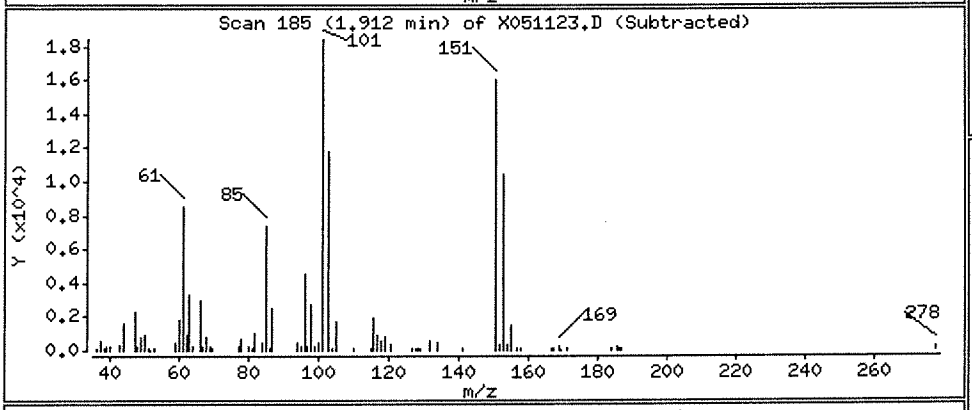
Column diameter: 0.18

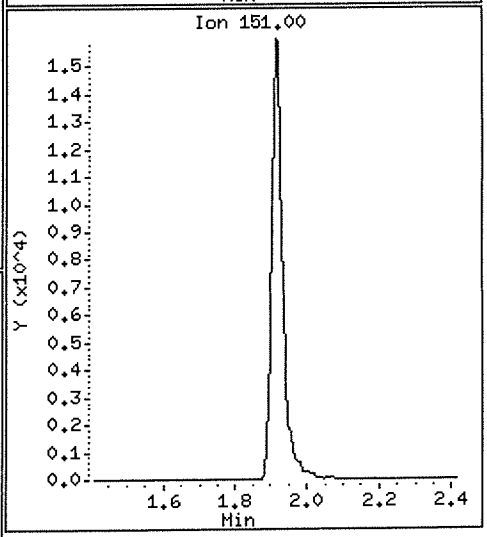
138 Freon TF

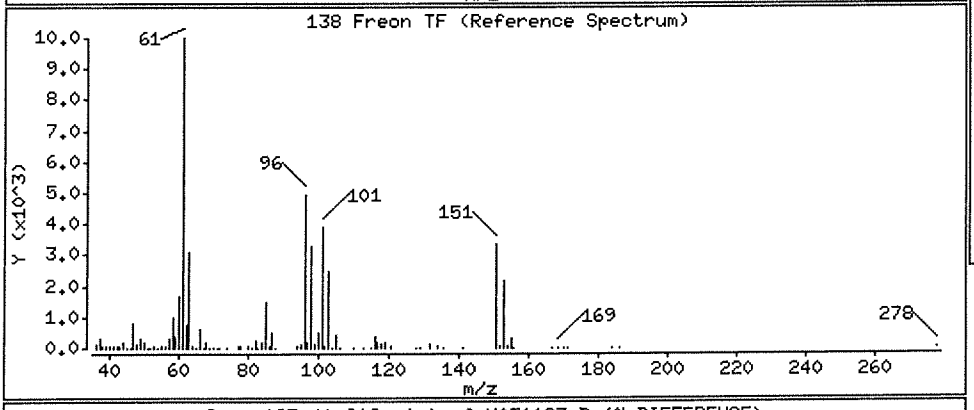
Concentration: 18.58 ug/l

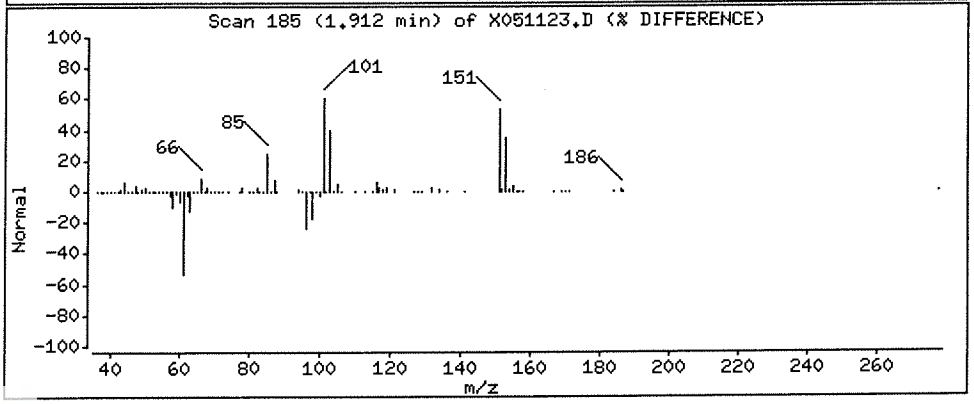












Data File: \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051123.D

Date : 11-MAY-2020 22:00

Client ID: HS20050292-01

Instrument: voa6.i

Sample Info: HS20050292-01;HS20050292-01;;;

Purge Volume: 5.0

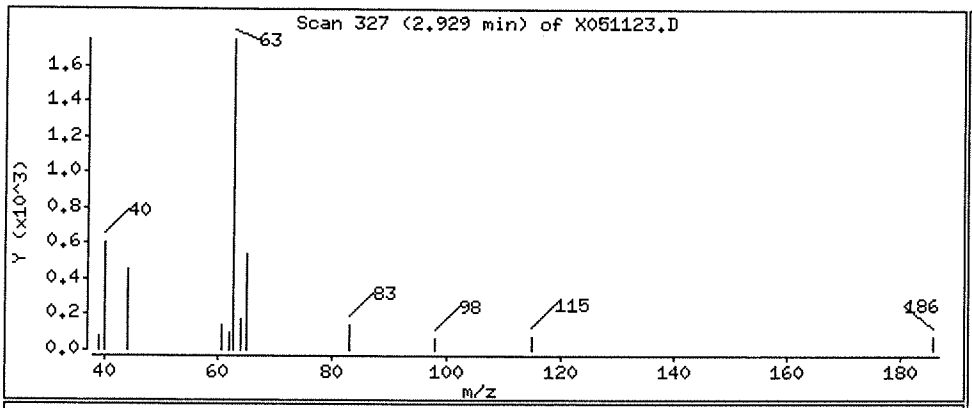
Operator: PC

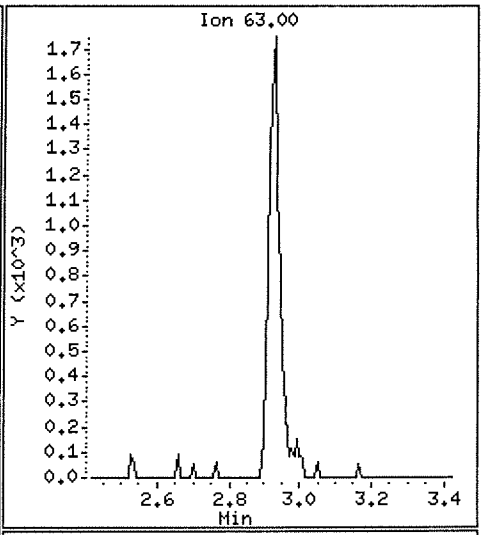
Column phase: DB624

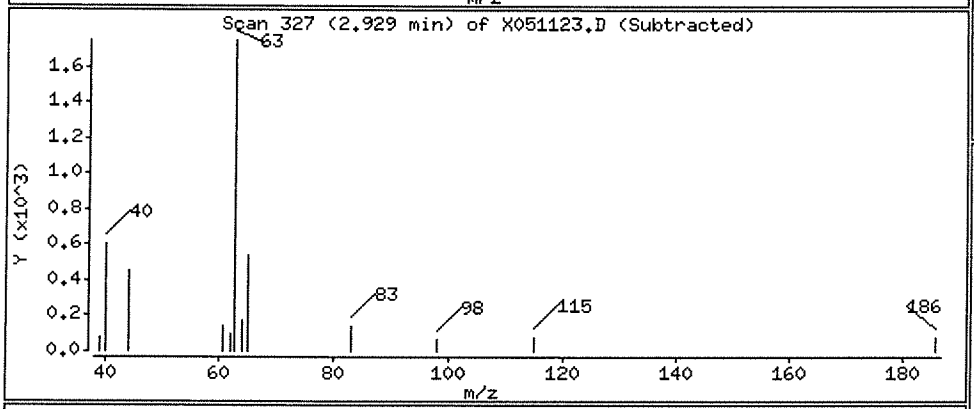
Column diameter: 0.18

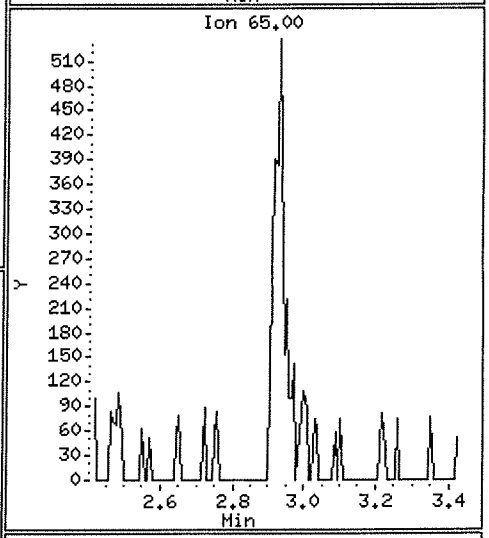
22 1,1-Dichloroethane

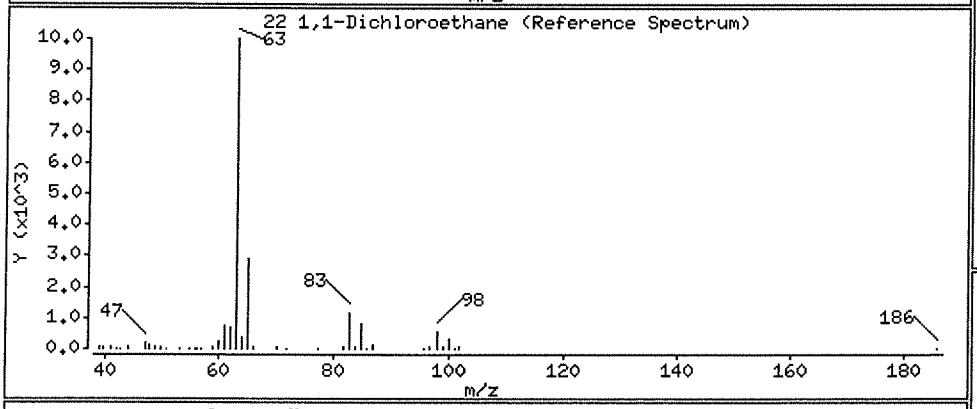
Concentration: 0.64 ug/l

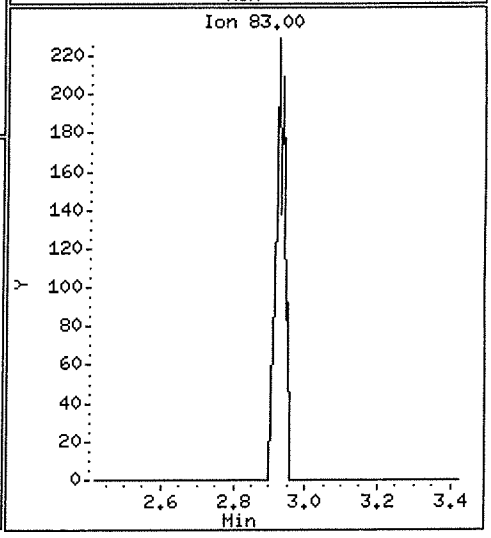


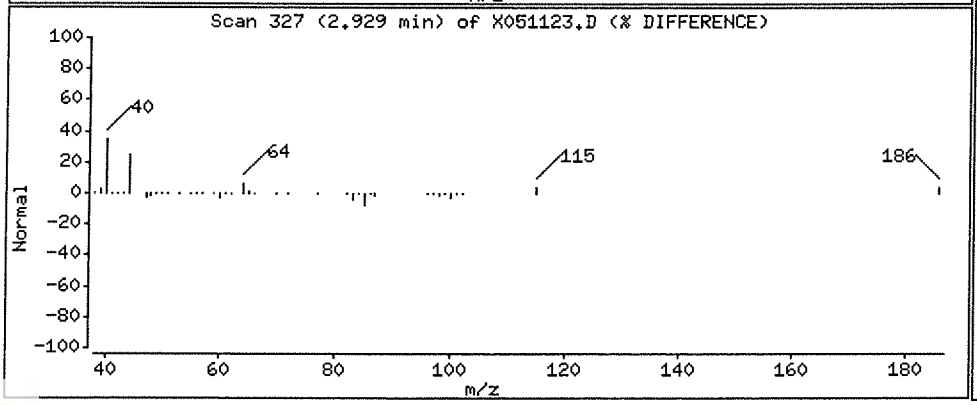












Data File: \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051123.D

Date : 11-MAY-2020 22:00

Client ID: HS20050292-01

Instrument: voa6.i

Sample Info: HS20050292-01;HS20050292-01;;;

Purge Volume: 5.0

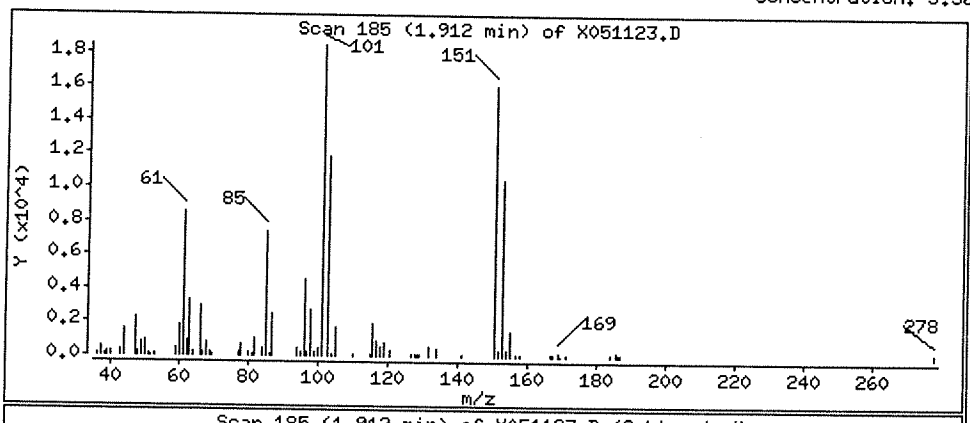
Operator: PC

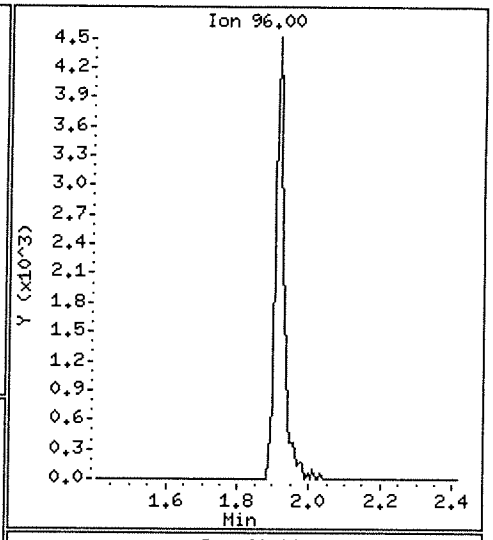
Column phase: DB624

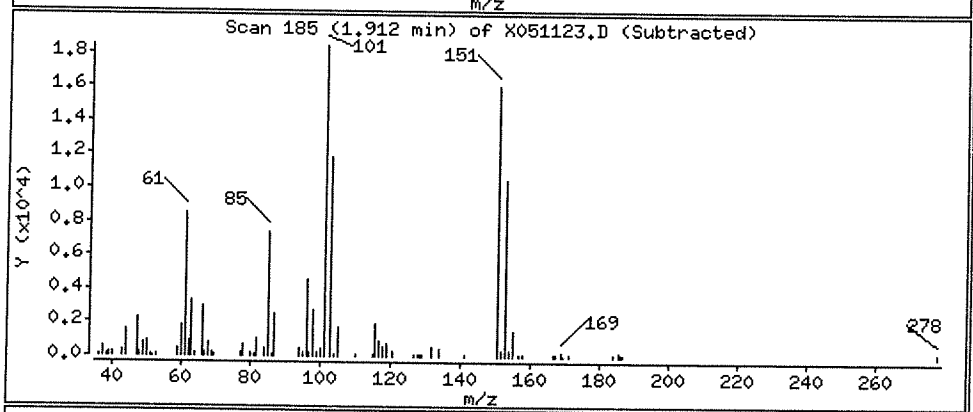
Column diameter: 0.18

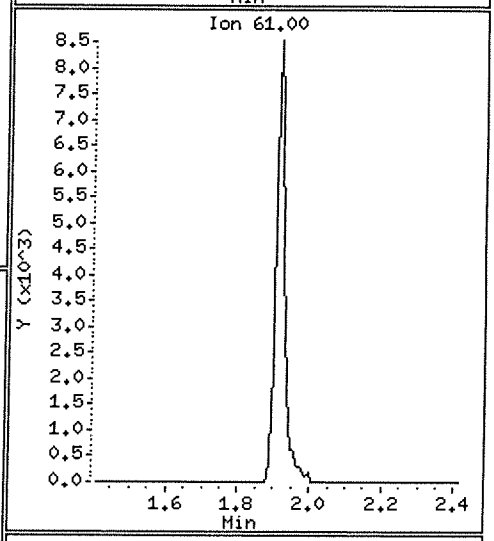
11 1,1-Dichloroethene

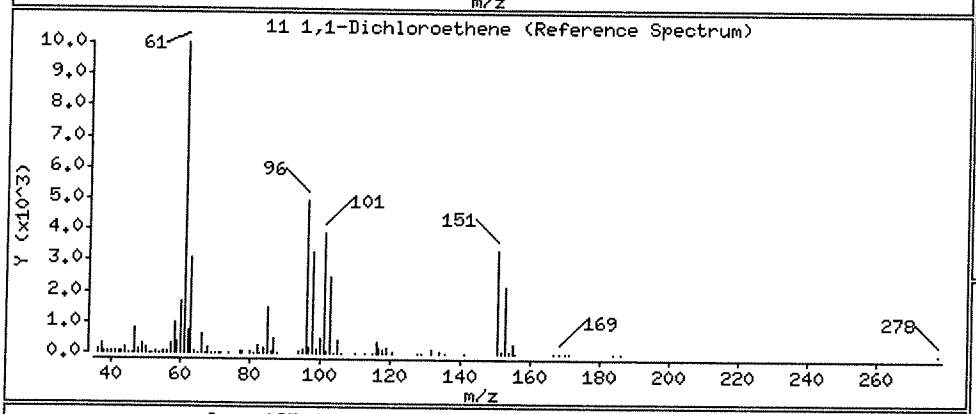
Concentration: 3.56 ug/l

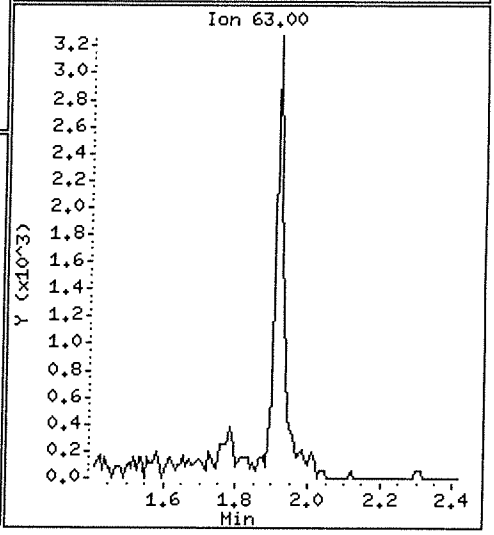


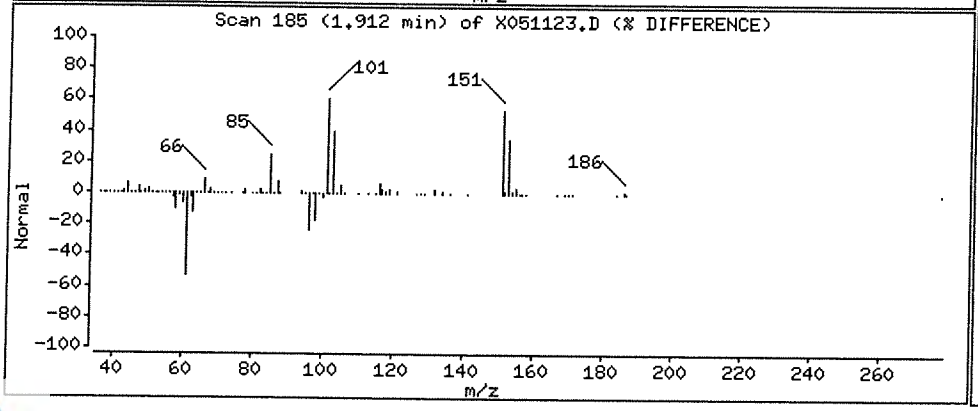












Data File: \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051123.D

Date : 11-MAY-2020 22:00

Client ID: HS20050292-01

Instrument: voa6.i

Sample Info: HS20050292-01;HS20050292-01;;;

Purge Volume: 5.0

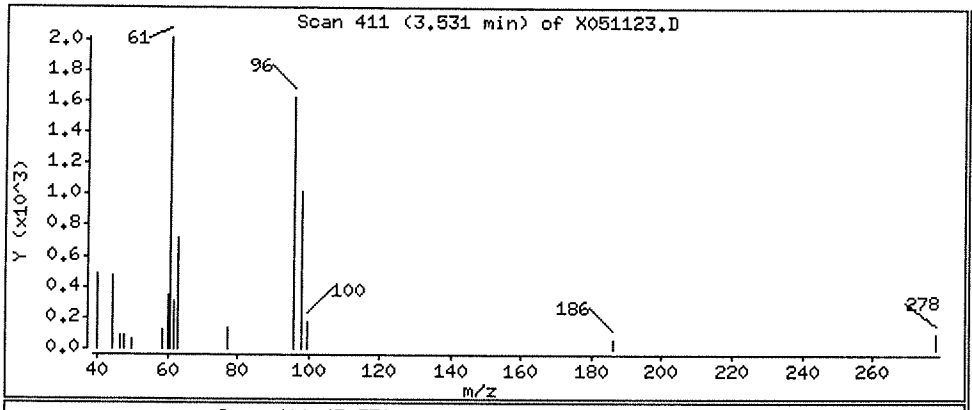
Operator: PC

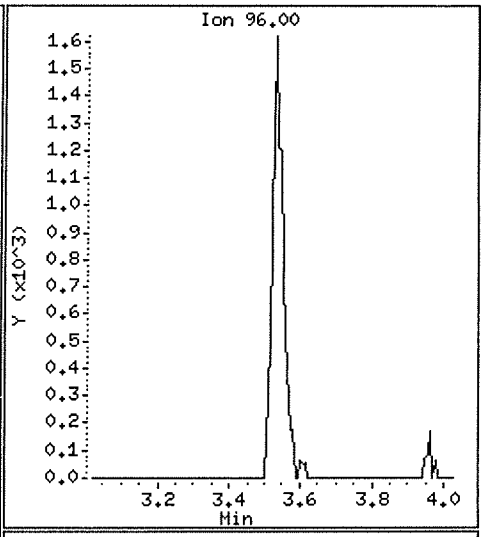
Column phase: DB624

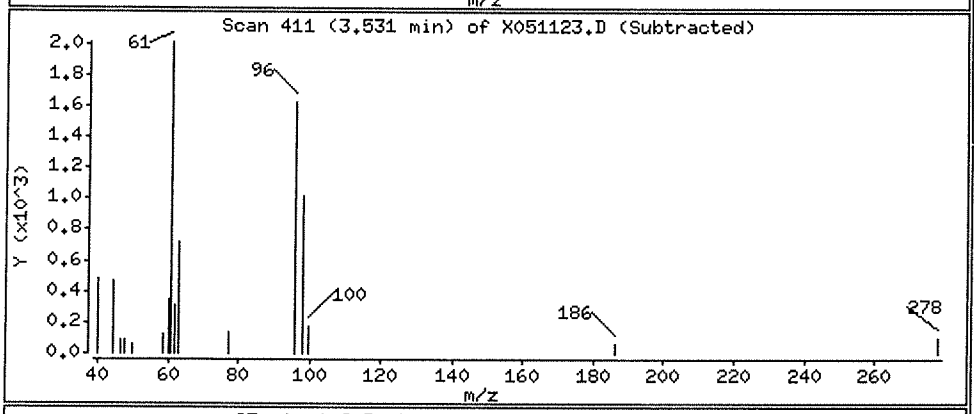
Column diameter: 0.18

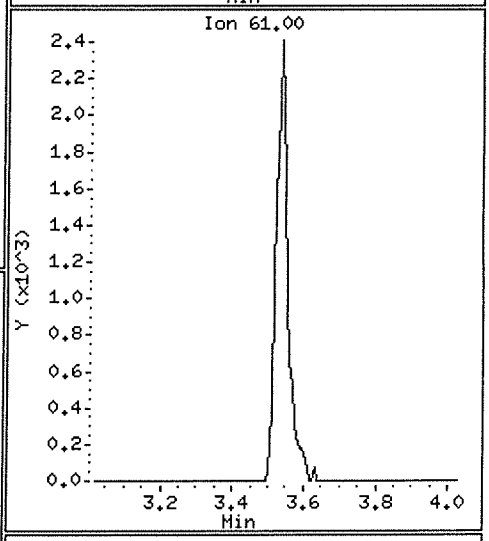
27 cis-1,2-Dichloroethene

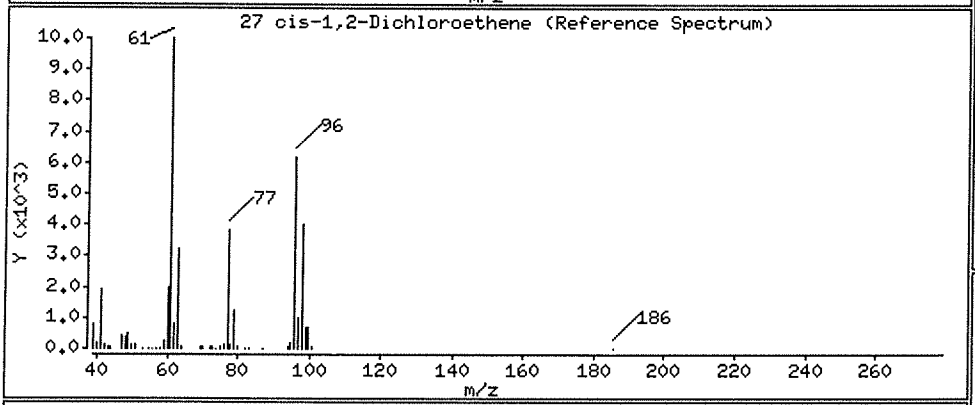
Concentration: 1.21 ug/l

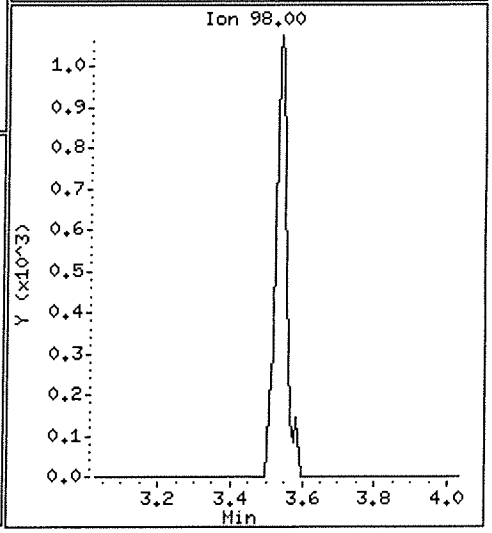


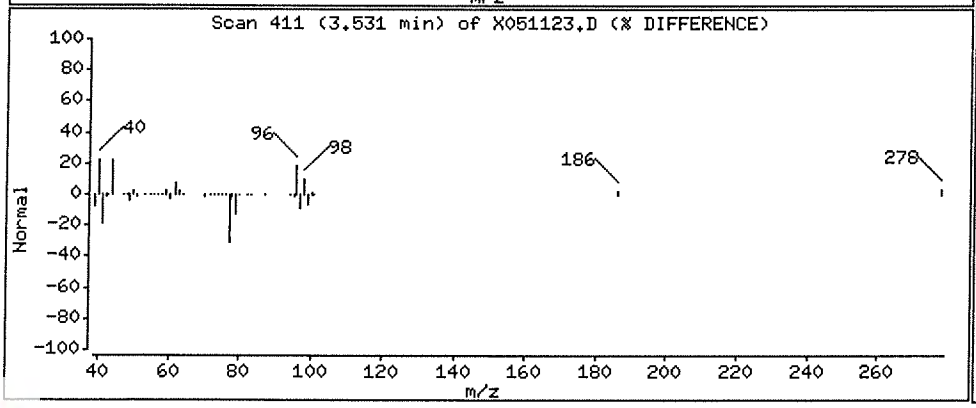












Data File: \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051123.D

Date : 11-MAY-2020 22:00

Client ID: HS20050292-01

Instrument: voa6.i

Sample Info: HS20050292-01;HS20050292-01;;;

Purge Volume: 5.0

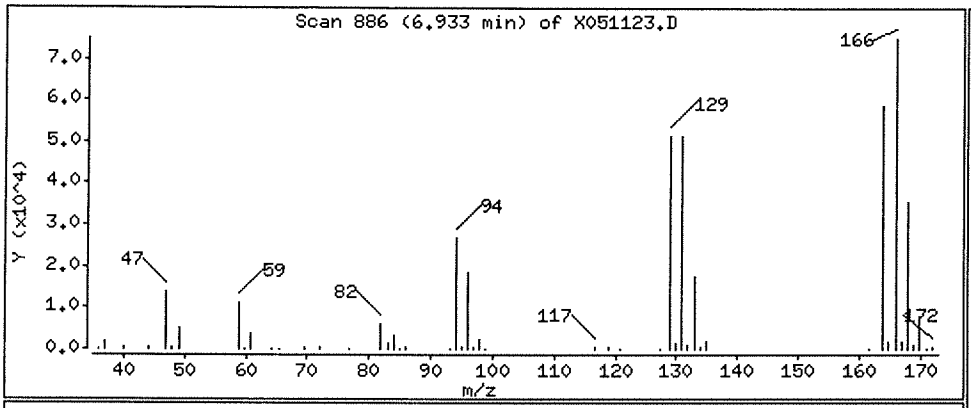
Operator: PC

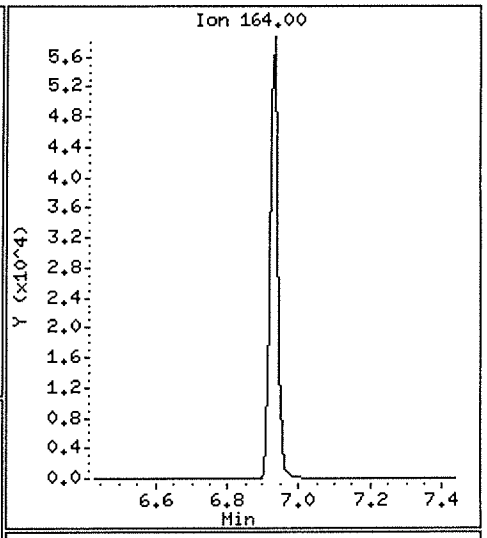
Column phase: DB624

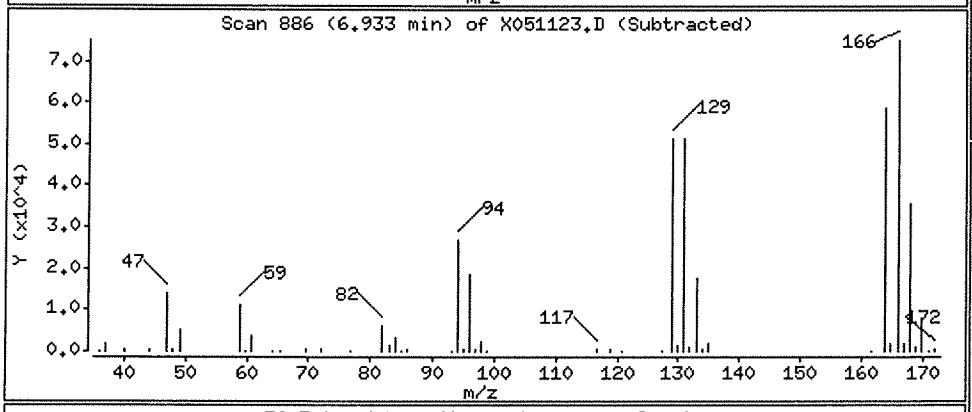
Column diameter: 0.18

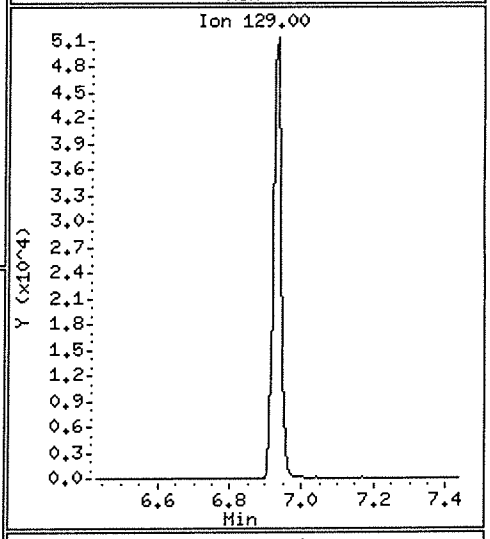
56 Tetrachloroethene

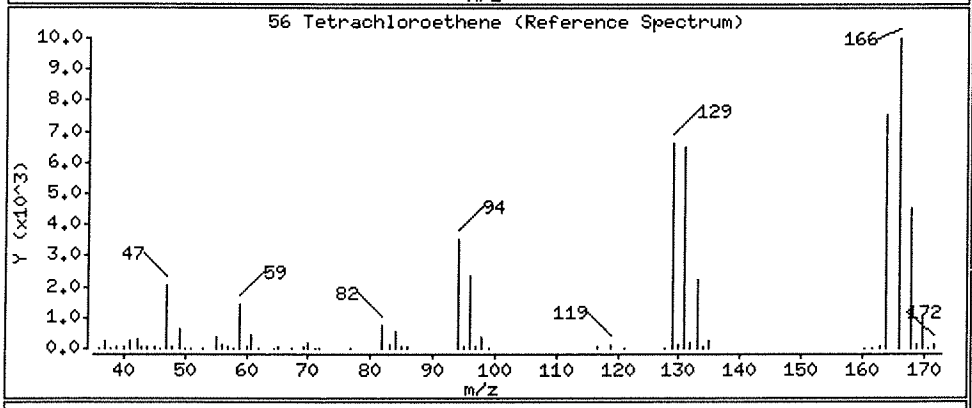
Concentration: 39.88 ug/l

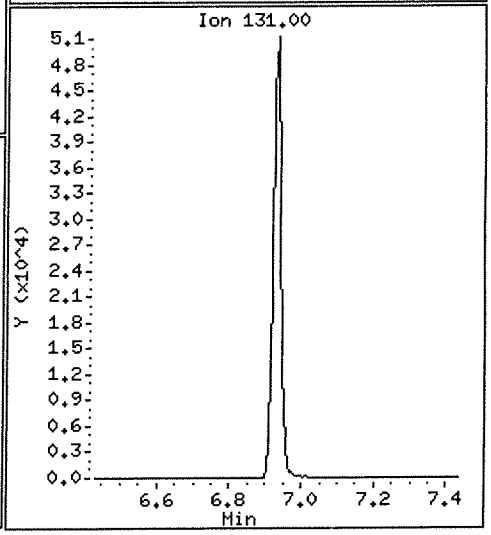


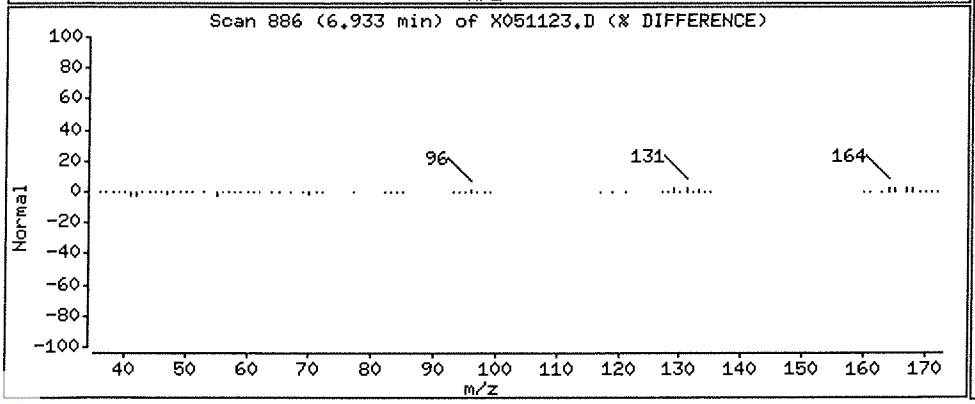












Data File: \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051123.D

Date : 11-MAY-2020 22:00

Client ID: HS20050292-01

Instrument: voa6.i

Sample Info: HS20050292-01;HS20050292-01;;;

Operator: PC

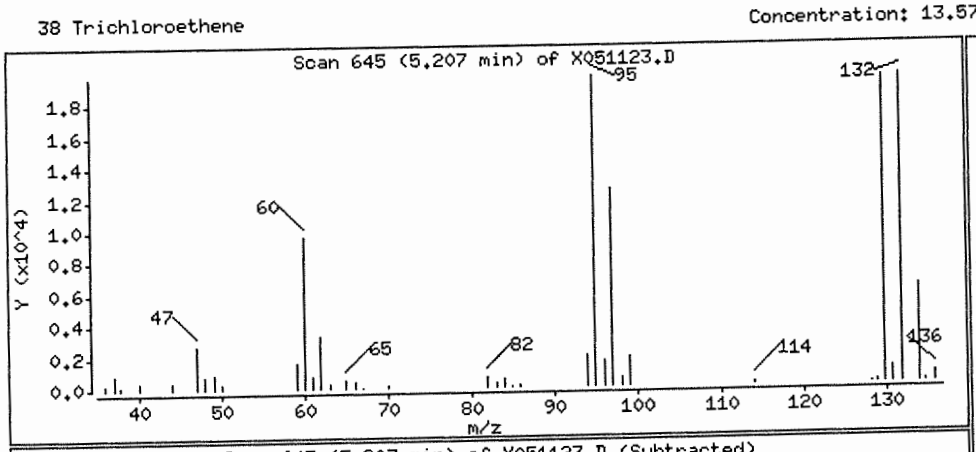
Purge Volume: 5.0

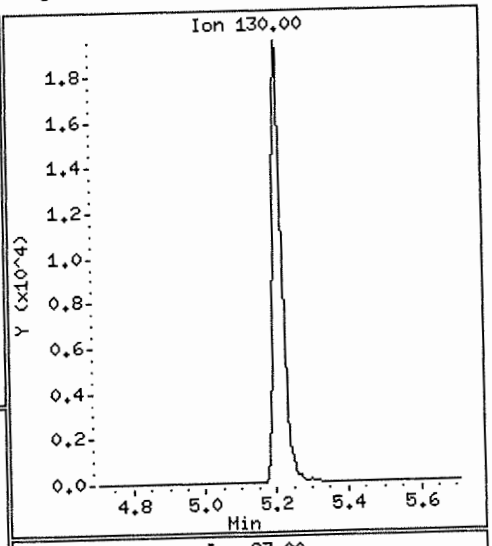
Column phase: DB624

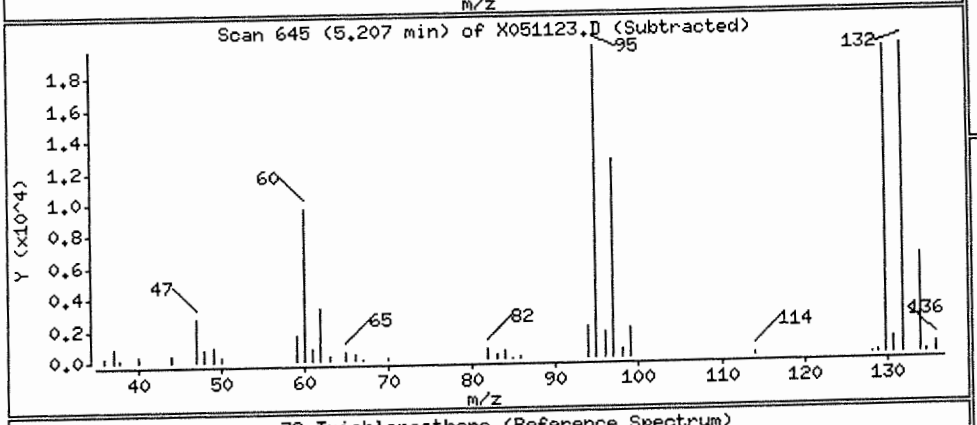
Column diameter: 0.18

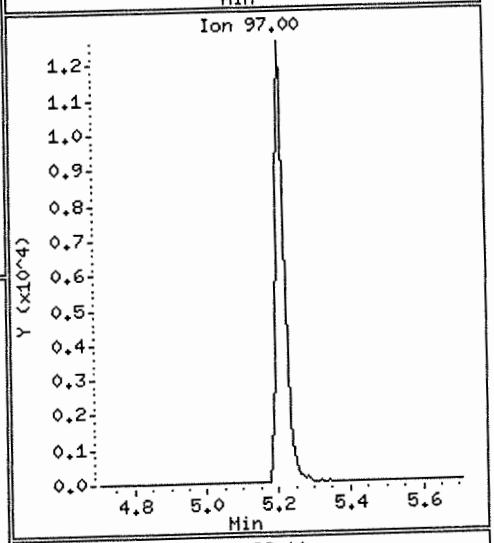
38 Trichloroethene

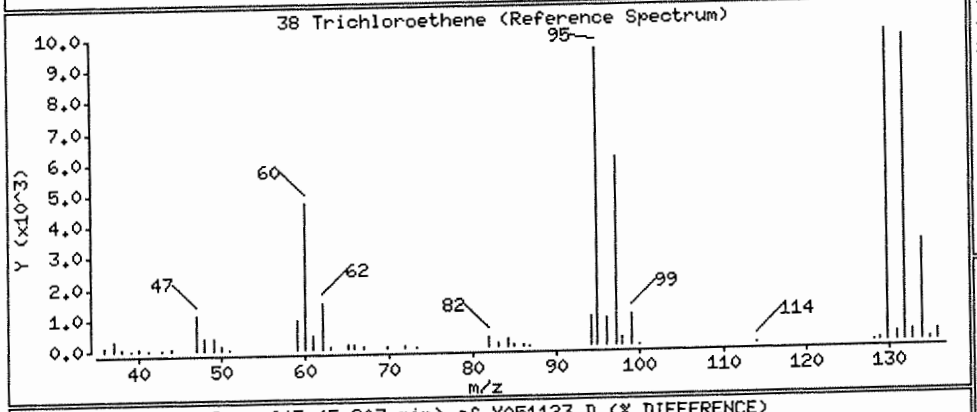
Concentration: 13.57 ug/l

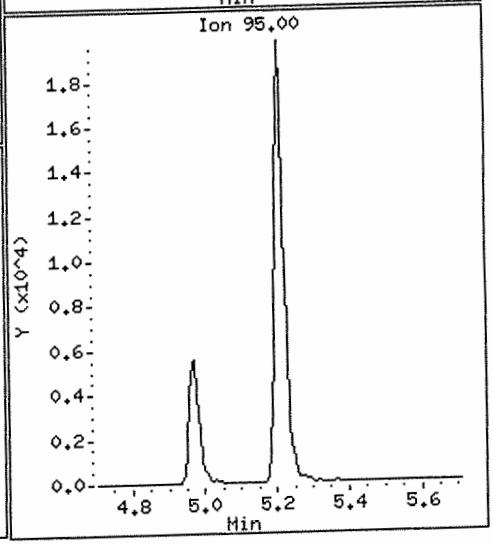


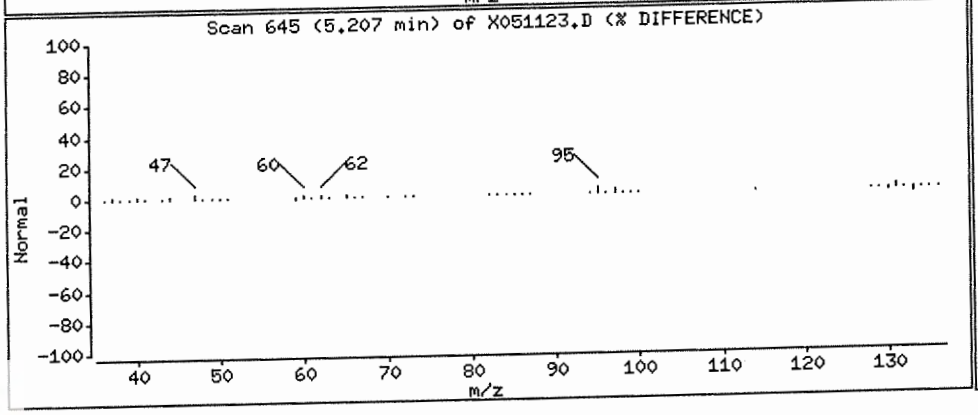












Data File: \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051124.D Page 1
Report Date: 28-May-2020 16:11

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051124.D
Lab Smp Id: HS20050292-02 Client Smp ID: HS20050292-02
Inj Date : 11-MAY-2020 22:24
Operator : PC Inst ID: voa6.i
Smp Info : HS20050292-02;HS20050292-02;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X200511.b\8260W.m
Meth Date : 28-May-2020 16:11 voa6.i Quant Type: ISTD
Cal Date : 11-MAY-2020 17:11 Cal File: X051111.D
Als bottle: 25
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000000_CBI.sub
Target Version: 4.14
Processing Host: NAHSTW7142

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	270639	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	375035	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	327042	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	155742	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	122376	45.3037	45.30
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	148187	44.4229	44.42
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	436574	53.1824	53.18
$ 69 4-Bromofluorobenzene	95	8.688	8.695	(1.133)	156752	50.1720	50.17
138 Freon TF	101	1.919	1.911	(0.459)	5852	2.79802	2.79(a)
11 1,1-Dichloroethene	96	1.912	1.911	(0.457)	1871	0.86895	0.86(a)
56 Tetrachloroethene	164	6.933	6.933	(0.904)	27641	12.8126	12.81
38 Trichloroethene	130	5.207	5.206	(1.048)	20690	7.68860	7.68

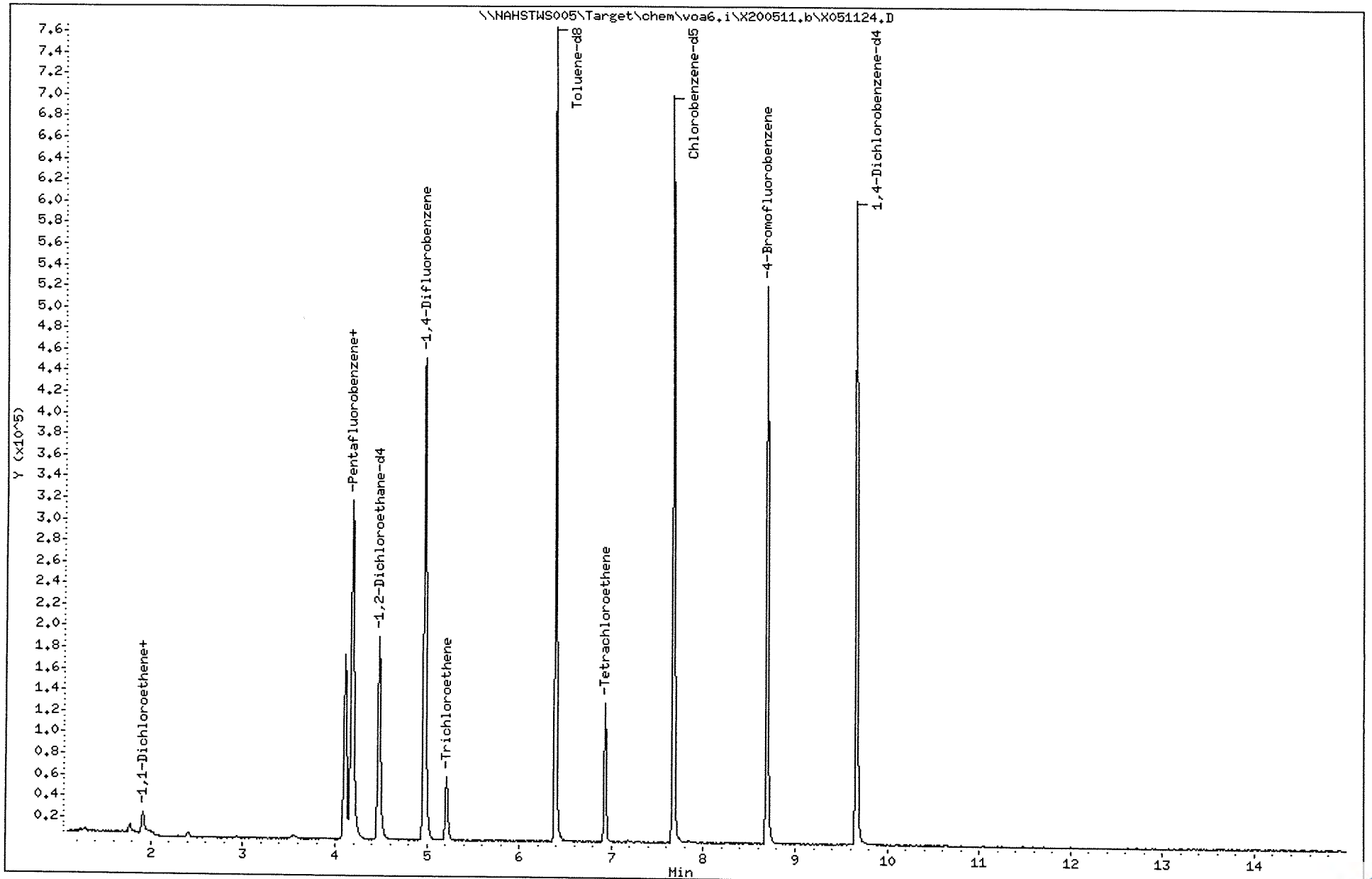
QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

01007121

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051124.D
Date : 11-MAY-2020 22:24
Client ID: HS20050292-02
Sample Info: HS20050292-02;HS20050292-02;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18



Data File: \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051124.D

Date : 11-MAY-2020 22:24

Client ID: HS20050292-02

Instrument: voa6.i

Sample Info: HS20050292-02;HS20050292-02;;;

Purge Volume: 5.0

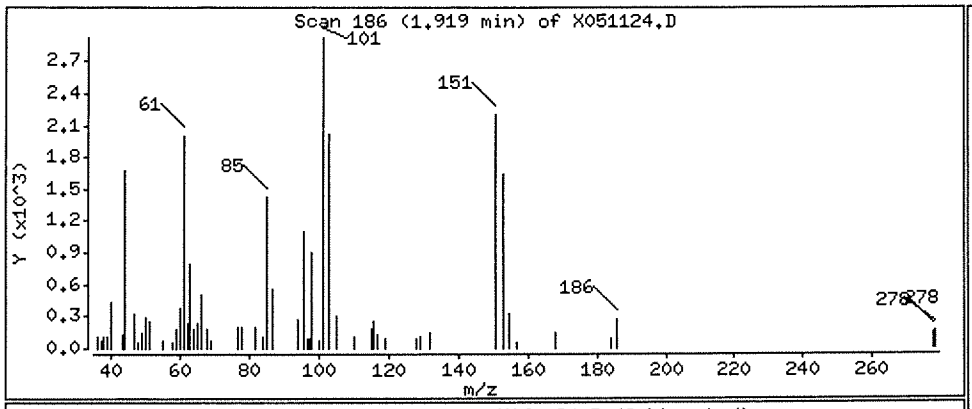
Operator: PC

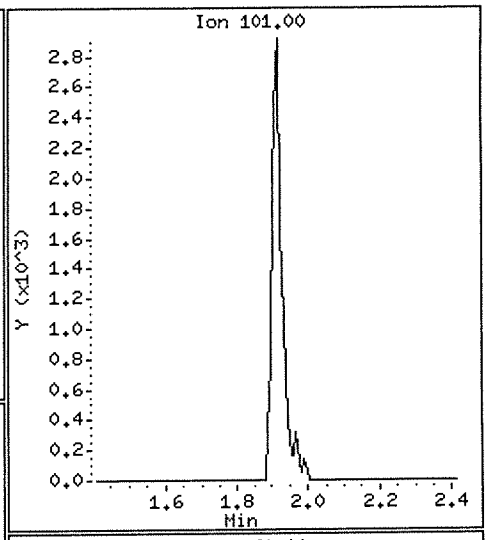
Column phase: DB624

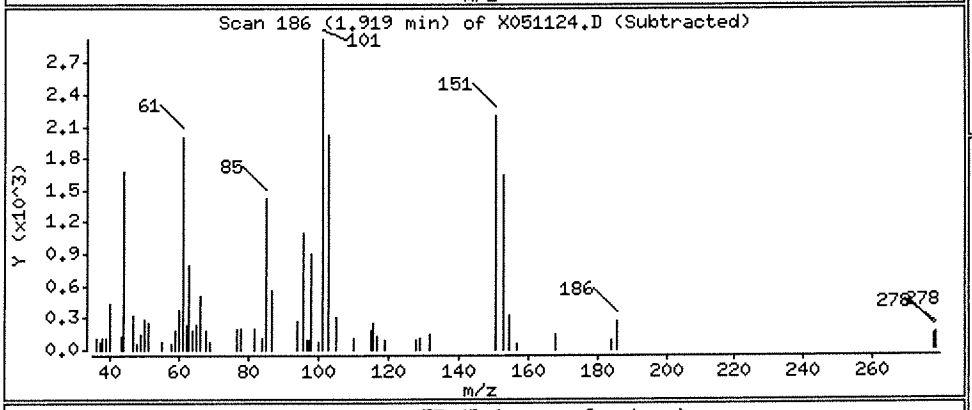
Column diameter: 0.18

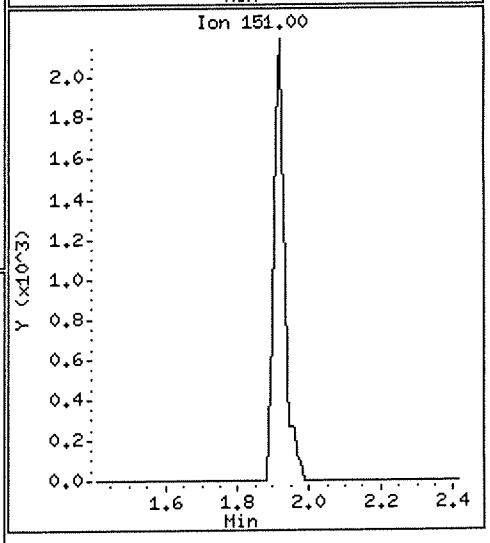
138 Freon TF

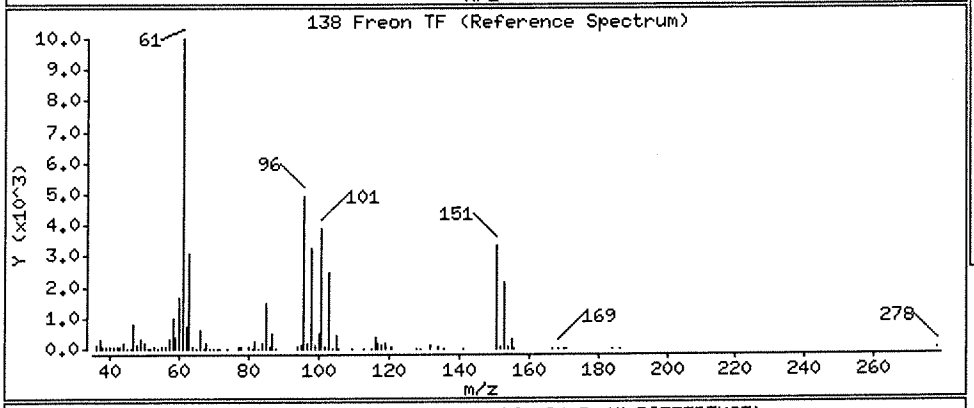
Concentration: 2.79 ug/l

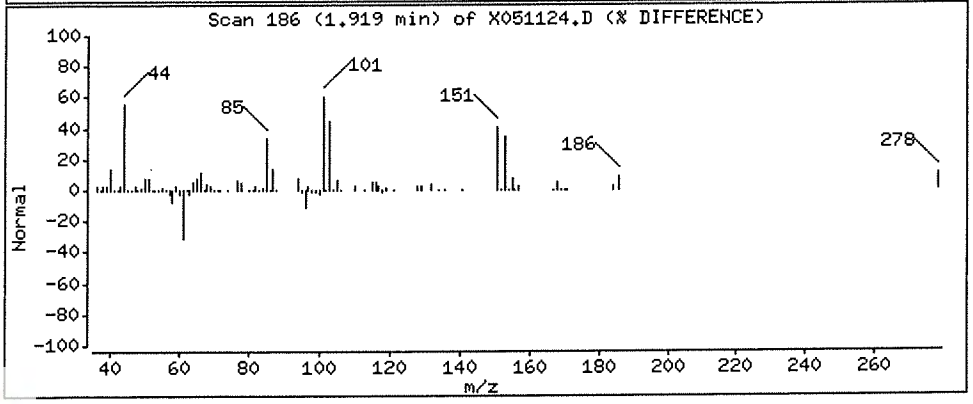












Data File: \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051124.D

Date : 11-MAY-2020 22:24

Client ID: HS20050292-02

Instrument: voa6.i

Sample Info: HS20050292-02;HS20050292-02;;;

Purge Volume: 5.0

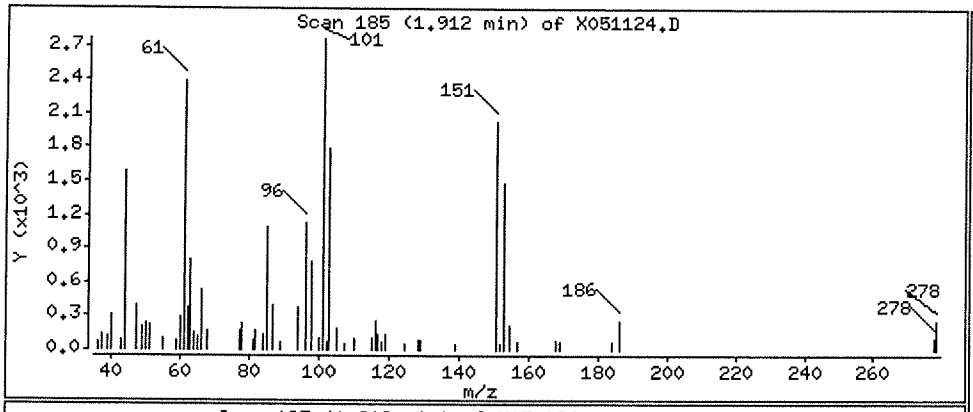
Operator: PC

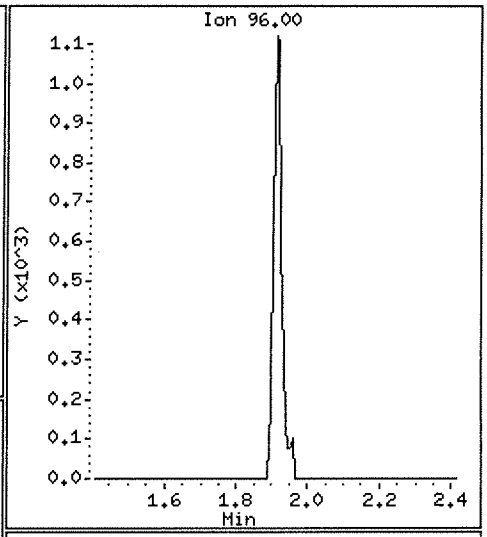
Column phase: DB624

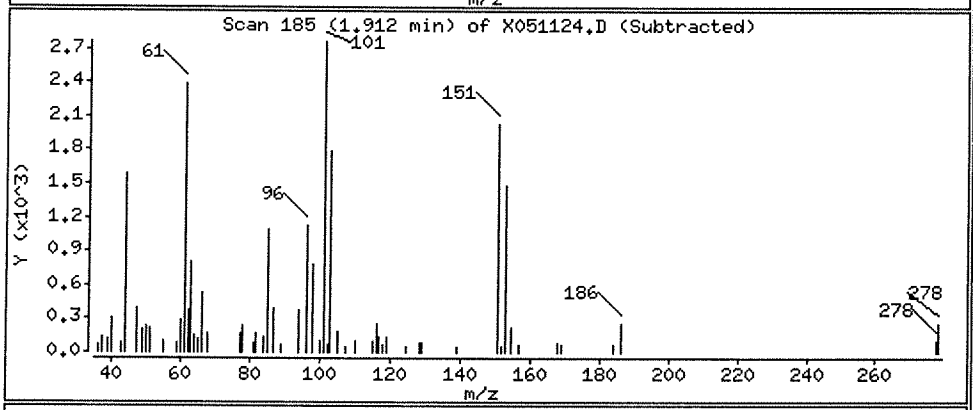
Column diameter: 0.18

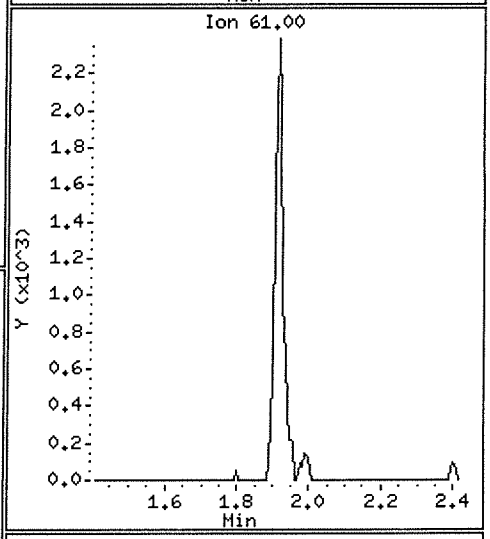
11 1,1-Dichloroethene

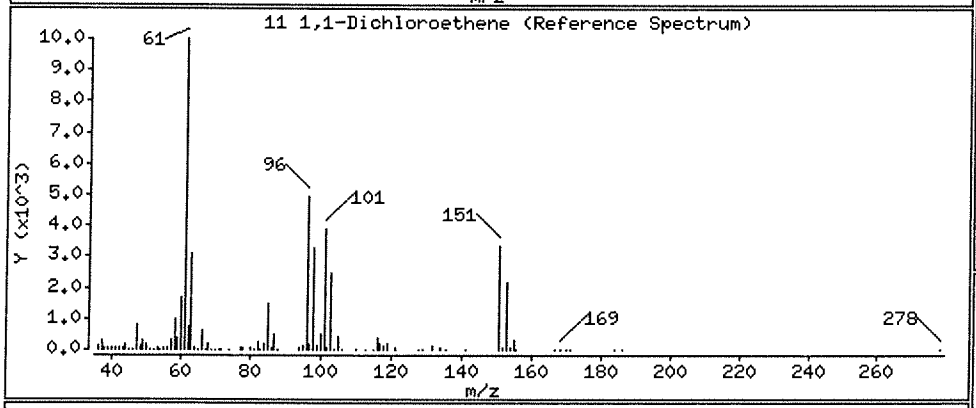
Concentration: 0.86 ug/l

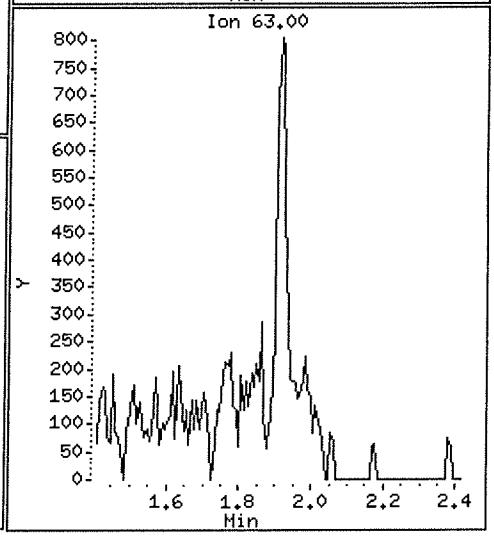


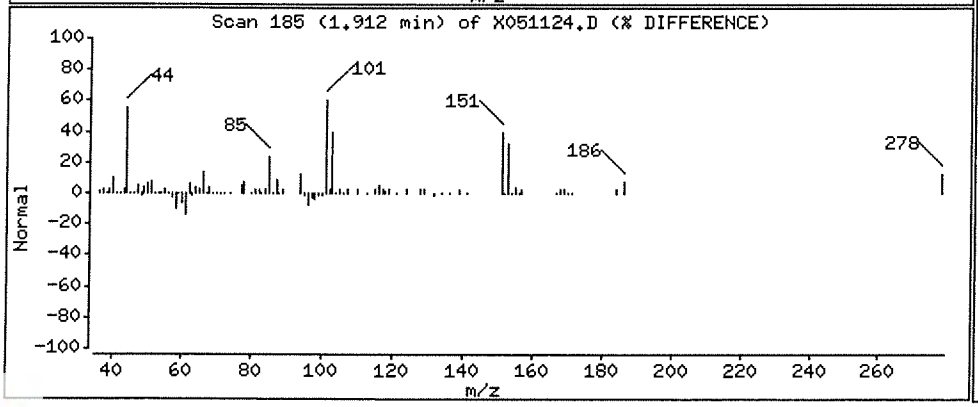












Data File: \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051124.D

Date : 11-MAY-2020 22:24

Client ID: HS20050292-02

Instrument: voa6.i

Sample Info: HS20050292-02;HS20050292-02;;;

Purge Volume: 5.0

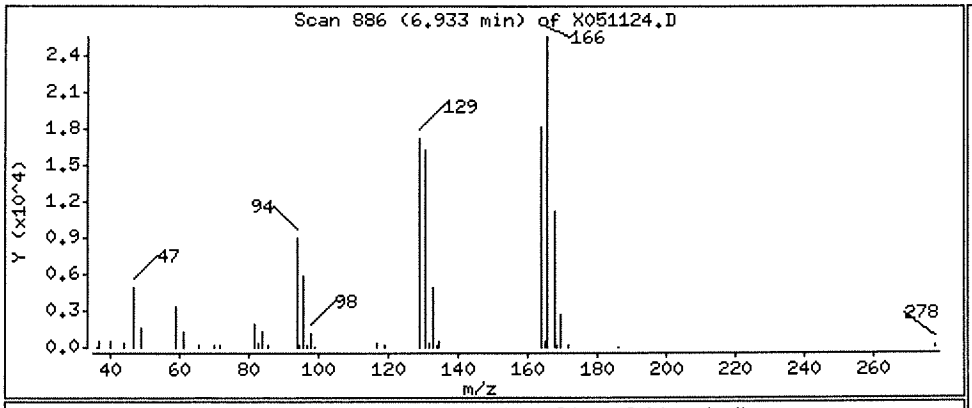
Operator: PC

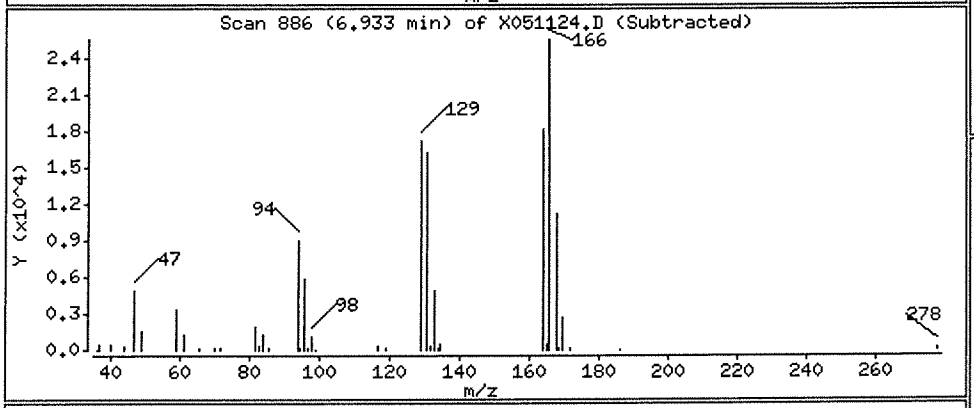
Column phase: DB624

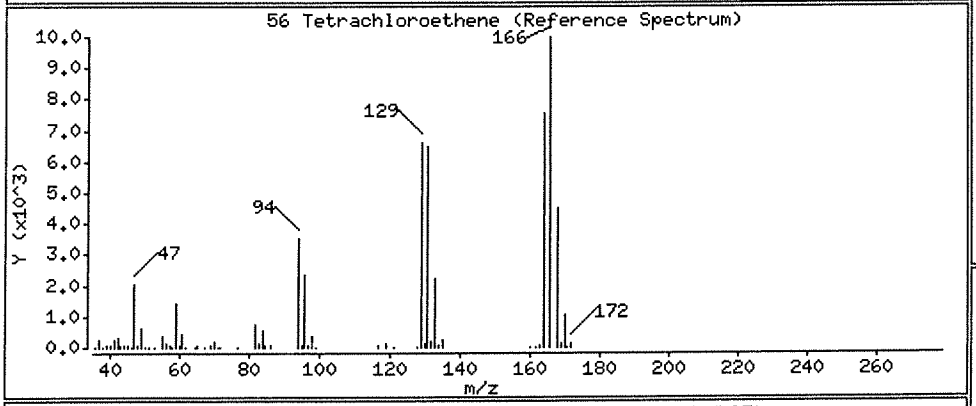
Column diameter: 0.18

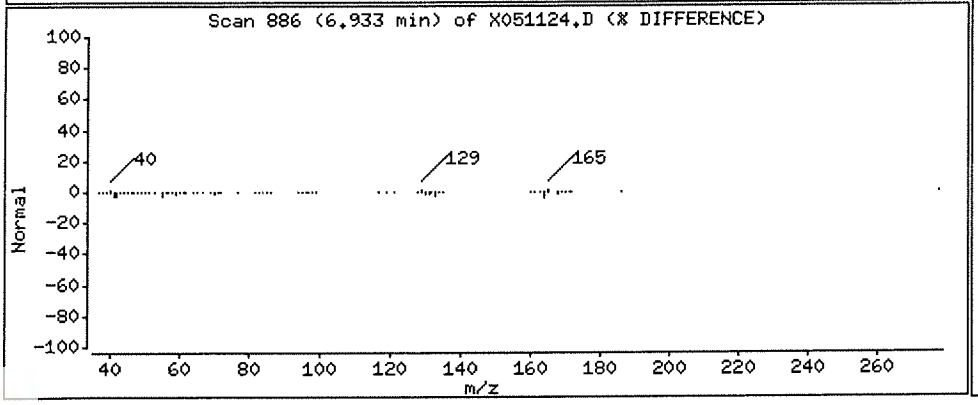
56 Tetrachloroethene

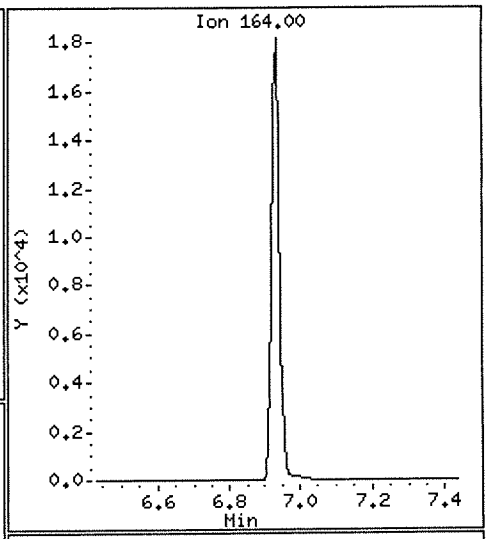
Concentration: 12.81 ug/l

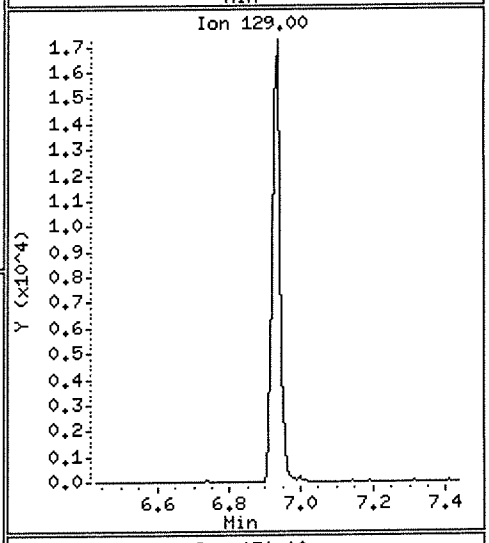


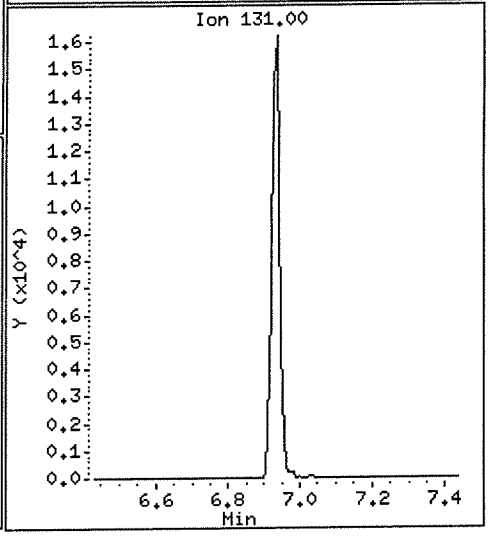












Data File: \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051124.D

Date : 11-MAY-2020 22:24

Client ID: HS20050292-02

Instrument: voa6.i

Sample Info: HS20050292-02;HS20050292-02;;;

Purge Volume: 5.0

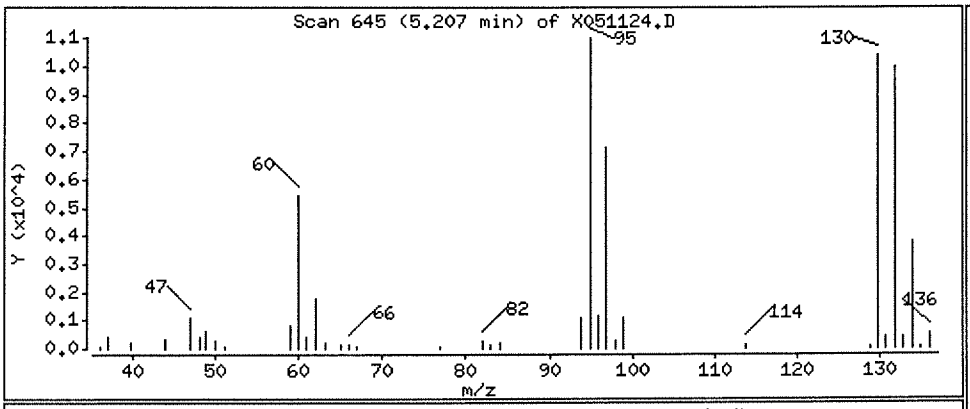
Operator: PC

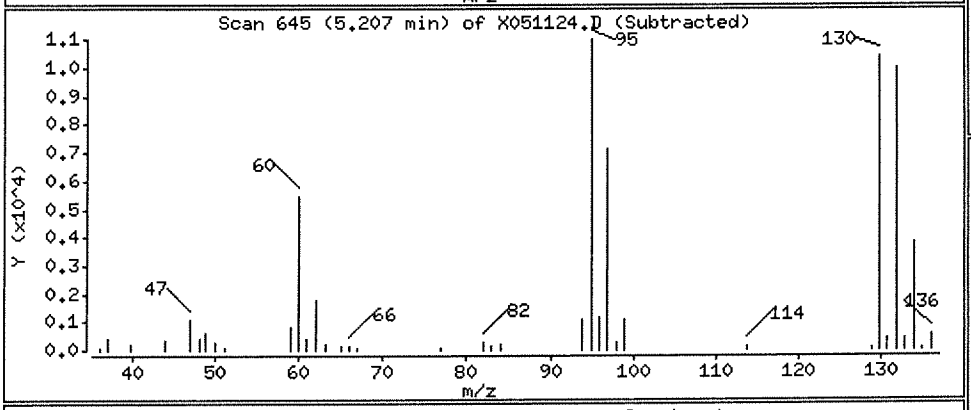
Column phase: DB624

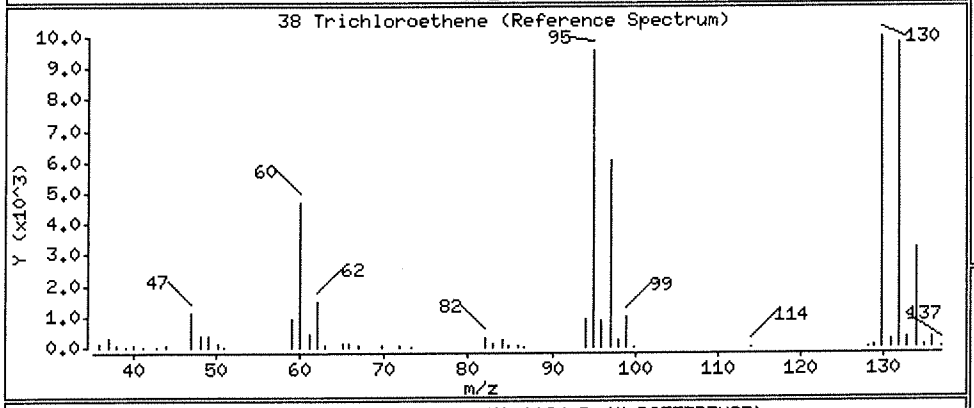
Column diameter: 0.18

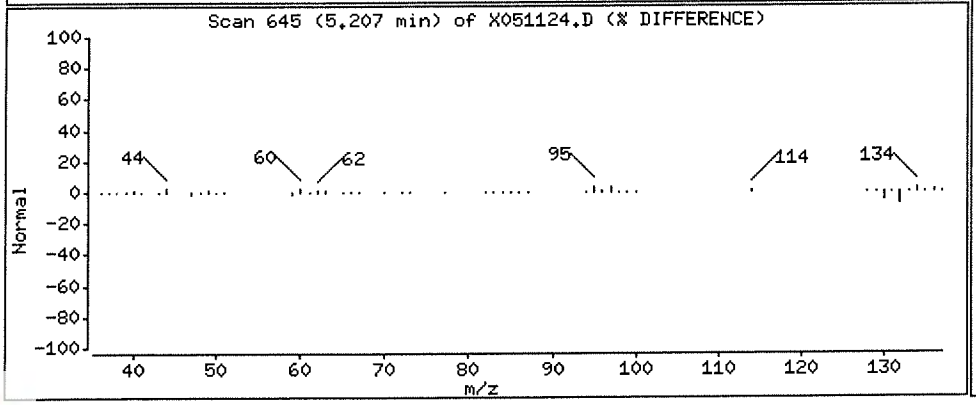
38 Trichloroethene

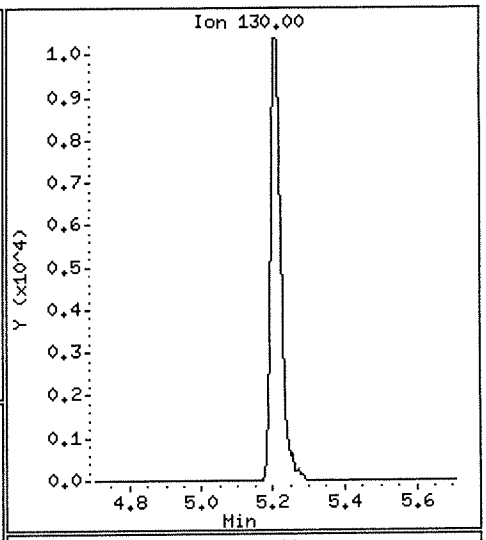
Concentration: 7.68 ug/l

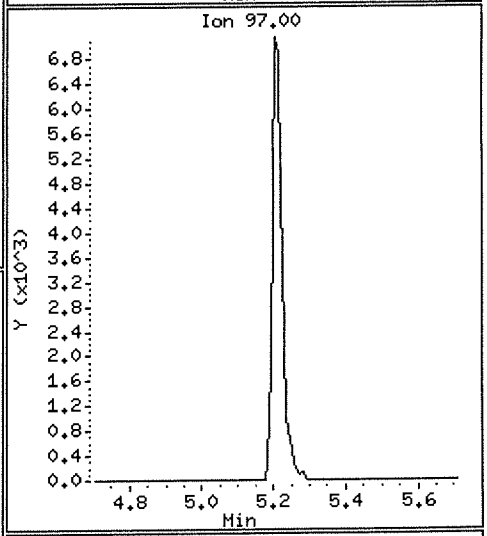


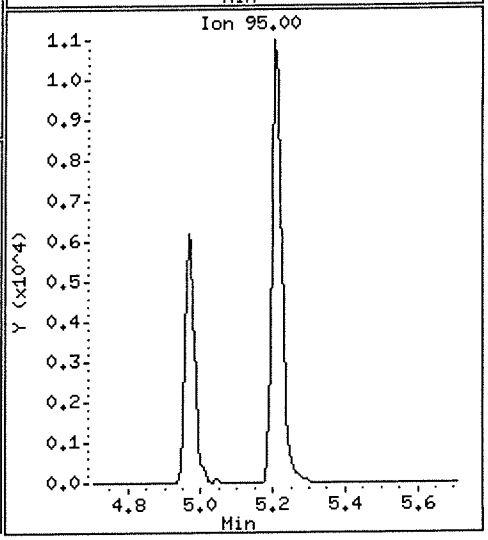












Data File: \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051125.D Page 1
Report Date: 28-May-2020 16:11

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051125.D
Lab Smp Id: HS20050292-03 Client Smp ID: HS20050292-03
Inj Date : 11-MAY-2020 22:48
Operator : PC Inst ID: voa6.i
Smp Info : HS20050292-03;HS20050292-03;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X200511.b\8260W.m
Meth Date : 28-May-2020 16:11 voa6.i Quant Type: ISTD
Cal Date : 11-MAY-2020 17:11 Cal File: X051111.D
Als bottle: 26
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000000_CBI.sub
Target Version: 4.14
Processing Host: NAHSTW7142

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
*	1 Pentafluorobenzene	168	4.182	4.182	(1.000)	270232	50.0000	
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	373745	50.0000	
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	326017	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	154461	50.0000	
$	30 Dibromofluoromethane	113	4.103	4.103	(0.981)	124798	46.2750	46.27
$	35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	146895	44.1016	44.10
$	48 Toluene-d8	98	6.388	6.388	(0.833)	436156	53.2996	53.29
$	69 4-Bromofluorobenzene	95	8.688	8.695	(1.133)	154227	49.5090	49.50

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051125.D

Date : 11-MAY-2020 22:48

Client ID: HS20050292-03

Instrument: voa6.i

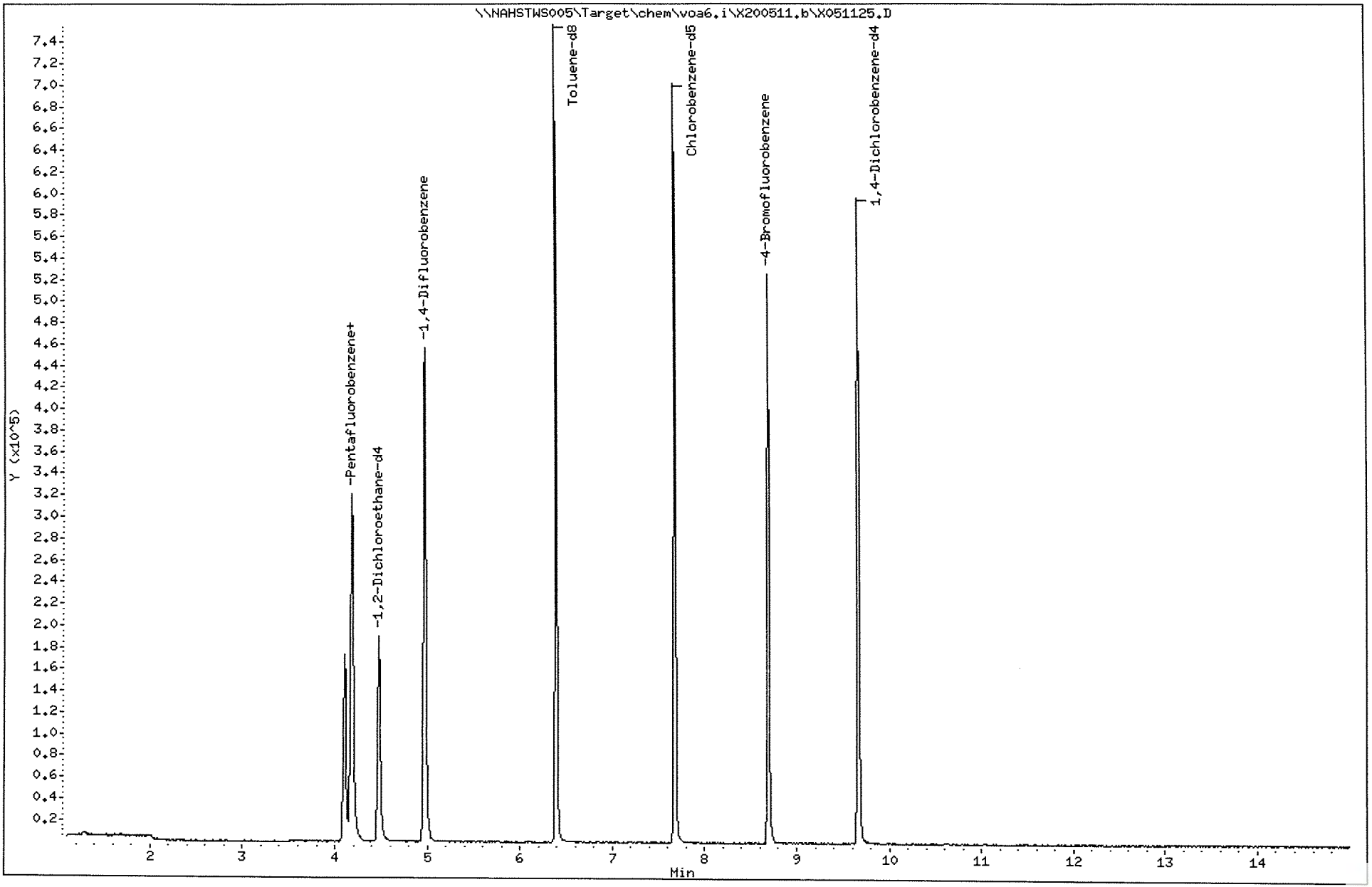
Sample Info: HS20050292-03;HS20050292-03;;;

Purge Volume: 5.0

Operator: PC

Column phase: DB624

Column diameter: 0.18



Data File: \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051126.D Page 1
Report Date: 28-May-2020 16:11

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051126.D
Lab Smp Id: HS20050292-03MS Client Smp ID: HS20050292-03MS
Inj Date : 11-MAY-2020 23:12
Operator : PC Inst ID: voa6.i
Smp Info : HS20050292-03MS;HS20050292-03MS;3;;MS
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X200511.b\8260W.m
Meth Date : 28-May-2020 16:11 voa6.i Quant Type: ISTD
Cal Date : 11-MAY-2020 17:11 Cal File: X051111.D
Als bottle: 27 QC Sample: MS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000000_CBI.sub
Target Version: 4.14
Processing Host: NAHSTW7142

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

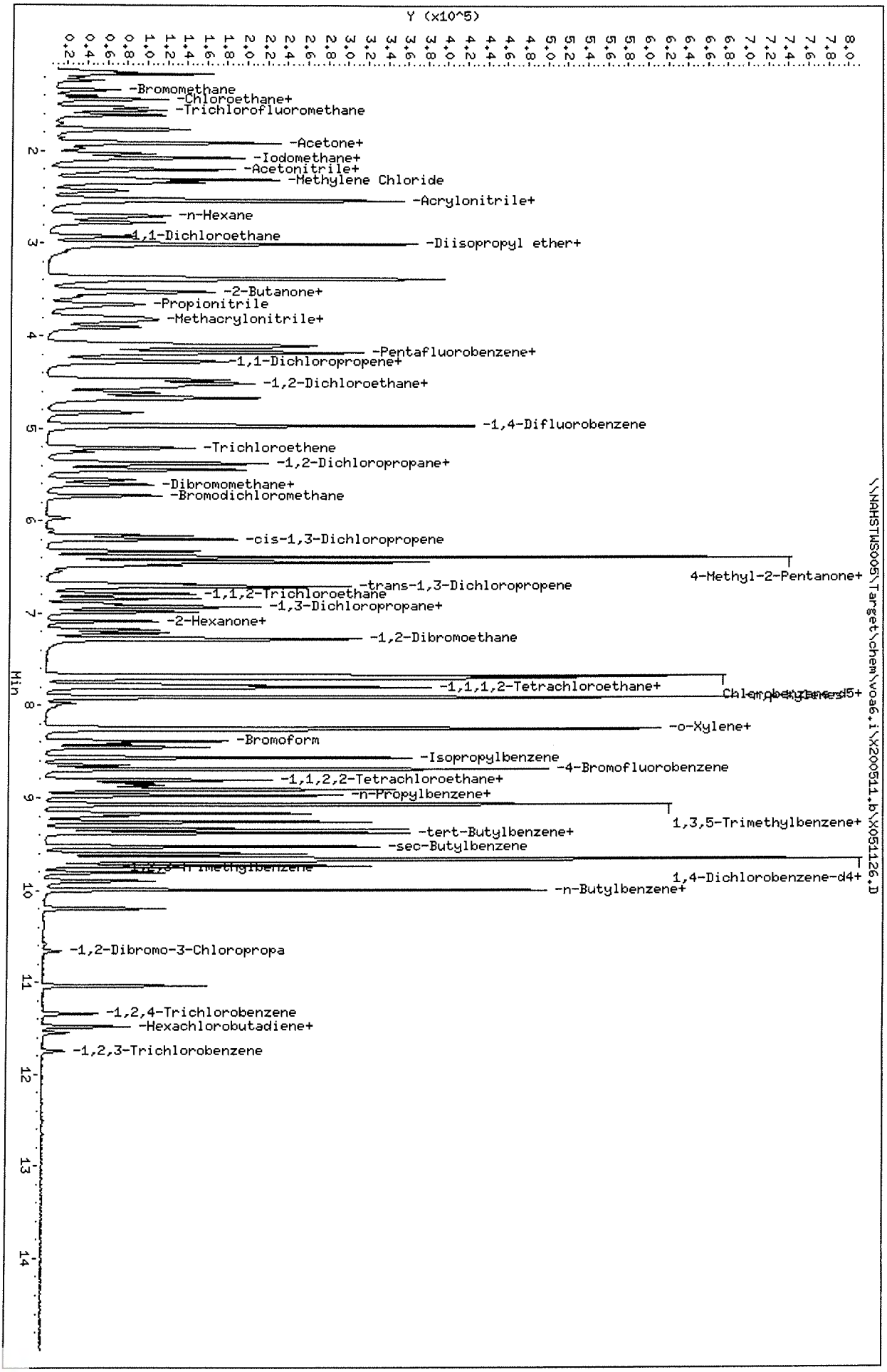
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	257388	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	353311	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	304795	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.669	(1.000)	148588	50.0000	
$ 30 Dibromofluoromethane	113	4.104	4.103	(0.981)	117876	45.8875	45.88
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	141216	44.5126	44.51
$ 48 Toluene-d8	98	6.389	6.388	(0.833)	410375	53.6438	53.64
$ 69 4-Bromofluorobenzene	95	8.688	8.695	(1.133)	144286	49.5433	49.54
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	50240	20.9708	20.97
31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	78431	19.0281	19.02
68 1,1,2,2-Tetrachloroethane	83	8.838	8.845	(0.915)	43765	18.3278	18.32
138 Freon TF	101	1.912	1.911	(0.457)	38672	19.4422	19.44
53 1,1,2-Trichloroethane	83	6.840	6.847	(0.892)	33469	19.7402	19.74
22 1,1-Dichloroethane	63	2.922	2.921	(0.699)	97314	17.3966	17.39
11 1,1-Dichloroethene	96	1.912	1.911	(0.457)	37356	18.2425	18.24
32 1,1-Dichloropropene	75	4.283	4.282	(0.862)	63266	19.5604	19.56
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.216)	7096	15.1129	15.11
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.918)	39368	19.0132	19.01(M)
90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	15468	16.2959	16.29
79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.971)	163530	20.9808	20.98
89 1,2-Dibromo-3-Chloropropane	155	10.658	10.658	(1.103)	3976	17.6872	17.68
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	44544	20.5705	20.57

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051126.D Page 2
Report Date: 28-May-2020 16:11

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
88	1,2-Dichlorobenzene	146	9.999	9.999	(1.035)	80036	19.3354	19.33
33	1,2-Dichloroethane	62	4.562	4.555	(0.918)	72544	19.7202	19.72
42	1,2-Dichloropropane	63	5.436	5.443	(1.094)	52631	18.3007	18.30
75	1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	164871	21.4895	21.48
83	1,3-Dichlorobenzene	146	9.612	9.612	(0.995)	92631	20.4581	20.45
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	69832	19.8130	19.81
84	1,4-Dichlorobenzene	146	9.684	9.683	(1.002)	91552	19.4933	19.49
26	2,2-Dichloropropane	77	3.516	3.509	(0.841)	71471	17.5376	17.53
24	2-Butanone	43	3.581	3.573	(0.856)	35699	30.7746	30.77
76	2-Chlorotoluene	91	8.974	8.981	(0.929)	132593	19.9922	19.99
52	2-Hexanone	43	7.090	7.090	(0.924)	64406	34.1707	34.17
77	4-Chlorotoluene	91	9.075	9.075	(0.939)	154632	20.2241	20.22
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	166305	21.3082	21.30
45	4-Methyl-2-Pentanone	43	6.324	6.331	(0.824)	97629	35.4757	35.47
10	Acetone	43	1.976	1.969	(0.473)	23461	24.1077	24.10
37	Benzene	78	4.512	4.512	(0.908)	173535	19.2154	19.21
74	Bromobenzene	156	8.810	8.810	(0.912)	59166	21.2388	21.23
29	Bromochloromethane	128	3.795	3.795	(0.908)	25971	17.3906	17.39
39	Bromodichloromethane	83	5.730	5.729	(1.153)	63561	19.2728	19.27
66	Bromoform	173	8.416	8.416	(1.097)	34385	19.6902	19.69
6	Bromomethane	94	1.339	1.324	(0.320)	35688	18.3880	18.38
19	Carbon Disulfide	76	2.069	2.069	(0.495)	235451	33.7482	33.74
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	71295	20.0841	20.08
59	Chlorobenzene	112	7.699	7.699	(1.004)	126037	20.8708	20.87
7	Chloroethane	64	1.403	1.396	(0.336)	31282	16.9012	16.90
28	Chloroform	83	3.910	3.910	(0.935)	86971	18.9082	18.90
3	Chloromethane	50	1.074	1.073	(0.257)	54588	13.9151	13.91
27	cis-1,2-Dichloroethene	96	3.530	3.523	(0.844)	51944	19.1305	19.13
46	cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	72251	18.7064	18.70
55	Dibromochloromethane	129	7.176	7.176	(0.936)	49465	20.0511	20.05
44	Dibromomethane	93	5.558	5.557	(1.118)	29853	19.1384	19.13
2	Dichlorodifluoromethane	85	0.966	0.966	(0.231)	35476	12.6160	12.61
61	Ethylbenzene	106	7.800	7.800	(1.017)	66951	21.1241	21.12
91	Hexachlorobutadiene	225	11.481	11.481	(1.188)	15068	19.1805	19.18
67	Isopropylbenzene	105	8.566	8.566	(1.117)	200039	21.0462	21.04
62	m,p-Xylenes	106	7.907	7.907	(1.031)	158295	41.1476	41.14
17	Methylene Chloride	84	2.306	2.298	(0.551)	46298	17.5965	17.59
87	n-Butylbenzene	91	9.999	9.999	(1.035)	131441	20.8730	20.87
73	n-Propylbenzene	91	8.917	8.917	(0.923)	223438	20.9162	20.91
92	Naphthalene	128	11.546	11.546	(1.195)	19809	14.1604	14.16
63	o-Xylene	106	8.244	8.244	(1.075)	76259	20.3742	20.37
81	sec-Butylbenzene	105	9.526	9.526	(0.986)	190408	21.1569	21.15
64	Styrene	104	8.258	8.265	(1.077)	131665	20.2969	20.29
78	tert-Butylbenzene	119	9.340	9.340	(0.967)	142729	21.9107	21.91
56	Tetrachloroethene	164	6.933	6.933	(0.904)	42765	21.2700	21.26
50	Toluene	91	6.446	6.446	(0.840)	187132	20.7455	20.74
20	trans-1,2-Dichloroethene	96	2.528	2.528	(0.604)	44628	19.0603	19.06
51	trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	65876	18.8072	18.80
38	Trichloroethene	130	5.207	5.206	(1.048)	50686	19.9935	19.99
8	Trichlorofluoromethane	101	1.561	1.553	(0.373)	78401	18.9321	18.93
5	Vinyl Chloride	62	1.138	1.138	(0.272)	54411	15.2498	15.24

QC Flag Legend

M - Compound response manually integrated.



