LONGHORN ARMY AMMUNITION PLANT KARNACK, TEXAS

ADMINISTRATIVE RECORD

Volume 20

2020

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

VOLUME 20

2020

A. Title: (cont'd) Report – Final Sixth Annual Remedial Action Operation Report, LHAAP-67 (Aboveground Storage Tank Farm), Longhorn Army Ammunition Plant, Karnack, Texas
Author(s): Department of the Army
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Date: September 30, 2020
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Table 2-4
Groundwater Results 2013–2019

		Location Code	67WW01																	
		Sample ID	67WW01-130430		67WW01-050113		67WW01-130531		67WW01-053113		67WW01-130927		67WW01-140123		67WW01-050714		67WW01-140507		67WW01-140725		67WW01-072514	
		Sample Date	4/30/2013		5/1/2013		5/31/2013		5/31/2013		9/27/2013		1/23/2014		5/7/2014		5/7/2014		7/25/2014		7/25/2014	
		Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter	Units	MCL/GW-Ind	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
2-Butanone	µg/L	61,000							< 2.5	U					< 5	U					< 5	U
2-Chlorotoluene	µg/L	2,000							< 0.125	U					< 0.25	U					< 0.25	U
2-Hexanone	µg/L	6,100							< 2.5	U					< 5	U					< 5	U
4-Chlorotoluene	µg/L	2,000							< 0.25	U					< 0.5	U					< 0.5	U
Acetone	µg/L	92,000							< 2.5	U					< 5	U					< 5	U
Benzene	µg/L	5							< 0.125	U					< 0.14	B					< 0.25	U
Bromobenzene	µg/L	2,000							< 0.125	U					< 0.25	U					< 0.25	U
Bromochloromethane	µg/L	4,100							< 0.2	U					< 0.4	U					< 0.4	U
Bromodichloromethane	µg/L	4.6							< 0.25	U					< 0.5	U					< 0.5	U
Bromoform	µg/L	36							< 0.5	U					< 1	U					< 1	U
Bromomethane	µg/L	140							< 0.5	U					< 1	U					< 1	U
Carbon disulfide	µg/L	10,000							< 0.5	U					< 1	U					< 1	U
Carbon tetrachloride	µg/L	5							< 0.25	U					< 0.5	U					< 0.5	U
Chlorobenzene	µg/L	100							< 0.125	U					< 0.25	U					< 0.25	U
Chloroethane	µg/L	41,000							< 0.5	U					< 1	U					< 1	U
Chloroform	µg/L	1,000							< 0.125	U					< 0.25	U					< 0.25	U
Chloromethane	µg/L	220							< 0.5	U					< 1	U					< 1	U
cis-1,2-Dichloroethene	µg/L	70							1.12						1.29						1.02	
cis-1,3-Dichloropropene	µg/L	5.3							< 0.25	U					< 0.5	U					< 0.5	U
Dibromochloromethane	µg/L	34							< 0.25	U					< 0.5	U					< 0.5	U
Dibromomethane	µg/L	380							< 0.25	U					< 0.5	U					< 0.5	U
Dichlorodifluoromethane	µg/L	20,000							< 0.25	U					< 0.5	U					< 0.5	U
Ethylbenzene	µg/L	700							< 0.25	U					< 0.5	U					< 0.5	U
Hexachlorobutadiene	µg/L	20							< 0.25	U					< 0.5	U					< 0.5	U
Isopropylbenzene	µg/L	10,000							< 0.25	U					< 0.5	U					< 0.5	U
m,p-Xylenes	µg/L	10,000							< 0.5	U					< 1	U					< 1	U
Methyl isobutyl ketone	µg/L	8,200							< 2.5	U					< 5	U					< 5	U
Methylene chloride	µg/L	5							< 0.25	U					< 0.5	U					< 0.5	U
Naphthalene	µg/L	2,000							< 0.2	U					< 0.4	U					< 0.4	U
n-Butylbenzene	µg/L	4,100							< 0.25	U					< 0.5	U					< 0.5	U
n-Propylbenzene	µg/L	4,100							< 0.125	U					< 0.25	U					< 0.25	U
o-Xylene	µg/L	10,000							< 0.25	U					< 0.5	U					< 0.5	U
p-Isopropyltoluene	µg/L	10,000							< 0.25	U					< 0.5	U					< 0.5	U
sec-Butylbenzene	µg/L	4,100							< 0.25	U					< 0.5	U					< 0.5	U
Styrene	µg/L	100							< 0.125	U					< 0.25	U					< 0.25	U
tert-Butylbenzene	µg/L	4,100							< 0.25	U					< 0.5	U					< 0.5	U
Tetrachloroethene	µg/L	5							< 0.25	U					< 0.5	U					< 0.5	U
Toluene	µg/L	1,000							< 0.25	U					< 0.5	U					0.473	J
trans-1,2-Dichloroethene	µg/L	100							< 0.25	U					< 0.5	U					< 0.5	U
trans-1,3-Dichloropropene	µg/L	29							< 0.5	U					< 1	U					< 1	U
Trichloroethene	µg/L	5							2.96						3						2.3	
Trichlorofluoromethane	µg/L	31,000							< 0.25	U					< 0.5	U					< 0.5	U
Vinyl chloride	µg/L	2							2.18						2.15						1.16	

Table 2-4
Groundwater Results 2013–2019

		Location Code	67WW01																	
		Sample ID	67WW01-141203		67WW01-120314		67WW01-150210		67WW01-021015		67WW01-150519		67WW01-051915		67WW01-151119		67WW01-111915		67WW01-151215		67WW01-160329	
		Sample Date	12/3/2014		12/3/2014		2/10/2015		2/10/2015		5/19/2015		5/19/2015		11/19/2015		11/19/2015		12/15/2015		3/29/2016	
		Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter	Units	MCL/GW-Ind	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
ANIONS																						
Chloride	mg/L	NV											988									
Nitrate	mg/L	10											< 1	U								
Nitrite	mg/L	1											2.02									
Sulfate	mg/L	NV											143									
Sulfide	mg/L	NV											< 1	U								
TOTAL ORGANIC CARBON																						
Total Inorganic Carbon	mg/L	NV											42.6									
Total organic carbon	mg/L	NV											12.7									
DHC																						
BVC	cells/mL	NV																				
Dehalococcoides	cells/mL	NV																				
FIELD TESTS																						
Conductivity	µmhos/cm	NV	3.69		3.69		3.36		3.36		3.2		3.2		3.95		3.95		-	-	3.8	
Dissolved oxygen	mg/L	NV	-	-			-	-			-	-			-	-			-	-	-	-
Ferrous Iron	mg/L	NV																				
Oxidation-Reduction Potential	mV	NV	-13		-13		-101		-101		-52		-52		-	-			-	-	-	-
pH	SU	NV	6.15		6.15		6.92		6.92		7.11		7.11		6.19		6.19		-	-	5.57	
Temperature	C	NV	17.6		17.6		18.85		18.85		21.65		21.65		16.27		16.27		-99		15.38	
Turbidity	NTU	NV	23.3		23.3		194		194		161		161		284		284		-	-	50.2	
GENERAL CHEMISTRY																						
Alkalinity	mg/L	NV																				
Ferrous Iron	mg/L	NV											0.0539									
GASES																						
Carbon dioxide	µg/L	NV																				
Ethane	µg/L	NV											< 2	U								
Ethylene	µg/L	NV											< 2	U								
Methane	µg/L	NV											20									
VOLATILES																						
1,1,1,2-Tetrachloroethane	µg/L	110			< 0.5	U			< 0.5	U			< 1.25	U			< 1.25	U				
1,1,1-Trichloroethane	µg/L	200			< 0.5	U			< 0.5	U			< 1.25	U			< 1.25	U				
1,1,2,2-Tetrachloroethane	µg/L	14			< 0.4	U			< 0.4	U			< 1	U			< 1	U				
1,1,2-Trichloro-1,2,2-Trifluoroethane	µg/L	3,100,000																				
1,1,2-Trichloroethane	µg/L	5			0.483	J			1.44				1.72	J			2.14	J				
1,1-Dichloroethane	µg/L	10,000			14.9				23.7				23.5				26.2					
1,1-Dichloroethene	µg/L	7			349				544				631				694					
1,1-Dichloropropene	µg/L	2.9			< 0.5	U			< 0.5	U			< 1.25	U			< 1.25	U				
1,2,3-Trichlorobenzene	µg/L	310			< 0.3	U			< 0.3	U			< 0.75	U			< 0.75	U				
1,2,3-Trichloropropane	µg/L	0.041			< 1	U			< 1	U			< 2.5	U			< 2.5	U				
1,2,4-Trichlorobenzene	µg/L	70			< 0.4	U			< 0.4	U			< 1	U			< 1	U				
1,2,4-Trimethylbenzene	µg/L	5,100			< 0.5	U			< 0.5	U			< 1.25	U			< 1.25	U				
1,2-Dibromo-3-chloropropane	µg/L	0.2			< 2	U			< 2	U			< 5	U			< 5	U				
1,2-Dibromoethane	µg/L	0.05			< 0.5	U			< 0.5	U			< 1.25	U			< 1.25	U				
1,2-Dichlorobenzene	µg/L	600			< 0.25	U			< 0.25	U			< 0.626	U			< 0.626	U				
1,2-Dichloroethane	µg/L	5			16.6				28.7				31.4				38.6					
1,2-Dichloropropane	µg/L	5			< 0.4	U			< 0.4	U			< 1	U			< 1	U				
1,3,5-Trimethylbenzene	µg/L	5,100			< 0.5	U			< 0.5	U			< 1.25	U			< 1.25	U				
1,3-Dichlorobenzene	µg/L	3,100			< 0.5	U			< 0.5	U			< 1.25	U			< 1.25	U				
1,3-Dichloropropane	µg/L	29			< 0.4	U			< 0.4	U			< 1	U			< 1	U				
1,4-Dichlorobenzene	µg/L	75			< 0.25	U			< 0.25	U			< 0.626	U			< 0.626	U				
2,2-Dichloropropane	µg/L	42			< 0.5	U			< 0.5	U			< 1.25	U			< 1.25	U				

Table 2-4
Groundwater Results 2013–2019

		Location Code	67WW01																			
		Sample ID	67WW01-141203		67WW01-120314		67WW01-150210		67WW01-021015		67WW01-150519		67WW01-051915		67WW01-151119		67WW01-111915		67WW01-151215		67WW01-160329	
		Sample Date	12/3/2014		12/3/2014		2/10/2015		2/10/2015		5/19/2015		5/19/2015		11/19/2015		11/19/2015		12/15/2015		3/29/2016	
		Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter	Units	MCL/GW-Ind	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
2-Butanone	µg/L	61,000			< 5	U			< 5	U			< 12.5	U			< 12.5	U				
2-Chlorotoluene	µg/L	2,000			< 0.25	U			< 0.25	U			< 0.626	UJ			< 0.626	U				
2-Hexanone	µg/L	6,100			< 5	U			< 5	U			< 12.5	U			< 12.5	U				
4-Chlorotoluene	µg/L	2,000			< 0.5	U			< 0.5	U			< 1.25	U			< 1.25	U				
Acetone	µg/L	92,000			< 5	U			< 5	U			< 12.5	U			< 12.5	U				
Benzene	µg/L	5			< 0.25	U			< 0.25	U			< 0.626	U			< 0.626	U				
Bromobenzene	µg/L	2,000			< 0.25	U			< 0.25	U			< 0.626	U			< 0.626	U				
Bromochloromethane	µg/L	4,100			< 0.4	U			< 0.4	U			< 1	U			< 1	U				
Bromodichloromethane	µg/L	4.6			< 0.5	U			< 0.5	U			< 1.25	U			< 1.25	U				
Bromoform	µg/L	36			< 1	U			< 1	U			< 2.5	U			< 2.5	U				
Bromomethane	µg/L	140			< 1	U			< 1	UJ			< 2.5	U			< 2.5	U				
Carbon disulfide	µg/L	10,000			< 1	U			< 1	U			< 2.5	U			< 2.5	U				
Carbon tetrachloride	µg/L	5			< 0.5	U			< 0.5	U			< 1.25	U			< 1.25	U				
Chlorobenzene	µg/L	100			< 0.25	U			< 0.25	U			< 0.626	U			< 0.626	U				
Chloroethane	µg/L	41,000			< 1	U			< 1	U			< 2.5	U			< 2.5	U				
Chloroform	µg/L	1,000			< 0.25	U			< 0.25	U			< 0.626	U			< 0.626	U				
Chloromethane	µg/L	220			< 1	U			< 1	U			< 2.5	U			< 2.5	U				
cis-1,2-Dichloroethene	µg/L	70			1.26				1.82				1.54	J			1.6	J				
cis-1,3-Dichloropropene	µg/L	5.3			< 0.5	U			< 0.5	U			< 1.25	U			< 1.25	U				
Dibromochloromethane	µg/L	34			< 0.5	U			< 0.5	U			< 1.25	U			< 1.25	U				
Dibromomethane	µg/L	380			< 0.5	U			< 0.5	U			< 1.25	U			< 1.25	U				
Dichlorodifluoromethane	µg/L	20,000			< 0.5	U			< 0.5	U			< 1.25	U			< 1.25	U				
Ethylbenzene	µg/L	700			< 0.5	U			< 0.5	U			< 1.25	U			< 1.25	U				
Hexachlorobutadiene	µg/L	20			< 0.5	U			< 0.5	U			< 1.25	U			< 1.25	U				
Isopropylbenzene	µg/L	10,000			< 0.5	U			< 0.5	U			< 1.25	U			< 1.25	U				
m,p-Xylenes	µg/L	10,000			< 1	U			< 1	U			< 2.5	U			< 2.5	U				
Methyl isobutyl ketone	µg/L	8,200			< 5	U			< 5	U			< 12.5	U			< 12.5	U				
Methylene chloride	µg/L	5			< 0.5	U			< 0.5	U			< 1.25	U			< 1.25	U				
Naphthalene	µg/L	2,000			< 0.4	U			< 0.4	U			< 1	U			< 1	U				
n-Butylbenzene	µg/L	4,100			< 0.5	U			< 0.5	U			< 1.25	U			< 1.25	U				
n-Propylbenzene	µg/L	4,100			< 0.25	U			< 0.25	U			< 0.626	U			< 0.626	U				
o-Xylene	µg/L	10,000			< 0.5	U			< 0.5	U			< 1.25	U			< 1.25	U				
p-Isopropyltoluene	µg/L	10,000			< 0.5	U			< 0.5	U			< 1.25	U			< 1.25	U				
sec-Butylbenzene	µg/L	4,100			< 0.5	U			< 0.5	U			< 1.25	U			< 1.25	U				
Styrene	µg/L	100			< 0.25	U			< 0.25	U			< 0.626	U			< 0.626	U				
tert-Butylbenzene	µg/L	4,100			< 0.5	U			< 0.5	U			< 1.25	U			< 1.25	U				
Tetrachloroethene	µg/L	5			< 0.5	U			< 0.5	U			< 1.25	U			< 1.25	U				
Toluene	µg/L	1,000			0.398	J			0.287	J			< 1.25	U			< 1.25	U				
trans-1,2-Dichloroethene	µg/L	100			< 0.5	U			< 0.5	U			< 1.25	U			< 1.25	U				
trans-1,3-Dichloropropene	µg/L	29			< 1	U			< 1	U			< 2.5	U			< 2.5	U				
Trichloroethene	µg/L	5			3.36				4.07				3.03				2.84					
Trichlorofluoromethane	µg/L	31,000			< 0.5	U			< 0.5	U			< 1.25	U			< 1.25	U				
Vinyl chloride	µg/L	2			2.16				2.38				1.86	J			2.38	J				

Table 2-4
Groundwater Results 2013–2019

		Location Code	67WW01														67WW02					
		Sample ID	67WW01-032916		67WW01-160519		67WW01-051916		67WW01-112817		67WW01-180503		67WW01-190503		67WW01-191024		67WW02-130502		67WW02-050213		67WW02-130531	
		Sample Date	3/29/2016		5/19/2016		5/19/2016		11/28/2017		5/3/2018		5/3/2019		10/24/2019		5/2/2013		5/2/2013		5/31/2013	
		Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter	Units	MCL/GW-Ind	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
ANIONS																						
Chloride	mg/L	NV																				
Nitrate	mg/L	10																				
Nitrite	mg/L	1																				
Sulfate	mg/L	NV																				
Sulfide	mg/L	NV																				
TOTAL ORGANIC CARBON																						
Total Inorganic Carbon	mg/L	NV																				
Total organic carbon	mg/L	NV																				
DHC																						
BVC	cells/mL	NV																				
Dehalococcoides	cells/mL	NV																				
FIELD TESTS																						
Conductivity	µmhos/cm	NV	3.8		3.9		3.9		3.77		3.37		3.67		4.39		3.25		3.25		3.02	
Dissolved oxygen	mg/L	NV			-	-			6.95		9.14		0.46		0.43		3.4		3.4		8.68	
Ferrous Iron	mg/L	NV																				
Oxidation-Reduction Potential	mV	NV			-	-			19		73		202		99		92		92		-8	
pH	SU	NV	5.57		6.28		6.28		6.47		6.61		6.17		5.99		5.72		5.72		6.57	
Temperature	C	NV	15.38		17.86		17.86		17.22		19.98		19.81		21.04		20.58		20.58		27.07	
Turbidity	NTU	NV	50.2		26.2		26.2		184		67.6		100		57.3		78.4		78.4		51.4	
GENERAL CHEMISTRY																						
Alkalinity	mg/L	NV																				
Ferrous Iron	mg/L	NV																				
GASES																						
Carbon dioxide	µg/L	NV																				
Ethane	µg/L	NV																				
Ethylene	µg/L	NV																				
Methane	µg/L	NV																				
VOLATILES																						
1,1,1,2-Tetrachloroethane	µg/L	110	< 0.5	U			< 2.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U						
1,1,1-Trichloroethane	µg/L	200	< 0.5	U			< 2.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U						
1,1,2,2-Tetrachloroethane	µg/L	14	< 0.4	U			< 2	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U						
1,1,2-Trichloro-1,2,2-Trifluoroethane	µg/L	3,100,000							< 1	U	< 0.5	U	< 0.5	U	< 0.5	U						
1,1,2-Trichloroethane	µg/L	5	2.67				1.62	J	< 1	U	1.2		1.4		0.53	J						
1,1-Dichloroethane	µg/L	10,000	38.5				27.6		22		15		12		3.4							
1,1-Dichloroethene	µg/L	7	728				714		250		450		280		70							
1,1-Dichloropropene	µg/L	2.9	< 0.5	U			< 2.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U						
1,2,3-Trichlorobenzene	µg/L	310	< 0.3	U			< 1.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	UJ						
1,2,3-Trichloropropane	µg/L	0.041	< 1	U			< 5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U						
1,2,4-Trichlorobenzene	µg/L	70	< 0.4	U			< 2	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U						
1,2,4-Trimethylbenzene	µg/L	5,100	< 0.5	U			< 2.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U						
1,2-Dibromo-3-chloropropane	µg/L	0.2	< 2	U			< 10	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U						
1,2-Dibromoethane	µg/L	0.05	< 0.5	U			< 2.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U						
1,2-Dichlorobenzene	µg/L	600	< 0.25	U			< 1.25	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U						
1,2-Dichloroethane	µg/L	5	52.6				43.3		28		22		21		7.6							
1,2-Dichloropropane	µg/L	5	< 0.4	U			< 2	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U						
1,3,5-Trimethylbenzene	µg/L	5,100	< 0.5	U			< 2.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U						
1,3-Dichlorobenzene	µg/L	3,100	< 0.5	U			< 2.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U						
1,3-Dichloropropane	µg/L	29	< 0.4	U			< 2	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U						
1,4-Dichlorobenzene	µg/L	75	< 0.25	U			< 1.25	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U						
2,2-Dichloropropane	µg/L	42	< 0.5	U			< 2.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U						

Table 2-4
Groundwater Results 2013–2019

		Location Code	67WW01														67WW02					
		Sample ID	67WW01-032916		67WW01-160519		67WW01-051916		67WW01-112817		67WW01-180503		67WW01-190503		67WW01-191024		67WW02-130502		67WW02-050213		67WW02-130531	
		Sample Date	3/29/2016		5/19/2016		5/19/2016		11/28/2017		5/3/2018		5/3/2019		10/24/2019		5/2/2013		5/2/2013		5/31/2013	
		Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter	Units	MCL/GW-Ind	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
2-Butanone	µg/L	61,000	< 5	U			< 25	U	< 2	U	< 1	U	< 1	U	< 1	U						
2-Chlorotoluene	µg/L	2,000	< 0.25	U			< 1.25	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U						
2-Hexanone	µg/L	6,100	< 5	U			< 25	U	< 2	U	< 1	U	< 1	U	< 1	U						
4-Chlorotoluene	µg/L	2,000	< 0.5	U			< 2.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U						
Acetone	µg/L	92,000	< 5	U			< 25	U	< 2	U	< 1	U	< 1	U	< 1	U						
Benzene	µg/L	5	0.168	J			< 1.25	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U						
Bromobenzene	µg/L	2,000	< 0.25	U			< 1.25	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U						
Bromochloromethane	µg/L	4,100	< 0.4	U			< 2	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U						
Bromodichloromethane	µg/L	4.6	< 0.5	U			< 2.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U						
Bromoform	µg/L	36	< 1	U			< 5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U						
Bromomethane	µg/L	140	< 1	U			< 5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U						
Carbon disulfide	µg/L	10,000	< 1	U			< 5	U	< 2	U	< 1	U	< 1	U	< 1	U						
Carbon tetrachloride	µg/L	5	< 0.5	U			< 2.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U						
Chlorobenzene	µg/L	100	< 0.25	U			< 1.25	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U						
Chloroethane	µg/L	41,000	< 1	U			< 5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U						
Chloroform	µg/L	1,000	< 0.25	U			< 1.25	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U						
Chloromethane	µg/L	220	< 1	U			< 5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U						
cis-1,2-Dichloroethene	µg/L	70	2.16				1.47	J	1.3		0.95	J	0.86	J	< 0.5	U						
cis-1,3-Dichloropropene	µg/L	5.3	< 0.5	U			< 2.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U						
Dibromochloromethane	µg/L	34	< 0.5	U			< 2.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U						
Dibromomethane	µg/L	380	< 0.5	U			< 2.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U						
Dichlorodifluoromethane	µg/L	20,000	< 0.5	U			< 2.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U						
Ethylbenzene	µg/L	700	< 0.5	U			< 2.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U						
Hexachlorobutadiene	µg/L	20	< 0.5	U			< 2.5	U	< 1	U	< 0.5	U	< 1	U	< 0.5	U						
Isopropylbenzene	µg/L	10,000	< 0.5	U			< 2.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U						
m,p-Xylenes	µg/L	10,000	< 1	U			< 5	U	< 2	U	< 1	U	< 1	U	< 1	U						
Methyl isobutyl ketone	µg/L	8,200	< 5	U			< 25	U	< 2	U	< 1	U	< 1	U	< 1	U						
Methylene chloride	µg/L	5	< 0.5	U			< 2.5	U	< 2	U	< 1	U	< 1	U	< 1	U						
Naphthalene	µg/L	2,000	< 0.4	U			< 2	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	UJ						
n-Butylbenzene	µg/L	4,100	< 0.5	U			< 2.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U						
n-Propylbenzene	µg/L	4,100	< 0.25	U			< 1.25	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U						
o-Xylene	µg/L	10,000	< 0.5	U			< 2.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U						
p-Isopropyltoluene	µg/L	10,000	< 0.5	U			< 2.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U						
sec-Butylbenzene	µg/L	4,100	< 0.5	U			< 2.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U						
Styrene	µg/L	100	< 0.25	U			< 1.25	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U						
tert-Butylbenzene	µg/L	4,100	< 0.5	U			< 2.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U						
Tetrachloroethene	µg/L	5	< 0.5	U			< 2.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U						
Toluene	µg/L	1,000	< 0.5	U			< 2.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U						
trans-1,2-Dichloroethene	µg/L	100	< 0.5	U			< 2.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U						
trans-1,3-Dichloropropene	µg/L	29	< 1	U			< 5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U						
Trichloroethene	µg/L	5	4				3.28	J	2.1		1.7		1.3		0.53	J						
Trichlorofluoromethane	µg/L	31,000	< 0.5	U			< 2.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U						
Vinyl chloride	µg/L	2	3.64				2.98	J	< 1	U	1.4		0.92	J	< 0.5	U						

Table 2-4
Groundwater Results 2013–2019

		Location Code	67WW02																	
		Sample ID	67WW02-053113		67WW02-130927		67WW02-092713		67WW02-140123		67WW02-012314		67WW02-140506		67WW02-050614		67WW02-140724		67WW02-072414		67WW02-141203	
		Sample Date	5/31/2013		9/27/2013		9/27/2013		1/23/2014		1/23/2014		5/6/2014		5/6/2014		7/24/2014		7/24/2014		12/3/2014	
		Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter	Units	MCL/GW-Ind	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
ANIONS																						
Chloride	mg/L	NV																				
Nitrate	mg/L	10																				
Nitrite	mg/L	1																				
Sulfate	mg/L	NV																				
Sulfide	mg/L	NV																				
TOTAL ORGANIC CARBON																						
Total Inorganic Carbon	mg/L	NV																				
Total organic carbon	mg/L	NV																				
DHC																						
BVC	cells/mL	NV																				
Dehalococcoides	cells/mL	NV																				
FIELD TESTS																						
Conductivity	µmhos/cm	NV	3.02		2.94		2.94		3.04		3.04		3		3		2.94		2.94		3.07	
Dissolved oxygen	mg/L	NV	8.68		10.06		10.06		5.81		5.81		6.54		6.54		8.83		8.83		-	-
Ferrous Iron	mg/L	NV																				
Oxidation-Reduction Potential	mV	NV	-8		73		73		-65		-65		47		47		192		192		61	
pH	SU	NV	6.57		6.69		6.69		6.78		6.78		5.62		5.62		7.02		7.02		6.27	
Temperature	C	NV	27.07		25.23		25.23		16.2		16.2		21.01		21.01		22.38		22.38		19	
Turbidity	NTU	NV	51.4		21		21		49.7		49.7		106		106		11.6		11.6		19.3	
GENERAL CHEMISTRY																						
Alkalinity	mg/L	NV																				
Ferrous Iron	mg/L	NV																				
GASES																						
Carbon dioxide	µg/L	NV																				
Ethane	µg/L	NV																				
Ethylene	µg/L	NV																				
Methane	µg/L	NV																				
VOLATILES																						
1,1,1,2-Tetrachloroethane	µg/L	110	< 0.25	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U		
1,1,1-Trichloroethane	µg/L	200	< 0.25	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U		
1,1,2,2-Tetrachloroethane	µg/L	14	< 0.2	UJ			< 0.4	U			< 0.4	U			< 0.4	U			< 0.4	U		
1,1,2-Trichloro-1,2,2-Trifluoroethane	µg/L	3,100,000																				
1,1,2-Trichloroethane	µg/L	5	< 0.25	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U		
1,1-Dichloroethane	µg/L	10,000	0.507	J			0.508	J			0.406	J			0.44	J			0.335	J		
1,1-Dichloroethene	µg/L	7	< 0.5	U			< 1	U			< 1	U			< 1	U			< 1	U		
1,1-Dichloropropene	µg/L	2.9	< 0.25	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U		
1,2,3-Trichlorobenzene	µg/L	310	< 0.15	U			< 0.3	U			< 0.3	U			< 0.3	U			< 0.3	U		
1,2,3-Trichloropropane	µg/L	0.041	< 0.5	U			< 1	U			< 1	U			< 1	U			< 1	U		
1,2,4-Trichlorobenzene	µg/L	70	< 0.2	U			< 0.4	U			< 0.4	U			< 0.4	U			< 0.4	U		
1,2,4-Trimethylbenzene	µg/L	5,100	< 0.25	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U		
1,2-Dibromo-3-chloropropane	µg/L	0.2	< 1	U			< 2	U			< 2	U			< 2	U			< 2	U		
1,2-Dibromoethane	µg/L	0.05	< 0.25	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U		
1,2-Dichlorobenzene	µg/L	600	< 0.125	U			< 0.25	U			< 0.25	U			< 0.25	U			< 0.25	U		
1,2-Dichloroethane	µg/L	5	< 0.25	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U		
1,2-Dichloropropane	µg/L	5	< 0.2	U			< 0.4	U			< 0.4	U			< 0.4	U			< 0.4	U		
1,3,5-Trimethylbenzene	µg/L	5,100	< 0.25	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U		
1,3-Dichlorobenzene	µg/L	3,100	< 0.25	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U		
1,3-Dichloropropane	µg/L	29	< 0.2	U			< 0.4	U			< 0.4	U			< 0.4	U			< 0.4	U		
1,4-Dichlorobenzene	µg/L	75	< 0.125	U			< 0.25	U			< 0.25	U			< 0.25	U			< 0.25	U		
2,2-Dichloropropane	µg/L	42	< 0.25	U			< 0.5	U			< 0.5	U			< 0.5	UJ			< 0.5	U		

Table 2-4
Groundwater Results 2013–2019

		Location Code	67WW02																			
		Sample ID	67WW02-053113		67WW02-130927		67WW02-092713		67WW02-140123		67WW02-012314		67WW02-140506		67WW02-050614		67WW02-140724		67WW02-072414		67WW02-141203	
		Sample Date	5/31/2013		9/27/2013		9/27/2013		1/23/2014		1/23/2014		5/6/2014		5/6/2014		7/24/2014		7/24/2014		12/3/2014	
		Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter	Units	MCL/GW-Ind	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
2-Butanone	µg/L	61,000	< 2.5	U			< 5	U			< 5	U			< 5	U			< 5	U		
2-Chlorotoluene	µg/L	2,000	< 0.125	U			< 0.25	U			< 0.25	U			< 0.25	U			< 0.25	U		
2-Hexanone	µg/L	6,100	< 2.5	U			< 5	U			< 5	U			< 5	U			< 5	U		
4-Chlorotoluene	µg/L	2,000	< 0.25	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U		
Acetone	µg/L	92,000	< 2.5	U			< 5	U			< 5	U			< 5	U			< 5	U		
Benzene	µg/L	5	< 0.125	U			< 0.25	U			< 0.25	U			< 0.25	U			< 0.25	U		
Bromobenzene	µg/L	2,000	< 0.125	U			< 0.25	U			< 0.25	U			< 0.25	U			< 0.25	U		
Bromochloromethane	µg/L	4,100	< 0.2	U			< 0.4	U			< 0.4	U			< 0.4	U			< 0.4	U		
Bromodichloromethane	µg/L	4.6	< 0.25	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U		
Bromoform	µg/L	36	< 0.5	U			< 1	U			< 1	U			< 1	U			< 1	U		
Bromomethane	µg/L	140	< 0.5	UJ			< 1	U			< 1	U			< 1	U			< 1	U		
Carbon disulfide	µg/L	10,000	< 0.5	U			< 1	U			< 1	U			< 1	U			< 1	U		
Carbon tetrachloride	µg/L	5	< 0.25	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U		
Chlorobenzene	µg/L	100	< 0.125	U			< 0.25	U			< 0.25	U			< 0.25	U			< 0.25	U		
Chloroethane	µg/L	41,000	< 0.5	U			< 1	U			< 1	U			< 1	U			< 1	U		
Chloroform	µg/L	1,000	< 0.125	U			< 0.25	U			< 0.25	U			< 0.25	U			< 0.25	U		
Chloromethane	µg/L	220	< 0.5	UJ			< 1	U			< 1	U			< 1	U			< 1	U		
cis-1,2-Dichloroethene	µg/L	70	< 0.25	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U		
cis-1,3-Dichloropropene	µg/L	5.3	< 0.25	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U		
Dibromochloromethane	µg/L	34	< 0.25	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U		
Dibromomethane	µg/L	380	< 0.25	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U		
Dichlorodifluoromethane	µg/L	20,000	< 0.25	UJ			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U		
Ethylbenzene	µg/L	700	< 0.25	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U		
Hexachlorobutadiene	µg/L	20	< 0.25	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U		
Isopropylbenzene	µg/L	10,000	< 0.25	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U		
m,p-Xylenes	µg/L	10,000	< 0.5	U			< 1	U			< 1	U			< 1	U			< 1	U		
Methyl isobutyl ketone	µg/L	8,200	< 2.5	U			< 5	U			< 5	U			< 5	U			< 5	U		
Methylene chloride	µg/L	5	< 0.25	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U		
Naphthalene	µg/L	2,000	< 0.2	U			< 0.4	U			< 0.4	U			< 0.4	U			< 0.4	U		
n-Butylbenzene	µg/L	4,100	< 0.25	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U		
n-Propylbenzene	µg/L	4,100	< 0.125	U			< 0.25	U			< 0.25	U			< 0.25	U			< 0.25	U		
o-Xylene	µg/L	10,000	< 0.25	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U		
p-Isopropyltoluene	µg/L	10,000	< 0.25	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U		
sec-Butylbenzene	µg/L	4,100	< 0.25	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U		
Styrene	µg/L	100	< 0.125	U			< 0.25	U			< 0.25	U			< 0.25	U			< 0.25	U		
tert-Butylbenzene	µg/L	4,100	< 0.25	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U		
Tetrachloroethene	µg/L	5	< 0.25	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U		
Toluene	µg/L	1,000	< 0.25	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U		
trans-1,2-Dichloroethene	µg/L	100	< 0.25	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U		
trans-1,3-Dichloropropene	µg/L	29	< 0.5	U			< 1	U			< 1	U			< 1	U			< 1	U		
Trichloroethene	µg/L	5	< 0.25	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U		
Trichlorofluoromethane	µg/L	31,000	< 0.25	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U		
Vinyl chloride	µg/L	2	< 0.25	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U		

Table 2-4
Groundwater Results 2013–2019

		Location Code	67WW02																			
		Sample ID	67WW02-120314		67WW02-150210		67WW02-021015		67WW02-150511		67WW02-051215		67WW02FD-051215		67WW02-151119		67WW02-111915		67WW02-151215		67WW02-160519	
		Sample Date	12/3/2014		2/10/2015		2/10/2015		5/11/2015		5/12/2015		5/12/2015		11/19/2015		11/19/2015		12/15/2015		5/19/2016	
		Sample Purpose	REG		REG		REG		REG		REG		FD		REG		REG		REG		REG	
Parameter	Units	MCL/GW-Ind	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
ANIONS																						
Chloride	mg/L	NV																				
Nitrate	mg/L	10																				
Nitrite	mg/L	1																				
Sulfate	mg/L	NV																				
Sulfide	mg/L	NV																				
TOTAL ORGANIC CARBON																						
Total Inorganic Carbon	mg/L	NV																				
Total organic carbon	mg/L	NV																				
DHC																						
BVC	cells/mL	NV																				
Dehalococcoides	cells/mL	NV																				
FIELD TESTS																						
Conductivity	µmhos/cm	NV	3.07		2.92		2.92		3.03						3.33		3.33		3.43		3.8	
Dissolved oxygen	mg/L	NV			-	-			-	-					-	-			0.29		-	-
Ferrous Iron	mg/L	NV																				
Oxidation-Reduction Potential	mV	NV	61		-30		-30		52						-	-			119		-	-
pH	SU	NV	6.27		7.25		7.25		6.57						6.29		6.29		6.42		6.08	
Temperature	C	NV	19		19.49		19.49		19.34						17.57		17.57		20.93		18.37	
Turbidity	NTU	NV	19.3		8.9		8.9		23						49.3		49.3		12.3		10.6	
GENERAL CHEMISTRY																						
Alkalinity	mg/L	NV																				
Ferrous Iron	mg/L	NV																				
GASES																						
Carbon dioxide	µg/L	NV																				
Ethane	µg/L	NV																				
Ethylene	µg/L	NV																				
Methane	µg/L	NV																				
VOLATILES																						
1,1,1,2-Tetrachloroethane	µg/L	110	< 0.5	U			< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U				
1,1,1-Trichloroethane	µg/L	200	< 0.5	U			< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U				
1,1,2,2-Tetrachloroethane	µg/L	14	< 0.4	U			< 0.4	U			< 0.4	U	< 0.4	U			< 0.4	U				
1,1,2-Trichloro-1,2,2-Trifluoroethane	µg/L	3,100,000																				
1,1,2-Trichloroethane	µg/L	5	< 0.5	U			< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U				
1,1-Dichloroethane	µg/L	10,000	0.406	J			0.592	J			0.883	J	0.873	J			0.302	J				
1,1-Dichloroethene	µg/L	7	< 1	U			3.59				13.2		13				0.857	J				
1,1-Dichloropropene	µg/L	2.9	< 0.5	U			< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U				
1,2,3-Trichlorobenzene	µg/L	310	< 0.3	U			< 0.3	U			< 0.3	U	< 0.3	U			< 0.3	U				
1,2,3-Trichloropropane	µg/L	0.041	< 1	U			< 1	U			< 1	U	< 1	U			< 1	U				
1,2,4-Trichlorobenzene	µg/L	70	< 0.4	U			< 0.4	U			< 0.4	U	< 0.4	U			< 0.4	U				
1,2,4-Trimethylbenzene	µg/L	5,100	< 0.5	U			< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U				
1,2-Dibromo-3-chloropropane	µg/L	0.2	< 2	U			< 2	U			< 2	U	< 2	U			< 2	U				
1,2-Dibromoethane	µg/L	0.05	< 0.5	U			< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U				
1,2-Dichlorobenzene	µg/L	600	< 0.25	U			< 0.25	U			< 0.25	U	< 0.25	U			< 0.25	U				
1,2-Dichloroethane	µg/L	5	< 0.5	U			< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U				
1,2-Dichloropropane	µg/L	5	< 0.4	U			< 0.4	U			< 0.4	U	< 0.4	U			< 0.4	U				
1,3,5-Trimethylbenzene	µg/L	5,100	< 0.5	U			< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U				
1,3-Dichlorobenzene	µg/L	3,100	< 0.5	U			< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U				
1,3-Dichloropropane	µg/L	29	< 0.4	U			< 0.4	U			< 0.4	U	< 0.4	U			< 0.4	U				
1,4-Dichlorobenzene	µg/L	75	< 0.25	U			< 0.25	U			< 0.25	U	< 0.25	U			< 0.25	U				
2,2-Dichloropropane	µg/L	42	< 0.5	U			< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U				

Table 2-4
Groundwater Results 2013–2019

		Location Code	67WW02																			
		Sample ID	67WW02-120314		67WW02-150210		67WW02-021015		67WW02-150511		67WW02-051215		67WW02FD-051215		67WW02-151119		67WW02-111915		67WW02-151215		67WW02-160519	
		Sample Date	12/3/2014		2/10/2015		2/10/2015		5/11/2015		5/12/2015		5/12/2015		11/19/2015		11/19/2015		12/15/2015		5/19/2016	
		Sample Purpose	REG		REG		REG		REG		REG		FD		REG		REG		REG		REG	
Parameter	Units	MCL/GW-Ind	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
2-Butanone	µg/L	61,000	< 5	U			< 5	U			< 5	U	< 5	UJ			< 5	U				
2-Chlorotoluene	µg/L	2,000	< 0.25	U			< 0.25	U			< 0.25	U	< 0.25	U			< 0.25	U				
2-Hexanone	µg/L	6,100	< 5	U			< 5	U			< 5	U	< 5	U			< 5	U				
4-Chlorotoluene	µg/L	2,000	< 0.5	U			< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U				
Acetone	µg/L	92,000	< 5	U			< 5	U			< 5	U	< 5	U			< 5	U				
Benzene	µg/L	5	< 0.25	U			< 0.25	U			< 0.25	U	< 0.25	U			< 0.25	U				
Bromobenzene	µg/L	2,000	< 0.25	U			< 0.25	U			< 0.25	U	< 0.25	U			< 0.25	U				
Bromochloromethane	µg/L	4,100	< 0.4	U			< 0.4	U			< 0.4	U	< 0.4	U			< 0.4	U				
Bromodichloromethane	µg/L	4.6	< 0.5	U			< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U				
Bromoform	µg/L	36	< 1	U			< 1	U			< 1	U	< 1	U			< 1	U				
Bromomethane	µg/L	140	< 1	U			< 1	U			< 1	U	< 1	U			< 1	U				
Carbon disulfide	µg/L	10,000	< 1	U			< 1	U			< 1	U	< 1	U			< 1	U				
Carbon tetrachloride	µg/L	5	< 0.5	U			< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U				
Chlorobenzene	µg/L	100	< 0.25	U			< 0.25	U			< 0.25	U	< 0.25	U			< 0.25	U				
Chloroethane	µg/L	41,000	< 1	U			< 1	U			< 1	U	< 1	U			< 1	U				
Chloroform	µg/L	1,000	< 0.25	U			< 0.25	U			< 0.25	U	< 0.25	U			< 0.25	U				
Chloromethane	µg/L	220	< 1	U			< 1	U			< 1	U	< 1	U			< 1	U				
cis-1,2-Dichloroethene	µg/L	70	< 0.5	U			< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U				
cis-1,3-Dichloropropene	µg/L	5.3	< 0.5	U			< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U				
Dibromochloromethane	µg/L	34	< 0.5	U			< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U				
Dibromomethane	µg/L	380	< 0.5	U			< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U				
Dichlorodifluoromethane	µg/L	20,000	< 0.5	U			< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U				
Ethylbenzene	µg/L	700	< 0.5	U			< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U				
Hexachlorobutadiene	µg/L	20	< 0.5	U			< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U				
Isopropylbenzene	µg/L	10,000	< 0.5	U			< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U				
m,p-Xylenes	µg/L	10,000	< 1	U			< 1	U			< 1	U	< 1	U			< 1	U				
Methyl isobutyl ketone	µg/L	8,200	< 5	U			< 5	U			< 5	U	< 5	UJ			< 5	U				
Methylene chloride	µg/L	5	< 0.5	U			< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U				
Naphthalene	µg/L	2,000	< 0.4	U			< 0.4	U			< 0.4	U	< 0.4	U			< 0.4	U				
n-Butylbenzene	µg/L	4,100	< 0.5	U			< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U				
n-Propylbenzene	µg/L	4,100	< 0.25	U			< 0.25	U			< 0.25	U	< 0.25	U			< 0.25	U				
o-Xylene	µg/L	10,000	< 0.5	U			< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U				
p-Isopropyltoluene	µg/L	10,000	< 0.5	U			< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U				
sec-Butylbenzene	µg/L	4,100	< 0.5	U			< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U				
Styrene	µg/L	100	< 0.25	U			< 0.25	U			< 0.25	U	< 0.25	U			< 0.25	U				
tert-Butylbenzene	µg/L	4,100	< 0.5	U			< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U				
Tetrachloroethene	µg/L	5	< 0.5	U			< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U				
Toluene	µg/L	1,000	< 0.5	U			< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U				
trans-1,2-Dichloroethene	µg/L	100	< 0.5	U			< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U				
trans-1,3-Dichloropropene	µg/L	29	< 1	U			< 1	U			< 1	U	< 1	U			< 1	U				
Trichloroethene	µg/L	5	< 0.5	U			< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U				
Trichlorofluoromethane	µg/L	31,000	< 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				

Table 2-4
Groundwater Results 2013–2019

		Location Code	67WW02																67WW03			
		Sample ID	67WW02FD-051916		67WW02-051916		67WW02-112817		67WW02-180503FD		67WW02-180503		67WW02-181025		67WW02-190501		67WW02-191024		67WW03-130927		67WW03-140123	
		Sample Date	5/19/2016		5/19/2016		11/28/2017		5/3/2018		5/3/2018		10/25/2018		5/1/2019		10/24/2019		9/27/2013		1/23/2014	
		Sample Purpose	FD		REG		REG		FD		REG		REG		REG		REG		REG		REG	
Parameter	Units	MCL/GW-Ind	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
ANIONS																						
Chloride	mg/L	NV																				
Nitrate	mg/L	10																				
Nitrite	mg/L	1																				
Sulfate	mg/L	NV																				
Sulfide	mg/L	NV																				
TOTAL ORGANIC CARBON																						
Total Inorganic Carbon	mg/L	NV																				
Total organic carbon	mg/L	NV																				
DHC																						
BVC	cells/mL	NV																				
Dehalococcoides	cells/mL	NV																				
FIELD TESTS																						
Conductivity	µmhos/cm	NV			3.8		4.26				3.87		4.0		4.03		4.12		-	-	-99	
Dissolved oxygen	mg/L	NV					7.82				8.6		1.27		0.27		0.36		-	-	-	-
Ferrous Iron	mg/L	NV																				
Oxidation-Reduction Potential	mV	NV					90				155		129		73		125		-	-	-	-
pH	SU	NV			6.08		6.12				6.37		6.5		5.74		6.26		-	-	-	-
Temperature	C	NV			18.37		15.93				20.69		19.04		24.0		22.6		-	-	-99	
Turbidity	NTU	NV			10.6		20.9				14.3		1.1		0		8.7		-	-	-	-
GENERAL CHEMISTRY																						
Alkalinity	mg/L	NV																				
Ferrous Iron	mg/L	NV																				
GASES																						
Carbon dioxide	µg/L	NV																				
Ethane	µg/L	NV																				
Ethylene	µg/L	NV																				
Methane	µg/L	NV																				
VOLATILES																						
1,1,1,2-Tetrachloroethane	µg/L	110	< 0.5	U	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U				
1,1,1-Trichloroethane	µg/L	200	< 0.5	U	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U				
1,1,2,2-Tetrachloroethane	µg/L	14	< 0.4	U	< 0.4	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U				
1,1,2-Trichloro-1,2,2-Trifluoroethane	µg/L	3,100,000					< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U				
1,1,2-Trichloroethane	µg/L	5	< 0.5	U	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	1.2		< 0.5	U				
1,1-Dichloroethane	µg/L	10,000	3.25		3.27		< 1	U	7.7		7.8		< 0.5	U	8.4		1.7					
1,1-Dichloroethene	µg/L	7	66.3		67.6		< 1	U	190		190		6.9		180		34					
1,1-Dichloropropene	µg/L	2.9	< 0.5	U	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U				
1,2,3-Trichlorobenzene	µg/L	310	< 0.3	U	< 0.3	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	UJ	< 0.5	U	< 0.5	U				
1,2,3-Trichloropropane	µg/L	0.041	< 1	U	< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U				
1,2,4-Trichlorobenzene	µg/L	70	< 0.4	U	< 0.4	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U				
1,2,4-Trimethylbenzene	µg/L	5,100	< 0.5	U	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U				
1,2-Dibromo-3-chloropropane	µg/L	0.2	< 2	U	< 2	U	< 1	U	< 0.5	U	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U				
1,2-Dibromoethane	µg/L	0.05	< 0.5	U	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U				
1,2-Dichlorobenzene	µg/L	600	< 0.25	U	< 0.25	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U				
1,2-Dichloroethane	µg/L	5	0.321	J	0.377	J	< 1	U	1.9		2		< 0.5	U	4.7		< 0.5	U				
1,2-Dichloropropane	µg/L	5	< 0.4	U	< 0.4	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U				
1,3,5-Trimethylbenzene	µg/L	5,100	< 0.5	U	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U				
1,3-Dichlorobenzene	µg/L	3,100	< 0.5	U	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U				
1,3-Dichloropropane	µg/L	29	< 0.4	U	< 0.4	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U				
1,4-Dichlorobenzene	µg/L	75	< 0.25	U	< 0.25	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U				
2,2-Dichloropropane	µg/L	42	< 0.5	U	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U				

Table 2-4
Groundwater Results 2013–2019

		Location Code	67WW02																67WW03			
		Sample ID	67WW02FD-051916		67WW02-051916		67WW02-112817		67WW02-180503FD		67WW02-180503		67WW02-181025		67WW02-190501		67WW02-191024		67WW03-130927		67WW03-140123	
		Sample Date	5/19/2016		5/19/2016		11/28/2017		5/3/2018		5/3/2018		10/25/2018		5/1/2019		10/24/2019		9/27/2013		1/23/2014	
		Sample Purpose	FD		REG		REG		FD		REG		REG		REG		REG		REG		REG	
Parameter	Units	MCL/GW-Ind	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
2-Butanone	µg/L	61,000	< 5	U	< 5	U	< 2	U	< 1	U	< 1	U	< 1	U	< 1	U	< 1	U				
2-Chlorotoluene	µg/L	2,000	< 0.25	U	< 0.25	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U				
2-Hexanone	µg/L	6,100	< 5	U	< 5	U	< 2	U	< 1	U	< 1	U	< 1	U	< 1	U	< 1	U				
4-Chlorotoluene	µg/L	2,000	< 0.5	U	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U				
Acetone	µg/L	92,000	< 5	U	< 5	U	< 2	U	< 1	U	< 1	U	< 2	U	< 1	U	< 1	U				
Benzene	µg/L	5	< 0.25	U	< 0.25	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U				
Bromobenzene	µg/L	2,000	< 0.25	U	< 0.25	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U				
Bromochloromethane	µg/L	4,100	< 0.4	U	< 0.4	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U				
Bromodichloromethane	µg/L	4.6	< 0.5	U	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U				
Bromoform	µg/L	36	< 1	U	< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U				
Bromomethane	µg/L	140	< 1	U	< 1	UJ	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U				
Carbon disulfide	µg/L	10,000	< 1	U	< 1	U	< 2	U	< 1	U	< 1	U	< 1	U	< 1	U	< 1	U				
Carbon tetrachloride	µg/L	5	< 0.5	U	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U				
Chlorobenzene	µg/L	100	< 0.25	U	< 0.25	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U				
Chloroethane	µg/L	41,000	< 1	U	< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U				
Chloroform	µg/L	1,000	< 0.25	U	< 0.25	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U				
Chloromethane	µg/L	220	< 1	U	< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U				
cis-1,2-Dichloroethene	µg/L	70	< 0.5	U	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U				
cis-1,3-Dichloropropene	µg/L	5.3	< 0.5	U	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U				
Dibromochloromethane	µg/L	34	< 0.5	U	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U				
Dibromomethane	µg/L	380	< 0.5	U	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U				
Dichlorodifluoromethane	µg/L	20,000	< 0.5	U	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U				
Ethylbenzene	µg/L	700	< 0.5	U	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U				
Hexachlorobutadiene	µg/L	20	< 0.5	U	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 1	U	< 1	U	< 0.5	U				
Isopropylbenzene	µg/L	10,000	< 0.5	U	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U				
m,p-Xylenes	µg/L	10,000	< 1	U	< 1	U	< 2	U	< 1	U	< 1	U	< 1	U	< 1	U	< 1	U				
Methyl isobutyl ketone	µg/L	8,200	< 5	U	< 5	U	< 2	U	< 1	U	< 1	U	< 1	U	< 1	U	< 1	U				
Methylene chloride	µg/L	5	< 0.5	U	< 0.5	U	< 2	U	< 1	U	< 1	U	< 1	U	< 1	U	< 1	U				
Naphthalene	µg/L	2,000	< 0.4	U	< 0.4	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	UJ	< 0.5	U	< 0.5	U				
n-Butylbenzene	µg/L	4,100	< 0.5	U	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U				
n-Propylbenzene	µg/L	4,100	< 0.25	U	< 0.25	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U				
o-Xylene	µg/L	10,000	< 0.5	U	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U				
p-Isopropyltoluene	µg/L	10,000	< 0.5	U	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U				
sec-Butylbenzene	µg/L	4,100	< 0.5	U	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U				
Styrene	µg/L	100	< 0.25	U	< 0.25	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U				
tert-Butylbenzene	µg/L	4,100	< 0.5	U	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U				
Tetrachloroethene	µg/L	5	< 0.5	U	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U				
Toluene	µg/L	1,000	< 0.5	U	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U				
trans-1,2-Dichloroethene	µg/L	100	< 0.5	U	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U				
trans-1,3-Dichloropropene	µg/L	29	< 1	U	< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U				
Trichloroethene	µg/L	5	< 0.5	U	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	0.87	J	< 0.5	U				
Trichlorofluoromethane	µg/L	31,000	< 0.5	U	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U				
Vinyl chloride	µg/L	2	0.273	J	0.285	J	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U				

Table 2-4
Groundwater Results 2013–2019

		Location Code	67WW03																			
		Sample ID	67WW03-140506		67WW03-140723		67WW03-141202		67WW03-150210		67WW03-150511		67WW03-051215		67WW03-151118		67WW03-151215		67WW03-160329		67WW03-032916	
		Sample Date	5/6/2014		7/23/2014		12/2/2014		2/10/2015		5/11/2015		5/12/2015		11/18/2015		12/15/2015		3/29/2016		3/29/2016	
		Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter	Units	MCL/GW-Ind	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
ANIONS																						
Chloride	mg/L	NV																				
Nitrate	mg/L	10																				
Nitrite	mg/L	1																				
Sulfate	mg/L	NV																				
Sulfide	mg/L	NV																				
TOTAL ORGANIC CARBON																						
Total Inorganic Carbon	mg/L	NV																				
Total organic carbon	mg/L	NV																				
DHC																						
BVC	cells/mL	NV																				
Dehalococcoides	cells/mL	NV																				
FIELD TESTS																						
Conductivity	µmhos/cm	NV	-99		-99		-99		-	-	4.56				-99		-99		5.5			
Dissolved oxygen	mg/L	NV	-	-	-	-	-	-	-	-	-	-			-	-	-	-	-	-		
Ferrous Iron	mg/L	NV																				
Oxidation-Reduction Potential	mV	NV	-	-	-	-	-	-	-	-	40				-	-	-	-	-	-		
pH	SU	NV	-	-	-	-	-	-	-	-	6.12				-	-	-	-	4.41			
Temperature	C	NV	-99		-99		-99		-	-	18.52				-99		-	-	13.21			
Turbidity	NTU	NV	-	-	-	-	-	-	-	-	200				-	-	-	-	28.9			
GENERAL CHEMISTRY																						
Alkalinity	mg/L	NV																				
Ferrous Iron	mg/L	NV																				
GASES																						
Carbon dioxide	µg/L	NV																				
Ethane	µg/L	NV																				
Ethylene	µg/L	NV																				
Methane	µg/L	NV																				
VOLATILES																						
1,1,1,2-Tetrachloroethane	µg/L	110											< 0.5	U							< 0.5	U
1,1,1-Trichloroethane	µg/L	200											< 0.5	U							< 0.5	U
1,1,2,2-Tetrachloroethane	µg/L	14											< 0.4	U							< 0.4	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	µg/L	3,100,000																				
1,1,2-Trichloroethane	µg/L	5											< 0.5	U							< 0.5	U
1,1-Dichloroethane	µg/L	10,000											< 0.25	U							< 0.25	U
1,1-Dichloroethene	µg/L	7											< 1	U							< 1	U
1,1-Dichloropropene	µg/L	2.9											< 0.5	U							< 0.5	U
1,2,3-Trichlorobenzene	µg/L	310											< 0.3	U							< 0.3	U
1,2,3-Trichloropropane	µg/L	0.041											< 1	U							< 1	U
1,2,4-Trichlorobenzene	µg/L	70											< 0.4	U							< 0.4	U
1,2,4-Trimethylbenzene	µg/L	5,100											< 0.5	U							< 0.5	U
1,2-Dibromo-3-chloropropane	µg/L	0.2											< 2	U							< 2	U
1,2-Dibromoethane	µg/L	0.05											< 0.5	U							< 0.5	U
1,2-Dichlorobenzene	µg/L	600											< 0.25	U							< 0.25	U
1,2-Dichloroethane	µg/L	5											< 0.5	U							< 0.5	U
1,2-Dichloropropane	µg/L	5											< 0.4	U							< 0.4	U
1,3,5-Trimethylbenzene	µg/L	5,100											< 0.5	U							< 0.5	U
1,3-Dichlorobenzene	µg/L	3,100											< 0.5	U							< 0.5	U
1,3-Dichloropropane	µg/L	29											< 0.4	U							< 0.4	U
1,4-Dichlorobenzene	µg/L	75											< 0.25	U							< 0.25	U
2,2-Dichloropropane	µg/L	42											< 0.5	U							< 0.5	U

Table 2-4
Groundwater Results 2013–2019

		Location Code	67WW03																			
		Sample ID	67WW03-140506		67WW03-140723		67WW03-141202		67WW03-150210		67WW03-150511		67WW03-051215		67WW03-151118		67WW03-151215		67WW03-160329		67WW03-032916	
		Sample Date	5/6/2014		7/23/2014		12/2/2014		2/10/2015		5/11/2015		5/12/2015		11/18/2015		12/15/2015		3/29/2016		3/29/2016	
		Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter	Units	MCL/GW-Ind	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
2-Butanone	µg/L	61,000											< 5	U							< 5	U
2-Chlorotoluene	µg/L	2,000											< 0.25	U							< 0.25	U
2-Hexanone	µg/L	6,100											< 5	UJ							< 5	U
4-Chlorotoluene	µg/L	2,000											< 0.5	U							< 0.5	U
Acetone	µg/L	92,000											< 5	U							< 5	U
Benzene	µg/L	5											< 0.25	U							< 0.25	U
Bromobenzene	µg/L	2,000											< 0.25	U							< 0.25	U
Bromochloromethane	µg/L	4,100											< 0.4	U							< 0.4	U
Bromodichloromethane	µg/L	4.6											< 0.5	U							< 0.5	U
Bromoform	µg/L	36											< 1	U							< 1	U
Bromomethane	µg/L	140											< 1	U							< 1	U
Carbon disulfide	µg/L	10,000											< 1	U							< 1	U
Carbon tetrachloride	µg/L	5											< 0.5	U							< 0.5	U
Chlorobenzene	µg/L	100											< 0.25	U							< 0.25	U
Chloroethane	µg/L	41,000											< 1	U							< 1	U
Chloroform	µg/L	1,000											< 0.25	U							< 0.25	U
Chloromethane	µg/L	220											< 1	U							< 1	U
cis-1,2-Dichloroethene	µg/L	70											< 0.5	U							< 0.5	U
cis-1,3-Dichloropropene	µg/L	5.3											< 0.5	U							< 0.5	U
Dibromochloromethane	µg/L	34											< 0.5	U							< 0.5	U
Dibromomethane	µg/L	380											< 0.5	U							< 0.5	U
Dichlorodifluoromethane	µg/L	20,000											< 0.5	U							< 0.5	U
Ethylbenzene	µg/L	700											< 0.5	U							< 0.5	U
Hexachlorobutadiene	µg/L	20											< 0.5	U							< 0.5	U
Isopropylbenzene	µg/L	10,000											< 0.5	U							< 0.5	U
m,p-Xylenes	µg/L	10,000											< 1	U							< 1	U
Methyl isobutyl ketone	µg/L	8,200											< 5	UJ							< 5	U
Methylene chloride	µg/L	5											< 0.5	U							< 0.5	U
Naphthalene	µg/L	2,000											< 0.4	U							< 0.4	U
n-Butylbenzene	µg/L	4,100											< 0.5	U							< 0.5	U
n-Propylbenzene	µg/L	4,100											< 0.25	U							< 0.25	U
o-Xylene	µg/L	10,000											< 0.5	U							< 0.5	U
p-Isopropyltoluene	µg/L	10,000											0.411	J							0.456	J
sec-Butylbenzene	µg/L	4,100											< 0.5	U							< 0.5	U
Styrene	µg/L	100											< 0.25	U							< 0.25	U
tert-Butylbenzene	µg/L	4,100											< 0.5	U							< 0.5	U
Tetrachloroethene	µg/L	5											< 0.5	U							< 0.5	U
Toluene	µg/L	1,000											< 0.5	U							< 0.5	U
trans-1,2-Dichloroethene	µg/L	100											< 0.5	U							< 0.5	U
trans-1,3-Dichloropropene	µg/L	29											< 1	U							< 1	U
Trichloroethene	µg/L	5											< 0.5	U							< 0.5	U
Trichlorofluoromethane	µg/L	31,000											< 0.5	U							< 0.5	U
Vinyl chloride	µg/L	2											< 0.5	U							< 0.5	U

Table 2-4
Groundwater Results 2013–2019

		Location Code	67WW03				67WW04															
		Sample ID	67WW03-160519		67WW03-051916		67WW04-130927		67WW04-140123		67WW04-140506		67WW04-140725		67WW04-141202		67WW04-150210		67WW04-150511		67WW04-151118	
		Sample Date	5/19/2016		5/19/2016		9/27/2013		1/23/2014		5/6/2014		7/25/2014		12/2/2014		2/10/2015		5/11/2015		11/18/2015	
		Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter	Units	MCL/GW-Ind	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
ANIONS																						
Chloride	mg/L	NV																				
Nitrate	mg/L	10																				
Nitrite	mg/L	1																				
Sulfate	mg/L	NV																				
Sulfide	mg/L	NV																				
TOTAL ORGANIC CARBON																						
Total Inorganic Carbon	mg/L	NV																				
Total organic carbon	mg/L	NV																				
DHC																						
BVC	cells/mL	NV																				
Dehalococcoides	cells/mL	NV																				
FIELD TESTS																						
Conductivity	µmhos/cm	NV	5.22				-99		-	-	-99		-99		-99		-	-	-	-	-99	
Dissolved oxygen	mg/L	NV	-	-			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ferrous Iron	mg/L	NV																				
Oxidation-Reduction Potential	mV	NV	-	-			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
pH	SU	NV	6.26				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Temperature	C	NV	17.89				-99		-99		-	-	-99		-99		-	-	-99		-99	
Turbidity	NTU	NV	9.1				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GENERAL CHEMISTRY																						
Alkalinity	mg/L	NV																				
Ferrous Iron	mg/L	NV																				
GASES																						
Carbon dioxide	µg/L	NV																				
Ethane	µg/L	NV																				
Ethylene	µg/L	NV																				
Methane	µg/L	NV																				
VOLATILES																						
1,1,1,2-Tetrachloroethane	µg/L	110			< 0.5	U																
1,1,1-Trichloroethane	µg/L	200			< 0.5	U																
1,1,2,2-Tetrachloroethane	µg/L	14			< 0.4	U																
1,1,2-Trichloro-1,2,2-Trifluoroethane	µg/L	3,100,000																				
1,1,2-Trichloroethane	µg/L	5			< 0.5	U																
1,1-Dichloroethane	µg/L	10,000			< 0.25	U																
1,1-Dichloroethene	µg/L	7			< 1	U																
1,1-Dichloropropene	µg/L	2.9			< 0.5	U																
1,2,3-Trichlorobenzene	µg/L	310			< 0.3	U																
1,2,3-Trichloropropane	µg/L	0.041			< 1	U																
1,2,4-Trichlorobenzene	µg/L	70			< 0.4	U																
1,2,4-Trimethylbenzene	µg/L	5,100			< 0.5	U																
1,2-Dibromo-3-chloropropane	µg/L	0.2			< 2	U																
1,2-Dibromoethane	µg/L	0.05			< 0.5	U																
1,2-Dichlorobenzene	µg/L	600			< 0.25	U																
1,2-Dichloroethane	µg/L	5			< 0.5	U																
1,2-Dichloropropane	µg/L	5			< 0.4	U																
1,3,5-Trimethylbenzene	µg/L	5,100			< 0.5	U																
1,3-Dichlorobenzene	µg/L	3,100			< 0.5	U																
1,3-Dichloropropane	µg/L	29			< 0.4	U																
1,4-Dichlorobenzene	µg/L	75			< 0.25	U																
2,2-Dichloropropane	µg/L	42			< 0.5	U																

Table 2-4
Groundwater Results 2013–2019

		Location Code	67WW03		67WW03		67WW04															
		Sample ID	67WW03-160519		67WW03-051916		67WW04-130927		67WW04-140123		67WW04-140506		67WW04-140725		67WW04-141202		67WW04-150210		67WW04-150511		67WW04-151118	
		Sample Date	5/19/2016		5/19/2016		9/27/2013		1/23/2014		5/6/2014		7/25/2014		12/2/2014		2/10/2015		5/11/2015		11/18/2015	
		Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter	Units	MCL/GW-Ind	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
2-Butanone	µg/L	61,000			< 5	U																
2-Chlorotoluene	µg/L	2,000			< 0.25	U																
2-Hexanone	µg/L	6,100			< 5	U																
4-Chlorotoluene	µg/L	2,000			< 0.5	U																
Acetone	µg/L	92,000			< 5	U																
Benzene	µg/L	5			< 0.25	U																
Bromobenzene	µg/L	2,000			< 0.25	U																
Bromochloromethane	µg/L	4,100			< 0.4	U																
Bromodichloromethane	µg/L	4.6			< 0.5	U																
Bromoform	µg/L	36			< 1	U																
Bromomethane	µg/L	140			< 1	U																
Carbon disulfide	µg/L	10,000			< 1	U																
Carbon tetrachloride	µg/L	5			< 0.5	U																
Chlorobenzene	µg/L	100			< 0.25	U																
Chloroethane	µg/L	41,000			< 1	U																
Chloroform	µg/L	1,000			< 0.25	U																
Chloromethane	µg/L	220			< 1	U																
cis-1,2-Dichloroethene	µg/L	70			< 0.5	U																
cis-1,3-Dichloropropene	µg/L	5.3			< 0.5	U																
Dibromochloromethane	µg/L	34			< 0.5	U																
Dibromomethane	µg/L	380			< 0.5	U																
Dichlorodifluoromethane	µg/L	20,000			< 0.5	U																
Ethylbenzene	µg/L	700			< 0.5	U																
Hexachlorobutadiene	µg/L	20			< 0.5	U																
Isopropylbenzene	µg/L	10,000			< 0.5	U																
m,p-Xylenes	µg/L	10,000			< 1	U																
Methyl isobutyl ketone	µg/L	8,200			< 5	U																
Methylene chloride	µg/L	5			< 0.5	U																
Naphthalene	µg/L	2,000			< 0.4	U																
n-Butylbenzene	µg/L	4,100			< 0.5	U																
n-Propylbenzene	µg/L	4,100			< 0.25	U																
o-Xylene	µg/L	10,000			< 0.5	U																
p-Isopropyltoluene	µg/L	10,000			< 0.5	U																
sec-Butylbenzene	µg/L	4,100			< 0.5	U																
Styrene	µg/L	100			< 0.25	U																
tert-Butylbenzene	µg/L	4,100			< 0.5	U																
Tetrachloroethene	µg/L	5			< 0.5	U																
Toluene	µg/L	1,000			< 0.5	U																
trans-1,2-Dichloroethene	µg/L	100			< 0.5	U																
trans-1,3-Dichloropropene	µg/L	29			< 1	U																
Trichloroethene	µg/L	5			< 0.5	U																
Trichlorofluoromethane	µg/L	31,000			< 0.5	U																
Vinyl chloride	µg/L	2			< 0.5	U																

Table 2-4
Groundwater Results 2013–2019

		Location Code	67WW04		67WW05																	
		Sample ID	67WW04-160518		67WW05-130531		67WW05-053113		67WW05-130928		67WW05-092813		67WW05-140123		67WW05-012314		67WW05-140506		67WW05-050614		67WW05-140724	
		Sample Date	5/18/2016		5/31/2013		5/31/2013		9/28/2013		9/28/2013		1/23/2014		1/23/2014		5/6/2014		5/6/2014		7/24/2014	
		Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter	Units	MCL/GW-Ind	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
ANIONS																						
Chloride	mg/L	NV																	697			
Nitrate	mg/L	10																				
Nitrite	mg/L	1																				
Sulfate	mg/L	NV																				
Sulfide	mg/L	NV																				
TOTAL ORGANIC CARBON																						
Total Inorganic Carbon	mg/L	NV																				
Total organic carbon	mg/L	NV																				
DHC																						
BVC	cells/mL	NV																				
Dehalococcoides	cells/mL	NV																				
FIELD TESTS																						
Conductivity	µmhos/cm	NV	-99		2.66				2.67				2.75				2.62				2.49	
Dissolved oxygen	mg/L	NV	-	-	8.72				10.02				6.01				7.35				8.31	
Ferrous Iron	mg/L	NV																				
Oxidation-Reduction Potential	mV	NV	-	-	-15				-72				-34				13				221	
pH	SU	NV	-	-	6.94				6.37				6.57				5.56				6.92	
Temperature	C	NV	-99		26.87				21.75				15.83				22.15				22.72	
Turbidity	NTU	NV	-	-	2.5				16.2				9.7				8.1				28.5	
GENERAL CHEMISTRY																						
Alkalinity	mg/L	NV																				
Ferrous Iron	mg/L	NV																				
GASES																						
Carbon dioxide	µg/L	NV																				
Ethane	µg/L	NV																				
Ethylene	µg/L	NV																				
Methane	µg/L	NV																				
VOLATILES																						
1,1,1,2-Tetrachloroethane	µg/L	110					< 0.25	U			< 0.5	U			< 0.5	U			< 0.5	U		
1,1,1-Trichloroethane	µg/L	200					< 0.25	U			< 0.5	U			< 0.5	U			< 0.5	U		
1,1,2,2-Tetrachloroethane	µg/L	14					< 0.2	U			< 0.4	U			< 0.4	U			< 0.4	U		
1,1,2-Trichloro-1,2,2-Trifluoroethane	µg/L	3,100,000																				
1,1,2-Trichloroethane	µg/L	5					< 0.25	U			< 0.5	U			< 0.5	U			< 0.5	U		
1,1-Dichloroethane	µg/L	10,000					< 0.125	U			< 0.25	U			< 0.25	U			< 0.25	U		
1,1-Dichloroethene	µg/L	7					< 0.5	U			< 1	U			< 1	U			< 1	U		
1,1-Dichloropropene	µg/L	2.9					< 0.25	U			< 0.5	U			< 0.5	U			< 0.5	U		
1,2,3-Trichlorobenzene	µg/L	310					< 0.15	U			< 0.3	U			< 0.3	U			< 0.3	U		
1,2,3-Trichloropropane	µg/L	0.041					< 0.5	U			< 1	U			< 1	U			< 1	U		
1,2,4-Trichlorobenzene	µg/L	70					< 0.2	U			< 0.4	U			< 0.4	U			< 0.4	U		
1,2,4-Trimethylbenzene	µg/L	5,100					< 0.25	U			< 0.5	U			< 0.5	U			< 0.5	U		
1,2-Dibromo-3-chloropropane	µg/L	0.2					< 1	U			< 2	U			< 2	U			< 2	U		
1,2-Dibromoethane	µg/L	0.05					< 0.25	U			< 0.5	U			< 0.5	U			< 0.5	U		
1,2-Dichlorobenzene	µg/L	600					< 0.125	U			< 0.25	U			< 0.25	U			< 0.25	U		
1,2-Dichloroethane	µg/L	5					< 0.25	U			< 0.5	U			< 0.5	U			< 0.5	U		
1,2-Dichloropropane	µg/L	5					< 0.2	U			< 0.4	U			< 0.4	U			< 0.4	U		
1,3,5-Trimethylbenzene	µg/L	5,100					< 0.25	U			< 0.5	U			< 0.5	U			< 0.5	U		
1,3-Dichlorobenzene	µg/L	3,100					< 0.25	U			< 0.5	U			< 0.5	U			< 0.5	U		
1,3-Dichloropropane	µg/L	29					< 0.2	U			< 0.4	U			< 0.4	U			< 0.4	U		
1,4-Dichlorobenzene	µg/L	75					< 0.125	U			< 0.25	U			< 0.25	U			< 0.25	U		
2,2-Dichloropropane	µg/L	42					< 0.25	U			< 0.5	U			< 0.5	U			< 0.5	UJ		

Table 2-4
Groundwater Results 2013–2019

		Location Code	67WW04		67WW05															
		Sample ID	67WW04-160518		67WW05-130531		67WW05-053113		67WW05-130928		67WW05-092813		67WW05-140123		67WW05-012314		67WW05-140506		67WW05-050614		67WW05-140724	
		Sample Date	5/18/2016		5/31/2013		5/31/2013		9/28/2013		9/28/2013		1/23/2014		1/23/2014		5/6/2014		5/6/2014		7/24/2014	
		Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter	Units	MCL/GW-Ind	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
2-Butanone	µg/L	61,000					< 2.5	U			< 5	U			< 5	U			< 5	U		
2-Chlorotoluene	µg/L	2,000					< 0.125	U			< 0.25	U			< 0.25	U			< 0.25	U		
2-Hexanone	µg/L	6,100					< 2.5	U			< 5	U			< 5	U			< 5	U		
4-Chlorotoluene	µg/L	2,000					< 0.25	U			< 0.5	U			< 0.5	U			< 0.5	U		
Acetone	µg/L	92,000					< 2.5	UJ			< 5	U			< 5	U			< 5	U		
Benzene	µg/L	5					< 0.125	U			< 0.25	U			< 0.25	U			< 0.25	U		
Bromobenzene	µg/L	2,000					< 0.125	U			< 0.25	U			< 0.25	U			< 0.25	U		
Bromochloromethane	µg/L	4,100					< 0.2	U			< 0.4	U			< 0.4	U			< 0.4	U		
Bromodichloromethane	µg/L	4.6					< 0.25	U			< 0.5	U			< 0.5	U			< 0.5	U		
Bromoform	µg/L	36					< 0.5	U			< 1	U			< 1	U			< 1	U		
Bromomethane	µg/L	140					< 0.5	U			< 1	U			< 1	U			< 1	U		
Carbon disulfide	µg/L	10,000					< 0.5	U			< 1	U			< 1	U			< 1	U		
Carbon tetrachloride	µg/L	5					< 0.25	U			< 0.5	U			< 0.5	U			< 0.5	U		
Chlorobenzene	µg/L	100					< 0.125	U			< 0.25	U			< 0.25	U			< 0.25	U		
Chloroethane	µg/L	41,000					< 0.5	U			< 1	U			< 1	U			< 1	U		
Chloroform	µg/L	1,000					< 0.125	U			< 0.25	U			< 0.25	U			< 0.25	U		
Chloromethane	µg/L	220					< 0.5	U			< 1	U			< 1	U			< 1	U		
cis-1,2-Dichloroethene	µg/L	70					< 0.25	U			< 0.5	U			< 0.5	U			< 0.5	U		
cis-1,3-Dichloropropene	µg/L	5.3					< 0.25	U			< 0.5	U			< 0.5	U			< 0.5	U		
Dibromochloromethane	µg/L	34					< 0.25	U			< 0.5	U			< 0.5	U			< 0.5	U		
Dibromomethane	µg/L	380					< 0.25	U			< 0.5	U			< 0.5	U			< 0.5	U		
Dichlorodifluoromethane	µg/L	20,000					< 0.25	U			< 0.5	U			< 0.5	U			< 0.5	U		
Ethylbenzene	µg/L	700					< 0.25	U			< 0.5	U			< 0.5	U			< 0.5	U		
Hexachlorobutadiene	µg/L	20					< 0.25	U			< 0.5	U			< 0.5	U			< 0.5	U		
Isopropylbenzene	µg/L	10,000					< 0.25	U			< 0.5	U			< 0.5	U			< 0.5	U		
m,p-Xylenes	µg/L	10,000					< 0.5	U			< 1	U			< 1	U			< 1	U		
Methyl isobutyl ketone	µg/L	8,200					< 2.5	U			< 5	U			< 5	U			< 5	U		
Methylene chloride	µg/L	5					< 0.25	U			< 0.5	U			< 0.5	U			< 0.5	U		
Naphthalene	µg/L	2,000					< 0.2	U			< 0.4	U			< 0.4	U			< 0.4	U		
n-Butylbenzene	µg/L	4,100					< 0.25	U			< 0.5	U			< 0.5	U			< 0.5	U		
n-Propylbenzene	µg/L	4,100					< 0.125	U			< 0.25	U			< 0.25	U			< 0.25	U		
o-Xylene	µg/L	10,000					< 0.25	U			< 0.5	U			< 0.5	U			< 0.5	U		
p-Isopropyltoluene	µg/L	10,000					< 0.25	U			< 0.5	U			< 0.5	U			< 0.5	U		
sec-Butylbenzene	µg/L	4,100					< 0.25	U			< 0.5	U			< 0.5	U			< 0.5	U		
Styrene	µg/L	100					< 0.125	U			< 0.25	U			< 0.25	U			< 0.25	U		
tert-Butylbenzene	µg/L	4,100					< 0.25	U			< 0.5	U			< 0.5	U			< 0.5	U		
Tetrachloroethene	µg/L	5					< 0.25	U			< 0.5	U			< 0.5	U			< 0.5	U		
Toluene	µg/L	1,000					< 0.25	U			< 0.5	U			< 0.5	U			< 0.5	U		
trans-1,2-Dichloroethene	µg/L	100					< 0.25	U			< 0.5	U			< 0.5	U			< 0.5	U		
trans-1,3-Dichloropropene	µg/L	29					< 0.5	U			< 1	U			< 1	U			< 1	U		
Trichloroethene	µg/L	5					< 0.25	U			< 0.5	U			< 0.5	U			< 0.5	U		
Trichlorofluoromethane	µg/L	31,000					< 0.25	U			< 0.5	U			< 0.5	U			< 0.5	U		
Vinyl chloride	µg/L	2					< 0.25	U			< 0.5	U			< 0.5	U			< 0.5	U		

Table 2-4
Groundwater Results 2013–2019

	Location Code	67WW05																			
	Sample ID	67WW05-072414		67WW05-141203		67WW05-120314		67WW05-150210		67WW05-021015		67WW05-150511		67WW05-051215		67WW05-151119		67WW05-111915		67WW05-160519	
	Sample Date	7/24/2014		12/3/2014		12/3/2014		2/10/2015		2/10/2015		5/11/2015		5/12/2015		11/19/2015		11/19/2015		5/19/2016	
	Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter	Units	MCL/GW-Ind	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
ANIONS																						
Chloride	mg/L	NV																				
Nitrate	mg/L	10																				
Nitrite	mg/L	1																				
Sulfate	mg/L	NV																				
Sulfide	mg/L	NV																				
TOTAL ORGANIC CARBON																						
Total Inorganic Carbon	mg/L	NV																				
Total organic carbon	mg/L	NV																				
DHC																						
BVC	cells/mL	NV																				
Dehalococcoides	cells/mL	NV																				
FIELD TESTS																						
Conductivity	µmhos/cm	NV			2.61				2.36				2.43				2.83				2.77	
Dissolved oxygen	mg/L	NV			-	-			-	-			-	-			-	-			-	-
Ferrous Iron	mg/L	NV																				
Oxidation-Reduction Potential	mV	NV			34				-10				127				-	-			-	-
pH	SU	NV			5.7				6.83				5.74				5.12				5.42	
Temperature	C	NV			18.55				19.82				19.69				16.33				18.66	
Turbidity	NTU	NV			24.8				22.7				100				129				91.8	
GENERAL CHEMISTRY																						
Alkalinity	mg/L	NV																				
Ferrous Iron	mg/L	NV																				
GASES																						
Carbon dioxide	µg/L	NV																				
Ethane	µg/L	NV																				
Ethylene	µg/L	NV																				
Methane	µg/L	NV																				
VOLATILES																						
1,1,1,2-Tetrachloroethane	µg/L	110	< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U		
1,1,1-Trichloroethane	µg/L	200	< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U		
1,1,2,2-Tetrachloroethane	µg/L	14	< 0.4	U			< 0.4	U			< 0.4	U			< 0.4	U			< 0.4	U		
1,1,2-Trichloro-1,2,2-Trifluoroethane	µg/L	3,100,000																				
1,1,2-Trichloroethane	µg/L	5	< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U		
1,1-Dichloroethane	µg/L	10,000	< 0.25	U			< 0.25	U			< 0.25	U			< 0.25	U			< 0.25	U		
1,1-Dichloroethene	µg/L	7	< 1	U			< 1	U			< 1	U			< 1	U			< 1	U		
1,1-Dichloropropene	µg/L	2.9	< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U		
1,2,3-Trichlorobenzene	µg/L	310	< 0.3	U			< 0.3	U			< 0.3	U			< 0.3	U			< 0.3	U		
1,2,3-Trichloropropane	µg/L	0.041	< 1	U			< 1	U			< 1	U			< 1	U			< 1	U		
1,2,4-Trichlorobenzene	µg/L	70	< 0.4	U			< 0.4	U			< 0.4	U			< 0.4	U			< 0.4	U		
1,2,4-Trimethylbenzene	µg/L	5,100	< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U		
1,2-Dibromo-3-chloropropane	µg/L	0.2	< 2	U			< 2	U			< 2	U			< 2	U			< 2	U		
1,2-Dibromoethane	µg/L	0.05	< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U		
1,2-Dichlorobenzene	µg/L	600	< 0.25	U			< 0.25	U			< 0.25	U			< 0.25	U			< 0.25	U		
1,2-Dichloroethane	µg/L	5	< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U		
1,2-Dichloropropane	µg/L	5	< 0.4	U			< 0.4	U			< 0.4	U			< 0.4	U			< 0.4	U		
1,3,5-Trimethylbenzene	µg/L	5,100	< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U		
1,3-Dichlorobenzene	µg/L	3,100	< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U		
1,3-Dichloropropane	µg/L	29	< 0.4	U			< 0.4	U			< 0.4	U			< 0.4	U			< 0.4	U		
1,4-Dichlorobenzene	µg/L	75	< 0.25	U			< 0.25	U			< 0.25	U			< 0.25	U			< 0.25	U		
2,2-Dichloropropane	µg/L	42	< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U		

Table 2-4
Groundwater Results 2013–2019

		Location Code	67WW05																			
		Sample ID	67WW05-072414		67WW05-141203		67WW05-120314		67WW05-150210		67WW05-021015		67WW05-150511		67WW05-051215		67WW05-151119		67WW05-111915		67WW05-160519	
		Sample Date	7/24/2014		12/3/2014		12/3/2014		2/10/2015		2/10/2015		5/11/2015		5/12/2015		11/19/2015		11/19/2015		5/19/2016	
		Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter	Units	MCL/GW-Ind	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
2-Butanone	µg/L	61,000	< 5	U			< 5	U			< 5	U			< 5	UJ			< 5	U		
2-Chlorotoluene	µg/L	2,000	< 0.25	U			< 0.25	U			< 0.25	U			< 0.25	U			< 0.25	U		
2-Hexanone	µg/L	6,100	< 5	U			< 5	U			< 5	U			< 5	U			< 5	U		
4-Chlorotoluene	µg/L	2,000	< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U		
Acetone	µg/L	92,000	< 5	U			< 5	U			< 5	U			< 5	U			< 5	U		
Benzene	µg/L	5	< 0.25	U			< 0.25	U			< 0.25	U			< 0.25	U			< 0.25	U		
Bromobenzene	µg/L	2,000	< 0.25	U			< 0.25	U			< 0.25	U			< 0.25	U			< 0.25	U		
Bromochloromethane	µg/L	4,100	< 0.4	U			< 0.4	U			< 0.4	U			< 0.4	U			< 0.4	U		
Bromodichloromethane	µg/L	4.6	< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U		
Bromoform	µg/L	36	< 1	U			< 1	U			< 1	U			< 1	U			< 1	U		
Bromomethane	µg/L	140	< 1	U			< 1	U			< 1	U			< 1	U			< 1	U		
Carbon disulfide	µg/L	10,000	< 1	U			< 1	U			< 1	U			< 1	U			< 1	U		
Carbon tetrachloride	µg/L	5	< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U		
Chlorobenzene	µg/L	100	< 0.25	U			< 0.25	U			< 0.25	U			< 0.25	U			< 0.25	U		
Chloroethane	µg/L	41,000	< 1	U			< 1	U			< 1	U			< 1	U			< 1	U		
Chloroform	µg/L	1,000	< 0.25	U			< 0.25	U			< 0.25	U			< 0.25	U			< 0.25	U		
Chloromethane	µg/L	220	< 1	U			< 1	U			< 1	U			< 1	U			< 1	U		
cis-1,2-Dichloroethene	µg/L	70	< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U		
cis-1,3-Dichloropropene	µg/L	5.3	< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U		
Dibromochloromethane	µg/L	34	< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U		
Dibromomethane	µg/L	380	< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U		
Dichlorodifluoromethane	µg/L	20,000	< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U		
Ethylbenzene	µg/L	700	< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U		
Hexachlorobutadiene	µg/L	20	< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U		
Isopropylbenzene	µg/L	10,000	< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U		
m,p-Xylenes	µg/L	10,000	< 1	U			< 1	U			< 1	U			< 1	U			< 1	U		
Methyl isobutyl ketone	µg/L	8,200	< 5	U			< 5	U			< 5	U			< 5	U			< 5	U		
Methylene chloride	µg/L	5	< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U		
Naphthalene	µg/L	2,000	< 0.4	U			< 0.4	U			< 0.4	U			< 0.4	U			< 0.4	U		
n-Butylbenzene	µg/L	4,100	< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U		
n-Propylbenzene	µg/L	4,100	< 0.25	U			< 0.25	U			< 0.25	U			< 0.25	U			< 0.25	U		
o-Xylene	µg/L	10,000	< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U		
p-Isopropyltoluene	µg/L	10,000	< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U		
sec-Butylbenzene	µg/L	4,100	< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U		
Styrene	µg/L	100	< 0.25	U			< 0.25	U			< 0.25	U			< 0.25	U			< 0.25	U		
tert-Butylbenzene	µg/L	4,100	< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U		
Tetrachloroethene	µg/L	5	< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U		
Toluene	µg/L	1,000	< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U		
trans-1,2-Dichloroethene	µg/L	100	< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U		
trans-1,3-Dichloropropene	µg/L	29	< 1	U			< 1	U			< 1	U			< 1	U			< 1	U		
Trichloroethene	µg/L	5	< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U		
Trichlorofluoromethane	µg/L	31,000	< 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		

Table 2-4
Groundwater Results 2013–2019

		Location Code	67WW05														67WW06					
		Sample ID	67WW05-051916		67WW05-112817		67WW05-180503		67WW05-181025-FD		67WW05-181025		67WW05-190502		67WW05-191024		67WW06-130430		67WW06-043013		67WW06-130531	
		Sample Date	5/19/2016		11/28/2017		5/3/2018		10/25/2018		10/25/2018		5/2/2019		10/24/2019		4/30/2013		4/30/2013		5/31/2013	
		Sample Purpose	REG		REG		REG		FD		REG		REG		REG		REG		REG		REG	
Parameter	Units	MCL/GW-Ind	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
ANIONS																						
Chloride	mg/L	NV																				
Nitrate	mg/L	10																				
Nitrite	mg/L	1																				
Sulfate	mg/L	NV																				
Sulfide	mg/L	NV																				
TOTAL ORGANIC CARBON																						
Total Inorganic Carbon	mg/L	NV																				
Total organic carbon	mg/L	NV																				
DHC																						
BVC	cells/mL	NV																				
Dehalococcoides	cells/mL	NV																				
FIELD TESTS																						
Conductivity	µmhos/cm	NV			2.75		2.45				2.75		2.65		2.58		6.38		6.38		6.37	
Dissolved oxygen	mg/L	NV			7.47		9.51				0.11		1.99		0.9		0		0		1.57	
Ferrous Iron	mg/L	NV																				
Oxidation-Reduction Potential	mV	NV			133		229				172		247		62		82		82		22	
pH	SU	NV			5.26		5.68				5.17		4.11		5.63		5.01		5.01		5.27	
Temperature	C	NV			16.09		20.63				17.93		20.10		18.35		24.95		24.95		24.28	
Turbidity	NTU	NV			301		54				21.3		55.2		48.8		9.7		9.7		13.4	
GENERAL CHEMISTRY																						
Alkalinity	mg/L	NV																				
Ferrous Iron	mg/L	NV																				
GASES																						
Carbon dioxide	µg/L	NV																				
Ethane	µg/L	NV																				
Ethylene	µg/L	NV																				
Methane	µg/L	NV																				
VOLATILES																						
1,1,1,2-Tetrachloroethane	µg/L	110	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U						
1,1,1-Trichloroethane	µg/L	200	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U						
1,1,2,2-Tetrachloroethane	µg/L	14	< 0.4	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U						
1,1,2-Trichloro-1,2,2-Trifluoroethane	µg/L	3,100,000			< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U						
1,1,2-Trichloroethane	µg/L	5	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U						
1,1-Dichloroethane	µg/L	10,000	< 0.25	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U						
1,1-Dichloroethene	µg/L	7	< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U						
1,1-Dichloropropene	µg/L	2.9	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U						
1,2,3-Trichlorobenzene	µg/L	310	< 0.3	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	UJ	< 0.5	U	< 0.5	U						
1,2,3-Trichloropropane	µg/L	0.041	< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U						
1,2,4-Trichlorobenzene	µg/L	70	< 0.4	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U						
1,2,4-Trimethylbenzene	µg/L	5,100	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U						
1,2-Dibromo-3-chloropropane	µg/L	0.2	< 2	U	< 1	U	< 0.5	U	< 1	U	< 1	U	< 0.5	U	< 0.5	U						
1,2-Dibromoethane	µg/L	0.05	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U						
1,2-Dichlorobenzene	µg/L	600	< 0.25	U	< 1	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	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U						
1,2-Dichloropropane	µg/L	5	< 0.4	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U						
1,3,5-Trimethylbenzene	µg/L	5,100	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U						
1,3-Dichlorobenzene	µg/L	3,100	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U						
1,3-Dichloropropane	µg/L	29	< 0.4	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U						
1,4-Dichlorobenzene	µg/L	75	< 0.25	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U						
2,2-Dichloropropane	µg/L	42	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U						

Table 2-4
Groundwater Results 2013–2019

		Location Code	67WW05														67WW06					
		Sample ID	67WW05-051916		67WW05-112817		67WW05-180503		67WW05-181025-FD		67WW05-181025		67WW05-190502		67WW05-191024		67WW06-130430		67WW06-043013		67WW06-130531	
		Sample Date	5/19/2016		11/28/2017		5/3/2018		10/25/2018		10/25/2018		5/2/2019		10/24/2019		4/30/2013		4/30/2013		5/31/2013	
		Sample Purpose	REG		REG		REG		FD		REG		REG		REG		REG		REG		REG	
Parameter	Units	MCL/GW-Ind	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
2-Butanone	µg/L	61,000	< 5	U	< 2	U	< 1	U	< 1	U	< 1	U	< 1	U	< 1	U						
2-Chlorotoluene	µg/L	2,000	< 0.25	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U						
2-Hexanone	µg/L	6,100	< 5	U	< 2	U	< 1	U	< 1	U	< 1	U	< 1	U	< 1	U						
4-Chlorotoluene	µg/L	2,000	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U						
Acetone	µg/L	92,000	< 5	U	< 2	U	< 1	U	< 2	U	< 2	U	< 3.8	U	< 2.2	U						
Benzene	µg/L	5	< 0.25	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U						
Bromobenzene	µg/L	2,000	< 0.25	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U						
Bromochloromethane	µg/L	4,100	< 0.4	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U						
Bromodichloromethane	µg/L	4.6	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U						
Bromoform	µg/L	36	< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U						
Bromomethane	µg/L	140	< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U						
Carbon disulfide	µg/L	10,000	< 1	U	< 2	U	< 1	U	< 1	U	< 1	U	< 1	U	< 1	U						
Carbon tetrachloride	µg/L	5	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U						
Chlorobenzene	µg/L	100	< 0.25	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U						
Chloroethane	µg/L	41,000	< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U						
Chloroform	µg/L	1,000	< 0.25	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U						
Chloromethane	µg/L	220	< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U						
cis-1,2-Dichloroethene	µg/L	70	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U						
cis-1,3-Dichloropropene	µg/L	5.3	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U						
Dibromochloromethane	µg/L	34	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U						
Dibromomethane	µg/L	380	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U						
Dichlorodifluoromethane	µg/L	20,000	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U						
Ethylbenzene	µg/L	700	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U						
Hexachlorobutadiene	µg/L	20	< 0.5	U	< 1	U	< 0.5	U	< 1	U	< 1	U	< 1	U	< 0.5	U						
Isopropylbenzene	µg/L	10,000	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U						
m,p-Xylenes	µg/L	10,000	< 1	U	< 2	U	< 1	U	< 1	U	< 1	U	< 1	U	< 1	U						
Methyl isobutyl ketone	µg/L	8,200	< 5	U	< 2	U	< 1	U	< 1	U	< 1	U	< 1	U	< 1	U						
Methylene chloride	µg/L	5	< 0.5	U	< 2	U	< 1	U	< 1	U	< 1	U	< 1	U	< 1	U						
Naphthalene	µg/L	2,000	< 0.4	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	UJ	< 0.5	U	< 0.5	U						
n-Butylbenzene	µg/L	4,100	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U						
n-Propylbenzene	µg/L	4,100	< 0.25	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U						
o-Xylene	µg/L	10,000	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U						
p-Isopropyltoluene	µg/L	10,000	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U						
sec-Butylbenzene	µg/L	4,100	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U						
Styrene	µg/L	100	< 0.25	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U						
tert-Butylbenzene	µg/L	4,100	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U						
Tetrachloroethene	µg/L	5	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U						
Toluene	µg/L	1,000	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U						
trans-1,2-Dichloroethene	µg/L	100	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U						
trans-1,3-Dichloropropene	µg/L	29	< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U						
Trichloroethene	µg/L	5	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U						
Trichlorofluoromethane	µg/L	31,000	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U						
Vinyl chloride	µg/L	2	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U						

Table 2-4
Groundwater Results 2013–2019

		Location Code	67WW06																			
		Sample ID	67WW06-053113		67WW06-053113-FD		67WW06-130928		67WW06-092813		67WW06-140124		67WW06-012414		67WW06-140506		67WW06-140723		67WW06-141202		67WW06-150210	
		Sample Date	5/31/2013		5/31/2013		9/28/2013		9/28/2013		1/24/2014		1/24/2014		5/6/2014		7/23/2014		12/2/2014		2/10/2015	
		Sample Purpose	REG		FD		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter	Units	MCL/GW-Ind	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
ANIONS																						
Chloride	mg/L	NV																				
Nitrate	mg/L	10																				
Nitrite	mg/L	1																				
Sulfate	mg/L	NV																				
Sulfide	mg/L	NV																				
TOTAL ORGANIC CARBON																						
Total Inorganic Carbon	mg/L	NV																				
Total organic carbon	mg/L	NV																				
DHC																						
BVC	cells/mL	NV																				
Dehalococcoides	cells/mL	NV																				
FIELD TESTS																						
Conductivity	µmhos/cm	NV	6.37				6.45		6.45		7.09		7.09		-99		-	-	-99		-99	
Dissolved oxygen	mg/L	NV	1.57				0.82		0.82		0.8		0.8		-	-	-	-	-	-	-	-
Ferrous Iron	mg/L	NV																				
Oxidation-Reduction Potential	mV	NV	22				13		13		67		67		-	-	-	-	-	-	-	-
pH	SU	NV	5.27				5.45		5.45		5.58		5.58		-	-	-	-	-	-	-	-
Temperature	C	NV	24.28				20.2		20.2		15.42		15.42		-	-	-	-	-	-	-	-
Turbidity	NTU	NV	13.4				5.5		5.5		42.9		42.9		-	-	-	-	-	-	-	-
GENERAL CHEMISTRY																						
Alkalinity	mg/L	NV																				
Ferrous Iron	mg/L	NV																				
GASES																						
Carbon dioxide	µg/L	NV																				
Ethane	µg/L	NV																				
Ethylene	µg/L	NV																				
Methane	µg/L	NV																				
VOLATILES																						
1,1,1,2-Tetrachloroethane	µg/L	110	< 0.25	U	< 0.25	U			< 0.5	U			< 0.5	U								
1,1,1-Trichloroethane	µg/L	200	< 0.25	U	< 0.25	U			< 0.5	U			< 0.5	U								
1,1,2,2-Tetrachloroethane	µg/L	14	< 0.2	U	< 0.2	U			< 0.4	U			< 0.4	U								
1,1,2-Trichloro-1,2,2-Trifluoroethane	µg/L	3,100,000																				
1,1,2-Trichloroethane	µg/L	5	< 0.25	U	< 0.25	U			< 0.5	U			< 0.5	U								
1,1-Dichloroethane	µg/L	10,000	0.212	J	0.193	J			< 0.25	U			0.234	J								
1,1-Dichloroethene	µg/L	7	< 0.5	U	< 0.5	U			< 1	U			0.752	J								
1,1-Dichloropropene	µg/L	2.9	< 0.25	U	< 0.25	U			< 0.5	U			< 0.5	U								
1,2,3-Trichlorobenzene	µg/L	310	< 0.15	U	< 0.15	U			< 0.3	U			< 0.3	U								
1,2,3-Trichloropropane	µg/L	0.041	< 0.5	U	< 0.5	U			< 1	U			< 1	U								
1,2,4-Trichlorobenzene	µg/L	70	< 0.2	U	< 0.2	U			< 0.4	U			< 0.4	U								
1,2,4-Trimethylbenzene	µg/L	5,100	< 0.25	U	< 0.25	U			< 0.5	U			< 0.5	U								
1,2-Dibromo-3-chloropropane	µg/L	0.2	< 1	U	< 1	U			< 2	U			< 2	U								
1,2-Dibromoethane	µg/L	0.05	< 0.25	U	< 0.25	U			< 0.5	U			< 0.5	U								
1,2-Dichlorobenzene	µg/L	600	< 0.125	U	< 0.125	U			< 0.25	U			< 0.25	U								
1,2-Dichloroethane	µg/L	5	2.25		2.2				1.77				2.03									
1,2-Dichloropropane	µg/L	5	< 0.2	U	< 0.2	U			< 0.4	U			< 0.4	U								
1,3,5-Trimethylbenzene	µg/L	5,100	< 0.25	U	< 0.25	U			< 0.5	U			< 0.5	U								
1,3-Dichlorobenzene	µg/L	3,100	< 0.25	U	< 0.25	U			< 0.5	U			< 0.5	U								
1,3-Dichloropropane	µg/L	29	< 0.2	U	< 0.2	U			< 0.4	U			< 0.4	U								
1,4-Dichlorobenzene	µg/L	75	< 0.125	U	< 0.125	U			< 0.25	U			< 0.25	U								
2,2-Dichloropropane	µg/L	42	< 0.25	U	< 0.25	U			< 0.5	U			< 0.5	U								

Table 2-4
Groundwater Results 2013–2019

		Location Code	67WW06																	
		Sample ID	67WW06-053113		67WW06-053113-FD		67WW06-130928		67WW06-092813		67WW06-140124		67WW06-012414		67WW06-140506		67WW06-140723		67WW06-141202		67WW06-150210	
		Sample Date	5/31/2013		5/31/2013		9/28/2013		9/28/2013		1/24/2014		1/24/2014		5/6/2014		7/23/2014		12/2/2014		2/10/2015	
		Sample Purpose	REG		FD		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter	Units	MCL/GW-Ind	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
2-Butanone	µg/L	61,000	< 2.5	U	< 2.5	U			< 5	U			< 5	U								
2-Chlorotoluene	µg/L	2,000	< 0.125	U	< 0.125	U			< 0.25	U			< 0.25	U								
2-Hexanone	µg/L	6,100	< 2.5	U	< 2.5	U			< 5	U			< 5	U								
4-Chlorotoluene	µg/L	2,000	< 0.25	U	< 0.25	U			< 0.5	U			< 0.5	U								
Acetone	µg/L	92,000	< 2.5	UJ	< 2.5	UJ			< 5	U			< 5	U								
Benzene	µg/L	5	< 0.125	U	< 0.125	U			< 0.25	U			< 0.25	U								
Bromobenzene	µg/L	2,000	< 0.125	U	< 0.125	U			< 0.25	U			< 0.25	U								
Bromochloromethane	µg/L	4,100	< 0.2	U	< 0.2	U			< 0.4	U			< 0.4	U								
Bromodichloromethane	µg/L	4.6	< 0.25	U	< 0.25	U			< 0.5	U			< 0.5	U								
Bromoform	µg/L	36	< 0.5	U	< 0.5	U			< 1	U			< 1	U								
Bromomethane	µg/L	140	< 0.5	U	< 0.5	U			< 1	UJ			< 1	U								
Carbon disulfide	µg/L	10,000	< 0.5	U	< 0.5	U			< 1	U			< 1	U								
Carbon tetrachloride	µg/L	5	< 0.25	U	< 0.25	U			< 0.5	U			< 0.5	U								
Chlorobenzene	µg/L	100	< 0.125	U	< 0.125	U			< 0.25	U			< 0.25	U								
Chloroethane	µg/L	41,000	< 0.5	U	< 0.5	U			< 1	U			< 1	U								
Chloroform	µg/L	1,000	< 0.125	U	< 0.125	U			< 0.25	U			< 0.25	U								
Chloromethane	µg/L	220	< 0.5	U	< 0.5	U			< 1	U			< 1	U								
cis-1,2-Dichloroethene	µg/L	70	< 0.25	U	< 0.25	U			< 0.5	U			< 0.5	U								
cis-1,3-Dichloropropene	µg/L	5.3	< 0.25	U	< 0.25	U			< 0.5	U			< 0.5	U								
Dibromochloromethane	µg/L	34	< 0.25	U	< 0.25	U			< 0.5	U			< 0.5	U								
Dibromomethane	µg/L	380	< 0.25	U	< 0.25	U			< 0.5	U			< 0.5	U								
Dichlorodifluoromethane	µg/L	20,000	< 0.25	U	< 0.25	U			< 0.5	U			< 0.5	U								
Ethylbenzene	µg/L	700	< 0.25	U	< 0.25	U			< 0.5	U			< 0.5	U								
Hexachlorobutadiene	µg/L	20	< 0.25	U	< 0.25	U			< 0.5	U			< 0.5	U								
Isopropylbenzene	µg/L	10,000	< 0.25	U	< 0.25	U			< 0.5	U			< 0.5	U								
m,p-Xylenes	µg/L	10,000	< 0.5	U	< 0.5	U			< 1	U			< 1	U								
Methyl isobutyl ketone	µg/L	8,200	< 2.5	U	< 2.5	U			< 5	U			< 5	U								
Methylene chloride	µg/L	5	0.918	J	0.846	J			0.966	J			< 0.5	U								
Naphthalene	µg/L	2,000	< 0.2	U	< 0.2	U			< 0.4	U			< 0.4	U								
n-Butylbenzene	µg/L	4,100	< 0.25	U	< 0.25	U			< 0.5	U			< 0.5	U								
n-Propylbenzene	µg/L	4,100	< 0.125	U	< 0.125	U			< 0.25	U			< 0.25	U								
o-Xylene	µg/L	10,000	< 0.25	U	< 0.25	U			< 0.5	U			< 0.5	U								
p-Isopropyltoluene	µg/L	10,000	< 0.25	U	< 0.25	U			< 0.5	U			< 0.5	U								
sec-Butylbenzene	µg/L	4,100	< 0.25	U	< 0.25	U			< 0.5	U			< 0.5	U								
Styrene	µg/L	100	< 0.125	U	< 0.125	U			< 0.25	U			< 0.25	U								
tert-Butylbenzene	µg/L	4,100	< 0.25	U	< 0.25	U			< 0.5	U			< 0.5	U								
Tetrachloroethene	µg/L	5	< 0.25	U	< 0.25	U			< 0.5	U			< 0.5	U								
Toluene	µg/L	1,000	< 0.25	U	< 0.25	U			< 0.5	U			< 0.5	U								
trans-1,2-Dichloroethene	µg/L	100	< 0.25	U	< 0.25	U			< 0.5	U			< 0.5	U								
trans-1,3-Dichloropropene	µg/L	29	< 0.5	U	< 0.5	U			< 1	U			< 1	U								
Trichloroethene	µg/L	5	< 0.25	U	< 0.25	U			< 0.5	U			< 0.5	U								
Trichlorofluoromethane	µg/L	31,000	< 0.25	U	< 0.25	U			< 0.5	U			< 0.5	U								
Vinyl chloride	µg/L	2	< 0.25	U	< 0.25	U			< 0.5	U			< 0.5	U								