Data File: \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051126.D
Date : 11-MAY-2020 23:12
Client ID: HS20050292-03MS
Sample Info: HS20050292-03MS;HS20050292-03MS;3;;MS
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051127.D Page 1
Report Date: 28-May-2020 16:11

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051127.D
Lab Smp Id: HS20050292-03MSD Client Smp ID: HS20050292-03MSD
Inj Date : 11-MAY-2020 23:36
Operator : PC Inst ID: voa6.i
Smp Info : HS20050292-03MSD;HS20050292-03MSD;3;;MSD
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X200511.b\8260W.m
Meth Date : 28-May-2020 16:11 voa6.i Quant Type: ISTD
Cal Date : 11-MAY-2020 17:11 Cal File: X051111.D
Als bottle: 27 QC Sample: MSD
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000000_CBI.sub
Target Version: 4.14
Processing Host: NAHSTW7142

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

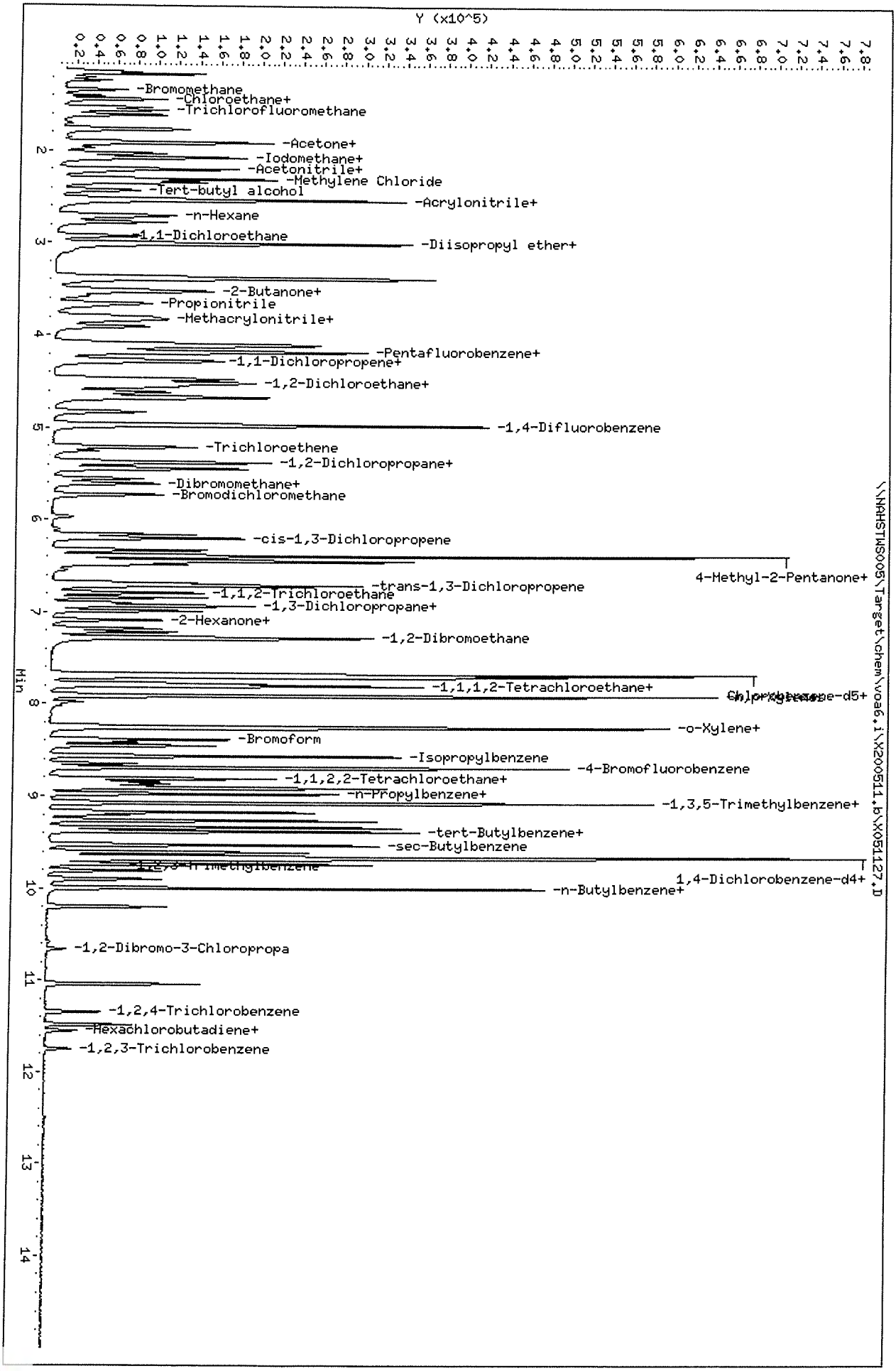
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	249785	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	345641	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	300879	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.669	(1.000)	144845	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	116168	46.6028	46.60
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	134471	43.6760	43.67
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	405126	53.6469	53.64
$ 69 4-Bromofluorobenzene	95	8.688	8.695	(1.133)	141487	49.2094	49.20
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	47041	19.8910	19.89
31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	73831	18.4573	18.45
68 1,1,2,2-Tetrachloroethane	83	8.838	8.845	(0.915)	43582	18.7228	18.72
138 Freon TF	101	1.912	1.911	(0.457)	36288	18.7989	18.79
53 1,1,2-Trichloroethane	83	6.840	6.847	(0.892)	32092	19.1744	19.17
22 1,1-Dichloroethane	63	2.921	2.921	(0.699)	90730	16.7133	16.71
11 1,1-Dichloroethene	96	1.912	1.911	(0.457)	33979	17.0984	17.09
32 1,1-Dichloropropene	75	4.282	4.282	(0.862)	57068	18.0356	18.03
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.216)	7075	15.4614	15.46
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.918)	38386	19.0180	19.01(M)
90 1,2,4-Trichlorobenzene	180	11.345	11.338	(1.174)	15764	16.9168	16.91
79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.971)	161052	21.1969	21.19
89 1,2-Dibromo-3-Chloropropane	155	10.658	10.658	(1.103)	4053	18.4285	18.42
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	43139	20.1809	20.18

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051127.D Page 2
Report Date: 28-May-2020 16:11

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
88	1,2-Dichlorobenzene	146	9.991	9.999	(1.034)	79246	19.6393	19.63
33	1,2-Dichloroethane	62	4.555	4.555	(0.916)	69863	19.4129	19.41
42	1,2-Dichloropropane	63	5.436	5.443	(1.094)	51327	18.2434	18.24
75	1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	157869	21.1086	21.10
83	1,3-Dichlorobenzene	146	9.605	9.612	(0.994)	88404	20.0291	20.02
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	66015	18.9738	18.97
84	1,4-Dichlorobenzene	146	9.683	9.683	(1.002)	90556	19.7795	19.77
26	2,2-Dichloropropane	77	3.509	3.509	(0.839)	65285	16.5073	16.50
24	2-Butanone	43	3.580	3.573	(0.856)	35504	31.5381	31.53
76	2-Chlorotoluene	91	8.974	8.981	(0.929)	129485	20.0281	20.02
52	2-Hexanone	43	7.090	7.090	(0.924)	62729	33.7141	33.71
77	4-Chlorotoluene	91	9.075	9.075	(0.939)	149212	20.0195	20.01
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	162467	21.3543	21.35
45	4-Methyl-2-Pentanone	43	6.324	6.331	(0.824)	94349	34.7301	34.73
10	Acetone	43	1.969	1.969	(0.471)	23355	24.7971	24.79
37	Benzene	78	4.512	4.512	(0.908)	162578	18.4016	18.40
74	Bromobenzene	156	8.810	8.810	(0.912)	56338	20.7462	20.74
29	Bromochloromethane	128	3.795	3.795	(0.908)	25832	17.8241	17.82
39	Bromodichloromethane	83	5.729	5.729	(1.153)	61240	18.9810	18.98
66	Bromoform	173	8.416	8.416	(1.097)	32670	18.9517	18.95
6	Bromomethane	94	1.338	1.324	(0.320)	32011	16.9389	16.93
19	Carbon Disulfide	76	2.069	2.069	(0.495)	215395	31.8132	31.81
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	67822	19.5297	19.52
59	Chlorobenzene	112	7.699	7.699	(1.004)	116702	19.5765	19.57
7	Chloroethane	64	1.403	1.396	(0.336)	28017	15.5655	15.56
28	Chloroform	83	3.910	3.910	(0.935)	80687	18.0759	18.07
3	Chloromethane	50	1.073	1.073	(0.257)	50878	13.3890	13.38
27	cis-1,2-Dichloroethene	96	3.530	3.523	(0.844)	46820	17.7682	17.76
46	cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	69027	18.2682	18.26
55	Dibromochloromethane	129	7.176	7.176	(0.936)	49081	20.1544	20.15
44	Dibromomethane	93	5.557	5.557	(1.118)	28414	18.6201	18.62
2	Dichlorodifluoromethane	85	0.966	0.966	(0.231)	32021	11.8083	11.80
61	Ethylbenzene	106	7.800	7.800	(1.017)	63876	20.4162	20.41
91	Hexachlorobutadiene	225	11.488	11.481	(1.189)	14142	18.5029	18.50
67	Isopropylbenzene	105	8.566	8.566	(1.117)	192112	20.4753	20.47
62	m,p-Xylenes	106	7.907	7.907	(1.031)	150532	39.6390	39.63
17	Methylene Chloride	84	2.305	2.298	(0.551)	42332	16.5169	16.51
87	n-Butylbenzene	91	9.999	9.999	(1.035)	126463	20.6014	20.60
73	n-Propylbenzene	91	8.917	8.917	(0.923)	212005	20.3588	20.35
92	Naphthalene	128	11.546	11.546	(1.195)	21139	15.5016	15.50
63	o-Xylene	106	8.244	8.244	(1.075)	73518	19.8976	19.89
81	sec-Butylbenzene	105	9.526	9.526	(0.986)	181326	20.6684	20.66
64	Styrene	104	8.258	8.265	(1.077)	122600	19.1455	19.14
78	tert-Butylbenzene	119	9.340	9.340	(0.967)	135892	21.4002	21.40
56	Tetrachloroethene	164	6.933	6.933	(0.904)	39368	19.8352	19.83
50	Toluene	91	6.446	6.446	(0.840)	174227	19.5663	19.56
20	trans-1,2-Dichloroethene	96	2.528	2.528	(0.604)	39671	17.4589	17.45
51	trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	63462	18.5201	18.52
38	Trichloroethene	130	5.207	5.206	(1.048)	47636	19.2074	19.20
8	Trichlorofluoromethane	101	1.561	1.553	(0.373)	70379	17.5122	17.51
5	Vinyl Chloride	62	1.138	1.138	(0.272)	51194	14.7849	14.78

QC Flag Legend

M - Compound response manually integrated.



Data File: \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051127.D
Date : 11-MAY-2020 23:36
Client ID: HS20050292-03MSD
Sample Info: HS20050292-03MSD;HS20050292-03MSD;3;;HSD
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051128.D Page 1
Report Date: 28-May-2020 16:12

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051128.D
Lab Smp Id: CCV-END Client Smp ID: CCV-END
Inj Date : 12-MAY-2020 00:00
Operator : PC Inst ID: voa6.i
Smp Info : CCV-END;CCV-END;2;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X200511.b\8260W.m
Meth Date : 28-May-2020 16:12 voa6.i Quant Type: ISTD
Cal Date : 11-MAY-2020 17:11 Cal File: X051111.D
Als bottle: 28 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000000_CBI.sub
Target Version: 4.14
Processing Host: NAHSTW7142

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
*	1 Pentafluorobenzene	168	4.182	4.182	(1.000)	201789	50.0000	
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	298953	50.0000	
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	278465	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	139356	50.0000	
$	30 Dibromofluoromethane	113	4.104	4.104	(0.981)	102550	50.0000	50.94
$	35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	124600	50.0000	50.10
$	48 Toluene-d8	98	6.389	6.389	(0.833)	349458	50.0000	49.96
$	69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	130988	50.0000	49.22
	60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	101471	50.0000	46.36
	31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	151103	50.0000	46.75
	68 1,1,2,2-Tetrachloroethane	83	8.838	8.838	(0.915)	95085	50.0000	42.45
	138 Freon TF	101	1.912	1.912	(0.457)	67511	50.0000	43.29
	53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	69080	50.0000	44.59
	22 1,1-Dichloroethane	63	2.922	2.922	(0.699)	197190	50.0000	44.96
	11 1,1-Dichloroethene	96	1.912	1.912	(0.457)	70154	50.0000	43.69
	32 1,1-Dichloropropene	75	4.283	4.283	(0.862)	119855	50.0000	43.79
	93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.216)	20537	50.0000	45.98
	71 1,2,3-Trichloropropane	75	8.867	8.867	(0.918)	87857	50.0000	45.24(M)
	90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	40962	50.0000	41.19
	79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.971)	339513	50.0000	46.44
	89 1,2-Dibromo-3-Chloropropane	155	10.658	10.658	(1.103)	9957	50.0000	44.77
	57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	92783	50.0000	46.89

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051128.D Page 2
Report Date: 28-May-2020 16:12

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
88 1,2-Dichlorobenzene	146	9.992	9.992	(1.034)	176768	50.0000	45.53
33 1,2-Dichloroethane	62	4.555	4.555	(0.916)	151406	50.0000	48.64
42 1,2-Dichloropropane	63	5.436	5.436	(1.094)	108020	50.0000	44.39
75 1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	331797	50.0000	46.11
83 1,3-Dichlorobenzene	146	9.605	9.605	(0.994)	198415	50.0000	46.72
54 1,3-Dichloropropane	76	6.983	6.983	(0.910)	146499	50.0000	45.49
84 1,4-Dichlorobenzene	146	9.684	9.684	(1.002)	197647	50.0000	44.87
26 2,2-Dichloropropane	77	3.509	3.509	(0.839)	133014	50.0000	41.63
24 2-Butanone	43	3.573	3.573	(0.854)	85022	100.000	93.48
76 2-Chlorotoluene	91	8.974	8.974	(0.929)	277854	50.0000	44.66
52 2-Hexanone	43	7.083	7.083	(0.923)	137994	100.000	80.13
77 4-Chlorotoluene	91	9.075	9.075	(0.939)	323922	50.0000	45.17
82 p-Isopropyltoluene	119	9.655	9.655	(0.999)	332325	50.0000	45.40
45 4-Methyl-2-Pentanone	43	6.324	6.324	(0.824)	206531	100.000	82.14
10 Acetone	43	1.969	1.969	(0.471)	52739	100.000	74.03
37 Benzene	78	4.512	4.512	(0.908)	350864	50.0000	45.91
74 Bromobenzene	156	8.810	8.810	(0.912)	120544	50.0000	46.13
29 Bromochloromethane	128	3.795	3.795	(0.908)	55293	50.0000	47.22
39 Bromodichloromethane	83	5.730	5.730	(1.153)	131639	50.0000	47.17
66 Bromoform	173	8.416	8.416	(1.097)	75725	50.0000	47.46
6 Bromomethane	94	1.339	1.339	(0.320)	67460	50.0000	45.38
19 Carbon Disulfide	76	2.069	2.069	(0.495)	486207	100.000	88.89
34 Carbon Tetrachloride	117	4.268	4.268	(0.859)	133431	50.0000	44.42
59 Chlorobenzene	112	7.692	7.692	(1.003)	252673	50.0000	45.79
7 Chloroethane	64	1.403	1.403	(0.336)	62717	50.0000	43.87
28 Chloroform	83	3.910	3.910	(0.935)	172558	50.0000	47.85
3 Chloromethane	50	1.074	1.074	(0.257)	131214	50.0000	41.36
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	101943	50.0000	47.88
46 cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	152825	50.0000	46.76
55 Dibromochloromethane	129	7.176	7.176	(0.936)	106165	50.0000	47.10
44 Dibromomethane	93	5.550	5.550	(1.117)	60599	50.0000	45.91
2 Dichlorodifluoromethane	85	0.966	0.966	(0.231)	98970	50.0000	42.16
61 Ethylbenzene	106	7.800	7.800	(1.017)	133425	50.0000	46.07
91 Hexachlorobutadiene	225	11.481	11.481	(1.188)	32657	50.0000	43.05
67 Isopropylbenzene	105	8.566	8.566	(1.117)	394721	50.0000	45.45
62 m,p-Xylenes	106	7.907	7.907	(1.031)	321277	100.000	91.41
17 Methylene Chloride	84	2.306	2.306	(0.551)	94484	50.0000	47.52
87 n-Butylbenzene	91	9.999	9.999	(1.035)	264482	50.0000	44.78
73 n-Propylbenzene	91	8.917	8.917	(0.923)	446013	50.0000	44.51
92 Naphthalene	128	11.546	11.546	(1.195)	57033	50.0000	43.47
63 o-Xylene	106	8.244	8.244	(1.075)	158010	50.0000	46.20
81 sec-Butylbenzene	105	9.526	9.526	(0.986)	365924	50.0000	43.35
64 Styrene	104	8.258	8.258	(1.077)	280646	50.0000	47.35
78 tert-Butylbenzene	119	9.340	9.340	(0.967)	279745	50.0000	45.78
56 Tetrachloroethene	164	6.933	6.933	(0.904)	81042	50.0000	44.11
50 Toluene	91	6.446	6.446	(0.840)	374061	50.0000	45.38
20 trans-1,2-Dichloroethene	96	2.528	2.528	(0.604)	87418	50.0000	47.62
51 trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	139053	50.0000	46.91
38 Trichloroethene	130	5.207	5.207	(1.048)	100001	50.0000	46.61
8 Trichlorofluoromethane	101	1.561	1.561	(0.373)	146542	50.0000	45.13
5 Vinyl Chloride	62	1.138	1.138	(0.272)	117266	50.0000	41.92

QC Flag Legend

M - Compound response manually integrated.

HS20050292 Wet Chem Raw Data (IC)

ALS WO# HS20050292

Sequence: 050820
Last Update Operator: alshs.nouser

CD	Name	Comment	Type	Position	Dilution	Level	Instrument Method	Processing Method	Volume [ul]	Status
	STD1	2970209205	Calibration	GA1	1.0000	1	Anions Program 02052020.1	Anions P	5.0	Finished
	STD2	NEW PRGM	Calibration	GA2	1.0000	2	Anions Program 02052020.1	Anions P	5.0	Finished
	STD3		Calibration	GA3	1.0000	3	Anions Program 02052020.1	Anions P	5.0	Finished
	STD4		Calibration	GA4	1.0000	4	Anions Program 02052020.1	Anions P	5.0	Finished
	STD5	NO2/PO4	Calibration	GA5	1.0000	5	Anions Program 02052020.1	Anions P	5.0	Finished
	STD6	MAX 10PPM	Calibration	GA6	1.0000	6	Anions Program 02052020.1	Anions P	5.0	Finished
	ICV	2970209123	Unknown	GA7	1.0000		Anions Program 02052020.1	Anions P	5.0	Finished
	ICB		Unknown	GA8	1.0000		Anions Program 02052020.1	Anions P	5.0	Finished
	CCV		Unknown	RA2	1.0000		Anions Program 02052020.1	Anions P	5.0	Finished
	CCB		Unknown	RA3	1.0000		Anions Program 02052020.1	Anions P	5.0	Finished
	WBLKW1-050820	9056_w Batch #1	Unknown	RB1	1.0000		Anions Program 02052020.1	Anions P	5.0	Finished
	WLCSW1-05020		Unknown	RB2	1.0000		Anions Program 02052020.1	Anions P	5.0	Finished
	WLCSDW1-050820		Unknown	RB3	1.0000		Anions Program 02052020.1	Anions P	5.0	Finished
	HS20050292-01	CL, NO3, SO4	Unknown	GD2	1.0000		Anions Program 02052020.1	Anions P	5.0	Finished
	HS20050292-01DF5	CL, NO3, SO4	Unknown	GD3	5.0000		Anions Program 02052020.1	Anions P	5.0	Finished
	HS20050292-06	CL, NO3, SO4	Unknown	GD4	1.0000		Anions Program 02052020.1	Anions P	5.0	Finished
	HS20050292-06DF5	CL, NO3, SO4	Unknown	GD5	5.0000		Anions Program 02052020.1	Anions P	5.0	Finished
	HS20050292-06MSDF5		Unknown	GD6	5.0000		Anions Program 02052020.1	Anions P	5.0	Finished
	HS20050292-06MSDDF5		Unknown	GD7	5.0000		Anions Program 02052020.1	Anions P	5.0	Finished
	CCV1		Unknown	RA4	1.0000		Anions Program 02052020.1	Anions P	5.0	Finished
	CCB		Unknown	RA5	1.0000		Anions Program 02052020.1	Anions P	5.0	Finished

Sequence: 050820
Last Update Operator: alshs.nouser

Inject Time
2/5/2020 7:39:11 PM -06:00
2/5/2020 7:57:16 PM -06:00
2/5/2020 8:15:24 PM -06:00
2/5/2020 8:33:31 PM -06:00
2/5/2020 8:51:36 PM -06:00
2/5/2020 9:09:41 PM -06:00
2/5/2020 9:27:48 PM -06:00
2/5/2020 9:45:53 PM -06:00
5/8/2020 1:10:41 PM -05:00
5/8/2020 1:28:49 PM -05:00
5/8/2020 1:46:55 PM -05:00
5/8/2020 2:04:59 PM -05:00
5/8/2020 2:23:04 PM -05:00
5/8/2020 2:41:17 PM -05:00
5/8/2020 2:59:22 PM -05:00
5/8/2020 3:17:27 PM -05:00
5/8/2020 3:35:38 PM -05:00
5/8/2020 3:53:45 PM -05:00
5/8/2020 4:11:51 PM -05:00
5/8/2020 4:30:01 PM -05:00
5/8/2020 4:48:06 PM -05:00

Sequence: 042320
Injection #6: STD6

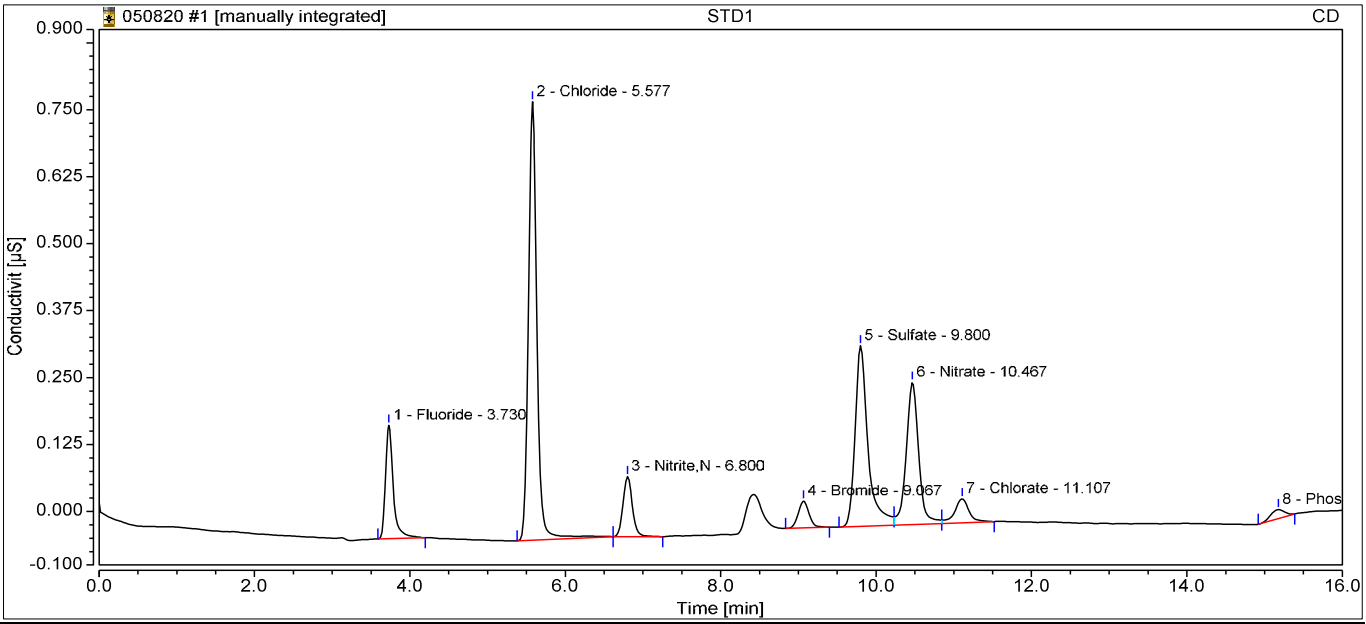
Calibration

Peak No.	Peak Name	Cal.Type	Eval.Type	Number of Points	Rel.Std.Dev. %	Coeff.of Determination	C0 (Offset)	C1 (Slope)	C2 (Curve)
1	*Fluoride*	*Lin, WithOffset, 1/*	*Area*	*6*	*13.4314*	*0.99915*	*-0.0083*	*0.3414*	*0.0000*
2	Chloride	Lin, WithOffset, 1/	Area	6	2.2020	0.99998	-0.0141	0.2320	0.0000
3	Nitrite,N	Lin, WithOffset, 1/	Area	5	19.9747	0.99771	-0.0251	0.4962	0.0000
4	Bromide	Lin, WithOffset, 1/	Area	6	12.1436	0.99933	-0.0033	0.0991	0.0000
5	Sulfate	Lin, WithOffset, 1/	Area	6	4.2312	0.99991	-0.0170	0.1679	0.0000
6	Nitrate	Lin, WithOffset, 1/	Area	6	2.3081	0.99997	-0.0076	0.5843	0.0000
7	Chlorate	Lin, WithOffset, 1/	Area	6	9.7729	0.99945	0.0017	0.0949	0.0000
8	Phosphate	Lin, WithOffset, 1/	Area	5	18.6678	0.99857	-0.0214	0.2119	0.0000
Maximum					**19.9747**	0.99998			
Minimum					2.2020	**0.99771**			

Instrument:ICSINTEG Sequence:050820

1 STD1			
Sample Name:	**STD1**	*Injection Volume:*	**5.00**
Vial Number:	**GA1**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program 02052020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**02/05/2020 19:39**	*Sample Weight:*	**1.0000**

Run Time:



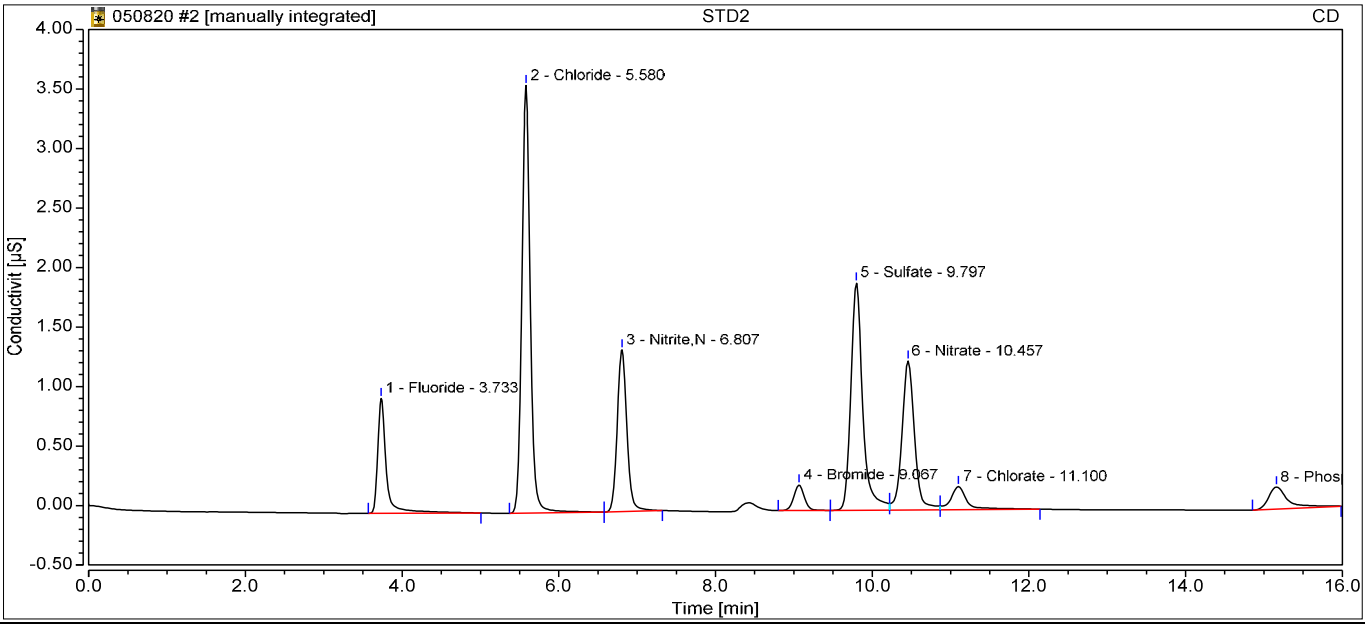
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.73	Fluoride	BMB	0.024	0.0955	0.0955	1.0000
2	5.58	Chloride	BMB	0.103	0.5065	0.5065	1.0000
3	6.80	Nitrite,N	BMB	0.016	0.0673	0.0673	1.0000
4	9.07	Bromide	BMB	0.008	0.1156	0.1156	1.0000
5	9.80	Sulfate	BM	0.065	0.4885	0.4885	1.0000
6	10.47	Nitrate	M	0.049	0.0974	0.0974	1.0000
7	11.11	Chlorate	MB	0.010	0.0834	0.0834	1.0000
8	15.18	Phosphate	BMB*	0.003	0.1235	0.1235	1.0000
Total:			**0.000**	**0.279**		**1.58**	

Instrument:ICSINTEG Sequence:050820

2 STD2			
Sample Name:	**STD2**	*Injection Volume:*	**5.00**
Vial Number:	**GA2**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program 02052020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**02/05/2020 19:57**	*Sample Weight:*	**1.0000**

Run Time:



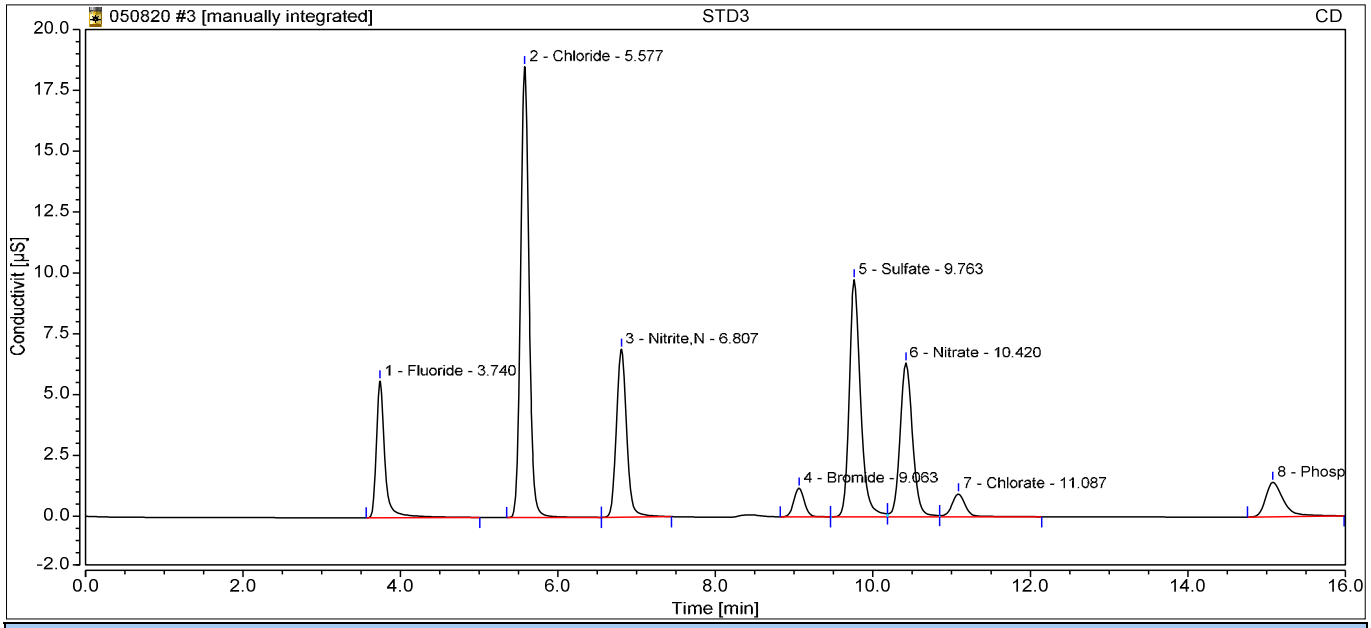
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.73	Fluoride	BMB	0.123	0.3833	0.3833	1.0000
2	5.58	Chloride	BMb*	0.449	1.9963	1.9963	1.0000
3	6.81	Nitrite,N	bMB*	0.194	0.4500	0.4500	1.0000
4	9.07	Bromide	BMB	0.034	0.3722	0.3722	1.0000
5	9.80	Sulfate	BM	0.335	2.0973	2.0973	1.0000
6	10.46	Nitrate	M	0.232	0.4103	0.4103	1.0000
7	11.10	Chlorate	MB	0.047	0.4759	0.4759	1.0000
8	15.16	Phosphate	BMB	0.053	0.3508	0.3508	1.0000
Total:			**0.000**	**1.467**		**6.54**	

Instrument:ICSINTEG Sequence:050820

3 STD3			
Sample Name:	**STD3**	*Injection Volume:*	**5.00**
Vial Number:	**GA3**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program 02052020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**02/05/2020 20:15**	*Sample Weight:*	**1.0000**

Run Time:



Integration Results

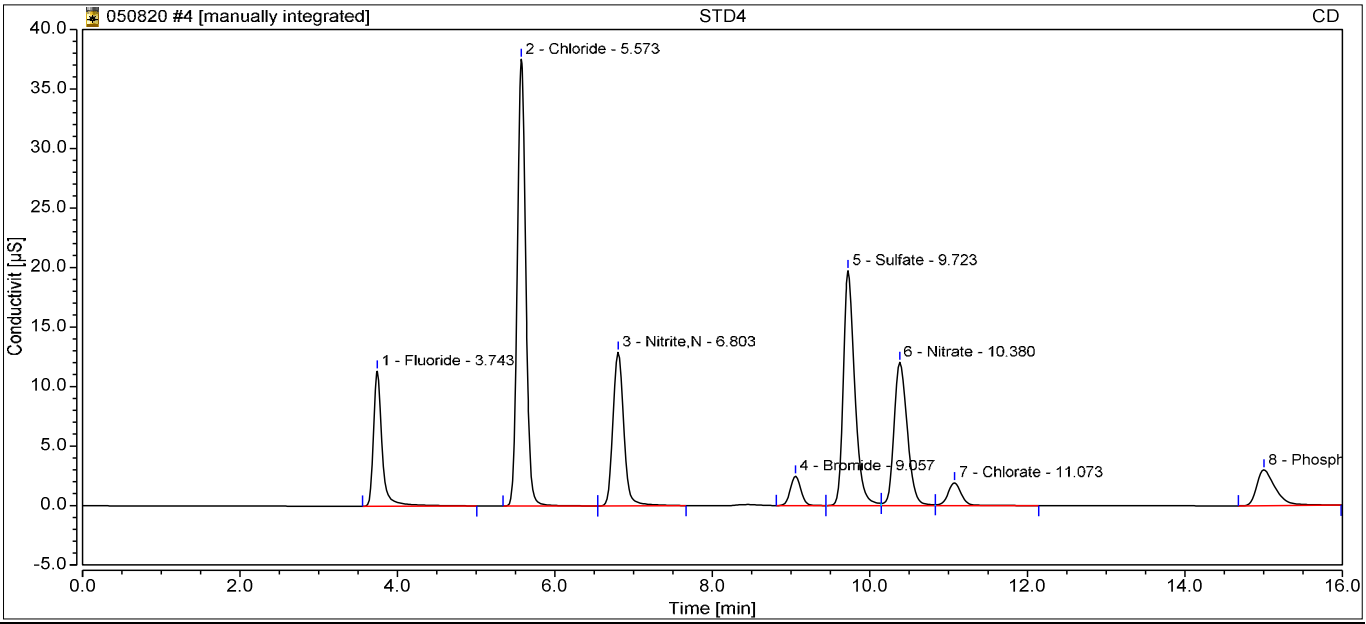
No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	0.701	2.0769	2.0769	1.0000
2	5.58	Chloride	BMb*	2.284	9.9073	9.9073	1.0000
3	6.81	Nitrite,N	bMB*	1.029	2.2369	2.2369	1.0000
4	9.06	Bromide	BM	0.182	1.8657	1.8657	1.0000
5	9.76	Sulfate	M	1.624	9.7730	9.7730	1.0000
6	10.42	Nitrate	M	1.160	1.9980	1.9980	1.0000
7	11.09	Chlorate	MB	0.189	1.9689	1.9689	1.0000
8	15.08	Phosphate	BMB	0.374	1.8187	1.8187	1.0000
Total:			**0.000**	**7.542**		**31.65**	

Instrument:ICSINTEG Sequence:050820

4 STD4

Sample Name:	**STD4**	*Injection Volume:*	**5.00**
Vial Number:	**GA4**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program 02052020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**02/05/2020 20:33**	*Sample Weight:*	**1.0000**

Run Time:



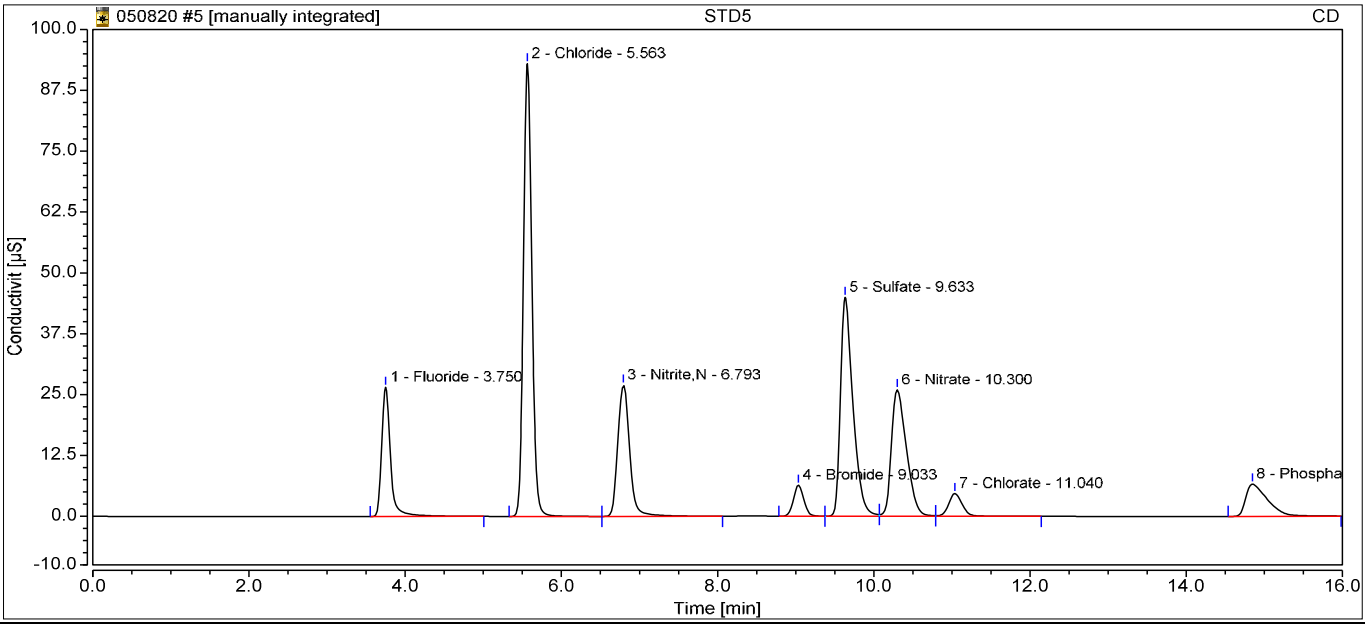
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	1.428	4.2080	4.2080	1.0000
2	5.57	Chloride	BMb*	4.627	20.0069	20.0069	1.0000
3	6.80	Nitrite,N	bMB*	2.046	4.4146	4.4146	1.0000
4	9.06	Bromide	BM	0.382	3.8871	3.8871	1.0000
5	9.72	Sulfate	M	3.337	19.9713	19.9713	1.0000
6	10.38	Nitrate	M	2.343	4.0228	4.0228	1.0000
7	11.07	Chlorate	MB	0.380	3.9830	3.9830	1.0000
8	15.00	Phosphate	BMB	0.824	3.8745	3.8745	1.0000
Total:			**0.000**	**15.366**		**64.37**	

Instrument:ICSINTEG Sequence:050820

5 STD5			
Sample Name:	**STD5**	*Injection Volume:*	**5.00**
Vial Number:	**GA5**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program 02052020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**02/05/2020 20:51**	*Sample Weight:*	**1.0000**

Run Time:



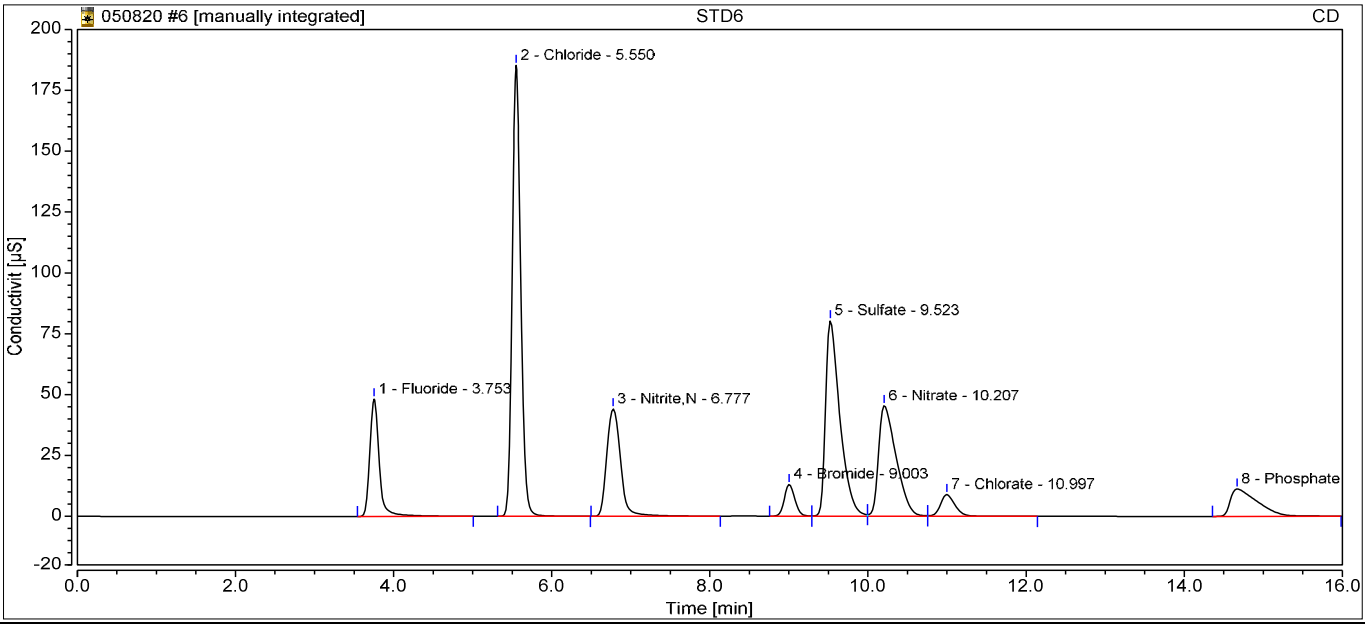
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.75	Fluoride	BMB	3.472	10.1940	10.1940	1.0000
2	5.56	Chloride	BMB	11.516	49.7057	49.7057	1.0000
3	6.79	Nitrite,N	BMB*	4.776	10.2593	10.2593	1.0000
4	9.03	Bromide	BM	0.981	9.9279	9.9279	1.0000
5	9.63	Sulfate	M	8.325	49.6811	49.6811	1.0000
6	10.30	Nitrate	M	5.799	9.9382	9.9382	1.0000
7	11.04	Chlorate	MB	0.944	9.9252	9.9252	1.0000
8	14.85	Phosphate	BMB	2.135	9.8737	9.8737	1.0000
Total:			**0.000**	**37.949**		**159.51**	

Instrument:ICSINTEG Sequence:050820

6 STD6			
Sample Name:	**STD6**	*Injection Volume:*	**5.00**
Vial Number:	**GA6**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program 02052020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**02/05/2020 21:09**	*Sample Weight:*	**1.0000**

Run Time:



Integration Results

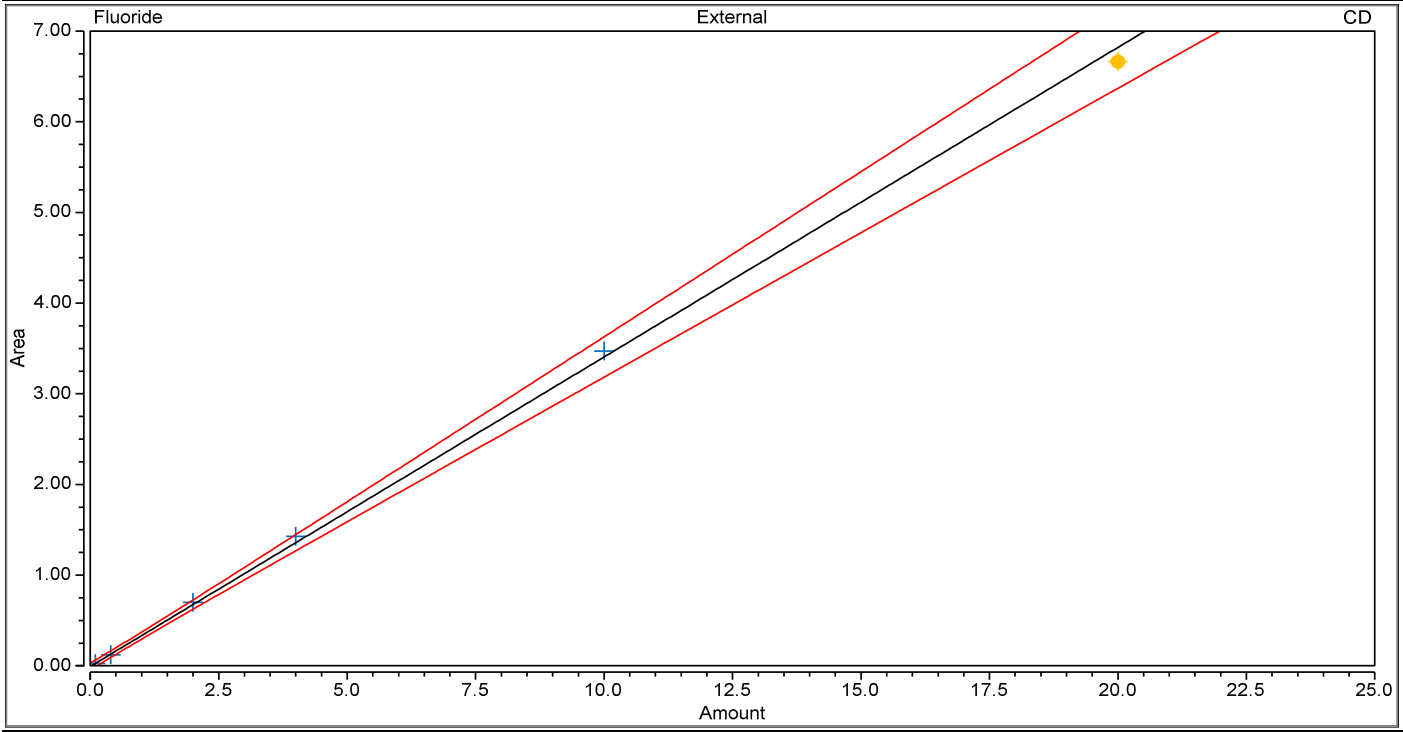
No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.75	Fluoride	BMB	6.664	19.5424	19.5424	1.0000
2	5.55	Chloride	BMB	23.270	100.3774	100.3774	1.0000
3	6.78	Nitrite,N	BMB*	8.893	19.0718	19.0718	1.0000
4	9.00	Bromide	BM	2.012	20.3316	20.3316	1.0000
5	9.52	Sulfate	M	16.857	100.4888	100.4888	1.0000
6	10.21	Nitrate	M	11.698	20.0333	20.0333	1.0000
7	11.00	Chlorate	MB	1.906	20.0635	20.0635	1.0000
8	14.67	Phosphate	BMB	4.450	20.4589	20.4589	1.0000
Total:			**0.000**	**75.750**		**320.37**	

Instrument:ICSINTEG Sequence:050820

Calibration

Calibration Details	Fluoride		
Calibration Type	Lin, WithOffset, 1/A	*Offset (C0)*	-0.0083
Evaluation Type	Area	*Slope (C1)*	0.3414
Number of Calibration Points	6	*Curve (C2)*	0.0000
Number of disabled Calibration Points	0	*R-Square*	0.9991

Calibration Plot **Fluoride**



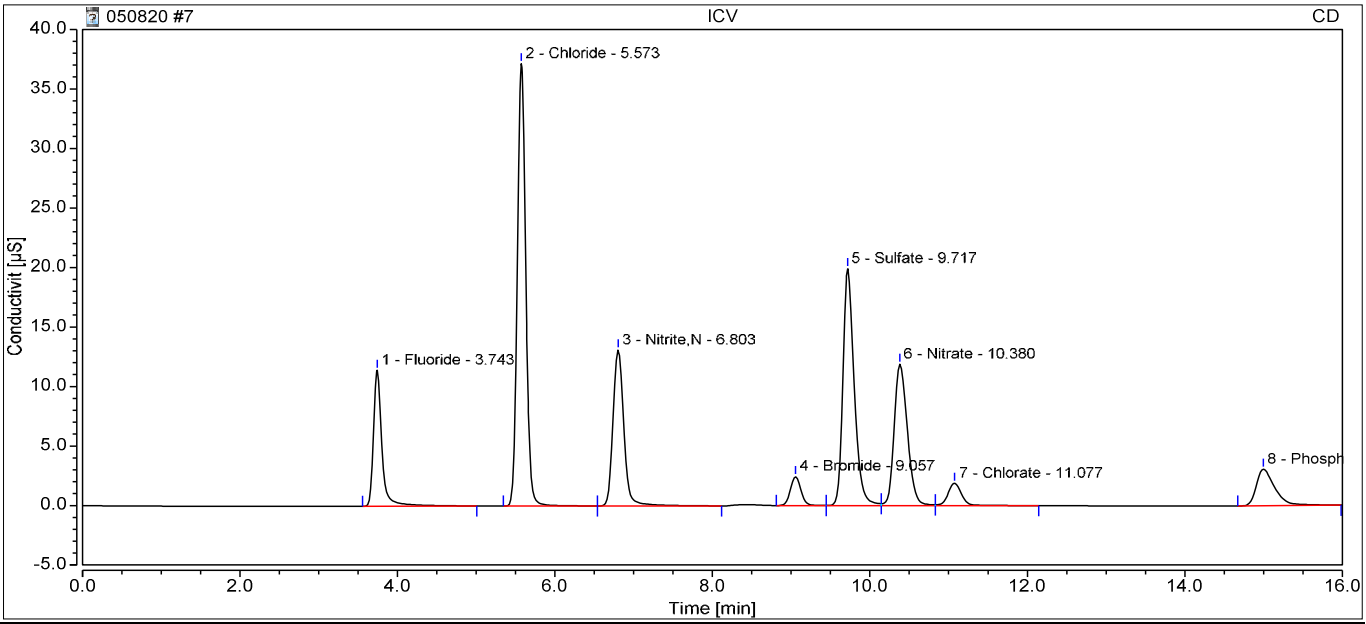
Calibration Results **Fluoride**

No.	Injection Name	Calibration Level	X Value CD Fluoride	Y Value CD Fluoride	Y Value CD Fluoride	Area µS*min CD Fluoride	Height µS CD Fluoride
1	STD1	1	0.1000	0.0243	0.0243	0.024	0.212
2	STD2	2	0.4000	0.1226	0.1226	0.123	0.964
3	STD3	3	2.0000	0.7008	0.7008	0.701	5.614
4	STD4	4	4.0000	1.4284	1.4284	1.428	11.345
5	STD5	5	10.0000	3.4723	3.4723	3.472	26.547
6	STD6	6	20.0000	6.6641	6.6641	6.664	48.233

Instrument:ICSINTEG Sequence:050820

7 ICV			
Sample Name:	**ICV**	*Injection Volume:*	**5.00**
Vial Number:	**GA7**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 02052020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**02/05/2020 21:27**	*Sample Weight:*	**1.0000**

Run Time:



Integration Results

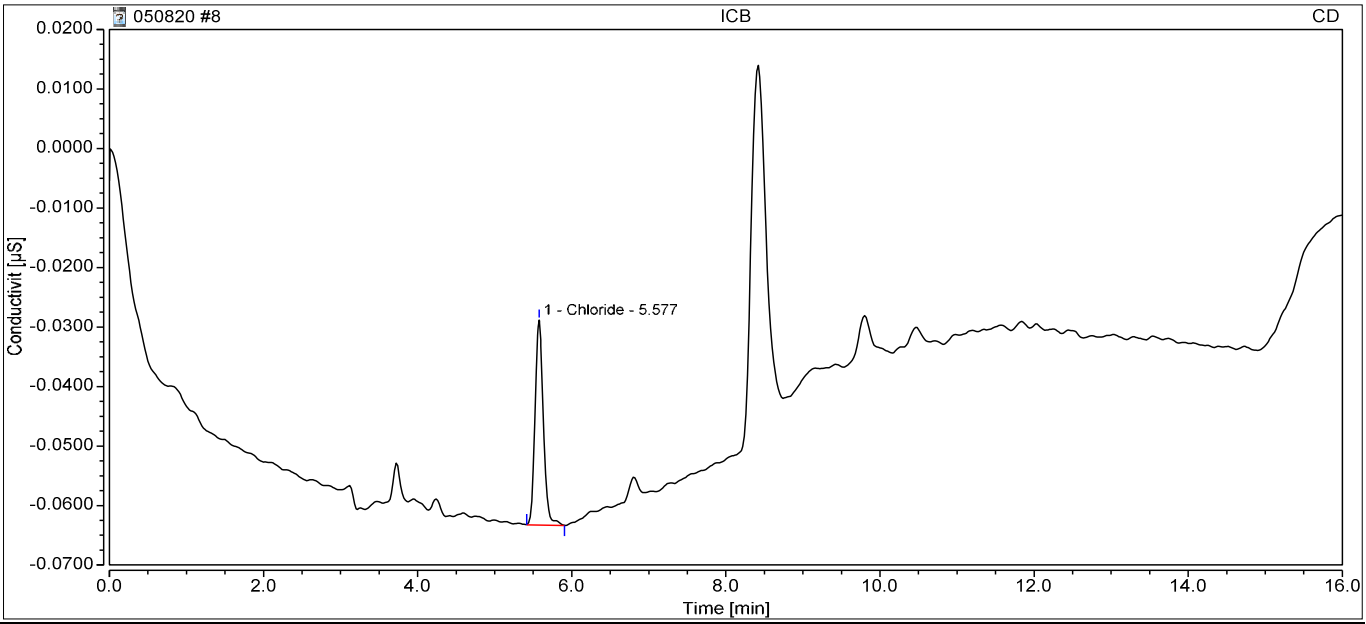
No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	1.412	4.1607	4.1607	1.0000
2	5.57	Chloride	BMB	4.570	19.7627	19.7627	1.0000
3	6.80	Nitrite,N	BMB	2.081	4.4887	4.4887	1.0000
4	9.06	Bromide	BM	0.374	3.8104	3.8104	1.0000
5	9.72	Sulfate	M	3.327	19.9126	19.9126	1.0000
6	10.38	Nitrate	M	2.299	3.9478	3.9478	1.0000
7	11.08	Chlorate	MB	0.379	3.9799	3.9799	1.0000
8	15.00	Phosphate	BMB	0.835	3.9271	3.9271	1.0000
Total:			**0.000**	**15.278**		**63.99**	

Instrument:ICSINTEG Sequence:050820

8 ICB

Sample Name:	**ICB**	*Injection Volume:*	**5.00**
Vial Number:	**GA8**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 02052020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**02/05/2020 21:45**	*Sample Weight:*	**1.0000**

Run Time:



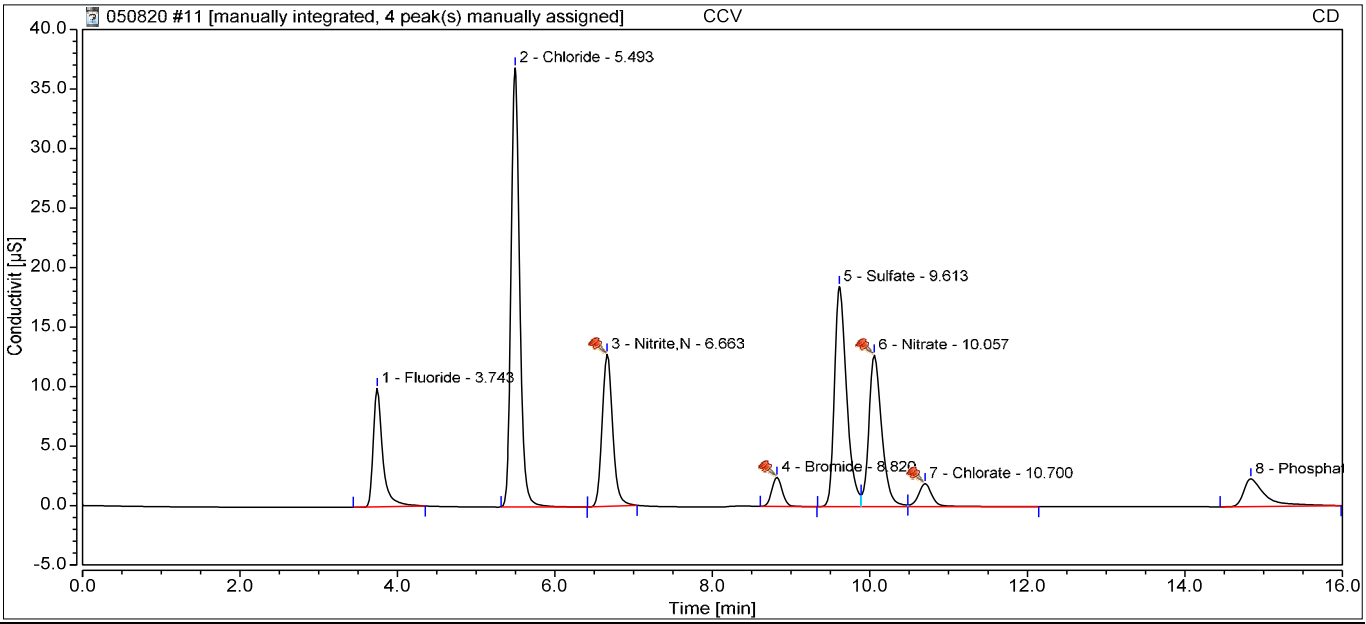
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
1	5.58	Chloride	BMB	0.004	0.0794	0.0794	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Sulfate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.004**		**0.08**	

Instrument:ICSINTEG Sequence:050820

11 CCV			
Sample Name:	**CCV**	*Injection Volume:*	**5.00**
Vial Number:	**RA2**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 02052020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**05/08/2020 13:10**	*Sample Weight:*	**1.0000**

Run Time:



Integration Results

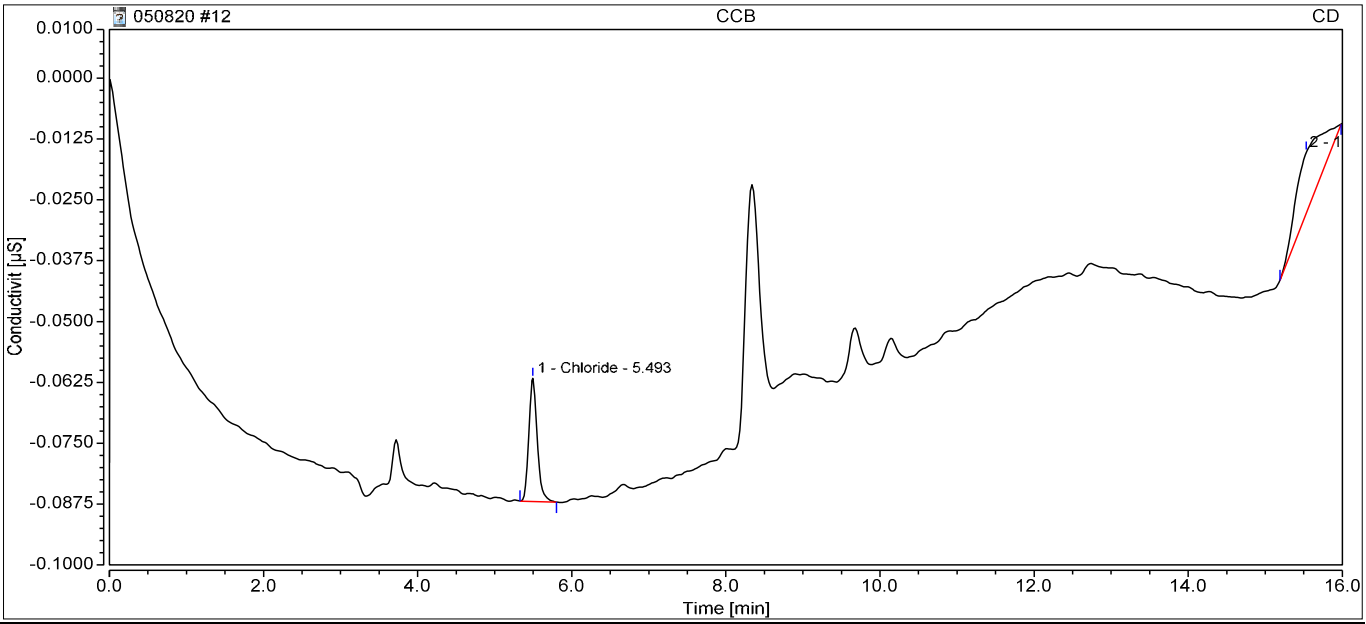
No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB*	1.377	4.0565	4.0565	1.0000
2	5.49	Chloride	BMB	4.633	20.0345	20.0345	1.0000
3	6.66	Nitrite,N	BMB*^	1.993	4.3012	4.3012	1.0000
4	8.82	Bromide	BMB^	0.378	3.8513	3.8513	1.0000
5	9.61	Sulfate	BM	3.301	19.7605	19.7605	1.0000
6	10.06	Nitrate	M ^	2.417	4.1501	4.1501	1.0000
7	10.70	Chlorate	MB^	0.394	4.1314	4.1314	1.0000
8	14.84	Phosphate	BMB*	0.737	3.4763	3.4763	1.0000
Total:			**0.000**	**15.230**		**63.76**	

Instrument:ICSINTEG Sequence:050820

12 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**RA3**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 02052020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**05/08/2020 13:28**	*Sample Weight:*	**1.0000**

Run Time:



Integration Results

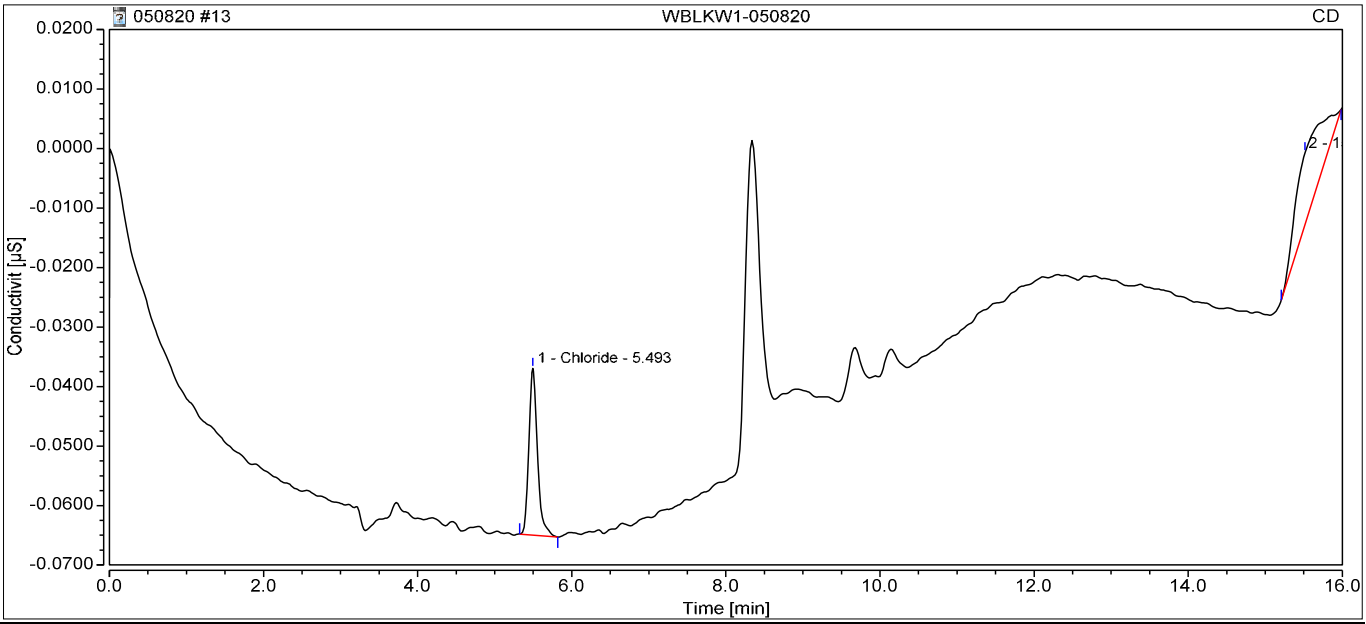
No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
1	5.49	Chloride	BMB	0.003	0.0748	0.0748	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Sulfate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.003**		**0.07**	

Instrument:ICSINTEG Sequence:050820

13 WBLKW1-050820

Sample Name:	**WBLKW1-050820**	*Injection Volume:*	**5.00**
Vial Number:	**RB1**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 02052020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**05/08/2020 13:46**	*Sample Weight:*	**1.0000**

Run Time:



Integration Results

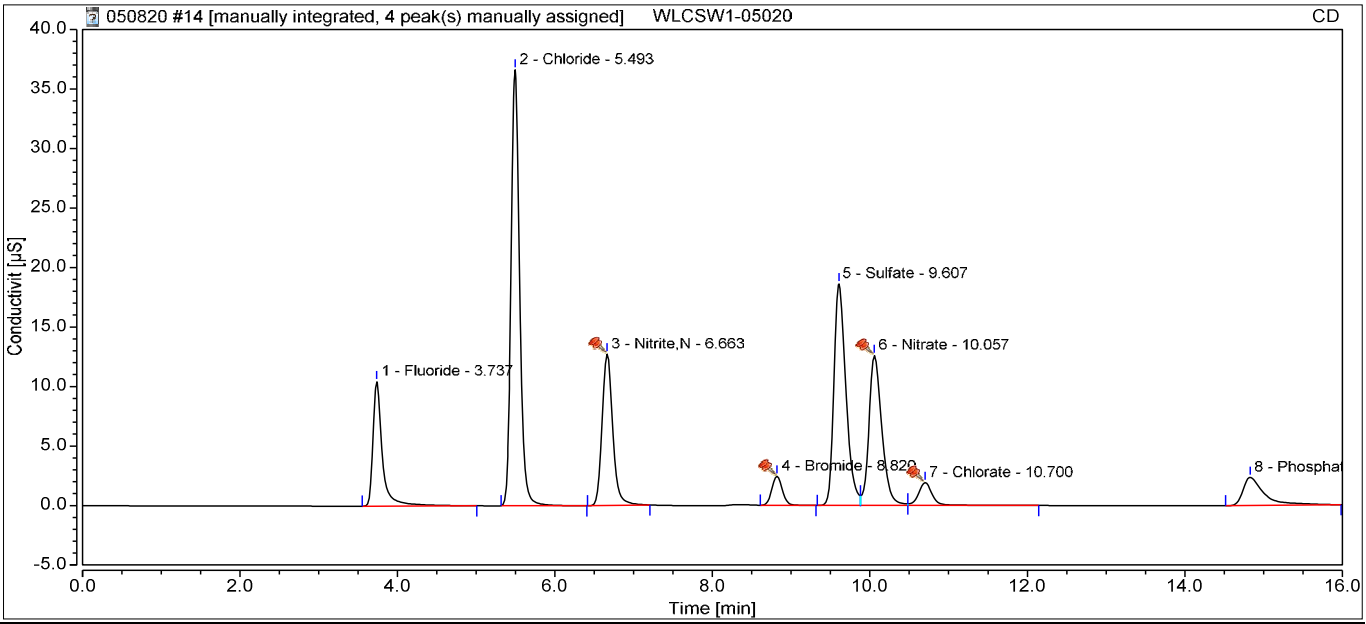
No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
1	5.49	Chloride	BMB	0.004	0.0766	0.0766	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Sulfate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.004**		**0.08**	

Instrument:ICSINTEG Sequence:050820

14 WLCSW1-05020

Sample Name:	**WLCSW1-05020**	*Injection Volume:*	**5.00**
Vial Number:	**RB2**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 02052020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**05/08/2020 14:04**	*Sample Weight:*	**1.0000**

Run Time:



Integration Results

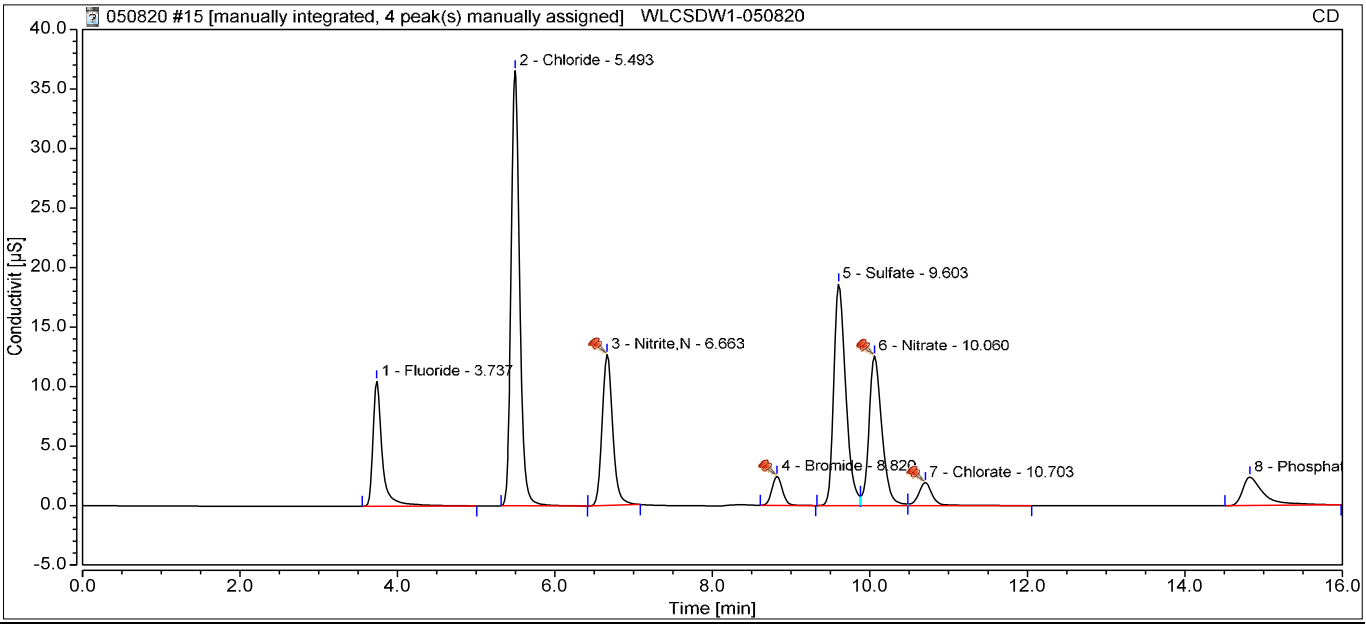
No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	1.437	4.2340	4.2340	1.0000
2	5.49	Chloride	BMB	4.586	19.8328	19.8328	1.0000
3	6.66	Nitrite,N	BMB*^	2.014	4.3464	4.3464	1.0000
4	8.82	Bromide	BMB^	0.376	3.8218	3.8218	1.0000
5	9.61	Sulfate	BM	3.278	19.6230	19.6230	1.0000
6	10.06	Nitrate	M ^	2.391	4.1047	4.1047	1.0000
7	10.70	Chlorate	MB^	0.393	4.1181	4.1181	1.0000
8	14.83	Phosphate	BMB	0.741	3.4978	3.4978	1.0000
Total:			**0.000**	**15.216**		**63.58**	

Instrument:ICSINTEG Sequence:050820

15 WLCSDW1-050820

Sample Name:	**WLCSDW1-050820**	*Injection Volume:*	**5.00**
Vial Number:	**RB3**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 02052020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**05/08/2020 14:23**	*Sample Weight:*	**1.0000**

Run Time:



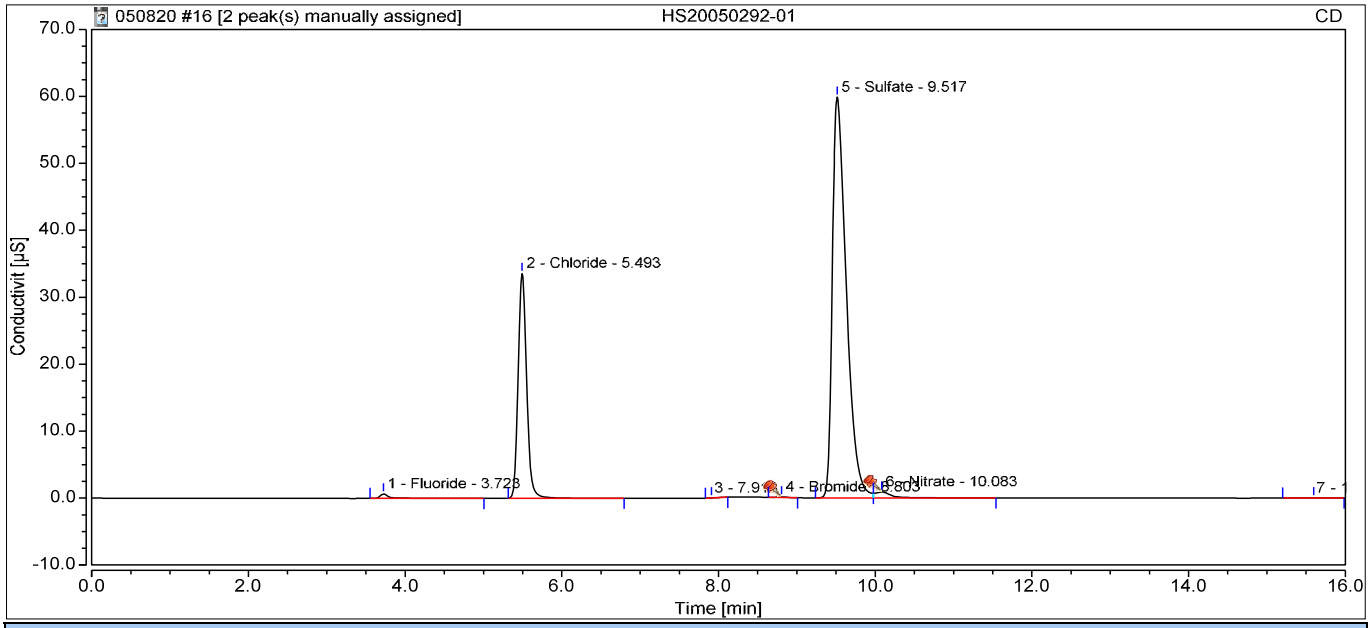
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	1.434	4.2228	4.2228	1.0000
2	5.49	Chloride	BMB	4.579	19.8008	19.8008	1.0000
3	6.66	Nitrite,N	BMB*^	1.984	4.2807	4.2807	1.0000
4	8.82	Bromide	BMB^	0.374	3.8065	3.8065	1.0000
5	9.60	Sulfate	BM	3.271	19.5793	19.5793	1.0000
6	10.06	Nitrate	M ^	2.378	4.0829	4.0829	1.0000
7	10.70	Chlorate	MB^	0.387	4.0630	4.0630	1.0000
8	14.83	Phosphate	BMB	0.750	3.5390	3.5390	1.0000
Total:			**0.000**	**15.157**		**63.38**	

Instrument:ICSINTEG Sequence:050820

16	*HS20050292-01*		
Sample Name:	**HS20050292-01**	*Injection Volume:*	**5.00**
Vial Number:	**GD2**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 02052020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**05/08/2020 14:41**	*Sample Weight:*	**1.0000**

Run Time:



Integration Results

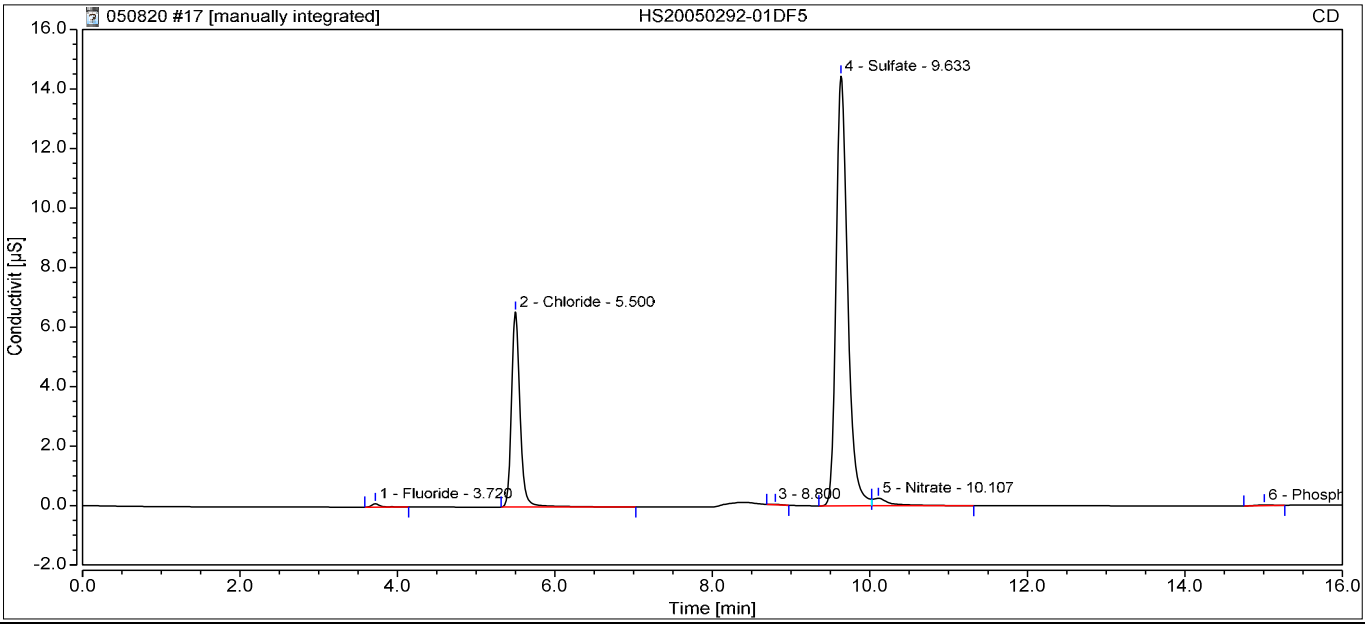
No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.72	Fluoride	BMB	0.101	0.3209	0.3209	1.0000
2	5.49	Chloride	BMB	4.172	18.0468	18.0468	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
4	8.80	Bromide	BMB^	0.013	0.1685	0.1685	1.0000
5	9.52	Sulfate	BM	12.366	73.7427	73.7427	1.0000
6	10.08	Nitrate	MB^	0.223	0.3941	0.3941	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**16.875**		**92.67**	

Instrument:ICSINTEG Sequence:050820

17 HS20050292-01DF5

Sample Name:	**HS20050292-01DF5**	*Injection Volume:*	**5.00**
Vial Number:	**GD3**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 02052020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**5.0000**
Recording Time:	**05/08/2020 14:59**	*Sample Weight:*	**1.0000**

Run Time:



Integration Results

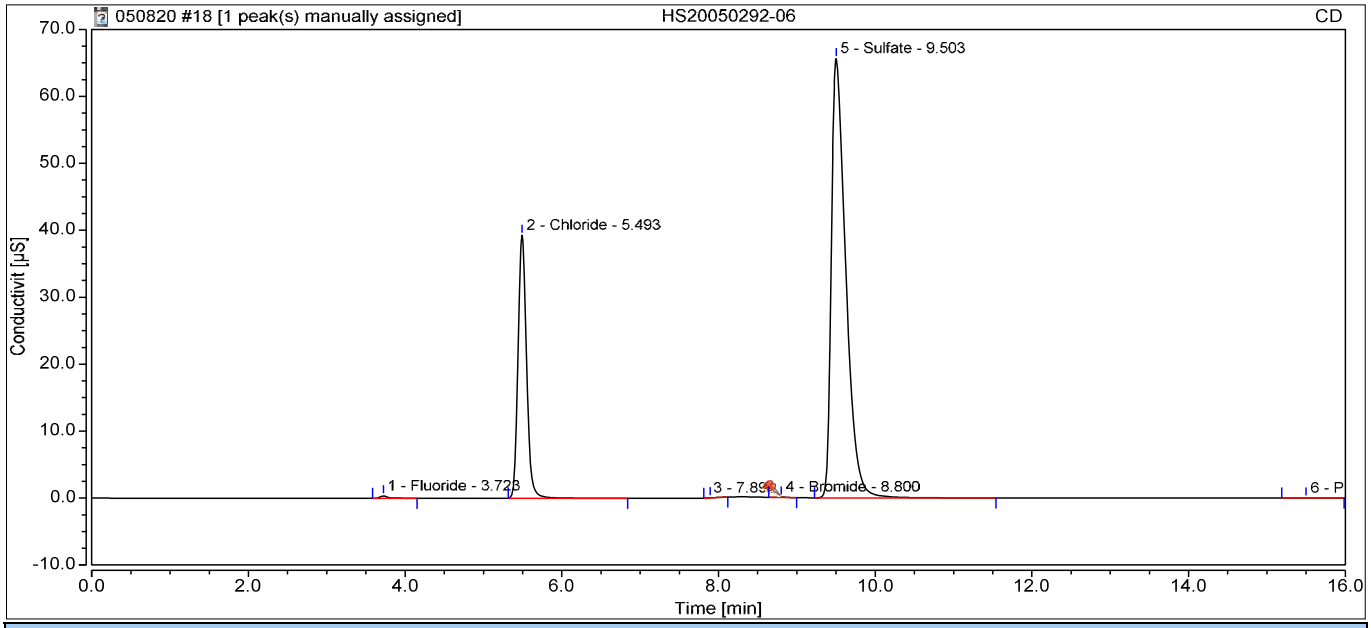
No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.72	Fluoride	BMB	0.014	0.0646	0.3228	5.0000
2	5.50	Chloride	BMB	0.825	3.6196	18.0979	5.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	5.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	5.0000
4	9.63	Sulfate	BM *	2.458	14.7364	73.6821	5.0000
5	10.11	Nitrate	MB*	0.067	0.1272	0.6358	5.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	5.0000
6	15.01	Phosphate	BMB	0.006	0.1334	0.6670	5.0000
Total:			**0.000**	**3.369**		**93.41**	

Instrument:ICSINTEG Sequence:050820

18 HS20050292-06

Sample Name:	**HS20050292-06**	*Injection Volume:*	**5.00**
Vial Number:	**GD4**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 02052020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**05/08/2020 15:17**	*Sample Weight:*	**1.0000**

Run Time:



Integration Results

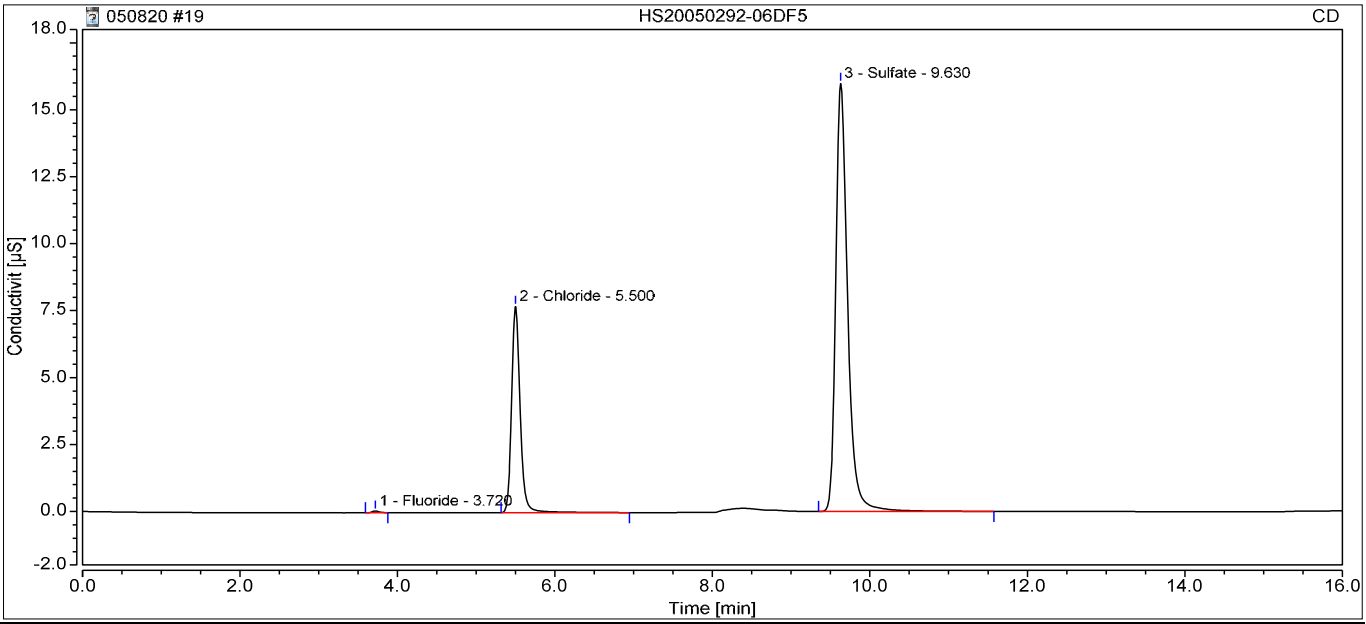
No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.72	Fluoride	BMB	0.044	0.1523	0.1523	1.0000
2	5.49	Chloride	BMB	4.886	21.1224	21.1224	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
4	8.80	Bromide	BMB^	0.010	0.1349	0.1349	1.0000
5	9.50	Sulfate	BMB	14.057	83.8168	83.8168	1.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
6	15.50	Phosphate	BMB	0.006	0.1370	0.1370	1.0000
Total:			**0.000**	**19.003**		**105.36**	

Instrument:ICSINTEG Sequence:050820

19 HS20050292-06DF5

Sample Name:	**HS20050292-06DF5**	*Injection Volume:*	**5.00**
Vial Number:	**GD5**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 02052020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**5.0000**
Recording Time:	**05/08/2020 15:35**	*Sample Weight:*	**1.0000**

Run Time:



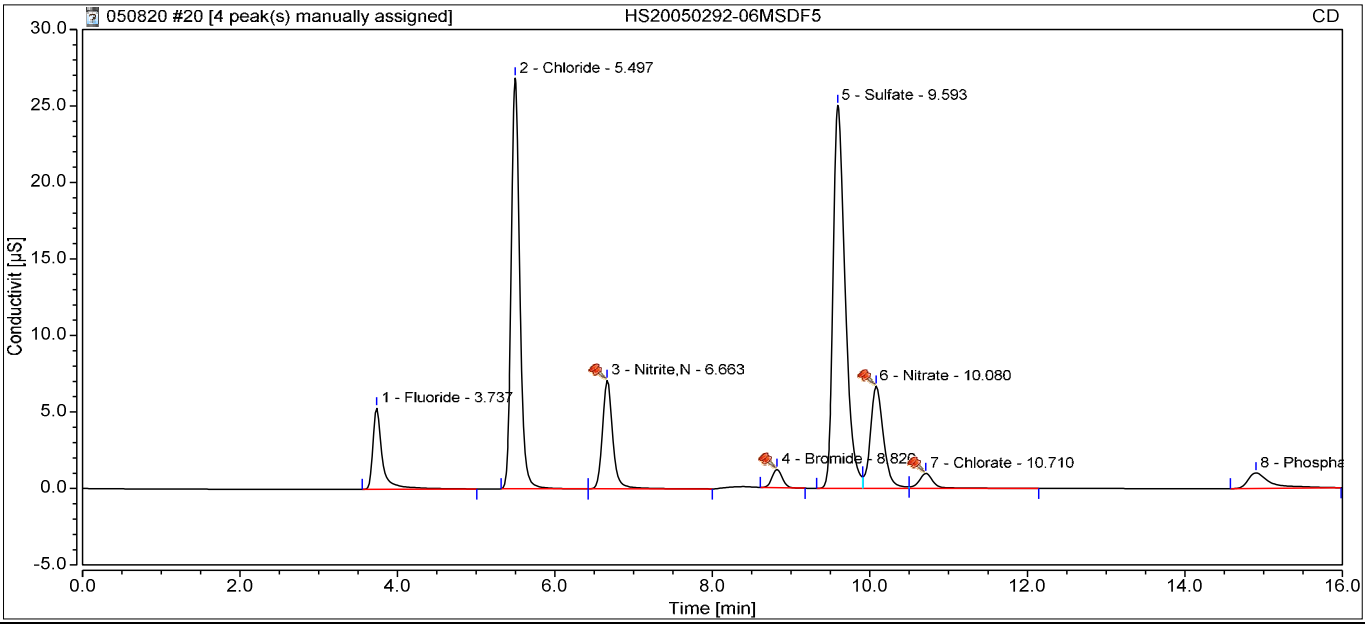
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.72	Fluoride	BMB	0.006	0.0424	0.2119	5.0000
2	5.50	Chloride	BMB	0.967	4.2315	21.1573	5.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	5.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	5.0000
3	9.63	Sulfate	BMB	2.790	16.7140	83.5700	5.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	5.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	5.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	5.0000
Total:			**0.000**	**3.763**		**104.94**	

Instrument:ICSINTEG Sequence:050820

20 HS20050292-06MSDF5			
Sample Name:	**HS20050292-06MSDF5**	*Injection Volume:*	**5.00**
Vial Number:	**GD6**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 02052020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**5.0000**
Recording Time:	**05/08/2020 15:53**	*Sample Weight:*	**1.0000**

Run Time:



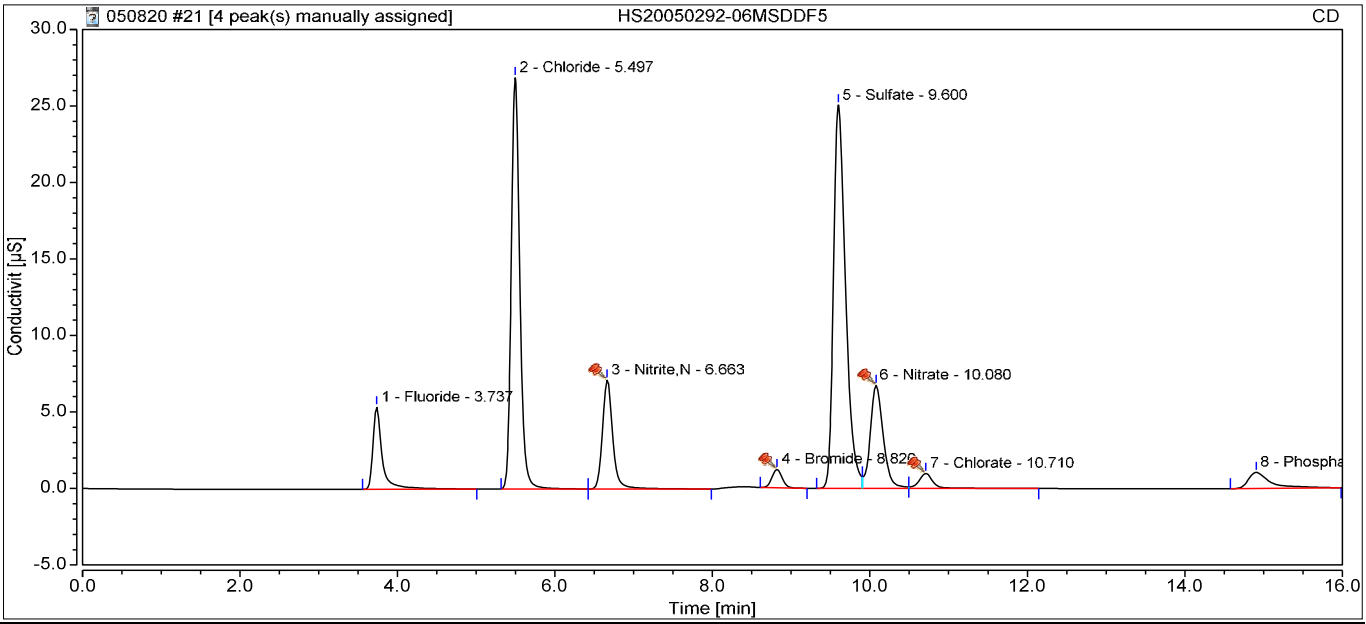
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	0.741	2.1944	10.9720	5.0000
2	5.50	Chloride	BMB	3.352	14.5127	72.5634	5.0000
3	6.66	Nitrite,N	BMB^	1.089	2.3661	11.8304	5.0000
4	8.82	Bromide	BMB^	0.180	1.8494	9.2469	5.0000
5	9.59	Sulfate	BM	4.443	26.5615	132.8074	5.0000
6	10.08	Nitrate	M ^	1.276	2.1974	10.9871	5.0000
7	10.71	Chlorate	MB^	0.207	2.1651	10.8253	5.0000
8	14.90	Phosphate	BMB	0.336	1.6462	8.2309	5.0000
Total:			**0.000**	**11.626**		**267.46**	

Instrument:ICSINTEG Sequence:050820

21	*HS20050292-06MSDDF5*		
Sample Name:	**HS20050292-06MSDDF5**	*Injection Volume:*	**5.00**
Vial Number:	**GD7**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 02052020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**5.0000**
Recording Time:	**05/08/2020 16:11**	*Sample Weight:*	**1.0000**

Run Time:



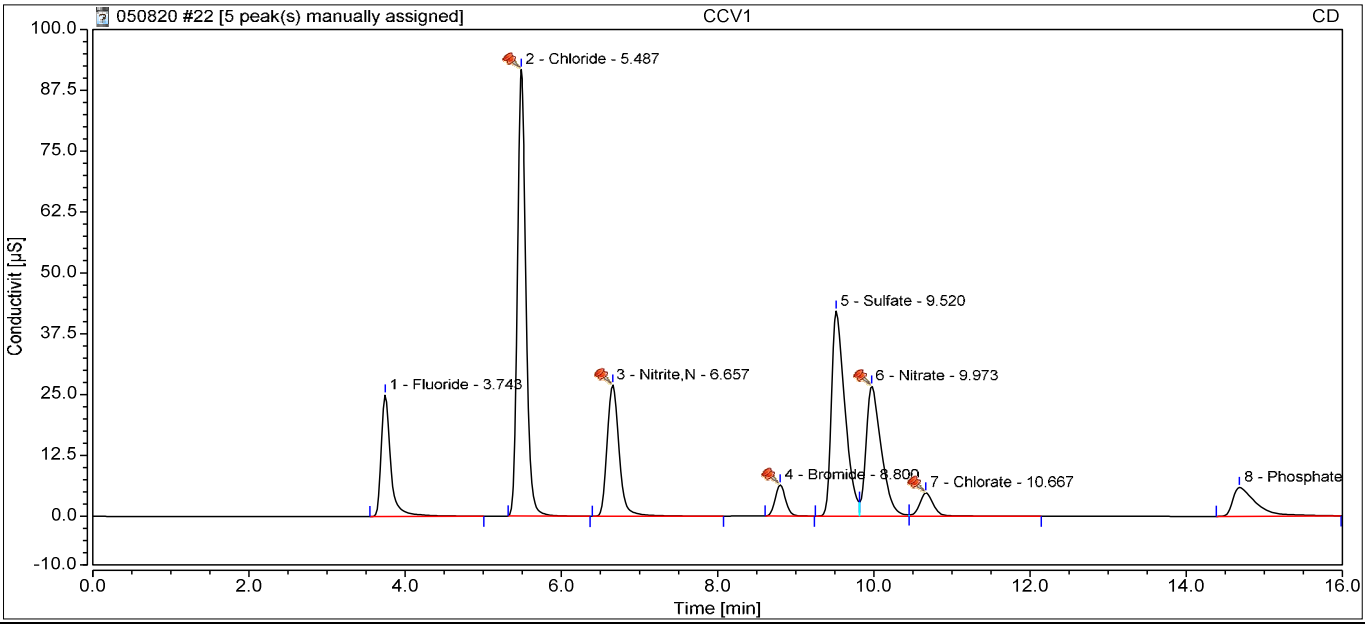
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	0.742	2.1983	10.9913	5.0000
2	5.50	Chloride	BMB	3.359	14.5429	72.7147	5.0000
3	6.66	Nitrite,N	BMB^	1.090	2.3685	11.8427	5.0000
4	8.82	Bromide	BMB^	0.180	1.8465	9.2324	5.0000
5	9.60	Sulfate	BM	4.453	26.6196	133.0978	5.0000
6	10.08	Nitrate	M ^	1.280	2.2043	11.0213	5.0000
7	10.71	Chlorate	MB^	0.207	2.1661	10.8304	5.0000
8	14.91	Phosphate	BMB	0.347	1.6947	8.4737	5.0000
Total:			**0.000**	**11.659**		**268.20**	

Instrument:ICSINTEG Sequence:050820

22 CCV1			
Sample Name:	**CCV1**	*Injection Volume:*	**5.00**
Vial Number:	**RA4**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 02052020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**05/08/2020 16:30**	*Sample Weight:*	**1.0000**

Run Time:



Integration Results

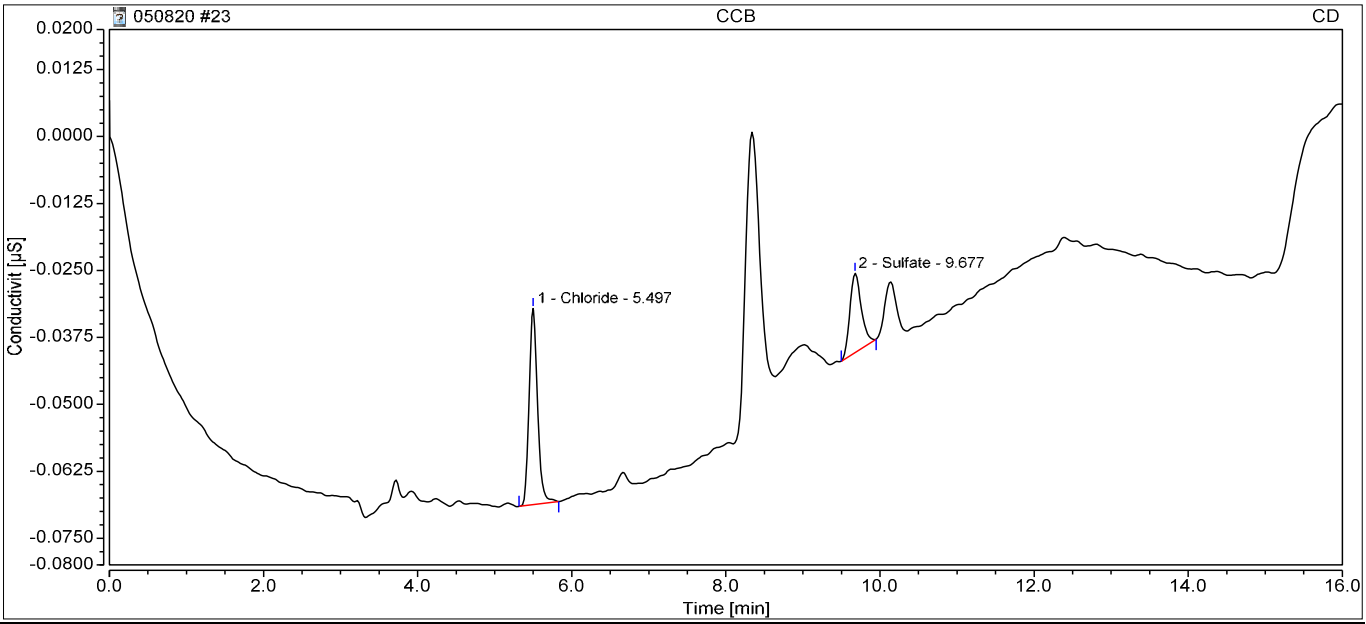
No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	3.537	10.3833	10.3833	1.0000
2	5.49	Chloride	BMB^	11.573	49.9531	49.9531	1.0000
3	6.66	Nitrite,N	BMB^	4.839	10.3933	10.3933	1.0000
4	8.80	Bromide	BMB^	0.979	9.9100	9.9100	1.0000
5	9.52	Sulfate	BM	8.463	50.5016	50.5016	1.0000
6	9.97	Nitrate	M ^	6.033	10.3385	10.3385	1.0000
7	10.67	Chlorate	MB^	0.978	10.2809	10.2809	1.0000
8	14.68	Phosphate	BMB	2.039	9.4354	9.4354	1.0000
Total:			**0.000**	**38.442**		**161.20**	

Instrument:ICSINTEG Sequence:050820

23 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**RA5**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 02052020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**05/08/2020 16:48**	*Sample Weight:*	**1.0000**

Run Time:



Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
1	5.50	Chloride	BMB	0.005	0.0810	0.0810	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
2	9.68	Sulfate	BMB	0.003	0.1164	0.1164	1.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.007**		**0.20**	

10450 Stancliff Rd. Suite 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887
www.alsglobal.com

WorkOrder: HS20050467

Longhorn Army Ammunition Plant

Aptim Environmental & Infrastucture, Inc.

Susan Huang
2500 City West Blvd., Suite 1700
Houston TX 77042

03-Jun-2020

ALS Environmental
ALS Group USA, Corp
1317 South 13th Avenue
Kelso, WA 98626
T : +1 360 577 7222
F : +1 360 636 1068
www.alsglobal.com

Table of Contents

HS20050467
- CoverPage
- HS20050467 Longhorn Army Ammunition Plant Final
  - CoverLetter
  - Sample Summary
  - CaseNarrative
  - 35BWW07-200511
  - 35BWW20-200511
  - 35BWW20-200511-FD
  - LHSMW58-200511
  - 35BWW09-200511
  - 35BWW19-200511
  - 35BWW18-200511
  - 35BSW01-200511
  - 35BSW02-200511
  - Trip Blank
  - Dates Report
  - QC
  - Acronyms
  - Certifications
  - Sample Tracking Record
  - SampleReceiptCheckList

Table of Contents (continued)

COC

HS20050467 8260 Raw Data

HS20050467 Longhorn Army Ammunition Plant
Final

ALS WO# HS20050467

10450 Stancliff Rd. Suite 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887

May 15, 2020

Susan Huang
Aptim Environmental & Infrastucture, Inc.
2500 City West Blvd., Suite 1700
Houston, TX 77042

Work Order: **HS20050467**

Laboratory Results for: **Longhorn Army Ammunition Plant**

Dear Susan,

ALS Environmental received 10 sample(s) on May 13, 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: 15-May-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
Work Order: HS20050467

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS20050467-01	35BWW07-200511	Groundwater		11-May-2020 07:30	13-May-2020 12:20	☐
HS20050467-02	35BWW20-200511	Groundwater		11-May-2020 08:15	13-May-2020 12:20	☐
HS20050467-03	35BWW20-200511-FD	Groundwater		11-May-2020 08:15	13-May-2020 12:20	☐
HS20050467-04	LHSMW58-200511	Groundwater		11-May-2020 09:00	13-May-2020 12:20	☐
HS20050467-05	35BWW09-200511	Groundwater		11-May-2020 09:50	13-May-2020 12:20	☐
HS20050467-06	35BWW19-200511	Groundwater		11-May-2020 10:30	13-May-2020 12:20	☐
HS20050467-07	35BWW18-200511	Groundwater		11-May-2020 11:15	13-May-2020 12:20	☐
HS20050467-08	35BSW01-200511	Groundwater		11-May-2020 11:25	13-May-2020 12:20	☐
HS20050467-09	35BSW02-200511	Groundwater		11-May-2020 11:35	13-May-2020 12:20	☐
HS20050467-10	Trip Blank	Water		11-May-2020 00:00	13-May-2020 12:20	☐

ALS Houston, US Date: 15-May-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
Work Order: HS20050467

CASE NARRATIVE

GCMS Volatiles by Method SW8260

Batch ID: R361617

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

ALS Houston, US Date: 15-May-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
Sample ID: 35BWW07-200511
Collection Date: 11-May-2020 07:30

ANALYTICAL REPORT
WorkOrder:HS20050467
Lab ID:HS20050467-01
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	14-May-2020 13:34
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 13:34
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	UG/L	1	14-May-2020 13:34
1,1,2-Trichlor-1,2,2-trifluoroethane	1.0	U	0.50	1.0	1.0	UG/L	1	14-May-2020 13:34
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 13:34
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 13:34
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 13:34
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 13:34
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	14-May-2020 13:34
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	UG/L	1	14-May-2020 13:34
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	UG/L	1	14-May-2020 13:34
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 13:34
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 13:34
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 13:34
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	UG/L	1	14-May-2020 13:34
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 13:34
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	UG/L	1	14-May-2020 13:34
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 13:34
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	14-May-2020 13:34
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 13:34
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	14-May-2020 13:34
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 13:34
2-Butanone	1.0	U	0.50	1.0	2.0	UG/L	1	14-May-2020 13:34
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 13:34
2-Hexanone	2.0	U	1.0	2.0	2.0	UG/L	1	14-May-2020 13:34
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	UG/L	1	14-May-2020 13:34
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 13:34
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	UG/L	1	14-May-2020 13:34
Acetone	1.0	U	0.40	1.0	2.0	UG/L	1	14-May-2020 13:34
Benzene	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 13:34
Bromobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	14-May-2020 13:34
Bromochloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 13:34
Bromodichloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 13:34
Bromoform	1.0	U	0.40	1.0	1.0	UG/L	1	14-May-2020 13:34
Bromomethane	1.0	U	0.40	1.0	1.0	UG/L	1	14-May-2020 13:34
Carbon disulfide	1.0	U	0.60	1.0	2.0	UG/L	1	14-May-2020 13:34
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	UG/L	1	14-May-2020 13:34
Chlorobenzene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 13:34
Chloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 13:34

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

ALS Houston, US Date: 15-May-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
Sample ID: 35BWW07-200511
Collection Date: 11-May-2020 07:30

ANALYTICAL REPORT
WorkOrder:HS20050467
Lab ID:HS20050467-01
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	14-May-2020 13:34
Chloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 13:34
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 13:34
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	UG/L	1	14-May-2020 13:34
Dibromochloromethane	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 13:34
Dibromomethane	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 13:34
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 13:34
Ethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 13:34
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	UG/L	1	14-May-2020 13:34
Isopropylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 13:34
m,p-Xylene	1.0	U	0.50	1.0	2.0	UG/L	1	14-May-2020 13:34
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	14-May-2020 13:34
n-Butylbenzene	1.0	U	0.40	1.0	1.0	UG/L	1	14-May-2020 13:34
n-Propylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 13:34
Naphthalene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 13:34
o-Xylene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 13:34
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 13:34
Styrene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 13:34
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 13:34
Tetrachloroethene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 13:34
Toluene	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 13:34
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 13:34
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 13:34
Trichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 13:34
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 13:34
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 13:34
Surr: 1,2-Dichloroethane-d4	*92.2*			**0**	*81-118*	*%REC*	*1*	*14-May-2020 13:34*
Surr: 4-Bromofluorobenzene	*101*			**0**	*85-114*	*%REC*	*1*	*14-May-2020 13:34*
Surr: Dibromofluoromethane	*90.6*			**0**	*80-119*	*%REC*	*1*	*14-May-2020 13:34*
Surr: Toluene-d8	*108*			**0**	*89-112*	*%REC*	*1*	*14-May-2020 13:34*

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

ALS Houston, US Date: 15-May-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
Sample ID: 35BWW20-200511
Collection Date: 11-May-2020 08:15

ANALYTICAL REPORT
WorkOrder:HS20050467
Lab ID:HS20050467-02
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	14-May-2020 13:58
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 13:58
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	UG/L	1	14-May-2020 13:58
1,1,2-Trichlor-1,2,2-trifluoroethane	**2.2**		**0.50**	**1.0**	**1.0**	**UG/L**	1	14-May-2020 13:58
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 13:58
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 13:58
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 13:58
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 13:58
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	14-May-2020 13:58
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	UG/L	1	14-May-2020 13:58
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	UG/L	1	14-May-2020 13:58
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 13:58
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 13:58
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 13:58
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	UG/L	1	14-May-2020 13:58
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 13:58
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	UG/L	1	14-May-2020 13:58
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 13:58
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	14-May-2020 13:58
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 13:58
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	14-May-2020 13:58
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 13:58
2-Butanone	1.0	U	0.50	1.0	2.0	UG/L	1	14-May-2020 13:58
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 13:58
2-Hexanone	2.0	U	1.0	2.0	2.0	UG/L	1	14-May-2020 13:58
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	UG/L	1	14-May-2020 13:58
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 13:58
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	UG/L	1	14-May-2020 13:58
Acetone	1.0	U	0.40	1.0	2.0	UG/L	1	14-May-2020 13:58
Benzene	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 13:58
Bromobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	14-May-2020 13:58
Bromochloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 13:58
Bromodichloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 13:58
Bromoform	1.0	U	0.40	1.0	1.0	UG/L	1	14-May-2020 13:58
Bromomethane	1.0	U	0.40	1.0	1.0	UG/L	1	14-May-2020 13:58
Carbon disulfide	1.0	U	0.60	1.0	2.0	UG/L	1	14-May-2020 13:58
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	UG/L	1	14-May-2020 13:58
Chlorobenzene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 13:58

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

ALS Houston, US Date: 15-May-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
Sample ID: 35BWW20-200511
Collection Date: 11-May-2020 08:15

ANALYTICAL REPORT
WorkOrder:HS20050467
Lab ID:HS20050467-02
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	14-May-2020 13:58
Chloroform	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 13:58
Chloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 13:58
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 13:58
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	UG/L	1	14-May-2020 13:58
Dibromochloromethane	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 13:58
Dibromomethane	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 13:58
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 13:58
Ethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 13:58
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	UG/L	1	14-May-2020 13:58
Isopropylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 13:58
m,p-Xylene	1.0	U	0.50	1.0	2.0	UG/L	1	14-May-2020 13:58
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	14-May-2020 13:58
n-Butylbenzene	1.0	U	0.40	1.0	1.0	UG/L	1	14-May-2020 13:58
n-Propylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 13:58
Naphthalene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 13:58
o-Xylene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 13:58
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 13:58
Styrene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 13:58
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 13:58
Tetrachloroethene	**12**		**0.30**	**1.0**	**1.0**	**UG/L**	1	14-May-2020 13:58
Toluene	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 13:58
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 13:58
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 13:58
Trichloroethene	**2.9**		**0.20**	**0.50**	**1.0**	**UG/L**	1	14-May-2020 13:58
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 13:58
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 13:58
Surr: 1,2-Dichloroethane-d4	*93.1*			**0**	*81-118*	*%REC*	*1*	*14-May-2020 13:58*
Surr: 4-Bromofluorobenzene	*98.9*			**0**	*85-114*	*%REC*	*1*	*14-May-2020 13:58*
Surr: Dibromofluoromethane	*91.0*			**0**	*80-119*	*%REC*	*1*	*14-May-2020 13:58*
Surr: Toluene-d8	*108*			**0**	*89-112*	*%REC*	*1*	*14-May-2020 13:58*

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

ALS Houston, US Date: 15-May-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
Sample ID: 35BWW20-200511-FD
Collection Date: 11-May-2020 08:15

ANALYTICAL REPORT
WorkOrder:HS20050467
Lab ID:HS20050467-03
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	14-May-2020 14:22
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 14:22
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	UG/L	1	14-May-2020 14:22
1,1,2-Trichlor-1,2,2-trifluoroethane	**2.3**		**0.50**	**1.0**	**1.0**	**UG/L**	1	14-May-2020 14:22
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 14:22
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 14:22
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 14:22
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 14:22
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	14-May-2020 14:22
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	UG/L	1	14-May-2020 14:22
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	UG/L	1	14-May-2020 14:22
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 14:22
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 14:22
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 14:22
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	UG/L	1	14-May-2020 14:22
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 14:22
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	UG/L	1	14-May-2020 14:22
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 14:22
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	14-May-2020 14:22
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 14:22
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	14-May-2020 14:22
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 14:22
2-Butanone	1.0	U	0.50	1.0	2.0	UG/L	1	14-May-2020 14:22
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 14:22
2-Hexanone	2.0	U	1.0	2.0	2.0	UG/L	1	14-May-2020 14:22
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	UG/L	1	14-May-2020 14:22
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 14:22
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	UG/L	1	14-May-2020 14:22
Acetone	1.0	U	0.40	1.0	2.0	UG/L	1	14-May-2020 14:22
Benzene	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 14:22
Bromobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	14-May-2020 14:22
Bromochloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 14:22
Bromodichloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 14:22
Bromoform	1.0	U	0.40	1.0	1.0	UG/L	1	14-May-2020 14:22
Bromomethane	1.0	U	0.40	1.0	1.0	UG/L	1	14-May-2020 14:22
Carbon disulfide	1.0	U	0.60	1.0	2.0	UG/L	1	14-May-2020 14:22
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	UG/L	1	14-May-2020 14:22
Chlorobenzene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 14:22

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

ALS Houston, US Date: 15-May-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
Sample ID: 35BWW20-200511-FD
Collection Date: 11-May-2020 08:15

ANALYTICAL REPORT
WorkOrder:HS20050467
Lab ID:HS20050467-03
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	14-May-2020 14:22
Chloroform	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 14:22
Chloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 14:22
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 14:22
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	UG/L	1	14-May-2020 14:22
Dibromochloromethane	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 14:22
Dibromomethane	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 14:22
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 14:22
Ethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 14:22
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	UG/L	1	14-May-2020 14:22
Isopropylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 14:22
m,p-Xylene	1.0	U	0.50	1.0	2.0	UG/L	1	14-May-2020 14:22
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	14-May-2020 14:22
n-Butylbenzene	1.0	U	0.40	1.0	1.0	UG/L	1	14-May-2020 14:22
n-Propylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 14:22
Naphthalene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 14:22
o-Xylene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 14:22
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 14:22
Styrene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 14:22
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 14:22
Tetrachloroethene	**12**		**0.30**	**1.0**	**1.0**	**UG/L**	1	14-May-2020 14:22
Toluene	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 14:22
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 14:22
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 14:22
Trichloroethene	**2.9**		**0.20**	**0.50**	**1.0**	**UG/L**	1	14-May-2020 14:22
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 14:22
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 14:22
Surr: 1,2-Dichloroethane-d4	*92.1*			**0**	*81-118*	*%REC*	*1*	*14-May-2020 14:22*
Surr: 4-Bromofluorobenzene	*100*			**0**	*85-114*	*%REC*	*1*	*14-May-2020 14:22*
Surr: Dibromofluoromethane	*90.2*			**0**	*80-119*	*%REC*	*1*	*14-May-2020 14:22*
Surr: Toluene-d8	*107*			**0**	*89-112*	*%REC*	*1*	*14-May-2020 14:22*

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

ALS Houston, US Date: 15-May-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
Sample ID: LHSMW58-200511
Collection Date: 11-May-2020 09:00

ANALYTICAL REPORT
WorkOrder:HS20050467
Lab ID:HS20050467-04
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	14-May-2020 14:46
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 14:46
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	UG/L	1	14-May-2020 14:46
1,1,2-Trichlor-1,2,2-trifluoroethane	**0.66**	J	**0.50**	**1.0**	**1.0**	**UG/L**	1	14-May-2020 14:46
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 14:46
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 14:46
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 14:46
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 14:46
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	14-May-2020 14:46
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	UG/L	1	14-May-2020 14:46
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	UG/L	1	14-May-2020 14:46
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 14:46
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 14:46
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 14:46
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	UG/L	1	14-May-2020 14:46
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 14:46
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	UG/L	1	14-May-2020 14:46
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 14:46
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	14-May-2020 14:46
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 14:46
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	14-May-2020 14:46
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 14:46
2-Butanone	1.0	U	0.50	1.0	2.0	UG/L	1	14-May-2020 14:46
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 14:46
2-Hexanone	2.0	U	1.0	2.0	2.0	UG/L	1	14-May-2020 14:46
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	UG/L	1	14-May-2020 14:46
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 14:46
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	UG/L	1	14-May-2020 14:46
Acetone	1.0	U	0.40	1.0	2.0	UG/L	1	14-May-2020 14:46
Benzene	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 14:46
Bromobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	14-May-2020 14:46
Bromochloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 14:46
Bromodichloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 14:46
Bromoform	1.0	U	0.40	1.0	1.0	UG/L	1	14-May-2020 14:46
Bromomethane	1.0	U	0.40	1.0	1.0	UG/L	1	14-May-2020 14:46
Carbon disulfide	1.0	U	0.60	1.0	2.0	UG/L	1	14-May-2020 14:46
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	UG/L	1	14-May-2020 14:46
Chlorobenzene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 14:46

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

ALS Houston, US Date: 15-May-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
Sample ID: LHSMW58-200511
Collection Date: 11-May-2020 09:00

ANALYTICAL REPORT
WorkOrder:HS20050467
Lab ID:HS20050467-04
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	14-May-2020 14:46
Chloroform	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 14:46
Chloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 14:46
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 14:46
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	UG/L	1	14-May-2020 14:46
Dibromochloromethane	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 14:46
Dibromomethane	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 14:46
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 14:46
Ethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 14:46
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	UG/L	1	14-May-2020 14:46
Isopropylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 14:46
m,p-Xylene	1.0	U	0.50	1.0	2.0	UG/L	1	14-May-2020 14:46
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	14-May-2020 14:46
n-Butylbenzene	1.0	U	0.40	1.0	1.0	UG/L	1	14-May-2020 14:46
n-Propylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 14:46
Naphthalene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 14:46
o-Xylene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 14:46
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 14:46
Styrene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 14:46
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 14:46
Tetrachloroethene	**14**		**0.30**	**1.0**	**1.0**	**UG/L**	1	14-May-2020 14:46
Toluene	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 14:46
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 14:46
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 14:46
Trichloroethene	**0.88**	J	**0.20**	**0.50**	**1.0**	**UG/L**	1	14-May-2020 14:46
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 14:46
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 14:46
Surr: 1,2-Dichloroethane-d4	*91.9*			**0**	*81-118*	*%REC*	*1*	*14-May-2020 14:46*
Surr: 4-Bromofluorobenzene	*98.9*			**0**	*85-114*	*%REC*	*1*	*14-May-2020 14:46*
Surr: Dibromofluoromethane	*92.4*			**0**	*80-119*	*%REC*	*1*	*14-May-2020 14:46*
Surr: Toluene-d8	*107*			**0**	*89-112*	*%REC*	*1*	*14-May-2020 14:46*

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

ALS Houston, US Date: 15-May-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
Sample ID: 35BWW09-200511
Collection Date: 11-May-2020 09:50

ANALYTICAL REPORT
WorkOrder:HS20050467
Lab ID:HS20050467-05
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	14-May-2020 15:11
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 15:11
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	UG/L	1	14-May-2020 15:11
1,1,2-Trichlor-1,2,2-trifluoroethane	**0.74**	J	**0.50**	**1.0**	**1.0**	**UG/L**	1	14-May-2020 15:11
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 15:11
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 15:11
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 15:11
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 15:11
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	14-May-2020 15:11
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	UG/L	1	14-May-2020 15:11
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	UG/L	1	14-May-2020 15:11
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 15:11
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 15:11
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 15:11
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	UG/L	1	14-May-2020 15:11
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 15:11
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	UG/L	1	14-May-2020 15:11
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 15:11
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	14-May-2020 15:11
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 15:11
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	14-May-2020 15:11
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 15:11
2-Butanone	1.0	U	0.50	1.0	2.0	UG/L	1	14-May-2020 15:11
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 15:11
2-Hexanone	2.0	U	1.0	2.0	2.0	UG/L	1	14-May-2020 15:11
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	UG/L	1	14-May-2020 15:11
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 15:11
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	UG/L	1	14-May-2020 15:11
Acetone	1.0	U	0.40	1.0	2.0	UG/L	1	14-May-2020 15:11
Benzene	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 15:11
Bromobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	14-May-2020 15:11
Bromochloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 15:11
Bromodichloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 15:11
Bromoform	1.0	U	0.40	1.0	1.0	UG/L	1	14-May-2020 15:11
Bromomethane	1.0	U	0.40	1.0	1.0	UG/L	1	14-May-2020 15:11
Carbon disulfide	1.0	U	0.60	1.0	2.0	UG/L	1	14-May-2020 15:11
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	UG/L	1	14-May-2020 15:11
Chlorobenzene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 15:11

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

ALS Houston, US Date: 15-May-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
Sample ID: 35BWW09-200511
Collection Date: 11-May-2020 09:50

ANALYTICAL REPORT
WorkOrder:HS20050467
Lab ID:HS20050467-05
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	14-May-2020 15:11
Chloroform	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 15:11
Chloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 15:11
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 15:11
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	UG/L	1	14-May-2020 15:11
Dibromochloromethane	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 15:11
Dibromomethane	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 15:11
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 15:11
Ethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 15:11
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	UG/L	1	14-May-2020 15:11
Isopropylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 15:11
m,p-Xylene	1.0	U	0.50	1.0	2.0	UG/L	1	14-May-2020 15:11
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	14-May-2020 15:11
n-Butylbenzene	1.0	U	0.40	1.0	1.0	UG/L	1	14-May-2020 15:11
n-Propylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 15:11
Naphthalene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 15:11
o-Xylene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 15:11
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 15:11
Styrene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 15:11
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 15:11
Tetrachloroethene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 15:11
Toluene	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 15:11
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 15:11
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 15:11
Trichloroethene	**42**		**0.20**	**0.50**	**1.0**	**UG/L**	1	14-May-2020 15:11
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 15:11
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 15:11
Surr: 1,2-Dichloroethane-d4	*93.7*			**0**	*81-118*	*%REC*	*1*	*14-May-2020 15:11*
Surr: 4-Bromofluorobenzene	*101*			**0**	*85-114*	*%REC*	*1*	*14-May-2020 15:11*
Surr: Dibromofluoromethane	*91.8*			**0**	*80-119*	*%REC*	*1*	*14-May-2020 15:11*
Surr: Toluene-d8	*107*			**0**	*89-112*	*%REC*	*1*	*14-May-2020 15:11*

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

ALS Houston, US Date: 15-May-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
Sample ID: 35BWW19-200511
Collection Date: 11-May-2020 10:30

ANALYTICAL REPORT
WorkOrder:HS20050467
Lab ID:HS20050467-06
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	14-May-2020 15:35
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 15:35
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	UG/L	1	14-May-2020 15:35
1,1,2-Trichlor-1,2,2-trifluoroethane	1.0	U	0.50	1.0	1.0	UG/L	1	14-May-2020 15:35
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 15:35
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 15:35
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 15:35
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 15:35
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	14-May-2020 15:35
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	UG/L	1	14-May-2020 15:35
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	UG/L	1	14-May-2020 15:35
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 15:35
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 15:35
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 15:35
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	UG/L	1	14-May-2020 15:35
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 15:35
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	UG/L	1	14-May-2020 15:35
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 15:35
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	14-May-2020 15:35
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 15:35
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	14-May-2020 15:35
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 15:35
2-Butanone	1.0	U	0.50	1.0	2.0	UG/L	1	14-May-2020 15:35
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 15:35
2-Hexanone	2.0	U	1.0	2.0	2.0	UG/L	1	14-May-2020 15:35
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	UG/L	1	14-May-2020 15:35
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 15:35
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	UG/L	1	14-May-2020 15:35
Acetone	1.0	U	0.40	1.0	2.0	UG/L	1	14-May-2020 15:35
Benzene	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 15:35
Bromobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	14-May-2020 15:35
Bromochloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 15:35
Bromodichloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 15:35
Bromoform	1.0	U	0.40	1.0	1.0	UG/L	1	14-May-2020 15:35
Bromomethane	1.0	U	0.40	1.0	1.0	UG/L	1	14-May-2020 15:35
Carbon disulfide	1.0	U	0.60	1.0	2.0	UG/L	1	14-May-2020 15:35
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	UG/L	1	14-May-2020 15:35
Chlorobenzene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 15:35
Chloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 15:35

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

ALS Houston, US Date: 15-May-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
Sample ID: 35BWW19-200511
Collection Date: 11-May-2020 10:30

ANALYTICAL REPORT
WorkOrder:HS20050467
Lab ID:HS20050467-06
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	14-May-2020 15:35
Chloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 15:35
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 15:35
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	UG/L	1	14-May-2020 15:35
Dibromochloromethane	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 15:35
Dibromomethane	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 15:35
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 15:35
Ethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 15:35
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	UG/L	1	14-May-2020 15:35
Isopropylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 15:35
m,p-Xylene	1.0	U	0.50	1.0	2.0	UG/L	1	14-May-2020 15:35
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	14-May-2020 15:35
n-Butylbenzene	1.0	U	0.40	1.0	1.0	UG/L	1	14-May-2020 15:35
n-Propylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 15:35
Naphthalene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 15:35
o-Xylene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 15:35
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 15:35
Styrene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 15:35
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 15:35
Tetrachloroethene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 15:35
Toluene	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 15:35
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 15:35
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 15:35
Trichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 15:35
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 15:35
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 15:35
Surr: 1,2-Dichloroethane-d4	*90.8*			**0**	*81-118*	*%REC*	*1*	*14-May-2020 15:35*
Surr: 4-Bromofluorobenzene	*97.6*			**0**	*85-114*	*%REC*	*1*	*14-May-2020 15:35*
Surr: Dibromofluoromethane	*92.7*			**0**	*80-119*	*%REC*	*1*	*14-May-2020 15:35*
Surr: Toluene-d8	*110*			**0**	*89-112*	*%REC*	*1*	*14-May-2020 15:35*

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

ALS Houston, US Date: 15-May-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
Sample ID: 35BWW18-200511
Collection Date: 11-May-2020 11:15

ANALYTICAL REPORT
WorkOrder:HS20050467
Lab ID:HS20050467-07
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-May-2020 15:59
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 15:59
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	UG/L	1	14-May-2020 15:59
1,1,2-Trichlor-1,2,2-trifluoroethane	1.0	U	0.50	1.0	1.0	UG/L	1	14-May-2020 15:59
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 15:59
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 15:59
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 15:59
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 15:59
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	14-May-2020 15:59
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	UG/L	1	14-May-2020 15:59
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	UG/L	1	14-May-2020 15:59
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 15:59
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 15:59
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 15:59
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	UG/L	1	14-May-2020 15:59
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 15:59
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	UG/L	1	14-May-2020 15:59
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 15:59
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	14-May-2020 15:59
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 15:59
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	14-May-2020 15:59
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 15:59
2-Butanone	1.0	U	0.50	1.0	2.0	UG/L	1	14-May-2020 15:59
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 15:59
2-Hexanone	2.0	U	1.0	2.0	2.0	UG/L	1	14-May-2020 15:59
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	UG/L	1	14-May-2020 15:59
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 15:59
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	UG/L	1	14-May-2020 15:59
Acetone	1.0	U	0.40	1.0	2.0	UG/L	1	14-May-2020 15:59
Benzene	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 15:59
Bromobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	14-May-2020 15:59
Bromochloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 15:59
Bromodichloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 15:59
Bromoform	1.0	U	0.40	1.0	1.0	UG/L	1	14-May-2020 15:59
Bromomethane	1.0	U	0.40	1.0	1.0	UG/L	1	14-May-2020 15:59
Carbon disulfide	1.0	U	0.60	1.0	2.0	UG/L	1	14-May-2020 15:59
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	UG/L	1	14-May-2020 15:59
Chlorobenzene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 15:59
Chloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 15:59

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

ALS Houston, US Date: 15-May-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
Sample ID: 35BWW18-200511
Collection Date: 11-May-2020 11:15

ANALYTICAL REPORT
WorkOrder:HS20050467
Lab ID:HS20050467-07
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	14-May-2020 15:59
Chloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 15:59
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 15:59
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	UG/L	1	14-May-2020 15:59
Dibromochloromethane	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 15:59
Dibromomethane	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 15:59
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 15:59
Ethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 15:59
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	UG/L	1	14-May-2020 15:59
Isopropylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 15:59
m,p-Xylene	1.0	U	0.50	1.0	2.0	UG/L	1	14-May-2020 15:59
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	14-May-2020 15:59
n-Butylbenzene	1.0	U	0.40	1.0	1.0	UG/L	1	14-May-2020 15:59
n-Propylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 15:59
Naphthalene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 15:59
o-Xylene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 15:59
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 15:59
Styrene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 15:59
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 15:59
Tetrachloroethene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 15:59
Toluene	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 15:59
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 15:59
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 15:59
Trichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 15:59
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 15:59
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 15:59
Surr: 1,2-Dichloroethane-d4	*92.0*			**0**	*81-118*	*%REC*	*1*	*14-May-2020 15:59*
Surr: 4-Bromofluorobenzene	*101*			**0**	*85-114*	*%REC*	*1*	*14-May-2020 15:59*
Surr: Dibromofluoromethane	*91.1*			**0**	*80-119*	*%REC*	*1*	*14-May-2020 15:59*
Surr: Toluene-d8	*106*			**0**	*89-112*	*%REC*	*1*	*14-May-2020 15:59*

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

ALS Houston, US Date: 15-May-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
Sample ID: 35BSW01-200511
Collection Date: 11-May-2020 11:25

ANALYTICAL REPORT
WorkOrder:HS20050467
Lab ID:HS20050467-08
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	14-May-2020 16:23
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 16:23
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	UG/L	1	14-May-2020 16:23
1,1,2-Trichlor-1,2,2-trifluoroethane	1.0	U	0.50	1.0	1.0	UG/L	1	14-May-2020 16:23
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 16:23
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 16:23
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 16:23
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 16:23
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	14-May-2020 16:23
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	UG/L	1	14-May-2020 16:23
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	UG/L	1	14-May-2020 16:23
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 16:23
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 16:23
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 16:23
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	UG/L	1	14-May-2020 16:23
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 16:23
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	UG/L	1	14-May-2020 16:23
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 16:23
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	14-May-2020 16:23
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 16:23
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	14-May-2020 16:23
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 16:23
2-Butanone	1.0	U	0.50	1.0	2.0	UG/L	1	14-May-2020 16:23
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 16:23
2-Hexanone	2.0	U	1.0	2.0	2.0	UG/L	1	14-May-2020 16:23
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	UG/L	1	14-May-2020 16:23
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 16:23
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	UG/L	1	14-May-2020 16:23
Acetone	1.0	U	0.40	1.0	2.0	UG/L	1	14-May-2020 16:23
Benzene	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 16:23
Bromobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	14-May-2020 16:23
Bromochloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 16:23
Bromodichloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 16:23
Bromoform	1.0	U	0.40	1.0	1.0	UG/L	1	14-May-2020 16:23
Bromomethane	1.0	U	0.40	1.0	1.0	UG/L	1	14-May-2020 16:23
Carbon disulfide	1.0	U	0.60	1.0	2.0	UG/L	1	14-May-2020 16:23
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	UG/L	1	14-May-2020 16:23
Chlorobenzene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 16:23
Chloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 16:23

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

ALS Houston, US Date: 15-May-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
Sample ID: 35BSW01-200511
Collection Date: 11-May-2020 11:25

ANALYTICAL REPORT
WorkOrder:HS20050467
Lab ID:HS20050467-08
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	14-May-2020 16:23
Chloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 16:23
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 16:23
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	UG/L	1	14-May-2020 16:23
Dibromochloromethane	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 16:23
Dibromomethane	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 16:23
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 16:23
Ethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 16:23
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	UG/L	1	14-May-2020 16:23
Isopropylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 16:23
m,p-Xylene	1.0	U	0.50	1.0	2.0	UG/L	1	14-May-2020 16:23
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	14-May-2020 16:23
n-Butylbenzene	1.0	U	0.40	1.0	1.0	UG/L	1	14-May-2020 16:23
n-Propylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 16:23
Naphthalene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 16:23
o-Xylene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 16:23
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 16:23
Styrene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 16:23
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 16:23
Tetrachloroethene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 16:23
Toluene	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 16:23
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 16:23
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 16:23
Trichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 16:23
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 16:23
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 16:23
Surr: 1,2-Dichloroethane-d4	*91.5*			**0**	*81-118*	*%REC*	*1*	*14-May-2020 16:23*
Surr: 4-Bromofluorobenzene	*99.4*			**0**	*85-114*	*%REC*	*1*	*14-May-2020 16:23*
Surr: Dibromofluoromethane	*90.2*			**0**	*80-119*	*%REC*	*1*	*14-May-2020 16:23*
Surr: Toluene-d8	*108*			**0**	*89-112*	*%REC*	*1*	*14-May-2020 16:23*

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

ALS Houston, US Date: 15-May-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
Sample ID: 35BSW02-200511
Collection Date: 11-May-2020 11:35

ANALYTICAL REPORT
WorkOrder:HS20050467
Lab ID:HS20050467-09
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-May-2020 16:47
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 16:47
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	UG/L	1	14-May-2020 16:47
1,1,2-Trichlor-1,2,2-trifluoroethane	1.0	U	0.50	1.0	1.0	UG/L	1	14-May-2020 16:47
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 16:47
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 16:47
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 16:47
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 16:47
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	14-May-2020 16:47
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	UG/L	1	14-May-2020 16:47
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	UG/L	1	14-May-2020 16:47
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 16:47
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 16:47
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 16:47
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	UG/L	1	14-May-2020 16:47
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 16:47
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	UG/L	1	14-May-2020 16:47
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 16:47
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	14-May-2020 16:47
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 16:47
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	14-May-2020 16:47
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 16:47
2-Butanone	1.0	U	0.50	1.0	2.0	UG/L	1	14-May-2020 16:47
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 16:47
2-Hexanone	2.0	U	1.0	2.0	2.0	UG/L	1	14-May-2020 16:47
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	UG/L	1	14-May-2020 16:47
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 16:47
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	UG/L	1	14-May-2020 16:47
Acetone	1.0	U	0.40	1.0	2.0	UG/L	1	14-May-2020 16:47
Benzene	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 16:47
Bromobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	14-May-2020 16:47
Bromochloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 16:47
Bromodichloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 16:47
Bromoform	1.0	U	0.40	1.0	1.0	UG/L	1	14-May-2020 16:47
Bromomethane	1.0	U	0.40	1.0	1.0	UG/L	1	14-May-2020 16:47
Carbon disulfide	1.0	U	0.60	1.0	2.0	UG/L	1	14-May-2020 16:47
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	UG/L	1	14-May-2020 16:47
Chlorobenzene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 16:47
Chloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 16:47

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

ALS Houston, US Date: 15-May-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
Sample ID: 35BSW02-200511
Collection Date: 11-May-2020 11:35

ANALYTICAL REPORT
WorkOrder:HS20050467
Lab ID:HS20050467-09
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	14-May-2020 16:47
Chloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 16:47
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 16:47
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	UG/L	1	14-May-2020 16:47
Dibromochloromethane	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 16:47
Dibromomethane	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 16:47
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 16:47
Ethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 16:47
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	UG/L	1	14-May-2020 16:47
Isopropylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 16:47
m,p-Xylene	1.0	U	0.50	1.0	2.0	UG/L	1	14-May-2020 16:47
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	14-May-2020 16:47
n-Butylbenzene	1.0	U	0.40	1.0	1.0	UG/L	1	14-May-2020 16:47
n-Propylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 16:47
Naphthalene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 16:47
o-Xylene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 16:47
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 16:47
Styrene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 16:47
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 16:47
Tetrachloroethene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 16:47
Toluene	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 16:47
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 16:47
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 16:47
Trichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 16:47
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 16:47
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 16:47
Surr: 1,2-Dichloroethane-d4	*91.8*			**0**	*81-118*	*%REC*	*1*	*14-May-2020 16:47*
Surr: 4-Bromofluorobenzene	*98.4*			**0**	*85-114*	*%REC*	*1*	*14-May-2020 16:47*
Surr: Dibromofluoromethane	*89.9*			**0**	*80-119*	*%REC*	*1*	*14-May-2020 16:47*
Surr: Toluene-d8	*108*			**0**	*89-112*	*%REC*	*1*	*14-May-2020 16:47*

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

ALS Houston, US Date: 15-May-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
Sample ID: Trip Blank
Collection Date: 11-May-2020 00:00

ANALYTICAL REPORT
WorkOrder:HS20050467
Lab ID:HS20050467-10
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	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 13:10
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 13:10
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	UG/L	1	14-May-2020 13:10
1,1,2-Trichlor-1,2,2-trifluoroethane	1.0	U	0.50	1.0	1.0	UG/L	1	14-May-2020 13:10
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 13:10
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 13:10
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 13:10
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 13:10
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	14-May-2020 13:10
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	UG/L	1	14-May-2020 13:10
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	UG/L	1	14-May-2020 13:10
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 13:10
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 13:10
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 13:10
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	UG/L	1	14-May-2020 13:10
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 13:10
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	UG/L	1	14-May-2020 13:10
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 13:10
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	14-May-2020 13:10
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 13:10
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	14-May-2020 13:10
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 13:10
2-Butanone	1.0	U	0.50	1.0	2.0	UG/L	1	14-May-2020 13:10
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 13:10
2-Hexanone	2.0	U	1.0	2.0	2.0	UG/L	1	14-May-2020 13:10
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	UG/L	1	14-May-2020 13:10
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 13:10
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	UG/L	1	14-May-2020 13:10
Acetone	1.0	U	0.40	1.0	2.0	UG/L	1	14-May-2020 13:10
Benzene	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 13:10
Bromobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	14-May-2020 13:10
Bromochloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 13:10
Bromodichloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 13:10
Bromoform	1.0	U	0.40	1.0	1.0	UG/L	1	14-May-2020 13:10
Bromomethane	1.0	U	0.40	1.0	1.0	UG/L	1	14-May-2020 13:10
Carbon disulfide	1.0	U	0.60	1.0	2.0	UG/L	1	14-May-2020 13:10
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	UG/L	1	14-May-2020 13:10
Chlorobenzene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 13:10
Chloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 13:10

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

ALS Houston, US Date: 15-May-20

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: Longhorn Army Ammunition Plant WorkOrder:HS20050467
Sample ID: Trip Blank Lab ID:HS20050467-10
Collection Date: 11-May-2020 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	14-May-2020 13:10
Chloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 13:10
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 13:10
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	UG/L	1	14-May-2020 13:10
Dibromochloromethane	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 13:10
Dibromomethane	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 13:10
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 13:10
Ethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 13:10
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	UG/L	1	14-May-2020 13:10
Isopropylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 13:10
m,p-Xylene	1.0	U	0.50	1.0	2.0	UG/L	1	14-May-2020 13:10
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	14-May-2020 13:10
n-Butylbenzene	1.0	U	0.40	1.0	1.0	UG/L	1	14-May-2020 13:10
n-Propylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 13:10
Naphthalene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 13:10
o-Xylene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 13:10
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 13:10
Styrene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 13:10
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 13:10
Tetrachloroethene	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 13:10
Toluene	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 13:10
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 13:10
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 13:10
Trichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 13:10
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	UG/L	1	14-May-2020 13:10
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	14-May-2020 13:10
Surr: 1,2-Dichloroethane-d4	*90.0*			**0**	*81-118*	*%REC*	*1*	*14-May-2020 13:10*
Surr: 4-Bromofluorobenzene	*101*			**0**	*85-114*	*%REC*	*1*	*14-May-2020 13:10*
Surr: Dibromofluoromethane	*92.2*			**0**	*80-119*	*%REC*	*1*	*14-May-2020 13:10*
Surr: Toluene-d8	*107*			**0**	*89-112*	*%REC*	*1*	*14-May-2020 13:10*

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

ALS Houston, US Date: 15-May-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
WorkOrder: HS20050467

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: R361617 (0)	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C				**Matrix:** Water	
HS20050467-10	Trip Blank	11 May 2020 00:00			14 May 2020 13:10	1
Batch ID: R361617 (0)	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C				**Matrix:** Groundwater	
HS20050467-01	35BWW07-200511	11 May 2020 07:30			14 May 2020 13:34	1
HS20050467-02	35BWW20-200511	11 May 2020 08:15			14 May 2020 13:58	1
HS20050467-03	35BWW20-200511-FD	11 May 2020 08:15			14 May 2020 14:22	1
HS20050467-04	LHSMW58-200511	11 May 2020 09:00			14 May 2020 14:46	1
HS20050467-05	35BWW09-200511	11 May 2020 09:50			14 May 2020 15:11	1
HS20050467-06	35BWW19-200511	11 May 2020 10:30			14 May 2020 15:35	1
HS20050467-07	35BWW18-200511	11 May 2020 11:15			14 May 2020 15:59	1
HS20050467-08	35BSW01-200511	11 May 2020 11:25			14 May 2020 16:23	1
HS20050467-09	35BSW02-200511	11 May 2020 11:35			14 May 2020 16:47	1

ALS Houston, US Date: 15-May-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
WorkOrder: HS20050467

QC BATCH REPORT

Batch ID: R361617 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MBLK Sample ID: **VBLKW-200514** Units: **UG/L** Analysis Date: **14-May-2020 12:46**
Client ID: Run ID: **VOA6_361617** SeqNo: **5585735** 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	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	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	1.0	1.0								U

ALS Houston, US Date: 15-May-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
WorkOrder: HS20050467

QC BATCH REPORT

Batch ID: R361617 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MBLK Sample ID: **VBLKW-200514** Units: **UG/L** Analysis Date: **14-May-2020 12:46**
Client ID: Run ID: **VOA6_361617** SeqNo: **5585735** 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	1.0	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	*45.69*	*1.0*	*50*	*0*	*91.4*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*48.64*	*1.0*	*50*	*0*	*97.3*	*85 - 114*				
Surr: Dibromofluoromethane	*45.89*	*1.0*	*50*	*0*	*91.8*	*80 - 119*				

ALS Houston, US Date: 15-May-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
WorkOrder: HS20050467

QC BATCH REPORT

Batch ID: R361617 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MBLK Sample ID: **VBLKW-200514** Units: **UG/L** Analysis Date: **14-May-2020 12:46**
Client ID: Run ID: **VOA6_361617** SeqNo: **5585735** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Surr: Toluene-d8	*54.2*	*1.0*	*50*	*0*	*108*	*89 - 112*				

ALS Houston, US Date: 15-May-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
WorkOrder: HS20050467

QC BATCH REPORT

Batch ID: R361617 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

LCS Sample ID: **VLCSW-200514** Units: **UG/L** Analysis Date: **14-May-2020 11:58**
Client ID: Run ID: **VOA6_361617** SeqNo: **5585734** 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	19.77	1.0	20	0	98.8	78 - 124				
1,1,1-Trichloroethane	18.68	1.0	20	0	93.4	74 - 131				
1,1,2,2-Tetrachloroethane	19.22	1.0	20	0	96.1	71 - 121				
1,1,2-Trichlor-1,2,2-trifluoroethane	17.68	1.0	20	0	88.4	70 - 136				
1,1,2-Trichloroethane	19.85	1.0	20	0	99.2	80 - 119				
1,1-Dichloroethane	18.34	1.0	20	0	91.7	77 - 125				
1,1-Dichloroethene	18.35	1.0	20	0	91.7	71 - 131				
1,1-Dichloropropene	17.21	1.0	20	0	86.1	78 - 125				
1,2,3-Trichlorobenzene	24.45	1.0	20	0	122	69 - 129				
1,2,3-Trichloropropane	19.28	1.0	20	0	96.4	73 - 122				
1,2,4-Trichlorobenzene	22.4	1.0	20	0	112	69 - 130				
1,2,4-Trimethylbenzene	18.06	1.0	20	0	90.3	76 - 124				
1,2-Dibromo-3-chloropropane	21.47	1.0	20	0	107	62 - 128				
1,2-Dibromoethane	20.4	1.0	20	0	102	77 - 121				
1,2-Dichlorobenzene	18.57	1.0	20	0	92.8	80 - 119				
1,2-Dichloroethane	20.81	1.0	20	0	104	73 - 128				
1,2-Dichloropropane	19.05	1.0	20	0	95.2	78 - 122				
1,3,5-Trimethylbenzene	17.69	1.0	20	0	88.5	75 - 124				
1,3-Dichlorobenzene	18.66	1.0	20	0	93.3	80 - 119				
1,3-Dichloropropane	20.08	1.0	20	0	100	80 - 119				
1,4-Dichlorobenzene	17.65	1.0	20	0	88.2	79 - 118				
2,2-Dichloropropane	19.16	1.0	20	0	95.8	60 - 139				
2-Butanone	43.87	2.0	40	0	110	56 - 143				
2-Chlorotoluene	17.42	1.0	20	0	87.1	79 - 122				
2-Hexanone	39.18	2.0	40	0	98.0	57 - 139				
4-Chlorotoluene	18.03	1.0	20	0	90.1	78 - 122				
4-Isopropyltoluene	17.6	1.0	20	0	88.0	77 - 127				
4-Methyl-2-pentanone	40.12	2.0	40	0	100	67 - 130				
Acetone	38.01	2.0	40	0	95.0	39 - 160				
Benzene	19.05	1.0	20	0	95.3	79 - 120				
Bromobenzene	18.97	1.0	20	0	94.9	80 - 120				
Bromochloromethane	19.26	1.0	20	0	96.3	78 - 123				
Bromodichloromethane	19.93	1.0	20	0	99.7	79 - 125				
Bromoform	20.01	1.0	20	0	100	66 - 130				

ALS Houston, US Date: 15-May-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
WorkOrder: HS20050467

QC BATCH REPORT

Batch ID: R361617 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

LCS Sample ID: **VLCSW-200514** Units: **UG/L** Analysis Date: **14-May-2020 11:58**
Client ID: Run ID: **VOA6_361617** SeqNo: **5585734** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromomethane	21.56	1.0	20	0	108	53 - 141				
Carbon disulfide	37.36	2.0	40	0	93.4	64 - 133				
Carbon tetrachloride	17.51	1.0	20	0	87.5	72 - 136				
Chlorobenzene	18.86	1.0	20	0	94.3	82 - 118				
Chloroethane	18.55	1.0	20	0	92.7	60 - 138				
Chloroform	20.1	1.0	20	0	100	79 - 124				
Chloromethane	18.28	1.0	20	0	91.4	50 - 139				
cis-1,2-Dichloroethene	19.78	1.0	20	0	98.9	78 - 123				
cis-1,3-Dichloropropene	19.6	1.0	20	0	98.0	75 - 124				
Dibromochloromethane	20.19	1.0	20	0	101	74 - 126				
Dibromomethane	20.13	1.0	20	0	101	79 - 123				
Dichlorodifluoromethane	19.07	1.0	20	0	95.3	32 - 152				
Ethylbenzene	18.01	1.0	20	0	90.0	79 - 121				
Hexachlorobutadiene	23.51	1.0	20	0	118	66 - 134				
Isopropylbenzene	17.72	1.0	20	0	88.6	72 - 131				
m,p-Xylene	36.07	2.0	40	0	90.2	80 - 121				
Methylene chloride	20.37	2.0	20	0	102	74 - 124				
Naphthalene	21.07	1.0	20	0	105	61 - 128				
n-Butylbenzene	18.54	1.0	20	0	92.7	75 - 128				
n-Propylbenzene	17.34	1.0	20	0	86.7	76 - 126				
o-Xylene	18	1.0	20	0	90.0	78 - 122				
sec-Butylbenzene	16.91	1.0	20	0	84.5	77 - 126				
Styrene	18.42	1.0	20	0	92.1	78 - 123				
tert-Butylbenzene	17.22	1.0	20	0	86.1	78 - 124				
Tetrachloroethene	18.02	1.0	20	0	90.1	74 - 129				
Toluene	18.89	1.0	20	0	94.4	80 - 121				
trans-1,2-Dichloroethene	19.68	1.0	20	0	98.4	75 - 124				
trans-1,3-Dichloropropene	19.8	1.0	20	0	99.0	73 - 127				
Trichloroethene	18.56	1.0	20	0	92.8	79 - 123				
Trichlorofluoromethane	18.73	1.0	20	0	93.7	65 - 141				
Vinyl chloride	17.86	1.0	20	0	89.3	58 - 137				
Surr: 1,2-Dichloroethane-d4	*50.26*	*1.0*	*50*	*0*	*101*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*51.03*	*1.0*	*50*	*0*	*102*	*85 - 114*				
Surr: Dibromofluoromethane	*48.87*	*1.0*	*50*	*0*	*97.7*	*80 - 119*				

ALS Houston, US Date: 15-May-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
WorkOrder: HS20050467

QC BATCH REPORT

Batch ID: R361617 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

LCS Sample ID: **VLCSW-200514** Units: **UG/L** Analysis Date: **14-May-2020 11:58**
Client ID: Run ID: **VOA6_361617** SeqNo: **5585734** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Surr: Toluene-d8	*50.51*	*1.0*	*50*	*0*	*101*	*89 - 112*				

ALS Houston, US Date: 15-May-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
WorkOrder: HS20050467

QC BATCH REPORT

Batch ID: R361617 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS20050467-04MS** Units: **UG/L** Analysis Date: **14-May-2020 17:11**
Client ID: **LHSMW58-200511** Run ID: **VOA6_361617** SeqNo: **5585793** 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	21.17	1.0	20	0	106	78 - 124				
1,1,1-Trichloroethane	20.12	1.0	20	0	101	74 - 131				
1,1,2,2-Tetrachloroethane	21.37	1.0	20	0	107	71 - 121				
1,1,2-Trichlor-1,2,2-trifluoroethane	22.08	1.0	20	0.6579	107	70 - 136				
1,1,2-Trichloroethane	21.38	1.0	20	0	107	80 - 119				
1,1-Dichloroethane	18.63	1.0	20	0	93.2	77 - 125				
1,1-Dichloroethene	19.46	1.0	20	0	97.3	71 - 131				
1,1-Dichloropropene	20.59	1.0	20	0	103	78 - 125				
1,2,3-Trichlorobenzene	19.53	1.0	20	0	97.7	69 - 129				
1,2,3-Trichloropropane	21.2	1.0	20	0	106	73 - 122				
1,2,4-Trichlorobenzene	18.89	1.0	20	0	94.4	69 - 130				
1,2,4-Trimethylbenzene	21.46	1.0	20	0	107	76 - 124				
1,2-Dibromo-3-chloropropane	23.53	1.0	20	0	118	62 - 128				
1,2-Dibromoethane	21.69	1.0	20	0	108	77 - 121				
1,2-Dichlorobenzene	20.77	1.0	20	0	104	80 - 119				
1,2-Dichloroethane	20.95	1.0	20	0	105	73 - 128				
1,2-Dichloropropane	18.96	1.0	20	0	94.8	78 - 122				
1,3,5-Trimethylbenzene	21.89	1.0	20	0	109	75 - 124				
1,3-Dichlorobenzene	21	1.0	20	0	105	80 - 119				
1,3-Dichloropropane	20.88	1.0	20	0	104	80 - 119				
1,4-Dichlorobenzene	20.37	1.0	20	0	102	79 - 118				
2,2-Dichloropropane	18.8	1.0	20	0	94.0	60 - 139				
2-Butanone	44.16	2.0	40	0	110	56 - 143				
2-Chlorotoluene	20.71	1.0	20	0	104	79 - 122				
2-Hexanone	43.14	2.0	40	0	108	57 - 139				
4-Chlorotoluene	20.67	1.0	20	0	103	78 - 122				
4-Isopropyltoluene	22.19	1.0	20	0	111	77 - 127				
4-Methyl-2-pentanone	43.99	2.0	40	0	110	67 - 130				
Acetone	35.07	2.0	40	0	87.7	39 - 160				
Benzene	20.07	1.0	20	0	100	79 - 120				
Bromobenzene	20.33	1.0	20	0	102	80 - 120				
Bromochloromethane	18.4	1.0	20	0	92.0	78 - 123				
Bromodichloromethane	19.74	1.0	20	0	98.7	79 - 125				
Bromoform	20.57	1.0	20	0	103	66 - 130				

ALS Houston, US Date: 15-May-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
WorkOrder: HS20050467

QC BATCH REPORT

Batch ID: R361617 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS20050467-04MS** Units: **UG/L** Analysis Date: **14-May-2020 17:11**
Client ID: **LHSMW58-200511** Run ID: **VOA6_361617** SeqNo: **5585793** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromomethane	18.68	1.0	20	0	93.4	53 - 141				
Carbon disulfide	36	2.0	40	0	90.0	64 - 133				
Carbon tetrachloride	20.44	1.0	20	0	102	72 - 136				
Chlorobenzene	20.81	1.0	20	0	104	82 - 118				
Chloroethane	18.21	1.0	20	0	91.1	60 - 138				
Chloroform	19.59	1.0	20	0	97.9	79 - 124				
Chloromethane	14.82	1.0	20	0	74.1	50 - 139				
cis-1,2-Dichloroethene	19.94	1.0	20	0	99.7	78 - 123				
cis-1,3-Dichloropropene	19.34	1.0	20	0	96.7	75 - 124				
Dibromochloromethane	21.31	1.0	20	0	107	74 - 126				
Dibromomethane	20.12	1.0	20	0	101	79 - 123				
Dichlorodifluoromethane	11.62	1.0	20	0	58.1	32 - 152				
Ethylbenzene	21.57	1.0	20	0	108	79 - 121				
Hexachlorobutadiene	18.71	1.0	20	0	93.5	66 - 134				
Isopropylbenzene	22.09	1.0	20	0	110	72 - 131				
m,p-Xylene	43.35	2.0	40	0	108	80 - 121				
Methylene chloride	17.85	2.0	20	0	89.3	74 - 124				
Naphthalene	18.38	1.0	20	0	91.9	61 - 128				
n-Butylbenzene	22.76	1.0	20	0	114	75 - 128				
n-Propylbenzene	21.44	1.0	20	0	107	76 - 126				
o-Xylene	21.21	1.0	20	0	106	78 - 122				
sec-Butylbenzene	22.09	1.0	20	0	110	77 - 126				
Styrene	21.34	1.0	20	0	107	78 - 123				
tert-Butylbenzene	22.03	1.0	20	0	110	78 - 124				
Tetrachloroethene	36	1.0	20	13.68	112	74 - 129				
Toluene	21.45	1.0	20	0	107	80 - 121				
trans-1,2-Dichloroethene	20.04	1.0	20	0	100	75 - 124				
trans-1,3-Dichloropropene	19.91	1.0	20	0	99.5	73 - 127				
Trichloroethene	21.09	1.0	20	0.8786	101	79 - 123				
Trichlorofluoromethane	20.38	1.0	20	0	102	65 - 141				
Vinyl chloride	17	1.0	20	0	85.0	58 - 137				
Surr: 1,2-Dichloroethane-d4	*46.13*	*1.0*	*50*	*0*	*92.3*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*50.86*	*1.0*	*50*	*0*	*102*	*85 - 114*				
Surr: Dibromofluoromethane	*45.86*	*1.0*	*50*	*0*	*91.7*	*80 - 119*				

ALS Houston, US Date: 15-May-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
WorkOrder: HS20050467

QC BATCH REPORT

Batch ID: R361617 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS20050467-04MS** Units: **UG/L** Analysis Date: **14-May-2020 17:11**
Client ID: **LHSMW58-200511** Run ID: **VOA6_361617** SeqNo: **5585793** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Surr: Toluene-d8	*53.32*	*1.0*	*50*	*0*	*107*	*89 - 112*				

ALS Houston, US Date: 15-May-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
WorkOrder: HS20050467

QC BATCH REPORT

Batch ID: R361617 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS20050467-04MSD** Units: **UG/L** Analysis Date: **14-May-2020 17:35**
Client ID: **LHSMW58-200511** Run ID: **VOA6_361617** SeqNo: **5585794** 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	20.26	1.0	20	0	101	78 - 124	21.17	4.4	20	
1,1,1-Trichloroethane	19.09	1.0	20	0	95.5	74 - 131	20.12	5.27	20	
1,1,2,2-Tetrachloroethane	21.02	1.0	20	0	105	71 - 121	21.37	1.63	20	
1,1,2-Trichlor-1,2,2-trifluoroethane	20.36	1.0	20	0.6579	98.5	70 - 136	22.08	8.11	20	
1,1,2-Trichloroethane	20.65	1.0	20	0	103	80 - 119	21.38	3.48	20	
1,1-Dichloroethane	17.82	1.0	20	0	89.1	77 - 125	18.63	4.44	20	
1,1-Dichloroethene	18.89	1.0	20	0	94.5	71 - 131	19.46	2.94	20	
1,1-Dichloropropene	18.94	1.0	20	0	94.7	78 - 125	20.59	8.36	20	
1,2,3-Trichlorobenzene	22.69	1.0	20	0	113	69 - 129	19.53	15	20	
1,2,3-Trichloropropane	20.58	1.0	20	0	103	73 - 122	21.2	2.97	20	
1,2,4-Trichlorobenzene	20.84	1.0	20	0	104	69 - 130	18.89	9.83	20	
1,2,4-Trimethylbenzene	21.05	1.0	20	0	105	76 - 124	21.46	1.96	20	
1,2-Dibromo-3-chloropropane	24.12	1.0	20	0	121	62 - 128	23.53	2.44	20	
1,2-Dibromoethane	20.79	1.0	20	0	104	77 - 121	21.69	4.23	20	
1,2-Dichlorobenzene	20.27	1.0	20	0	101	80 - 119	20.77	2.43	20	
1,2-Dichloroethane	20.15	1.0	20	0	101	73 - 128	20.95	3.89	20	
1,2-Dichloropropane	18.74	1.0	20	0	93.7	78 - 122	18.96	1.18	20	
1,3,5-Trimethylbenzene	21.21	1.0	20	0	106	75 - 124	21.89	3.17	20	
1,3-Dichlorobenzene	20.54	1.0	20	0	103	80 - 119	21	2.23	20	
1,3-Dichloropropane	20.53	1.0	20	0	103	80 - 119	20.88	1.7	20	
1,4-Dichlorobenzene	19.94	1.0	20	0	99.7	79 - 118	20.37	2.12	20	
2,2-Dichloropropane	17.73	1.0	20	0	88.7	60 - 139	18.8	5.87	20	
2-Butanone	44.41	2.0	40	0	111	56 - 143	44.16	0.567	20	
2-Chlorotoluene	20.04	1.0	20	0	100	79 - 122	20.71	3.29	20	
2-Hexanone	43.1	2.0	40	0	108	57 - 139	43.14	0.0931	20	
4-Chlorotoluene	20.1	1.0	20	0	101	78 - 122	20.67	2.78	20	
4-Isopropyltoluene	21.73	1.0	20	0	109	77 - 127	22.19	2.1	20	
4-Methyl-2-pentanone	43.33	2.0	40	0	108	67 - 130	43.99	1.49	20	
Acetone	33.92	2.0	40	0	84.8	39 - 160	35.07	3.33	20	
Benzene	19.28	1.0	20	0	96.4	79 - 120	20.07	4.02	20	
Bromobenzene	19.78	1.0	20	0	98.9	80 - 120	20.33	2.74	20	
Bromochloromethane	18.05	1.0	20	0	90.3	78 - 123	18.4	1.92	20	
Bromodichloromethane	19.34	1.0	20	0	96.7	79 - 125	19.74	2.04	20	
Bromoform	21	1.0	20	0	105	66 - 130	20.57	2.09	20	

ALS Houston, US Date: 15-May-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
WorkOrder: HS20050467

QC BATCH REPORT

Batch ID: R361617 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS20050467-04MSD** Units: **UG/L** Analysis Date: **14-May-2020 17:35**
Client ID: **LHSMW58-200511** Run ID: **VOA6_361617** SeqNo: **5585794** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Bromomethane	16.37	1.0	20	0	81.8	53 - 141	18.68	13.2	20	
Carbon disulfide	34.07	2.0	40	0	85.2	64 - 133	36	5.5	20	
Carbon tetrachloride	18.99	1.0	20	0	94.9	72 - 136	20.44	7.36	20	
Chlorobenzene	19.88	1.0	20	0	99.4	82 - 118	20.81	4.57	20	
Chloroethane	17.47	1.0	20	0	87.3	60 - 138	18.21	4.17	20	
Chloroform	19.11	1.0	20	0	95.5	79 - 124	19.59	2.46	20	
Chloromethane	14.51	1.0	20	0	72.5	50 - 139	14.82	2.14	20	
cis-1,2-Dichloroethene	19.17	1.0	20	0	95.8	78 - 123	19.94	3.94	20	
cis-1,3-Dichloropropene	18.83	1.0	20	0	94.1	75 - 124	19.34	2.67	20	
Dibromochloromethane	20.77	1.0	20	0	104	74 - 126	21.31	2.56	20	
Dibromomethane	19.53	1.0	20	0	97.6	79 - 123	20.12	2.98	20	
Dichlorodifluoromethane	10.73	1.0	20	0	53.6	32 - 152	11.62	7.95	20	
Ethylbenzene	20.4	1.0	20	0	102	79 - 121	21.57	5.55	20	
Hexachlorobutadiene	21.24	1.0	20	0	106	66 - 134	18.71	12.7	20	
Isopropylbenzene	21.32	1.0	20	0	107	72 - 131	22.09	3.53	20	
m,p-Xylene	40.96	2.0	40	0	102	80 - 121	43.35	5.68	20	
Methylene chloride	17.97	2.0	20	0	89.8	74 - 124	17.85	0.63	20	
Naphthalene	22.2	1.0	20	0	111	61 - 128	18.38	18.8	20	
n-Butylbenzene	22.44	1.0	20	0	112	75 - 128	22.76	1.43	20	
n-Propylbenzene	20.81	1.0	20	0	104	76 - 126	21.44	2.96	20	
o-Xylene	20.08	1.0	20	0	100	78 - 122	21.21	5.45	20	
sec-Butylbenzene	21.03	1.0	20	0	105	77 - 126	22.09	4.89	20	
Styrene	20.09	1.0	20	0	100	78 - 123	21.34	6.05	20	
tert-Butylbenzene	21.32	1.0	20	0	107	78 - 124	22.03	3.26	20	
Tetrachloroethene	33.01	1.0	20	13.68	96.6	74 - 129	36	8.67	20	
Toluene	20.64	1.0	20	0	103	80 - 121	21.45	3.81	20	
trans-1,2-Dichloroethene	19.09	1.0	20	0	95.4	75 - 124	20.04	4.87	20	
trans-1,3-Dichloropropene	19.27	1.0	20	0	96.3	73 - 127	19.91	3.28	20	
Trichloroethene	20.08	1.0	20	0.8786	96.0	79 - 123	21.09	4.95	20	
Trichlorofluoromethane	18.77	1.0	20	0	93.9	65 - 141	20.38	8.19	20	
Vinyl chloride	15.54	1.0	20	0	77.7	58 - 137	17	8.98	20	
Surr: 1,2-Dichloroethane-d4	*47.48*	*1.0*	*50*	*0*	*95.0*	*81 - 118*	*46.13*	*2.89*	*20*	
Surr: 4-Bromofluorobenzene	*50.37*	*1.0*	*50*	*0*	*101*	*85 - 114*	*50.86*	*0.964*	*20*	
Surr: Dibromofluoromethane	*46.66*	*1.0*	*50*	*0*	*93.3*	*80 - 119*	*45.86*	*1.73*	*20*	

ALS Houston, US Date: 15-May-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
WorkOrder: HS20050467

QC BATCH REPORT

Batch ID: R361617 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS20050467-04MSD** Units: **UG/L** Analysis Date: **14-May-2020 17:35**
Client ID: **LHSMW58-200511** Run ID: **VOA6_361617** SeqNo: **5585794** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Surr: Toluene-d8	*53.26*	*1.0*	*50*	*0*	*107*	*89 - 112*	*53.32*	*0.102*	*20*	

The following samples were analyzed in this batch:

HS20050467-01	HS20050467-02	HS20050467-03	HS20050467-04
HS20050467-05	HS20050467-06	HS20050467-07	HS20050467-08
HS20050467-09	HS20050467-10		

ALS Houston, US Date: 15-May-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
WorkOrder: **HS20050467**

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
Arkansas	20-030-0	26-Mar-2021
Dept of Defense	ANAB L2231 V009	22-Dec-2021
Florida	E87611-28	30-Jun-2020
Kansas	E-10352 2019-2020	31-Jul-2020
Louisiana	03087, 2019-2020	30-Jun-2020
Maryland	343, 2019-2020	30-Jun-2020
North Carolina	624-2020	31-Dec-2020
Oklahoma	2019-141	31-Aug-2020
Texas	T104704231-20-26	30-Apr-2021

ALS Houston, US Date: 15-May-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
Work Order: HS20050467

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS20050467-01	35BWW07-200511	Login	5/13/2020 6:13:28 PM	NDR	VOA090
HS20050467-02	35BWW20-200511	Login	5/13/2020 6:13:28 PM	NDR	VOA090
HS20050467-03	35BWW20-200511-FD	Login	5/13/2020 6:13:28 PM	NDR	VOA090
HS20050467-04	LHSMW58-200511	Login	5/13/2020 6:13:28 PM	NDR	VOA090

ALS Houston, US Date: 15-May-20

Sample Receipt Checklist

Work Order ID: HS20050467 **Date/Time Received:** 13-May-2020 12:20

Client Name: CBI-Houston **Received by:** Paresh M. Giga

Completed By: /S/ Nilesh D. Ranchod (eSignature) 13-May-2020 18:21 (Date/Time) **Reviewed by:** /S/ Corey Grandits (eSignature) 14-May-2020 10:36 (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):	2.1C U/C	IR11
Cooler(s)/Kit(s):	44784	
Date/Time sample(s) sent to storage:	5/13/2020 19:00	

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: Sample label time differ LHSMW58-200511 COC= 09:00 Label MS/MSD = 09:30

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: **37MAY 2020_ALS**

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.)
35BWW07-200511	WG	5/11/20/0730		3	X										
35BWW20-200511	WG	5/11/20/0815		3	X										
35BWW20-200511-FD	WG	5/11/20/0815		3	X										
LHSMW58-200511	WG	5/11/20/0900		3	X										
LHSMW58-200511-MS	WG	5/11/20/0900		3	X										
LHSMW58-200511-MSD	WG	5/11/20/0900		3	X										
35BWW09-200511	WG	5/11/20/0950		3	X										
35BWW19-200511	WG	5/11/20/1030		3	X										

Additional Remarks: **Standard TAT on all parameters. Please email results to Susan.Huang@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	5/12/20	1430									

For Lab Use Only

Received At Lab By:	Date	Time	Airbill No.	Opened By:	Date	Time	Temp of Container	Seal No.	Condition
J. Mauney	5/13/20	12:20							

Remarks:
Cooler 44784 IR11
Temp 2.1°C CF00

Aptim Environmental & Infrastructure, Inc.
Longhorn Army Ammunition Plant

HS20050467

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: **37MAY 2020_ALS**

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.)
35BWW18-200511	WG	5/11/20/ 1115		3	X										
35BSW01-200511	WG	5/11/20/ 1125		3	X										
35BSW02-200511	WG	5/11/20 1135		3	X										
TRIPBLANK	W	5/11/20		2	X										

Additional Remarks: **Standard TAT on all parameters. Please email results to Susan.Huang@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	5/12/20	1430									

For Lab Use Only

Received At Lab By:	Date	Time	Airbill No.	Opened By:	Date	Time	Temp of Container	Seal No.	Condition
J. Mauney	5/13/20	12:20							

Remarks:

Aptim Environmental & Infrastucture, Inc.
Longhorn Army Ammunition Plant

HS20050467

(Word) S:\All-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

44784

CUSTODY SEAL

Date: 5/12/20 Time: 1430
Name: SCOTT BEESINGER
Company: BHATE

Seal Broken By:
Date: 05/13/20

44784 MAY 13 2020

Must Deliver Next Business Day
Time and Tempature Sensitive!