Table 2-4
Groundwater Results 2013–2019

		Location Code	67WW06												67WW07							
		Sample ID	67WW06-150511		67WW06-151118		67WW06-151216		67WW06-161215		67WW06-160518		67WW06-112917		67WW07-130531		67WW07-053113		67WW07-130927		67WW07-092713	
		Sample Date	5/11/2015		11/18/2015		12/16/2015		12/16/2015		5/18/2016		11/29/2017		5/31/2013		5/31/2013		9/27/2013		9/27/2013	
		Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter	Units	MCL/GW-Ind	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
ANIONS																						
Chloride	mg/L	NV																				
Nitrate	mg/L	10																				
Nitrite	mg/L	1																				
Sulfate	mg/L	NV																				
Sulfide	mg/L	NV																				
TOTAL ORGANIC CARBON																						
Total Inorganic Carbon	mg/L	NV																				
Total organic carbon	mg/L	NV																				
DHC																						
BVC	cells/mL	NV																				
Dehalococcoides	cells/mL	NV																				
FIELD TESTS																						
Conductivity	µmhos/cm	NV	-99		-99		6.13		6.13		-99		5.36		3.99				4.13			
Dissolved oxygen	mg/L	NV	-	-	-	-	0		0		-	-	0.1		8.75				10.55			
Ferrous Iron	mg/L	NV																				
Oxidation-Reduction Potential	mV	NV	-	-	-	-	56		56		-	-	204		35				0			
pH	SU	NV	-	-	-	-	5.74		5.74		-	-	5.11		5.52				5.78			
Temperature	C	NV	-	-	-	-	19.27		19.27		-	-	18.57		25.72				25.11			
Turbidity	NTU	NV	-	-	-	-	36.2		36.2		-	-	150		13.9				9.6			
GENERAL CHEMISTRY																						
Alkalinity	mg/L	NV																				
Ferrous Iron	mg/L	NV																				
GASES																						
Carbon dioxide	µg/L	NV																				
Ethane	µg/L	NV																				
Ethylene	µg/L	NV																				
Methane	µg/L	NV																				
VOLATILES																						
1,1,1,2-Tetrachloroethane	µg/L	110											< 1	U			< 0.25	U			< 0.5	U
1,1,1-Trichloroethane	µg/L	200											< 1	U			< 0.25	U			< 0.5	U
1,1,2,2-Tetrachloroethane	µg/L	14											< 1	U			< 0.2	UJ			< 0.4	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	µg/L	3,100,000											< 1	U								
1,1,2-Trichloroethane	µg/L	5											< 1	U			< 0.25	U			< 0.5	U
1,1-Dichloroethane	µg/L	10,000											< 1	U			< 0.125	U			< 0.25	U
1,1-Dichloroethene	µg/L	7											< 1	U			< 0.5	U			< 1	U
1,1-Dichloropropene	µg/L	2.9											< 1	U			< 0.25	U			< 0.5	U
1,2,3-Trichlorobenzene	µg/L	310											< 1	U			< 0.15	U			< 0.3	U
1,2,3-Trichloropropane	µg/L	0.041											< 1	U			< 0.5	U			< 1	U
1,2,4-Trichlorobenzene	µg/L	70											< 1	U			< 0.2	U			< 0.4	U
1,2,4-Trimethylbenzene	µg/L	5,100											< 1	U			< 0.25	U			< 0.5	U
1,2-Dibromo-3-chloropropane	µg/L	0.2											< 1	U			< 1	UJ			< 2	U
1,2-Dibromoethane	µg/L	0.05											< 1	U			< 0.25	U			< 0.5	U
1,2-Dichlorobenzene	µg/L	600											< 1	U			< 0.125	U			< 0.25	U
1,2-Dichloroethane	µg/L	5											1				1.67				1.77	
1,2-Dichloropropane	µg/L	5											< 1	U			< 0.2	U			< 0.4	U
1,3,5-Trimethylbenzene	µg/L	5,100											< 1	U			< 0.25	U			< 0.5	U
1,3-Dichlorobenzene	µg/L	3,100											< 1	U			< 0.25	U			< 0.5	U
1,3-Dichloropropane	µg/L	29											< 1	U			< 0.2	U			< 0.4	U
1,4-Dichlorobenzene	µg/L	75											< 1	U			< 0.125	U			< 0.25	U
2,2-Dichloropropane	µg/L	42											< 1	U			< 0.25	U			< 0.5	U

Table 2-4
Groundwater Results 2013–2019

		Location Code	67WW06												67WW07							
		Sample ID	67WW06-150511		67WW06-151118		67WW06-151216		67WW06-161215		67WW06-160518		67WW06-112917		67WW07-130531		67WW07-053113		67WW07-130927		67WW07-092713	
		Sample Date	5/11/2015		11/18/2015		12/16/2015		12/16/2015		5/18/2016		11/29/2017		5/31/2013		5/31/2013		9/27/2013		9/27/2013	
		Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter	Units	MCL/GW-Ind	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
2-Butanone	µg/L	61,000											< 2	U			< 2.5	U			< 5	U
2-Chlorotoluene	µg/L	2,000											< 1	U			< 0.125	U			< 0.25	U
2-Hexanone	µg/L	6,100											< 2	U			< 2.5	U			< 5	U
4-Chlorotoluene	µg/L	2,000											< 1	U			< 0.25	U			< 0.5	U
Acetone	µg/L	92,000											< 2	U			< 2.5	U			< 5	U
Benzene	µg/L	5											< 1	U			< 0.125	U			< 0.25	U
Bromobenzene	µg/L	2,000											< 1	U			< 0.125	U			< 0.25	U
Bromochloromethane	µg/L	4,100											< 1	U			< 0.2	U			< 0.4	U
Bromodichloromethane	µg/L	4.6											< 1	U			< 0.25	U			< 0.5	U
Bromoform	µg/L	36											< 1	U			< 0.5	U			< 1	U
Bromomethane	µg/L	140											< 1	U			< 0.5	UJ			< 1	U
Carbon disulfide	µg/L	10,000											< 2	U			< 0.5	U			< 1	U
Carbon tetrachloride	µg/L	5											< 1	U			< 0.25	U			< 0.5	U
Chlorobenzene	µg/L	100											< 1	U			< 0.125	U			< 0.25	U
Chloroethane	µg/L	41,000											< 1	U			< 0.5	U			< 1	U
Chloroform	µg/L	1,000											< 1	U			< 0.125	U			< 0.25	U
Chloromethane	µg/L	220											< 1	U			< 0.5	UJ			< 1	U
cis-1,2-Dichloroethene	µg/L	70											< 1	U			< 0.25	U			< 0.5	U
cis-1,3-Dichloropropene	µg/L	5.3											< 1	U			< 0.25	U			< 0.5	U
Dibromochloromethane	µg/L	34											< 1	U			< 0.25	U			< 0.5	U
Dibromomethane	µg/L	380											< 1	U			< 0.25	U			< 0.5	U
Dichlorodifluoromethane	µg/L	20,000											< 1	U			< 0.25	UJ			< 0.5	U
Ethylbenzene	µg/L	700											< 1	U			< 0.25	U			< 0.5	U
Hexachlorobutadiene	µg/L	20											< 1	U			< 0.25	U			< 0.5	U
Isopropylbenzene	µg/L	10,000											< 1	U			< 0.25	U			< 0.5	U
m,p-Xylenes	µg/L	10,000											< 2	U			< 0.5	U			< 1	U
Methyl isobutyl ketone	µg/L	8,200											< 2	U			< 2.5	U			< 5	U
Methylene chloride	µg/L	5											< 2	U			< 0.25	U			< 0.5	U
Naphthalene	µg/L	2,000											< 1	U			< 0.2	U			< 0.4	U
n-Butylbenzene	µg/L	4,100											< 1	U			< 0.25	U			< 0.5	U
n-Propylbenzene	µg/L	4,100											< 1	U			< 0.125	U			< 0.25	U
o-Xylene	µg/L	10,000											< 1	U			< 0.25	U			< 0.5	U
p-Isopropyltoluene	µg/L	10,000											< 1	U			< 0.25	U			< 0.5	U
sec-Butylbenzene	µg/L	4,100											< 1	U			< 0.25	U			< 0.5	U
Styrene	µg/L	100											< 1	U			< 0.125	U			< 0.25	U
tert-Butylbenzene	µg/L	4,100											< 1	U			< 0.25	U			< 0.5	U
Tetrachloroethene	µg/L	5											< 1	U			< 0.25	U			< 0.5	U
Toluene	µg/L	1,000											< 1	U			< 0.25	U			< 0.5	U
trans-1,2-Dichloroethene	µg/L	100											< 1	U			< 0.25	U			< 0.5	U
trans-1,3-Dichloropropene	µg/L	29											< 1	U			< 0.5	U			< 1	U
Trichloroethene	µg/L	5											< 1	U			< 0.25	U			< 0.5	U
Trichlorofluoromethane	µg/L	31,000											< 1	U			< 0.25	U			< 0.5	U
Vinyl chloride	µg/L	2											< 1	U			< 0.25	U			< 0.5	U

Table 2-4
Groundwater Results 2013–2019

		Location Code	67WW07																			
		Sample ID	67WW07-140123		67WW07-012314		67WW07-140506		67WW07-050614		67WW07-140725		67WW07-072514		67WW07-141203		67WW07-120314		67WW07-150210		67WW07-021015	
		Sample Date	1/23/2014		1/23/2014		5/6/2014		5/6/2014		7/25/2014		7/25/2014		12/3/2014		12/3/2014		2/10/2015		2/10/2015	
		Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter	Units	MCL/GW-Ind	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
ANIONS																						
Chloride	mg/L	NV																				
Nitrate	mg/L	10																				
Nitrite	mg/L	1																				
Sulfate	mg/L	NV																				
Sulfide	mg/L	NV																				
TOTAL ORGANIC CARBON																						
Total Inorganic Carbon	mg/L	NV																				
Total organic carbon	mg/L	NV																				
DHC																						
BVC	cells/mL	NV																				
Dehalococcoides	cells/mL	NV																				
FIELD TESTS																						
Conductivity	µmhos/cm	NV	4.14				3.71				3.99				4.06				3.76			
Dissolved oxygen	mg/L	NV	5.96				6.12				9.24				-	-			-	-		
Ferrous Iron	mg/L	NV																				
Oxidation-Reduction Potential	mV	NV	60				36				91				51				-18			
pH	SU	NV	5.79				5.45				5.58				5.79				6.41			
Temperature	C	NV	14.63				26.29				21.89				17.46				18.47			
Turbidity	NTU	NV	54.4				30.2				8.8				10.7				6.7			
GENERAL CHEMISTRY																						
Alkalinity	mg/L	NV																				
Ferrous Iron	mg/L	NV																				
GASES																						
Carbon dioxide	µg/L	NV																				
Ethane	µg/L	NV																				
Ethylene	µg/L	NV																				
Methane	µg/L	NV																				
VOLATILES																						
1,1,1,2-Tetrachloroethane	µg/L	110			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U
1,1,1-Trichloroethane	µg/L	200			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U
1,1,2,2-Tetrachloroethane	µg/L	14			< 0.4	U			< 0.4	U			< 0.4	U			< 0.4	U			< 0.4	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	µg/L	3,100,000																				
1,1,2-Trichloroethane	µg/L	5			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U
1,1-Dichloroethane	µg/L	10,000			< 0.25	U			< 0.25	U			< 0.25	U			< 0.25	U			< 0.25	U
1,1-Dichloroethene	µg/L	7			< 1	U			< 1	U			< 1	U			< 1	U			< 1	U
1,1-Dichloropropene	µg/L	2.9			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U
1,2,3-Trichlorobenzene	µg/L	310			< 0.3	U			< 0.3	U			< 0.3	U			< 0.3	U			< 0.3	U
1,2,3-Trichloropropane	µg/L	0.041			< 1	U			< 1	U			< 1	U			< 1	U			< 1	U
1,2,4-Trichlorobenzene	µg/L	70			< 0.4	U			< 0.4	U			< 0.4	U			< 0.4	U			< 0.4	U
1,2,4-Trimethylbenzene	µg/L	5,100			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U
1,2-Dibromo-3-chloropropane	µg/L	0.2			< 2	U			< 2	U			< 2	U			< 2	U			< 2	U
1,2-Dibromoethane	µg/L	0.05			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U
1,2-Dichlorobenzene	µg/L	600			< 0.25	U			< 0.25	U			< 0.25	U			< 0.25	U			< 0.25	U
1,2-Dichloroethane	µg/L	5			1.35				1.44				1.39				1.19				1.04	
1,2-Dichloropropane	µg/L	5			< 0.4	U			< 0.4	U			< 0.4	U			< 0.4	U			< 0.4	U
1,3,5-Trimethylbenzene	µg/L	5,100			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U
1,3-Dichlorobenzene	µg/L	3,100			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U
1,3-Dichloropropane	µg/L	29			< 0.4	U			< 0.4	U			< 0.4	U			< 0.4	U			< 0.4	U
1,4-Dichlorobenzene	µg/L	75			< 0.25	U			< 0.25	U			< 0.25	U			< 0.25	U			< 0.25	U
2,2-Dichloropropane	µg/L	42			< 0.5	U			< 0.5	UJ			< 0.5	U			< 0.5	U			< 0.5	U

Table 2-4
Groundwater Results 2013–2019

		Location Code	67WW07																	
		Sample ID	67WW07-140123		67WW07-012314		67WW07-140506		67WW07-050614		67WW07-140725		67WW07-072514		67WW07-141203		67WW07-120314		67WW07-150210		67WW07-021015	
		Sample Date	1/23/2014		1/23/2014		5/6/2014		5/6/2014		7/25/2014		7/25/2014		12/3/2014		12/3/2014		2/10/2015		2/10/2015	
		Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter	Units	MCL/GW-Ind	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
2-Butanone	µg/L	61,000			< 5	U			< 5	U			< 5	U			< 5	U			< 5	U
2-Chlorotoluene	µg/L	2,000			< 0.25	U			< 0.25	U			< 0.25	U			< 0.25	U			< 0.25	U
2-Hexanone	µg/L	6,100			< 5	U			< 5	U			< 5	U			< 5	U			< 5	U
4-Chlorotoluene	µg/L	2,000			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U
Acetone	µg/L	92,000			< 5	U			< 5	U			< 5	U			< 5	U			< 5	U
Benzene	µg/L	5			< 0.25	U			< 0.25	U			< 0.25	U			< 0.25	U			< 0.25	U
Bromobenzene	µg/L	2,000			< 0.25	U			< 0.25	U			< 0.25	U			< 0.25	U			< 0.25	U
Bromochloromethane	µg/L	4,100			< 0.4	U			< 0.4	U			< 0.4	U			< 0.4	U			< 0.4	U
Bromodichloromethane	µg/L	4.6			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U
Bromoform	µg/L	36			< 1	U			< 1	U			< 1	U			< 1	U			< 1	U
Bromomethane	µg/L	140			< 1	U			< 1	U			< 1	U			< 1	U			< 1	U
Carbon disulfide	µg/L	10,000			< 1	U			< 1	U			< 1	U			< 1	U			< 1	U
Carbon tetrachloride	µg/L	5			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U
Chlorobenzene	µg/L	100			< 0.25	U			< 0.25	U			< 0.25	U			< 0.25	U			< 0.25	U
Chloroethane	µg/L	41,000			< 1	U			< 1	U			< 1	U			< 1	U			< 1	U
Chloroform	µg/L	1,000			< 0.25	U			< 0.25	U			< 0.25	U			< 0.25	U			< 0.25	U
Chloromethane	µg/L	220			< 1	U			< 1	U			< 1	U			< 1	U			< 1	U
cis-1,2-Dichloroethene	µg/L	70			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U
cis-1,3-Dichloropropene	µg/L	5.3			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U
Dibromochloromethane	µg/L	34			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U
Dibromomethane	µg/L	380			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U
Dichlorodifluoromethane	µg/L	20,000			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U
Ethylbenzene	µg/L	700			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U
Hexachlorobutadiene	µg/L	20			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U
Isopropylbenzene	µg/L	10,000			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U
m,p-Xylenes	µg/L	10,000			< 1	U			< 1	U			< 1	U			< 1	U			< 1	U
Methyl isobutyl ketone	µg/L	8,200			< 5	U			< 5	U			< 5	U			< 5	U			< 5	U
Methylene chloride	µg/L	5			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U
Naphthalene	µg/L	2,000			< 0.4	U			< 0.4	U			< 0.4	U			< 0.4	U			< 0.4	U
n-Butylbenzene	µg/L	4,100			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U
n-Propylbenzene	µg/L	4,100			< 0.25	U			< 0.25	U			< 0.25	U			< 0.25	U			< 0.25	U
o-Xylene	µg/L	10,000			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U
p-Isopropyltoluene	µg/L	10,000			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U
sec-Butylbenzene	µg/L	4,100			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U
Styrene	µg/L	100			< 0.25	U			< 0.25	U			< 0.25	U			< 0.25	U			< 0.25	U
tert-Butylbenzene	µg/L	4,100			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U
Tetrachloroethene	µg/L	5			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U
Toluene	µg/L	1,000			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U
trans-1,2-Dichloroethene	µg/L	100			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U
trans-1,3-Dichloropropene	µg/L	29			< 1	U			< 1	U			< 1	U			< 1	U			< 1	U
Trichloroethene	µg/L	5			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U
Trichlorofluoromethane	µg/L	31,000			< 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

Table 2-4
Groundwater Results 2013–2019

		Location Code	67WW07																			
		Sample ID	67WW07-150511		67WW07-051215		67WW07-151119		67WW07-111915		67WW07-160519		67WW07-051916		67WW07-112917		67WW07-180503		67WW07-181025		67WW07-190503	
		Sample Date	5/11/2015		5/12/2015		11/19/2015		11/19/2015		5/19/2016		5/19/2016		11/29/2017		5/3/2018		10/25/2018		5/3/2019	
		Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter	Units	MCL/GW-Ind	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
ANIONS																						
Chloride	mg/L	NV																				
Nitrate	mg/L	10																				
Nitrite	mg/L	1																				
Sulfate	mg/L	NV																				
Sulfide	mg/L	NV																				
TOTAL ORGANIC CARBON																						
Total Inorganic Carbon	mg/L	NV																				
Total organic carbon	mg/L	NV																				
DHC																						
BVC	cells/mL	NV																				
Dehalococcoides	cells/mL	NV																				
FIELD TESTS																						
Conductivity	µmhos/cm	NV	3.61				4.08				3.96				3.80		3.56		3.8		3.70	
Dissolved oxygen	mg/L	NV	-	-			-	-			-	-			8.55		8.73		0.1		0.07	
Ferrous Iron	mg/L	NV																				
Oxidation-Reduction Potential	mV	NV	31				-	-			-	-			264		88		200		249	
pH	SU	NV	5.98				6.22				6.04				4.72		6.68		5.01		5.05	
Temperature	C	NV	18.5				15.55				17.91				17.74		19.86		17.79		20.26	
Turbidity	NTU	NV	35.3				40.8				10.5				3.2		13.3		65.6		31.4	
GENERAL CHEMISTRY																						
Alkalinity	mg/L	NV																				
Ferrous Iron	mg/L	NV																				
GASES																						
Carbon dioxide	µg/L	NV																				
Ethane	µg/L	NV																				
Ethylene	µg/L	NV																				
Methane	µg/L	NV																				
VOLATILES																						
1,1,1,2-Tetrachloroethane	µg/L	110			< 0.5	U			< 0.5	U			< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U
1,1,1-Trichloroethane	µg/L	200			< 0.5	U			< 0.5	U			< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U
1,1,2,2-Tetrachloroethane	µg/L	14			< 0.4	U			< 0.4	U			< 0.4	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	µg/L	3,100,000													< 1	U	< 0.5	U	< 0.5	U	< 0.5	U
1,1,2-Trichloroethane	µg/L	5			< 0.5	U			< 0.5	U			< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U
1,1-Dichloroethane	µg/L	10,000			< 0.25	U			< 0.25	U			< 0.25	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U
1,1-Dichloroethene	µg/L	7			< 1	U			< 1	U			< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U
1,1-Dichloropropene	µg/L	2.9			< 0.5	U			< 0.5	U			< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U
1,2,3-Trichlorobenzene	µg/L	310			< 0.3	U			< 0.3	U			< 0.3	U	< 1	U	< 0.5	U	< 0.5	UJ	< 0.5	U
1,2,3-Trichloropropane	µg/L	0.041			< 1	U			< 1	U			< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U
1,2,4-Trichlorobenzene	µg/L	70			< 0.4	U			< 0.4	U			< 0.4	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U
1,2,4-Trimethylbenzene	µg/L	5,100			< 0.5	U			< 0.5	U			< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U
1,2-Dibromo-3-chloropropane	µg/L	0.2			< 2	U			< 2	U			< 2	U	< 1	U	< 0.5	U	< 1	U	< 0.5	U
1,2-Dibromoethane	µg/L	0.05			< 0.5	U			< 0.5	U			< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U
1,2-Dichlorobenzene	µg/L	600			< 0.25	U			< 0.25	U			< 0.25	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U
1,2-Dichloroethane	µg/L	5			0.817	J			0.601	J			0.33	J	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U
1,2-Dichloropropane	µg/L	5			< 0.4	U			< 0.4	U			< 0.4	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U
1,3,5-Trimethylbenzene	µg/L	5,100			< 0.5	U			< 0.5	U			< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U
1,3-Dichlorobenzene	µg/L	3,100			< 0.5	U			< 0.5	U			< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U
1,3-Dichloropropane	µg/L	29			< 0.4	U			< 0.4	U			< 0.4	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U
1,4-Dichlorobenzene	µg/L	75			< 0.25	U			< 0.25	U			< 0.25	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U
2,2-Dichloropropane	µg/L	42			< 0.5	U			< 0.5	U			< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U

Table 2-4
Groundwater Results 2013–2019

		Location Code	67WW07																			
		Sample ID	67WW07-150511		67WW07-051215		67WW07-151119		67WW07-111915		67WW07-160519		67WW07-051916		67WW07-112917		67WW07-180503		67WW07-181025		67WW07-190503	
		Sample Date	5/11/2015		5/12/2015		11/19/2015		11/19/2015		5/19/2016		5/19/2016		11/29/2017		5/3/2018		10/25/2018		5/3/2019	
		Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter	Units	MCL/GW-Ind	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
2-Butanone	µg/L	61,000			< 5	UJ			< 5	U			< 5	U	< 2	U	< 1	U	< 1	U	< 1	U
2-Chlorotoluene	µg/L	2,000			< 0.25	U			< 0.25	U			< 0.25	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U
2-Hexanone	µg/L	6,100			3.18	J			< 5	U			< 5	U	< 2	U	< 1	U	< 1	U	< 1	U
4-Chlorotoluene	µg/L	2,000			< 0.5	U			< 0.5	U			< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U
Acetone	µg/L	92,000			< 5	U			< 5	U			< 5	U	< 2	U	< 1	U	< 2	U	< 5.1	U
Benzene	µg/L	5			< 0.25	U			< 0.25	U			< 0.25	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U
Bromobenzene	µg/L	2,000			< 0.25	U			< 0.25	U			< 0.25	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U
Bromochloromethane	µg/L	4,100			< 0.4	U			< 0.4	U			< 0.4	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U
Bromodichloromethane	µg/L	4.6			< 0.5	U			< 0.5	U			< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U
Bromoform	µg/L	36			< 1	U			< 1	U			< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U
Bromomethane	µg/L	140			< 1	U			< 1	U			< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U
Carbon disulfide	µg/L	10,000			< 1	U			< 1	U			< 1	U	< 2	U	< 1	U	< 1	U	< 1	U
Carbon tetrachloride	µg/L	5			< 0.5	U			< 0.5	U			< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U
Chlorobenzene	µg/L	100			< 0.25	U			< 0.25	U			< 0.25	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U
Chloroethane	µg/L	41,000			< 1	U			< 1	U			< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U
Chloroform	µg/L	1,000			< 0.25	U			< 0.25	U			< 0.25	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U
Chloromethane	µg/L	220			< 1	U			< 1	U			< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U
cis-1,2-Dichloroethene	µg/L	70			< 0.5	U			< 0.5	U			< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U
cis-1,3-Dichloropropene	µg/L	5.3			< 0.5	U			< 0.5	U			< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U
Dibromochloromethane	µg/L	34			< 0.5	U			< 0.5	U			< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U
Dibromomethane	µg/L	380			< 0.5	U			< 0.5	U			< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U
Dichlorodifluoromethane	µg/L	20,000			< 0.5	U			< 0.5	U			< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U
Ethylbenzene	µg/L	700			< 0.5	U			< 0.5	U			< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U
Hexachlorobutadiene	µg/L	20			< 0.5	U			< 0.5	U			< 0.5	UJ	< 1	U	< 0.5	U	< 1	U	< 1	U
Isopropylbenzene	µg/L	10,000			< 0.5	U			< 0.5	U			< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U
m,p-Xylenes	µg/L	10,000			< 1	U			< 1	U			< 1	U	< 2	U	< 1	U	< 1	U	< 1	U
Methyl isobutyl ketone	µg/L	8,200			< 5	UJ			< 5	U			< 5	U	< 2	U	< 1	U	< 1	U	< 1	U
Methylene chloride	µg/L	5			< 0.5	U			< 0.5	U			< 0.5	U	< 2	U	< 1	U	< 1	U	< 1	U
Naphthalene	µg/L	2,000			< 0.4	U			< 0.4	U			< 0.4	U	< 1	U	< 0.5	U	< 0.5	UJ	< 0.5	U
n-Butylbenzene	µg/L	4,100			< 0.5	U			< 0.5	U			< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U
n-Propylbenzene	µg/L	4,100			< 0.25	U			< 0.25	U			< 0.25	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U
o-Xylene	µg/L	10,000			< 0.5	U			< 0.5	U			< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U
p-Isopropyltoluene	µg/L	10,000			< 0.5	U			< 0.5	U			< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U
sec-Butylbenzene	µg/L	4,100			< 0.5	U			< 0.5	U			< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U
Styrene	µg/L	100			< 0.25	U			< 0.25	U			< 0.25	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U
tert-Butylbenzene	µg/L	4,100			< 0.5	U			< 0.5	U			< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U
Tetrachloroethene	µg/L	5			< 0.5	U			< 0.5	U			< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U
Toluene	µg/L	1,000			< 0.5	U			< 0.5	U			< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U
trans-1,2-Dichloroethene	µg/L	100			< 0.5	U			< 0.5	U			< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U
trans-1,3-Dichloropropene	µg/L	29			< 1	U			< 1	U			< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U
Trichloroethene	µg/L	5			< 0.5	U			< 0.5	U			< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U
Trichlorofluoromethane	µg/L	31,000			< 0.5	U			< 0.5	U			< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U
Vinyl chloride	µg/L	2			< 0.5	U			< 0.5	U			< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U

Table 2-4
Groundwater Results 2013–2019

		Location Code	67WW07		67WW08															
		Sample ID	67WW07-191028		67WW08-060313		67WW08-130603		67WW08-131002		67WW08-100213		67WW08-012314		67WW08-140123		67WW08-050714		67WW08-140507		67WW08-072414	
		Sample Date	10/28/2019		6/3/2013		6/3/2013		10/2/2013		10/2/2013		1/23/2014		1/23/2014		5/7/2014		5/7/2014		7/24/2014	
		Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter	Units	MCL/GW-Ind	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
ANIONS																						
Chloride	mg/L	NV			1440	J					1360		1490				1380				1,340	
Nitrate	mg/L	10			< 20	U					< 2	U	< 2	U			< 2	U			< 1	U
Nitrite	mg/L	1			< 20	U					< 2	U	< 2	U			< 2	U			< 1	U
Sulfate	mg/L	NV			300						297		303				365				317	
Sulfide	mg/L	NV									< 1	U	< 1	U			< 1	U				
TOTAL ORGANIC CARBON																						
Total Inorganic Carbon	mg/L	NV			10.3						28.9						80.6				70.9	
Total organic carbon	mg/L	NV			3.61						6.32		9.95				10.6				7.58	
DHC																						
BVC	cells/mL	NV									0.5	U	0.5	U			0.5	U				
Dehalococcoides	cells/mL	NV			< 1	U					< 0.5	U	< 0.5	U			0.6					
FIELD TESTS																						
Conductivity	µmhos/cm	NV	2.06		4.85		4.85		5.11		5.11		5.08		5.08		5.43		5.43		4.98	
Dissolved oxygen	mg/L	NV	0.08		0		0		0.74		0.74		0.38		0.38		0.45		0.45		0	
Ferrous Iron	mg/L	NV																				
Oxidation-Reduction Potential	mV	NV	61		74		74		-165		-165		-90		-90		-32		-32		-7	
pH	SU	NV	6.34		6.62		6.62		6.47		6.47		6.8		6.8		5.55		5.55		6.89	
Temperature	C	NV	18.36		29.25		29.25		21.82		21.82		17.22		17.22		19.33		19.33		21.72	
Turbidity	NTU	NV	42.9		7.6		7.6		1.5		1.5		0.6		0.6		9.7		9.7		6.1	
GENERAL CHEMISTRY																						
Alkalinity	mg/L	NV																				
Ferrous Iron	mg/L	NV			0.0795						0.161		0.344				0.282				0.227	
GASES																						
Carbon dioxide	µg/L	NV																				
Ethane	µg/L	NV			< 1	U					< 2	U	< 2	U			< 2	U			< 2	U
Ethylene	µg/L	NV			1.29	J					< 2	U	< 2	U			< 2	U			< 2	U
Methane	µg/L	NV			10.6						< 9.49		7.79				6.97				6.47	
VOLATILES																						
1,1,1,2-Tetrachloroethane	µg/L	110	< 0.5	U	< 0.25	U					< 5	U	< 2.5	U			< 5	U			< 5	U
1,1,1-Trichloroethane	µg/L	200	< 0.5	U	6.25	R					< 5	U	< 2.5	U			< 5	U			< 5	U
1,1,2,2-Tetrachloroethane	µg/L	14	< 0.5	U	5	R					< 4	U	< 2	U			< 4	U			< 4	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	µg/L	3,100,000	< 0.5	U																		
1,1,2-Trichloroethane	µg/L	5	< 0.5	U	4.25						5.08	J	6.7				5.01	J			7.74	J
1,1-Dichloroethane	µg/L	10,000	< 0.5	U	53.2						46.5		54.4				57.3				56.7	
1,1-Dichloroethene	µg/L	7	< 0.5	U	1390	J					1120		1340				1590				1890	
1,1-Dichloropropene	µg/L	2.9	< 0.5	U	6.25	R					< 5	U	< 2.5	U			< 5	U			< 5	U
1,2,3-Trichlorobenzene	µg/L	310	< 0.5	UJ	< 0.15	U					< 3	U	< 1.5	U			< 3	U			< 3	U
1,2,3-Trichloropropane	µg/L	0.041	< 0.5	U	12.5	R					< 10	U	< 5	U			< 10	U			< 10	U
1,2,4-Trichlorobenzene	µg/L	70	< 0.5	U	5	R					< 4	U	< 2	U			< 4	U			< 4	U
1,2,4-Trimethylbenzene	µg/L	5,100	< 0.5	U	< 0.25	U					< 5	U	< 2.5	U			< 5	U			< 5	U
1,2-Dibromo-3-chloropropane	µg/L	0.2	< 0.5	U	25	R					< 20	U	< 10	U			< 20	U			< 20	U
1,2-Dibromoethane	µg/L	0.05	< 0.5	U	6.25	R					< 5	U	< 2.5	U			< 5	U			< 5	U
1,2-Dichlorobenzene	µg/L	600	< 0.5	U	3.13	R					< 2.5	U	< 1.25	U			< 2.5	U			< 2.5	U
1,2-Dichloroethane	µg/L	5	< 0.5	U	64.3	R					76.5		89.9				101				98.9	
1,2-Dichloropropane	µg/L	5	< 0.5	U	< 0.2	U					< 4	U	< 2	U			< 4	U			< 4	U
1,3,5-Trimethylbenzene	µg/L	5,100	< 0.5	U	< 0.25	U					< 5	U	< 2.5	U			< 5	U			< 5	U
1,3-Dichlorobenzene	µg/L	3,100	< 0.5	U	6.25	R					< 5	U	< 2.5	U			< 5	U			< 5	U
1,3-Dichloropropane	µg/L	29	< 0.5	U	< 0.2	U					< 4	U	< 2	U			< 4	U			< 4	U
1,4-Dichlorobenzene	µg/L	75	< 0.5	U	3.13	R					< 2.5	U	< 1.25	U			< 2.5	U			< 2.5	U
2,2-Dichloropropane	µg/L	42	< 0.5	U	6.25	R					< 5	U	< 2.5	U			< 5	U			< 5	U

Table 2-4
Groundwater Results 2013–2019

		Location Code	67WW07		67WW08															
		Sample ID	67WW07-191028		67WW08-060313		67WW08-130603		67WW08-131002		67WW08-100213		67WW08-012314		67WW08-140123		67WW08-050714		67WW08-140507		67WW08-072414	
		Sample Date	10/28/2019		6/3/2013		6/3/2013		10/2/2013		10/2/2013		1/23/2014		1/23/2014		5/7/2014		5/7/2014		7/24/2014	
		Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter	Units	MCL/GW-Ind	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
2-Butanone	µg/L	61,000	< 1	U	< 2.5	U					< 50	U	< 25	U			< 50	U			< 50	U
2-Chlorotoluene	µg/L	2,000	< 0.5	U	< 0.125	U					< 2.5	U	< 1.25	U			< 2.5	U			< 2.5	U
2-Hexanone	µg/L	6,100	< 1	U	< 2.5	U					< 50	U	< 25	U			< 50	U			< 50	U
4-Chlorotoluene	µg/L	2,000	< 0.5	U	< 0.25	U					< 5	U	< 2.5	U			< 5	U			< 5	U
Acetone	µg/L	92,000	< 1	U	< 2.5	U					< 50	U	< 25	U			< 50	U			< 50	U
Benzene	µg/L	5	< 0.5	U	3.13	R					< 2.5	U	< 1.25	U			< 3.37	B			< 2.5	U
Bromobenzene	µg/L	2,000	< 0.5	U	< 0.125	U					< 2.5	U	< 1.25	U			< 2.5	U			< 2.5	U
Bromochloromethane	µg/L	4,100	< 0.5	U	5	R					< 4	U	< 2	U			< 4	U			< 4	U
Bromodichloromethane	µg/L	4.6	< 0.5	U	6.25	R					< 5	U	< 2.5	U			< 5	U			< 5	U
Bromoform	µg/L	36	< 0.5	U	< 0.5	U					< 10	U	< 5	U			< 10	U			< 10	U
Bromomethane	µg/L	140	< 0.5	U	< 0.5	UJ					< 10	U	< 5	U			< 10	U			< 10	U
Carbon disulfide	µg/L	10,000	< 1	U	< 0.5	U					< 10	U	< 5	U			< 10	U			< 10	U
Carbon tetrachloride	µg/L	5	< 0.5	U	< 0.25	U					< 5	U	< 2.5	U			< 5	U			< 5	U
Chlorobenzene	µg/L	100	< 0.5	U	3.13	R					< 2.5	U	< 1.25	U			< 2.5	U			< 2.5	U
Chloroethane	µg/L	41,000	< 0.5	U	12.5	R					< 10	U	< 5	U			< 10	U			< 10	U
Chloroform	µg/L	1,000	< 0.5	U	3.56						< 2.66	J	4.11	J			4.88	J			5.13	J
Chloromethane	µg/L	220	< 0.5	U	< 0.5	U					< 10	U	< 5	U			< 10	U			< 10	U
cis-1,2-Dichloroethene	µg/L	70	< 0.5	U	2.18						< 5	U	2.73	J			< 5	U			< 5	U
cis-1,3-Dichloropropene	µg/L	5.3	< 0.5	U	< 0.25	U					< 5	U	< 2.5	U			< 5	U			< 5	U
Dibromochloromethane	µg/L	34	< 0.5	U	< 0.25	U					< 5	U	< 2.5	U			< 5	U			< 5	U
Dibromomethane	µg/L	380	< 0.5	U	< 0.25	U					< 5	U	< 2.5	U			< 5	U			< 5	U
Dichlorodifluoromethane	µg/L	20,000	< 0.5	U	6.25	R					< 5	U	< 2.5	U			< 5	U			< 5	U
Ethylbenzene	µg/L	700	< 0.5	U	6.25	R					< 5	U	< 2.5	U			< 5	U			< 5	U
Hexachlorobutadiene	µg/L	20	< 0.5	U	6.25	R					< 5	U	< 2.5	U			< 5	U			< 5	U
Isopropylbenzene	µg/L	10,000	< 0.5	U	6.25	R					< 5	U	< 2.5	U			< 5	U			< 5	U
m,p-Xylenes	µg/L	10,000	< 1	U	< 0.5	U					< 10	U	< 5	U			< 10	U			< 10	U
Methyl isobutyl ketone	µg/L	8,200	< 1	U	< 2.5	U					< 50	U	< 25	U			< 50	U			< 50	U
Methylene chloride	µg/L	5	< 1	U	< 0.25	U					< 5	U	< 2.5	U			< 5	U			< 5	U
Naphthalene	µg/L	2,000	< 0.5	UJ	< 0.2	U					< 4	U	< 2	U			< 4	U			< 4	U
n-Butylbenzene	µg/L	4,100	< 0.5	U	< 0.25	U					< 5	U	< 2.5	U			< 5	U			< 5	U
n-Propylbenzene	µg/L	4,100	< 0.5	U	< 0.125	U					< 2.5	U	< 1.25	U			< 2.5	U			< 2.5	U
o-Xylene	µg/L	10,000	< 0.5	U	6.25	R					< 5	U	< 2.5	U			< 5	U			< 5	U
p-Isopropyltoluene	µg/L	10,000	< 0.5	U	< 0.25	U					< 5	U	< 2.5	U			< 5	U			< 5	U
sec-Butylbenzene	µg/L	4,100	< 0.5	U	< 0.25	U					< 5	U	< 2.5	U			< 5	U			< 5	U
Styrene	µg/L	100	< 0.5	U	3.13	R					< 2.5	U	< 1.25	U			< 2.5	U			< 2.5	U
tert-Butylbenzene	µg/L	4,100	< 0.5	U	< 0.25	U					< 5	U	< 2.5	U			< 5	U			< 5	U
Tetrachloroethene	µg/L	5	< 0.5	U	< 0.25	U					< 5	U	< 2.5	U			< 5	U			< 5	U
Toluene	µg/L	1,000	< 0.5	U	< 0.25	U					< 5	U	< 2.5	U			< 5	U			< 5	U
trans-1,2-Dichloroethene	µg/L	100	< 0.5	U	< 0.25	U					< 5	U	< 2.5	U			< 5	U			< 5	U
trans-1,3-Dichloropropene	µg/L	29	< 0.5	U	< 0.5	U					< 10	U	< 5	U			< 10	U			< 10	U
Trichloroethene	µg/L	5	< 0.5	U	2.86						< 5	U	3.12	J			4.41	J			3.14	J
Trichlorofluoromethane	µg/L	31,000	< 0.5	U	< 0.25	U					< 5	U	< 2.5	U			< 5	U			< 5	U
Vinyl chloride	µg/L	2	< 0.5	U	0.951	J					< 5	U	< 2.5	U			< 5	U			< 5	U

Table 2-4
Groundwater Results 2013–2019

	Location Code	67WW08																			
	Sample ID	67WW08-140724		67WW08-141204		67WW08-120414		67WW08-150211		67WW08-021115		67WW08-150519		67WW08-051915		67WW08-151119		67WW08-111915		67WW08-160519	
	Sample Date	7/24/2014		12/4/2014		12/4/2014		2/11/2015		2/11/2015		5/19/2015		5/19/2015		11/19/2015		11/19/2015		5/19/2016	
	Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter	Units	MCL/GW-Ind	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
ANIONS																						
Chloride	mg/L	NV					1,410	J			1,250				1,750				1,400			
Nitrate	mg/L	10					2	J			< 4	U			< 2	U			< 2	U		
Nitrite	mg/L	1					2.04	J			< 4	U			3.95	J			< 2	U		
Sulfate	mg/L	NV					302				258				524				300			
Sulfide	mg/L	NV									< 1	U			< 1	U			< 1	U		
TOTAL ORGANIC CARBON																						
Total Inorganic Carbon	mg/L	NV					22.9				160				55.2				103			
Total organic carbon	mg/L	NV					3.68				22.4				8.32				47.5			
DHC																						
BVC	cells/mL	NV																				
Dehalococcoides	cells/mL	NV																				
FIELD TESTS																						
Conductivity	µmhos/cm	NV	4.98		5.07		5.07		4.38		4.38		5.85		5.85		5.06		5.06		5.42	
Dissolved oxygen	mg/L	NV	0		0		0		0		0		0.66		0.66		0.44		0.44		0.82	
Ferrous Iron	mg/L	NV																				
Oxidation-Reduction Potential	mV	NV	-7		-1		-1		45		45		-16		-16		113		113		129	
pH	SU	NV	6.89		6.42		6.42		6.61		6.61		6.53		6.53		6.13		6.13		5.79	
Temperature	C	NV	21.72		19.14		19.14		18.75		18.75		20.12		20.12		19.15		19.15		18.74	
Turbidity	NTU	NV	6.1		2.7		2.7		3.7		3.7		67.1		67.1		45.3		45.3		9.3	
GENERAL CHEMISTRY																						
Alkalinity	mg/L	NV																				
Ferrous Iron	mg/L	NV					0.374				0.0907				0.944				0.0931			
GASES																						
Carbon dioxide	µg/L	NV					89,600															
Ethane	µg/L	NV					< 2	U			< 2	U			< 2	U			< 2	U		
Ethylene	µg/L	NV					< 2	U			< 2	U			< 2	U			< 2	U		
Methane	µg/L	NV					14.4				9.4				5.16				12.1			
VOLATILES																						
1,1,1,2-Tetrachloroethane	µg/L	110					< 5	U			< 5	U			< 5	U			< 5	U		
1,1,1-Trichloroethane	µg/L	200					< 5	U			< 5	U			< 5	U			< 5	U		
1,1,2,2-Tetrachloroethane	µg/L	14					< 4	U			< 4	U			< 4	U			< 4	U		
1,1,2-Trichloro-1,2,2-Trifluoroethane	µg/L	3,100,000																				
1,1,2-Trichloroethane	µg/L	5					7.36	J			6.96	J			4.5	J			4.67	J		
1,1-Dichloroethane	µg/L	10,000					63.9				61.1				52.1				48.1			
1,1-Dichloroethene	µg/L	7					2320				1930				1570				1710			
1,1-Dichloropropene	µg/L	2.9					< 5	U			< 5	U			< 5	U			< 5	U		
1,2,3-Trichlorobenzene	µg/L	310					< 3	U			< 3	U			< 3	U			< 3	U		
1,2,3-Trichloropropane	µg/L	0.041					< 10	U			< 10	U			< 10	U			< 10	U		
1,2,4-Trichlorobenzene	µg/L	70					< 4	U			< 4	U			< 4	U			< 4	U		
1,2,4-Trimethylbenzene	µg/L	5,100					< 5	U			< 5	U			< 5	U			< 5	U		
1,2-Dibromo-3-chloropropane	µg/L	0.2					< 20	U			< 20	U			< 20	U			< 20	U		
1,2-Dibromoethane	µg/L	0.05					< 5	U			< 5	U			< 5	U			< 5	U		
1,2-Dichlorobenzene	µg/L	600					< 2.5	U			< 2.5	U			< 2.5	U			< 2.5	U		
1,2-Dichloroethane	µg/L	5					106				104				85.6				77.6			
1,2-Dichloropropane	µg/L	5					< 4	U			< 4	U			< 4	U			< 4	U		
1,3,5-Trimethylbenzene	µg/L	5,100					< 5	U			< 5	U			< 5	U			< 5	U		
1,3-Dichlorobenzene	µg/L	3,100					< 5	U			< 5	U			< 5	U			< 5	U		
1,3-Dichloropropane	µg/L	29					< 4	U			< 4	U			< 4	U			< 4	U		
1,4-Dichlorobenzene	µg/L	75					< 2.5	U			< 2.5	U			< 2.5	U			< 2.5	U		
2,2-Dichloropropane	µg/L	42					< 5	U			< 5	U			< 5	U			< 5	U		

Table 2-4
Groundwater Results 2013–2019

		Location Code	67WW08																	
		Sample ID	67WW08-140724		67WW08-141204		67WW08-120414		67WW08-150211		67WW08-021115		67WW08-150519		67WW08-051915		67WW08-151119		67WW08-111915		67WW08-160519	
		Sample Date	7/24/2014		12/4/2014		12/4/2014		2/11/2015		2/11/2015		5/19/2015		5/19/2015		11/19/2015		11/19/2015		5/19/2016	
		Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter	Units	MCL/GW-Ind	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
2-Butanone	µg/L	61,000					< 50	U			< 50	U			< 50	U			< 50	U		
2-Chlorotoluene	µg/L	2,000					< 2.5	U			< 2.5	U			< 2.5	U			< 2.5	U		
2-Hexanone	µg/L	6,100					< 50	U			< 50	U			< 50	U			< 50	U		
4-Chlorotoluene	µg/L	2,000					< 5	U			< 5	U			< 5	U			< 5	U		
Acetone	µg/L	92,000					< 50	U			< 50	U			< 50	U			< 50	U		
Benzene	µg/L	5					< 2.5	U			< 2.5	U			< 2.5	U			< 2.5	U		
Bromobenzene	µg/L	2,000					< 2.5	U			< 2.5	U			< 2.5	U			< 2.5	U		
Bromochloromethane	µg/L	4,100					< 4	U			< 4	U			< 4	U			< 4	U		
Bromodichloromethane	µg/L	4.6					< 5	U			< 5	U			< 5	U			< 5	U		
Bromoform	µg/L	36					< 10	U			< 10	U			< 10	U			< 10	U		
Bromomethane	µg/L	140					< 10	U			< 10	UJ			< 10	U			< 10	U		
Carbon disulfide	µg/L	10,000					< 10	U			< 10	U			< 10	U			< 10	U		
Carbon tetrachloride	µg/L	5					< 5	U			< 5	U			< 5	U			< 5	U		
Chlorobenzene	µg/L	100					< 2.5	U			< 2.5	U			< 2.5	U			< 2.5	U		
Chloroethane	µg/L	41,000					< 10	U			< 10	U			< 10	U			< 10	U		
Chloroform	µg/L	1,000					2.53	J			2.57	J			3.04	J			1.61	J		
Chloromethane	µg/L	220					< 10	U			< 10	U			< 10	U			< 10	U		
cis-1,2-Dichloroethene	µg/L	70					2.69	J			2.71	J			< 5	U			< 5	U		
cis-1,3-Dichloropropene	µg/L	5.3					< 5	U			< 5	U			< 5	U			< 5	U		
Dibromochloromethane	µg/L	34					< 5	U			< 5	U			< 5	U			< 5	U		
Dibromomethane	µg/L	380					< 5	U			< 5	U			< 5	U			< 5	U		
Dichlorodifluoromethane	µg/L	20,000					< 5	U			< 5	U			< 5	U			< 5	U		
Ethylbenzene	µg/L	700					< 5	U			< 5	U			< 5	U			< 5	U		
Hexachlorobutadiene	µg/L	20					< 5	U			< 5	U			< 5	U			< 5	U		
Isopropylbenzene	µg/L	10,000					< 5	U			< 5	U			< 5	U			< 5	U		
m,p-Xylenes	µg/L	10,000					< 10	U			< 10	U			< 10	U			< 10	U		
Methyl isobutyl ketone	µg/L	8,200					< 50	U			< 50	U			< 50	U			< 50	U		
Methylene chloride	µg/L	5					3.42	J			< 5	U			< 5	U			< 5	U		
Naphthalene	µg/L	2,000					< 4	U			< 4	U			< 4	U			< 4	U		
n-Butylbenzene	µg/L	4,100					< 5	U			< 5	U			< 5	U			< 5	U		
n-Propylbenzene	µg/L	4,100					< 2.5	U			< 2.5	U			< 2.5	U			< 2.5	U		
o-Xylene	µg/L	10,000					< 5	U			< 5	U			< 5	U			< 5	U		
p-Isopropyltoluene	µg/L	10,000					< 5	U			< 5	U			< 5	U			< 5	U		
sec-Butylbenzene	µg/L	4,100					< 5	U			< 5	U			< 5	U			< 5	U		
Styrene	µg/L	100					< 2.5	U			< 2.5	U			< 2.5	U			< 2.5	U		
tert-Butylbenzene	µg/L	4,100					< 5	U			< 5	U			< 5	U			< 5	U		
Tetrachloroethene	µg/L	5					< 5	U			< 5	U			< 5	U			< 5	U		
Toluene	µg/L	1,000					< 5	U			< 5	U			< 5	U			< 5	U		
trans-1,2-Dichloroethene	µg/L	100					< 5	U			< 5	U			< 5	U			< 5	U		
trans-1,3-Dichloropropene	µg/L	29					< 10	U			< 10	U			< 10	U			< 10	U		
Trichloroethene	µg/L	5					3.55	J			3.15	J			< 5	U			< 5	U		
Trichlorofluoromethane	µg/L	31,000					< 5	U			< 5	U			< 5	U			< 5	U		
Vinyl chloride	µg/L	2					< 5	U			< 5	U			< 5	U			< 5	U		

Table 2-4
Groundwater Results 2013–2019

	Location Code	67WW08																		67WW09	
	Sample ID	67WW08-051916		67WW08-112817-FD		67WW08-112817		67WW08-180501		67WW08-181023		67WW08-181023-FD		67WW08-190501		67WW08-191028-FD		67WW08-191028		67WW09-130601	
	Sample Date	5/19/2016		11/28/2017		11/28/2017		5/1/2018		10/23/2018		10/23/2018		5/1/2019		10/28/2019		10/28/2019		6/1/2013	
	Sample Purpose	REG		FD		REG		REG		REG		FD		REG		FD		REG		REG	
Parameter	Units	MCL/GW-Ind	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
ANIONS																						
Chloride	mg/L	NV	1,510		1,590		1,600		1,530		1,820		1,770		1,680		1,890		1,920			
Nitrate	mg/L	10	< 2	U	< 0.1	U	< 0.1	U	< 0.1	U	< 0.2	U	< 0.2	U	< 0.5	U	< 0.2	U	< 0.2	U		
Nitrite	mg/L	1	< 2	U	< 0.1	U	< 0.1	U	< 0.1	U	< 0.2	U	< 0.2	U								
Sulfate	mg/L	NV	365		440		4,290		407		499		489		479		513		515			
Sulfide	mg/L	NV	< 1	U	1.48	J	1.48	J	< 1.5	U	< 1	U	< 1	U								
TOTAL ORGANIC CARBON																						
Total Inorganic Carbon	mg/L	NV	44.2		140		130		150		55		58									
Total organic carbon	mg/L	NV	65.4		4		3.99		4.14		2.86		3.19		2.09		1.23		1.38	J		
DHC																						
BVC	cells/mL	NV																				
Dehalococcoides	cells/mL	NV			0.5	U	< 0.5	U	0.2		9.3											
FIELD TESTS																						
Conductivity	µmhos/cm	NV	5.42				5.83		5.71		6.29				6.28				6.57		3.31	
Dissolved oxygen	mg/L	NV	0.82				0.26		0		0.08				0.08				0.11		0.52	
Ferrous Iron	mg/L	NV							0.11						0.21				0.41			
Oxidation-Reduction Potential	mV	NV	129				186		268		150				138				126		189	
pH	SU	NV	5.79				5.88		6.18		6.33				5.82				6.05		6.64	
Temperature	C	NV	18.74				19.04		22.8		18.14				20.44				18.88		27.95	
Turbidity	NTU	NV	9.3				21.3		12.4		0				0				0		4.5	
GENERAL CHEMISTRY																						
Alkalinity	mg/L	NV									220		221									
Ferrous Iron	mg/L	NV	0.0585						0.063	J	0.343		0.27									
GASES																						
Carbon dioxide	µg/L	NV			240,000		290,000		420,000		130,000		130,000		270,000		110,000		130,000			
Ethane	µg/L	NV	< 2	U	< 0.23	U	< 0.23	U	< 0.47	U	< 0.94	U	< 0.94	U	< 0.47	U	< 0.47	U	< 0.47	U		
Ethylene	µg/L	NV	< 2	U	< 0.22	U	< 0.22	U	< 0.55	UJ	< 1.1	U	< 1.1	U	< 0.55	U	< 0.55	U	< 0.55	U		
Methane	µg/L	NV	11.3		1.6	J	2	J	2.1		5.4		5.5		2.5		2.1		2.5			
VOLATILES																						
1,1,1,2-Tetrachloroethane	µg/L	110	< 5	U	< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U		
1,1,1-Trichloroethane	µg/L	200	< 5	U	< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U		
1,1,2,2-Tetrachloroethane	µg/L	14	< 4	U	< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U		
1,1,2-Trichloro-1,2,2-Trifluoroethane	µg/L	3,100,000			< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U		
1,1,2-Trichloroethane	µg/L	5	2.76	J	< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U		
1,1-Dichloroethane	µg/L	10,000	31.9		18		15		14		12		12		7.5		7.6		7.7			
1,1-Dichloroethene	µg/L	7	1130		350		340		300		160		160		110		65		63			
1,1-Dichloropropene	µg/L	2.9	< 5	U	< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U		
1,2,3-Trichlorobenzene	µg/L	310	< 3	U	< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	UJ	< 0.5	UJ		
1,2,3-Trichloropropane	µg/L	0.041	< 10	U	< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U		
1,2,4-Trichlorobenzene	µg/L	70	< 4	U	< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U		
1,2,4-Trimethylbenzene	µg/L	5,100	< 5	U	< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U		
1,2-Dibromo-3-chloropropane	µg/L	0.2	< 20	U	< 1	U	< 1	U	< 0.5	U	< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U		
1,2-Dibromoethane	µg/L	0.05	< 5	U	< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U		
1,2-Dichlorobenzene	µg/L	600	< 2.5	U	< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U		
1,2-Dichloroethane	µg/L	5	56.1		13		13		11		6.5		6.2		5.1		2.4		2.3			
1,2-Dichloropropane	µg/L	5	< 4	U	< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U		
1,3,5-Trimethylbenzene	µg/L	5,100	< 5	U	< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U		
1,3-Dichlorobenzene	µg/L	3,100	< 5	U	< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U		
1,3-Dichloropropane	µg/L	29	< 4	U	< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U		
1,4-Dichlorobenzene	µg/L	75	< 2.5	U	< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U		
2,2-Dichloropropane	µg/L	42	< 5	U	< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U		

Table 2-4
Groundwater Results 2013–2019

		Location Code	67WW08																		67WW09	
		Sample ID	67WW08-051916		67WW08-112817-FD		67WW08-112817		67WW08-180501		67WW08-181023		67WW08-181023-FD		67WW08-190501		67WW08-191028-FD		67WW08-191028		67WW09-130601	
		Sample Date	5/19/2016		11/28/2017		11/28/2017		5/1/2018		10/23/2018		10/23/2018		5/1/2019		10/28/2019		10/28/2019		6/1/2013	
		Sample Purpose	REG		FD		REG		REG		REG		FD		REG		FD		REG		REG	
Parameter	Units	MCL/GW-Ind	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
2-Butanone	µg/L	61,000	< 50	U	< 2	U	< 2	U	< 1	U	< 1	U	< 1	U	< 1	U	< 1	U	< 1	U		
2-Chlorotoluene	µg/L	2,000	< 2.5	U	< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U		
2-Hexanone	µg/L	6,100	< 50	U	< 2	U	< 2	U	< 1	U	< 1	U	< 1	U	< 1	U	< 1	U	< 1	U		
4-Chlorotoluene	µg/L	2,000	< 5	U	< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U		
Acetone	µg/L	92,000	< 50	U	< 2	U	< 2	U	< 1	U	< 2	U	< 2	U	< 1	U	< 1	U	< 1	U		
Benzene	µg/L	5	< 2.5	U	< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U		
Bromobenzene	µg/L	2,000	< 2.5	U	< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U		
Bromochloromethane	µg/L	4,100	< 4	U	< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U		
Bromodichloromethane	µg/L	4.6	< 5	U	< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U		
Bromoform	µg/L	36	< 10	U	< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U		
Bromomethane	µg/L	140	< 10	U	< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U		
Carbon disulfide	µg/L	10,000	< 10	U	< 2	U	< 2	U	< 1	U	< 1	U	< 1	U	< 1	U	< 1	U	< 1	U		
Carbon tetrachloride	µg/L	5	< 5	U	< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U		
Chlorobenzene	µg/L	100	< 2.5	U	< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U		
Chloroethane	µg/L	41,000	< 10	U	< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U		
Chloroform	µg/L	1,000	< 2.5	U	< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U		
Chloromethane	µg/L	220	< 10	U	< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U		
cis-1,2-Dichloroethene	µg/L	70	< 5	U	< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U		
cis-1,3-Dichloropropene	µg/L	5.3	< 5	U	< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U		
Dibromochloromethane	µg/L	34	< 5	U	< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U		
Dibromomethane	µg/L	380	< 5	U	< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U		
Dichlorodifluoromethane	µg/L	20,000	< 5	U	< 1	U	< 1	U	< 0.5	U	< 0.5	UJ	< 0.5	UJ	< 0.5	U	< 0.5	U	< 0.5	U		
Ethylbenzene	µg/L	700	< 5	U	< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U		
Hexachlorobutadiene	µg/L	20	< 5	U	< 1	U	< 1	U	< 0.5	U	< 1	U	< 1	U	< 1	U	< 0.5	U	< 0.5	U		
Isopropylbenzene	µg/L	10,000	< 5	U	< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U		
m,p-Xylenes	µg/L	10,000	< 10	U	< 2	U	< 2	U	< 1	U	< 1	U	< 1	U	< 1	U	< 1	U	< 1	U		
Methyl isobutyl ketone	µg/L	8,200	< 50	U	< 2	U	< 2	U	< 1	U	< 1	U	< 1	U	< 1	U	< 1	U	< 1	U		
Methylene chloride	µg/L	5	< 5	U	< 2	U	< 2	U	< 1	U	< 1	U	< 1	U	< 1	U	< 1	U	< 1	U		
Naphthalene	µg/L	2,000	< 4	U	< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	UJ	< 0.5	UJ		
n-Butylbenzene	µg/L	4,100	< 5	U	< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U		
n-Propylbenzene	µg/L	4,100	< 2.5	U	< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U		
o-Xylene	µg/L	10,000	< 5	U	< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U		
p-Isopropyltoluene	µg/L	10,000	< 5	U	< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U		
sec-Butylbenzene	µg/L	4,100	< 5	U	< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U		
Styrene	µg/L	100	< 2.5	U	< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U		
tert-Butylbenzene	µg/L	4,100	< 5	U	< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U		
Tetrachloroethene	µg/L	5	< 5	U	< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U		
Toluene	µg/L	1,000	< 5	U	< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U		
trans-1,2-Dichloroethene	µg/L	100	< 5	U	< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U		
trans-1,3-Dichloropropene	µg/L	29	< 10	U	< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U		
Trichloroethene	µg/L	5	< 5	U	< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U		
Trichlorofluoromethane	µg/L	31,000	< 5	U	< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U		
Vinyl chloride	µg/L	2	< 5	U	< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U		

Table 2-4
Groundwater Results 2013–2019

		Location Code	67WW09																			
		Sample ID	67WW10-060113		67WW09-060113		67WW09-130928		67WW09-092813		67WW09-140124		67WW09-012414		67WW09-140506		67WW09-140725		67WW09-072514		67WW09-141204	
		Sample Date	6/1/2013		6/3/2013		9/28/2013		9/28/2013		1/24/2014		1/24/2014		5/6/2014		7/25/2014		7/25/2014		12/4/2014	
		Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter	Units	MCL/GW-Ind	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
ANIONS																						
Chloride	mg/L	NV																				
Nitrate	mg/L	10																				
Nitrite	mg/L	1																				
Sulfate	mg/L	NV																				
Sulfide	mg/L	NV																				
TOTAL ORGANIC CARBON																						
Total Inorganic Carbon	mg/L	NV																				
Total organic carbon	mg/L	NV																				
DHC																						
BVC	cells/mL	NV																				
Dehalococcoides	cells/mL	NV																				
FIELD TESTS																						
Conductivity	µmhos/cm	NV	3.31				3.47		3.47		3.39		3.39		-99		3.42		3.42		3.55	
Dissolved oxygen	mg/L	NV	0.52				0.83		0.83		0.86		0.86		-	-	0.61		0.61		0	
Ferrous Iron	mg/L	NV																				
Oxidation-Reduction Potential	mV	NV	189				157		157		136		136		-	-	310		310		166	
pH	SU	NV	6.64				6.31		6.31		6.24		6.24		-	-	5.41		5.41		5.95	
Temperature	C	NV	27.95				22.22		22.22		16.27		16.27		-	-	26.09		26.09		20.48	
Turbidity	NTU	NV	4.5				1.7		1.7		0.9		0.9		-	-	4.4		4.4		1.8	
GENERAL CHEMISTRY																						
Alkalinity	mg/L	NV																				
Ferrous Iron	mg/L	NV																				
GASES																						
Carbon dioxide	µg/L	NV																				
Ethane	µg/L	NV																				
Ethylene	µg/L	NV																				
Methane	µg/L	NV																				
VOLATILES																						
1,1,1,2-Tetrachloroethane	µg/L	110	< 0.25	UJ	< 0.25	U			< 0.5	U			< 0.5	U					< 0.5	U		
1,1,1-Trichloroethane	µg/L	200	< 0.25	U	< 0.25	U			< 0.5	U			< 0.5	U					< 0.5	U		
1,1,2,2-Tetrachloroethane	µg/L	14	< 0.2	U	< 0.2	UJ			< 0.4	U			< 0.4	U					< 0.4	U		
1,1,2-Trichloro-1,2,2-Trifluoroethane	µg/L	3,100,000																				
1,1,2-Trichloroethane	µg/L	5	< 0.25	U	< 0.25	U			< 0.5	U			< 0.5	U					< 0.5	U		
1,1-Dichloroethane	µg/L	10,000	0.39	J	3.6				3.97				4.59						3.03			
1,1-Dichloroethene	µg/L	7	< 0.5	U	16.1				17.5				20.8						8.93			
1,1-Dichloropropene	µg/L	2.9	< 0.25	U	< 0.25	U			< 0.5	U			< 0.5	U					< 0.5	U		
1,2,3-Trichlorobenzene	µg/L	310	< 0.15	U	< 0.15	U			< 0.3	U			< 0.3	U					< 0.3	U		
1,2,3-Trichloropropane	µg/L	0.041	< 0.5	U	< 0.5	U			< 1	U			< 1	U					< 1	U		
1,2,4-Trichlorobenzene	µg/L	70	< 0.2	U	< 0.2	U			< 0.4	U			< 0.4	U					< 0.4	U		
1,2,4-Trimethylbenzene	µg/L	5,100	< 0.25	U	< 0.25	U			< 0.5	U			< 0.5	U					< 0.5	U		
1,2-Dibromo-3-chloropropane	µg/L	0.2	< 1	UJ	< 1	UJ			< 2	U			< 2	U					< 2	U		
1,2-Dibromoethane	µg/L	0.05	< 0.25	U	< 0.25	U			< 0.5	U			< 0.5	U					< 0.5	U		
1,2-Dichlorobenzene	µg/L	600	< 0.125	U	< 0.125	U			< 0.25	U			< 0.25	U					< 0.25	U		
1,2-Dichloroethane	µg/L	5	< 0.25	U	< 0.25	U			0.414	J			0.347	J					< 0.5	U		
1,2-Dichloropropane	µg/L	5	< 0.2	U	< 0.2	U			< 0.4	U			< 0.4	U					< 0.4	U		
1,3,5-Trimethylbenzene	µg/L	5,100	< 0.25	U	< 0.25	U			< 0.5	U			< 0.5	U					< 0.5	U		
1,3-Dichlorobenzene	µg/L	3,100	< 0.25	U	< 0.25	U			< 0.5	U			< 0.5	U					< 0.5	U		
1,3-Dichloropropane	µg/L	29	< 0.2	U	< 0.2	U			< 0.4	U			< 0.4	U					< 0.4	U		
1,4-Dichlorobenzene	µg/L	75	< 0.125	U	< 0.125	U			< 0.25	U			< 0.25	U					< 0.25	U		
2,2-Dichloropropane	µg/L	42	< 0.25	U	< 0.25	U			< 0.5	U			< 0.5	U					< 0.5	U		

Table 2-4
Groundwater Results 2013–2019

		Location Code	67WW09																	
		Sample ID	67WW10-060113		67WW09-060113		67WW09-130928		67WW09-092813		67WW09-140124		67WW09-012414		67WW09-140506		67WW09-140725		67WW09-072514		67WW09-141204	
		Sample Date	6/1/2013		6/3/2013		9/28/2013		9/28/2013		1/24/2014		1/24/2014		5/6/2014		7/25/2014		7/25/2014		12/4/2014	
		Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter	Units	MCL/GW-Ind	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
2-Butanone	µg/L	61,000	< 2.5	U	< 2.5	U			< 5	U			< 5	U					< 5	U		
2-Chlorotoluene	µg/L	2,000	< 0.125	U	< 0.125	U			< 0.25	U			< 0.25	U					< 0.25	U		
2-Hexanone	µg/L	6,100	< 2.5	U	< 2.5	U			< 5	U			< 5	U					< 5	U		
4-Chlorotoluene	µg/L	2,000	< 0.25	U	< 0.25	U			< 0.5	U			< 0.5	U					< 0.5	U		
Acetone	µg/L	92,000	< 2.5	U	< 2.5	U			< 5	U			< 5	U					< 5	U		
Benzene	µg/L	5	< 0.125	U	< 0.125	U			< 0.25	U			< 0.25	U					< 0.25	U		
Bromobenzene	µg/L	2,000	< 0.125	U	< 0.125	U			< 0.25	U			< 0.25	U					< 0.25	U		
Bromochloromethane	µg/L	4,100	< 0.2	U	< 0.2	U			< 0.4	U			< 0.4	U					< 0.4	U		
Bromodichloromethane	µg/L	4.6	< 0.25	U	< 0.25	U			< 0.5	U			< 0.5	U					< 0.5	U		
Bromoform	µg/L	36	< 0.5	U	< 0.5	U			< 1	U			< 1	U					< 1	U		
Bromomethane	µg/L	140	< 0.5	UJ	< 0.5	UJ			< 1	U			< 1	U					< 1	U		
Carbon disulfide	µg/L	10,000	< 0.5	U	< 0.5	U			< 1	U			< 1	U					< 1	U		
Carbon tetrachloride	µg/L	5	< 0.25	U	< 0.25	U			< 0.5	U			< 0.5	U					< 0.5	U		
Chlorobenzene	µg/L	100	< 0.125	U	< 0.125	U			< 0.25	U			< 0.25	U					< 0.25	U		
Chloroethane	µg/L	41,000	< 0.5	U	< 0.5	U			< 1	U			< 1	U					< 1	U		
Chloroform	µg/L	1,000	< 0.125	U	< 0.125	U			< 0.25	U			< 0.25	U					< 0.25	U		
Chloromethane	µg/L	220	< 0.5	U	< 0.5	UJ			< 1	U			< 1	U					< 1	U		
cis-1,2-Dichloroethene	µg/L	70	< 0.25	U	< 0.25	U			< 0.5	U			< 0.5	U					< 0.5	U		
cis-1,3-Dichloropropene	µg/L	5.3	< 0.25	U	< 0.25	U			< 0.5	U			< 0.5	U					< 0.5	U		
Dibromochloromethane	µg/L	34	< 0.25	U	< 0.25	U			< 0.5	U			< 0.5	U					< 0.5	U		
Dibromomethane	µg/L	380	< 0.25	U	< 0.25	U			< 0.5	U			< 0.5	U					< 0.5	U		
Dichlorodifluoromethane	µg/L	20,000	< 0.25	U	< 0.25	UJ			< 0.5	U			< 0.5	U					< 0.5	U		
Ethylbenzene	µg/L	700	< 0.25	U	< 0.25	U			< 0.5	U			< 0.5	U					< 0.5	U		
Hexachlorobutadiene	µg/L	20	< 0.25	U	< 0.25	U			< 0.5	U			< 0.5	U					< 0.5	U		
Isopropylbenzene	µg/L	10,000	< 0.25	U	< 0.25	U			< 0.5	U			< 0.5	U					< 0.5	U		
m,p-Xylenes	µg/L	10,000	< 0.5	U	< 0.5	U			< 1	U			< 1	U					< 1	U		
Methyl isobutyl ketone	µg/L	8,200	< 2.5	U	< 2.5	U			< 5	U			< 5	U					< 5	U		
Methylene chloride	µg/L	5	< 0.25	U	< 0.25	U			< 0.5	U			< 0.5	U					< 0.5	U		
Naphthalene	µg/L	2,000	< 0.2	U	< 0.2	U			< 0.4	U			< 0.4	U					< 0.4	U		
n-Butylbenzene	µg/L	4,100	< 0.25	U	< 0.25	U			< 0.5	U			< 0.5	U					< 0.5	U		
n-Propylbenzene	µg/L	4,100	< 0.125	U	< 0.125	U			< 0.25	U			< 0.25	U					< 0.25	U		
o-Xylene	µg/L	10,000	< 0.25	U	< 0.25	U			< 0.5	U			< 0.5	U					< 0.5	U		
p-Isopropyltoluene	µg/L	10,000	< 0.25	U	< 0.25	U			< 0.5	U			< 0.5	U					< 0.5	U		
sec-Butylbenzene	µg/L	4,100	< 0.25	U	< 0.25	U			< 0.5	U			< 0.5	U					< 0.5	U		
Styrene	µg/L	100	< 0.125	U	< 0.125	U			< 0.25	U			< 0.25	U					< 0.25	U		
tert-Butylbenzene	µg/L	4,100	< 0.25	U	< 0.25	U			< 0.5	U			< 0.5	U					< 0.5	U		
Tetrachloroethene	µg/L	5	< 0.25	U	< 0.25	U			< 0.5	U			< 0.5	U					< 0.5	U		
Toluene	µg/L	1,000	< 0.25	U	< 0.25	U			< 0.5	U			< 0.5	U					< 0.5	U		
trans-1,2-Dichloroethene	µg/L	100	< 0.25	U	< 0.25	U			< 0.5	U			< 0.5	U					< 0.5	U		
trans-1,3-Dichloropropene	µg/L	29	< 0.5	U	< 0.5	U			< 1	U			< 1	U					< 1	U		
Trichloroethene	µg/L	5	< 0.25	U	< 0.25	U			< 0.5	U			< 0.5	U					< 0.5	U		
Trichlorofluoromethane	µg/L	31,000	< 0.25	U	< 0.25	U			< 0.5	U			< 0.5	U					< 0.5	U		
Vinyl chloride	µg/L	2	< 0.25	U	< 0.25	U			< 0.5	U			0.472	J					< 0.5	U		

Table 2-4
Groundwater Results 2013–2019

		Location Code	67WW09																			
		Sample ID	67WW09-120414		67WW09-150211		67WW09FD-021115		67WW09-021115		67WW09-150519		67WW09-051915		67WW09-151118		67WW09FD-111815		67WW09-111815		67WW09-160518	
		Sample Date	12/4/2014		2/11/2015		2/11/2015		2/11/2015		5/19/2015		5/19/2015		11/18/2015		11/18/2015		11/18/2015		5/18/2016	
		Sample Purpose	REG		REG		FD		REG		REG		REG		REG		FD		REG		REG	
Parameter	Units	MCL/GW-Ind	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
ANIONS																						
Chloride	mg/L	NV																				
Nitrate	mg/L	10																				
Nitrite	mg/L	1																				
Sulfate	mg/L	NV																				
Sulfide	mg/L	NV																				
TOTAL ORGANIC CARBON																						
Total Inorganic Carbon	mg/L	NV																				
Total organic carbon	mg/L	NV																				
DHC																						
BVC	cells/mL	NV																				
Dehalococcoides	cells/mL	NV																				
FIELD TESTS																						
Conductivity	µmhos/cm	NV	3.55		3.29				3.29		3.35		3.35		3.98				3.98		3.95	
Dissolved oxygen	mg/L	NV	0		1.02				1.02		1.13		1.13		0				0		0.6	
Ferrous Iron	mg/L	NV																				
Oxidation-Reduction Potential	mV	NV	166		164				164		259		259		224				224		305	
pH	SU	NV	5.95		6.45				6.45		5.48		5.48		5.63				5.63		5.19	
Temperature	C	NV	20.48		18.13				18.13		18.88		18.88		19.88				19.88		18.25	
Turbidity	NTU	NV	1.8		3.4				3.4		12.5		12.5		0				0		0.8	
GENERAL CHEMISTRY																						
Alkalinity	mg/L	NV																				
Ferrous Iron	mg/L	NV																				
GASES																						
Carbon dioxide	µg/L	NV																				
Ethane	µg/L	NV																				
Ethylene	µg/L	NV																				
Methane	µg/L	NV																				
VOLATILES																						
1,1,1,2-Tetrachloroethane	µg/L	110	< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U			< 0.5	U	< 0.5	U		
1,1,1-Trichloroethane	µg/L	200	< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U			< 0.5	U	< 0.5	U		
1,1,2,2-Tetrachloroethane	µg/L	14	< 0.4	U			< 0.4	U	< 0.4	U			< 0.4	U			< 0.4	U	< 0.4	U		
1,1,2-Trichloro-1,2,2-Trifluoroethane	µg/L	3,100,000																				
1,1,2-Trichloroethane	µg/L	5	< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U			< 0.5	U	< 0.5	U		
1,1-Dichloroethane	µg/L	10,000	3.93				2.92		2.93				1.56				1.08		1.08			
1,1-Dichloroethene	µg/L	7	11.6				8.29		8.17				2.71				1.62	J	1.66	J		
1,1-Dichloropropene	µg/L	2.9	< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U			< 0.5	U	< 0.5	U		
1,2,3-Trichlorobenzene	µg/L	310	< 0.3	U			< 0.3	U	< 0.3	U			< 0.3	U			< 0.3	U	< 0.3	U		
1,2,3-Trichloropropane	µg/L	0.041	< 1	U			< 1	U	< 1	U			< 1	U			< 1	U	< 1	U		
1,2,4-Trichlorobenzene	µg/L	70	< 0.4	U			< 0.4	U	< 0.4	U			< 0.4	U			< 0.4	U	< 0.4	U		
1,2,4-Trimethylbenzene	µg/L	5,100	< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U			< 0.5	U	< 0.5	U		
1,2-Dibromo-3-chloropropane	µg/L	0.2	< 2	U			< 2	U	< 2	U			< 2	U			< 2	U	< 2	U		
1,2-Dibromoethane	µg/L	0.05	< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U			< 0.5	U	< 0.5	U		
1,2-Dichlorobenzene	µg/L	600	< 0.25	U			< 0.25	U	< 0.25	U			< 0.25	U			< 0.25	U	< 0.25	U		
1,2-Dichloroethane	µg/L	5	< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U			< 0.5	U	< 0.5	U		
1,2-Dichloropropane	µg/L	5	< 0.4	U			< 0.4	U	< 0.4	U			< 0.4	U			< 0.4	U	< 0.4	U		
1,3,5-Trimethylbenzene	µg/L	5,100	< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U			< 0.5	U	< 0.5	U		
1,3-Dichlorobenzene	µg/L	3,100	< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U			< 0.5	U	< 0.5	U		
1,3-Dichloropropane	µg/L	29	< 0.4	U			< 0.4	U	< 0.4	U			< 0.4	U			< 0.4	U	< 0.4	U		
1,4-Dichlorobenzene	µg/L	75	< 0.25	U			< 0.25	U	< 0.25	U			< 0.25	U			< 0.25	U	< 0.25	U		
2,2-Dichloropropane	µg/L	42	< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U			< 0.5	U	< 0.5	U		

Table 2-4
Groundwater Results 2013–2019

		Location Code	67WW09																			
		Sample ID	67WW09-120414		67WW09-150211		67WW09FD-021115		67WW09-021115		67WW09-150519		67WW09-051915		67WW09-151118		67WW09FD-111815		67WW09-111815		67WW09-160518	
		Sample Date	12/4/2014		2/11/2015		2/11/2015		2/11/2015		5/19/2015		5/19/2015		11/18/2015		11/18/2015		11/18/2015		5/18/2016	
		Sample Purpose	REG		REG		FD		REG		REG		REG		REG		FD		REG		REG	
Parameter	Units	MCL/GW-Ind	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
2-Butanone	µg/L	61,000	< 5	U			< 5	U	< 5	U			< 5	U			< 5	U	< 5	U		
2-Chlorotoluene	µg/L	2,000	< 0.25	U			< 0.25	U	< 0.25	U			< 0.25	U			< 0.25	U	< 0.25	U		
2-Hexanone	µg/L	6,100	< 5	U			< 5	U	< 5	U			< 5	U			< 5	U	< 5	U		
4-Chlorotoluene	µg/L	2,000	< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U			< 0.5	U	< 0.5	U		
Acetone	µg/L	92,000	< 5	U			< 5	U	< 5	U			< 5	U			< 5	U	< 5	U		
Benzene	µg/L	5	< 0.25	U			< 0.25	U	< 0.25	U			< 0.25	U			< 0.25	U	< 0.25	U		
Bromobenzene	µg/L	2,000	< 0.25	U			< 0.25	U	< 0.25	U			< 0.25	U			< 0.25	U	< 0.25	U		
Bromochloromethane	µg/L	4,100	< 0.4	U			< 0.4	U	< 0.4	U			< 0.4	U			< 0.4	U	< 0.4	U		
Bromodichloromethane	µg/L	4.6	< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U			< 0.5	U	< 0.5	U		
Bromoform	µg/L	36	< 1	U			< 1	U	< 1	U			< 1	U			< 1	U	< 1	U		
Bromomethane	µg/L	140	< 1	U			< 1	U	< 1	U			< 1	U			< 1	U	< 1	U		
Carbon disulfide	µg/L	10,000	< 1	U			< 1	U	< 1	U			< 1	U			< 1	U	< 1	U		
Carbon tetrachloride	µg/L	5	< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U			< 0.5	U	< 0.5	U		
Chlorobenzene	µg/L	100	< 0.25	U			< 0.25	U	< 0.25	U			< 0.25	U			< 0.25	U	< 0.25	U		
Chloroethane	µg/L	41,000	< 1	U			< 1	U	< 1	U			< 1	U			< 1	U	< 1	U		
Chloroform	µg/L	1,000	< 0.25	U			< 0.25	U	< 0.25	U			< 0.25	U			< 0.25	U	< 0.25	U		
Chloromethane	µg/L	220	< 1	U			< 1	U	< 1	U			< 1	U			< 1	U	< 1	U		
cis-1,2-Dichloroethene	µg/L	70	< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U			< 0.5	U	< 0.5	U		
cis-1,3-Dichloropropene	µg/L	5.3	< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U			< 0.5	U	< 0.5	U		
Dibromochloromethane	µg/L	34	< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U			< 0.5	U	< 0.5	U		
Dibromomethane	µg/L	380	< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U			< 0.5	U	< 0.5	U		
Dichlorodifluoromethane	µg/L	20,000	< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U			< 0.5	U	< 0.5	U		
Ethylbenzene	µg/L	700	< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U			< 0.5	U	< 0.5	U		
Hexachlorobutadiene	µg/L	20	< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U			< 0.5	U	< 0.5	U		
Isopropylbenzene	µg/L	10,000	< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U			< 0.5	U	< 0.5	U		
m,p-Xylenes	µg/L	10,000	< 1	U			< 1	U	< 1	U			< 1	U			< 1	U	< 1	U		
Methyl isobutyl ketone	µg/L	8,200	< 5	U			< 5	U	< 5	U			< 5	U			< 5	U	< 5	U		
Methylene chloride	µg/L	5	< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U			< 0.5	U	< 0.5	U		
Naphthalene	µg/L	2,000	< 0.4	U			< 0.4	U	< 0.4	U			< 0.4	U			< 0.4	U	< 0.4	U		
n-Butylbenzene	µg/L	4,100	< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U			< 0.5	U	< 0.5	U		
n-Propylbenzene	µg/L	4,100	< 0.25	U			< 0.25	U	< 0.25	U			< 0.25	U			< 0.25	U	< 0.25	U		
o-Xylene	µg/L	10,000	< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U			< 0.5	U	< 0.5	U		
p-Isopropyltoluene	µg/L	10,000	< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U			< 0.5	U	< 0.5	U		
sec-Butylbenzene	µg/L	4,100	< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U			< 0.5	U	< 0.5	U		
Styrene	µg/L	100	< 0.25	U			< 0.25	U	< 0.25	U			< 0.25	U			< 0.25	U	< 0.25	U		
tert-Butylbenzene	µg/L	4,100	< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U			< 0.5	U	< 0.5	U		
Tetrachloroethene	µg/L	5	< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U			< 0.5	U	< 0.5	U		
Toluene	µg/L	1,000	< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U			< 0.5	U	< 0.5	U		
trans-1,2-Dichloroethene	µg/L	100	< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U			< 0.5	U	< 0.5	U		
trans-1,3-Dichloropropene	µg/L	29	< 1	U			< 1	U	< 1	U			< 1	U			< 1	U	< 1	U		
Trichloroethene	µg/L	5	< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U			< 0.5	U	< 0.5	U		
Trichlorofluoromethane	µg/L	31,000	< 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		

Table 2-4
Groundwater Results 2013–2019

		Location Code	67WW09														67WW09A					
		Sample ID	67WW09-051816		67WW09FD-051816		67WW09-112717		67WW09-180502		67WW09-181023		67WW09-190503		67WW09-191024		67WW09A-130927		67WW09A-092713		67WW09A-092713-FD	
		Sample Date	5/18/2016		5/18/2016		11/27/2017		5/2/2018		10/23/2018		5/3/2019		10/24/2019		9/27/2013		9/27/2013		9/27/2013	
		Sample Purpose	REG		FD		REG		REG		REG		REG		REG		REG		REG		FD	
Parameter	Units	MCL/GW-Ind	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
ANIONS																						
Chloride	mg/L	NV																				
Nitrate	mg/L	10																				
Nitrite	mg/L	1																				
Sulfate	mg/L	NV																				
Sulfide	mg/L	NV																				
TOTAL ORGANIC CARBON																						
Total Inorganic Carbon	mg/L	NV																				
Total organic carbon	mg/L	NV																				
DHC																						
BVC	cells/mL	NV																				
Dehalococcoides	cells/mL	NV																				
FIELD TESTS																						
Conductivity	µmhos/cm	NV	3.95				3.65		3.48		3.35		3.49		3.22		2.45		2.45			
Dissolved oxygen	mg/L	NV	0.6				0.09		0		0.1		0.13		0.09		1.19		1.19			
Ferrous Iron	mg/L	NV																				
Oxidation-Reduction Potential	mV	NV	305				325		414		203		250		194		182		182			
pH	SU	NV	5.19				5.27		6.10		6.23		5.36		6.05		5.62		5.62			
Temperature	C	NV	18.25				19.97		19.16		18.75		20.04		21.04		28.67		28.67			
Turbidity	NTU	NV	0.8				31.4		4.7		0		0		0		21.5		21.5			
GENERAL CHEMISTRY																						
Alkalinity	mg/L	NV																				
Ferrous Iron	mg/L	NV																				
GASES																						
Carbon dioxide	µg/L	NV																				
Ethane	µg/L	NV																				
Ethylene	µg/L	NV																				
Methane	µg/L	NV																				
VOLATILES																						
1,1,1,2-Tetrachloroethane	µg/L	110	< 0.5	U	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U
1,1,1-Trichloroethane	µg/L	200	< 0.5	U	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U
1,1,2,2-Tetrachloroethane	µg/L	14	< 0.4	U	< 0.4	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.4	U	< 0.4	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	µg/L	3,100,000					< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U						
1,1,2-Trichloroethane	µg/L	5	< 0.5	U	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U
1,1-Dichloroethane	µg/L	10,000	0.477	J	0.487	J	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.25	U	< 0.25	U
1,1-Dichloroethene	µg/L	7	< 1	U	< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 1	U	< 1	U
1,1-Dichloropropene	µg/L	2.9	< 0.5	U	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U
1,2,3-Trichlorobenzene	µg/L	310	< 0.3	U	< 0.3	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	UJ			< 0.3	U	< 0.3	U
1,2,3-Trichloropropane	µg/L	0.041	< 1	U	< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 1	U	< 1	U
1,2,4-Trichlorobenzene	µg/L	70	< 0.4	U	< 0.4	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.4	U	< 0.4	U
1,2,4-Trimethylbenzene	µg/L	5,100	< 0.5	U	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U
1,2-Dibromo-3-chloropropane	µg/L	0.2	< 2	U	< 2	U	< 1	U	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U			< 2	U	< 2	U
1,2-Dibromoethane	µg/L	0.05	< 0.5	U	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U
1,2-Dichlorobenzene	µg/L	600	< 0.25	U	< 0.25	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.25	U	< 0.25	U
1,2-Dichloroethane	µg/L	5	< 0.5	U	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U
1,2-Dichloropropane	µg/L	5	< 0.4	U	< 0.4	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.4	U	< 0.4	U
1,3,5-Trimethylbenzene	µg/L	5,100	< 0.5	U	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U
1,3-Dichlorobenzene	µg/L	3,100	< 0.5	U	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U
1,3-Dichloropropane	µg/L	29	< 0.4	U	< 0.4	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.4	U	< 0.4	U
1,4-Dichlorobenzene	µg/L	75	< 0.25	U	< 0.25	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.25	U	< 0.25	U
2,2-Dichloropropane	µg/L	42	< 0.5	U	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U

Table 2-4
Groundwater Results 2013–2019

		Location Code	67WW09														67WW09A					
		Sample ID	67WW09-051816		67WW09FD-051816		67WW09-112717		67WW09-180502		67WW09-181023		67WW09-190503		67WW09-191024		67WW09A-130927		67WW09A-092713		67WW09A-092713-FD	
		Sample Date	5/18/2016		5/18/2016		11/27/2017		5/2/2018		10/23/2018		5/3/2019		10/24/2019		9/27/2013		9/27/2013		9/27/2013	
		Sample Purpose	REG		FD		REG		REG		REG		REG		REG		REG		REG		FD	
Parameter	Units	MCL/GW-Ind	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
2-Butanone	µg/L	61,000	< 5	U	< 5	U	< 2	U	< 1	U	< 1	U	< 1	U	< 1	U			< 5	U	< 5	U
2-Chlorotoluene	µg/L	2,000	< 0.25	U	< 0.25	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.25	U	< 0.25	U
2-Hexanone	µg/L	6,100	< 5	U	< 5	U	< 2	U	< 1	U	< 1	U	< 1	U	< 1	U			< 5	U	< 5	U
4-Chlorotoluene	µg/L	2,000	< 0.5	U	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U
Acetone	µg/L	92,000	< 5	U	< 5	U	< 2	U	< 1	U	< 2	U	< 3.2	U	< 1	U			< 5	U	< 5	U
Benzene	µg/L	5	< 0.25	U	< 0.25	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.25	U	< 0.25	U
Bromobenzene	µg/L	2,000	< 0.25	U	< 0.25	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.25	U	< 0.25	U
Bromochloromethane	µg/L	4,100	< 0.4	U	< 0.4	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.4	U	< 0.4	U
Bromodichloromethane	µg/L	4.6	< 0.5	U	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U
Bromoform	µg/L	36	< 1	U	< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 1	U	< 1	U
Bromomethane	µg/L	140	< 1	U	< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 1	U	< 1	U
Carbon disulfide	µg/L	10,000	< 1	U	< 1	U	< 2	U	< 1	U	< 1	U	< 1	U	< 1	U			< 1	U	< 1	U
Carbon tetrachloride	µg/L	5	< 0.5	U	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U
Chlorobenzene	µg/L	100	< 0.25	U	< 0.25	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.25	U	< 0.25	U
Chloroethane	µg/L	41,000	< 1	U	< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 1	U	< 1	U
Chloroform	µg/L	1,000	< 0.25	U	< 0.25	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.25	U	< 0.25	U
Chloromethane	µg/L	220	< 1	U	< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 1	U	< 1	U
cis-1,2-Dichloroethene	µg/L	70	< 0.5	U	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U
cis-1,3-Dichloropropene	µg/L	5.3	< 0.5	U	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U
Dibromochloromethane	µg/L	34	< 0.5	U	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U
Dibromomethane	µg/L	380	< 0.5	U	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U
Dichlorodifluoromethane	µg/L	20,000	< 0.5	U	< 0.5	U	< 1	U	< 0.5	U	< 0.5	UJ	< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U
Ethylbenzene	µg/L	700	< 0.5	U	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U
Hexachlorobutadiene	µg/L	20	< 0.5	U	< 0.5	U	< 1	U	< 0.5	U	< 1	U	< 1	U	< 0.5	U			< 0.5	U	< 0.5	U
Isopropylbenzene	µg/L	10,000	< 0.5	U	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U
m,p-Xylenes	µg/L	10,000	< 1	U	< 1	U	< 2	U	< 1	U	< 1	U	< 1	U	< 1	U			< 1	U	< 1	U
Methyl isobutyl ketone	µg/L	8,200	< 5	U	< 5	U	< 2	U	< 1	U	< 1	U	< 1	U	< 1	U			< 5	U	< 5	U
Methylene chloride	µg/L	5	< 0.5	U	< 0.5	U	< 2	U	< 1	U	< 1	U	< 1	U	< 1	U			< 0.5	U	< 0.5	U
Naphthalene	µg/L	2,000	< 0.4	U	< 0.4	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	UJ			< 0.4	U	< 0.4	U
n-Butylbenzene	µg/L	4,100	< 0.5	U	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U
n-Propylbenzene	µg/L	4,100	< 0.25	U	< 0.25	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.25	U	< 0.25	U
o-Xylene	µg/L	10,000	< 0.5	U	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U
p-Isopropyltoluene	µg/L	10,000	< 0.5	U	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U
sec-Butylbenzene	µg/L	4,100	< 0.5	U	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U
Styrene	µg/L	100	< 0.25	U	< 0.25	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.25	U	< 0.25	U
tert-Butylbenzene	µg/L	4,100	< 0.5	U	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U
Tetrachloroethene	µg/L	5	< 0.5	U	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U
Toluene	µg/L	1,000	< 0.5	U	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U
trans-1,2-Dichloroethene	µg/L	100	< 0.5	U	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U
trans-1,3-Dichloropropene	µg/L	29	< 1	U	< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 1	U	< 1	U
Trichloroethene	µg/L	5	< 0.5	U	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U
Trichlorofluoromethane	µg/L	31,000	< 0.5	U	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U
Vinyl chloride	µg/L	2	< 0.5	U	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U

Table 2-4
Groundwater Results 2013–2019

	Location Code	67WW09A																			
	Sample ID	67WW09A-140123		67WW09A-012314		67WW09A-140506		67WW09A-050614		67WW09A-140724		67WW09AFD-072414		67WW09A-072414		67WW09A-141203		67WW09A-120314		67WW09AFD-120314	
	Sample Date	1/23/2014		1/23/2014		5/6/2014		5/6/2014		7/24/2014		7/24/2014		7/24/2014		12/3/2014		12/3/2014		12/3/2014	
	Sample Purpose	REG		REG		REG		REG		REG		FD		REG		REG		REG		FD	
Parameter	Units	MCL/GW-Ind	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
ANIONS																						
Chloride	mg/L	NV																				
Nitrate	mg/L	10																				
Nitrite	mg/L	1																				
Sulfate	mg/L	NV																				
Sulfide	mg/L	NV																				
TOTAL ORGANIC CARBON																						
Total Inorganic Carbon	mg/L	NV																				
Total organic carbon	mg/L	NV																				
DHC																						
BVC	cells/mL	NV																				
Dehalococcoides	cells/mL	NV																				
FIELD TESTS																						
Conductivity	µmhos/cm	NV	2.49		2.49		2.53		2.53		2.36				2.36		2.31		2.31			
Dissolved oxygen	mg/L	NV	0.59		0.59		0.46		0.46		0.12				0.12		0		0			
Ferrous Iron	mg/L	NV																				
Oxidation-Reduction Potential	mV	NV	18		18		20		20		26				26		30		30			
pH	SU	NV	6.73		6.73		5.55		5.55		6.89				6.89		6.5		6.5			
Temperature	C	NV	15.63		15.63		19.01		19.01		24.26				24.26		18.75		18.75			
Turbidity	NTU	NV	32.1		32.1		20.7		20.7		5.8				5.8		4.3		4.3			
GENERAL CHEMISTRY																						
Alkalinity	mg/L	NV																				
Ferrous Iron	mg/L	NV																				
GASES																						
Carbon dioxide	µg/L	NV																				
Ethane	µg/L	NV																				
Ethylene	µg/L	NV																				
Methane	µg/L	NV																				
VOLATILES																						
1,1,1,2-Tetrachloroethane	µg/L	110			< 0.5	U			< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U
1,1,1-Trichloroethane	µg/L	200			< 0.5	U			< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U
1,1,2,2-Tetrachloroethane	µg/L	14			< 0.4	U			< 0.4	U			< 0.4	U	< 0.4	U			< 0.4	U	< 0.4	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	µg/L	3,100,000																				
1,1,2-Trichloroethane	µg/L	5			< 0.5	U			< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U
1,1-Dichloroethane	µg/L	10,000			< 0.25	U			< 0.25	U			< 0.25	U	< 0.25	U			< 0.25	U	< 0.25	U
1,1-Dichloroethene	µg/L	7			< 1	U			< 1	U			< 1	U	< 1	U			< 1	U	< 1	U
1,1-Dichloropropene	µg/L	2.9			< 0.5	U			< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U
1,2,3-Trichlorobenzene	µg/L	310			< 0.3	U			< 0.3	U			< 0.3	U	< 0.3	U			< 0.3	U	< 0.3	U
1,2,3-Trichloropropane	µg/L	0.041			< 1	U			< 1	U			< 1	U	< 1	U			< 1	U	< 1	U
1,2,4-Trichlorobenzene	µg/L	70			< 0.4	U			< 0.4	U			< 0.4	U	< 0.4	U			< 0.4	U	< 0.4	U
1,2,4-Trimethylbenzene	µg/L	5,100			< 0.5	U			< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U
1,2-Dibromo-3-chloropropane	µg/L	0.2			< 2	UJ			< 2	U			< 2	U	< 2	U			< 2	U	< 2	U
1,2-Dibromoethane	µg/L	0.05			< 0.5	U			< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U
1,2-Dichlorobenzene	µg/L	600			< 0.25	U			< 0.25	U			< 0.25	U	< 0.25	U			< 0.25	U	< 0.25	U
1,2-Dichloroethane	µg/L	5			< 0.5	U			< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U
1,2-Dichloropropane	µg/L	5			< 0.4	U			< 0.4	U			< 0.4	U	< 0.4	U			< 0.4	U	< 0.4	U
1,3,5-Trimethylbenzene	µg/L	5,100			< 0.5	U			< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U
1,3-Dichlorobenzene	µg/L	3,100			< 0.5	U			< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U
1,3-Dichloropropane	µg/L	29			< 0.4	U			< 0.4	U			< 0.4	U	< 0.4	U			< 0.4	U	< 0.4	U
1,4-Dichlorobenzene	µg/L	75			< 0.25	U			< 0.25	U			< 0.25	U	< 0.25	U			< 0.25	U	< 0.25	U
2,2-Dichloropropane	µg/L	42			< 0.5	U			< 0.5	UJ			< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U

Table 2-4
Groundwater Results 2013–2019

		Location Code	67WW09A																	
		Sample ID	67WW09A-140123		67WW09A-012314		67WW09A-140506		67WW09A-050614		67WW09A-140724		67WW09AFD-072414		67WW09A-072414		67WW09A-141203		67WW09A-120314		67WW09AFD-120314	
		Sample Date	1/23/2014		1/23/2014		5/6/2014		5/6/2014		7/24/2014		7/24/2014		7/24/2014		12/3/2014		12/3/2014		12/3/2014	
		Sample Purpose	REG		REG		REG		REG		REG		FD		REG		REG		REG		FD	
Parameter	Units	MCL/GW-Ind	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
2-Butanone	µg/L	61,000			< 5	U			< 5	U			< 5	U	< 5	U			< 5	U	< 5	U
2-Chlorotoluene	µg/L	2,000			< 0.25	U			< 0.25	U			< 0.25	U	< 0.25	U			< 0.25	U	< 0.25	U
2-Hexanone	µg/L	6,100			< 5	U			< 5	U			< 5	U	< 5	U			< 5	U	< 5	U
4-Chlorotoluene	µg/L	2,000			< 0.5	U			< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U
Acetone	µg/L	92,000			< 5	U			< 5	U			< 5	U	< 5	U			< 5	U	< 5	U
Benzene	µg/L	5			< 0.25	U			< 0.25	U			< 0.25	U	< 0.25	U			< 0.25	U	< 0.25	U
Bromobenzene	µg/L	2,000			< 0.25	U			< 0.25	U			< 0.25	U	< 0.25	U			< 0.25	U	< 0.25	U
Bromochloromethane	µg/L	4,100			< 0.4	U			< 0.4	U			< 0.4	U	< 0.4	U			< 0.4	U	< 0.4	U
Bromodichloromethane	µg/L	4.6			< 0.5	U			< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U
Bromoform	µg/L	36			< 1	U			< 1	U			< 1	U	< 1	U			< 1	U	< 1	U
Bromomethane	µg/L	140			< 1	U			< 1	U			< 1	U	< 1	U			< 1	U	< 1	U
Carbon disulfide	µg/L	10,000			< 1	U			< 1	U			< 1	U	< 1	U			< 1	U	< 1	U
Carbon tetrachloride	µg/L	5			< 0.5	U			< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U
Chlorobenzene	µg/L	100			< 0.25	U			< 0.25	U			< 0.25	U	< 0.25	U			< 0.25	U	< 0.25	U
Chloroethane	µg/L	41,000			< 1	U			< 1	U			< 1	U	< 1	U			< 1	U	< 1	U
Chloroform	µg/L	1,000			< 0.25	U			< 0.25	U			< 0.25	U	< 0.25	U			< 0.25	U	< 0.25	U
Chloromethane	µg/L	220			< 1	U			< 1	U			< 1	U	< 1	U			< 1	U	< 1	U
cis-1,2-Dichloroethene	µg/L	70			< 0.5	U			< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U
cis-1,3-Dichloropropene	µg/L	5.3			< 0.5	U			< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U
Dibromochloromethane	µg/L	34			< 0.5	U			< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U
Dibromomethane	µg/L	380			< 0.5	U			< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U
Dichlorodifluoromethane	µg/L	20,000			< 0.5	U			< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U
Ethylbenzene	µg/L	700			< 0.5	U			< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U
Hexachlorobutadiene	µg/L	20			< 0.5	U			< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U
Isopropylbenzene	µg/L	10,000			< 0.5	U			< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U
m,p-Xylenes	µg/L	10,000			< 1	U			< 1	U			< 1	U	< 1	U			< 1	U	< 1	U
Methyl isobutyl ketone	µg/L	8,200			< 5	U			< 5	U			< 5	U	< 5	U			< 5	U	< 5	U
Methylene chloride	µg/L	5			< 0.5	U			< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U
Naphthalene	µg/L	2,000			< 0.4	U			< 0.4	U			< 0.4	U	< 0.4	U			< 0.4	U	< 0.4	U
n-Butylbenzene	µg/L	4,100			< 0.5	U			< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U
n-Propylbenzene	µg/L	4,100			< 0.25	U			< 0.25	U			< 0.25	U	< 0.25	U			< 0.25	U	< 0.25	U
o-Xylene	µg/L	10,000			< 0.5	U			< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U
p-Isopropyltoluene	µg/L	10,000			< 0.5	U			< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U
sec-Butylbenzene	µg/L	4,100			< 0.5	U			< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U
Styrene	µg/L	100			< 0.25	U			< 0.25	U			< 0.25	U	< 0.25	U			< 0.25	U	< 0.25	U
tert-Butylbenzene	µg/L	4,100			< 0.5	U			< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U
Tetrachloroethene	µg/L	5			< 0.5	U			< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U
Toluene	µg/L	1,000			< 0.5	U			< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U
trans-1,2-Dichloroethene	µg/L	100			< 0.5	U			< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U
trans-1,3-Dichloropropene	µg/L	29			< 1	U			< 1	U			< 1	U	< 1	U			< 1	U	< 1	U
Trichloroethene	µg/L	5			< 0.5	U			< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U
Trichlorofluoromethane	µg/L	31,000			< 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