44784

ORIGIN ID:SGRA (903) 930-6193
SCOTT BEESINGER
APTIM
1203-B EAST GRAND AVE.
PMB202
MARSHALL, TX 75670
UNITED STATES US

SHIP DATE: 18APR20
ACTWGT: 1.00 LB MAN
CAD: 300130/CAFE3211
DIMS: 19x16x13 IN

TO CLIENT SERVICES
ALS LABORATORY GROUP
10450 STANCLIFF ROAD
SUITE 210
HOUSTON TX 77099
(281) 530-5656
REF: LHAAP-37-BO 71452-RJ

RMA:

FedEx Express

FedEx
TRK# 0221 1251 0296 4946

WED - 13 MAY 10:30A
PRIORITY OVERNIGHT

AB SGRA

77099
TX-US IAH

HS20050467 8260 Raw Data

ALS WO# HS20050467

FORM 3
WATER VOLATILE METHOD SPIKE RECOVERY

Lab Name: ALS GROUP Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20050467

Matrix Spike - Sample No.: ICV

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE AMOUNT ()	% REC #	QC. LIMITS REC.
Bromochloromethane	50.00	47.43	95	80-120
Vinyl Chloride	50.00	46.46	93	80-120
Chloromethane	50.00	44.04	88	80-120
Bromomethane	50.00	50.90	102	80-120
Chloroethane	50.00	44.86	90	80-120
Methylene Chloride	50.00	47.67	95	80-120
Acetone	100.00	96.04	96	80-120
1,1-Dichloroethene	50.00	47.66	95	80-120
trans-1,2-Dichloroethen	50.00	47.92	96	80-120
Carbon Tetrachloride	50.00	47.41	95	80-120
1,1-Dichloroethane	50.00	45.20	90	80-120
Bromodichloromethane	50.00	48.69	97	80-120
1,2-Dichloropropane	50.00	47.53	95	80-120
cis-1,3-Dichloropropene	50.00	49.61	99	80-120
2-Butanone	100.00	107.79	108	80-120
Dibromochloromethane	50.00	49.74	99	80-120
cis-1,2-Dichloroethene	50.00	47.90	96	80-120
1,1,2-Trichloroethane	50.00	47.86	96	80-120
Chloroform	50.00	48.19	96	80-120
Benzene	50.00	47.92	96	80-120
trans-1,3-Dichloroprope	50.00	49.97	100	80-120
Bromoform	50.00	50.11	100	80-120
4-Methyl-2-Pentanone	100.00	92.90	93	80-120
1,1,1-Trichloroethane	50.00	47.51	95	80-120
2-Hexanone	100.00	94.75	95	80-120
1,2-Dichloroethane	50.00	49.48	99	80-120
1,1,2,2-Tetrachloroetha	50.00	46.16	92	80-120
Trichloroethene	50.00	49.38	99	80-120

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

COMMENTS: _____

_____

FORM III VOA

FORM 3
WATER VOLATILE METHOD SPIKE RECOVERY

Lab Name: ALS GROUP Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20050467

Matrix Spike - Sample No.: ICV

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE AMOUNT ()	% REC #	QC. LIMITS REC.
Toluene	50.00	48.70	97	80-120
Dichlorodifluoromethane	50.00	46.95	94	80-120
Trichlorofluoromethane	50.00	48.67	97	80-120
Tetrachloroethene	50.00	49.21	98	80-120
1,2-Dibromoethane	50.00	50.22	100	80-120
Chlorobenzene	50.00	48.90	98	80-120
1,3-Dichlorobenzene	50.00	48.89	98	80-120
1,4-Dichlorobenzene	50.00	47.77	96	80-120
1,2-Dichlorobenzene	50.00	48.42	97	80-120
Ethylbenzene	50.00	48.80	98	80-120
m,p-Xylenes	100.00	98.10	98	80-120
o-Xylene	50.00	49.08	98	80-120
Styrene	50.00	49.46	99	80-120
Carbon Disulfide	100.00	95.54	96	80-120
2,2-Dichloropropane	50.00	47.48	95	80-120
1,1-Dichloropropene	50.00	48.00	96	80-120
Dibromomethane	50.00	49.84	100	80-120
1,3-Dichloropropane	50.00	48.33	97	80-120
1,1,1,2-Tetrachloroetha	50.00	48.99	98	80-120
Isopropylbenzene	50.00	49.54	99	80-120
Bromobenzene	50.00	48.32	97	80-120
1,2,3-Trichloropropane	50.00	46.59	93	80-120
n-Propylbenzene	50.00	48.00	96	80-120
2-Chlorotoluene	50.00	46.75	94	80-120
1,3,5-Trimethylbenzene	50.00	49.68	99	80-120
4-Chlorotoluene	50.00	47.20	94	80-120
tert-Butylbenzene	50.00	48.50	97	80-120
1,2,4-Trimethylbenzene	50.00	49.86	100	80-120

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

COMMENTS: _____

_____

FORM 3
WATER VOLATILE METHOD SPIKE RECOVERY

Lab Name: ALS GROUP Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20050467

Matrix Spike - Sample No.: ICV

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE AMOUNT ()	% REC #	QC. LIMITS REC.
sec-Butylbenzene	50.00	48.50	97	80-120
p-Isopropyltoluene	50.00	50.33	101	80-120
n-Butylbenzene	50.00	50.73	101	80-120
1,2-Dibromo-3-Chloropro	50.00	46.37	93	80-120
1,2,4-Trichlorobenzene	50.00	47.52	95	80-120
Hexachlorobutadiene	50.00	49.71	99	80-120
Naphthalene	50.00	53.21	106	80-120
1,2,3-Trichlorobenzene	50.00	54.69	109	80-120
Freon TF	50.00	48.97	98	80-120

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

COMMENTS: _____

_____

FORM III VOA

FORM 5
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: ALS GROUP Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20050467

Lab File ID: X051101 BFB Injection Date: 05/11/20

Instrument ID: VOA6 BFB Injection Time: 1248

GC Column: DB624 ID: 0.25 (mm) Heated Purge: (Y/N) N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	24.2
75	30.0 - 60.0% of mass 95	46.9
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	7.1
173	Less than 2.0% of mass 174	0.4 (0.7)1
174	Greater than 50.0% of mass 95	58.1
175	5.0 - 9.0% of mass 174	5.0 (8.6)1
176	95.0 - 101.0% of mass 174	57.6 (99.1)1
177	5.0 - 9.0% of mass 176	4.7 (8.2)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD000.5	VSTD000.5	X051103	05/11/20	1400
02	VSTD001	VSTD001	X051104	05/11/20	1424
03	VSTD002	VSTD002	X051105	05/11/20	1448
04	VSTD005	VSTD005	X051106	05/11/20	1512
05	VSTD020	VSTD020	X051107	05/11/20	1536
06	VSTD050	VSTD050	X051108	05/11/20	1600
07	VSTD100	VSTD100	X051109	05/11/20	1624
08	VSTD150	VSTD150	X051110	05/11/20	1647
09	VSTD200	VSTD200	X051111	05/11/20	1711
10	ICV	ICV	X051114	05/11/20	1823
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ALS GROUP Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20050467

Instrument ID: VOA6 Calibration Date(s): 05/11/20 05/11/20

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1312 1711

LAB FILE ID: RF0.5: X051103 RF1: X051104 RF2: X051105
RF5: X051106 RF20: X051107 RF50: X051108

COMPOUND	RF0.5	RF1	RF2	RF5	RF20	RF50
Bromochloromethane	0.363	0.313	0.285	0.299	0.276	0.275
Vinyl Chloride	0.756	0.651	0.677	0.656	0.679	0.684
Chloromethane	2464	4677	8356	19497	77009	185773
Bromomethane	1460	2788	5327	11539	40170	86417
Chloroethane	1364	2214	3636	10011	35750	85402
Methylene Chloride	1939	3655	6641	14433	52520	120730
Acetone	1874	3027	5040	9390	35665	95313
1,1-Dichloroethene	0.461	0.404	0.370	0.376	0.386	0.384
trans-1,2-Dichloroethene	0.523	0.408	0.446	0.450	0.457	0.446
Carbon Tetrachloride	0.629	0.525	0.488	0.473	0.462	0.468
1,1-Dichloroethane	1.312	1.108	1.104	1.086	1.050	1.019
Bromodichloromethane	0.525	0.432	0.461	0.461	0.456	0.457
1,2-Dichloropropane	0.483	0.403	0.398	0.404	0.401	0.395
cis-1,3-Dichloropropene	0.603	0.536	0.520	0.534	0.536	0.541
2-Butanone	0.188	0.183	0.186	0.220	0.241	0.263
Dibromochloromethane	0.441	0.380	0.411	0.397	0.396	0.396
cis-1,2-Dichloroethene	0.543	0.472	0.583	0.527	0.536	0.514
1,1,2-Trichloroethane	0.332	0.252	0.293	0.293	0.271	0.267
Chloroform	1.057	0.803	0.890	0.923	0.881	0.861
Benzene	1.483	1.317	1.243	1.210	1.258	1.234
trans-1,3-Dichloropropene	0.537	0.462	0.480	0.485	0.483	0.486
Bromoform	0.318	0.258	0.306	0.286	0.283	0.274
4-Methyl-2-Pentanone	0.503	0.400	0.504	0.456	0.451	0.430
1,1,1-Trichloroethane	0.928	0.796	0.766	0.770	0.780	0.766
2-Hexanone	0.373	0.243	0.350	0.304	0.307	0.304
1,2-Dichloroethane	0.587	0.485	0.477	0.510	0.523	0.527
1,1,2,2-Tetrachloroethane	0.939	0.812	0.883	0.798	0.789	0.746
Trichloroethene	0.425	0.329	0.342	0.341	0.347	0.350
Toluene	1.729	1.419	1.522	1.489	1.484	1.431
Dichlorodifluoromethane	1503	2633	5304	13068	55700	135443
Trichlorofluoromethane	0.888	0.754	0.749	0.761	0.781	0.796
Tetrachloroethene	0.362	0.327	0.345	0.324	0.321	0.319
1,2-Dibromoethane	0.385	0.308	0.373	0.358	0.364	0.351
Chlorobenzene	1.224	0.910	1.008	0.984	0.965	0.948
1,3-Dichlorobenzene	1.771	1.441	1.502	1.497	1.508	1.462
1,4-Dichlorobenzene	2.196	1.462	1.507	1.543	1.491	1.488
1,2-Dichlorobenzene	1.694	1.345	1.445	1.362	1.340	1.326
Ethylbenzene	0.595	0.494	0.526	0.496	0.513	0.506
m,p-Xylenes	0.749	0.582	0.637	0.617	0.627	0.617
o-Xylene	0.671	0.590	0.652	0.604	0.617	0.595
Styrene	1.220	1.068	1.068	1.028	1.061	1.034
Carbon Disulfide	1.559	1.278	1.317	1.321	1.317	1.321
2,2-Dichloropropane	0.934	0.845	0.817	0.768	0.765	0.739
1,1-Dichloropropene	0.542	0.467	0.464	0.436	0.437	0.429

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ALS GROUP Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS2005046

Instrument ID: VOA6 Calibration Date(s): 05/11/20 05/11/20

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1312 1711

LAB FILE ID: RF0.5: X051103 RF1: X051104 RF2: X051105
RF5: X051106 RF20: X051107 RF50: X051108

COMPOUND	RF0.5	RF1	RF2	RF5	RF20	RF50
Dibromomethane	0.272	0.187	0.211	0.223	0.213	0.217
1,3-Dichloropropane	0.667	0.536	0.609	0.586	0.581	0.558
1,1,1,2-Tetrachloroethane	0.441	0.401	0.388	0.383	0.384	0.380
Isopropylbenzene	1.838	1.487	1.440	1.550	1.543	1.499
Bromobenzene	1.160	0.908	0.931	0.886	0.907	0.902
1,2,3-Trichloropropane	0.825	0.629	0.829	0.664	0.661	0.681
n-Propylbenzene	4.517	3.295	3.337	3.514	3.496	3.465
2-Chlorotoluene	2.730	2.379	2.191	2.204	2.100	2.070
1,3,5-Trimethylbenzene	2.835	2.374	2.552	2.616	2.533	2.515
4-Chlorotoluene	3.235	2.656	2.511	2.448	2.492	2.419
tert-Butylbenzene	2.511	2.130	2.115	2.215	2.151	2.088
1,2,4-Trimethylbenzene	3.200	2.288	2.506	2.550	2.590	2.573
sec-Butylbenzene	3.786	2.605	2.991	3.022	2.939	2.872
p-Isopropyltoluene	3.242	2.169	2.411	2.533	2.612	2.578
n-Butylbenzene	2.569	1.648	1.842	2.072	2.142	2.132
1,2-Dibromo-3-Chloropropane	114	128	532	1596	5237	12187
1,2,4-Trichlorobenzene	505	762	1924	5746	23261	54809
Hexachlorobutadiene	605	736	2177	5460	21311	41952
Naphthalene	0.460	0.409	0.406	0.433	0.467	0.465
1,2,3-Trichlorobenzene	385	431	1047	3164	11186	27245
Freon TF	0.351	0.375	0.391	0.378	0.379	0.386
Dibromofluoromethane	1793	3147	5198	14036	51294	118264
1,2-Dichloroethane-d4	2117	3902	7290	17135	62012	143586
Toluene-d8	5920	10982	18430	47142	176771	410250
4-Bromofluorobenzene	2708	6819	8380	19241	69563	152557

FORM VI VOA

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ALS GROUP Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS2005046

Instrument ID: VOA6 Calibration Date(s): 05/11/20 05/11/20

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1312 1711

LAB FILE ID: RF100: X051109 RF150: X051110 RF200: X051111

COMPOUND	RF100	RF150	RF200
Bromochloromethane	0.269	0.272	0.259
Vinyl Chloride	0.715	0.722	0.698
Chloromethane	352150	510038	668216
Bromomethane	166042	236806	301011
Chloroethane	162411	229270	289295
Methylene Chloride	224234	318789	395941
Acetone	157042	214208	
1,1-Dichloroethene	0.398	0.407	0.394
trans-1,2-Dichloroethene	0.457	0.461	0.444
Carbon Tetrachloride	0.489	0.496	0.491
1,1-Dichloroethane	1.046	1.051	1.004
Bromodichloromethane	0.466	0.477	0.465
1,2-Dichloropropane	0.399	0.395	0.384
cis-1,3-Dichloropropene	0.550	0.556	0.544
2-Butanone	0.253	0.253	0.241
Dibromochloromethane	0.410	0.407	0.403
cis-1,2-Dichloroethene	0.526	0.533	0.512
1,1,2-Trichloroethane	0.267	0.266	0.262
Chloroform	0.878	0.889	0.859
Benzene	1.256	1.263	1.238
trans-1,3-Dichloropropene	0.504	0.517	0.506
Bromoform	0.283	0.285	0.285
4-Methyl-2-Pentanone	0.441	0.443	0.435
1,1,1-Trichloroethane	0.796	0.813	0.790
2-Hexanone	0.303	0.300	0.298
1,2-Dichloroethane	0.527	0.530	0.518
1,1,2,2-Tetrachloroethane	0.749	0.756	0.761
Trichloroethene	0.367	0.367	0.360
Toluene	1.433	1.414	1.396
Dichlorodifluoromethane	264084	377623	499972
Trichlorofluoromethane	0.833	0.843	0.836
Tetrachloroethene	0.326	0.324	0.320
1,2-Dibromoethane	0.352	0.357	0.348
Chlorobenzene	0.963	0.964	0.949
1,3-Dichlorobenzene	1.500	1.522	1.508
1,4-Dichlorobenzene	1.506	1.517	1.512
1,2-Dichlorobenzene	1.337	1.360	1.327
Ethylbenzene	0.523	0.514	0.512
m,p-Xylenes	0.622	0.618	0.610
o-Xylene	0.603	0.605	0.588
Styrene	1.048	1.031	1.019
Carbon Disulfide	1.365	1.385	1.334
2,2-Dichloropropane	0.754	0.769	0.733
1,1-Dichloropropene	0.452	0.452	0.441

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ALS GROUP Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS2005046

Instrument ID: VOA6 Calibration Date(s): 05/11/20 05/11/20

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1312 1711

LAB FILE ID: RF100: X051109 RF150: X051110 RF200: X051111

COMPOUND	RF100	RF150	RF200
Dibromomethane	0.222	0.224	0.218
1,3-Dichloropropane	0.557	0.557	0.550
1,1,1,2-Tetrachloroethane	0.387	0.387	0.385
Isopropylbenzene	1.568	1.560	1.547
Bromobenzene	0.907	0.911	0.925
1,2,3-Trichloropropane	0.669	0.656	0.658
n-Propylbenzene	3.577	3.585	3.566
2-Chlorotoluene	2.149	2.144	2.118
1,3,5-Trimethylbenzene	2.613	2.611	2.585
4-Chlorotoluene	2.476	2.464	2.454
tert-Butylbenzene	2.180	2.179	2.160
1,2,4-Trimethylbenzene	2.630	2.656	2.612
sec-Butylbenzene	3.026	3.020	2.996
p-Isopropyltoluene	2.679	2.702	2.709
n-Butylbenzene	2.216	2.237	2.212
1,2-Dibromo-3-Chloropropane	23938	35913	47270
1,2,4-Trichlorobenzene	103966	161556	221042
Hexachlorobutadiene	77175	122993	160116
Naphthalene	0.480	0.544	0.572
1,2,3-Trichlorobenzene	50765	82626	114644
Freon TF	0.410	0.412	0.396
Dibromofluoromethane	228909	320906	412124
1,2-Dichloroethane-d4	281127	402302	508534
Toluene-d8	778769	1109628	1416689
4-Bromofluorobenzene	294185	420723	537390

FORM VI VOA

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ALS GROUP Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS2005046

Instrument ID: VOA6 Calibration Date(s): 05/11/20 05/11/20

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1312 1711

COMPOUND	CURVE	COEFFICENTS A0	A1	A2	%RSD OR R^2	MAX %RSD OR R^2
Bromochloromethane	AVRG		0.29010501		10.972	15.000
Vinyl Chloride	AVRG		0.69311531		4.827	15.000
Chloromethane	LINR	1.254e-002	1.25307618		0.9996990	0.9900000
Bromomethane	LINR	-1.49e-002	2.76010828		0.9992442	0.9900000
Chloroethane	LINR	-8.42e-003	2.85056864		0.9990197	0.9900000
Methylene Chloride	LINR	-2.15e-002	2.07576331		0.9984246	0.9900000
Acetone	LINR	-5.26e-002	5.86673099		0.9980780	0.9900000
1,1-Dichloroethene	AVRG		0.39779340		6.695	15.000
trans-1,2-Dichloroethene	AVRG		0.45484162		6.601	15.000
Carbon Tetrachloride	AVRG		0.50236564		10.139	15.000
1,1-Dichloroethane	AVRG		1.08665862		8.445	15.000
Bromodichloromethane	AVRG		0.46672354		5.340	15.000
1,2-Dichloropropane	AVRG		0.40699172		7.156	15.000
cis-1,3-Dichloropropene	AVRG		0.54659701		4.308	15.000
2-Butanone	AVRG		0.22534364		14.170	15.000
Dibromochloromethane	AVRG		0.40468890		4.114	15.000
cis-1,2-Dichloroethene	AVRG		0.52746114		5.587	15.000
1,1,2-Trichloroethane	AVRG		0.27813289		8.790	15.000
Chloroform	AVRG		0.89352495		7.768	15.000
Benzene	AVRG		1.27806051		6.430	15.000
trans-1,3-Dichloropropene	AVRG		0.49569616		4.508	15.000
Bromoform	AVRG		0.28647071		5.980	15.000
4-Methyl-2-Pentanone	AVRG		0.45144990		7.411	15.000
1,1,1-Trichloroethane	AVRG		0.80070947		6.298	15.000
2-Hexanone	AVRG		0.30919632		11.650	15.000
1,2-Dichloroethane	AVRG		0.52059797		6.006	15.000
1,1,2,2-Tetrachloroethane	AVRG		0.80353274		8.275	15.000
Trichloroethene	AVRG		0.35876630		7.774	15.000
Toluene	AVRG		1.47974156		6.910	15.000
Dichlorodifluoromethane	LINR	2.129e-002	1.67614322		0.9997226	0.9900000
Trichlorofluoromethane	AVRG		0.80446144		5.962	15.000
Tetrachloroethene	AVRG		0.32982532		4.351	15.000
1,2-Dibromoethane	AVRG		0.35522808		5.929	15.000
Chlorobenzene	AVRG		0.99065323		9.243	15.000
1,3-Dichlorobenzene	AVRG		1.52362325		6.309	15.000
1,4-Dichlorobenzene	AVRG		1.58040454		14.681	15.000
1,2-Dichlorobenzene	AVRG		1.39289493		8.511	15.000
Ethylbenzene	AVRG		0.51992575		5.830	15.000
m,p-Xylenes	AVRG		0.63108004		7.383	15.000
o-Xylene	AVRG		0.61400525		4.669	15.000
Styrene	AVRG		1.06414813		5.759	15.000
Carbon Disulfide	AVRG		1.35528961		6.080	15.000
2,2-Dichloropropane	AVRG		0.79166371		8.135	15.000
1,1-Dichloropropene	AVRG		0.45772621		7.432	15.000

FORM VI VOA

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ALS GROUP Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS2005046

Instrument ID: VOA6 Calibration Date(s): 05/11/20 05/11/20

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1312 1711

COMPOUND	CURVE	COEFFICENTS A0	COEFFICENTS A1	COEFFICENTS A2	%RSD OR R^2	MAX %RSD OR R^2
Dibromomethane	AVRG		0.22074683		10.081	15.000
1,3-Dichloropropane	AVRG		0.57818454		6.898	15.000
1,1,1,2-Tetrachloroethane	AVRG		0.39300458		4.846	15.000
Isopropylbenzene	AVRG		1.55920520		7.226	15.000
Bromobenzene	AVRG		0.93740919		9.001	15.000
1,2,3-Trichloropropane	AVRG		0.69674447		10.773	15.000
n-Propylbenzene	AVRG		3.59467414		10.034	15.000
2-Chlorotoluene	AVRG		2.23175124		9.279	15.000
1,3,5-Trimethylbenzene	AVRG		2.58168968		4.708	15.000
4-Chlorotoluene	AVRG		2.57286118		10.008	15.000
tert-Butylbenzene	AVRG		2.19201247		5.722	15.000
1,2,4-Trimethylbenzene	AVRG		2.62277408		9.226	15.000
sec-Butylbenzene	AVRG		3.02845002		10.363	15.000
p-Isopropyltoluene	AVRG		2.62630864		10.952	15.000
n-Butylbenzene	AVRG		2.11900949		12.212	15.000
1,2-Dibromo-3-Chloropropane	LINR	2.938e-002	12.1217534		0.9986839	0.9900000
1,2,4-Trichlorobenzene	LINR	5.285e-002	2.62316086		0.9957908	0.9900000
Hexachlorobutadiene	LINR	1.932e-002	3.59227170		0.9969896	0.9900000
Naphthalene	AVRG		0.47073223		11.912	15.000
1,2,3-Trichlorobenzene	2ORDR	-8.18e-003	6.59831211	-2.0506170	0.9995281	0.9900000
Freon TF	AVRG		0.38639662		4.893	15.000
Dibromofluoromethane	LINR	-4.86e-003	2.01455990		0.9994974	0.9900000
1,2-Dichloroethane-d4	LINR	-7.35e-004	1.62396266		0.9990167	0.9900000
Toluene-d8	LINR	-9.31e-003	0.80376231		0.9999444	0.9900000
4-Bromofluorobenzene	LINR	-1.54e-002	2.12571618		0.9999166	0.9900000

FORM VI VOA

MSVOA06 -Logbook

Batch: 40533
Date: 05-11-2020
Method: 8260
Comments:

Analyst: Presenta Cabascango
Reviewer:
Laboratory: Houston

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
1	BFB	TUNE	05-11-2020 12:48 pm	1.00	50 mL	50 mL	X051101.D	Liquid	Y	NA
2	*Auto find / Purged* VSTD000.25	ICAL1	05-11-2020 01:12 pm	1.00	50 mL	50 mL	X051102.D	Liquid	Y	NA
3	*0.10 uL cal std/100 mL DI* VSTD000.5	ICAL2	05-11-2020 02:00 pm	1.00	50 mL	50 mL	X051103.D	Liquid	Y	NA
4	*0.10 uL cal std/50 mL DI* VSTD001	ICAL3	05-11-2020 02:24 pm	1.00	50 mL	50 mL	X051104.D	Liquid	Y	NA
5	*0.20 uL cal std/50 mL DI* VSTD002	ICAL4	05-11-2020 02:48 pm	1.00	50 mL	50 mL	X051105.D	Liquid	Y	NA
6	*0.40 uL cal std/50 mL DI* VSTD005	ICAL5	05-11-2020 03:12 pm	1.00	50 mL	50 mL	X051106.D	Liquid	Y	NA
7	*1.0 uL cal std/50 mL DI* VSTD020	ICAL6	05-11-2020 03:36 pm	1.00	50 mL	50 mL	X051107.D	Liquid	Y	NA
8	*4.0 uL cal std/50 mL DI* VSTD050	ICAL7	05-11-2020 04:00 pm	1.00	50 mL	50 mL	X051108.D	Liquid	Y	NA
9	*10 uL cal std/50 mL DI* VSTD100	ICAL8	05-11-2020 04:24 pm	1.00	50 mL	50 mL	X051109.D	Liquid	Y	NA
10	*20 uL cal std/50 mL DI* VSTD150	ICAL9	05-11-2020 04:47 pm	1.00	50 mL	50 mL	X051110.D	Liquid	Y	NA
11	*30 uL cal std/50 mL DI* VSTD200	ICAL	05-11-2020 05:11 pm	1.00	50 mL	50 mL	X051111.D	Liquid	Y	NA
12	*40 uL cal std/50 mL DI* BLANK	SAMP	05-11-2020 05:35 pm	1.00	50 mL	50 mL	X051112.D	Liquid	Y	NA
13	BLANK	SAMP	05-11-2020 05:59 pm	1.00	50 mL	50 mL	X051113.D	Liquid	Y	NA
14	ICV	CCV	05-11-2020 06:23 pm	1.00	50 mL	50 mL	X051114.D	Liquid	Y	NA
15	*10 uL icv std/50 mL DI* BLANK	SAMP	05-11-2020 06:47 pm	1.00	50 mL	50 mL	X051115.D	Liquid	Y	NA
16	VLCSW-200511	LCS	05-11-2020 07:11 pm	1.00	50 mL	50 mL	X051116.D	Liquid	Y	NA
17	*4.0 uL cal std/50 mL DI* BLANK	SAMP	05-11-2020 07:35 pm	1.00	50 mL	50 mL	X051117.D	Liquid	Y	NA
18	BLANK	SAMP	05-11-2020 07:59 pm	1.00	50 mL	50 mL	X051118.D	Liquid	Y	NA
19	VBLKW-200511	MBLK	05-11-2020 08:24 pm	1.00	50 mL	50 mL	X051119.D	Liquid	Y	NA
20	HS20050202-17	SAMP	05-11-2020 08:48 pm	1.00	50 mL	50 mL	X051120.D	Liquid	Y	NA
21	*neat samples* HS20050202-18	SAMP	05-11-2020 09:12 pm	1.00	50 mL	50 mL	X051121.D	Liquid	Y	NA
22	HS20050202-18	SAMP	05-11-2020 09:36 pm	5.00	10 mL	50 mL	X051122.D	Liquid	Y	NA
23	HS20050292-01	SAMP	05-11-2020 10:00 pm	1.00	50 mL	50 mL	X051123.D	Liquid	Y	NA
24	HS20050292-02	SAMP	05-11-2020 10:24 pm	1.00	50 mL	50 mL	X051124.D	Liquid	Y	NA
25	HS20050292-03	SAMP	05-11-2020 10:48 pm	1.00	50 mL	50 mL	X051125.D	Liquid	Y	<2
26	HS20050292-03MS	MS	05-11-2020 11:12 pm	1.00	50 mL	50 mL	X051126.D	Liquid	Y	<2
27	*3.5 uL cal std/40 mL samp* HS20050292-03MSD	MSD	05-11-2020 11:36 pm	1.00	50 mL	50 mL	X051127.D	Liquid	Y	<2
28	*3.5 uL cal std/40 mL samp* CCV-END	CCV	05-12-2020 12:00 am	1.00	50 mL	50 mL	X051128.D	Liquid	Y	NA
29	*10 uL cal std/50 mL DI* HS20050337-02	SAMP	05-12-2020 12:24 am	1.00	50 mL	50 mL	X051129.D	Liquid	Y	<2

MSVOA06 -Logbook

Chemical	Value
SURR SPK ID	31106-26-06
IS ID	31106-26-06
CAL STD ID	31106-29-01/02
BFB ID	31106-26-06
pH Paper	634-64-11

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051101.D

Date : 11-MAY-2020 12:48

Client ID: BFB

Instrument: voa6.i

Sample Info: BFB;BFB;3;;BFB

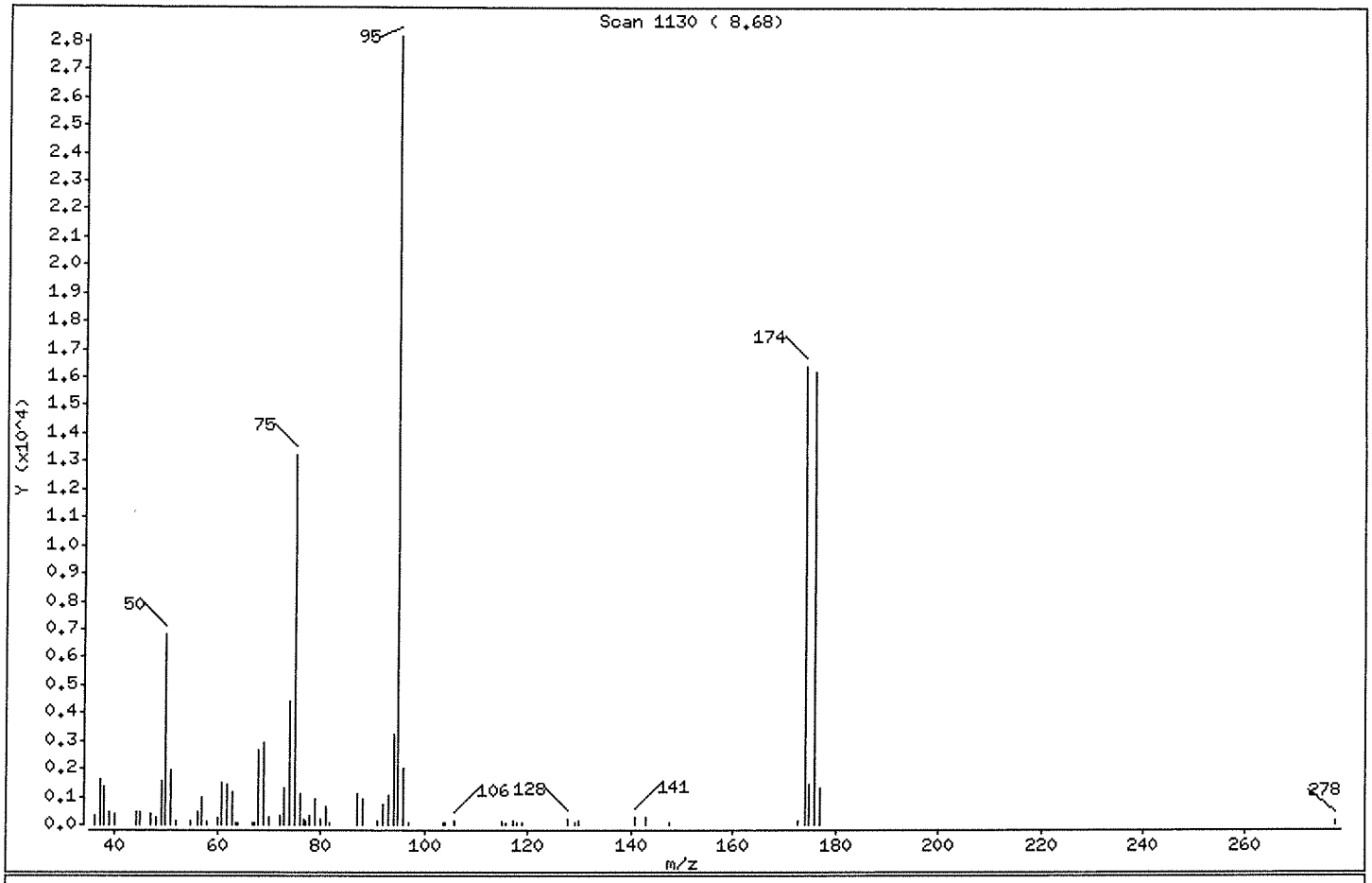
Volume Injected (uL): 2.0

Operator: PC

Column phase: DB624

Column diameter: 0.25

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	24.23
75	30.00 - 60.00% of mass 95	46.94
96	5.00 - 9.00% of mass 95	7.07
173	Less than 2.00% of mass 174	0.40 (0.70)
174	Greater than 50.00% of mass 95	58.12
175	5.00 - 9.00% of mass 174	5.01 (8.63)
176	95.00 - 101.00% of mass 174	57.57 (99.06)
177	5.00 - 9.00% of mass 176	4.70 (8.16)

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051101.D

Date : 11-MAY-2020 12:48

Client ID: BFB

Instrument: voa6.i

Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0

Operator: PC

Column phase: DB624

Column diameter: 0.25

Data File: X051101.D
Spectrum: Scan 1130 (8.68)
Location of Maximum: 95.00
Number of points: 69

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	344	61.00	1469	78.80	878	117.00	116
37.00	1597	62.00	1437	80.00	215	118.00	62
38.00	1339	63.00	1157	80.90	656	119.00	80
39.00	476	63.80	94	81.90	63	127.90	221
40.00	388	64.00	94	87.00	1132	129.00	87
44.10	480	66.70	60	88.00	930	130.00	133
45.00	427	67.10	88	91.10	98	141.00	245
47.00	412	68.00	2631	92.00	714	142.90	244
48.00	286	69.00	2930	93.00	1015	147.70	93
49.00	1548	70.00	291	94.00	3223	172.70	114
50.00	6829	72.00	332	95.00	28184	174.00	16380
51.00	1936	73.00	1275	96.00	1993	174.90	1413
52.10	99	74.00	4408	96.90	91	176.00	16226
55.00	155	75.00	13230	103.60	76	176.90	1324
56.10	426	76.00	1105	104.00	94	277.90	107
57.00	975	76.80	194	105.80	140		
58.00	122	77.10	149	114.90	135		
60.10	288	77.90	324	115.70	61		

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051101.D

Date : 11-MAY-2020 12:48

Client ID: BFB

Instrument: voa6.i

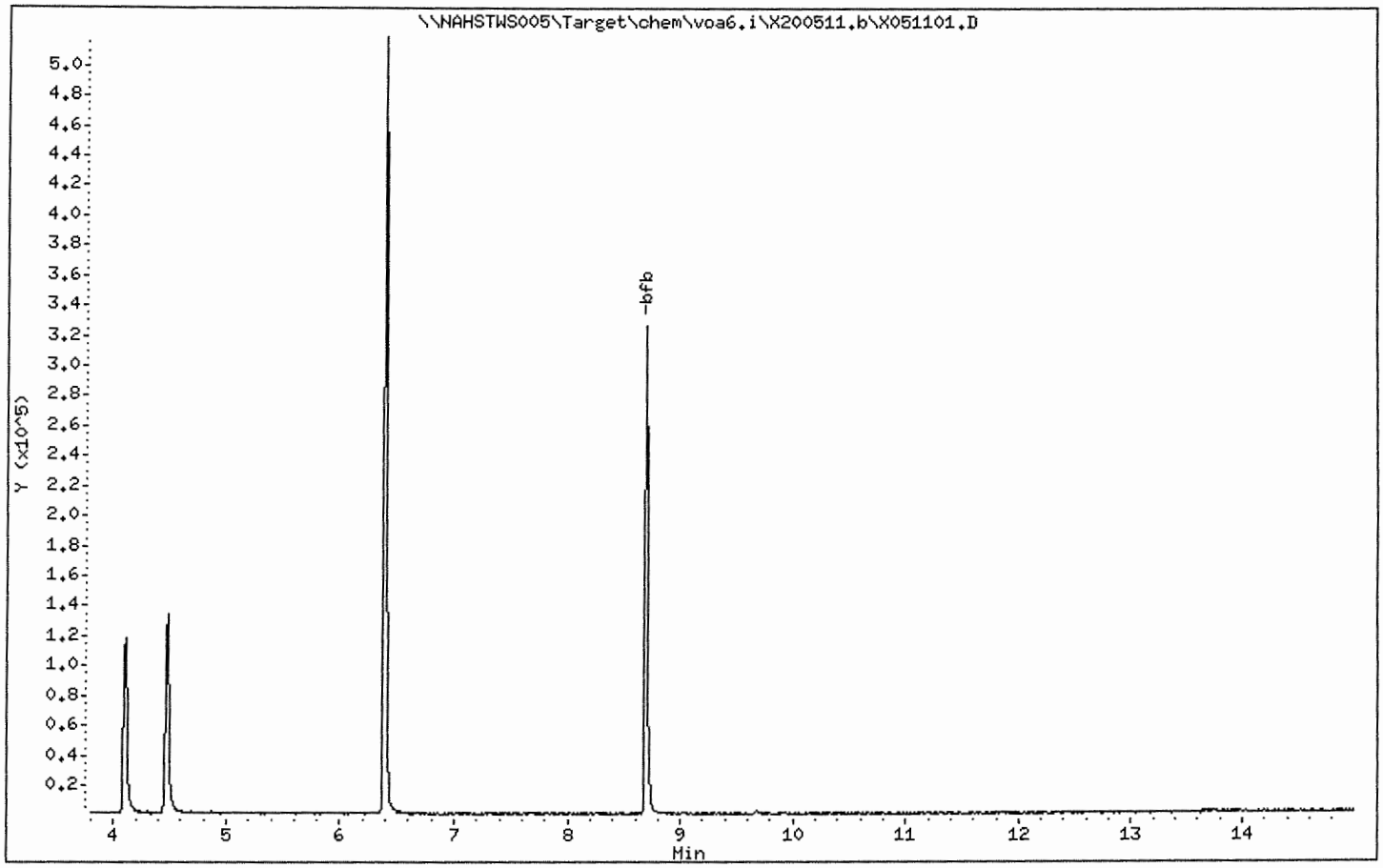
Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0

Operator: PC

Column phase: DB624

Column diameter: 0.25



ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051103.D
Lab Smp Id: VSTD000.5 Client Smp ID: VSTD000.5
Inj Date : 11-MAY-2020 14:00
Operator : PC Inst ID: voa6.i
Smp Info : VSTD000.5;VSTD000.5;1;2;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X200511.b\8260W.m
Meth Date : 01-Jun-2020 15:33 voa6.i Quant Type: ISTD
Cal Date : 11-MAY-2020 17:11 Cal File: X051111.D
Als bottle: 4 Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000000_CBI.sub
Target Version: 4.14
Processing Host: NAHSTW7142

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1	Pentafluorobenzene	168	4.182	4.182	(1.000)	264457	50.0000	
* 36	1,4-Difluorobenzene	114	4.970	4.970	(1.000)	403047	50.0000	
* 47	Chlorobenzene-d5	117	7.671	7.671	(1.000)	360066	50.0000	
* 70	1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	172614	50.0000	
$ 30	Dibromofluoromethane	113	4.118	4.118	(0.985)	1793	0.50000	0.43(a)
$ 35	1,2-Dichloroethane-d4	65	4.483	4.483	(1.072)	2117	0.50000	0.61(TaM)
$ 48	Toluene-d8	98	6.388	6.388	(0.833)	5920	0.50000	0.19(Ta)
$ 69	4-Bromofluorobenzene	95	8.695	8.695	(1.134)	2708	0.50000	0.02(aM)
60	1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	1589	0.50000	0.56(a)
31	1,1,1-Trichloroethane	97	4.082	4.082	(0.976)	2455	0.50000	0.57(a)
68	1,1,2,2-Tetrachloroethane	83	8.845	8.845	(0.915)	1621	0.50000	0.58(aM)
138	Freon TF	101	1.911	1.911	(0.457)	928	0.50000	0.45(a)
53	1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	1197	0.50000	0.59(a)
22	1,1-Dichloroethane	63	2.921	2.921	(0.699)	3470	0.50000	0.60(Ta)
11	1,1-Dichloroethene	96	1.911	1.911	(0.457)	1219	0.50000	0.57(a)
32	1,1-Dichloropropene	75	4.290	4.290	(0.863)	2183	0.50000	0.59(aM)
93	1,2,3-Trichlorobenzene	180	11.768	11.768	(1.218)	385	0.50000	0.32(aM)
71	1,2,3-Trichloropropane	75	8.867	8.867	(0.918)	1424	0.50000	0.59(aM)
90	1,2,4-Trichlorobenzene	180	11.352	11.352	(1.175)	505	0.50000	3.02(aM)
79	1,2,4-Trimethylbenzene	105	9.382	9.382	(0.971)	5523	0.50000	0.60(a)
89	1,2-Dibromo-3-Chloropropane	155	10.665	10.665	(1.104)	114	0.50000	1.86(aM)
57	1,2-Dibromoethane	107	7.262	7.262	(0.947)	1387	0.50000	0.54(a)

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051103.D Page 2
Report Date: 01-Jun-2020 15:33

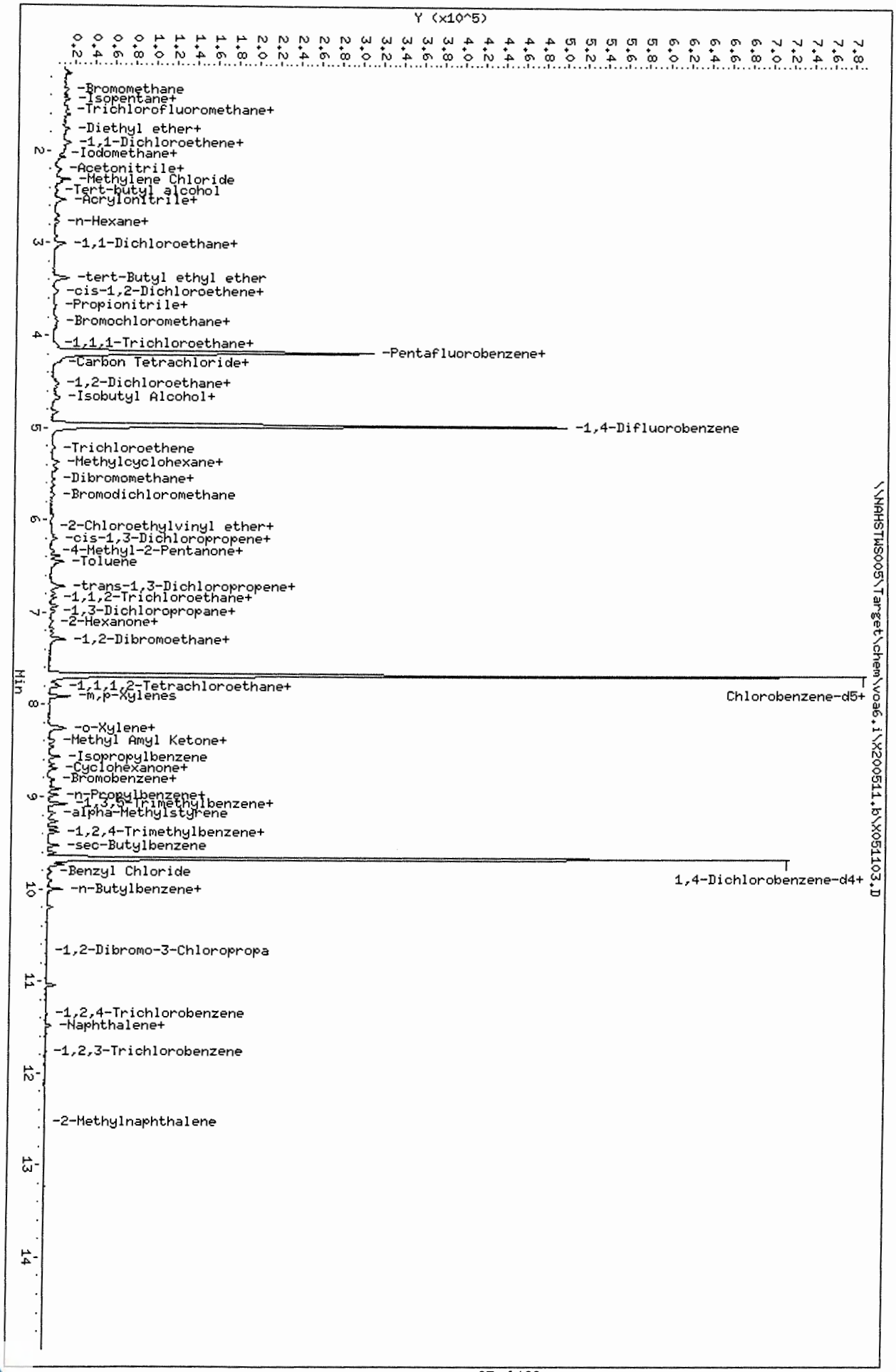
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
88	1,2-Dichlorobenzene	146	10.006	10.006	(1.036)	2924	0.50000	0.60(a)
33	1,2-Dichloroethane	62	4.562	4.562	(0.918)	2366	0.50000	0.56(a)
42	1,2-Dichloropropane	63	5.436	5.436	(1.094)	1947	0.50000	0.59(aM)
75	1,3,5-Trimethylbenzene	105	9.074	9.074	(0.939)	4894	0.50000	0.54(a)
83	1,3-Dichlorobenzene	146	9.612	9.612	(0.995)	3057	0.50000	0.58(a)
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	2403	0.50000	0.57(a)
84	1,4-Dichlorobenzene	146	9.683	9.683	(1.002)	3791	0.50000	0.69(aM)
26	2,2-Dichloropropane	77	3.509	3.509	(0.839)	2471	0.50000	0.59(aM)
24	2-Butanone	43	3.609	3.609	(0.863)	996	1.00000	0.83(aM)
76	2-Chlorotoluene	91	8.981	8.981	(0.930)	4712	0.50000	0.61(a)
52	2-Hexanone	43	7.105	7.105	(0.926)	2689	1.00000	1.20(a)
77	4-Chlorotoluene	91	9.082	9.082	(0.940)	5584	0.50000	0.62(a)
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	5597	0.50000	0.61(a)
45	4-Methyl-2-Pentanone	43	6.338	6.338	(0.826)	3621	1.00000	1.11(a)
37	Benzene	78	4.519	4.519	(0.909)	5977	0.50000	0.58(a)
74	Bromobenzene	156	8.817	8.817	(0.913)	2002	0.50000	0.61(a)
29	Bromochloromethane	128	3.817	3.817	(0.913)	960	0.50000	0.62(aM)
39	Bromodichloromethane	83	5.729	5.729	(1.153)	2116	0.50000	0.56(aM)
66	Bromoform	173	8.415	8.415	(1.097)	1144	0.50000	0.55(aM)
19	Carbon Disulfide	76	2.069	2.069	(0.495)	8247	1.00000	1.15(a)
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	2535	0.50000	0.62(a)
59	Chlorobenzene	112	7.699	7.699	(1.004)	4408	0.50000	0.61(a)
7	Chloroethane	64	1.403	1.403	(0.336)	1364	0.50000	0.31(aM)
28	Chloroform	83	3.917	3.917	(0.937)	2796	0.50000	0.59(aM)
3	Chloromethane	50	1.073	1.073	(0.257)	2464	0.50000	1.21(a)
27	cis-1,2-Dichloroethene	96	3.537	3.537	(0.846)	1435	0.50000	0.51(a)
46	cis-1,3-Dichloropropene	75	6.166	6.166	(1.241)	2430	0.50000	0.55(a)
55	Dibromochloromethane	129	7.176	7.176	(0.936)	1589	0.50000	0.54(a)
44	Dibromomethane	93	5.557	5.557	(1.118)	1096	0.50000	0.61(a)
2	Dichlorodifluoromethane	85	0.973	0.973	(0.233)	1503	0.50000	1.54(aM)
61	Ethylbenzene	106	7.799	7.799	(1.017)	2144	0.50000	0.57(a)
91	Hexachlorobutadiene	225	11.481	11.481	(1.188)	605	0.50000	1.59(aM)
67	Isopropylbenzene	105	8.566	8.566	(1.117)	6620	0.50000	0.58(a)
62	m,p-Xylenes	106	7.914	7.914	(1.032)	5392	1.00000	1.18(a)
87	n-Butylbenzene	91	9.998	9.998	(1.035)	4435	0.50000	0.60(a)
73	n-Propylbenzene	91	8.917	8.917	(0.923)	7797	0.50000	0.62(a)
92	Naphthalene	128	11.567	11.567	(1.197)	795	0.50000	0.48(a)
63	o-Xylene	106	8.244	8.244	(1.075)	2416	0.50000	0.54(a)
81	sec-Butylbenzene	105	9.526	9.526	(0.986)	6535	0.50000	0.62(a)
64	Styrene	104	8.272	8.272	(1.078)	4394	0.50000	0.57(a)
78	tert-Butylbenzene	119	9.339	9.339	(0.967)	4334	0.50000	0.57(aM)
56	Tetrachloroethene	164	6.933	6.933	(0.904)	1303	0.50000	0.54(a)
50	Toluene	91	6.460	6.460	(0.842)	6225	0.50000	0.58(a)
20	trans-1,2-Dichloroethene	96	2.535	2.535	(0.606)	1384	0.50000	0.57(a)
51	trans-1,3-Dichloropropene	75	6.696	6.696	(1.347)	2163	0.50000	0.54(a)
38	Trichloroethene	130	5.221	5.221	(1.050)	1714	0.50000	0.59(a)
8	Trichlorofluoromethane	101	1.560	1.560	(0.373)	2348	0.50000	0.55(a)
5	Vinyl Chloride	62	1.138	1.138	(0.272)	1998	0.50000	0.54(aM)

QC Flag Legend

T - Target compound detected outside RT window.
a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

QC Flag Legend

M - Compound response manually integrated.



Data File: \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051103.D
Date : 11-MAY-2020 14:00
Client ID: VSTD000.5
Sample Info: VSTD000.5;VSTD000.5;1;2;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051104.D
Lab Smp Id: VSTD001 Client Smp ID: VSTD001
Inj Date : 11-MAY-2020 14:24
Operator : PC Inst ID: voa6.i
Smp Info : VSTD001;VSTD001;1;3;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X200511.b\8260W.m
Meth Date : 01-Jun-2020 15:33 voa6.i Quant Type: ISTD
Cal Date : 11-MAY-2020 14:00 Cal File: X051103.D
Als bottle: 5 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000000_CBI.sub
Target Version: 4.14
Processing Host: NAHSTW7142

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

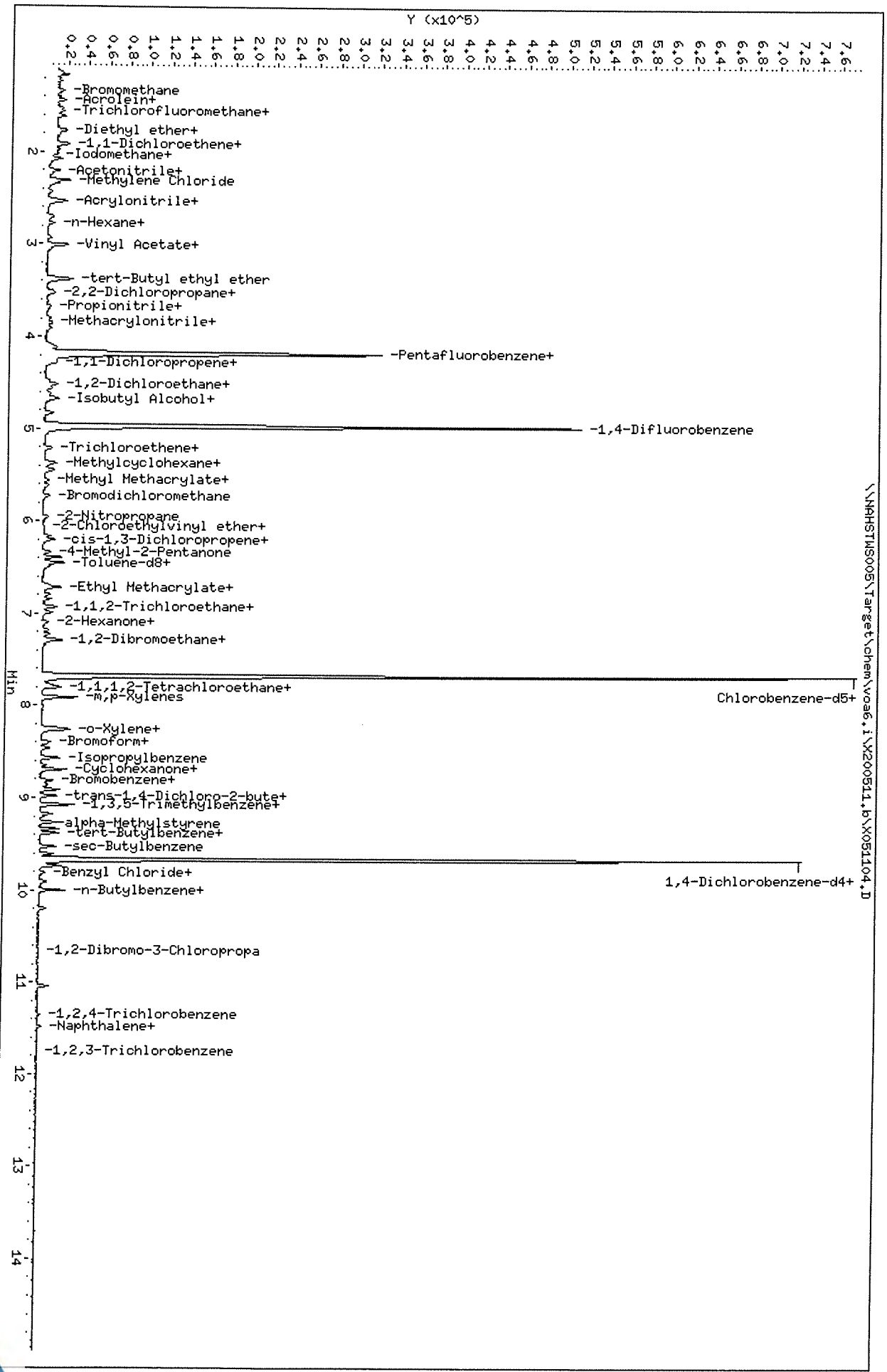
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
*	1 Pentafluorobenzene	168	4.182	4.182	(1.000)	275272	50.0000	
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	406059	50.0000	
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	364006	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	178611	50.0000	
$	30 Dibromofluoromethane	113	4.111	4.111	(0.983)	3147	1.00000	0.90(a)
$	35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	3902	1.00000	1.11
$	48 Toluene-d8	98	6.396	6.396	(0.834)	10982	1.00000	0.74(a)
$	69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	6819	1.00000	1.22(M)
	60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	2921	1.00000	1.02(a)
	31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	4385	1.00000	0.99(a)
	68 1,1,2,2-Tetrachloroethane	83	8.845	8.845	(0.915)	2901	1.00000	1.01(aM)
	138 Freon TF	101	1.919	1.919	(0.459)	2064	1.00000	0.97(a)
	53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	1834	1.00000	0.90(a)
	22 1,1-Dichloroethane	63	2.929	2.929	(0.700)	6103	1.00000	1.02
	11 1,1-Dichloroethene	96	1.911	1.911	(0.457)	2222	1.00000	1.01(a)
	32 1,1-Dichloropropene	75	4.282	4.282	(0.862)	3792	1.00000	1.02(a)
	93 1,2,3-Trichlorobenzene	180	11.753	11.753	(1.216)	431	1.00000	0.38(aM)
	71 1,2,3-Trichloropropane	75	8.867	8.867	(0.917)	2246	1.00000	0.90(aM)
	90 1,2,4-Trichlorobenzene	180	11.352	11.352	(1.174)	762	1.00000	3.20(aM)
	79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.970)	8175	1.00000	0.87(a)
	89 1,2-Dibromo-3-Chloropropane	155	10.658	10.658	(1.102)	128	1.00000	1.90(aM)
	57 1,2-Dibromoethane	107	7.269	7.269	(0.948)	2246	1.00000	0.86(a)

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051104.D Page 2
Report Date: 01-Jun-2020 15:33

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
88	1,2-Dichlorobenzene	146	9.999	9.999	(1.034)	4805	1.00000	0.96 (a)
33	1,2-Dichloroethane	62	4.562	4.562	(0.918)	3942	1.00000	0.93 (a)
42	1,2-Dichloropropane	63	5.436	5.436	(1.094)	3276	1.00000	0.99 (aM)
75	1,3,5-Trimethylbenzene	105	9.074	9.074	(0.939)	8480	1.00000	0.91 (a)
83	1,3-Dichlorobenzene	146	9.612	9.612	(0.994)	5149	1.00000	0.94 (a)
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	3905	1.00000	0.92 (a)
84	1,4-Dichlorobenzene	146	9.683	9.683	(1.001)	5222	1.00000	0.92 (a)
26	2,2-Dichloropropane	77	3.509	3.509	(0.839)	4652	1.00000	1.06 (a)
24	2-Butanone	43	3.616	3.616	(0.865)	2014	2.00000	1.62 (aM)
76	2-Chlorotoluene	91	8.981	8.981	(0.929)	8499	1.00000	1.06 (a)
52	2-Hexanone	43	7.097	7.097	(0.925)	3544	2.00000	1.57 (a)
77	4-Chlorotoluene	91	9.074	9.074	(0.939)	9489	1.00000	1.03 (a)
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	7748	1.00000	0.82 (a)
45	4-Methyl-2-Pentanone	43	6.331	6.331	(0.825)	5818	2.00000	1.77 (a)
37	Benzene	78	4.519	4.519	(0.909)	10698	1.00000	1.03
74	Bromobenzene	156	8.809	8.809	(0.911)	3242	1.00000	0.96 (a)
29	Bromochloromethane	128	3.810	3.810	(0.911)	1724	1.00000	1.07 (aM)
39	Bromodichloromethane	83	5.729	5.729	(1.153)	3508	1.00000	0.92 (aM)
66	Bromoform	173	8.415	8.415	(1.097)	1878	1.00000	0.90 (Ta)
6	Bromomethane	94	1.338	1.338	(0.320)	2788	1.00000	0.65 (aM)
19	Carbon Disulfide	76	2.069	2.069	(0.495)	14075	2.00000	1.88 (a)
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	4264	1.00000	1.04 (a)
59	Chlorobenzene	112	7.699	7.699	(1.004)	6626	1.00000	0.91 (a)
7	Chloroethane	64	1.403	1.403	(0.336)	2214	1.00000	0.72 (aM)
28	Chloroform	83	3.917	3.917	(0.937)	4419	1.00000	0.89 (a)
3	Chloromethane	50	1.073	1.073	(0.257)	4677	1.00000	1.69 (a)
27	cis-1,2-Dichloroethene	96	3.537	3.537	(0.846)	2598	1.00000	0.89 (a)
46	cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	4354	1.00000	0.98 (a)
55	Dibromochloromethane	129	7.183	7.183	(0.937)	2769	1.00000	0.93 (a)
44	Dibromomethane	93	5.557	5.557	(1.118)	1516	1.00000	0.84 (a)
2	Dichlorodifluoromethane	85	0.966	0.966	(0.231)	2633	1.00000	1.86 (a)
61	Ethylbenzene	106	7.807	7.807	(1.018)	3595	1.00000	0.94 (a)
91	Hexachlorobutadiene	225	11.481	11.481	(1.187)	736	1.00000	1.70 (aM)
67	Isopropylbenzene	105	8.566	8.566	(1.117)	10828	1.00000	0.95 (a)
62	m,p-Xylenes	106	7.907	7.907	(1.031)	8477	2.00000	1.84 (a)
17	Methylene Chloride	84	2.305	2.305	(0.551)	3655	1.00000	0.30 (aM)
87	n-Butylbenzene	91	9.999	9.999	(1.034)	5888	1.00000	0.77 (a)
73	n-Propylbenzene	91	8.917	8.917	(0.922)	11772	1.00000	0.91 (a)
92	Naphthalene	128	11.567	11.567	(1.196)	1462	1.00000	0.86 (a)
63	o-Xylene	106	8.244	8.244	(1.075)	4297	1.00000	0.96 (a)
81	sec-Butylbenzene	105	9.526	9.526	(0.985)	9307	1.00000	0.86 (a)
64	Styrene	104	8.265	8.265	(1.078)	7774	1.00000	1.00
78	tert-Butylbenzene	119	9.340	9.340	(0.966)	7608	1.00000	0.97 (a)
56	Tetrachloroethene	164	6.933	6.933	(0.904)	2384	1.00000	0.99 (a)
50	Toluene	91	6.453	6.453	(0.841)	10333	1.00000	0.95 (a)
20	trans-1,2-Dichloroethene	96	2.535	2.535	(0.606)	2248	1.00000	0.89 (a)
51	trans-1,3-Dichloropropene	75	6.689	6.689	(1.346)	3756	1.00000	0.93 (a)
38	Trichloroethene	130	5.221	5.221	(1.050)	2673	1.00000	0.91 (a)
8	Trichlorofluoromethane	101	1.560	1.560	(0.373)	4149	1.00000	0.93 (a)
5	Vinyl Chloride	62	1.138	1.138	(0.272)	3583	1.00000	0.93 (a)

QC Flag Legend

T - Target compound detected outside RT window.
a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.



Data File: \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051104.D
Date : 11-MAY-2020 14:24
Client ID: VSTD001
Sample Info: VSTD001;VSTD001;1;3;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051105.D Page 1
Report Date: 01-Jun-2020 15:33

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051105.D
Lab Smp Id: VSTD002 Client Smp ID: VSTD002
Inj Date : 11-MAY-2020 14:48
Operator : PC Inst ID: voa6.i
Smp Info : VSTD002;VSTD002;1;4;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X200511.b\8260W.m
Meth Date : 01-Jun-2020 15:33 voa6.i Quant Type: ISTD
Cal Date : 11-MAY-2020 14:24 Cal File: X051104.D
Als bottle: 6 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000000_CBI.sub
Target Version: 4.14
Processing Host: NAHSTW7142

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

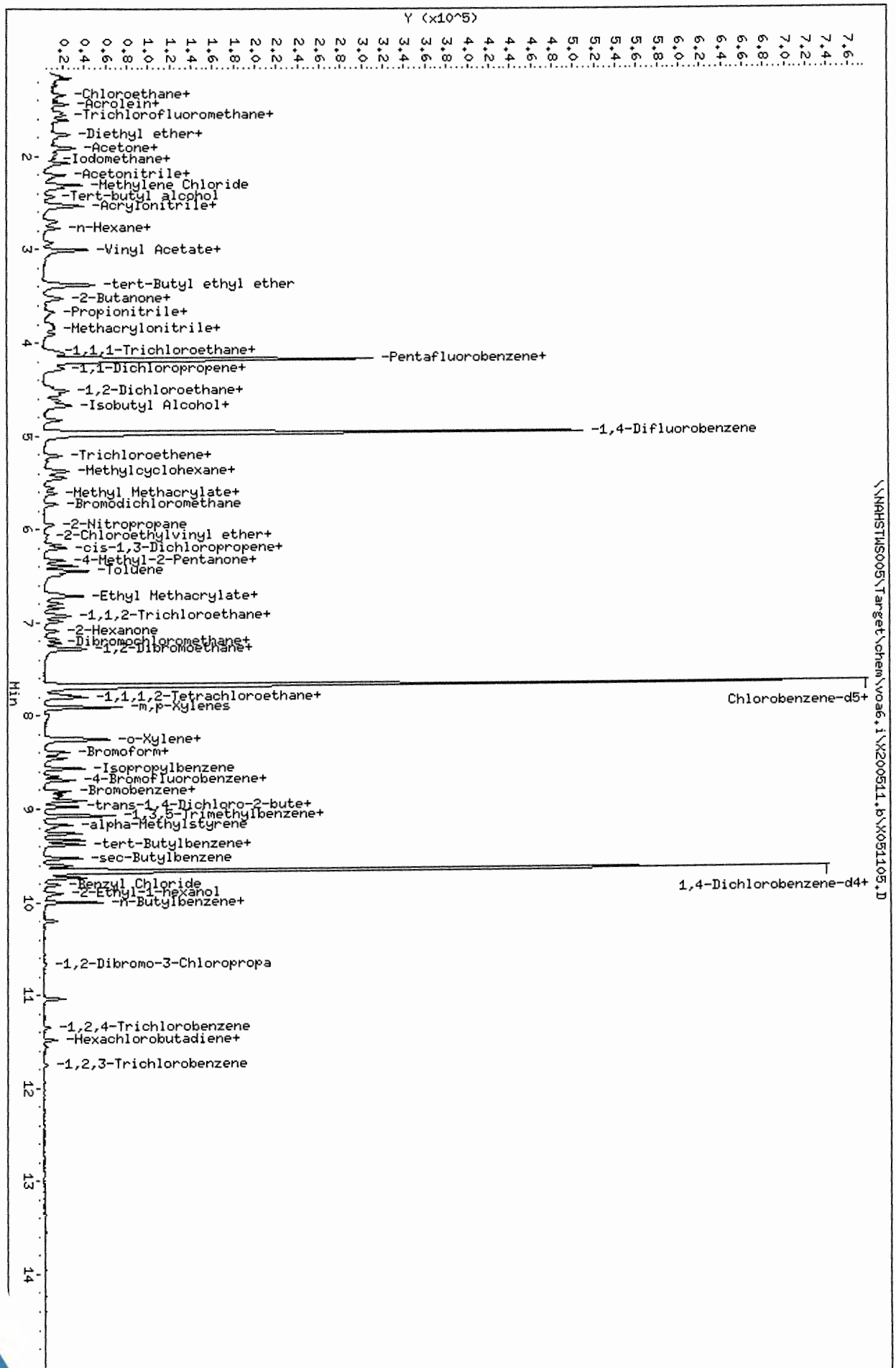
Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	263591	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	396279	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	351963	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	178242	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	5198	2.00000	1.74
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	7290	2.00000	2.20
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	18430	2.00000	1.63
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	8380	2.00000	1.75
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	5459	2.00000	1.97(a)
31 1,1,1-Trichloroethane	97	4.082	4.082	(0.976)	8079	2.00000	1.91
68 1,1,2,2-Tetrachloroethane	83	8.845	8.845	(0.915)	6293	2.00000	2.19(aM)
138 Freon TF	101	1.919	1.919	(0.459)	4120	2.00000	2.02(a)
53 1,1,2-Trichloroethane	83	6.847	6.847	(0.893)	4127	2.00000	2.10(a)
22 1,1-Dichloroethane	63	2.922	2.922	(0.699)	11643	2.00000	2.03
11 1,1-Dichloroethene	96	1.912	1.912	(0.457)	3905	2.00000	1.86(a)
32 1,1-Dichloropropene	75	4.283	4.283	(0.862)	7360	2.00000	2.02(a)
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.216)	1047	2.00000	1.52(a)
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.918)	5909	2.00000	2.37(aM)
90 1,2,4-Trichlorobenzene	180	11.345	11.345	(1.174)	1924	2.00000	4.05(a)
79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.971)	17865	2.00000	1.91(a)
89 1,2-Dibromo-3-Chloropropane	155	10.665	10.665	(1.104)	532	2.00000	3.27(aM)
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	5252	2.00000	2.10

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
88	1,2-Dichlorobenzene	146	9.999	9.999	(1.035)	10304	2.00000	2.07(a)
33	1,2-Dichloroethane	62	4.569	4.569	(0.919)	7567	2.00000	1.83
42	1,2-Dichloropropane	63	5.443	5.443	(1.095)	6309	2.00000	1.95(aM)
75	1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	18199	2.00000	1.97(a)
83	1,3-Dichlorobenzene	146	9.612	9.612	(0.995)	10710	2.00000	1.97(a)
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	8570	2.00000	2.10(a)
84	1,4-Dichlorobenzene	146	9.683	9.683	(1.002)	10744	2.00000	1.90(a)
26	2,2-Dichloropropane	77	3.516	3.516	(0.841)	8610	2.00000	2.06(a)
24	2-Butanone	43	3.595	3.595	(0.860)	3931	4.00000	3.30
76	2-Chlorotoluene	91	8.974	8.974	(0.929)	15622	2.00000	1.96(a)
52	2-Hexanone	43	7.090	7.090	(0.924)	9844	4.00000	4.52(a)
77	4-Chlorotoluene	91	9.075	9.075	(0.939)	17906	2.00000	1.95(a)
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	17190	2.00000	1.83(a)
45	4-Methyl-2-Pentanone	43	6.331	6.331	(0.825)	14181	4.00000	4.46(a)
10	Acetone	43	1.969	1.969	(0.471)	5040	4.00000	2.97(a)
37	Benzene	78	4.519	4.519	(0.909)	19710	2.00000	1.94
74	Bromobenzene	156	8.810	8.810	(0.912)	6636	2.00000	1.98(a)
29	Bromochloromethane	128	3.795	3.795	(0.908)	3004	2.00000	1.96(a)
39	Bromodichloromethane	83	5.729	5.729	(1.153)	7310	2.00000	1.97(a)
66	Bromoform	173	8.416	8.416	(1.097)	4311	2.00000	2.13(Ta)
6	Bromomethane	94	1.339	1.339	(0.320)	5327	2.00000	2.04(aM)
19	Carbon Disulfide	76	2.069	2.069	(0.495)	27764	4.00000	3.88(a)
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	7736	2.00000	1.94(a)
59	Chlorobenzene	112	7.699	7.699	(1.004)	14195	2.00000	2.03
7	Chloroethane	64	1.403	1.403	(0.336)	3636	2.00000	1.54(a)
28	Chloroform	83	3.917	3.917	(0.937)	9385	2.00000	1.99
3	Chloromethane	50	1.074	1.074	(0.257)	8356	2.00000	2.61(a)
27	cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	6149	2.00000	2.21(a)
46	cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	8237	2.00000	1.90(a)
55	Dibromochloromethane	129	7.176	7.176	(0.936)	5789	2.00000	2.03(a)
44	Dibromomethane	93	5.558	5.558	(1.118)	3352	2.00000	1.91(a)
2	Dichlorodifluoromethane	85	0.973	0.973	(0.233)	5304	2.00000	2.75(a)
61	Ethylbenzene	106	7.800	7.800	(1.017)	7402	2.00000	2.02
91	Hexachlorobutadiene	225	11.481	11.481	(1.188)	2177	2.00000	3.15(a)
67	Isopropylbenzene	105	8.566	8.566	(1.117)	20273	2.00000	1.84(a)
62	m,p-Xylenes	106	7.907	7.907	(1.031)	17933	4.00000	4.03
17	Methylene Chloride	84	2.306	2.306	(0.551)	6641	2.00000	1.54(aM)
87	n-Butylbenzene	91	9.999	9.999	(1.035)	13137	2.00000	1.73(a)
73	n-Propylbenzene	91	8.917	8.917	(0.923)	23793	2.00000	1.85(a)
92	Naphthalene	128	11.553	11.553	(1.196)	2896	2.00000	1.72(a)
63	o-Xylene	106	8.244	8.244	(1.075)	9179	2.00000	2.12
81	sec-Butylbenzene	105	9.526	9.526	(0.986)	21323	2.00000	1.97(a)
64	Styrene	104	8.265	8.265	(1.078)	15041	2.00000	2.00
78	tert-Butylbenzene	119	9.340	9.340	(0.967)	15079	2.00000	1.92(a)
56	Tetrachloroethene	164	6.933	6.933	(0.904)	4860	2.00000	2.09
50	Toluene	91	6.453	6.453	(0.841)	21432	2.00000	2.05
20	trans-1,2-Dichloroethene	96	2.535	2.535	(0.606)	4704	2.00000	1.96(a)
51	trans-1,3-Dichloropropene	75	6.689	6.689	(1.346)	7614	2.00000	1.93(a)
38	Trichloroethene	130	5.214	5.214	(1.049)	5425	2.00000	1.90
8	Trichlorofluoromethane	101	1.561	1.561	(0.373)	7899	2.00000	1.86(a)
5	Vinyl Chloride	62	1.138	1.138	(0.272)	7135	2.00000	1.95(a)

QC Flag Legend

T - Target compound detected outside RT window.
a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.



Data File: \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051105.D
Date : 11-MAY-2020 14:48
Client ID: VSTD002
Sample Info: VSTD002;VSTD002;1;4;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051106.D Page 1
Report Date: 01-Jun-2020 15:33

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051106.D
Lab Smp Id: VSTD005 Client Smp ID: VSTD005
Inj Date : 11-MAY-2020 15:12
Operator : PC Inst ID: voa6.i
Smp Info : VSTD005;VSTD005;1;5;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X200511.b\8260W.m
Meth Date : 01-Jun-2020 15:33 voa6.i Quant Type: ISTD
Cal Date : 11-MAY-2020 14:48 Cal File: X051105.D
Als bottle: 7 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000000_CBI.sub
Target Version: 4.14
Processing Host: NAHSTW7142

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

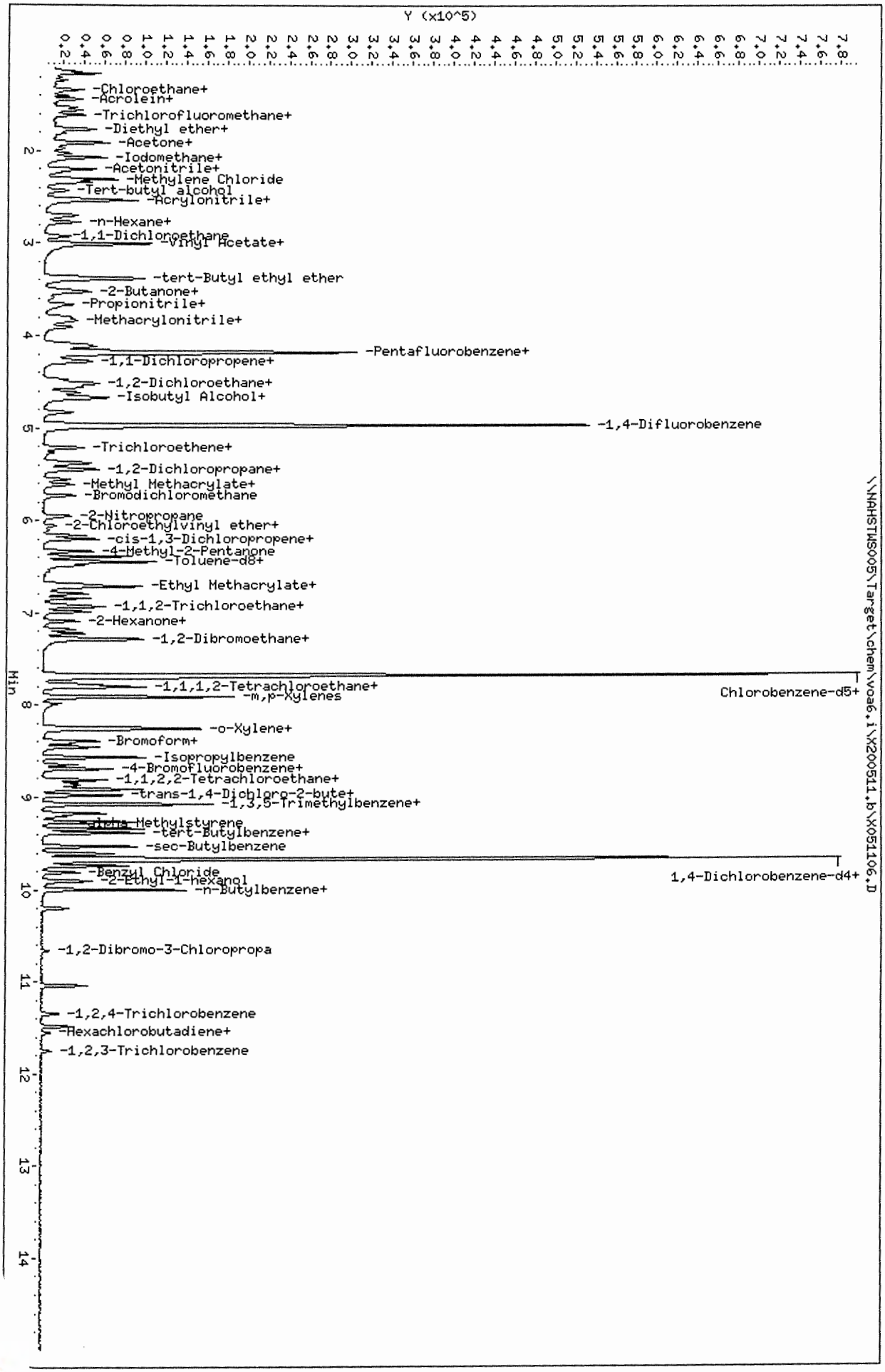
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	260790	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	393985	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	352401	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	175544	50.0000	
$ 30 Dibromofluoromethane	113	4.111	4.111	(0.983)	14036	5.00000	5.17
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	17135	5.00000	5.29
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	47142	5.00000	4.91
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	19241	5.00000	5.03
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	13494	5.00000	4.87(a)
31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	20093	5.00000	4.81
68 1,1,2,2-Tetrachloroethane	83	8.845	8.845	(0.915)	14006	5.00000	4.96(a)
138 Freon TF	101	1.911	1.911	(0.457)	9855	5.00000	4.88(a)
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	10314	5.00000	5.26
22 1,1-Dichloroethane	63	2.921	2.921	(0.699)	28324	5.00000	4.99
11 1,1-Dichloroethene	96	1.911	1.911	(0.457)	9809	5.00000	4.72(a)
32 1,1-Dichloropropene	75	4.282	4.282	(0.862)	17168	5.00000	4.75(a)
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.215)	3164	5.00000	5.50
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.917)	11655	5.00000	4.76(aM)
90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	5746	5.00000	6.93
79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.970)	44767	5.00000	4.86(a)
89 1,2-Dibromo-3-Chloropropane	155	10.665	10.665	(1.103)	1596	5.00000	6.97
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	12610	5.00000	5.03

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051106.D Page 2
Report Date: 01-Jun-2020 15:33

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
88	1,2-Dichlorobenzene	146	9.999	9.999	(1.034)	23909	5.00000	4.88(a)
33	1,2-Dichloroethane	62	4.562	4.562	(0.918)	20100	5.00000	4.89
42	1,2-Dichloropropane	63	5.436	5.436	(1.094)	15911	5.00000	4.96(a)
75	1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	45927	5.00000	5.06
83	1,3-Dichlorobenzene	146	9.605	9.605	(0.993)	26279	5.00000	4.91(a)
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	20663	5.00000	5.07
84	1,4-Dichlorobenzene	146	9.683	9.683	(1.001)	27091	5.00000	4.88(a)
26	2,2-Dichloropropane	77	3.509	3.509	(0.839)	20032	5.00000	4.85(a)
24	2-Butanone	43	3.588	3.588	(0.858)	11452	10.0000	9.74
76	2-Chlorotoluene	91	8.974	8.974	(0.928)	38693	5.00000	4.93(a)
52	2-Hexanone	43	7.090	7.090	(0.924)	21406	10.0000	9.82
77	4-Chlorotoluene	91	9.075	9.075	(0.939)	42965	5.00000	4.75(a)
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	44464	5.00000	4.82(a)
45	4-Methyl-2-Pentanone	43	6.331	6.331	(0.825)	32131	10.0000	10.09
10	Acetone	43	1.976	1.976	(0.473)	9390	10.0000	7.93
37	Benzene	78	4.519	4.519	(0.909)	47662	5.00000	4.73
74	Bromobenzene	156	8.809	8.809	(0.911)	15558	5.00000	4.72(a)
29	Bromochloromethane	128	3.795	3.795	(0.908)	7793	5.00000	5.15
39	Bromodichloromethane	83	5.729	5.729	(1.153)	18153	5.00000	4.93(a)
66	Bromoform	173	8.416	8.416	(1.097)	10062	5.00000	4.98(a)
6	Bromomethane	94	1.338	1.338	(0.320)	11539	5.00000	5.35(M)
19	Carbon Disulfide	76	2.069	2.069	(0.495)	68909	10.0000	9.74
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	18629	5.00000	4.70(a)
59	Chlorobenzene	112	7.699	7.699	(1.004)	34696	5.00000	4.96
7	Chloroethane	64	1.403	1.403	(0.336)	10011	5.00000	5.05
28	Chloroform	83	3.910	3.910	(0.935)	24061	5.00000	5.16
3	Chloromethane	50	1.073	1.073	(0.257)	19497	5.00000	5.31
27	cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	13752	5.00000	4.99(a)
46	cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	21020	5.00000	4.88(a)
55	Dibromochloromethane	129	7.176	7.176	(0.936)	13999	5.00000	4.90(a)
44	Dibromomethane	93	5.557	5.557	(1.118)	8792	5.00000	5.05
2	Dichlorodifluoromethane	85	0.966	0.966	(0.231)	13068	5.00000	5.26
61	Ethylbenzene	106	7.800	7.800	(1.017)	17464	5.00000	4.76
91	Hexachlorobutadiene	225	11.481	11.481	(1.187)	5460	5.00000	6.55
67	Isopropylbenzene	105	8.566	8.566	(1.117)	54621	5.00000	4.97(a)
62	m,p-Xylenes	106	7.907	7.907	(1.031)	43516	10.0000	9.78
17	Methylene Chloride	84	2.305	2.305	(0.551)	14433	5.00000	4.67(aM)
87	n-Butylbenzene	91	9.999	9.999	(1.034)	36372	5.00000	4.88(a)
73	n-Propylbenzene	91	8.917	8.917	(0.922)	61681	5.00000	4.88(a)
92	Naphthalene	128	11.546	11.546	(1.194)	7604	5.00000	4.60(a)
63	o-Xylene	106	8.244	8.244	(1.075)	21272	5.00000	4.91
81	sec-Butylbenzene	105	9.526	9.526	(0.985)	53044	5.00000	4.98(a)
64	Styrene	104	8.265	8.265	(1.078)	36239	5.00000	4.83
78	tert-Butylbenzene	119	9.340	9.340	(0.966)	38878	5.00000	5.05
56	Tetrachloroethene	164	6.933	6.933	(0.904)	11417	5.00000	4.91
50	Toluene	91	6.446	6.446	(0.840)	52487	5.00000	5.03
20	trans-1,2-Dichloroethene	96	2.535	2.535	(0.606)	11735	5.00000	4.94(a)
51	trans-1,3-Dichloropropene	75	6.689	6.689	(1.346)	19122	5.00000	4.89(a)
38	Trichloroethene	130	5.206	5.206	(1.048)	13453	5.00000	4.75
8	Trichlorofluoromethane	101	1.561	1.561	(0.373)	19847	5.00000	4.73(a)
5	Vinyl Chloride	62	1.138	1.138	(0.272)	17119	5.00000	4.73(a)

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.