Table 2-4
Groundwater Results 2013–2019

		Location Code	67WW09A																	
		Sample ID	67WW09A-150210		67WW09A-021015		67WW09A-150512		67WW09A-051215		67WW09A-151118		67WW09A-111815		67WW09A-160518		67WW09A-051816		67WW09A-112917		67WW09A-180503	
		Sample Date	2/10/2015		2/10/2015		5/12/2015		5/12/2015		11/18/2015		11/18/2015		5/18/2016		5/18/2016		11/29/2017		5/3/2018	
		Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter	Units	MCL/GW-Ind	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
ANIONS																						
Chloride	mg/L	NV																				
Nitrate	mg/L	10																				
Nitrite	mg/L	1																				
Sulfate	mg/L	NV																				
Sulfide	mg/L	NV																				
TOTAL ORGANIC CARBON																						
Total Inorganic Carbon	mg/L	NV																				
Total organic carbon	mg/L	NV																				
DHC																						
BVC	cells/mL	NV																				
Dehalococcoides	cells/mL	NV																				
FIELD TESTS																						
Conductivity	µmhos/cm	NV	2.25		2.25		2.02		2.02		2.35		2.35		2.48		2.48		2.87		1088	
Dissolved oxygen	mg/L	NV	0		0		0.47		0.47		0		0		0.42		0.42		0.16		0	
Ferrous Iron	mg/L	NV																				
Oxidation-Reduction Potential	mV	NV	-12		-12		112		112		127		127		137		137		128		240	
pH	SU	NV	7.13		7.13		5.67		5.67		5.81		5.81		5.64		5.64		5.94		5.72	
Temperature	C	NV	17.83		17.83		18.84		18.84		18.3		18.3		18.55		18.55		19.55		20.30	
Turbidity	NTU	NV	20.8		20.8		31.3		31.3		12		12		0		0		0		12.3	
GENERAL CHEMISTRY																						
Alkalinity	mg/L	NV																				
Ferrous Iron	mg/L	NV																				
GASES																						
Carbon dioxide	µg/L	NV																				
Ethane	µg/L	NV																				
Ethylene	µg/L	NV																				
Methane	µg/L	NV																				
VOLATILES																						
1,1,1,2-Tetrachloroethane	µg/L	110			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U	< 1	U	< 0.5	U
1,1,1-Trichloroethane	µg/L	200			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U	< 1	U	< 0.5	U
1,1,2,2-Tetrachloroethane	µg/L	14			< 0.4	U			< 0.4	U			< 0.4	U			< 0.4	U	< 1	U	< 0.5	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	µg/L	3,100,000																	< 1	U	< 0.5	U
1,1,2-Trichloroethane	µg/L	5			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U	< 1	U	< 0.5	U
1,1-Dichloroethane	µg/L	10,000			< 0.25	U			< 0.25	U			< 0.25	U			< 0.25	U	< 1	U	< 0.5	U
1,1-Dichloroethene	µg/L	7			< 1	U			< 1	U			< 1	U			< 1	U	< 1	U	< 0.5	U
1,1-Dichloropropene	µg/L	2.9			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U	< 1	U	< 0.5	U
1,2,3-Trichlorobenzene	µg/L	310			< 0.3	U			< 0.3	U			< 0.3	U			< 0.3	U	< 1	U	< 0.5	U
1,2,3-Trichloropropane	µg/L	0.041			< 1	U			< 1	U			< 1	U			< 1	U	< 1	U	< 0.5	U
1,2,4-Trichlorobenzene	µg/L	70			< 0.4	U			< 0.4	U			< 0.4	U			< 0.4	U	< 1	U	< 0.5	U
1,2,4-Trimethylbenzene	µg/L	5,100			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U	< 1	U	< 0.5	U
1,2-Dibromo-3-chloropropane	µg/L	0.2			< 2	U			< 2	U			< 2	U			< 2	U	< 1	U	< 0.5	U
1,2-Dibromoethane	µg/L	0.05			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U	< 1	U	< 0.5	U
1,2-Dichlorobenzene	µg/L	600			< 0.25	U			< 0.25	U			< 0.25	U			< 0.25	U	< 1	U	< 0.5	U
1,2-Dichloroethane	µg/L	5			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U	< 1	U	< 0.5	U
1,2-Dichloropropane	µg/L	5			< 0.4	U			< 0.4	U			< 0.4	U			< 0.4	U	< 1	U	< 0.5	U
1,3,5-Trimethylbenzene	µg/L	5,100			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U	< 1	U	< 0.5	U
1,3-Dichlorobenzene	µg/L	3,100			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U	< 1	U	< 0.5	U
1,3-Dichloropropane	µg/L	29			< 0.4	U			< 0.4	U			< 0.4	U			< 0.4	U	< 1	U	< 0.5	U
1,4-Dichlorobenzene	µg/L	75			< 0.25	U			< 0.25	U			< 0.25	U			< 0.25	U	< 1	U	< 0.5	U
2,2-Dichloropropane	µg/L	42			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U	< 1	U	< 0.5	U

Table 2-4
Groundwater Results 2013–2019

		Location Code	67WW09A																	
		Sample ID	67WW09A-150210		67WW09A-021015		67WW09A-150512		67WW09A-051215		67WW09A-151118		67WW09A-111815		67WW09A-160518		67WW09A-051816		67WW09A-112917		67WW09A-180503	
		Sample Date	2/10/2015		2/10/2015		5/12/2015		5/12/2015		11/18/2015		11/18/2015		5/18/2016		5/18/2016		11/29/2017		5/3/2018	
		Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter	Units	MCL/GW-Ind	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
2-Butanone	µg/L	61,000			< 5	U			< 5	U			< 5	U			< 5	U	< 2	U	< 1	U
2-Chlorotoluene	µg/L	2,000			< 0.25	U			< 0.25	U			< 0.25	U			< 0.25	U	< 1	U	< 0.5	U
2-Hexanone	µg/L	6,100			< 5	U			< 5	U			< 5	U			< 5	U	< 2	U	< 1	U
4-Chlorotoluene	µg/L	2,000			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U	< 1	U	< 0.5	U
Acetone	µg/L	92,000			< 5	U			< 5	U			< 5	U			< 5	U	< 2	U	< 1	U
Benzene	µg/L	5			< 0.25	U			< 0.25	U			< 0.25	U			< 0.25	U	< 1	U	< 0.5	U
Bromobenzene	µg/L	2,000			< 0.25	U			< 0.25	U			< 0.25	U			< 0.25	U	< 1	U	< 0.5	U
Bromochloromethane	µg/L	4,100			< 0.4	U			< 0.4	U			< 0.4	U			< 0.4	U	< 1	U	< 0.5	U
Bromodichloromethane	µg/L	4.6			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U	< 1	U	< 0.5	U
Bromoform	µg/L	36			< 1	U			< 1	U			< 1	U			< 1	U	< 1	U	< 0.5	U
Bromomethane	µg/L	140			< 1	UJ			< 1	U			< 1	U			< 1	UJ	< 1	U	< 0.5	U
Carbon disulfide	µg/L	10,000			< 1	U			< 1	U			< 1	U			< 1	U	< 2	U	< 1	U
Carbon tetrachloride	µg/L	5			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U	< 1	U	< 0.5	U
Chlorobenzene	µg/L	100			< 0.25	U			< 0.25	U			< 0.25	U			< 0.25	U	< 1	U	< 0.5	U
Chloroethane	µg/L	41,000			< 1	U			< 1	U			< 1	U			< 1	U	< 1	U	< 0.5	U
Chloroform	µg/L	1,000			< 0.25	U			< 0.25	U			< 0.25	U			< 0.25	U	< 1	U	< 0.5	U
Chloromethane	µg/L	220			< 1	U			< 1	U			< 1	U			< 1	U	< 1	U	< 0.5	U
cis-1,2-Dichloroethene	µg/L	70			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U	< 1	U	< 0.5	U
cis-1,3-Dichloropropene	µg/L	5.3			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U	< 1	U	< 0.5	U
Dibromochloromethane	µg/L	34			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U	< 1	U	< 0.5	U
Dibromomethane	µg/L	380			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U	< 1	U	< 0.5	U
Dichlorodifluoromethane	µg/L	20,000			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U	< 1	U	< 0.5	U
Ethylbenzene	µg/L	700			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U	< 1	U	< 0.5	U
Hexachlorobutadiene	µg/L	20			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U	< 1	U	< 0.5	U
Isopropylbenzene	µg/L	10,000			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U	< 1	U	< 0.5	U
m,p-Xylenes	µg/L	10,000			< 1	U			< 1	U			< 1	U			< 1	U	< 2	U	< 1	U
Methyl isobutyl ketone	µg/L	8,200			< 5	U			< 5	U			< 5	U			< 5	U	< 2	U	< 1	U
Methylene chloride	µg/L	5			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U	< 2	U	< 1	U
Naphthalene	µg/L	2,000			< 0.4	U			< 0.4	U			< 0.4	U			< 0.4	U	< 1	U	< 0.5	U
n-Butylbenzene	µg/L	4,100			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U	< 1	U	< 0.5	U
n-Propylbenzene	µg/L	4,100			< 0.25	U			< 0.25	U			< 0.25	U			< 0.25	U	< 1	U	< 0.5	U
o-Xylene	µg/L	10,000			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U	< 1	U	< 0.5	U
p-Isopropyltoluene	µg/L	10,000			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U	< 1	U	< 0.5	U
sec-Butylbenzene	µg/L	4,100			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U	< 1	U	< 0.5	U
Styrene	µg/L	100			< 0.25	U			< 0.25	U			< 0.25	U			< 0.25	U	< 1	U	< 0.5	U
tert-Butylbenzene	µg/L	4,100			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U	< 1	U	< 0.5	U
Tetrachloroethene	µg/L	5			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U	< 1	U	< 0.5	U
Toluene	µg/L	1,000			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U	< 1	U	< 0.5	U
trans-1,2-Dichloroethene	µg/L	100			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U	< 1	U	< 0.5	U
trans-1,3-Dichloropropene	µg/L	29			< 1	U			< 1	U			< 1	U			< 1	U	< 1	U	< 0.5	U
Trichloroethene	µg/L	5			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U	< 1	U	< 0.5	U
Trichlorofluoromethane	µg/L	31,000			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U	< 1	U	< 0.5	U
Vinyl chloride	µg/L	2			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U	< 1	U	< 0.5	U

Table 2-4
Groundwater Results 2013–2019

		Location Code	67WW09A						67WW10													
		Sample ID	67WW09A-181025		67WW09A-190502		67WW09A-191028		67WW10-130601		67WW10-130927		67WW10-092713		67WW10-140124		67WW10-012414		67WW10-140506		67WW10-050614	
		Sample Date	10/25/2018		5/2/2019		10/28/2019		6/1/2013		9/27/2013		9/27/2013		1/24/2014		1/24/2014		5/6/2014		5/6/2014	
		Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter	Units	MCL/GW-Ind	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
ANIONS																						
Chloride	mg/L	NV																				
Nitrate	mg/L	10																				
Nitrite	mg/L	1																				
Sulfate	mg/L	NV																				
Sulfide	mg/L	NV																				
TOTAL ORGANIC CARBON																						
Total Inorganic Carbon	mg/L	NV																				
Total organic carbon	mg/L	NV																				
DHC																						
BVC	cells/mL	NV																				
Dehalococcoides	cells/mL	NV																				
FIELD TESTS																						
Conductivity	µmhos/cm	NV	3.26		3.42		4.07		5.08		6.23		6.23		6.45		6.45		6.02		6.02	
Dissolved oxygen	mg/L	NV	0.05		0.09		0.04		0.11		0.6		0.6		0.54		0.54		0.44		0.44	
Ferrous Iron	mg/L	NV																				
Oxidation-Reduction Potential	mV	NV	138		123		71		190		-9		-9		29		29		55		55	
pH	SU	NV	6.04		6		6.22		6.27		6.02		6.02		6.07		6.07		5.29		5.29	
Temperature	C	NV	17.79		20.80		18.51		24.32		25.2		25.2		15.1		15.1		20.2		20.2	
Turbidity	NTU	NV	0		24		1.7		4.9		1.6		1.6		0.4		0.4		2.6		2.6	
GENERAL CHEMISTRY																						
Alkalinity	mg/L	NV																				
Ferrous Iron	mg/L	NV																				
GASES																						
Carbon dioxide	µg/L	NV																				
Ethane	µg/L	NV																				
Ethylene	µg/L	NV																				
Methane	µg/L	NV																				
VOLATILES																						
1,1,1,2-Tetrachloroethane	µg/L	110	< 0.5	U	< 0.5	U	< 0.5	U					< 0.5	U			< 0.5	U			< 0.5	U
1,1,1-Trichloroethane	µg/L	200	< 0.5	U	< 0.5	U	< 0.5	U					< 0.5	U			< 0.5	U			< 0.5	U
1,1,2,2-Tetrachloroethane	µg/L	14	< 0.5	U	< 0.5	U	< 0.5	U					< 0.4	U			< 0.4	U			< 0.4	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	µg/L	3,100,000	< 0.5	U	< 0.5	U	< 0.5	U														
1,1,2-Trichloroethane	µg/L	5	< 0.5	U	< 0.5	U	< 0.5	U					< 0.5	U			< 0.5	U			< 0.5	U
1,1-Dichloroethane	µg/L	10,000	< 0.5	U	< 0.5	U	< 0.5	U					0.362	J			0.319	J			< 0.25	U
1,1-Dichloroethene	µg/L	7	< 0.5	U	< 0.5	U	< 0.5	U					< 1	U			< 1	U			< 1	U
1,1-Dichloropropene	µg/L	2.9	< 0.5	U	< 0.5	U	< 0.5	U					< 0.5	U			< 0.5	U			< 0.5	U
1,2,3-Trichlorobenzene	µg/L	310	< 0.5	UJ	< 0.5	U	< 0.5	UJ					< 0.3	U			< 0.3	U			< 0.3	U
1,2,3-Trichloropropane	µg/L	0.041	< 0.5	U	< 0.5	U	< 0.5	U					< 1	U			< 1	U			< 1	U
1,2,4-Trichlorobenzene	µg/L	70	< 0.5	U	< 0.5	U	< 0.5	U					< 0.4	U			< 0.4	U			< 0.4	U
1,2,4-Trimethylbenzene	µg/L	5,100	< 0.5	U	< 0.5	U	< 0.5	U					< 0.5	U			< 0.5	U			< 0.5	U
1,2-Dibromo-3-chloropropane	µg/L	0.2	< 1	U	< 0.5	U	< 0.5	U					< 2	U			< 2	UJ			< 2	U
1,2-Dibromoethane	µg/L	0.05	< 0.5	U	< 0.5	U	< 0.5	U					< 0.5	U			< 0.5	U			< 0.5	U
1,2-Dichlorobenzene	µg/L	600	< 0.5	U	< 0.5	U	< 0.5	U					< 0.25	U			< 0.25	U			< 0.25	U
1,2-Dichloroethane	µg/L	5	< 0.5	U	< 0.5	U	< 0.5	U					< 0.5	U			< 0.5	U			< 0.5	U
1,2-Dichloropropane	µg/L	5	< 0.5	U	< 0.5	U	< 0.5	U					< 0.4	U			< 0.4	U			< 0.4	U
1,3,5-Trimethylbenzene	µg/L	5,100	< 0.5	U	< 0.5	U	< 0.5	U					< 0.5	U			< 0.5	U			< 0.5	U
1,3-Dichlorobenzene	µg/L	3,100	< 0.5	U	< 0.5	U	< 0.5	U					< 0.5	U			< 0.5	U			< 0.5	U
1,3-Dichloropropane	µg/L	29	< 0.5	U	< 0.5	U	< 0.5	U					< 0.4	U			< 0.4	U			< 0.4	U
1,4-Dichlorobenzene	µg/L	75	< 0.5	U	< 0.5	U	< 0.5	U					< 0.25	U			< 0.25	U			< 0.25	U
2,2-Dichloropropane	µg/L	42	< 0.5	U	< 0.5	U	< 0.5	U					< 0.5	U			< 0.5	U			< 0.5	UJ

Table 2-4
Groundwater Results 2013–2019

		Location Code	67WW09A						67WW10													
		Sample ID	67WW09A-181025		67WW09A-190502		67WW09A-191028		67WW10-130601		67WW10-130927		67WW10-092713		67WW10-140124		67WW10-012414		67WW10-140506		67WW10-050614	
		Sample Date	10/25/2018		5/2/2019		10/28/2019		6/1/2013		9/27/2013		9/27/2013		1/24/2014		1/24/2014		5/6/2014		5/6/2014	
		Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter	Units	MCL/GW-Ind	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
2-Butanone	µg/L	61,000	< 1	U	< 1	U	< 1	U					< 5	U			< 5	U			< 5	U
2-Chlorotoluene	µg/L	2,000	< 0.5	U	< 0.5	U	< 0.5	U					< 0.25	U			< 0.25	U			< 0.25	U
2-Hexanone	µg/L	6,100	< 1	U	< 1	U	< 1	U					< 5	U			< 5	U			< 5	U
4-Chlorotoluene	µg/L	2,000	< 0.5	U	< 0.5	U	< 0.5	U					< 0.5	U			< 0.5	U			< 0.5	U
Acetone	µg/L	92,000	< 2	U	< 5	U	< 1	U					< 5	U			< 5	U			< 5	U
Benzene	µg/L	5	< 0.5	U	< 0.5	U	< 0.5	U					< 0.25	U			< 0.25	U			< 0.25	U
Bromobenzene	µg/L	2,000	< 0.5	U	< 0.5	U	< 0.5	U					< 0.25	U			< 0.25	U			< 0.25	U
Bromochloromethane	µg/L	4,100	< 0.5	U	< 0.5	U	< 0.5	U					< 0.4	U			< 0.4	U			< 0.4	U
Bromodichloromethane	µg/L	4.6	< 0.5	U	< 0.5	U	< 0.5	U					< 0.5	U			< 0.5	U			< 0.5	U
Bromoform	µg/L	36	< 0.5	U	< 0.5	U	< 0.5	U					< 1	U			< 1	U			< 1	U
Bromomethane	µg/L	140	< 0.5	U	< 0.5	U	< 0.5	U					< 1	U			< 1	U			< 1	U
Carbon disulfide	µg/L	10,000	< 1	U	< 1	U	< 1	U					< 1	U			< 1	U			< 1	U
Carbon tetrachloride	µg/L	5	< 0.5	U	< 0.5	U	< 0.5	U					< 0.5	U			< 0.5	U			< 0.5	U
Chlorobenzene	µg/L	100	< 0.5	U	< 0.5	U	< 0.5	U					< 0.25	U			< 0.25	U			< 0.25	U
Chloroethane	µg/L	41,000	< 0.5	U	< 0.5	U	< 0.5	U					< 1	U			< 1	U			< 1	U
Chloroform	µg/L	1,000	< 0.5	U	< 0.5	U	< 0.5	U					< 0.25	U			< 0.25	U			< 0.25	U
Chloromethane	µg/L	220	< 0.5	U	< 0.5	U	< 0.5	U					< 1	U			< 1	U			< 1	U
cis-1,2-Dichloroethene	µg/L	70	< 0.5	U	< 0.5	U	< 0.5	U					< 0.5	U			< 0.5	U			< 0.5	U
cis-1,3-Dichloropropene	µg/L	5.3	< 0.5	U	< 0.5	U	< 0.5	U					< 0.5	U			< 0.5	U			< 0.5	U
Dibromochloromethane	µg/L	34	< 0.5	U	< 0.5	U	< 0.5	U					< 0.5	U			< 0.5	U			< 0.5	U
Dibromomethane	µg/L	380	< 0.5	U	< 0.5	U	< 0.5	U					< 0.5	U			< 0.5	U			< 0.5	U
Dichlorodifluoromethane	µg/L	20,000	< 0.5	U	< 0.5	U	< 0.5	U					< 0.5	U			< 0.5	U			< 0.5	U
Ethylbenzene	µg/L	700	< 0.5	U	< 0.5	U	< 0.5	U					< 0.5	U			< 0.5	U			< 0.5	U
Hexachlorobutadiene	µg/L	20	< 1	U	< 1	U	< 0.5	U					< 0.5	U			< 0.5	U			< 0.5	U
Isopropylbenzene	µg/L	10,000	< 0.5	U	< 0.5	U	< 0.5	U					< 0.5	U			< 0.5	U			< 0.5	U
m,p-Xylenes	µg/L	10,000	< 1	U	< 1	U	< 1	U					< 1	U			< 1	U			< 1	U
Methyl isobutyl ketone	µg/L	8,200	< 1	U	< 1	U	< 1	U					< 5	U			< 5	U			< 5	U
Methylene chloride	µg/L	5	< 1	U	< 1	U	< 1	U					< 0.5	U			< 0.5	U			< 0.5	U
Naphthalene	µg/L	2,000	< 0.5	UJ	< 0.5	U	< 0.5	UJ					< 0.4	U			< 0.4	U			< 0.4	U
n-Butylbenzene	µg/L	4,100	< 0.5	U	< 0.5	U	< 0.5	U					< 0.5	U			< 0.5	U			< 0.5	U
n-Propylbenzene	µg/L	4,100	< 0.5	U	< 0.5	U	< 0.5	U					< 0.25	U			< 0.25	U			< 0.25	U
o-Xylene	µg/L	10,000	< 0.5	U	< 0.5	U	< 0.5	U					< 0.5	U			< 0.5	U			< 0.5	U
p-Isopropyltoluene	µg/L	10,000	< 0.5	U	< 0.5	U	< 0.5	U					< 0.5	U			< 0.5	U			< 0.5	U
sec-Butylbenzene	µg/L	4,100	< 0.5	U	< 0.5	U	< 0.5	U					< 0.5	U			< 0.5	U			< 0.5	U
Styrene	µg/L	100	< 0.5	U	< 0.5	U	< 0.5	U					< 0.25	U			< 0.25	U			< 0.25	U
tert-Butylbenzene	µg/L	4,100	< 0.5	U	< 0.5	U	< 0.5	U					< 0.5	U			< 0.5	U			< 0.5	U
Tetrachloroethene	µg/L	5	< 0.5	U	< 0.5	U	< 0.5	U					< 0.5	U			< 0.5	U			< 0.5	U
Toluene	µg/L	1,000	< 0.5	U	< 0.5	U	< 0.5	U					< 0.5	U			< 0.5	U			< 0.5	U
trans-1,2-Dichloroethene	µg/L	100	< 0.5	U	< 0.5	U	< 0.5	U					< 0.5	U			< 0.5	U			< 0.5	U
trans-1,3-Dichloropropene	µg/L	29	< 0.5	U	< 0.5	U	< 0.5	U					< 1	U			< 1	U			< 1	U
Trichloroethene	µg/L	5	< 0.5	U	< 0.5	U	< 0.5	U					< 0.5	U			< 0.5	U			< 0.5	U
Trichlorofluoromethane	µg/L	31,000	< 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

Table 2-4
Groundwater Results 2013–2019

		Location Code	67WW10																	
		Sample ID	67WW10-140724		67WW10-072414		67WW10-141203		67WW10-120314		67WW10-150210		67WW10-021015		67WW10-150512		67WW10-051215		67WW10-151118		67WW10-111815	
		Sample Date	7/24/2014		7/24/2014		12/3/2014		12/3/2014		2/10/2015		2/10/2015		5/12/2015		5/12/2015		11/18/2015		11/18/2015	
		Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter	Units	MCL/GW-Ind	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
ANIONS																						
Chloride	mg/L	NV																				
Nitrate	mg/L	10																				
Nitrite	mg/L	1																				
Sulfate	mg/L	NV																				
Sulfide	mg/L	NV																				
TOTAL ORGANIC CARBON																						
Total Inorganic Carbon	mg/L	NV																				
Total organic carbon	mg/L	NV																				
DHC																						
BVC	cells/mL	NV																				
Dehalococcoides	cells/mL	NV																				
FIELD TESTS																						
Conductivity	µmhos/cm	NV	6.13		6.13		6.09		6.09		5.84		5.84		5.65		5.65		5.95		5.95	
Dissolved oxygen	mg/L	NV	0.52		0.52		0		0		0		0		0.64		0.64		0.1		0.1	
Ferrous Iron	mg/L	NV																				
Oxidation-Reduction Potential	mV	NV	174		174		83		83		25		25		117		117		68		68	
pH	SU	NV	5.59		5.59		5.56		5.56		6.18		6.18		5.53		5.53		5.77		5.77	
Temperature	C	NV	22.24		22.24		19.2		19.2		17.33		17.33		18.78		18.78		17.68		17.68	
Turbidity	NTU	NV	54.7		54.7		9.1		9.1		0		0		217		217		90.8		90.8	
GENERAL CHEMISTRY																						
Alkalinity	mg/L	NV																				
Ferrous Iron	mg/L	NV																				
GASES																						
Carbon dioxide	µg/L	NV																				
Ethane	µg/L	NV																				
Ethylene	µg/L	NV																				
Methane	µg/L	NV																				
VOLATILES																						
1,1,1,2-Tetrachloroethane	µg/L	110			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U
1,1,1-Trichloroethane	µg/L	200			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U
1,1,2,2-Tetrachloroethane	µg/L	14			< 0.4	U			< 0.4	U			< 0.4	U			< 0.4	U			< 0.4	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	µg/L	3,100,000																				
1,1,2-Trichloroethane	µg/L	5			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U
1,1-Dichloroethane	µg/L	10,000			< 0.25	U			0.173	J			< 0.25	U			< 0.25	U			0.14	J
1,1-Dichloroethene	µg/L	7			< 1	U			< 1	U			< 1	U			< 1	U			< 1	U
1,1-Dichloropropene	µg/L	2.9			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U
1,2,3-Trichlorobenzene	µg/L	310			< 0.3	U			< 0.3	U			< 0.3	U			< 0.3	U			< 0.3	U
1,2,3-Trichloropropane	µg/L	0.041			< 1	U			< 1	U			< 1	U			< 1	U			< 1	U
1,2,4-Trichlorobenzene	µg/L	70			< 0.4	U			< 0.4	U			< 0.4	U			< 0.4	U			< 0.4	U
1,2,4-Trimethylbenzene	µg/L	5,100			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U
1,2-Dibromo-3-chloropropane	µg/L	0.2			< 2	U			< 2	U			< 2	U			< 2	U			< 2	U
1,2-Dibromoethane	µg/L	0.05			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U
1,2-Dichlorobenzene	µg/L	600			< 0.25	U			< 0.25	U			< 0.25	U			< 0.25	U			< 0.25	U
1,2-Dichloroethane	µg/L	5			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U
1,2-Dichloropropane	µg/L	5			< 0.4	U			< 0.4	U			< 0.4	U			< 0.4	U			< 0.4	U
1,3,5-Trimethylbenzene	µg/L	5,100			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U
1,3-Dichlorobenzene	µg/L	3,100			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U
1,3-Dichloropropane	µg/L	29			< 0.4	U			< 0.4	U			< 0.4	U			< 0.4	U			< 0.4	U
1,4-Dichlorobenzene	µg/L	75			< 0.25	U			< 0.25	U			< 0.25	U			< 0.25	U			< 0.25	U
2,2-Dichloropropane	µg/L	42			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U

Table 2-4
Groundwater Results 2013–2019

		Location Code	67WW10																			
		Sample ID	67WW10-140724		67WW10-072414		67WW10-141203		67WW10-120314		67WW10-150210		67WW10-021015		67WW10-150512		67WW10-051215		67WW10-151118		67WW10-111815	
		Sample Date	7/24/2014		7/24/2014		12/3/2014		12/3/2014		2/10/2015		2/10/2015		5/12/2015		5/12/2015		11/18/2015		11/18/2015	
		Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter	Units	MCL/GW-Ind	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
2-Butanone	µg/L	61,000			< 5	U			< 5	U			< 5	U			< 5	U			< 5	U
2-Chlorotoluene	µg/L	2,000			< 0.25	U			< 0.25	U			< 0.25	U			< 0.25	U			< 0.25	U
2-Hexanone	µg/L	6,100			< 5	U			< 5	U			< 5	U			< 5	UJ			< 5	U
4-Chlorotoluene	µg/L	2,000			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U
Acetone	µg/L	92,000			< 5	U			< 5	U			< 5	U			< 5	UJ			< 5	U
Benzene	µg/L	5			< 0.25	U			< 0.25	U			< 0.25	U			< 0.25	U			< 0.25	U
Bromobenzene	µg/L	2,000			< 0.25	U			< 0.25	U			< 0.25	U			< 0.25	U			< 0.25	U
Bromochloromethane	µg/L	4,100			< 0.4	U			< 0.4	U			< 0.4	U			< 0.4	U			< 0.4	U
Bromodichloromethane	µg/L	4.6			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U
Bromoform	µg/L	36			< 1	U			< 1	U			< 1	U			< 1	U			< 1	U
Bromomethane	µg/L	140			< 1	U			< 1	U			< 1	U			< 1	U			< 1	U
Carbon disulfide	µg/L	10,000			< 1	U			< 1	U			< 1	U			< 1	U			< 1	U
Carbon tetrachloride	µg/L	5			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U
Chlorobenzene	µg/L	100			< 0.25	U			< 0.25	U			< 0.25	U			< 0.25	U			< 0.25	U
Chloroethane	µg/L	41,000			< 1	U			< 1	U			< 1	U			< 1	U			< 1	U
Chloroform	µg/L	1,000			< 0.25	U			< 0.25	U			< 0.25	U			< 0.25	U			< 0.25	U
Chloromethane	µg/L	220			< 1	U			< 1	U			< 1	U			< 1	U			< 1	U
cis-1,2-Dichloroethene	µg/L	70			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U
cis-1,3-Dichloropropene	µg/L	5.3			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U
Dibromochloromethane	µg/L	34			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U
Dibromomethane	µg/L	380			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U
Dichlorodifluoromethane	µg/L	20,000			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U
Ethylbenzene	µg/L	700			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U
Hexachlorobutadiene	µg/L	20			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U
Isopropylbenzene	µg/L	10,000			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U
m,p-Xylenes	µg/L	10,000			< 1	U			< 1	U			< 1	U			< 1	U			< 1	U
Methyl isobutyl ketone	µg/L	8,200			< 5	U			< 5	U			< 5	U			< 5	UJ			< 5	U
Methylene chloride	µg/L	5			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U
Naphthalene	µg/L	2,000			< 0.4	U			< 0.4	U			< 0.4	U			< 0.4	U			< 0.4	U
n-Butylbenzene	µg/L	4,100			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U
n-Propylbenzene	µg/L	4,100			< 0.25	U			< 0.25	U			< 0.25	U			< 0.25	U			< 0.25	U
o-Xylene	µg/L	10,000			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U
p-Isopropyltoluene	µg/L	10,000			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U
sec-Butylbenzene	µg/L	4,100			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U
Styrene	µg/L	100			< 0.25	U			< 0.25	U			< 0.25	U			< 0.25	U			< 0.25	U
tert-Butylbenzene	µg/L	4,100			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U
Tetrachloroethene	µg/L	5			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U
Toluene	µg/L	1,000			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U
trans-1,2-Dichloroethene	µg/L	100			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U
trans-1,3-Dichloropropene	µg/L	29			< 1	U			< 1	U			< 1	U			< 1	U			< 1	U
Trichloroethene	µg/L	5			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U
Trichlorofluoromethane	µg/L	31,000			< 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

Table 2-4
Groundwater Results 2013–2019

		Location Code	67WW10														67WW11					
		Sample ID	67WW10-160518		67WW10-051816		67WW10-112917		67WW10-180503		67WW10-181022		67WW10-190502		67WW10-191028		67WW11-130601		67WW11-060113-FD		67WW11-060113	
		Sample Date	5/18/2016		5/18/2016		11/29/2017		5/3/2018		10/22/2018		5/2/2019		10/28/2019		6/1/2013		6/1/2013		6/1/2013	
		Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG		FD		REG	
Parameter	Units	MCL/GW-Ind	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
ANIONS																						
Chloride	mg/L	NV																				
Nitrate	mg/L	10																				
Nitrite	mg/L	1																				
Sulfate	mg/L	NV																				
Sulfide	mg/L	NV																				
TOTAL ORGANIC CARBON																						
Total Inorganic Carbon	mg/L	NV																				
Total organic carbon	mg/L	NV																				
DHC																						
BVC	cells/mL	NV																				
Dehalococcoides	cells/mL	NV																				
FIELD TESTS																						
Conductivity	µmhos/cm	NV	6.36		6.36		5.12		5.69		5.17		5.80		5.10		4.27				4.27	
Dissolved oxygen	mg/L	NV	0.5		0.5		0.32		0.29		0.18		0.06		0.03		1.17				1.17	
Ferrous Iron	mg/L	NV																				
Oxidation-Reduction Potential	mV	NV	163		163		221		283		178		157		164		168				168	
pH	SU	NV	5.02		5.02		5.01		5.86		5.51		5.37		5.34		6.78				6.78	
Temperature	C	NV	18.66		18.66		19.32		22.03		18.54		20.46		18.48		23.9				23.9	
Turbidity	NTU	NV	30.9		30.9		42		21.7		31.2		25.4		160		9.6				9.6	
GENERAL CHEMISTRY																						
Alkalinity	mg/L	NV																				
Ferrous Iron	mg/L	NV																				
GASES																						
Carbon dioxide	µg/L	NV																				
Ethane	µg/L	NV																				
Ethylene	µg/L	NV																				
Methane	µg/L	NV																				
VOLATILES																						
1,1,1,2-Tetrachloroethane	µg/L	110			< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.25	U	< 0.25	U
1,1,1-Trichloroethane	µg/L	200			< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.25	U	< 0.25	U
1,1,2,2-Tetrachloroethane	µg/L	14			< 0.4	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.2	UJ	< 0.2	UJ
1,1,2-Trichloro-1,2,2-Trifluoroethane	µg/L	3,100,000					< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U						
1,1,2-Trichloroethane	µg/L	5			< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.25	U	< 0.25	U
1,1-Dichloroethane	µg/L	10,000			< 0.25	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			10.6		10.6	
1,1-Dichloroethene	µg/L	7			< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			46.8		47.1	
1,1-Dichloropropene	µg/L	2.9			< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.25	U	< 0.25	U
1,2,3-Trichlorobenzene	µg/L	310			< 0.3	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	UJ			< 0.15	U	< 0.15	U
1,2,3-Trichloropropane	µg/L	0.041			< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U
1,2,4-Trichlorobenzene	µg/L	70			< 0.4	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.2	U	< 0.2	U
1,2,4-Trimethylbenzene	µg/L	5,100			< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.25	U	< 0.25	U
1,2-Dibromo-3-chloropropane	µg/L	0.2			< 2	U	< 1	U	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U			< 1	UJ	< 1	UJ
1,2-Dibromoethane	µg/L	0.05			< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.25	U	< 0.25	U
1,2-Dichlorobenzene	µg/L	600			< 0.25	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.125	U	< 0.125	U
1,2-Dichloroethane	µg/L	5			< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			0.85	J	0.869	J
1,2-Dichloropropane	µg/L	5			< 0.4	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.2	U	< 0.2	U
1,3,5-Trimethylbenzene	µg/L	5,100			< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.25	U	< 0.25	U
1,3-Dichlorobenzene	µg/L	3,100			< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.25	U	< 0.25	U
1,3-Dichloropropane	µg/L	29			< 0.4	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.2	U	< 0.2	U
1,4-Dichlorobenzene	µg/L	75			< 0.25	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.125	U	< 0.125	U
2,2-Dichloropropane	µg/L	42			< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.25	U	< 0.25	U

Table 2-4
Groundwater Results 2013–2019

		Location Code	67WW10														67WW11					
		Sample ID	67WW10-160518		67WW10-051816		67WW10-112917		67WW10-180503		67WW10-181022		67WW10-190502		67WW10-191028		67WW11-130601		67WW11-060113-FD		67WW11-060113	
		Sample Date	5/18/2016		5/18/2016		11/29/2017		5/3/2018		10/22/2018		5/2/2019		10/28/2019		6/1/2013		6/1/2013		6/1/2013	
		Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG		FD		REG	
Parameter	Units	MCL/GW-Ind	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
2-Butanone	µg/L	61,000			< 5	U	< 2	U	< 1	U	< 1	U	< 1	U	< 1	U			< 2.5	U	< 2.5	U
2-Chlorotoluene	µg/L	2,000			< 0.25	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.125	U	< 0.125	U
2-Hexanone	µg/L	6,100			< 5	U	< 2	U	< 1	U	< 1	U	< 1	U	< 1	U			< 2.5	U	< 2.5	U
4-Chlorotoluene	µg/L	2,000			< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.25	U	< 0.25	U
Acetone	µg/L	92,000			< 5	U	< 2	U	< 1	U	< 2	U	< 7.8	U	< 1	U			< 2.5	U	< 2.5	U
Benzene	µg/L	5			< 0.25	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.125	U	< 0.125	U
Bromobenzene	µg/L	2,000			< 0.25	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.125	U	< 0.125	U
Bromochloromethane	µg/L	4,100			< 0.4	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.2	U	< 0.2	U
Bromodichloromethane	µg/L	4.6			< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.25	U	< 0.25	U
Bromoform	µg/L	36			< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U
Bromomethane	µg/L	140			< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.5	UJ	< 0.5	UJ
Carbon disulfide	µg/L	10,000			< 1	U	< 2	U	< 1	U	< 1	U	< 1	U	< 1	U			< 0.5	U	< 0.5	U
Carbon tetrachloride	µg/L	5			< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.25	U	< 0.25	U
Chlorobenzene	µg/L	100			< 0.25	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.125	U	< 0.125	U
Chloroethane	µg/L	41,000			< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U
Chloroform	µg/L	1,000			< 0.25	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.125	U	< 0.125	U
Chloromethane	µg/L	220			< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U
cis-1,2-Dichloroethene	µg/L	70			< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.25	U	< 0.25	U
cis-1,3-Dichloropropene	µg/L	5.3			< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.25	U	< 0.25	U
Dibromochloromethane	µg/L	34			< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.25	U	< 0.25	U
Dibromomethane	µg/L	380			< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.25	U	< 0.25	U
Dichlorodifluoromethane	µg/L	20,000			< 0.5	U	< 1	U	< 0.5	U	< 0.5	UJ	< 0.5	U	< 0.5	U			< 0.25	UJ	< 0.25	UJ
Ethylbenzene	µg/L	700			< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.25	U	< 0.25	U
Hexachlorobutadiene	µg/L	20			< 0.5	U	< 1	U	< 0.5	U	< 1	U	< 1	U	< 0.5	U			< 0.25	U	< 0.25	U
Isopropylbenzene	µg/L	10,000			< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.25	U	< 0.25	U
m,p-Xylenes	µg/L	10,000			< 1	U	< 2	U	< 1	U	< 1	U	< 1	U	< 1	U			< 0.5	U	< 0.5	U
Methyl isobutyl ketone	µg/L	8,200			< 5	U	< 2	U	< 1	U	< 1	U	< 1	U	< 1	U			< 2.5	U	< 2.5	U
Methylene chloride	µg/L	5			< 0.5	U	< 2	U	< 1	U	< 1	U	< 1	U	< 1	U			< 0.25	U	< 0.25	U
Naphthalene	µg/L	2,000			< 0.4	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	UJ			< 0.2	U	< 0.2	U
n-Butylbenzene	µg/L	4,100			< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.25	U	< 0.25	U
n-Propylbenzene	µg/L	4,100			< 0.25	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.125	U	< 0.125	U
o-Xylene	µg/L	10,000			< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.25	U	< 0.25	U
p-Isopropyltoluene	µg/L	10,000			< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.25	U	< 0.25	U
sec-Butylbenzene	µg/L	4,100			< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.25	U	< 0.25	U
Styrene	µg/L	100			< 0.25	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.125	U	< 0.125	U
tert-Butylbenzene	µg/L	4,100			< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.25	U	< 0.25	U
Tetrachloroethene	µg/L	5			< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.25	U	< 0.25	U
Toluene	µg/L	1,000			< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.25	U	< 0.25	U
trans-1,2-Dichloroethene	µg/L	100			< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.25	U	< 0.25	U
trans-1,3-Dichloropropene	µg/L	29			< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U
Trichloroethene	µg/L	5			< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.25	U	< 0.25	U
Trichlorofluoromethane	µg/L	31,000			< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.25	U	< 0.25	U
Vinyl chloride	µg/L	2			< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.25	U	< 0.25	U

Table 2-4
Groundwater Results 2013–2019

		Location Code	67WW11																			
		Sample ID	67WW11-131002		67WW11-100213		67WW11 FD-012314		67WW11-140123		67WW11FD-012314		67WW11-012314		67WW11-140506		67WW11-072414		67WW11-140724		67WW11-141204	
		Sample Date	10/2/2013		10/2/2013		1/23/2014		1/23/2014		1/23/2014		1/23/2014		5/6/2014		7/24/2014		7/24/2014		12/4/2014	
		Sample Purpose	REG		REG		FD		REG		FD		REG		REG		REG		REG		REG	
Parameter	Units	MCL/GW-Ind	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
ANIONS																						
Chloride	mg/L	NV																				
Nitrate	mg/L	10			< 2	U											< 1	U				
Nitrite	mg/L	1			< 2	U											< 1	U				
Sulfate	mg/L	NV			375												414					
Sulfide	mg/L	NV			< 1	U																
TOTAL ORGANIC CARBON																						
Total Inorganic Carbon	mg/L	NV			17.6												49.4					
Total organic carbon	mg/L	NV			5.7												8.7					
DHC																						
BVC	cells/mL	NV			< 0.5	U																
Dehalococcoides	cells/mL	NV			< 0.5	U																
FIELD TESTS																						
Conductivity	µmhos/cm	NV	4.74		4.74				4.77				4.77		-	-	4.85		4.85		5.17	
Dissolved oxygen	mg/L	NV	0.63		0.63				0.48				0.48		-	-	1.07		1.07		0	
Ferrous Iron	mg/L	NV																				
Oxidation-Reduction Potential	mV	NV	64		64				129				129		-	-	194		194		204	
pH	SU	NV	6.23		6.23				5.84				5.84		-	-	6.72		6.72		5.63	
Temperature	C	NV	22.65		22.65				17.25				17.25		-99		22		22		19.1	
Turbidity	NTU	NV	4		4				1.9				1.9		-	-	2.9		2.9		5.6	
GENERAL CHEMISTRY																						
Alkalinity	mg/L	NV																				
Ferrous Iron	mg/L	NV			< 0.04	U											< 0.04	U				
GASES																						
Carbon dioxide	µg/L	NV																				
Ethane	µg/L	NV			< 2	U											< 2	U				
Ethylene	µg/L	NV			< 2	U											< 2	U				
Methane	µg/L	NV			< 4.38	U											< 2	U				
VOLATILES																						
1,1,1,2-Tetrachloroethane	µg/L	110			< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U				
1,1,1-Trichloroethane	µg/L	200			< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U				
1,1,2,2-Tetrachloroethane	µg/L	14			< 0.4	U	< 0.4	U			< 0.4	U	< 0.4	U			< 0.4	U				
1,1,2-Trichloro-1,2,2-Trifluoroethane	µg/L	3,100,000																				
1,1,2-Trichloroethane	µg/L	5			< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U				
1,1-Dichloroethane	µg/L	10,000			10.6		10.7				10.7		9.83				10.4					
1,1-Dichloroethene	µg/L	7			42.8		43				43		38.8				34.5					
1,1-Dichloropropene	µg/L	2.9			< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U				
1,2,3-Trichlorobenzene	µg/L	310			< 0.3	U	< 0.3	U			< 0.3	U	< 0.3	U			< 0.3	U				
1,2,3-Trichloropropane	µg/L	0.041			< 1	U	< 1	U			< 1	U	< 1	U			< 1	U				
1,2,4-Trichlorobenzene	µg/L	70			< 0.4	U	< 0.4	U			< 0.4	U	< 0.4	U			< 0.4	U				
1,2,4-Trimethylbenzene	µg/L	5,100			< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U				
1,2-Dibromo-3-chloropropane	µg/L	0.2			< 2	U	< 2	U			< 2	U	< 2	U			< 2	U				
1,2-Dibromoethane	µg/L	0.05			< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U				
1,2-Dichlorobenzene	µg/L	600			< 0.25	U	< 0.25	U			< 0.25	U	< 0.25	U			< 0.25	U				
1,2-Dichloroethane	µg/L	5			0.799	J	0.823	J			0.823	J	0.748	J			0.684	J				
1,2-Dichloropropane	µg/L	5			< 0.4	U	< 0.4	U			< 0.4	U	< 0.4	U			< 0.4	U				
1,3,5-Trimethylbenzene	µg/L	5,100			< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U				
1,3-Dichlorobenzene	µg/L	3,100			< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U				
1,3-Dichloropropane	µg/L	29			< 0.4	U	< 0.4	U			< 0.4	U	< 0.4	U			< 0.4	U				
1,4-Dichlorobenzene	µg/L	75			< 0.25	U	< 0.25	U			< 0.25	U	< 0.25	U			< 0.25	U				
2,2-Dichloropropane	µg/L	42			< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U				

Table 2-4
Groundwater Results 2013–2019

		Location Code	67WW11																			
		Sample ID	67WW11-131002		67WW11-100213		67WW11 FD-012314		67WW11-140123		67WW11FD-012314		67WW11-012314		67WW11-140506		67WW11-072414		67WW11-140724		67WW11-141204	
		Sample Date	10/2/2013		10/2/2013		1/23/2014		1/23/2014		1/23/2014		1/23/2014		5/6/2014		7/24/2014		7/24/2014		12/4/2014	
		Sample Purpose	REG		REG		FD		REG		FD		REG		REG		REG		REG		REG	
Parameter	Units	MCL/GW-Ind	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
2-Butanone	µg/L	61,000			< 5	U	< 5	U			< 5	U	< 5	U			< 5	U				
2-Chlorotoluene	µg/L	2,000			< 0.25	U	< 0.25	U			< 0.25	U	< 0.25	U			< 0.25	U				
2-Hexanone	µg/L	6,100			< 5	U	< 5	U			< 5	U	< 5	U			< 5	U				
4-Chlorotoluene	µg/L	2,000			< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U				
Acetone	µg/L	92,000			33.6		< 5	U			< 5	U	< 5	U			< 5	U				
Benzene	µg/L	5			< 0.25	U	< 0.25	U			< 0.25	U	< 0.25	U			< 0.25	U				
Bromobenzene	µg/L	2,000			< 0.25	U	< 0.25	U			< 0.25	U	< 0.25	U			< 0.25	U				
Bromochloromethane	µg/L	4,100			< 0.4	U	< 0.4	U			< 0.4	U	< 0.4	U			< 0.4	U				
Bromodichloromethane	µg/L	4.6			< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U				
Bromoform	µg/L	36			< 1	U	< 1	U			< 1	U	< 1	U			< 1	U				
Bromomethane	µg/L	140			< 1	U	< 1	U			< 1	U	< 1	U			< 1	U				
Carbon disulfide	µg/L	10,000			< 1	U	< 1	U			< 1	U	< 1	U			< 1	U				
Carbon tetrachloride	µg/L	5			< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U				
Chlorobenzene	µg/L	100			< 0.25	U	< 0.25	U			< 0.25	U	< 0.25	U			< 0.25	U				
Chloroethane	µg/L	41,000			< 1	U	< 1	U			< 1	U	< 1	U			< 1	U				
Chloroform	µg/L	1,000			< 0.25	U	< 0.25	U			< 0.25	U	< 0.25	U			< 0.25	U				
Chloromethane	µg/L	220			0.536	J	< 1	U			< 1	U	< 1	U			< 1	U				
cis-1,2-Dichloroethene	µg/L	70			< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U				
cis-1,3-Dichloropropene	µg/L	5.3			< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U				
Dibromochloromethane	µg/L	34			< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U				
Dibromomethane	µg/L	380			< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U				
Dichlorodifluoromethane	µg/L	20,000			< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U				
Ethylbenzene	µg/L	700			< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U				
Hexachlorobutadiene	µg/L	20			< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U				
Isopropylbenzene	µg/L	10,000			< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U				
m,p-Xylenes	µg/L	10,000			< 1	U	< 1	U			< 1	U	< 1	U			< 1	U				
Methyl isobutyl ketone	µg/L	8,200			< 5	U	< 5	U			< 5	U	< 5	U			< 5	U				
Methylene chloride	µg/L	5			< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U				
Naphthalene	µg/L	2,000			< 0.4	U	< 0.4	U			< 0.4	U	< 0.4	U			< 0.4	U				
n-Butylbenzene	µg/L	4,100			< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U				
n-Propylbenzene	µg/L	4,100			< 0.25	U	< 0.25	U			< 0.25	U	< 0.25	U			< 0.25	U				
o-Xylene	µg/L	10,000			< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U				
p-Isopropyltoluene	µg/L	10,000			< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U				
sec-Butylbenzene	µg/L	4,100			< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U				
Styrene	µg/L	100			< 0.25	U	< 0.25	U			< 0.25	U	< 0.25	U			< 0.25	U				
tert-Butylbenzene	µg/L	4,100			< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U				
Tetrachloroethene	µg/L	5			< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U				
Toluene	µg/L	1,000			< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U				
trans-1,2-Dichloroethene	µg/L	100			< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U				
trans-1,3-Dichloropropene	µg/L	29			< 1	U	< 1	U			< 1	U	< 1	U			< 1	U				
Trichloroethene	µg/L	5			< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U				
Trichlorofluoromethane	µg/L	31,000			< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U				
Vinyl chloride	µg/L	2			< 0.5	U	0.296	J			0.296	J	< 0.5	U			0.271	J				

Table 2-4
Groundwater Results 2013–2019

		Location Code	67WW11																	
		Sample ID	67WW11-120414		67WW11-150211		67WW11-021115		67WW11-150519		67WW11-051915		67WW11-151119		67WW11-111915		67WW11-160519		67WW11-051916		67WW11-112717	
		Sample Date	12/4/2014		2/11/2015		2/11/2015		5/19/2015		5/19/2015		11/19/2015		11/19/2015		5/19/2016		5/19/2016		11/27/2017	
		Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter	Units	MCL/GW-Ind	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
ANIONS																						
Chloride	mg/L	NV	1,330				1,350								1,380				1,430			
Nitrate	mg/L	10	< 2	U			< 2	U							< 2	U			< 2	U		
Nitrite	mg/L	1	1.97	J			< 2	U							< 2	U			< 2	U		
Sulfate	mg/L	NV	424				389								376				409			
Sulfide	mg/L	NV					< 1	U							< 1	U			< 1	U		
TOTAL ORGANIC CARBON																						
Total Inorganic Carbon	mg/L	NV	140				121								113				74.8			
Total organic carbon	mg/L	NV	9.1	J			12.9								23.1				22.1			
DHC																						
BVC	cells/mL	NV																				
Dehalococcoides	cells/mL	NV																				
FIELD TESTS																						
Conductivity	µmhos/cm	NV	5.17		4.8		4.8		4.47		4.47		4.89		4.89		5.19		5.19		5.15	
Dissolved oxygen	mg/L	NV	0		0		0		0.69		0.69		0.18		0.18		0.74		0.74		0.19	
Ferrous Iron	mg/L	NV																				
Oxidation-Reduction Potential	mV	NV	204		165		165		246		246		183		183		169		169		291	
pH	SU	NV	5.63		6.04		6.04		5.49		5.49		5.61		5.61		5.87		5.87		5.87	
Temperature	C	NV	19.1		18.42		18.42		19.2		19.2		18.49		18.49		18.29		18.29		19.49	
Turbidity	NTU	NV	5.6		4.7		4.7		105		105		25.9		25.9		1.2		1.2		20.7	
GENERAL CHEMISTRY																						
Alkalinity	mg/L	NV																				
Ferrous Iron	mg/L	NV	< 0.04	U			< 0.04	U							< 0.04	U			< 0.04	U		
GASES																						
Carbon dioxide	µg/L	NV	364,000																			
Ethane	µg/L	NV	< 2	U			< 2	U							< 2	U			< 2	U		
Ethylene	µg/L	NV	< 2	U			< 2	U							< 2	U			< 2	U		
Methane	µg/L	NV	2.41	J			1.78	J							2.11	J			< 2	U		
VOLATILES																						
1,1,1,2-Tetrachloroethane	µg/L	110	< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U	< 1	U
1,1,1-Trichloroethane	µg/L	200	< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U	< 1	U
1,1,2,2-Tetrachloroethane	µg/L	14	< 0.4	U			< 0.4	U			< 0.4	U			< 0.4	U			< 0.4	U	< 1	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	µg/L	3,100,000																			< 1	U
1,1,2-Trichloroethane	µg/L	5	< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U	< 1	U
1,1-Dichloroethane	µg/L	10,000	11.1				9.81				8.25				8.54				6.58		3.6	
1,1-Dichloroethene	µg/L	7	37.5				30.4				21.6				28.5				19.3		5.2	
1,1-Dichloropropene	µg/L	2.9	< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U	< 1	U
1,2,3-Trichlorobenzene	µg/L	310	< 0.3	U			< 0.3	U			< 0.3	U			< 0.3	U			< 0.3	U	< 1	U
1,2,3-Trichloropropane	µg/L	0.041	< 1	U			< 1	U			< 1	U			< 1	U			< 1	U	< 1	U
1,2,4-Trichlorobenzene	µg/L	70	< 0.4	U			< 0.4	U			< 0.4	U			< 0.4	U			< 0.4	U	< 1	U
1,2,4-Trimethylbenzene	µg/L	5,100	< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U	< 1	U
1,2-Dibromo-3-chloropropane	µg/L	0.2	< 2	U			< 2	U			< 2	U			< 2	U			< 2	U	< 1	U
1,2-Dibromoethane	µg/L	0.05	< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U	< 1	U
1,2-Dichlorobenzene	µg/L	600	< 0.25	U			< 0.25	U			< 0.25	U			< 0.25	U			< 0.25	U	< 1	U
1,2-Dichloroethane	µg/L	5	0.567	J			0.559	J			0.518	J			0.513	J			0.396	J	< 1	U
1,2-Dichloropropane	µg/L	5	< 0.4	U			< 0.4	U			< 0.4	U			< 0.4	U			< 0.4	U	< 1	U
1,3,5-Trimethylbenzene	µg/L	5,100	< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U	< 1	U
1,3-Dichlorobenzene	µg/L	3,100	< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U	< 1	U
1,3-Dichloropropane	µg/L	29	< 0.4	U			< 0.4	U			< 0.4	U			< 0.4	U			< 0.4	U	< 1	U
1,4-Dichlorobenzene	µg/L	75	< 0.25	U			< 0.25	U			< 0.25	U			< 0.25	U			< 0.25	U	< 1	U
2,2-Dichloropropane	µg/L	42	< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U	< 1	U

Table 2-4
Groundwater Results 2013–2019

		Location Code	67WW11																			
		Sample ID	67WW11-120414		67WW11-150211		67WW11-021115		67WW11-150519		67WW11-051915		67WW11-151119		67WW11-111915		67WW11-160519		67WW11-051916		67WW11-112717	
		Sample Date	12/4/2014		2/11/2015		2/11/2015		5/19/2015		5/19/2015		11/19/2015		11/19/2015		5/19/2016		5/19/2016		11/27/2017	
		Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter	Units	MCL/GW-Ind	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
2-Butanone	µg/L	61,000	< 5	U			< 5	U			< 5	U			< 5	U			< 5	U	< 2	U
2-Chlorotoluene	µg/L	2,000	< 0.25	U			< 0.25	U			< 0.25	U			< 0.25	U			< 0.25	U	< 1	U
2-Hexanone	µg/L	6,100	< 5	U			< 5	U			< 5	U			< 5	U			< 5	U	< 2	U
4-Chlorotoluene	µg/L	2,000	< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U	< 1	U
Acetone	µg/L	92,000	< 5	U			< 5	U			< 5	U			< 5	U			< 5	U	< 2	U
Benzene	µg/L	5	< 0.25	U			< 0.25	U			< 0.25	U			< 0.25	U			< 0.25	U	< 1	U
Bromobenzene	µg/L	2,000	< 0.25	U			< 0.25	U			< 0.25	U			< 0.25	U			< 0.25	U	< 1	U
Bromochloromethane	µg/L	4,100	< 0.4	U			< 0.4	U			< 0.4	U			< 0.4	U			< 0.4	U	< 1	U
Bromodichloromethane	µg/L	4.6	< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U	< 1	U
Bromoform	µg/L	36	< 1	U			< 1	U			< 1	U			< 1	U			< 1	U	< 1	U
Bromomethane	µg/L	140	< 1	U			< 1	UJ			< 1	U			< 1	U			< 1	U	< 1	U
Carbon disulfide	µg/L	10,000	< 1	U			< 1	U			< 1	U			< 1	U			< 1	U	< 2	U
Carbon tetrachloride	µg/L	5	< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U	< 1	U
Chlorobenzene	µg/L	100	< 0.25	U			< 0.25	U			< 0.25	U			< 0.25	U			< 0.25	U	< 1	U
Chloroethane	µg/L	41,000	< 1	U			< 1	U			< 1	U			< 1	U			< 1	U	< 1	U
Chloroform	µg/L	1,000	< 0.25	U			< 0.25	U			< 0.25	U			< 0.25	U			< 0.25	U	< 1	U
Chloromethane	µg/L	220	< 1	U			< 1	U			< 1	U			< 1	U			< 1	U	< 1	U
cis-1,2-Dichloroethene	µg/L	70	< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U	< 1	U
cis-1,3-Dichloropropene	µg/L	5.3	< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U	< 1	U
Dibromochloromethane	µg/L	34	< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U	< 1	U
Dibromomethane	µg/L	380	< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U	< 1	U
Dichlorodifluoromethane	µg/L	20,000	< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U	< 1	U
Ethylbenzene	µg/L	700	< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U	< 1	U
Hexachlorobutadiene	µg/L	20	< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U	< 1	U
Isopropylbenzene	µg/L	10,000	< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U	< 1	U
m,p-Xylenes	µg/L	10,000	< 1	U			< 1	U			< 1	U			< 1	U			< 1	U	< 2	U
Methyl isobutyl ketone	µg/L	8,200	< 5	U			< 5	U			< 5	U			< 5	U			< 5	U	< 2	U
Methylene chloride	µg/L	5	< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U	< 2	U
Naphthalene	µg/L	2,000	< 0.4	U			< 0.4	U			< 0.4	U			< 0.4	U			< 0.4	U	< 1	U
n-Butylbenzene	µg/L	4,100	< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U	< 1	U
n-Propylbenzene	µg/L	4,100	< 0.25	U			< 0.25	U			< 0.25	U			< 0.25	U			< 0.25	U	< 1	U
o-Xylene	µg/L	10,000	< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U	< 1	U
p-Isopropyltoluene	µg/L	10,000	< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U	< 1	U
sec-Butylbenzene	µg/L	4,100	< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U	< 1	U
Styrene	µg/L	100	< 0.25	U			< 0.25	U			< 0.25	U			< 0.25	U			< 0.25	U	< 1	U
tert-Butylbenzene	µg/L	4,100	< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U	< 1	U
Tetrachloroethene	µg/L	5	< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U	< 1	U
Toluene	µg/L	1,000	< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U	< 1	U
trans-1,2-Dichloroethene	µg/L	100	< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U	< 1	U
trans-1,3-Dichloropropene	µg/L	29	< 1	U			< 1	U			< 1	U			< 1	U			< 1	U	< 1	U
Trichloroethene	µg/L	5	< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U	< 1	U
Trichlorofluoromethane	µg/L	31,000	< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U	< 1	U
Vinyl chloride	µg/L	2	0.302	J			< 0.5	U			< 0.5	U			0.333	J			< 0.5	U	< 1	U

Table 2-4
Groundwater Results 2013–2019

		Location Code	67WW11								67WW12											
		Sample ID	67WW11-180502		67WW11-181023		67WW11-190501		67WW11-191024		67WW12-130601		67WW12-060113		67WW12-131001		67WW12-100113		67WW12-140124		67WW12-012414	
		Sample Date	5/2/2018		10/23/2018		5/1/2019		10/24/2019		6/1/2013		6/1/2013		10/1/2013		10/1/2013		1/24/2014		1/24/2014	
		Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter	Units	MCL/GW-Ind	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
ANIONS																						
Chloride	mg/L	NV																				
Nitrate	mg/L	10																				
Nitrite	mg/L	1																				
Sulfate	mg/L	NV																				
Sulfide	mg/L	NV																				
TOTAL ORGANIC CARBON																						
Total Inorganic Carbon	mg/L	NV																				
Total organic carbon	mg/L	NV																				
DHC																						
BVC	cells/mL	NV																				
Dehalococcoides	cells/mL	NV																				
FIELD TESTS																						
Conductivity	µmhos/cm	NV	4.94		4.99		4.65		4.73		4.4		4.4		4.54		4.54		4.12		4.12	
Dissolved oxygen	mg/L	NV	0.58		0.07		0.5		0.04		0.57		0.57		0.66		0.66		0.62		0.62	
Ferrous Iron	mg/L	NV																				
Oxidation-Reduction Potential	mV	NV	401		171		195		187		175		175		-119		-119		91		91	
pH	SU	NV	5.88		6.45		5.29		6.23		6.71		6.71		6.31		6.31		6.22		6.22	
Temperature	C	NV	20.49		18.02		20.60		21.72		27.34		27.34		22.99		22.99		15.69		15.69	
Turbidity	NTU	NV	7.7		1.9		7.8		0		2.7		2.7		0.3		0.3		0		0	
GENERAL CHEMISTRY																						
Alkalinity	mg/L	NV																				
Ferrous Iron	mg/L	NV																				
GASES																						
Carbon dioxide	µg/L	NV																				
Ethane	µg/L	NV																				
Ethylene	µg/L	NV																				
Methane	µg/L	NV																				
VOLATILES																						
1,1,1,2-Tetrachloroethane	µg/L	110	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.25	U			< 0.5	U			< 0.5	U
1,1,1-Trichloroethane	µg/L	200	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.25	U			< 0.5	U			< 0.5	U
1,1,2,2-Tetrachloroethane	µg/L	14	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.2	UJ			< 0.4	U			< 0.4	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	µg/L	3,100,000	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U												
1,1,2-Trichloroethane	µg/L	5	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.25	U			< 0.5	U			< 0.5	U
1,1-Dichloroethane	µg/L	10,000	3.3		3.8		1.9	J	1.9				< 0.125	U			< 0.25	U			< 0.25	U
1,1-Dichloroethene	µg/L	7	5.5		6.1		2.8		1.9				< 0.5	U			< 1	U			< 1	U
1,1-Dichloropropene	µg/L	2.9	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.25	U			< 0.5	U			< 0.5	U
1,2,3-Trichlorobenzene	µg/L	310	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	UJ			< 0.15	U			< 0.3	U			< 0.3	U
1,2,3-Trichloropropane	µg/L	0.041	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.5	U			< 1	U			< 1	U
1,2,4-Trichlorobenzene	µg/L	70	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.2	U			< 0.4	U			< 0.4	U
1,2,4-Trimethylbenzene	µg/L	5,100	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.25	U			< 0.5	U			< 0.5	U
1,2-Dibromo-3-chloropropane	µg/L	0.2	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U			< 1	UJ			< 2	UJ			< 2	UJ
1,2-Dibromoethane	µg/L	0.05	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.25	U			< 0.5	U			< 0.5	U
1,2-Dichlorobenzene	µg/L	600	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.125	U			< 0.25	U			< 0.25	U
1,2-Dichloroethane	µg/L	5	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.25	U			< 0.5	U			< 0.5	U
1,2-Dichloropropane	µg/L	5	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.2	U			< 0.4	U			< 0.4	U
1,3,5-Trimethylbenzene	µg/L	5,100	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.25	U			< 0.5	U			< 0.5	U
1,3-Dichlorobenzene	µg/L	3,100	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.25	U			< 0.5	U			< 0.5	U
1,3-Dichloropropane	µg/L	29	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.2	U			< 0.4	U			< 0.4	U
1,4-Dichlorobenzene	µg/L	75	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.125	U			< 0.25	U			< 0.25	U
2,2-Dichloropropane	µg/L	42	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.25	U			< 0.5	U			< 0.5	U

Table 2-4
Groundwater Results 2013–2019

		Location Code	67WW11								67WW12											
		Sample ID	67WW11-180502		67WW11-181023		67WW11-190501		67WW11-191024		67WW12-130601		67WW12-060113		67WW12-131001		67WW12-100113		67WW12-140124		67WW12-012414	
		Sample Date	5/2/2018		10/23/2018		5/1/2019		10/24/2019		6/1/2013		6/1/2013		10/1/2013		10/1/2013		1/24/2014		1/24/2014	
		Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter	Units	MCL/GW-Ind	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
2-Butanone	µg/L	61,000	< 1	U	< 1	U	< 1	U	< 1	U			< 2.5	U			< 5	U			< 5	U
2-Chlorotoluene	µg/L	2,000	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.125	U			< 0.25	U			< 0.25	U
2-Hexanone	µg/L	6,100	< 1	U	< 1	U	< 1	U	< 1	U			< 2.5	U			< 5	U			< 5	U
4-Chlorotoluene	µg/L	2,000	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.25	U			< 0.5	U			< 0.5	U
Acetone	µg/L	92,000	< 1	U	< 2	U	5.6		< 1	U			< 2.5	U			< 5	U			< 5	U
Benzene	µg/L	5	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.125	U			< 0.25	U			< 0.25	U
Bromobenzene	µg/L	2,000	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.125	U			< 0.25	U			< 0.25	U
Bromochloromethane	µg/L	4,100	< 0.5	U	< 0.5	U	< 0.5	UJ	< 0.5	U			< 0.2	U			< 0.4	U			< 0.4	U
Bromodichloromethane	µg/L	4.6	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.25	U			< 0.5	U			< 0.5	U
Bromoform	µg/L	36	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.5	U			< 1	U			< 1	U
Bromomethane	µg/L	140	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.5	UJ			< 1	U			< 1	U
Carbon disulfide	µg/L	10,000	< 1	U	< 1	U	< 1	U	< 1	U			< 0.5	U			< 1	U			< 1	U
Carbon tetrachloride	µg/L	5	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.25	U			< 0.5	U			< 0.5	U
Chlorobenzene	µg/L	100	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.125	U			< 0.25	U			< 0.25	U
Chloroethane	µg/L	41,000	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.5	U			< 1	U			< 1	U
Chloroform	µg/L	1,000	< 0.5	U	< 0.5	U	< 0.5	UJ	< 0.5	U			< 0.125	U			< 0.25	U			< 0.25	U
Chloromethane	µg/L	220	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.5	UJ			< 1	U			< 1	U
cis-1,2-Dichloroethene	µg/L	70	< 0.5	U	< 0.5	U	< 0.5	UJ	< 0.5	U			< 0.25	U			< 0.5	U			< 0.5	U
cis-1,3-Dichloropropene	µg/L	5.3	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.25	U			< 0.5	U			< 0.5	U
Dibromochloromethane	µg/L	34	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.25	U			< 0.5	U			< 0.5	U
Dibromomethane	µg/L	380	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.25	U			< 0.5	U			< 0.5	U
Dichlorodifluoromethane	µg/L	20,000	< 0.5	U	< 0.5	UJ	< 0.5	U	< 0.5	U			< 0.25	U			< 0.5	U			< 0.5	U
Ethylbenzene	µg/L	700	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.25	U			< 0.5	U			< 0.5	U
Hexachlorobutadiene	µg/L	20	< 0.5	U	< 1	U	< 1	U	< 0.5	U			< 0.25	U			< 0.5	U			< 0.5	U
Isopropylbenzene	µg/L	10,000	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.25	U			< 0.5	U			< 0.5	U
m,p-Xylenes	µg/L	10,000	< 1	U	< 1	U	< 1	U	< 1	U			< 0.5	U			< 1	U			< 1	U
Methyl isobutyl ketone	µg/L	8,200	< 1	U	< 1	U	< 1	U	< 1	U			< 2.5	U			< 5	U			< 5	U
Methylene chloride	µg/L	5	< 1	U	< 1	U	< 1	U	< 1	U			< 0.25	U			< 0.5	U			< 0.5	U
Naphthalene	µg/L	2,000	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	UJ			< 0.2	U			< 0.4	U			< 0.4	U
n-Butylbenzene	µg/L	4,100	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.25	U			< 0.5	U			< 0.5	U
n-Propylbenzene	µg/L	4,100	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.125	U			< 0.25	U			< 0.25	U
o-Xylene	µg/L	10,000	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.25	U			< 0.5	U			< 0.5	U
p-Isopropyltoluene	µg/L	10,000	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			0.299	J			< 0.5	U			< 0.5	U
sec-Butylbenzene	µg/L	4,100	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.25	U			< 0.5	U			< 0.5	U
Styrene	µg/L	100	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.125	U			< 0.25	U			< 0.25	U
tert-Butylbenzene	µg/L	4,100	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.25	U			< 0.5	U			< 0.5	U
Tetrachloroethene	µg/L	5	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.25	U			< 0.5	U			< 0.5	U
Toluene	µg/L	1,000	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.25	U			< 0.5	U			< 0.5	U
trans-1,2-Dichloroethene	µg/L	100	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.25	U			< 0.5	U			< 0.5	U
trans-1,3-Dichloropropene	µg/L	29	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.5	U			< 1	U			< 1	U
Trichloroethene	µg/L	5	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.25	U			< 0.5	U			< 0.5	U
Trichlorofluoromethane	µg/L	31,000	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.25	U			< 0.5	U			< 0.5	U
Vinyl chloride	µg/L	2	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.25	U			< 0.5	U			< 0.5	U

Table 2-4
Groundwater Results 2013–2019

		Location Code	67WW12																	
		Sample ID	67WW12-140506		67WW12-050614		67WW12-140725		67WW12-072514		67WW12-141203		67WW12-120314		67WW12-150210		67WW12-021015		67WW12-150512		67WW12-051215	
		Sample Date	5/6/2014		5/6/2014		7/25/2014		7/25/2014		12/3/2014		12/3/2014		2/10/2015		2/10/2015		5/12/2015		5/12/2015	
		Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter	Units	MCL/GW-Ind	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
ANIONS																						
Chloride	mg/L	NV																				
Nitrate	mg/L	10																				
Nitrite	mg/L	1																				
Sulfate	mg/L	NV																				
Sulfide	mg/L	NV																				
TOTAL ORGANIC CARBON																						
Total Inorganic Carbon	mg/L	NV																				
Total organic carbon	mg/L	NV																				
DHC																						
BVC	cells/mL	NV																				
Dehalococcoides	cells/mL	NV																				
FIELD TESTS																						
Conductivity	µmhos/cm	NV	4.56		4.56		4.52		4.52		5.21		5.21		3.37		3.37		3.34		3.34	
Dissolved oxygen	mg/L	NV	0.8		0.8		0.21		0.21		0		0		0.17		0.17		1.23		1.23	
Ferrous Iron	mg/L	NV																				
Oxidation-Reduction Potential	mV	NV	43		43		12		12		20		20		139		139		54		54	
pH	SU	NV	5.39		5.39		6.36		6.36		6.06		6.06		5.32		5.32		5.41		5.41	
Temperature	C	NV	20.51		20.51		22.61		22.61		19.09		19.09		19.7		19.7		18.55		18.55	
Turbidity	NTU	NV	5.2		5.2		10.8		10.8		0.5		0.5		2.1		2.1		0		0	
GENERAL CHEMISTRY																						
Alkalinity	mg/L	NV																				
Ferrous Iron	mg/L	NV																				
GASES																						
Carbon dioxide	µg/L	NV																				
Ethane	µg/L	NV																				
Ethylene	µg/L	NV																				
Methane	µg/L	NV																				
VOLATILES																						
1,1,1,2-Tetrachloroethane	µg/L	110			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U
1,1,1-Trichloroethane	µg/L	200			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U
1,1,2,2-Tetrachloroethane	µg/L	14			< 0.4	U			< 0.4	U			< 0.4	U			< 0.4	U			< 0.4	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	µg/L	3,100,000																				
1,1,2-Trichloroethane	µg/L	5			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U
1,1-Dichloroethane	µg/L	10,000			< 0.25	U			< 0.25	U			< 0.25	U			< 0.25	U			< 0.25	U
1,1-Dichloroethene	µg/L	7			< 1	U			< 1	U			< 1	U			< 1	U			< 1	U
1,1-Dichloropropene	µg/L	2.9			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U
1,2,3-Trichlorobenzene	µg/L	310			< 0.3	U			< 0.3	U			< 0.3	U			< 0.3	U			< 0.3	U
1,2,3-Trichloropropane	µg/L	0.041			< 1	U			< 1	U			< 1	U			< 1	U			< 1	U
1,2,4-Trichlorobenzene	µg/L	70			< 0.4	U			< 0.4	U			< 0.4	U			< 0.4	U			< 0.4	U
1,2,4-Trimethylbenzene	µg/L	5,100			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U
1,2-Dibromo-3-chloropropane	µg/L	0.2			< 2	U			< 2	U			< 2	U			< 2	U			< 2	U
1,2-Dibromoethane	µg/L	0.05			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U
1,2-Dichlorobenzene	µg/L	600			< 0.25	U			< 0.25	U			< 0.25	U			< 0.25	U			< 0.25	U
1,2-Dichloroethane	µg/L	5			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U
1,2-Dichloropropane	µg/L	5			< 0.4	U			< 0.4	U			< 0.4	U			< 0.4	U			< 0.4	U
1,3,5-Trimethylbenzene	µg/L	5,100			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U
1,3-Dichlorobenzene	µg/L	3,100			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U
1,3-Dichloropropane	µg/L	29			< 0.4	U			< 0.4	U			< 0.4	U			< 0.4	U			< 0.4	U
1,4-Dichlorobenzene	µg/L	75			< 0.25	U			< 0.25	U			< 0.25	U			< 0.25	U			< 0.25	U
2,2-Dichloropropane	µg/L	42			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U

Table 2-4
Groundwater Results 2013–2019

		Location Code	67WW12																			
		Sample ID	67WW12-140506		67WW12-050614		67WW12-140725		67WW12-072514		67WW12-141203		67WW12-120314		67WW12-150210		67WW12-021015		67WW12-150512		67WW12-051215	
		Sample Date	5/6/2014		5/6/2014		7/25/2014		7/25/2014		12/3/2014		12/3/2014		2/10/2015		2/10/2015		5/12/2015		5/12/2015	
		Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter	Units	MCL/GW-Ind	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
2-Butanone	µg/L	61,000			< 5	U			< 5	U			< 5	U			< 5	U			< 5	U
2-Chlorotoluene	µg/L	2,000			< 0.25	U			< 0.25	U			< 0.25	U			< 0.25	U			< 0.25	U
2-Hexanone	µg/L	6,100			< 5	U			< 5	U			< 5	U			< 5	U			< 5	UJ
4-Chlorotoluene	µg/L	2,000			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U
Acetone	µg/L	92,000			< 5	U			< 5	U			< 5	U			< 5	U			< 5	U
Benzene	µg/L	5			< 0.161	U			< 0.25	U			< 0.25	U			< 0.25	U			< 0.25	U
Bromobenzene	µg/L	2,000			< 0.25	U			< 0.25	U			< 0.25	U			< 0.25	U			< 0.25	U
Bromochloromethane	µg/L	4,100			< 0.4	U			< 0.4	U			< 0.4	U			< 0.4	U			< 0.4	U
Bromodichloromethane	µg/L	4.6			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U
Bromoform	µg/L	36			< 1	U			< 1	U			< 1	U			< 1	U			< 1	U
Bromomethane	µg/L	140			< 1	U			< 1	U			< 1	U			< 1	U			< 1	U
Carbon disulfide	µg/L	10,000			< 1	U			< 1	U			< 1	U			< 1	U			< 1	U
Carbon tetrachloride	µg/L	5			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U
Chlorobenzene	µg/L	100			< 0.25	U			< 0.25	U			< 0.25	U			< 0.25	U			< 0.25	U
Chloroethane	µg/L	41,000			< 1	U			< 1	U			< 1	U			< 1	U			< 1	U
Chloroform	µg/L	1,000			< 0.25	U			< 0.25	U			< 0.25	U			< 0.25	U			< 0.25	U
Chloromethane	µg/L	220			< 1	U			< 1	U			< 1	U			< 1	U			< 1	U
cis-1,2-Dichloroethene	µg/L	70			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U
cis-1,3-Dichloropropene	µg/L	5.3			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U
Dibromochloromethane	µg/L	34			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U
Dibromomethane	µg/L	380			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U
Dichlorodifluoromethane	µg/L	20,000			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U
Ethylbenzene	µg/L	700			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U
Hexachlorobutadiene	µg/L	20			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U
Isopropylbenzene	µg/L	10,000			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U
m,p-Xylenes	µg/L	10,000			< 1	U			< 1	U			< 1	U			< 1	U			< 1	U
Methyl isobutyl ketone	µg/L	8,200			< 5	U			< 5	U			< 5	U			< 5	U			< 5	U
Methylene chloride	µg/L	5			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U
Naphthalene	µg/L	2,000			< 0.4	U			< 0.4	U			< 0.4	U			< 0.4	U			< 0.4	U
n-Butylbenzene	µg/L	4,100			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U
n-Propylbenzene	µg/L	4,100			< 0.25	U			< 0.25	U			< 0.25	U			< 0.25	U			< 0.25	U
o-Xylene	µg/L	10,000			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U
p-Isopropyltoluene	µg/L	10,000			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U
sec-Butylbenzene	µg/L	4,100			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U
Styrene	µg/L	100			< 0.25	U			< 0.25	U			< 0.25	U			< 0.25	U			< 0.25	U
tert-Butylbenzene	µg/L	4,100			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U
Tetrachloroethene	µg/L	5			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U
Toluene	µg/L	1,000			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U
trans-1,2-Dichloroethene	µg/L	100			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U
trans-1,3-Dichloropropene	µg/L	29			< 1	U			< 1	U			< 1	U			< 1	U			< 1	U
Trichloroethene	µg/L	5			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U
Trichlorofluoromethane	µg/L	31,000			< 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

Table 2-4
Groundwater Results 2013–2019

		Location Code	67WW12																			
		Sample ID	67WW12FFD-111815		67WW12-151118		67WW12-111815		67WW12-151216		67WW12-161215 DUP		67WW12-161215		67WW12-161215DUP		67WW12-160518		67WW12-051816		67WW12-112917	
		Sample Date	11/18/2015		11/18/2015		11/18/2015		12/16/2015		12/16/2015		12/16/2015		12/16/2015		5/18/2016		5/18/2016		11/29/2017	
		Sample Purpose	FD		REG		REG		REG		REG		REG		FD		REG		REG		REG	
Parameter	Units	MCL/GW-Ind	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
ANIONS																						
Chloride	mg/L	NV																				
Nitrate	mg/L	10																				
Nitrite	mg/L	1																				
Sulfate	mg/L	NV																				
Sulfide	mg/L	NV																				
TOTAL ORGANIC CARBON																						
Total Inorganic Carbon	mg/L	NV																				
Total organic carbon	mg/L	NV																				
DHC																						
BVC	cells/mL	NV																				
Dehalococcoides	cells/mL	NV																				
FIELD TESTS																						
Conductivity	µmhos/cm	NV			3.69		3.69		4.66				4.66				4.06		4.06		5.17	
Dissolved oxygen	mg/L	NV			0.05		0.05		0				0				0.36		0.36		0.43	
Ferrous Iron	mg/L	NV																				
Oxidation-Reduction Potential	mV	NV			178		178		50				50				221		221		209	
pH	SU	NV			5.21		5.21		5.85				5.85				4.96		4.96		5.52	
Temperature	C	NV			17.95		17.95		19.38				19.38				18.41		18.41		19.71	
Turbidity	NTU	NV			3.1		3.1		11				11				5.7		5.7		0	
GENERAL CHEMISTRY																						
Alkalinity	mg/L	NV																				
Ferrous Iron	mg/L	NV																				
GASES																						
Carbon dioxide	µg/L	NV																				
Ethane	µg/L	NV																				
Ethylene	µg/L	NV																				
Methane	µg/L	NV																				
VOLATILES																						
1,1,1,2-Tetrachloroethane	µg/L	110	< 0.5	U			< 0.5	U											< 0.5	U	< 1	U
1,1,1-Trichloroethane	µg/L	200	< 0.5	U			< 0.5	U											< 0.5	U	< 1	U
1,1,2,2-Tetrachloroethane	µg/L	14	< 0.4	U			< 0.4	U											< 0.4	U	< 1	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	µg/L	3,100,000																			< 1	U
1,1,2-Trichloroethane	µg/L	5	< 0.5	U			< 0.5	U											< 0.5	U	< 1	U
1,1-Dichloroethane	µg/L	10,000	< 0.25	U			< 0.25	U											< 0.25	U	< 1	U
1,1-Dichloroethene	µg/L	7	< 1	U			< 1	U											0.681	J	2.2	
1,1-Dichloropropene	µg/L	2.9	< 0.5	U			< 0.5	U											< 0.5	U	< 1	U
1,2,3-Trichlorobenzene	µg/L	310	< 0.3	U			< 0.3	U											< 0.3	U	< 1	U
1,2,3-Trichloropropane	µg/L	0.041	< 1	U			< 1	U											< 1	U	< 1	U
1,2,4-Trichlorobenzene	µg/L	70	< 0.4	U			< 0.4	U											< 0.4	U	< 1	U
1,2,4-Trimethylbenzene	µg/L	5,100	< 0.5	U			< 0.5	U											< 0.5	U	< 1	U
1,2-Dibromo-3-chloropropane	µg/L	0.2	< 2	U			< 2	U											< 2	U	< 1	U
1,2-Dibromoethane	µg/L	0.05	< 0.5	U			< 0.5	U											< 0.5	U	< 1	U
1,2-Dichlorobenzene	µg/L	600	< 0.25	U			< 0.25	U											< 0.25	U	< 1	U
1,2-Dichloroethane	µg/L	5	< 0.5	U			< 0.5	U											< 0.5	U	< 1	U
1,2-Dichloropropane	µg/L	5	< 0.4	U			< 0.4	U											< 0.4	U	< 1	U
1,3,5-Trimethylbenzene	µg/L	5,100	< 0.5	U			< 0.5	U											< 0.5	U	< 1	U
1,3-Dichlorobenzene	µg/L	3,100	< 0.5	U			< 0.5	U											< 0.5	U	< 1	U
1,3-Dichloropropane	µg/L	29	< 0.4	U			< 0.4	U											< 0.4	U	< 1	U
1,4-Dichlorobenzene	µg/L	75	< 0.25	U			< 0.25	U											< 0.25	U	< 1	U
2,2-Dichloropropane	µg/L	42	< 0.5	U			< 0.5	U											< 0.5	U	< 1	U

Table 2-4
Groundwater Results 2013–2019

		Location Code	67WW12																			
		Sample ID	67WW12FFD-111815		67WW12-151118		67WW12-111815		67WW12-151216		67WW12-161215 DUP		67WW12-161215		67WW12-161215DUP		67WW12-160518		67WW12-051816		67WW12-112917	
		Sample Date	11/18/2015		11/18/2015		11/18/2015		12/16/2015		12/16/2015		12/16/2015		12/16/2015		5/18/2016		5/18/2016		11/29/2017	
		Sample Purpose	FD		REG		REG		REG		REG		REG		FD		REG		REG		REG	
Parameter	Units	MCL/GW-Ind	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
2-Butanone	µg/L	61,000	< 5	U			< 5	U											< 5	U	< 2	U
2-Chlorotoluene	µg/L	2,000	< 0.25	U			< 0.25	U											< 0.25	U	< 1	U
2-Hexanone	µg/L	6,100	< 5	U			< 5	U											< 5	U	< 2	U
4-Chlorotoluene	µg/L	2,000	< 0.5	U			< 0.5	U											< 0.5	U	< 1	U
Acetone	µg/L	92,000	< 5	U			< 5	U											< 5	U	< 2	U
Benzene	µg/L	5	< 0.25	U			< 0.25	U											< 0.25	U	< 1	U
Bromobenzene	µg/L	2,000	< 0.25	U			< 0.25	U											< 0.25	U	< 1	U
Bromochloromethane	µg/L	4,100	< 0.4	U			< 0.4	U											< 0.4	U	< 1	U
Bromodichloromethane	µg/L	4.6	< 0.5	U			< 0.5	U											< 0.5	U	< 1	U
Bromoform	µg/L	36	< 1	U			< 1	U											< 1	U	< 1	U
Bromomethane	µg/L	140	< 1	U			< 1	U											< 1	U	< 1	U
Carbon disulfide	µg/L	10,000					< 1	U											< 1	U	< 2	U
Carbon tetrachloride	µg/L	5					< 0.5	U											< 0.5	U	< 1	U
Chlorobenzene	µg/L	100					< 0.25	U											< 0.25	U	< 1	U
Chloroethane	µg/L	41,000					< 1	U											< 1	U	< 1	U
Chloroform	µg/L	1,000					< 0.25	U											< 0.25	U	< 1	U
Chloromethane	µg/L	220					< 1	U											< 1	U	< 1	U
cis-1,2-Dichloroethene	µg/L	70					< 0.5	U											< 0.5	U	< 1	U
cis-1,3-Dichloropropene	µg/L	5.3					< 0.5	U											< 0.5	U	< 1	U
Dibromochloromethane	µg/L	34					< 0.5	U											< 0.5	U	< 1	U
Dibromomethane	µg/L	380					< 0.5	U											< 0.5	U	< 1	U
Dichlorodifluoromethane	µg/L	20,000					< 0.5	U											< 0.5	U	< 1	U
Ethylbenzene	µg/L	700					< 0.5	U											< 0.5	U	< 1	U
Hexachlorobutadiene	µg/L	20					< 0.5	U											< 0.5	U	< 1	U
Isopropylbenzene	µg/L	10,000					< 0.5	U											< 0.5	U	< 1	U
m,p-Xylenes	µg/L	10,000					< 1	U											< 1	U	< 2	U
Methyl isobutyl ketone	µg/L	8,200	< 5	U			< 5	U											< 5	U	< 2	U
Methylene chloride	µg/L	5					< 0.5	U											< 0.5	U	< 2	U
Naphthalene	µg/L	2,000					< 0.4	U											< 0.4	U	< 1	U
n-Butylbenzene	µg/L	4,100					< 0.5	U											< 0.5	U	< 1	U
n-Propylbenzene	µg/L	4,100					< 0.25	U											< 0.25	U	< 1	U
o-Xylene	µg/L	10,000					< 0.5	U											< 0.5	U	< 1	U
p-Isopropyltoluene	µg/L	10,000					< 0.5	U											< 0.5	U	< 1	U
sec-Butylbenzene	µg/L	4,100					< 0.5	U											< 0.5	U	< 1	U
Styrene	µg/L	100					< 0.25	U											< 0.25	U	< 1	U
tert-Butylbenzene	µg/L	4,100					< 0.5	U											< 0.5	U	< 1	U
Tetrachloroethene	µg/L	5					< 0.5	U											< 0.5	U	< 1	U
Toluene	µg/L	1,000					< 0.5	U											< 0.5	U	< 1	U
trans-1,2-Dichloroethene	µg/L	100					< 0.5	U											< 0.5	U	< 1	U
trans-1,3-Dichloropropene	µg/L	29					< 1	U											< 1	U	< 1	U
Trichloroethene	µg/L	5					< 0.5	U											< 0.5	U	< 1	U
Trichlorofluoromethane	µg/L	31,000					< 0.5	U											< 0.5	U	< 1	U
Vinyl chloride	µg/L	2					< 0.5	U											< 0.5	U	< 1	U

Table 2-4
Groundwater Results 2013–2019

		Location Code	67WW12										67WW13									
		Sample ID	67WW12-112917-FD		67WW12-180503		67WW12-181022		67WW12-190502		67WW12-191028		67WW13-130531		67WW13-053113		67WW13-131001		67WW13-100113		67WW13-140124	
		Sample Date	11/29/2017		5/3/2018		10/22/2018		5/2/2019		10/28/2019		5/31/2013		5/31/2013		10/1/2013		10/1/2013		1/24/2014	
		Sample Purpose	FD		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter	Units	MCL/GW-Ind	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
ANIONS																						
Chloride	mg/L	NV																				
Nitrate	mg/L	10																				
Nitrite	mg/L	1																				
Sulfate	mg/L	NV																				
Sulfide	mg/L	NV																				
TOTAL ORGANIC CARBON																						
Total Inorganic Carbon	mg/L	NV																				
Total organic carbon	mg/L	NV																				
DHC																						
BVC	cells/mL	NV																				
Dehalococcoides	cells/mL	NV																				
FIELD TESTS																						
Conductivity	µmhos/cm	NV			4.14		5.24		3.56		4.35		5.55		5.55		6.65		6.65		6.87	
Dissolved oxygen	mg/L	NV			0.58		0.29		0.61		0.62		1.17		1.17		0.98		0.98		0.16	
Ferrous Iron	mg/L	NV																				
Oxidation-Reduction Potential	mV	NV			216		209		187		126		106		106		37		37		125	
pH	SU	NV			5.75		5.68		5.35		5.72		6.68		6.68		7.09		7.09		6.76	
Temperature	C	NV			20.76		18.77		20.12		18.62		34.55		34.55		21.97		21.97		15.8	
Turbidity	NTU	NV			0		0		6.3		1.8		0.2		0.2		0.3		0.3		0	
GENERAL CHEMISTRY																						
Alkalinity	mg/L	NV																				
Ferrous Iron	mg/L	NV																				
GASES																						
Carbon dioxide	µg/L	NV																				
Ethane	µg/L	NV																				
Ethylene	µg/L	NV																				
Methane	µg/L	NV																				
VOLATILES																						
1,1,1,2-Tetrachloroethane	µg/L	110	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 2.5	U			< 0.5	U		
1,1,1-Trichloroethane	µg/L	200	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 2.5	U			< 0.5	U		
1,1,2,2-Tetrachloroethane	µg/L	14	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.2	U			< 0.4	U		
1,1,2-Trichloro-1,2,2-Trifluoroethane	µg/L	3,100,000	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U										
1,1,2-Trichloroethane	µg/L	5	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			3.58				3.37			
1,1-Dichloroethane	µg/L	10,000	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	0.51	J			35.5				33.8			
1,1-Dichloroethene	µg/L	7	1.8		< 0.5	U	4.8		2.1		17				565	J			515			
1,1-Dichloropropene	µg/L	2.9	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 2.5	U			< 0.5	U		
1,2,3-Trichlorobenzene	µg/L	310	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	UJ			< 1.5	U			< 0.3	U		
1,2,3-Trichloropropane	µg/L	0.041	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 5	U			< 1	U		
1,2,4-Trichlorobenzene	µg/L	70	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.2	U			< 0.4	U		
1,2,4-Trimethylbenzene	µg/L	5,100	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 2.5	U			< 0.5	U		
1,2-Dibromo-3-chloropropane	µg/L	0.2	< 1	U	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U			< 1	U			< 2	UJ		
1,2-Dibromoethane	µg/L	0.05	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 2.5	U			< 0.5	U		
1,2-Dichlorobenzene	µg/L	600	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.125	U			< 0.25	U		
1,2-Dichloroethane	µg/L	5	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			19.9				23.8			
1,2-Dichloropropane	µg/L	5	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.2	U			< 0.4	U		
1,3,5-Trimethylbenzene	µg/L	5,100	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 2.5	U			< 0.5	U		
1,3-Dichlorobenzene	µg/L	3,100	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.25	U			< 0.5	U		
1,3-Dichloropropane	µg/L	29	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.2	U			< 0.4	U		
1,4-Dichlorobenzene	µg/L	75	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 1.25	U			< 0.25	U		
2,2-Dichloropropane	µg/L	42	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.25	U			< 0.5	U		

Table 2-4
Groundwater Results 2013–2019

	Location Code	67WW12										67WW13									
	Sample ID	67WW12-112917-FD		67WW12-180503		67WW12-181022		67WW12-190502		67WW12-191028		67WW13-130531		67WW13-053113		67WW13-131001		67WW13-100113		67WW13-140124	
	Sample Date	11/29/2017		5/3/2018		10/22/2018		5/2/2019		10/28/2019		5/31/2013		5/31/2013		10/1/2013		10/1/2013		1/24/2014	
	Sample Purpose	FD		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter	Units	MCL/GW-Ind	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
2-Butanone	µg/L	61,000	< 2	U	< 1	U	< 1	U	< 1	U	< 1	U			< 2.5	U			< 5	U		
2-Chlorotoluene	µg/L	2,000	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.125	U			< 0.25	U		
2-Hexanone	µg/L	6,100	< 2	U	< 1	U	< 1	U	< 1	U	< 1	U			< 25	U			< 5	U		
4-Chlorotoluene	µg/L	2,000	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.25	U			< 0.5	U		
Acetone	µg/L	92,000	< 2	U	< 1	U	< 2	U	< 1	U	< 1	U			< 2.5	U			< 5	U		
Benzene	µg/L	5	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.125	U			< 0.25	U		
Bromobenzene	µg/L	2,000	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 1.25	U			< 0.25	U		
Bromochloromethane	µg/L	4,100	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.2	U			< 0.4	U		
Bromodichloromethane	µg/L	4.6	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 2.5	U			< 0.5	U		
Bromoform	µg/L	36	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.5	U			< 1	U		
Bromomethane	µg/L	140	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.5	U			< 1	U		
Carbon disulfide	µg/L	10,000	< 2	U	< 1	U	< 1	U	< 1	U	< 1	U			< 5	U			< 1	U		
Carbon tetrachloride	µg/L	5	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 2.5	U			< 0.5	U		
Chlorobenzene	µg/L	100	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.125	U			< 0.25	U		
Chloroethane	µg/L	41,000	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.5	U			< 1	U		
Chloroform	µg/L	1,000	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 1.25	U			< 0.336	J		
Chloromethane	µg/L	220	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.5	U			< 1	U		
cis-1,2-Dichloroethene	µg/L	70	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 2.5	U			1.66			
cis-1,3-Dichloropropene	µg/L	5.3	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 2.5	U			< 0.5	U		
Dibromochloromethane	µg/L	34	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 2.5	U			< 0.5	U		
Dibromomethane	µg/L	380	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 2.5	U			< 0.5	U		
Dichlorodifluoromethane	µg/L	20,000	< 1	U	< 0.5	U	< 0.5	UJ	< 0.5	U	< 0.5	U			< 2.5	U			< 0.5	U		
Ethylbenzene	µg/L	700	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.25	U			< 0.5	U		
Hexachlorobutadiene	µg/L	20	< 1	U	< 0.5	U	< 1	U	< 1	U	< 0.5	U			< 2.5	U			< 0.5	U		
Isopropylbenzene	µg/L	10,000	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 2.5	U			< 0.5	U		
m,p-Xylenes	µg/L	10,000	< 2	U	< 1	U	< 1	U	< 1	U	< 1	U			< 5	U			< 1	U		
Methyl isobutyl ketone	µg/L	8,200	< 2	U	< 1	U	< 1	U	< 1	U	< 1	U			< 2.5	U			< 5	U		
Methylene chloride	µg/L	5	< 2	U	< 1	U	< 1	U	< 1	U	< 1	U			< 2.5	U			< 0.5	U		
Naphthalene	µg/L	2,000	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	UJ			< 0.2	U			< 0.4	U		
n-Butylbenzene	µg/L	4,100	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 2.5	U			< 0.5	U		
n-Propylbenzene	µg/L	4,100	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 1.25	U			< 0.25	U		
o-Xylene	µg/L	10,000	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.25	U			< 0.5	U		
p-Isopropyltoluene	µg/L	10,000	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 2.5	U			< 0.5	U		
sec-Butylbenzene	µg/L	4,100	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.25	U			< 0.5	U		
Styrene	µg/L	100	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.125	U			< 0.25	U		
tert-Butylbenzene	µg/L	4,100	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.25	U			< 0.5	U		
Tetrachloroethene	µg/L	5	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.25	U			< 0.5	U		
Toluene	µg/L	1,000	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.25	U			< 0.5	U		
trans-1,2-Dichloroethene	µg/L	100	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.25	U			< 0.5	U		
trans-1,3-Dichloropropene	µg/L	29	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.5	U			< 1	U		
Trichloroethene	µg/L	5	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			2.71	J			2.81			
Trichlorofluoromethane	µg/L	31,000	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.25	U			< 0.5	U		
Vinyl chloride	µg/L	2	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			2.55				2.1			

Table 2-4
Groundwater Results 2013–2019

		Location Code	67WW13																			
		Sample ID	67WW13FD-012414		67WW13-012414		67WW13-140506		67WW13FD-050614		67WW13-050614		67WW13-140725		67WW13FD-072514		67WW13-072514		67WW13-141204		67WW13-120414	
		Sample Date	1/24/2014		1/24/2014		5/6/2014		5/6/2014		5/6/2014		7/25/2014		7/25/2014		7/25/2014		12/4/2014		12/4/2014	
		Sample Purpose	FD		REG		REG		FD		REG		REG		FD		REG		REG		REG	
Parameter	Units	MCL/GW-Ind	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
ANIONS																						
Chloride	mg/L	NV																				
Nitrate	mg/L	10																				
Nitrite	mg/L	1																				
Sulfate	mg/L	NV																				
Sulfide	mg/L	NV																				
TOTAL ORGANIC CARBON																						
Total Inorganic Carbon	mg/L	NV																				
Total organic carbon	mg/L	NV																				
DHC																						
BVC	cells/mL	NV																				
Dehalococcoides	cells/mL	NV																				
FIELD TESTS																						
Conductivity	µmhos/cm	NV			6.87		6.16				6.16		6.83				6.83		6.81		6.81	
Dissolved oxygen	mg/L	NV			0.16		2.03				2.03		1.19				1.19		0.29		0.29	
Ferrous Iron	mg/L	NV																				
Oxidation-Reduction Potential	mV	NV			125		122				122		178				178		150		150	
pH	SU	NV			6.76		5.86				5.86		6.24				6.24		6.46		6.46	
Temperature	C	NV			15.8		25.17				25.17		25.2				25.2		19.85		19.85	
Turbidity	NTU	NV			0		1.2				1.2		0.2				0.2		0		0	
GENERAL CHEMISTRY																						
Alkalinity	mg/L	NV																				
Ferrous Iron	mg/L	NV																				
GASES																						
Carbon dioxide	µg/L	NV																				
Ethane	µg/L	NV																				
Ethylene	µg/L	NV																				
Methane	µg/L	NV																				
VOLATILES																						
1,1,1,2-Tetrachloroethane	µg/L	110	< 1.25	U	< 1.25	U			< 1	U	< 1	U			< 0.5	U	< 0.5	U			< 2.5	U
1,1,1-Trichloroethane	µg/L	200	< 1.25	U	< 1.25	U			< 1	U	< 1	U			< 0.5	U	< 0.5	U			< 2.5	U
1,1,2,2-Tetrachloroethane	µg/L	14	< 1	U	< 1	U			< 0.8	U	< 0.8	U			< 0.4	U	< 0.4	U			< 2	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	µg/L	3,100,000																				
1,1,2-Trichloroethane	µg/L	5	3.01		2.99				1.95	J	1.99	J			3.56		3.48				4.4	J
1,1-Dichloroethane	µg/L	10,000	32.4		32.7				14.4		15.5				22.1		21.9				28.8	
1,1-Dichloroethene	µg/L	7	569		572				228		240				362		353				572	
1,1-Dichloropropene	µg/L	2.9	< 1.25	U	< 1.25	U			< 1	U	< 1	U			< 0.5	U	< 0.5	U			< 2.5	U
1,2,3-Trichlorobenzene	µg/L	310	< 0.75	U	< 0.75	U			< 0.6	U	< 0.6	U			< 0.3	U	< 0.3	U			< 1.5	U
1,2,3-Trichloropropane	µg/L	0.041	< 2.5	U	< 2.5	U			< 2	U	< 2	U			< 1	U	< 1	U			< 5	U
1,2,4-Trichlorobenzene	µg/L	70	< 1	U	< 1	U			< 0.8	U	< 0.8	U			< 0.4	U	< 0.4	U			< 2	U
1,2,4-Trimethylbenzene	µg/L	5,100	< 1.25	U	< 1.25	U			< 1	U	< 1	U			< 0.5	U	< 0.5	U			< 2.5	U
1,2-Dibromo-3-chloropropane	µg/L	0.2	< 5	UJ	< 5	UJ			< 4	U	< 4	U			< 2	U	< 2	U			< 10	U
1,2-Dibromoethane	µg/L	0.05	< 1.25	U	< 1.25	U			< 1	U	< 1	U			< 0.5	U	< 0.5	U			< 2.5	U
1,2-Dichlorobenzene	µg/L	600	< 0.626	U	< 0.626	U			< 0.5	U	< 0.5	U			< 0.25	U	< 0.25	U			< 1.25	U
1,2-Dichloroethane	µg/L	5	22.9		22.9				12.9		13.7				20.1		19.8				24.9	
1,2-Dichloropropane	µg/L	5	< 1	U	< 1	U			< 0.8	U	< 0.8	U			< 0.4	U	< 0.4	U			< 2	U
1,3,5-Trimethylbenzene	µg/L	5,100	< 1.25	U	< 1.25	U			< 1	U	< 1	U			< 0.5	U	< 0.5	U			< 2.5	U
1,3-Dichlorobenzene	µg/L	3,100	< 1.25	U	< 1.25	U			< 1	U	< 1	U			< 0.5	U	< 0.5	U			< 2.5	U
1,3-Dichloropropane	µg/L	29	< 1	U	< 1	U			< 0.8	U	< 0.8	U			< 0.4	U	< 0.4	U			< 2	U
1,4-Dichlorobenzene	µg/L	75	< 0.626	U	< 0.626	U			< 0.5	U	< 0.5	U			< 0.25	U	< 0.25	U			< 1.25	U
2,2-Dichloropropane	µg/L	42	< 1.25	U	< 1.25	U			< 1	UJ	< 1	U			< 0.5	U	< 0.5	U			< 2.5	U

Table 2-4
Groundwater Results 2013–2019

		Location Code	67WW13																			
		Sample ID	67WW13FD-012414		67WW13-012414		67WW13-140506		67WW13FD-050614		67WW13-050614		67WW13-140725		67WW13FD-072514		67WW13-072514		67WW13-141204		67WW13-120414	
		Sample Date	1/24/2014		1/24/2014		5/6/2014		5/6/2014		5/6/2014		7/25/2014		7/25/2014		7/25/2014		12/4/2014		12/4/2014	
		Sample Purpose	FD		REG		REG		FD		REG		REG		FD		REG		REG		REG	
Parameter	Units	MCL/GW-Ind	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
2-Butanone	µg/L	61,000	< 12.5	U	< 12.5	U			< 10	U	< 10	U			< 5	U	< 5	U			< 25	U
2-Chlorotoluene	µg/L	2,000	< 0.626	U	< 0.626	U			< 0.5	U	< 0.5	U			< 0.25	U	< 0.25	U			< 1.25	U
2-Hexanone	µg/L	6,100	< 12.5	U	< 12.5	U			< 10	U	< 10	U			< 5	U	< 5	U			< 25	U
4-Chlorotoluene	µg/L	2,000	< 1.25	U	< 1.25	U			< 1	U	< 1	U			< 0.5	U	< 0.5	U			< 2.5	U
Acetone	µg/L	92,000	< 12.5	U	< 12.5	U			< 10	U	< 10	U			< 5	U	< 5	U			< 25	U
Benzene	µg/L	5	< 0.626	U	< 0.626	U			0.79	J	1.21	J			< 0.25	U	< 0.25	U			< 1.25	U
Bromobenzene	µg/L	2,000	< 0.626	U	< 0.626	U			< 0.5	U	< 0.5	U			< 0.25	U	< 0.25	U			< 1.25	U
Bromochloromethane	µg/L	4,100	< 1	U	< 1	U			< 0.8	U	< 0.8	U			< 0.4	U	< 0.4	U			< 2	U
Bromodichloromethane	µg/L	4.6	< 1.25	U	< 1.25	U			< 1	U	< 1	U			< 0.5	U	< 0.5	U			< 2.5	U
Bromoform	µg/L	36	< 2.5	U	< 2.5	U			< 2	U	< 2	U			< 1	U	< 1	U			< 5	U
Bromomethane	µg/L	140	< 2.5	U	< 2.5	U			< 2	U	< 2	U			< 1	U	< 1	U			< 5	U
Carbon disulfide	µg/L	10,000	< 2.5	U	< 2.5	U			< 2	U	< 2	U			< 1	U	< 1	U			< 5	U
Carbon tetrachloride	µg/L	5	< 1.25	U	< 1.25	U			< 1	U	< 1	U			< 0.5	U	< 0.5	U			< 2.5	U
Chlorobenzene	µg/L	100	< 0.626	U	< 0.626	U			< 0.5	U	< 0.5	U			< 0.25	U	< 0.25	U			< 1.25	U
Chloroethane	µg/L	41,000	< 2.5	U	< 2.5	U			< 2	U	< 2	U			< 1	U	< 1	U			< 5	U
Chloroform	µg/L	1,000	0.359	J	< 0.626	U			< 0.5	U	< 0.5	U			0.55	J	0.57	J			0.813	J
Chloromethane	µg/L	220	< 2.5	U	< 2.5	U			< 2	U	< 2	U			< 1	U	< 1	U			< 5	U
cis-1,2-Dichloroethene	µg/L	70	1.77	J	1.67	J			0.684	J	0.755	J			1.15		1.19				1.31	J
cis-1,3-Dichloropropene	µg/L	5.3	< 1.25	U	< 1.25	U			< 1	U	< 1	U			< 0.5	U	< 0.5	U			< 2.5	U
Dibromochloromethane	µg/L	34	< 1.25	U	< 1.25	U			< 1	U	< 1	U			< 0.5	U	< 0.5	U			< 2.5	U
Dibromomethane	µg/L	380	< 1.25	U	< 1.25	U			< 1	U	< 1	U			< 0.5	U	< 0.5	U			< 2.5	U
Dichlorodifluoromethane	µg/L	20,000	< 1.25	U	< 1.25	U			< 1	U	< 1	U			< 0.5	U	< 0.5	U			< 2.5	U
Ethylbenzene	µg/L	700	< 1.25	U	< 1.25	U			< 1	U	< 1	U			< 0.5	U	< 0.5	U			< 2.5	U
Hexachlorobutadiene	µg/L	20	< 1.25	U	< 1.25	U			< 1	U	< 1	U			< 0.5	U	< 0.5	U			< 2.5	U
Isopropylbenzene	µg/L	10,000	< 1.25	U	< 1.25	U			< 1	U	< 1	U			< 0.5	U	< 0.5	U			< 2.5	U
m,p-Xylenes	µg/L	10,000	< 2.5	U	< 2.5	U			< 2	U	< 2	U			< 1	U	< 1	U			< 5	U
Methyl isobutyl ketone	µg/L	8,200	< 12.5	U	< 12.5	U			< 10	U	< 10	U			< 5	U	< 5	U			< 25	U
Methylene chloride	µg/L	5	< 1.25	U	< 1.25	U			< 1	U	< 1	U			< 0.5	U	< 0.5	U			2.88	J
Naphthalene	µg/L	2,000	< 1	U	< 1	U			< 0.8	U	< 0.8	U			< 0.4	U	< 0.4	U			< 2	U
n-Butylbenzene	µg/L	4,100	< 1.25	U	< 1.25	U			< 1	U	< 1	U			< 0.5	U	< 0.5	U			< 2.5	U
n-Propylbenzene	µg/L	4,100	< 0.626	U	< 0.626	U			< 0.5	U	< 0.5	U			< 0.25	U	< 0.25	U			< 1.25	U
o-Xylene	µg/L	10,000	< 1.25	U	< 1.25	U			< 1	U	< 1	U			< 0.5	U	< 0.5	U			< 2.5	U
p-Isopropyltoluene	µg/L	10,000	< 1.25	U	< 1.25	U			< 1	U	< 1	U			< 0.5	U	< 0.5	U			< 2.5	U
sec-Butylbenzene	µg/L	4,100	< 1.25	U	< 1.25	U			< 1	U	< 1	U			< 0.5	U	< 0.5	U			< 2.5	U
Styrene	µg/L	100	< 0.626	U	< 0.626	U			< 0.5	U	< 0.5	U			< 0.25	U	< 0.25	U			< 1.25	U
tert-Butylbenzene	µg/L	4,100	< 1.25	U	< 1.25	U			< 1	U	< 1	U			< 0.5	U	< 0.5	U			< 2.5	U
Tetrachloroethene	µg/L	5	< 1.25	U	< 1.25	U			< 1	U	< 1	U			< 0.5	U	< 0.5	U			< 2.5	U
Toluene	µg/L	1,000	< 1.25	U	< 1.25	U			< 1	U	< 1	U			< 0.5	U	< 0.5	U			< 2.5	U
trans-1,2-Dichloroethene	µg/L	100	< 1.25	U	< 1.25	U			< 1	U	< 1	U			< 0.5	U	< 0.5	U			< 2.5	U
trans-1,3-Dichloropropene	µg/L	29	< 2.5	U	< 2.5	U			< 2	U	< 2	U			< 1	U	< 1	U			< 5	U
Trichloroethene	µg/L	5	2.99		2.86				1.27	J	1.25	J			1.71		1.72				1.65	J
Trichlorofluoromethane	µg/L	31,000	< 1.25	U	< 1.25	U			< 1	U	< 1	U			< 0.5	U	< 0.5	U			< 2.5	U
Vinyl chloride	µg/L	2	2.37	J	2.37	J			0.619	J	0.644	J			0.728	J	0.707	J			< 2.5	U

Table 2-4
Groundwater Results 2013–2019

		Location Code	67WW13																			
		Sample ID	67WW13FD-120414		67WW13-150211		67WW13-021115		67WW13-150325		67WW13-032515		67WW13-150519		67WW13-051915		67WW13-151118		67WW13-111815		67WW13-151216	
		Sample Date	12/4/2014		2/11/2015		2/11/2015		3/25/2015		3/25/2015		5/19/2015		5/19/2015		11/18/2015		11/18/2015		12/16/2015	
		Sample Purpose	FD		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter	Units	MCL/GW-Ind	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
ANIONS																						
Chloride	mg/L	NV									1,820				1,680							
Nitrate	mg/L	10									< 2	U			< 2	U						
Nitrite	mg/L	1									< 2	U			3.4	J						
Sulfate	mg/L	NV									334				344							
Sulfide	mg/L	NV									< 1	U			< 1	U						
TOTAL ORGANIC CARBON																						
Total Inorganic Carbon	mg/L	NV									144				224							
Total organic carbon	mg/L	NV									16.8	J			62.4							
DHC																						
BVC	cells/mL	NV																				
Dehalococcoides	cells/mL	NV																				
FIELD TESTS																						
Conductivity	µmhos/cm	NV			6.08		6.08		6.54		6.54		5.52		5.52		6.27		6.27		5.89	
Dissolved oxygen	mg/L	NV			1.73		1.73		1.55		1.55		1.25		1.25		0.28		0.28		0	
Ferrous Iron	mg/L	NV																				
Oxidation-Reduction Potential	mV	NV			145		145		176		176		219		219		158		158		85	
pH	SU	NV			7.16		7.16		4.62		4.62		5.95		5.95		6.69		6.69		6.49	
Temperature	C	NV			16.69		16.69		20.67		20.67		20.22		20.22		20.18		20.18		18.41	
Turbidity	NTU	NV			0.2		0.2		0		0		0		0		0		0		1	
GENERAL CHEMISTRY																						
Alkalinity	mg/L	NV																				
Ferrous Iron	mg/L	NV									< 0.04	U			< 0.04	U						
GASES																						
Carbon dioxide	µg/L	NV																				
Ethane	µg/L	NV									< 2	U			< 2	U						
Ethylene	µg/L	NV									< 2	U			< 2	U						
Methane	µg/L	NV									< 2	U			< 2	U						
VOLATILES																						
1,1,1,2-Tetrachloroethane	µg/L	110	< 2.5	U			< 1.25	U							< 1.25	U			< 1.25	U		
1,1,1-Trichloroethane	µg/L	200	< 2.5	U			< 1.25	U							< 1.25	U			< 1.25	U		
1,1,2,2-Tetrachloroethane	µg/L	14	< 2	U			< 1	U							< 1	U			< 1	U		
1,1,2-Trichloro-1,2,2-Trifluoroethane	µg/L	3,100,000																				
1,1,2-Trichloroethane	µg/L	5	4.56	J			4.87								5.96				7.66			
1,1-Dichloroethane	µg/L	10,000	27.4				29.1								30.2				46.3			
1,1-Dichloroethene	µg/L	7	522				521								522				762			
1,1-Dichloropropene	µg/L	2.9	< 2.5	U			< 1.25	U							< 1.25	U			< 1.25	U		
1,2,3-Trichlorobenzene	µg/L	310	< 1.5	U			< 0.75	U							< 0.75	U			< 0.75	U		
1,2,3-Trichloropropane	µg/L	0.041	< 5	U			< 2.5	U							< 2.5	U			< 2.5	U		
1,2,4-Trichlorobenzene	µg/L	70	< 2	U			< 1	U							< 1	U			< 1	U		
1,2,4-Trimethylbenzene	µg/L	5,100	< 2.5	U			< 1.25	U							< 1.25	U			< 1.25	U		
1,2-Dibromo-3-chloropropane	µg/L	0.2	< 10	U			< 5	U							< 5	U			< 5	U		
1,2-Dibromoethane	µg/L	0.05	< 2.5	U			< 1.25	U							< 1.25	U			< 1.25	U		
1,2-Dichlorobenzene	µg/L	600	< 1.25	U			< 0.626	U							< 0.626	U			< 0.626	U		
1,2-Dichloroethane	µg/L	5	24.6				26								30.6				42.6			
1,2-Dichloropropane	µg/L	5	< 2	U			< 1	U							< 1	U			< 1	U		
1,3,5-Trimethylbenzene	µg/L	5,100	< 2.5	U			< 1.25	U							< 1.25	U			< 1.25	U		
1,3-Dichlorobenzene	µg/L	3,100	< 2.5	U			< 1.25	U							< 1.25	U			< 1.25	U		
1,3-Dichloropropane	µg/L	29	< 2	U			< 1	U							< 1	U			< 1	U		
1,4-Dichlorobenzene	µg/L	75	< 1.25	U			< 0.626	U							< 0.626	U			< 0.626	U		
2,2-Dichloropropane	µg/L	42	< 2.5	U			< 1.25	U							< 1.25	U			< 1.25	U		

Table 2-4
Groundwater Results 2013–2019

		Location Code	67WW13																			
		Sample ID	67WW13FD-120414		67WW13-150211		67WW13-021115		67WW13-150325		67WW13-032515		67WW13-150519		67WW13-051915		67WW13-151118		67WW13-111815		67WW13-151216	
		Sample Date	12/4/2014		2/11/2015		2/11/2015		3/25/2015		3/25/2015		5/19/2015		5/19/2015		11/18/2015		11/18/2015		12/16/2015	
		Sample Purpose	FD		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter	Units	MCL/GW-Ind	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
2-Butanone	µg/L	61,000	< 25	U			< 12.5	U							< 12.5	U			< 12.5	U		
2-Chlorotoluene	µg/L	2,000	< 1.25	U			< 0.626	U							< 0.626	U			< 0.626	U		
2-Hexanone	µg/L	6,100	< 25	U			< 12.5	U							< 12.5	U			< 12.5	U		
4-Chlorotoluene	µg/L	2,000	< 2.5	U			< 1.25	U							< 1.25	U			< 1.25	U		
Acetone	µg/L	92,000	< 25	U			< 12.5	U							< 12.5	U			< 12.5	U		
Benzene	µg/L	5	< 1.25	U			< 0.626	U							< 0.626	U			< 0.626	U		
Bromobenzene	µg/L	2,000	< 1.25	U			< 0.626	U							< 0.626	U			< 0.626	U		
Bromochloromethane	µg/L	4,100	< 2	U			< 1	U							< 1	U			< 1	U		
Bromodichloromethane	µg/L	4.6	< 2.5	U			< 1.25	U							< 1.25	U			< 1.25	U		
Bromoform	µg/L	36	< 5	U			< 2.5	U							< 2.5	U			< 2.5	U		
Bromomethane	µg/L	140	< 5	U			< 2.5	U							< 2.5	U			< 2.5	U		
Carbon disulfide	µg/L	10,000	< 5	U			< 2.5	U							< 2.5	U			< 2.5	U		
Carbon tetrachloride	µg/L	5	< 2.5	U			< 1.25	U							< 1.25	U			< 1.25	U		
Chlorobenzene	µg/L	100	< 1.25	U			< 0.626	U							< 0.626	U			< 0.626	U		
Chloroethane	µg/L	41,000	< 5	U			< 2.5	U							< 2.5	U			< 2.5	U		
Chloroform	µg/L	1,000	0.848	J			1.32	J							1.7	J			2.27	J		
Chloromethane	µg/L	220	< 5	U			< 2.5	U							< 2.5	U			< 2.5	U		
cis-1,2-Dichloroethene	µg/L	70	1.49	J			1.6	J							2.08	J			2.75			
cis-1,3-Dichloropropene	µg/L	5.3	< 2.5	U			< 1.25	U							< 1.25	U			< 1.25	U		
Dibromochloromethane	µg/L	34	< 2.5	U			< 1.25	U							< 1.25	U			< 1.25	U		
Dibromomethane	µg/L	380	< 2.5	U			< 1.25	U							< 1.25	U			< 1.25	U		
Dichlorodifluoromethane	µg/L	20,000	< 2.5	U			< 1.25	U							< 1.25	U			< 1.25	U		
Ethylbenzene	µg/L	700	< 2.5	U			< 1.25	U							< 1.25	U			< 1.25	U		
Hexachlorobutadiene	µg/L	20	< 2.5	U			< 1.25	U							< 1.25	U			< 1.25	U		
Isopropylbenzene	µg/L	10,000	< 2.5	U			< 1.25	U							< 1.25	U			< 1.25	U		
m,p-Xylenes	µg/L	10,000	< 5	U			< 2.5	U							< 2.5	U			< 2.5	U		
Methyl isobutyl ketone	µg/L	8,200	< 25	U			< 12.5	U							< 12.5	U			< 12.5	U		
Methylene chloride	µg/L	5	2.9	J			< 1.25	U							< 1.25	U			< 1.25	U		
Naphthalene	µg/L	2,000	< 2	U			< 1	U							< 1	U			< 1	U		
n-Butylbenzene	µg/L	4,100	< 2.5	U			< 1.25	U							< 1.25	U			< 1.25	U		
n-Propylbenzene	µg/L	4,100	< 1.25	U			< 0.626	U							< 0.626	U			< 0.626	U		
o-Xylene	µg/L	10,000	< 2.5	U			< 1.25	U							< 1.25	U			< 1.25	U		
p-Isopropyltoluene	µg/L	10,000	< 2.5	U			< 1.25	U							< 1.25	U			< 1.25	U		
sec-Butylbenzene	µg/L	4,100	< 2.5	U			< 1.25	U							< 1.25	U			< 1.25	U		
Styrene	µg/L	100	< 1.25	U			< 0.626	U							< 0.626	U			< 0.626	U		
tert-Butylbenzene	µg/L	4,100	< 2.5	U			< 1.25	U							< 1.25	U			< 1.25	U		
Tetrachloroethene	µg/L	5	< 2.5	U			< 1.25	U							< 1.25	U			< 1.25	U		
Toluene	µg/L	1,000	< 2.5	U			< 1.25	U							< 1.25	U			< 1.25	U		
trans-1,2-Dichloroethene	µg/L	100	< 2.5	U			< 1.25	U							< 1.25	U			< 1.25	U		
trans-1,3-Dichloropropene	µg/L	29	< 5	U			< 2.5	U							< 2.5	U			< 2.5	U		
Trichloroethene	µg/L	5	1.94	J			2.63								2.91				3.32			
Trichlorofluoromethane	µg/L	31,000	< 2.5	U			< 1.25	U							< 1.25	U			< 1.25	U		
Vinyl chloride	µg/L	2	< 2.5	U			0.653	J							0.695	J			1.65	J		

Table 2-4
Groundwater Results 2013–2019

	Location Code	67WW13																			
	Sample ID	67WW13-161215		67WW13-160519		67WW13-051916		67WW13-112817		67WW13-180501		67WW13-180501FD		67WW13-181023		67WW13-190501-FD		67WW13-190501		67WW13-191028	
	Sample Date	12/16/2015		5/19/2016		5/19/2016		11/28/2017		5/1/2018		5/1/2018		10/23/2018		5/1/2019		5/1/2019		10/28/2019	
	Sample Purpose	REG		REG		REG		REG		REG		FD		REG		FD		REG		REG	
Parameter	Units	MCL/GW-Ind	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
ANIONS																						
Chloride	mg/L	NV					1,660		1,570		1,650		1,520		1,420		1,300		1,240		1,280	
Nitrate	mg/L	10					< 2	U	< 0.1	U	0.674		< 0.1	U	< 0.2	U	0.657		0.697		< 0.2	U
Nitrite	mg/L	1					< 2	U	< 0.1	U	< 0.1	U	< 0.1	U	< 0.2	U						
Sulfate	mg/L	NV					358		390		405		370		355		318		284		304	
Sulfide	mg/L	NV					< 1	U	1.28		< 1.5	U	< 1.5	U	2.28							
TOTAL ORGANIC CARBON																						
Total Inorganic Carbon	mg/L	NV					71.9		320		340		350		130							
Total organic carbon	mg/L	NV					93.3		3.4		3.07		3.18		3.99		3.24		2.91		1.69	
DHC																						
BVC	cells/mL	NV																				
Dehalococcoides	cells/mL	NV							0.3	NV	0.2				0.4	J						
FIELD TESTS																						
Conductivity	µmhos/cm	NV	5.89		5.74		5.74		5.73		5.43				5.39				4.83		4.87	
Dissolved oxygen	mg/L	NV	0		0.55		0.55		0.08		1.31				0.19				2.77		0.8	
Ferrous Iron	mg/L	NV									< 0.04	UJ							0.0		0.06	
Oxidation-Reduction Potential	mV	NV	85		244		244		303		338				281				209		185	
pH	SU	NV	6.49		5.38		5.38		5.62		5.66				5.78				5.48		6.26	
Temperature	C	NV	18.41		18.85		18.85		20.23		19.84				18.49				21.37		19.38	
Turbidity	NTU	NV	1		0		0		1		1.9				0				0		0	
GENERAL CHEMISTRY																						
Alkalinity	mg/L	NV													368							
Ferrous Iron	mg/L	NV					< 0.04	U							0.035	J						
GASES																						
Carbon dioxide	µg/L	NV							470,000		870,000		860,000		620,000		860,000		840,000		140,000	
Ethane	µg/L	NV					< 2	U	< 0.23	U	< 0.47	U	< 0.47	U	< 0.47	U	< 0.47	U	< 0.47	U	< 0.47	U
Ethylene	µg/L	NV					< 2	U	< 0.22	U	< 0.55	U	< 0.55	U	< 0.55	U	< 0.55	U	< 0.55	U	< 0.55	U
Methane	µg/L	NV					< 2	U	0.32	J	< 1	U	< 1	U	< 0.85	U	< 1	U	< 1	U	< 1	U
VOLATILES																						
1,1,1,2-Tetrachloroethane	µg/L	110					< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
1,1,1-Trichloroethane	µg/L	200					< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
1,1,2,2-Tetrachloroethane	µg/L	14					< 0.8	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	µg/L	3,100,000							< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
1,1,2-Trichloroethane	µg/L	5					7		5.1		4.8		4.7		6.1		3.8		3.9		5	
1,1-Dichloroethane	µg/L	10,000					22.5		19	J	15		15		32		13		14		31	
1,1-Dichloroethene	µg/L	7					274		320		160		170		570		160		200		640	
1,1-Dichloropropene	µg/L	2.9					< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
1,2,3-Trichlorobenzene	µg/L	310					< 0.6	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	UJ
1,2,3-Trichloropropane	µg/L	0.041					< 2	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
1,2,4-Trichlorobenzene	µg/L	70					< 0.8	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
1,2,4-Trimethylbenzene	µg/L	5,100					< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
1,2-Dibromo-3-chloropropane	µg/L	0.2					< 4	U	< 1	U	< 0.5	U	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U
1,2-Dibromoethane	µg/L	0.05					< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
1,2-Dichlorobenzene	µg/L	600					< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
1,2-Dichloroethane	µg/L	5					35.7		32		27		28		43		23		24		36	
1,2-Dichloropropane	µg/L	5					< 0.8	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
1,3,5-Trimethylbenzene	µg/L	5,100					< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
1,3-Dichlorobenzene	µg/L	3,100					< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
1,3-Dichloropropane	µg/L	29					< 0.8	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
1,4-Dichlorobenzene	µg/L	75					< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
2,2-Dichloropropane	µg/L	42					< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U

Table 2-4
Groundwater Results 2013–2019

		Location Code	67WW13																	
		Sample ID	67WW13-161215		67WW13-160519		67WW13-051916		67WW13-112817		67WW13-180501		67WW13-180501FD		67WW13-181023		67WW13-190501-FD		67WW13-190501		67WW13-191028	
		Sample Date	12/16/2015		5/19/2016		5/19/2016		11/28/2017		5/1/2018		5/1/2018		10/23/2018		5/1/2019		5/1/2019		10/28/2019	
		Sample Purpose	REG		REG		REG		REG		REG		FD		REG		FD		REG		REG	
Parameter	Units	MCL/GW-Ind	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
2-Butanone	µg/L	61,000					< 10	U	< 2	U	< 1	U	< 1	U	< 1	U	< 1	U	< 1	U	< 1	U
2-Chlorotoluene	µg/L	2,000					< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
2-Hexanone	µg/L	6,100					< 10	U	< 2	U	< 1	U	< 1	U	< 1	U	< 1	U	< 1	U	< 1	U
4-Chlorotoluene	µg/L	2,000					< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
Acetone	µg/L	92,000					< 10	U	< 2	U	< 1	U	< 1	U	< 2	U	< 1	U	< 1	U	< 1	U
Benzene	µg/L	5					< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
Bromobenzene	µg/L	2,000					< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
Bromochloromethane	µg/L	4,100					< 0.8	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
Bromodichloromethane	µg/L	4.6					< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
Bromoform	µg/L	36					< 2	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
Bromomethane	µg/L	140					< 2	U	< 1	UJ	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
Carbon disulfide	µg/L	10,000					< 2	U	< 2	U	< 1	U	< 1	U	< 1	U	< 1	U	< 1	U	< 1	U
Carbon tetrachloride	µg/L	5					< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
Chlorobenzene	µg/L	100					< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
Chloroethane	µg/L	41,000					< 2	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
Chloroform	µg/L	1,000					1.36	J	< 1	U	0.76	J	0.78	J	1.4		< 0.5	U	< 0.5	U	0.66	J
Chloromethane	µg/L	220					< 2	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
cis-1,2-Dichloroethene	µg/L	70					1.55	J	< 1	U	0.99	J	1		1.9		0.81	J	0.94	J	1.8	
cis-1,3-Dichloropropene	µg/L	5.3					< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
Dibromochloromethane	µg/L	34					< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
Dibromomethane	µg/L	380					< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
Dichlorodifluoromethane	µg/L	20,000					< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	UJ	< 0.5	U	< 0.5	U	< 0.5	U
Ethylbenzene	µg/L	700					< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
Hexachlorobutadiene	µg/L	20					< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 1	U	< 1	U	< 1	U	< 0.5	U
Isopropylbenzene	µg/L	10,000					< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
m,p-Xylenes	µg/L	10,000					< 2	U	< 2	U	< 1	U	< 1	U	< 1	U	< 1	U	< 1	U	< 1	U
Methyl isobutyl ketone	µg/L	8,200					< 10	U	< 2	U	< 1	U	< 1	U	< 1	U	< 1	U	< 1	U	< 1	U
Methylene chloride	µg/L	5					< 1	U	< 2	UJ	< 1	U	< 1	U	< 1	U	< 1	U	< 1	U	< 1	U
Naphthalene	µg/L	2,000					< 0.8	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	UJ
n-Butylbenzene	µg/L	4,100					< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
n-Propylbenzene	µg/L	4,100					< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
o-Xylene	µg/L	10,000					< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
p-Isopropyltoluene	µg/L	10,000					< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
sec-Butylbenzene	µg/L	4,100					< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
Styrene	µg/L	100					< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
tert-Butylbenzene	µg/L	4,100					< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
Tetrachloroethene	µg/L	5					< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
Toluene	µg/L	1,000					< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
trans-1,2-Dichloroethene	µg/L	100					< 1	U	< 1	UJ	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
trans-1,3-Dichloropropene	µg/L	29					< 2	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
Trichloroethene	µg/L	5					1.67	J	< 1	U	< 0.5	U	< 0.5	U	2.4		1		1.1		2.6	
Trichlorofluoromethane	µg/L	31,000					< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
Vinyl chloride	µg/L	2					< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	0.82	J

Table 2-4
Groundwater Results 2013–2019

		Location Code	67WW14																			
		Sample ID	67WW14-131001		67WW14-100113-FD		67WW14-100113		67WW14-140124		67WW14-012414		67WW14-140507		67WW14-050714		67WW14-140725		67WW14-072514		67WW14-141203	
		Sample Date	10/1/2013		10/1/2013		10/1/2013		1/24/2014		1/24/2014		5/7/2014		5/7/2014		7/25/2014		7/25/2014		12/3/2014	
		Sample Purpose	REG		FD		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter	Units	MCL/GW-Ind	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
ANIONS																						
Chloride	mg/L	NV																				
Nitrate	mg/L	10																				
Nitrite	mg/L	1																				
Sulfate	mg/L	NV																				
Sulfide	mg/L	NV																				
TOTAL ORGANIC CARBON																						
Total Inorganic Carbon	mg/L	NV																				
Total organic carbon	mg/L	NV																				
DHC																						
BVC	cells/mL	NV																				
Dehalococcoides	cells/mL	NV																				
FIELD TESTS																						
Conductivity	µmhos/cm	NV	1.55				1.55		1.53		1.53		1.68		1.68		1.66		1.66		1.52	
Dissolved oxygen	mg/L	NV	1.34				1.34		0.67		0.67		1.17		1.17		0.12		0.12		0	
Ferrous Iron	mg/L	NV																				
Oxidation-Reduction Potential	mV	NV	-60				-60		-37		-37		-5		-5		210		210		-8	
pH	SU	NV	6.47				6.47		6.52		6.52		5.67		5.67		5.34		5.34		6.34	
Temperature	C	NV	22.78				22.78		18.42		18.42		19.86		19.86		25.56		25.56		20.74	
Turbidity	NTU	NV	3.6				3.6		15.5		15.5		24.8		24.8		17.3		17.3		8.1	
GENERAL CHEMISTRY																						
Alkalinity	mg/L	NV																				
Ferrous Iron	mg/L	NV																				
GASES																						
Carbon dioxide	µg/L	NV																				
Ethane	µg/L	NV																				
Ethylene	µg/L	NV																				
Methane	µg/L	NV																				
VOLATILES																						
1,1,1,2-Tetrachloroethane	µg/L	110			< 0.5	U	< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U		
1,1,1-Trichloroethane	µg/L	200			< 0.5	U	< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U		
1,1,2,2-Tetrachloroethane	µg/L	14			< 0.4	U	< 0.4	U			< 0.4	U			< 0.4	U			< 0.4	U		
1,1,2-Trichloro-1,2,2-Trifluoroethane	µg/L	3,100,000																				
1,1,2-Trichloroethane	µg/L	5			< 0.5	U	< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U		
1,1-Dichloroethane	µg/L	10,000			0.304	J	0.197	J			0.275	J			0.538	J			0.58	J		
1,1-Dichloroethene	µg/L	7			2.22		1.82	J			2.58				4.27				3.57			
1,1-Dichloropropene	µg/L	2.9			< 0.5	U	< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U		
1,2,3-Trichlorobenzene	µg/L	310			< 0.3	U	< 0.3	U			< 0.3	U			< 0.3	U			< 0.3	U		
1,2,3-Trichloropropane	µg/L	0.041			< 1	U	< 1	U			< 1	U			< 1	U			< 1	U		
1,2,4-Trichlorobenzene	µg/L	70			< 0.4	U	< 0.4	U			< 0.4	U			< 0.4	U			< 0.4	U		
1,2,4-Trimethylbenzene	µg/L	5,100			< 0.5	U	< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U		
1,2-Dibromo-3-chloropropane	µg/L	0.2			< 2	UJ	< 2	UJ			< 2	UJ			< 2	U			< 2	U		
1,2-Dibromoethane	µg/L	0.05			< 0.5	U	< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U		
1,2-Dichlorobenzene	µg/L	600			< 0.25	U	< 0.25	U			< 0.25	U			< 0.25	U			< 0.25	U		
1,2-Dichloroethane	µg/L	5			0.849	J	0.692	J			0.666	J			0.897	J			1.31			
1,2-Dichloropropane	µg/L	5			< 0.4	U	< 0.4	U			< 0.4	U			< 0.4	U			< 0.4	U		
1,3,5-Trimethylbenzene	µg/L	5,100			< 0.5	U	< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U		
1,3-Dichlorobenzene	µg/L	3,100			< 0.5	U	< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U		
1,3-Dichloropropane	µg/L	29			< 0.4	U	< 0.4	U			< 0.4	U			< 0.4	U			< 0.4	U		
1,4-Dichlorobenzene	µg/L	75			< 0.25	U	< 0.25	U			< 0.25	U			< 0.25	U			< 0.25	U		
2,2-Dichloropropane	µg/L	42			< 0.5	U	< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U		

Table 2-4
Groundwater Results 2013–2019

		Location Code	67WW14																			
		Sample ID	67WW14-131001		67WW14-100113-FD		67WW14-100113		67WW14-140124		67WW14-012414		67WW14-140507		67WW14-050714		67WW14-140725		67WW14-072514		67WW14-141203	
		Sample Date	10/1/2013		10/1/2013		10/1/2013		1/24/2014		1/24/2014		5/7/2014		5/7/2014		7/25/2014		7/25/2014		12/3/2014	
		Sample Purpose	REG		FD		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter	Units	MCL/GW-Ind	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
2-Butanone	µg/L	61,000			7.47	J	9.06	J			< 5	U			< 5	U			< 5	U		
2-Chlorotoluene	µg/L	2,000			< 0.25	U	< 0.25	U			< 0.25	U			< 0.25	U			< 0.25	U		
2-Hexanone	µg/L	6,100			< 5	U	< 5	U			< 5	U			< 5	U			< 5	U		
4-Chlorotoluene	µg/L	2,000			< 0.5	U	< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U		
Acetone	µg/L	92,000			2.59	J	3.27	J			< 5	U			< 5	U			< 5	U		
Benzene	µg/L	5			< 0.25	U	< 0.25	U			< 0.25	U			< 0.13	U			< 0.25	U		
Bromobenzene	µg/L	2,000			< 0.25	U	< 0.25	U			< 0.25	U			< 0.25	U			< 0.25	U		
Bromochloromethane	µg/L	4,100			< 0.4	U	< 0.4	U			< 0.4	U			< 0.4	U			< 0.4	U		
Bromodichloromethane	µg/L	4.6			< 0.5	U	< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U		
Bromoform	µg/L	36			< 1	U	< 1	U			< 1	U			< 1	U			< 1	U		
Bromomethane	µg/L	140			< 1	U	< 1	U			< 1	U			< 1	U			< 1	U		
Carbon disulfide	µg/L	10,000			< 1	U	< 1	U			< 1	U			< 1	U			< 1	U		
Carbon tetrachloride	µg/L	5			< 0.5	U	< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U		
Chlorobenzene	µg/L	100			< 0.25	U	< 0.25	U			< 0.25	U			< 0.25	U			< 0.25	U		
Chloroethane	µg/L	41,000			< 1	U	< 1	U			< 1	U			< 1	U			< 1	U		
Chloroform	µg/L	1,000			< 0.25	U	< 0.25	U			< 0.25	U			< 0.25	U			< 0.25	U		
Chloromethane	µg/L	220			< 1	U	0.64	J			< 1	U			< 1	U			< 1	U		
cis-1,2-Dichloroethene	µg/L	70			< 0.5	U	< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U		
cis-1,3-Dichloropropene	µg/L	5.3			< 0.5	U	< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U		
Dibromochloromethane	µg/L	34			< 0.5	U	< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U		
Dibromomethane	µg/L	380			< 0.5	U	< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U		
Dichlorodifluoromethane	µg/L	20,000			< 0.5	U	< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U		
Ethylbenzene	µg/L	700			< 0.5	U	< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U		
Hexachlorobutadiene	µg/L	20			< 0.5	U	< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U		
Isopropylbenzene	µg/L	10,000			< 0.5	U	< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U		
m,p-Xylenes	µg/L	10,000			< 1	U	< 1	U			< 1	U			< 1	U			< 1	U		
Methyl isobutyl ketone	µg/L	8,200			< 5	U	< 5	U			< 5	U			< 5	U			< 5	U		
Methylene chloride	µg/L	5			< 0.5	U	< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U		
Naphthalene	µg/L	2,000			< 0.4	U	< 0.4	U			< 0.4	U			< 0.4	U			< 0.4	U		
n-Butylbenzene	µg/L	4,100			< 0.5	U	< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U		
n-Propylbenzene	µg/L	4,100			< 0.25	U	< 0.25	U			< 0.25	U			< 0.25	U			< 0.25	U		
o-Xylene	µg/L	10,000			< 0.5	U	< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U		
p-Isopropyltoluene	µg/L	10,000			0.353	J	0.431	J			< 0.5	U			< 0.5	U			< 0.5	U		
sec-Butylbenzene	µg/L	4,100			< 0.5	U	< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U		
Styrene	µg/L	100			< 0.25	U	< 0.25	U			< 0.25	U			< 0.25	U			< 0.25	U		
tert-Butylbenzene	µg/L	4,100			< 0.5	U	< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U		
Tetrachloroethene	µg/L	5			< 0.5	U	< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U		
Toluene	µg/L	1,000			< 0.5	U	< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U		
trans-1,2-Dichloroethene	µg/L	100			< 0.5	U	< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U		
trans-1,3-Dichloropropene	µg/L	29			< 1	U	< 1	U			< 1	U			< 1	U			< 1	U		
Trichloroethene	µg/L	5			< 0.5	U	< 0.5	U			< 0.5	U			< 0.5	U			< 0.5	U		
Trichlorofluoromethane	µg/L	31,000			< 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		

Table 2-4
Groundwater Results 2013–2019

		Location Code	67WW14																			
		Sample ID	67WW14-120314		67WW14-150210		67WW14FD-021015		67WW14-021015		67WW14-150512		67WW14FD-051215		67WW14-051215		67WW14-151118		67WW14-111815		67WW14-160518	
		Sample Date	12/3/2014		2/10/2015		2/10/2015		2/10/2015		5/12/2015		5/12/2015		5/12/2015		11/18/2015		11/18/2015		5/18/2016	
		Sample Purpose	REG		REG		FD		REG		REG		FD		REG		REG		REG		REG	
Parameter	Units	MCL/GW-Ind	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
ANIONS																						
Chloride	mg/L	NV																				
Nitrate	mg/L	10																				
Nitrite	mg/L	1																				
Sulfate	mg/L	NV																				
Sulfide	mg/L	NV																				
TOTAL ORGANIC CARBON																						
Total Inorganic Carbon	mg/L	NV																				
Total organic carbon	mg/L	NV																				
DHC																						
BVC	cells/mL	NV																				
Dehalococcoides	cells/mL	NV																				
FIELD TESTS																						
Conductivity	µmhos/cm	NV	1.52		1.51				1.51		1.47				1.47		2.25		2.25		0.021	
Dissolved oxygen	mg/L	NV	0		0.63				0.63		0.68				0.68		0.52		0.52		1.04	
Ferrous Iron	mg/L	NV																				
Oxidation-Reduction Potential	mV	NV	-8		-13				-13		158				158		136		136		252	
pH	SU	NV	6.34		6.79				6.79		5.57				5.57		6.58		6.58		5.36	
Temperature	C	NV	20.74		15.24				15.24		20.48				20.48		21.67		21.67		19.84	
Turbidity	NTU	NV	8.1		7				7		161				161		6.5		6.5		172	
GENERAL CHEMISTRY																						
Alkalinity	mg/L	NV																				
Ferrous Iron	mg/L	NV																				
GASES																						
Carbon dioxide	µg/L	NV																				
Ethane	µg/L	NV																				
Ethylene	µg/L	NV																				
Methane	µg/L	NV																				
VOLATILES																						
1,1,1,2-Tetrachloroethane	µg/L	110	< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U		
1,1,1-Trichloroethane	µg/L	200	< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U		
1,1,2,2-Tetrachloroethane	µg/L	14	< 0.4	U			< 0.4	U	< 0.4	U			< 0.4	U	< 0.4	U			< 0.4	U		
1,1,2-Trichloro-1,2,2-Trifluoroethane	µg/L	3,100,000																				
1,1,2-Trichloroethane	µg/L	5	< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U		
1,1-Dichloroethane	µg/L	10,000	0.451	J			0.369	J	0.434	J			0.427	J	0.418	J			3.7			
1,1-Dichloroethene	µg/L	7	4.73				3.61		3.46				2.93		2.77				26.3	J		
1,1-Dichloropropene	µg/L	2.9	< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U		
1,2,3-Trichlorobenzene	µg/L	310	< 0.3	U			< 0.3	U	< 0.3	U			< 0.3	U	< 0.3	U			< 0.3	U		
1,2,3-Trichloropropane	µg/L	0.041	< 1	U			< 1	U	< 1	U			< 1	U	< 1	U			< 1	U		
1,2,4-Trichlorobenzene	µg/L	70	< 0.4	U			< 0.4	U	< 0.4	U			< 0.4	U	< 0.4	U			< 0.4	U		
1,2,4-Trimethylbenzene	µg/L	5,100	< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U		
1,2-Dibromo-3-chloropropane	µg/L	0.2	< 2	U			< 2	U	< 2	U			< 2	U	< 2	U			< 2	U		
1,2-Dibromoethane	µg/L	0.05	< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U		
1,2-Dichlorobenzene	µg/L	600	< 0.25	U			< 0.25	U	< 0.25	U			< 0.25	U	< 0.25	U			< 0.25	U		
1,2-Dichloroethane	µg/L	5	0.79	J			0.657	J	0.64	J			0.815	J	0.799	J			5.83			
1,2-Dichloropropane	µg/L	5	< 0.4	U			< 0.4	U	< 0.4	U			< 0.4	U	< 0.4	U			< 0.4	U		
1,3,5-Trimethylbenzene	µg/L	5,100	< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U		
1,3-Dichlorobenzene	µg/L	3,100	< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U		
1,3-Dichloropropane	µg/L	29	< 0.4	U			< 0.4	U	< 0.4	U			< 0.4	U	< 0.4	U			< 0.4	U		
1,4-Dichlorobenzene	µg/L	75	< 0.25	U			< 0.25	U	< 0.25	U			< 0.25	U	< 0.25	U			< 0.25	U		
2,2-Dichloropropane	µg/L	42	< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U		

Table 2-4
Groundwater Results 2013–2019

		Location Code	67WW14																			
		Sample ID	67WW14-120314		67WW14-150210		67WW14FD-021015		67WW14-021015		67WW14-150512		67WW14FD-051215		67WW14-051215		67WW14-151118		67WW14-111815		67WW14-160518	
		Sample Date	12/3/2014		2/10/2015		2/10/2015		2/10/2015		5/12/2015		5/12/2015		5/12/2015		11/18/2015		11/18/2015		5/18/2016	
		Sample Purpose	REG		REG		FD		REG		REG		FD		REG		REG		REG		REG	
Parameter	Units	MCL/GW-Ind	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
2-Butanone	µg/L	61,000	< 5	U			< 5	U	< 5	U			< 5	U	< 5	UJ			< 5	U		
2-Chlorotoluene	µg/L	2,000	< 0.25	U			< 0.25	U	< 0.25	U			< 0.25	U	< 0.25	U			< 0.25	U		
2-Hexanone	µg/L	6,100	< 5	U			< 5	U	< 5	U			< 5	U	< 5	U			< 5	U		
4-Chlorotoluene	µg/L	2,000	< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U		
Acetone	µg/L	92,000	< 5	U			< 5	U	< 5	U			< 5	U	4	J			< 5	U		
Benzene	µg/L	5	< 0.25	U			< 0.25	U	< 0.25	U			< 0.25	U	< 0.25	U			< 0.25	U		
Bromobenzene	µg/L	2,000	< 0.25	U			< 0.25	U	< 0.25	U			< 0.25	U	< 0.25	U			< 0.25	U		
Bromochloromethane	µg/L	4,100	< 0.4	U			< 0.4	U	< 0.4	U			< 0.4	U	< 0.4	U			< 0.4	U		
Bromodichloromethane	µg/L	4.6	< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U		
Bromoform	µg/L	36	< 1	U			< 1	U	< 1	U			< 1	U	< 1	U			< 1	U		
Bromomethane	µg/L	140	< 1	U			< 1	UJ	< 1	UJ			< 1	U	< 1	U			< 1	U		
Carbon disulfide	µg/L	10,000	< 1	U			< 1	U	< 1	U			< 1	U	< 1	U			< 1	U		
Carbon tetrachloride	µg/L	5	< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U		
Chlorobenzene	µg/L	100	< 0.25	U			< 0.25	U	< 0.25	U			< 0.25	U	< 0.25	U			< 0.25	U		
Chloroethane	µg/L	41,000	< 1	U			< 1	U	< 1	U			< 1	U	< 1	U			< 1	U		
Chloroform	µg/L	1,000	< 0.25	U			< 0.25	U	< 0.25	U			< 0.25	U	< 0.25	U			< 0.25	U		
Chloromethane	µg/L	220	< 1	U			< 1	U	< 1	U			< 1	U	< 1	U			< 1	U		
cis-1,2-Dichloroethene	µg/L	70	< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U		
cis-1,3-Dichloropropene	µg/L	5.3	< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U		
Dibromochloromethane	µg/L	34	< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U		
Dibromomethane	µg/L	380	< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U		
Dichlorodifluoromethane	µg/L	20,000	< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U		
Ethylbenzene	µg/L	700	< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U		
Hexachlorobutadiene	µg/L	20	< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U		
Isopropylbenzene	µg/L	10,000	< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U		
m,p-Xylenes	µg/L	10,000	< 1	U			< 1	U	< 1	U			< 1	U	< 1	U			< 1	U		
Methyl isobutyl ketone	µg/L	8,200	< 5	U			< 5	U	< 5	U			< 5	UJ	< 5	UJ			< 5	U		
Methylene chloride	µg/L	5	< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U		
Naphthalene	µg/L	2,000	< 0.4	U			< 0.4	U	< 0.4	U			< 0.4	U	< 0.4	U			< 0.4	U		
n-Butylbenzene	µg/L	4,100	< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U		
n-Propylbenzene	µg/L	4,100	< 0.25	U			< 0.25	U	< 0.25	U			< 0.25	U	< 0.25	U			< 0.25	U		
o-Xylene	µg/L	10,000	< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U		
p-Isopropyltoluene	µg/L	10,000	< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U		
sec-Butylbenzene	µg/L	4,100	< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U		
Styrene	µg/L	100	< 0.25	U			< 0.25	U	< 0.25	U			< 0.25	U	< 0.25	U			< 0.25	U		
tert-Butylbenzene	µg/L	4,100	< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U		
Tetrachloroethene	µg/L	5	< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U		
Toluene	µg/L	1,000	< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U		
trans-1,2-Dichloroethene	µg/L	100	< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U		
trans-1,3-Dichloropropene	µg/L	29	< 1	U			< 1	U	< 1	U			< 1	U	< 1	U			< 1	U		
Trichloroethene	µg/L	5	< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U	< 0.5	U			< 0.5	U		
Trichlorofluoromethane	µg/L	31,000	< 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			0.297	J		

Table 2-4
Groundwater Results 2013–2019

		Location Code	67WW14												67WW15							
		Sample ID	67WW14-051816		67WW14-112717		67WW14-180502		67WW14-181022		67WW14-190502		67WW14-191024		67WW15-160519		67WW15-051916		67WW15-112717		67WW15-180502	
		Sample Date	5/18/2016		11/27/2017		5/2/2018		10/22/2018		5/2/2019		10/24/2019		5/19/2016		5/19/2016		11/27/2017		5/2/2018	
		Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter	Units	MCL/GW-Ind	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
ANIONS																						
Chloride	mg/L	NV																				
Nitrate	mg/L	10																				
Nitrite	mg/L	1																				
Sulfate	mg/L	NV																				
Sulfide	mg/L	NV																				
TOTAL ORGANIC CARBON																						
Total Inorganic Carbon	mg/L	NV																				
Total organic carbon	mg/L	NV																				
DHC																						
BVC	cells/mL	NV																				
Dehalococcoides	cells/mL	NV																				
FIELD TESTS																						
Conductivity	µmhos/cm	NV	0.021		2.09		1.76		2.09		2.17		2.31		2.45		2.45		1.52		1.46	
Dissolved oxygen	mg/L	NV	1.04		1.17		1.44		0.66		0.27		0.15		1.5		1.5		2.18		0.22	
Ferrous Iron	mg/L	NV																				
Oxidation-Reduction Potential	mV	NV	252		250		372		274		228		-44		228		228		321		395	
pH	SU	NV	5.36		5.85		5.74		5.76		5.89		6.19		5.58		5.58		5.51		5.7	
Temperature	C	NV	19.84		19.19		21.60		21.68		20.83		17.99		18.7		18.7		17.93		20.22	
Turbidity	NTU	NV	172		20.7		7.2		0		30.6		3.7		6.8		6.8		54.9		14.2	
GENERAL CHEMISTRY																						
Alkalinity	mg/L	NV																				
Ferrous Iron	mg/L	NV																				
GASES																						
Carbon dioxide	µg/L	NV																				
Ethane	µg/L	NV																				
Ethylene	µg/L	NV																				
Methane	µg/L	NV																				
VOLATILES																						
1,1,1,2-Tetrachloroethane	µg/L	110	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 10	U	< 1	U	< 0.5	U
1,1,1-Trichloroethane	µg/L	200	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 10	U	< 1	U	< 0.5	U
1,1,2,2-Tetrachloroethane	µg/L	14	< 0.4	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.4	U	< 1	U	< 0.5	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	µg/L	3,100,000			< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U					< 1	U	< 0.5	U
1,1,2-Trichloroethane	µg/L	5	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			25.7		5.6		5.6	
1,1-Dichloroethane	µg/L	10,000	2.15		< 1	U	< 0.5	U	1.3		1.4		1.8				57.3		11		10	
1,1-Dichloroethene	µg/L	7	10.8		5.6		4.2		6.6		5.3		7.4				2460		510		380	
1,1-Dichloropropene	µg/L	2.9	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 10	U	< 1	U	< 0.5	U
1,2,3-Trichlorobenzene	µg/L	310	< 0.3	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 6	U	< 1	U	< 0.5	U
1,2,3-Trichloropropane	µg/L	0.041	< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 1	U	< 1	U	< 0.5	U
1,2,4-Trichlorobenzene	µg/L	70	< 0.4	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 8	U	< 1	U	< 0.5	U
1,2,4-Trimethylbenzene	µg/L	5,100	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 10	U	< 1	U	< 0.5	U
1,2-Dibromo-3-chloropropane	µg/L	0.2	< 2	U	< 1	U	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U			< 2	U	< 1	U	< 0.5	U
1,2-Dibromoethane	µg/L	0.05	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 10	U	< 1	U	< 0.5	U
1,2-Dichlorobenzene	µg/L	600	< 0.25	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.25	U	< 1	U	< 0.5	U
1,2-Dichloroethane	µg/L	5	3.54		3.1		1.9		2.5		1.8		1.5				86.5		27		26	
1,2-Dichloropropane	µg/L	5	< 0.4	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 8	U	< 1	U	< 0.5	U
1,3,5-Trimethylbenzene	µg/L	5,100	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.5	U	< 1	U	< 0.5	U
1,3-Dichlorobenzene	µg/L	3,100	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 10	U	< 1	U	< 0.5	U
1,3-Dichloropropane	µg/L	29	< 0.4	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.4	U	< 1	U	< 0.5	U
1,4-Dichlorobenzene	µg/L	75	< 0.25	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			0.173	J	< 1	U	< 0.5	U
2,2-Dichloropropane	µg/L	42	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 10	U	< 1	U	< 0.5	U

Table 2-4
Groundwater Results 2013–2019

		Location Code	67WW14												67WW15							
		Sample ID	67WW14-051816		67WW14-112717		67WW14-180502		67WW14-181022		67WW14-190502		67WW14-191024		67WW15-160519		67WW15-051916		67WW15-112717		67WW15-180502	
		Sample Date	5/18/2016		11/27/2017		5/2/2018		10/22/2018		5/2/2019		10/24/2019		5/19/2016		5/19/2016		11/27/2017		5/2/2018	
		Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter	Units	MCL/GW-Ind	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
2-Butanone	µg/L	61,000	< 5	U	< 2	U	< 1	U	< 1	U	< 1	U	< 1	U			< 5	U	< 2	U	< 1	U
2-Chlorotoluene	µg/L	2,000	< 0.25	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.25	U	< 1	U	< 0.5	U
2-Hexanone	µg/L	6,100	< 5	U	< 2	U	< 1	U	< 1	U	< 1	U	< 1	U			< 5	U	< 2	U	< 1	U
4-Chlorotoluene	µg/L	2,000	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.5	U	< 1	U	< 0.5	U
Acetone	µg/L	92,000	< 5	U	< 2	U	< 1	U	< 2	U	< 6.3	U	< 1	U			< 5	U	< 2	U	< 1	U
Benzene	µg/L	5	< 0.25	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			0.145	J	< 1	U	< 0.5	U
Bromobenzene	µg/L	2,000	< 0.25	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.25	U	< 1	U	< 0.5	U
Bromochloromethane	µg/L	4,100	< 0.4	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.4	U	< 1	U	< 0.5	U
Bromodichloromethane	µg/L	4.6	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 10	U	< 1	U	< 0.5	U
Bromoform	µg/L	36	< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 20	U	< 1	U	< 0.5	U
Bromomethane	µg/L	140	< 1	UJ	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 1	U	< 1	U	< 0.5	U
Carbon disulfide	µg/L	10,000	< 1	U	< 2	U	< 1	U	< 1	U	< 1	U	< 1	U			< 1	U	< 2	U	< 1	U
Carbon tetrachloride	µg/L	5	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 10	UJ	< 1	U	< 0.5	U
Chlorobenzene	µg/L	100	< 0.25	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.25	U	< 1	U	< 0.5	U
Chloroethane	µg/L	41,000	< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 1	U	< 1	U	< 0.5	U
Chloroform	µg/L	1,000	< 0.25	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			1.38		< 1	U	< 0.5	U
Chloromethane	µg/L	220	< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 20	U	< 1	U	< 0.5	U
cis-1,2-Dichloroethene	µg/L	70	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			6.1	J	1.5		1.3	
cis-1,3-Dichloropropene	µg/L	5.3	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.5	U	< 1	U	< 0.5	U
Dibromochloromethane	µg/L	34	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 10	U	< 1	U	< 0.5	U
Dibromomethane	µg/L	380	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.5	U	< 1	U	< 0.5	U
Dichlorodifluoromethane	µg/L	20,000	< 0.5	U	< 1	U	< 0.5	U	< 0.5	UJ	< 0.5	U	< 0.5	U			< 0.5	U	< 1	U	< 0.5	U
Ethylbenzene	µg/L	700	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.5	U	< 1	U	< 0.5	U
Hexachlorobutadiene	µg/L	20	< 0.5	U	< 1	U	< 0.5	U	< 1	U	< 1	U	< 0.5	U			< 10	UJ	< 1	U	< 0.5	U
Isopropylbenzene	µg/L	10,000	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.5	U	< 1	U	< 0.5	U
m,p-Xylenes	µg/L	10,000	< 1	U	< 2	U	< 1	U	< 1	U	< 1	U	< 1	U			< 1	U	< 2	U	< 1	U
Methyl isobutyl ketone	µg/L	8,200	< 5	U	< 2	U	< 1	U	< 1	U	< 1	U	< 1	U			< 5	U	< 2	U	< 1	U
Methylene chloride	µg/L	5	< 0.5	U	< 2	U	< 1	U	< 1	U	< 1	U	< 1	U			< 10	U	< 2	U	< 1	U
Naphthalene	µg/L	2,000	< 0.4	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			36.7		< 1	U	< 0.5	U
n-Butylbenzene	µg/L	4,100	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 10	U	< 1	U	< 0.5	U
n-Propylbenzene	µg/L	4,100	< 0.25	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			5.21	J	< 1	U	< 0.5	U
o-Xylene	µg/L	10,000	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 10	U	< 1	U	< 0.5	U
p-Isopropyltoluene	µg/L	10,000	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.5	U	< 1	U	< 0.5	U
sec-Butylbenzene	µg/L	4,100	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.5	U	< 1	U	< 0.5	U
Styrene	µg/L	100	< 0.25	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.25	U	< 1	U	< 0.5	U
tert-Butylbenzene	µg/L	4,100	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 0.5	U	< 1	U	< 0.5	U
Tetrachloroethene	µg/L	5	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 10	U	< 1	U	< 0.5	U
Toluene	µg/L	1,000	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 10	U	< 1	U	< 0.5	U
trans-1,2-Dichloroethene	µg/L	100	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 10	U	< 1	U	< 0.5	U
trans-1,3-Dichloropropene	µg/L	29	< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 20	U	< 1	U	< 0.5	U
Trichloroethene	µg/L	5	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			5.48	J	< 1	U	1.2	
Trichlorofluoromethane	µg/L	31,000	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			< 10	U	< 1	U	< 0.5	U
Vinyl chloride	µg/L	2	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U			1.07		< 1	U	< 0.5	U

Table 2-4
Groundwater Results 2013–2019

		Location Code	67WW15						67WW16				67WW16I									
		Sample ID	67WW15-181023		67WW15-190503		67WW15-191024		67WW16-160518		67WW16-051816		67WW16I-112917		67WW16I-180503		67WW16I-181025		67WW16I-190501		67WW16I-191024	
		Sample Date	10/23/2018		5/3/2019		10/24/2019		5/18/2016		5/18/2016		11/29/2017		5/3/2018		10/25/2018		5/1/2019		10/24/2019	
		Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter	Units	MCL/GW-Ind	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
ANIONS																						
Chloride	mg/L	NV																				
Nitrate	mg/L	10																				
Nitrite	mg/L	1																				
Sulfate	mg/L	NV																				
Sulfide	mg/L	NV																				
TOTAL ORGANIC CARBON																						
Total Inorganic Carbon	mg/L	NV																				
Total organic carbon	mg/L	NV																				
DHC																						
BVC	cells/mL	NV																				
Dehalococcoides	cells/mL	NV																				
FIELD TESTS																						
Conductivity	µmhos/cm	NV	1.80		1.93		1.8		1.53		1.53		1.43		0.982		1.53		1.50		1.32	
Dissolved oxygen	mg/L	NV	0.16		2.85		0.03		0.37		0.37		0.41		0		0.14		1.63		0.06	
Ferrous Iron	mg/L	NV																				
Oxidation-Reduction Potential	mV	NV	253		231		230		94		94		-2		84		41		18		-53	
pH	SU	NV	5.61		5.43		5.69		4.99		4.99		6.26		6.13		6.24		5.35		5.88	
Temperature	C	NV	18.06		20.33		21.62		18.98		18.98		19.76		19.31		17.69		22.48		21.45	
Turbidity	NTU	NV	2.1		0		0		8.7		8.7		6.3		3.8		7.6		1.9		5.8	
GENERAL CHEMISTRY																						
Alkalinity	mg/L	NV																				
Ferrous Iron	mg/L	NV																				
GASES																						
Carbon dioxide	µg/L	NV																				
Ethane	µg/L	NV																				
Ethylene	µg/L	NV																				
Methane	µg/L	NV																				
VOLATILES																						
1,1,1,2-Tetrachloroethane	µg/L	110	< 0.5	U	< 0.5	U	< 0.5	U			< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
1,1,1-Trichloroethane	µg/L	200	< 0.5	U	< 0.5	U	< 0.5	U			< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
1,1,2,2-Tetrachloroethane	µg/L	14	< 0.5	U	< 0.5	U	< 0.5	U			< 0.4	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	µg/L	3,100,000	< 0.5	U	< 0.5	U	< 0.5	U					< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
1,1,2-Trichloroethane	µg/L	5	6		5.4		6.4				< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
1,1-Dichloroethane	µg/L	10,000	13		9.2		13				< 0.25	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
1,1-Dichloroethene	µg/L	7	670		330		640	J			< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
1,1-Dichloropropene	µg/L	2.9	< 0.5	U	< 0.5	U	< 0.5	U			< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
1,2,3-Trichlorobenzene	µg/L	310	< 0.5	U	< 0.5	U	< 0.5	UJ			< 0.3	U	< 1	U	< 0.5	U	< 0.5	UJ	< 0.5	U	< 0.5	UJ
1,2,3-Trichloropropane	µg/L	0.041	< 0.5	U	< 0.5	U	< 0.5	U			< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
1,2,4-Trichlorobenzene	µg/L	70	< 0.5	U	< 0.5	U	< 0.5	U			< 0.4	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
1,2,4-Trimethylbenzene	µg/L	5,100	< 0.5	U	< 0.5	U	< 0.5	U			< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
1,2-Dibromo-3-chloropropane	µg/L	0.2	< 1	U	< 0.5	U	< 0.5	U			< 2	U	< 1	U	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U
1,2-Dibromoethane	µg/L	0.05	< 0.5	U	< 0.5	U	< 0.5	U			< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
1,2-Dichlorobenzene	µg/L	600	< 0.5	U	< 0.5	U	< 0.5	U			< 0.25	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
1,2-Dichloroethane	µg/L	5	30		22		27				< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
1,2-Dichloropropane	µg/L	5	< 0.5	U	< 0.5	U	< 0.5	U			< 0.4	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
1,3,5-Trimethylbenzene	µg/L	5,100	< 0.5	U	< 0.5	U	< 0.5	U			< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
1,3-Dichlorobenzene	µg/L	3,100	< 0.5	U	< 0.5	U	< 0.5	U			< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
1,3-Dichloropropane	µg/L	29	< 0.5	U	< 0.5	U	< 0.5	U			< 0.4	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
1,4-Dichlorobenzene	µg/L	75	< 0.5	U	< 0.5	U	< 0.5	U			< 0.25	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
2,2-Dichloropropane	µg/L	42	< 0.5	U	< 0.5	U	< 0.5	U			< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U

Table 2-4
Groundwater Results 2013–2019

		Location Code	67WW15						67WW16				67WW16I									
		Sample ID	67WW15-181023		67WW15-190503		67WW15-191024		67WW16-160518		67WW16-051816		67WW16I-112917		67WW16I-180503		67WW16I-181025		67WW16I-190501		67WW16I-191024	
		Sample Date	10/23/2018		5/3/2019		10/24/2019		5/18/2016		5/18/2016		11/29/2017		5/3/2018		10/25/2018		5/1/2019		10/24/2019	
		Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter	Units	MCL/GW-Ind	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
2-Butanone	µg/L	61,000	< 1	U	< 1	U	< 1	U			< 5	U	< 2	U	< 1	U	< 1	U	< 1	U	< 1	U
2-Chlorotoluene	µg/L	2,000	< 0.5	U	< 0.5	U	< 0.5	U			< 0.25	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
2-Hexanone	µg/L	6,100	< 1	U	< 1	U	< 1	U			< 5	U	< 2	U	< 1	U	< 1	U	< 1	U	< 1	U
4-Chlorotoluene	µg/L	2,000	< 0.5	U	< 0.5	U	< 0.5	U			< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
Acetone	µg/L	92,000	< 2	U	< 1	U	< 1	U			< 5	U	< 2	U	< 1	U	< 2	U	3.3		< 1	U
Benzene	µg/L	5	< 0.5	U	< 0.5	U	< 0.5	U			< 0.25	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
Bromobenzene	µg/L	2,000	< 0.5	U	< 0.5	U	< 0.5	U			< 0.25	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
Bromochloromethane	µg/L	4,100	< 0.5	U	< 0.5	U	< 0.5	U			< 0.4	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
Bromodichloromethane	µg/L	4.6	< 0.5	U	< 0.5	U	< 0.5	U			< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
Bromoform	µg/L	36	< 0.5	U	< 0.5	U	< 0.5	U			< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
Bromomethane	µg/L	140	< 0.5	U	< 0.5	U	< 0.5	U			< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
Carbon disulfide	µg/L	10,000	< 1	U	< 1	U	< 1	U			< 1	U	< 2	U	< 1	U	< 1	U	0.9	J	< 1	U
Carbon tetrachloride	µg/L	5	< 0.5	U	< 0.5	U	< 0.5	U			< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
Chlorobenzene	µg/L	100	< 0.5	U	< 0.5	U	< 0.5	U			< 0.25	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
Chloroethane	µg/L	41,000	< 0.5	U	< 0.5	U	< 0.5	U			< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
Chloroform	µg/L	1,000	< 0.5	U	< 0.5	U	< 0.5	U			< 0.25	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
Chloromethane	µg/L	220	< 0.5	U	< 0.5	U	< 0.5	U			< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
cis-1,2-Dichloroethene	µg/L	70	1.7		1.3		1.7				< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
cis-1,3-Dichloropropene	µg/L	5.3	< 0.5	U	< 0.5	U	< 0.5	U			< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
Dibromochloromethane	µg/L	34	< 0.5	U	< 0.5	U	< 0.5	U			< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
Dibromomethane	µg/L	380	< 0.5	U	< 0.5	U	< 0.5	U			< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
Dichlorodifluoromethane	µg/L	20,000	< 0.5	UJ	< 0.5	U	< 0.5	U			< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
Ethylbenzene	µg/L	700	< 0.5	U	< 0.5	U	< 0.5	U			< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
Hexachlorobutadiene	µg/L	20	< 1	U	< 1	U	< 0.5	U			< 0.5	U	< 1	U	< 0.5	U	< 1	U	< 1	U	< 0.5	U
Isopropylbenzene	µg/L	10,000	< 0.5	U	< 0.5	U	< 0.5	U			< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
m,p-Xylenes	µg/L	10,000	< 1	U	< 1	U	< 1	U			< 1	U	< 2	U	< 1	U	< 1	U	< 1	U	< 1	U
Methyl isobutyl ketone	µg/L	8,200	< 1	U	< 1	U	< 1	U			< 5	U	< 2	U	< 1	U	< 1	U	< 1	U	< 1	U
Methylene chloride	µg/L	5	< 1	U	< 1	U	< 1	U			< 0.5	U	< 2	U	< 1	U	< 1	U	< 1	U	< 1	U
Naphthalene	µg/L	2,000	< 0.5	U	< 0.5	U	< 0.5	UJ			< 0.4	U	< 1	U	< 0.5	U	< 0.5	UJ	< 0.5	U	< 0.5	UJ
n-Butylbenzene	µg/L	4,100	< 0.5	U	< 0.5	U	< 0.5	U			< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
n-Propylbenzene	µg/L	4,100	< 0.5	U	< 0.5	U	< 0.5	U			< 0.25	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
o-Xylene	µg/L	10,000	< 0.5	U	< 0.5	U	< 0.5	U			< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
p-Isopropyltoluene	µg/L	10,000	< 0.5	U	< 0.5	U	< 0.5	U			< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
sec-Butylbenzene	µg/L	4,100	< 0.5	U	< 0.5	U	< 0.5	U			< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
Styrene	µg/L	100	< 0.5	U	< 0.5	U	< 0.5	U			< 0.25	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
tert-Butylbenzene	µg/L	4,100	< 0.5	U	< 0.5	U	< 0.5	U			< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
Tetrachloroethene	µg/L	5	< 0.5	U	< 0.5	U	< 0.5	U			< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
Toluene	µg/L	1,000	< 0.5	U	< 0.5	U	< 0.5	U			< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
trans-1,2-Dichloroethene	µg/L	100	< 0.5	U	< 0.5	U	< 0.5	U			< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
trans-1,3-Dichloropropene	µg/L	29	< 0.5	U	< 0.5	U	< 0.5	U			< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
Trichloroethene	µg/L	5	1.4		1.1		1.5				< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
Trichlorofluoromethane	µg/L	31,000	< 0.5	U	< 0.5	U	< 0.5	U			< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
Vinyl chloride	µg/L	2	< 0.5	U	< 0.5	U	< 0.5	U			< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U

Table 2-4
Groundwater Results 2013–2019

		Location Code	67WW17		67WW18			
		Sample ID	67WW17-191024		67WW18-191024-FD		67WW18-191024	
		Sample Date	10/24/2019		10/24/2019		10/24/2019	
		Sample Purpose	REG		FD		REG	
Parameter	Units	MCL/GW-Ind	Result	Val Qual	Result	Val Qual	Result	Val Qual
ANIONS								
Chloride	mg/L	NV						
Nitrate	mg/L	10						
Nitrite	mg/L	1						
Sulfate	mg/L	NV						
Sulfide	mg/L	NV						
TOTAL ORGANIC CARBON								
Total Inorganic Carbon	mg/L	NV						
Total organic carbon	mg/L	NV						
DHC								
BVC	cells/mL	NV						
Dehalococcoides	cells/mL	NV						
FIELD TESTS								
Conductivity	µmhos/cm	NV	2.36				0.974	
Dissolved oxygen	mg/L	NV	0.95				1.54	
Ferrous Iron	mg/L	NV						
Oxidation-Reduction Potential	mV	NV	87				125	
pH	SU	NV	6.65				6.52	
Temperature	C	NV	20.4				20.26	
Turbidity	NTU	NV	0				8.1	
GENERAL CHEMISTRY								
Alkalinity	mg/L	NV						
Ferrous Iron	mg/L	NV						
GASES								
Carbon dioxide	µg/L	NV						
Ethane	µg/L	NV						
Ethylene	µg/L	NV						
Methane	µg/L	NV						
VOLATILES								
1,1,1,2-Tetrachloroethane	µg/L	110	< 0.5	U	< 0.5	U	< 0.5	U
1,1,1-Trichloroethane	µg/L	200	< 0.5	U	< 0.5	U	< 0.5	U
1,1,2,2-Tetrachloroethane	µg/L	14	< 0.5	U	< 0.5	U	< 0.5	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	µg/L	3,100,000	< 0.5	U	< 0.5	U	< 0.5	U
1,1,2-Trichloroethane	µg/L	5	< 0.5	U	< 0.5	U	< 0.5	U
1,1-Dichloroethane	µg/L	10,000	< 0.5	U	< 0.5	U	< 0.5	U
1,1-Dichloroethene	µg/L	7	< 0.5	U	< 0.5	U	< 0.5	U
1,1-Dichloropropene	µg/L	2.9	< 0.5	U	< 0.5	U	< 0.5	U
1,2,3-Trichlorobenzene	µg/L	310	< 0.5	U	< 0.5	U	< 0.5	U
1,2,3-Trichloropropane	µg/L	0.041	< 0.5	U	< 0.5	U	< 0.5	U
1,2,4-Trichlorobenzene	µg/L	70	< 0.5	U	< 0.5	U	< 0.5	U
1,2,4-Trimethylbenzene	µg/L	5,100	< 0.5	U	< 0.5	U	< 0.5	U
1,2-Dibromo-3-chloropropane	µg/L	0.2	< 0.5	U	< 0.5	U	< 0.5	U
1,2-Dibromoethane	µg/L	0.05	< 0.5	U	< 0.5	U	< 0.5	U
1,2-Dichlorobenzene	µg/L	600	< 0.5	U	< 0.5	U	< 0.5	U
1,2-Dichloroethane	µg/L	5	< 0.5	U	< 0.5	U	< 0.5	U
1,2-Dichloropropane	µg/L	5	< 0.5	U	< 0.5	U	< 0.5	U
1,3,5-Trimethylbenzene	µg/L	5,100	< 0.5	U	< 0.5	U	< 0.5	U
1,3-Dichlorobenzene	µg/L	3,100	< 0.5	U	< 0.5	U	< 0.5	U
1,3-Dichloropropane	µg/L	29	< 0.5	U	< 0.5	U	< 0.5	U
1,4-Dichlorobenzene	µg/L	75	< 0.5	U	< 0.5	U	< 0.5	U
2,2-Dichloropropane	µg/L	42	< 0.5	U	< 0.5	U	< 0.5	U

Table 2-4
Groundwater Results 2013–2019

		Location Code	67WW17		67WW18			
		Sample ID	67WW17-191024		67WW18-191024-FD		67WW18-191024	
		Sample Date	10/24/2019		10/24/2019		10/24/2019	
		Sample Purpose	REG		FD		REG	
Parameter	Units	MCL/GW-Ind	Result	Val Qual	Result	Val Qual	Result	Val Qual
2-Butanone	µg/L	61,000	< 1	U	< 1	U	< 1	U
2-Chlorotoluene	µg/L	2,000	< 0.5	U	< 0.5	U	< 0.5	U
2-Hexanone	µg/L	6,100	< 1	U	< 1	U	< 1	U
4-Chlorotoluene	µg/L	2,000	< 0.5	U	< 0.5	U	< 0.5	U
Acetone	µg/L	92,000	< 1	U	< 1	U	< 1	U
Benzene	µg/L	5	< 0.5	U	< 0.5	U	< 0.5	U
Bromobenzene	µg/L	2,000	< 0.5	U	< 0.5	U	< 0.5	U
Bromochloromethane	µg/L	4,100	< 0.5	U	< 0.5	U	< 0.5	U
Bromodichloromethane	µg/L	4.6	< 0.5	U	< 0.5	U	< 0.5	U
Bromoform	µg/L	36	2.3		< 0.5	U	< 0.5	U
Bromomethane	µg/L	140	< 0.5	U	< 0.5	U	< 0.5	U
Carbon disulfide	µg/L	10,000	< 1	U	< 1	U	< 1	U
Carbon tetrachloride	µg/L	5	< 0.5	U	< 0.5	U	< 0.5	U
Chlorobenzene	µg/L	100	< 0.5	U	< 0.5	U	< 0.5	U
Chloroethane	µg/L	41,000	< 0.5	U	< 0.5	U	< 0.5	U
Chloroform	µg/L	1,000	< 0.5	U	< 0.5	U	< 0.5	U
Chloromethane	µg/L	220	< 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
cis-1,3-Dichloropropene	µg/L	5.3	< 0.5	U	< 0.5	U	< 0.5	U
Dibromochloromethane	µg/L	34	2.2		< 0.5	U	< 0.5	U
Dibromomethane	µg/L	380	0.72	J	< 0.5	U	< 0.5	U
Dichlorodifluoromethane	µg/L	20,000	< 0.5	U	< 0.5	U	< 0.5	U
Ethylbenzene	µg/L	700	< 0.5	U	< 0.5	U	< 0.5	U
Hexachlorobutadiene	µg/L	20	< 0.5	U	< 0.5	U	< 0.5	U
Isopropylbenzene	µg/L	10,000	< 0.5	U	< 0.5	U	< 0.5	U
m,p-Xylenes	µg/L	10,000	< 1	U	< 1	U	< 1	U
Methyl isobutyl ketone	µg/L	8,200	< 1	U	< 1	U	< 1	U
Methylene chloride	µg/L	5	< 1	U	< 1	U	< 1	U
Naphthalene	µg/L	2,000	< 0.5	U	< 0.5	U	< 0.5	U
n-Butylbenzene	µg/L	4,100	< 0.5	U	< 0.5	U	< 0.5	U
n-Propylbenzene	µg/L	4,100	< 0.5	U	< 0.5	U	< 0.5	U
o-Xylene	µg/L	10,000	< 0.5	U	< 0.5	U	< 0.5	U
p-Isopropyltoluene	µg/L	10,000	< 0.5	U	< 0.5	U	< 0.5	U
sec-Butylbenzene	µg/L	4,100	< 0.5	U	< 0.5	U	< 0.5	U
Styrene	µg/L	100	< 0.5	U	< 0.5	U	< 0.5	U
tert-Butylbenzene	µg/L	4,100	< 0.5	U	< 0.5	U	< 0.5	U
Tetrachloroethene	µg/L	5	< 0.5	U	< 0.5	U	< 0.5	U
Toluene	µg/L	1,000	< 0.5	U	< 0.5	U	< 0.5	U
trans-1,2-Dichloroethene	µg/L	100	< 0.5	U	< 0.5	U	< 0.5	U
trans-1,3-Dichloropropene	µg/L	29	< 0.5	U	< 0.5	U	< 0.5	U
Trichloroethene	µg/L	5	< 0.5	U	< 0.5	U	< 0.5	U
Trichlorofluoromethane	µg/L	31,000	< 0.5	U	< 0.5	U	< 0.5	U
Vinyl chloride	µg/L	2	< 0.5	U	< 0.5	U	< 0.5	U

Table 2-4
Groundwater Results 2013–2019

Notes:

Bold and highlighted results indicate analyte is above the Res-GW MCL.

°C - degrees Celsius

µS/cm - microsiemens per centimeter

µg/L - micrograms per liter

µmhos/cm - micromhos per centimeter

J - estimated value

U - Not detected; The analyte was analyzed for but not detected above the associated method detection limit.

cells/mL - cells per milliliter

CEQ/mL - cell equivalence per milliliter

FD - field duplicate

GW-Ind - groundwater medium-specific concentration for industrial use

ID - identifier

MCL - maximum contaminant level

mg/L - milligrams per liter

mS/cm - millisiemens per centimeter

mV - millivolts

NTU - nephelometric turbidity unit

NV - no value established

REG - regular sample

Res-GW MCL - residential groundwater MCL

SU - standard unit

Val Qual - validation qualifier

Table 2-5
LHAAP-67 Historical Contaminants of Concern

		Location Code	67WW01																			
		Sample ID	67WW01-981208		67WW01-040912		67WW01-060806		67WW01-061218		67WW01-053113		67WW01-050714		67WW01-072514		67WW01-120314		67WW01-021015		67WW01-051915	
		Sample Date	12/8/1998		9/12/2004		8/6/2006		12/18/2006		5/31/2013		5/7/2014		7/25/2014		12/3/2014		2/10/2015		5/19/2015	
		Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter	Units	MCL/GW-Ind	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
1,1,1-Trichloroethane	µg/L	200	560		< 5	U	< 5	U	< 5	U	< 0.25	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 1.25	U
1,1,2-Trichloroethane	µg/L	5	33		1	J	0.305	JH	0.28	J	< 0.25	U	< 0.5	U	0.29	J	0.483	J	1.44		1.72	J
1,1-Dichloroethene	µg/L	7	380		280		153		179		139		257		224		349		544		631	
1,2-Dichloroethane	µg/L	5	27		13		5.57	JH	6.37		6.68		12.2		10.7		16.6		28.7		31.4	
Trichloroethene	µg/L	5	6.3		6		5.38	JH	5.99		2.96		3		2.3		3.36		4.07		3.03	

Notes:

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µg/L - micrograms per liter

µmhos/cm - micromhos per centimeter

J - estimated value

U - Not detected; The analyte was analyzed for but not detected above the associated method detection limit.

cells/mL - cells per milliliter

CEQ/mL - cell equivalence per milliliter

FD - field duplicate

GW-Ind - groundwater medium-specific concentration for industrial use

ID - identifier

MCL - maximum contaminant level

mg/L - milligrams per liter

mS/cm - millisiemens per centimeter

mV - millivolts

NTU - nephelometric turbidity unit

REG - regular sample

Res-GW MCL - residential groundwater MCL

SU - standard unit

Table 2-5
LHAAP-67 Historical Contaminants of Concern

	Location Code		67WW01														67WW02					
	Sample ID		67WW01-111915		67WW01-032916		67WW01-051916		67WW01-112817		67WW01-180503		67WW01-190503		67WW01-191024		67WW02-981208		67WW02-981208FD		67WW02-040912	
	Sample Date		11/19/2015		3/29/2016		5/19/2016		11/28/2017		5/3/2018		5/3/2019		10/24/2019		12/8/1998		12/8/1998		9/12/2004	
	Sample Purpose		REG		REG		REG		REG		REG		REG		REG		REG		FD		REG	
Parameter	Units	MCL/GW-Ind	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
1,1,1-Trichloroethane	µg/L	200	< 1.25	U	< 0.5	U	< 2.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	100		100		< 5	U
1,1,2-Trichloroethane	µg/L	5	2.14	J	2.67		1.62	J	< 1	U	1.2		1.4		0.53	J	6.4		5.9	J	< 5	U
1,1-Dichloroethene	µg/L	7	694		728		714		250		450		280		70		2.4		< 10	U	< 5	U
1,2-Dichloroethane	µg/L	5	38.6		52.6		43.3		28		22		21		7.6		< 1	U	< 10	U	< 5	U
Trichloroethene	µg/L	5	2.84		4		3.28	J	2.1		1.7		1.3		0.53	J	< 1	U	< 10	U	< 5	U

Notes:

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µS/cm - microsiemens per centimeter

µg/L - micrograms per liter

µmhos/cm - micromhos per centimeter

J - estimated value

U - Not detected; The analyte was analyzed for but not detected above the associated method detection limit.

cells/mL - cells per milliliter

CEQ/mL - cell equivalence per milliliter

FD - field duplicate

GW-Ind - groundwater medium-specific concentration for industrial use

ID - identifier

MCL - maximum contaminant level

mg/L - milligrams per liter

mS/cm - millisiemens per centimeter

mV - millivolts

NTU - nephelometric turbidity unit

REG - regular sample

Res-GW MCL - residential groundwater MCL

SU - standard unit

Table 2-5
LHAAP-67 Historical Contaminants of Concern

	Location Code		67WW02																	
	Sample ID		67WW02-060806		67WW02-061218		67WW02-053113		67WW02-092713		67WW02-012314		67WW02-050614		67WW02-072414		67WW02-120314		67WW02-021015		67WW02FD-051215	
	Sample Date		8/6/2006		12/18/2006		5/31/2013		9/27/2013		1/23/2014		5/6/2014		7/24/2014		12/3/2014		2/10/2015		5/12/2015	
	Sample Purpose		REG		REG		REG		REG		REG		REG		REG		REG		REG		FD	
Parameter	Units	MCL/GW-Ind	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
1,1,1-Trichloroethane	µg/L	200	< 5	U	< 5	U	< 0.25	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
1,1,2-Trichloroethane	µg/L	5	< 5	U	< 5	U	< 0.25	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
1,1-Dichloroethene	µg/L	7	< 5	U	< 5	U	< 0.5	U	< 1	U	< 1	U	< 1	U	< 1	U	< 1	U	3.59		13	
1,2-Dichloroethane	µg/L	5	< 5	U	< 5	U	< 0.25	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
Trichloroethene	µg/L	5	< 5	U	< 5	U	< 0.25	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U

Notes:

Bold and highlighted results indicate analyte is above the Res-GW MCL.

°C - degrees Celsius

µS/cm - microsiemens per centimeter

µg/L - micrograms per liter

µmhos/cm - micromhos per centimeter

J - estimated value

U - Not detected; The analyte was analyzed for but not detected above the associated method detection limit.

cells/mL - cells per milliliter

CEQ/mL - cell equivalence per milliliter

FD - field duplicate

GW-Ind - groundwater medium-specific concentration for industrial use

ID - identifier

MCL - maximum contaminant level

mg/L - milligrams per liter

mS/cm - millisiemens per centimeter

mV - millivolts

NTU - nephelometric turbidity unit

REG - regular sample

Res-GW MCL - residential groundwater MCL

SU - standard unit

Table 2-5
LHAAP-67 Historical Contaminants of Concern

		Location Code	67WW02																			
		Sample ID	67WW02-051215		67WW02-111915		67WW02-051916		67WW02FD-051916		67WW02-112817		67WW02-180503FD		67WW02-180503		67WW02-181025		67WW02-190501		67WW02-191024	
		Sample Date	5/12/2015		11/19/2015		5/19/2016		5/19/2016		11/28/2017		5/3/2018		5/3/2018		10/25/2018		5/1/2019		10/24/2019	
		Sample Purpose	REG		REG		REG		FD		REG		FD		REG		REG		REG		REG	
Parameter	Units	MCL/GW-Ind	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
1,1,1-Trichloroethane	µg/L	200	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
1,1,2-Trichloroethane	µg/L	5	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	1.2		< 0.5	U
1,1-Dichloroethene	µg/L	7	13.2		0.857	J	67.6		66.3		< 1	U	190		190		6.9		180		34	
1,2-Dichloroethane	µg/L	5	< 0.5	U	< 0.5	U	0.377	J	0.321	J	< 1	U	1.9		2		< 0.5	U	4.7		< 0.5	U
Trichloroethene	µg/L	5	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	0.87	J	< 0.5	U

Notes:

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°C - degrees Celsius

µS/cm - microsiemens per centimeter

µg/L - micrograms per liter

µmhos/cm - micromhos per centimeter

J - estimated value

U - Not detected; The analyte was analyzed for but not detected above the associated method detection limit.

cells/mL - cells per milliliter

CEQ/mL - cell equivalence per milliliter

FD - field duplicate

GW-Ind - groundwater medium-specific concentration for industrial use

ID - identifier

MCL - maximum contaminant level

mg/L - milligrams per liter

mS/cm - millisiemens per centimeter

mV - millivolts

NTU - nephelometric turbidity unit

REG - regular sample

Res-GW MCL - residential groundwater MCL

SU - standard unit

Table 2-5
LHAAP-67 Historical Contaminants of Concern

		Location Code	67WW03														67WW04				67WW05	
		Sample ID	67WW03-981208		67WW03-040912		67WW03-060809		67WW03-061218		67WW03-051215		67WW03-032916		67WW03-051916		67WW04-001219		67WW04-040912		67WW05-001219	
		Sample Date	12/8/1998		9/12/2004		8/9/2006		12/18/2006		5/12/2015		3/29/2016		5/19/2016		12/19/2000		9/12/2004		12/19/2000	
		Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter	Units	MCL/GW-Ind	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
1,1,1-Trichloroethane	µg/L	200	1,800		< 5	U	< 5	U	< 5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.1	U	< 5	U	< 0.1	U
1,1,2-Trichloroethane	µg/L	5	24		< 5	U	< 5	U	< 5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.1	U	< 5	U	< 0.1	U
1,1-Dichloroethene	µg/L	7	36		< 5	U	< 5	U	< 5	U	< 1	U	< 1	U	< 1	U	< 0.2	U	< 5	U	< 0.2	U
1,2-Dichloroethane	µg/L	5	< 20	U	< 5	U	< 5	U	< 5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.1	U	< 5	U	< 0.1	U
Trichloroethene	µg/L	5	< 20	U	< 5	U	< 5	U	< 5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.1	U	1	J	< 0.1	U

Notes:

Bold and highlighted results indicate analyte is above the Res-GW MCL.

°C - degrees Celsius

µS/cm - microsiemens per centimeter

µg/L - micrograms per liter

µmhos/cm - micromhos per centimeter

J - estimated value

U - Not detected; The analyte was analyzed for but not detected above the associated method detection limit.

cells/mL - cells per milliliter

CEQ/mL - cell equivalence per milliliter

FD - field duplicate

GW-Ind - groundwater medium-specific concentration for industrial use

ID - identifier

MCL - maximum contaminant level

mg/L - milligrams per liter

mS/cm - millisiemens per centimeter

mV - millivolts

NTU - nephelometric turbidity unit

REG - regular sample

Res-GW MCL - residential groundwater MCL

SU - standard unit

Table 2-5
LHAAP-67 Historical Contaminants of Concern

	Location Code		67WW05																	
	Sample ID		67WW05-040912		67WW05-060808		67WW05-061217		67WW05-053113		67WW05-092813		67WW05-012314		67WW05-050614		67WW05-072414		67WW05-120314		67WW05-021015	
	Sample Date		9/12/2004		8/8/2006		12/17/2006		5/31/2013		9/28/2013		1/23/2014		5/6/2014		7/24/2014		12/3/2014		2/10/2015	
	Sample Purpose		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter	Units	MCL/GW-Ind	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
1,1,1-Trichloroethane	µg/L	200	< 5	U	< 5	U	< 5	U	< 0.25	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
1,1,2-Trichloroethane	µg/L	5	< 5	U	< 5	U	< 5	U	< 0.25	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
1,1-Dichloroethene	µg/L	7	< 5	U	< 5	U	< 5	U	< 0.5	U	< 1	U	< 1	U	< 1	U	< 1	U	< 1	U	< 1	U
1,2-Dichloroethane	µg/L	5	< 5	U	< 5	U	< 5	U	< 0.25	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
Trichloroethene	µg/L	5	< 5	U	< 5	U	< 5	U	< 0.25	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U

Notes:

Bold and highlighted results indicate analyte is above the Res-GW MCL.

°C - degrees Celsius

µS/cm - microsiemens per centimeter

µg/L - micrograms per liter

µmhos/cm - micromhos per centimeter

J - estimated value

U - Not detected; The analyte was analyzed for but not detected above the associated method detection limit.

cells/mL - cells per milliliter

CEQ/mL - cell equivalence per milliliter

FD - field duplicate

GW-Ind - groundwater medium-specific concentration for industrial use

ID - identifier

MCL - maximum contaminant level

mg/L - milligrams per liter

mS/cm - millisiemens per centimeter

mV - millivolts

NTU - nephelometric turbidity unit

REG - regular sample

Res-GW MCL - residential groundwater MCL

SU - standard unit

Table 2-5
LHAAP-67 Historical Contaminants of Concern

	Location Code		67WW05																		67WW06	
	Sample ID		67WW05-051215		67WW05-111915		67WW05-051916		67WW05-112817		67WW05-180503		67WW05-181025		67WW05-181025-FD		67WW05-190502		67WW05-191024		67WW06-001219	
	Sample Date		5/12/2015		11/19/2015		5/19/2016		11/28/2017		5/3/2018		10/25/2018		10/25/2018		5/2/2019		10/24/2019		12/19/2000	
	Sample Purpose		REG		REG		REG		REG		REG		REG		FD		REG		REG		REG	
Parameter	Units	MCL/GW-Ind	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
1,1,1-Trichloroethane	µg/L	200	< 0.5	U	< 0.5	U	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.1	U
1,1,2-Trichloroethane	µg/L	5	< 0.5	U	< 0.5	U	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.1	U
1,1-Dichloroethene	µg/L	7	< 1	U	< 1	U	< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.2	U
1,2-Dichloroethane	µg/L	5	< 0.5	U	< 0.5	U	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	3.51	
Trichloroethene	µg/L	5	< 0.5	U	< 0.5	U	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	0.14	J

Notes:

Bold and highlighted results indicate analyte is above the Res-GW MCL.

°C - degrees Celsius

µS/cm - microsiemens per centimeter

µg/L - micrograms per liter

µmhos/cm - micromhos per centimeter

J - estimated value

U - Not detected; The analyte was analyzed for but not detected above the associated method detection limit.

cells/mL - cells per milliliter

CEQ/mL - cell equivalence per milliliter

FD - field duplicate

GW-Ind - groundwater medium-specific concentration for industrial use

ID - identifier

MCL - maximum contaminant level

mg/L - milligrams per liter

mS/cm - millisiemens per centimeter

mV - millivolts

NTU - nephelometric turbidity unit

REG - regular sample

Res-GW MCL - residential groundwater MCL

SU - standard unit

Table 2-5
LHAAP-67 Historical Contaminants of Concern

		Location Code	67WW06																			
		Sample ID	67WW06-001219FD		67WW06-040912		67WW06-060808		67WW06-061218		67WW06-100806		67WW06-053113-FD		67WW06-053113		67WW06-092813		67WW06-012414		67WW06-112917	
		Sample Date	12/19/2000		9/12/2004		8/8/2006		12/18/2006		8/6/2010		5/31/2013		5/31/2013		9/28/2013		1/24/2014		11/29/2017	
		Sample Purpose	FD		REG		REG		REG		REG		FD		REG		REG		REG		REG	
Parameter	Units	MCL/GW-Ind	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
1,1,1-Trichloroethane	µg/L	200	< 0.1	U	< 5	U	< 5	U	< 5	U	< 0.25	U	< 0.25	U	< 0.25	U	< 0.5	U	< 0.5	U	< 1	U
1,1,2-Trichloroethane	µg/L	5	< 0.1	U	< 5	U	< 5	U	< 5	U	< 0.25	U	< 0.25	U	< 0.25	U	< 0.5	U	< 0.5	U	< 1	U
1,1-Dichloroethene	µg/L	7	< 0.2	U	< 5	U	< 5	U	< 5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 1	U	0.752	J	< 1	U
1,2-Dichloroethane	µg/L	5	3.5		< 5	U	3.02	J	1.62	J	2.39		2.2		2.25		1.77		2.03		1	
Trichloroethene	µg/L	5	0.15	J	< 5	U	< 5	U	< 5	U	< 0.25	U	< 0.25	U	< 0.25	U	< 0.5	U	< 0.5	U	< 1	U

Notes:

Bold and highlighted results indicate analyte is above the Res-GW MCL.

°C - degrees Celsius

µS/cm - microsiemens per centimeter

µg/L - micrograms per liter

µmhos/cm - micromhos per centimeter

J - estimated value

U - Not detected; The analyte was analyzed for but not detected above the associated method detection limit.

cells/mL - cells per milliliter

CEQ/mL - cell equivalence per milliliter

FD - field duplicate

GW-Ind - groundwater medium-specific concentration for industrial use

ID - identifier

MCL - maximum contaminant level

mg/L - milligrams per liter

mS/cm - millisiemens per centimeter

mV - millivolts

NTU - nephelometric turbidity unit

REG - regular sample

Res-GW MCL - residential groundwater MCL

SU - standard unit

Table 2-5
LHAAP-67 Historical Contaminants of Concern

	Location Code		67WW07																	
	Sample ID		67WW07-001219		67WW07-040912		67WW07-060808		67WW07-061218		67WW07-053113		67WW07-092713		67WW07-012314		67WW07-050614		67WW07-072514		67WW07-120314	
	Sample Date		12/19/2000		9/12/2004		8/8/2006		12/18/2006		5/31/2013		9/27/2013		1/23/2014		5/6/2014		7/25/2014		12/3/2014	
	Sample Purpose		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter	Units	MCL/GW-Ind	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
1,1,1-Trichloroethane	µg/L	200	< 0.1	U	< 5	U	< 5	U	< 5	U	< 0.25	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
1,1,2-Trichloroethane	µg/L	5	< 0.1	U	< 5	U	< 5	U	< 5	U	< 0.25	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
1,1-Dichloroethene	µg/L	7	< 0.2	U	< 5	U	< 5	U	< 5	U	< 0.5	U	< 1	U	< 1	U	< 1	U	< 1	U	< 1	U
1,2-Dichloroethane	µg/L	5	2.28		< 5	U	< 5	U	1.65	J	1.67		1.77		1.35		1.44		1.39		1.19	
Trichloroethene	µg/L	5	< 0.1	U	< 5	U	< 5	U	< 5	U	< 0.25	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U

Notes:

Bold and highlighted results indicate analyte is above the Res-GW MCL.

°C - degrees Celsius

µS/cm - microsiemens per centimeter

µg/L - micrograms per liter

µmhos/cm - micromhos per centimeter

J - estimated value

U - Not detected; The analyte was analyzed for but not detected above the associated method detection limit.

cells/mL - cells per milliliter

CEQ/mL - cell equivalence per milliliter

FD - field duplicate

GW-Ind - groundwater medium-specific concentration for industrial use

ID - identifier

MCL - maximum contaminant level

mg/L - milligrams per liter

mS/cm - millisiemens per centimeter

mV - millivolts

NTU - nephelometric turbidity unit

REG - regular sample

Res-GW MCL - residential groundwater MCL

SU - standard unit

Table 2-5
LHAAP-67 Historical Contaminants of Concern

		Location Code	67WW07																		67WW08	
		Sample ID	67WW07-021015		67WW07-051215		67WW07-111915		67WW07-051916		67WW07-112917		67WW07-180503		67WW07-181025		67WW07-190503		67WW07-191028		67WW08-060313	
		Sample Date	2/10/2015		5/12/2015		11/19/2015		5/19/2016		11/29/2017		5/3/2018		10/25/2018		5/3/2019		10/28/2019		6/3/2013	
		Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter	Units	MCL/GW-Ind	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
1,1,1-Trichloroethane	µg/L	200	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.25	U
1,1,2-Trichloroethane	µg/L	5	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	4.25	
1,1-Dichloroethene	µg/L	7	< 1	U	< 1	U	< 1	U	< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	940	
1,2-Dichloroethane	µg/L	5	1.04		0.817	J	0.601	J	0.33	J	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	64.3	R
Trichloroethene	µg/L	5	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	6.25	R

Notes:

Bold and highlighted results indicate analyte is above the Res-GW MCL.

°C - degrees Celsius

µS/cm - microsiemens per centimeter

µg/L - micrograms per liter

µmhos/cm - micromhos per centimeter

J - estimated value

U - Not detected; The analyte was analyzed for but not detected above the associated method detection limit.

cells/mL - cells per milliliter

CEQ/mL - cell equivalence per milliliter

FD - field duplicate

GW-Ind - groundwater medium-specific concentration for industrial use

ID - identifier

MCL - maximum contaminant level

mg/L - milligrams per liter

mS/cm - millisiemens per centimeter

mV - millivolts

NTU - nephelometric turbidity unit

REG - regular sample

Res-GW MCL - residential groundwater MCL

SU - standard unit

Table 2-5
LHAAP-67 Historical Contaminants of Concern

		Location Code	67WW08																			
		Sample ID	67WW08-100213		67WW08-012314		67WW08-050714		67WW08-072414		67WW08-120414		67WW08-021115		67WW08-051915		67WW08-111915		67WW08-051916		67WW08-112817-FD	
		Sample Date	10/2/2013		1/23/2014		5/7/2014		7/24/2014		12/4/2014		2/11/2015		5/19/2015		11/19/2015		5/19/2016		11/28/2017	
		Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG		REG		FD	
Parameter	Units	MCL/GW-Ind	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
1,1,1-Trichloroethane	µg/L	200	< 5	U	< 2.5	U	< 5	U	< 5	U	< 5	U	< 5	U	< 5	U	< 5	U	< 5	U	< 1	U
1,1,2-Trichloroethane	µg/L	5	5.08	J	6.7		5.01	J	7.74	J	7.36	J	6.96	J	4.5	J	4.67	J	2.76	J	< 1	U
1,1-Dichloroethene	µg/L	7	1,120		1,340		1,590		1,890		2,320		1,930		1,570		1,710		1,130		350	
1,2-Dichloroethane	µg/L	5	76.5		89.9		101		98.9		106		104		85.6		77.6		56.1		13	
Trichloroethene	µg/L	5	< 5	U	3.12	J	4.41	J	3.14	J	3.55	J	3.15	J	< 5	U	< 5	U	< 5	U	< 1	U

Notes:

Bold and highlighted results indicate analyte is above the Res-GW MCL.

°C - degrees Celsius

µS/cm - microsiemens per centimeter

µg/L - micrograms per liter

µmhos/cm - micromhos per centimeter

J - estimated value

U - Not detected; The analyte was analyzed for but not detected above the associated method detection limit.

cells/mL - cells per milliliter

CEQ/mL - cell equivalence per milliliter

FD - field duplicate

GW-Ind - groundwater medium-specific concentration for industrial use

ID - identifier

MCL - maximum contaminant level

mg/L - milligrams per liter

mS/cm - millisiemens per centimeter

mV - millivolts

NTU - nephelometric turbidity unit

REG - regular sample

Res-GW MCL - residential groundwater MCL

SU - standard unit

Table 2-5
LHAAP-67 Historical Contaminants of Concern

		Location Code	67WW08														67WW09					
		Sample ID	67WW08-112817		67WW08-180501		67WW08-181023-FD		67WW08-181023		67WW08-190501		67WW08-191028-FD		67WW08-191028		67WW10-060113		67WW09-060113		67WW09-092813	
		Sample Date	11/28/2017		5/1/2018		10/23/2018		10/23/2018		5/1/2019		10/28/2019		10/28/2019		6/1/2013		6/3/2013		9/28/2013	
		Sample Purpose	REG		REG		FD		REG		REG		FD		REG		REG		REG		REG	
Parameter	Units	MCL/GW-Ind	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
1,1,1-Trichloroethane	µg/L	200	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.25	U	< 0.25	U	< 0.5	U
1,1,2-Trichloroethane	µg/L	5	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.25	U	< 0.25	U	< 0.5	U
1,1-Dichloroethene	µg/L	7	340		300		160		160		110		65		63		< 0.5	U	16.1		17.5	
1,2-Dichloroethane	µg/L	5	13		11		6.2		6.5		5.1		2.4		2.3		< 0.25	U	< 0.25	U	0.414	J
Trichloroethene	µg/L	5	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.25	U	< 0.25	U	< 0.5	U

Notes:

Bold and highlighted results indicate analyte is above the Res-GW MCL.

°C - degrees Celsius

µS/cm - microsiemens per centimeter

µg/L - micrograms per liter

µmhos/cm - micromhos per centimeter

J - estimated value

U - Not detected; The analyte was analyzed for but not detected above the associated method detection limit.

cells/mL - cells per milliliter

CEQ/mL - cell equivalence per milliliter

FD - field duplicate

GW-Ind - groundwater medium-specific concentration for industrial use

ID - identifier

MCL - maximum contaminant level

mg/L - milligrams per liter

mS/cm - millisiemens per centimeter

mV - millivolts

NTU - nephelometric turbidity unit

REG - regular sample

Res-GW MCL - residential groundwater MCL

SU - standard unit

Table 2-5
LHAAP-67 Historical Contaminants of Concern

		Location Code	67WW09																			
		Sample ID	67WW09-012414		67WW09-072514		67WW09-120414		67WW09FD-021115		67WW09-021115		67WW09-051915		67WW09FD-111815		67WW09-111815		67WW09FD-051816		67WW09-051816	
		Sample Date	1/24/2014		7/25/2014		12/4/2014		2/11/2015		2/11/2015		5/19/2015		11/18/2015		11/18/2015		5/18/2016		5/18/2016	
		Sample Purpose	REG		REG		REG		FD		REG		REG		FD		REG		FD		REG	
Parameter	Units	MCL/GW-Ind	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
1,1,1-Trichloroethane	µg/L	200	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
1,1,2-Trichloroethane	µg/L	5	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
1,1-Dichloroethene	µg/L	7	**20.8**		**8.93**		**11.6**		**8.29**		**8.17**		2.71		1.62	J	1.66	J	< 1	U	< 1	U
1,2-Dichloroethane	µg/L	5	0.347	J	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
Trichloroethene	µg/L	5	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U

Notes:

Bold and highlighted results indicate analyte is above the Res-GW MCL.

°C - degrees Celsius

µS/cm - microsiemens per centimeter

µg/L - micrograms per liter

µmhos/cm - micromhos per centimeter

J - estimated value

U - Not detected; The analyte was analyzed for but not detected above the associated method detection limit.

cells/mL - cells per milliliter

CEQ/mL - cell equivalence per milliliter

FD - field duplicate

GW-Ind - groundwater medium-specific concentration for industrial use

ID - identifier

MCL - maximum contaminant level

mg/L - milligrams per liter

mS/cm - millisiemens per centimeter

mV - millivolts

NTU - nephelometric turbidity unit

REG - regular sample

Res-GW MCL - residential groundwater MCL

SU - standard unit

Table 2-5
LHAAP-67 Historical Contaminants of Concern

	Location Code		67WW09										67WW09A									
	Sample ID		67WW09-112717		67WW09-180502		67WW09-181023		67WW09-190503		67WW09-191024		67WW09A-092713		67WW09A-092713-FD		67WW09A-012314		67WW09A-050614		67WW09A-072414	
	Sample Date		11/27/2017		5/2/2018		10/23/2018		5/3/2019		10/24/2019		9/27/2013		9/27/2013		1/23/2014		5/6/2014		7/24/2014	
	Sample Purpose		REG		REG		REG		REG		REG		REG		FD		REG		REG		REG	
Parameter	Units	MCL/GW-Ind	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
1,1,1-Trichloroethane	µg/L	200	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
1,1,2-Trichloroethane	µg/L	5	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
1,1-Dichloroethene	µg/L	7	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 1	U	< 1	U	< 1	U	< 1	U	< 1	U
1,2-Dichloroethane	µg/L	5	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
Trichloroethene	µg/L	5	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U

Notes:

Bold and highlighted results indicate analyte is above the Res-GW MCL.

°C - degrees Celsius

µS/cm - microsiemens per centimeter

µg/L - micrograms per liter

µmhos/cm - micromhos per centimeter

J - estimated value

U - Not detected; The analyte was analyzed for but not detected above the associated method detection limit.

cells/mL - cells per milliliter

CEQ/mL - cell equivalence per milliliter

FD - field duplicate

GW-Ind - groundwater medium-specific concentration for industrial use

ID - identifier

MCL - maximum contaminant level

mg/L - milligrams per liter

mS/cm - millisiemens per centimeter

mV - millivolts

NTU - nephelometric turbidity unit

REG - regular sample

Res-GW MCL - residential groundwater MCL

SU - standard unit

Table 2-5
LHAAP-67 Historical Contaminants of Concern

		Location Code	67WW09A																			
		Sample ID	67WW09AFD-072414		67WW09AFD-120314		67WW09A-120314		67WW09A-021015		67WW09A-051215		67WW09A-111815		67WW09A-051816		67WW09A-112917		67WW09A-180503		67WW09A-181025	
		Sample Date	7/24/2014		12/3/2014		12/3/2014		2/10/2015		5/12/2015		11/18/2015		5/18/2016		11/29/2017		5/3/2018		10/25/2018	
		Sample Purpose	FD		FD		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter	Units	MCL/GW-Ind	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
1,1,1-Trichloroethane	µg/L	200	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U
1,1,2-Trichloroethane	µg/L	5	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U
1,1-Dichloroethene	µg/L	7	< 1	U	< 1	U	< 1	U	< 1	U	< 1	U	< 1	U	< 1	U	< 1	U	< 0.5	U	< 0.5	U
1,2-Dichloroethane	µg/L	5	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U
Trichloroethene	µg/L	5	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U

Notes:

Bold and highlighted results indicate analyte is above the Res-GW MCL.

°C - degrees Celsius

µS/cm - microsiemens per centimeter

µg/L - micrograms per liter

µmhos/cm - micromhos per centimeter

J - estimated value

U - Not detected; The analyte was analyzed for but not detected above the associated method detection limit.

cells/mL - cells per milliliter

CEQ/mL - cell equivalence per milliliter

FD - field duplicate

GW-Ind - groundwater medium-specific concentration for industrial use

ID - identifier

MCL - maximum contaminant level

mg/L - milligrams per liter

mS/cm - millisiemens per centimeter

mV - millivolts

NTU - nephelometric turbidity unit

REG - regular sample

Res-GW MCL - residential groundwater MCL

SU - standard unit

Table 2-5
LHAAP-67 Historical Contaminants of Concern

		Location Code	67WW09A				67WW10															
		Sample ID	67WW09A-190502		67WW09A-191028		67WW10-092713		67WW10-012414		67WW10-050614		67WW10-072414		67WW10-120314		67WW10-021015		67WW10-051215		67WW10-111815	
		Sample Date	5/2/2019		10/28/2019		9/27/2013		1/24/2014		5/6/2014		7/24/2014		12/3/2014		2/10/2015		5/12/2015		11/18/2015	
		Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter	Units	MCL/GW-Ind	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
1,1,1-Trichloroethane	µg/L	200	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
1,1,2-Trichloroethane	µg/L	5	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
1,1-Dichloroethene	µg/L	7	< 0.5	U	< 0.5	U	< 1	U	< 1	U	< 1	U	< 1	U	< 1	U	< 1	U	< 1	U	< 1	U
1,2-Dichloroethane	µg/L	5	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
Trichloroethene	µg/L	5	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U

Notes:

Bold and highlighted results indicate analyte is above the Res-GW MCL.

°C - degrees Celsius

µS/cm - microsiemens per centimeter

µg/L - micrograms per liter

µmhos/cm - micromhos per centimeter

J - estimated value

U - Not detected; The analyte was analyzed for but not detected above the associated method detection limit.

cells/mL - cells per milliliter

CEQ/mL - cell equivalence per milliliter

FD - field duplicate

GW-Ind - groundwater medium-specific concentration for industrial use

ID - identifier

MCL - maximum contaminant level

mg/L - milligrams per liter

mS/cm - millisiemens per centimeter

mV - millivolts

NTU - nephelometric turbidity unit

REG - regular sample

Res-GW MCL - residential groundwater MCL

SU - standard unit

Table 2-5
LHAAP-67 Historical Contaminants of Concern

	Location Code		67WW10												67WW11							
	Sample ID		67WW10-051816		67WW10-112917		67WW10-180503		67WW10-181022		67WW10-190502		67WW10-191028		67WW11-060113		67WW11-060113-FD		67WW11-100213		67WW11 FD-012314	
	Sample Date		5/18/2016		11/29/2017		5/3/2018		10/22/2018		5/2/2019		10/28/2019		6/1/2013		6/1/2013		10/2/2013		1/23/2014	
	Sample Purpose		REG		REG		REG		REG		REG		REG		REG		FD		REG		FD	
Parameter	Units	MCL/GW-Ind	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
1,1,1-Trichloroethane	µg/L	200	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.25	U	< 0.25	U	< 0.5	U	< 0.5	U
1,1,2-Trichloroethane	µg/L	5	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.25	U	< 0.25	U	< 0.5	U	< 0.5	U
1,1-Dichloroethene	µg/L	7	< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	**47.1**		**46.8**		**42.8**		**43**	
1,2-Dichloroethane	µg/L	5	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	0.869	J	0.85	J	0.799	J	0.823	J
Trichloroethene	µg/L	5	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.25	U	< 0.25	U	< 0.5	U	< 0.5	U

Notes:

Bold and highlighted results indicate analyte is above the Res-GW MCL.