Data File: \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051106.D

Date : 11-MAY-2020 15:12

Client ID: VSTD005

Sample Info: VSTD005;VSTD005;1;5;

Purge Volume: 5.0

Column phase: DB624

\\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051106.D

Instrument: voa6.i

Operator: PC

Column diameter: 0.18

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051107.D
Lab Smp Id: VSTD020 Client Smp ID: VSTD020
Inj Date : 11-MAY-2020 15:36
Operator : PC Inst ID: voa6.i
Smp Info : VSTD020;VSTD020;1;6;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X200511.b\8260W.m
Meth Date : 01-Jun-2020 15:33 voa6.i Quant Type: ISTD
Cal Date : 11-MAY-2020 15:12 Cal File: X051106.D
Als bottle: 8 Calibration Sample, Level: 6
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000000_CBI.sub
Target Version: 4.14
Processing Host: NAHSTW7142

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

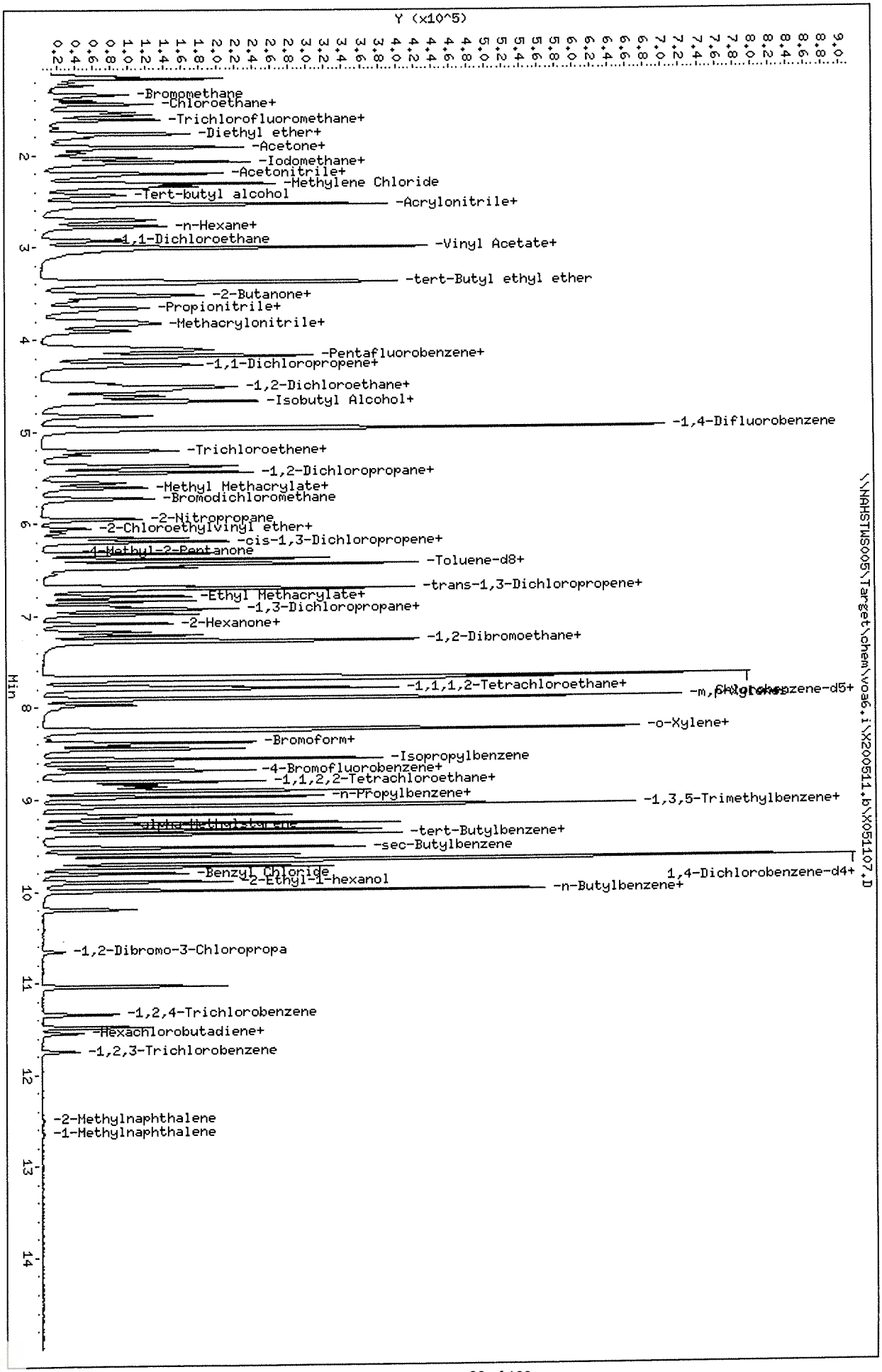
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
*	1 Pentafluorobenzene	168	4.182	4.182	(1.000)	255700	50.0000	
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	378254	50.0000	
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	339256	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	171130	50.0000	
$	30 Dibromofluoromethane	113	4.103	4.103	(0.981)	51294	20.0000	19.96
$	35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	62012	20.0000	19.65
$	48 Toluene-d8	98	6.388	6.388	(0.833)	176771	20.0000	20.47
$	69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	69563	20.0000	21.02
	60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	52095	20.0000	19.53
	31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	79732	20.0000	19.47
	68 1,1,2,2-Tetrachloroethane	83	8.838	8.838	(0.915)	53986	20.0000	19.63
	138 Freon TF	101	1.919	1.919	(0.459)	38765	20.0000	19.61
	53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	36817	20.0000	19.50
	22 1,1-Dichloroethane	63	2.921	2.921	(0.699)	107343	20.0000	19.31
	11 1,1-Dichloroethene	96	1.911	1.911	(0.457)	39440	20.0000	19.38
	32 1,1-Dichloropropene	75	4.282	4.282	(0.862)	66167	20.0000	19.10
	93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.216)	11186	20.0000	20.71
	71 1,2,3-Trichloropropane	75	8.867	8.867	(0.918)	45232	20.0000	18.96 (M)
	90 1,2,4-Trichlorobenzene	180	11.345	11.345	(1.174)	23261	20.0000	20.47
	79 1,2,4-Trimethylbenzene	105	9.382	9.382	(0.971)	177262	20.0000	19.74
	89 1,2-Dibromo-3-Chloropropane	155	10.657	10.657	(1.103)	5237	20.0000	20.01
	57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	49329	20.0000	20.46

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051107.D Page 2
Report Date: 01-Jun-2020 15:33

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
88	1,2-Dichlorobenzene	146	9.991	9.991	(1.034)	91741	20.0000	19.24
33	1,2-Dichloroethane	62	4.562	4.562	(0.918)	79106	20.0000	20.08
42	1,2-Dichloropropane	63	5.443	5.443	(1.095)	60696	20.0000	19.71
75	1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	173374	20.0000	19.62
83	1,3-Dichlorobenzene	146	9.605	9.605	(0.994)	103242	20.0000	19.79
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	78846	20.0000	20.09
84	1,4-Dichlorobenzene	146	9.683	9.683	(1.002)	102094	20.0000	18.87
26	2,2-Dichloropropane	77	3.509	3.509	(0.839)	78288	20.0000	19.33
24	2-Butanone	43	3.580	3.580	(0.856)	49330	40.0000	42.80
76	2-Chlorotoluene	91	8.974	8.974	(0.929)	143786	20.0000	18.82
52	2-Hexanone	43	7.090	7.090	(0.924)	83306	40.0000	39.70
77	4-Chlorotoluene	91	9.074	9.074	(0.939)	170619	20.0000	19.37
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	178794	20.0000	19.89
45	4-Methyl-2-Pentanone	43	6.324	6.324	(0.824)	122401	40.0000	39.95
10	Acetone	43	1.969	1.969	(0.471)	35665	40.0000	38.28
37	Benzene	78	4.512	4.512	(0.908)	190323	20.0000	19.68
74	Bromobenzene	156	8.809	8.809	(0.912)	62061	20.0000	19.34
29	Bromochloromethane	128	3.795	3.795	(0.908)	28180	20.0000	18.99
39	Bromodichloromethane	83	5.729	5.729	(1.153)	69054	20.0000	19.55
66	Bromoform	173	8.415	8.415	(1.097)	38468	20.0000	19.79
6	Bromomethane	94	1.338	1.338	(0.320)	40170	20.0000	20.93
19	Carbon Disulfide	76	2.069	2.069	(0.495)	269383	40.0000	38.86
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	69941	20.0000	18.40
59	Chlorobenzene	112	7.699	7.699	(1.004)	130918	20.0000	19.47
7	Chloroethane	64	1.403	1.403	(0.336)	35750	20.0000	19.50
28	Chloroform	83	3.910	3.910	(0.935)	90107	20.0000	19.71
3	Chloromethane	50	1.073	1.073	(0.257)	77009	20.0000	19.49
27	cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	54813	20.0000	20.32
46	cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	81116	20.0000	19.61
55	Dibromochloromethane	129	7.176	7.176	(0.936)	53715	20.0000	19.56
44	Dibromomethane	93	5.557	5.557	(1.118)	32219	20.0000	19.29
2	Dichlorodifluoromethane	85	0.966	0.966	(0.231)	55700	20.0000	19.32
61	Ethylbenzene	106	7.799	7.799	(1.017)	69660	20.0000	19.74
91	Hexachlorobutadiene	225	11.481	11.481	(1.188)	21311	20.0000	23.33
67	Isopropylbenzene	105	8.566	8.566	(1.117)	209344	20.0000	19.78
62	m,p-Xylenes	106	7.907	7.907	(1.031)	170236	40.0000	39.75
17	Methylene Chloride	84	2.305	2.305	(0.551)	52520	20.0000	20.24
87	n-Butylbenzene	91	9.998	9.998	(1.035)	146592	20.0000	20.21
73	n-Propylbenzene	91	8.917	8.917	(0.923)	239282	20.0000	19.44
92	Naphthalene	128	11.546	11.546	(1.195)	31970	20.0000	19.84
63	o-Xylene	106	8.244	8.244	(1.075)	83788	20.0000	20.11
81	sec-Butylbenzene	105	9.526	9.526	(0.986)	201174	20.0000	19.40
64	Styrene	104	8.258	8.258	(1.077)	143940	20.0000	19.93
78	tert-Butylbenzene	119	9.339	9.339	(0.967)	147263	20.0000	19.62
56	Tetrachloroethene	164	6.933	6.933	(0.904)	43566	20.0000	19.46
50	Toluene	91	6.446	6.446	(0.840)	201457	20.0000	20.06
20	trans-1,2-Dichloroethene	96	2.527	2.527	(0.604)	46791	20.0000	20.11
51	trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	73152	20.0000	19.50
38	Trichloroethene	130	5.206	5.206	(1.048)	52492	20.0000	19.34
8	Trichlorofluoromethane	101	1.560	1.560	(0.373)	79846	20.0000	19.40
5	Vinyl Chloride	62	1.138	1.138	(0.272)	69422	20.0000	19.58

QC Flag Legend

M - Compound response manually integrated.



Data File: \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051107.D
Date : 11-MAY-2020 15:36
Client ID: VSTD020
Sample Info: VSTD020;VSTD020;1;6;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051108.D
Lab Smp Id: VSTD050 Client Smp ID: VSTD050
Inj Date : 11-MAY-2020 16:00
Operator : PC Inst ID: voa6.i
Smp Info : VSTD050;VSTD050;1;7;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X200511.b\8260W.m
Meth Date : 01-Jun-2020 15:33 voa6.i Quant Type: ISTD
Cal Date : 11-MAY-2020 15:36 Cal File: X051107.D
Als bottle: 9 Calibration Sample, Level: 7
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000000_CBI.sub
Target Version: 4.14
Processing Host: NAHSTW7142

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

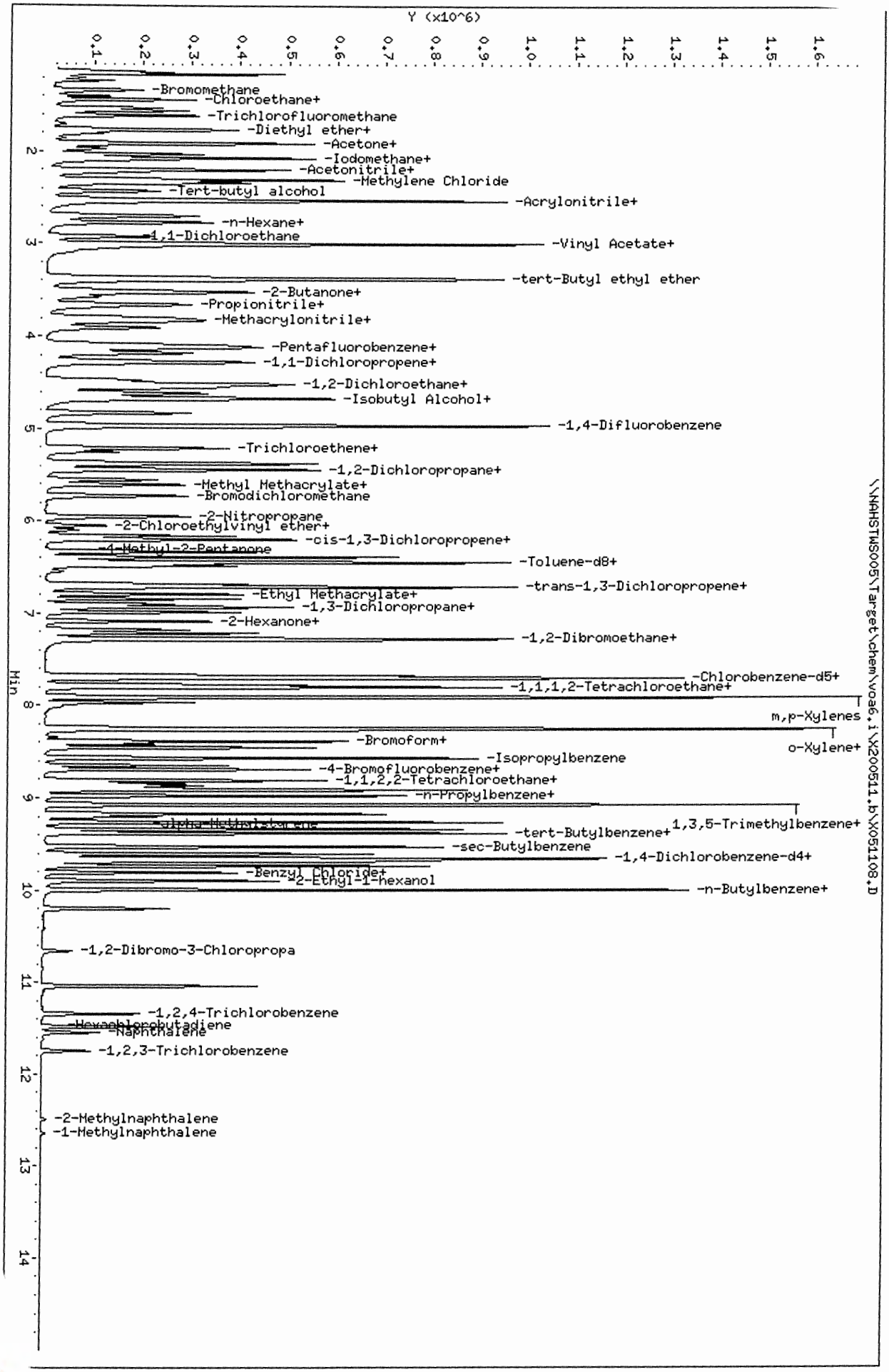
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
*	1 Pentafluorobenzene	168	4.182	4.182	(1.000)	244879	50.0000	
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	357125	50.0000	
*	47 Chlorobenzene-d5	117	7.670	7.670	(1.000)	326341	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	163130	50.0000	
$	30 Dibromofluoromethane	113	4.103	4.103	(0.981)	118264	50.0000	48.40
$	35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	143586	50.0000	47.57
$	48 Toluene-d8	98	6.388	6.388	(0.833)	410250	50.0000	50.05
$	69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	152557	50.0000	48.91
	60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	124113	50.0000	48.38
	31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	187573	50.0000	47.83
	68 1,1,2,2-Tetrachloroethane	83	8.838	8.838	(0.914)	121679	50.0000	46.41
	138 Freon TF	101	1.911	1.911	(0.457)	94407	50.0000	49.88
	53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	87053	50.0000	47.95
	22 1,1-Dichloroethane	63	2.921	2.921	(0.699)	249560	50.0000	46.89
	11 1,1-Dichloroethene	96	1.911	1.911	(0.457)	94156	50.0000	48.32
	32 1,1-Dichloropropene	75	4.282	4.282	(0.862)	153095	50.0000	46.82
	93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.215)	27245	50.0000	51.83
	71 1,2,3-Trichloropropane	75	8.867	8.867	(0.917)	111062	50.0000	48.85 (M)
	90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	54809	50.0000	46.70
	79 1,2,4-Trimethylbenzene	105	9.382	9.382	(0.970)	419671	50.0000	49.04
	89 1,2-Dibromo-3-Chloropropane	155	10.657	10.657	(1.102)	12187	50.0000	46.74
	57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	114686	50.0000	49.46

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051108.D Page 2
Report Date: 01-Jun-2020 15:33

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
88	1,2-Dichlorobenzene	146	9.998	9.998	(1.034)	216357	50.0000	47.60
33	1,2-Dichloroethane	62	4.555	4.555	(0.916)	188212	50.0000	50.61
42	1,2-Dichloropropane	63	5.436	5.436	(1.094)	141074	50.0000	48.53
75	1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	410269	50.0000	48.70
83	1,3-Dichlorobenzene	146	9.605	9.605	(0.993)	238547	50.0000	47.98
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	182269	50.0000	48.29
84	1,4-Dichlorobenzene	146	9.683	9.683	(1.001)	242693	50.0000	47.06
26	2,2-Dichloropropane	77	3.509	3.509	(0.839)	180990	50.0000	46.68
24	2-Butanone	43	3.573	3.573	(0.854)	128765	100.000	116.67
76	2-Chlorotoluene	91	8.974	8.974	(0.928)	337693	50.0000	46.37
52	2-Hexanone	43	7.083	7.083	(0.923)	198319	100.000	98.27
77	4-Chlorotoluene	91	9.074	9.074	(0.939)	394561	50.0000	47.00
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	420632	50.0000	49.08
45	4-Methyl-2-Pentanone	43	6.324	6.324	(0.824)	280968	100.000	95.35
10	Acetone	43	1.969	1.969	(0.471)	95313	100.000	111.54
37	Benzene	78	4.512	4.512	(0.908)	440626	50.0000	48.26
74	Bromobenzene	156	8.809	8.809	(0.911)	147210	50.0000	48.13
29	Bromochloromethane	128	3.795	3.795	(0.908)	67372	50.0000	47.41
39	Bromodichloromethane	83	5.729	5.729	(1.153)	163351	50.0000	49.00
66	Bromoform	173	8.415	8.415	(1.097)	89604	50.0000	47.92
6	Bromomethane	94	1.338	1.338	(0.320)	86417	50.0000	47.95
19	Carbon Disulfide	76	2.069	2.069	(0.495)	646964	100.000	97.46
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	167086	50.0000	46.56
59	Chlorobenzene	112	7.699	7.699	(1.004)	309412	50.0000	47.85
7	Chloroethane	64	1.403	1.403	(0.336)	85402	50.0000	49.28
28	Chloroform	83	3.910	3.910	(0.935)	210954	50.0000	48.20
3	Chloromethane	50	1.073	1.073	(0.257)	185773	50.0000	48.15
27	cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	126004	50.0000	48.77
46	cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	193147	50.0000	49.47
55	Dibromochloromethane	129	7.176	7.176	(0.936)	129345	50.0000	48.96
44	Dibromomethane	93	5.557	5.557	(1.118)	77674	50.0000	49.26
2	Dichlorodifluoromethane	85	0.966	0.966	(0.231)	135443	50.0000	47.41
61	Ethylbenzene	106	7.799	7.799	(1.017)	165225	50.0000	48.68
91	Hexachlorobutadiene	225	11.481	11.481	(1.187)	41952	50.0000	47.15
67	Isopropylbenzene	105	8.566	8.566	(1.117)	489328	50.0000	48.08
62	m,p-Xylenes	106	7.907	7.907	(1.031)	402602	100.000	97.74
17	Methylene Chloride	84	2.305	2.305	(0.551)	120730	50.0000	50.09
87	n-Butylbenzene	91	9.998	9.998	(1.034)	347792	50.0000	50.30
73	n-Propylbenzene	91	8.917	8.917	(0.922)	565315	50.0000	48.20
92	Naphthalene	128	11.546	11.546	(1.194)	75806	50.0000	49.35
63	o-Xylene	106	8.244	8.244	(1.075)	194330	50.0000	48.49
81	sec-Butylbenzene	105	9.526	9.526	(0.985)	468460	50.0000	47.41
64	Styrene	104	8.258	8.258	(1.077)	337378	50.0000	48.57
78	tert-Butylbenzene	119	9.339	9.339	(0.966)	340560	50.0000	47.61
56	Tetrachloroethene	164	6.933	6.933	(0.904)	104173	50.0000	48.39
50	Toluene	91	6.446	6.446	(0.840)	467021	50.0000	48.35
20	trans-1,2-Dichloroethene	96	2.527	2.527	(0.604)	109110	50.0000	48.98
51	trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	173577	50.0000	49.02
38	Trichloroethene	130	5.206	5.206	(1.048)	124926	50.0000	48.75
8	Trichlorofluoromethane	101	1.560	1.560	(0.373)	194926	50.0000	49.47
5	Vinyl Chloride	62	1.138	1.138	(0.272)	167564	50.0000	49.36

QC Flag Legend

M - Compound response manually integrated.



Data File: \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051108.D
Date : 11-MAY-2020 16:00
Client ID: VSTD050
Sample Info: VSTD050;VSTD050;1;7;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051109.D Page 1
Report Date: 01-Jun-2020 15:33

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051109.D
Lab Smp Id: VSTD100 Client Smp ID: VSTD100
Inj Date : 11-MAY-2020 16:24
Operator : PC Inst ID: voa6.i
Smp Info : VSTD100;VSTD100;1;8;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X200511.b\8260W.m
Meth Date : 01-Jun-2020 15:33 voa6.i Quant Type: ISTD
Cal Date : 11-MAY-2020 16:00 Cal File: X051108.D
Als bottle: 10 Calibration Sample, Level: 8
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000000_CBI.sub
Target Version: 4.14
Processing Host: NAHSTW7142

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

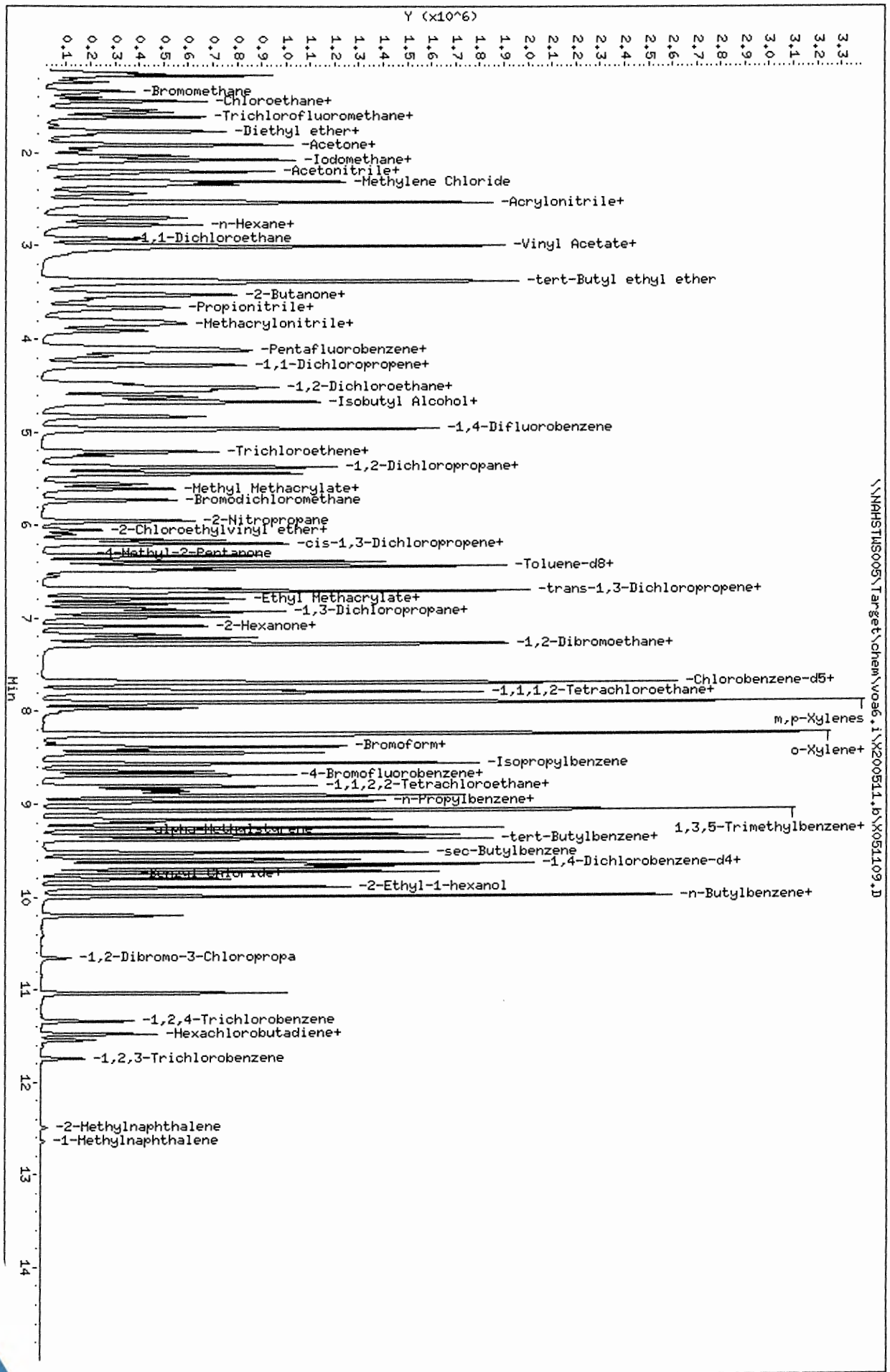
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	226332	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	331288	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	309250	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	155032	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	228909	100.000	101.63
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	281127	100.000	100.81
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	778769	100.000	100.73
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	294185	100.000	100.33
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	239360	100.000	98.47
31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	360299	100.000	99.40
68 1,1,2,2-Tetrachloroethane	83	8.845	8.845	(0.915)	232257	100.000	93.22
138 Freon TF	101	1.912	1.912	(0.457)	185402	100.000	105.99
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	165216	100.000	96.04
22 1,1-Dichloroethane	63	2.922	2.922	(0.699)	473292	100.000	96.21
11 1,1-Dichloroethene	96	1.912	1.912	(0.457)	180100	100.000	100.01
32 1,1-Dichloropropene	75	4.283	4.283	(0.862)	299678	100.000	98.81
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.215)	50765	100.000	96.62
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.917)	207372	100.000	95.98(M)
90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	103966	100.000	90.59
79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.970)	815497	100.000	100.27
89 1,2-Dibromo-3-Chloropropane	155	10.658	10.658	(1.102)	23938	100.000	95.05
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	217918	100.000	99.18

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051109.D Page 2
Report Date: 01-Jun-2020 15:33

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
88	1,2-Dichlorobenzene	146	9.991	9.991	(1.033)	414523	100.000	95.97
33	1,2-Dichloroethane	62	4.555	4.555	(0.916)	349387	100.000	101.29(A)
42	1,2-Dichloropropane	63	5.436	5.436	(1.094)	264442	100.000	98.06
75	1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	810286	100.000	101.22
83	1,3-Dichlorobenzene	146	9.605	9.605	(0.993)	465093	100.000	98.44
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	344709	100.000	96.39
84	1,4-Dichlorobenzene	146	9.683	9.683	(1.001)	467125	100.000	95.32
26	2,2-Dichloropropane	77	3.509	3.509	(0.839)	341084	100.000	95.17
24	2-Butanone	43	3.573	3.573	(0.854)	229095	200.000	224.59(A)
76	2-Chlorotoluene	91	8.974	8.974	(0.928)	666346	100.000	96.29
52	2-Hexanone	43	7.090	7.090	(0.924)	374858	200.000	196.01
77	4-Chlorotoluene	91	9.075	9.075	(0.939)	767875	100.000	96.25
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	830752	100.000	102.01
45	4-Methyl-2-Pentanone	43	6.324	6.324	(0.824)	545954	200.000	195.52
10	Acetone	43	1.969	1.969	(0.471)	157042	200.000	200.90
37	Benzene	78	4.512	4.512	(0.908)	832105	100.000	98.26
74	Bromobenzene	156	8.810	8.810	(0.911)	281193	100.000	96.74
29	Bromochloromethane	128	3.795	3.795	(0.908)	121892	100.000	92.82
39	Bromodichloromethane	83	5.729	5.729	(1.153)	308906	100.000	99.89
66	Bromoform	173	8.416	8.416	(1.097)	175012	100.000	98.77
6	Bromomethane	94	1.331	1.331	(0.318)	166042	100.000	100.49
19	Carbon Disulfide	76	2.069	2.069	(0.495)	1236060	200.000	201.47(A)
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	324110	100.000	97.37
59	Chlorobenzene	112	7.699	7.699	(1.004)	595488	100.000	97.18
7	Chloroethane	64	1.396	1.396	(0.334)	162411	100.000	101.85
28	Chloroform	83	3.910	3.910	(0.935)	397623	100.000	98.30
3	Chloromethane	50	1.073	1.073	(0.257)	352150	100.000	98.11
27	cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	238323	100.000	99.81
46	cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	364351	100.000	100.60
55	Dibromochloromethane	129	7.176	7.176	(0.936)	253688	100.000	101.35
44	Dibromomethane	93	5.558	5.558	(1.118)	146927	100.000	100.45
2	Dichlorodifluoromethane	85	0.966	0.966	(0.231)	264084	100.000	98.85
61	Ethylbenzene	106	7.800	7.800	(1.017)	323615	100.000	100.63(A)
91	Hexachlorobutadiene	225	11.481	11.481	(1.187)	77175	100.000	90.37
67	Isopropylbenzene	105	8.566	8.566	(1.117)	969801	100.000	100.56
62	m,p-Xylenes	106	7.907	7.907	(1.031)	769824	200.000	197.22
17	Methylene Chloride	84	2.306	2.306	(0.551)	224234	100.000	101.75
87	n-Butylbenzene	91	9.999	9.999	(1.034)	687209	100.000	104.59
73	n-Propylbenzene	91	8.917	8.917	(0.922)	1109073	100.000	99.50
92	Naphthalene	128	11.546	11.546	(1.194)	148845	100.000	101.97
63	o-Xylene	106	8.244	8.244	(1.075)	372835	100.000	98.17
81	sec-Butylbenzene	105	9.526	9.526	(0.985)	938229	100.000	99.91
64	Styrene	104	8.258	8.258	(1.077)	648150	100.000	98.47
78	tert-Butylbenzene	119	9.340	9.340	(0.966)	675938	100.000	99.45
56	Tetrachloroethene	164	6.933	6.933	(0.904)	201864	100.000	98.95
50	Toluene	91	6.446	6.446	(0.840)	886141	100.000	96.82
20	trans-1,2-Dichloroethene	96	2.528	2.528	(0.604)	207011	100.000	100.54
51	trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	333810	100.000	101.63
38	Trichloroethene	130	5.207	5.207	(1.048)	243052	100.000	102.24(A)
8	Trichlorofluoromethane	101	1.561	1.561	(0.373)	376917	100.000	103.50
5	Vinyl Chloride	62	1.138	1.138	(0.272)	323682	100.000	103.16

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.
M - Compound response manually integrated.



Data File: \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051109.D
Date : 11-MAY-2020 16:24
Client ID: VSTD100
Sample Info: VSTD100;VSTD100;1;8;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051110.D Page 1
Report Date: 01-Jun-2020 15:33

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051110.D
Lab Smp Id: VSTD150 Client Smp ID: VSTD150
Inj Date : 11-MAY-2020 16:47
Operator : PC Inst ID: voa6.i
Smp Info : VSTD150;VSTD150;1;9;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X200511.b\8260W.m
Meth Date : 01-Jun-2020 15:33 voa6.i Quant Type: ISTD
Cal Date : 11-MAY-2020 16:24 Cal File: X051109.D
Als bottle: 11 Calibration Sample, Level: 9
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000000_CBI.sub
Target Version: 4.14
Processing Host: NAHSTW7142

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

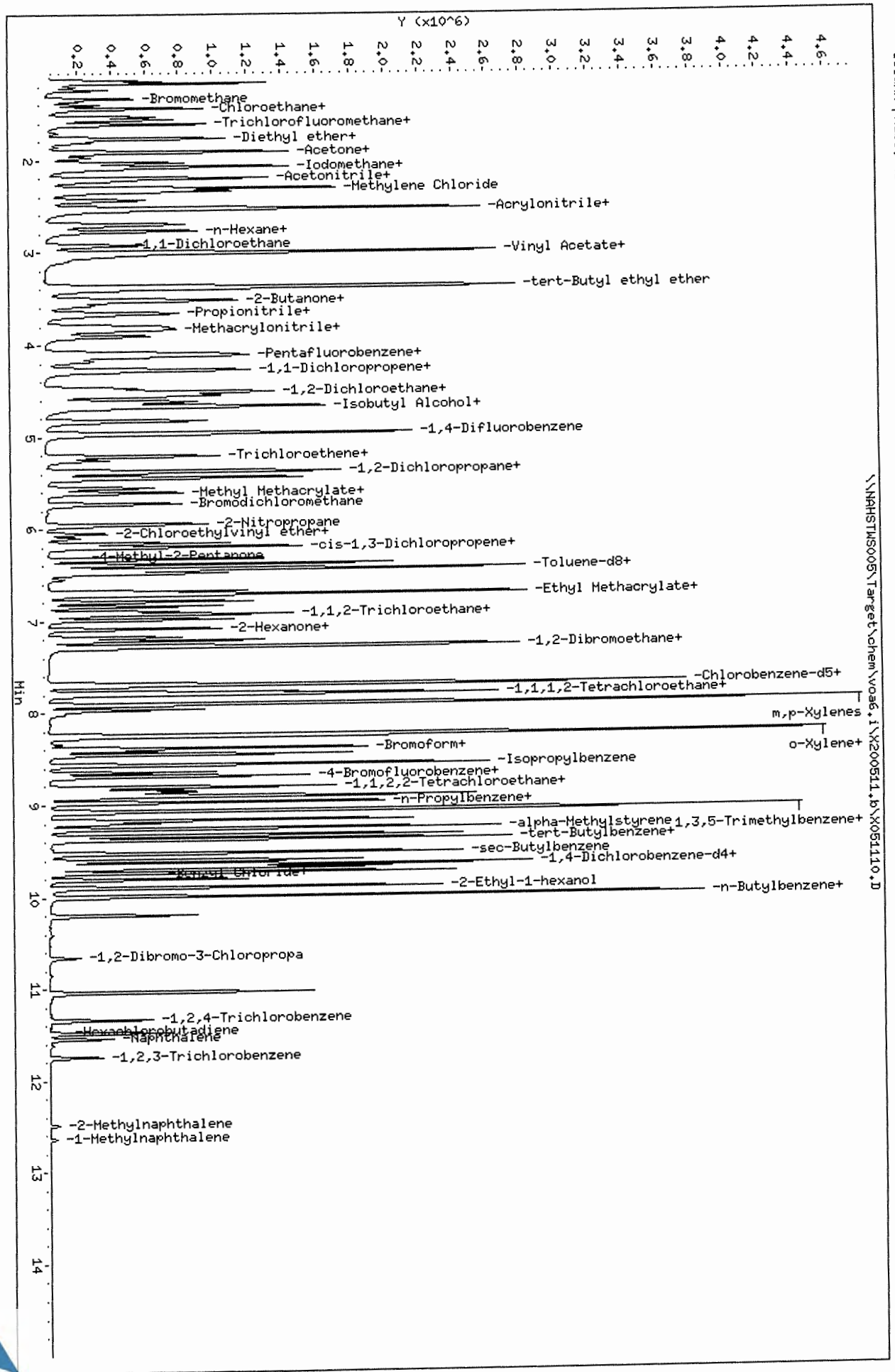
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	210896	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	312188	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	295010	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	147624	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	320906	150.000	153.02
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	402302	150.000	154.85
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	1109628	150.000	150.69
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	420723	150.000	150.80
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	342668	150.000	147.77
31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	514515	150.000	152.34(A)
68 1,1,2,2-Tetrachloroethane	83	8.845	8.845	(0.915)	334626	150.000	141.04
138 Freon TF	101	1.911	1.911	(0.457)	260990	150.000	160.13
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	235212	150.000	143.33
22 1,1-Dichloroethane	63	2.921	2.921	(0.699)	664765	150.000	145.03(A)
11 1,1-Dichloroethene	96	1.911	1.911	(0.457)	257690	150.000	153.58
32 1,1-Dichloropropene	75	4.282	4.282	(0.862)	423104	150.000	148.04
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.215)	82626	150.000	152.12
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.917)	290589	150.000	141.25(M)
90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	161556	150.000	146.17
79 1,2,4-Trimethylbenzene	105	9.382	9.382	(0.970)	1176422	150.000	151.92
89 1,2-Dibromo-3-Chloropropane	155	10.657	10.657	(1.102)	35913	150.000	148.91
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	315920	150.000	150.73(A)

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051110.D Page 2
Report Date: 01-Jun-2020 15:33

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
88 1,2-Dichlorobenzene	146	9.998	9.998	(1.034)	602146	150.000	146.41
33 1,2-Dichloroethane	62	4.555	4.555	(0.916)	496703	150.000	152.80(A)
42 1,2-Dichloropropane	63	5.443	5.443	(1.095)	369792	150.000	145.52
75 1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	1156269	150.000	151.69
83 1,3-Dichlorobenzene	146	9.612	9.612	(0.994)	674171	150.000	149.86
54 1,3-Dichloropropane	76	6.983	6.983	(0.910)	493264	150.000	144.59
84 1,4-Dichlorobenzene	146	9.683	9.683	(1.001)	672004	150.000	144.01
26 2,2-Dichloropropane	77	3.516	3.516	(0.841)	486844	150.000	145.79
24 2-Butanone	43	3.573	3.573	(0.854)	320319	300.000	337.00(A)
76 2-Chlorotoluene	91	8.981	8.981	(0.929)	949403	150.000	144.08
52 2-Hexanone	43	7.090	7.090	(0.924)	531716	300.000	291.45
77 4-Chlorotoluene	91	9.074	9.074	(0.939)	1091030	150.000	143.62
82 p-Isopropyltoluene	119	9.655	9.655	(0.999)	1196736	150.000	154.33
45 4-Methyl-2-Pentanone	43	6.324	6.324	(0.824)	784939	300.000	294.68
10 Acetone	43	1.969	1.969	(0.471)	214208	300.000	295.31
37 Benzene	78	4.512	4.512	(0.908)	1182839	150.000	148.22(A)
74 Bromobenzene	156	8.809	8.809	(0.911)	403596	150.000	145.82
29 Bromochloromethane	128	3.795	3.795	(0.908)	172062	150.000	140.61
39 Bromodichloromethane	83	5.729	5.729	(1.153)	446504	150.000	153.22
66 Bromoform	173	8.415	8.415	(1.097)	252342	150.000	149.29
6 Bromomethane	94	1.331	1.331	(0.318)	236806	150.000	154.21
19 Carbon Disulfide	76	2.069	2.069	(0.495)	1753146	300.000	306.68(A)
34 Carbon Tetrachloride	117	4.268	4.268	(0.859)	464237	150.000	148.00
59 Chlorobenzene	112	7.699	7.699	(1.004)	852770	150.000	145.89(A)
7 Chloroethane	64	1.396	1.396	(0.334)	229270	150.000	154.52
28 Chloroform	83	3.910	3.910	(0.935)	562576	150.000	149.27(A)
3 Chloromethane	50	1.073	1.073	(0.257)	510038	150.000	152.15
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	337533	150.000	151.71(A)
46 cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	521162	150.000	152.70
55 Dibromochloromethane	129	7.176	7.176	(0.936)	360158	150.000	150.83
44 Dibromomethane	93	5.557	5.557	(1.118)	209387	150.000	151.91
2 Dichlorodifluoromethane	85	0.966	0.966	(0.231)	377623	150.000	151.12
61 Ethylbenzene	106	7.799	7.799	(1.017)	454714	150.000	148.22(A)
91 Hexachlorobutadiene	225	11.488	11.488	(1.188)	122993	150.000	150.61
67 Isopropylbenzene	105	8.566	8.566	(1.117)	1380555	150.000	150.06
62 m,p-Xylenes	106	7.907	7.907	(1.031)	1094132	300.000	293.84(A)
17 Methylene Chloride	84	2.305	2.305	(0.551)	318789	150.000	155.81
87 n-Butylbenzene	91	9.998	9.998	(1.034)	990914	150.000	158.38
73 n-Propylbenzene	91	8.917	8.917	(0.922)	1587708	150.000	149.59
92 Naphthalene	128	11.546	11.546	(1.194)	240798	150.000	173.25
63 o-Xylene	106	8.244	8.244	(1.075)	535459	150.000	147.80(A)
81 sec-Butylbenzene	105	9.526	9.526	(0.985)	1337568	150.000	149.59
64 Styrene	104	8.265	8.265	(1.078)	912591	150.000	145.34(A)
78 tert-Butylbenzene	119	9.339	9.339	(0.966)	965175	150.000	149.13
56 Tetrachloroethene	164	6.933	6.933	(0.904)	286458	150.000	147.20(A)
50 Toluene	91	6.446	6.446	(0.840)	1251009	150.000	143.28(A)
20 trans-1,2-Dichloroethene	96	2.527	2.527	(0.604)	291868	150.000	152.13
51 trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	484238	150.000	156.45
38 Trichloroethene	130	5.206	5.206	(1.048)	343427	150.000	153.31(A)
8 Trichlorofluoromethane	101	1.553	1.553	(0.371)	533118	150.000	157.11
5 Vinyl Chloride	62	1.138	1.138	(0.272)	457160	150.000	156.37

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.
M - Compound response manually integrated.



Data File: \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051110.D
Date : 11-MAY-2020 16:47
Client ID: VSTD150
Sample Info: VSTD150;VSTD150;1;9;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051111.D Page 1
Report Date: 01-Jun-2020 15:33

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051111.D
Lab Smp Id: VSTD200 Client Smp ID: VSTD200
Inj Date : 11-MAY-2020 17:11
Operator : PC Inst ID: voa6.i
Smp Info : VSTD200;VSTD200;1;10;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X200511.b\8260W.m
Meth Date : 01-Jun-2020 15:33 voa6.i Quant Type: ISTD
Cal Date : 11-MAY-2020 16:47 Cal File: X051110.D
Als bottle: 12 Calibration Sample, Level: 10
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000000_CBI.sub
Target Version: 4.14
Processing Host: NAHSTW7142

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
*	1 Pentafluorobenzene	168	4.182	4.182	(1.000)	210247	50.0000	
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	305929	50.0000	
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	285371	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	141643	50.0000	
$	30 Dibromofluoromethane	113	4.103	4.103	(0.981)	412124	200.000	197.20
$	35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	508534	200.000	196.36
$	48 Toluene-d8	98	6.388	6.388	(0.833)	1416689	200.000	199.04
$	69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	537390	200.000	199.37
	60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	439976	200.000	196.15
	31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	664524	200.000	197.36(A)
	68 1,1,2,2-Tetrachloroethane	83	8.845	8.845	(0.915)	431093	200.000	189.38
	138 Freon TF	101	1.911	1.911	(0.457)	333443	200.000	205.22(A)
	53 1,1,2-Trichloroethane	83	6.847	6.847	(0.893)	299144	200.000	188.44
	22 1,1-Dichloroethane	63	2.921	2.921	(0.699)	844374	200.000	184.79(A)
	11 1,1-Dichloroethene	96	1.911	1.911	(0.457)	331210	200.000	198.00
	32 1,1-Dichloropropene	75	4.282	4.282	(0.862)	539478	200.000	192.62
	93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.215)	114644	200.000	199.45
	71 1,2,3-Trichloropropane	75	8.867	8.867	(0.917)	372645	200.000	188.79(M)
	90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	221042	200.000	207.32(A)
	79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.970)	1480057	200.000	199.20
	89 1,2-Dibromo-3-Chloropropane	155	10.658	10.658	(1.102)	47270	200.000	203.73(A)
	57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	397489	200.000	196.05(A)

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051111.D Page 2
Report Date: 01-Jun-2020 15:33

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
88	1,2-Dichlorobenzene	146	9.999	9.999	(1.034)	751691	200.000	190.50
33	1,2-Dichloroethane	62	4.555	4.555	(0.916)	633747	200.000	198.95(A)
42	1,2-Dichloropropane	63	5.443	5.443	(1.095)	470477	200.000	188.93
75	1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	1464802	200.000	200.28(A)
83	1,3-Dichlorobenzene	146	9.612	9.612	(0.994)	854514	200.000	197.97
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	628497	200.000	190.45
84	1,4-Dichlorobenzene	146	9.683	9.683	(1.001)	856803	200.000	191.37
26	2,2-Dichloropropane	77	3.509	3.509	(0.839)	616758	200.000	185.27
24	2-Butanone	43	3.573	3.573	(0.854)	404738	400.000	427.13(A)
76	2-Chlorotoluene	91	8.981	8.981	(0.929)	1200031	200.000	189.81
52	2-Hexanone	43	7.090	7.090	(0.924)	681249	400.000	386.03
77	4-Chlorotoluene	91	9.075	9.075	(0.939)	1390472	200.000	190.77
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	1535054	200.000	206.32(A)
45	4-Methyl-2-Pentanone	43	6.331	6.331	(0.825)	992720	400.000	385.28
10	Acetone	43	1.969	1.969	(0.471)	258020	400.000	357.35
37	Benzene	78	4.512	4.512	(0.908)	1515661	200.000	193.82(A)
74	Bromobenzene	156	8.810	8.810	(0.911)	524098	200.000	197.35
29	Bromochloromethane	128	3.795	3.795	(0.908)	217972	200.000	178.68
39	Bromodichloromethane	83	5.729	5.729	(1.153)	568861	200.000	199.20
66	Bromoform	173	8.416	8.416	(1.097)	324965	200.000	198.75
6	Bromomethane	94	1.324	1.324	(0.317)	301011	200.000	196.83
19	Carbon Disulfide	76	2.069	2.069	(0.495)	2243154	400.000	393.61(A)
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	601378	200.000	195.64
59	Chlorobenzene	112	7.699	7.699	(1.004)	1083798	200.000	191.68(A)
7	Chloroethane	64	1.396	1.396	(0.334)	289295	200.000	195.69
28	Chloroform	83	3.910	3.910	(0.935)	722440	200.000	192.28(A)
3	Chloromethane	50	1.073	1.073	(0.257)	668216	200.000	199.75
27	cis-1,2-Dichloroethene	96	3.523	3.523	(0.842)	430307	200.000	194.01(A)
46	cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	665512	200.000	198.99
55	Dibromochloromethane	129	7.176	7.176	(0.936)	459803	200.000	199.07
44	Dibromomethane	93	5.557	5.557	(1.118)	266444	200.000	197.26
2	Dichlorodifluoromethane	85	0.966	0.966	(0.231)	499972	200.000	200.36(A)
61	Ethylbenzene	106	7.800	7.800	(1.017)	584558	200.000	196.99(A)
91	Hexachlorobutadiene	225	11.481	11.481	(1.187)	160116	200.000	204.00(A)
67	Isopropylbenzene	105	8.566	8.566	(1.117)	1765878	200.000	198.43
62	m,p-Xylenes	106	7.907	7.907	(1.031)	1392396	400.000	386.57(A)
17	Methylene Chloride	84	2.298	2.298	(0.550)	395941	200.000	194.38
87	n-Butylbenzene	91	9.999	9.999	(1.034)	1253039	200.000	208.74(A)
73	n-Propylbenzene	91	8.917	8.917	(0.922)	2020256	200.000	198.39
92	Naphthalene	128	11.546	11.546	(1.194)	324019	200.000	242.98(A)
63	o-Xylene	106	8.244	8.244	(1.075)	671719	200.000	191.67(A)
81	sec-Butylbenzene	105	9.526	9.526	(0.985)	1697221	200.000	197.83
64	Styrene	104	8.265	8.265	(1.078)	1162998	200.000	191.48(A)
78	tert-Butylbenzene	119	9.340	9.340	(0.966)	1223524	200.000	197.03
56	Tetrachloroethene	164	6.933	6.933	(0.904)	364813	200.000	193.79(A)
50	Toluene	91	6.446	6.446	(0.840)	1593362	200.000	188.66(A)
20	trans-1,2-Dichloroethene	96	2.528	2.528	(0.604)	373493	200.000	195.28
51	trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	619261	200.000	204.17(A)
38	Trichloroethene	130	5.206	5.206	(1.048)	441183	200.000	200.98(A)
8	Trichlorofluoromethane	101	1.553	1.553	(0.371)	703498	200.000	207.96(A)
5	Vinyl Chloride	62	1.138	1.138	(0.272)	586952	200.000	201.38(A)

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.
M - Compound response manually integrated.

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051111.D
Date : 11-MAY-2020 17:11
Client ID: VSTD200
Sample Info: VSTD200;VSTD200;1;10;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051114.D
Lab Smp Id: ICV Client Smp ID: ICV
Inj Date : 11-MAY-2020 18:23
Operator : PC Inst ID: voa6.i
Smp Info : ICV;ICV;2;;;ICV
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X200511.b\8260W.m
Meth Date : 01-Jun-2020 15:33 voa6.i Quant Type: ISTD
Cal Date : 11-MAY-2020 17:11 Cal File: X051111.D
Als bottle: 15 QC Sample: METHSPIKE
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000000_CBI.sub
Target Version: 4.14
Processing Host: NAHSTW7142

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

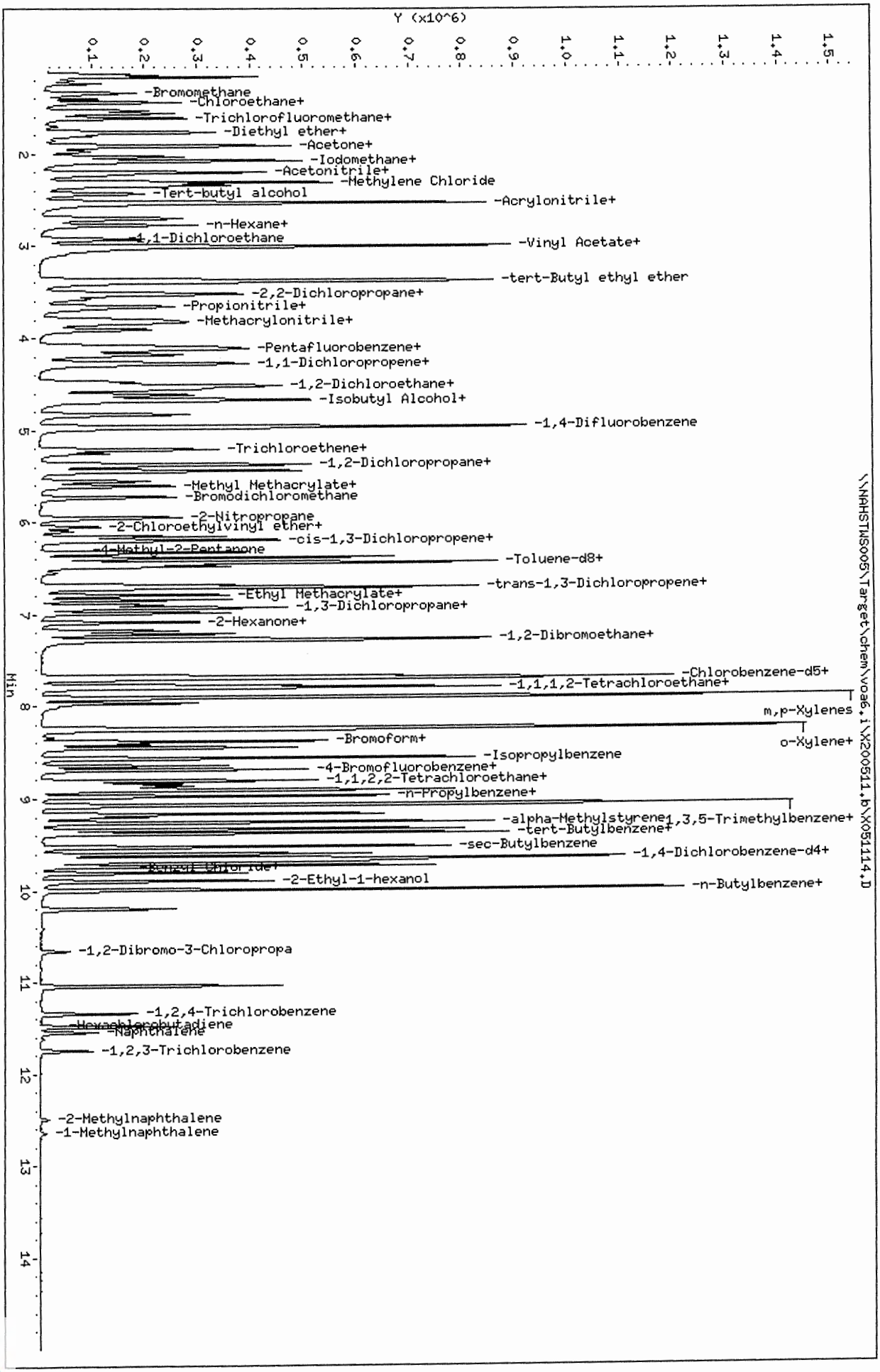
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
*	1 Pentafluorobenzene	168	4.182	4.182	(1.000)	223155	50.0000	
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	318483	50.0000	
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	291498	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.662	9.669	(1.000)	148250	50.0000	
$	30 Dibromofluoromethane	113	4.103	4.103	(0.981)	108653	48.8010	48.80
$	35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	131529	47.8219	47.82
$	48 Toluene-d8	98	6.388	6.388	(0.833)	373137	50.9781	50.97
$	69 4-Bromofluorobenzene	95	8.688	8.695	(1.133)	139766	50.1904	50.19
	60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	112251	48.9922	48.99
	31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	169785	47.5103	47.51
	68 1,1,2,2-Tetrachloroethane	83	8.838	8.845	(0.915)	109996	46.1688	46.16
	138 Freon TF	101	1.911	1.911	(0.457)	84460	48.9758	48.97
	53 1,1,2-Trichloroethane	83	6.840	6.847	(0.892)	77614	47.8655	47.86
	22 1,1-Dichloroethane	63	2.921	2.921	(0.699)	219255	45.2085	45.20
	11 1,1-Dichloroethene	96	1.911	1.911	(0.457)	84626	47.6661	47.66
	32 1,1-Dichloropropene	75	4.282	4.282	(0.862)	139963	48.0055	48.00
	93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.216)	26202	54.6983	54.69
	71 1,2,3-Trichloropropane	75	8.867	8.867	(0.918)	96248	46.5901	46.59(M)
	90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	50727	47.5210	47.52
	79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.971)	387802	49.8683	49.86
	89 1,2-Dibromo-3-Chloropropane	155	10.658	10.658	(1.103)	10984	46.3748	46.37
	57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	104018	50.2268	50.22

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051114.D Page 2
Report Date: 01-Jun-2020 15:33

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
88	1,2-Dichlorobenzene	146	9.999	9.999	(1.035)	200012	48.4298	48.42
33	1,2-Dichloroethane	62	4.555	4.555	(0.916)	164095	49.4853	49.48
42	1,2-Dichloropropane	63	5.436	5.443	(1.094)	123226	47.5336	47.53
75	1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	380301	49.6820	49.68
83	1,3-Dichlorobenzene	146	9.605	9.612	(0.994)	220872	48.8921	48.89
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	162939	48.3385	48.33
84	1,4-Dichlorobenzene	146	9.683	9.683	(1.002)	223856	47.7723	47.77
26	2,2-Dichloropropane	77	3.509	3.509	(0.839)	167781	47.4860	47.48
24	2-Butanone	43	3.573	3.573	(0.854)	108411	107.793	107.79(H)
76	2-Chlorotoluene	91	8.974	8.981	(0.929)	309354	46.7504	46.75
52	2-Hexanone	43	7.090	7.090	(0.924)	170807	94.7558	94.75
77	4-Chlorotoluene	91	9.074	9.075	(0.939)	360081	47.2019	47.20
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	391936	50.3321	50.33
45	4-Methyl-2-Pentanone	43	6.324	6.331	(0.824)	244532	92.9096	92.90
10	Acetone	43	1.969	1.969	(0.471)	75065	96.0427	96.04
37	Benzene	78	4.512	4.512	(0.908)	390116	47.9210	47.92
74	Bromobenzene	156	8.809	8.810	(0.912)	134325	48.3285	48.32
29	Bromochloromethane	128	3.795	3.795	(0.908)	61420	47.4371	47.43
39	Bromodichloromethane	83	5.729	5.729	(1.153)	144777	48.6994	48.69
66	Bromoform	173	8.415	8.416	(1.097)	83698	50.1152	50.11
6	Bromomethane	94	1.338	1.324	(0.320)	83523	50.9059	50.90
19	Carbon Disulfide	76	2.069	2.069	(0.495)	577912	95.5417	95.54
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	151724	47.4153	47.41
59	Chlorobenzene	112	7.699	7.699	(1.004)	282458	48.9065	48.90
7	Chloroethane	64	1.403	1.396	(0.336)	70901	44.8631	44.86
28	Chloroform	83	3.910	3.910	(0.935)	192179	48.1906	48.19
3	Chloromethane	50	1.073	1.073	(0.257)	154639	44.0442	44.04
27	cis-1,2-Dichloroethene	96	3.523	3.523	(0.842)	112778	47.9068	47.90
46	cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	172729	49.6114	49.61
55	Dibromochloromethane	129	7.176	7.176	(0.936)	117363	49.7444	49.74
44	Dibromomethane	93	5.557	5.557	(1.118)	70080	49.8406	49.84
2	Dichlorodifluoromethane	85	0.966	0.966	(0.231)	122199	46.9573	46.95
61	Ethylbenzene	106	7.799	7.800	(1.017)	147940	48.8066	48.80
91	Hexachlorobutadiene	225	11.481	11.481	(1.188)	40239	49.7181	49.71
67	Isopropylbenzene	105	8.566	8.566	(1.117)	450333	49.5410	49.54
62	m,p-Xylenes	106	7.907	7.907	(1.031)	360956	98.1080	98.10
17	Methylene Chloride	84	2.305	2.298	(0.551)	104805	47.6717	47.67
87	n-Butylbenzene	91	9.999	9.999	(1.035)	318734	50.7307	50.73
73	n-Propylbenzene	91	8.917	8.917	(0.923)	511675	48.0076	48.00
92	Naphthalene	128	11.546	11.546	(1.195)	74280	53.2198	53.21
63	o-Xylene	106	8.244	8.244	(1.075)	175723	49.0898	49.08
81	sec-Butylbenzene	105	9.526	9.526	(0.986)	435579	48.5089	48.50
64	Styrene	104	8.258	8.265	(1.077)	306849	49.4603	49.46
78	tert-Butylbenzene	119	9.340	9.340	(0.967)	315264	48.5073	48.50
56	Tetrachloroethene	164	6.933	6.933	(0.904)	94634	49.2150	49.21
50	Toluene	91	6.446	6.446	(0.840)	420170	48.7050	48.70
20	trans-1,2-Dichloroethene	96	2.527	2.528	(0.604)	97294	47.9280	47.92
51	trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	157780	49.9712	49.97
38	Trichloroethene	130	5.206	5.206	(1.048)	112860	49.3869	49.38
8	Trichlorofluoromethane	101	1.560	1.553	(0.373)	174748	48.6710	48.67
5	Vinyl Chloride	62	1.138	1.138	(0.272)	143744	46.4673	46.46

QC Flag Legend

M - Compound response manually integrated.
H - Operator selected an alternate compound hit.



Data File: \\NAHSTWS005\Target\chem\voa6.i\X200511.b\X051114.D
Date : 11-MAY-2020 18:23
Client ID: ICV
Sample Info: ICV;ICV;2;;;ICV
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

FORM 5
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: ALS GROUP Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20050467

Lab File ID: X051402 BFB Injection Date: 05/14/20

Instrument ID: VOA6 BFB Injection Time: 1009

GC Column: DB624 ID: 0.25 (mm) Heated Purge: (Y/N) N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	20.4
75	30.0 - 60.0% of mass 95	49.3
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.8
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	Greater than 50.0% of mass 95	80.1
175	5.0 - 9.0% of mass 174	6.3 (7.9)1
176	95.0 - 101.0% of mass 174	78.7 (98.3)1
177	5.0 - 9.0% of mass 176	5.0 (6.4)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	CCV	CCV	X051403	05/14/20	1032
02	VLCSW-200514	VLCSW-200514	X051405	05/14/20	1158
03	VBLKW-200514	VBLKW-200514	X051407	05/14/20	1246
04	HS20050467-1	HS20050467-10	X051408	05/14/20	1310
05	HS20050467-0	HS20050467-01	X051409	05/14/20	1334
06	HS20050467-0	HS20050467-02	X051410	05/14/20	1358
07	HS20050467-0	HS20050467-03	X051411	05/14/20	1422
08	HS20050467-0	HS20050467-04	X051412	05/14/20	1446
09	HS20050467-0	HS20050467-05	X051413	05/14/20	1511
10	HS20050467-0	HS20050467-06	X051414	05/14/20	1535
11	HS20050467-0	HS20050467-07	X051415	05/14/20	1559
12	HS20050467-0	HS20050467-08	X051416	05/14/20	1623
13	HS20050467-0	HS20050467-09	X051417	05/14/20	1647
14	HS20050467-0	HS20050467-04M	X051418	05/14/20	1711
15	HS20050467-0	HS20050467-04M	X051419	05/14/20	1735
16	CCV-END	CCV-END	X051420	05/14/20	1759
17					
18					
19					
20					
21					
22					

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: ALS GROUP Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20050467

Instrument ID: VOA6 Calibration Date: 05/14/20 Time: 1032

Lab File ID: X051403 Init. Calib. Date(s): 05/11/20 05/11/20

Init. Calib. Times: 1312 1711

GC Column: DB624 ID: 0.18 (mm)

COMPOUND	RRF or AMOUNT	RRF50.000 or AMOUNT	CCAL RRF50.000	MIN RRF	%D or %DRIFT	MAX %D or %DRIFT	CURV TYPE
Bromochloromethane	0.2900000	0.2668224	0.2668224	0.1	7.99	20.00	AVRG
Vinyl Chloride	0.6930000	0.5816857	0.5816857	0.1	16.06	20.00	AVRG
Chloromethane	40.455451	50.000000	0.6356877	0.1	19.09	20.00	LINR
Bromomethane	44.456354	50.000000	0.3275481	0.1	11.09	20.00	LINR
Chloroethane	42.399601	50.000000	0.3004365	0.1	15.20	20.00	LINR
Methylene Chloride	45.794677	50.000000	0.4515658	0.1	8.41	20.00	LINR
Acetone	90.353834	100.00000	0.1584935	0.1	9.65	20.00	LINR
1,1-Dichloroethene	0.3980000	0.3479454	0.3479454	0.1	12.58	20.00	AVRG
trans-1,2-Dichloroethene	0.4550000	0.4209699	0.4209699	0.1	7.48	20.00	AVRG
Carbon Tetrachloride	0.5020000	0.4366780	0.4366780	0.1	13.01	20.00	AVRG
1,1-Dichloroethane	1.0870000	0.9330731	0.9330731	0.2	14.16	20.00	AVRG
Bromodichloromethane	0.4670000	0.4443695	0.4443695	0.2	4.84	20.00	AVRG
1,2-Dichloropropane	0.4070000	0.3610175	0.3610175	0.1	11.30	20.00	AVRG
cis-1,3-Dichloropropene	0.5470000	0.5181895	0.5181895	0.2	5.27	20.00	AVRG
2-Butanone	0.2250000	0.2408784	0.2408784	0.1	-7.06	20.00	AVRG
Dibromochloromethane	0.4040000	0.3973468	0.3973468	0.1	1.65	20.00	AVRG
cis-1,2-Dichloroethene	0.5270000	0.4916165	0.4916165	0.1	6.71	20.00	AVRG
1,1,2-Trichloroethane	0.2780000	0.2711782	0.2711782	0.1	2.45	20.00	AVRG
Chloroform	0.8930000	0.8297258	0.8297258	0.2	7.08	20.00	AVRG
Benzene	1.2780000	1.1506338	1.1506338	0.5	9.97	20.00	AVRG
trans-1,3-Dichloropropene	0.4960000	0.4764548	0.4764548	0.1	3.94	20.00	AVRG
Bromoform	0.2860000	0.2891097	0.2891097	0.1	-1.09	20.00	AVRG
4-Methyl-2-Pentanone	0.4510000	0.4433607	0.4433607	0.1	1.69	20.00	AVRG
1,1,1-Trichloroethane	0.8000000	0.7196971	0.7196971	0.1	10.04	20.00	AVRG
2-Hexanone	0.3090000	0.3030506	0.3030506	0.1	1.92	20.00	AVRG
1,2-Dichloroethane	0.5200000	0.5236331	0.5236331	0.1	-0.70	20.00	AVRG
1,1,2,2-Tetrachloroethane	0.8040000	0.7557934	0.7557934	0.3	6.00	20.00	AVRG
Trichloroethene	0.3590000	0.3234624	0.3234624	0.2	9.90	20.00	AVRG
Toluene	1.4800000	1.3446623	1.3446623	0.4	9.14	20.00	AVRG
Dichlorodifluoromethane	43.320120	50.000000	0.5041976	0.1	13.36	20.00	LINR
Trichlorofluoromethane	0.8040000	0.7357767	0.7357767	0.1	8.48	20.00	AVRG
Tetrachloroethene	0.3300000	0.2952647	0.2952647	0.2	10.52	20.00	AVRG
1,2-Dibromoethane	0.3550000	0.3532162	0.3532162	0.1	0.50	20.00	AVRG
Chlorobenzene	0.9900000	0.9208228	0.9208228	0.5	6.99	20.00	AVRG
1,3-Dichlorobenzene	1.5230000	1.3854789	1.3854789	0.6	9.03	20.00	AVRG
1,4-Dichlorobenzene	1.5800000	1.3921382	1.3921382	0.4	11.89	20.00	AVRG
1,2-Dichlorobenzene	1.3930000	1.2790598	1.2790598	0.4	8.18	20.00	AVRG
Ethylbenzene	0.5200000	0.4722917	0.4722917	0.1	9.17	20.00	AVRG
m,p-Xylenes	0.6310000	0.5631881	0.5631881	0.1	10.75	20.00	AVRG
o-Xylene	0.6140000	0.5654045	0.5654045	0.3	7.91	20.00	AVRG
Styrene	1.0640000	0.9681222	0.9681222	0.3	9.01	20.00	AVRG
Carbon Disulfide	1.3550000	1.1983322	1.1983322	0.1	11.56	20.00	AVRG

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: ALS GROUP Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS2005046

Instrument ID: VOA6 Calibration Date: 05/14/20 Time: 1032

Lab File ID: X051403 Init. Calib. Date(s): 05/11/20 05/11/20

Init. Calib. Times: 1312 1711

GC Column: DB624 ID: 0.18 (mm)

COMPOUND	RRF or AMOUNT	RRF50.000 or AMOUNT	CCAL RRF50.000	MIN RRF	%D or %DRIFT	MAX %D or %DRIFT	CURV TYPE
2,2-Dichloropropane	0.7920000	0.7270001	0.7270001	0.1	8.21	20.00	AVRG
1,1-Dichloropropene	0.4580000	0.3929724	0.3929724	0.1	14.20	20.00	AVRG
Dibromomethane	0.2210000	0.2139606	0.2139606	0.1	3.18	20.00	AVRG
1,3-Dichloropropane	0.5780000	0.5499400	0.5499400	0.1	4.85	20.00	AVRG
1,1,1,2-Tetrachloroethane	0.3930000	0.3774531	0.3774531	0.1	3.96	20.00	AVRG
Isopropylbenzene	1.5590000	1.3732173	1.3732173	0.1	11.92	20.00	AVRG
Bromobenzene	0.9370000	0.8522130	0.8522130	0.1	9.05	20.00	AVRG
1,2,3-Trichloropropane	0.6970000	0.6706127	0.6706127	0.1	3.78	20.00	AVRG
n-Propylbenzene	3.5950000	2.9990152	2.9990152	0.1	16.58	20.00	AVRG
2-Chlorotoluene	2.2320000	1.9159281	1.9159281	0.1	14.16	20.00	AVRG
1,3,5-Trimethylbenzene	2.5820000	2.2512792	2.2512792	0.1	12.81	20.00	AVRG
4-Chlorotoluene	2.5730000	2.2492407	2.2492407	0.1	12.58	20.00	AVRG
tert-Butylbenzene	2.1920000	1.8165334	1.8165334	0.1	17.13	20.00	AVRG
1,2,4-Trimethylbenzene	2.6230000	2.3261299	2.3261299	0.1	11.32	20.00	AVRG
sec-Butylbenzene	3.0280000	2.4606326	2.4606326	0.1	18.74	20.00	AVRG
p-Isopropyltoluene	2.6260000	2.2262325	2.2262325	0.1	15.22	20.00	AVRG
n-Butylbenzene	2.1190000	1.8247629	1.8247629	0.5	13.88	20.00	AVRG
1,2-Dibromo-3-Chloropropane	53.434208	50.000000	8.57e-002	0.05	-6.87	20.00	LINR
1,2,4-Trichlorobenzene	46.258771	50.000000	0.3325483	0.2	7.48	20.00	LINR
Hexachlorobutadiene	42.402181	50.000000	0.2306951	0.1	15.20	20.00	LINR
Naphthalene	0.4710000	0.5321915	0.5321915	0.2	-12.99	20.00	AVRG
1,2,3-Trichlorobenzene	55.390366	50.000000	0.1791005	0.1	-10.78	20.00	2RDR
Freon TF	0.3860000	0.3437690	0.3437690	0.1	10.94	20.00	AVRG
Dibromofluoromethane	48.518215	50.000000	0.4840876	0.1	2.96	20.00	LINR
1,2-Dichloroethane-d4	48.907844	50.000000	0.6027799	0.1	2.18	20.00	LINR
Toluene-d8	49.777931	50.000000	1.2502032	0.1	0.44	20.00	LINR
4-Bromofluorobenzene	50.574663	50.000000	0.4830907	0.1	-1.15	20.00	LINR

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: ALS GROUP Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20050467

Instrument ID: VOA6 Calibration Date: 05/14/20 Time: 1759

Lab File ID: X051420 Init. Calib. Date(s): 05/11/20 05/11/20

Init. Calib. Times: 1312 1711

GC Column: DB624 ID: 0.18 (mm)

COMPOUND	RRF or AMOUNT	RRF50.000 or AMOUNT	CCAL RRF50.000	MIN RRF	%D or %DRIFT	MAX %D or %DRIFT	CURV TYPE	
Bromochloromethane	0.2900000	0.2917621	0.2917621	0.1	-0.61	20.00	AVRG	
Vinyl Chloride	0.6930000	0.7031500	0.7031500	0.1	-1.46	20.00	AVRG	
Chloromethane	48.808997	50.000000	0.7690164	0.1	2.38	20.00	LINR	
Bromomethane	49.165204	50.000000	0.3616689	0.1	1.67	20.00	LINR	
Chloroethane	50.697061	50.000000	0.3586527	0.1	-1.39	20.00	LINR	
Methylene Chloride	53.126013	50.000000	0.5222033	0.1	-6.25	20.00	LINR	
Acetone	106.54711	100.00000	0.1860953	0.1	-6.55	20.00	LINR	
1,1-Dichloroethene	0.3980000	0.4034100	0.4034100	0.1	-1.36	20.00	AVRG	
trans-1,2-Dichloroethene	0.4550000	0.4689116	0.4689116	0.1	-3.06	20.00	AVRG	
Carbon Tetrachloride	0.5020000	0.4683849	0.4683849	0.1	6.70	20.00	AVRG	
1,1-Dichloroethane	1.0870000	1.0644307	1.0644307	0.2	2.08	20.00	AVRG	
Bromodichloromethane	0.4670000	0.4678608	0.4678608	0.2	-0.18	20.00	AVRG	
1,2-Dichloropropane	0.4070000	0.3913301	0.3913301	0.1	3.85	20.00	AVRG	
cis-1,3-Dichloropropene	0.5470000	0.5426146	0.5426146	0.2	0.80	20.00	AVRG	
2-Butanone	0.2250000	0.2960457	0.2960457	0.1	-31.58	20.00	AVRG	<-
Dibromochloromethane	0.4040000	0.4034275	0.4034275	0.1	0.14	20.00	AVRG	
cis-1,2-Dichloroethene	0.5270000	0.5364475	0.5364475	0.1	-1.79	20.00	AVRG	
1,1,2-Trichloroethane	0.2780000	0.2784212	0.2784212	0.1	-0.15	20.00	AVRG	
Chloroform	0.8930000	0.9138055	0.9138055	0.2	-2.33	20.00	AVRG	
Benzene	1.2780000	1.2359337	1.2359337	0.5	3.29	20.00	AVRG	
trans-1,3-Dichloropropene	0.4960000	0.5125592	0.5125592	0.1	-3.34	20.00	AVRG	
Bromoform	0.2860000	0.2914751	0.2914751	0.1	-1.91	20.00	AVRG	
4-Methyl-2-Pentanone	0.4510000	0.4874947	0.4874947	0.1	-8.09	20.00	AVRG	
1,1,1-Trichloroethane	0.8000000	0.8063524	0.8063524	0.1	-0.79	20.00	AVRG	
2-Hexanone	0.3090000	0.3348323	0.3348323	0.1	-8.36	20.00	AVRG	
1,2-Dichloroethane	0.5200000	0.5503237	0.5503237	0.1	-5.83	20.00	AVRG	
1,1,2,2-Tetrachloroethane	0.8040000	0.7916460	0.7916460	0.3	1.54	20.00	AVRG	
Trichloroethene	0.3590000	0.3540648	0.3540648	0.2	1.37	20.00	AVRG	
Toluene	1.4800000	1.4160900	1.4160900	0.4	4.32	20.00	AVRG	
Dichlorodifluoromethane	49.686084	50.000000	0.5801573	0.1	0.63	20.00	LINR	
Trichlorofluoromethane	0.8040000	0.8491410	0.8491410	0.1	-5.61	20.00	AVRG	
Tetrachloroethene	0.3300000	0.3055356	0.3055356	0.2	7.41	20.00	AVRG	
1,2-Dibromoethane	0.3550000	0.3646607	0.3646607	0.1	-2.72	20.00	AVRG	
Chlorobenzene	0.9900000	0.9432863	0.9432863	0.5	4.72	20.00	AVRG	
1,3-Dichlorobenzene	1.5230000	1.4194764	1.4194764	0.6	6.80	20.00	AVRG	
1,4-Dichlorobenzene	1.5800000	1.4359896	1.4359896	0.4	9.11	20.00	AVRG	
1,2-Dichlorobenzene	1.3930000	1.3129634	1.3129634	0.4	5.74	20.00	AVRG	
Ethylbenzene	0.5200000	0.4920182	0.4920182	0.1	5.38	20.00	AVRG	
m,p-Xylenes	0.6310000	0.5912781	0.5912781	0.1	6.30	20.00	AVRG	
o-Xylene	0.6140000	0.5875388	0.5875388	0.3	4.31	20.00	AVRG	
Styrene	1.0640000	1.0379407	1.0379407	0.3	2.45	20.00	AVRG	
Carbon Disulfide	1.3550000	1.3572404	1.3572404	0.1	-0.16	20.00	AVRG	

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: ALS GROUP Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS2005046

Instrument ID: VOA6 Calibration Date: 05/14/20 Time: 1759

Lab File ID: X051420 Init. Calib. Date(s): 05/11/20 05/11/20

Init. Calib. Times: 1312 1711

GC Column: DB624 ID: 0.18 (mm)

COMPOUND	RRF or AMOUNT	RRF50.000 or AMOUNT	CCAL RRF50.000	MIN RRF	%D or %DRIFT	MAX %D or %DRIFT	CURV TYPE
2,2-Dichloropropane	0.7920000	0.7305394	0.7305394	0.1	7.76	20.00	AVRG
1,1-Dichloropropene	0.4580000	0.4300745	0.4300745	0.1	6.10	20.00	AVRG
Dibromomethane	0.2210000	0.2250366	0.2250366	0.1	-1.83	20.00	AVRG
1,3-Dichloropropane	0.5780000	0.5820638	0.5820638	0.1	-0.70	20.00	AVRG
1,1,1,2-Tetrachloroethane	0.3930000	0.3778918	0.3778918	0.1	3.84	20.00	AVRG
Isopropylbenzene	1.5590000	1.4784426	1.4784426	0.1	5.17	20.00	AVRG
Bromobenzene	0.9370000	0.8748121	0.8748121	0.1	6.64	20.00	AVRG
1,2,3-Trichloropropane	0.6970000	0.6987036	0.6987036	0.1	-0.24	20.00	AVRG
n-Propylbenzene	3.5950000	3.2563191	3.2563191	0.1	9.42	20.00	AVRG
2-Chlorotoluene	2.2320000	2.0273349	2.0273349	0.1	9.17	20.00	AVRG
1,3,5-Trimethylbenzene	2.5820000	2.3822169	2.3822169	0.1	7.74	20.00	AVRG
4-Chlorotoluene	2.5730000	2.3472675	2.3472675	0.1	8.77	20.00	AVRG
tert-Butylbenzene	2.1920000	2.0032136	2.0032136	0.1	8.61	20.00	AVRG
1,2,4-Trimethylbenzene	2.6230000	2.4373189	2.4373189	0.1	7.08	20.00	AVRG
sec-Butylbenzene	3.0280000	2.7098350	2.7098350	0.1	10.51	20.00	AVRG
p-Isopropyltoluene	2.6260000	2.4566972	2.4566972	0.1	6.45	20.00	AVRG
n-Butylbenzene	2.1190000	1.9888686	1.9888686	0.5	6.14	20.00	AVRG
1,2-Dibromo-3-Chloropropane	55.070460	50.000000	8.84e-002	0.05	-10.14	20.00	LINR
1,2,4-Trichlorobenzene	45.745871	50.000000	0.3286377	0.2	8.51	20.00	LINR
Hexachlorobutadiene	42.830886	50.000000	0.2330819	0.1	14.34	20.00	LINR
Naphthalene	0.4710000	0.5217111	0.5217111	0.2	-10.77	20.00	AVRG
1,2,3-Trichlorobenzene	53.509998	50.000000	0.1727013	0.1	-7.02	20.00	2RDR
Freon TF	0.3860000	0.3962271	0.3962271	0.1	-2.65	20.00	AVRG
Dibromofluoromethane	52.415005	50.000000	0.5227738	0.1	-4.83	20.00	LINR
1,2-Dichloroethane-d4	53.365019	50.000000	0.6576725	0.1	-6.73	20.00	LINR
Toluene-d8	49.518248	50.000000	1.2437415	0.1	0.96	20.00	LINR
4-Bromofluorobenzene	50.077436	50.000000	0.4784125	0.1	-0.15	20.00	LINR

FORM VII VOA

FORM 8
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ALS GROUP Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20050467

Lab File ID (Standard): X051403 Date Analyzed: 05/14/20

Instrument ID: VOA6 Time Analyzed: 1032

GC Column: DB624 ID: 0.18 (mm) Heated Purge: (Y/N) N

		IS1 AREA #	IS1 RT #	IS2(DFB) AREA #	IS2(DFB) RT #	IS3(CBZ) AREA #	IS3(CBZ) RT #
	12 HOUR STD	212381	4.18	306963	4.97	279285	7.67
	UPPER LIMIT	424762	4.68	613926	5.47	558570	8.17
	LOWER LIMIT	106191	3.68	153482	4.47	139643	7.17
	CLIENT SAMPLE NO.						
01	VLCSW-200514	220255	4.18	323240	4.97	289824	7.67
02	VBLKW-200514	261667	4.18	356529	4.97	304152	7.67
03	HS20050467-10	270690	4.18	369556	4.97	321718	7.67
04	HS20050467-01	271470	4.18	376200	4.97	321586	7.67
05	HS20050467-02	272458	4.18	380429	4.97	327309	7.67
06	HS20050467-03	277415	4.18	382146	4.97	328735	7.67
07	HS20050467-04	272003	4.18	379118	4.97	323312	7.67
08	HS20050467-05	274408	4.18	384298	4.97	328225	7.67
09	HS20050467-06	273578	4.18	383138	4.97	321789	7.67
10	HS20050467-07	276036	4.18	382584	4.97	332880	7.67
11	HS20050467-08	285879	4.18	392428	4.97	340709	7.67
12	HS20050467-09	285272	4.18	393519	4.97	336880	7.67
13	HS20050467-04	267522	4.18	370623	4.97	321959	7.67
14	HS20050467-04	262948	4.18	371826	4.97	323407	7.67
15							
16							
17							
18							
19							
20							

IS1 = Pentafluorobenzene
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = + 0.50 minutes of internal standard RT
RT LOWER LIMIT = - 0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

FORM VIII VOA

FORM 8
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ALS GROUP Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20050467

Lab File ID (Standard): X051403 Date Analyzed: 05/14/20

Instrument ID: VOA6 Time Analyzed: 1032

GC Column: DB624 ID: 0.18 (mm) Heated Purge: (Y/N) N

		IS4 (DCB) AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	145209	9.67				
	UPPER LIMIT	290418	10.17				
	LOWER LIMIT	72605	9.17				
	CLIENT SAMPLE NO.						
01	VLCSW-200514	146625	9.67				
02	VBLKW-200514	139528	9.67				
03	HS20050467-10	159213	9.67				
04	HS20050467-01	157452	9.67				
05	HS20050467-02	154236	9.67				
06	HS20050467-03	164049	9.67				
07	HS20050467-04	151793	9.67				
08	HS20050467-05	164755	9.67				
09	HS20050467-06	147913	9.67				
10	HS20050467-07	166944	9.67				
11	HS20050467-08	162741	9.67				
12	HS20050467-09	158075	9.66				
13	HS20050467-04	162693	9.67				
14	HS20050467-04	163354	9.67				
15							
16							
17							
18							
19							
20							