°C - degrees Celsius

µS/cm - microsiemens per centimeter

µg/L - micrograms per liter

µmhos/cm - micromhos per centimeter

J - estimated value

U - Not detected; The analyte was analyzed for but not detected above the associated method detection limit.

cells/mL - cells per milliliter

CEQ/mL - cell equivalence per milliliter

FD - field duplicate

GW-Ind - groundwater medium-specific concentration for industrial use

ID - identifier

MCL - maximum contaminant level

mg/L - milligrams per liter

mS/cm - millisiemens per centimeter

mV - millivolts

NTU - nephelometric turbidity unit

REG - regular sample

Res-GW MCL - residential groundwater MCL

SU - standard unit

Table 2-5
LHAAP-67 Historical Contaminants of Concern

		Location Code	67WW11																			
		Sample ID	67WW11-012314		67WW11FD-012314		67WW11-072414		67WW11-120414		67WW11-021115		67WW11-051915		67WW11-111915		67WW11-051916		67WW11-112717		67WW11-180502	
		Sample Date	1/23/2014		1/23/2014		7/24/2014		12/4/2014		2/11/2015		5/19/2015		11/19/2015		5/19/2016		11/27/2017		5/2/2018	
		Sample Purpose	REG		FD		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter	Units	MCL/GW-Ind	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
1,1,1-Trichloroethane	µg/L	200	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 1	U	< 0.5	U
1,1,2-Trichloroethane	µg/L	5	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 1	U	< 0.5	U
1,1-Dichloroethene	µg/L	7	38.8		43		34.5		37.5		30.4		21.6		28.5		19.3		5.2		5.5	
1,2-Dichloroethane	µg/L	5	0.748	J	0.823	J	0.684	J	0.567	J	0.559	J	0.518	J	0.513	J	0.396	J	< 1	U	< 0.5	U
Trichloroethene	µg/L	5	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 1	U	< 0.5	U

Notes:

Bold and highlighted results indicate analyte is above the Res-GW MCL.

°C - degrees Celsius

µS/cm - microsiemens per centimeter

µg/L - micrograms per liter

µmhos/cm - micromhos per centimeter

J - estimated value

U - Not detected; The analyte was analyzed for but not detected above the associated method detection limit.

cells/mL - cells per milliliter

CEQ/mL - cell equivalence per milliliter

FD - field duplicate

GW-Ind - groundwater medium-specific concentration for industrial use

ID - identifier

MCL - maximum contaminant level

mg/L - milligrams per liter

mS/cm - millisiemens per centimeter

mV - millivolts

NTU - nephelometric turbidity unit

REG - regular sample

Res-GW MCL - residential groundwater MCL

SU - standard unit

Table 2-5
LHAAP-67 Historical Contaminants of Concern

	Location Code		67WW11						67WW12													
	Sample ID		67WW11-181023		67WW11-190501		67WW11-191024		67WW12-060113		67WW12-100113		67WW12-012414		67WW12-050614		67WW12-072514		67WW12-120314		67WW12-021015	
	Sample Date		10/23/2018		5/1/2019		10/24/2019		6/1/2013		10/1/2013		1/24/2014		5/6/2014		7/25/2014		12/3/2014		2/10/2015	
	Sample Purpose		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter	Units	MCL/GW-Ind	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
1,1,1-Trichloroethane	µg/L	200	< 0.5	U	< 0.5	U	< 0.5	U	< 0.25	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
1,1,2-Trichloroethane	µg/L	5	< 0.5	U	< 0.5	U	< 0.5	U	< 0.25	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
1,1-Dichloroethene	µg/L	7	6.1		2.8		1.9		< 0.5	U	< 1	U	< 1	U	< 1	U	< 1	U	< 1	U	< 1	U
1,2-Dichloroethane	µg/L	5	< 0.5	U	< 0.5	U	< 0.5	U	< 0.25	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
Trichloroethene	µg/L	5	< 0.5	U	< 0.5	U	< 0.5	U	< 0.25	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U

Notes:

Bold and highlighted results indicate analyte is above the Res-GW MCL.

°C - degrees Celsius

µS/cm - microsiemens per centimeter

µg/L - micrograms per liter

µmhos/cm - micromhos per centimeter

J - estimated value

U - Not detected; The analyte was analyzed for but not detected above the associated method detection limit.

cells/mL - cells per milliliter

CEQ/mL - cell equivalence per milliliter

FD - field duplicate

GW-Ind - groundwater medium-specific concentration for industrial use

ID - identifier

MCL - maximum contaminant level

mg/L - milligrams per liter

mS/cm - millisiemens per centimeter

mV - millivolts

NTU - nephelometric turbidity unit

REG - regular sample

Res-GW MCL - residential groundwater MCL

SU - standard unit

Table 2-5
LHAAP-67 Historical Contaminants of Concern

	Location Code		67WW12																	
	Sample ID		67WW12-051215		67WW12FFD-111815		67WW12-111815		67WW12-051816		67WW12-112917-FD		67WW12-112917		67WW12-180503		67WW12-181022		67WW12-190502		67WW12-191028	
	Sample Date		5/12/2015		11/18/2015		11/18/2015		5/18/2016		11/29/2017		11/29/2017		5/3/2018		10/22/2018		5/2/2019		10/28/2019	
	Sample Purpose		REG		FD		REG		REG		FD		REG		REG		REG		REG		REG	
Parameter	Units	MCL/GW-Ind	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
1,1,1-Trichloroethane	µg/L	200	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
1,1,2-Trichloroethane	µg/L	5	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
1,1-Dichloroethene	µg/L	7	< 1	U	< 1	U	< 1	U	0.681	J	1.8		2.2		< 0.5	U	4.8		2.1		**17**	
1,2-Dichloroethane	µg/L	5	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
Trichloroethene	µg/L	5	< 0.5	U			< 0.5	U	< 0.5	U	< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U

Notes:

Bold and highlighted results indicate analyte is above the Res-GW MCL.

°C - degrees Celsius

µS/cm - microsiemens per centimeter

µg/L - micrograms per liter

µmhos/cm - micromhos per centimeter

J - estimated value

U - Not detected; The analyte was analyzed for but not detected above the associated method detection limit.

cells/mL - cells per milliliter

CEQ/mL - cell equivalence per milliliter

FD - field duplicate

GW-Ind - groundwater medium-specific concentration for industrial use

ID - identifier

MCL - maximum contaminant level

mg/L - milligrams per liter

mS/cm - millisiemens per centimeter

mV - millivolts

NTU - nephelometric turbidity unit

REG - regular sample

Res-GW MCL - residential groundwater MCL

SU - standard unit

Table 2-5
LHAAP-67 Historical Contaminants of Concern

		Location Code	67WW13																	
		Sample ID	67WW13-053113		67WW13-100113		67WW13FD-012414		67WW13-012414		67WW13-050614		67WW13FD-050614		67WW13FD-072514		67WW13-072514		67WW13-120414		67WW13FD-120414	
		Sample Date	5/31/2013		10/1/2013		1/24/2014		1/24/2014		5/6/2014		5/6/2014		7/25/2014		7/25/2014		12/4/2014		12/4/2014	
		Sample Purpose	REG		REG		FD		REG		REG		FD		FD		REG		REG		FD	
Parameter	Units	MCL/GW-Ind	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
1,1,1-Trichloroethane	µg/L	200	< 0.25	U	< 0.5	U	< 1.25	U	< 1.25	U	< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 2.5	U	< 2.5	U
1,1,2-Trichloroethane	µg/L	5	2.91	J	3.37		3.01		2.99		1.99	J	1.95	J	3.56		3.48		4.4	J	4.56	J
1,1-Dichloroethene	µg/L	7	498		515		569		572		240		228		362		353		572		522	
1,2-Dichloroethane	µg/L	5	23.1		23.8		22.9		22.9		13.7		12.9		20.1		19.8		24.9		24.6	
Trichloroethene	µg/L	5	3.11		2.81		2.99		2.86		1.25	J	1.27	J	1.71		1.72		1.65	J	1.94	J

Notes:

Bold and highlighted results indicate analyte is above the Res-GW MCL.

°C - degrees Celsius

µS/cm - microsiemens per centimeter

µg/L - micrograms per liter

µmhos/cm - micromhos per centimeter

J - estimated value

U - Not detected; The analyte was analyzed for but not detected above the associated method detection limit.

cells/mL - cells per milliliter

CEQ/mL - cell equivalence per milliliter

FD - field duplicate

GW-Ind - groundwater medium-specific concentration for industrial use

ID - identifier

MCL - maximum contaminant level

mg/L - milligrams per liter

mS/cm - millisiemens per centimeter

mV - millivolts

NTU - nephelometric turbidity unit

REG - regular sample

Res-GW MCL - residential groundwater MCL

SU - standard unit

Table 2-5
LHAAP-67 Historical Contaminants of Concern

		Location Code	67WW13																			
		Sample ID	67WW13-021115		67WW13-051915		67WW13-111815		67WW13-051916		67WW13-112817		67WW13-180501		67WW13-180501FD		67WW13-181023		67WW13-190501		67WW13-190501-FD	
		Sample Date	2/11/2015		5/19/2015		11/18/2015		5/19/2016		11/28/2017		5/1/2018		5/1/2018		10/23/2018		5/1/2019		5/1/2019	
		Sample Purpose	REG		REG		REG		REG		REG		REG		FD		REG		REG		FD	
Parameter	Units	MCL/GW-Ind	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
1,1,1-Trichloroethane	µg/L	200	< 1.25	U	< 1.25	U	< 1.25	U	< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
1,1,2-Trichloroethane	µg/L	5	4.87		5.96		7.66		7		5.1		4.8		4.7		6.1		3.9		3.8	
1,1-Dichloroethene	µg/L	7	521		522		762		274		320		160		170		570		200		160	
1,2-Dichloroethane	µg/L	5	26		30.6		42.6		35.7		32		27		28		43		24		23	
Trichloroethene	µg/L	5	2.63		2.91		3.32		1.67	J	< 1	U	< 0.5	U	< 0.5	U	2.4		1.1		1	

Notes:

Bold and highlighted results indicate analyte is above the Res-GW MCL.

°C - degrees Celsius

µS/cm - microsiemens per centimeter

µg/L - micrograms per liter

µmhos/cm - micromhos per centimeter

J - estimated value

U - Not detected; The analyte was analyzed for but not detected above the associated method detection limit.

cells/mL - cells per milliliter

CEQ/mL - cell equivalence per milliliter

FD - field duplicate

GW-Ind - groundwater medium-specific concentration for industrial use

ID - identifier

MCL - maximum contaminant level

mg/L - milligrams per liter

mS/cm - millisiemens per centimeter

mV - millivolts

NTU - nephelometric turbidity unit

REG - regular sample

Res-GW MCL - residential groundwater MCL

SU - standard unit

Table 2-5
LHAAP-67 Historical Contaminants of Concern

		Location Code	67WW13		67WW14																	
		Sample ID	67WW13-191028		67WW14-100113		67WW14-100113-FD		67WW14-012414		67WW14-050714		67WW14-072514		67WW14-120314		67WW14FD-021015		67WW14-021015		67WW14FD-051215	
		Sample Date	10/28/2019		10/1/2013		10/1/2013		1/24/2014		5/7/2014		7/25/2014		12/3/2014		2/10/2015		2/10/2015		5/12/2015	
		Sample Purpose	REG		REG		FD		REG		REG		REG		REG		FD		REG		FD	
Parameter	Units	MCL/GW-Ind	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
1,1,1-Trichloroethane	µg/L	200	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
1,1,2-Trichloroethane	µg/L	5	5		< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
1,1-Dichloroethene	µg/L	7	640		1.82	J	2.22		2.58		4.27		3.57		4.73		3.61		3.46		2.93	
1,2-Dichloroethane	µg/L	5	36		0.692	J	0.849	J	0.666	J	0.897	J	1.31		0.79	J	0.657	J	0.64	J	0.815	J
Trichloroethene	µg/L	5	2.6		< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U

Notes:

Bold and highlighted results indicate analyte is above the Res-GW MCL.

°C - degrees Celsius

µS/cm - microsiemens per centimeter

µg/L - micrograms per liter

µmhos/cm - micromhos per centimeter

J - estimated value

U - Not detected; The analyte was analyzed for but not detected above the associated method detection limit.

cells/mL - cells per milliliter

CEQ/mL - cell equivalence per milliliter

FD - field duplicate

GW-Ind - groundwater medium-specific concentration for industrial use

ID - identifier

MCL - maximum contaminant level

mg/L - milligrams per liter

mS/cm - millisiemens per centimeter

mV - millivolts

NTU - nephelometric turbidity unit

REG - regular sample

Res-GW MCL - residential groundwater MCL

SU - standard unit

Table 2-5
LHAAP-67 Historical Contaminants of Concern

		Location Code	67WW14																67WW15			
		Sample ID	67WW14-051215		67WW14-111815		67WW14-051816		67WW14-112717		67WW14-180502		67WW14-181022		67WW14-190502		67WW14-191024		67WW15-051916		67WW15-112717	
		Sample Date	5/12/2015		11/18/2015		5/18/2016		11/27/2017		5/2/2018		10/22/2018		5/2/2019		10/24/2019		5/19/2016		11/27/2017	
		Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter	Units	MCL/GW-Ind	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
1,1,1-Trichloroethane	µg/L	200	< 0.5	U	< 0.5	U	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 10	U	< 1	U
1,1,2-Trichloroethane	µg/L	5	< 0.5	U	< 0.5	U	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	22.7		5.6	
1,1-Dichloroethene	µg/L	7	2.77		26.3		10.8		5.6		4.2		6.6		5.3		7.4		2,460		510	
1,2-Dichloroethane	µg/L	5	0.799	J	5.83		3.54		3.1		1.9		2.5		1.8		1.5		117		27	
Trichloroethene	µg/L	5	< 0.5	U	< 0.5	U	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	5.48	J	< 1	U

Notes:

Bold and highlighted results indicate analyte is above the Res-GW MCL.

°C - degrees Celsius

µS/cm - microsiemens per centimeter

µg/L - micrograms per liter

µmhos/cm - micromhos per centimeter

J - estimated value

U - Not detected; The analyte was analyzed for but not detected above the associated method detection limit.

cells/mL - cells per milliliter

CEQ/mL - cell equivalence per milliliter

FD - field duplicate

GW-Ind - groundwater medium-specific concentration for industrial use

ID - identifier

MCL - maximum contaminant level

mg/L - milligrams per liter

mS/cm - millisiemens per centimeter

mV - millivolts

NTU - nephelometric turbidity unit

REG - regular sample

Res-GW MCL - residential groundwater MCL

SU - standard unit

Table 2-5
LHAAP-67 Historical Contaminants of Concern

		Location Code	67WW15								67WW16		67WW16I									
		Sample ID	67WW15-180502		67WW15-181023		67WW15-190503		67WW15-191024		67WW16-051816		67WW16I-112917		67WW16I-180503		67WW16I-181025		67WW16I-190501		67WW16I-191024	
		Sample Date	5/2/2018		10/23/2018		5/3/2019		10/24/2019		5/18/2016		11/29/2017		5/3/2018		10/25/2018		5/1/2019		10/24/2019	
		Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter	Units	MCL/GW-Ind	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
1,1,1-Trichloroethane	µg/L	200	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
1,1,2-Trichloroethane	µg/L	5	5.6		6		5.4		6.4		< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
1,1-Dichloroethene	µg/L	7	380		670		330		640	J	< 1	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
1,2-Dichloroethane	µg/L	5	26		30		22		27		< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
Trichloroethene	µg/L	5	1.2		1.4		1.1		1.5		< 0.5	U	< 1	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U

Notes:

Bold and highlighted results indicate analyte is above the Res-GW MCL.

°C - degrees Celsius

µS/cm - microsiemens per centimeter

µg/L - micrograms per liter

µmhos/cm - micromhos per centimeter

J - estimated value

U - Not detected; The analyte was analyzed for but not detected above the associated method detection limit.

cells/mL - cells per milliliter

CEQ/mL - cell equivalence per milliliter

FD - field duplicate

GW-Ind - groundwater medium-specific concentration for industrial use

ID - identifier

MCL - maximum contaminant level

mg/L - milligrams per liter

mS/cm - millisiemens per centimeter

mV - millivolts

NTU - nephelometric turbidity unit

REG - regular sample

Res-GW MCL - residential groundwater MCL

SU - standard unit

Table 2-5
LHAAP-67 Historical Contaminants of Concern

		Location Code	67WW17		67WW18			
		Sample ID	67WW17-191024		67WW18-191024		67WW18-191024-FD	
		Sample Date	10/24/2019		10/24/2019		10/24/2019	
		Sample Purpose	REG		REG		FD	
Parameter	Units	MCL/GW-Ind	Result	Val Qual	Result	Val Qual	Result	Val Qual
1,1,1-Trichloroethane	µg/L	200	< 0.5	U	< 0.5	U	< 0.5	U
1,1,2-Trichloroethane	µg/L	5	< 0.5	U	< 0.5	U	< 0.5	U
1,1-Dichloroethene	µg/L	7	< 0.5	U	< 0.5	U	< 0.5	U
1,2-Dichloroethane	µg/L	5	< 0.5	U	< 0.5	U	< 0.5	U
Trichloroethene	µg/L	5	< 0.5	U	< 0.5	U	< 0.5	U

Notes:

Bold and highlighted results indicate analyte is above the Res-GW MCL.

°C - degrees Celsius

µS/cm - microsiemens per centimeter

µg/L - micrograms per liter

µmhos/cm - micromhos per centimeter

J - estimated value

U - Not detected; The analyte was analyzed for but not detected above the associated method detection limit.

cells/mL - cells per milliliter

CEQ/mL - cell equivalence per milliliter

FD - field duplicate

GW-Ind - groundwater medium-specific concentration for industrial use

ID - identifier

MCL - maximum contaminant level

mg/L - milligrams per liter

mS/cm - millisiemens per centimeter

mV - millivolts

NTU - nephelometric turbidity unit

REG - regular sample

Res-GW MCL - residential groundwater MCL

SU - standard unit

Table 2-6
Well Maintenance Activities Year 5 RA-O

Well ID	Date Inspected	Pads	Bollards	Protective Casings	Locks	Date Mowed	Photos	Comments
67WW01	10/24/19	Good	Good	Good	In Place	10/18/19	Yes	
67WW02	10/24/19	Good	Good	Good	In Place	10/18/19	Yes	
67WW03	10/28/19	Good	Good	Good	In Place	10/18/19	Yes	
67WW05	10/24/19	Good	Good	Good	In Place	10/18/19	Yes	
67WW07	10/28/19	Good	Good	Good	In Place	10/18/19	Yes	
67WW08	10/28/19	Good	Good	Good	In Place	10/18/19	Yes	
67WW09	10/24/19	Good	Good	Good	In Place	10/18/19	Yes	
67WW09A	10/28/19	Good	Good	Good	In Place	10/18/19	Yes	
67WW10	10/28/19	Good	Good	Good	In Place	10/18/19	Yes	
67WW11	10/24/19	Good	Good	Good	In Place	10/18/19	Yes	
67WW12	10/28/19	Good	Good	Good	In Place	10/18/19	Yes	
67WW13	10/28/19	Good	Good	Good	In Place	10/18/19	Yes	
67WW14	10/24/19	Good	Good	Good	In Place	10/18/19	Yes	
67WW15	10/24/19	Good	Good	Good	In Place	10/18/19	Yes	
67WW16I	10/24/19	Good	Good	Good	In Place	10/18/19	Yes	
67WW17	10/24/19	Good	Good	Good	In Place	10/18/19	Yes	
67WW18	10/24/19	Good	Good	Good	In Place	10/18/19	Yes	

Notes:

ID - identifier

RA-O - remedial action operation

Table 2-7
Year 7 RA-O Sampling

Monitoring Well ID	VOCs	Field Parameters [a]	MNA Parameters [b]	Water Levels
67WW01	X	X		X
67WW02	X	X		X
67WW03	X	X		X
67WW04 [c]	Gauge for water levels only			X
67WW05	X	X		X
67WW06 [d]	Gauge for water levels only			X
67WW07	X	X		X
67WW08	X	X	X	X
67WW09	X	X		X
67WW09A	X	X		X
67WW10	X	X		X
67WW11	X	X		X
67WW12	X	X		X
67WW13	X	X	X	X
67WW14	X	X		X
67WW15	X	X		X
67WW16I	X	X		X
67WW17	X	X		X
67WW18	X	X		X

Notes:

[a] Field parameters to be monitored for all wells: pH, temperature, conductivity, turbidity, oxidation-reduction potential (ORP), dissolved oxygen (DO), and ferrous iron.

[b] MNA parameters include nitrate, sulfate, chloride, TOC, dissolved gases (methane, ethane, ethene), carbon dioxide, and dissolved iron.

[c] 67WW04 was replaced by 67WW09A and 67WW10.

[d] 67WW06 was eliminated in May 2018 due to the close proximity of 67WW07.

X - Well will be analyzed for that parameter.

ID - Identifier

MNA - monitored natural attenuation

RA-O - remedial action operation

TOC - total organic carbon

VOCs - volatile organic compounds

Table 3-1
Mann-Kendall Trend Summary, LHAAP-67

Monitoring Well	1,1-DCE	1,2-DCA	1,1,2-TCA
67WW01	No Trend	No Trend	NA
67WW02	Increasing	NA	NA
67WW08	Decreasing	Decreasing	NA
67WW12	Increasing	NA	NA
67WW13	Stable	Increasing	NA
67WW14	Increasing	NA	NA
67WW15	Stable	Stable	Stable

Notes:

DCA - dichloroethane

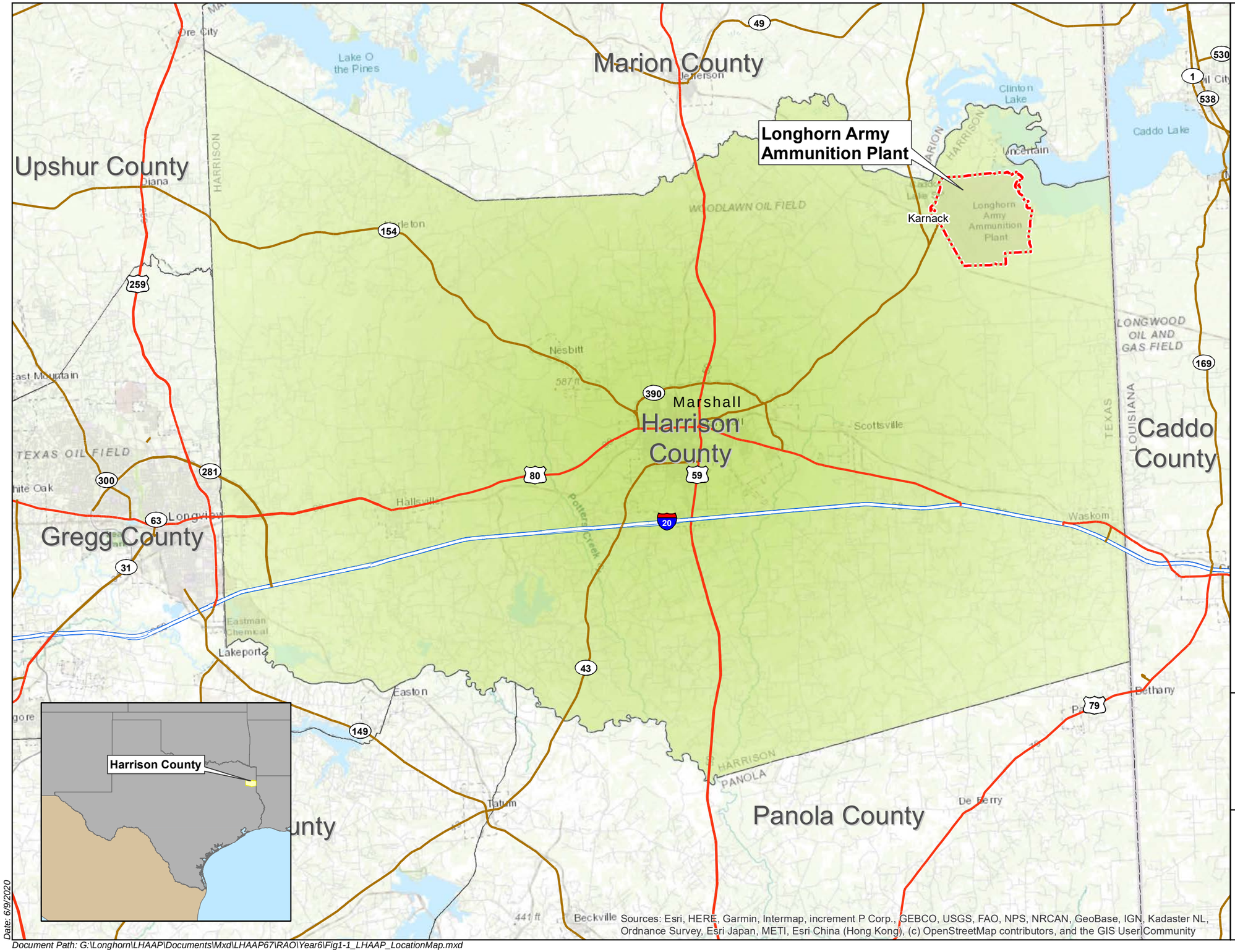
DCE - dichloroethene

MCL - maximum contaminant level

NA - Not analyzed because concentrations are below the MCL.

TCA - trichloroethane

Figures



Notes:
1. LHAAP = Longhorn Army Ammunition Plant
2. RA-O = Remedial Action Operations

N

0 2 4 Miles

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Figure 1-1

LHAAP Location Map
Sixth Annual RA-O Report
LHAAP-67

LONGHORN ARMY AMMUNITION PLANT
KARNACK, TEXAS

Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

Date: 6/9/2020

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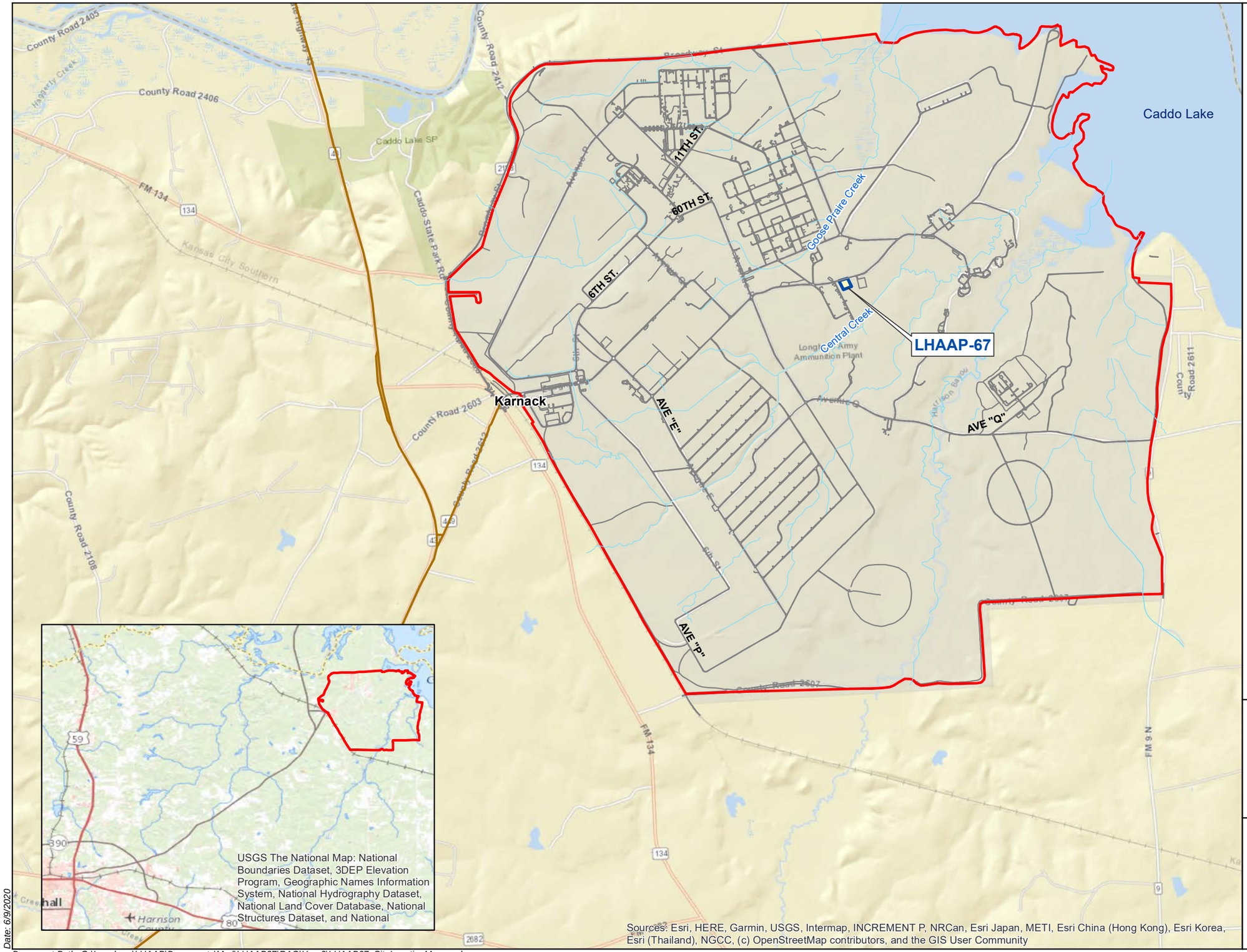

Notes:
1. LHAAP = Longhorn Army Ammunition Plant
2. RA-O = Remedial Action Operations

N

0 1,500 3,000 Feet

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Figure 1-2

LHAAP Site Vicinity Map
Sixth Annual RA-O Report
LHAAP-67

LONGHORN ARMY AMMUNITION PLANT
KARNACK, TEXAS

Date: 6/9/2020

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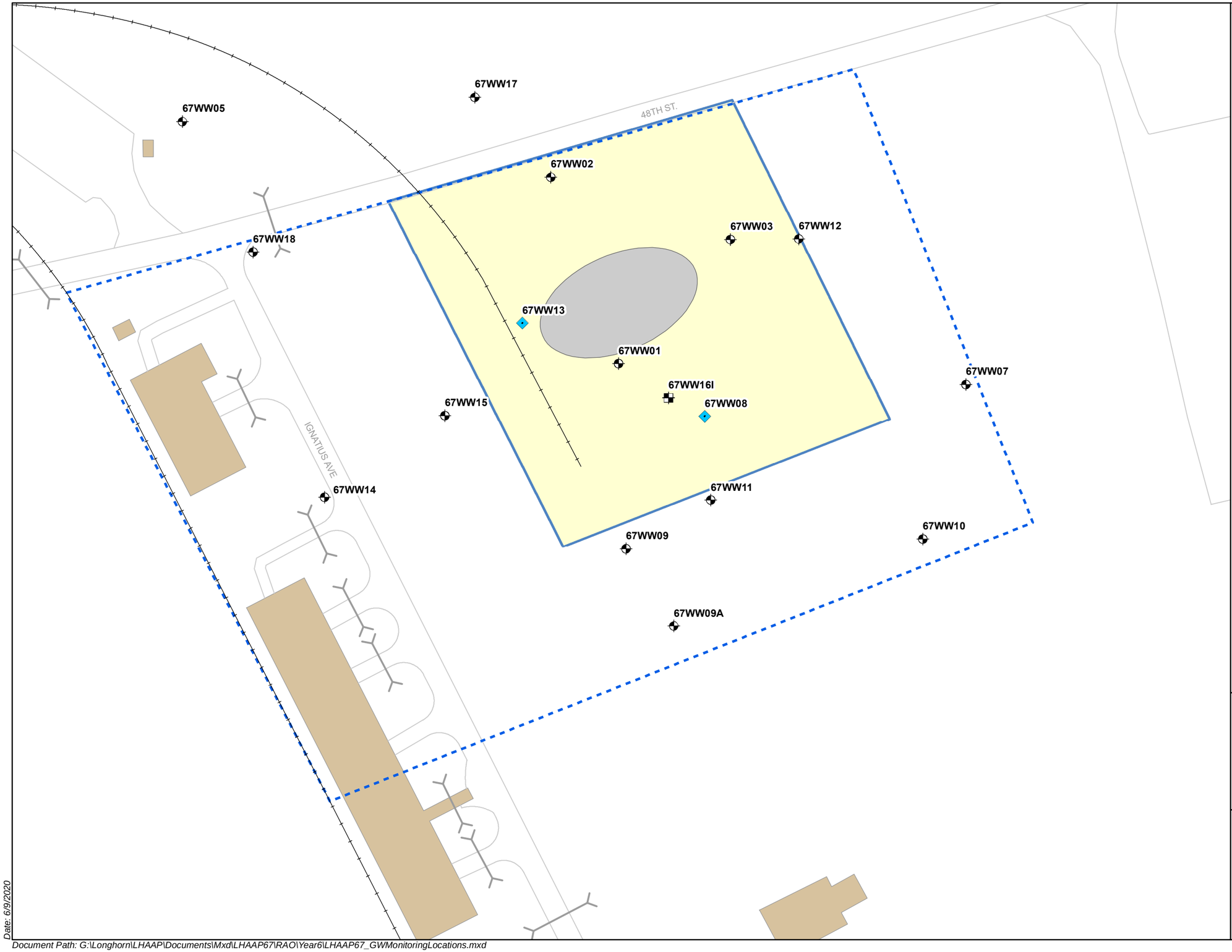

Shallow Monitoring Well
Intermediate Monitoring Well
Current MNA Parameter Analysis Well Location
Former Railroad Location
Culvert
Surveyed Land Use Control Boundary
Roads
Buildings
Approximate Tank Location
LHAAP-67 Site Boundary

Notes:
1. LHAAP = Longhorn Army Ammunition Plant
2. RA-O = Remedial Action Operations

N

0 37.5 75 Feet

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Figure 2-1

Groundwater Monitoring Well Locations
Sixth Annual RA-O Report
LHAAP-67

LONGHORN ARMY AMMUNITION PLANT
KARNACK, TEXAS

Date: 6/9/2020

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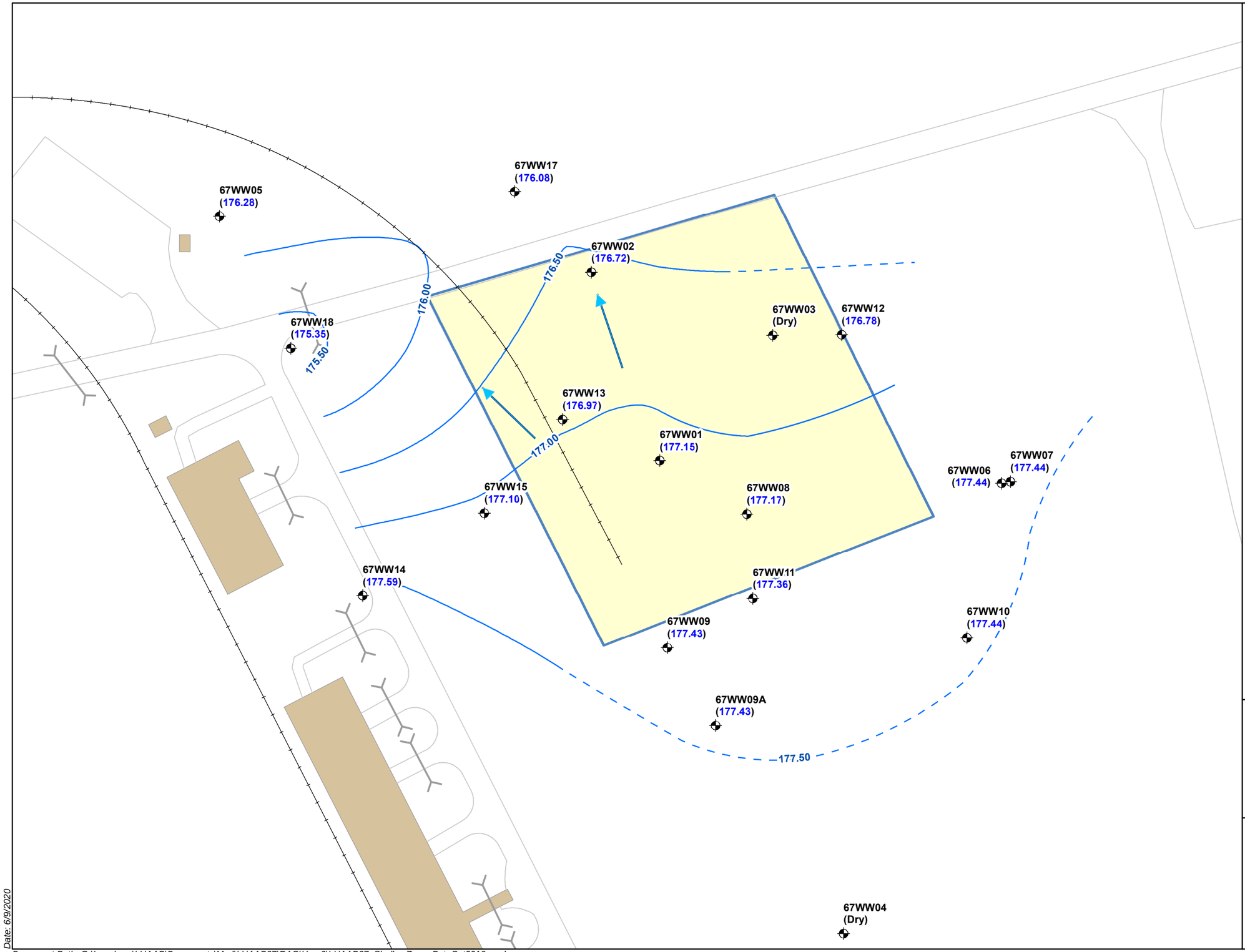

Shallow Monitoring Well
Former Railroad Location
Groundwater Flow Direction
Groundwater Contour
(*Dashed where inferred*)
Culvert
Roads
Buildings

Notes:
1. LHAAP = Longhorn Army Ammunition Plant
2. RA-O = Remedial Action Operations

N

0 30 60
Feet

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Figure 2-2
Shallow Zone Potentiometric
Map - October 2019
Sixth Annual RA-O Report
LHAAP-67
LONGHORN ARMY AMMUNITION PLANT
KARNACK, TEXAS

Date: 6/9/2020

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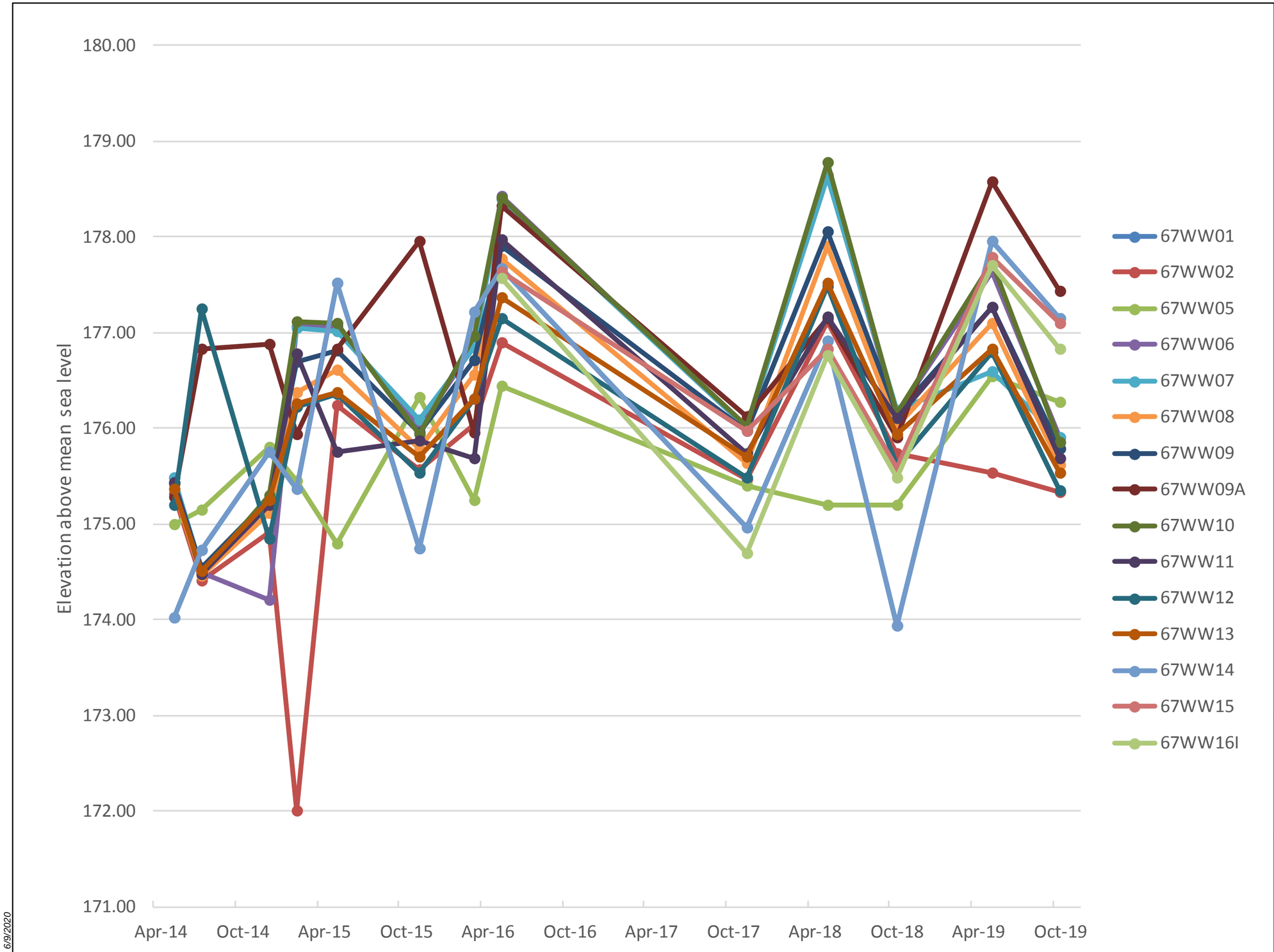

Notes:
1. LHAAP = Longhorn Army Ammunition Plant
2. RA-O = Remedial Action Operations

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Figure 2-3
Groundwater Elevations
2014-2019
Sixth Annual RA-O Report
LHAAP-67
LONGHORN ARMY AMMUNITION PLANT
KARNACK, TEXAS

Date: 6/9/2020

Document Path: G:\Longhorn\LHAAP\Documents\Mxd\LHAAP67\RAO\Year6\LHAAP67_GW_Elevations.mxd

67WW05		
Analyte	MCL	Oct 2019
1,1,1-Trichloroethane	200	< 0.5 U
1,1,2-Trichloroethane	5	< 0.5 U
1,1-Dichloroethene	7	< 0.5 U
1,2-Dichloroethane	5	< 0.5 U
cis-1,2-Dichloroethene	70	< 0.5 U
Trichloroethene	5	< 0.5 U
Vinyl chloride	2	< 0.5 U

67WW02		
Analyte	MCL	Oct 2019
1,1,1-Trichloroethane	200	< 0.5 U
1,1,2-Trichloroethane	5	< 0.5 U
1,1-Dichloroethene	7	**34**
1,2-Dichloroethane	5	< 0.5 U
cis-1,2-Dichloroethene	70	< 0.5 U
Trichloroethene	5	< 0.5 U
Vinyl chloride	2	< 0.5 U

67WW17		
Analyte	MCL	Oct 2019
1,1,1-Trichloroethane	200	< 0.5 U
1,1,2-Trichloroethane	5	< 0.5 U
1,1-Dichloroethene	7	< 0.5 U
1,2-Dichloroethane	5	< 0.5 U
cis-1,2-Dichloroethene	70	< 0.5 U
Trichloroethene	5	< 0.5 U
Vinyl chloride	2	< 0.5 U

67WW01		
Analyte	MCL	Oct 2019
1,1,1-Trichloroethane	200	< 0.5 U
1,1,2-Trichloroethane	5	0.53 J
1,1-Dichloroethene	7	**70**
1,2-Dichloroethane	5	**7.6**
cis-1,2-Dichloroethene	70	< 0.5 U
Trichloroethene	5	0.53 J
Vinyl chloride	2	< 0.5 U

67WW12		
Analyte	MCL	Oct 2019
1,1,1-Trichloroethane	200	< 0.5 U
1,1,2-Trichloroethane	5	< 0.5 U
1,1-Dichloroethene	7	**17**
1,2-Dichloroethane	5	< 0.5 U
cis-1,2-Dichloroethene	70	< 0.5 U
Trichloroethene	5	< 0.5 U
Vinyl chloride	2	< 0.5 U

67WW16I		
Analyte	MCL	Oct 2019
1,1,1-Trichloroethane	200	< 0.5 U
1,1,2-Trichloroethane	5	< 0.5 U
1,1-Dichloroethene	7	< 0.5 U
1,2-Dichloroethane	5	< 0.5 U
cis-1,2-Dichloroethene	70	< 0.5 U
Trichloroethene	5	< 0.5 U
Vinyl chloride	2	< 0.5 U

67WW18		
Analyte	MCL	Oct 2019
1,1,1-Trichloroethane	200	< 0.5 U
1,1,2-Trichloroethane	5	< 0.5 U
1,1-Dichloroethene	7	< 0.5 U
1,2-Dichloroethane	5	< 0.5 U
cis-1,2-Dichloroethene	70	< 0.5 U
Trichloroethene	5	< 0.5 U
Vinyl chloride	2	< 0.5 U

67WW08		
Analyte	MCL	Oct 2019
1,1,1-Trichloroethane	200	< 0.5 U
1,1,2-Trichloroethane	5	< 0.5 U
1,1-Dichloroethene	7	**63**
1,2-Dichloroethane	5	2.3
cis-1,2-Dichloroethene	70	< 0.5 U
Trichloroethene	5	< 0.5 U
Vinyl chloride	2	< 0.5 U

67WW13		
Analyte	MCL	Oct 2019
1,1,1-Trichloroethane	200	< 0.5 U
1,1,2-Trichloroethane	5	5
1,1-Dichloroethene	7	**640**
1,2-Dichloroethane	5	**36**
cis-1,2-Dichloroethene	70	1.8
Trichloroethene	5	2.6
Vinyl chloride	2	0.82 J

67WW14		
Analyte	MCL	Oct 2019
1,1,1-Trichloroethane	200	< 0.5 U
1,1,2-Trichloroethane	5	< 0.5 U
1,1-Dichloroethene	7	**7.4**
1,2-Dichloroethane	5	1.5
cis-1,2-Dichloroethene	70	< 0.5 U
Trichloroethene	5	< 0.5 U
Vinyl chloride	2	< 0.5 U

67WW15		
Analyte	MCL	Oct 2019
1,1,1-Trichloroethane	200	< 0.5 U
1,1,2-Trichloroethane	5	**6.4**
1,1-Dichloroethene	7	**640 J**
1,2-Dichloroethane	5	**27**
cis-1,2-Dichloroethene	70	1.7
Trichloroethene	5	1.5
Vinyl chloride	2	< 0.5 U

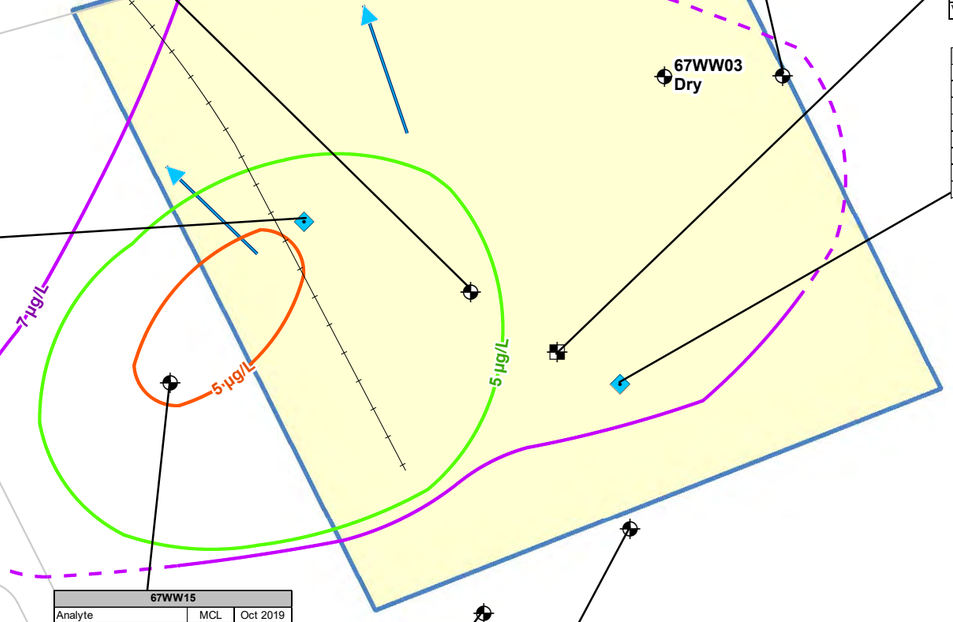
67WW09		
Analyte	MCL	Oct 2019
1,1,1-Trichloroethane	200	< 0.5 U
1,1,2-Trichloroethane	5	< 0.5 U
1,1-Dichloroethene	7	< 0.5 U
1,2-Dichloroethane	5	< 0.5 U
cis-1,2-Dichloroethene	70	< 0.5 U
Trichloroethene	5	< 0.5 U
Vinyl chloride	2	< 0.5 U

67WW11		
Analyte	MCL	Oct 2019
1,1,1-Trichloroethane	200	< 0.5 U
1,1,2-Trichloroethane	5	< 0.5 U
1,1-Dichloroethene	7	1.9
1,2-Dichloroethane	5	< 0.5 U
cis-1,2-Dichloroethene	70	< 0.5 U
Trichloroethene	5	< 0.5 U
Vinyl chloride	2	< 0.5 U

67WW07		
Analyte	MCL	Oct 2019
1,1,1-Trichloroethane	200	< 0.5 U
1,1,2-Trichloroethane	5	< 0.5 U
1,1-Dichloroethene	7	< 0.5 U
1,2-Dichloroethane	5	< 0.5 U
cis-1,2-Dichloroethene	70	< 0.5 U
Trichloroethene	5	< 0.5 U
Vinyl chloride	2	< 0.5 U

67WW10		
Analyte	MCL	Oct 2019
1,1,1-Trichloroethane	200	< 0.5 U
1,1,2-Trichloroethane	5	< 0.5 U
1,1-Dichloroethene	7	< 0.5 U
1,2-Dichloroethane	5	< 0.5 U
cis-1,2-Dichloroethene	70	< 0.5 U
Trichloroethene	5	< 0.5 U
Vinyl chloride	2	< 0.5 U

67WW09A		
Analyte	MCL	Oct 2019
1,1,1-Trichloroethane	200	< 0.5 U
1,1,2-Trichloroethane	5	< 0.5 U
1,1-Dichloroethene	7	< 0.5 U
1,2-Dichloroethane	5	< 0.5 U
cis-1,2-Dichloroethene	70	< 0.5 U
Trichloroethene	5	< 0.5 U
Vinyl chloride	2	< 0.5 U



- Shallow Monitoring Well
- Intermediate Monitoring Well
- Current MNA Parameter Analysis Well Location
- Former Railroad Location
- 1,1,2-Trichloroethane Contour
- 1,1-Dichloroethene Contour (*Dashed where inferred*)
- 1,2-Dichloroethane Contour
- Groundwater Flow Direction
- Culvert
- Roads
- Buildings
- LHAAP-67 Site Boundary

Note:
1. Data Qualifiers:
J = Estimated value; analyte concentration was less than the limit of quantification.
U = Analyte was not detected
2. Result highlighted yellow indicates results exceeds MCL.
3. MCL = Maximum Contaminant Level
4. All concentrations are in microgram per liter (µg/L)
5. RA-O = Remedial Action Operations
6. LHAAP = Longhorn Army Ammunition Plant
7. 67WW16I is an intermediate well and data was not used for contour lines

Monitoring wells 67WW04 and 67WW06 are no longer part of the RA-O monitoring network.

N

0 35 70 Feet

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TULSA, OKLAHOMA

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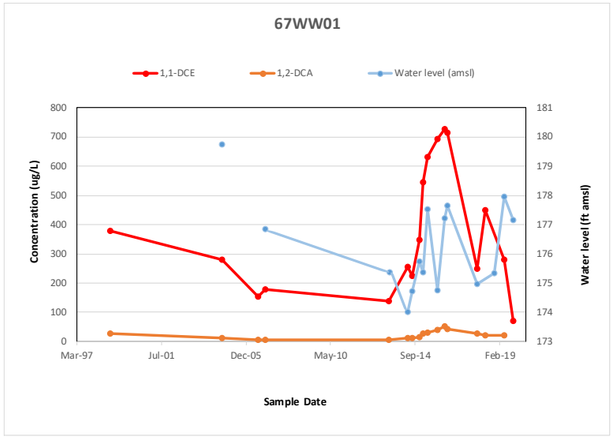
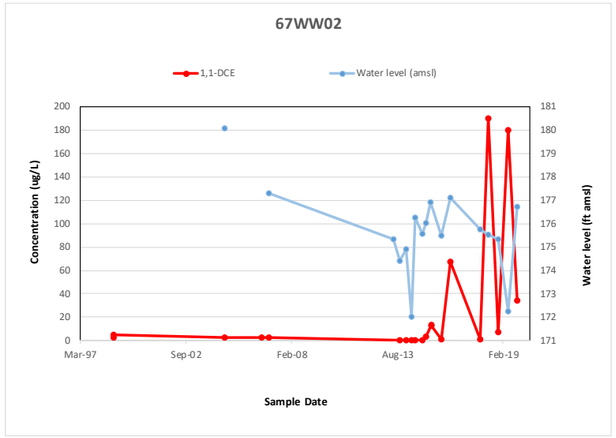
Figure 2-4
Groundwater Results
October 2019
Sixth Annual RA-O Report
LHAAP-67

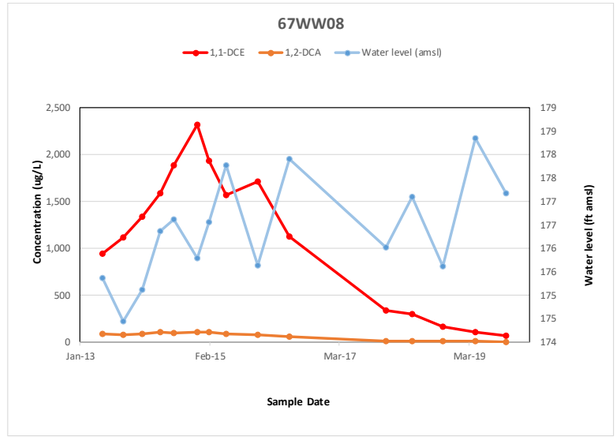
LONGHORN ARMY AMMUNITION PLANT
KARNACK, TEXAS

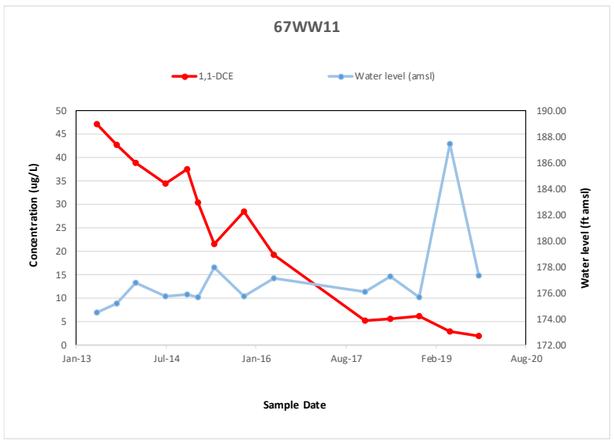
Date: 7/20/2020

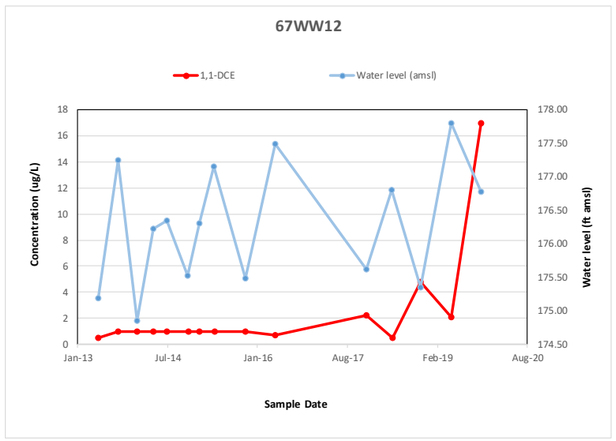
Document Path: F:\Projects\Longhorn\LHAAP\Documents\Mxd\LHAAP67\RAO\Year6\LHAAP67_VOCsShallowZoneOct2019_GW.mxd

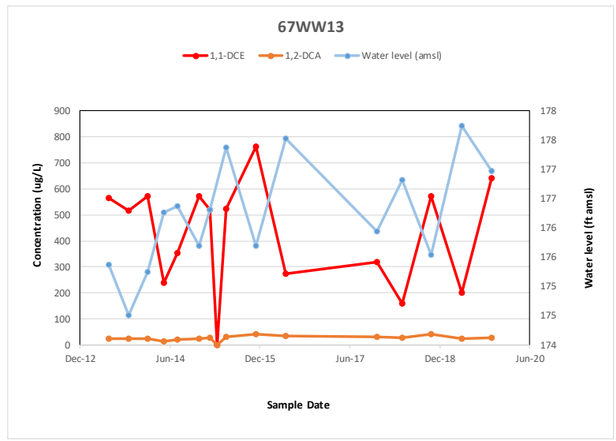


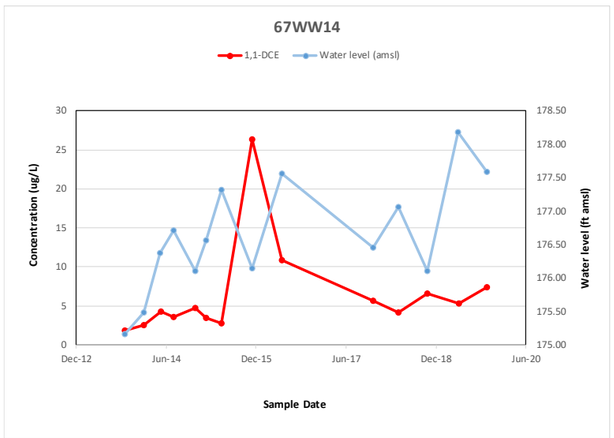


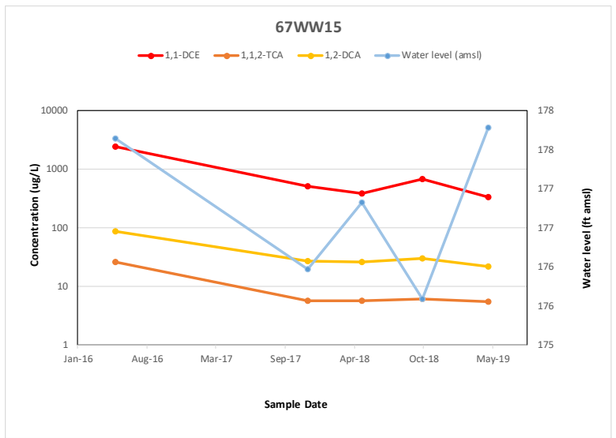












Cleanup Levels:
1,1-Dichlorothene (1,1-DCE) = 7 µg/L
1,2-Dichlorethane (1,2-DCA) = 5 µg/L
1,1,2-Trichloroethane (1,1,20TCA) = 5 µg/L

Notes:
1. LHAAP = Longhorn Army Ammunition Plant
2. RA-O = Remedial Action Operations

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TULSA DISTRICT
TULSA, OKLAHOMA

bhate APTIM

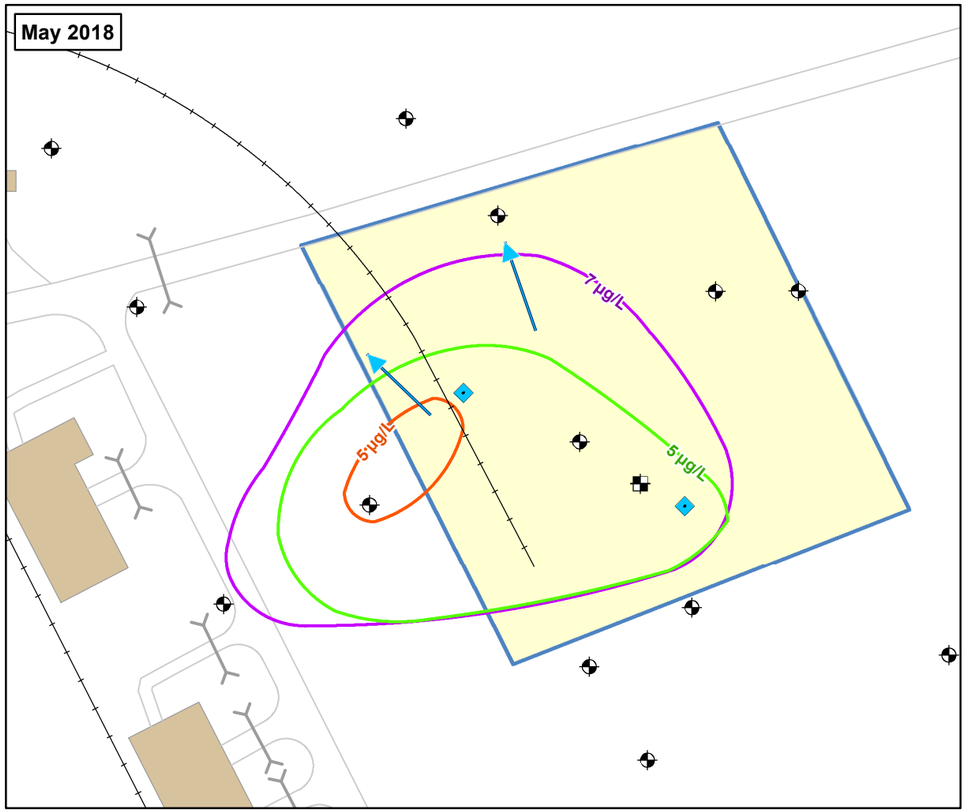
Figure 3-1

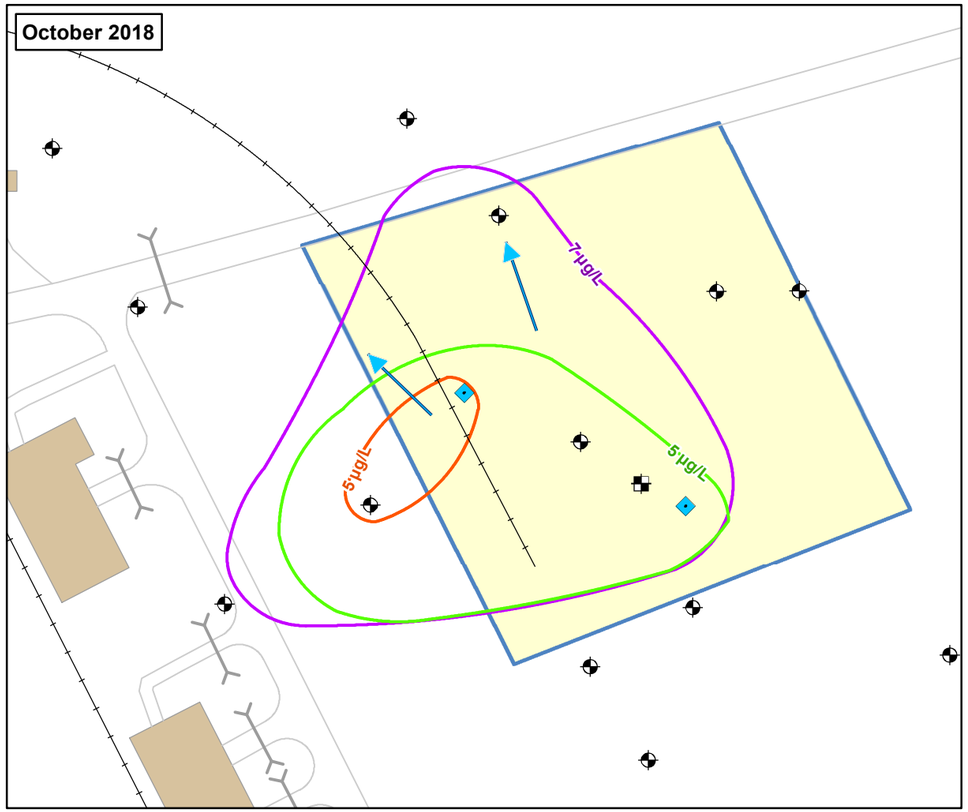
COC Concentrations
Sixth Annual RA-O Report
LHAAP-67

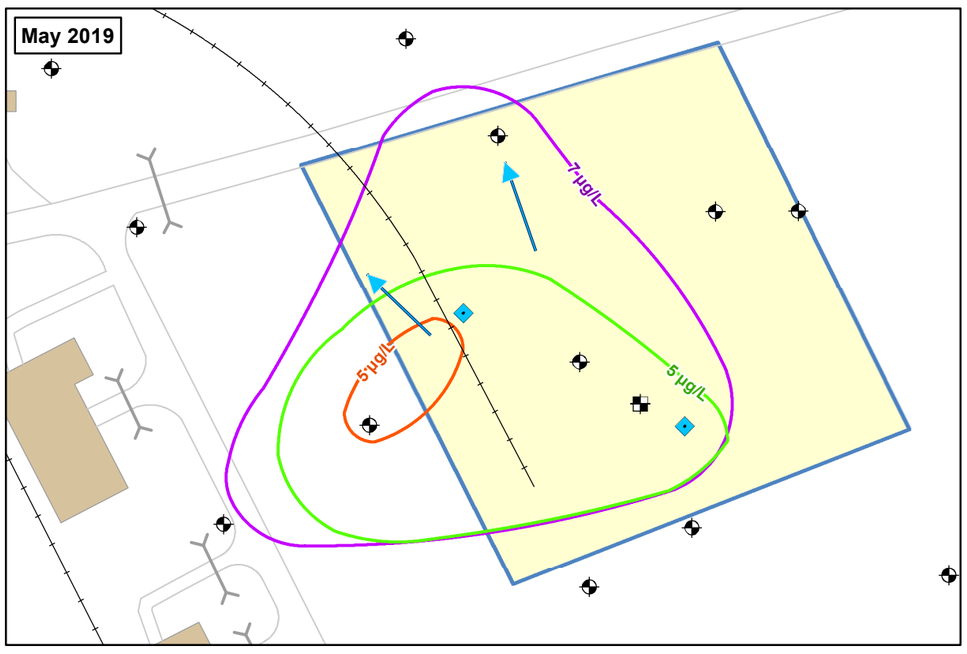
LONGHORN ARMY AMMUNITION PLANT
KARNACK, TEXAS

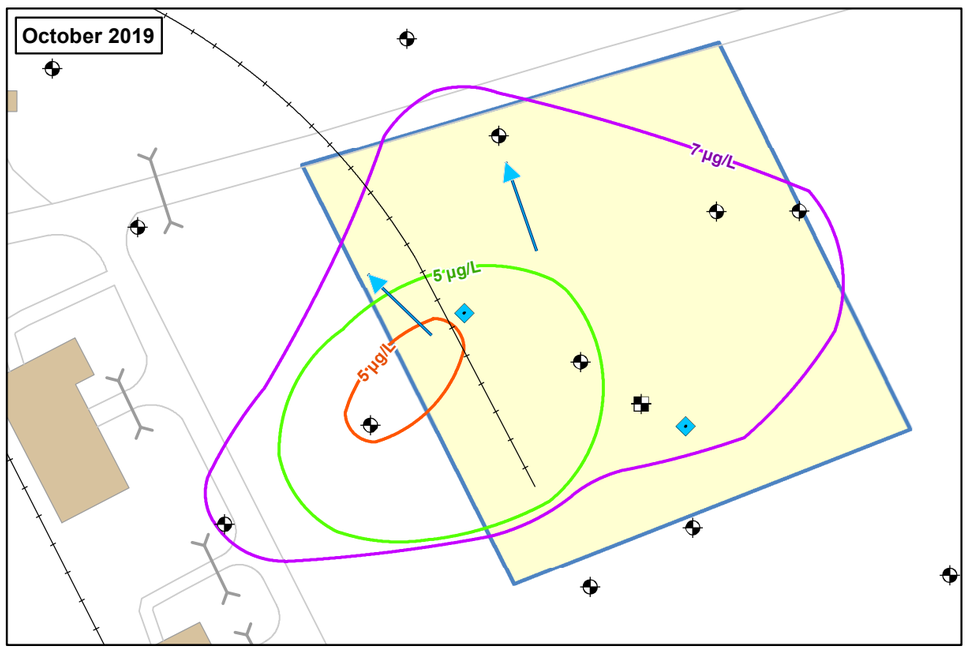
Date: 7/23/2020

Document Path: F:\Projects\Longhorn\LHAAP\Documents\Mxd\LHAAP67\RAO\Year6\LHAAP67_COC_Concentrations.mxd









- Current MNA Parameter Analysis Well Location
- Shallow Monitoring Well
- Intermediate Monitoring Well
- Former Railroad Location
- Groundwater Flow Direction
- 1,1,2-Trichloroethane Contour
- 1,1-Dichloroethene Contour
- 1,2-Dichloroethane Contour
- Culvert
- Roads
- Buildings
- LHAAP-67 Site Boundary

Notes:
1. LHAAP = Longhorn Army Ammunition Plant
2. RA-O = Remedial Action Operations

N

0 35 70 Feet

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TULSA, OKLAHOMA

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Figure 3-2

Plume Stability
Sixth Annual RA-O Report
LHAAP-67

LONGHORN ARMY AMMUNITION PLANT
KARNACK, TEXAS

Date: 6/9/2020

Document Path: G:\Longhorn\LHAAP\Documents\Mxd\LHAAP67\RAO\Year6\LHAAP67_PlumeStability.mxd

Contract No. W9128F-13-D-0012, Task Order No. W9128BV17F0150 • Final • Rev 0 • September 2020

Appendix A

Annual LUC Compliance Certification and Documentation

Sample Annual Land Use Control Compliance Certification Documentation

In accordance with the Remedial Design dated _____ for LHAAP-67 a certification of site was conducted by ApTim [indicate transferee] on 5/13/20.

A summary of land use control mechanisms is as follows:

Groundwater restriction – restriction of the use of groundwater to environmental monitoring and testing until cleanup levels are met [Indicate whether groundwater restrictions are still required at LHAAP-67]

A summary of compliance with land use and restriction covenants is as follows:

No use of groundwater, installation of new groundwater wells, or tampering with existing wells at LHAAP-67.

I, the undersigned, do document that the certification was performed as indicated above, and that the above information is true and correct to the best of my knowledge, information, and belief.

Date: MAY 13, 2020

Name/Title: Scott Bassinger Senior Field Technician

Signature: Scott Bassinger

Annual compliance certification forms shall be completed no later than March 1 of each year for the previous calendar year.

Contract No. W9128F-13-D-0012, Task Order No. W9128BV17F0150 • Final • Rev 0 • September 2020

Appendix B

Groundwater Sampling Forms

(Note: The sample collection logs for the October 2019 sampling event have been revised to correct screened interval values that were written on the form in the field based on a table that was later determined to contain erroneous information. The screened interval values recorded in the field have been crossed out and replaced with the correct screened intervals for each well.)

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**
Project No: **501032**

Location ID: **67WW01**
Sampler(s): Scott Baesinger

FIELD CONDITIONS Clear | Sunny

SAMPLING INFORMATION

Sample No: 67WW01-191024 **DATE/TIME:** 10/24/19 **Pump Inlet Depth:** 24.50

Sampling Method: **Sample Purpose:** REG **Sample Matrix:** GW

Appearance of Sample	Assoc. QC Samples	Decontamination Procedures

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing
Purging Method/Equipment: Low flow/Bladder Pump

Casing ID (in.): 4"
Purge Start Date/Time: 10/24/19 1555

Depth to Water - Initial (DTWi) (ft) 23.77
Purge End Date/Time: 10/24/19 1625

Depth to Well Bottom (ft) 26.94
Discharge Tube Length: NA PID Reading: NA

Screen Interval (ft): ~~17.00 - 27.00~~ 14.68-24.68 ft BTOC
Discharge Tube Diameter: 1/4" Immersible Layer: Y / (N)

L George 05/13/2020
Approximate depth of pump inlet*(ft): 24.50
Pump Start Time: 1555

Ferrous Iron (Required Y or N) (N) _____ mg/L

2ND DEPTH TO WATER- 23.77

APTIM

Sample Collection Log

Location ID: 67WW01					Sample No: 67WW01-191024					
Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
10/24/19	1600	100	.5	23.84	4.20	22.25	6.10	71.3	15	1.18
	1605	100	1.0	23.89	4.38	21.35	6.29	60.9	60	0.87
	1610	100	1.5	23.93	4.38	21.24	6.02	59.1	93	0.45
	1615	100	2.0	23.96	4.39	21.16	6.01	58.5	95	0.44
	1620	100	2.5	23.99	4.39	21.09	6.00	58.0	97	0.44
↓	1625	100	3.0	24.01	4.39	21.04	5.99	57.3	99	0.43

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

Sample Collection Log

APTIM

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **67WW02**

Sampler(s): Scott Bressinear

FIELD CONDITIONS

Clear/ Sunny

SAMPLING INFORMATION

Sample No: 67WW02-1910 24

DATE/TIME: 10/24/19

Pump Inlet Depth: 24.00

Sampling Method:

Sample Purpose: REG

Sample Matrix: GW

Appearance of Sample	Assoc. QC Samples	Decontamination Procedures

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Lowflow/BLADDER Pump

Casing ID (in.): 4"

Purge Start Date/Time: 10/24/19 1135

Depth to Water - Initial (DTWi) (ft) 22.97

Purge End Date/Time: 10/24/19 1205

Depth to Well Bottom (ft) 27.75

Discharge Tube Length: NA

PID Reading: NA

Screen Interval (ft): ~~17.00 - 27.00~~ 18.08-28.08 ft BTOC

Discharge Tube Diameter: 1/4"

Immersible Layer: Y / (N)

L George 04/16/2020

Approximate depth of pump inlet*(ft): 24.00

Pump Start Time: 1135

Ferrous Iron (Required Y or (N)) 0 mg/L

2ND DEPTH TO WATER - 22.97

APTIM

Sample Collection Log

Location ID: 67WW02				Sample No: 67WW02-191024						
Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
10/24/19	1140	100	.5	23.05	4.12	22.55	6.55	22.1	129	1.23
	1145	100	1.0	23.11	4.12	22.70	6.30	13.9	121	0.51
	1150	100	1.5	23.15	4.12	22.67	6.28	9.9	122	0.38
	1155	100	2.0	23.18	4.12	22.65	6.27	9.6	123	0.38
	1200	100	2.5	23.20	4.12	22.62	6.26	9.1	124	0.37
↓	1205	100	3.0	23.22	4.12	22.60	6.26	8.7	125	0.36

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

00983265

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **67WW03**

Sampler(s): Scott Beesinger

FIELD CONDITIONS Cloudy / Drizzle

SAMPLING INFORMATION

Sample No: 67WW03-191028 **DATE/TIME:** 10/28/19 0800 **Pump Inlet Depth:** NA

Sampling Method: **Sample Purpose:** REG **Sample Matrix:** GW

Appearance of Sample	Assoc. QC Samples	Decontamination Procedures

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Low flow/BLADDER Pump

Casing ID (in.): 4"

Purge Start Date/Time: NA

Depth to Water - Initial (DTWi) (ft) Dry

Purge End Date/Time: NA

Depth to Well Bottom (ft) 24.87

Discharge Tube Length: NA PID Reading: NA

Screen Interval (ft): ~~14.80 - 24.80~~ 16.32-26.32 ft BTOC

L George 04/16/2020

Discharge Tube Diameter: NA Immersible Layer: Y / (N)

Approximate depth of pump inlet*(ft): NA

Pump Start Time: NA

Ferrous Iron (Required Y or (N)) _____ mg/L

2ND DEPTH TO WATER - DRY

APTIM

Sample Collection Log

Location ID: 67WW03				Sample No: 67WW03-1910 28						
Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
				DRY	WELL					

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

Sample Collection Log

APTIM

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **67WW05**

Sampler(s): Scott Blessinger

FIELD CONDITIONS

Cool / Clear

SAMPLING INFORMATION

Sample No: 67WW05-1910 24 **DATE/TIME:** 10/24/19 0952 **Pump Inlet Depth:** 26.00

Sampling Method: **Sample Purpose:** REG **Sample Matrix:** GW

Appearance of Sample	Assoc. QC Samples	Decontamination Procedures

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Low flow/Bladder Pump

Casing ID (in.): 4"

Purge Start Date/Time: 10/24/19 0900

Depth to Water - Initial (DTWi) (ft) 24.72

Purge End Date/Time: 10/24/19 0930

Depth to Well Bottom (ft) 30.08

Discharge Tube Length: NA PID Reading: NA

19.52-29.52 ft BTOC

Screen Interval (ft): ~~20.00 - 30.00~~

L George 04/16/2020

Discharge Tube Diameter: 1/4" Immersible Layer: Y / N

Approximate depth of pump inlet*(ft): 26.00

Pump Start Time: 0900

Ferrous Iron (Required Y or N) _____ mg/L

2ND DEPTH TO WATER - 24.72

APTIM

Sample Collection Log

Location ID: 67WW05		Sample No: 67WW05-191024								
Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
10/24/19	0905	100	.5	24.79	2.60	17.85	5.74	73.2	56	0.89
	0910	100	1.0	24.85	2.60	18.31	5.65	59.5	58	0.96
	0915	100	1.5	24.90	2.59	18.32	5.63	50.0	60	0.94
	0920	100	2.0	24.93	2.58	18.33	5.63	49.7	61	0.92
	0925	100	2.5	24.96	2.58	18.34	5.63	49.3	61	0.91
	0930	100	3.0	24.98	2.58	18.35	5.63	48.8	62	0.90

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

Sample Collection Log

APTIM

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **67WW07**

Sampler(s): Scott Beesinger

FIELD CONDITIONS Cloudy | Drizzle

SAMPLING INFORMATION

Sample No: 67WW07-191028 **DATE/TIME:** 10/28/19 0859 **Pump Inlet Depth:** 24.50

Sampling Method: **Sample Purpose:** REG **Sample Matrix:** GW

Appearance of Sample	Assoc. QC Samples	Decontamination Procedures

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Low flow/ Bladder Pump

Casing ID (in.): 4"

Purge Start Date/Time: 10/28/19 0910

Depth to Water - Initial (DTWi) (ft) 23.40

Purge End Date/Time: 10/28/19 0940

Depth to Well Bottom (ft) 27.85

Discharge Tube Length: NA PID Reading: NA

17.8-27.8 ft BTOC

Screen Interval (ft): 17.85 - 27.85

Discharge Tube Diameter: 1/4" Immersible Layer: Y (N)

L George 04/16/2020

Approximate depth of pump inlet*(ft): 24.50

Pump Start Time: 0910

Ferrous Iron (Required Y or (N)) _____ mg/L

2ND Depth to water- 23.40

APTIM

Sample Collection Log

Location ID: 67WW07 Sample No: 67WW07-191028

Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
10/28/19	0915	100	.5	23.47	2.09	17.93	6.37	60.3	97	0.93
	0920	100	1.0	23.52	2.06	18.15	6.35	48.7	73	0.38
	0925	100	1.5	23.56	2.06	18.21	6.35	44.2	63	0.09
	0930	100	2.0	23.59	2.06	18.27	6.34	43.7	62	0.09
	0935	100	2.5	23.61	2.06	18.32	6.34	43.2	62	0.08
↓	0940	100	3.0	23.63	2.06	18.36	6.34	42.9	61	0.08

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **67WW08**

Sampler(s): Scott Bressinger

FIELD CONDITIONS

Cloudy

SAMPLING INFORMATION

Sample No: 67WW08-191028 **DATE/TIME:** 10/28/19 1220 **Pump Inlet Depth:** 39.21

Sampling Method: **Sample Purpose:** REG **Sample Matrix:** GW

Appearance of Sample	Assoc. QC Samples	Decontamination Procedures

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	Anions (chloride/nitrate/sulfate) in Water by SW9056	1 x 250 mL HDPE	Cool 4C
		ALSHT	Carbon Dioxide in Water by RSK175	3 x 40 mL Glass	Cool 4C
		ALSHT	Dissolved Gases in Water by RSK175	3 x 40 mL Glass	HCL<pH2
		ALSHT	TOC in Water by SM5310C	2 x 40 mL Amber	H2SO4
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Low flow/BLADDER Pump

Casing ID (in.): 4"

Purge Start Date/Time: 10/28/19 1230

Depth to Water - Initial (DTWi) (ft) 22.85

Purge End Date/Time: 10/28/19 1300

Depth to Well Bottom (ft) 51.90

Discharge Tube Length: NA PID Reading: NA

Screen Interval (ft): 26.96-51.96 26.02-50.52 ft BTOC

Discharge Tube Diameter: 1/4" Immersible Layer: Y / (N)

L George 04/16/2020

Approximate depth of pump inlet*(ft): 39.21

Pump Start Time: 1230

Ferrous Iron (Required (Y) or N) 0.41 mg/L

2ND DUPTH TO WATER - 22.85

APTIM

Sample Collection Log

Location ID: 67WW08 Sample No: 67WW08-191028

Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
10/28/19	1235	100	.5	22.92	6.24	18.36	6.60	3.0	184	0.97
	1240	100	1.0	22.97	6.53	18.76	6.10	0.4	131	0.39
	1245	100	1.5	23.01	6.56	18.79	6.07	0.0	129	0.12
	1250	100	2.0	23.03	6.56	18.82	6.06	0.0	128	0.12
	1255	100	2.5	23.04	6.57	18.85	6.05	0.0	127	0.11
↓	1300	100	3.0	23.04	6.57	18.88	6.05	0.0	126	0.11

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

Sample Collection Log

APTIM

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **67WW08**

Sampler(s): Scott Beesinger

FIELD CONDITIONS

Cloudy

SAMPLING INFORMATION

Sample No: 67WW08-191028-FD **DATE/TIME:** 10/28/19 1220 **Pump Inlet Depth:** 39.24

Sampling Method: **Sample Purpose:** FD **Sample Matrix:** GW

Appearance of Sample	Assoc. QC Samples	Decontamination Procedures

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	Anions (chloride/nitrate/sulfate) in Water by SW9056	1 x 250 mL HDPE	Cool 4C
		ALSHT	Carbon Dioxide in Water by RSK175	3 x 40 mL Glass	Cool 4C
		ALSHT	Dissolved Gases in Water by RSK175	3 x 40 mL Glass	HCL<pH2
		ALSHT	TOC in Water by SM5310C	2 x 40 mL Amber	H2SO4
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Low flow / Bladder Pump

Casing ID (in.): 4"

Purge Start Date/Time: 10/28/19 1230

Depth to Water - Initial (DTWi) (ft) 22.85

Purge End Date/Time: 10/28/19 1300

Depth to Well Bottom (ft) 51.40

Discharge Tube Length: NA

PID Reading: NA

Screen Interval (ft): ~~26.96 - 51.96~~ 26.02-50.52 ft BTOC

Discharge Tube Diameter: 1/4"

Immersible Layer: Y / (N)

L George 04/16/2020

Approximate depth of pump inlet*(ft): 39.24

Pump Start Time: 1230

Ferrous Iron (Required (Y) or N) 0.41 mg/L

APTIM

Sample Collection Log

Location ID: 67WW08 Sample No: 67WW08-1910 28 -FD

Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
10/28/19	1235	100	.5	22.92	6.24	18.36	6.60	3.0	184	0.97
	1240	100	1.0	22.97	6.53	18.76	6.10	0.4	131	0.39
	1245	100	1.5	23.01	6.56	18.79	6.07	0.0	129	0.12
	1250	100	2.0	23.03	6.56	18.82	6.06	0.0	128	0.12
	1255	100	2.5	23.04	6.57	18.85	6.05	0.0	127	0.11
	1300	100	3.0	23.04	6.57	18.88	6.05	0.0	126	0.11

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

Sample Collection Log

APTIM

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **67WW09**

Sampler(s): Scott Beesinger

FIELD CONDITIONS Clear / Sunny

SAMPLING INFORMATION

Sample No: 67WW09-191024 **DATE/TIME:** 10/24/19 1313 **Pump Inlet Depth:** 27.43

Sampling Method: **Sample Purpose:** REG **Sample Matrix:** GW

Appearance of Sample **Assoc. QC Samples** **Decontamination Procedures**

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Low flow/Bladder Pump

Casing ID (in.): 4"

Purge Start Date/Time: 10/24/19 1325

Depth to Water - Initial (DTWi) (ft) 20.78

Purge End Date/Time: 10/24/19 1355

Depth to Well Bottom (ft) 37.80

Discharge Tube Length: NA PID Reading: NA

Screen Interval (ft): 17.43 - 37.43 16.99-36.49 ft BTOC

Discharge Tube Diameter: 1/4" Immersible Layer: Y / N

L George 04/16/2020

Approximate depth of pump inlet*(ft): 27.43

Pump Start Time: 1325

Ferrous Iron (Required Y or N) _____ mg/L

2ND DEPTH TO WATER - 20.78

APTIM

Sample Collection Log

Location ID: 67WW09				Sample No: 67WW09-191024						
Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
10/24/19	1330	100	.5	20.85	3.20	22.27	6.07	0.0	204	1.15
	1335	100	1.0	20.91	3.21	21.53	6.06	0.0	199	0.39
	1340	100	1.5	20.95	3.22	21.29	6.06	0.0	196	0.10
	1345	100	2.0	20.98	3.22	21.20	6.05	0.0	195	0.10
	1350	100	2.5	21.00	3.22	21.11	6.05	0.0	194	0.09
↓	1355	100	3.0	21.02	3.22	21.04	6.05	0.0	~~194~~	0.09

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

Sample Collection Log

APTIM

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **67WW09A**

Sampler(s): Scott Beesinger

FIELD CONDITIONS Cloudy / cool

SAMPLING INFORMATION

Sample No: 67WW09A-191028 **DATE/TIME:** 10/28/19 1038 **Pump Inlet Depth:** 30.15

Sampling Method: **Sample Purpose:** REG **Sample Matrix:** GW

Appearance of Sample **Assoc. QC Samples** **Decontamination Procedures**

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Lowflow / Bladder Pump

Casing ID (in.): 2"

Purge Start Date/Time: 10/28/19 1045

Depth to Water - Initial (DTWi) (ft) 25.50

Purge End Date/Time: 10/28/19 1115

Depth to Well Bottom (ft) ~~38~~ 37.62

Discharge Tube Length: NA PID Reading: NA

Screen Interval (ft): ~~22.80-37.50~~ 23.33-38.03 ft BTOC

Discharge Tube Diameter: 1/4" Immersible Layer: Y (N)

L George 04/16/2020

Approximate depth of pump inlet*(ft): 30.45

Pump Start Time: 1045

Ferrous Iron (Required Y or N) _____ mg/L

2ND DEPTH TO WATER - 25.50

APTIM

Sample Collection Log

Location ID: 67WW09A				Sample No: 67WW09A-191028						
Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
10/28/19	1050	100	.5	25.58	3.06	18.04	6.07	17.8	102	0.79
	1055	100	1.0	25.63	3.95	18.37	6.17	12.1	88	0.22
	1100	100	1.5	25.67	4.05	18.40	6.20	4.5	73	0.05
	1105	100	2.0	25.69	4.06	18.44	6.21	3.2	72	0.05
	1110	100	2.5	25.71	4.07	18.47	6.22	2.5	72	0.04
↓	115	100	3.0	25.72	4.07	18.51	6.22	1.7	71	0.04

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **67WW10**

Sampler(s): Scott Bussinger

FIELD CONDITIONS Cloudy / Drizzle

SAMPLING INFORMATION

Sample No: 67WW10-191028 **DATE/TIME:** 10/28/19 0948 **Pump Inlet Depth:** 34.45

Sampling Method: **Sample Purpose:** REG **Sample Matrix:** GW

Appearance of Sample	Assoc. QC Samples	Decontamination Procedures

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Low flow/Bladder Pump

Casing ID (in.): 4"

Purge Start Date/Time: 10/28/19 0955

Depth to Water - Initial (DTWi) (ft) 24.07

Purge End Date/Time: 10/28/19 1025

Depth to Well Bottom (ft) 50.68

Discharge Tube Length: NA PID Reading: NA

Screen Interval (ft): ~~18.70 - 50.20~~ 22.71-52.21 ft BTOC

Discharge Tube Diameter: 1/4" Immersible Layer: Y / (N)

L George 04/16/2020

Approximate depth of pump inlet*(ft): 34.45

Pump Start Time: 0955

Ferrous Iron (Required Y or (N)) _____ mg/L

2ND DEPTH TO WATER - 24.07

APTIM

Sample Collection Log

Location ID: 67WW10 Sample No: 67WW10-191028

Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
10/28/19	1000	100	.5	24.15	4.97	17.98	6.05	175	148	0.87
	1005	100	1.0	24.21	5.09	18.32	5.40	168	164	0.25
	1010	100	1.5	24.25	5.09	18.36	5.35	162	164	0.04
	1015	100	2.0	24.28	5.10	18.39	5.35	161	164	0.04
	1020	100	2.5	24.30	5.10	18.44	5.34	161	164	0.03
↓	1025	100	3.0	24.30	5.10	18.48	5.34	160	164	0.03

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **67WW11**

Sampler(s): Scott Bessinger

FIELD CONDITIONS

Clear / Sunny

SAMPLING INFORMATION

Sample No: 67WW11-191024 **DATE/TIME:** 10/24/19 1402 **Pump Inlet Depth:** 34.00

Sampling Method: **Sample Purpose:** REG **Sample Matrix:** GW

Appearance of Sample	Assoc. QC Samples	Decontamination Procedures

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Casing ID (in.): 4"

Depth to Water - Initial (DTWi) (ft) 22.28

Depth to Well Bottom (ft) 46.60

Screen Interval (ft): ~~21.75 - 46.25~~ 22.93-47.43 ft BTOC

L George 04/16/2020

Approximate depth of pump inlet*(ft): 34.00

Ferrous Iron (Required Y or N) _____ mg/L

Purging Method/Equipment: Low flow/Bladder Pump

Purge Start Date/Time: 10/24/19 1415

Purge End Date/Time: 10/24/19 1445

Discharge Tube Length: NA PID Reading: NA

Discharge Tube Diameter: 1/4" Immersible Layer: Y / N

Pump Start Time: 1415

2ND Depth to water - 22.28

APTIM

Sample Collection Log

Location ID: 67WW11				Sample No: 67WW11-191024						
Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
10/24/19	1420	100	.5	22.35	4.68	22.40	6.28	2.1	192	1.14
	1425	100	1.0	22.41	4.72	21.96	6.20	0.9	188	0.29
	1430	100	1.5	22.45	4.72	21.88	6.22	0.4	188	0.05
	1435	100	2.0	22.47	4.73	21.80	6.22	0.0	187	0.05
	1440	100	2.5	22.49	4.73	21.75	6.23	0.0	187	0.04
↓	1445	100	3.0	22.50	4.73	21.72	6.23	0.0	187	0.04

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

Sample Collection Log

APTIM

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **67WW12**

Sampler(s): Scott Baessinger

FIELD CONDITIONS Cloudy / Drizzle

SAMPLING INFORMATION

Sample No: 67WW12-191028 **DATE/TIME:** 10/28/19 0806 **Pump Inlet Depth:** 31.71

Sampling Method: **Sample Purpose:** REG **Sample Matrix:** GW

Appearance of Sample	Assoc. QC Samples	Decontamination Procedures

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Low flow / Bladder Pump

Casing ID (in.): 4"

Purge Start Date/Time: 10/28/19 0820

Depth to Water - Initial (DTWi) (ft) 24.87

Purge End Date/Time: 10/28/19 0850

Depth to Well Bottom (ft) ~~36.85~~ 36.85

Discharge Tube Length: NA PID Reading: NA

Screen Interval (ft): 26.96 - 36.46 26.58-36.08 ft BTOC

Discharge Tube Diameter: 1/4" Immersible Layer: Y / (N)

L George 04/16/2020

Approximate depth of pump inlet*(ft): 31.71

Pump Start Time: 0820

Ferrous Iron (Required Y or (N) _____ mg/L

2ND Depth to water - 24.87

APTIM

Sample Collection Log

Location ID: 67WW12		Sample No: 67WW12-191028								
Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
10/28/19	0825	100	.5	24.95	3.88	18.60	6.01	0.3	125	1.38
	0830	100	1.0	25.01	4.12	18.64	5.90	0.0	128	0.87
	0835	100	1.5	25.05	4.33	18.64	5.75	0.5	127	0.65
	0840	100	2.0	25.08	4.34	18.63	5.74	0.8	127	0.64
	0845	100	2.5	25.10	4.35	18.62	5.73	1.3	126	0.63
	0850	100	3.0	25.12	4.35	18.62	5.72	1.8	126	0.62

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

00983285

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **67WW13**

Sampler(s): Scott Blessinger

FIELD CONDITIONS Cloudy

SAMPLING INFORMATION

Sample No: 67WW13-191028 **DATE/TIME:** 10/28/19 1127 **Pump Inlet Depth:** 21.50

Sampling Method: **Sample Purpose:** REG **Sample Matrix:** GW

Appearance of Sample	Assoc. QC Samples	Decontamination Procedures

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	Anions (chloride/nitrate/sulfate) in Water by SW9056	1 x 250 mL HDPE	Cool 4C
		ALSHT	Carbon Dioxide in Water by RSK175	3 x 40 mL Glass	Cool 4C
		ALSHT	Dissolved Gases in Water by RSK175	3 x 40 mL Glass	HCL<pH2
		ALSHT	TOC in Water by SM5310C	2 x 40 mL Amber	H2SO4
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: lowflow/BLADDER pump

Casing ID (in.): 4"

Purge Start Date/Time: 10/28/19 1135

Depth to Water - Initial (DTWi) (ft) 20.95

Purge End Date/Time: 10/28/19 1205

Depth to Well Bottom (ft) 28.58

Discharge Tube Length: NA PID Reading: NA

Screen Interval (ft): 13.60 - 28.10 12.57-27.07 ft BTOC

Discharge Tube Diameter: 1/4" Immersible Layer: Y (N)

L George 04/16/2020

Approximate depth of pump inlet*(ft): 21.50

Pump Start Time: 1135

Ferrous Iron (Required) (Y or N) 0.06 mg/L

2ND Depth to water - 20.95

APTIM

Sample Collection Log

Location ID: 67WW13 Sample No: 67WW13-191028

Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
10/28/19	1140	100	.5	21.03	4.88	18.61	6.44	0.0	180	1.41
	1145	100	1.0	21.09	4.87	19.10	6.27	0.0	181	1.02
	1150	100	1.5	21.13	4.87	19.17	6.26	0.0	183	0.83
	1155	100	2.0	21.16	4.87	19.25	6.26	0.0	184	0.82
	1200	100	2.5	21.19	4.87	19.33	6.26	0.0	185	0.81
↓	1205	100	3.0	21.21	4.87	19.38	6.26	0.0	185	0.80

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **67WW14**

Sampler(s): Scott Beesinger

FIELD CONDITIONS Cool | clear

SAMPLING INFORMATION

Sample No: 67WW14-191024 DATE/TIME: 10/24/19 0804 Pump Inlet Depth: 25.40

Sampling Method: Sample Purpose: REG Sample Matrix: GW

Appearance of Sample	Assoc. QC Samples	Decontamination Procedures

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Casing ID (in.): 2"

Depth to Water - Initial (DTWi) (ft) 19.38

Depth to Well Bottom (ft) 30.52

Screen Interval (ft): ~~20.40 - 30.40~~ 14.44-29.44 ft BTOC

L George 04/16/2020

Approximate depth of pump inlet*(ft): 25.40

Ferrous Iron (Required Y or N) _____ mg/L

Purging Method/Equipment: Lowflow/BLADDER Pump

Purge Start Date/Time: 10/24/19 0815

Purge End Date/Time: 10/24/19 0845

Discharge Tube Length: NA PID Reading: NA

Discharge Tube Diameter: 1/4" Immersible Layer: Y / N

Pump Start Time: 0815

2ND DEPTH TO WATER – 19.38

APTIM

Sample Collection Log

Location ID: 67WW14				Sample No: 67WW14-191024						
Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
10/24/19	0820	100	.5	19.45	2.42	17.05	5.96	28.0	-21	0.93
	0825	100	1.0	19.51	2.38	17.81	6.13	12.3	-52	0.44
	0830	100	1.5	19.55	2.32	17.85	6.18	7.1	-47	0.16
	0835	100	2.0	19.58	2.32	17.90	6.19	5.9	-46	0.16
	0840	100	2.5	19.60	2.31	17.94	6.19	4.5	-45	0.15
	0845	100	3.0	19.62	2.31	17.99	6.19	3.7	-44	0.15

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

Sample Collection Log

APTIM

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **67WW15**

Sampler(s): Scott Beesinger

FIELD CONDITIONS

Clear | Sunny

SAMPLING INFORMATION

Sample No: 67WW15-191024

DATE/TIME: 10/24/19 1215

Pump Inlet Depth: 42.38

Sampling Method:

Sample Purpose: REG

Sample Matrix: GW

Appearance of Sample

Assoc. QC Samples

Decontamination Procedures

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Low flow / BLADDER Pump

Casing ID (in.): __

Purge Start Date/Time: 10/24/19 1225

Depth to Water - Initial (DTWi) (ft) 22.72

Purge End Date/Time: 10/24/19 1300

Depth to Well Bottom (ft) 47.30

Discharge Tube Length: NA

PID Reading: NA

Screen Interval (ft): ~~37.53 - 47.23~~ 36.78-46.48 ft BTOC

Discharge Tube Diameter: 1/4"

Immersible Layer: Y / N

L George 04/16/2020

Approximate depth of pump inlet*(ft): 42.38

Pump Start Time: 1225

Ferrous Iron (Required Y or N) _____ mg/L

2ND DEPTH TO WATER - 22.72

APTIM

Sample Collection Log

Location ID: 67WW15 Sample No: 67WW15-1910 24

Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
10/24/19	1230	100	.5	22.80	1.79	21.46	5.97	2.3	203	1.30
	1235	100	1.0	22.85	1.77	21.06	5.78	1.9	216	0.47
	1240	100	1.5	22.89	1.79	21.10	5.72	1.1	225	0.21
	1245	100	2.0	22.92	1.79	21.34	5.71	0.8	228	0.04
	1250	100	2.5	22.94	1.80	21.46	5.70	0.4	229	0.03
	1255	100	3.0	22.95	1.80	21.55	5.70	0.0	230	0.03
	1300	100	3.5	22.95	1.80	21.62	5.69	0.0	230	0.03

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **67WW16I**

Sampler(s): Scott Beesinger

FIELD CONDITIONS CLEAR / SUNNY

SAMPLING INFORMATION

Sample No: 67WW16I-191024 **DATE/TIME:** 10/24/19 **Pump Inlet Depth:** 75.28

Sampling Method: **Sample Purpose:** REG **Sample Matrix:** GW

Appearance of Sample	Assoc. QC Samples	Decontamination Procedures

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Low flow/BLADDER Pump

Casing ID (in.): 4"

Purge Start Date/Time: 10/24/19 1505

Depth to Water - Initial (DTWi) (ft) 22.69

Purge End Date/Time: 10/24/19 1535

Depth to Well Bottom (ft) 80.42

Discharge Tube Length: NA PID Reading: NA

Screen Interval (ft): ~~70.43 - 80.13~~ 70.09-79.79 ft BTOC

Discharge Tube Diameter: 1/4" Immersible Layer: Y / (N)

L George 04/16/2020

Approximate depth of pump inlet*(ft): 75.28

Pump Start Time: 1505

Ferrous Iron (Required Y or (N) _____ mg/L

2ND DEPTH TO WATER-

APTIM

Sample Collection Log

Location ID: 67WW16I Sample No: 67WW16I-191024

Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
10/24/19	1510	100	.5	22.75	1.24	24.17	6.34	8.7	-27	0.87
	1515	100	1.0	22.80	1.31	22.04	5.91	7.8	-42	0.28
	1520	100	1.5	22.83	1.31	21.70	5.90	7.1	-50	0.07
	1525	100	2.0	22.85	1.32	21.64	5.89	6.7	-51	0.06
	1530	100	2.5	22.86	1.32	21.55	5.88	6.2	-52	0.06
↓	1535	100	3.0	22.87	1.32	21.45	5.88	5.8	-53	0.06

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **67WW17**

Sampler(s): Scott Beesinger

FIELD CONDITIONS Cool / clear

SAMPLING INFORMATION

Sample No: 67WW17-191024 **DATE/TIME:** 10/24/19 1036 **Pump Inlet Depth:** 24.50

Sampling Method: **Sample Purpose:** REG **Sample Matrix:** GW

Appearance of Sample	Assoc. QC Samples	Decontamination Procedures

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: low flow / BLADDER Pump

Casing ID (in.): 4"

Purge Start Date/Time: 10/24/19 1045

Depth to Water - Initial (DTWi) (ft) 23.65

Purge End Date/Time: 10/24/19 1115

Depth to Well Bottom (ft) 29.04

Discharge Tube Length: NA PID Reading: NA

Screen Interval (ft): ~~19.00 - 29.00~~ 20.4-30.4 ft BTOC

Discharge Tube Diameter: 1/4" Immersible Layer: Y / (N)

L George 04/16/2020

Approximate depth of pump inlet*(ft): ~~Screen Interval Not Defined~~ 24.50 Pump Start Time: 1045

Ferrous Iron (Required Y or (N)) _____ mg/L

2ND DEPTH TO WATER

APTIM

Sample Collection Log

Location ID: 67WW17				Sample No: 67WW17-1910 24						
Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
10/24/19	1050	100	.5	23.82	2.43	20.02	6.62	0.0	94	1.23
	1055	100	1.0	23.77	2.44	20.27	6.63	0.0	86	0.99
	1100	100	1.5	23.81	2.38	20.30	6.64	0.0	86	0.97
	1105	100	2.0	23.84	2.37	20.33	6.65	0.0	87	0.96
	1110	100	2.5	23.86	2.36	20.37	6.65	0.0	87	0.95
	1115	100	3.0	23.88	2.36	20.40	6.65	0.0	87	0.95

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **67WW18**

Sampler(s): Scott Beesinger

FIELD CONDITIONS Cool / Clear

SAMPLING INFORMATION

Sample No: 67WW18-1910 24 **DATE/TIME:** 10/24/19 0940 **Pump Inlet Depth:** 37.90

Sampling Method: **Sample Purpose:** REG **Sample Matrix:** GW

Appearance of Sample	Assoc. QC Samples	Decontamination Procedures

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Lowflow/Bladder Pump

Casing ID (in.): 4"

Purge Start Date/Time: 10/24/19 0950

Depth to Water - Initial (DTWi) (ft) 23.55

Purge End Date/Time: 10/24/19 1025

Depth to Well Bottom (ft) 43.58

Discharge Tube Length: NA

PID Reading: NA

Screen Interval (ft): ~~32.90-42.90~~ 32.61-42.61 ft BTOC

Discharge Tube Diameter: 1/4"

Immersible Layer: Y / N

L George 04/16/2020

Approximate depth of pump inlet*(ft): ~~Screen Interval Not Defined~~ 37.90

Pump Start Time: 0950

Ferrous Iron (Required Y or N) _____ mg/L

2ND Depth to water -23.55

APTIM

Sample Collection Log

Location ID: 67WW18 Sample No: 67WW18-191024

Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
10/24/19	0955	100	.5	23.63	0.996	19.07	6.25	23.7	40	2.12
	1000	100	1.0	23.69	0.983	19.74	6.39	12.2	80	1.85
	1005	100	1.5	23.73	0.975	19.90	6.46	9.2	100	1.62
	1010	100	2.0	23.76	0.974	20.08	6.50	9.0	122	1.60
	1015	100	2.5	23.78	0.974	20.15	6.51	8.8	123	1.58
	1020	100	3.0	23.80	0.974	20.21	6.52	8.4	124	1.56
↓	1025	100	3.5	23.81	0.974	20.26	6.52	8.1	125	1.54

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **67WW18**

Sampler(s): Scott Baesinger

FIELD CONDITIONS Cool / Clear

SAMPLING INFORMATION

Sample No: 67WW18-1910 24 -FD **DATE/TIME:** 10/24/19 0940 **Pump Inlet Depth:** 37.90

Sampling Method: **Sample Purpose: FD** **Sample Matrix: GW**

Appearance of Sample	Assoc. QC Samples	Decontamination Procedures

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	VOCs in Water by 8260B	3 x 40 mL Glass	HCL<pH2

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Low flow / Bladder Pump

Casing ID (in.): 4"

Purge Start Date/Time: 10/24/19 0950

Depth to Water - Initial (DTWi) (ft) 23.55

Purge End Date/Time: 10/24/19 1025

Depth to Well Bottom (ft) 43.58

Discharge Tube Length: NA PID Reading: NA

Screen Interval (ft): ~~32.40 - 42.40~~ 32.61-42.61 ft BTOC

Discharge Tube Diameter: 1/4" Immersible Layer: Y / (N)

L George 04/16/2020

Approximate depth of pump inlet*(ft): ~~Screen Interval Not Defined~~ 37.90 Pump Start Time: 0950

Ferrous Iron (Required Y or (N) _____ mg/L

APTIM

Sample Collection Log

Location ID: 67WW18		Sample No: 67WW18-1910 24 -FD								
Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
10/24/19	0455	100	.5	23.63	0.996	19.07	6.25	23.7	40	2.12
	1000	100	1.0	23.64	0.983	19.74	6.39	12.2	80	1.85
	1005	100	1.5	23.73	0.975	19.90	6.46	9.2	100	1.62
	1010	100	2.0	23.76	0.974	20.08	6.50	9.0	122	1.60
	1015	100	2.5	23.78	0.974	20.15	6.51	8.8	123	1.58
	1020	100	3.0	23.80	0.974	20.21	6.52	8.4	124	1.56
	1025	100	3.5	23.81	0.974	20.26	6.52	8.1	125	1.54

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

Contract No. W9128F-13-D-0012, Task Order No. W9128BV17F0150 • Final • Rev 0 • September 2020

Appendix C

Laboratory Analytical Data Package

(Provided on CD)

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

WorkOrder: HS19101523

Longhorn Army Ammunition Plant LHAAP-67

Aptim Environmental & Infrastucture, Inc.

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

21-Nov-2019

ALS Environmental
ALS Group USA, Corp
1317 South 13th Avenue
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Sample Tracking Record

SampleReceiptCheckList

COC

HS19101523 8260 Raw Data

HS19101523 Longhorn Army Ammunition Plant
LHAAP67 Final

ALS WO# HS19101523

10450 Stancliff Rd. Suite 210
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November 04, 2019

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

Work Order: **HS19101523**

Laboratory Results for: **Longhorn Army Ammunition Plant LHAAP-67**

Dear Susan,

ALS Environmental received 12 sample(s) on Oct 25, 2019 for the analysis presented in the following report.

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

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

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

Sincerely,

Generated By: DAYNA.FISHER
RJ Modashia
Project Manager

ALS Houston, US Date: 04-Nov-19

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant LHAAP-67
Work Order: HS19101523

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS19101523-01	67WW14-191024	GW		24-Oct-2019 08:45	25-Oct-2019 09:10	☐
HS19101523-02	67WW05-191024	GW		24-Oct-2019 09:30	25-Oct-2019 09:10	☐
HS19101523-03	67WW18-191024	GW		24-Oct-2019 10:25	25-Oct-2019 09:10	☐
HS19101523-04	67WW18-191024-FD	GW		24-Oct-2019 10:25	25-Oct-2019 09:10	☐
HS19101523-05	67WW17-191024	GW		24-Oct-2019 11:15	25-Oct-2019 09:10	☐
HS19101523-06	67WW02-191024	GW		24-Oct-2019 12:05	25-Oct-2019 09:10	☐
HS19101523-07	67WW15-191024	GW		24-Oct-2019 13:00	25-Oct-2019 09:10	☐
HS19101523-08	67WW09-191024	GW		24-Oct-2019 13:55	25-Oct-2019 09:10	☐
HS19101523-09	67WW11-191024	GW		24-Oct-2019 14:45	25-Oct-2019 09:10	☐
HS19101523-10	67WW16I-191024	GW		24-Oct-2019 15:35	25-Oct-2019 09:10	☐
HS19101523-11	67WW01-191024	GW		24-Oct-2019 16:25	25-Oct-2019 09:10	☐
HS19101523-12	Trip Blank	Water	C&G-050119-167	24-Oct-2019 00:00	25-Oct-2019 09:10	☐

ALS Houston, US Date: 04-Nov-19

Client: Aptim Environmental & Infrastucture, Inc. **CASE NARRATIVE**
Project: Longhorn Army Ammunition Plant LHAAP-67
Work Order: HS19101523

GCMS Volatiles by Method SW8260

Batch ID: R349684

Sample ID: CCV

- 1,2,3_Trichlorobenzene and Naphthalene exceeded %D limits for CCV. The associated results are Non Detect.

Sample ID: CCV-END

- Acetone and 2_Butanone failed response factors for closing CCV.

Sample ID: 67WW15-191024 (HS19101523-07MSD)

- MSD recovered outside control limits for 1,1-Dichloroethene

Batch ID: R349596

Sample ID: CCV-END

- Acetone and 2_Butanone exceeded %D limits for ending CCV. The associated results are Non Detect.

Sample ID: VLCSW-191031

- 1,2,3_trichlorobenzene exceeded QC recovery limits. Samples are ND for this compound.

ALS Houston, US Date: 04-Nov-19

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: Longhorn Army Ammunition Plant LHAAP-67 WorkOrder:HS19101523
Sample ID: 67WW14-191024 Lab ID:HS19101523-01
Collection Date: 24-Oct-2019 08:45 Matrix:GW

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	31-Oct-2019 19:32
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	31-Oct-2019 19:32
1,1,2,2-Tetrachloroethane	0.50	U	0.50	0.50	1.0	UG/L	1	31-Oct-2019 19:32
1,1,2-Trichlor-1,2,2-trifluoroethane	0.50	U	0.50	0.50	1.0	UG/L	1	31-Oct-2019 19:32
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	UG/L	1	31-Oct-2019 19:32
1,1-Dichloroethane	**1.8**		**0.20**	**0.50**	**1.0**	**UG/L**	1	31-Oct-2019 19:32
1,1-Dichloroethene	**7.4**		**0.20**	**0.50**	**1.0**	**UG/L**	1	31-Oct-2019 19:32
1,1-Dichloropropene	0.50	U	0.30	0.50	1.0	UG/L	1	31-Oct-2019 19:32
1,2,3-Trichlorobenzene	0.50	U	0.40	0.50	1.0	UG/L	1	31-Oct-2019 19:32
1,2,3-Trichloropropane	0.50	U	0.50	0.50	1.0	UG/L	1	31-Oct-2019 19:32
1,2,4-Trichlorobenzene	0.50	U	0.50	0.50	1.0	UG/L	1	31-Oct-2019 19:32
1,2,4-Trimethylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	31-Oct-2019 19:32
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	31-Oct-2019 19:32
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	UG/L	1	31-Oct-2019 19:32
1,2-Dichlorobenzene	0.50	U	0.50	0.50	1.0	UG/L	1	31-Oct-2019 19:32
1,2-Dichloroethane	**1.5**		**0.20**	**0.50**	**1.0**	**UG/L**	1	31-Oct-2019 19:32
1,2-Dichloropropane	0.50	U	0.50	0.50	1.0	UG/L	1	31-Oct-2019 19:32
1,3,5-Trimethylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	31-Oct-2019 19:32
1,3-Dichlorobenzene	0.50	U	0.40	0.50	1.0	UG/L	1	31-Oct-2019 19:32
1,3-Dichloropropane	0.50	U	0.30	0.50	1.0	UG/L	1	31-Oct-2019 19:32
1,4-Dichlorobenzene	0.50	U	0.40	0.50	1.0	UG/L	1	31-Oct-2019 19:32
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	31-Oct-2019 19:32
2-Butanone	1.0	U	0.50	1.0	2.0	UG/L	1	31-Oct-2019 19:32
2-Chlorotoluene	0.50	U	0.30	0.50	1.0	UG/L	1	31-Oct-2019 19:32
2-Hexanone	1.0	U	1.0	1.0	2.0	UG/L	1	31-Oct-2019 19:32
4-Chlorotoluene	0.50	U	0.40	0.50	1.0	UG/L	1	31-Oct-2019 19:32
4-Isopropyltoluene	0.50	U	0.30	0.50	1.0	UG/L	1	31-Oct-2019 19:32
4-Methyl-2-pentanone	1.0	U	0.70	1.0	2.0	UG/L	1	31-Oct-2019 19:32
Acetone	1.0	U	0.40	1.0	2.0	UG/L	1	31-Oct-2019 19:32
Benzene	0.50	U	0.20	0.50	1.0	UG/L	1	31-Oct-2019 19:32
Bromobenzene	0.50	U	0.40	0.50	1.0	UG/L	1	31-Oct-2019 19:32
Bromochloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	31-Oct-2019 19:32
Bromodichloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	31-Oct-2019 19:32
Bromoform	0.50	U	0.40	0.50	1.0	UG/L	1	31-Oct-2019 19:32
Bromomethane	0.50	U	0.40	0.50	1.0	UG/L	1	31-Oct-2019 19:32
Carbon disulfide	1.0	U	0.60	1.0	2.0	UG/L	1	31-Oct-2019 19:32
Carbon tetrachloride	0.50	U	0.50	0.50	1.0	UG/L	1	31-Oct-2019 19:32
Chlorobenzene	0.50	U	0.30	0.50	1.0	UG/L	1	31-Oct-2019 19:32
Chloroethane	0.50	U	0.30	0.50	1.0	UG/L	1	31-Oct-2019 19:32

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

ALS Houston, US Date: 04-Nov-19

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: Longhorn Army Ammunition Plant LHAAP-67 WorkOrder:HS19101523
Sample ID: 67WW14-191024 Lab ID:HS19101523-01
Collection Date: 24-Oct-2019 08:45 Matrix:GW

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	31-Oct-2019 19:32
Chloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	31-Oct-2019 19:32
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	31-Oct-2019 19:32
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	UG/L	1	31-Oct-2019 19:32
Dibromochloromethane	0.50	U	0.30	0.50	1.0	UG/L	1	31-Oct-2019 19:32
Dibromomethane	0.50	U	0.20	0.50	1.0	UG/L	1	31-Oct-2019 19:32
Dichlorodifluoromethane	0.50	U	0.30	0.50	1.0	UG/L	1	31-Oct-2019 19:32
Ethylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	31-Oct-2019 19:32
Hexachlorobutadiene	0.50	U	1.0	0.50	1.0	UG/L	1	31-Oct-2019 19:32
Isopropylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	31-Oct-2019 19:32
m,p-Xylene	1.0	U	0.50	1.0	2.0	UG/L	1	31-Oct-2019 19:32
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	31-Oct-2019 19:32
n-Butylbenzene	0.50	U	0.40	0.50	1.0	UG/L	1	31-Oct-2019 19:32
n-Propylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	31-Oct-2019 19:32
Naphthalene	0.50	U	0.30	0.50	1.0	UG/L	1	31-Oct-2019 19:32
o-Xylene	0.50	U	0.30	0.50	1.0	UG/L	1	31-Oct-2019 19:32
sec-Butylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	31-Oct-2019 19:32
Styrene	0.50	U	0.30	0.50	1.0	UG/L	1	31-Oct-2019 19:32
tert-Butylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	31-Oct-2019 19:32
Tetrachloroethene	0.50	U	0.30	0.50	1.0	UG/L	1	31-Oct-2019 19:32
Toluene	0.50	U	0.20	0.50	1.0	UG/L	1	31-Oct-2019 19:32
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	31-Oct-2019 19:32
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	UG/L	1	31-Oct-2019 19:32
Trichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	31-Oct-2019 19:32
Trichlorofluoromethane	0.50	U	0.30	0.50	1.0	UG/L	1	31-Oct-2019 19:32
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	31-Oct-2019 19:32
Surr: 1,2-Dichloroethane-d4	*88.3*			**0**	*81-118*	*%REC*	*1*	*31-Oct-2019 19:32*
Surr: 4-Bromofluorobenzene	*101*			**0**	*85-114*	*%REC*	*1*	*31-Oct-2019 19:32*
Surr: Dibromofluoromethane	*93.0*			**0**	*80-119*	*%REC*	*1*	*31-Oct-2019 19:32*
Surr: Toluene-d8	*102*			**0**	*89-112*	*%REC*	*1*	*31-Oct-2019 19:32*

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

ALS Houston, US Date: 04-Nov-19

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: Longhorn Army Ammunition Plant LHAAP-67 WorkOrder:HS19101523
Sample ID: 67WW05-191024 Lab ID:HS19101523-02
Collection Date: 24-Oct-2019 09:30 Matrix:GW

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	31-Oct-2019 19:56
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	31-Oct-2019 19:56
1,1,2,2-Tetrachloroethane	0.50	U	0.50	0.50	1.0	UG/L	1	31-Oct-2019 19:56
1,1,2-Trichlor-1,2,2-trifluoroethane	0.50	U	0.50	0.50	1.0	UG/L	1	31-Oct-2019 19:56
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	UG/L	1	31-Oct-2019 19:56
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	31-Oct-2019 19:56
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	31-Oct-2019 19:56
1,1-Dichloropropene	0.50	U	0.30	0.50	1.0	UG/L	1	31-Oct-2019 19:56
1,2,3-Trichlorobenzene	0.50	U	0.40	0.50	1.0	UG/L	1	31-Oct-2019 19:56
1,2,3-Trichloropropane	0.50	U	0.50	0.50	1.0	UG/L	1	31-Oct-2019 19:56
1,2,4-Trichlorobenzene	0.50	U	0.50	0.50	1.0	UG/L	1	31-Oct-2019 19:56
1,2,4-Trimethylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	31-Oct-2019 19:56
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	31-Oct-2019 19:56
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	UG/L	1	31-Oct-2019 19:56
1,2-Dichlorobenzene	0.50	U	0.50	0.50	1.0	UG/L	1	31-Oct-2019 19:56
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	31-Oct-2019 19:56
1,2-Dichloropropane	0.50	U	0.50	0.50	1.0	UG/L	1	31-Oct-2019 19:56
1,3,5-Trimethylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	31-Oct-2019 19:56
1,3-Dichlorobenzene	0.50	U	0.40	0.50	1.0	UG/L	1	31-Oct-2019 19:56
1,3-Dichloropropane	0.50	U	0.30	0.50	1.0	UG/L	1	31-Oct-2019 19:56
1,4-Dichlorobenzene	0.50	U	0.40	0.50	1.0	UG/L	1	31-Oct-2019 19:56
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	31-Oct-2019 19:56
2-Butanone	1.0	U	0.50	1.0	2.0	UG/L	1	31-Oct-2019 19:56
2-Chlorotoluene	0.50	U	0.30	0.50	1.0	UG/L	1	31-Oct-2019 19:56
2-Hexanone	1.0	U	1.0	1.0	2.0	UG/L	1	31-Oct-2019 19:56
4-Chlorotoluene	0.50	U	0.40	0.50	1.0	UG/L	1	31-Oct-2019 19:56
4-Isopropyltoluene	0.50	U	0.30	0.50	1.0	UG/L	1	31-Oct-2019 19:56
4-Methyl-2-pentanone	1.0	U	0.70	1.0	2.0	UG/L	1	31-Oct-2019 19:56
Acetone	**2.2**		**0.40**	**1.0**	**2.0**	**UG/L**	1	31-Oct-2019 19:56
Benzene	0.50	U	0.20	0.50	1.0	UG/L	1	31-Oct-2019 19:56
Bromobenzene	0.50	U	0.40	0.50	1.0	UG/L	1	31-Oct-2019 19:56
Bromochloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	31-Oct-2019 19:56
Bromodichloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	31-Oct-2019 19:56
Bromoform	0.50	U	0.40	0.50	1.0	UG/L	1	31-Oct-2019 19:56
Bromomethane	0.50	U	0.40	0.50	1.0	UG/L	1	31-Oct-2019 19:56
Carbon disulfide	1.0	U	0.60	1.0	2.0	UG/L	1	31-Oct-2019 19:56
Carbon tetrachloride	0.50	U	0.50	0.50	1.0	UG/L	1	31-Oct-2019 19:56
Chlorobenzene	0.50	U	0.30	0.50	1.0	UG/L	1	31-Oct-2019 19:56
Chloroethane	0.50	U	0.30	0.50	1.0	UG/L	1	31-Oct-2019 19:56

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

ALS Houston, US Date: 04-Nov-19

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: Longhorn Army Ammunition Plant LHAAP-67 WorkOrder:HS19101523
Sample ID: 67WW05-191024 Lab ID:HS19101523-02
Collection Date: 24-Oct-2019 09:30 Matrix:GW

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	31-Oct-2019 19:56
Chloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	31-Oct-2019 19:56
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	31-Oct-2019 19:56
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	UG/L	1	31-Oct-2019 19:56
Dibromochloromethane	0.50	U	0.30	0.50	1.0	UG/L	1	31-Oct-2019 19:56
Dibromomethane	0.50	U	0.20	0.50	1.0	UG/L	1	31-Oct-2019 19:56
Dichlorodifluoromethane	0.50	U	0.30	0.50	1.0	UG/L	1	31-Oct-2019 19:56
Ethylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	31-Oct-2019 19:56
Hexachlorobutadiene	0.50	U	1.0	0.50	1.0	UG/L	1	31-Oct-2019 19:56
Isopropylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	31-Oct-2019 19:56
m,p-Xylene	1.0	U	0.50	1.0	2.0	UG/L	1	31-Oct-2019 19:56
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	31-Oct-2019 19:56
n-Butylbenzene	0.50	U	0.40	0.50	1.0	UG/L	1	31-Oct-2019 19:56
n-Propylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	31-Oct-2019 19:56
Naphthalene	0.50	U	0.30	0.50	1.0	UG/L	1	31-Oct-2019 19:56
o-Xylene	0.50	U	0.30	0.50	1.0	UG/L	1	31-Oct-2019 19:56
sec-Butylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	31-Oct-2019 19:56
Styrene	0.50	U	0.30	0.50	1.0	UG/L	1	31-Oct-2019 19:56
tert-Butylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	31-Oct-2019 19:56
Tetrachloroethene	0.50	U	0.30	0.50	1.0	UG/L	1	31-Oct-2019 19:56
Toluene	0.50	U	0.20	0.50	1.0	UG/L	1	31-Oct-2019 19:56
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	31-Oct-2019 19:56
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	UG/L	1	31-Oct-2019 19:56
Trichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	31-Oct-2019 19:56
Trichlorofluoromethane	0.50	U	0.30	0.50	1.0	UG/L	1	31-Oct-2019 19:56
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	31-Oct-2019 19:56
Surr: 1,2-Dichloroethane-d4	*89.8*			**0**	*81-118*	*%REC*	*1*	*31-Oct-2019 19:56*
Surr: 4-Bromofluorobenzene	*100*			**0**	*85-114*	*%REC*	*1*	*31-Oct-2019 19:56*
Surr: Dibromofluoromethane	*92.2*			**0**	*80-119*	*%REC*	*1*	*31-Oct-2019 19:56*
Surr: Toluene-d8	*101*			**0**	*89-112*	*%REC*	*1*	*31-Oct-2019 19:56*

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

ALS Houston, US Date: 04-Nov-19

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: Longhorn Army Ammunition Plant LHAAP-67 WorkOrder:HS19101523
Sample ID: 67WW18-191024 Lab ID:HS19101523-03
Collection Date: 24-Oct-2019 10:25 Matrix:GW

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	31-Oct-2019 20:20
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	31-Oct-2019 20:20
1,1,2,2-Tetrachloroethane	0.50	U	0.50	0.50	1.0	UG/L	1	31-Oct-2019 20:20
1,1,2-Trichlor-1,2,2-trifluoroethane	0.50	U	0.50	0.50	1.0	UG/L	1	31-Oct-2019 20:20
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	UG/L	1	31-Oct-2019 20:20
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	31-Oct-2019 20:20
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	31-Oct-2019 20:20
1,1-Dichloropropene	0.50	U	0.30	0.50	1.0	UG/L	1	31-Oct-2019 20:20
1,2,3-Trichlorobenzene	0.50	U	0.40	0.50	1.0	UG/L	1	31-Oct-2019 20:20
1,2,3-Trichloropropane	0.50	U	0.50	0.50	1.0	UG/L	1	31-Oct-2019 20:20
1,2,4-Trichlorobenzene	0.50	U	0.50	0.50	1.0	UG/L	1	31-Oct-2019 20:20
1,2,4-Trimethylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	31-Oct-2019 20:20
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	31-Oct-2019 20:20
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	UG/L	1	31-Oct-2019 20:20
1,2-Dichlorobenzene	0.50	U	0.50	0.50	1.0	UG/L	1	31-Oct-2019 20:20
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	31-Oct-2019 20:20
1,2-Dichloropropane	0.50	U	0.50	0.50	1.0	UG/L	1	31-Oct-2019 20:20
1,3,5-Trimethylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	31-Oct-2019 20:20
1,3-Dichlorobenzene	0.50	U	0.40	0.50	1.0	UG/L	1	31-Oct-2019 20:20
1,3-Dichloropropane	0.50	U	0.30	0.50	1.0	UG/L	1	31-Oct-2019 20:20
1,4-Dichlorobenzene	0.50	U	0.40	0.50	1.0	UG/L	1	31-Oct-2019 20:20
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	31-Oct-2019 20:20
2-Butanone	1.0	U	0.50	1.0	2.0	UG/L	1	31-Oct-2019 20:20
2-Chlorotoluene	0.50	U	0.30	0.50	1.0	UG/L	1	31-Oct-2019 20:20
2-Hexanone	1.0	U	1.0	1.0	2.0	UG/L	1	31-Oct-2019 20:20
4-Chlorotoluene	0.50	U	0.40	0.50	1.0	UG/L	1	31-Oct-2019 20:20
4-Isopropyltoluene	0.50	U	0.30	0.50	1.0	UG/L	1	31-Oct-2019 20:20
4-Methyl-2-pentanone	1.0	U	0.70	1.0	2.0	UG/L	1	31-Oct-2019 20:20
Acetone	1.0	U	0.40	1.0	2.0	UG/L	1	31-Oct-2019 20:20
Benzene	0.50	U	0.20	0.50	1.0	UG/L	1	31-Oct-2019 20:20
Bromobenzene	0.50	U	0.40	0.50	1.0	UG/L	1	31-Oct-2019 20:20
Bromochloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	31-Oct-2019 20:20
Bromodichloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	31-Oct-2019 20:20
Bromoform	0.50	U	0.40	0.50	1.0	UG/L	1	31-Oct-2019 20:20
Bromomethane	0.50	U	0.40	0.50	1.0	UG/L	1	31-Oct-2019 20:20
Carbon disulfide	1.0	U	0.60	1.0	2.0	UG/L	1	31-Oct-2019 20:20
Carbon tetrachloride	0.50	U	0.50	0.50	1.0	UG/L	1	31-Oct-2019 20:20
Chlorobenzene	0.50	U	0.30	0.50	1.0	UG/L	1	31-Oct-2019 20:20
Chloroethane	0.50	U	0.30	0.50	1.0	UG/L	1	31-Oct-2019 20:20

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

ALS Houston, US Date: 04-Nov-19

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: Longhorn Army Ammunition Plant LHAAP-67 WorkOrder:HS19101523
Sample ID: 67WW18-191024 Lab ID:HS19101523-03
Collection Date: 24-Oct-2019 10:25 Matrix:GW

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	31-Oct-2019 20:20
Chloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	31-Oct-2019 20:20
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	31-Oct-2019 20:20
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	UG/L	1	31-Oct-2019 20:20
Dibromochloromethane	0.50	U	0.30	0.50	1.0	UG/L	1	31-Oct-2019 20:20
Dibromomethane	0.50	U	0.20	0.50	1.0	UG/L	1	31-Oct-2019 20:20
Dichlorodifluoromethane	0.50	U	0.30	0.50	1.0	UG/L	1	31-Oct-2019 20:20
Ethylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	31-Oct-2019 20:20
Hexachlorobutadiene	0.50	U	1.0	0.50	1.0	UG/L	1	31-Oct-2019 20:20
Isopropylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	31-Oct-2019 20:20
m,p-Xylene	1.0	U	0.50	1.0	2.0	UG/L	1	31-Oct-2019 20:20
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	31-Oct-2019 20:20
n-Butylbenzene	0.50	U	0.40	0.50	1.0	UG/L	1	31-Oct-2019 20:20
n-Propylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	31-Oct-2019 20:20
Naphthalene	0.50	U	0.30	0.50	1.0	UG/L	1	31-Oct-2019 20:20
o-Xylene	0.50	U	0.30	0.50	1.0	UG/L	1	31-Oct-2019 20:20
sec-Butylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	31-Oct-2019 20:20
Styrene	0.50	U	0.30	0.50	1.0	UG/L	1	31-Oct-2019 20:20
tert-Butylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	31-Oct-2019 20:20
Tetrachloroethene	0.50	U	0.30	0.50	1.0	UG/L	1	31-Oct-2019 20:20
Toluene	0.50	U	0.20	0.50	1.0	UG/L	1	31-Oct-2019 20:20
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	31-Oct-2019 20:20
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	UG/L	1	31-Oct-2019 20:20
Trichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	31-Oct-2019 20:20
Trichlorofluoromethane	0.50	U	0.30	0.50	1.0	UG/L	1	31-Oct-2019 20:20
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	31-Oct-2019 20:20
Surr: 1,2-Dichloroethane-d4	*90.2*			**0**	*81-118*	*%REC*	*1*	*31-Oct-2019 20:20*
Surr: 4-Bromofluorobenzene	*99.7*			**0**	*85-114*	*%REC*	*1*	*31-Oct-2019 20:20*
Surr: Dibromofluoromethane	*92.3*			**0**	*80-119*	*%REC*	*1*	*31-Oct-2019 20:20*
Surr: Toluene-d8	*101*			**0**	*89-112*	*%REC*	*1*	*31-Oct-2019 20:20*

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

ALS Houston, US Date: 04-Nov-19

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: Longhorn Army Ammunition Plant LHAAP-67 WorkOrder:HS19101523
Sample ID: 67WW18-191024-FD Lab ID:HS19101523-04
Collection Date: 24-Oct-2019 10:25 Matrix:GW

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	31-Oct-2019 20:44
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	31-Oct-2019 20:44
1,1,2,2-Tetrachloroethane	0.50	U	0.50	0.50	1.0	UG/L	1	31-Oct-2019 20:44
1,1,2-Trichlor-1,2,2-trifluoroethane	0.50	U	0.50	0.50	1.0	UG/L	1	31-Oct-2019 20:44
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	UG/L	1	31-Oct-2019 20:44
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	31-Oct-2019 20:44
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	31-Oct-2019 20:44
1,1-Dichloropropene	0.50	U	0.30	0.50	1.0	UG/L	1	31-Oct-2019 20:44
1,2,3-Trichlorobenzene	0.50	U	0.40	0.50	1.0	UG/L	1	31-Oct-2019 20:44
1,2,3-Trichloropropane	0.50	U	0.50	0.50	1.0	UG/L	1	31-Oct-2019 20:44
1,2,4-Trichlorobenzene	0.50	U	0.50	0.50	1.0	UG/L	1	31-Oct-2019 20:44
1,2,4-Trimethylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	31-Oct-2019 20:44
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	31-Oct-2019 20:44
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	UG/L	1	31-Oct-2019 20:44
1,2-Dichlorobenzene	0.50	U	0.50	0.50	1.0	UG/L	1	31-Oct-2019 20:44
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	31-Oct-2019 20:44
1,2-Dichloropropane	0.50	U	0.50	0.50	1.0	UG/L	1	31-Oct-2019 20:44
1,3,5-Trimethylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	31-Oct-2019 20:44
1,3-Dichlorobenzene	0.50	U	0.40	0.50	1.0	UG/L	1	31-Oct-2019 20:44
1,3-Dichloropropane	0.50	U	0.30	0.50	1.0	UG/L	1	31-Oct-2019 20:44
1,4-Dichlorobenzene	0.50	U	0.40	0.50	1.0	UG/L	1	31-Oct-2019 20:44
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	31-Oct-2019 20:44
2-Butanone	1.0	U	0.50	1.0	2.0	UG/L	1	31-Oct-2019 20:44
2-Chlorotoluene	0.50	U	0.30	0.50	1.0	UG/L	1	31-Oct-2019 20:44
2-Hexanone	1.0	U	1.0	1.0	2.0	UG/L	1	31-Oct-2019 20:44
4-Chlorotoluene	0.50	U	0.40	0.50	1.0	UG/L	1	31-Oct-2019 20:44
4-Isopropyltoluene	0.50	U	0.30	0.50	1.0	UG/L	1	31-Oct-2019 20:44
4-Methyl-2-pentanone	1.0	U	0.70	1.0	2.0	UG/L	1	31-Oct-2019 20:44
Acetone	1.0	U	0.40	1.0	2.0	UG/L	1	31-Oct-2019 20:44
Benzene	0.50	U	0.20	0.50	1.0	UG/L	1	31-Oct-2019 20:44
Bromobenzene	0.50	U	0.40	0.50	1.0	UG/L	1	31-Oct-2019 20:44
Bromochloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	31-Oct-2019 20:44
Bromodichloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	31-Oct-2019 20:44
Bromoform	0.50	U	0.40	0.50	1.0	UG/L	1	31-Oct-2019 20:44
Bromomethane	0.50	U	0.40	0.50	1.0	UG/L	1	31-Oct-2019 20:44
Carbon disulfide	1.0	U	0.60	1.0	2.0	UG/L	1	31-Oct-2019 20:44
Carbon tetrachloride	0.50	U	0.50	0.50	1.0	UG/L	1	31-Oct-2019 20:44
Chlorobenzene	0.50	U	0.30	0.50	1.0	UG/L	1	31-Oct-2019 20:44
Chloroethane	0.50	U	0.30	0.50	1.0	UG/L	1	31-Oct-2019 20:44

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

ALS Houston, US Date: 04-Nov-19

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: Longhorn Army Ammunition Plant LHAAP-67 WorkOrder:HS19101523
Sample ID: 67WW18-191024-FD Lab ID:HS19101523-04
Collection Date: 24-Oct-2019 10:25 Matrix:GW

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	31-Oct-2019 20:44
Chloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	31-Oct-2019 20:44
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	31-Oct-2019 20:44
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	UG/L	1	31-Oct-2019 20:44
Dibromochloromethane	0.50	U	0.30	0.50	1.0	UG/L	1	31-Oct-2019 20:44
Dibromomethane	0.50	U	0.20	0.50	1.0	UG/L	1	31-Oct-2019 20:44
Dichlorodifluoromethane	0.50	U	0.30	0.50	1.0	UG/L	1	31-Oct-2019 20:44
Ethylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	31-Oct-2019 20:44
Hexachlorobutadiene	0.50	U	1.0	0.50	1.0	UG/L	1	31-Oct-2019 20:44
Isopropylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	31-Oct-2019 20:44
m,p-Xylene	1.0	U	0.50	1.0	2.0	UG/L	1	31-Oct-2019 20:44
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	31-Oct-2019 20:44
n-Butylbenzene	0.50	U	0.40	0.50	1.0	UG/L	1	31-Oct-2019 20:44
n-Propylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	31-Oct-2019 20:44
Naphthalene	0.50	U	0.30	0.50	1.0	UG/L	1	31-Oct-2019 20:44
o-Xylene	0.50	U	0.30	0.50	1.0	UG/L	1	31-Oct-2019 20:44
sec-Butylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	31-Oct-2019 20:44
Styrene	0.50	U	0.30	0.50	1.0	UG/L	1	31-Oct-2019 20:44
tert-Butylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	31-Oct-2019 20:44
Tetrachloroethene	0.50	U	0.30	0.50	1.0	UG/L	1	31-Oct-2019 20:44
Toluene	0.50	U	0.20	0.50	1.0	UG/L	1	31-Oct-2019 20:44
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	31-Oct-2019 20:44
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	UG/L	1	31-Oct-2019 20:44
Trichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	31-Oct-2019 20:44
Trichlorofluoromethane	0.50	U	0.30	0.50	1.0	UG/L	1	31-Oct-2019 20:44
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	31-Oct-2019 20:44
Surr: 1,2-Dichloroethane-d4	*89.1*			**0**	*81-118*	*%REC*	*1*	*31-Oct-2019 20:44*
Surr: 4-Bromofluorobenzene	*100*			**0**	*85-114*	*%REC*	*1*	*31-Oct-2019 20:44*
Surr: Dibromofluoromethane	*91.5*			**0**	*80-119*	*%REC*	*1*	*31-Oct-2019 20:44*
Surr: Toluene-d8	*102*			**0**	*89-112*	*%REC*	*1*	*31-Oct-2019 20:44*

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

ALS Houston, US Date: 04-Nov-19

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: Longhorn Army Ammunition Plant LHAAP-67 WorkOrder:HS19101523
Sample ID: 67WW17-191024 Lab ID:HS19101523-05
Collection Date: 24-Oct-2019 11:15 Matrix:GW

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	31-Oct-2019 19:08
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	31-Oct-2019 19:08
1,1,2,2-Tetrachloroethane	0.50	U	0.50	0.50	1.0	UG/L	1	31-Oct-2019 19:08
1,1,2-Trichlor-1,2,2-trifluoroethane	0.50	U	0.50	0.50	1.0	UG/L	1	31-Oct-2019 19:08
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	UG/L	1	31-Oct-2019 19:08
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	31-Oct-2019 19:08
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	31-Oct-2019 19:08
1,1-Dichloropropene	0.50	U	0.30	0.50	1.0	UG/L	1	31-Oct-2019 19:08
1,2,3-Trichlorobenzene	0.50	U	0.40	0.50	1.0	UG/L	1	31-Oct-2019 19:08
1,2,3-Trichloropropane	0.50	U	0.50	0.50	1.0	UG/L	1	31-Oct-2019 19:08
1,2,4-Trichlorobenzene	0.50	U	0.50	0.50	1.0	UG/L	1	31-Oct-2019 19:08
1,2,4-Trimethylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	31-Oct-2019 19:08
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	31-Oct-2019 19:08
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	UG/L	1	31-Oct-2019 19:08
1,2-Dichlorobenzene	0.50	U	0.50	0.50	1.0	UG/L	1	31-Oct-2019 19:08
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	31-Oct-2019 19:08
1,2-Dichloropropane	0.50	U	0.50	0.50	1.0	UG/L	1	31-Oct-2019 19:08
1,3,5-Trimethylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	31-Oct-2019 19:08
1,3-Dichlorobenzene	0.50	U	0.40	0.50	1.0	UG/L	1	31-Oct-2019 19:08
1,3-Dichloropropane	0.50	U	0.30	0.50	1.0	UG/L	1	31-Oct-2019 19:08
1,4-Dichlorobenzene	0.50	U	0.40	0.50	1.0	UG/L	1	31-Oct-2019 19:08
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	31-Oct-2019 19:08
2-Butanone	1.0	U	0.50	1.0	2.0	UG/L	1	31-Oct-2019 19:08
2-Chlorotoluene	0.50	U	0.30	0.50	1.0	UG/L	1	31-Oct-2019 19:08
2-Hexanone	1.0	U	1.0	1.0	2.0	UG/L	1	31-Oct-2019 19:08
4-Chlorotoluene	0.50	U	0.40	0.50	1.0	UG/L	1	31-Oct-2019 19:08
4-Isopropyltoluene	0.50	U	0.30	0.50	1.0	UG/L	1	31-Oct-2019 19:08
4-Methyl-2-pentanone	1.0	U	0.70	1.0	2.0	UG/L	1	31-Oct-2019 19:08
Acetone	1.0	U	0.40	1.0	2.0	UG/L	1	31-Oct-2019 19:08
Benzene	0.50	U	0.20	0.50	1.0	UG/L	1	31-Oct-2019 19:08
Bromobenzene	0.50	U	0.40	0.50	1.0	UG/L	1	31-Oct-2019 19:08
Bromochloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	31-Oct-2019 19:08
Bromodichloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	31-Oct-2019 19:08
Bromoform	**2.3**		**0.40**	**0.50**	**1.0**	**UG/L**	1	31-Oct-2019 19:08
Bromomethane	0.50	U	0.40	0.50	1.0	UG/L	1	31-Oct-2019 19:08
Carbon disulfide	1.0	U	0.60	1.0	2.0	UG/L	1	31-Oct-2019 19:08
Carbon tetrachloride	0.50	U	0.50	0.50	1.0	UG/L	1	31-Oct-2019 19:08
Chlorobenzene	0.50	U	0.30	0.50	1.0	UG/L	1	31-Oct-2019 19:08
Chloroethane	0.50	U	0.30	0.50	1.0	UG/L	1	31-Oct-2019 19:08

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

ALS Houston, US Date: 04-Nov-19

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: Longhorn Army Ammunition Plant LHAAP-67 WorkOrder:HS19101523
Sample ID: 67WW17-191024 Lab ID:HS19101523-05
Collection Date: 24-Oct-2019 11:15 Matrix:GW

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	31-Oct-2019 19:08
Chloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	31-Oct-2019 19:08
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	31-Oct-2019 19:08
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	UG/L	1	31-Oct-2019 19:08
Dibromochloromethane	**2.2**		**0.30**	**0.50**	**1.0**	**UG/L**	1	31-Oct-2019 19:08
Dibromomethane	**0.72**	J	**0.20**	**0.50**	**1.0**	**UG/L**	1	31-Oct-2019 19:08
Dichlorodifluoromethane	0.50	U	0.30	0.50	1.0	UG/L	1	31-Oct-2019 19:08
Ethylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	31-Oct-2019 19:08
Hexachlorobutadiene	0.50	U	1.0	0.50	1.0	UG/L	1	31-Oct-2019 19:08
Isopropylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	31-Oct-2019 19:08
m,p-Xylene	1.0	U	0.50	1.0	2.0	UG/L	1	31-Oct-2019 19:08
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	31-Oct-2019 19:08
n-Butylbenzene	0.50	U	0.40	0.50	1.0	UG/L	1	31-Oct-2019 19:08
n-Propylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	31-Oct-2019 19:08
Naphthalene	0.50	U	0.30	0.50	1.0	UG/L	1	31-Oct-2019 19:08
o-Xylene	0.50	U	0.30	0.50	1.0	UG/L	1	31-Oct-2019 19:08
sec-Butylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	31-Oct-2019 19:08
Styrene	0.50	U	0.30	0.50	1.0	UG/L	1	31-Oct-2019 19:08
tert-Butylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	31-Oct-2019 19:08
Tetrachloroethene	0.50	U	0.30	0.50	1.0	UG/L	1	31-Oct-2019 19:08
Toluene	0.50	U	0.20	0.50	1.0	UG/L	1	31-Oct-2019 19:08
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	31-Oct-2019 19:08
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	UG/L	1	31-Oct-2019 19:08
Trichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	31-Oct-2019 19:08
Trichlorofluoromethane	0.50	U	0.30	0.50	1.0	UG/L	1	31-Oct-2019 19:08
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	31-Oct-2019 19:08
Surr: 1,2-Dichloroethane-d4	*89.9*			**0**	*81-118*	*%REC*	*1*	*31-Oct-2019 19:08*
Surr: 4-Bromofluorobenzene	*100*			**0**	*85-114*	*%REC*	*1*	*31-Oct-2019 19:08*
Surr: Dibromofluoromethane	*93.3*			**0**	*80-119*	*%REC*	*1*	*31-Oct-2019 19:08*
Surr: Toluene-d8	*102*			**0**	*89-112*	*%REC*	*1*	*31-Oct-2019 19:08*

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

ALS Houston, US Date: 04-Nov-19

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: Longhorn Army Ammunition Plant LHAAP-67 WorkOrder:HS19101523
Sample ID: 67WW02-191024 Lab ID:HS19101523-06
Collection Date: 24-Oct-2019 12:05 Matrix:GW

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	31-Oct-2019 21:08
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	31-Oct-2019 21:08
1,1,2,2-Tetrachloroethane	0.50	U	0.50	0.50	1.0	UG/L	1	31-Oct-2019 21:08
1,1,2-Trichlor-1,2,2-trifluoroethane	0.50	U	0.50	0.50	1.0	UG/L	1	31-Oct-2019 21:08
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	UG/L	1	31-Oct-2019 21:08
1,1-Dichloroethane	**1.7**		**0.20**	**0.50**	**1.0**	**UG/L**	1	31-Oct-2019 21:08
1,1-Dichloroethene	**34**		**0.20**	**0.50**	**1.0**	**UG/L**	1	31-Oct-2019 21:08
1,1-Dichloropropene	0.50	U	0.30	0.50	1.0	UG/L	1	31-Oct-2019 21:08
1,2,3-Trichlorobenzene	0.50	U	0.40	0.50	1.0	UG/L	1	31-Oct-2019 21:08
1,2,3-Trichloropropane	0.50	U	0.50	0.50	1.0	UG/L	1	31-Oct-2019 21:08
1,2,4-Trichlorobenzene	0.50	U	0.50	0.50	1.0	UG/L	1	31-Oct-2019 21:08
1,2,4-Trimethylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	31-Oct-2019 21:08
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	31-Oct-2019 21:08
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	UG/L	1	31-Oct-2019 21:08
1,2-Dichlorobenzene	0.50	U	0.50	0.50	1.0	UG/L	1	31-Oct-2019 21:08
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	31-Oct-2019 21:08
1,2-Dichloropropane	0.50	U	0.50	0.50	1.0	UG/L	1	31-Oct-2019 21:08
1,3,5-Trimethylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	31-Oct-2019 21:08
1,3-Dichlorobenzene	0.50	U	0.40	0.50	1.0	UG/L	1	31-Oct-2019 21:08
1,3-Dichloropropane	0.50	U	0.30	0.50	1.0	UG/L	1	31-Oct-2019 21:08
1,4-Dichlorobenzene	0.50	U	0.40	0.50	1.0	UG/L	1	31-Oct-2019 21:08
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	31-Oct-2019 21:08
2-Butanone	1.0	U	0.50	1.0	2.0	UG/L	1	31-Oct-2019 21:08
2-Chlorotoluene	0.50	U	0.30	0.50	1.0	UG/L	1	31-Oct-2019 21:08
2-Hexanone	1.0	U	1.0	1.0	2.0	UG/L	1	31-Oct-2019 21:08
4-Chlorotoluene	0.50	U	0.40	0.50	1.0	UG/L	1	31-Oct-2019 21:08
4-Isopropyltoluene	0.50	U	0.30	0.50	1.0	UG/L	1	31-Oct-2019 21:08
4-Methyl-2-pentanone	1.0	U	0.70	1.0	2.0	UG/L	1	31-Oct-2019 21:08
Acetone	1.0	U	0.40	1.0	2.0	UG/L	1	31-Oct-2019 21:08
Benzene	0.50	U	0.20	0.50	1.0	UG/L	1	31-Oct-2019 21:08
Bromobenzene	0.50	U	0.40	0.50	1.0	UG/L	1	31-Oct-2019 21:08
Bromochloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	31-Oct-2019 21:08
Bromodichloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	31-Oct-2019 21:08
Bromoform	0.50	U	0.40	0.50	1.0	UG/L	1	31-Oct-2019 21:08
Bromomethane	0.50	U	0.40	0.50	1.0	UG/L	1	31-Oct-2019 21:08
Carbon disulfide	1.0	U	0.60	1.0	2.0	UG/L	1	31-Oct-2019 21:08
Carbon tetrachloride	0.50	U	0.50	0.50	1.0	UG/L	1	31-Oct-2019 21:08
Chlorobenzene	0.50	U	0.30	0.50	1.0	UG/L	1	31-Oct-2019 21:08
Chloroethane	0.50	U	0.30	0.50	1.0	UG/L	1	31-Oct-2019 21:08

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

ALS Houston, US Date: 04-Nov-19

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: Longhorn Army Ammunition Plant LHAAP-67 WorkOrder:HS19101523
Sample ID: 67WW02-191024 Lab ID:HS19101523-06
Collection Date: 24-Oct-2019 12:05 Matrix:GW

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	31-Oct-2019 21:08
Chloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	31-Oct-2019 21:08
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	31-Oct-2019 21:08
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	UG/L	1	31-Oct-2019 21:08
Dibromochloromethane	0.50	U	0.30	0.50	1.0	UG/L	1	31-Oct-2019 21:08
Dibromomethane	0.50	U	0.20	0.50	1.0	UG/L	1	31-Oct-2019 21:08
Dichlorodifluoromethane	0.50	U	0.30	0.50	1.0	UG/L	1	31-Oct-2019 21:08
Ethylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	31-Oct-2019 21:08
Hexachlorobutadiene	0.50	U	1.0	0.50	1.0	UG/L	1	31-Oct-2019 21:08
Isopropylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	31-Oct-2019 21:08
m,p-Xylene	1.0	U	0.50	1.0	2.0	UG/L	1	31-Oct-2019 21:08
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	31-Oct-2019 21:08
n-Butylbenzene	0.50	U	0.40	0.50	1.0	UG/L	1	31-Oct-2019 21:08
n-Propylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	31-Oct-2019 21:08
Naphthalene	0.50	U	0.30	0.50	1.0	UG/L	1	31-Oct-2019 21:08
o-Xylene	0.50	U	0.30	0.50	1.0	UG/L	1	31-Oct-2019 21:08
sec-Butylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	31-Oct-2019 21:08
Styrene	0.50	U	0.30	0.50	1.0	UG/L	1	31-Oct-2019 21:08
tert-Butylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	31-Oct-2019 21:08
Tetrachloroethene	0.50	U	0.30	0.50	1.0	UG/L	1	31-Oct-2019 21:08
Toluene	0.50	U	0.20	0.50	1.0	UG/L	1	31-Oct-2019 21:08
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	31-Oct-2019 21:08
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	UG/L	1	31-Oct-2019 21:08
Trichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	31-Oct-2019 21:08
Trichlorofluoromethane	0.50	U	0.30	0.50	1.0	UG/L	1	31-Oct-2019 21:08
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	31-Oct-2019 21:08
Surr: 1,2-Dichloroethane-d4	*90.8*			**0**	*81-118*	*%REC*	*1*	*31-Oct-2019 21:08*
Surr: 4-Bromofluorobenzene	*99.8*			**0**	*85-114*	*%REC*	*1*	*31-Oct-2019 21:08*
Surr: Dibromofluoromethane	*92.6*			**0**	*80-119*	*%REC*	*1*	*31-Oct-2019 21:08*
Surr: Toluene-d8	*101*			**0**	*89-112*	*%REC*	*1*	*31-Oct-2019 21:08*

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

ALS Houston, US Date: 04-Nov-19

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: Longhorn Army Ammunition Plant LHAAP-67 WorkOrder:HS19101523
Sample ID: 67WW15-191024 Lab ID:HS19101523-07
Collection Date: 24-Oct-2019 13:00 Matrix:GW

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	01-Nov-2019 16:45
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 16:45
1,1,2,2-Tetrachloroethane	0.50	U	0.50	0.50	1.0	UG/L	1	01-Nov-2019 16:45
1,1,2-Trichlor-1,2,2-trifluoroethane	0.50	U	0.50	0.50	1.0	UG/L	1	01-Nov-2019 16:45
1,1,2-Trichloroethane	**6.4**		**0.30**	**0.50**	**1.0**	**UG/L**	1	01-Nov-2019 16:45
1,1-Dichloroethane	**13**		**0.20**	**0.50**	**1.0**	**UG/L**	1	01-Nov-2019 16:45
1,1-Dichloroethene	**640**		**2.0**	**5.0**	**10**	**UG/L**	10	01-Nov-2019 16:21
1,1-Dichloropropene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 16:45
1,2,3-Trichlorobenzene	0.50	U	0.40	0.50	1.0	UG/L	1	01-Nov-2019 16:45
1,2,3-Trichloropropane	0.50	U	0.50	0.50	1.0	UG/L	1	01-Nov-2019 16:45
1,2,4-Trichlorobenzene	0.50	U	0.50	0.50	1.0	UG/L	1	01-Nov-2019 16:45
1,2,4-Trimethylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 16:45
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 16:45
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 16:45
1,2-Dichlorobenzene	0.50	U	0.50	0.50	1.0	UG/L	1	01-Nov-2019 16:45
1,2-Dichloroethane	**27**		**0.20**	**0.50**	**1.0**	**UG/L**	1	01-Nov-2019 16:45
1,2-Dichloropropane	0.50	U	0.50	0.50	1.0	UG/L	1	01-Nov-2019 16:45
1,3,5-Trimethylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 16:45
1,3-Dichlorobenzene	0.50	U	0.40	0.50	1.0	UG/L	1	01-Nov-2019 16:45
1,3-Dichloropropane	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 16:45
1,4-Dichlorobenzene	0.50	U	0.40	0.50	1.0	UG/L	1	01-Nov-2019 16:45
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 16:45
2-Butanone	1.0	U	0.50	1.0	2.0	UG/L	1	01-Nov-2019 16:45
2-Chlorotoluene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 16:45
2-Hexanone	1.0	U	1.0	1.0	2.0	UG/L	1	01-Nov-2019 16:45
4-Chlorotoluene	0.50	U	0.40	0.50	1.0	UG/L	1	01-Nov-2019 16:45
4-Isopropyltoluene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 16:45
4-Methyl-2-pentanone	1.0	U	0.70	1.0	2.0	UG/L	1	01-Nov-2019 16:45
Acetone	1.0	U	0.40	1.0	2.0	UG/L	1	01-Nov-2019 16:45
Benzene	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 16:45
Bromobenzene	0.50	U	0.40	0.50	1.0	UG/L	1	01-Nov-2019 16:45
Bromochloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 16:45
Bromodichloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 16:45
Bromoform	0.50	U	0.40	0.50	1.0	UG/L	1	01-Nov-2019 16:45
Bromomethane	0.50	U	0.40	0.50	1.0	UG/L	1	01-Nov-2019 16:45
Carbon disulfide	1.0	U	0.60	1.0	2.0	UG/L	1	01-Nov-2019 16:45
Carbon tetrachloride	0.50	U	0.50	0.50	1.0	UG/L	1	01-Nov-2019 16:45
Chlorobenzene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 16:45
Chloroethane	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 16:45

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

ALS Houston, US Date: 04-Nov-19

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: Longhorn Army Ammunition Plant LHAAP-67 WorkOrder:HS19101523
Sample ID: 67WW15-191024 Lab ID:HS19101523-07
Collection Date: 24-Oct-2019 13:00 Matrix:GW

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	01-Nov-2019 16:45
Chloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 16:45
cis-1,2-Dichloroethene	**1.7**		**0.20**	**0.50**	**1.0**	**UG/L**	1	01-Nov-2019 16:45
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	UG/L	1	01-Nov-2019 16:45
Dibromochloromethane	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 16:45
Dibromomethane	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 16:45
Dichlorodifluoromethane	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 16:45
Ethylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 16:45
Hexachlorobutadiene	0.50	U	1.0	0.50	1.0	UG/L	1	01-Nov-2019 16:45
Isopropylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 16:45
m,p-Xylene	1.0	U	0.50	1.0	2.0	UG/L	1	01-Nov-2019 16:45
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	01-Nov-2019 16:45
n-Butylbenzene	0.50	U	0.40	0.50	1.0	UG/L	1	01-Nov-2019 16:45
n-Propylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 16:45
Naphthalene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 16:45
o-Xylene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 16:45
sec-Butylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 16:45
Styrene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 16:45
tert-Butylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 16:45
Tetrachloroethene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 16:45
Toluene	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 16:45
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 16:45
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 16:45
Trichloroethene	**1.5**		**0.20**	**0.50**	**1.0**	**UG/L**	1	01-Nov-2019 16:45
Trichlorofluoromethane	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 16:45
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 16:45
Surr: 1,2-Dichloroethane-d4	*89.3*			**0**	*81-118*	*%REC*	*1*	*01-Nov-2019 16:45*
Surr: 1,2-Dichloroethane-d4	*90.2*			**0**	*81-118*	*%REC*	*10*	*01-Nov-2019 16:21*
Surr: 4-Bromofluorobenzene	*100*			**0**	*85-114*	*%REC*	*10*	*01-Nov-2019 16:21*
Surr: 4-Bromofluorobenzene	*100*			**0**	*85-114*	*%REC*	*1*	*01-Nov-2019 16:45*
Surr: Dibromofluoromethane	*91.6*			**0**	*80-119*	*%REC*	*1*	*01-Nov-2019 16:45*
Surr: Dibromofluoromethane	*91.9*			**0**	*80-119*	*%REC*	*10*	*01-Nov-2019 16:21*
Surr: Toluene-d8	*102*			**0**	*89-112*	*%REC*	*10*	*01-Nov-2019 16:21*
Surr: Toluene-d8	*102*			**0**	*89-112*	*%REC*	*1*	*01-Nov-2019 16:45*

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

ALS Houston, US Date: 04-Nov-19

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant LHAAP-67
Sample ID: 67WW09-191024
Collection Date: 24-Oct-2019 13:55

ANALYTICAL REPORT
WorkOrder:HS19101523
Lab ID:HS19101523-08
Matrix:GW

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	01-Nov-2019 13:57
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 13:57
1,1,2,2-Tetrachloroethane	0.50	U	0.50	0.50	1.0	UG/L	1	01-Nov-2019 13:57
1,1,2-Trichlor-1,2,2-trifluoroethane	0.50	U	0.50	0.50	1.0	UG/L	1	01-Nov-2019 13:57
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 13:57
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 13:57
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 13:57
1,1-Dichloropropene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 13:57
1,2,3-Trichlorobenzene	0.50	U	0.40	0.50	1.0	UG/L	1	01-Nov-2019 13:57
1,2,3-Trichloropropane	0.50	U	0.50	0.50	1.0	UG/L	1	01-Nov-2019 13:57
1,2,4-Trichlorobenzene	0.50	U	0.50	0.50	1.0	UG/L	1	01-Nov-2019 13:57
1,2,4-Trimethylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 13:57
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 13:57
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 13:57
1,2-Dichlorobenzene	0.50	U	0.50	0.50	1.0	UG/L	1	01-Nov-2019 13:57
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 13:57
1,2-Dichloropropane	0.50	U	0.50	0.50	1.0	UG/L	1	01-Nov-2019 13:57
1,3,5-Trimethylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 13:57
1,3-Dichlorobenzene	0.50	U	0.40	0.50	1.0	UG/L	1	01-Nov-2019 13:57
1,3-Dichloropropane	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 13:57
1,4-Dichlorobenzene	0.50	U	0.40	0.50	1.0	UG/L	1	01-Nov-2019 13:57
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 13:57
2-Butanone	1.0	U	0.50	1.0	2.0	UG/L	1	01-Nov-2019 13:57
2-Chlorotoluene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 13:57
2-Hexanone	1.0	U	1.0	1.0	2.0	UG/L	1	01-Nov-2019 13:57
4-Chlorotoluene	0.50	U	0.40	0.50	1.0	UG/L	1	01-Nov-2019 13:57
4-Isopropyltoluene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 13:57
4-Methyl-2-pentanone	1.0	U	0.70	1.0	2.0	UG/L	1	01-Nov-2019 13:57
Acetone	1.0	U	0.40	1.0	2.0	UG/L	1	01-Nov-2019 13:57
Benzene	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 13:57
Bromobenzene	0.50	U	0.40	0.50	1.0	UG/L	1	01-Nov-2019 13:57
Bromochloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 13:57
Bromodichloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 13:57
Bromoform	0.50	U	0.40	0.50	1.0	UG/L	1	01-Nov-2019 13:57
Bromomethane	0.50	U	0.40	0.50	1.0	UG/L	1	01-Nov-2019 13:57
Carbon disulfide	1.0	U	0.60	1.0	2.0	UG/L	1	01-Nov-2019 13:57
Carbon tetrachloride	0.50	U	0.50	0.50	1.0	UG/L	1	01-Nov-2019 13:57
Chlorobenzene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 13:57
Chloroethane	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 13:57

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

ALS Houston, US Date: 04-Nov-19

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: Longhorn Army Ammunition Plant LHAAP-67 WorkOrder:HS19101523
Sample ID: 67WW09-191024 Lab ID:HS19101523-08
Collection Date: 24-Oct-2019 13:55 Matrix:GW

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	01-Nov-2019 13:57
Chloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 13:57
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 13:57
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	UG/L	1	01-Nov-2019 13:57
Dibromochloromethane	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 13:57
Dibromomethane	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 13:57
Dichlorodifluoromethane	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 13:57
Ethylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 13:57
Hexachlorobutadiene	0.50	U	1.0	0.50	1.0	UG/L	1	01-Nov-2019 13:57
Isopropylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 13:57
m,p-Xylene	1.0	U	0.50	1.0	2.0	UG/L	1	01-Nov-2019 13:57
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	01-Nov-2019 13:57
n-Butylbenzene	0.50	U	0.40	0.50	1.0	UG/L	1	01-Nov-2019 13:57
n-Propylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 13:57
Naphthalene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 13:57
o-Xylene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 13:57
sec-Butylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 13:57
Styrene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 13:57
tert-Butylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 13:57
Tetrachloroethene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 13:57
Toluene	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 13:57
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 13:57
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 13:57
Trichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 13:57
Trichlorofluoromethane	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 13:57
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 13:57
Surr: 1,2-Dichloroethane-d4	*92.1*			**0**	*81-118*	*%REC*	*1*	*01-Nov-2019 13:57*
Surr: 4-Bromofluorobenzene	*99.5*			**0**	*85-114*	*%REC*	*1*	*01-Nov-2019 13:57*
Surr: Dibromofluoromethane	*93.7*			**0**	*80-119*	*%REC*	*1*	*01-Nov-2019 13:57*
Surr: Toluene-d8	*102*			**0**	*89-112*	*%REC*	*1*	*01-Nov-2019 13:57*

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

ALS Houston, US Date: 04-Nov-19

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: Longhorn Army Ammunition Plant LHAAP-67 WorkOrder:HS19101523
Sample ID: 67WW11-191024 Lab ID:HS19101523-09
Collection Date: 24-Oct-2019 14:45 Matrix:GW

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	01-Nov-2019 14:21
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 14:21
1,1,2,2-Tetrachloroethane	0.50	U	0.50	0.50	1.0	UG/L	1	01-Nov-2019 14:21
1,1,2-Trichlor-1,2,2-trifluoroethane	0.50	U	0.50	0.50	1.0	UG/L	1	01-Nov-2019 14:21
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 14:21
1,1-Dichloroethane	**1.9**		**0.20**	**0.50**	**1.0**	**UG/L**	1	01-Nov-2019 14:21
1,1-Dichloroethene	**1.9**		**0.20**	**0.50**	**1.0**	**UG/L**	1	01-Nov-2019 14:21
1,1-Dichloropropene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 14:21
1,2,3-Trichlorobenzene	0.50	U	0.40	0.50	1.0	UG/L	1	01-Nov-2019 14:21
1,2,3-Trichloropropane	0.50	U	0.50	0.50	1.0	UG/L	1	01-Nov-2019 14:21
1,2,4-Trichlorobenzene	0.50	U	0.50	0.50	1.0	UG/L	1	01-Nov-2019 14:21
1,2,4-Trimethylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 14:21
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 14:21
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 14:21
1,2-Dichlorobenzene	0.50	U	0.50	0.50	1.0	UG/L	1	01-Nov-2019 14:21
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 14:21
1,2-Dichloropropane	0.50	U	0.50	0.50	1.0	UG/L	1	01-Nov-2019 14:21
1,3,5-Trimethylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 14:21
1,3-Dichlorobenzene	0.50	U	0.40	0.50	1.0	UG/L	1	01-Nov-2019 14:21
1,3-Dichloropropane	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 14:21
1,4-Dichlorobenzene	0.50	U	0.40	0.50	1.0	UG/L	1	01-Nov-2019 14:21
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 14:21
2-Butanone	1.0	U	0.50	1.0	2.0	UG/L	1	01-Nov-2019 14:21
2-Chlorotoluene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 14:21
2-Hexanone	1.0	U	1.0	1.0	2.0	UG/L	1	01-Nov-2019 14:21
4-Chlorotoluene	0.50	U	0.40	0.50	1.0	UG/L	1	01-Nov-2019 14:21
4-Isopropyltoluene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 14:21
4-Methyl-2-pentanone	1.0	U	0.70	1.0	2.0	UG/L	1	01-Nov-2019 14:21
Acetone	1.0	U	0.40	1.0	2.0	UG/L	1	01-Nov-2019 14:21
Benzene	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 14:21
Bromobenzene	0.50	U	0.40	0.50	1.0	UG/L	1	01-Nov-2019 14:21
Bromochloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 14:21
Bromodichloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 14:21
Bromoform	0.50	U	0.40	0.50	1.0	UG/L	1	01-Nov-2019 14:21
Bromomethane	0.50	U	0.40	0.50	1.0	UG/L	1	01-Nov-2019 14:21
Carbon disulfide	1.0	U	0.60	1.0	2.0	UG/L	1	01-Nov-2019 14:21
Carbon tetrachloride	0.50	U	0.50	0.50	1.0	UG/L	1	01-Nov-2019 14:21
Chlorobenzene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 14:21
Chloroethane	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 14:21

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

ALS Houston, US Date: 04-Nov-19

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: Longhorn Army Ammunition Plant LHAAP-67 WorkOrder:HS19101523
Sample ID: 67WW11-191024 Lab ID:HS19101523-09
Collection Date: 24-Oct-2019 14:45 Matrix:GW

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	01-Nov-2019 14:21
Chloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 14:21
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 14:21
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	UG/L	1	01-Nov-2019 14:21
Dibromochloromethane	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 14:21
Dibromomethane	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 14:21
Dichlorodifluoromethane	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 14:21
Ethylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 14:21
Hexachlorobutadiene	0.50	U	1.0	0.50	1.0	UG/L	1	01-Nov-2019 14:21
Isopropylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 14:21
m,p-Xylene	1.0	U	0.50	1.0	2.0	UG/L	1	01-Nov-2019 14:21
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	01-Nov-2019 14:21
n-Butylbenzene	0.50	U	0.40	0.50	1.0	UG/L	1	01-Nov-2019 14:21
n-Propylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 14:21
Naphthalene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 14:21
o-Xylene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 14:21
sec-Butylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 14:21
Styrene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 14:21
tert-Butylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 14:21
Tetrachloroethene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 14:21
Toluene	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 14:21
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 14:21
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 14:21
Trichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 14:21
Trichlorofluoromethane	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 14:21
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 14:21
Surr: 1,2-Dichloroethane-d4	*89.4*			**0**	*81-118*	*%REC*	*1*	*01-Nov-2019 14:21*
Surr: 4-Bromofluorobenzene	*102*			**0**	*85-114*	*%REC*	*1*	*01-Nov-2019 14:21*
Surr: Dibromofluoromethane	*91.4*			**0**	*80-119*	*%REC*	*1*	*01-Nov-2019 14:21*
Surr: Toluene-d8	*99.6*			**0**	*89-112*	*%REC*	*1*	*01-Nov-2019 14:21*

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

ALS Houston, US Date: 04-Nov-19

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: Longhorn Army Ammunition Plant LHAAP-67 WorkOrder:HS19101523
Sample ID: 67WW16I-191024 Lab ID:HS19101523-10
Collection Date: 24-Oct-2019 15:35 Matrix:GW

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	01-Nov-2019 14:45
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 14:45
1,1,2,2-Tetrachloroethane	0.50	U	0.50	0.50	1.0	UG/L	1	01-Nov-2019 14:45
1,1,2-Trichlor-1,2,2-trifluoroethane	0.50	U	0.50	0.50	1.0	UG/L	1	01-Nov-2019 14:45
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 14:45
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 14:45
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 14:45
1,1-Dichloropropene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 14:45
1,2,3-Trichlorobenzene	0.50	U	0.40	0.50	1.0	UG/L	1	01-Nov-2019 14:45
1,2,3-Trichloropropane	0.50	U	0.50	0.50	1.0	UG/L	1	01-Nov-2019 14:45
1,2,4-Trichlorobenzene	0.50	U	0.50	0.50	1.0	UG/L	1	01-Nov-2019 14:45
1,2,4-Trimethylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 14:45
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 14:45
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 14:45
1,2-Dichlorobenzene	0.50	U	0.50	0.50	1.0	UG/L	1	01-Nov-2019 14:45
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 14:45
1,2-Dichloropropane	0.50	U	0.50	0.50	1.0	UG/L	1	01-Nov-2019 14:45
1,3,5-Trimethylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 14:45
1,3-Dichlorobenzene	0.50	U	0.40	0.50	1.0	UG/L	1	01-Nov-2019 14:45
1,3-Dichloropropane	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 14:45
1,4-Dichlorobenzene	0.50	U	0.40	0.50	1.0	UG/L	1	01-Nov-2019 14:45
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 14:45
2-Butanone	1.0	U	0.50	1.0	2.0	UG/L	1	01-Nov-2019 14:45
2-Chlorotoluene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 14:45
2-Hexanone	1.0	U	1.0	1.0	2.0	UG/L	1	01-Nov-2019 14:45
4-Chlorotoluene	0.50	U	0.40	0.50	1.0	UG/L	1	01-Nov-2019 14:45
4-Isopropyltoluene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 14:45
4-Methyl-2-pentanone	1.0	U	0.70	1.0	2.0	UG/L	1	01-Nov-2019 14:45
Acetone	1.0	U	0.40	1.0	2.0	UG/L	1	01-Nov-2019 14:45
Benzene	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 14:45
Bromobenzene	0.50	U	0.40	0.50	1.0	UG/L	1	01-Nov-2019 14:45
Bromochloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 14:45
Bromodichloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 14:45
Bromoform	0.50	U	0.40	0.50	1.0	UG/L	1	01-Nov-2019 14:45
Bromomethane	0.50	U	0.40	0.50	1.0	UG/L	1	01-Nov-2019 14:45
Carbon disulfide	1.0	U	0.60	1.0	2.0	UG/L	1	01-Nov-2019 14:45
Carbon tetrachloride	0.50	U	0.50	0.50	1.0	UG/L	1	01-Nov-2019 14:45
Chlorobenzene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 14:45
Chloroethane	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 14:45

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

ALS Houston, US Date: 04-Nov-19

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: Longhorn Army Ammunition Plant LHAAP-67 WorkOrder:HS19101523
Sample ID: 67WW16I-191024 Lab ID:HS19101523-10
Collection Date: 24-Oct-2019 15:35 Matrix:GW

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	01-Nov-2019 14:45
Chloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 14:45
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 14:45
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	UG/L	1	01-Nov-2019 14:45
Dibromochloromethane	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 14:45
Dibromomethane	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 14:45
Dichlorodifluoromethane	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 14:45
Ethylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 14:45
Hexachlorobutadiene	0.50	U	1.0	0.50	1.0	UG/L	1	01-Nov-2019 14:45
Isopropylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 14:45
m,p-Xylene	1.0	U	0.50	1.0	2.0	UG/L	1	01-Nov-2019 14:45
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	01-Nov-2019 14:45
n-Butylbenzene	0.50	U	0.40	0.50	1.0	UG/L	1	01-Nov-2019 14:45
n-Propylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 14:45
Naphthalene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 14:45
o-Xylene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 14:45
sec-Butylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 14:45
Styrene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 14:45
tert-Butylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 14:45
Tetrachloroethene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 14:45
Toluene	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 14:45
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 14:45
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 14:45
Trichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 14:45
Trichlorofluoromethane	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 14:45
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 14:45
Surr: 1,2-Dichloroethane-d4	*91.0*			**0**	*81-118*	*%REC*	*1*	*01-Nov-2019 14:45*
Surr: 4-Bromofluorobenzene	*101*			**0**	*85-114*	*%REC*	*1*	*01-Nov-2019 14:45*
Surr: Dibromofluoromethane	*93.6*			**0**	*80-119*	*%REC*	*1*	*01-Nov-2019 14:45*
Surr: Toluene-d8	*101*			**0**	*89-112*	*%REC*	*1*	*01-Nov-2019 14:45*

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

ALS Houston, US Date: 04-Nov-19

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant LHAAP-67
Sample ID: 67WW01-191024
Collection Date: 24-Oct-2019 16:25

ANALYTICAL REPORT
WorkOrder:HS19101523
Lab ID:HS19101523-11
Matrix:GW

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	01-Nov-2019 15:09
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 15:09
1,1,2,2-Tetrachloroethane	0.50	U	0.50	0.50	1.0	UG/L	1	01-Nov-2019 15:09
1,1,2-Trichlor-1,2,2-trifluoroethane	0.50	U	0.50	0.50	1.0	UG/L	1	01-Nov-2019 15:09
1,1,2-Trichloroethane	**0.53**	J	**0.30**	**0.50**	**1.0**	**UG/L**	1	01-Nov-2019 15:09
1,1-Dichloroethane	**3.4**		**0.20**	**0.50**	**1.0**	**UG/L**	1	01-Nov-2019 15:09
1,1-Dichloroethene	**70**		**0.20**	**0.50**	**1.0**	**UG/L**	1	01-Nov-2019 15:09
1,1-Dichloropropene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 15:09
1,2,3-Trichlorobenzene	0.50	U	0.40	0.50	1.0	UG/L	1	01-Nov-2019 15:09
1,2,3-Trichloropropane	0.50	U	0.50	0.50	1.0	UG/L	1	01-Nov-2019 15:09
1,2,4-Trichlorobenzene	0.50	U	0.50	0.50	1.0	UG/L	1	01-Nov-2019 15:09
1,2,4-Trimethylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 15:09
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 15:09
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 15:09
1,2-Dichlorobenzene	0.50	U	0.50	0.50	1.0	UG/L	1	01-Nov-2019 15:09
1,2-Dichloroethane	**7.6**		**0.20**	**0.50**	**1.0**	**UG/L**	1	01-Nov-2019 15:09
1,2-Dichloropropane	0.50	U	0.50	0.50	1.0	UG/L	1	01-Nov-2019 15:09
1,3,5-Trimethylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 15:09
1,3-Dichlorobenzene	0.50	U	0.40	0.50	1.0	UG/L	1	01-Nov-2019 15:09
1,3-Dichloropropane	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 15:09
1,4-Dichlorobenzene	0.50	U	0.40	0.50	1.0	UG/L	1	01-Nov-2019 15:09
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 15:09
2-Butanone	1.0	U	0.50	1.0	2.0	UG/L	1	01-Nov-2019 15:09
2-Chlorotoluene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 15:09
2-Hexanone	1.0	U	1.0	1.0	2.0	UG/L	1	01-Nov-2019 15:09
4-Chlorotoluene	0.50	U	0.40	0.50	1.0	UG/L	1	01-Nov-2019 15:09
4-Isopropyltoluene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 15:09
4-Methyl-2-pentanone	1.0	U	0.70	1.0	2.0	UG/L	1	01-Nov-2019 15:09
Acetone	1.0	U	0.40	1.0	2.0	UG/L	1	01-Nov-2019 15:09
Benzene	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 15:09
Bromobenzene	0.50	U	0.40	0.50	1.0	UG/L	1	01-Nov-2019 15:09
Bromochloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 15:09
Bromodichloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 15:09
Bromoform	0.50	U	0.40	0.50	1.0	UG/L	1	01-Nov-2019 15:09
Bromomethane	0.50	U	0.40	0.50	1.0	UG/L	1	01-Nov-2019 15:09
Carbon disulfide	1.0	U	0.60	1.0	2.0	UG/L	1	01-Nov-2019 15:09
Carbon tetrachloride	0.50	U	0.50	0.50	1.0	UG/L	1	01-Nov-2019 15:09
Chlorobenzene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 15:09
Chloroethane	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 15:09

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

ALS Houston, US Date: 04-Nov-19

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: Longhorn Army Ammunition Plant LHAAP-67 WorkOrder:HS19101523
Sample ID: 67WW01-191024 Lab ID:HS19101523-11
Collection Date: 24-Oct-2019 16:25 Matrix:GW

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	01-Nov-2019 15:09
Chloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 15:09
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 15:09
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	UG/L	1	01-Nov-2019 15:09
Dibromochloromethane	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 15:09
Dibromomethane	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 15:09
Dichlorodifluoromethane	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 15:09
Ethylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 15:09
Hexachlorobutadiene	0.50	U	1.0	0.50	1.0	UG/L	1	01-Nov-2019 15:09
Isopropylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 15:09
m,p-Xylene	1.0	U	0.50	1.0	2.0	UG/L	1	01-Nov-2019 15:09
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	01-Nov-2019 15:09
n-Butylbenzene	0.50	U	0.40	0.50	1.0	UG/L	1	01-Nov-2019 15:09
n-Propylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 15:09
Naphthalene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 15:09
o-Xylene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 15:09
sec-Butylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 15:09
Styrene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 15:09
tert-Butylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 15:09
Tetrachloroethene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 15:09
Toluene	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 15:09
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 15:09
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 15:09
Trichloroethene	**0.53**	J	**0.20**	**0.50**	**1.0**	**UG/L**	1	01-Nov-2019 15:09
Trichlorofluoromethane	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 15:09
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 15:09
Surr: 1,2-Dichloroethane-d4	*91.6*			**0**	*81-118*	*%REC*	*1*	*01-Nov-2019 15:09*
Surr: 4-Bromofluorobenzene	*102*			**0**	*85-114*	*%REC*	*1*	*01-Nov-2019 15:09*
Surr: Dibromofluoromethane	*92.2*			**0**	*80-119*	*%REC*	*1*	*01-Nov-2019 15:09*
Surr: Toluene-d8	*99.4*			**0**	*89-112*	*%REC*	*1*	*01-Nov-2019 15:09*

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

ALS Houston, US Date: 04-Nov-19

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: Longhorn Army Ammunition Plant LHAAP-67 WorkOrder:HS19101523
Sample ID: Trip Blank Lab ID:HS19101523-12
Collection Date: 24-Oct-2019 00:00 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
1,1,1,2-Tetrachloroethane	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 13:33
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 13:33
1,1,2,2-Tetrachloroethane	0.50	U	0.50	0.50	1.0	UG/L	1	01-Nov-2019 13:33
1,1,2-Trichlor-1,2,2-trifluoroethane	0.50	U	0.50	0.50	1.0	UG/L	1	01-Nov-2019 13:33
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 13:33
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 13:33
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 13:33
1,1-Dichloropropene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 13:33
1,2,3-Trichlorobenzene	0.50	U	0.40	0.50	1.0	UG/L	1	01-Nov-2019 13:33
1,2,3-Trichloropropane	0.50	U	0.50	0.50	1.0	UG/L	1	01-Nov-2019 13:33
1,2,4-Trichlorobenzene	0.50	U	0.50	0.50	1.0	UG/L	1	01-Nov-2019 13:33
1,2,4-Trimethylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 13:33
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 13:33
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 13:33
1,2-Dichlorobenzene	0.50	U	0.50	0.50	1.0	UG/L	1	01-Nov-2019 13:33
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 13:33
1,2-Dichloropropane	0.50	U	0.50	0.50	1.0	UG/L	1	01-Nov-2019 13:33
1,3,5-Trimethylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 13:33
1,3-Dichlorobenzene	0.50	U	0.40	0.50	1.0	UG/L	1	01-Nov-2019 13:33
1,3-Dichloropropane	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 13:33
1,4-Dichlorobenzene	0.50	U	0.40	0.50	1.0	UG/L	1	01-Nov-2019 13:33
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 13:33
2-Butanone	1.0	U	0.50	1.0	2.0	UG/L	1	01-Nov-2019 13:33
2-Chlorotoluene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 13:33
2-Hexanone	1.0	U	1.0	1.0	2.0	UG/L	1	01-Nov-2019 13:33
4-Chlorotoluene	0.50	U	0.40	0.50	1.0	UG/L	1	01-Nov-2019 13:33
4-Isopropyltoluene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 13:33
4-Methyl-2-pentanone	1.0	U	0.70	1.0	2.0	UG/L	1	01-Nov-2019 13:33
Acetone	**31**		**0.40**	**1.0**	**2.0**	**UG/L**	1	01-Nov-2019 13:33
Benzene	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 13:33
Bromobenzene	0.50	U	0.40	0.50	1.0	UG/L	1	01-Nov-2019 13:33
Bromochloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 13:33
Bromodichloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 13:33
Bromoform	0.50	U	0.40	0.50	1.0	UG/L	1	01-Nov-2019 13:33
Bromomethane	0.50	U	0.40	0.50	1.0	UG/L	1	01-Nov-2019 13:33
Carbon disulfide	1.0	U	0.60	1.0	2.0	UG/L	1	01-Nov-2019 13:33
Carbon tetrachloride	0.50	U	0.50	0.50	1.0	UG/L	1	01-Nov-2019 13:33
Chlorobenzene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 13:33
Chloroethane	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 13:33

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

ALS Houston, US Date: 04-Nov-19

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: Longhorn Army Ammunition Plant LHAAP-67 WorkOrder:HS19101523
Sample ID: Trip Blank Lab ID:HS19101523-12
Collection Date: 24-Oct-2019 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	01-Nov-2019 13:33
Chloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 13:33
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 13:33
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	UG/L	1	01-Nov-2019 13:33
Dibromochloromethane	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 13:33
Dibromomethane	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 13:33
Dichlorodifluoromethane	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 13:33
Ethylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 13:33
Hexachlorobutadiene	0.50	U	1.0	0.50	1.0	UG/L	1	01-Nov-2019 13:33
Isopropylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 13:33
m,p-Xylene	1.0	U	0.50	1.0	2.0	UG/L	1	01-Nov-2019 13:33
Methylene chloride	**1.2**	J	**0.40**	**1.0**	**2.0**	**UG/L**	1	01-Nov-2019 13:33
n-Butylbenzene	0.50	U	0.40	0.50	1.0	UG/L	1	01-Nov-2019 13:33
n-Propylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 13:33
Naphthalene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 13:33
o-Xylene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 13:33
sec-Butylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 13:33
Styrene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 13:33
tert-Butylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 13:33
Tetrachloroethene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 13:33
Toluene	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 13:33
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 13:33
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 13:33
Trichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 13:33
Trichlorofluoromethane	**1.5**		**0.30**	**0.50**	**1.0**	**UG/L**	1	01-Nov-2019 13:33
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 13:33
Surr: 1,2-Dichloroethane-d4	*91.2*			**0**	*81-118*	*%REC*	*1*	*01-Nov-2019 13:33*
Surr: 4-Bromofluorobenzene	*102*			**0**	*85-114*	*%REC*	*1*	*01-Nov-2019 13:33*
Surr: Dibromofluoromethane	*93.0*			**0**	*80-119*	*%REC*	*1*	*01-Nov-2019 13:33*
Surr: Toluene-d8	*101*			**0**	*89-112*	*%REC*	*1*	*01-Nov-2019 13:33*

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

ALS Houston, US Date: 04-Nov-19

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant LHAAP-67
WorkOrder: HS19101523

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: R349596 (0)	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C				**Matrix:** GW	
HS19101523-01	67WW14-191024	24 Oct 2019 08:45			31 Oct 2019 19:32	1
HS19101523-02	67WW05-191024	24 Oct 2019 09:30			31 Oct 2019 19:56	1
HS19101523-03	67WW18-191024	24 Oct 2019 10:25			31 Oct 2019 20:20	1
HS19101523-04	67WW18-191024-FD	24 Oct 2019 10:25			31 Oct 2019 20:44	1
HS19101523-05	67WW17-191024	24 Oct 2019 11:15			31 Oct 2019 19:08	1
HS19101523-06	67WW02-191024	24 Oct 2019 12:05			31 Oct 2019 21:08	1
Batch ID: R349684 (0)	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C				**Matrix:** Water	
HS19101523-12	Trip Blank	24 Oct 2019 00:00			01 Nov 2019 13:33	1
Batch ID: R349684 (0)	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C				**Matrix:** GW	
HS19101523-07	67WW15-191024	24 Oct 2019 13:00			01 Nov 2019 16:45	1
HS19101523-07	67WW15-191024	24 Oct 2019 13:00			01 Nov 2019 16:21	10
HS19101523-08	67WW09-191024	24 Oct 2019 13:55			01 Nov 2019 13:57	1
HS19101523-09	67WW11-191024	24 Oct 2019 14:45			01 Nov 2019 14:21	1
HS19101523-10	67WW16I-191024	24 Oct 2019 15:35			01 Nov 2019 14:45	1
HS19101523-11	67WW01-191024	24 Oct 2019 16:25			01 Nov 2019 15:09	1

ALS Houston, US Date: 04-Nov-19

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant LHAAP-67
WorkOrder: HS19101523

QC BATCH REPORT

Batch ID: R349596 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MBLK Sample ID: **VBLKW-191031** Units: **UG/L** Analysis Date: **31-Oct-2019 18:20**
Client ID: Run ID: **VOA6_349596** SeqNo: **5324840** 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-Nov-19

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant LHAAP-67
WorkOrder: HS19101523

QC BATCH REPORT

Batch ID: R349596 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MBLK Sample ID: **VBLKW-191031** Units: **UG/L** Analysis Date: **31-Oct-2019 18:20**
Client ID: Run ID: **VOA6_349596** SeqNo: **5324840** 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	*44.62*	*1.0*	*50*	*0*	*89.2*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*50.01*	*1.0*	*50*	*0*	*100*	*85 - 114*				
Surr: Dibromofluoromethane	*46.39*	*1.0*	*50*	*0*	*92.8*	*80 - 119*				

ALS Houston, US Date: 04-Nov-19

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant LHAAP-67
WorkOrder: HS19101523

QC BATCH REPORT

Batch ID: R349596 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MBLK Sample ID: **VBLKW-191031** Units: **UG/L** Analysis Date: **31-Oct-2019 18:20**
Client ID: Run ID: **VOA6_349596** SeqNo: **5324840** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Surr: Toluene-d8	*50.42*	*1.0*	*50*	*0*	*101*	*89 - 112*				

ALS Houston, US Date: 04-Nov-19

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant LHAAP-67
WorkOrder: HS19101523

QC BATCH REPORT

Batch ID: R349596 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

LCS Sample ID: **VLCSW-191031** Units: **UG/L** Analysis Date: **31-Oct-2019 17:08**
Client ID: Run ID: **VOA6_349596** SeqNo: **5324839** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	17.98	1.0	20	0	89.9	78 - 124				
1,1,1-Trichloroethane	18.98	1.0	20	0	94.9	74 - 131				
1,1,2,2-Tetrachloroethane	19.25	1.0	20	0	96.2	71 - 121				
1,1,2-Trichlor-1,2,2-trifluoroethane	16.7	1.0	20	0	83.5	70 - 136				
1,1,2-Trichloroethane	19.69	1.0	20	0	98.5	80 - 119				
1,1-Dichloroethane	19.19	1.0	20	0	96.0	77 - 125				
1,1-Dichloroethene	18.72	1.0	20	0	93.6	71 - 131				
1,1-Dichloropropene	18.3	1.0	20	0	91.5	78 - 125				
1,2,3-Trichlorobenzene	27.06	1.0	20	0	135	69 - 129				S
1,2,3-Trichloropropane	19.36	1.0	20	0	96.8	73 - 122				
1,2,4-Trichlorobenzene	19.43	1.0	20	0	97.1	69 - 130				
1,2,4-Trimethylbenzene	16.81	1.0	20	0	84.1	76 - 124				
1,2-Dibromo-3-chloropropane	18.83	1.0	20	0	94.1	62 - 128				
1,2-Dibromoethane	19.77	1.0	20	0	98.9	77 - 121				
1,2-Dichlorobenzene	16.84	1.0	20	0	84.2	80 - 119				
1,2-Dichloroethane	19.53	1.0	20	0	97.6	73 - 128				
1,2-Dichloropropane	18.57	1.0	20	0	92.9	78 - 122				
1,3,5-Trimethylbenzene	16.85	1.0	20	0	84.3	75 - 124				
1,3-Dichlorobenzene	16.81	1.0	20	0	84.1	80 - 119				
1,3-Dichloropropane	19.2	1.0	20	0	96.0	80 - 119				
1,4-Dichlorobenzene	16.8	1.0	20	0	84.0	79 - 118				
2,2-Dichloropropane	18.98	1.0	20	0	94.9	60 - 139				
2-Butanone	38.61	2.0	40	0	96.5	56 - 143				
2-Chlorotoluene	16.92	1.0	20	0	84.6	79 - 122				
2-Hexanone	37.84	2.0	40	0	94.6	57 - 139				
4-Chlorotoluene	17.09	1.0	20	0	85.5	78 - 122				
4-Isopropyltoluene	16.54	1.0	20	0	82.7	77 - 127				
4-Methyl-2-pentanone	36.92	2.0	40	0	92.3	67 - 130				
Acetone	40.72	2.0	40	0	102	39 - 160				
Benzene	19.32	1.0	20	0	96.6	79 - 120				
Bromobenzene	17.75	1.0	20	0	88.7	80 - 120				
Bromochloromethane	19.1	1.0	20	0	95.5	78 - 123				
Bromodichloromethane	19.61	1.0	20	0	98.1	79 - 125				
Bromoform	18.93	1.0	20	0	94.6	66 - 130				

ALS Houston, US Date: 04-Nov-19

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant LHAAP-67
WorkOrder: HS19101523

QC BATCH REPORT

Batch ID: R349596 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

LCS Sample ID: **VLCSW-191031** Units: **UG/L** Analysis Date: **31-Oct-2019 17:08**
Client ID: Run ID: **VOA6_349596** SeqNo: **5324839** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromomethane	19.07	1.0	20	0	95.4	53 - 141				
Carbon disulfide	38.81	2.0	40	0	97.0	64 - 133				
Carbon tetrachloride	17.25	1.0	20	0	86.3	72 - 136				
Chlorobenzene	18.35	1.0	20	0	91.7	82 - 118				
Chloroethane	18.82	1.0	20	0	94.1	60 - 138				
Chloroform	19.61	1.0	20	0	98.1	79 - 124				
Chloromethane	18.81	1.0	20	0	94.0	50 - 139				
cis-1,2-Dichloroethene	20.03	1.0	20	0	100	78 - 123				
cis-1,3-Dichloropropene	19.53	1.0	20	0	97.7	75 - 124				
Dibromochloromethane	18.9	1.0	20	0	94.5	74 - 126				
Dibromomethane	19.47	1.0	20	0	97.3	79 - 123				
Dichlorodifluoromethane	18.26	1.0	20	0	91.3	32 - 152				
Ethylbenzene	17.39	1.0	20	0	87.0	79 - 121				
Hexachlorobutadiene	20.02	1.0	20	0	100	66 - 134				
Isopropylbenzene	16.73	1.0	20	0	83.7	72 - 131				
m,p-Xylene	35.18	2.0	40	0	88.0	80 - 121				
Methylene chloride	19.72	2.0	20	0	98.6	74 - 124				
Naphthalene	23.78	1.0	20	0	119	61 - 128				
n-Butylbenzene	17.07	1.0	20	0	85.4	75 - 128				
n-Propylbenzene	16.09	1.0	20	0	80.5	76 - 126				
o-Xylene	17.48	1.0	20	0	87.4	78 - 122				
sec-Butylbenzene	16.2	1.0	20	0	81.0	77 - 126				
Styrene	18.06	1.0	20	0	90.3	78 - 123				
tert-Butylbenzene	16.1	1.0	20	0	80.5	78 - 124				
Tetrachloroethene	17.52	1.0	20	0	87.6	74 - 129				
Toluene	18.25	1.0	20	0	91.3	80 - 121				
trans-1,2-Dichloroethene	20.46	1.0	20	0	102	75 - 124				
trans-1,3-Dichloropropene	19.92	1.0	20	0	99.6	73 - 127				
Trichloroethene	19.17	1.0	20	0	95.9	79 - 123				
Trichlorofluoromethane	17.89	1.0	20	0	89.5	65 - 141				
Vinyl chloride	18.99	1.0	20	0	95.0	58 - 137				
Surr: 1,2-Dichloroethane-d4	*51.06*	*1.0*	*50*	*0*	*102*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*51.86*	*1.0*	*50*	*0*	*104*	*85 - 114*				
Surr: Dibromofluoromethane	*50.66*	*1.0*	*50*	*0*	*101*	*80 - 119*				

ALS Houston, US Date: 04-Nov-19

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant LHAAP-67
WorkOrder: HS19101523

QC BATCH REPORT

Batch ID: R349596 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

LCS Sample ID: **VLCSW-191031** Units: **UG/L** Analysis Date: **31-Oct-2019 17:08**
Client ID: Run ID: **VOA6_349596** SeqNo: **5324839** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Surr: Toluene-d8	*48.85*	*1.0*	*50*	*0*	*97.7*	*89 - 112*				

ALS Houston, US Date: 04-Nov-19

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant LHAAP-67
WorkOrder: HS19101523

QC BATCH REPORT

Batch ID: R349596 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS19101523-05MS** Units: **UG/L** Analysis Date: **31-Oct-2019 21:32**
Client ID: **67WW17-191024** Run ID: **VOA6_349596** SeqNo: **5324848** 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	18.66	1.0	20	0	93.3	78 - 124				
1,1,1-Trichloroethane	18.58	1.0	20	0	92.9	74 - 131				
1,1,2,2-Tetrachloroethane	19.98	1.0	20	0	99.9	71 - 121				
1,1,2-Trichlor-1,2,2-trifluoroethane	18.38	1.0	20	0	91.9	70 - 136				
1,1,2-Trichloroethane	19.27	1.0	20	0	96.4	80 - 119				
1,1-Dichloroethane	17.67	1.0	20	0	88.4	77 - 125				
1,1-Dichloroethene	18.2	1.0	20	0	91.0	71 - 131				
1,1-Dichloropropene	19.46	1.0	20	0	97.3	78 - 125				
1,2,3-Trichlorobenzene	20.81	1.0	20	0	104	69 - 129				
1,2,3-Trichloropropane	20.06	1.0	20	0	100	73 - 122				
1,2,4-Trichlorobenzene	18.65	1.0	20	0	93.2	69 - 130				
1,2,4-Trimethylbenzene	20.77	1.0	20	0	104	76 - 124				
1,2-Dibromo-3-chloropropane	20.26	1.0	20	0	101	62 - 128				
1,2-Dibromoethane	19.39	1.0	20	0	97.0	77 - 121				
1,2-Dichlorobenzene	19.77	1.0	20	0	98.8	80 - 119				
1,2-Dichloroethane	18.29	1.0	20	0	91.4	73 - 128				
1,2-Dichloropropane	17.97	1.0	20	0	89.9	78 - 122				
1,3,5-Trimethylbenzene	21.22	1.0	20	0	106	75 - 124				
1,3-Dichlorobenzene	19.97	1.0	20	0	99.8	80 - 119				
1,3-Dichloropropane	18.96	1.0	20	0	94.8	80 - 119				
1,4-Dichlorobenzene	19.76	1.0	20	0	98.8	79 - 118				
2,2-Dichloropropane	17.41	1.0	20	0	87.0	60 - 139				
2-Butanone	30.1	2.0	40	0	75.2	56 - 143				
2-Chlorotoluene	20.82	1.0	20	0	104	79 - 122				
2-Hexanone	35.05	2.0	40	0	87.6	57 - 139				
4-Chlorotoluene	20.49	1.0	20	0	102	78 - 122				
4-Isopropyltoluene	21.32	1.0	20	0	107	77 - 127				
4-Methyl-2-pentanone	34.7	2.0	40	0	86.8	67 - 130				
Acetone	26.2	2.0	40	0	65.5	39 - 160				
Benzene	18.63	1.0	20	0	93.1	79 - 120				
Bromobenzene	20.22	1.0	20	0	101	80 - 120				
Bromochloromethane	17.56	1.0	20	0	87.8	78 - 123				
Bromodichloromethane	19.3	1.0	20	0	96.5	79 - 125				
Bromoform	21.3	1.0	20	2.289	95.0	66 - 130				

ALS Houston, US Date: 04-Nov-19

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant LHAAP-67
WorkOrder: HS19101523

QC BATCH REPORT

Batch ID: R349596 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS19101523-05MS** Units: **UG/L** Analysis Date: **31-Oct-2019 21:32**
Client ID: **67WW17-191024** Run ID: **VOA6_349596** SeqNo: **5324848** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromomethane	20.63	1.0	20	0	103	53 - 141				
Carbon disulfide	37.26	2.0	40	0	93.1	64 - 133				
Carbon tetrachloride	19.14	1.0	20	0	95.7	72 - 136				
Chlorobenzene	19.33	1.0	20	0	96.6	82 - 118				
Chloroethane	17.57	1.0	20	0	87.8	60 - 138				
Chloroform	18.07	1.0	20	0	90.4	79 - 124				
Chloromethane	17.45	1.0	20	0	87.2	50 - 139				
cis-1,2-Dichloroethene	18.34	1.0	20	0	91.7	78 - 123				
cis-1,3-Dichloropropene	18.25	1.0	20	0	91.2	75 - 124				
Dibromochloromethane	20.81	1.0	20	2.174	93.2	74 - 126				
Dibromomethane	18.96	1.0	20	0.7208	91.2	79 - 123				
Dichlorodifluoromethane	17.37	1.0	20	0	86.8	32 - 152				
Ethylbenzene	19.97	1.0	20	0	99.9	79 - 121				
Hexachlorobutadiene	19.76	1.0	20	0	98.8	66 - 134				
Isopropylbenzene	20.42	1.0	20	0	102	72 - 131				
m,p-Xylene	40.62	2.0	40	0	102	80 - 121				
Methylene chloride	17.71	2.0	20	0	88.6	74 - 124				
Naphthalene	20.6	1.0	20	0	103	61 - 128				
n-Butylbenzene	21.93	1.0	20	0	110	75 - 128				
n-Propylbenzene	21.16	1.0	20	0	106	76 - 126				
o-Xylene	19.63	1.0	20	0	98.2	78 - 122				
sec-Butylbenzene	21.65	1.0	20	0	108	77 - 126				
Styrene	19.76	1.0	20	0	98.8	78 - 123				
tert-Butylbenzene	21.24	1.0	20	0	106	78 - 124				
Tetrachloroethene	20.72	1.0	20	0	104	74 - 129				
Toluene	19.95	1.0	20	0	99.7	80 - 121				
trans-1,2-Dichloroethene	19.23	1.0	20	0	96.2	75 - 124				
trans-1,3-Dichloropropene	17.94	1.0	20	0	89.7	73 - 127				
Trichloroethene	19.25	1.0	20	0	96.2	79 - 123				
Trichlorofluoromethane	18.02	1.0	20	0	90.1	65 - 141				
Vinyl chloride	18.19	1.0	20	0	90.9	58 - 137				
Surr: 1,2-Dichloroethane-d4	*44.7*	*1.0*	*50*	*0*	*89.4*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*49.7*	*1.0*	*50*	*0*	*99.4*	*85 - 114*				
Surr: Dibromofluoromethane	*46.57*	*1.0*	*50*	*0*	*93.1*	*80 - 119*				

ALS Houston, US Date: 04-Nov-19

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant LHAAP-67
WorkOrder: HS19101523

QC BATCH REPORT

Batch ID: R349596 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS19101523-05MS** Units: **UG/L** Analysis Date: **31-Oct-2019 21:32**
Client ID: **67WW17-191024** Run ID: **VOA6_349596** SeqNo: **5324848** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Surr: Toluene-d8	*51.02*	*1.0*	*50*	*0*	*102*	*89 - 112*				

ALS Houston, US Date: 04-Nov-19

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant LHAAP-67
WorkOrder: HS19101523

QC BATCH REPORT

Batch ID: R349596 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS19101523-05MSD** Units: **UG/L** Analysis Date: **31-Oct-2019 21:56**
Client ID: **67WW17-191024** Run ID: **VOA6_349596** SeqNo: **5324849** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	18.78	1.0	20	0	93.9	78 - 124	18.66	0.645	20	
1,1,1-Trichloroethane	18.3	1.0	20	0	91.5	74 - 131	18.58	1.51	20	
1,1,2,2-Tetrachloroethane	18.98	1.0	20	0	94.9	71 - 121	19.98	5.16	20	
1,1,2-Trichlor-1,2,2-trifluoroethane	18.6	1.0	20	0	93.0	70 - 136	18.38	1.2	20	
1,1,2-Trichloroethane	19	1.0	20	0	95.0	80 - 119	19.27	1.44	20	
1,1-Dichloroethane	17.5	1.0	20	0	87.5	77 - 125	17.67	1.01	20	
1,1-Dichloroethene	17.83	1.0	20	0	89.1	71 - 131	18.2	2.06	20	
1,1-Dichloropropene	18.97	1.0	20	0	94.8	78 - 125	19.46	2.53	20	
1,2,3-Trichlorobenzene	20.91	1.0	20	0	105	69 - 129	20.81	0.473	20	
1,2,3-Trichloropropane	19.09	1.0	20	0	95.5	73 - 122	20.06	4.91	20	
1,2,4-Trichlorobenzene	18.8	1.0	20	0	94.0	69 - 130	18.65	0.834	20	
1,2,4-Trimethylbenzene	19.94	1.0	20	0	99.7	76 - 124	20.77	4.09	20	
1,2-Dibromo-3-chloropropane	19.05	1.0	20	0	95.3	62 - 128	20.26	6.17	20	
1,2-Dibromoethane	19.12	1.0	20	0	95.6	77 - 121	19.39	1.4	20	
1,2-Dichlorobenzene	18.59	1.0	20	0	92.9	80 - 119	19.77	6.13	20	
1,2-Dichloroethane	18.49	1.0	20	0	92.4	73 - 128	18.29	1.08	20	
1,2-Dichloropropane	17.63	1.0	20	0	88.1	78 - 122	17.97	1.94	20	
1,3,5-Trimethylbenzene	20.05	1.0	20	0	100	75 - 124	21.22	5.64	20	
1,3-Dichlorobenzene	19.04	1.0	20	0	95.2	80 - 119	19.97	4.75	20	
1,3-Dichloropropane	19.09	1.0	20	0	95.5	80 - 119	18.96	0.727	20	
1,4-Dichlorobenzene	19.18	1.0	20	0	95.9	79 - 118	19.76	3.01	20	
2,2-Dichloropropane	16.75	1.0	20	0	83.7	60 - 139	17.41	3.87	20	
2-Butanone	29.32	2.0	40	0	73.3	56 - 143	30.1	2.64	20	
2-Chlorotoluene	19.78	1.0	20	0	98.9	79 - 122	20.82	5.12	20	
2-Hexanone	34.03	2.0	40	0	85.1	57 - 139	35.05	2.96	20	
4-Chlorotoluene	19.64	1.0	20	0	98.2	78 - 122	20.49	4.28	20	
4-Isopropyltoluene	20.48	1.0	20	0	102	77 - 127	21.32	3.99	20	
4-Methyl-2-pentanone	34.76	2.0	40	0	86.9	67 - 130	34.7	0.153	20	
Acetone	26.04	2.0	40	0	65.1	39 - 160	26.2	0.623	20	
Benzene	18.46	1.0	20	0	92.3	79 - 120	18.63	0.882	20	
Bromobenzene	19.2	1.0	20	0	96.0	80 - 120	20.22	5.2	20	
Bromochloromethane	17.16	1.0	20	0	85.8	78 - 123	17.56	2.32	20	
Bromodichloromethane	19.42	1.0	20	0	97.1	79 - 125	19.3	0.645	20	
Bromoform	20.78	1.0	20	2.289	92.5	66 - 130	21.3	2.43	20	

ALS Houston, US Date: 04-Nov-19

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant LHAAP-67
WorkOrder: HS19101523