IS4 (DCB) = 1,4-Dichlorobenzene-d4

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = + 0.50 minutes of internal standard RT
RT LOWER LIMIT = - 0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

FORM VIII VOA

MSVOA06 -Logbook

Batch: 40536
Date: 05-14-2020
Method: 8260
Comments:

Analyst: Presenta Cabascango
Reviewer:
Laboratory: Houston

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
1	BFB	TUNE	05-14-2020 09:45 am	1.00	50 mL	50 mL	X051401a.D	Liquid	Y	NA
	Auto find/ purged									
2	BFB	TUNE	05-14-2020 10:09 am	1.00	50 mL	50 mL	X051402.D	Liquid	Y	NA
	Auto find /purged									
3	CCV	CCV	05-14-2020 10:32 am	1.00	50 mL	50 mL	X051403.D	Liquid	Y	NA
	10 uL cal std/50 mL DI									
4	CCB	SAMP	05-14-2020 10:57 am	1.00	50 mL	50 mL	X051404.D	Liquid	Y	NA
5	VLCSW-200514	LCS	05-14-2020 11:58 am	1.00	50 mL	50 mL	X051405.D	Liquid	Y	NA
	4.0 uL cal std/50 mL DI									
6	BLANK	SAMP	05-14-2020 12:22 pm	1.00	50 mL	50 mL	X051406.D	Liquid	Y	NA
7	VBLKW-200514	MBLK	05-14-2020 12:46 pm	1.00	50 mL	50 mL	X051407.D	Liquid	Y	NA
8	HS20050467-10	SAMP	05-14-2020 01:10 pm	1.00	50 mL	50 mL	X051408.D	Liquid	Y	<2
9	HS20050467-01	SAMP	05-14-2020 01:34 pm	1.00	50 mL	50 mL	X051409.D	Liquid	Y	<2
10	HS20050467-02	SAMP	05-14-2020 01:58 pm	1.00	50 mL	50 mL	X051410.D	Liquid	Y	<2
11	HS20050467-03	SAMP	05-14-2020 02:22 pm	1.00	50 mL	50 mL	X051411.D	Liquid	Y	<2
12	HS20050467-04	SAMP	05-14-2020 02:46 pm	1.00	50 mL	50 mL	X051412.D	Liquid	Y	<2
13	HS20050467-05	SAMP	05-14-2020 03:11 pm	1.00	50 mL	50 mL	X051413.D	Liquid	Y	<2
14	HS20050467-06	SAMP	05-14-2020 03:35 pm	1.00	50 mL	50 mL	X051414.D	Liquid	Y	<2
15	HS20050467-07	SAMP	05-14-2020 03:59 pm	1.00	50 mL	50 mL	X051415.D	Liquid	Y	<2
16	HS20050467-08	SAMP	05-14-2020 04:23 pm	1.00	50 mL	50 mL	X051416.D	Liquid	Y	<2
17	HS20050467-09	SAMP	05-14-2020 04:47 pm	1.00	50 mL	50 mL	X051417.D	Liquid	Y	<2
18	HS20050467-04MS	MS	05-14-2020 05:11 pm	1.00	50 mL	50 mL	X051418.D	Liquid	Y	<2
	3.5 uL cal std/40 mL samp									
19	HS20050467-04MSD	MSD	05-14-2020 05:35 pm	1.00	50 mL	50 mL	X051419.D	Liquid	Y	<2
	3.5 uL cal std/40 mL samp									
20	CCV-END	CCV	05-14-2020 05:59 pm	1.00	50 mL	50 mL	X051420.D	Liquid	Y	NA
	10 uL cal std/50 mL DI									
21	HS20050247-09	SAMP	05-14-2020 06:23 pm	10.00	5 mL	50 mL	X051421.D	Liquid	Y	<2
22	HS20050407-06	SAMP	05-14-2020 06:47 pm	1.00	50 mL	50 mL	X051422.D	Liquid	Y	<2
23	HS20050465-21	SAMP	05-14-2020 07:11 pm	1.00	50 mL	50 mL	X051423.D	Liquid	Y	<2
24	HS20050465-17	SAMP	05-14-2020 07:35 pm	1.00	50 mL	50 mL	X051424.D	Liquid	Y	<2
25	HS20050465-18	SAMP	05-14-2020 07:59 pm	1.00	50 mL	50 mL	X051425.D	Liquid	Y	<2
26	HS20050465-19	SAMP	05-14-2020 08:23 pm	1.00	50 mL	50 mL	X051426.D	Liquid	Y	<2
27	HS20050465-20	SAMP	05-14-2020 08:47 pm	1.00	50 mL	50 mL	X051427.D	Liquid	Y	<2
28	HS20050435-02	SAMP	05-14-2020 09:11 pm	1.00	50 mL	50 mL	X051428.D	Liquid	Y	<2
29	HS20050439-01	SAMP	05-14-2020 09:35 pm	1.00	50 mL	50 mL	X051429.D	Liquid	Y	<2
30	HS20050470-05	SAMP	05-14-2020 09:59 pm	1.00	50 mL	50 mL	X051430.D	Liquid	Y	<2
31	BFB	TUNE	05-14-2020 10:23 pm	1.00	50 mL	50 mL	Y051401.D	Liquid	Y	NA
	Auto find/ purged									
32	CCV	CCV	05-14-2020 10:47 pm	1.00	50 mL	50 mL	Y051402a.D	Liquid	Y	NA
	10 uL cal std/50 mL DI									
33	CCV	CCV	05-14-2020 11:11 pm	1.00	50 mL	50 mL	Y051403.D	Liquid	Y	NA
	10 uL cal std/50 mL DI									
34	CCB	SAMP	05-14-2020 11:35 pm	1.00	50 mL	50 mL	Y051404.D	Liquid	Y	NA
35	VLCSW-200514	LCS	05-14-2020 11:59 pm	1.00	50 mL	50 mL	Y051405.D	Liquid	Y	NA
	4.0 uL cal std/50 mL DI									

MSVOA06 -Logbook

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
36	BLANK	SAMP	05-15-2020 12:23 am	1.00	50 mL	50 mL	Y051406.D	Liquid	Y	NA
37	VBLKW-200514	MBLK	05-15-2020 12:47 am	1.00	50 mL	50 mL	Y051407.D	Liquid	Y	NA
38	HS20050464-01	SAMP	05-15-2020 01:11 am	1.00	50 mL	50 mL	Y051408.D	Liquid	Y	<2
39	HS20050464-09	SAMP	05-15-2020 01:35 am	1.00	50 mL	50 mL	Y051409.D	Liquid	Y	<2
40	HS20050416-03	SAMP	05-15-2020 01:59 am	10.00	5 mL	50 mL	Y051410.D	Liquid	Y	<2
41	HS20050464-09MS	MS	05-15-2020 02:23 am	1.00	50 mL	50 mL	Y051411.D	Liquid	Y	<2
	3.5 uL cal std450 mL samp									
42	HS20050464-09MSD	MSD	05-15-2020 02:47 am	1.00	50 mL	50 mL	Y051412.D	Liquid	Y	<2
	3.5 uL cal std/40 mL samp									
43	HS20050416-03	SAMP	05-15-2020 03:11 am	100.0(	500 µL	50 mL	Y051413.D	Liquid	Y	<2
44	HS20050354-01	SAMP	05-15-2020 03:36 am	10.00	5 mL	50 mL	Y051414.D	Liquid	Y	<2
45	HS20050354-02	SAMP	05-15-2020 04:00 am	10.00	5 mL	50 mL	Y051415.D	Liquid	Y	<2
46	HS20050354-03	SAMP	05-15-2020 04:24 am	10.00	5 mL	50 mL	Y051416.D	Liquid	Y	<2
47	HS20050464-02	SAMP	05-15-2020 04:48 am	1.00	50 mL	50 mL	Y051417.D	Liquid	Y	<2
48	HS20050464-03	SAMP	05-15-2020 05:12 am	1.00	50 mL	50 mL	Y051418.D	Liquid	Y	<2
49	HS20050464-04	SAMP	05-15-2020 05:36 am	1.00	50 mL	50 mL	Y051419.D	Liquid	Y	<2
50	HS20050464-05	SAMP	05-15-2020 06:00 am	1.00	50 mL	50 mL	Y051420.D	Liquid	Y	<2
51	HS20050464-06	SAMP	05-15-2020 06:24 am	1.00	50 mL	50 mL	Y051421.D	Liquid	Y	<2
52	HS20050464-07	SAMP	05-15-2020 06:48 am	1.00	50 mL	50 mL	Y051422.D	Liquid	Y	<2
53	HS20050464-08	SAMP	05-15-2020 07:12 am	1.00	50 mL	50 mL	Y051423.D	Liquid	Y	<2
54	HS20050464-10	SAMP	05-15-2020 07:36 am	1.00	50 mL	50 mL	Y051424.D	Liquid	Y	<2
55	HS20050458-10	SAMP	05-15-2020 08:00 am	1.00	50 mL	50 mL	Y051425.D	Liquid	Y	<2
56	MBLK-153480	MBLK	05-15-2020 08:24 am	20.00	2.5 mL	50 mL	Y051426.D	Liquid	Y	NA
	tclps									
57	HS20050418-01	SAMP	05-15-2020 08:48 am	100.0(	500 µL	50 mL	Y051427.D	Liquid	Y	NA
58	HS20050470-09	SAMP	05-15-2020 09:12 am	1.00	50 mL	50 mL	Y051428.D	Liquid	Y	<2
59	HS20050470-06	SAMP	05-15-2020 09:37 am	1.00	50 mL	50 mL	Y051429.D	Liquid	Y	NA
60	HS20050470-07	SAMP	05-15-2020 10:01 am	1.00	50 mL	50 mL	Y051430.D	Liquid	Y	NA

Chemical	Value
SURR SPK ID	31106-26-06
IS ID	31106-26-06
CAL STD ID	31106-29-01/02
BFB ID	31106-26-06
pH Paper	634-64-11

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200514.b\X051402.D Page 2

Date : 14-MAY-2020 10:09

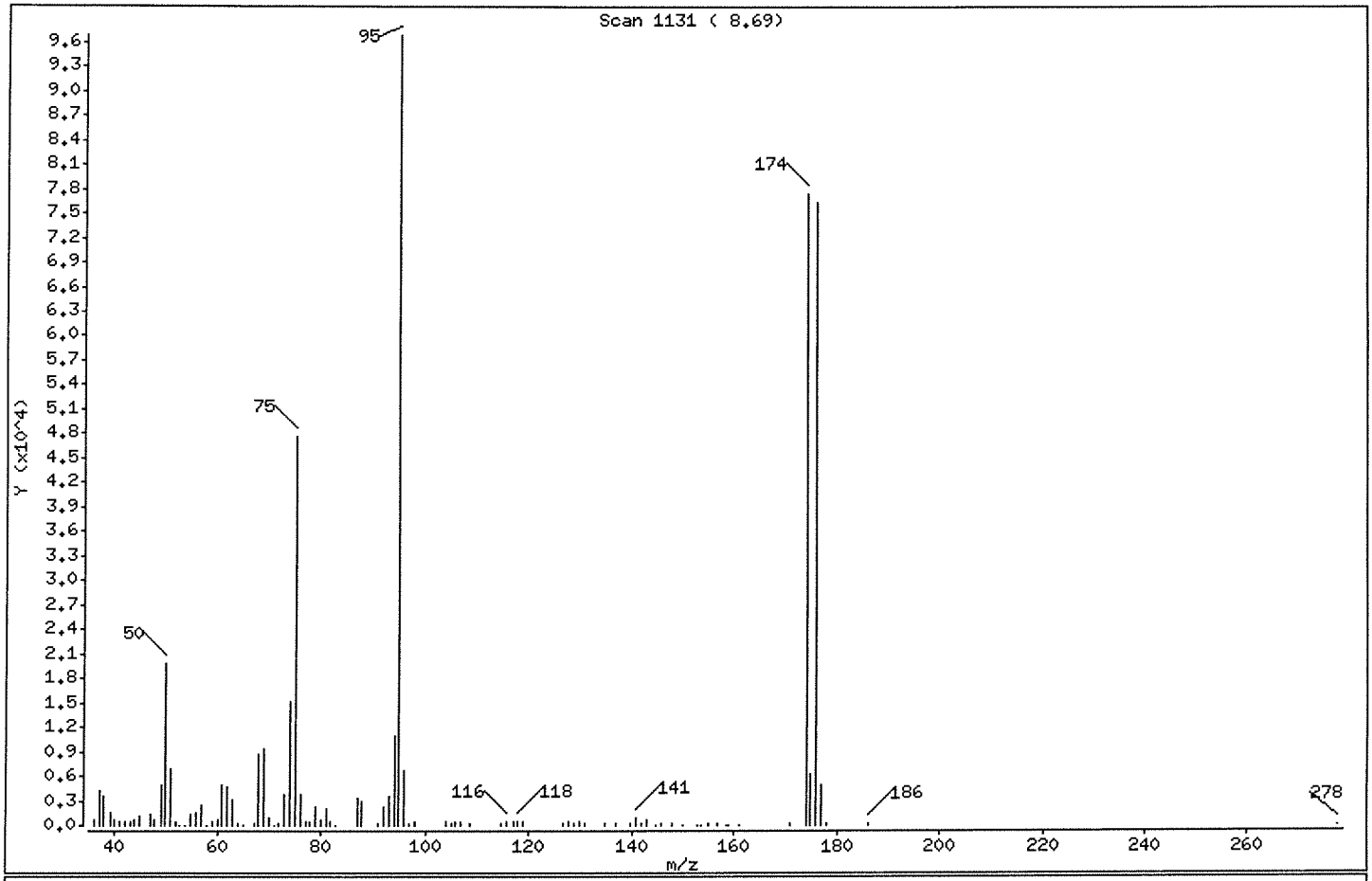
Client ID: BFB Instrument: voa6.i

Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0 Operator: PC

Column phase: DB624 Column diameter: 0.25

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	20.36
75	30.00 - 60.00% of mass 95	49.27
96	5.00 - 9.00% of mass 95	6.85
173	Less than 2.00% of mass 174	0.00 (0.00)
174	Greater than 50.00% of mass 95	80.11
175	5.00 - 9.00% of mass 174	6.33 (7.90)
176	95.00 - 101.00% of mass 174	78.74 (98.30)
177	5.00 - 9.00% of mass 176	5.01 (6.37)

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200514.b\X051402.D

Date : 14-MAY-2020 10:09

Client ID: BFB

Instrument: voa6.i

Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0

Operator: PC

Column phase: DB624

Column diameter: 0.25

Data File: X051402.D
Spectrum: Scan 1131 (8.69)
Location of Maximum: 95.00
Number of points: 96

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	771	62.00	4667	93.00	3616	142.00	170
37.10	4296	63.00	3076	94.00	10876	142.90	737
38.00	3519	64.10	272	95.00	96840	144.70	95
39.10	1636	65.20	78	96.00	6631	145.90	156
39.90	617	67.10	183	97.00	317	147.80	269
40.90	407	68.00	8605	97.90	340	150.00	50
42.10	553	69.00	9337	103.90	371	152.80	95
43.10	420	70.10	838	105.00	268	153.60	58
44.00	634	71.20	69	105.70	386	155.00	296
45.00	1062	71.90	297	106.80	378	156.90	183
47.00	1412	73.00	3746	108.80	133	158.70	79
47.90	623	74.00	15222	114.80	154	159.00	88
49.00	4831	75.00	47712	115.80	387	160.90	88
50.00	19720	76.00	3855	117.00	392	171.10	144
51.00	6928	77.00	505	118.00	448	174.00	77576
52.10	355	78.00	444	118.90	428	175.00	6129
52.80	56	78.90	2302	126.80	185	176.00	76256
53.90	69	79.90	652	127.90	447	177.00	4854
55.00	1348	80.90	2098	128.80	251	178.10	141
55.90	1511	81.90	492	129.90	412	186.00	173
57.00	2527	82.90	94	130.80	143	277.90	78
58.10	65	86.90	3324	135.00	121		
59.00	556	87.90	2969	136.80	222		
60.00	775	90.90	256	139.90	115		
61.00	4893	92.00	2222	140.90	947		

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200514.b\X051402.D

Date : 14-MAY-2020 10:09

Client ID: BFB

Instrument: voa6.i

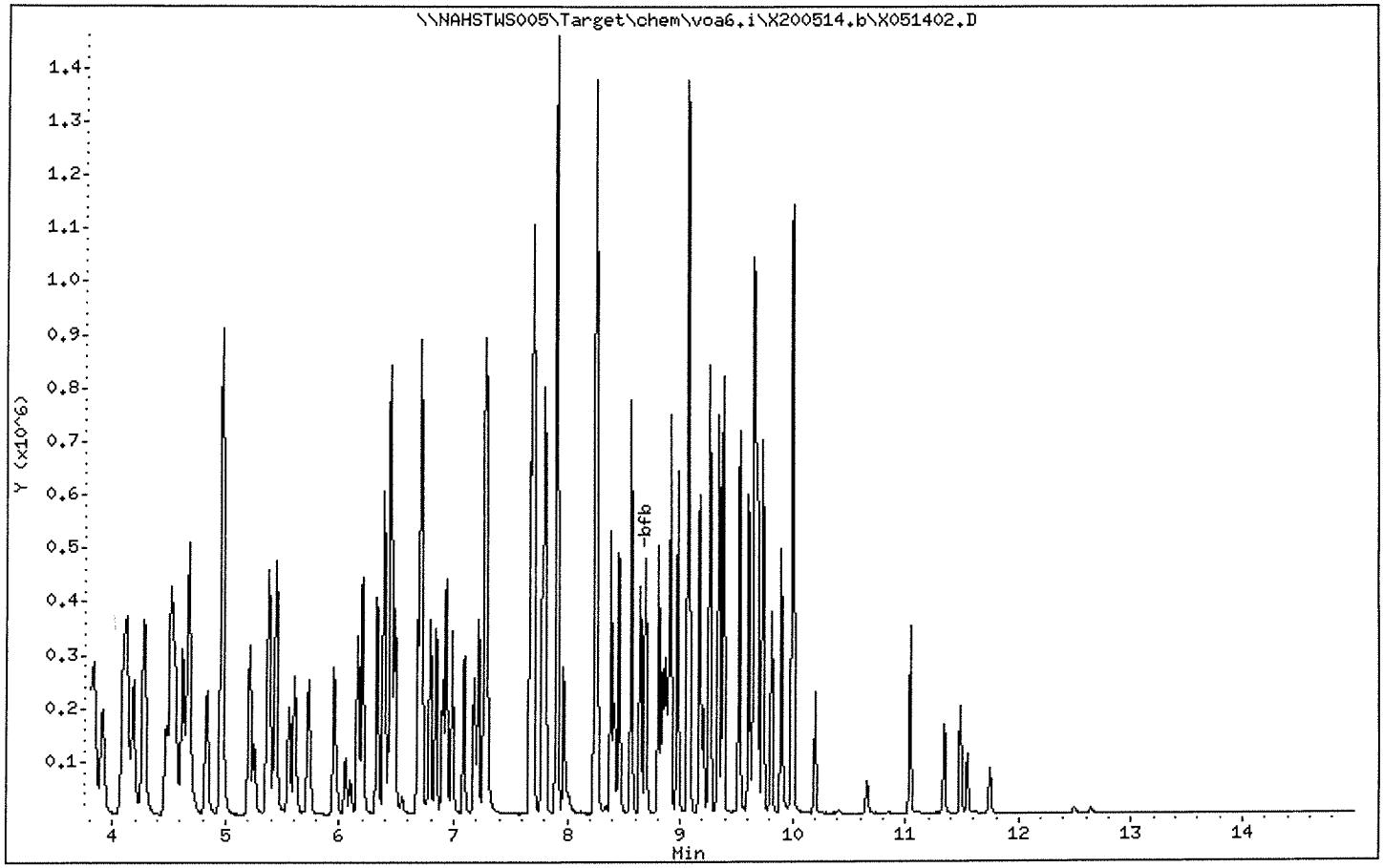
Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0

Operator: PC

Column phase: DB624

Column diameter: 0.25



Data File: \\NAHSTWS005\Target\chem\voa6.i\X200514.b\X051403.D Page 1
Report Date: 01-Jun-2020 15:38

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X200514.b\X051403.D
Lab Smp Id: CCV Client Smp ID: CCV
Inj Date : 14-MAY-2020 10:32
Operator : PC Inst ID: voa6.i
Smp Info : CCV;CCV;2;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200514.b\8260W.m
Meth Date : 01-Jun-2020 15:38 voa6.i Quant Type: ISTD
Cal Date : 11-MAY-2020 16:00 Cal File: X051108.D
Als bottle: 3 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000000_CBI.sub
Target Version: 4.14
Processing Host: NAHSTW7142

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

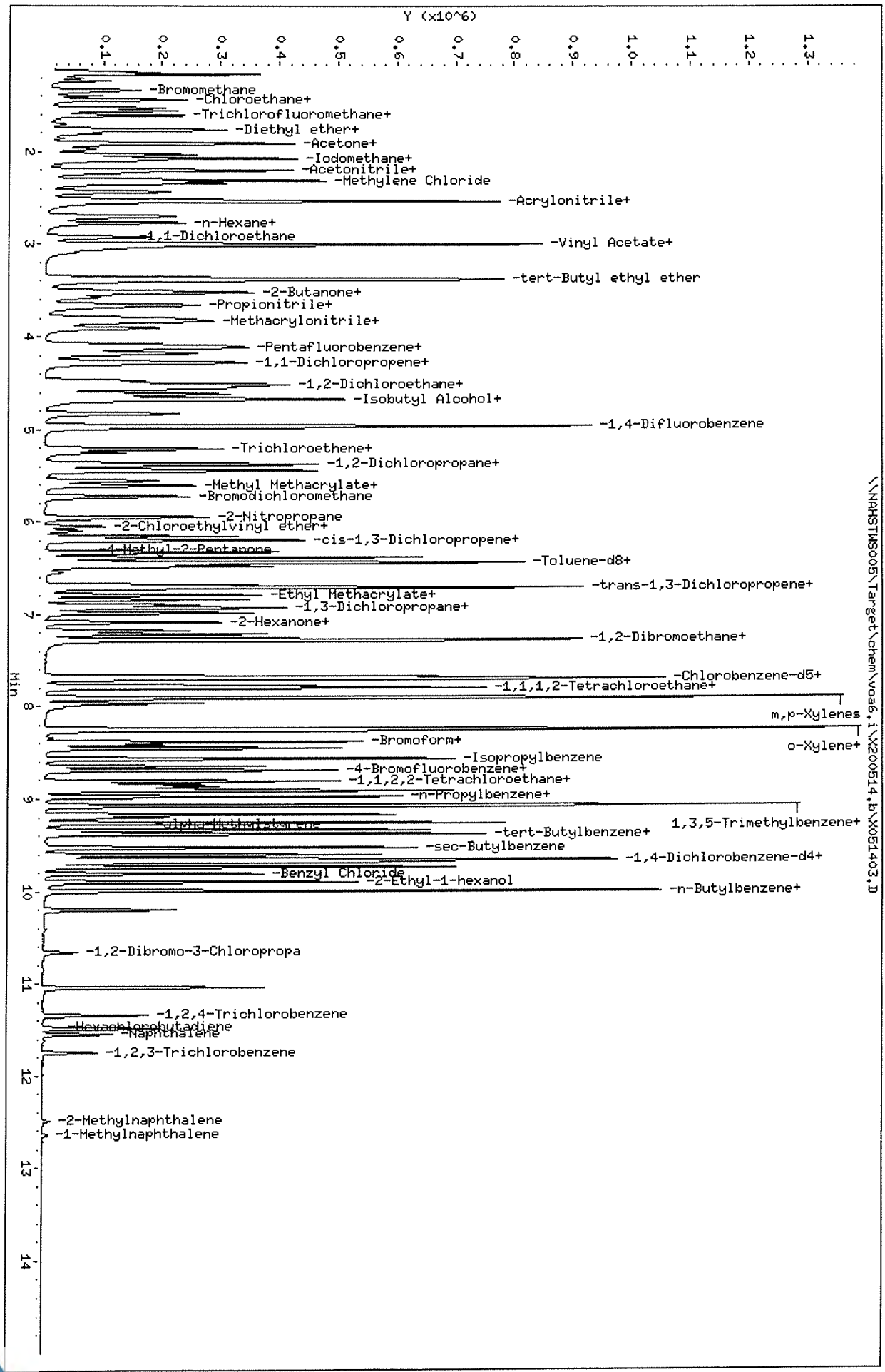
Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	212381	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	306963	50.0000	
* 47 Chlorobenzene-d5	117	7.670	7.670	(1.000)	279285	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	145042	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	102811	50.0000	48.51
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	128019	50.0000	48.90
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	349163	50.0000	49.77
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	134920	50.0000	50.57
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	105417	50.0000	48.02
31 1,1,1-Trichloroethane	97	4.082	4.082	(0.976)	152712	50.0000	44.90
68 1,1,2,2-Tetrachloroethane	83	8.838	8.838	(0.914)	109748	50.0000	47.08
138 Freon TF	101	1.911	1.911	(0.457)	73010	50.0000	44.48
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	75736	50.0000	48.74
22 1,1-Dichloroethane	63	2.921	2.921	(0.699)	198167	50.0000	42.93
11 1,1-Dichloroethene	96	1.911	1.911	(0.457)	73897	50.0000	43.73
32 1,1-Dichloropropene	75	4.282	4.282	(0.862)	120628	50.0000	42.92
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.215)	26007	50.0000	55.45
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.917)	97379	50.0000	48.18(M)
90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	48289	50.0000	46.30
79 1,2,4-Trimethylbenzene	105	9.382	9.382	(0.970)	337775	50.0000	44.39
89 1,2-Dibromo-3-Chloropropane	155	10.657	10.657	(1.102)	12450	50.0000	53.49
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	98648	50.0000	49.71

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
88	1,2-Dichlorobenzene	146	9.998	9.998	(1.034)	186394	50.0000	46.13
33	1,2-Dichloroethane	62	4.555	4.555	(0.916)	160736	50.0000	50.29
42	1,2-Dichloropropane	63	5.436	5.436	(1.094)	110819	50.0000	44.35
75	1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	326906	50.0000	43.65
83	1,3-Dichlorobenzene	146	9.604	9.604	(0.993)	201184	50.0000	45.51
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	153590	50.0000	47.55
84	1,4-Dichlorobenzene	146	9.683	9.683	(1.001)	202151	50.0000	44.09
26	2,2-Dichloropropane	77	3.516	3.516	(0.841)	153248	50.0000	45.57
24	2-Butanone	43	3.580	3.580	(0.856)	102316	100.000	106.89
76	2-Chlorotoluene	91	8.974	8.974	(0.928)	278210	50.0000	42.97
52	2-Hexanone	43	7.090	7.090	(0.924)	169275	100.000	98.01
77	4-Chlorotoluene	91	9.074	9.074	(0.939)	326610	50.0000	43.76
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	323269	50.0000	42.43
45	4-Methyl-2-Pentanone	43	6.324	6.324	(0.824)	247648	100.000	98.20
10	Acetone	43	1.969	1.969	(0.471)	67229	100.000	90.22
37	Benzene	78	4.512	4.512	(0.908)	353202	50.0000	45.01
74	Bromobenzene	156	8.809	8.809	(0.911)	123749	50.0000	45.50
29	Bromochloromethane	128	3.795	3.795	(0.908)	56668	50.0000	45.98
39	Bromodichloromethane	83	5.729	5.729	(1.153)	136405	50.0000	47.60
66	Bromoform	173	8.415	8.415	(1.097)	80744	50.0000	50.46
6	Bromomethane	94	1.338	1.338	(0.320)	69565	50.0000	44.45
19	Carbon Disulfide	76	2.069	2.069	(0.495)	509006	100.000	88.41
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	134044	50.0000	43.46
59	Chlorobenzene	112	7.692	7.692	(1.003)	257172	50.0000	46.47
7	Chloroethane	64	1.403	1.403	(0.336)	64480	50.0000	42.85
28	Chloroform	83	3.910	3.910	(0.935)	176218	50.0000	46.42
3	Chloromethane	50	1.073	1.073	(0.257)	135008	50.0000	40.45
27	cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	104410	50.0000	46.60
46	cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	159065	50.0000	47.40
55	Dibromochloromethane	129	7.176	7.176	(0.936)	110973	50.0000	49.09
44	Dibromomethane	93	5.557	5.557	(1.118)	65678	50.0000	48.46
2	Dichlorodifluoromethane	85	0.966	0.966	(0.231)	107082	50.0000	43.32
61	Ethylbenzene	106	7.799	7.799	(1.017)	131904	50.0000	45.41
91	Hexachlorobutadiene	225	11.488	11.488	(1.188)	33562	50.0000	42.52
67	Isopropylbenzene	105	8.566	8.566	(1.117)	383519	50.0000	44.03
62	m,p-Xylenes	106	7.907	7.907	(1.031)	314580	100.000	89.24
17	Methylene Chloride	84	2.305	2.305	(0.551)	95904	50.0000	45.79
87	n-Butylbenzene	91	9.998	9.998	(1.034)	264972	50.0000	43.10
73	n-Propylbenzene	91	8.917	8.917	(0.922)	435484	50.0000	41.76
92	Naphthalene	128	11.546	11.546	(1.194)	77279	50.0000	56.59
63	o-Xylene	106	8.243	8.243	(1.075)	157909	50.0000	46.04
81	sec-Butylbenzene	105	9.526	9.526	(0.985)	357306	50.0000	40.67
64	Styrene	104	8.258	8.258	(1.077)	270382	50.0000	45.48
78	tert-Butylbenzene	119	9.339	9.339	(0.966)	263777	50.0000	41.48
56	Tetrachloroethene	164	6.933	6.933	(0.904)	82463	50.0000	44.76
50	Toluene	91	6.446	6.446	(0.840)	375544	50.0000	45.43
20	trans-1,2-Dichloroethene	96	2.527	2.527	(0.604)	89406	50.0000	46.27
51	trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	146254	50.0000	48.05
38	Trichloroethene	130	5.206	5.206	(1.048)	99291	50.0000	45.07
8	Trichlorofluoromethane	101	1.560	1.560	(0.373)	156265	50.0000	45.73
5	Vinyl Chloride	62	1.138	1.138	(0.272)	123539	50.0000	41.96

QC Flag Legend

M - Compound response manually integrated.



Data File: \\NAHSTWS005\Target\chem\voa6.i\X200514.b\X051403.D
Date : 14-MAY-2020 10:32
Client ID: CCV
Sample Info: CCV;CCV;2;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X200514.b\X051405.D
Lab Smp Id: VLCSW-200514 Client Smp ID: VLCSW-200514
Inj Date : 14-MAY-2020 11:58
Operator : PC Inst ID: voa6.i
Smp Info : VLCSW-200514;VLCSW-200514;3;;LCS
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200514.b\8260W.m
Meth Date : 01-Jun-2020 15:38 voa6.i Quant Type: ISTD
Cal Date : 11-MAY-2020 16:00 Cal File: X051108.D
Als bottle: 5 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000000_CBI.sub
Target Version: 4.14
Processing Host: NAHSTW7142

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

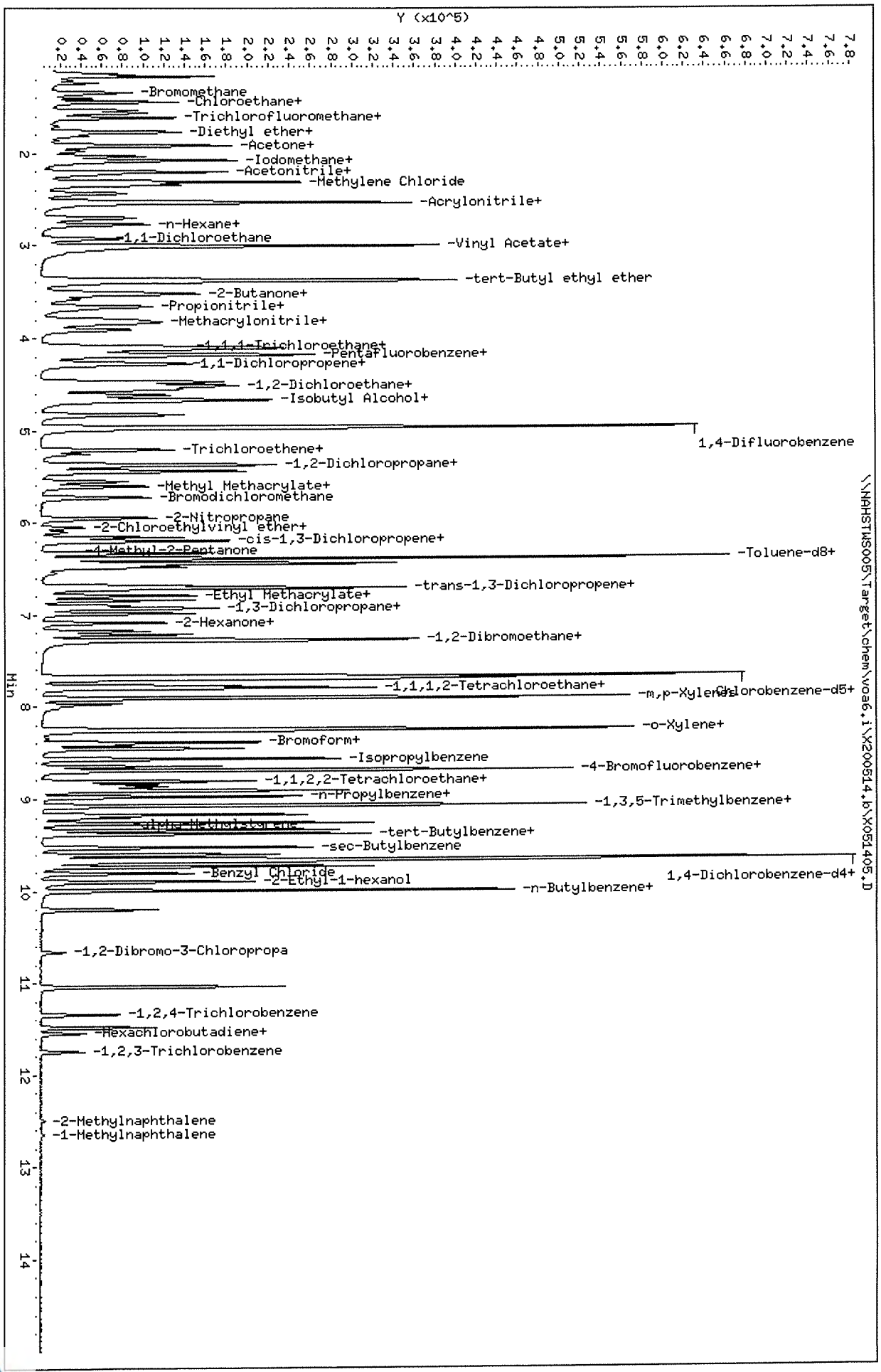
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	220255	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	323240	50.0000	
* 47 Chlorobenzene-d5	117	7.670	7.670	(1.000)	289824	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	146625	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	107398	48.8728	48.87
$ 35 1,2-Dichloroethane-d4	65	4.469	4.476	(1.069)	136446	50.2648	50.26
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	367626	50.5111	50.51
$ 69 4-Bromofluorobenzene	95	8.688	8.695	(1.133)	141241	51.0256	51.02
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	45032	19.7678	19.76
31 1,1,1-Trichloroethane	97	4.082	4.082	(0.976)	65872	18.6754	18.67
68 1,1,2,2-Tetrachloroethane	83	8.838	8.838	(0.914)	45296	19.2229	19.22
138 Freon TF	101	1.911	1.911	(0.457)	30088	17.6768	17.67
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	32000	19.8488	19.84
22 1,1-Dichloroethane	63	2.921	2.921	(0.699)	87793	18.3405	18.34
11 1,1-Dichloroethene	96	1.911	1.911	(0.457)	32150	18.3471	18.34
32 1,1-Dichloropropene	75	4.282	4.282	(0.862)	50937	17.2136	17.21
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.215)	11321	24.4529	24.45
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.917)	39385	19.2761	19.27(M)
90 1,2,4-Trichlorobenzene	180	11.345	11.338	(1.173)	22083	22.3959	22.39
79 1,2,4-Trimethylbenzene	105	9.382	9.382	(0.970)	138910	18.0607	18.06
89 1,2-Dibromo-3-Chloropropane	155	10.657	10.657	(1.102)	4839	21.4716	21.47
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	41996	20.3956	20.39

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200514.b\X051405.D Page 2
Report Date: 01-Jun-2020 15:38

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
88 1,2-Dichlorobenzene	146	9.998	9.998	(1.034)	75846	18.5685	18.56
33 1,2-Dichloroethane	62	4.555	4.555	(0.916)	70050	20.8138	20.81
42 1,2-Dichloropropane	63	5.436	5.436	(1.094)	50122	19.0497	19.04
75 1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	133935	17.6910	17.69
83 1,3-Dichlorobenzene	146	9.605	9.604	(0.993)	83364	18.6579	18.65
54 1,3-Dichloropropane	76	6.983	6.983	(0.910)	67299	20.0807	20.08
84 1,4-Dichlorobenzene	146	9.683	9.683	(1.001)	81789	17.6477	17.64
26 2,2-Dichloropropane	77	3.509	3.516	(0.839)	66803	19.1558	19.15
24 2-Butanone	43	3.580	3.580	(0.856)	43550	43.8720	43.87
76 2-Chlorotoluene	91	8.974	8.974	(0.928)	114020	17.4220	17.42
52 2-Hexanone	43	7.090	7.090	(0.924)	70225	39.1826	39.18
77 4-Chlorotoluene	91	9.074	9.074	(0.939)	136023	18.0284	18.02
82 p-Isopropyltoluene	119	9.655	9.655	(0.999)	135562	17.6017	17.60
45 4-Methyl-2-Pentanone	43	6.324	6.324	(0.824)	104981	40.1178	40.11
10 Acetone	43	1.969	1.969	(0.471)	30516	38.0113	38.01
37 Benzene	78	4.512	4.512	(0.908)	157411	19.0515	19.05
74 Bromobenzene	156	8.809	8.809	(0.911)	52154	18.9723	18.97
29 Bromochloromethane	128	3.795	3.795	(0.908)	24613	19.2599	19.25
39 Bromodichloromethane	83	5.729	5.729	(1.153)	60140	19.9319	19.93
66 Bromoform	173	8.415	8.415	(1.097)	33223	20.0076	20.00
6 Bromomethane	94	1.338	1.338	(0.320)	35600	21.5589	21.55
19 Carbon Disulfide	76	2.069	2.069	(0.495)	223061	37.3625	37.36
34 Carbon Tetrachloride	117	4.268	4.268	(0.859)	56861	17.5081	17.50
59 Chlorobenzene	112	7.699	7.692	(1.004)	108302	18.8604	18.86
7 Chloroethane	64	1.403	1.403	(0.336)	29312	18.5468	18.54
28 Chloroform	83	3.910	3.910	(0.935)	79105	20.0975	20.09
3 Chloromethane	50	1.073	1.073	(0.257)	62054	18.2791	18.27
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	45964	19.7821	19.78
46 cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	69277	19.6050	19.60
55 Dibromochloromethane	129	7.176	7.176	(0.936)	47365	20.1917	20.19
44 Dibromomethane	93	5.550	5.557	(1.117)	28728	20.1306	20.13
2 Dichlorodifluoromethane	85	0.966	0.966	(0.231)	47310	19.0662	19.06
61 Ethylbenzene	106	7.799	7.799	(1.017)	54271	18.0079	18.00
91 Hexachlorobutadiene	225	11.481	11.488	(1.187)	18405	23.5121	23.51
67 Isopropylbenzene	105	8.566	8.566	(1.117)	160129	17.7175	17.71
62 m,p-Xylenes	106	7.907	7.907	(1.031)	131935	36.0671	36.06
17 Methylene Chloride	84	2.298	2.305	(0.550)	45512	20.3736	20.37
87 n-Butylbenzene	91	9.998	9.998	(1.034)	115177	18.5351	18.53
73 n-Propylbenzene	91	8.917	8.917	(0.922)	182768	17.3381	17.33
92 Naphthalene	128	11.546	11.546	(1.194)	29080	21.0660	21.06
63 o-Xylene	106	8.244	8.243	(1.075)	64080	18.0047	18.00
81 sec-Butylbenzene	105	9.526	9.526	(0.985)	150149	16.9069	16.90
64 Styrene	104	8.258	8.258	(1.077)	113629	18.4214	18.42
78 tert-Butylbenzene	119	9.339	9.339	(0.966)	110713	17.2233	17.22
56 Tetrachloroethene	164	6.933	6.933	(0.904)	34450	18.0194	18.01
50 Toluene	91	6.446	6.446	(0.840)	162016	18.8889	18.88
20 trans-1,2-Dichloroethene	96	2.527	2.527	(0.604)	39439	19.6838	19.68
51 trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	63441	19.7970	19.79
38 Trichloroethene	130	5.206	5.206	(1.048)	43041	18.5573	18.55
8 Trichlorofluoromethane	101	1.560	1.560	(0.373)	66384	18.7328	18.73
5 Vinyl Chloride	62	1.138	1.138	(0.272)	54533	17.8607	17.86

QC Flag Legend

M - Compound response manually integrated.



Data File: \\NAHSTWS005\Target\chem\voa6.i\X200514.b\X051405.D
Date : 14-MAY-2020 11:58
Client ID: VLCSW-200514
Sample Info: VLCSW-200514;VLCSW-200514;3;;LCS
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200514.b\X051407.D Page 1
Report Date: 01-Jun-2020 15:38

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X200514.b\X051407.D
Lab Smp Id: VBLKW-200514 Client Smp ID: VBLKW-200514
Inj Date : 14-MAY-2020 12:46
Operator : PC Inst ID: voa6.i
Smp Info : VBLKW-200514;VBLKW-200514;3;;BLANK
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200514.b\8260W.m
Meth Date : 01-Jun-2020 15:38 voa6.i Quant Type: ISTD
Cal Date : 11-MAY-2020 16:00 Cal File: X051108.D
Als bottle: 7 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000000_CBI.sub
Target Version: 4.14
Processing Host: NAHSTW7142

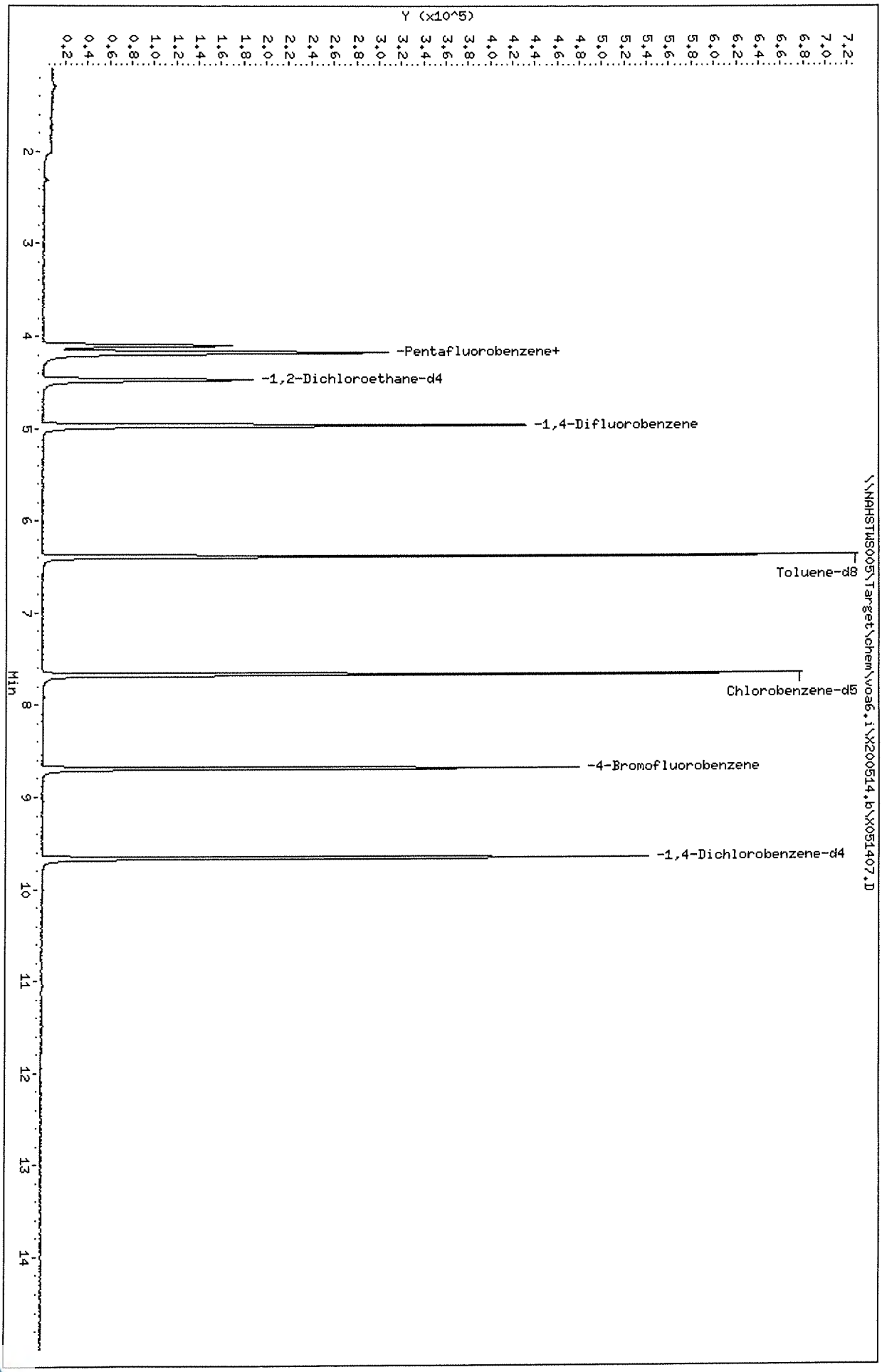
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	261667	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	356529	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.670	(1.000)	304152	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	139528	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	119840	45.8891	45.88
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	147354	45.6888	45.68
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	413729	54.2013	54.20
$ 69 4-Bromofluorobenzene	95	8.688	8.695	(1.133)	141409	48.6443	48.64

Data File: \\NAHSTWS005\Target\chem\voa6,i\X200514,b\X051407.D
Date : 14-MAY-2020 12:46
Client ID: VBLKW-200514
Sample Info: VBLKW-200514;VBLKW-200514;3;;;BLANK
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18



Data File: \\NAHSTWS005\Target\chem\voa6.i\X200514.b\X051408.D Page 1
Report Date: 01-Jun-2020 15:38

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X200514.b\X051408.D
Lab Smp Id: HS20050467-10 Client Smp ID: HS20050467-10
Inj Date : 14-MAY-2020 13:10
Operator : PC Inst ID: voa6.i
Smp Info : HS20050467-10;HS20050467-10;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200514.b\8260W.m
Meth Date : 01-Jun-2020 15:38 voa6.i Quant Type: ISTD
Cal Date : 11-MAY-2020 16:00 Cal File: X051108.D
Als bottle: 8
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000000_CBI.sub
Target Version: 4.14
Processing Host: NAHSTW7142

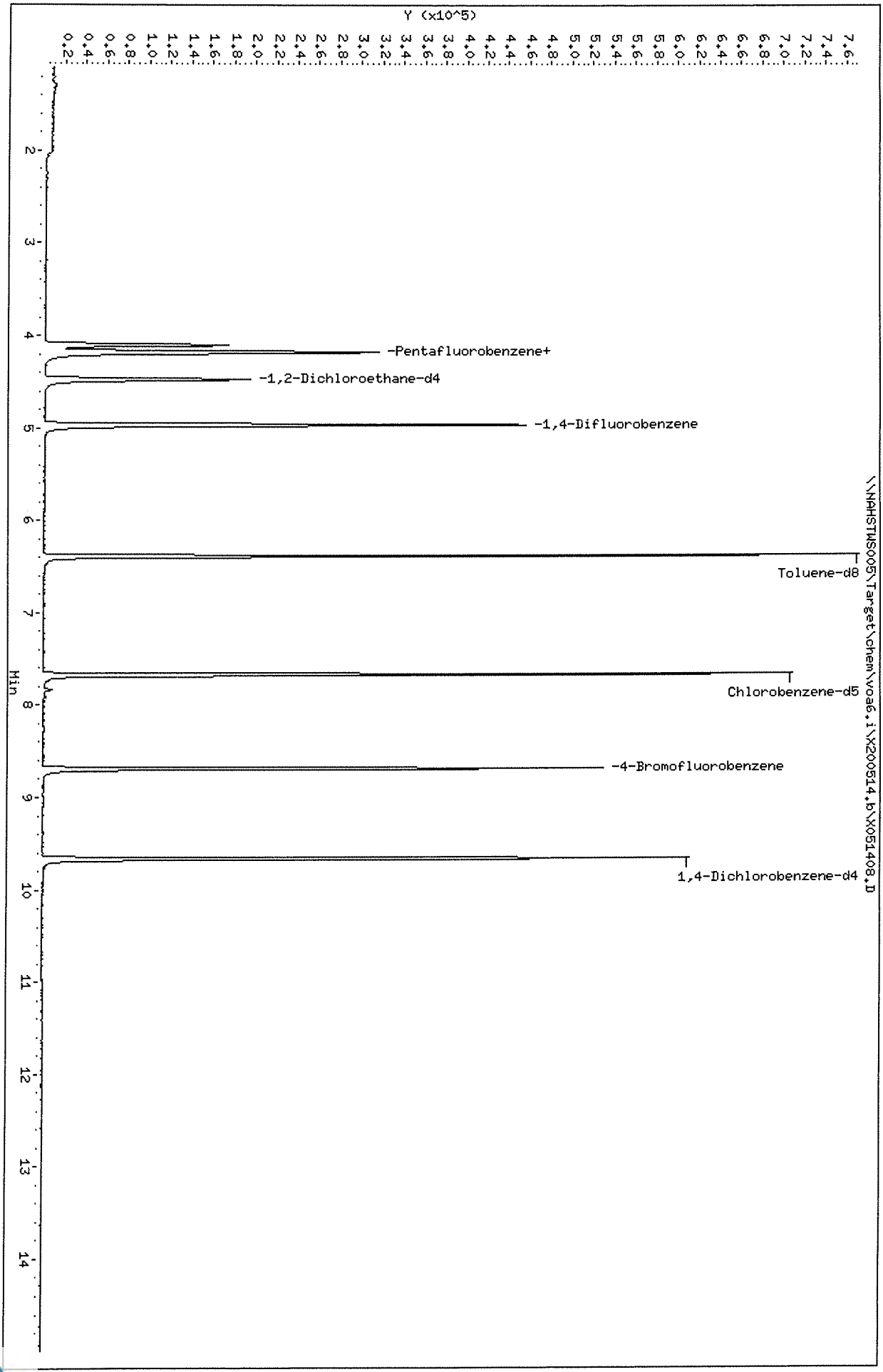
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	270690	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	369556	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.670	(1.000)	321718	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	159213	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	124566	46.1100	46.11
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	150119	44.9940	44.99
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	432564	53.5693	53.56
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	154761	50.3573	50.35

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200514.b\X051408.D
Date : 14-MAY-2020 13:10
Client ID: HS20050467-10
Sample Info: HS20050467-10;HS20050467-10;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18



Data File: \\NAHSTWS005\Target\chem\voa6.i\X200514.b\X051409.D Page 1
Report Date: 01-Jun-2020 15:38

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X200514.b\X051409.D
Lab Smp Id: HS20050467-01 Client Smp ID: HS20050467-01
Inj Date : 14-MAY-2020 13:34
Operator : PC Inst ID: voa6.i
Smp Info : HS20050467-01;HS20050467-01;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200514.b\8260W.m
Meth Date : 01-Jun-2020 15:38 voa6.i Quant Type: ISTD
Cal Date : 11-MAY-2020 16:00 Cal File: X051108.D
Als bottle: 9
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000000_CBI.sub
Target Version: 4.14
Processing Host: NAHSTW7142

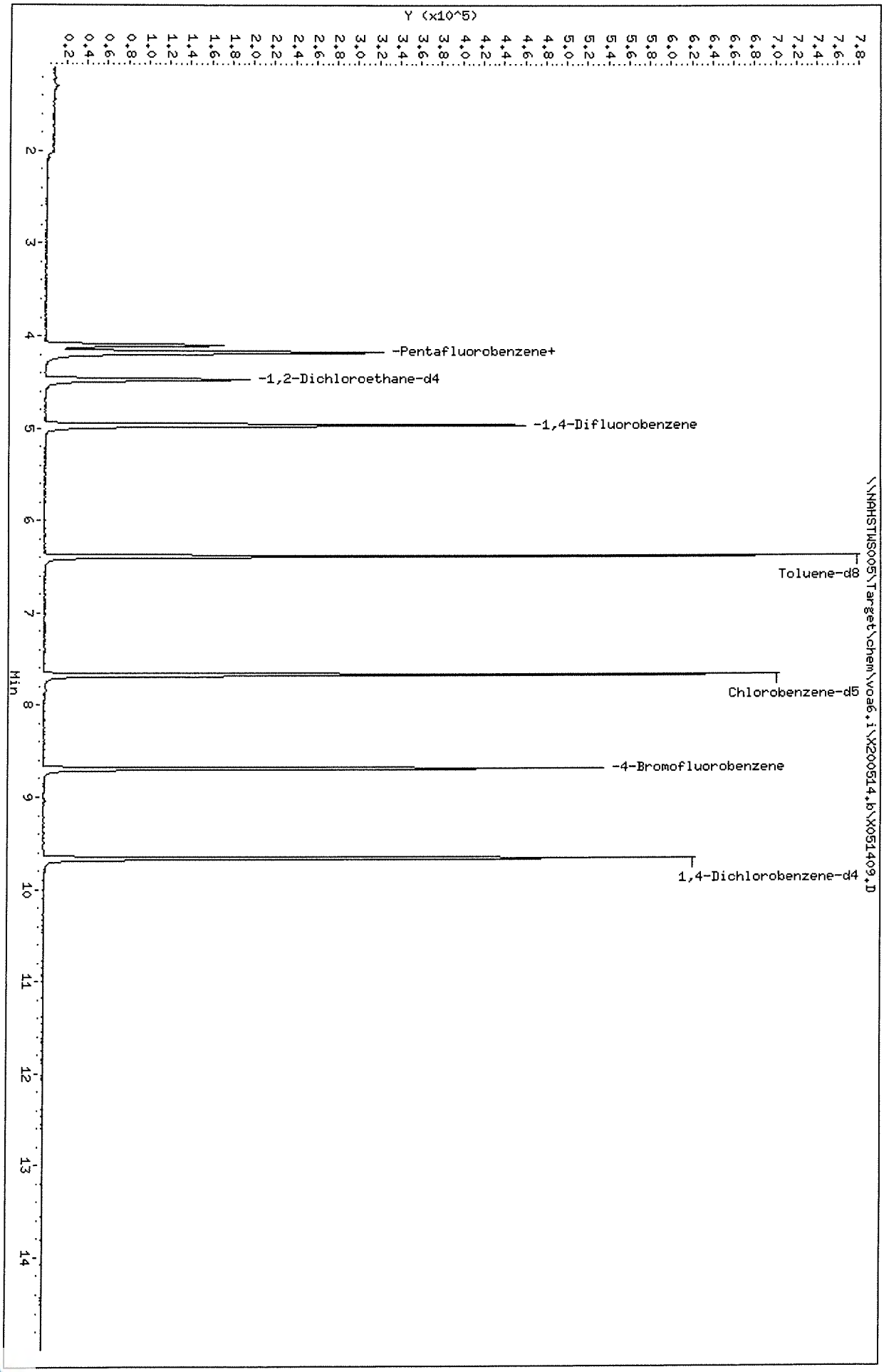
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	271470	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	376200	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.670	(1.000)	321586	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	157452	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	122757	45.3056	45.30
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	154182	46.0799	46.07
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	437259	54.1782	54.17
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	155873	50.7458	50.74

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200514.b\X051409.D
Date : 14-MAY-2020 13:34
Client ID: HS20050467-01
Sample Info: HS20050467-01;HS20050467-01;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18



Data File: \\NAHSTWS005\Target\chem\voa6.i\X200514.b\X051410.D Page 1
Report Date: 01-Jun-2020 15:38

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X200514.b\X051410.D
Lab Smp Id: HS20050467-02 Client Smp ID: HS20050467-02
Inj Date : 14-MAY-2020 13:58
Operator : PC Inst ID: voa6.i
Smp Info : HS20050467-02;HS20050467-02;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200514.b\8260W.m
Meth Date : 01-Jun-2020 15:38 voa6.i Quant Type: ISTD
Cal Date : 11-MAY-2020 16:00 Cal File: X051108.D
Als bottle: 10
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000000_CBI.sub
Target Version: 4.14
Processing Host: NAHSTW7142

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

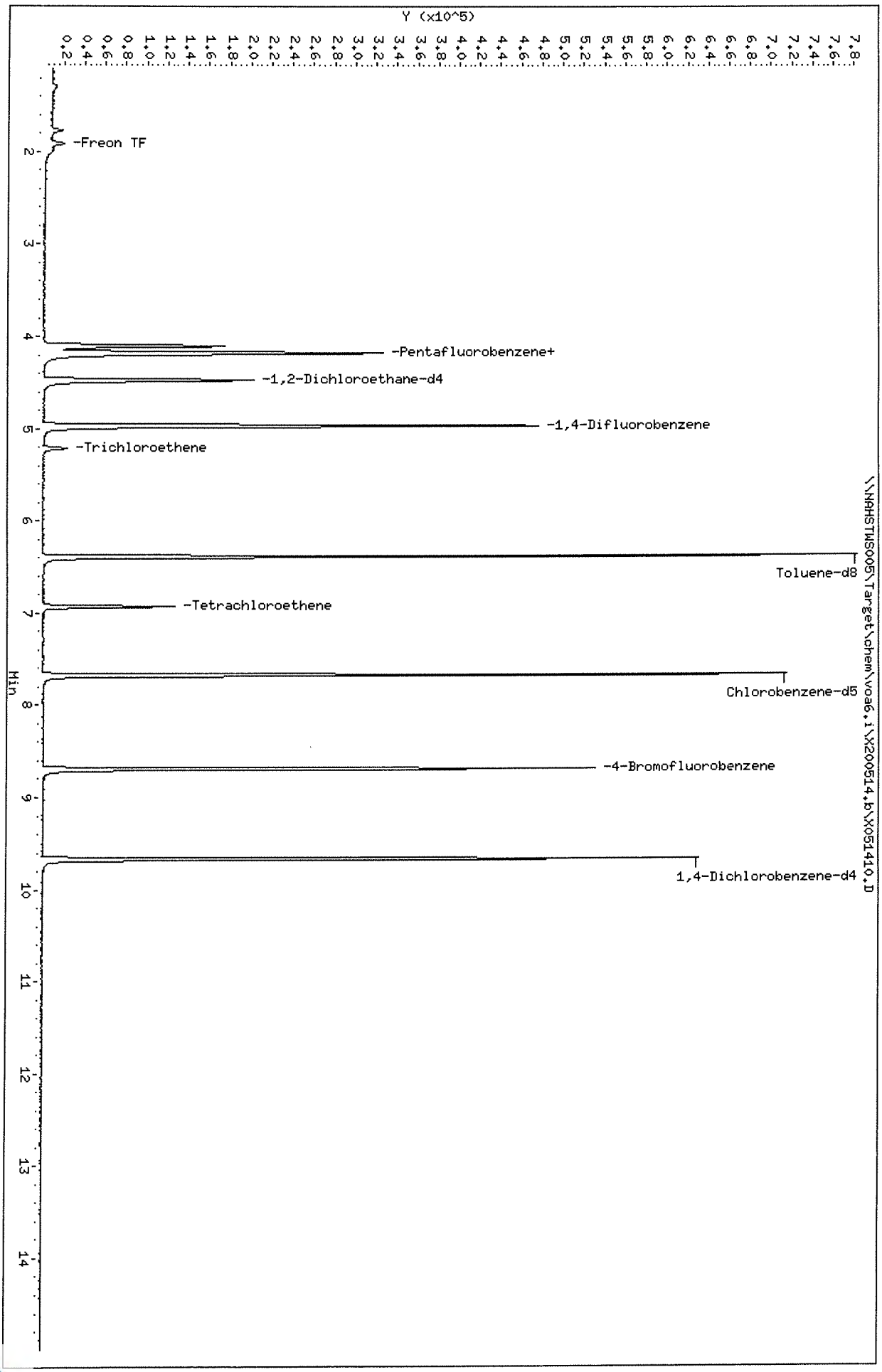
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	272458	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	380429	50.0000	
* 47 Chlorobenzene-d5	117	7.670	7.670	(1.000)	327309	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	154236	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	123751	45.5079	45.50
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	156364	46.5630	46.56
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	442849	53.9091	53.90
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	154591	49.4287	49.42
138 Freon TF	101	1.919	1.911	(0.459)	4543	2.15764	2.15(a)
56 Tetrachloroethene	164	6.933	6.933	(0.904)	26409	12.2315	12.23
38 Trichloroethene	130	5.214	5.206	(1.049)	7878	2.88603	2.88

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200514.b\X051410.D
Date : 14-MAY-2020 13:58
Client ID: HS20050467-02
Sample Info: HS20050467-02;HS20050467-02;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18



Data File: \\NAHSTWS005\Target\chem\voa6.i\X200514.b\X051410.D

Date : 14-MAY-2020 13:58

Client ID: HS20050467-02

Instrument: voa6.i

Sample Info: HS20050467-02;HS20050467-02;;;

Purge Volume: 5.0

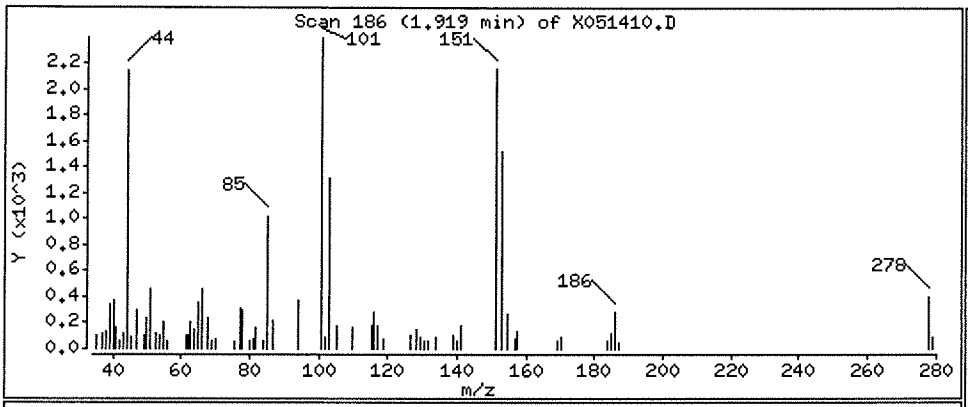
Operator: PC

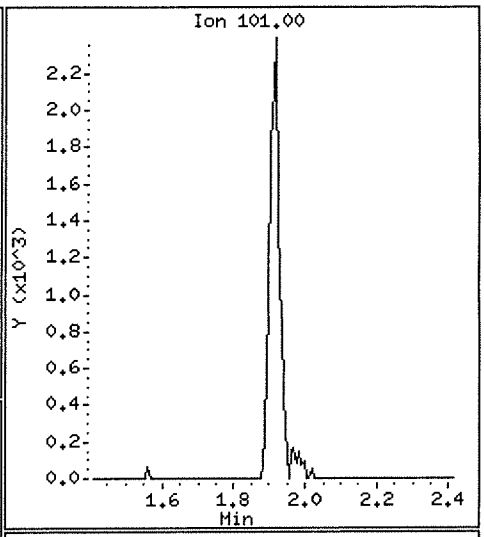
Column phase: DB624

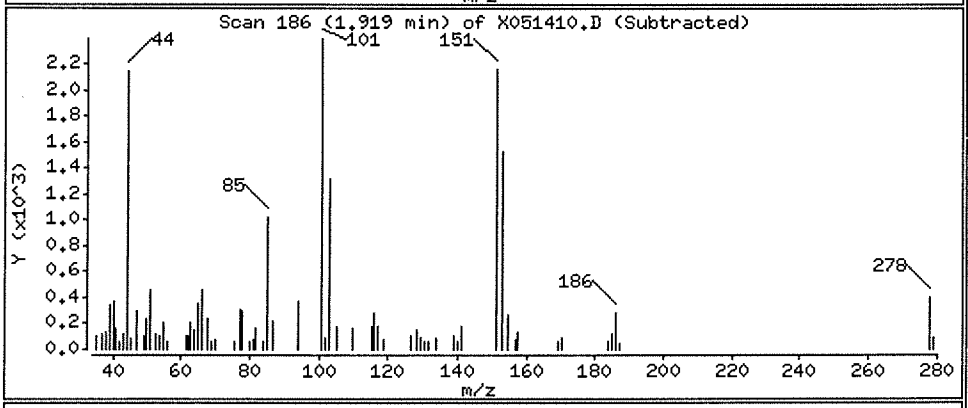
Column diameter: 0.18

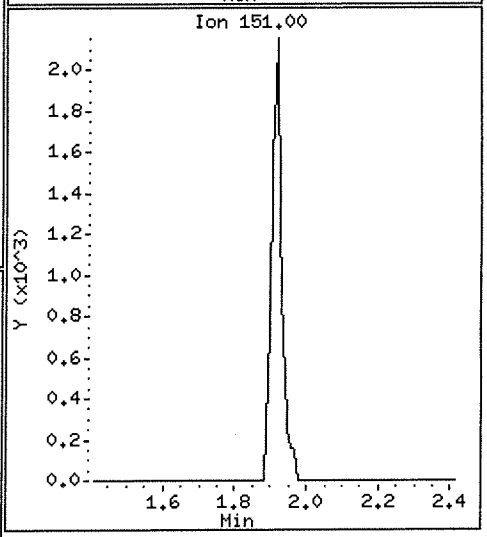
138 Freon TF

Concentration: 2.15 ug/l









Data File: \\NAHSTWS005\Target\chem\voa6.i\X200514.b\X051410.D

Date : 14-MAY-2020 13:58

Client ID: HS20050467-02

Instrument: voa6.i

Sample Info: HS20050467-02;HS20050467-02;;;

Purge Volume: 5.0

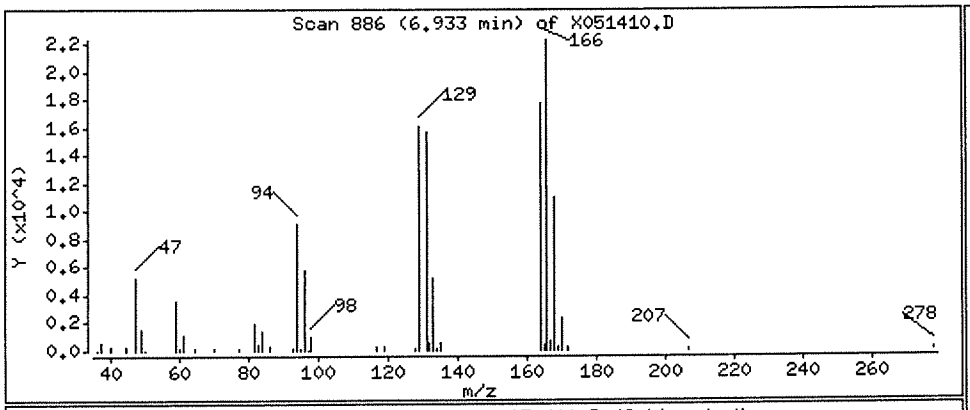
Operator: PC

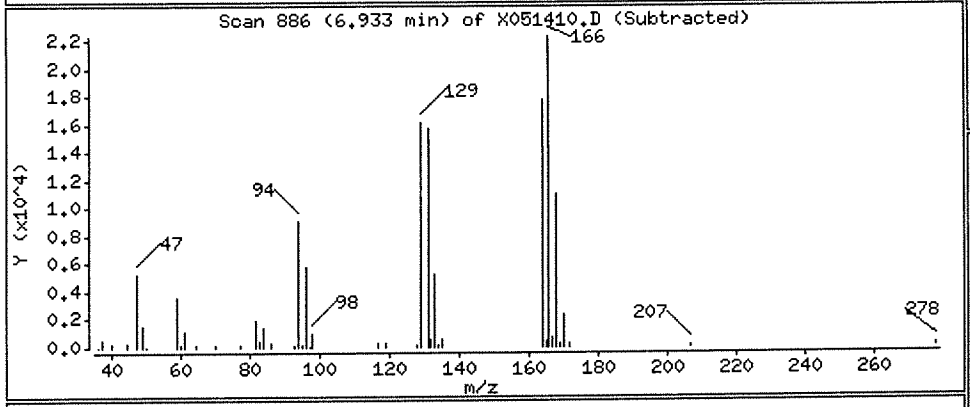
Column phase: DB624

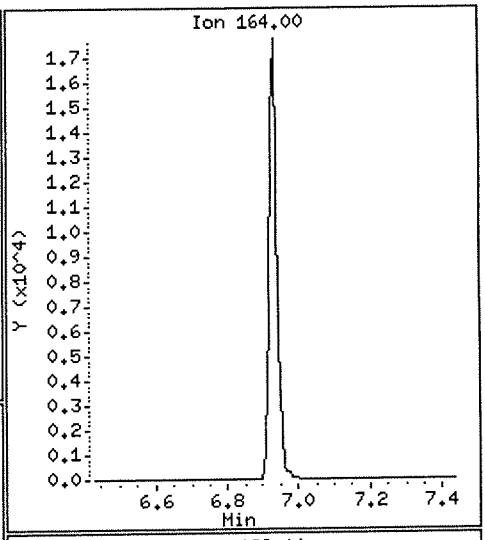
Column diameter: 0.18

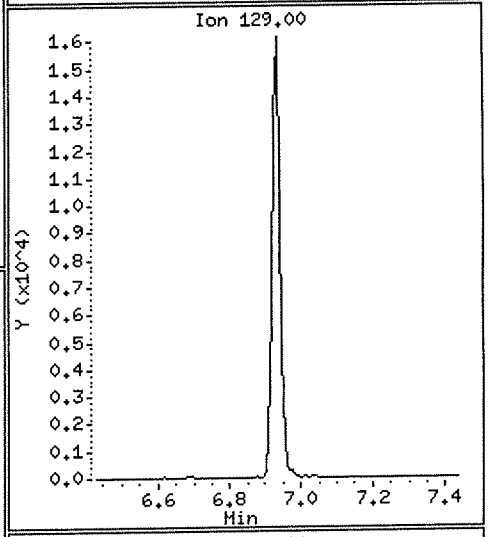
56 Tetrachloroethene

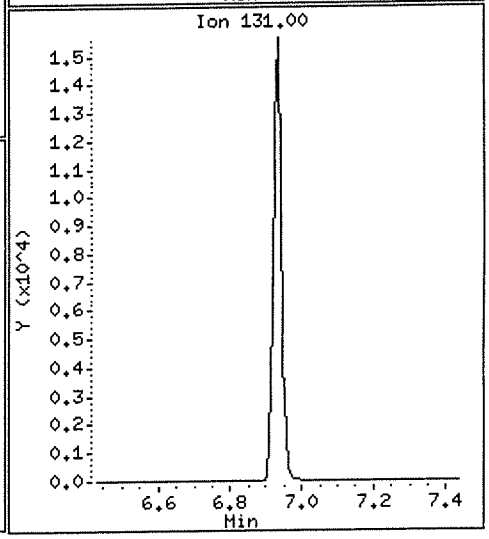
Concentration: 12.23 ug/l











Data File: \\NAHSTWS005\Target\chem\voa6.i\X200514.b\X051410.D

Date : 14-MAY-2020 13:58

Client ID: HS20050467-02

Instrument: voa6.i

Sample Info: HS20050467-02;HS20050467-02;;;

Purge Volume: 5.0

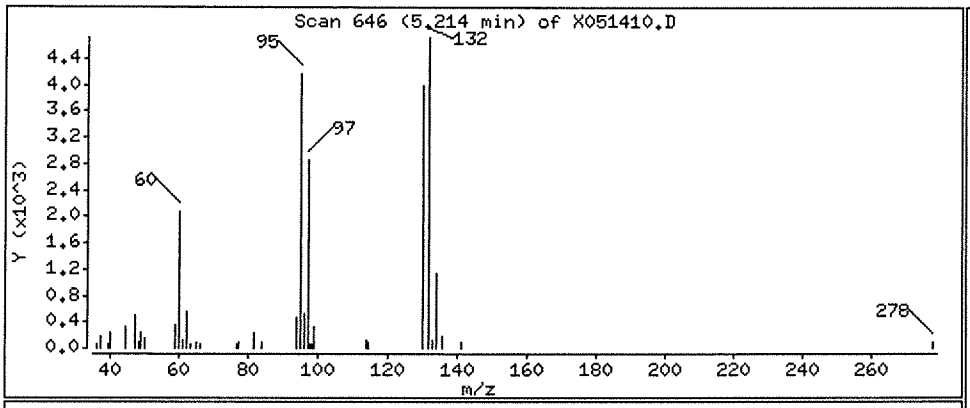
Operator: PC

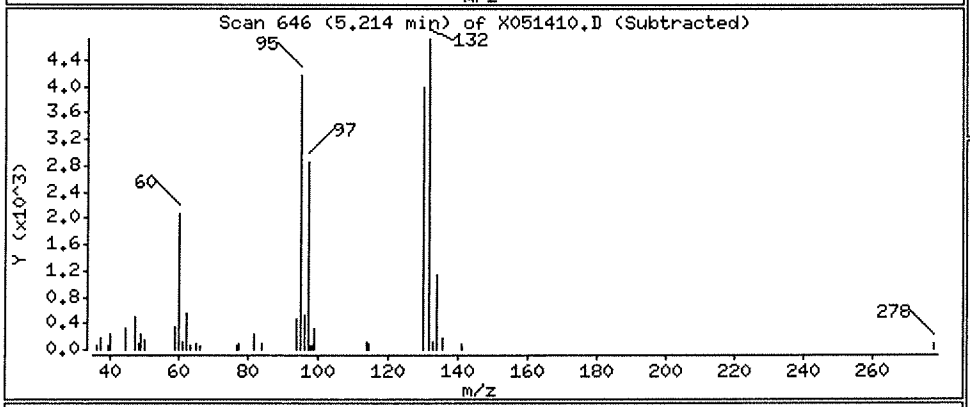
Column phase: DB624

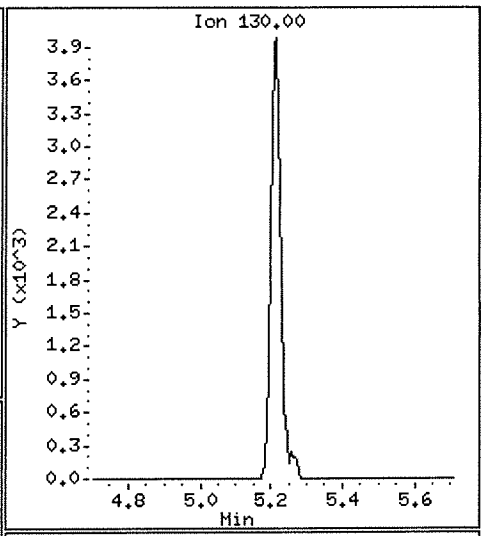
Column diameter: 0.18

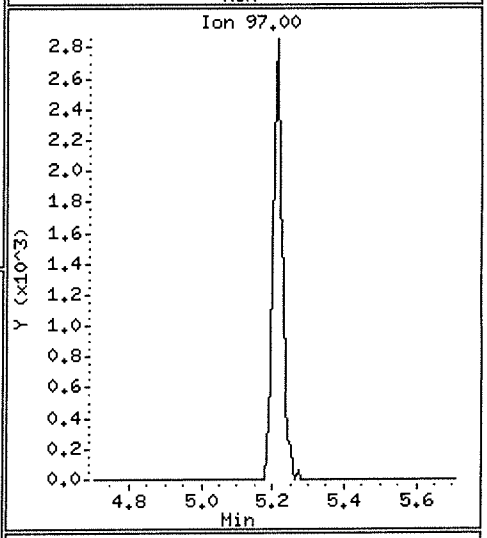
38 Trichloroethene

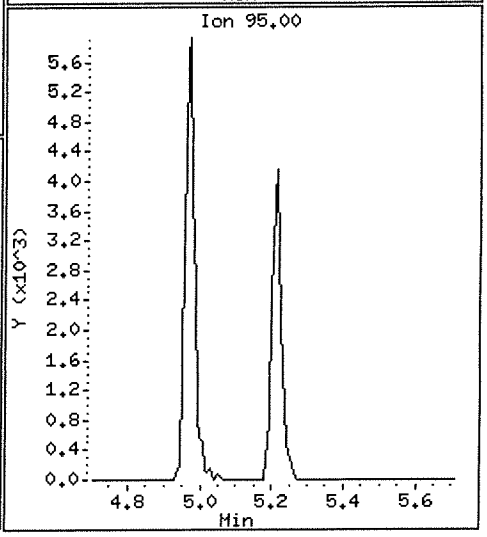
Concentration: 2.88 ug/l











Data File: \\NAHSTWS005\Target\chem\voa6.i\X200514.b\X051411.D Page 1
Report Date: 01-Jun-2020 15:38

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X200514.b\X051411.D
Lab Smp Id: HS20050467-03 Client Smp ID: HS20050467-03
Inj Date : 14-MAY-2020 14:22
Operator : PC Inst ID: voa6.i
Smp Info : HS20050467-03;HS20050467-03;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200514.b\8260W.m
Meth Date : 01-Jun-2020 15:38 voa6.i Quant Type: ISTD
Cal Date : 11-MAY-2020 16:00 Cal File: X051108.D
Als bottle: 11
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000000_CBI.sub
Target Version: 4.14
Processing Host: NAHSTW7142

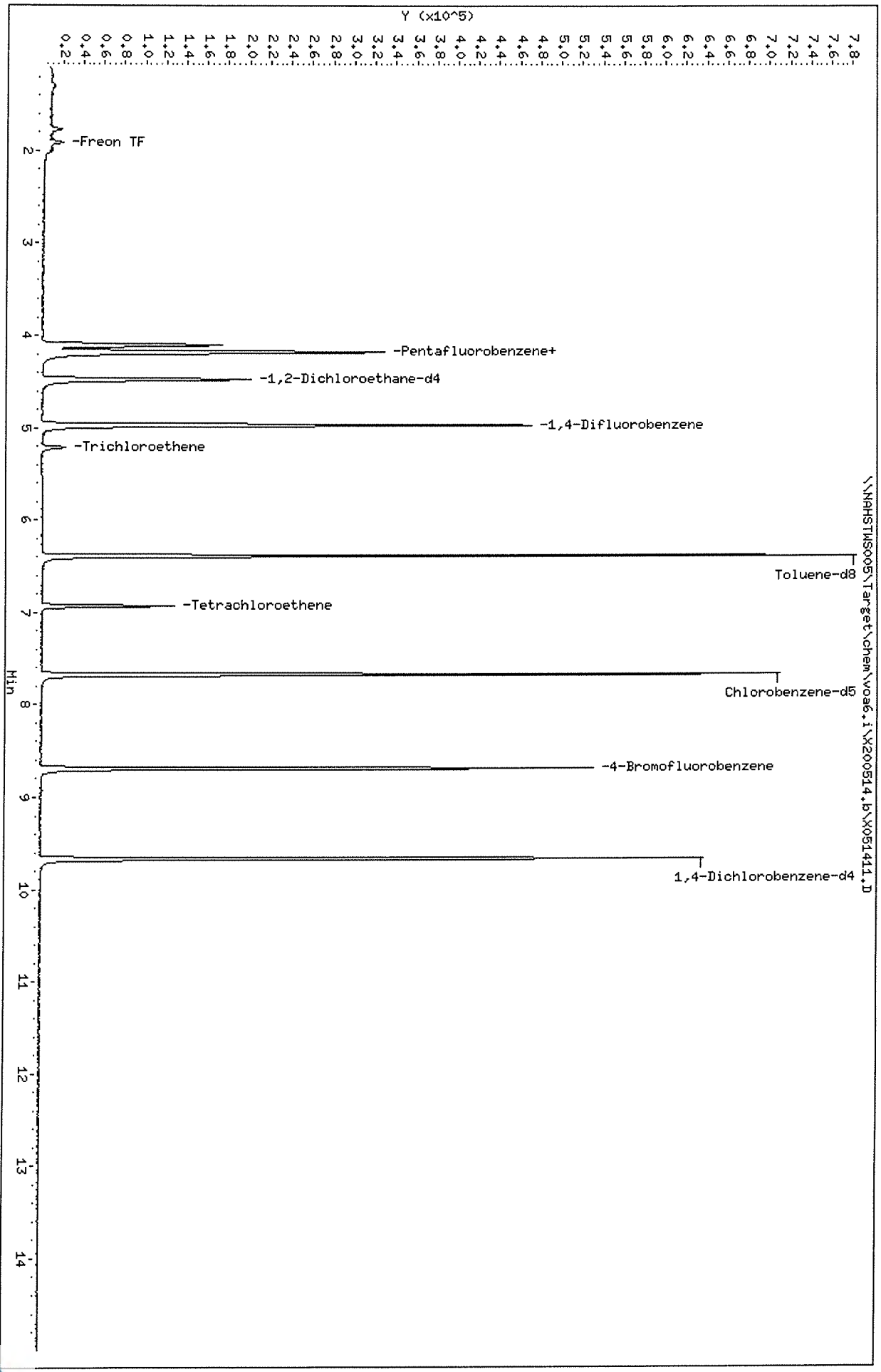
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	277415	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	382146	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.670	(1.000)	328735	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	164049	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	124908	45.1105	45.11
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	157483	46.0578	46.05
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	443244	53.7216	53.72
$ 69 4-Bromofluorobenzene	95	8.688	8.695	(1.133)	157737	50.2281	50.22
138 Freon TF	101	1.912	1.911	(0.457)	4957	2.31220	2.31(a)
56 Tetrachloroethene	164	6.933	6.933	(0.904)	25699	11.8510	11.85
38 Trichloroethene	130	5.214	5.206	(1.049)	8003	2.91865	2.91

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).