QC BATCH REPORT

Batch ID: R349596 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS19101523-05MSD** Units: **UG/L** Analysis Date: **31-Oct-2019 21:56**
Client ID: **67WW17-191024** Run ID: **VOA6_349596** SeqNo: **5324849** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Bromomethane	19.48	1.0	20	0	97.4	53 - 141	20.63	5.72	20	
Carbon disulfide	36.02	2.0	40	0	90.1	64 - 133	37.26	3.37	20	
Carbon tetrachloride	18.75	1.0	20	0	93.8	72 - 136	19.14	2.05	20	
Chlorobenzene	19.16	1.0	20	0	95.8	82 - 118	19.33	0.867	20	
Chloroethane	17.14	1.0	20	0	85.7	60 - 138	17.57	2.45	20	
Chloroform	17.82	1.0	20	0	89.1	79 - 124	18.07	1.45	20	
Chloromethane	17.29	1.0	20	0	86.5	50 - 139	17.45	0.887	20	
cis-1,2-Dichloroethene	18.25	1.0	20	0	91.3	78 - 123	18.34	0.472	20	
cis-1,3-Dichloropropene	18.15	1.0	20	0	90.8	75 - 124	18.25	0.531	20	
Dibromochloromethane	20.68	1.0	20	2.174	92.5	74 - 126	20.81	0.626	20	
Dibromomethane	19.15	1.0	20	0.7208	92.1	79 - 123	18.96	0.978	20	
Dichlorodifluoromethane	16.92	1.0	20	0	84.6	32 - 152	17.37	2.63	20	
Ethylbenzene	19.84	1.0	20	0	99.2	79 - 121	19.97	0.684	20	
Hexachlorobutadiene	19.89	1.0	20	0	99.5	66 - 134	19.76	0.66	20	
Isopropylbenzene	19.92	1.0	20	0	99.6	72 - 131	20.42	2.47	20	
m,p-Xylene	39.11	2.0	40	0	97.8	80 - 121	40.62	3.78	20	
Methylene chloride	17.61	2.0	20	0	88.1	74 - 124	17.71	0.57	20	
Naphthalene	19.53	1.0	20	0	97.6	61 - 128	20.6	5.32	20	
n-Butylbenzene	21.05	1.0	20	0	105	75 - 128	21.93	4.13	20	
n-Propylbenzene	20.14	1.0	20	0	101	76 - 126	21.16	4.95	20	
o-Xylene	19.57	1.0	20	0	97.9	78 - 122	19.63	0.309	20	
sec-Butylbenzene	20.88	1.0	20	0	104	77 - 126	21.65	3.63	20	
Styrene	19.38	1.0	20	0	96.9	78 - 123	19.76	1.92	20	
tert-Butylbenzene	20.32	1.0	20	0	102	78 - 124	21.24	4.39	20	
Tetrachloroethene	20.68	1.0	20	0	103	74 - 129	20.72	0.18	20	
Toluene	19.37	1.0	20	0	96.8	80 - 121	19.95	2.93	20	
trans-1,2-Dichloroethene	18.33	1.0	20	0	91.6	75 - 124	19.23	4.82	20	
trans-1,3-Dichloropropene	18.15	1.0	20	0	90.8	73 - 127	17.94	1.19	20	
Trichloroethene	19.06	1.0	20	0	95.3	79 - 123	19.25	0.984	20	
Trichlorofluoromethane	17.91	1.0	20	0	89.5	65 - 141	18.02	0.616	20	
Vinyl chloride	17.9	1.0	20	0	89.5	58 - 137	18.19	1.59	20	
Surr: 1,2-Dichloroethane-d4	*45.36*	*1.0*	*50*	*0*	*90.7*	*81 - 118*	*44.7*	*1.45*	*20*	
Surr: 4-Bromofluorobenzene	*50.32*	*1.0*	*50*	*0*	*101*	*85 - 114*	*49.7*	*1.24*	*20*	
Surr: Dibromofluoromethane	*46.34*	*1.0*	*50*	*0*	*92.7*	*80 - 119*	*46.57*	*0.486*	*20*	

ALS Houston, US Date: 04-Nov-19

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant LHAAP-67
WorkOrder: HS19101523

QC BATCH REPORT

Batch ID: R349596 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS19101523-05MSD** Units: **UG/L** Analysis Date: **31-Oct-2019 21:56**
Client ID: **67WW17-191024** Run ID: **VOA6_349596** SeqNo: **5324849** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Surr: Toluene-d8	*50.56*	*1.0*	*50*	*0*	*101*	*89 - 112*	*51.02*	*0.908*	*20*	

The following samples were analyzed in this batch: HS19101523-01 HS19101523-02 HS19101523-03 HS19101523-04 HS19101523-05 HS19101523-06

ALS Houston, US Date: 04-Nov-19

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant LHAAP-67
WorkOrder: HS19101523

QC BATCH REPORT

Batch ID: R349684 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MBLK Sample ID: **VBLKW-191101** Units: **UG/L** Analysis Date: **01-Nov-2019 13:09**
Client ID: Run ID: **VOA6_349684** SeqNo: **5326938** 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-Nov-19

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant LHAAP-67
WorkOrder: HS19101523

QC BATCH REPORT

Batch ID: R349684 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MBLK Sample ID: **VBLKW-191101** Units: **UG/L** Analysis Date: **01-Nov-2019 13:09**
Client ID: Run ID: **VOA6_349684** SeqNo: **5326938** 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	*45.85*	*1.0*	*50*	*0*	*91.7*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*50.5*	*1.0*	*50*	*0*	*101*	*85 - 114*				
Surr: Dibromofluoromethane	*47.01*	*1.0*	*50*	*0*	*94.0*	*80 - 119*				

ALS Houston, US Date: 04-Nov-19

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant LHAAP-67
WorkOrder: HS19101523

QC BATCH REPORT

Batch ID: R349684 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MBLK Sample ID: **VBLKW-191101** Units: **UG/L** Analysis Date: **01-Nov-2019 13:09**
Client ID: Run ID: **VOA6_349684** SeqNo: **5326938** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Surr: Toluene-d8	*50.27*	*1.0*	*50*	*0*	*101*	*89 - 112*				

ALS Houston, US Date: 04-Nov-19

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant LHAAP-67
WorkOrder: HS19101523

QC BATCH REPORT

Batch ID: R349684 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

LCS Sample ID: **VLCSW-191101** Units: **UG/L** Analysis Date: **01-Nov-2019 12:21**
Client ID: Run ID: **VOA6_349684** SeqNo: **5326937** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	19.12	1.0	20	0	95.6	78 - 124				
1,1,1-Trichloroethane	19.74	1.0	20	0	98.7	74 - 131				
1,1,2,2-Tetrachloroethane	19.99	1.0	20	0	100.0	71 - 121				
1,1,2-Trichlor-1,2,2-trifluoroethane	18.67	1.0	20	0	93.4	70 - 136				
1,1,2-Trichloroethane	20.16	1.0	20	0	101	80 - 119				
1,1-Dichloroethane	19.62	1.0	20	0	98.1	77 - 125				
1,1-Dichloroethene	18.77	1.0	20	0	93.8	71 - 131				
1,1-Dichloropropene	19.18	1.0	20	0	95.9	78 - 125				
1,2,3-Trichlorobenzene	24.92	1.0	20	0	125	69 - 129				
1,2,3-Trichloropropane	20.84	1.0	20	0	104	73 - 122				
1,2,4-Trichlorobenzene	19.31	1.0	20	0	96.5	69 - 130				
1,2,4-Trimethylbenzene	19.05	1.0	20	0	95.2	76 - 124				
1,2-Dibromo-3-chloropropane	21.78	1.0	20	0	109	62 - 128				
1,2-Dibromoethane	20.63	1.0	20	0	103	77 - 121				
1,2-Dichlorobenzene	18.9	1.0	20	0	94.5	80 - 119				
1,2-Dichloroethane	20.19	1.0	20	0	101	73 - 128				
1,2-Dichloropropane	19.59	1.0	20	0	97.9	78 - 122				
1,3,5-Trimethylbenzene	19.14	1.0	20	0	95.7	75 - 124				
1,3-Dichlorobenzene	19.04	1.0	20	0	95.2	80 - 119				
1,3-Dichloropropane	20.21	1.0	20	0	101	80 - 119				
1,4-Dichlorobenzene	18.96	1.0	20	0	94.8	79 - 118				
2,2-Dichloropropane	19	1.0	20	0	95.0	60 - 139				
2-Butanone	39.22	2.0	40	0	98.0	56 - 143				
2-Chlorotoluene	19.34	1.0	20	0	96.7	79 - 122				
2-Hexanone	38.75	2.0	40	0	96.9	57 - 139				
4-Chlorotoluene	19.12	1.0	20	0	95.6	78 - 122				
4-Isopropyltoluene	18.61	1.0	20	0	93.1	77 - 127				
4-Methyl-2-pentanone	38.49	2.0	40	0	96.2	67 - 130				
Acetone	39.01	2.0	40	0	97.5	39 - 160				
Benzene	19.9	1.0	20	0	99.5	79 - 120				
Bromobenzene	19.37	1.0	20	0	96.8	80 - 120				
Bromochloromethane	19.81	1.0	20	0	99.1	78 - 123				
Bromodichloromethane	20.46	1.0	20	0	102	79 - 125				
Bromoform	20.4	1.0	20	0	102	66 - 130				

ALS Houston, US Date: 04-Nov-19

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant LHAAP-67
WorkOrder: HS19101523

QC BATCH REPORT

Batch ID: R349684 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

LCS Sample ID: **VLCSW-191101** Units: **UG/L** Analysis Date: **01-Nov-2019 12:21**
Client ID: Run ID: **VOA6_349684** SeqNo: **5326937** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromomethane	21.38	1.0	20	0	107	53 - 141				
Carbon disulfide	39.25	2.0	40	0	98.1	64 - 133				
Carbon tetrachloride	18.82	1.0	20	0	94.1	72 - 136				
Chlorobenzene	19.99	1.0	20	0	100.0	82 - 118				
Chloroethane	20	1.0	20	0	100.0	60 - 138				
Chloroform	20.48	1.0	20	0	102	79 - 124				
Chloromethane	20.06	1.0	20	0	100	50 - 139				
cis-1,2-Dichloroethene	20.6	1.0	20	0	103	78 - 123				
cis-1,3-Dichloropropene	20	1.0	20	0	100	75 - 124				
Dibromochloromethane	19.62	1.0	20	0	98.1	74 - 126				
Dibromomethane	20.68	1.0	20	0	103	79 - 123				
Dichlorodifluoromethane	19.51	1.0	20	0	97.6	32 - 152				
Ethylbenzene	19.24	1.0	20	0	96.2	79 - 121				
Hexachlorobutadiene	18.84	1.0	20	0	94.2	66 - 134				
Isopropylbenzene	19.18	1.0	20	0	95.9	72 - 131				
m,p-Xylene	38.85	2.0	40	0	97.1	80 - 121				
Methylene chloride	20.07	2.0	20	0	100	74 - 124				
Naphthalene	22.71	1.0	20	0	114	61 - 128				
n-Butylbenzene	18.91	1.0	20	0	94.5	75 - 128				
n-Propylbenzene	18.77	1.0	20	0	93.8	76 - 126				
o-Xylene	19.52	1.0	20	0	97.6	78 - 122				
sec-Butylbenzene	18.74	1.0	20	0	93.7	77 - 126				
Styrene	20.22	1.0	20	0	101	78 - 123				
tert-Butylbenzene	18.68	1.0	20	0	93.4	78 - 124				
Tetrachloroethene	19.44	1.0	20	0	97.2	74 - 129				
Toluene	19.79	1.0	20	0	99.0	80 - 121				
trans-1,2-Dichloroethene	20.43	1.0	20	0	102	75 - 124				
trans-1,3-Dichloropropene	20.1	1.0	20	0	101	73 - 127				
Trichloroethene	19.82	1.0	20	0	99.1	79 - 123				
Trichlorofluoromethane	18.76	1.0	20	0	93.8	65 - 141				
Vinyl chloride	19.77	1.0	20	0	98.8	58 - 137				
Surr: 1,2-Dichloroethane-d4	*52.48*	*1.0*	*50*	*0*	*105*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*52.34*	*1.0*	*50*	*0*	*105*	*85 - 114*				
Surr: Dibromofluoromethane	*51.14*	*1.0*	*50*	*0*	*102*	*80 - 119*				

ALS Houston, US Date: 04-Nov-19

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant LHAAP-67
WorkOrder: HS19101523

QC BATCH REPORT

Batch ID: R349684 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

LCS Sample ID: **VLCSW-191101** Units: **UG/L** Analysis Date: **01-Nov-2019 12:21**
Client ID: Run ID: **VOA6_349684** SeqNo: **5326937** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Surr: Toluene-d8	*49.4*	*1.0*	*50*	*0*	*98.8*	*89 - 112*				

ALS Houston, US Date: 04-Nov-19

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant LHAAP-67
WorkOrder: HS19101523

QC BATCH REPORT

Batch ID: R349684 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS19101523-07MS** Units: **UG/L** Analysis Date: **01-Nov-2019 17:34**
Client ID: **67WW15-191024** Run ID: **VOA6_349684** SeqNo: **5326949** PrepDate: DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	180.6	10	200	0	90.3	78 - 124				
1,1,1-Trichloroethane	179.8	10	200	0	89.9	74 - 131				
1,1,2,2-Tetrachloroethane	181.2	10	200	0	90.6	71 - 121				
1,1,2-Trichlor-1,2,2-trifluoroethane	186.9	10	200	0	93.4	70 - 136				
1,1,2-Trichloroethane	192.3	10	200	6.665	92.8	80 - 119				
1,1-Dichloroethane	183	10	200	13.66	84.6	77 - 125				
1,1-Dichloroethene	824.3	10	200	638.2	93.1	71 - 131				
1,1-Dichloropropene	182.2	10	200	0	91.1	78 - 125				
1,2,3-Trichlorobenzene	188.6	10	200	0	94.3	69 - 129				
1,2,3-Trichloropropane	185	10	200	0	92.5	73 - 122				
1,2,4-Trichlorobenzene	166.1	10	200	0	83.0	69 - 130				
1,2,4-Trimethylbenzene	188.7	10	200	0	94.4	76 - 124				
1,2-Dibromo-3-chloropropane	176	10	200	0	88.0	62 - 128				
1,2-Dibromoethane	184.8	10	200	0	92.4	77 - 121				
1,2-Dichlorobenzene	176.2	10	200	0	88.1	80 - 119				
1,2-Dichloroethane	195.5	10	200	28.68	83.4	73 - 128				
1,2-Dichloropropane	171.5	10	200	0	85.7	78 - 122				
1,3,5-Trimethylbenzene	191.7	10	200	0	95.8	75 - 124				
1,3-Dichlorobenzene	180.8	10	200	0	90.4	80 - 119				
1,3-Dichloropropane	181.4	10	200	0	90.7	80 - 119				
1,4-Dichlorobenzene	175.3	10	200	0	87.6	79 - 118				
2,2-Dichloropropane	167.4	10	200	0	83.7	60 - 139				
2-Butanone	295.3	20	400	0	73.8	56 - 143				
2-Chlorotoluene	185.4	10	200	0	92.7	79 - 122				
2-Hexanone	347.9	20	400	0	87.0	57 - 139				
4-Chlorotoluene	185.3	10	200	0	92.7	78 - 122				
4-Isopropyltoluene	190	10	200	0	95.0	77 - 127				
4-Methyl-2-pentanone	342	20	400	0	85.5	67 - 130				
Acetone	251.7	20	400	0	62.9	39 - 160				
Benzene	173.5	10	200	0	86.8	79 - 120				
Bromobenzene	181.8	10	200	0	90.9	80 - 120				
Bromochloromethane	166.4	10	200	0	83.2	78 - 123				
Bromodichloromethane	177.1	10	200	0	88.6	79 - 125				
Bromoform	178.4	10	200	0	89.2	66 - 130				

ALS Houston, US Date: 04-Nov-19

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant LHAAP-67
WorkOrder: HS19101523

QC BATCH REPORT

Batch ID: R349684 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS19101523-07MS** Units: **UG/L** Analysis Date: **01-Nov-2019 17:34**
Client ID: **67WW15-191024** Run ID: **VOA6_349684** SeqNo: **5326949** PrepDate: DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromomethane	195.4	10	200	0	97.7	53 - 141				
Carbon disulfide	336.4	20	400	0	84.1	64 - 133				
Carbon tetrachloride	184.6	10	200	0	92.3	72 - 136				
Chlorobenzene	186.2	10	200	0	93.1	82 - 118				
Chloroethane	173.6	10	200	0	86.8	60 - 138				
Chloroform	169.9	10	200	0	84.9	79 - 124				
Chloromethane	175.4	10	200	0	87.7	50 - 139				
cis-1,2-Dichloroethene	177.4	10	200	0	88.7	78 - 123				
cis-1,3-Dichloropropene	176.5	10	200	0	88.3	75 - 124				
Dibromochloromethane	177.9	10	200	0	88.9	74 - 126				
Dibromomethane	176.5	10	200	0	88.2	79 - 123				
Dichlorodifluoromethane	184.6	10	200	0	92.3	32 - 152				
Ethylbenzene	190.4	10	200	0	95.2	79 - 121				
Hexachlorobutadiene	180.3	10	200	0	90.2	66 - 134				
Isopropylbenzene	192.6	10	200	0	96.3	72 - 131				
m,p-Xylene	383.3	20	400	0	95.8	80 - 121				
Methylene chloride	169.6	20	200	0	84.8	74 - 124				
Naphthalene	185.5	10	200	0	92.8	61 - 128				
n-Butylbenzene	196	10	200	0	98.0	75 - 128				
n-Propylbenzene	188.9	10	200	0	94.5	76 - 126				
o-Xylene	187.2	10	200	0	93.6	78 - 122				
sec-Butylbenzene	195	10	200	0	97.5	77 - 126				
Styrene	188.8	10	200	0	94.4	78 - 123				
tert-Butylbenzene	192.3	10	200	0	96.1	78 - 124				
Tetrachloroethene	200.2	10	200	0	100	74 - 129				
Toluene	188.2	10	200	0	94.1	80 - 121				
trans-1,2-Dichloroethene	180.5	10	200	0	90.2	75 - 124				
trans-1,3-Dichloropropene	172.6	10	200	0	86.3	73 - 127				
Trichloroethene	185.7	10	200	0	92.9	79 - 123				
Trichlorofluoromethane	183.8	10	200	0	91.9	65 - 141				
Vinyl chloride	184.7	10	200	0	92.4	58 - 137				
Surr: 1,2-Dichloroethane-d4	*454.2*	*10*	*500*	*0*	*90.8*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*498.3*	*10*	*500*	*0*	*99.7*	*85 - 114*				
Surr: Dibromofluoromethane	*465.4*	*10*	*500*	*0*	*93.1*	*80 - 119*				

ALS Houston, US Date: 04-Nov-19

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant LHAAP-67
WorkOrder: HS19101523

QC BATCH REPORT

Batch ID: R349684 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS19101523-07MS** Units: **UG/L** Analysis Date: **01-Nov-2019 17:34**
Client ID: **67WW15-191024** Run ID: **VOA6_349684** SeqNo: **5326949** PrepDate: DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Surr: Toluene-d8	*511.7*	*10*	*500*	*0*	*102*	*89 - 112*				

ALS Houston, US Date: 04-Nov-19

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant LHAAP-67
WorkOrder: HS19101523

QC BATCH REPORT

Batch ID: R349684 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS19101523-07MSD** Units: **UG/L** Analysis Date: **01-Nov-2019 17:58**
Client ID: **67WW15-191024** Run ID: **VOA6_349684** SeqNo: **5326950** PrepDate: DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	179	10	200	0	89.5	78 - 124	180.6	0.907	20	
1,1,1-Trichloroethane	173.5	10	200	0	86.8	74 - 131	179.8	3.57	20	
1,1,2,2-Tetrachloroethane	187.6	10	200	0	93.8	71 - 121	181.2	3.46	20	
1,1,2-Trichlor-1,2,2-trifluoroethane	180.1	10	200	0	90.0	70 - 136	186.9	3.71	20	
1,1,2-Trichloroethane	191.9	10	200	6.665	92.6	80 - 119	192.3	0.199	20	
1,1-Dichloroethane	176	10	200	13.66	81.2	77 - 125	183	3.88	20	
1,1-Dichloroethene	772.9	10	200	638.2	67.3	71 - 131	824.3	6.44	20	S
1,1-Dichloropropene	179.4	10	200	0	89.7	78 - 125	182.2	1.57	20	
1,2,3-Trichlorobenzene	228.2	10	200	0	114	69 - 129	188.6	19	20	
1,2,3-Trichloropropane	189.6	10	200	0	94.8	73 - 122	185	2.47	20	
1,2,4-Trichlorobenzene	189.8	10	200	0	94.9	69 - 130	166.1	13.3	20	
1,2,4-Trimethylbenzene	191.7	10	200	0	95.9	76 - 124	188.7	1.58	20	
1,2-Dibromo-3-chloropropane	190.2	10	200	0	95.1	62 - 128	176	7.74	20	
1,2-Dibromoethane	185	10	200	0	92.5	77 - 121	184.8	0.12	20	
1,2-Dichlorobenzene	181.4	10	200	0	90.7	80 - 119	176.2	2.92	20	
1,2-Dichloroethane	197	10	200	28.68	84.2	73 - 128	195.5	0.74	20	
1,2-Dichloropropane	166.2	10	200	0	83.1	78 - 122	171.5	3.11	20	
1,3,5-Trimethylbenzene	193.3	10	200	0	96.7	75 - 124	191.7	0.87	20	
1,3-Dichlorobenzene	181.7	10	200	0	90.9	80 - 119	180.8	0.483	20	
1,3-Dichloropropane	182.9	10	200	0	91.5	80 - 119	181.4	0.827	20	
1,4-Dichlorobenzene	182.5	10	200	0	91.2	79 - 118	175.3	4.03	20	
2,2-Dichloropropane	162.7	10	200	0	81.3	60 - 139	167.4	2.9	20	
2-Butanone	303.3	20	400	0	75.8	56 - 143	295.3	2.68	20	
2-Chlorotoluene	187.9	10	200	0	94.0	79 - 122	185.4	1.36	20	
2-Hexanone	337.4	20	400	0	84.3	57 - 139	347.9	3.06	20	
4-Chlorotoluene	187.1	10	200	0	93.6	78 - 122	185.3	0.966	20	
4-Isopropyltoluene	194.4	10	200	0	97.2	77 - 127	190	2.26	20	
4-Methyl-2-pentanone	339.9	20	400	0	85.0	67 - 130	342	0.608	20	
Acetone	256.6	20	400	0	64.1	39 - 160	251.7	1.91	20	
Benzene	173.1	10	200	0	86.6	79 - 120	173.5	0.238	20	
Bromobenzene	184.3	10	200	0	92.2	80 - 120	181.8	1.4	20	
Bromochloromethane	165.2	10	200	0	82.6	78 - 123	166.4	0.756	20	
Bromodichloromethane	176.7	10	200	0	88.3	79 - 125	177.1	0.248	20	
Bromoform	178.5	10	200	0	89.3	66 - 130	178.4	0.0392	20	

ALS Houston, US Date: 04-Nov-19

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant LHAAP-67
WorkOrder: HS19101523

QC BATCH REPORT

Batch ID: R349684 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS19101523-07MSD** Units: **UG/L** Analysis Date: **01-Nov-2019 17:58**
Client ID: **67WW15-191024** Run ID: **VOA6_349684** SeqNo: **5326950** PrepDate: DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Bromomethane	180	10	200	0	90.0	53 - 141	195.4	8.22	20	
Carbon disulfide	320.4	20	400	0	80.1	64 - 133	336.4	4.88	20	
Carbon tetrachloride	176.9	10	200	0	88.5	72 - 136	184.6	4.27	20	
Chlorobenzene	183.6	10	200	0	91.8	82 - 118	186.2	1.43	20	
Chloroethane	163.4	10	200	0	81.7	60 - 138	173.6	6.03	20	
Chloroform	165.2	10	200	0	82.6	79 - 124	169.9	2.78	20	
Chloromethane	166.4	10	200	0	83.2	50 - 139	175.4	5.24	20	
cis-1,2-Dichloroethene	175.4	10	200	0	87.7	78 - 123	177.4	1.08	20	
cis-1,3-Dichloropropene	174.4	10	200	0	87.2	75 - 124	176.5	1.22	20	
Dibromochloromethane	177.3	10	200	0	88.6	74 - 126	177.9	0.324	20	
Dibromomethane	180	10	200	0	90.0	79 - 123	176.5	1.97	20	
Dichlorodifluoromethane	178.8	10	200	0	89.4	32 - 152	184.6	3.18	20	
Ethylbenzene	186.3	10	200	0	93.2	79 - 121	190.4	2.2	20	
Hexachlorobutadiene	200.2	10	200	0	100	66 - 134	180.3	10.4	20	
Isopropylbenzene	188.5	10	200	0	94.3	72 - 131	192.6	2.13	20	
m,p-Xylene	371.9	20	400	0	93.0	80 - 121	383.3	3.01	20	
Methylene chloride	165.3	20	200	0	82.6	74 - 124	169.6	2.58	20	
Naphthalene	215.9	10	200	0	108	61 - 128	185.5	15.1	20	
n-Butylbenzene	198.2	10	200	0	99.1	75 - 128	196	1.12	20	
n-Propylbenzene	192.3	10	200	0	96.1	76 - 126	188.9	1.77	20	
o-Xylene	183.3	10	200	0	91.7	78 - 122	187.2	2.08	20	
sec-Butylbenzene	199.1	10	200	0	99.6	77 - 126	195	2.09	20	
Styrene	182.8	10	200	0	91.4	78 - 123	188.8	3.27	20	
tert-Butylbenzene	194.3	10	200	0	97.1	78 - 124	192.3	1.06	20	
Tetrachloroethene	193.4	10	200	0	96.7	74 - 129	200.2	3.45	20	
Toluene	184.5	10	200	0	92.3	80 - 121	188.2	2	20	
trans-1,2-Dichloroethene	177.8	10	200	0	88.9	75 - 124	180.5	1.51	20	
trans-1,3-Dichloropropene	174.2	10	200	0	87.1	73 - 127	172.6	0.898	20	
Trichloroethene	183	10	200	0	91.5	79 - 123	185.7	1.49	20	
Trichlorofluoromethane	174.6	10	200	0	87.3	65 - 141	183.8	5.13	20	
Vinyl chloride	174.8	10	200	0	87.4	58 - 137	184.7	5.55	20	
Surr: 1,2-Dichloroethane-d4	*444.7*	*10*	*500*	*0*	*88.9*	*81 - 118*	*454.2*	*2.11*	*20*	
Surr: 4-Bromofluorobenzene	*502.2*	*10*	*500*	*0*	*100*	*85 - 114*	*498.3*	*0.793*	*20*	
Surr: Dibromofluoromethane	*462.3*	*10*	*500*	*0*	*92.5*	*80 - 119*	*465.4*	*0.68*	*20*	

ALS Houston, US Date: 04-Nov-19

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant LHAAP-67
WorkOrder: HS19101523

QC BATCH REPORT

Batch ID: R349684 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS19101523-07MSD** Units: **UG/L** Analysis Date: **01-Nov-2019 17:58**
Client ID: **67WW15-191024** Run ID: **VOA6_349684** SeqNo: **5326950** PrepDate: DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Surr: Toluene-d8	*509.4*	*10*	*500*	*0*	*102*	*89 - 112*	*511.7*	*0.452*	*20*	

The following samples were analyzed in this batch: HS19101523-07 HS19101523-08 HS19101523-09 HS19101523-10 HS19101523-11 HS19101523-12

ALS Houston, US Date: 04-Nov-19

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant LHAAP-67
WorkOrder: **HS19101523**

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-Nov-19

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant LHAAP-67
Work Order: HS19101523

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS19101523-01	67WW14-191024	Login	10/25/2019 1:26:33 PM	AC	Disposed
HS19101523-02	67WW05-191024	Login	10/25/2019 1:26:33 PM	AC	Disposed
HS19101523-03	67WW18-191024	Login	10/25/2019 1:26:33 PM	AC	Disposed
HS19101523-04	67WW18-191024-FD	Login	10/25/2019 1:26:33 PM	AC	Disposed
HS19101523-05	67WW17-191024	Login	10/25/2019 1:26:33 PM	AC	Disposed
HS19101523-06	67WW02-191024	Login	10/25/2019 1:26:33 PM	AC	Disposed
HS19101523-07	67WW15-191024	Login	10/25/2019 1:26:33 PM	AC	Disposed
HS19101523-08	67WW09-191024	Login	10/25/2019 1:26:33 PM	AC	Disposed
HS19101523-09	67WW11-191024	Login	10/25/2019 1:26:33 PM	AC	Disposed
HS19101523-12	Trip Blank	Login	10/25/2019 1:26:33 PM	AC	Disposed

ALS Houston, US Date: 04-Nov-19

Sample Receipt Checklist

Client Name: CBI-Houston
Work Order: HS19101523
Date/Time Received: **25-Oct-2019 09:10**
Received by: **PMG**

Checklist completed by: *Asad Chaudhry* eSignature 25-Oct-2019 Date
Reviewed by: *RJ Modashia* eSignature 25-Oct-2019 Date

Matrices: **GW**
Carrier name: **FedEx Priority Overnight**

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
VOA/TX1005/TX1006 Solids in hermetically sealed vials?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	1 Page(s)
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	COC IDs:N/A
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):	1.5c UC/C	IR 25
Cooler(s)/Kit(s):	43849	
Date/Time sample(s) sent to storage:	10/25/2019 13:45	

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: LHAAP67-OCT2019-ALSHT-1910- TURNAROUND TIME: normal RUSH: Page 1 of

PROJECT/CLIENT INFO		LABORATORY		
Facility Name	Longhorn AAP	Lab Name	ALS Laboratories	Fedinvoices@aptim.com
Project Number	501032	Lab Contact	RJ Modashia	
	LHAAP-67	Email	RJ.Modashia@alsglobal.com	Susan.Huang@aptim.com
Address	1203-B East Grand Avenue	Address	10450 Stancliff Rd., Suite 210	Susan Huang
	PMB 202			4005 Port Chicago Hwy
City	Marshall State TX	City	Houston State TX	Concord State CA
Postal Code	75670 Country USA	Postal Code	77099 Country USA	94520 Country USA
Phone Number	713.243.7264	Phone Number	281.575.2279 or 281.530.5656	
Project Manager	Praveen Srivastav			

SAMPLE DETAILS / ANALYSIS REQUESTED

Sample ID	Location	Start Depth	End Depth	Depth Unit	Field Matrix	Date	Time (24hr)	# Of Cont.	ANALYSIS	VOCs in Water by 8260B (3x40 ml VOA, HCL)	Carbon Dioxide in Water by RSK175 (3x40 ml VOA, Ice)	Anions by SW9056 (see required anions below) (1x250 ml HPDE, Ice)	Dissolved Gases (methane, ethane, and ethene) by RSK-175 (3x40 ml VOA, HCL)	TOC by (SM5310C) (2x40 ml VOA, H2SO4)
67WW14-191024	LHAAP 67				WG	10/24/19	0845	3		X				
67WW05-191024	LHAAP 67				WG	10/24/19	0930	3		X				
67WW18-191024	LHAAP 67				WG	10/24/19	1025	3		X				
67WW18-191024-FD	LHAAP 67				WG	10/24/19	1025	3		X				
67WW17-191024	LHAAP 67				WG	10/24/19	1115	3		X				
67WW02-191024	LHAAP 67				WG	10/24/19	1205	3		X				
67WW15-191024	LHAAP 67				WG	10/24/19	1300	3		X				
67WW15-191024-MS	LHAAP 67				WG	10/24/19	1300	3		X				
67WW15-191024-MSD	LHAAP 67				WG	10/24/19	1300	3		X				
67WW09-191024	LHAAP 67				WG	10/24/19	1355	3		X				
67WW11-191024	LHAAP 67				WG	10/24/19	1445	3		X				
67WW16I-191024	LHAAP 67				WG	10/24/19	1535	3		X				
67WW01-191024	LHAAP 67				WG	10/24/19	1625	3		X				
TRIP BLANK	LHAAP 67				W	10/24/19		2		X				

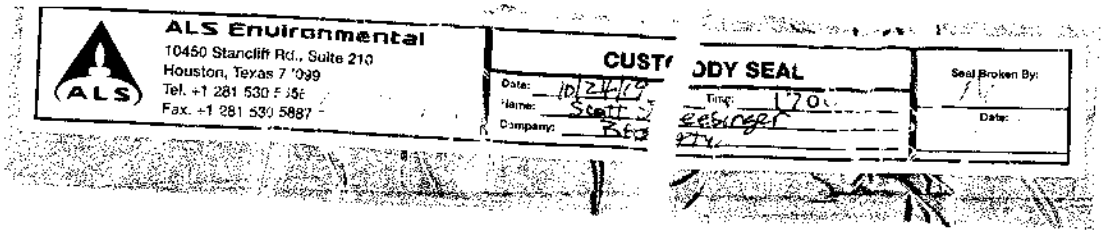
HS19101523

Aptim Environmental & Infrastucture, Inc.

Longhorn Army Ammunition Plant LHAAP-67

ADDITIONAL COMMENTS/SPECIAL INSTRUCTIONS	RELINQUISHED BY/AFFILIATION	DATE/TIME	ACCEPTED BY/AFFILIATION	DATE/TIME
Anions (chloride/nitrate/sufate) by SW9056	Scott Blessinger / BHATE	10/24/19 1700	PG ALS	10/25/19 0910

C/C
1.5
IR#25
CFO
43849


ALS Environmental
10450 Stancliff Rd., Suite 210
Houston, Texas 7 '099
Tel. +1 281 530 5 55
Fax. +1 281 530 5887
CUST
Date:
Name:
Company:
ODY SEAL
Time:
Seal Broken By:
Date:


FedEx
TRK# 4809 7833 1020
FRI - 25 OCT 10:30A
PRIORITY OVERNIGHT
AB SGRA
77099
TX-US IAH

HS19101523 8260 Raw Data

ALS WO# HS19101523

MSVOA06 -Logbook

Batch: 38023
Date: 10-31-2019
Method: 8260
Comments:

Analyst: Devak Giga
Reviewer:
Laboratory: Houston

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
1	BFB	TUNE	10-31-2019 10:45 am	1.00	0.00 mL	0.00 mL	X103101.D	Liquid	Y	NA
	Auto find/purged									
2	VSTD000.25	ICAL1	10-31-2019 11:08 am	1.00	5.00 mL	0.00 mL	X103102.D	Liquid	Y	NA
3	VSTD000.5	ICAL2	10-31-2019 11:56 am	1.00	5.00 mL	0.00 mL	X103103.D	Liquid	Y	NA
4	VSTD001	ICAL3	10-31-2019 12:20 pm	1.00	5.00 mL	0.00 mL	X103104.D	Liquid	Y	NA
5	VSTD002	ICAL4	10-31-2019 12:44 pm	1.00	5.00 mL	0.00 mL	X103105.D	Liquid	Y	NA
6	VSTD005	ICAL5	10-31-2019 01:08 pm	1.00	5.00 mL	0.00 mL	X103106.D	Liquid	Y	NA
7	VSTD020	ICAL6	10-31-2019 01:32 pm	1.00	5.00 mL	0.00 mL	X103107.D	Liquid	Y	NA
8	VSTD050	ICAL7	10-31-2019 01:56 pm	1.00	5.00 mL	0.00 mL	X103108.D	Liquid	Y	NA
9	VSTD100	ICAL8	10-31-2019 02:20 pm	1.00	5.00 mL	0.00 mL	X103109.D	Liquid	Y	NA
10	VSTD150	ICAL9	10-31-2019 02:44 pm	1.00	5.00 mL	0.00 mL	X103110.D	Liquid	Y	NA
11	VSTD200	ICAL	10-31-2019 03:08 pm	1.00	5.00 mL	0.00 mL	X103111.D	Liquid	Y	NA
12	BLANK	SAMP	10-31-2019 03:32 pm	1.00	5.00 mL	0.00 mL	X103112.D	Liquid	Y	NA
13	BLANK	SAMP	10-31-2019 03:56 pm	1.00	5.00 mL	0.00 mL	X103113.D	Liquid	Y	NA
14	ICV	ICV	10-31-2019 04:20 pm	1.00	5.00 mL	0.00 mL	X103114.D	Liquid	Y	NA
	10 uL cal std/50 mL DI									
15	BLANK	SAMP	10-31-2019 04:44 pm	1.00	5.00 mL	0.00 mL	X103115.D	Liquid	Y	NA
	Cleanup blk									
16	VLCSW-191031	LCS	10-31-2019 05:08 pm	1.00	5.00 mL	0.00 mL	X103116.D	Liquid	Y	NA
	4 uL LCS std/50 mL DI									
17	BLK	SAMP	10-31-2019 05:32 pm	1.00	5.00 mL	0.00 mL	X103117.D	Liquid	Y	NA
	Cleanup blk									
18	BLK	SAMP	10-31-2019 05:56 pm	1.00	5.00 mL	0.00 mL	X103118.D	Liquid	Y	NA
	Cleanup blk									
19	VBLKW-191031	MBLK	10-31-2019 06:20 pm	1.00	5.00 mL	0.00 mL	X103119.D	Liquid	Y	<2
20	HS19101506-01	SAMP	10-31-2019 06:44 pm	1.00	5.00 mL	0.00 mL	X103120.D	Liquid	Y	<2
21	HS19101523-05	SAMP	10-31-2019 07:08 pm	1.00	5.00 mL	0.00 mL	X103121.D	Liquid	Y	<2
22	HS19101523-01	SAMP	10-31-2019 07:32 pm	1.00	5.00 mL	0.00 mL	X103122.D	Liquid	Y	<2
23	HS19101523-02	SAMP	10-31-2019 07:56 pm	1.00	5.00 mL	0.00 mL	X103123.D	Liquid	Y	<2
24	HS19101523-03	SAMP	10-31-2019 08:20 pm	1.00	5.00 mL	0.00 mL	X103124.D	Liquid	Y	<2
25	HS19101523-04	SAMP	10-31-2019 08:44 pm	1.00	5.00 mL	0.00 mL	X103125.D	Liquid	Y	<2
26	HS19101523-06	SAMP	10-31-2019 09:08 pm	1.00	5.00 mL	0.00 mL	X103126.D	Liquid	Y	<2
27	HS19101523-05MS	MS	10-31-2019 09:32 pm	1.00	5.00 mL	0.00 mL	X103127.D	Liquid	Y	NA
	3.2 uL cal std/40 mL sample									
28	HS19101523-05MSD	MSD	10-31-2019 09:56 pm	1.00	5.00 mL	0.00 mL	X103128.D	Liquid	Y	NA
	3.2 uL cal std/40 mL sample									
29	CCV-END	CCV	10-31-2019 10:20 pm	1.00	5.00 mL	0.00 mL	X103129.D	Liquid	Y	NA
	10 uL cal std/50 mL DI									

MSVOA06 -Logbook

Chemical	Value
SURR SPK ID	30502-94-03
IS ID	30502-94-04
ICV STD ID	31106-01-01
LCS/MS ID	31106-01-01
CAL STD ID	31106-01-05
BFB ID	30502-94-03
pH Paper	634-64-11

FORM 2
WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS19101523

	CLIENT SAMPLE NO.	SMC1 #	SMC2 #	SMC3 (TOL)#	OTHER (DCE)#	TOT OUT
01	VLCSW-191031	104	101	98	102	0
02	VBLKW-191031	100	93	101	89	0
03	HS19101523-05	100	93	102	90	0
04	HS19101523-01	101	93	102	88	0
05	HS19101523-02	100	92	101	90	0
06	HS19101523-03	100	92	101	90	0
07	HS19101523-04	100	91	102	89	0
08	HS19101523-06	100	93	101	91	0
09	HS19101523-05	99	93	102	89	0
10	HS19101523-05	101	93	101	91	0
11						
12						
13						
14						
15						
16						
17						
18						
19						
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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 3
WATER VOLATILE METHOD SPIKE RECOVERY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS19101523

Matrix Spike - Sample No.: ICV

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE AMOUNT ()	% REC #	QC. LIMITS REC.
cis-1,3-Dichloropropene	50.00	48.79	98	80-120
trans-1,3-Dichloroprope	50.00	49.18	98	80-120
1,3-Dichlorobenzene	50.00	46.53	93	80-120
2,2-Dichloropropane	50.00	46.58	93	80-120
1,1-Dichloropropene	50.00	47.08	94	80-120
Dibromomethane	50.00	49.60	99	80-120
1,2-Dibromoethane	50.00	48.80	98	80-120
trans-1,2-Dichloroethen	50.00	49.34	99	80-120
1,1,1,2-Tetrachloroetha	50.00	47.74	95	80-120
1,1,1-Trichloroethane	50.00	47.56	95	80-120
1,1,2,2-Tetrachloroetha	50.00	49.12	98	80-120
Toluene	50.00	48.40	97	80-120
1,1,2-Trichloroethane	50.00	48.68	97	80-120
1,1-Dichloroethane	50.00	47.42	95	80-120
1,1-Dichloroethene	50.00	47.03	94	80-120
Trichlorofluoromethane	50.00	47.11	94	80-120
1,2,3-Trichlorobenzene	50.00	56.71	113	80-120
Tetrachloroethene	50.00	47.82	96	80-120
1,2,4-Trichlorobenzene	50.00	47.70	95	80-120
1,2,4-Trimethylbenzene	50.00	46.83	94	80-120
tert-Butylbenzene	50.00	45.47	91	80-120
Trichloroethene	50.00	48.99	98	80-120
1,2-Dichlorobenzene	50.00	46.46	93	80-120
1,2-Dichloroethane	50.00	48.02	96	80-120
1,2-Dichloropropane	50.00	46.10	92	80-120
1,3,5-Trimethylbenzene	50.00	47.34	95	80-120
1,3-Dichloropropane	50.00	47.94	96	80-120
1,4-Dichlorobenzene	50.00	45.70	91	80-120

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

* Values outside of QC limits

COMMENTS: _____

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FORM III VOA

FORM 3
WATER VOLATILE METHOD SPIKE RECOVERY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS19101523

Matrix Spike - Sample No.: ICV

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE AMOUNT ()	% REC #	QC. LIMITS REC.
2-Butanone	100.00	92.87	93	80-120
2-Chlorotoluene	50.00	46.39	93	80-120
2-Hexanone	100.00	92.86	93	80-120
4-Chlorotoluene	50.00	47.10	94	80-120
Styrene	50.00	48.55	97	80-120
4-Methyl-2-Pentanone	100.00	90.79	91	80-120
Acetone	100.00	94.86	95	80-120
Benzene	50.00	48.59	97	80-120
Bromobenzene	50.00	47.70	95	80-120
Bromochloromethane	50.00	46.18	92	80-120
Bromodichloromethane	50.00	48.66	97	80-120
Bromoform	50.00	49.37	99	80-120
Bromomethane	50.00	46.72	93	80-120
Carbon Disulfide	100.00	96.98	97	80-120
Carbon Tetrachloride	50.00	46.02	92	80-120
Chlorobenzene	50.00	48.58	97	80-120
Chloroethane	50.00	46.26	92	80-120
Chloroform	50.00	48.21	96	80-120
Chloromethane	50.00	47.48	95	80-120
cis-1,2-Dichloroethene	50.00	48.85	98	80-120
Dibromochloromethane	50.00	48.48	97	80-120
Dichlorodifluoromethane	50.00	45.46	91	80-120
Ethylbenzene	50.00	47.99	96	80-120
Hexachlorobutadiene	50.00	48.58	97	80-120
Isopropylbenzene	50.00	46.44	93	80-120
m,p-Xylenes	100.00	95.87	96	80-120
Methylene Chloride	50.00	47.32	95	80-120
n-Butylbenzene	50.00	47.70	95	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: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS19101523

Matrix Spike - Sample No.: ICV

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE AMOUNT ()	% REC #	QC. LIMITS REC.
n-Propylbenzene	50.00	46.28	92	80-120
Naphthalene	50.00	55.72	111	80-120
o-Xylene	50.00	47.31	95	80-120
sec-Butylbenzene	50.00	46.00	92	80-120
Vinyl Chloride	50.00	48.00	96	80-120
1,2,3-Trichloropropane	50.00	50.36	101	80-120
p-Isopropyltoluene	50.00	46.21	92	80-120
1,2-Dibromo-3-Chloropro	50.00	48.69	97	80-120
Freon TF	50.00	46.08	92	80-120

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

* Values outside of QC limits

COMMENTS: _____

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FORM III VOA

FORM 4
VOLATILE METHOD BLANK SUMMARY

CLIENT SAMPLE NO.

VBLKW-191031

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS19101523

Lab File ID: X103119 Lab Sample ID: VBLKW-191031

Date Analyzed: 10/31/19 Time Analyzed: 1820

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-191031	VLCSW-191031	X103116	1708
02	HS19101523-0	HS19101523-05	X103121	1908
03	HS19101523-0	HS19101523-01	X103122	1932
04	HS19101523-0	HS19101523-02	X103123	1956
05	HS19101523-0	HS19101523-03	X103124	2020
06	HS19101523-0	HS19101523-04	X103125	2044
07	HS19101523-0	HS19101523-06	X103126	2108
08	HS19101523-0	HS19101523-05M	X103127	2132
09	HS19101523-0	HS19101523-05M	X103128	2156
10				
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COMMENTS:

FORM 5
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS19101523

Lab File ID: X103101 BFB Injection Date: 10/31/19

Instrument ID: VOA6 BFB Injection Time: 1045

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	15.3
75	30.0 - 60.0% of mass 95	46.7
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	7.8
173	Less than 2.0% of mass 174	0.3 (0.4)1
174	Greater than 50.0% of mass 95	77.1
175	5.0 - 9.0% of mass 174	6.5 (8.5)1
176	95.0 - 101.0% of mass 174	76.0 (98.5)1
177	5.0 - 9.0% of mass 176	5.7 (7.5)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	X103102	10/31/19	1108
02	VSTD000.5	VSTD000.5	X103103	10/31/19	1156
03	VSTD001	VSTD001	X103104	10/31/19	1220
04	VSTD002	VSTD002	X103105	10/31/19	1244
05	VSTD005	VSTD005	X103106	10/31/19	1308
06	VSTD020	VSTD020	X103107	10/31/19	1332
07	VSTD050	VSTD050	X103108	10/31/19	1356
08	VSTD100	VSTD100	X103109	10/31/19	1420
09	VSTD150	VSTD150	X103110	10/31/19	1444
10	VSTD200	VSTD200	X103111	10/31/19	1508
11	ICV	ICV	X103114	10/31/19	1620
12	VLCSW-191031	VLCSW-191031	X103116	10/31/19	1708
13	VBLKW-191031	VBLKW-191031	X103119	10/31/19	1820
14	HS19101523-0	HS19101523-05	X103121	10/31/19	1908
15	HS19101523-0	HS19101523-01	X103122	10/31/19	1932
16	HS19101523-0	HS19101523-02	X103123	10/31/19	1956
17	HS19101523-0	HS19101523-03	X103124	10/31/19	2020
18	HS19101523-0	HS19101523-04	X103125	10/31/19	2044
19	HS19101523-0	HS19101523-06	X103126	10/31/19	2108
20	HS19101523-0	HS19101523-05M	X103127	10/31/19	2132
21	HS19101523-0	HS19101523-05M	X103128	10/31/19	2156
22	CCV-END	CCV-END	X103129	10/31/19	2220

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS19101523

Instrument ID: VOA6 Calibration Date(s): 10/31/19 10/31/19

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1108 1508

LAB FILE ID: RF0.25: X103102 RF0.5: X103103 RF1: X103104
RF2: X103105 RF5: X103106 RF20: X103107

COMPOUND	RF0.25	RF0.5	RF1	RF2	RF5	RF20
cis-1,3-Dichloropropene		0.394	0.502	0.445	0.458	0.463
trans-1,3-Dichloropropene		0.364	0.450	0.402	0.450	0.432
1,3-Dichlorobenzene		1.563	1.815	1.450	1.538	1.497
2,2-Dichloropropane		0.638	0.765	0.640	0.542	0.567
1,1-Dichloropropene		0.336	0.436	0.358	0.368	0.367
Dibromomethane		0.141	0.226	0.185	0.196	0.200
1,2-Dibromoethane		0.307	0.366	0.318	0.364	0.344
trans-1,2-Dichloroethene		0.282	0.345	0.321	0.340	0.347
1,1,1,2-Tetrachloroethane		0.401	0.481	0.395	0.406	0.402
1,1,1-Trichloroethane		0.502	0.669	0.616	0.639	0.634
1,1,2,2-Tetrachloroethane		1126	2699	3659	9716	34270
Toluene		1.219	1.638	1.367	1.362	1.376
1,1,2-Trichloroethane		0.203	0.251	0.232	0.234	0.237
1,1-Dichloroethane		0.534	0.640	0.555	0.575	0.549
1,1-Dichloroethene		0.330	0.343	0.297	0.307	0.312
Trichlorofluoromethane		0.556	0.724	0.645	0.648	0.667
1,2,3-Trichlorobenzene		339	789	1216	3318	10723
Tetrachloroethene		0.320	0.398	0.408	0.384	0.392
1,2,4-Trichlorobenzene		0.486	0.545	0.434	0.432	0.422
1,2,4-Trimethylbenzene		2.185	2.693	2.347	2.427	2.419
tert-Butylbenzene		1.916	2.258	2.011	1.966	2.016
Trichloroethene		0.282	0.434	0.351	0.372	0.385
1,2-Dichlorobenzene		1.392	1.685	1.352	1.439	1.375
1,2-Dichloroethane		0.358	0.464	0.401	0.415	0.395
1,2-Dichloropropane		0.242	0.315	0.243	0.245	0.232
1,3,5-Trimethylbenzene		2.054	2.641	2.279	2.322	2.375
1,3-Dichloropropane		0.429	0.532	0.465	0.495	0.478
1,4-Dichlorobenzene		1.675	1.756	1.478	1.538	1.495
2-Butanone		443	1053	1970	4838	18102
2-Chlorotoluene		1.709	2.024	1.738	1.792	1.808
2-Hexanone		0.164	0.192	0.140	0.142	0.138
4-Chlorotoluene		2.001	2.497	2.068	2.103	2.149
Styrene		0.960	1.202	0.986	1.090	1.066
4-Methyl-2-Pentanone		0.210	0.260	0.205	0.208	0.198
Acetone		887	1614	2316	4757	18452
Benzene		4298	9561	15908	34511	123672
Bromobenzene		0.909	1.072	0.867	0.924	0.914
Bromochloromethane		0.258	0.306	0.282	0.258	0.254
Bromodichloromethane		0.340	0.424	0.361	0.399	0.398
Bromoform		0.300	0.378	0.274	0.312	0.335
Bromomethane		1092	2521	3954	11332	39382
Carbon Disulfide		0.859	0.988	0.884	0.897	0.921
Carbon Tetrachloride		0.476	0.532	0.489	0.462	0.464
Chlorobenzene		0.892	1.156	0.948	1.003	0.983

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS1910152

Instrument ID: VOA6 Calibration Date(s): 10/31/19 10/31/19

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1108 1508

LAB FILE ID: RF0.25: X103102 RF0.5: X103103 RF1: X103104
RF2: X103105 RF5: X103106 RF20: X103107

COMPOUND	RF0.25	RF0.5	RF1	RF2	RF5	RF20
Chloroethane		0.191	0.247	0.192	0.190	0.196
Chloroform		0.607	0.723	0.647	0.667	0.668
Chloromethane		898	1666	2728	7622	28930
cis-1,2-Dichloroethene		0.324	0.431	0.392	0.406	0.410
Dibromochloromethane		0.377	0.505	0.377	0.412	0.408
Dichlorodifluoromethane		648	1752	3109	8109	33571
Ethylbenzene		0.458	0.606	0.485	0.519	0.507
Hexachlorobutadiene		0.330	0.453	0.416	0.387	0.382
Isopropylbenzene		1.405	1.769	1.487	1.541	1.564
m,p-Xylenes		0.549	0.730	0.601	0.624	0.620
Methylene Chloride		1124	2365	3610	8754	31523
n-Butylbenzene		1.565	1.954	1.714	1.701	1.824
n-Propylbenzene		2.520	3.319	2.756	2.778	2.856
Naphthalene		1150	2424	3529	8419	28087
o-Xylene		0.541	0.733	0.602	0.615	0.609
sec-Butylbenzene		2.284	2.806	2.413	2.474	2.577
Vinyl Chloride		0.256	0.353	0.294	0.301	0.322
1,2,3-Trichloropropane		1011	2361	3184	8399	30610
p-Isopropyltoluene		2.413	2.792	2.355	2.384	2.509
1,2-Dibromo-3-Chloropropane		156	367	503	1446	4750
Freon TF		0.284	0.350	0.309	0.323	0.344
4-Bromofluorobenzene		2046	3396	5980	13391	49568
Dibromofluoromethane		1147	1737	3779	8982	36041
Toluene-d8		1.523	1.176	1.308	1.228	1.208
1,2-Dichloroethane-d4		1387	2280	4578	9297	37631

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS1910152

Instrument ID: VOA6 Calibration Date(s): 10/31/19 10/31/19

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1108 1508

LAB FILE ID: RF50: X103108 RF100: X103109 RF150: X103110
RF200: X103111

COMPOUND	RF50	RF100	RF150	RF200
cis-1,3-Dichloropropene	0.456	0.465	0.474	0.470
trans-1,3-Dichloropropene	0.428	0.434	0.447	0.446
1,3-Dichlorobenzene	1.445	1.468	1.484	1.459
2,2-Dichloropropane	0.555	0.570	0.566	0.570
1,1-Dichloropropene	0.357	0.374	0.380	0.376
Dibromomethane	0.196	0.196	0.199	0.199
1,2-Dibromoethane	0.333	0.329	0.333	0.329
trans-1,2-Dichloroethene	0.339	0.349	0.348	0.351
1,1,1,2-Tetrachloroethane	0.391	0.398	0.396	0.394
1,1,1-Trichloroethane	0.620	0.649	0.649	0.662
1,1,2,2-Tetrachloroethane	78949	149496	215145	280469
Toluene	1.333	1.348	1.330	1.307
1,1,2-Trichloroethane	0.227	0.221	0.222	0.218
1,1-Dichloroethane	0.530	0.553	0.549	0.553
1,1-Dichloroethene	0.305	0.322	0.322	0.323
Trichlorofluoromethane	0.660	0.697	0.699	0.709
1,2,3-Trichlorobenzene	25234	48520	76003	112477
Tetrachloroethene	0.375	0.383	0.379	0.371
1,2,4-Trichlorobenzene	0.409	0.411	0.441	0.481
1,2,4-Trimethylbenzene	2.356	2.400	2.392	2.336
tert-Butylbenzene	1.954	2.015	2.008	1.960
Trichloroethene	0.372	0.387	0.387	0.387
1,2-Dichlorobenzene	1.309	1.306	1.318	1.312
1,2-Dichloroethane	0.395	0.400	0.411	0.410
1,2-Dichloropropane	0.224	0.230	0.232	0.229
1,3,5-Trimethylbenzene	2.279	2.337	2.333	2.269
1,3-Dichloropropane	0.455	0.450	0.448	0.443
1,4-Dichlorobenzene	1.456	1.474	1.497	1.471
2-Butanone	44815	85336	122056	154601
2-Chlorotoluene	1.743	1.795	1.805	1.761
2-Hexanone	0.136	0.132	0.133	0.134
4-Chlorotoluene	2.058	2.098	2.082	2.021
Styrene	1.044	1.041	1.011	0.988
4-Methyl-2-Pentanone	0.195	0.189	0.193	0.194
Acetone	43941	85856	120957	159199
Benzene	279169	554628	792393	1022532
Bromobenzene	0.886	0.899	0.911	0.900
Bromochloromethane	0.236	0.246	0.245	0.236
Bromodichloromethane	0.394	0.408	0.420	0.417
Bromoform	0.322	0.322	0.330	0.330
Bromomethane	87503	153089		
Carbon Disulfide	0.905	0.950	0.939	0.948
Carbon Tetrachloride	0.469	0.492	0.505	0.504
Chlorobenzene	0.940	0.961	0.952	0.930

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS1910152

Instrument ID: VOA6 Calibration Date(s): 10/31/19 10/31/19

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1108 1508

LAB FILE ID: RF50: X103108 RF100: X103109 RF150: X103110
RF200: X103111

COMPOUND	RF50	RF100	RF150	RF200
Chloroethane	0.187	0.196	0.195	0.190
Chloroform	0.648	0.659	0.660	0.675
Chloromethane	70697	143471	201305	251570
cis-1,2-Dichloroethene	0.397	0.412	0.408	0.414
Dibromochloromethane	0.405	0.415	0.416	0.412
Dichlorodifluoromethane	80612	166586	241181	312332
Ethylbenzene	0.486	0.505	0.495	0.486
Hexachlorobutadiene	0.371	0.376	0.395	0.400
Isopropylbenzene	1.500	1.548	1.524	1.482
m,p-Xylenes	0.600	0.606	0.598	0.581
Methylene Chloride	75516	144719	206835	270371
n-Butylbenzene	1.770	1.828	1.827	1.771
n-Propylbenzene	2.777	2.890	2.909	2.825
Naphthalene	67956	130449	199967	291018
o-Xylene	0.588	0.592	0.581	0.564
sec-Butylbenzene	2.505	2.612	2.620	2.554
Vinyl Chloride	0.308	0.327	0.327	0.332
1,2,3-Trichloropropane	71038	133696	190196	241481
p-Isopropyltoluene	2.425	2.495	2.520	2.476
1,2-Dibromo-3-Chloropropane	11810	22324	32705	45236
Freon TF	0.322	0.350	0.344	0.351
4-Bromofluorobenzene	114681	230071	330489	423412
Dibromofluoromethane	82728	169612	240546	311402
Toluene-d8	1.150	1.211	1.193	1.182
1,2-Dichloroethane-d4	88103	177646	255632	330151

FORM VI VOA

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS1910152

Instrument ID: VOA6 Calibration Date(s): 10/31/19 10/31/19

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1108 1508

COMPOUND	CURVE	COEFFICENTS A0	A1	A2	%RSD OR R^2	MAX %RSD OR R^2
cis-1,3-Dichloropropene	AVRG		0.45856989		6.334	15.000
trans-1,3-Dichloropropene	AVRG		0.42810028		6.686	15.000
1,3-Dichlorobenzene	AVRG		1.52433690		7.623	15.000
2,2-Dichloropropane	AVRG		0.60141341		11.720	15.000
1,1-Dichloropropene	AVRG		0.37244617		7.264	15.000
Dibromomethane	AVRG		0.19310160		11.587	15.000
1,2-Dibromoethane	AVRG		0.33595600		5.784	15.000
trans-1,2-Dichloroethene	AVRG		0.33587175		6.524	15.000
1,1,1,2-Tetrachloroethane	AVRG		0.40728922		6.920	15.000
1,1,1-Trichloroethane	AVRG		0.62660928		7.977	15.000
1,1,2,2-Tetrachloroethane	LINR	-1.06e-002	1.85567773		0.9999263	0.9900000
Toluene	AVRG		1.36443130		8.261	15.000
1,1,2-Trichloroethane	AVRG		0.22720880		5.950	15.000
1,1-Dichloroethane	AVRG		0.55973145		5.836	15.000
1,1-Dichloroethene	AVRG		0.31789341		4.475	15.000
Trichlorofluoromethane	AVRG		0.66731484		7.520	15.000
1,2,3-Trichlorobenzene	2ORDR	-2.55e-002	6.46537152	-2.0975653	0.9996923	0.9900000
Tetrachloroethene	AVRG		0.37879564		6.543	15.000
1,2,4-Trichlorobenzene	AVRG		0.45120351		9.878	15.000
1,2,4-Trimethylbenzene	AVRG		2.39501000		5.559	15.000
tert-Butylbenzene	AVRG		2.01155844		4.906	15.000
Trichloroethene	AVRG		0.37307409		10.841	15.000
1,2-Dichlorobenzene	AVRG		1.38759928		8.690	15.000
1,2-Dichloroethane	AVRG		0.40536598		6.857	15.000
1,2-Dichloropropane	AVRG		0.24355653		11.351	15.000
1,3,5-Trimethylbenzene	AVRG		2.32095590		6.520	15.000
1,3-Dichloropropane	AVRG		0.46611380		6.786	15.000
1,4-Dichlorobenzene	AVRG		1.53800306		6.844	15.000
2-Butanone	LINR	-9.39e-003	9.95127446		0.9999734	0.9900000
2-Chlorotoluene	AVRG		1.79705975		5.102	15.000
2-Hexanone	AVRG		0.14558619		13.598	15.000
4-Chlorotoluene	AVRG		2.11973712		6.994	15.000
Styrene	AVRG		1.04310443		6.964	15.000
4-Methyl-2-Pentanone	AVRG		0.20587784		10.565	15.000
Acetone	LINR	-3.6e-004	9.80325625		0.9996338	0.9900000
Benzene	LINR	-6.38e-003	0.94018283		0.9998857	0.9900000
Bromobenzene	AVRG		0.92040881		6.424	15.000
Bromochloromethane	AVRG		0.25787705		8.841	15.000
Bromodichloromethane	AVRG		0.39587864		7.081	15.000
Bromoform	AVRG		0.32249483		8.752	15.000
Bromomethane	LINR	-3.01e-002	2.73849150		0.9970687	0.9900000
Carbon Disulfide	AVRG		0.92121612		4.277	15.000
Carbon Tetrachloride	AVRG		0.48801212		4.725	15.000
Chlorobenzene	AVRG		0.97395716		7.722	15.000

FORM VI VOA

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS1910152

Instrument ID: VOA6 Calibration Date(s): 10/31/19 10/31/19

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1108 1508

COMPOUND	CURVE	COEFFICENTS A0	A1	A2	%RSD OR R^2	MAX %RSD OR R^2
Chloroethane	AVRG		0.19820754		9.410	15.000
Chloroform	AVRG		0.66179335		4.606	15.000
Chloromethane	LINR	-1.22e-003	3.03114225		0.9996110	0.9900000
cis-1,2-Dichloroethene	AVRG		0.39942970		7.607	15.000
Dibromochloromethane	AVRG		0.41417828		9.025	15.000
Dichlorodifluoromethane	LINR	2.432e-002	2.47498629		0.9995504	0.9900000
Ethylbenzene	AVRG		0.50515329		8.236	15.000
Hexachlorobutadiene	AVRG		0.39001718		8.598	15.000
Isopropylbenzene	AVRG		1.53568222		6.462	15.000
m,p-Xylenes	AVRG		0.61234124		8.051	15.000
Methylene Chloride	LINR	-1.26e-004	2.88208931		0.9997434	0.9900000
n-Butylbenzene	AVRG		1.77282287		6.087	15.000
n-Propylbenzene	AVRG		2.84776750		7.392	15.000
Naphthalene	2ORDR	-2.51e-002	2.39456353	-0.2663482	0.9997523	0.9900000
o-Xylene	AVRG		0.60297897		8.914	15.000
sec-Butylbenzene	AVRG		2.53839176		5.765	15.000
Vinyl Chloride	AVRG		0.31362559		8.872	15.000
1,2,3-Trichloropropane	LINR	-2.22e-002	2.13207398		0.9996332	0.9900000
p-Isopropyltoluene	AVRG		2.48551941		5.171	15.000
1,2-Dibromo-3-Chloropropane	LINR	2.147e-002	11.7174015		0.9980553	0.9900000
Freon TF	AVRG		0.33078879		6.986	15.000
4-Bromofluorobenzene	LINR	-1.22e-002	2.15439466		0.9997566	0.9900000
Dibromofluoromethane	LINR	9.795e-003	2.48500674		0.9997419	0.9900000
Toluene-d8	AVRG		1.24228173		9.204	15.000
1,2-Dichloroethane-d4	LINR	9.88e-003	2.34581527		0.9997546	0.9900000

FORM VI VOA

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS19101523

Instrument ID: VOA6 Calibration Date: 10/31/19 Time: 2220

Lab File ID: X103129 Init. Calib. Date(s): 10/31/19 10/31/19

Init. Calib. Times: 1108 1508

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	0.4580000	0.4578683	0.4578683	0.2	0.03	50.00	AVRG	
trans-1,3-Dichloropropene	0.4280000	0.4317614	0.4317614	0.1	-0.88	50.00	AVRG	
1,3-Dichlorobenzene	1.5240000	1.4528760	1.4528760	0.6	4.67	50.00	AVRG	
2,2-Dichloropropane	0.6010000	0.5496476	0.5496476	0.1	8.54	50.00	AVRG	
1,1-Dichloropropene	0.3720000	0.3640253	0.3640253	0.1	2.14	50.00	AVRG	
Dibromomethane	0.1930000	0.1959232	0.1959232	0.1	-1.51	50.00	AVRG	
1,2-Dibromoethane	0.3360000	0.3323298	0.3323298	0.1	1.09	50.00	AVRG	
trans-1,2-Dichloroethene	0.3360000	0.3481918	0.3481918	0.1	-3.63	50.00	AVRG	
1,1,1,2-Tetrachloroethane	0.4070000	0.3929374	0.3929374	0.1	3.46	50.00	AVRG	
1,1,1-Trichloroethane	0.6270000	0.6391015	0.6391015	0.1	-1.93	50.00	AVRG	
1,1,2,2-Tetrachloroethane	50.007794	50.000000	0.5446834	0.3	-0.02	50.00	LINR	
Toluene	1.3640000	1.3234356	1.3234356	0.4	2.97	50.00	AVRG	
1,1,2-Trichloroethane	0.2270000	0.2242122	0.2242122	0.1	1.23	50.00	AVRG	
1,1-Dichloroethane	0.5600000	0.5516557	0.5516557	0.2	1.49	50.00	AVRG	
1,1-Dichloroethene	0.3180000	0.3146229	0.3146229	0.1	1.06	50.00	AVRG	
Trichlorofluoromethane	0.6670000	0.6744464	0.6744464	0.1	-1.12	50.00	AVRG	
1,2,3-Trichlorobenzene	51.333921	50.000000	0.1723895	0.1	-2.67	50.00	2RDR	
Tetrachloroethene	0.3790000	0.3674803	0.3674803	0.2	3.04	50.00	AVRG	
1,2,4-Trichlorobenzene	0.4510000	0.3953987	0.3953987	0.2	12.33	50.00	AVRG	
1,2,4-Trimethylbenzene	2.3950000	2.3572072	2.3572072	0.1	1.58	50.00	AVRG	
tert-Butylbenzene	2.0120000	1.9713950	1.9713950	0.1	2.02	50.00	AVRG	
Trichloroethene	0.3730000	0.3785653	0.3785653	0.2	-1.49	50.00	AVRG	
1,2-Dichlorobenzene	1.3880000	1.2993360	1.2993360	0.4	6.39	50.00	AVRG	
1,2-Dichloroethane	0.4050000	0.4015928	0.4015928	0.1	0.84	50.00	AVRG	
1,2-Dichloropropane	0.2440000	0.2293191	0.2293191	0.1	6.02	50.00	AVRG	
1,3,5-Trimethylbenzene	2.3210000	2.2904317	2.2904317	0.1	1.32	50.00	AVRG	
1,3-Dichloropropane	0.4660000	0.4543647	0.4543647	0.1	2.50	50.00	AVRG	
1,4-Dichlorobenzene	1.5380000	1.4571523	1.4571523	0.4	5.26	50.00	AVRG	
2-Butanone	91.614166	100.00000	9.25e-002	0.1	8.38	50.00	LINR	<-
2-Chlorotoluene	1.7970000	1.7564602	1.7564602	0.1	2.26	50.00	AVRG	
2-Hexanone	0.1460000	0.1325278	0.1325278	0.1	9.23	50.00	AVRG	
4-Chlorotoluene	2.1200000	2.0655516	2.0655516	0.1	2.57	50.00	AVRG	
Styrene	1.0430000	1.0329189	1.0329189	0.3	0.97	50.00	AVRG	
4-Methyl-2-Pentanone	0.2060000	0.1906908	0.1906908	0.1	7.43	50.00	AVRG	
Acetone	81.055194	100.00000	8.27e-002	0.1	18.94	50.00	LINR	<-
Benzene	48.832310	50.000000	1.0455695	0.5	2.34	50.00	LINR	
Bromobenzene	0.9200000	0.9029948	0.9029948	0.1	1.85	50.00	AVRG	
Bromochloromethane	0.2580000	0.2516339	0.2516339	0.1	2.47	50.00	AVRG	
Bromodichloromethane	0.3960000	0.4039024	0.4039024	0.2	-2.00	50.00	AVRG	
Bromoform	0.3220000	0.3156086	0.3156086	0.1	1.98	50.00	AVRG	
Bromomethane	55.999180	50.000000	0.4199614	0.1	-12.00	50.00	LINR	
Carbon Disulfide	0.9210000	0.9279818	0.9279818	0.1	-0.76	50.00	AVRG	

FORM VII VOA

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS1910152

Instrument ID: VOA6 Calibration Date: 10/31/19 Time: 2220

Lab File ID: X103129 Init. Calib. Date(s): 10/31/19 10/31/19

Init. Calib. Times: 1108 1508

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	0.4880000	0.4744525	0.4744525	0.1	2.78	50.00	AVRG
Chlorobenzene	0.9740000	0.9361788	0.9361788	0.5	3.88	50.00	AVRG
Chloroethane	0.1980000	0.2011859	0.2011859	0.1	-1.61	50.00	AVRG
Chloroform	0.6620000	0.6643113	0.6643113	0.2	-0.35	50.00	AVRG
Chloromethane	51.738268	50.000000	0.3417792	0.1	-3.48	50.00	LINR
cis-1,2-Dichloroethene	0.3990000	0.4139608	0.4139608	0.1	-3.75	50.00	AVRG
Dibromochloromethane	0.4140000	0.4028460	0.4028460	0.1	2.69	50.00	AVRG
Dichlorodifluoromethane	48.342138	50.000000	0.3808182	0.1	3.32	50.00	LINR
Ethylbenzene	0.5050000	0.4949402	0.4949402	0.1	1.99	50.00	AVRG
Hexachlorobutadiene	0.3900000	0.3662803	0.3662803	0.1	6.08	50.00	AVRG
Isopropylbenzene	1.5360000	1.5002151	1.5002151	0.1	2.33	50.00	AVRG
m,p-Xylenes	0.6120000	0.5987304	0.5987304	0.1	2.17	50.00	AVRG
Methylene Chloride	50.654252	50.000000	0.3515544	0.1	-1.31	50.00	LINR
n-Butylbenzene	1.7730000	1.7614329	1.7614329	0.5	0.65	50.00	AVRG
n-Propylbenzene	2.8480000	2.8062218	2.8062218	0.1	1.47	50.00	AVRG
Naphthalene	50.328412	50.000000	0.4537552	0.2	-0.66	50.00	2RDR
o-Xylene	0.6030000	0.5892905	0.5892905	0.3	2.27	50.00	AVRG
sec-Butylbenzene	2.5380000	2.5354837	2.5354837	0.1	0.10	50.00	AVRG
Vinyl Chloride	0.3130000	0.3155038	0.3155038	0.1	-0.80	50.00	AVRG
1,2,3-Trichloropropane	51.404152	50.000000	0.4926008	0.1	-2.81	50.00	LINR
p-Isopropyltoluene	2.4850000	2.4548383	2.4548383	0.1	1.21	50.00	AVRG
1,2-Dibromo-3-Chloropropane	46.578286	50.000000	7.77e-002	0.05	6.84	50.00	LINR
Freon TF	0.3310000	0.3358213	0.3358213	0.1	-1.46	50.00	AVRG
4-Bromofluorobenzene	51.155978	50.000000	0.4805440	0.1	-2.31	50.00	LINR
Dibromofluoromethane	51.095380	50.000000	0.4072878	0.1	-2.19	50.00	LINR
Toluene-d8	1.2420000	1.2077142	1.2077142	0.1	2.76	50.00	AVRG
1,2-Dichloroethane-d4	50.847552	50.000000	0.4293055	0.1	-1.70	50.00	LINR

FORM VII VOA

FORM 8
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS19101523

Lab File ID (Standard): X103108 Date Analyzed: 10/31/19

Instrument ID: VOA6 Time Analyzed: 1356

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	143042	9.67	246961	7.67	269454	4.97
	UPPER LIMIT	286084	10.17	493922	8.17	538908	5.47
	LOWER LIMIT	71521	9.17	123481	7.17	134727	4.47
	CLIENT SAMPLE NO.						
01	ICV	145534	9.67	249311	7.67	271395	4.97
02	VLCSW-191031	149700	9.67	252984	7.67	272961	4.97
03	VBLKW-191031	159687	9.67	289842	7.67	326333	4.97
04	HS19101523-05	159817	9.67	286983	7.67	328334	4.97
05	HS19101523-01	164454	9.67	289089	7.67	330690	4.97
06	HS19101523-02	166801	9.67	294291	7.67	335933	4.97
07	HS19101523-03	160157	9.66	291970	7.67	327975	4.97
08	HS19101523-04	168093	9.66	294000	7.67	337190	4.97
09	HS19101523-06	170567	9.67	294322	7.67	333119	4.97
10	HS19101523-05	159427	9.66	287247	7.67	327814	4.97
11	HS19101523-05	160666	9.67	281414	7.67	316296	4.97
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 8
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS19101523

Lab File ID (Standard): X103108 Date Analyzed: 10/31/19

Instrument ID: VOA6 Time Analyzed: 1356

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

		IS4 AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	219598	4.18				
	UPPER LIMIT	439196	4.68				
	LOWER LIMIT	109799	3.68				
	CLIENT SAMPLE NO.						
01	ICV	222901	4.18				
02	VLCSW-191031	216849	4.18				
03	VBLKW-191031	277010	4.18				
04	HS19101523-05	276132	4.18				
05	HS19101523-01	284222	4.18				
06	HS19101523-02	283682	4.18				
07	HS19101523-03	279459	4.18				
08	HS19101523-04	284417	4.18				
09	HS19101523-06	279197	4.18				
10	HS19101523-05	276714	4.18				
11	HS19101523-05	266665	4.18				
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\X191031.b\X103101.D

Date : 31-OCT-2019 10:45

Client ID: BFB

Instrument: voa6.i

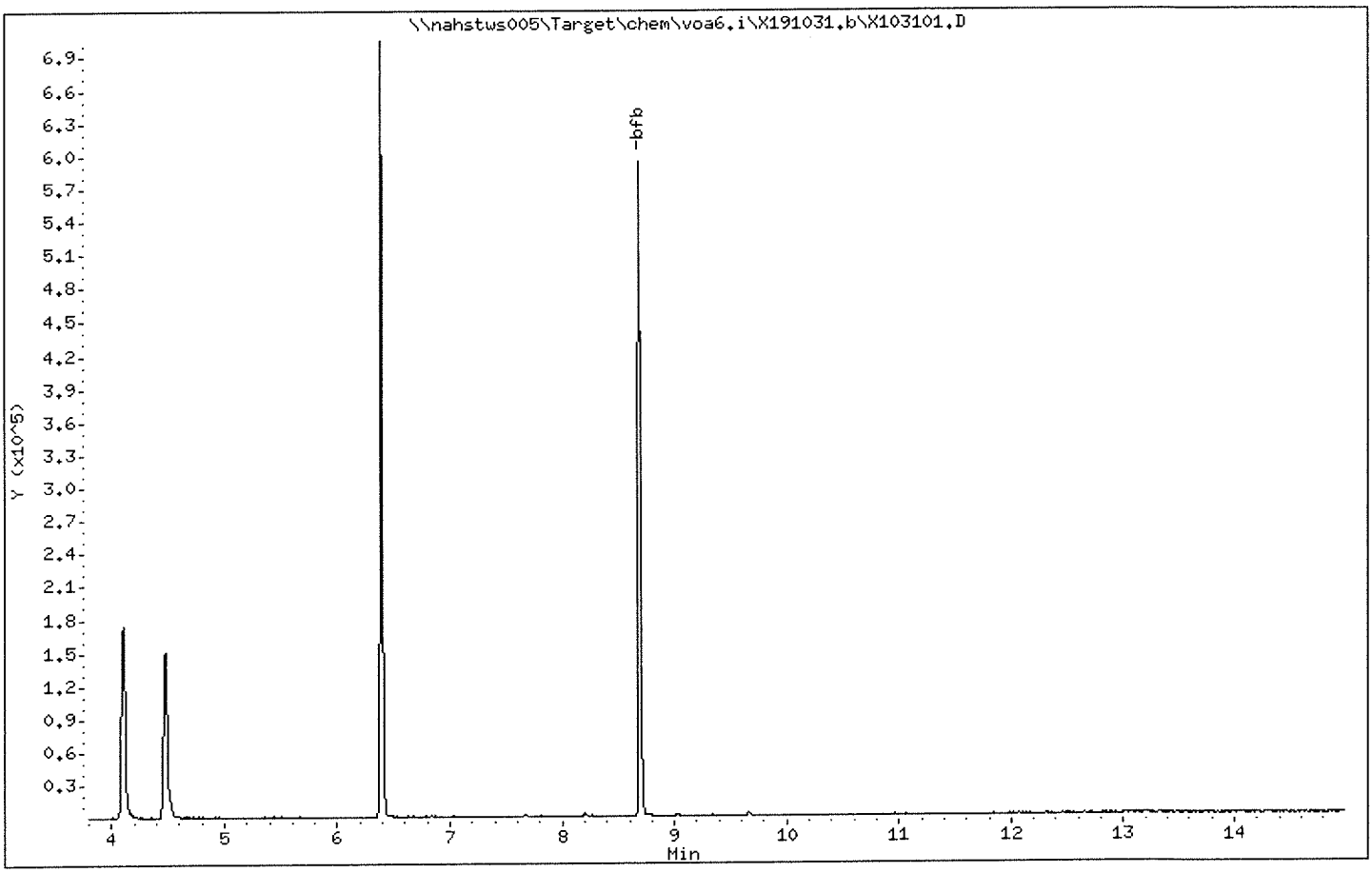
Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0

Operator: PC

Column phase: DB624

Column diameter: 0.25



Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\X103101.D Page 2

Date : 31-OCT-2019 10:45

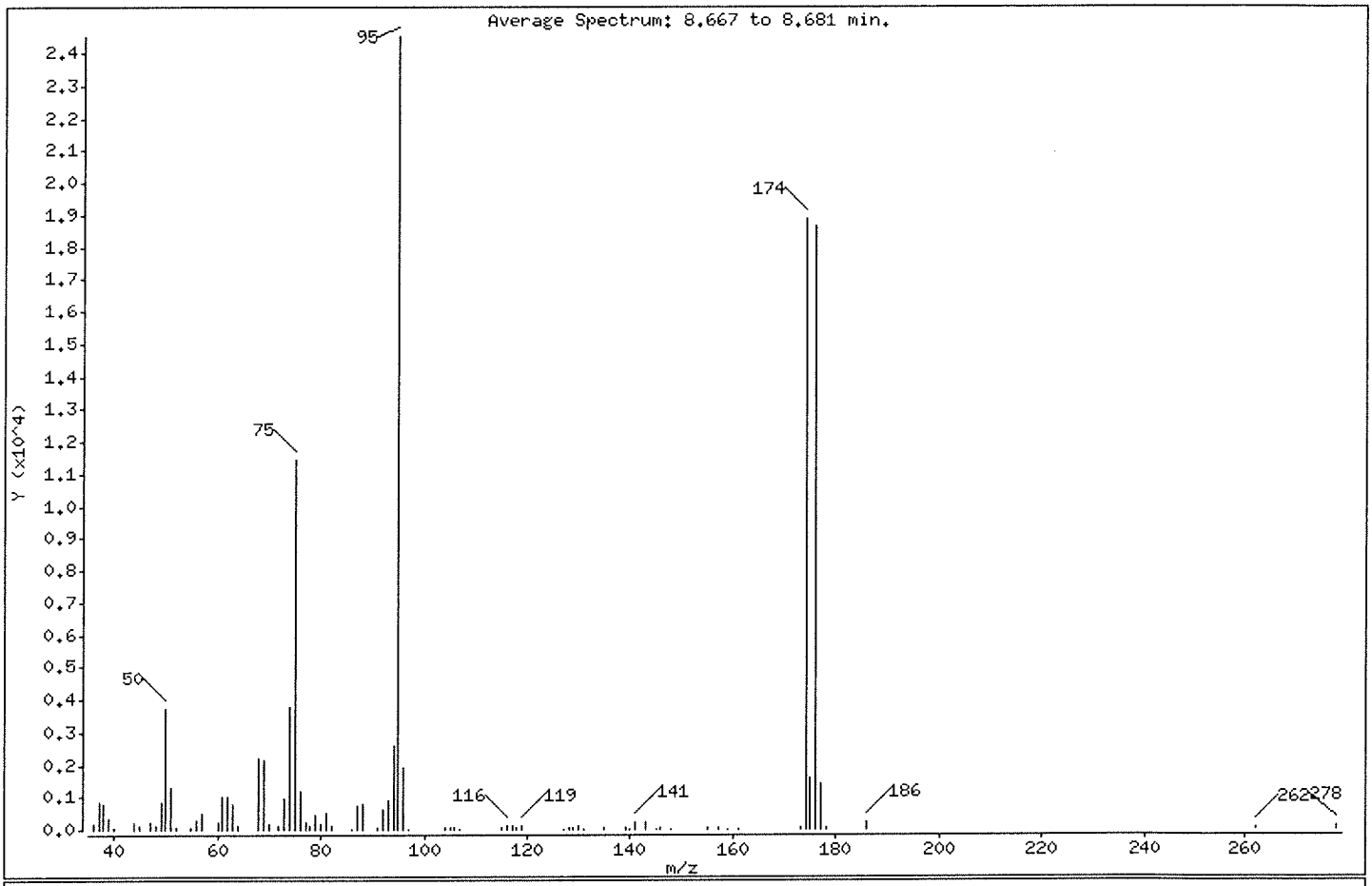
Client ID: BFB Instrument: voa6.i

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	15.26
75	30.00 - 60.00% of mass 95	46.74
96	5.00 - 9.00% of mass 95	7.82
173	Less than 2.00% of mass 174	0.27 (0.35)
174	Greater than 50.00% of mass 95	77.15
175	5.00 - 9.00% of mass 174	6.54 (8.47)
176	95.00 - 101.00% of mass 174	75.98 (98.48)
177	5.00 - 9.00% of mass 176	5.74 (7.55)

Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\X103101.D

Date : 31-OCT-2019 10:45

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: X103101.D
Spectrum: Average Spectrum: 8.667 to 8.681 min.
Location of Maximum: 95.00
Number of points: 80

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	175	68.00	2200	95.00	24512	143.00	198
37.00	849	69.00	2137	96.00	1917	145.00	23
38.00	767	70.00	142	97.00	20	146.00	46
39.00	345	72.00	110	104.00	69	148.00	26
40.00	43	73.00	972	105.00	32	155.00	49
44.00	202	74.00	3770	106.00	58	157.00	36
45.00	127	75.00	11458	107.00	24	159.00	25
47.00	198	76.00	1157	115.00	69	161.00	23
48.00	134	77.00	239	116.00	87	173.00	67
49.00	873	78.00	119	117.00	122	174.00	18904
50.00	3741	79.00	465	118.00	52	175.00	1602
51.00	1282	80.00	144	119.00	125	176.00	18624
52.00	53	81.00	505	127.00	18	177.00	1406
55.00	77	82.00	92	128.00	82	178.00	33
56.00	283	86.00	18	129.00	80	186.00	225
57.00	532	87.00	712	130.00	93	262.00	38
60.00	228	88.00	805	131.00	22	278.00	140
61.00	987	91.00	74	135.00	35		
62.00	1014	92.00	617	139.00	35		
63.00	782	93.00	878	140.00	22		
64.00	99	94.00	2584	141.00	236		

Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\X103102.D Page 1
Report Date: 19-Nov-2019 17:39

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X191031.b\X103102.D
Lab Smp Id: VSTD000.25 Client Smp ID: VSTD000.25
Inj Date : 31-OCT-2019 11:08
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\X191031.b\8260W.m
Meth Date : 19-Nov-2019 17:37 voa6.i Quant Type: ISTD
Cal Date : 31-OCT-2019 11:08 Cal File: X103102.D
Als bottle: 2 Calibration Sample, Level: 1
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)	ON-COL (ug/l)
*	1 Pentafluorobenzene	168	4.182	4.182	(1.000)	249352	50.0000	
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	305717	50.0000	
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	276345	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	161037	50.0000	
$	35 1,2-Dichloroethane-d4	65	4.483	4.476	(1.072)	1045	0.25000	0.98(Ta)
$	69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	3827	0.25000	0.88(a)
$	30 Dibromofluoromethane	113	4.103	4.104	(0.981)	893	0.25000	0.93(a)
$	48 Toluene-d8	98	6.388	6.389	(0.833)	4092	0.25000	0.59(Ta)
	60 1,1,1,2-Tetrachloroethane	131	7.771	7.778	(1.013)	555	0.25000	0.24(aM)
	31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	636	0.25000	0.20(a)
	68 1,1,2,2-Tetrachloroethane	83	8.845	8.845	(0.915)	385	0.25000	(aM)
	138 Freon TF	101	1.911	1.912	(0.457)	303	0.25000	0.18(aM)
	53 1,1,2-Trichloroethane	83	6.847	6.840	(0.893)	262	0.25000	0.20(aM)
	22 1,1-Dichloroethane	63	2.921	2.922	(0.699)	663	0.25000	0.23(aM)
	11 1,1-Dichloroethene	96	1.911	1.912	(0.457)	269	0.25000	0.16(aM)
	32 1,1-Dichloropropene	75	4.290	4.283	(0.863)	483	0.25000	0.21(aM)
	93 1,2,3-Trichlorobenzene	180	11.739	11.746	(1.214)	76	0.25000	(aM)
	71 1,2,3-Trichloropropane	75	8.867	8.867	(0.917)	438	0.25000	(aM)
	90 1,2,4-Trichlorobenzene	180	11.345	11.338	(1.173)	218	0.25000	0.15(aM)
	79 1,2,4-Trimethylbenzene	105	9.382	9.383	(0.970)	1565	0.25000	0.20(a)
	57 1,2-Dibromoethane	107	7.269	7.262	(0.948)	409	0.25000	0.22(aM)
	88 1,2-Dichlorobenzene	146	9.998	9.999	(1.034)	1030	0.25000	0.23(a)
	33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	531	0.25000	0.21(aM)

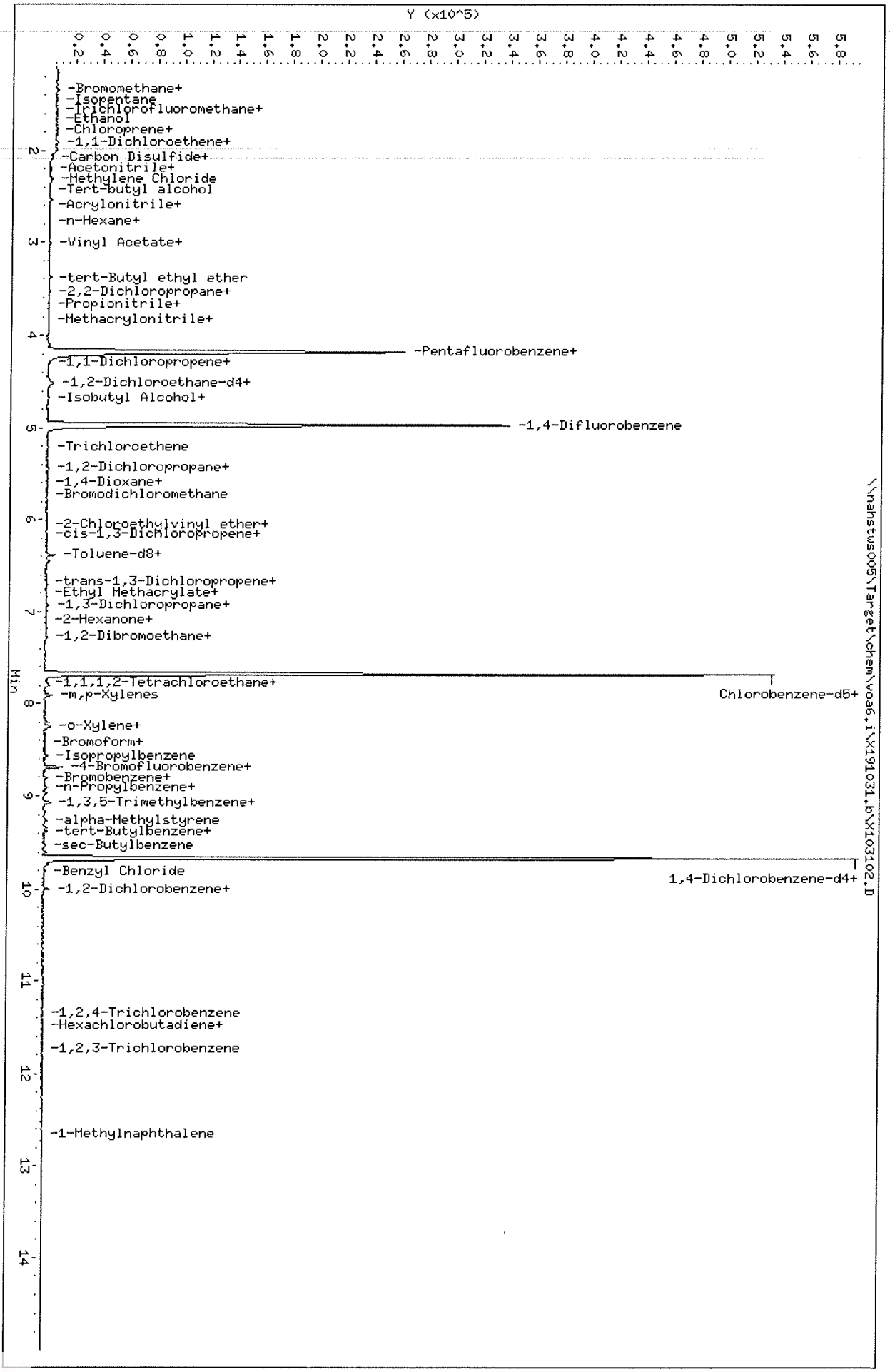
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
42 1,2-Dichloropropane	63	5.436	5.436	(1.094)	363	0.25000	0.24 (aM)
75 1,3,5-Trimethylbenzene	105	9.067	9.075	(0.938)	1373	0.25000	0.18 (a)
83 1,3-Dichlorobenzene	146	9.612	9.612	(0.994)	901	0.25000	0.18 (a)
54 1,3-Dichloropropane	76	6.983	6.983	(0.910)	646	0.25000	0.25 (aM)
84 1,4-Dichlorobenzene	146	9.683	9.684	(1.001)	1137	0.25000	0.22 (a)
26 2,2-Dichloropropane	77	3.509	3.516	(0.839)	828	0.25000	0.27 (aM)
24 2-Butanone	43	3.602	3.573	(0.861)	220	0.50000	(aM)
76 2-Chlorotoluene	91	8.981	8.982	(0.929)	1180	0.25000	0.20 (aM)
52 2-Hexanone	43	7.090	7.090	(0.924)	312	0.50000	0.38 (aM)
77 4-Chlorotoluene	91	9.074	9.075	(0.939)	1406	0.25000	0.20 (aM)
82 p-Isopropyltoluene	119	9.655	9.655	(0.999)	1208	0.25000	0.15 (aM)
45 4-Methyl-2-Pentanone	43	6.324	6.331	(0.824)	481	0.50000	0.42 (aM)
10 Acetone	43	1.976	1.976	(0.473)	655	0.50000	1.26 (aM)
37 Benzene	78	4.519	4.512	(0.909)	3152	0.25000	0.16 (aM)
74 Bromobenzene	156	8.809	8.810	(0.911)	638	0.25000	0.21 (a)
29 Bromochloromethane	128	3.788	3.795	(0.906)	295	0.25000	0.22 (aM)
39 Bromodichloromethane	83	5.729	5.730	(1.153)	477	0.25000	0.19 (aM)
66 Bromoform	173	8.415	8.416	(1.097)	339	0.25000	0.19 (aM)
6 Bromomethane	94	1.338	1.331	(0.320)	550	0.25000	(aM)
19 Carbon Disulfide	76	2.069	2.069	(0.495)	2027	0.50000	0.44 (a)
34 Carbon Tetrachloride	117	4.239	4.268	(0.853)	1048	0.25000	0.35 (aM)
59 Chlorobenzene	112	7.699	7.699	(1.004)	1360	0.25000	0.25 (aM)
7 Chloroethane	64	1.410	1.396	(0.337)	350	0.25000	0.35 (aM)
28 Chloroform	83	3.917	3.910	(0.937)	771	0.25000	0.23 (aM)
3 Chloromethane	50	1.073	1.074	(0.257)	486	0.25000	0.23 (aM)
27 cis-1,2-Dichloroethene	96	3.530	3.523	(0.844)	436	0.25000	0.21 (aM)
46 cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	571	0.25000	0.20 (aM)
55 Dibromochloromethane	129	7.176	7.176	(0.936)	436	0.25000	0.19 (aM)
44 Dibromomethane	93	5.557	5.558	(1.118)	254	0.25000	0.21 (aM)
2 Dichlorodifluoromethane	85	0.973	0.966	(0.233)	397	0.25000	1.41 (aM)
61 Ethylbenzene	106	7.807	7.807	(1.018)	548	0.25000	0.19 (aM)
91 Hexachlorobutadiene	225	11.481	11.481	(1.187)	144	0.25000	0.11 (aM)
67 Isopropylbenzene	105	8.566	8.566	(1.117)	1547	0.25000	0.18 (aM)
62 m,p-Xylenes	106	7.907	7.907	(1.031)	1517	0.50000	0.44 (a)
17 Methylene Chloride	84	2.305	2.306	(0.551)	1014	0.25000	0.57 (aM)
87 n-Butylbenzene	91	9.998	9.999	(1.034)	1013	0.25000	0.17 (aM)
73 n-Propylbenzene	91	8.917	8.917	(0.922)	1705	0.25000	0.18 (a)
92 Naphthalene	128	11.546	11.546	(1.194)	425	0.25000	(aM)
63 o-Xylene	106	8.244	8.244	(1.075)	705	0.25000	0.21 (a)
81 sec-Butylbenzene	105	9.526	9.526	(0.985)	1494	0.25000	0.18 (aM)
64 Styrene	104	8.265	8.265	(1.078)	1251	0.25000	0.21 (a)
78 tert-Butylbenzene	119	9.339	9.340	(0.966)	1152	0.25000	0.17 (Ta)
56 Tetrachloroethene	164	6.933	6.933	(0.904)	486	0.25000	0.23 (aM)
50 Toluene	91	6.453	6.446	(0.841)	1807	0.25000	0.23 (a)
20 trans-1,2-Dichloroethene	96	2.527	2.528	(0.604)	299	0.25000	0.17 (aM)
51 trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	511	0.25000	0.19 (aM)
38 Trichloroethene	130	5.214	5.207	(1.049)	463	0.25000	0.20 (aM)
8 Trichlorofluoromethane	101	1.560	1.553	(0.373)	606	0.25000	0.18 (aM)
5 Vinyl Chloride	62	1.138	1.138	(0.272)	423	0.25000	0.27 (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.



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Purge Volume: 5.0
Column phase: DB624

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

Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\X103103.D Page 1
Report Date: 19-Nov-2019 17:39

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X191031.b\X103103.D
Lab Smp Id: VSTD000.5 Client Smp ID: VSTD000.5
Inj Date : 31-OCT-2019 11:56
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\X191031.b\8260W.m
Meth Date : 19-Nov-2019 17:37 voa6.i Quant Type: ISTD
Cal Date : 31-OCT-2019 11:56 Cal File: X103103.D
Als bottle: 4 Calibration Sample, Level: 2
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

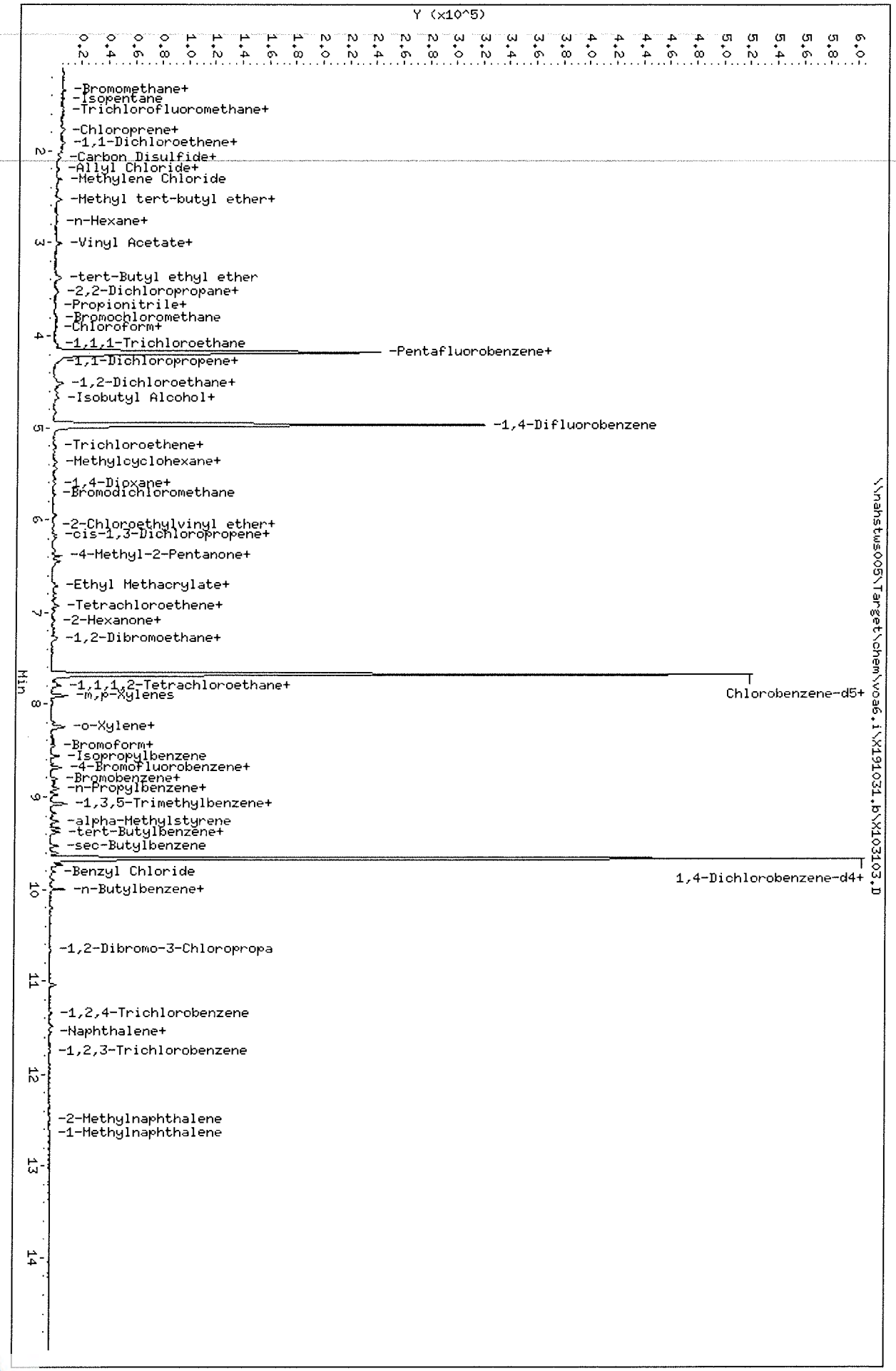
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	231199	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	293122	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	268166	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	158550	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.469	4.476	(1.069)	1387	0.50000	1.19(Ta)
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	2046	0.50000	0.21(a)
$ 30 Dibromofluoromethane	113	4.103	4.104	(0.981)	1147	0.50000	1.10(a)
$ 48 Toluene-d8	98	6.388	6.389	(0.833)	4085	0.50000	0.61(Ta)
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	1075	0.50000	0.49(a)
31 1,1,1-Trichloroethane	97	4.082	4.089	(0.976)	1160	0.50000	0.40(a)
68 1,1,2,2-Tetrachloroethane	83	8.845	8.845	(0.915)	1126	0.50000	0.12(aM)
138 Freon TF	101	1.911	1.912	(0.457)	657	0.50000	0.42(aM)
53 1,1,2-Trichloroethane	83	6.833	6.840	(0.891)	544	0.50000	0.44(aM)
22 1,1-Dichloroethane	63	2.936	2.922	(0.702)	1234	0.50000	0.47(aM)
11 1,1-Dichloroethene	96	1.911	1.912	(0.457)	764	0.50000	0.51(aM)
32 1,1-Dichloropropene	75	4.282	4.283	(0.862)	986	0.50000	0.45(aM)
93 1,2,3-Trichlorobenzene	180	11.754	11.746	(1.216)	339	0.50000	(aM)
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.917)	1011	0.50000	(aM)
90 1,2,4-Trichlorobenzene	180	11.345	11.338	(1.173)	770	0.50000	0.53(aM)
79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.970)	3464	0.50000	0.45(a)
89 1,2-Dibromo-3-Chloropropane	155	10.658	10.658	(1.102)	156	0.50000	1.65(aM)
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	824	0.50000	0.45(a)
88 1,2-Dichlorobenzene	146	9.999	9.999	(1.034)	2207	0.50000	0.50(a)

Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\X103103.D Page 2
Report Date: 19-Nov-2019 17:39

	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	4.555	4.562	(0.916)	1048	0.50000	0.44 (aM)
42	1,2-Dichloropropane	63	5.443	5.436	(1.095)	709	0.50000	0.49 (aM)
75	1,3,5-Trimethylbenzene	105	9.067	9.075	(0.938)	3256	0.50000	0.44 (a)
83	1,3-Dichlorobenzene	146	9.605	9.612	(0.993)	2478	0.50000	0.51 (a)
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	1150	0.50000	0.46 (aM)
84	1,4-Dichlorobenzene	146	9.683	9.684	(1.001)	2656	0.50000	0.54 (a)
26	2,2-Dichloropropane	77	3.523	3.516	(0.842)	1474	0.50000	0.53 (aM)
24	2-Butanone	43	3.588	3.573	(0.858)	443	1.00000	0.48 (aM)
76	2-Chlorotoluene	91	8.974	8.982	(0.928)	2709	0.50000	0.47 (a)
52	2-Hexanone	43	7.090	7.090	(0.924)	880	1.00000	1.12 (Ta)
77	4-Chlorotoluene	91	9.075	9.075	(0.939)	3173	0.50000	0.47 (a)
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	3826	0.50000	0.48 (a)
45	4-Methyl-2-Pentanone	43	6.331	6.331	(0.825)	1125	1.00000	1.01 (aM)
10	Acetone	43	1.976	1.976	(0.473)	887	1.00000	1.86 (aM)
37	Benzene	78	4.512	4.512	(0.908)	4298	0.50000	0.37 (aM)
74	Bromobenzene	156	8.810	8.810	(0.911)	1442	0.50000	0.49 (a)
29	Bromochloromethane	128	3.803	3.795	(0.909)	597	0.50000	0.50 (aM)
39	Bromodichloromethane	83	5.722	5.730	(1.151)	998	0.50000	0.43 (aM)
66	Bromoform	173	8.416	8.416	(1.097)	805	0.50000	0.46 (aM)
6	Bromomethane	94	1.338	1.331	(0.320)	1092	0.50000	(a)
19	Carbon Disulfide	76	2.069	2.069	(0.495)	3971	1.00000	0.93 (aM)
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	1394	0.50000	0.48 (aM)
59	Chlorobenzene	112	7.699	7.699	(1.004)	2393	0.50000	0.45 (a)
7	Chloroethane	64	1.403	1.396	(0.336)	442	0.50000	0.48 (aM)
28	Chloroform	83	3.917	3.910	(0.937)	1403	0.50000	0.45 (a)
3	Chloromethane	50	1.073	1.074	(0.257)	898	0.50000	0.52 (aM)
27	cis-1,2-Dichloroethene	96	3.530	3.523	(0.844)	749	0.50000	0.40 (aM)
46	cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	1154	0.50000	0.42 (aM)
55	Dibromochloromethane	129	7.176	7.176	(0.936)	1012	0.50000	0.45 (a)
44	Dibromomethane	93	5.557	5.558	(1.118)	413	0.50000	0.36 (aM)
2	Dichlorodifluoromethane	85	0.973	0.966	(0.233)	648	0.50000	1.56 (aM)
61	Ethylbenzene	106	7.800	7.807	(1.017)	1227	0.50000	0.45 (aM)
91	Hexachlorobutadiene	225	11.488	11.481	(1.188)	523	0.50000	0.42 (aM)
67	Isopropylbenzene	105	8.566	8.566	(1.117)	3769	0.50000	0.45 (a)
62	m,p-Xylenes	106	7.907	7.907	(1.031)	2945	1.00000	0.89 (a)
17	Methylene Chloride	84	2.305	2.306	(0.551)	1124	0.50000	0.69 (a)
87	n-Butylbenzene	91	9.999	9.999	(1.034)	2482	0.50000	0.44 (a)
73	n-Propylbenzene	91	8.917	8.917	(0.922)	3995	0.50000	0.44 (a)
92	Naphthalene	128	11.546	11.546	(1.194)	1150	0.50000	(a)
63	o-Xylene	106	8.244	8.244	(1.075)	1452	0.50000	0.44 (a)
81	sec-Butylbenzene	105	9.526	9.526	(0.985)	3621	0.50000	0.44 (a)
64	Styrene	104	8.265	8.265	(1.078)	2574	0.50000	0.46 (a)
78	tert-Butylbenzene	119	9.340	9.340	(0.966)	3038	0.50000	0.47 (a)
56	Tetrachloroethene	164	6.933	6.933	(0.904)	859	0.50000	0.42 (a)
50	Toluene	91	6.446	6.446	(0.840)	3269	0.50000	0.44 (a)
20	trans-1,2-Dichloroethene	96	2.528	2.528	(0.604)	653	0.50000	0.42 (aM)
51	trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	1066	0.50000	0.42 (a)
38	Trichloroethene	130	5.199	5.207	(1.046)	828	0.50000	0.37 (aM)
8	Trichlorofluoromethane	101	1.561	1.553	(0.373)	1286	0.50000	0.41 (a)
5	Vinyl Chloride	62	1.145	1.138	(0.274)	593	0.50000	0.40 (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.