Data File: \\NAHSTWS005\Target\chem\voa6,i\X200514,b\X051411.D
Date : 14-MAY-2020 14:22
Client ID: HS20050467-03
Sample Info: HS20050467-03;HS20050467-03;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6,i
Operator: PC
Column diameter: 0.18

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200514.b\X051411.D

Date : 14-MAY-2020 14:22

Client ID: HS20050467-03

Instrument: voa6.i

Sample Info: HS20050467-03;HS20050467-03;;;

Purge Volume: 5.0

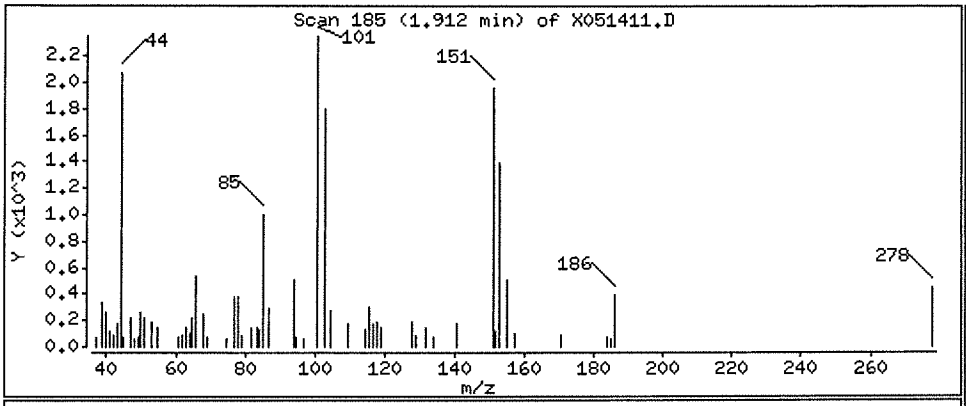
Operator: PC

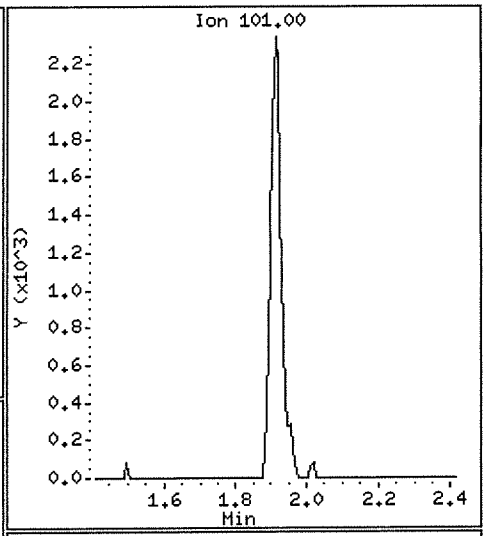
Column phase: DB624

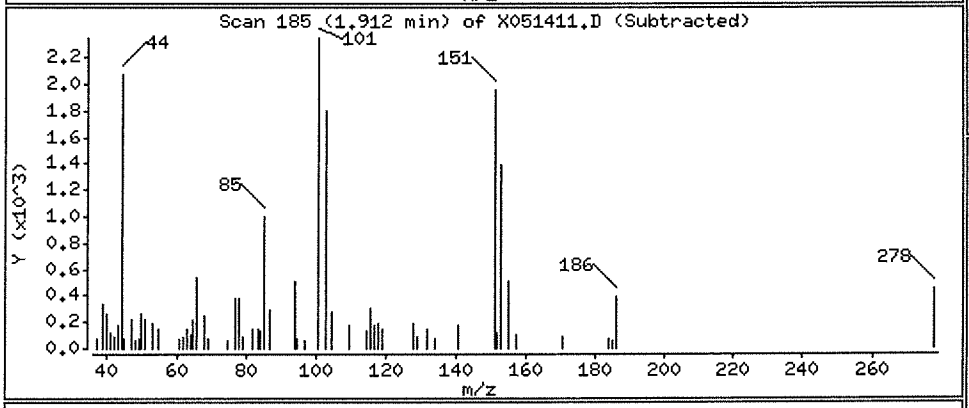
Column diameter: 0.18

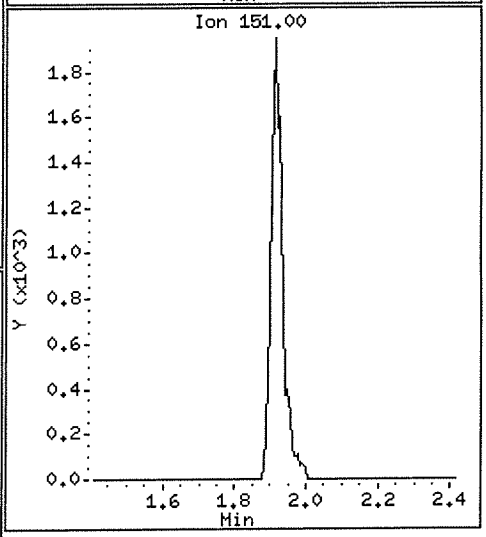
138 Freon TF

Concentration: 2.31 ug/l









Data File: \\NAHSTWS005\Target\chem\voa6.i\X200514.b\X051411.D

Date : 14-MAY-2020 14:22

Client ID: HS20050467-03

Instrument: voa6.i

Sample Info: HS20050467-03;HS20050467-03;;;

Purge Volume: 5.0

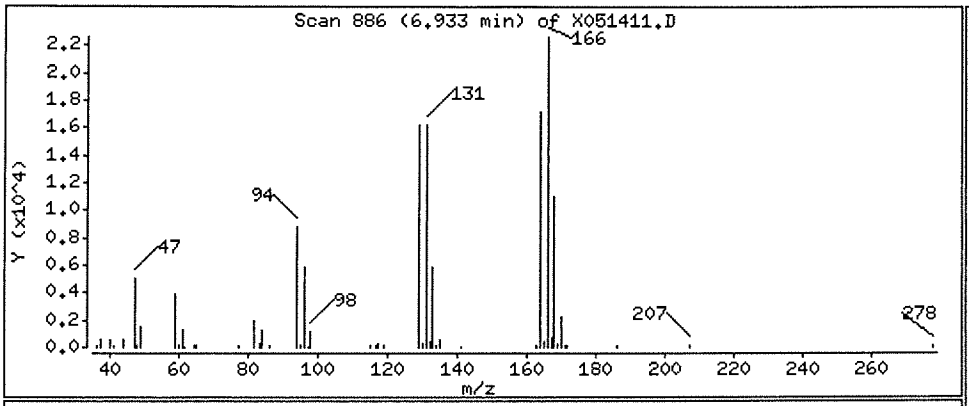
Operator: PC

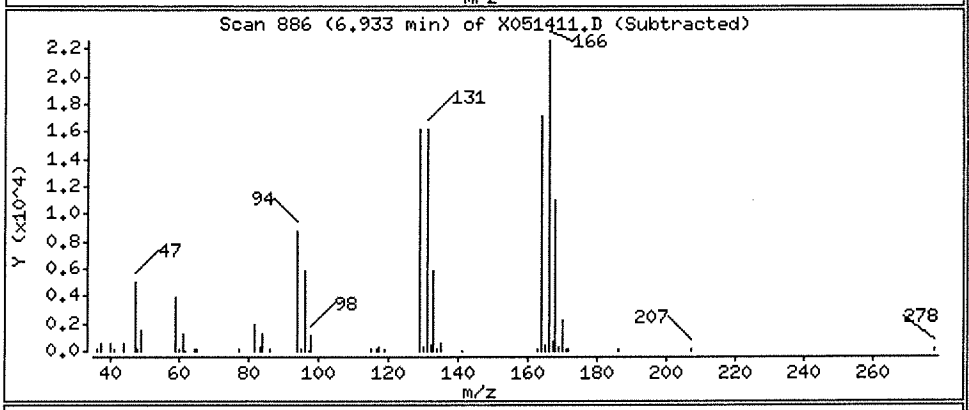
Column phase: DB624

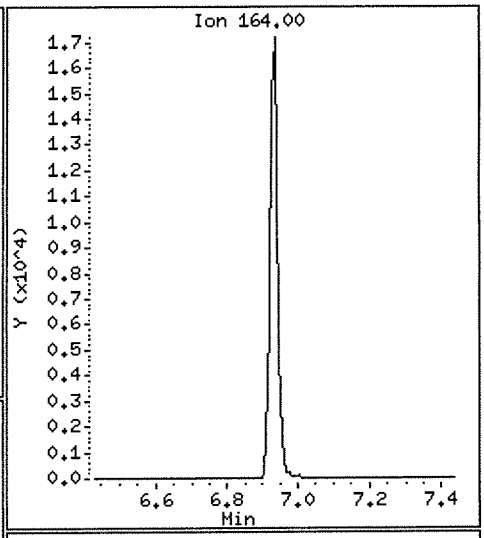
Column diameter: 0.18

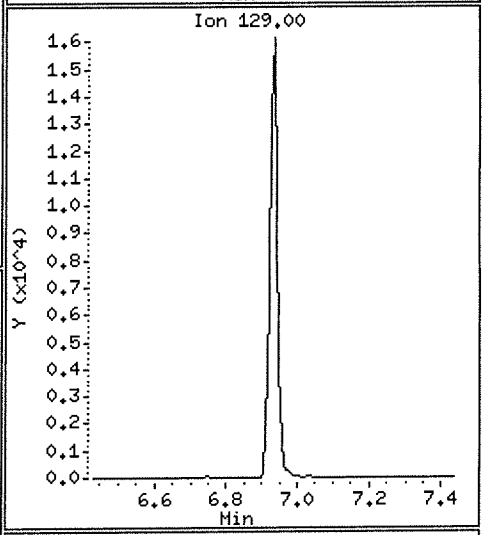
56 Tetrachloroethene

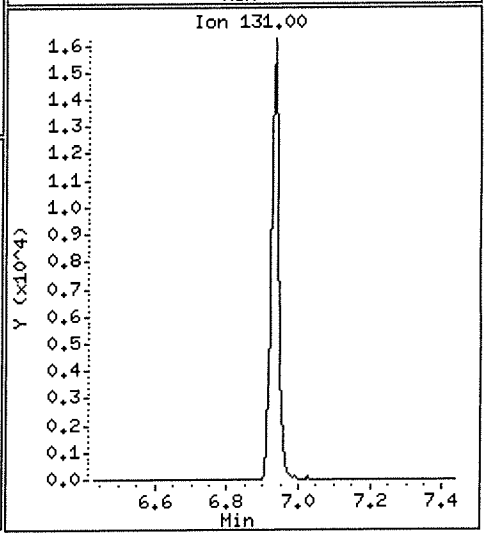
Concentration: 11.85 ug/l











Data File: \\NAHSTWS005\Target\chem\voa6.i\X200514.b\X051411.D

Date : 14-MAY-2020 14:22

Client ID: HS20050467-03

Instrument: voa6.i

Sample Info: HS20050467-03;HS20050467-03;;;

Purge Volume: 5.0

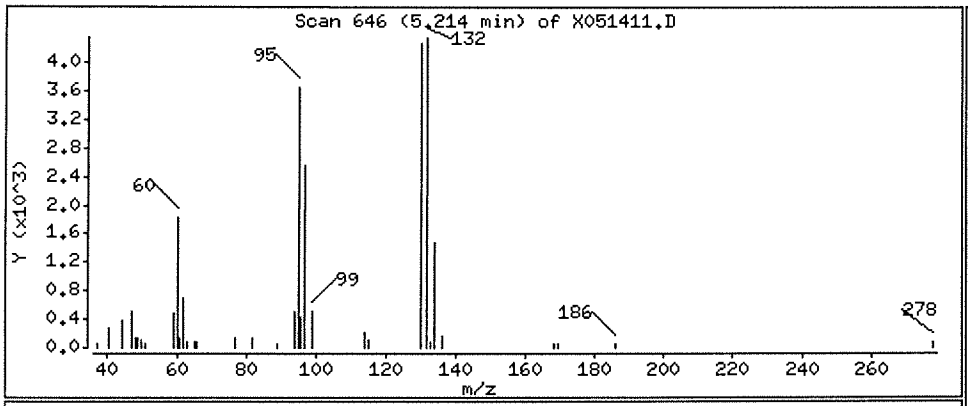
Operator: PC

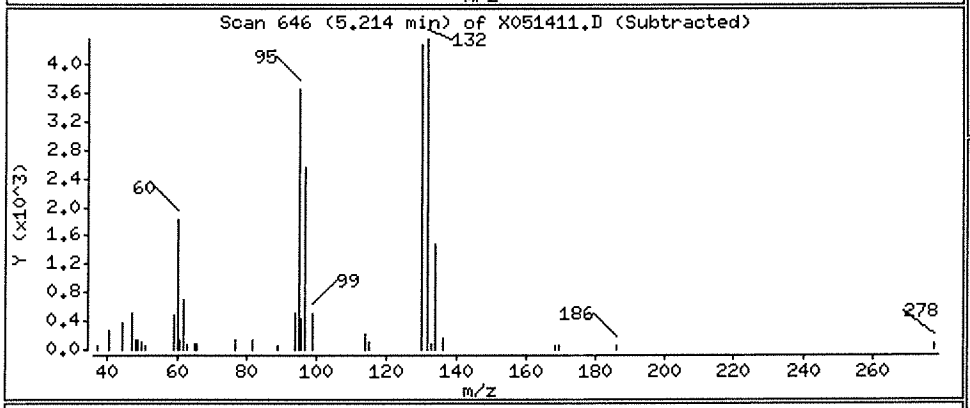
Column phase: DB624

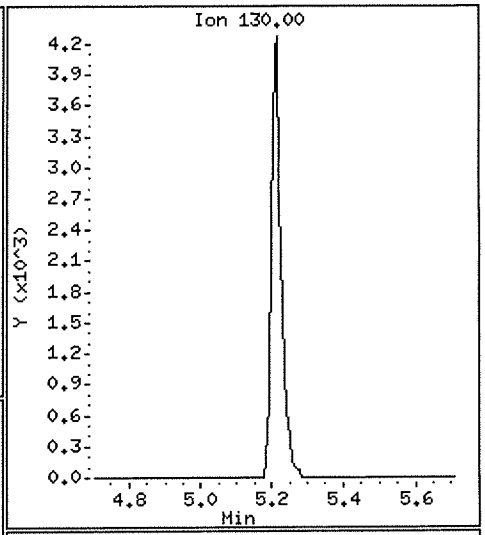
Column diameter: 0.18

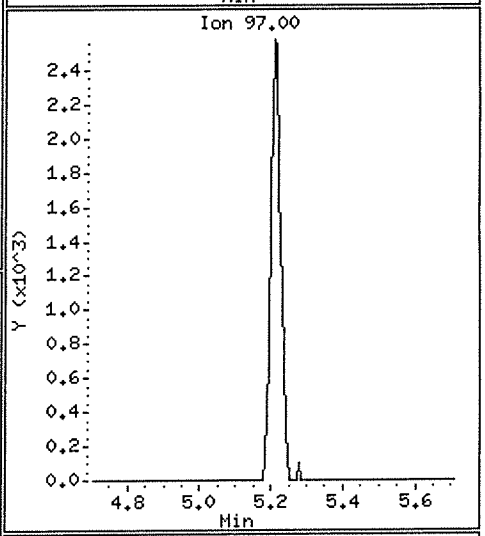
38 Trichloroethene

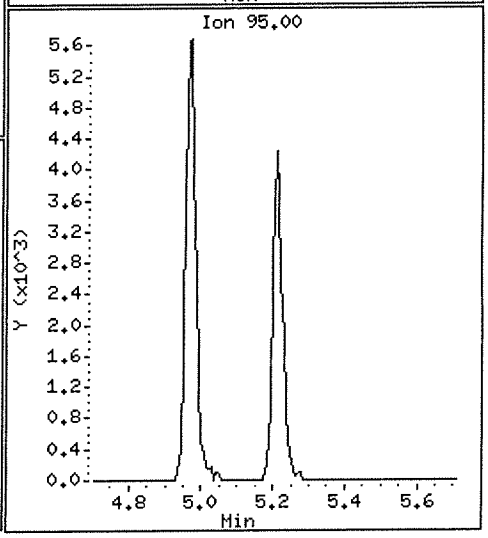
Concentration: 2.91 ug/l











Data File: \\NAHSTWS005\Target\chem\voa6.i\X200514.b\X051412.D Page 1
Report Date: 01-Jun-2020 15:38

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X200514.b\X051412.D
Lab Smp Id: HS20050467-04 Client Smp ID: HS20050467-04
Inj Date : 14-MAY-2020 14:46
Operator : PC Inst ID: voa6.i
Smp Info : HS20050467-04;HS20050467-04;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200514.b\8260W.m
Meth Date : 01-Jun-2020 15:38 voa6.i Quant Type: ISTD
Cal Date : 11-MAY-2020 16:00 Cal File: X051108.D
Als bottle: 12
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000000_CBI.sub
Target Version: 4.14
Processing Host: NAHSTW7142

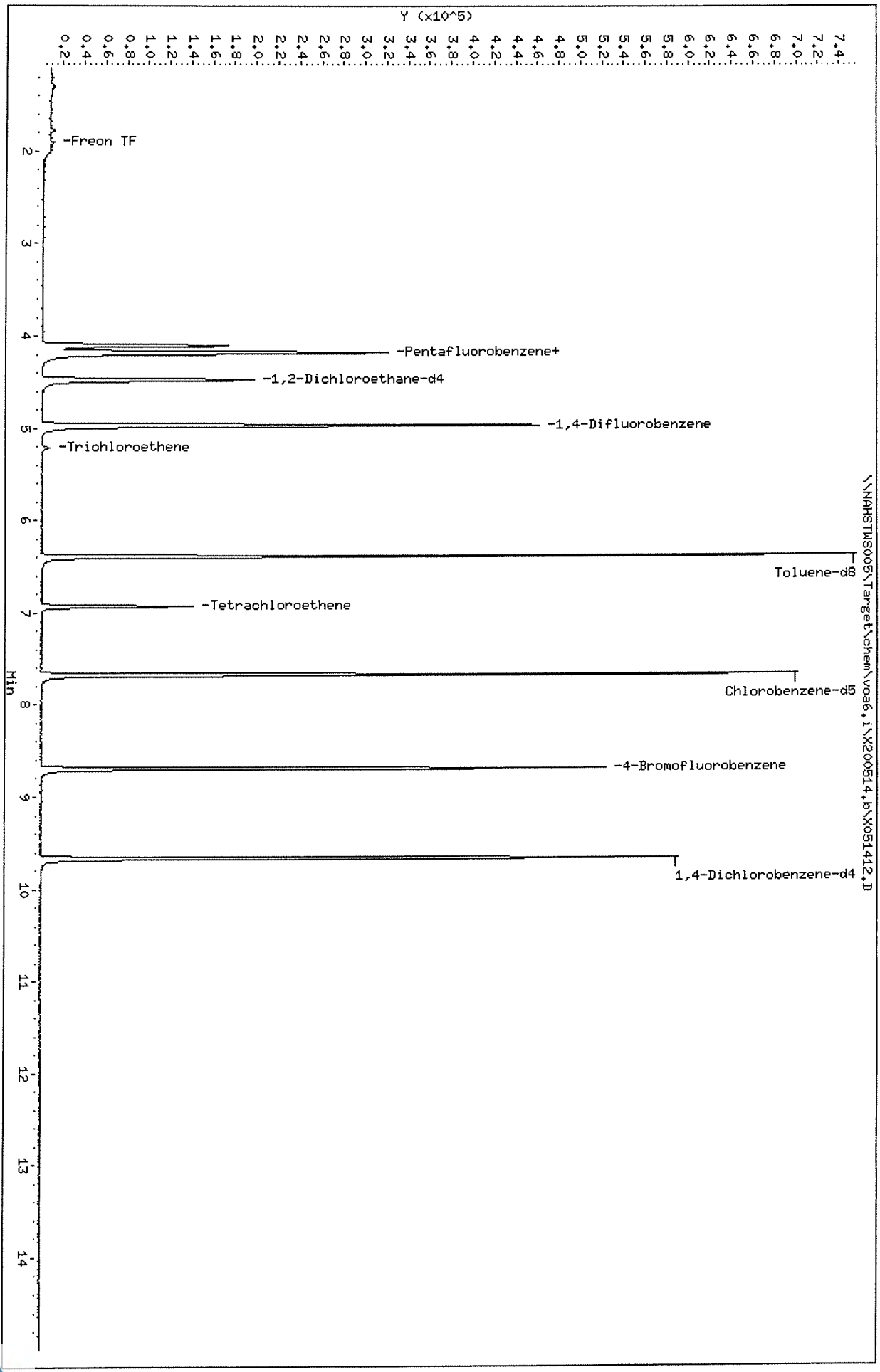
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	272003	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	379118	50.0000	
* 47 Chlorobenzene-d5	117	7.670	7.670	(1.000)	323312	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	151793	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	125423	46.2036	46.20
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	154033	45.9451	45.94
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	435615	53.6821	53.68
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	152798	49.4599	49.45
138 Freon TF	101	1.904	1.911	(0.455)	1383	0.65794	0.65(a)
56 Tetrachloroethene	164	6.933	6.933	(0.904)	29180	13.6820	13.68
38 Trichloroethene	130	5.214	5.206	(1.049)	2390	0.87858	0.87(a)

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).



Data File: \\NAHSTWS005\Target\chem\voa6.i\X200514.b\X051412.D
Date : 14-MAY-2020 14:46
Client ID: HS20050467-04
Sample Info: HS20050467-04;HS20050467-04;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200514.b\X051412.D

Date : 14-MAY-2020 14:46

Client ID: HS20050467-04

Instrument: voa6.i

Sample Info: HS20050467-04;HS20050467-04;;;

Purge Volume: 5.0

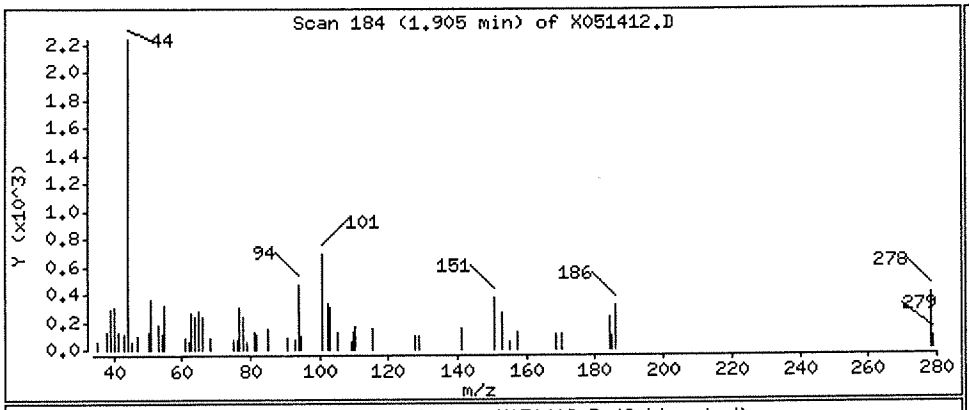
Operator: PC

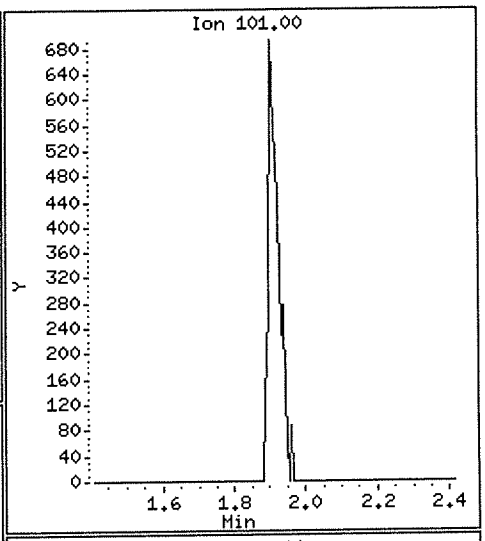
Column phase: DB624

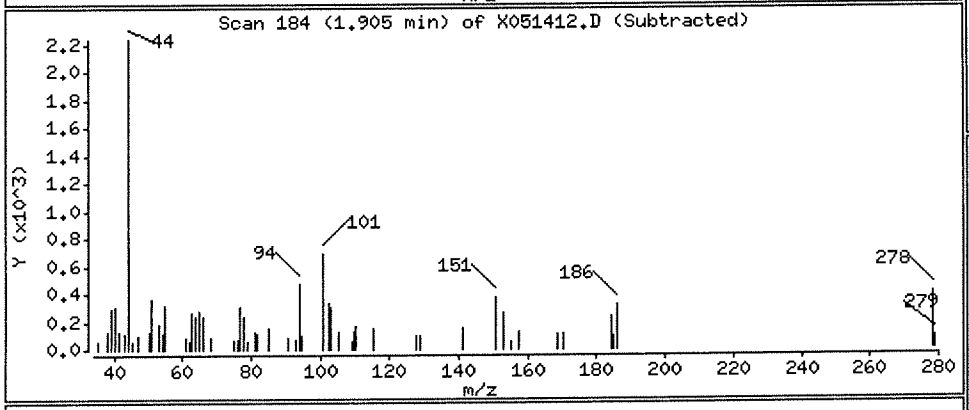
Column diameter: 0.18

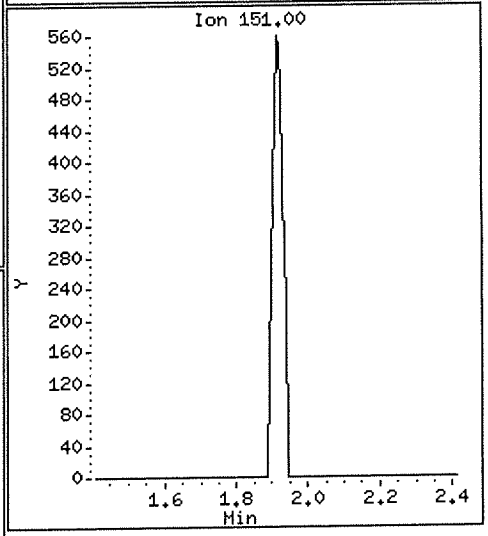
138 Freon TF

Concentration: 0.65 ug/l









Data File: \\NAHSTWS005\Target\chem\voa6.i\X200514.b\X051412.D

Date : 14-MAY-2020 14:46

Client ID: HS20050467-04

Instrument: voa6.i

Sample Info: HS20050467-04;HS20050467-04;;;

Purge Volume: 5.0

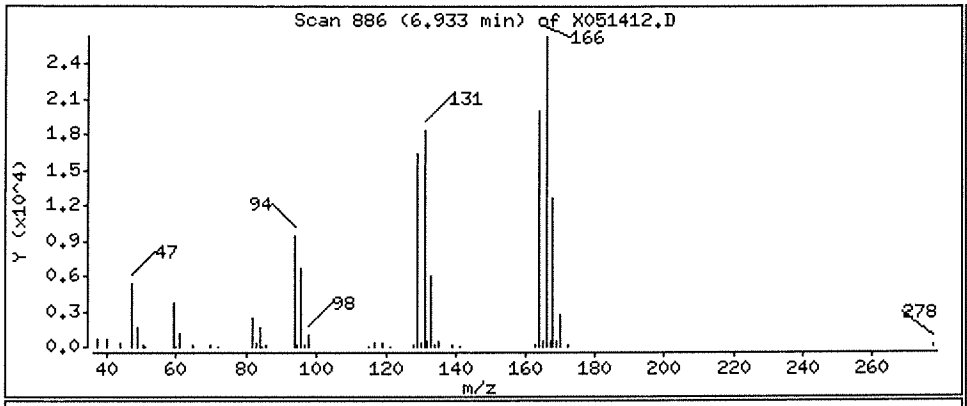
Operator: PC

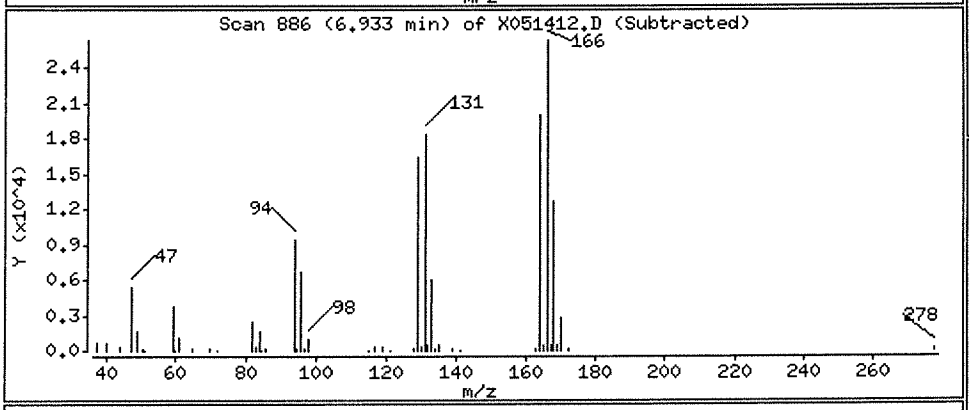
Column phase: DB624

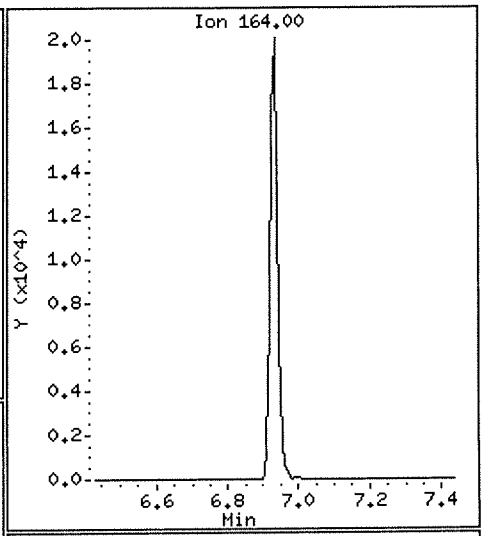
Column diameter: 0.18

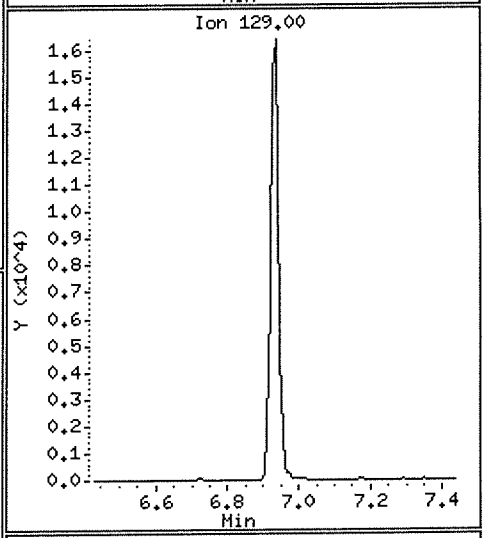
56 Tetrachloroethene

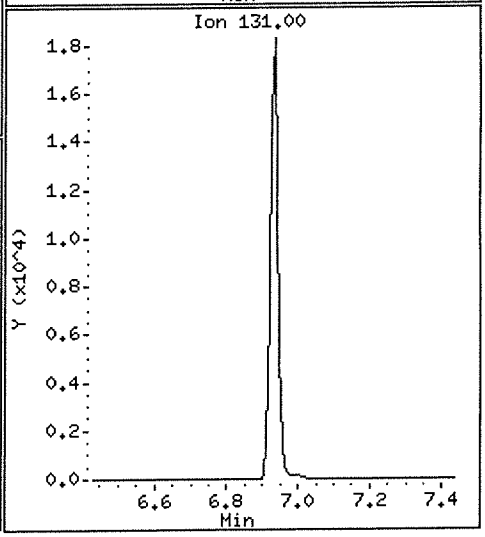
Concentration: 13.68 ug/l











Data File: \\NAHSTWS005\Target\chem\voa6.i\X200514.b\X051412.D

Date : 14-MAY-2020 14:46

Client ID: HS20050467-04

Instrument: voa6.i

Sample Info: HS20050467-04;HS20050467-04;;;

Purge Volume: 5.0

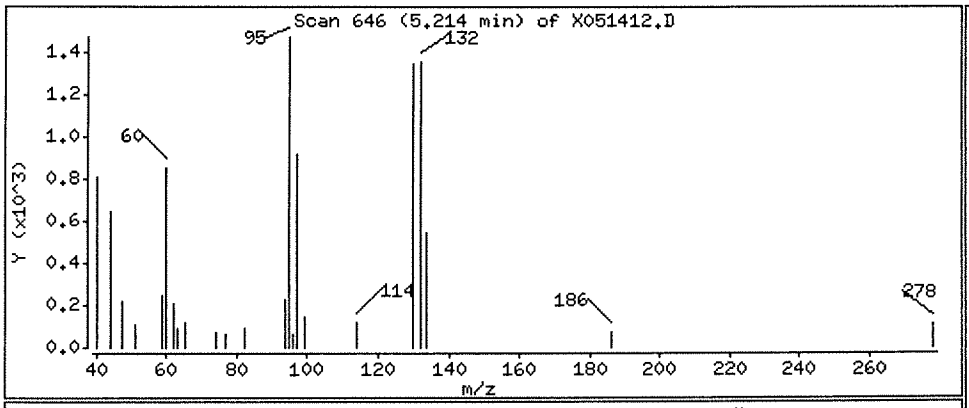
Operator: PC

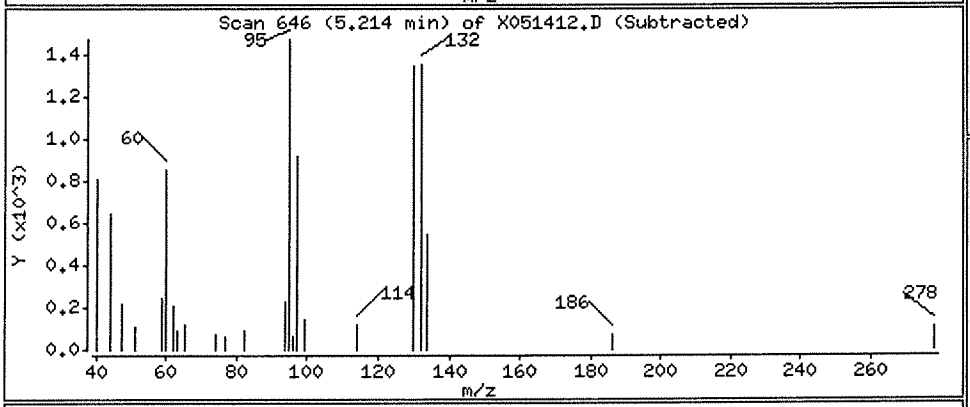
Column phase: DB624

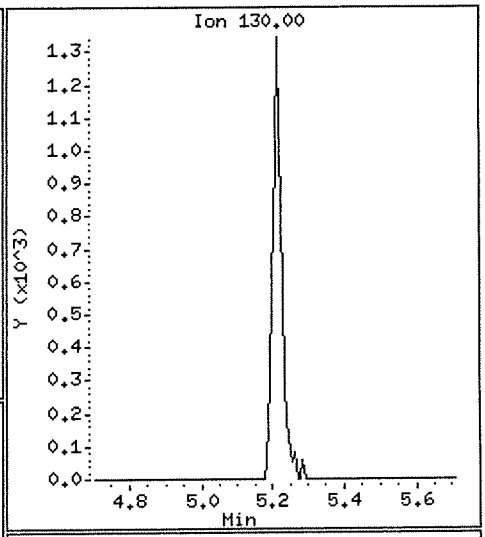
Column diameter: 0.18

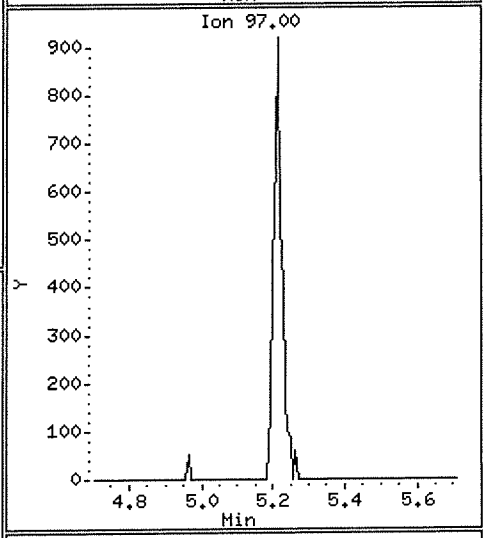
38 Trichloroethene

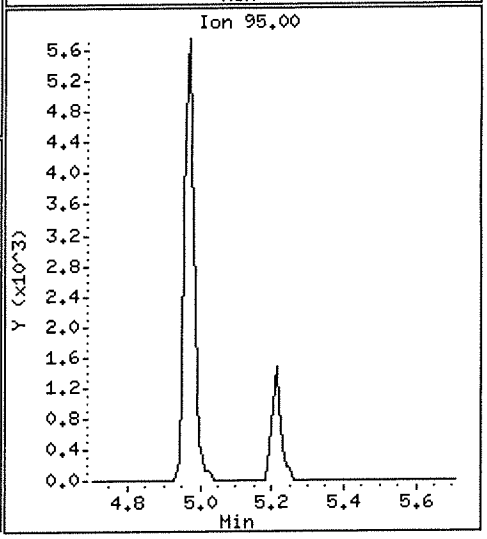
Concentration: 0.87 ug/l











Data File: \\NAHSTWS005\Target\chem\voa6.i\X200514.b\X051413.D Page 1
Report Date: 01-Jun-2020 15:38

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X200514.b\X051413.D
Lab Smp Id: HS20050467-05 Client Smp ID: HS20050467-05
Inj Date : 14-MAY-2020 15:11
Operator : PC Inst ID: voa6.i
Smp Info : HS20050467-05;HS20050467-05;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200514.b\8260W.m
Meth Date : 01-Jun-2020 15:38 voa6.i Quant Type: ISTD
Cal Date : 11-MAY-2020 16:00 Cal File: X051108.D
Als bottle: 13
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000000_CBI.sub
Target Version: 4.14
Processing Host: NAHSTW7142

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	274408	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	384298	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.670	(1.000)	328225	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	164755	50.0000	
$ 30 Dibromofluoromethane	113	4.104	4.103	(0.981)	125743	45.9140	45.91
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	158422	46.8408	46.84
$ 48 Toluene-d8	98	6.389	6.388	(0.833)	439373	53.3318	53.33
$ 69 4-Bromofluorobenzene	95	8.688	8.695	(1.133)	158373	50.5133	50.51
138 Freon TF	101	1.912	1.911	(0.457)	1572	0.74130	0.74(a)
38 Trichloroethene	130	5.207	5.206	(1.048)	115614	41.9277	41.92

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

01007310

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200514.b\X051413.D

Date : 14-MAY-2020 15:11

Client ID: HS20050467-05

Instrument: voa6.i

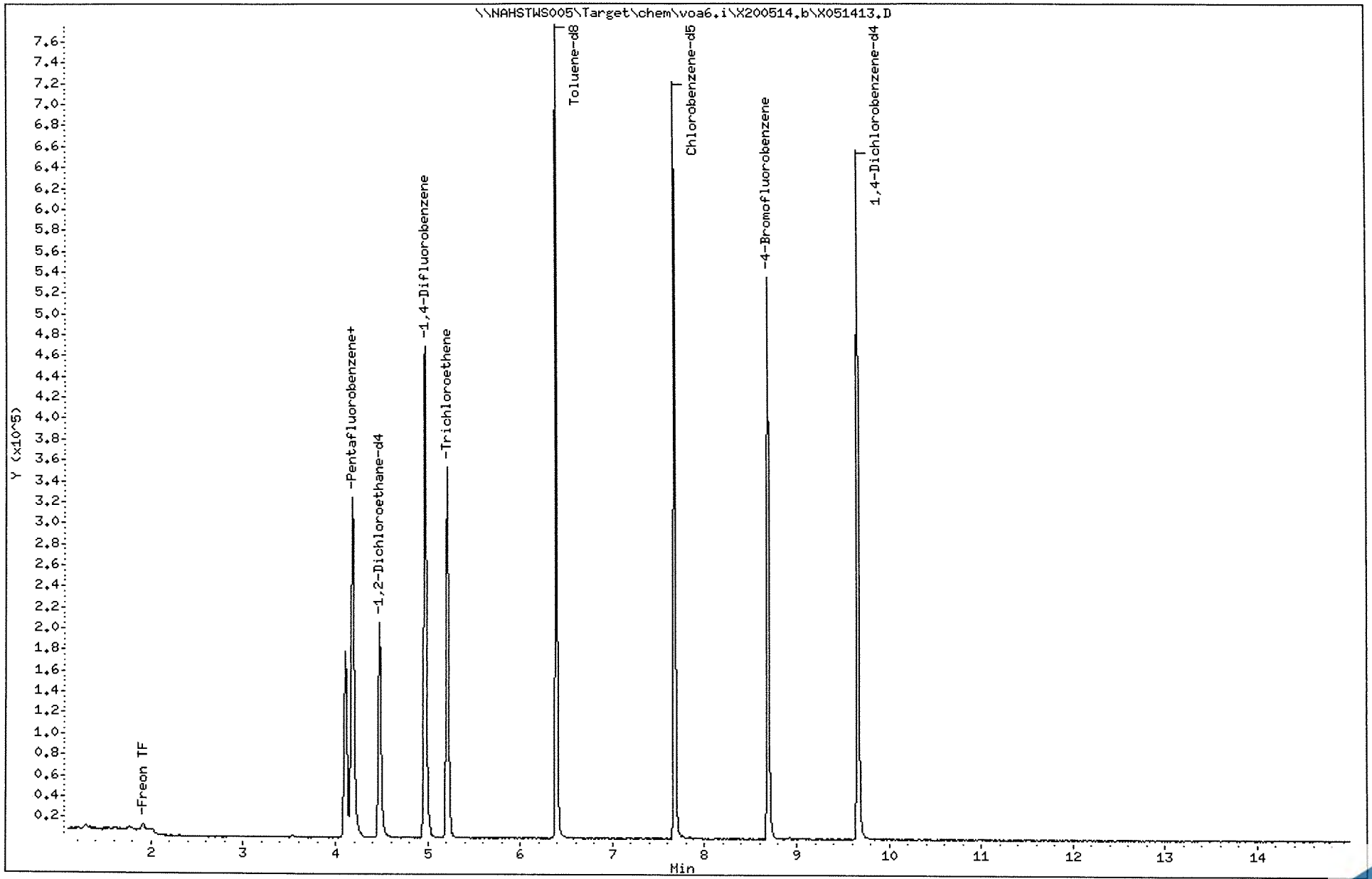
Sample Info: HS20050467-05;HS20050467-05;;;

Purge Volume: 5.0

Operator: PC

Column phase: DB624

Column diameter: 0.18



Data File: \\NAHSTWS005\Target\chem\voa6.i\X200514.b\X051413.D

Date : 14-MAY-2020 15:11

Client ID: HS20050467-05

Instrument: voa6.i

Sample Info: HS20050467-05;HS20050467-05;;;

Purge Volume: 5.0

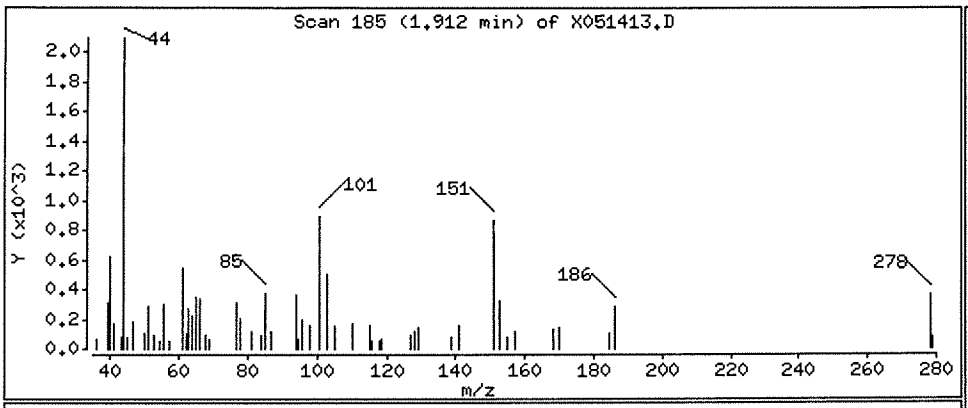
Operator: PC

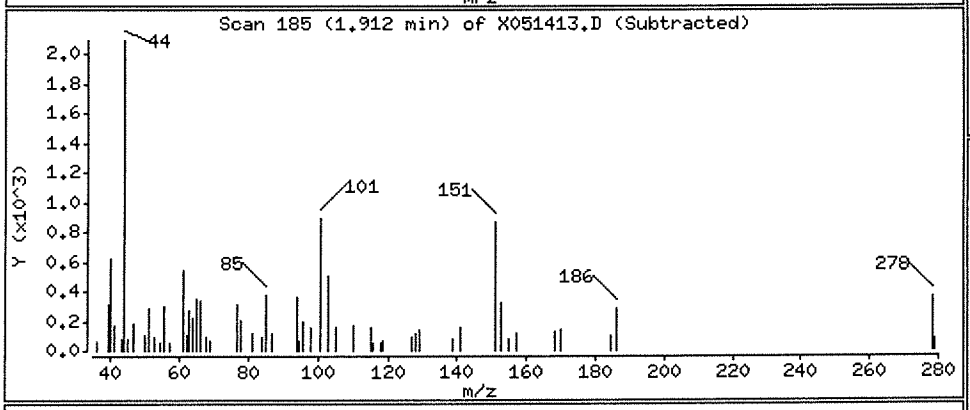
Column phase: DB624

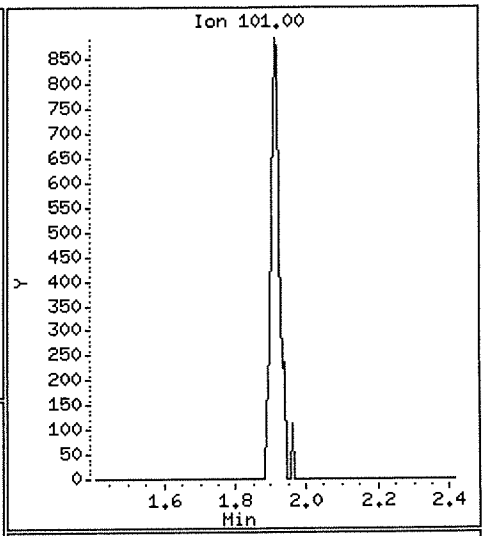
Column diameter: 0.18

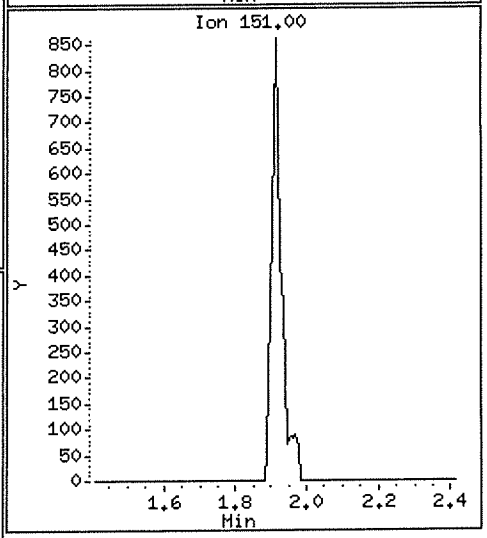
138 Freon TF

Concentration: 0.74 ug/l









Data File: \\NAHSTWS005\Target\chem\voa6.i\X200514.b\X051413.D

Date : 14-MAY-2020 15:11

Client ID: HS20050467-05

Instrument: voa6.i

Sample Info: HS20050467-05;HS20050467-05;;;

Purge Volume: 5.0

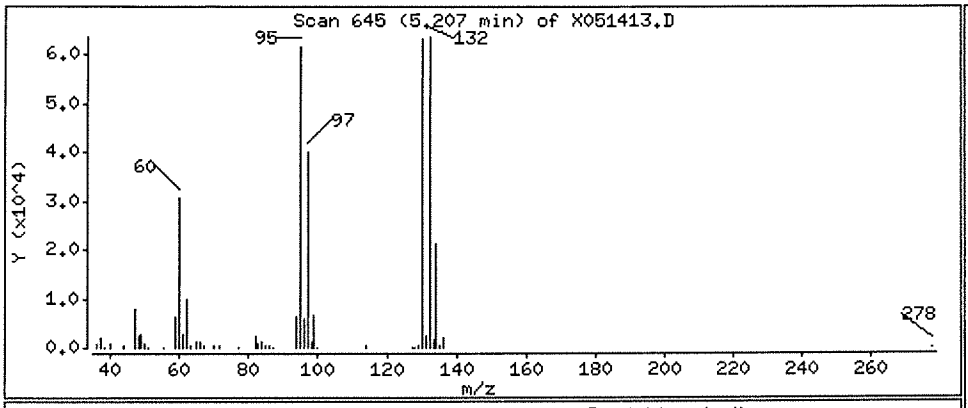
Operator: PC

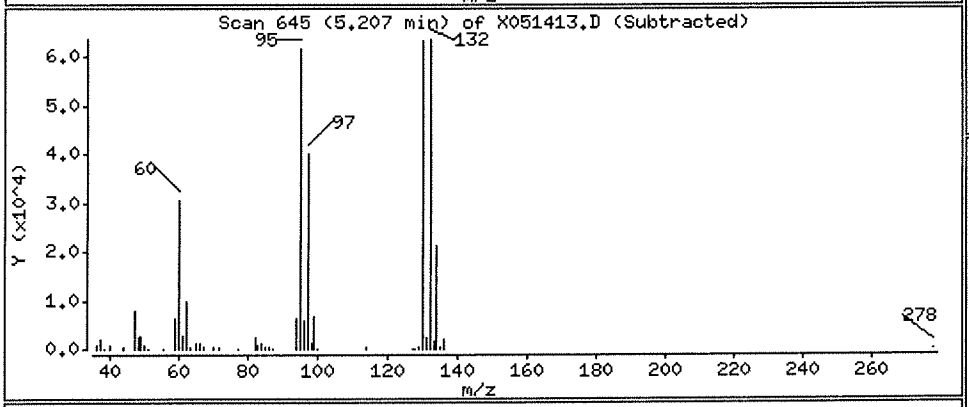
Column phase: DB624

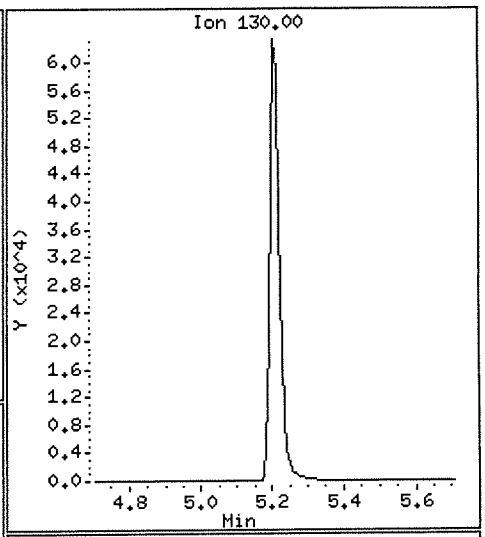
Column diameter: 0.18

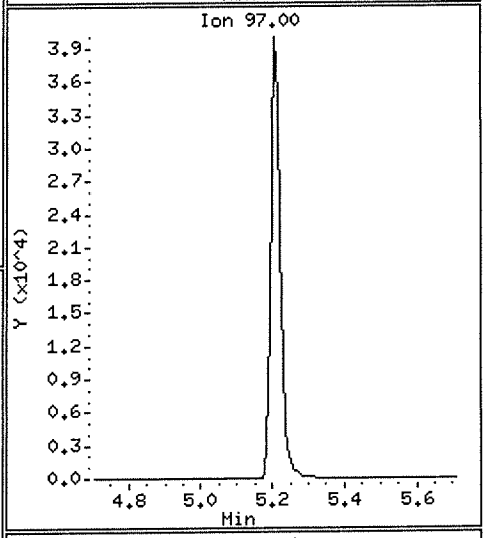
38 Trichloroethene

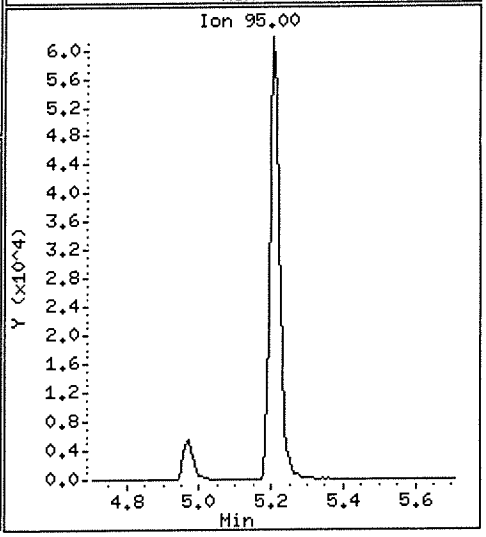
Concentration: 41.92 ug/l











ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X200514.b\X051414.D
Lab Smp Id: HS20050467-06 Client Smp ID: HS20050467-06
Inj Date : 14-MAY-2020 15:35
Operator : PC Inst ID: voa6.i
Smp Info : HS20050467-06;HS20050467-06;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200514.b\8260W.m
Meth Date : 01-Jun-2020 15:38 voa6.i Quant Type: ISTD
Cal Date : 11-MAY-2020 16:00 Cal File: X051108.D
Als bottle: 14
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000000_CBI.sub
Target Version: 4.14
Processing Host: NAHSTW7142

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	273578	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	383138	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.670	(1.000)	321789	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	147913	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	126525	46.3420	46.34
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	153006	45.3755	45.37
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	442295	54.7727	54.77
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	150104	48.8078	48.80

01007314

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200514.b\X051414.D

Date : 14-MAY-2020 15:35

Client ID: HS20050467-06

Instrument: voa6.i

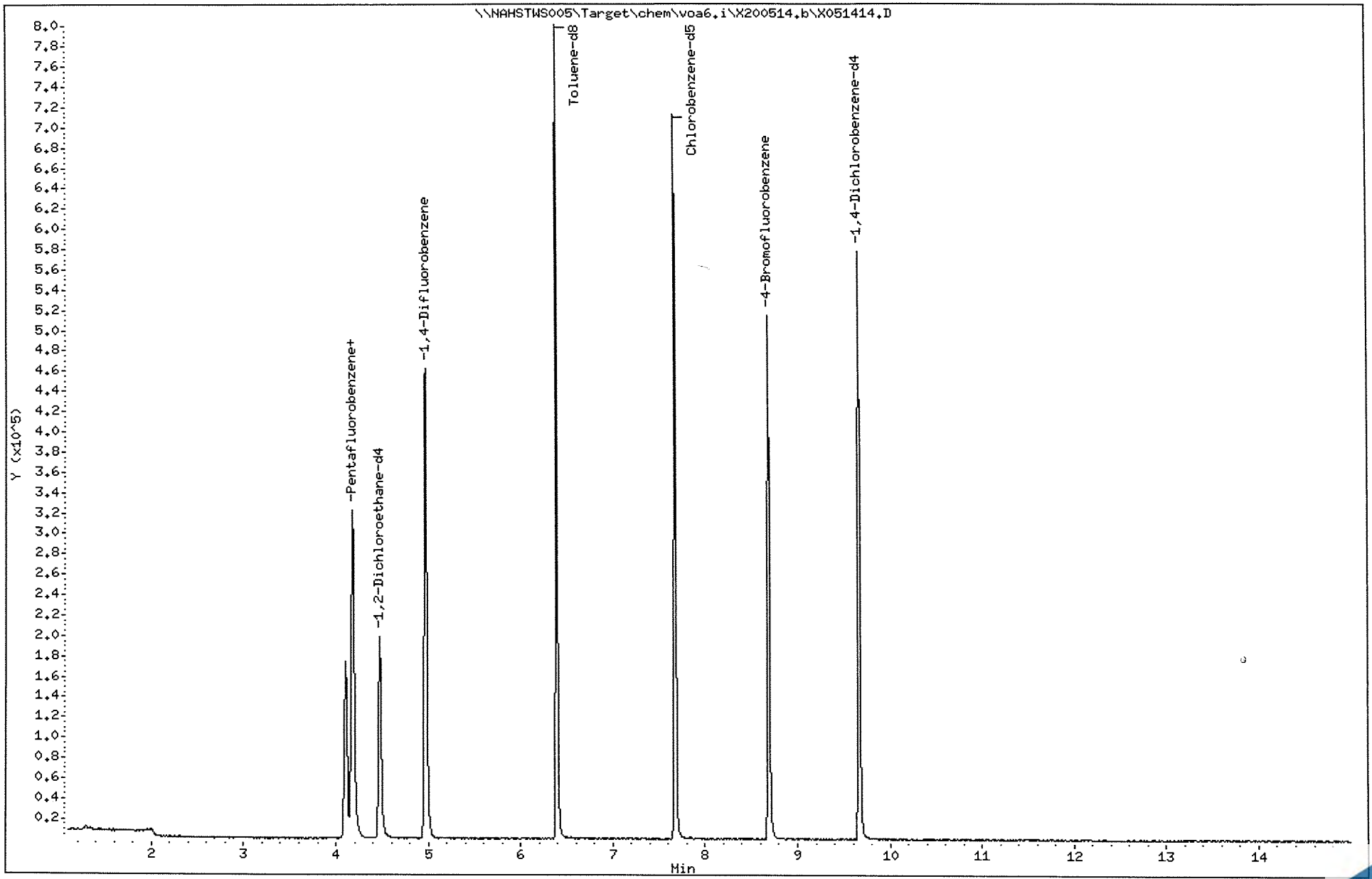
Sample Info: HS20050467-06;HS20050467-06;;;

Purge Volume: 5.0

Operator: PC

Column phase: DB624

Column diameter: 0.18



Data File: \\NAHSTWS005\Target\chem\voa6.i\X200514.b\X051415.D Page 1
Report Date: 01-Jun-2020 15:39

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X200514.b\X051415.D
Lab Smp Id: HS20050467-07 Client Smp ID: HS20050467-07
Inj Date : 14-MAY-2020 15:59
Operator : PC Inst ID: voa6.i
Smp Info : HS20050467-07;HS20050467-07;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200514.b\8260W.m
Meth Date : 01-Jun-2020 15:38 voa6.i Quant Type: ISTD
Cal Date : 11-MAY-2020 16:00 Cal File: X051108.D
Als bottle: 15
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000000_CBI.sub
Target Version: 4.14
Processing Host: NAHSTW7142

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	276036	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	382584	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.670	(1.000)	332880	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	166944	50.0000	
$ 30 Dibromofluoromethane	113	4.104	4.103	(0.981)	125518	45.5597	45.55
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	156457	45.9863	45.98
$ 48 Toluene-d8	98	6.389	6.388	(0.833)	444642	53.2156	53.21
$ 69 4-Bromofluorobenzene	95	8.688	8.695	(1.133)	161349	50.7464	50.74

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200514.b\X051415.D

Date : 14-MAY-2020 15:59

Client ID: HS20050467-07

Instrument: voa6.i

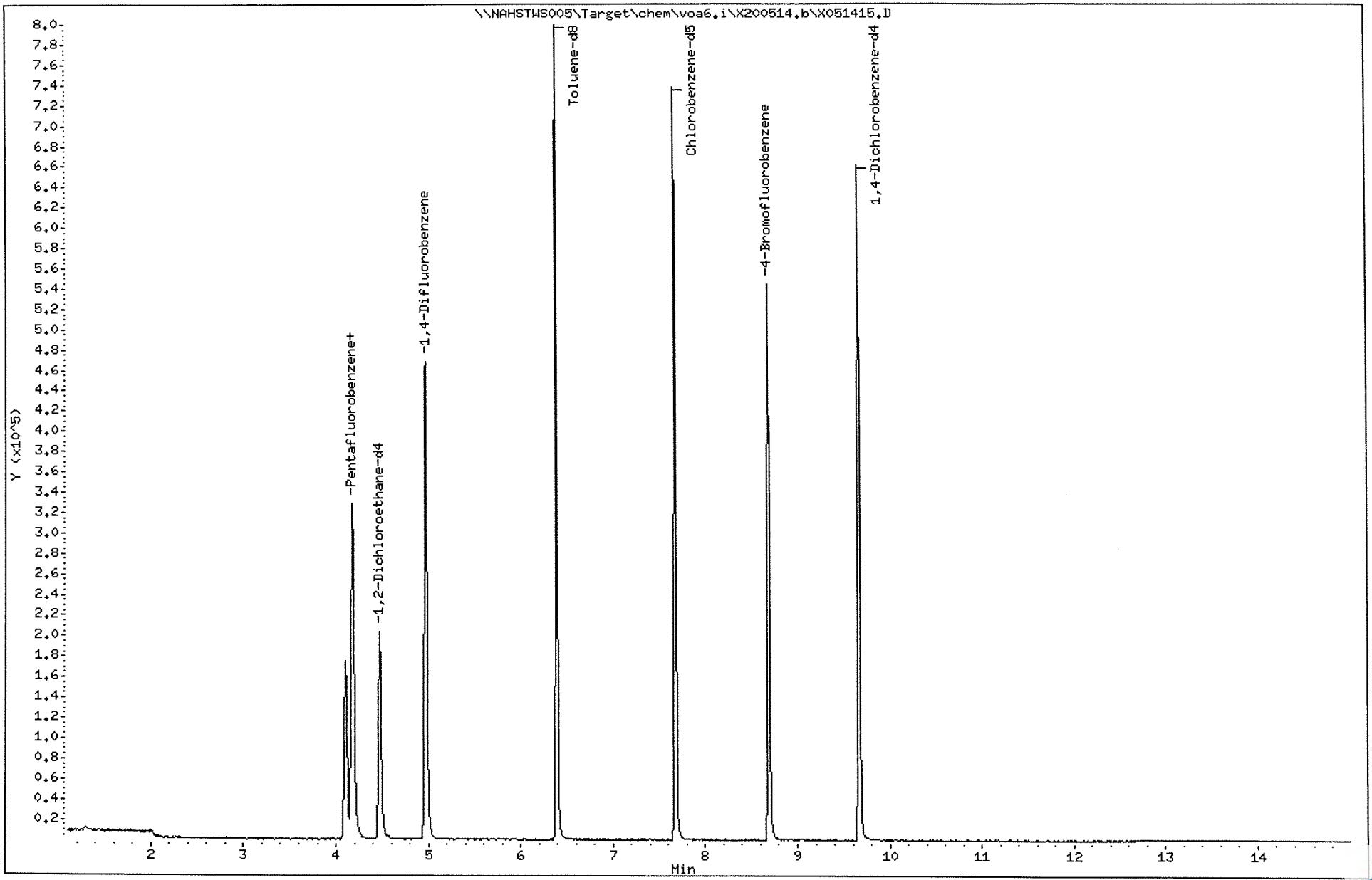
Sample Info: HS20050467-07;HS20050467-07;;;

Purge Volume: 5.0

Operator: PC

Column phase: DB624

Column diameter: 0.18



Data File: \\NAHSTWS005\Target\chem\voa6.i\X200514.b\X051416.D Page 1
Report Date: 01-Jun-2020 15:39

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X200514.b\X051416.D
Lab Smp Id: HS20050467-08 Client Smp ID: HS20050467-08
Inj Date : 14-MAY-2020 16:23
Operator : PC Inst ID: voa6.i
Smp Info : HS20050467-08;HS20050467-08;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200514.b\8260W.m
Meth Date : 01-Jun-2020 15:38 voa6.i Quant Type: ISTD
Cal Date : 11-MAY-2020 16:00 Cal File: X051108.D
Als bottle: 16
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000000_CBI.sub
Target Version: 4.14
Processing Host: NAHSTW7142

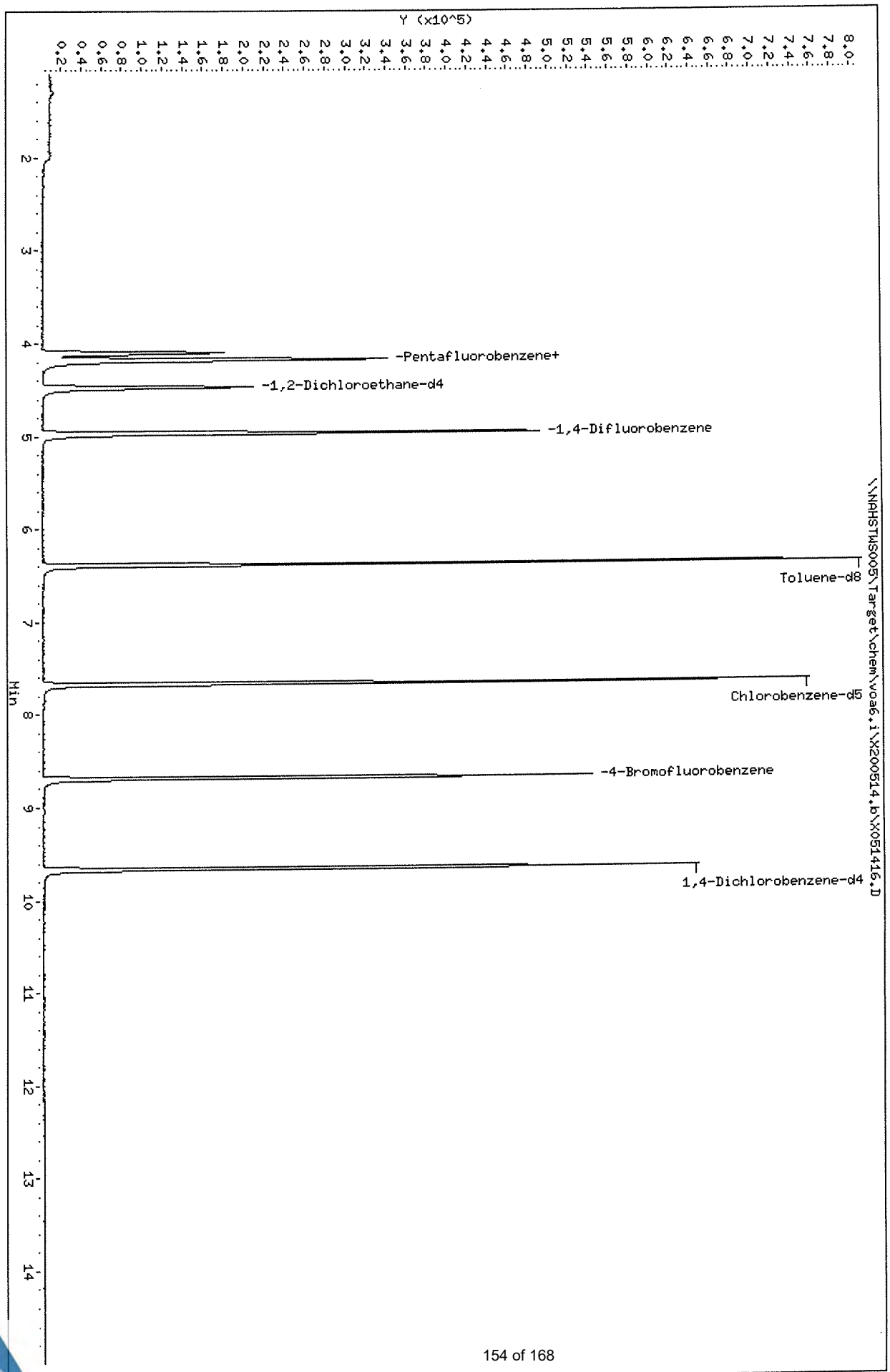
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	285879	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	392428	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.670	(1.000)	340709	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	162741	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	128740	45.1179	45.11
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	161123	45.7270	45.72
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	462466	54.0845	54.08
$ 69 4-Bromofluorobenzene	95	8.688	8.695	(1.133)	161790	49.7001	49.70

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200514.b\X051416.D
Date : 14-MAY-2020 16:23
Client ID: HS20050467-08
Sample Info: HS20050467-08;HS20050467-08;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18



Data File: \\NAHSTWS005\Target\chem\voa6.i\X200514.b\X051417.D Page 1
Report Date: 01-Jun-2020 15:39

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X200514.b\X051417.D
Lab Smp Id: HS20050467-09 Client Smp ID: HS20050467-09
Inj Date : 14-MAY-2020 16:47
Operator : PC Inst ID: voa6.i
Smp Info : HS20050467-09;HS20050467-09;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200514.b\8260W.m
Meth Date : 01-Jun-2020 15:38 voa6.i Quant Type: ISTD
Cal Date : 11-MAY-2020 16:00 Cal File: X051108.D
Als bottle: 17
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000000_CBI.sub
Target Version: 4.14
Processing Host: NAHSTW7142

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	285272	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	393519	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.670	(1.000)	336880	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.669	(1.000)	158075	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	127976	44.9447	44.94
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	161458	45.9197	45.91
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	458615	54.2451	54.24
$ 69 4-Bromofluorobenzene	95	8.688	8.695	(1.133)	158427	49.2128	49.21

01007320

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200514.b\X051417.D

Date : 14-MAY-2020 16:47

Client ID: HS20050467-09

Instrument: voa6.i

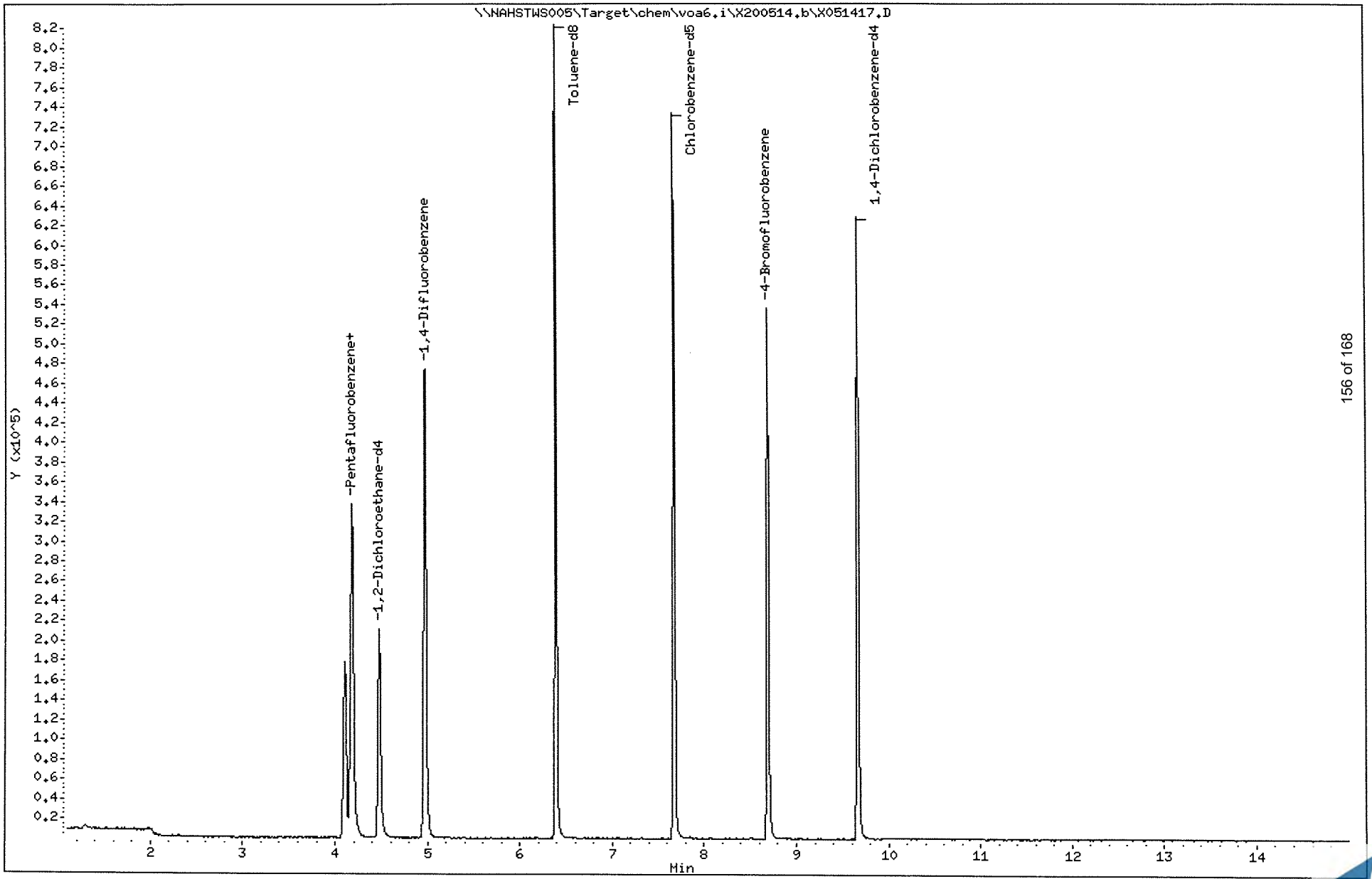
Sample Info: HS20050467-09;HS20050467-09;;;

Purge Volume: 5.0

Operator: PC

Column phase: DB624

Column diameter: 0.18



Data File: \\NAHSTWS005\Target\chem\voa6.i\X200514.b\X051418.D Page 1
Report Date: 01-Jun-2020 15:39

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X200514.b\X051418.D
Lab Smp Id: HS20050467-04MS Client Smp ID: HS20050467-04MS
Inj Date : 14-MAY-2020 17:11
Operator : PC Inst ID: voa6.i
Smp Info : HS20050467-04MS;HS20050467-04MS;3;;MS
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200514.b\8260W.m
Meth Date : 01-Jun-2020 15:38 voa6.i Quant Type: ISTD
Cal Date : 11-MAY-2020 16:00 Cal File: X051108.D
Als bottle: 18 QC Sample: MS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000000_CBI.sub
Target Version: 4.14
Processing Host: NAHSTW7142

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

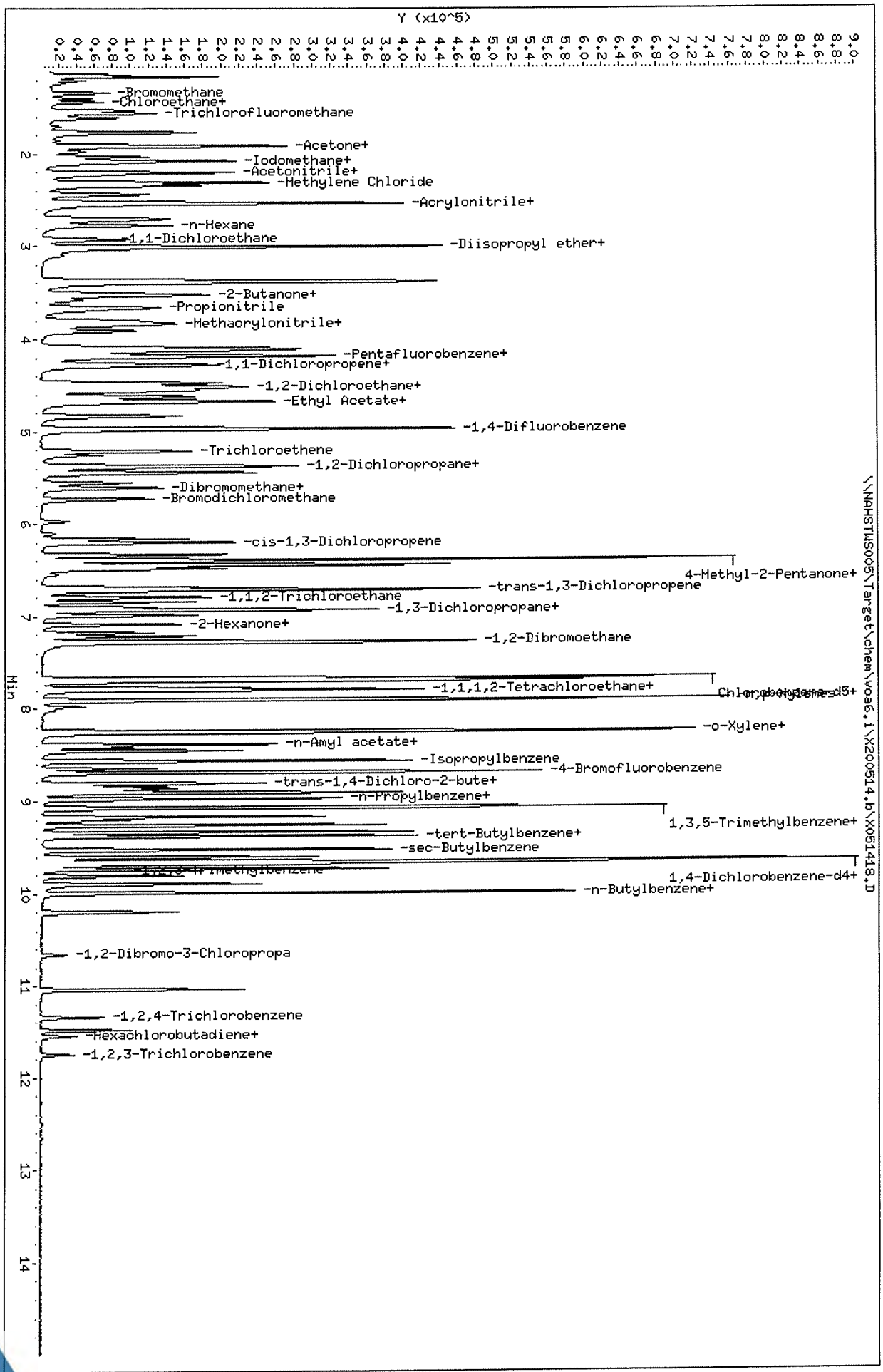
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	267522	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	370623	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.670	(1.000)	321959	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	162693	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	122453	45.8633	45.86
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	152115	46.1331	46.13
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	430856	53.3157	53.31
$ 69 4-Bromofluorobenzene	95	8.688	8.695	(1.133)	156387	50.8558	50.85
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	53582	21.1734	21.17
31 1,1,1-Trichloroethane	97	4.089	4.082	(0.978)	86215	20.1242	20.12
68 1,1,2,2-Tetrachloroethane	83	8.845	8.838	(0.915)	55869	21.3682	21.36
138 Freon TF	101	1.912	1.911	(0.457)	45644	22.0781	22.07
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	38289	21.3792	21.37
22 1,1-Dichloroethane	63	2.921	2.921	(0.699)	108341	18.6342	18.63
11 1,1-Dichloroethene	96	1.912	1.911	(0.457)	41409	19.4557	19.45
32 1,1-Dichloropropene	75	4.282	4.282	(0.862)	69862	20.5908	20.59
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.215)	10026	19.5330	19.53
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.917)	48074	21.2050	21.20(M)
90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	20154	18.8899	18.88
79 1,2,4-Trimethylbenzene	105	9.383	9.382	(0.970)	183151	21.4610	21.46
89 1,2-Dibromo-3-Chloropropane	155	10.658	10.657	(1.102)	5923	23.5344	23.53
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	49609	21.6882	21.68

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200514.b\X051418.D Page 2
Report Date: 01-Jun-2020 15:39

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
88	1,2-Dichlorobenzene	146	9.999	9.998	(1.034)	94138	20.7705	20.77
33	1,2-Dichloroethane	62	4.562	4.555	(0.918)	80839	20.9487	20.94
42	1,2-Dichloropropane	63	5.436	5.436	(1.094)	57197	18.9594	18.95
75	1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	183921	21.8942	21.89
83	1,3-Dichlorobenzene	146	9.605	9.604	(0.993)	104113	21.0004	21.00
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	77753	20.8843	20.88
84	1,4-Dichlorobenzene	146	9.683	9.683	(1.001)	104749	20.3696	20.36
26	2,2-Dichloropropane	77	3.509	3.516	(0.839)	79647	18.8035	18.80
24	2-Butanone	43	3.580	3.580	(0.856)	53244	44.1607	44.16
76	2-Chlorotoluene	91	8.974	8.974	(0.928)	150424	20.7144	20.71
52	2-Hexanone	43	7.090	7.090	(0.924)	85894	43.1418	43.14
77	4-Chlorotoluene	91	9.075	9.074	(0.939)	173031	20.6685	20.66
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	189647	22.1923	22.19
45	4-Methyl-2-Pentanone	43	6.324	6.324	(0.824)	127864	43.9854	43.98
10	Acetone	43	1.976	1.969	(0.473)	34386	35.0741	35.07
37	Benzene	78	4.512	4.512	(0.908)	190156	20.0723	20.07
74	Bromobenzene	156	8.810	8.809	(0.911)	61998	20.3259	20.32
29	Bromochloromethane	128	3.795	3.795	(0.908)	28561	18.4005	18.40
39	Bromodichloromethane	83	5.729	5.729	(1.153)	68275	19.7351	19.73
66	Bromoform	173	8.416	8.415	(1.097)	37944	20.5699	20.56
6	Bromomethane	94	1.338	1.338	(0.320)	37660	18.6804	18.68
19	Carbon Disulfide	76	2.069	2.069	(0.495)	261020	35.9958	35.99
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	76109	20.4387	20.43
59	Chlorobenzene	112	7.699	7.692	(1.004)	132754	20.8111	20.81
7	Chloroethane	64	1.396	1.403	(0.334)	34975	18.2126	18.21
28	Chloroform	83	3.910	3.910	(0.935)	93634	19.5856	19.58
3	Chloromethane	50	1.073	1.073	(0.257)	60598	14.8193	14.81
27	cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	56267	19.9376	19.93
46	cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	78347	19.3372	19.33
55	Dibromochloromethane	129	7.176	7.176	(0.936)	55521	21.3062	21.30
44	Dibromomethane	93	5.557	5.557	(1.118)	32918	20.1176	20.11
2	Dichlorodifluoromethane	85	0.966	0.966	(0.231)	33683	11.6167	11.61
61	Ethylbenzene	106	7.800	7.799	(1.017)	72204	21.5670	21.56
91	Hexachlorobutadiene	225	11.481	11.488	(1.187)	16070	18.7075	18.70
67	Isopropylbenzene	105	8.566	8.566	(1.117)	221774	22.0890	22.08
62	m,p-Xylenes	106	7.907	7.907	(1.031)	176178	43.3547	43.35
17	Methylene Chloride	84	2.305	2.305	(0.551)	48781	17.8526	17.85
87	n-Butylbenzene	91	9.999	9.998	(1.034)	156942	22.7618	22.76
73	n-Propylbenzene	91	8.917	8.917	(0.922)	250763	21.4390	21.43
92	Naphthalene	128	11.546	11.546	(1.194)	28154	18.3809	18.38
63	o-Xylene	106	8.244	8.243	(1.075)	83850	21.2080	21.20
81	sec-Butylbenzene	105	9.526	9.526	(0.985)	217655	22.0876	22.08
64	Styrene	104	8.258	8.258	(1.077)	146228	21.3402	21.34
78	tert-Butylbenzene	119	9.340	9.339	(0.966)	157138	22.0313	22.03
56	Tetrachloroethene	164	6.933	6.933	(0.904)	76461	36.0019	36.00
50	Toluene	91	6.446	6.446	(0.840)	204335	21.4450	21.44
20	trans-1,2-Dichloroethene	96	2.528	2.527	(0.604)	48766	20.0386	20.03
51	trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	73155	19.9098	19.90
38	Trichloroethene	130	5.214	5.206	(1.049)	56098	21.0947	21.09
8	Trichlorofluoromethane	101	1.561	1.560	(0.373)	87708	20.3772	20.37
5	Vinyl Chloride	62	1.138	1.138	(0.272)	63050	17.0016	17.00

QC Flag Legend

M - Compound response manually integrated.



Data File: \\NAHSTWS005\Target\chem\voa6,i\X200514,b\X051418,D
Date : 14-MAY-2020 17:11
Client ID: HS20050467-04HS
Sample Info: HS20050467-04HS;HS20050467-04HS;3;;HS
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6,i
Operator: PC
Column diameter: 0.18

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200514.b\X051419.D Page 1
Report Date: 01-Jun-2020 15:39

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X200514.b\X051419.D
Lab Smp Id: HS20050467-04MSD Client Smp ID: HS20050467-04MSD
Inj Date : 14-MAY-2020 17:35
Operator : PC Inst ID: voa6.i
Smp Info : HS20050467-04MSD;HS20050467-04MSD;3;;MSD
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200514.b\8260W.m
Meth Date : 01-Jun-2020 15:38 voa6.i Quant Type: ISTD
Cal Date : 11-MAY-2020 16:00 Cal File: X051108.D
Als bottle: 18 QC Sample: MSD
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000000_CBI.sub
Target Version: 4.14
Processing Host: NAHSTW7142

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

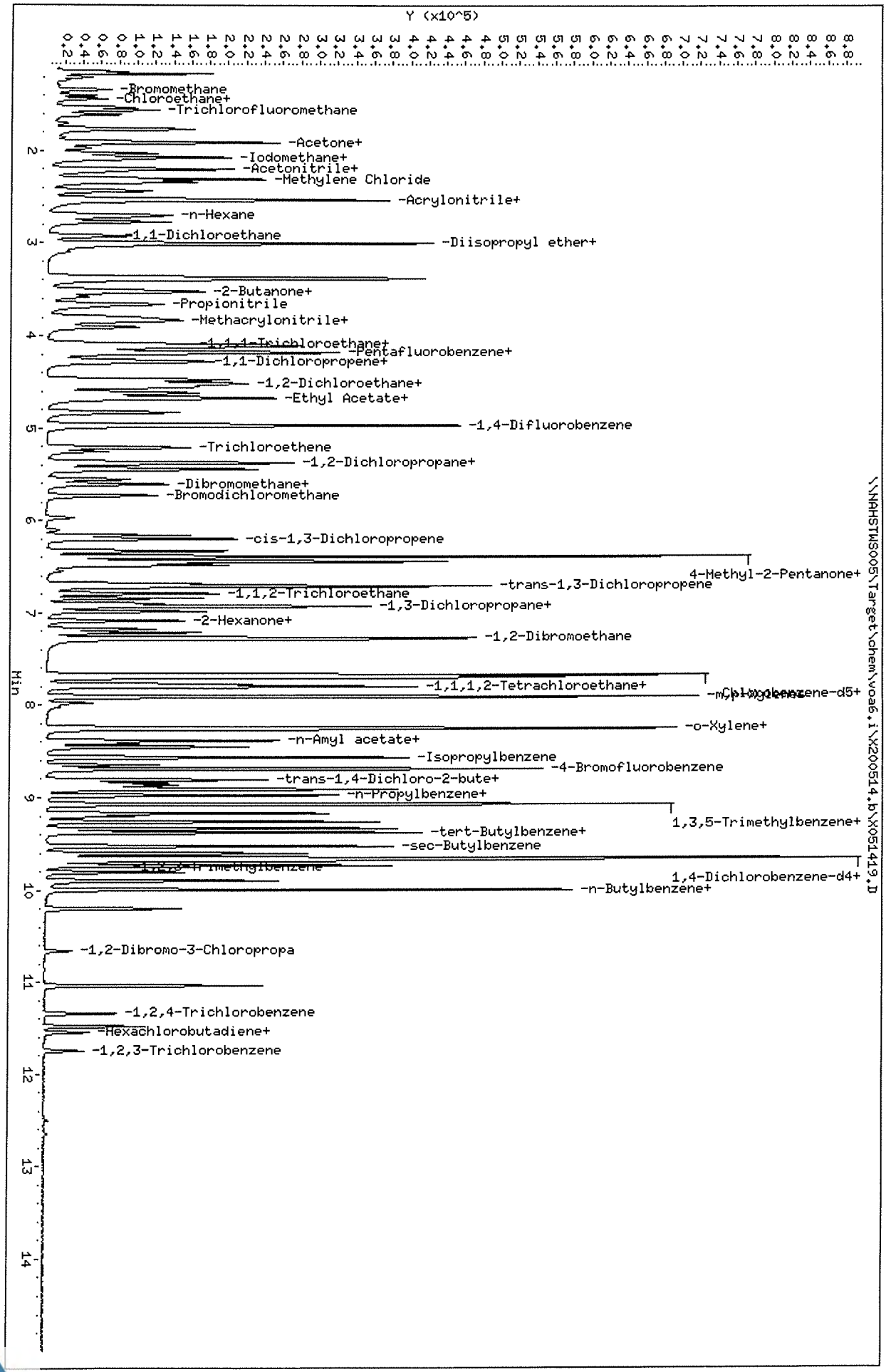
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	262948	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	371826	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.670	(1.000)	323407	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	163354	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	122444	46.6619	46.66
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	153888	47.4837	47.48
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	432356	53.2613	53.26
$ 69 4-Bromofluorobenzene	95	8.688	8.695	(1.133)	155606	50.3680	50.36
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	51505	20.2615	20.26
31 1,1,1-Trichloroethane	97	4.082	4.082	(0.976)	80389	19.0907	19.09
68 1,1,2,2-Tetrachloroethane	83	8.838	8.838	(0.914)	55189	21.0227	21.02
138 Freon TF	101	1.911	1.911	(0.457)	41367	20.3573	20.35
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	37146	20.6481	20.64
22 1,1-Dichloroethane	63	2.921	2.921	(0.699)	101860	17.8242	17.82
11 1,1-Dichloroethene	96	1.911	1.911	(0.457)	39521	18.8917	18.89
32 1,1-Dichloropropene	75	4.282	4.282	(0.862)	64466	18.9389	18.93
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.215)	11697	22.6892	22.68
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.917)	46855	20.5837	20.58 (M)
90 1,2,4-Trichlorobenzene	180	11.345	11.338	(1.173)	22668	20.8427	20.84
79 1,2,4-Trimethylbenzene	105	9.383	9.382	(0.970)	180334	21.0454	21.04
89 1,2-Dibromo-3-Chloropropane	155	10.658	10.657	(1.102)	6104	24.1167	24.11
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	47767	20.7894	20.78

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200514.b\X051419.D Page 2
Report Date: 01-Jun-2020 15:39

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
88	1,2-Dichlorobenzene	146	9.999	9.998	(1.034)	92250	20.2716	20.27
33	1,2-Dichloroethane	62	4.562	4.555	(0.918)	78004	20.1486	20.14
42	1,2-Dichloropropane	63	5.436	5.436	(1.094)	56710	18.7372	18.73
75	1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	178912	21.2117	21.21
83	1,3-Dichlorobenzene	146	9.605	9.604	(0.993)	102226	20.5364	20.53
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	76787	20.5325	20.53
84	1,4-Dichlorobenzene	146	9.683	9.683	(1.001)	102967	19.9421	19.94
26	2,2-Dichloropropane	77	3.509	3.516	(0.839)	73824	17.7320	17.73
24	2-Butanone	43	3.580	3.580	(0.856)	52631	44.4116	44.41
76	2-Chlorotoluene	91	8.974	8.974	(0.928)	146142	20.0433	20.04
52	2-Hexanone	43	7.090	7.090	(0.924)	86200	43.1016	43.10
77	4-Chlorotoluene	91	9.075	9.074	(0.939)	168965	20.1011	20.10
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	186467	21.7318	21.73
45	4-Methyl-2-Pentanone	43	6.324	6.324	(0.824)	126535	43.3333	43.33
10	Acetone	43	1.976	1.969	(0.473)	32768	33.9249	33.92
37	Benzene	78	4.512	4.512	(0.908)	183255	19.2812	19.28
74	Bromobenzene	156	8.809	8.809	(0.911)	60566	19.7761	19.77
29	Bromochloromethane	128	3.795	3.795	(0.908)	27540	18.0513	18.05
39	Bromodichloromethane	83	5.729	5.729	(1.153)	67114	19.3368	19.33
66	Bromoform	173	8.416	8.415	(1.097)	38919	21.0040	21.00
6	Bromomethane	94	1.331	1.338	(0.318)	32608	16.3669	16.36
19	Carbon Disulfide	76	2.069	2.069	(0.495)	242819	34.0683	34.06
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	70939	18.9887	18.98
59	Chlorobenzene	112	7.699	7.692	(1.004)	127394	19.8814	19.88
7	Chloroethane	64	1.396	1.403	(0.334)	33005	17.4689	17.46
28	Chloroform	83	3.910	3.910	(0.935)	89797	19.1098	19.10
3	Chloromethane	50	1.073	1.073	(0.257)	58245	14.5055	14.50
27	cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	53170	19.1680	19.16
46	cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	76532	18.8281	18.82
55	Dibromochloromethane	129	7.176	7.176	(0.936)	54361	20.7676	20.76
44	Dibromomethane	93	5.557	5.557	(1.118)	32054	19.5262	19.52
2	Dichlorodifluoromethane	85	0.966	0.966	(0.231)	30321	10.7287	10.72
61	Ethylbenzene	106	7.799	7.799	(1.017)	68615	20.4032	20.40
91	Hexachlorobutadiene	225	11.488	11.488	(1.188)	18441	21.2428	21.24
67	Isopropylbenzene	105	8.566	8.566	(1.117)	215049	21.3233	21.32
62	m,p-Xylenes	106	7.907	7.907	(1.031)	167191	40.9590	40.95
17	Methylene Chloride	84	2.305	2.305	(0.551)	48233	17.9655	17.96
87	n-Butylbenzene	91	9.999	9.998	(1.034)	155337	22.4379	22.43
73	n-Propylbenzene	91	8.917	8.917	(0.922)	244435	20.8135	20.81
92	Naphthalene	128	11.546	11.546	(1.194)	34149	22.2047	22.20
63	o-Xylene	106	8.244	8.243	(1.075)	79759	20.0830	20.08
81	sec-Butylbenzene	105	9.526	9.526	(0.985)	208101	21.0326	21.03
64	Styrene	104	8.258	8.258	(1.077)	138254	20.0861	20.08
78	tert-Butylbenzene	119	9.340	9.339	(0.966)	152712	21.3241	21.32
56	Tetrachloroethene	164	6.933	6.933	(0.904)	70425	33.0114	33.01
50	Toluene	91	6.446	6.446	(0.840)	197581	20.6433	20.64
20	trans-1,2-Dichloroethene	96	2.527	2.527	(0.604)	45652	19.0853	19.08
51	trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	71027	19.2681	19.26
38	Trichloroethene	130	5.206	5.206	(1.048)	53561	20.0755	20.07
8	Trichlorofluoromethane	101	1.553	1.560	(0.371)	79429	18.7747	18.77
5	Vinyl Chloride	62	1.138	1.138	(0.272)	56645	15.5402	15.54

QC Flag Legend

M - Compound response manually integrated.



Data File: \\NAHSTWS005\Target\chem\voa6.i\X200514.b\X051419.D
Date : 14-MAY-2020 17:35
Client ID: HS20050467-04MSD
Sample Info: HS20050467-04MSD;HS20050467-04MSD;3;;MSD
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200514.b\X051420.D Page 1
Report Date: 01-Jun-2020 15:39

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X200514.b\X051420.D
Lab Smp Id: CCV-END Client Smp ID: CCV-END
Inj Date : 14-MAY-2020 17:59
Operator : PC Inst ID: voa6.i
Smp Info : CCV-END;CCV-END;2;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200514.b\8260W.m
Meth Date : 01-Jun-2020 15:39 voa6.i Quant Type: ISTD
Cal Date : 11-MAY-2020 16:00 Cal File: X051108.D
Als bottle: 19 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000000_CBI.sub
Target Version: 4.14
Processing Host: NAHSTW7142

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	213842	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	322472	50.0000	
* 47 Chlorobenzene-d5	117	7.670	7.670	(1.000)	298993	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	154967	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	111791	50.0000	52.41
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	140638	50.0000	53.36
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	371870	50.0000	49.51
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	143042	50.0000	50.07
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	112987	50.0000	48.07
31 1,1,1-Trichloroethane	97	4.082	4.082	(0.976)	172432	50.0000	50.35
68 1,1,2,2-Tetrachloroethane	83	8.838	8.838	(0.914)	122679	50.0000	49.26
138 Freon TF	101	1.911	1.911	(0.457)	84730	50.0000	51.27
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	83246	50.0000	50.05
22 1,1-Dichloroethane	63	2.921	2.921	(0.699)	227620	50.0000	48.97
11 1,1-Dichloroethene	96	1.911	1.911	(0.457)	86266	50.0000	50.70
32 1,1-Dichloropropene	75	4.282	4.282	(0.862)	138687	50.0000	46.97
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.215)	26763	50.0000	53.51
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.917)	108276	50.0000	50.14(M)
90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	50928	50.0000	45.74
79 1,2,4-Trimethylbenzene	105	9.382	9.382	(0.970)	377704	50.0000	46.46
89 1,2-Dibromo-3-Chloropropane	155	10.657	10.657	(1.102)	13705	50.0000	55.07
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	109031	50.0000	51.32

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200514.b\X051420.D Page 2
Report Date: 01-Jun-2020 15:39

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
88 1,2-Dichlorobenzene	146	9.991	9.991	(1.033)	203466	50.0000	47.13
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	177464	50.0000	52.85
42 1,2-Dichloropropane	63	5.436	5.436	(1.094)	126193	50.0000	48.07
75 1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	369165	50.0000	46.13
83 1,3-Dichlorobenzene	146	9.605	9.605	(0.993)	219972	50.0000	46.58
54 1,3-Dichloropropane	76	6.983	6.983	(0.910)	174033	50.0000	50.33
84 1,4-Dichlorobenzene	146	9.683	9.683	(1.001)	222531	50.0000	45.43
26 2,2-Dichloropropane	77	3.516	3.516	(0.841)	156220	50.0000	46.13
24 2-Butanone	43	3.573	3.573	(0.854)	126614	100.000	131.37
76 2-Chlorotoluene	91	8.974	8.974	(0.928)	314170	50.0000	45.42
52 2-Hexanone	43	7.090	7.090	(0.924)	200225	100.000	108.29
77 4-Chlorotoluene	91	9.074	9.074	(0.939)	363749	50.0000	45.61
82 p-Isopropyltoluene	119	9.655	9.655	(0.999)	380707	50.0000	46.77
45 4-Methyl-2-Pentanone	43	6.324	6.324	(0.824)	291515	100.000	107.98
10 Acetone	43	1.976	1.976	(0.473)	79590	100.000	106.54
37 Benzene	78	4.512	4.512	(0.908)	398554	50.0000	48.35
74 Bromobenzene	156	8.809	8.809	(0.911)	135567	50.0000	46.66
29 Bromochloromethane	128	3.795	3.795	(0.908)	62391	50.0000	50.28
39 Bromodichloromethane	83	5.729	5.729	(1.153)	150872	50.0000	50.12
66 Bromoform	173	8.415	8.415	(1.097)	87149	50.0000	50.87
6 Bromomethane	94	1.338	1.338	(0.320)	77340	50.0000	49.16
19 Carbon Disulfide	76	2.069	2.069	(0.495)	580470	100.000	100.14(A)
34 Carbon Tetrachloride	117	4.268	4.268	(0.859)	151041	50.0000	46.61
59 Chlorobenzene	112	7.699	7.699	(1.004)	282036	50.0000	47.60
7 Chloroethane	64	1.403	1.403	(0.336)	76695	50.0000	50.69
28 Chloroform	83	3.910	3.910	(0.935)	195410	50.0000	51.13
3 Chloromethane	50	1.073	1.073	(0.257)	164448	50.0000	48.80
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	114715	50.0000	50.85
46 cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	174978	50.0000	49.63
55 Dibromochloromethane	129	7.176	7.176	(0.936)	120622	50.0000	49.84
44 Dibromomethane	93	5.557	5.557	(1.118)	72568	50.0000	50.97
2 Dichlorodifluoromethane	85	0.966	0.966	(0.231)	124062	50.0000	49.68
61 Ethylbenzene	106	7.799	7.799	(1.017)	147110	50.0000	47.31
91 Hexachlorobutadiene	225	11.481	11.481	(1.187)	36120	50.0000	42.83
67 Isopropylbenzene	105	8.566	8.566	(1.117)	442044	50.0000	47.41
62 m,p-Xylenes	106	7.907	7.907	(1.031)	353576	100.000	93.69
17 Methylene Chloride	84	2.305	2.305	(0.551)	111669	50.0000	53.12
87 n-Butylbenzene	91	9.998	9.998	(1.034)	308209	50.0000	46.92
73 n-Propylbenzene	91	8.917	8.917	(0.922)	504622	50.0000	45.29
92 Naphthalene	128	11.546	11.546	(1.194)	80848	50.0000	55.41
63 o-Xylene	106	8.244	8.244	(1.075)	175670	50.0000	47.84
81 sec-Butylbenzene	105	9.526	9.526	(0.985)	419935	50.0000	44.73
64 Styrene	104	8.258	8.258	(1.077)	310337	50.0000	48.76
78 tert-Butylbenzene	119	9.339	9.339	(0.966)	310432	50.0000	45.69
56 Tetrachloroethene	164	6.933	6.933	(0.904)	91353	50.0000	46.31
50 Toluene	91	6.446	6.446	(0.840)	423401	50.0000	47.84
20 trans-1,2-Dichloroethene	96	2.527	2.527	(0.604)	100273	50.0000	51.54
51 trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	165286	50.0000	51.70
38 Trichloroethene	130	5.206	5.206	(1.048)	114176	50.0000	49.34
8 Trichlorofluoromethane	101	1.560	1.560	(0.373)	181582	50.0000	52.77
5 Vinyl Chloride	62	1.138	1.138	(0.272)	150363	50.0000	50.72

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.
M - Compound response manually integrated.

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200514.b\X051420.D
Date : 14-MAY-2020 17:59
Client ID: CCV-END
Sample Info: CCV-END;CCV-END;2;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Subject: **Final Monthly Managers' Meeting (MMM), Longhorn Army Ammunition Plant (LHAAP)**
Location of Meeting: **Teleconference**
Date of Meeting: **15 December 2020– 1:00 PM Central Standard Time (CST)**

Attendees:

Army BRAC:	Rose M. Zeiler (RMZ)
USEPA:	Bill Rhotenberry (BR), Lauren Poulos (LP) and Kent Becher (USGS Liaison)
AEC:	Andrew Maly (AM), Laura Zographos, Thomas Toudouze
TCEQ:	April Palmie (AP)
USACE:	Aaron Williams (AW)
Bhate:	Kim Nemmers (KN)
APTIM:	Bill Foss (BF) and Praveen Srivastav (PS)
TLI:	Kyra Donnell (KD)
USFWS:	Paul Bruckwicki (PB)

Defense Environmental Restoration Program (DERP) Performance-Based Remediation (PBR) Update

- **Bhate Action Item:** Check Harrison County COVID restrictions: KN said that Harrison County is still required to follow the Texas COVID-19 requirements regarding limiting gatherings. PB concurred. PB said that two USFWS personnel had COVID-19 so USFWS is in shut-down. One of those persons is the dynamite guy so the beaver dams were not assessed. PB said that they are hoping to be back next week.
- **EPA Action Item**: Determine if construction completion determination is made by the USEPA for ESD remedial activities. RMZ asked LP if USEPA would be providing a construction completion concurrence letter for a site like LHAAP-50 that had recent injections for a contingency remedy implemented via an explanation of significant differences. LP said she would look into it and follow-up.
- **Army BRAC Action Item:** RMZ said she would take an action item to reach out to the RAB Co-Chair to discuss the RAB meeting format further.

Groundwater Treatment Plant (GWTP) – KN said that the GWTP was operating properly. KN said that extraction well 18WW17 was repaired the week prior, it was then shut-down until it could be sampled. Once 18WW17 was sampled, it was restarted. KN explained that RMZ had requested on December 2nd that the well be sampled before running the well since concentrations had been elevated in the June 2020 sampling event and the pump had not operated properly since March and not at all for the 3rd and 4th quarters.

Field Work – KN said that LHAAP-58, LHAAP-18/24 and LHAAP-12 groundwater sampling was being completed in December 2020.

KN asked everyone to refer to the Document and Issues Tracking Table dated 16 December 2020.

- **Task 1** (Project Management) – KN stated that minutes from the November 2020 MMM minutes were finalized. KN said that the next Restoration Advisory (RAB) meeting was scheduled for 20 January 2021. RMZ said that, due to Harrison County COVID restrictions, the meeting cannot be held in person so it will be held via conference call. RMZ said that the Army will shoot for an in-person RAB meeting in April 2021. RMZ asked for input from the USEPA and TCEQ. LP said that USEPA personnel are not able to travel at this time except in certain circumstances. LP concurred with virtual meeting. AP also said that TCEQ is

generally not allowed to travel with a few exceptions. LP said that phone call was what the RAB members were used to and agreed it was the best option.

- **Task 3** (LHAAP-03) – PS said that the Remedial Action Completion Report (RACR) is in progress for the soil excavation and should be provided to the Regulators in January 2021.
- **Task 4** (LHAAP-04) – PS stated that the Year 1 Quarter 4 performance sampling was completed in November 2020 and that the data are included with the December 2020 meeting handouts. BF said that perchlorate results are again below the Protective Concentration Level (PCL). BF said that the RACR presented an expanded Land Use Control (LUC) boundary due to a previous detection of perchlorate in well 04WW05 versus the preliminary LUC boundary in the Record of Decision (ROD) that matches the parcel boundary between the Army and USFWS property. BF asked the regulators which LUC boundary should be surveyed and incorporated into the Final RACR. AP said that using the ROD LUC boundary will be acceptable. AP said that if there is a rebound in perchlorate concentrations, the LUC boundary can be addressed in the next Five Year Review. LP said she was not comfortable responding without reviewing further. BF offered to send out an email with the data and map to obtain consensus on the LUC boundary. BR later joined the call and said he would discuss with KB and LP further. BF will provide RMZ the notice and survey for notarization. BF said he had the surveyor scheduled to complete the survey once consensus on the LUC boundary was received. PS said that the Final RACR would be issued once the LUC boundary is surveyed and the LUC notice is filed with Harrison County.
- **Task 5** (LHAAP-12) – PS stated that no reports are in progress. PS said that the 2020 sampling event will be completed in December 2020 and that the validated data would be available for February 2020 meeting.
- **Task 6** (LHAAP-16) – PS stated that the Year 1 Quarter 3 groundwater sampling was completed in October 2020, and the validated data from the sampling event are provided for the December 2020 MMM. BF said that the results indicate that the trichloroethylene (TCE) detections are a mixed bag. However, BF said that the dehalococcoides (DHC) populations within the barriers and downgradient wells were increasing. BF highlighted16IW10 (Biobarrier 3) and 16IW20 (Bayou barrier), (page 9 of validated data package) as having had over a full order of magnitude increase in the DHC. TCE decline is observed in these same wells. BF stated that the populations of DHC are growing in wells where the bacteria were sampled, and oxidation reduction potential and dissolved oxygen are also decreasing. BF said that the reducing conditions suitable for reductive dechlorination are being created especially in the biobarriers. RMZ asked about the total organic carbon (TOC). BF said that the TOC is still a mixed bag. BF explained that 16-EW-05 could not be sampled due to the presence of substrate. Well 16-EW-05 had a waxy plug that Scott Beesinger could not get through to sample. BF said that 16-EW-06 and 16-EW-07 were very viscous, and the perchlorate samples were analyzed as solids due to the sample consistency.

  KB said that Biobarrier 2 also had degradation occurring. KB pointed out that 16WW36 has high degradation products. PS said that 16WW36 is approximately 80 feet downgradient of Biobarrier 2 and it is good to see effects of injections that far downgradient at this location. KB pointed out that there is an overall increase in degradation products. PS said that the TOC is high in 16WW36, and BF said that the DHC increased by 100-percent in that well. BF said that the hope is to observe continued improvements in results as the water flows through the biobarriers. PS stated that the LUC boundary survey had been completed and is being prepared for recordation.
- **Task 7** (LHAAP-17) – PS explained that the combined excavation and backfill summary report is in progress and will be submitted to the Regulators in January 2021. AW said that

the USACE Ordnance and Explosives Safety Specialist (OESS) Mr. Bohannon provided the 3R (recognize, retreat, report) training to East Texas Landfill. AW said that a Technical Memorandum would be provided by the OESS and that this information should be included in the Excavation and Backfill Report. BF said that he would include a placeholder for the document.

- **Task 9** (LHAAP-37) – PS stated that the Year 4, Semiannual Sampling Event 1 was completed in November 2020. PS said that the validated data from the sampling event will be provided at the January 2021 MMM. BF stated that the Year 3 Annual Remedial Action Operation (RA-O) Report was submitted 4 November 2020 to the regulators. TCEQ responded on 2 December 2020. PS said that no comments have been received from the USEPA to date.
- **Task 10** (LHAAP-46) – PS stated that Draft Final Year 5 Annual RA-O Report was finalized and will be placed into the AR. PS stated that the Year 6 Annual RA-O Report is in progress and will be submitted to the Regulators in December 2020.
- **Task 11** (LHAAP-50) – PS stated the Year 1 Quarter 3 sampling is scheduled for January 2021 with the data to be presented at the March 2021 MMM. PS said that the Draft Year 6 RA-O Report was submitted on 3 December 2020 to the Regulators with review comments expected in January 2021.
- **Task 12** (LHAAP-58) –KN stated that LHAAP-58 had been sampled earlier in the month of December. KN Stated that the Draft Final Year 6 RA-O Report had been submitted to the Regulators along with the response to comments on 9 December 2020.
- **Task 13** (LHAAP-67) – PS stated that the validated data from the November 2020 sampling event will be provided for the January 2021 MMM.
- **Task 14** (LHAAP-001-R and –003-R) – No discussion.
- **Task 16** (GWTP) **–**KN stated that the 3rd Quarter 2020 GWTP was provide to the Regulators on 3 December 2020. KN stated that the 3rd Quarter report does not include LHAAP-18/24 data.
- **Task 17** (LHAAP-18/24) – KN said that semi-annual groundwater sampling was currently being completed.
- **Task 18** (Surface Water) – KN stated surface water samples had been collected in December and that the results would be presented at the January 2021 MMM and RAB meeting.
- **Task 19** (LUC Management Plan) – No discussion.
- **Administrative Record (AR) –**PS said that the January through March 2020 cutoff was printed and will ship on Friday, 18 December 2020. PS said that documents from April through June 2020 and July through September 2020 were being compiled
- **Well Abandonments –**PS said that the State Plugging and Abandonment Reports is planned for submitted to the Regulators in January 2021.

Update on other DERP Sites:

- **LHAAP 18/24 –** AW stated that the draft LHAAP-18/24 Pre-Design Investigation (PDI) Work Plan will be submitted to the Regulators in January 2021. AW said that the PDI field work will be done in March/April timeframe with PDI Report submitted to the Regulators in November 2021. AP and AW discussed expectations regarding figure quality.
- **LHAAP-29** – AW said that the LHAAP-29 PDI Work Plan comments were received from TCEQ on 14 December 2020. BR said that he would provide his comments on 16 December 2020. AW said that field work will be completed in the February/March 2021 timeframe with the PDI Report submitted to the Regulators in June 2021.

- **LHAAP-47** – AW said that comments from TCEQ and USEPA on the Draft PSI Addendum No. 2 Report had been received. Responses to the comments would be provided in early January 2021 to the Regulators. AW said that the feasibility study was being reviewed by the US Army Center for Health Promotion and Preventative Medicine (CHPPM), which AM explained is now called the Public Health Command. The draft revised Feasibility Study is planned for submittal on 8 January 2021 to the Regulators.

LHAAP-17 PBR: KD explained that the validated results from the grab samples collected from open excavation areas H, J, K, L, M, and N were non-detect for volatile organic compounds and explosives. Perchlorate was detected at 53.6 micrograms per liter (µg/L), above the PCL of 17 µg/L in Area H. KD explained that the PCL for industrial/commercial was 51 µg /L, but AP said that the relevant PCL is residential (17 µg /L). KD stated that based on the results, it is proposed that standing water in areas J, K, L, M and N to be discharged directly to ground. With respect standing water in area H, discussion regarding the management included whether the water could be used to irrigate LHAAP-18/24, to irrigate LHAAP-17, discharged directly to the bayou at the GWTP discharge point, discharged to the drainage ditch that leads to the bayou, and discharged to the GWTP. KN noted that perchlorate concentrations in area H sample were below the perchlorate discharge from the GWTP to the bayou. KD explained that the standing water would be managed prior to the munitions and explosives of concern (MEC) investigation phase. AP noted that the current procedures are in place for irrigation at LHAAP-18/24 and discharge to the GWTP and suggested that these would require the least administrative review. KN explained that irrigation to LHAAP-18/24 was a least favored option based on the existing discharge protocol for the GWTP.

RMZ provided a memorandum to the team that explains how irrigation was previously employed in 2007 to demonstrate irrigation at LHAAP-17 as a viable option. RMZ explained that with respect to direct discharge to the bayou, the discharge would not be from the GWTP but at the discharge point in Harrison Bayou. Concerns and considerations for each of the alternatives were discussed.

KN explained that the discussion was about the existing water in the excavations to complete the MEC investigation phase of the work, but the management of the water will apply to the excavation phase that will follow. KD explained that water management during the excavation phase will be addressed in the Remedial Design/Remedial Action Work Plan (RD/RA WP) Addendum. KD said the Explanation of Significant Difference was under Army review and would be submitted to the Regulators in January 2021. The Work Plan for the Geophysical Investigation was planned for Submittal to the Regulators in late February 2021. KD said that the RD/RAWP Addendum for the excavation phase of work is planned for submittal in March 2021.
USFWS: No updates.

Schedule Next Managers' Meeting

The next MMM will be held on Wednesday, 20 January 2021 at 10:00 am CST via conference call.

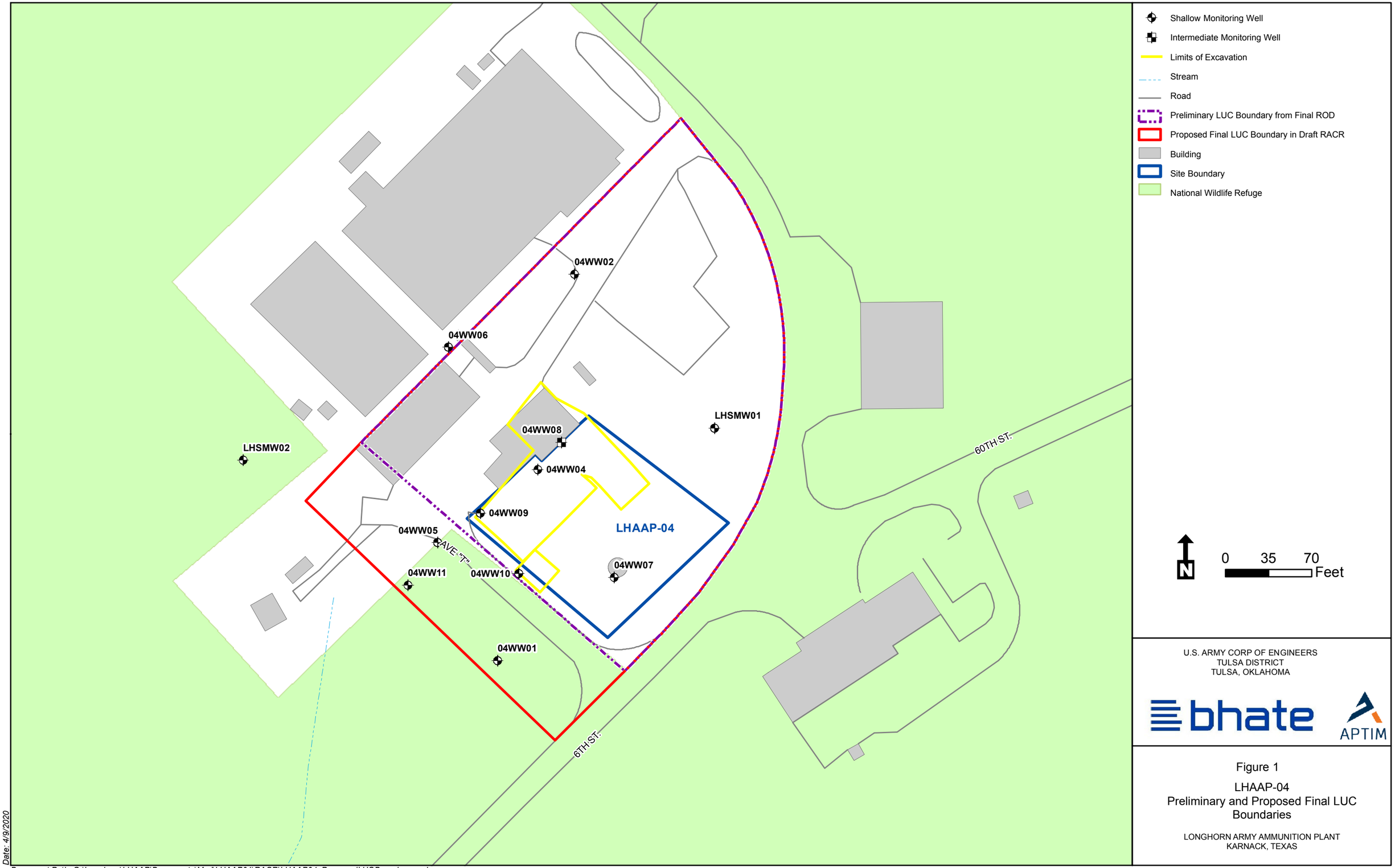
Meeting concluded at approximately 2:36 pm CST.

ACRONYM LIST

µg/L	Micrograms per liter
AEC	Army Environmental Command
AM	Andrew Maly
AP	April Palmie
APTIM	APTIM Federal Services, LLC
AR	Administrative Record
AW	Aaron Williams
BF	Bill Foss
Bhate	Bhate Environmental Associates, Inc.
BR	Bill Rhotenberry
BRAC	Base Realignment and Closure
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CHPPM	Army Center for Health Promotion and Preventive Medicine (now called the Public Health Center)
COC	Contaminant of Concern
CST	Central Standard Time
DERP	Defense Environmental Restoration Program
DHC	dehalococcoide
GWTP	Groundwater Treatment Plant
KB	Kent Becher
KD	Kyra Donnell
KN	Kim Nemmers
LHAAP	Longhorn Army Ammunition Plant
LP	Lauren Poulos
LUC	Land Use Control
MEC	Munitions and explosives of concern
MMM	Monthly Managers' Meeting
OESS	Ordnance and Explosives Safety Specialist
PBR	Performance-Based Remediation
PCL	Protective Concentration Levels
PDI	Pre-Design Investigation
PS	Praveen Srivastav
RAB	Restoration Advisory Board
RACR	Remedial Action Completion Report
RA-O	Remedial Action – Operation
RMZ	Rose M. Zeiler
ROD	Record of Decision
SB	Scott Beesinger
TCE	Trichloroethylene
TCEQ	Texas Commission on Environmental Quality
TLI	TLI Solutions, Inc.
USACE	United States Army Corps of Engineers
USEPA	United States Environmental Protection Agency
USFWS	United Fish and Wildlife Service
USGS	United States Geological Survey

LHAAP Validated Data Packages for December 2020 Monthly Manager's Meeting

LHAAP Area	Analytical Method
LHAAP-04	*August 2020 Remedial Performance Monitoring (Year 1, Quarter 3)* Perchlorate (EPA 6850) Alkalinity (SM2320B) Nitrate, Nitrite, and Sulfate (SW9056A) Total Organic Carbon (SM5310B) Field Measurements (Dissolved Oxygen, Oxidation Reduction Potential, Ferrous Iron, and pH)
LHAAP-16	*July-August 2020 Remedial Performance Monitoring (Year 1, Quarter 2)* Volatile Organic Compounds (8260C) Metals (SW6020) Perchlorate (EPA 6850) Dissolved Gases (RSK-175) Bromide (SW9056A) Total Organic Carbon (SM5310B) Dechlorinating Bacteria (Census) Field Measurements (Dissolved Oxygen, Oxidation Reduction Potential, and pH)
LHAAP-17	*Standing Water in Exavations - November 2020* Volatile Organic Compounds (SW8260C) Explosives (SW8330A) Perchlorate (EPA 6850)



U.S. ARMY CORP OF ENGINEERS
TULSA DISTRICT
TULSA, OKLAHOMA

bhate APTIM

Figure 1

LHAAP-04
Preliminary and Proposed Final LUC Boundaries

LONGHORN ARMY AMMUNITION PLANT
KARNACK, TEXAS

Date: 4/9/2020

Document Path: G:\Longhorn\LHAAP\Documents\Mxd\LHAAP04\RACR\LHAAP04_ProposedLUCBoundary.mxd

LHAAP-04 Remedial Performance Monitoring
Year 1, Quarter 4
November 2020

			Location Code	04WW01		04WW02		04WW04		04WW05		04WW06		04WW07		04WW08	
			Sample ID	04WW01-201104		04WW02-201104		04WW04-201104		04WW05-201104 & 04WW05-201105		04WW06-201104		04WW07-201104 & 04WW07-201105		04WW08-201104	
			Sample Date	11/4/2020		11/4/2020		11/4/2020		11/4/2020 & 11/5/2020		11/4/2020		11/4/2020 & 11/5/2020		11/4/2020	
			Location Description:	Shallow Zone, Downgradient of Plume		Shallow Zone, Upgradient of Plume		Shallow Zone, Within Plume Area		Shallow Zone, Within Plume Area		Shallow Zone, Cross-Gradient to Plume Area		Shallow Zone, Downgradient of Plume Area		Intermediate Zone, Slightly Upgradient of Plume Area	
	Units	PCL		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		0.03		0.57		0.45		0.15		0.14		0.03		0.8	
Ferrous Iron	mg/L	NV		NM		NM		NM		3.3		NM		2.59		NM	
Oxidation-Reduction Potential	mV	NV		-115		60		127		-36		37		-105		-8	
pH	pH_units	NV		6.70		6.05		5.03		6.55		6.73		6.83		6.52	
General Chemistry (SM2320B/SM5310B/SW9056A)																	
Alkalinity	mg/L	NV		NA		NA		NA		605		NA		1180		NA	
Nitrate	mg/L	NV		NA		NA		NA		< 0.1	U	NA		< 0.1	U	NA	
Nitrite	mg/L	NV		NA		NA		NA		< 0.1	U	NA		< 0.1	U	NA	
Sulfate	mg/L	NV		NA		NA		NA		117		NA		2.68		NA	
Total organic carbon	mg/L	NV		NA		NA		NA		1.93		NA		19.8		NA	
Perchlorate (EPA 6850)																	
Perchlorate	µg/L	17		0.246	J	0.0693	J	0.158		< 0.05	U	< 0.05	U	0.19	J	4.65	

Notes:

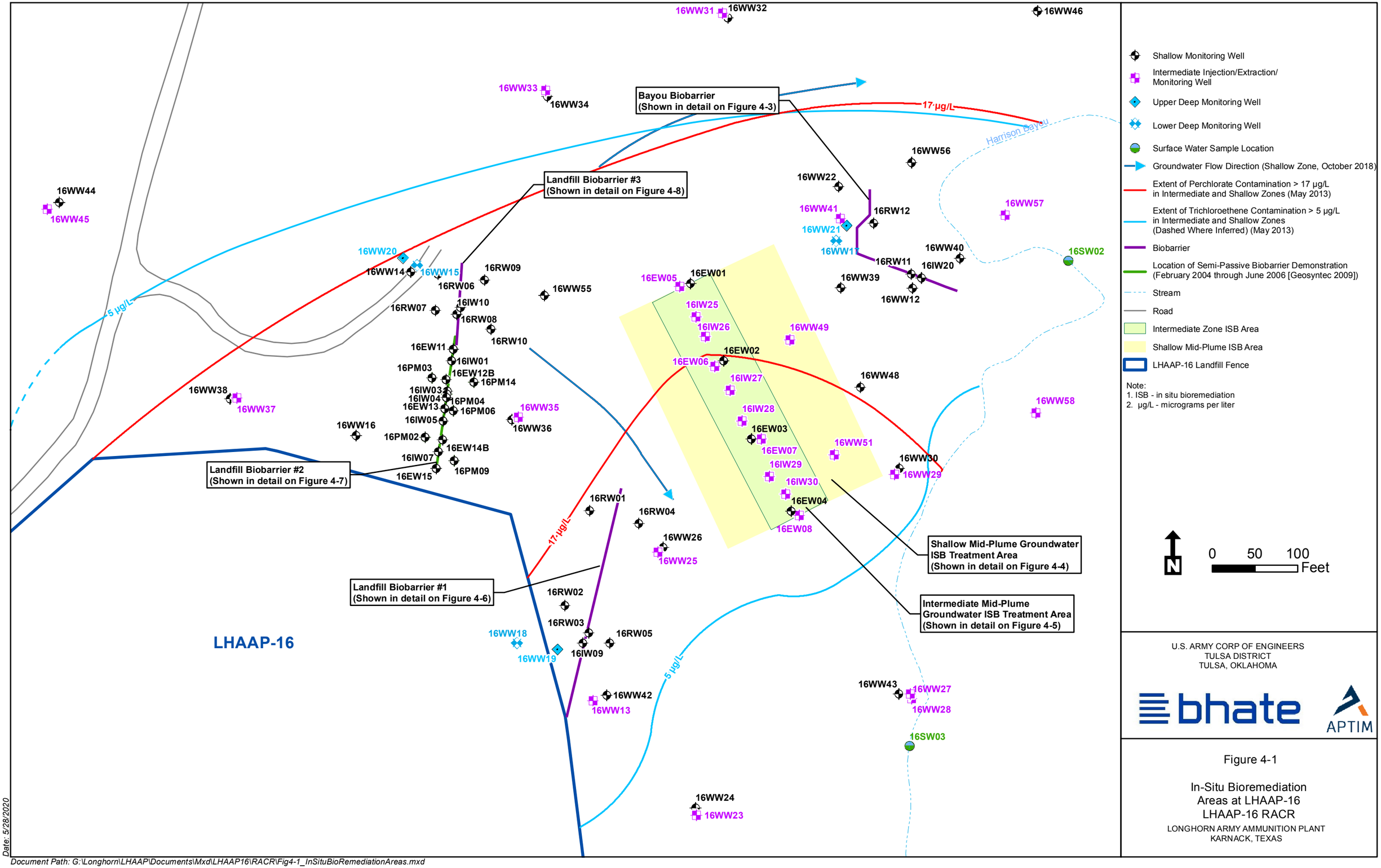
J - Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.
U - Undetected: The analyte was analyzed for, but not detected.
PCL – Texas Risk Reduction Program (TRRP) Tier 1 Groundwater Residential Protective Concentration Level
ID - identification
mV - millivolts
Std. Units - standard pH units
mg/L - milligrams per liter
ug/L - micrograms per liter
NV - No value, PCL values are only shown for constituents of concern
Val Qual - validation qualfier
NM - not measured
NA - not analyzed

LHAAP-04 Remedial Performance Monitoring
Year 1, Quarter 4
November 2020

	Location Code		04WW09				04WW10		04WW11				LHSMW01		LHSMW02	
	Sample ID		04WW09-201104 & 04WW09-201105		04WW09-201104-FD & 04WW09-201105-FD		04WW10-201104 & 04WW10-201105		04WW11-201104		04WW11-201104-FD		LHSMW01-201104		LHSMW02-201104	
	Sample Date		11/4/2020 & 11/5/2020		11/4/2020 & 11/5/2020		11/4/2020 & 11/5/2020		11/4/2020		11/4/2020		11/4/2020		11/4/2020	
	Location Description:		Shallow Zone, Within Treatment Area				Shallow Zone, Within Treatment Area		Shallow Zone, Downgradient of Plume				Shallow Zone, Cross-Gradient to Plume Area		Shallow Zone, Downgradient to Plume Area	
	Units	PCL	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	0.02		0.02		0.11		1.66		1.66		0.53		0.17	
Ferrous Iron	mg/L	NV	3.87		3.87		3.14		NM		NM		NM		NM	
Oxidation-Reduction Potential	mV	NV	-91		-91		-62		86		86		211		102	
pH	pH_units	NV	6.09		6.09		6.75		6.40		6.40		5.77		5.93	
General Chemistry (SM2320B/SM5310B/SW9056A)																
Alkalinity	mg/L	NV	537		538		663		NA		NA		NA		NA	
Nitrate	mg/L	NV	< 0.1	U	< 0.1	U	< 0.1	U	NA		NA		NA		NA	
Nitrite	mg/L	NV	1.63		1.57		< 0.1	U	NA		NA		NA		NA	
Sulfate	mg/L	NV	1.04		0.956		1040		NA		NA		NA		NA	
Total organic carbon	mg/L	NV	177		178		3.32		NA		NA		NA		NA	
Perchlorate (EPA 6850)																
Perchlorate	µg/L	17	2.02		2.58		0.0888	J	< 0.05	U	< 0.05	U	< 0.05	U	0.169	

Notes:

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.
PCL – Texas Risk Reduction Program (TRRP) Tier 1 Groundwater Residential Protective Concentration Level
ID - identification
mV - millivolts
Std. Units - standard pH units
mg/L - milligrams per liter
ug/L - micrograms per liter
NV - No value, PCL values are only shown for constituents of concern
Val Qual - validation qualfier
NM - not measured
NA - not analyzed



U.S. ARMY CORP OF ENGINEERS
TULSA DISTRICT
TULSA, OKLAHOMA

bhate APTIM

Figure 4-1

In-Situ Bioremediation
Areas at LHAAP-16
LHAAP-16 RACR

LONGHORN ARMY AMMUNITION PLANT
KARNACK, TEXAS

Date: 5/28/2020

Document Path: G:\Longhorn\LHAAP\Documents\Mxd\LHAAP16\RACR\Fig4-1_InSituBioRemediationAreas.mxd

LHAAP-16 Remedial Performance Monitoring
Year 1, Quarter 3
October 2020

			Injection Area	Landfill Bayou Biobarrier #1										
			Location Code	16IW09		16RW01		16RW02		16RW04		16RW04		16RW05	
			Sample ID	16IW09-201013		16RW01-201020		16RW02-201022		16RW04-201021		16RW04-201021-FD		16RW05-201022	
			Sample Date	10/13/2020		10/20/2020		10/22/2020		10/21/2020		10/21/2020		10/22/2020	
			Sample Purpose	REG		REG		REG		REG		FD		REG	
Analyte	Units	MCL/PCL/UTL [a]		Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Dechlorinating Bacteria (Census)															
Dehalococcoides	cells/mL	NV		< 7.2	U	NA		NA		NA		NA		NA	
Field Measurements															
Dissolved oxygen	mg/L	NV		0.09		0.52		0.26		0.03		0.03		0.05	
Oxidation-Reduction Potential	mV	NV		56		94		100		156		156		-55	
pH	SU	NV		5.42		5.08		5.17		5.00		5.00		6.68	
Dissolved Gases (RSK-175)															
Ethane	µg/L	NV		< 0.25	U	NA		NA		NA		NA		NA	
Ethylene	µg/L	NV		1.25		NA		NA		NA		NA		NA	
Methane	µg/L	NV		< 0.25	U	NA		NA		NA		NA		NA	
General Chemistry (2320B/SM5310B/SW9056A)															
Alkalinity	mg/L	NV		698		NA		NA		NA		NA		NA	
Bromide	mg/L	NV		7.76		NA		NA		1.21		1.19		44	
Nitrate	mg/L	10		0.499		NA		NA		NA		NA		NA	
Sulfate	mg/L	NV		11.2		NA		NA		NA		NA		NA	
Total organic carbon	mg/L	NV		1250		NA		NA		2.7		2.67		117	
Metals (SW6020)															
Arsenic	mg/L	0.01		NA		NA		NA		NA		NA		NA	
Chromium	mg/L	0.1		NA		NA		NA		NA		NA		NA	
Manganese	mg/L	7.82		NA		NA		NA		NA		NA		NA	
Nickel	mg/L	0.49		NA		NA		NA		NA		NA		NA	
Thallium	mg/L	0.002		NA		NA		NA		NA		NA		NA	
Perchlorate (EPA 6850)															
Perchlorate	µg/L	17		0.0381	J	< 0.05	U	< 0.05	U	< 0.05	U	< 0.05	U	< 0.05	U
Volatile Organic Compounds (8260C)															
1,1,2-Trichloroethane	µg/L	5		< 0.5	U	< 10	U	< 0.5	U	< 2.5	U	< 5	U	< 0.5	U
1,1-Dichloroethene	µg/L	7		< 0.5	U	< 5	U	0.65	J	4.1	J	3.2	J	< 0.5	U
1,2-Dichloroethane	µg/L	5		< 0.5	U	< 5	U	< 0.5	U	< 2.5	U	< 2.5	U	< 0.5	U
cis-1,2-Dichloroethene	µg/L	70		4.1		**120**		1.5		**140**		**140**		9.3	
Methylene chloride	µg/L	5		< 1	U	< 10	U	< 1	U	< 5	U	< 5	U	< 1	U
Trichloroethene	µg/L	5		**5.8**		**4000**		**6.7**		**3400**		**3600**		0.89	J
Vinyl chloride	µg/L	2		< 0.5	U	< 5	U	< 0.5	U	**5.3**		**5.6**		< 0.5	U

LHAAP-16 Remedial Performance Monitoring
Year 1, Quarter 3
October 2020

		Injection Area	Landfill Bayou Biobarrier #1				Landfill Biobarrier #2							
		Location Code	16WW26		16WW42		16IW03		16PM02		16PM03		16PM06	
		Sample ID	16WW26-201014		16WW42-201022		16IW03-201013		16PM02-201026		16PM03-201026		16PM06-201026	
		Sample Date	10/14/2020		10/22/2020		10/13/2020		10/26/2020		10/26/2020		10/26/2020	
		Sample Purpose	REG		REG		REG		REG		REG		REG	
Analyte	Units	MCL/PCL/UTL [a]	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Dechlorinating Bacteria (Census)														
Dehalococcoides	cells/mL	NV	21.9		NA		634		NA		NA		NA	
Field Measurements														
Dissolved oxygen	mg/L	NV	0.71		0.04		0.04		0.11		0.02		0.02	
Oxidation-Reduction Potential	mV	NV	68		21		-103		74		48		-1	
pH	SU	NV	5.48		5.94		5.35		5.59		6.28		5.93	
Dissolved Gases (RSK-175)														
Ethane	µg/L	NV	< 0.25	U	NA		4.98	J+	NA		NA		NA	
Ethylene	µg/L	NV	< 0.5	U	NA		57.7	J+	NA		NA		NA	
Methane	µg/L	NV	4.5		NA		685		NA		NA		NA	
General Chemistry (2320B/SM5310B/SW9056A)														
Alkalinity	mg/L	NV	38.4		NA		771		NA		NA		NA	
Bromide	mg/L	NV	0.638		2.74		1.27		NA		NA		4.26	
Nitrate	mg/L	10	< 0.1	U	NA		0.665	J+	NA		NA		NA	
Sulfate	mg/L	NV	375	J-	NA		10.9	J-	NA		NA		NA	
Total organic carbon	mg/L	NV	2.11		4.31		1190		NA		NA		6.88	
Metals (SW6020)														
Arsenic	mg/L	0.01	NA		NA		NA		NA		NA		NA	
Chromium	mg/L	0.1	NA		NA		NA		NA		NA		NA	
Manganese	mg/L	7.82	NA		NA		NA		NA		NA		NA	
Nickel	mg/L	0.49	NA		NA		NA		NA		NA		NA	
Thallium	mg/L	0.002	NA		NA		NA		NA		NA		NA	
Perchlorate (EPA 6850)														
Perchlorate	µg/L	17	< 0.05	U	< 0.05	U	0.0876	J	< 0.05	U	**360**		< 0.05	U
Volatile Organic Compounds (8260C)														
1,1,2-Trichloroethane	µg/L	5	< 0.5	U	< 0.5	U	4.1	J	< 25	U	< 10	U	< 25	U
1,1-Dichloroethene	µg/L	7	2.5		< 0.5	U	**38**		**74**		**40**		**140**	
1,2-Dichloroethane	µg/L	5	< 0.5	U	< 0.5	U	**5.4**		**60**		**23**		**55**	
cis-1,2-Dichloroethene	µg/L	70	**78**		**180**		**11000**		**8800**		**5700**		**47000**	
Methylene chloride	µg/L	5	< 1	U	< 1	U	< 5	U	< 50	U	17	J	< 50	U
Trichloroethene	µg/L	5	**850**		3.2		**10000**		**65000**		**12000**		**85000**	
Vinyl chloride	µg/L	2	1.9		< 0.5	U	**530**		**240**		**370**		**1800**	

LHAAP-16 Remedial Performance Monitoring
Year 1, Quarter 3
October 2020

		Injection Area	Landfill Biobarrier #2								Landfill Biobarrier #3			
		Location Code	16PM09		16PM14				16WW36		16RW06		16RW07	
		Sample ID	16PM09-201026		16PM14-201026		16PM14-201026-FD		16WW36-201013		16RW06-201026		16RW07-201026	
		Sample Date	10/26/2020		10/26/2020		10/26/2020		10/13/2020		10/26/2020		10/26/2020	
		Sample Purpose	REG		REG		FD		REG		REG		REG	
Analyte	Units	MCL/PCL/UTL [a]	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Dechlorinating Bacteria (Census)														
Dehalococcoides	cells/mL	NV	NA		NA		NA		1680		NA		NA	
Field Measurements														
Dissolved oxygen	mg/L	NV	0.1		0.26		0.26		0.25		0.27		0.91	
Oxidation-Reduction Potential	mV	NV	95		133		133		223		69		143	
pH	SU	NV	5.22		6.20		6.20		6.06		6.27		5.60	
Dissolved Gases (RSK-175)														
Ethane	µg/L	NV	NA		NA		NA		1.09		NA		NA	
Ethylene	µg/L	NV	NA		NA		NA		10.1		NA		NA	
Methane	µg/L	NV	NA		NA		NA		273		NA		NA	
General Chemistry (2320B/SM5310B/SW9056A)														
Alkalinity	mg/L	NV	NA		NA		NA		563		NA		NA	
Bromide	mg/L	NV	NA		2.01		2.93		2.41		NA		NA	
Nitrate	mg/L	10	NA		NA		NA		< 0.5	U	NA		NA	
Sulfate	mg/L	NV	NA		NA		NA		2840		NA		NA	
Total organic carbon	mg/L	NV	NA		8.93		8.88		18.3		NA		NA	
Metals (SW6020)														
Arsenic	mg/L	0.01	NA		NA		NA		NA		NA		NA	
Chromium	mg/L	0.1	NA		NA		NA		NA		NA		NA	
Manganese	mg/L	7.82	NA		NA		NA		NA		NA		NA	
Nickel	mg/L	0.49	NA		NA		NA		NA		NA		NA	
Thallium	mg/L	0.002	NA		NA		NA		NA		NA		NA	
Perchlorate (EPA 6850)														
Perchlorate	µg/L	17	0.0253	J	< 0.1	U	< 0.1	U	0.167		< 0.1	U	0.391	
Volatile Organic Compounds (8260C)														
1,1,2-Trichloroethane	µg/L	5	< 5	U	< 10	U	< 5	U	< 50	U	< 0.5	U	< 1	U
1,1-Dichloroethene	µg/L	7	**50**		**25**		**22**		**170**		1.3		6.4	
1,2-Dichloroethane	µg/L	5	< 2.5	U	**26**		**25**		< 25	U	< 0.5	U	< 0.5	U
cis-1,2-Dichloroethene	µg/L	70	**1000**		**3200**		**3500**		**26000**		4.8		38	
Methylene chloride	µg/L	5	< 5	U	< 10	U	< 10	U	< 50	U	< 1	U	< 1	U
Trichloroethene	µg/L	5	**2000**		**5400**		**5800**		**22000**		**110**		**1100**	
Vinyl chloride	µg/L	2	**47**		**140**		**140**		**180**		**2.5**		**28**	

LHAAP-16 Remedial Performance Monitoring
Year 1, Quarter 3
October 2020

		Injection Area	Landfill Biobarrier #3						Bayou Biobarrier					
		Location Code	16RW09		16RW10		16IW10		16IW20		16RW11			
		Sample ID	16RW09-201026		16RW10-201026		16IW10-201013		16IW20-201021		16RW11-201021		16RW11-201021-FD	
		Sample Date	10/26/2020		10/26/2020		10/13/2020		10/21/2020		10/21/2020		10/21/2020	
		Sample Purpose	REG		REG		REG		REG		REG		FD	
Analyte	**Units**	**MCL/PCL/UTL [a]**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**
Dechlorinating Bacteria (Census)														
Dehalococcoides	cells/mL	NV	NA		NA		59500		55400		NA		NA	
Field Measurements														
Dissolved oxygen	mg/L	NV	0.14		0.04		0.13		0.07		0.04		0.04	
Oxidation-Reduction Potential	mV	NV	208		52		-83		-23		-18		-18	
pH	SU	NV	5.56		6.34		6.37		6.20		6.24		6.24	
Dissolved Gases (RSK-175)														
Ethane	µg/L	NV	NA		NA		< 0.25	U	4		NA		NA	
Ethylene	µg/L	NV	NA		NA		19.1		30.9		NA		NA	
Methane	µg/L	NV	NA		NA		1470		2400		NA		NA	
General Chemistry (2320B/SM5310B/SW9056A)														
Alkalinity	mg/L	NV	NA		NA		1680		877		NA		NA	
Bromide	mg/L	NV	5.38		< 0.1	U	94.8		34.9		NA		NA	
Nitrate	mg/L	10	NA		NA		< 0.5	U	< 0.1	U	NA		NA	
Sulfate	mg/L	NV	NA		NA		5.73		165		NA		NA	
Total organic carbon	mg/L	NV	1.58		4.1		1220		14.4		NA		NA	
Metals (SW6020)														
Arsenic	mg/L	0.01	NA		NA		NA		NA		NA		NA	
Chromium	mg/L	0.1	NA		NA		NA		NA		NA		NA	
Manganese	mg/L	7.82	NA		NA		NA		NA		NA		NA	
Nickel	mg/L	0.49	NA		NA		NA		NA		NA		NA	
Thallium	mg/L	0.002	NA		NA		NA		NA		NA		NA	
Perchlorate (EPA 6850)														
Perchlorate	µg/L	17	0.12	J	8.11		< 0.1	U	< 0.05	U	< 0.05	U	< 0.05	U
Volatile Organic Compounds (8260C)														
1,1,2-Trichloroethane	µg/L	5	< 0.5	U	< 2.5	U	< 1	U	< 1	U	< 1	U	< 0.5	U
1,1-Dichloroethene	µg/L	7	**7.5**		**21**		0.67	J	1.6		< 0.5	U	< 0.5	U
1,2-Dichloroethane	µg/L	5	< 0.5	U	4.6	J	0.98	J	2.7		0.73	J	0.91	J
cis-1,2-Dichloroethene	µg/L	70	**290**		**390**		**220**		**170**		3.5		3.3	
Methylene chloride	µg/L	5	< 1	U	5.5	J	< 1	U	< 1	U	< 1	U	< 1	U
Trichloroethene	µg/L	5	**980**		**2000**		**46**		**130**		3.7		3.3	
Vinyl chloride	µg/L	2	**33**		**100**		**53**		< 0.5	U	< 0.5	U	< 0.5	U

LHAAP-16 Remedial Performance Monitoring
Year 1, Quarter 3
October 2020

			Injection Area	Bayou Biobarrier						Mid Plume and Bayou Biobarriers		Mid Plume Area			
			Location Code	16WW12		16WW22		16WW40		16WW39		16EW01		16EW02	
			Sample ID	16WW12-201021		16WW22-201014		16WW40-201021		16WW39-201014		16EW01-201020		16EW02-201021	
			Sample Date	10/21/2020		10/14/2020		10/21/2020		10/14/2020		10/20/2020		10/21/2020	
			Sample Purpose	REG		REG		REG		REG		REG		REG	
Analyte	Units	MCL/PCL/UTL [a]		Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Dechlorinating Bacteria (Census)															
Dehalococcoides	cells/mL	NV		NA		11.1		NA		NA		0.4	J	406	
Field Measurements															
Dissolved oxygen	mg/L	NV		0.25		0.62		0.04		0.25		0.34		0.02	
Oxidation-Reduction Potential	mV	NV		72		8		22		47		22		43	
pH	SU	NV		6.02		6.27		6.21		6.13		6.33		6.25	
Dissolved Gases (RSK-175)															
Ethane	µg/L	NV		NA		< 0.25	U	NA		NA		< 2.5	U	< 0.25	U
Ethylene	µg/L	NV		NA		< 0.5	U	NA		NA		112		1.54	
Methane	µg/L	NV		NA		2.04		NA		NA		182		9.39	
General Chemistry (2320B/SM5310B/SW9056A)															
Alkalinity	mg/L	NV		NA		183		NA		NA		517		328	
Bromide	mg/L	NV		5.76		5.26		6.97		7.9		7.02		6.87	
Nitrate	mg/L	10		NA		< 0.1	U	NA		NA		< 0.5	U	< 0.5	U
Sulfate	mg/L	NV		NA		163		NA		NA		3960		1380	
Total organic carbon	mg/L	NV		3.98		0.81		7.35		2.31		14.4		7.36	
Metals (SW6020)															
Arsenic	mg/L	0.01		NA		NA		NA		NA		NA		NA	
Chromium	mg/L	0.1		NA		NA		NA		NA		NA		NA	
Manganese	mg/L	7.82		NA		NA		NA		NA		NA		NA	
Nickel	mg/L	0.49		NA		NA		NA		NA		NA		NA	
Thallium	mg/L	0.002		NA		NA		NA		NA		NA		NA	
Perchlorate (EPA 6850)															
Perchlorate	µg/L	17		**18.5**		< 0.05	U	0.24		1.08		**27.5**		< 0.05	U
Volatile Organic Compounds (8260C)															
1,1,2-Trichloroethane	µg/L	5		< 5	U	< 1	U	< 2.5	U	< 1	U	< 12	U	< 25	U
1,1-Dichloroethene	µg/L	7		3.8	J	< 0.5	U	**7.5**		1.7		**29**		**110**	
1,2-Dichloroethane	µg/L	5		**5.5**		< 0.5	U	**6**		1.3		**25**		**48**	J
cis-1,2-Dichloroethene	µg/L	70		67		3		**230**		**73**		**7600**		**26000**	
Methylene chloride	µg/L	5		< 5	U	< 1	U	< 5	U	< 1	U	< 25	U	< 50	U
Trichloroethene	µg/L	5		**1500**		**7.8**		**1700**		**350**		**5400**		**26000**	
Vinyl chloride	µg/L	2		**5.8**		< 0.5	U	**6.3**		**5**		**630**		**51**	

LHAAP-16 Remedial Performance Monitoring
Year 1, Quarter 3
October 2020

			Injection Area	Mid Plume Area										
			Location Code	16EW03		16EW04		16EW06 [b]				16EW07 [b]		16EW08	
			Sample ID	16EW03-201022		16EW04-201020		16EW06-201021		16EW06-201021-FD		16EW07-201022		16EW08-201020	
			Sample Date	10/22/2020		10/20/2020		10/21/2020		10/21/2020		10/22/2020		10/20/2020	
			Sample Purpose	REG		REG		REG		FD		REG		REG	
Analyte	**Units**	**MCL/PCL/UTL [a]**		**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**
Dechlorinating Bacteria (Census)															
Dehalococcoides	cells/mL	NV		NA		NA		NA		NA		NA		NA	
Field Measurements															
Dissolved oxygen	mg/L	NV		0.02		0.02		0.11		0.11		0.47		0.03	
Oxidation-Reduction Potential	mV	NV		-73		-105		-49		-49		-261		74	
pH	SU	NV		6.18		6.70		5.93		5.93		5.59		4.97	
Dissolved Gases (RSK-175)															
Ethane	µg/L	NV		NA		NA		NA		NA		NA		NA	
Ethylene	µg/L	NV		NA		NA		NA		NA		NA		NA	
Methane	µg/L	NV		NA		NA		NA		NA		NA		NA	
General Chemistry (2320B/SM5310B/SW9056A)															
Alkalinity	mg/L	NV		NA		NA		NA		NA		NA		NA	
Bromide	mg/L	NV		NA		NA		NA		NA		NA		9.59	
Nitrate	mg/L	10		NA		NA		NA		NA		NA		NA	
Sulfate	mg/L	NV		NA		NA		NA		NA		NA		NA	
Total organic carbon	mg/L	NV		NA		NA		NA		NA		NA		332	
Metals (SW6020)															
Arsenic	mg/L	0.01		NA		NA		NA		NA		NA		NA	
Chromium	mg/L	0.1		NA		NA		NA		NA		NA		NA	
Manganese	mg/L	7.82		NA		NA		NA		NA		NA		NA	
Nickel	mg/L	0.49		NA		NA		NA		NA		NA		NA	
Thallium	mg/L	0.002		NA		NA		NA		NA		NA		NA	
Perchlorate (EPA 6850)															
Perchlorate	µg/L	17		< 0.1	U	< 0.05	U	< 0.75	U	< 0.75	U	< 0.75	U	< 0.05	U
Volatile Organic Compounds (8260C)															
1,1,2-Trichloroethane	µg/L	5		1.3		< 5	UJ	< 250	U	< 500	U	< 500	U	< 0.5	U
1,1-Dichloroethene	µg/L	7		1.2		5.9	J-	< 250	U	< 250	U	< 250	U	< 0.5	U
1,2-Dichloroethane	µg/L	5		3.4		< 5	UJ	< 250	U	< 250	U	< 250	U	< 0.5	U
cis-1,2-Dichloroethene	µg/L	70		**1400**		**4400**		**750**		**520**		< 250	U	1.7	
Methylene chloride	µg/L	5		< 1	U	< 10	UJ	< 500	U	< 500	U	< 500	U	< 1	U
Trichloroethene	µg/L	5		**130**		**520**	J-	< 250	U	< 250	U	**490**	J	1.6	
Vinyl chloride	µg/L	2		**200**		< 5	UJ	**510**		< 250	U	< 250	U	< 0.5	U

LHAAP-16 Remedial Performance Monitoring
Year 1, Quarter 3
October 2020

		Injection Area	Mid Plume Area											
		Location Code	16WW21				16WW29		16WW30		16WW48		16WW49	
		Sample ID	16WW21-201014		16WW21-201014-FD		16WW29-201014		16WW30-201014		16WW48-201020		16WW49-201020	
		Sample Date	10/14/2020		10/14/2020		10/14/2020		10/14/2020		10/20/2020		10/20/2020	
		Sample Purpose	REG		FD		REG		REG		REG		REG	
Analyte	**Units**	**MCL/PCL/UTL [a]**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**
Dechlorinating Bacteria (Census)														
Dehalococcoides	cells/mL	NV	NA		NA		32.2		NA		1.9		NA	
Field Measurements														
Dissolved oxygen	mg/L	NV	0.23		0.23		3.01		0.08		0.03		0.09	
Oxidation-Reduction Potential	mV	NV	17		17		-2		-27		59		-23	
pH	SU	NV	6.55		6.55		5.99		6.19		6.26		6.39	
Dissolved Gases (RSK-175)														
Ethane	µg/L	NV	NA		NA		< 0.25	U	NA		< 0.25	UJ	NA	
Ethylene	µg/L	NV	NA		NA		1.13		NA		1.23	J-	NA	
Methane	µg/L	NV	NA		NA		15.3		NA		3.53	J-	NA	
General Chemistry (2320B/SM5310B/SW9056A)														
Alkalinity	mg/L	NV	NA		NA		71.8		NA		351		NA	
Bromide	mg/L	NV	0.864		0.895		1.37		3.56		7.35		2.66	
Nitrate	mg/L	10	NA		NA		< 0.2	U	NA		< 0.5	U	NA	
Sulfate	mg/L	NV	NA		NA		1200		NA		2490		NA	
Total organic carbon	mg/L	NV	0.58		0.12	J	11.2		2.13		8.44		3.74	
Metals (SW6020)														
Arsenic	mg/L	0.01	NA		NA		NA		NA		NA		NA	
Chromium	mg/L	0.1	NA		NA		NA		NA		NA		NA	
Manganese	mg/L	7.82	NA		NA		NA		NA		NA		NA	
Nickel	mg/L	0.49	NA		NA		NA		NA		NA		NA	
Thallium	mg/L	0.002	NA		NA		NA		NA		NA		NA	
Perchlorate (EPA 6850)														
Perchlorate	µg/L	17	< 0.05	U	< 0.05	U	< 0.05	U	< 0.05	U	**167**		< 0.05	U
Volatile Organic Compounds (8260C)														
1,1,2-Trichloroethane	µg/L	5	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 25	U	< 1	U
1,1-Dichloroethene	µg/L	7	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	**32**		< 0.5	U
1,2-Dichloroethane	µg/L	5	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	**44**		0.66	J
cis-1,2-Dichloroethene	µg/L	70	< 0.5	U	< 0.5	U	1.1		< 0.5	U	**16000**		**190**	
Methylene chloride	µg/L	5	< 1	U	< 1	U	< 1	U	< 1	U	< 25	U	< 1	U
Trichloroethene	µg/L	5	1.5		1.9		< 0.5	U	**5.7**		**14000**	J+	4.8	
Vinyl chloride	µg/L	2	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	**57**		< 0.5	U

LHAAP-16 Remedial Performance Monitoring
Year 1, Quarter 3
October 2020

		Injection Area	Mid Plume Area		MNA and LTM Performance Wells from RAWP Table 4-9									
		Location Code	16WW51		16WW13		16WW14		16WW16		16WW23		16WW24	
		Sample ID	16WW51-201020		16WW13-201022		16WW14-201019		16WW16-201008		16WW23-201008		16WW24-201008	
		Sample Date	10/20/2020		10/22/2020		10/19/2020		10/8/2020		10/8/2020		10/8/2020	
		Sample Purpose	REG		REG		REG		REG		REG		REG	
Analyte	**Units**	**MCL/PCL/UTL [a]**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**
Dechlorinating Bacteria (Census)														
Dehalococcoides	cells/mL	NV	NA		NA		NA		0.5		NA		NA	
Field Measurements														
Dissolved oxygen	mg/L	NV	0.18		0.32		0.37		0.02		0.04		0.03	
Oxidation-Reduction Potential	mV	NV	41		137		96		75		-23		225	
pH	SU	NV	5.49		4.69		6.02		6.36		5.96		3.89	
Dissolved Gases (RSK-175)														
Ethane	µg/L	NV	NA		NA		NA		5.64		NA		NA	
Ethylene	µg/L	NV	NA		NA		NA		11.6		NA		NA	
Methane	µg/L	NV	NA		NA		NA		907		NA		NA	
General Chemistry (2320B/SM5310B/SW9056A)														
Alkalinity	mg/L	NV	NA		NA		NA		391		NA		NA	
Bromide	mg/L	NV	4.65		NA		NA		6.75		NA		NA	
Nitrate	mg/L	10	NA		NA		NA		< 0.5	U	NA		NA	
Sulfate	mg/L	NV	NA		NA		NA		491		NA		NA	
Total organic carbon	mg/L	NV	4.52		NA		NA		3.35		NA		NA	
Metals (SW6020)														
Arsenic	mg/L	0.01	NA		NA		NA		NA		NA		NA	
Chromium	mg/L	0.1	NA		NA		NA		NA		NA		NA	
Manganese	mg/L	7.82	NA		NA		NA		NA		NA		NA	
Nickel	mg/L	0.49	NA		NA		NA		NA		NA		NA	
Thallium	mg/L	0.002	NA		NA		NA		NA		NA		NA	
Perchlorate (EPA 6850)														
Perchlorate	µg/L	17	< 0.05	U	< 0.05	U	< 0.05	U	**480**		< 0.05	U	< 0.05	U
Volatile Organic Compounds (8260C)														
1,1,2-Trichloroethane	µg/L	5	< 2.5	U	< 0.5	U	< 0.5	U	< 25	U	< 0.5	U	< 0.5	U
1,1-Dichloroethene	µg/L	7	< 2.5	U	1.3		< 0.5	U	**59**		< 0.5	U	< 0.5	U
1,2-Dichloroethane	µg/L	5	< 2.5	U	< 0.5	U	< 0.5	U	**33**		< 0.5	U	< 0.5	U
cis-1,2-Dichloroethene	µg/L	70	50		**620**		< 0.5	U	**17000**		< 0.5	U	< 0.5	U
Methylene chloride	µg/L	5	< 5	U	< 1	U	< 1	U	44	J	< 1	U	< 1	U
Trichloroethene	µg/L	5	**1700**		**1100**		**25**		**32000**		< 0.5	U	< 0.5	U
Vinyl chloride	µg/L	2	< 2.5	U	**8.8**		< 0.5	U	**470**		< 0.5	U	< 0.5	U

LHAAP-16 Remedial Performance Monitoring
Year 1, Quarter 3
October 2020

		Injection Area	MNA and LTM Performance Wells from RAWP Table 4-9										
		Location Code	16WW25		16WW27				16WW31		16WW32		16WW33	
		Sample ID	16WW25-201014		16WW27-201022		16WW27-201022-FD		16WW31-201019		16WW32-201019		16WW33-201019	
		Sample Date	10/14/2020		10/22/2020		10/22/2020		10/19/2020		10/19/2020		10/19/2020	
		Sample Purpose	REG		REG		FD		REG		REG		REG	
Analyte	Units	MCL/PCL/UTL [a]	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Dechlorinating Bacteria (Census)														
Dehalococcoides	cells/mL	NV	3.5		NA		NA		NA		NA		NA	
Field Measurements														
Dissolved oxygen	mg/L	NV	0.02		0.03		0.03		0.12		0.34		0.11	
Oxidation-Reduction Potential	mV	NV	-14		4		4		89		70		116	
pH	SU	NV	6.10		5.99		5.99		6.27		6.52		6.09	
Dissolved Gases (RSK-175)														
Ethane	µg/L	NV	< 0.25	U	NA		NA		NA		NA		NA	
Ethylene	µg/L	NV	< 0.5	U	NA		NA		NA		NA		NA	
Methane	µg/L	NV	15.3		NA		NA		NA		NA		NA	
General Chemistry (2320B/SM5310B/SW9056A)														
Alkalinity	mg/L	NV	52.7		NA		NA		NA		NA		NA	
Bromide	mg/L	NV	2.11		NA		NA		NA		NA		NA	
Nitrate	mg/L	10	< 0.5	U	NA		NA		NA		NA		NA	
Sulfate	mg/L	NV	5270		NA		NA		NA		NA		NA	
Total organic carbon	mg/L	NV	27.7	J-	NA		NA		NA		NA		NA	
Metals (SW6020)														
Arsenic	mg/L	0.01	NA		NA		NA		NA		NA		NA	
Chromium	mg/L	0.1	NA		NA		NA		NA		NA		NA	
Manganese	mg/L	7.82	NA		NA		NA		NA		NA		NA	
Nickel	mg/L	0.49	NA		NA		NA		NA		NA		NA	
Thallium	mg/L	0.002	NA		NA		NA		NA		NA		NA	
Perchlorate (EPA 6850)														
Perchlorate	µg/L	17	0.077	J	< 0.05	U	< 0.05	U	< 0.05	U	< 0.05	U	0.0259	J
Volatile Organic Compounds (8260C)														
1,1,2-Trichloroethane	µg/L	5	< 1	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
1,2-Dichloroethane	µg/L	5	< 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
Methylene chloride	µg/L	5	< 1	U	< 1	U	< 1	U	< 1	U	< 1	U	< 1	U
Trichloroethene	µg/L	5	< 0.5	U	1.2		1.1		< 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

LHAAP-16 Remedial Performance Monitoring
Year 1, Quarter 3
October 2020

			Injection Area	MNA and LTM Performance Wells from RAWP Table 4-9									
			Location Code	16WW34				16WW35		16WW37		16WW38	
			Sample ID	16WW34-201019		16WW34-201019-FD		16WW35-201013		16WW37-201019		16WW38-201019	
			Sample Date	10/19/2020		10/19/2020		10/13/2020		10/19/2020		10/19/2020	
			Sample Purpose	REG		FD		REG		REG		REG	
Analyte	**Units**	**MCL/PCL/UTL [a]**		**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**
Dechlorinating Bacteria (Census)													
Dehalococcoides	cells/mL	NV		NA		NA		76.2		NA		NA	
Field Measurements													
Dissolved oxygen	mg/L	NV		0.36		0.36		0.16		0.15		0.13	
Oxidation-Reduction Potential	mV	NV		139		139		181		50		33	
pH	SU	NV		5.76		5.76		6.63		6.23		6.35	
Dissolved Gases (RSK-175)													
Ethane	µg/L	NV		NA		NA		1.01		NA		NA	
Ethylene	µg/L	NV		NA		NA		9.34		NA		NA	
Methane	µg/L	NV		NA		NA		96.9		NA		NA	
General Chemistry (2320B/SM5310B/SW9056A)													
Alkalinity	mg/L	NV		NA		NA		1140		NA		NA	
Bromide	mg/L	NV		NA		NA		< 0.5	U	NA		NA	
Nitrate	mg/L	10		NA		NA		< 0.5	U	NA		NA	
Sulfate	mg/L	NV		NA		NA		9510		NA		NA	
Total organic carbon	mg/L	NV		NA		NA		65.5		NA		NA	
Metals (SW6020)													
Arsenic	mg/L	0.01		NA		NA		NA		NA		NA	
Chromium	mg/L	0.1		NA		NA		NA		NA		NA	
Manganese	mg/L	7.82		NA		NA		NA		NA		NA	
Nickel	mg/L	0.49		NA		NA		NA		NA		NA	
Thallium	mg/L	0.002		NA		NA		NA		NA		NA	
Perchlorate (EPA 6850)													
Perchlorate	µg/L	17		< 0.05	U	< 0.05	U	**565**		0.393		< 0.05	U
Volatile Organic Compounds (8260C)													
1,1,2-Trichloroethane	µg/L	5		< 1	U	< 0.5	U	< 2.5	U	< 0.5	U	< 5	U
1,1-Dichloroethene	µg/L	7		< 0.5	U	< 0.5	U	**93**		0.64	J	**20**	
1,2-Dichloroethane	µg/L	5		< 0.5	U	< 0.5	U	< 2.5	U	< 0.5	U	< 5	U
cis-1,2-Dichloroethene	µg/L	70		< 0.5	U	< 0.5	U	**1600**		5.9		**1100**	
Methylene chloride	µg/L	5		< 1	U	< 1	U	< 5	U	< 1	U	< 10	U
Trichloroethene	µg/L	5		< 0.5	U	< 0.5	U	**11000**		**120**		**3800**	
Vinyl chloride	µg/L	2		< 0.5	U	< 0.5	U	**97**		1.4		**100**	

LHAAP-16 Remedial Performance Monitoring
Year 1, Quarter 3
October 2020

			Injection Area	MNA and LTM Performance Wells from RAWP Table 4-9										
			Location Code	16WW41		16WW43		16WW44		16WW46		16WW55		16WW56	
			Sample ID	16WW41-201014		16WW43-201022		16WW44-201019		16WW46-201019		16WW55-201013		16WW56-201021	
			Sample Date	10/14/2020		10/22/2020		10/19/2020		10/19/2020		10/13/2020		10/21/2020	
			Sample Purpose	REG		REG		REG		REG		REG		REG	
Analyte	**Units**	**MCL/PCL/UTL [a]**		**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**
Dechlorinating Bacteria (Census)															
Dehalococcoides	cells/mL	NV		0.3	J	NA		NA		NA		< 0.5	U	41.5	
Field Measurements															
Dissolved oxygen	mg/L	NV		0.28		0.04		0.08		0.16		0.56		0.31	
Oxidation-Reduction Potential	mV	NV		10		15		22		85		60		233	
pH	SU	NV		6.63		5.92		6.05		5.89		6.14		6.40	
Dissolved Gases (RSK-175)															
Ethane	µg/L	NV		< 0.25	U	NA		NA		NA		< 0.25	U	< 0.25	U
Ethylene	µg/L	NV		10.7		NA		NA		NA		1.07		2.01	J+
Methane	µg/L	NV		14.5		NA		NA		NA		30.1		1.26	
General Chemistry (2320B/SM5310B/SW9056A)															
Alkalinity	mg/L	NV		1000		NA		NA		NA		355		233	
Bromide	mg/L	NV		< 0.5	U	NA		NA		NA		4.75		3.95	J+
Nitrate	mg/L	10		< 0.5	U	NA		NA		NA		< 0.1	U	< 0.1	U
Sulfate	mg/L	NV		9220		NA		NA		NA		745		1190	
Total organic carbon	mg/L	NV		40.8		NA		NA		NA		4.98		0.72	
Metals (SW6020)															
Arsenic	mg/L	0.01		NA		NA		NA		NA		NA		NA	
Chromium	mg/L	0.1		NA		NA		NA		NA		NA		NA	
Manganese	mg/L	7.82		NA		NA		NA		NA		NA		NA	
Nickel	mg/L	0.49		NA		NA		NA		NA		NA		NA	
Thallium	mg/L	0.002		NA		NA		NA		NA		NA		NA	
Perchlorate (EPA 6850)															
Perchlorate	µg/L	17		**81.2**		< 0.05	U	< 0.05	U	< 0.05	U	**287**		0.309	
Volatile Organic Compounds (8260C)															
1,1,2-Trichloroethane	µg/L	5		< 5	U	< 1	U	< 0.5	U	< 1	U	< 5	U	< 0.5	U
1,1-Dichloroethene	µg/L	7		**17**		< 0.5	U	< 0.5	U	< 0.5	U	< 5	U	1.5	
1,2-Dichloroethane	µg/L	5		**5.7**	J	< 0.5	U	< 0.5	U	< 0.5	U	**12**		0.66	J
cis-1,2-Dichloroethene	µg/L	70		**2400**		< 0.5	U	< 0.5	U	< 0.5	U	**450**		20	J+
Methylene chloride	µg/L	5		< 10	U	< 1	U	< 1	U	< 1	U	< 10	U	< 1	U
Trichloroethene	µg/L	5		**5400**		0.94	J	< 0.5	U	0.66	J	**4400**		**270**	
Vinyl chloride	µg/L	2		**230**		< 0.5	U	< 0.5	U	< 0.5	U	**26**		**2.8**	

LHAAP-16 Remedial Performance Monitoring
Year 1, Quarter 3
October 2020

			Injection Area	MNA and LTM Performance Wells from RAWP Table 4-9				Surface Water					
			Location Code	16WW57		16WW58		16SW01		16SW02		16SW03	
			Sample ID	16WW57-201008		16WW58-201008		16SW01-201026		16SW02-201026		16SW03-201026	
			Sample Date	10/8/2020		10/8/2020		10/26/2020		10/26/2020		10/26/2020	
			Sample Purpose	REG		REG		REG		REG		REG	
Analyte	**Units**	**MCL/PCL/UTL [a]**		**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**
Dechlorinating Bacteria (Census)													
Dehalococcoides	cells/mL	NV		2.6		10.3		NA		NA		NA	
Field Measurements													
Dissolved oxygen	mg/L	NV		0.04		0.06		NM		NM		NM	
Oxidation-Reduction Potential	mV	NV		2		-73		NM		NM		NM	
pH	SU	NV		5.85		6.23		NM		NM		NM	
Dissolved Gases (RSK-175)													
Ethane	µg/L	NV		< 0.25	U	< 0.25	U	NA		NA		NA	
Ethylene	µg/L	NV		1.25		0.645	J	NA		NA		NA	
Methane	µg/L	NV		2.99		6.59		NA		NA		NA	
General Chemistry (2320B/SM5310B/SW9056A)													
Alkalinity	mg/L	NV		77.6		41.9		NA		NA		NA	
Bromide	mg/L	NV		5.69		4.33		NA		NA		NA	
Nitrate	mg/L	10		< 1	U	< 0.5	U	NA		NA		NA	
Sulfate	mg/L	NV		2440		383		NA		NA		NA	
Total organic carbon	mg/L	NV		13.1		4.13		NA		NA		NA	
Metals (SW6020)													
Arsenic	mg/L	0.01		NA		NA		0.00145	J	0.00225	J	0.00097	J
Chromium	mg/L	0.1		NA		NA		0.000543	J	0.00114	J	< 0.001	U
Manganese	mg/L	7.82		NA		NA		1.21		3.53		0.204	
Nickel	mg/L	0.49		NA		NA		0.00353	J	0.00691		0.00205	J
Thallium	mg/L	0.002		NA		NA		0.000711	J	< 0.0005	U	< 0.0005	U
Perchlorate (EPA 6850)													
Perchlorate	µg/L	17		< 0.05	U	< 0.05	U	< 0.05	U	< 0.05	U	< 0.05	U
Volatile Organic Compounds (8260C)													
1,1,2-Trichloroethane	µg/L	5		< 1	U	< 2.5	U	< 0.5	U	< 1	U	< 1	U
1,1-Dichloroethene	µg/L	7		1.3		3.3	J	< 0.5	U	< 0.5	U	< 0.5	U
1,2-Dichloroethane	µg/L	5		< 0.5	U	< 2.5	U	< 0.5	U	< 0.5	U	< 0.5	U
cis-1,2-Dichloroethene	µg/L	70		< 0.5	U	**140**		< 0.5	U	< 0.5	U	< 0.5	U
Methylene chloride	µg/L	5		< 1	U	5.7	J	< 1	U	< 1	U	< 1	U
Trichloroethene	µg/L	5		**72**		**4400**		< 0.5	U	< 0.5	U	< 0.5	U
Vinyl chloride	µg/L	2		< 0.5	U	< 2.5	U	< 0.5	U	< 0.5	U	< 0.5	U

LHAAP-16 Remedial Performance Monitoring
Year 1, Quarter 3
October 2020

Notes:

[a] Cleanup Level for manganese identifed in Table 1-1 of the Remedial Action Work Plan is the 95% upper tolerance limit value from the *Final Evaluation of Perimeter Well Data for Use as Groundwater Background* (Shaw, 2007)

[b] Due to high viscosity of the samples collected from 16EW06 and 16EW07, the volatile organic compound analyses were performed at a 500x dilution, and the perchlorate samples were analyzed and reported as solids.

Blue Highlighting Indicates the concentration exceeds the MCL/PCL

Some samples have been diluted due to the concentration(s) of one or more analytes exceeding the upper limit of the calibration curve.

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 with a high bias in the sample.

J- - The analyte was positively identified; the associated numerical value is its approximate concentration with a low bias in the sample.

U - Undetected: The analyte was analyzed for, but not detected.

MCL - Maximum Contaminant Limit

PCL – Texas Risk Reduction Program (TRRP) Tier 1 Groundwater Residential Protective Concentration Level (used for perchlorate, manganese, and nickel where no MCL has been established)

mg/L - milligrams per liter

ug/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

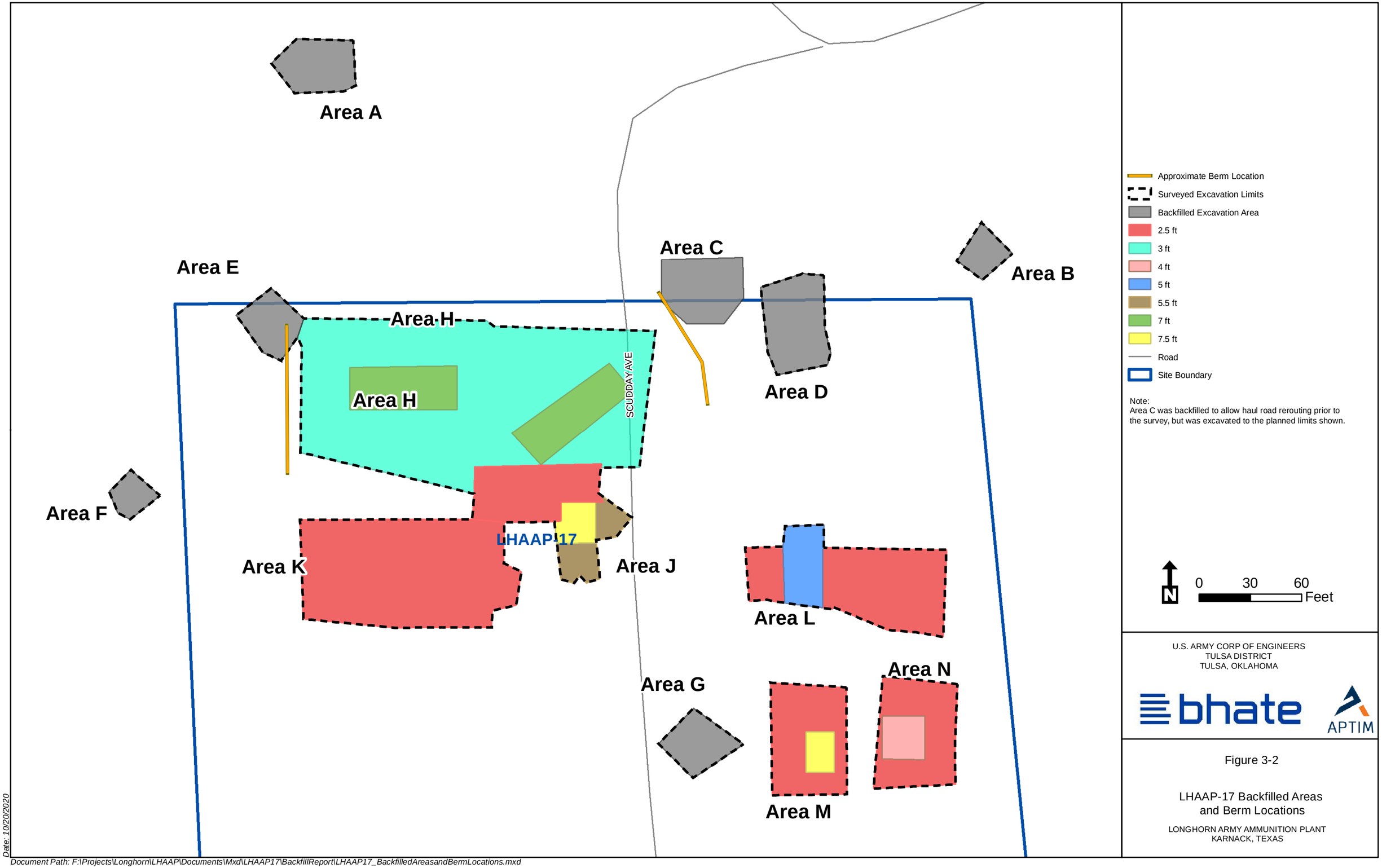
NA - Not analyzed

SU - standard pH Units

mV - millivolts

cells/mL - cells per milliliter

UTL - upper tolerance limit



U.S. ARMY CORP OF ENGINEERS
TULSA DISTRICT
TULSA, OKLAHOMA

bhate APTIM

Figure 3-2

LHAAP-17 Backfilled Areas and Berm Locations

LONGHORN ARMY AMMUNITION PLANT
KARNACK, TEXAS

Date: 10/20/2020

Document Path: F:\Projects\Longhorn\LHAAP\Documents\Mxd\LHAAP17\BackfillReport\LHAAP17_BackfilledAreasandBermLocations.mxd

LHAAP 17 Standing Water in Excavations

Location ID: / Sample Date:	Units	Screening Criteria	LHAAP 17_111920_H	LHAAP 17_111920_J	LHAAP 17_111920_K	LHAAP 17_111920_L	LHAAP 17_111920_M	LHAAP 17_111920_N
		Sample Date	11/19/2020					
		Lab Package	HS20111074		HS20111080			
Volatile Organic Compounds (8260C)		**MCL**						
1,1-Dichloroethene	µg/L	7	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
1,2-Dichloroethane	µg/L	5	< 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 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	< 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
Explosives (SW8330A)		**MSC**						
2,4,6-Trinitrotoluene	µg/L	51	< 0.770 U	< 0.139 U	< 0.0200 U	< 0.0470 U	< 0.0670 U	< 0.293 U
2,4-Dinitrotoluene	µg/L	0.42	< 0.385 U	< 0.0693 U	< 0.0100 U	< 0.235 U	< 0.0335 U	< 0.146 U
2,6-Dinitrotoluene	µg/L	0.42	< 0.770 U	< 0.139 U	< 0.0200 U	< 0.0470 U	< 0.0670 U	< 0.293 U
Perchlorate (E6850)		**PCL**						
Perchlorate	µg/L	17	**53.6**	**1.37**	**0.684**	**0.0738 J**	**0.0881 J**	**0.0659 J**

Blue Highlighting Indicates concentrations above the MCL/MSC/PCL

MCL/MSC - Maximum Contaminant Limit/Medium-Specific Concentrations

µg/L - micrograms per liter

J - Estimated: Between the method detection limit and reporting limit and/or 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.

U - Undetected: The analyte was analyzed for, but not detected.

PCL – Texas Risk Reduction Program (TRRP) Tier 1 Groundwater Residential Protective Concentration Level