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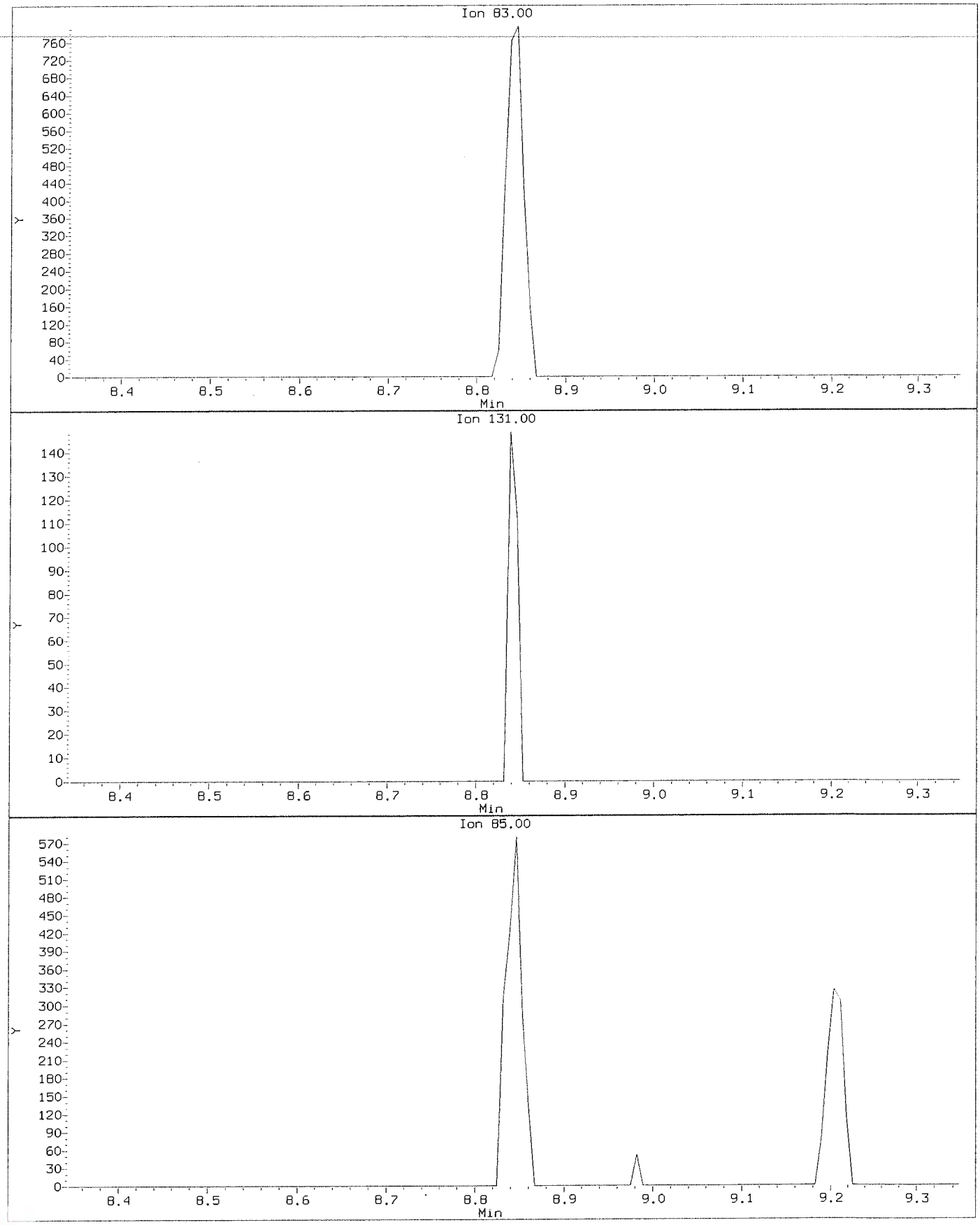
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\BEFORE2\X103103.D
Injection Date: 31-OCT-2019 11:56
Instrument: voa6.i
Client Sample ID: VSTD000.5

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



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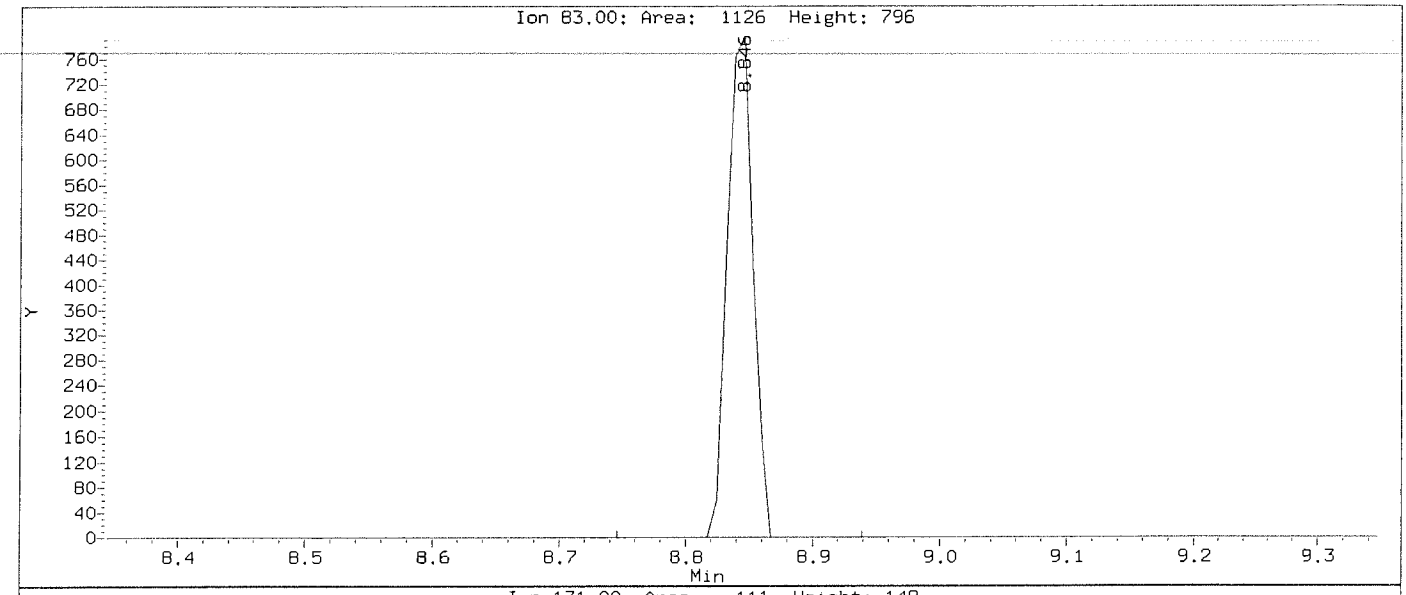
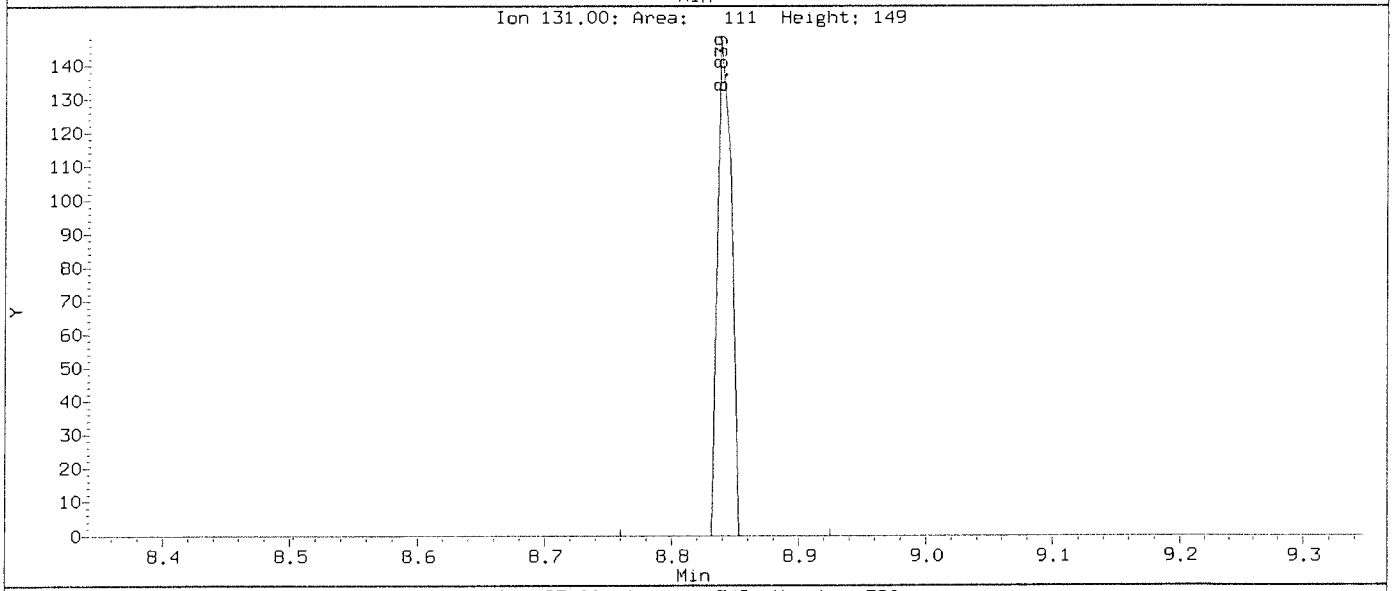
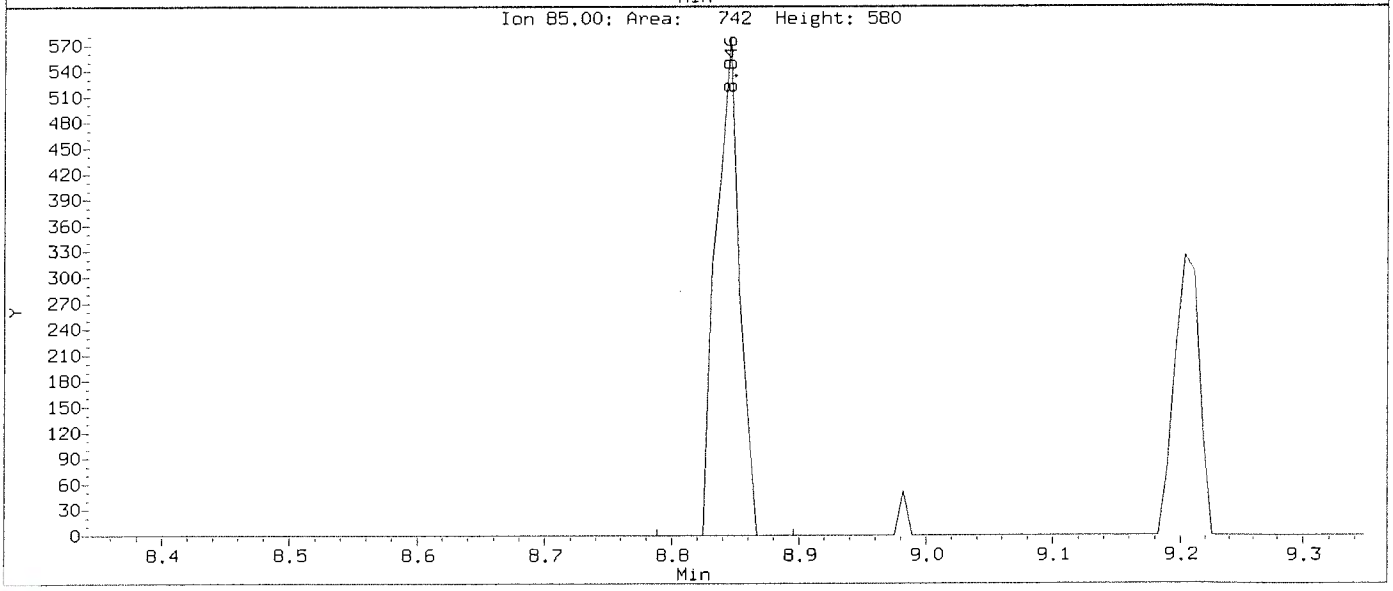
Injection Date: 31-OCT-2019 11:56
Instrument: voa6.i
Client Sample ID: VSTD000.5

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







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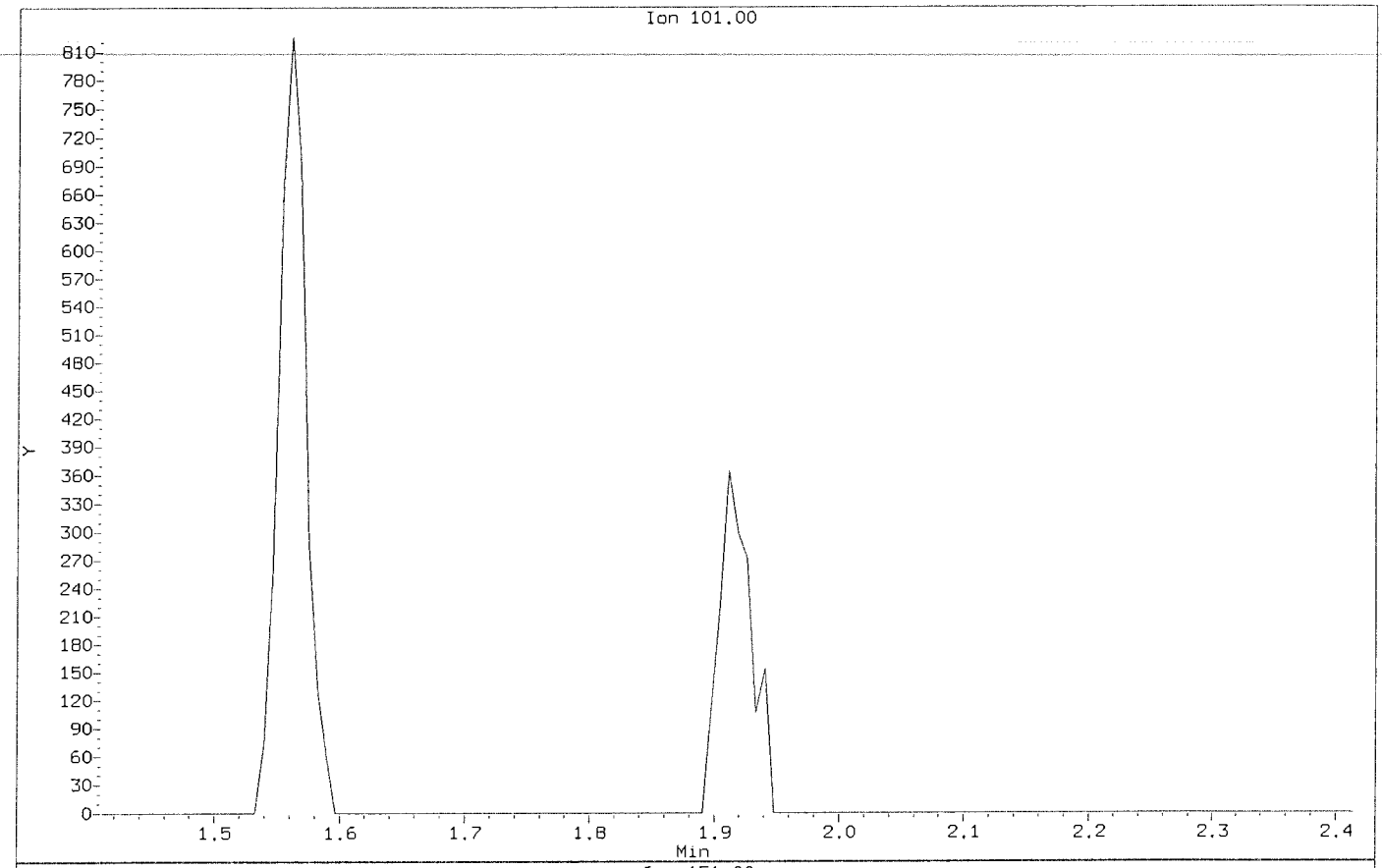
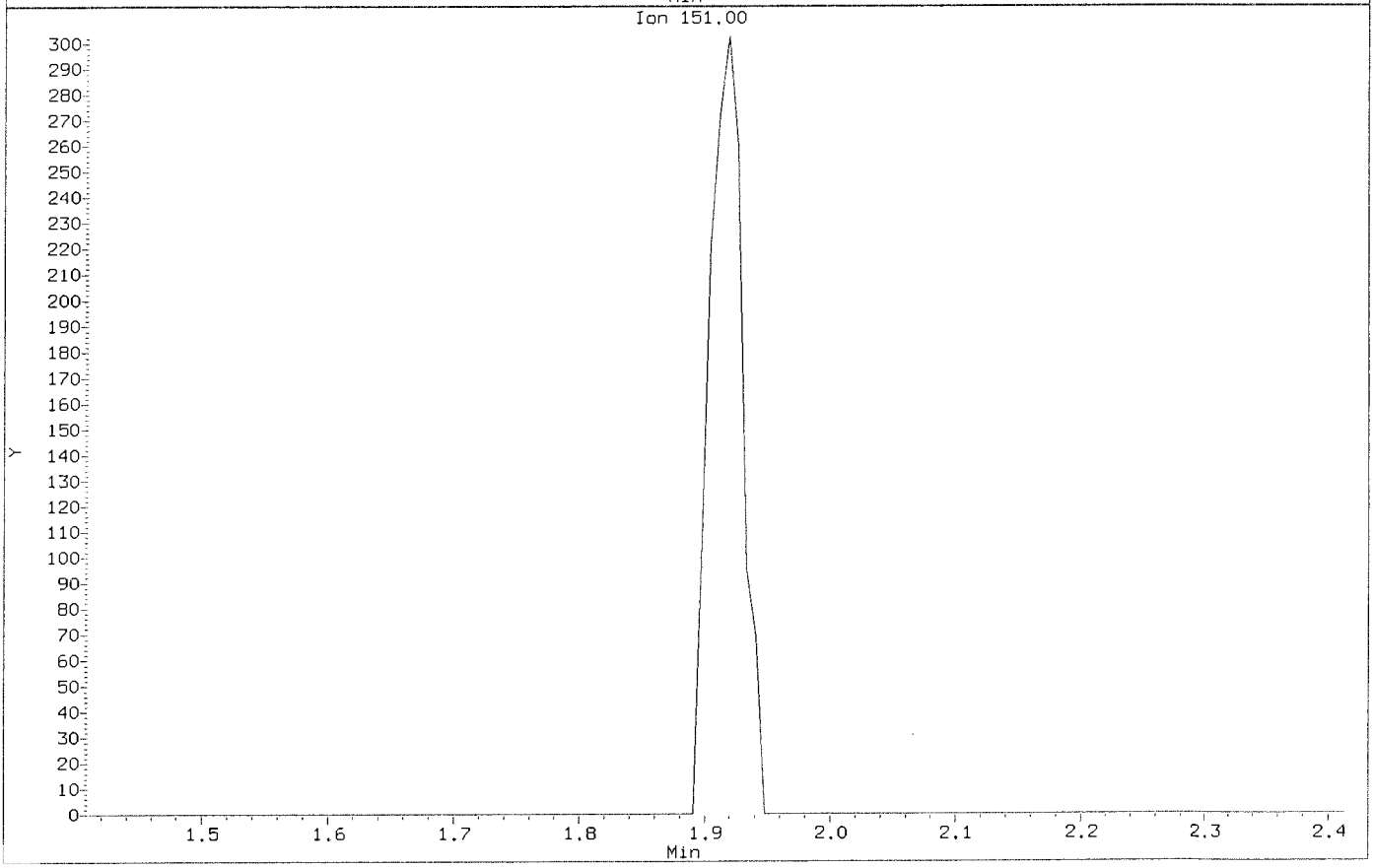
Injection Date: 31-OCT-2019 11:56
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Freon TF
CAS Number: 76-13-1





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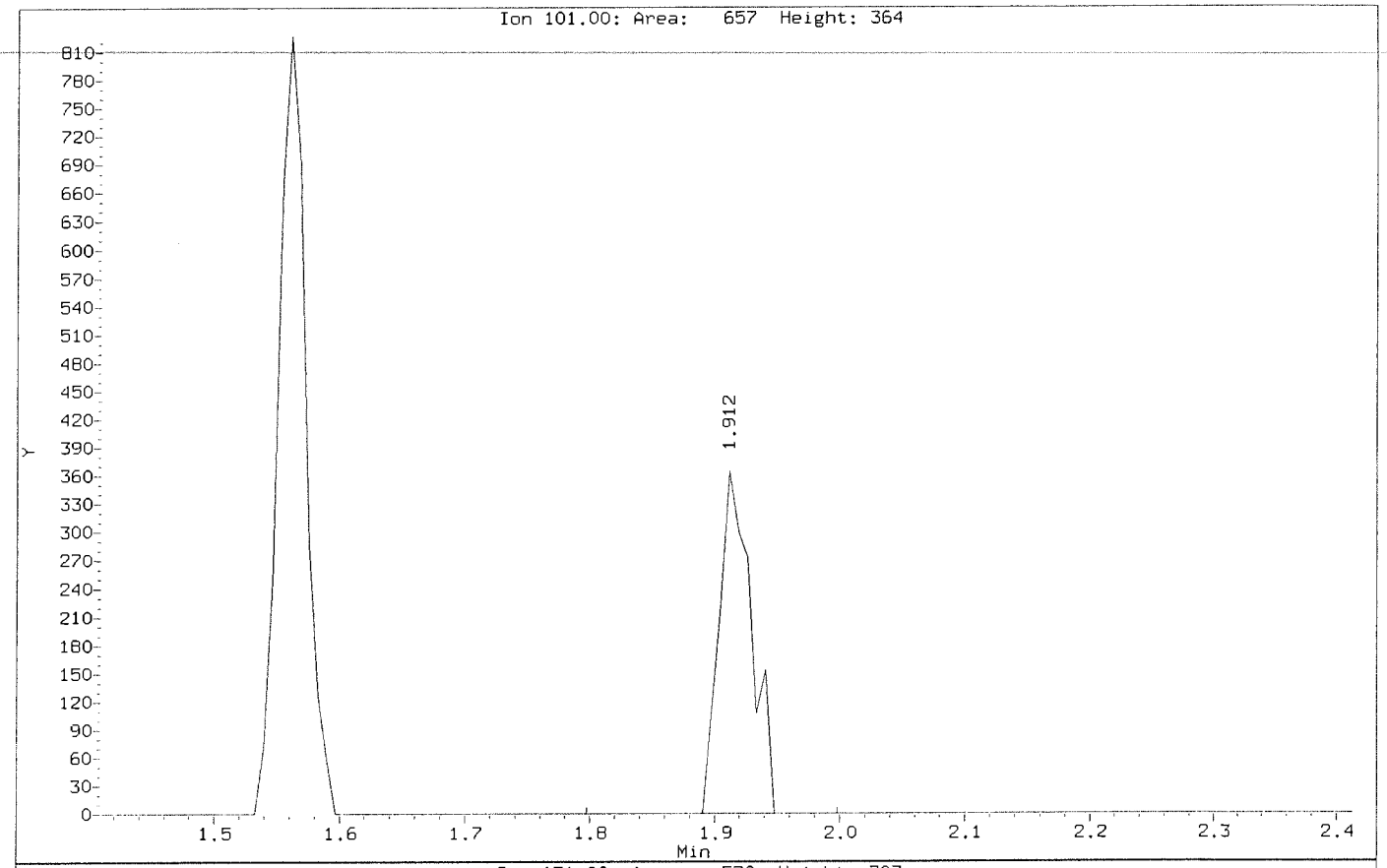
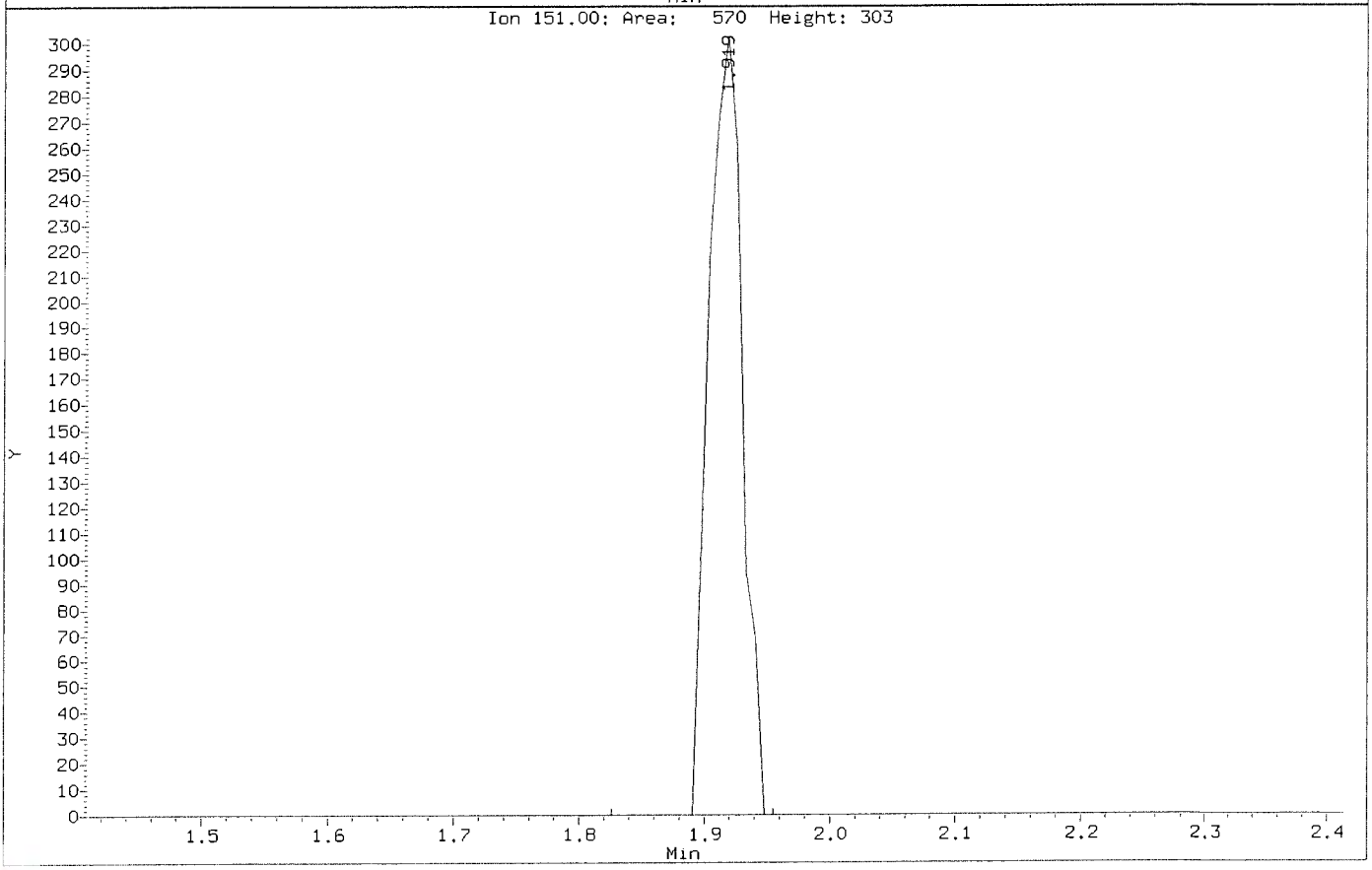
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Freon TF
CAS Number: 76-13-1





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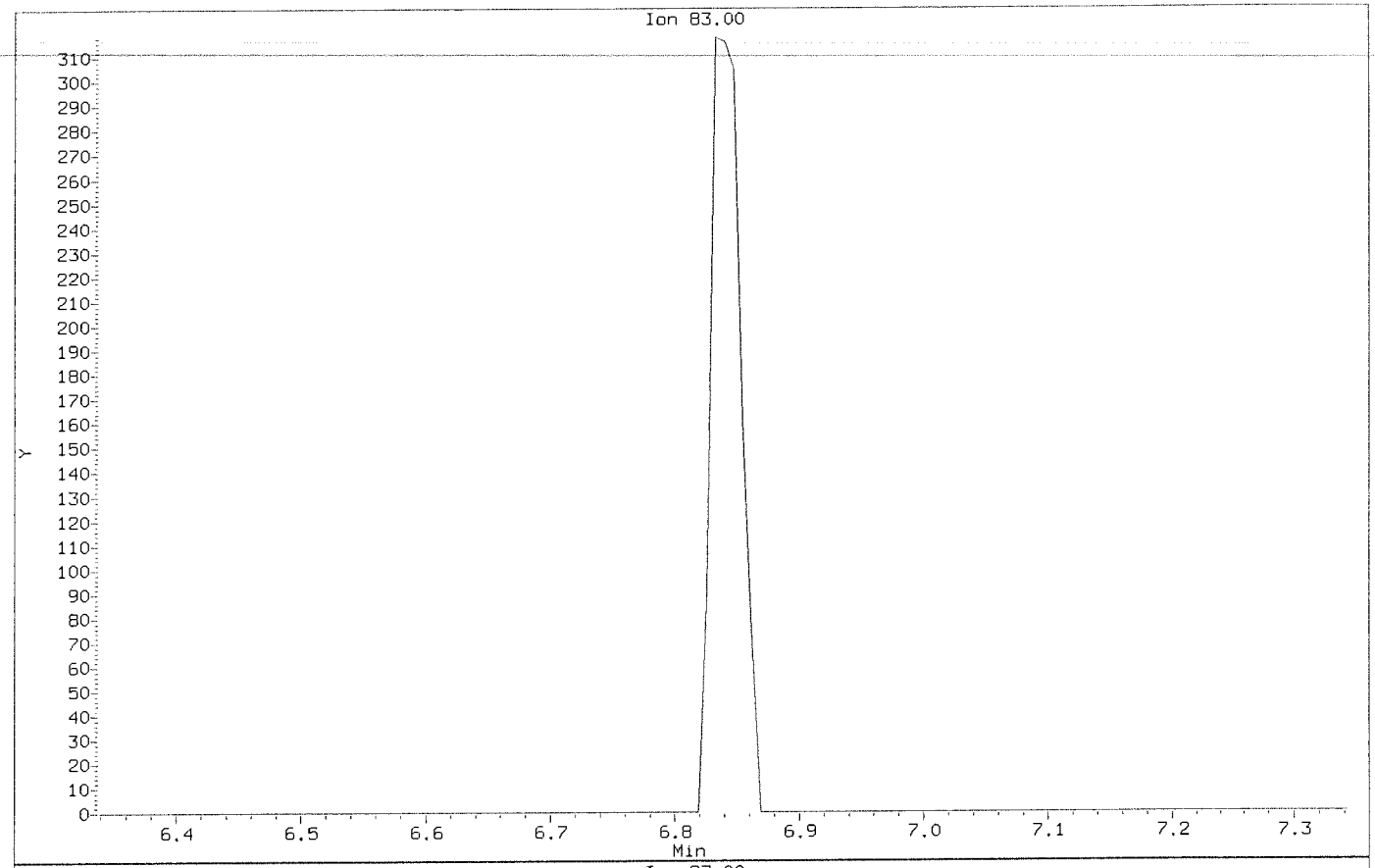
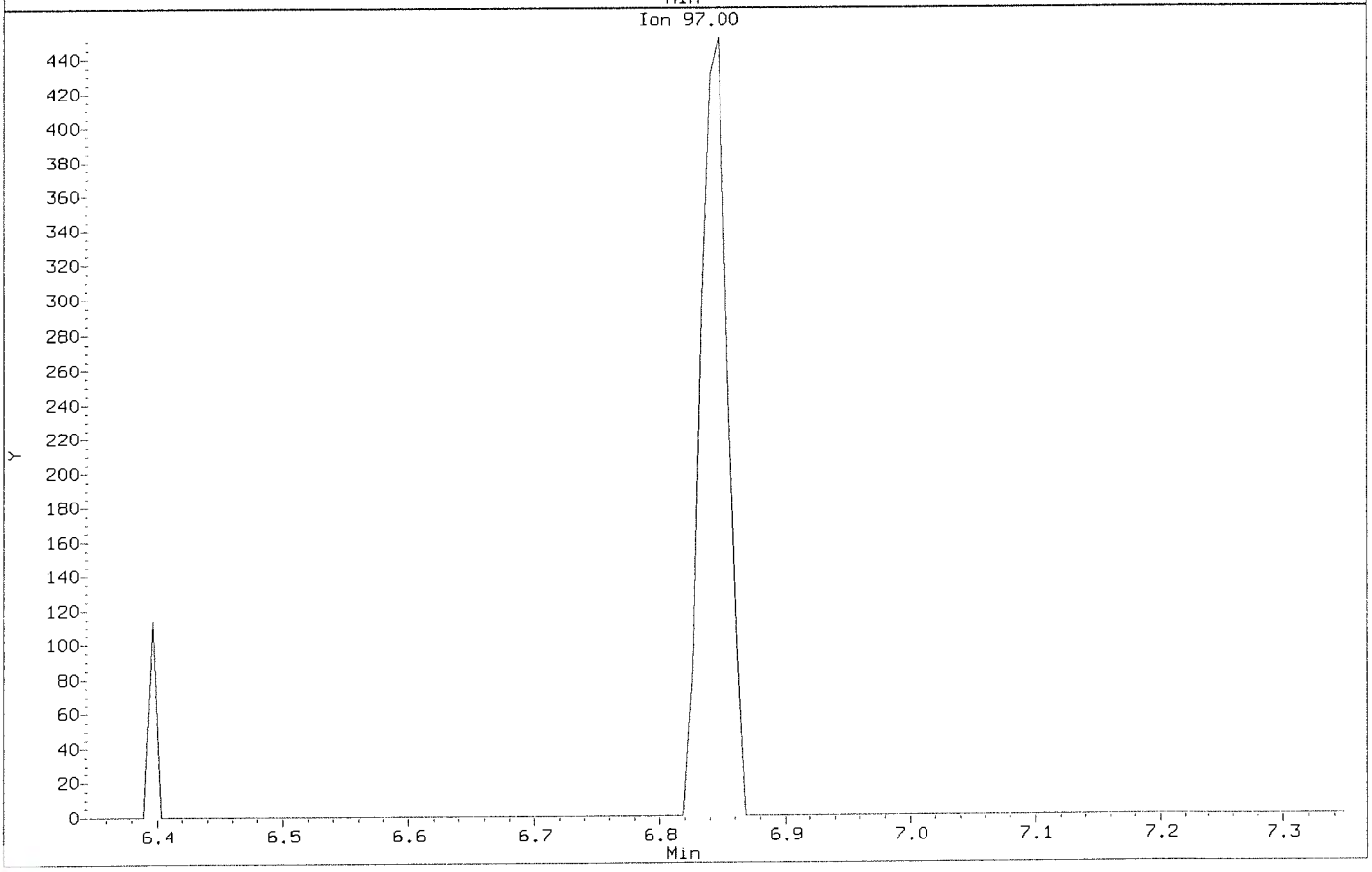
Injection Date: 31-OCT-2019 11:56
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: 1,1,2-Trichloroethane
CAS Number: 79-00-5





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Instrument: voa6.i
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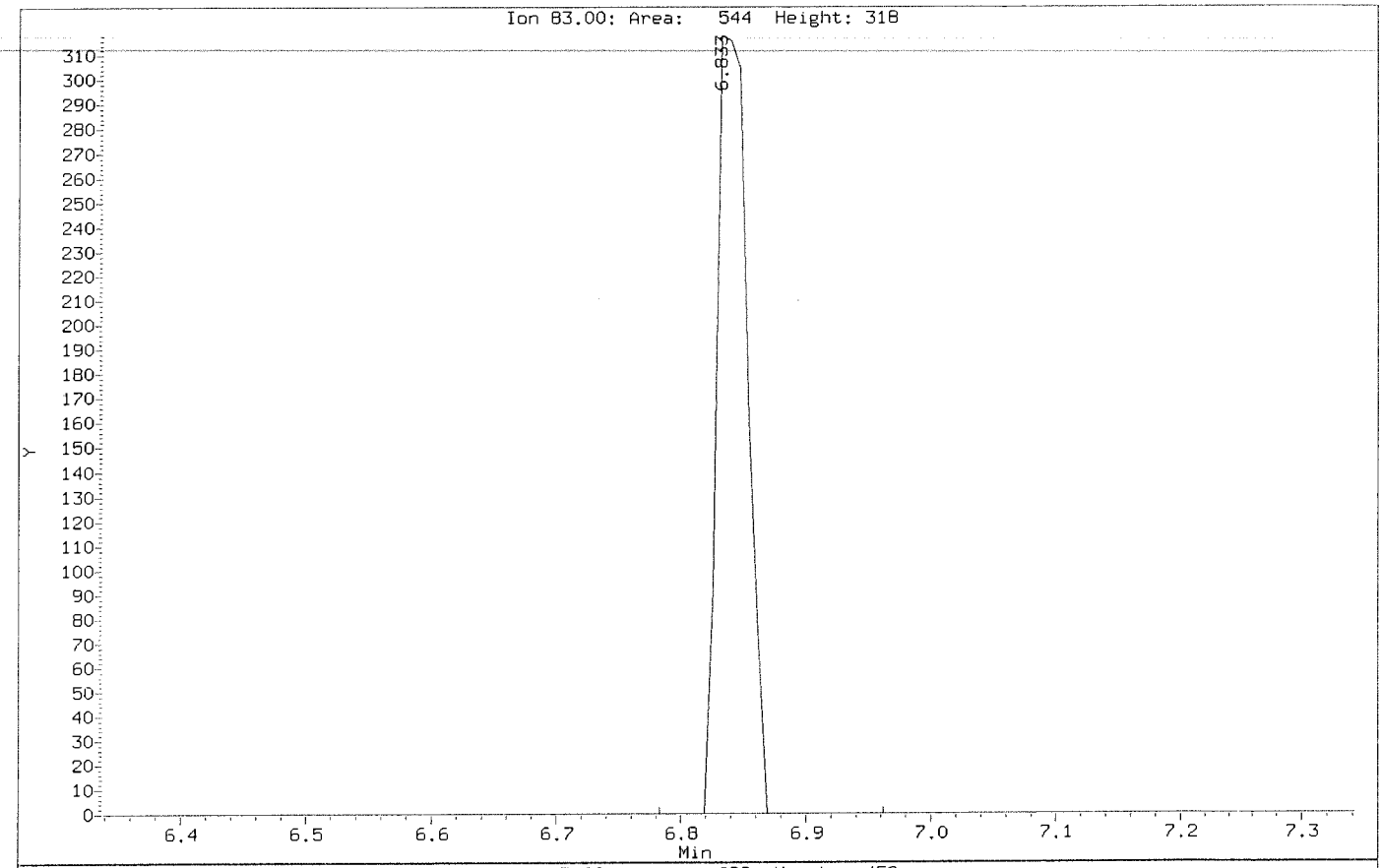
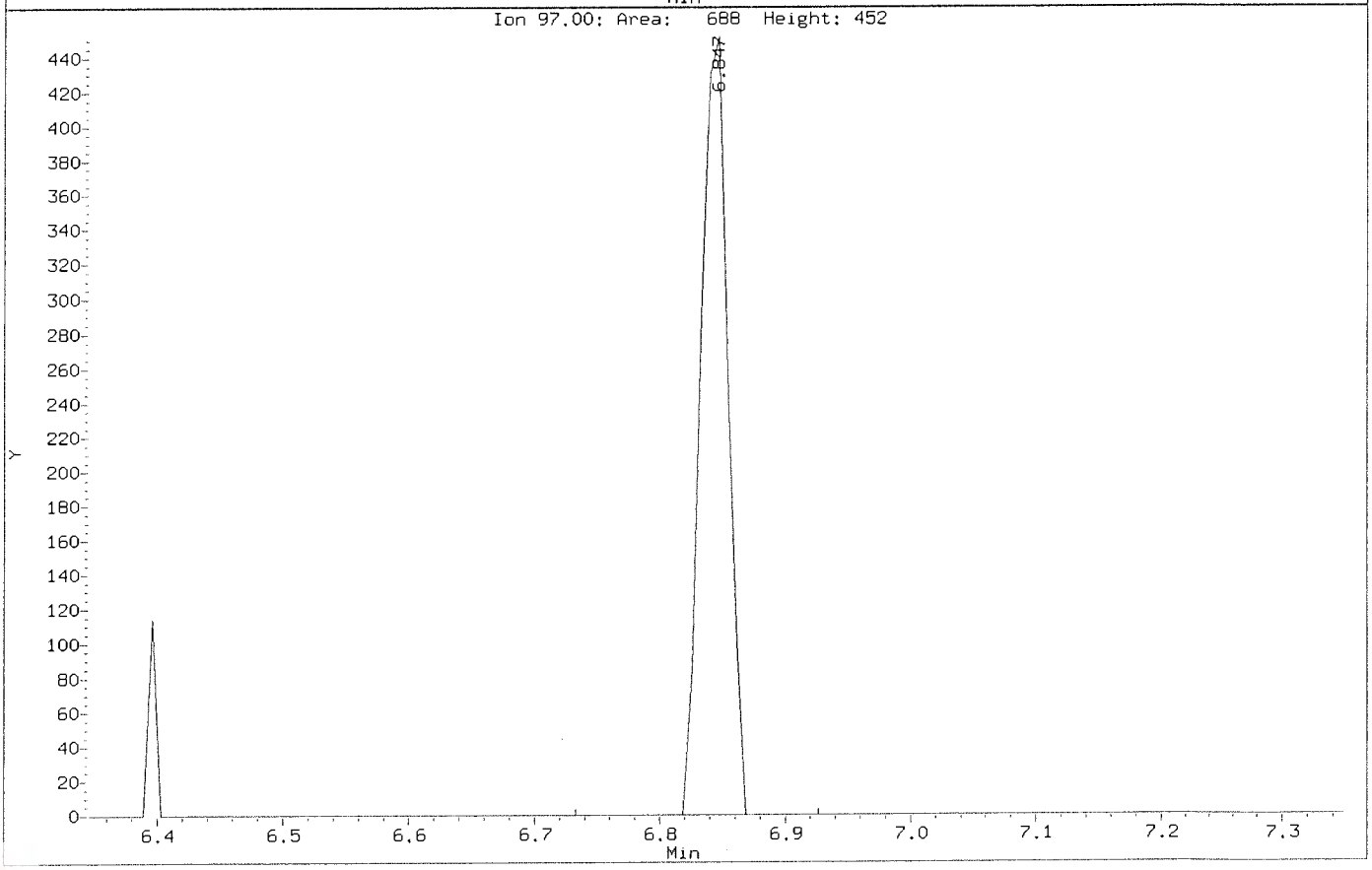
Compound: 1,1,2-Trichloroethane
CAS Number: 79-00-5





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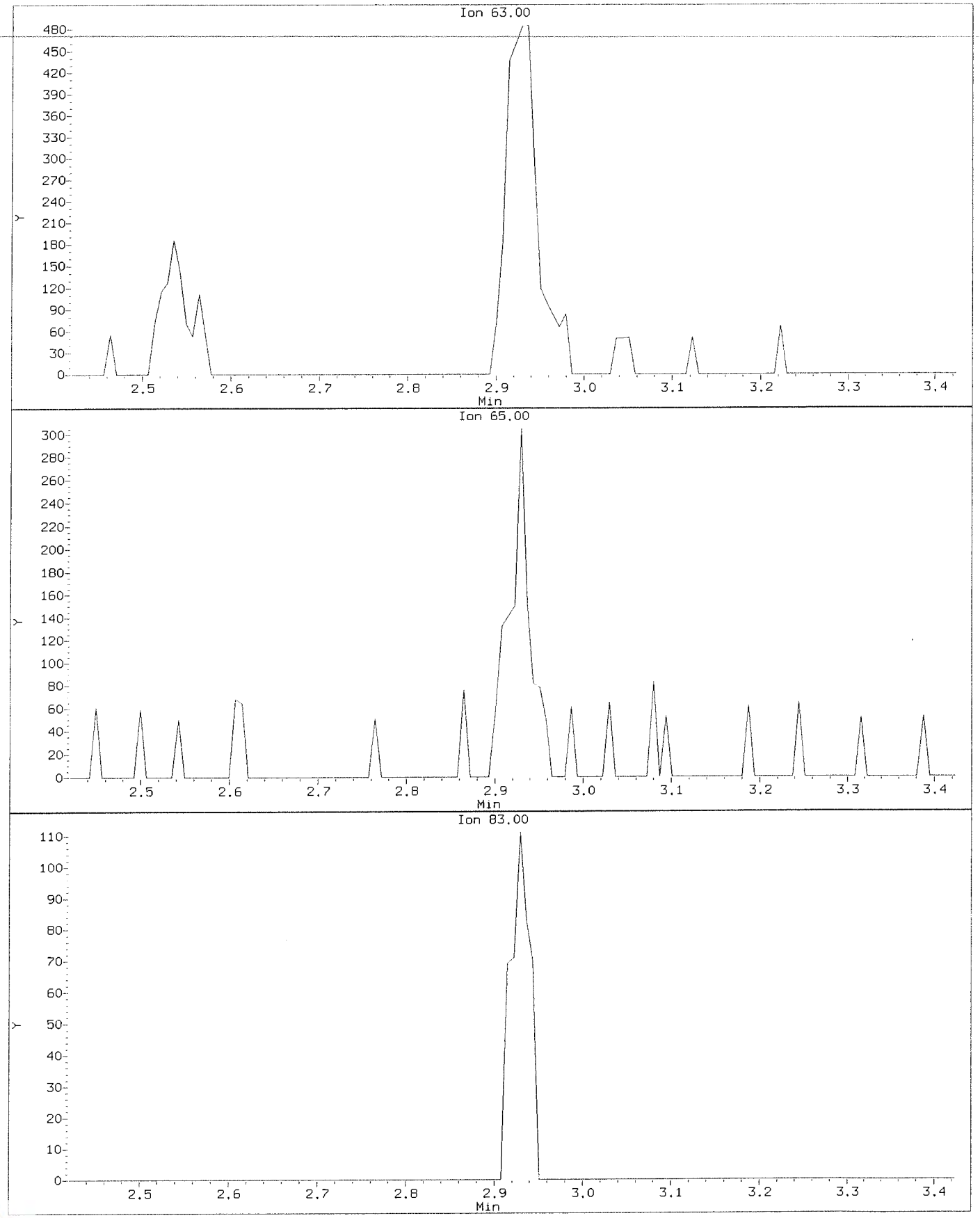
Injection Date: 31-OCT-2019 11:56
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: 1,1-Dichloroethane
CAS Number: 75-34-3



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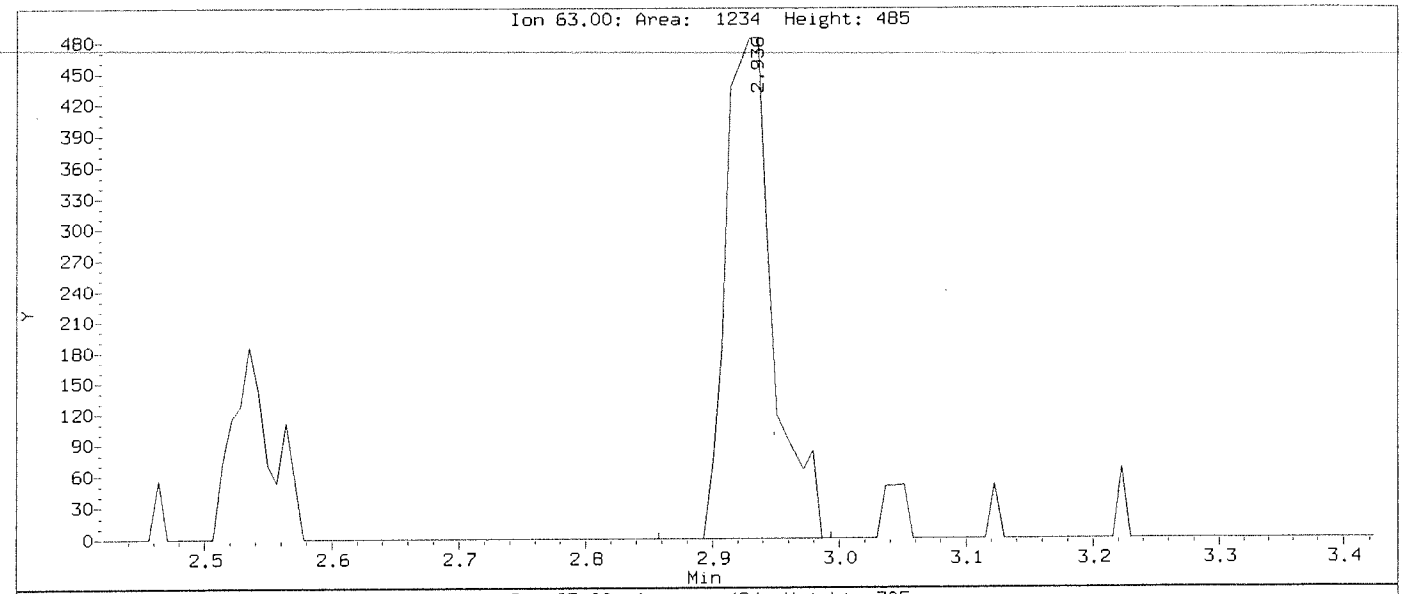
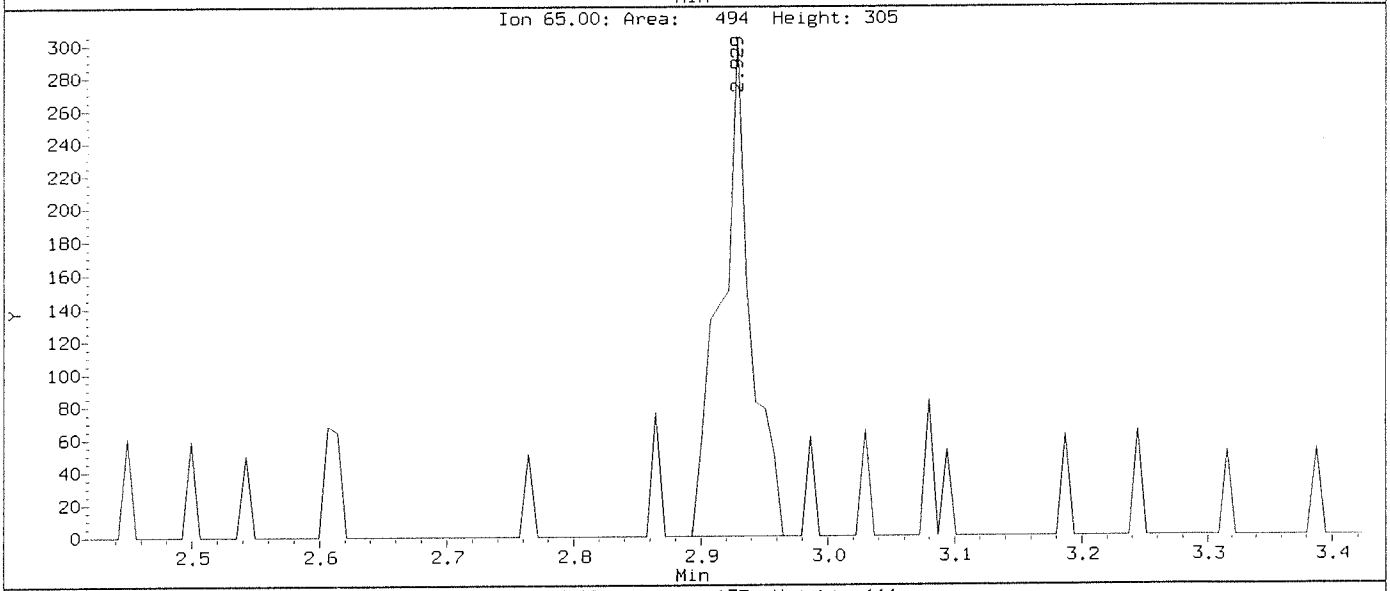
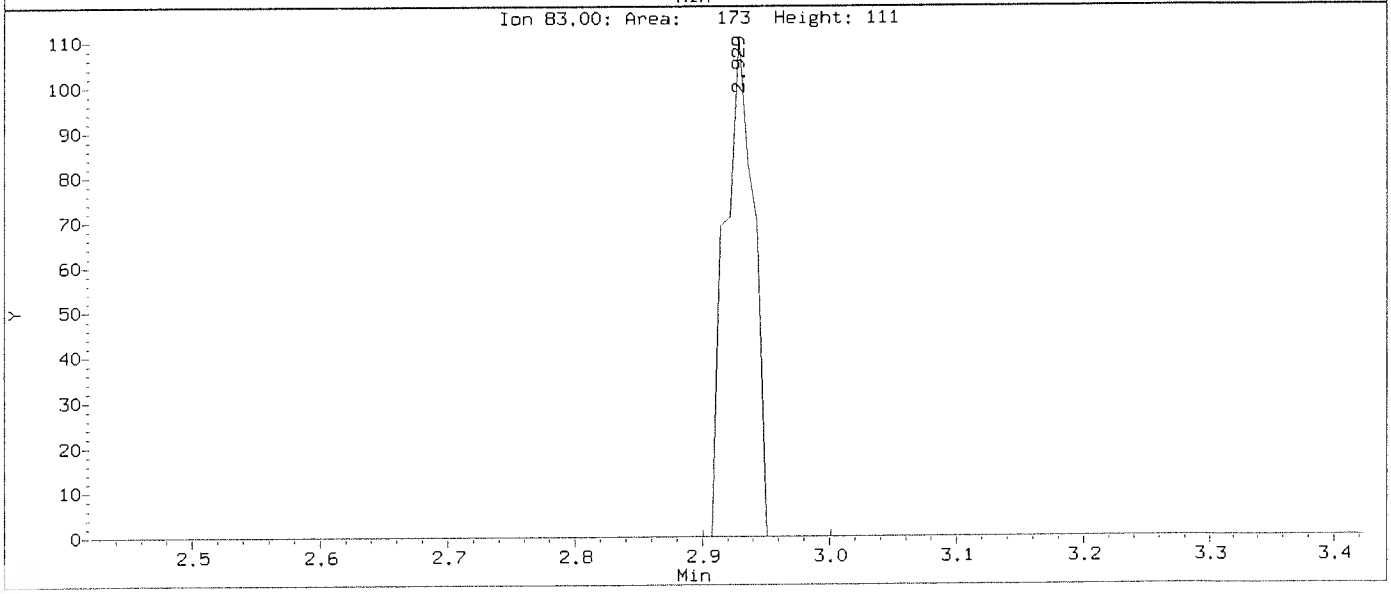
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: 1,1-Dichloroethane
CAS Number: 75-34-3







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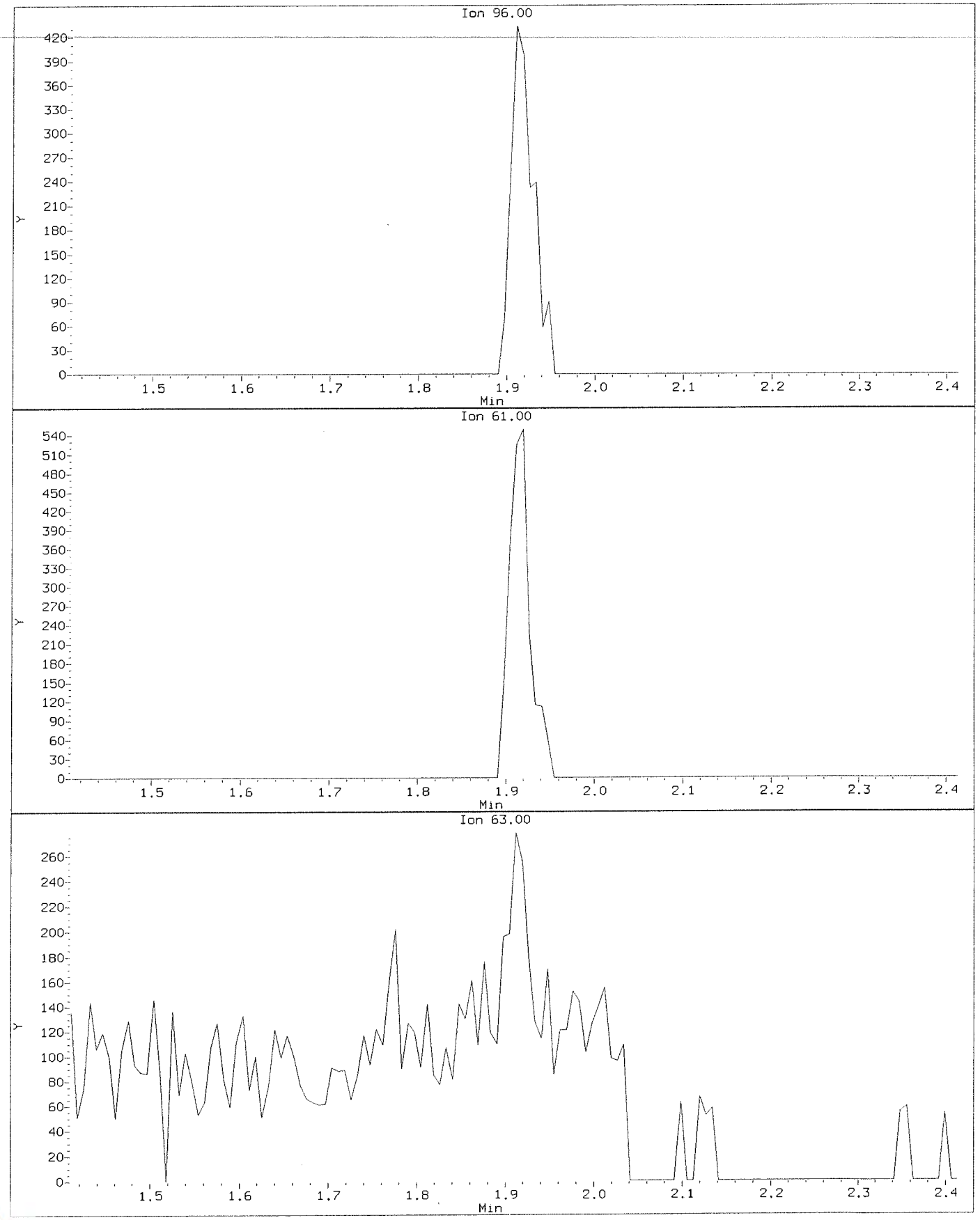
Injection Date: 31-OCT-2019 11:56
Instrument: voa6.i
Client Sample ID: VSTD000.5

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



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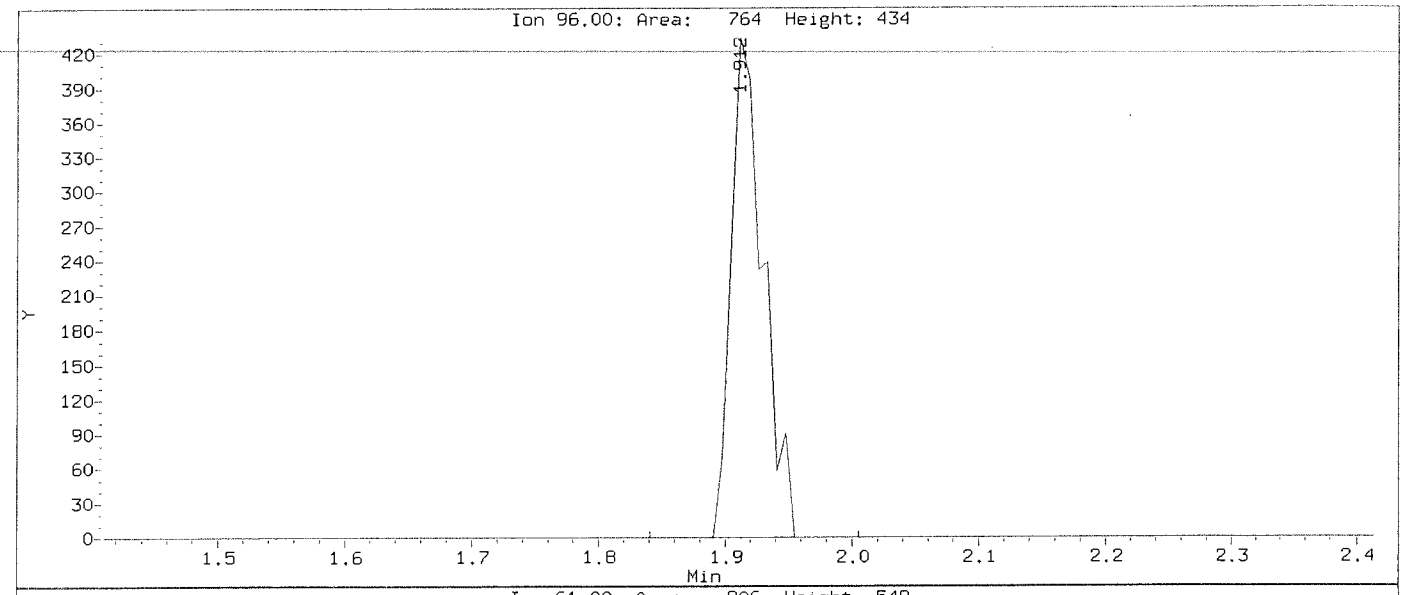
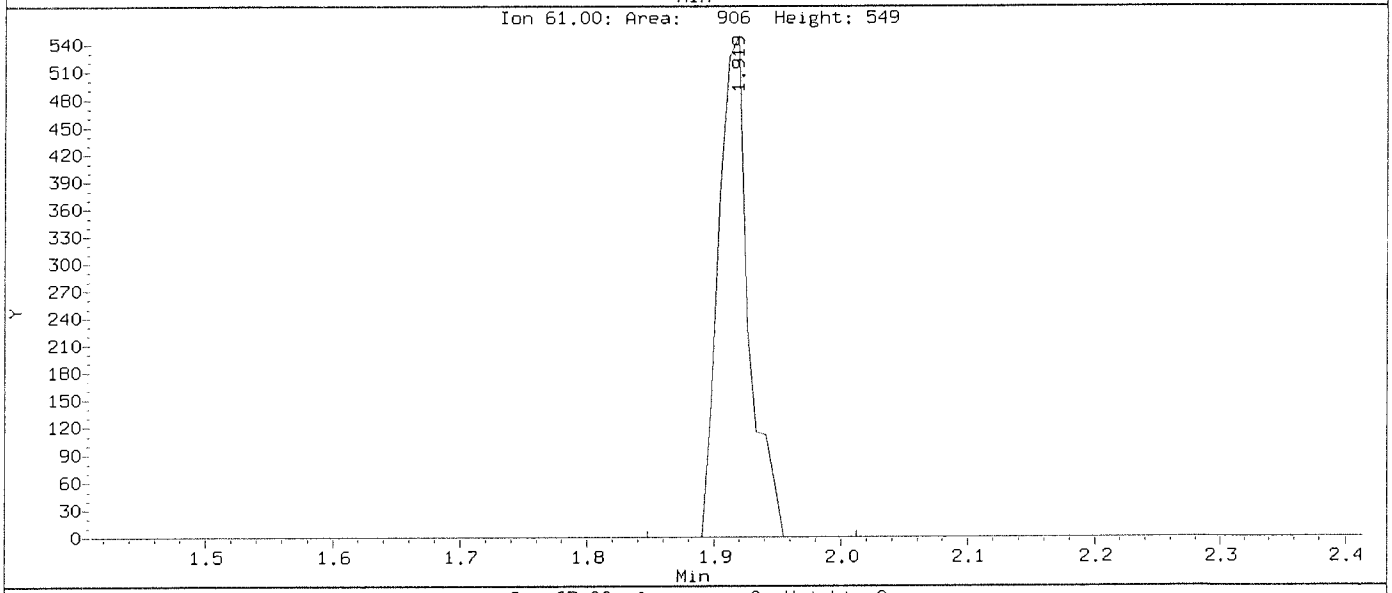
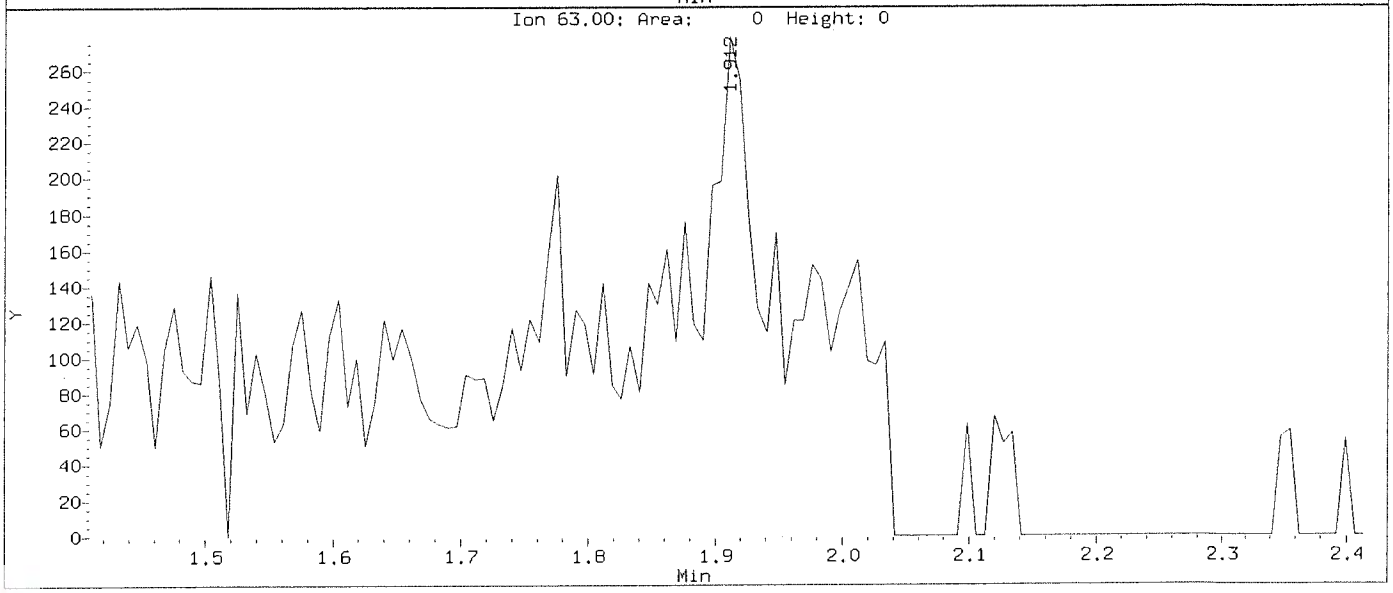
Client Sample ID: VSTD000.5

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







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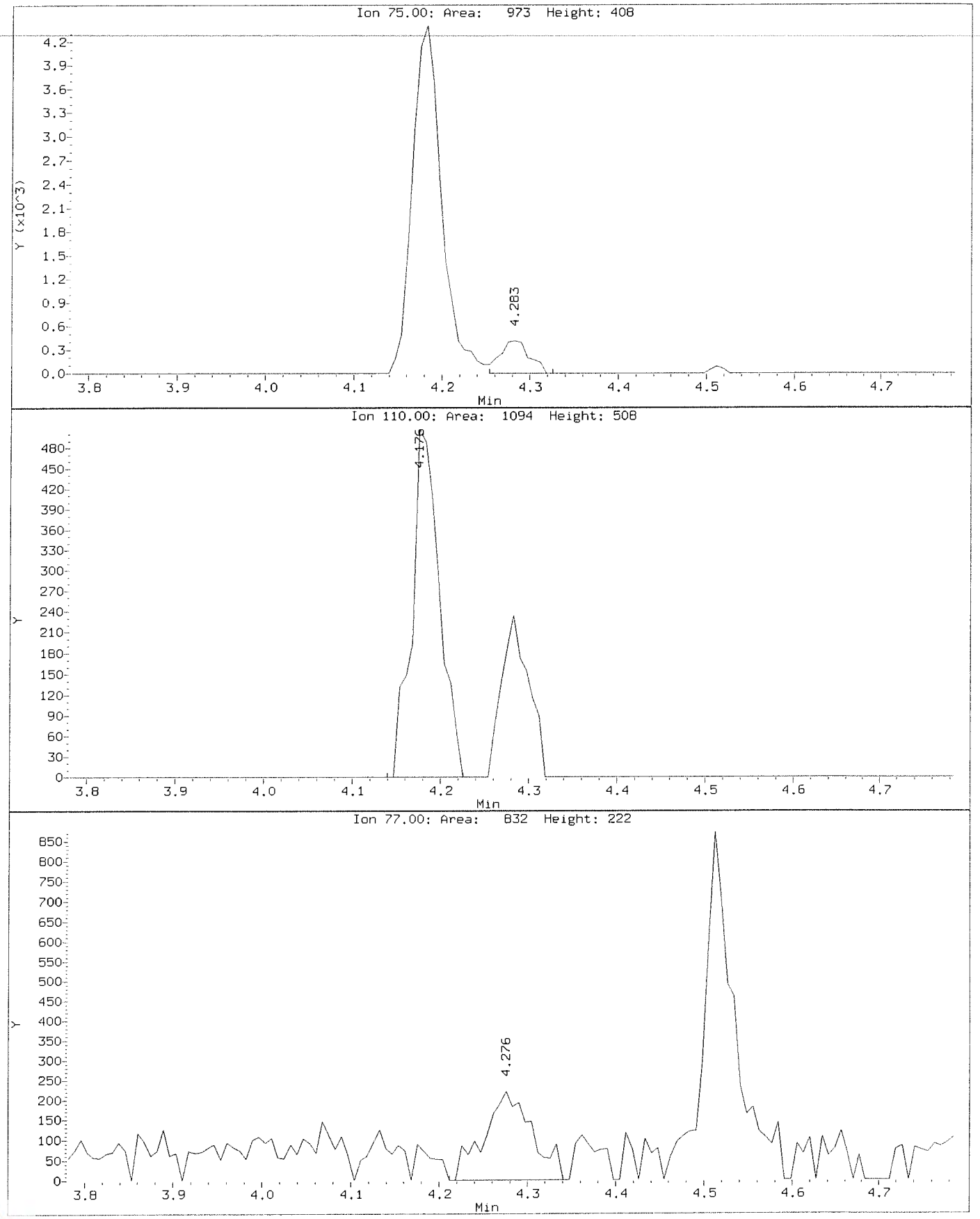
Injection Date: 31-OCT-2019 11:56
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: 1,1-Dichloropropene
CAS Number: 563-58-6



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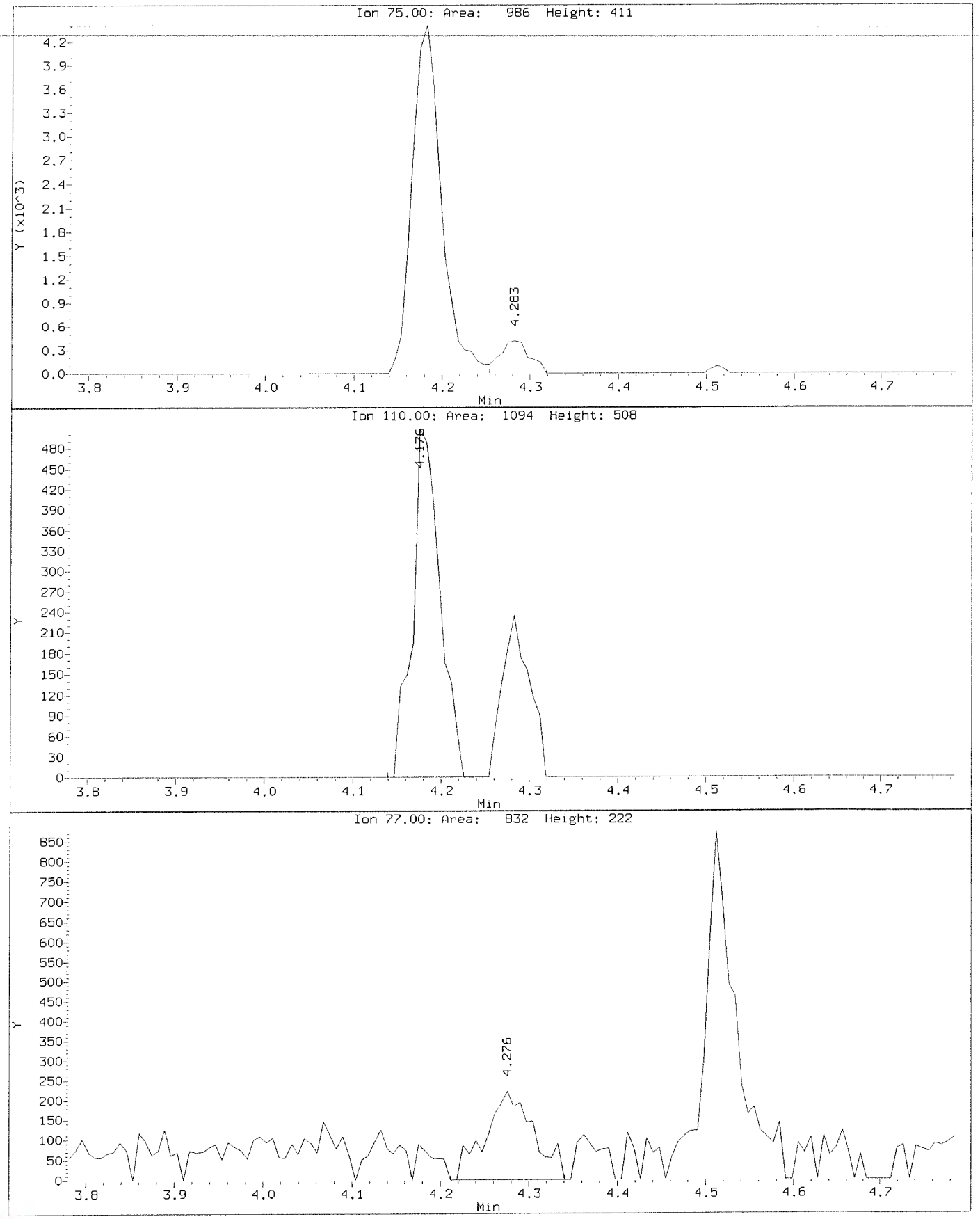
Client Sample ID: VSTD000.5

Compound: 1,1-Dichloropropene
CAS Number: 563-58-6



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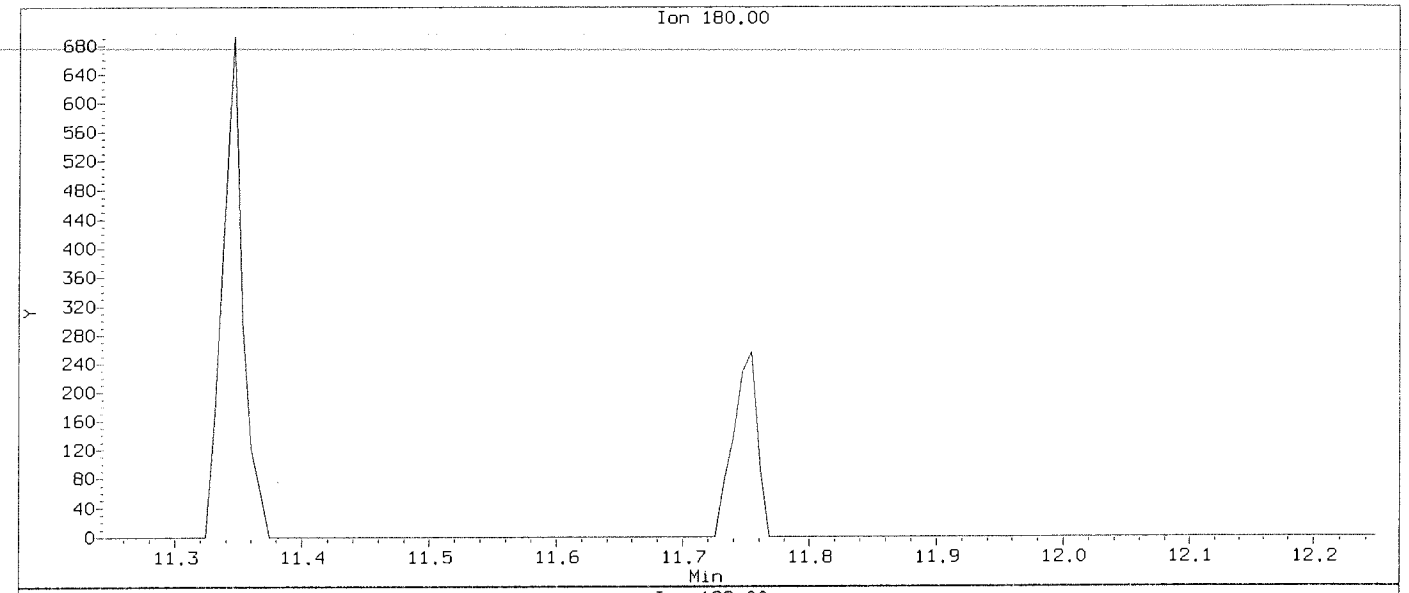
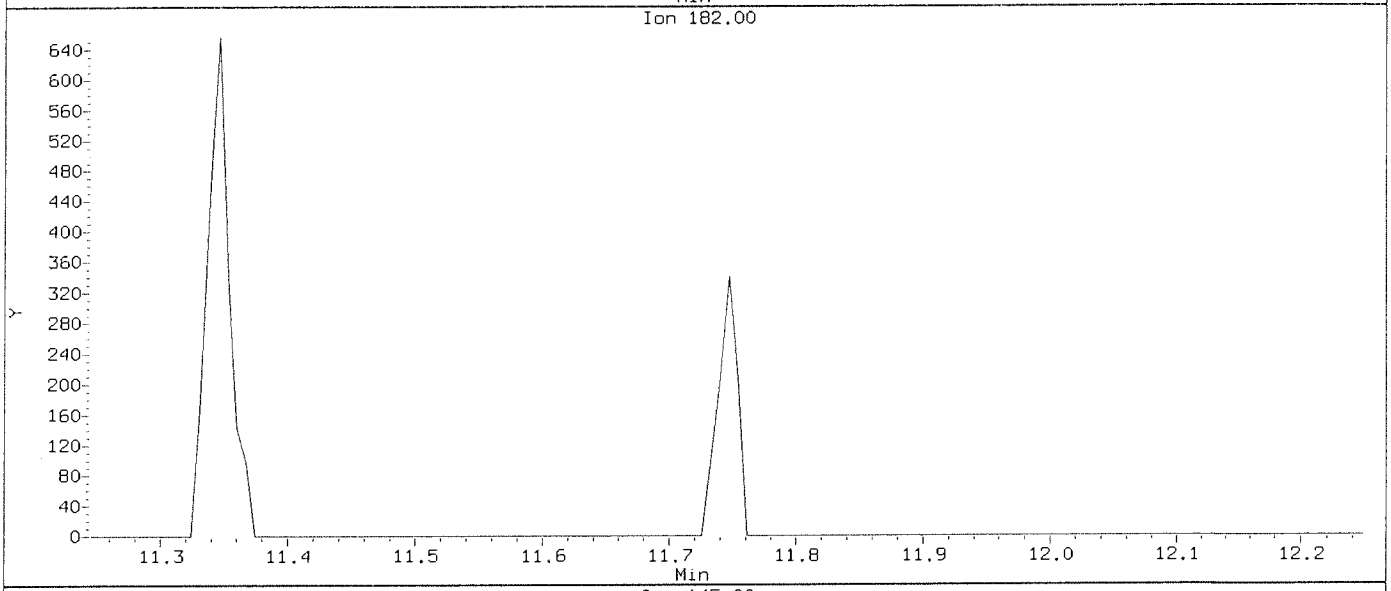
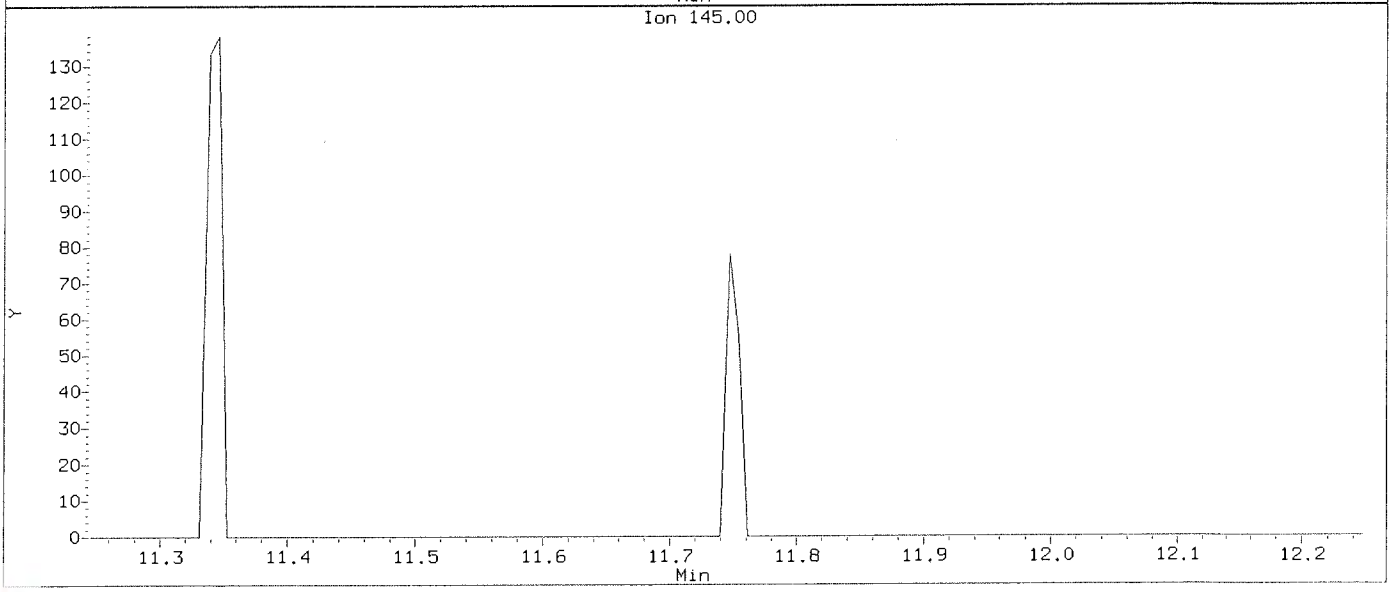
Injection Date: 31-OCT-2019 11:56
Instrument: voa6.i
Client Sample ID: VSTD000.5

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







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Injection Date: 31-OCT-2019 11:56
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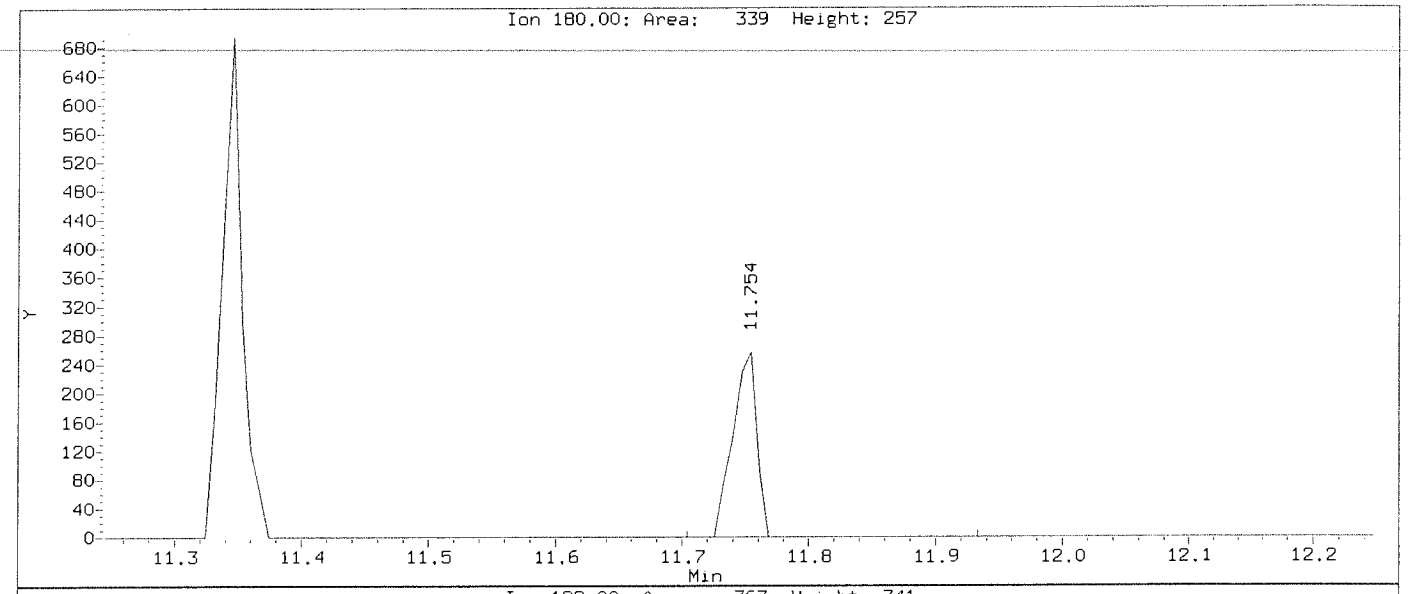
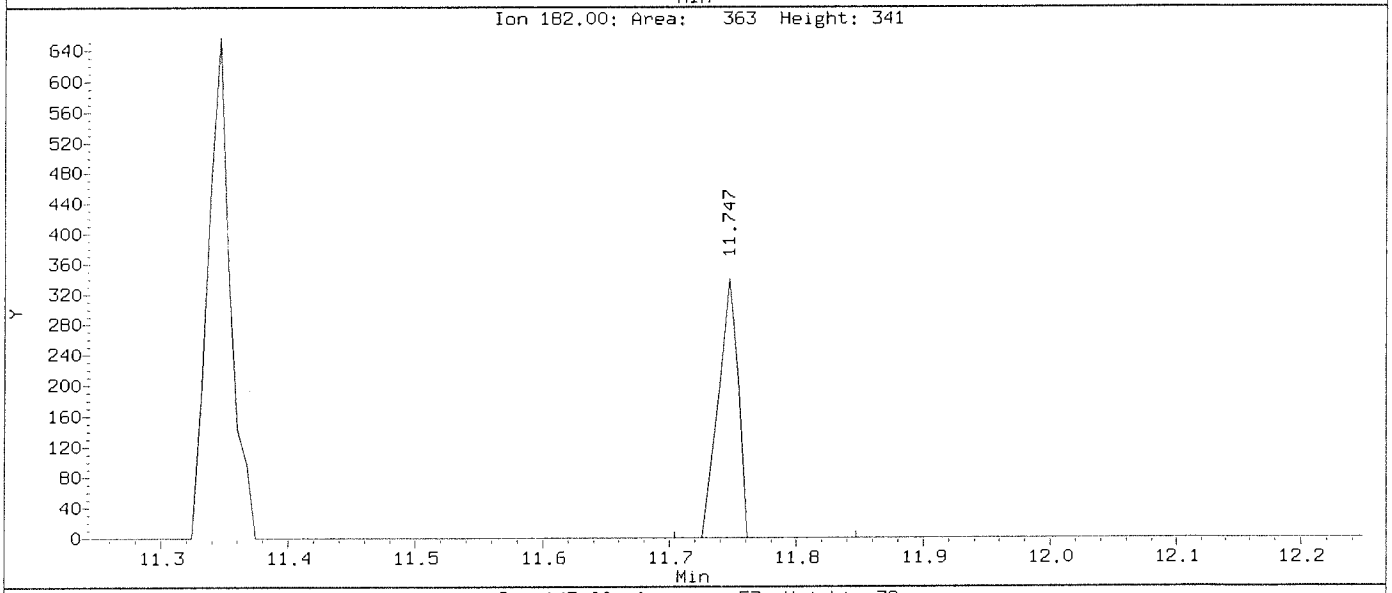
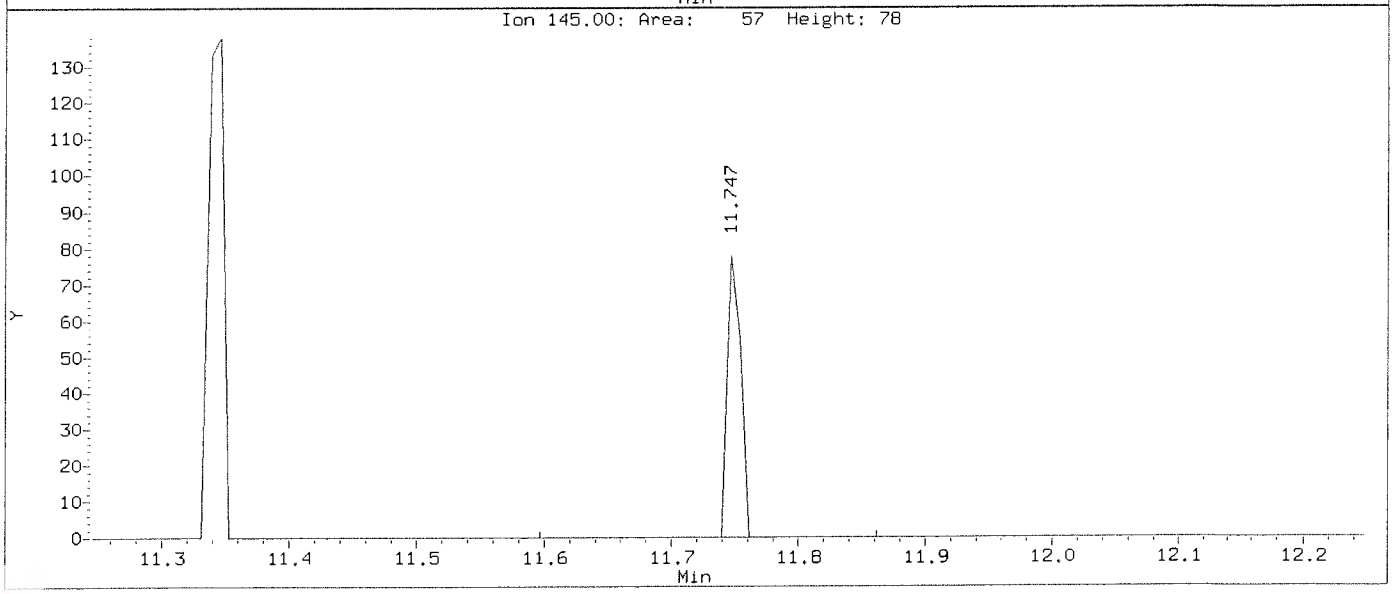
Client Sample ID: VSTD000.5

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







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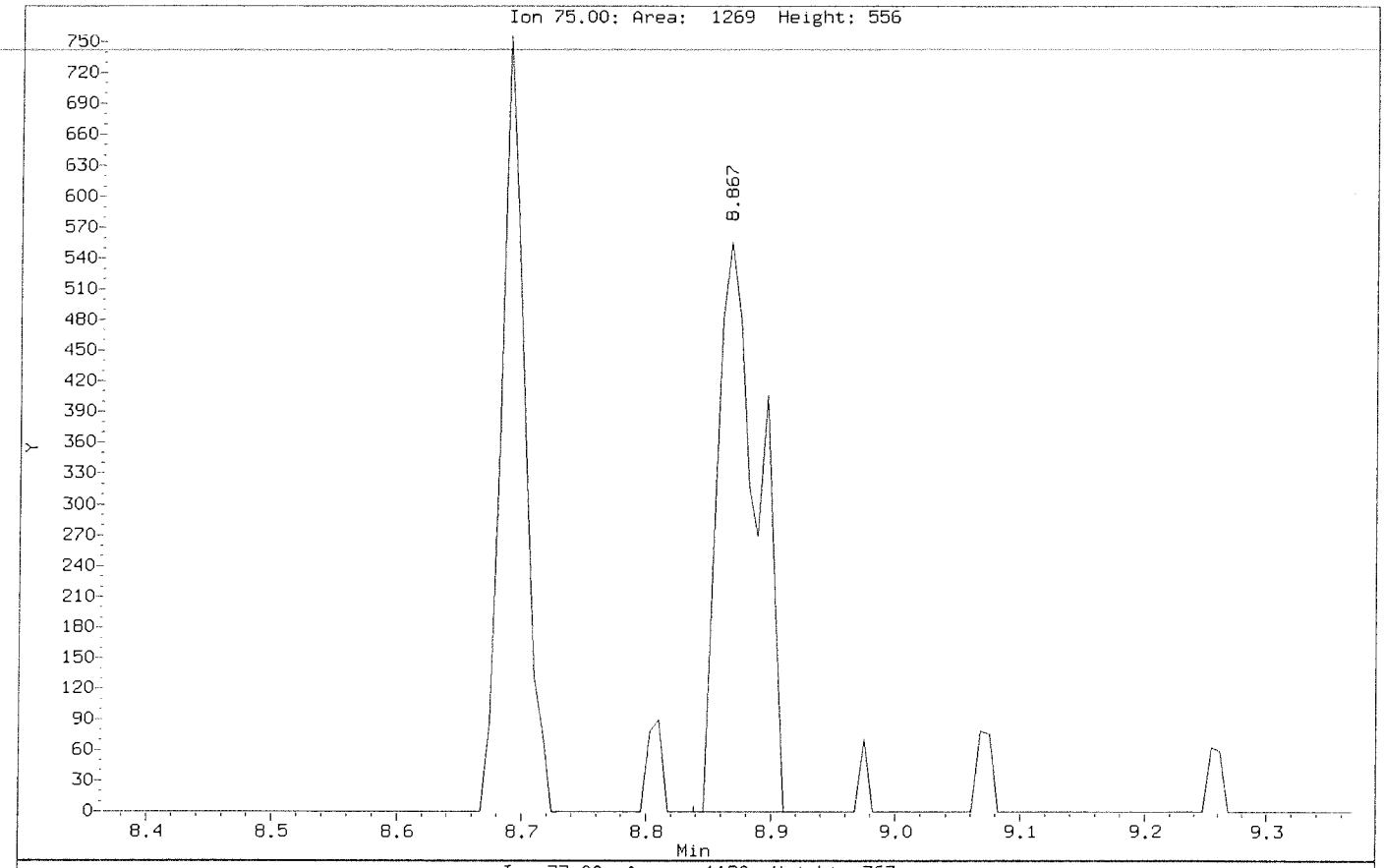
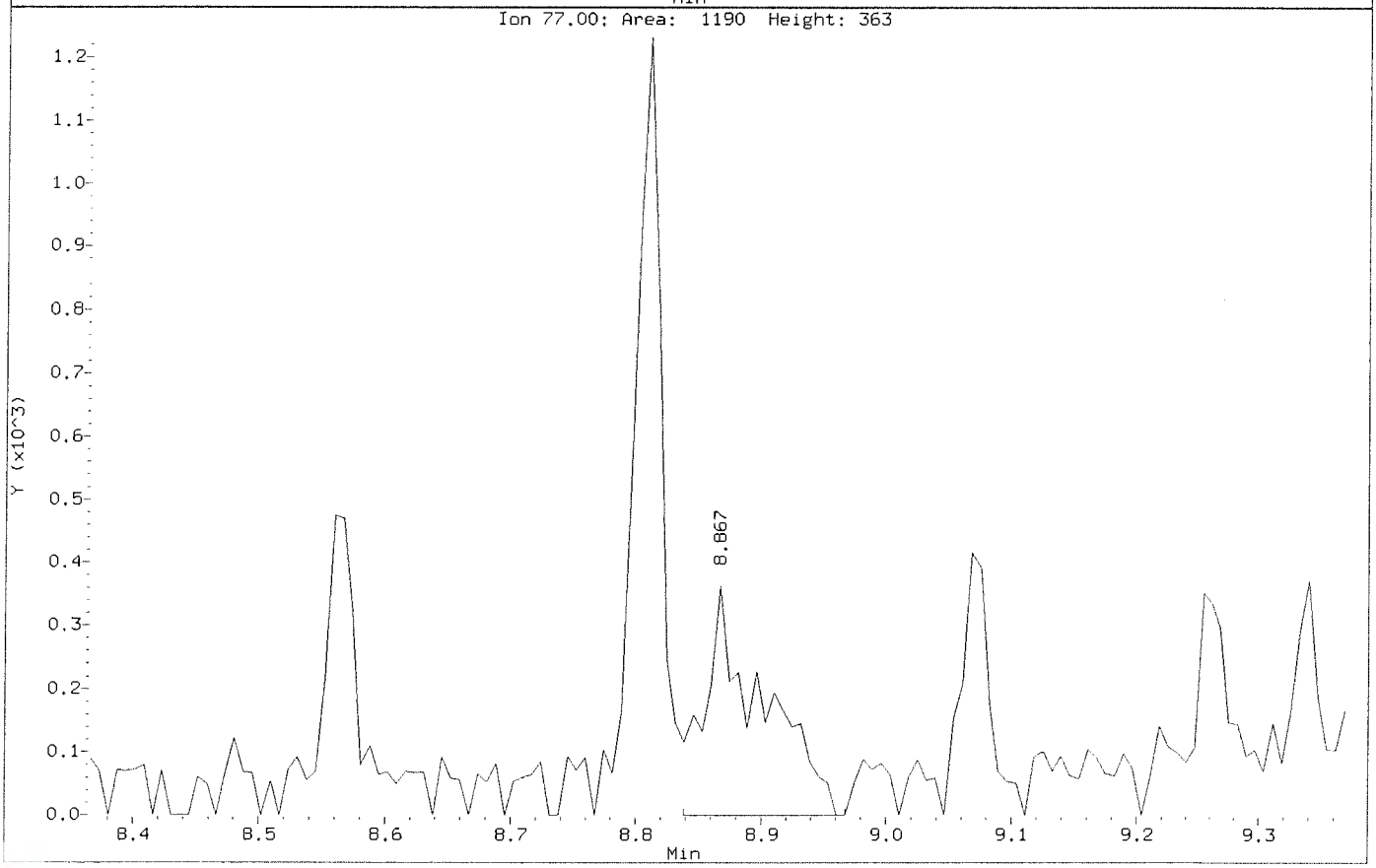
Injection Date: 31-OCT-2019 11:56
Instrument: voa6.i
Client Sample ID: VSTD000.5

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





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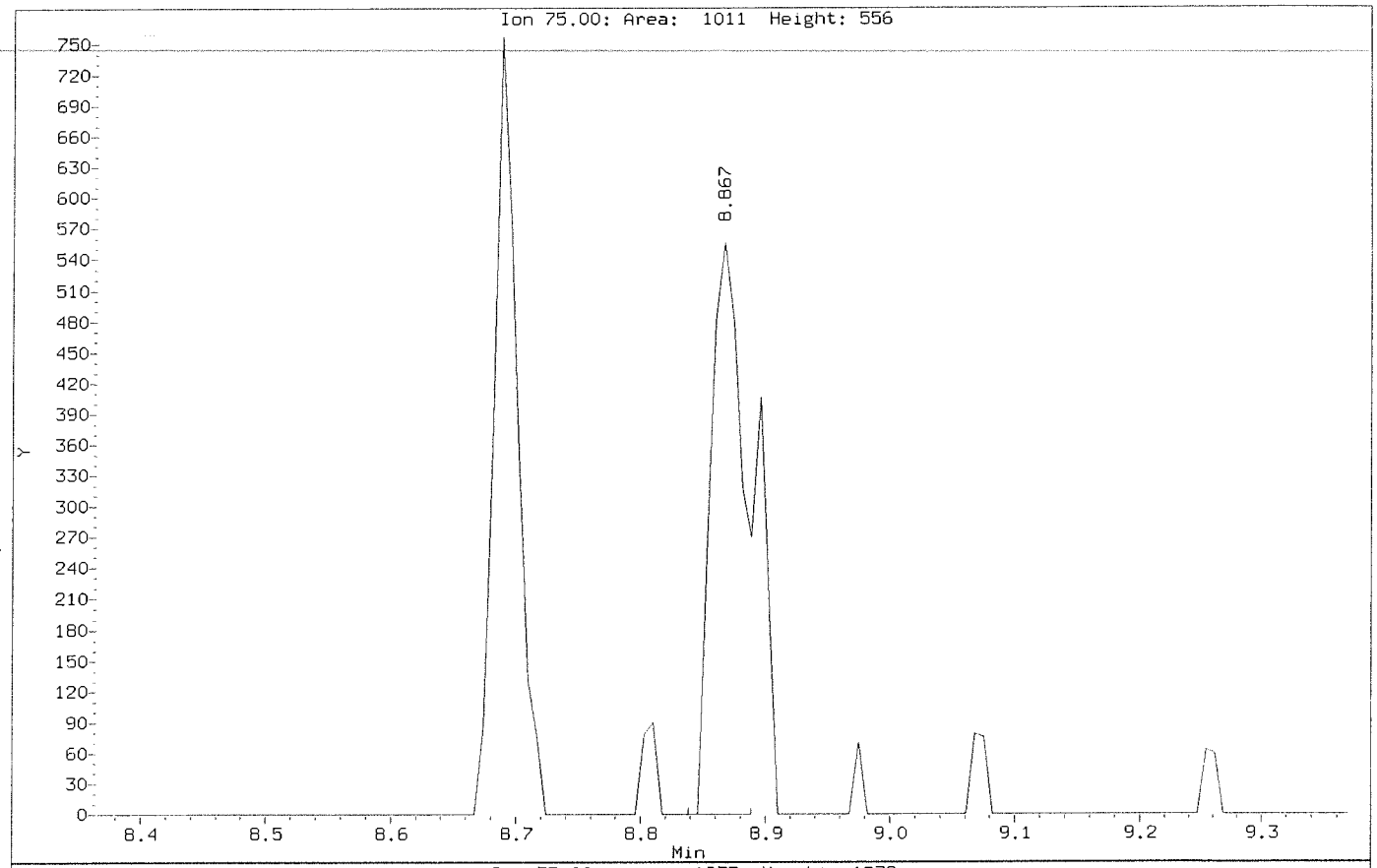
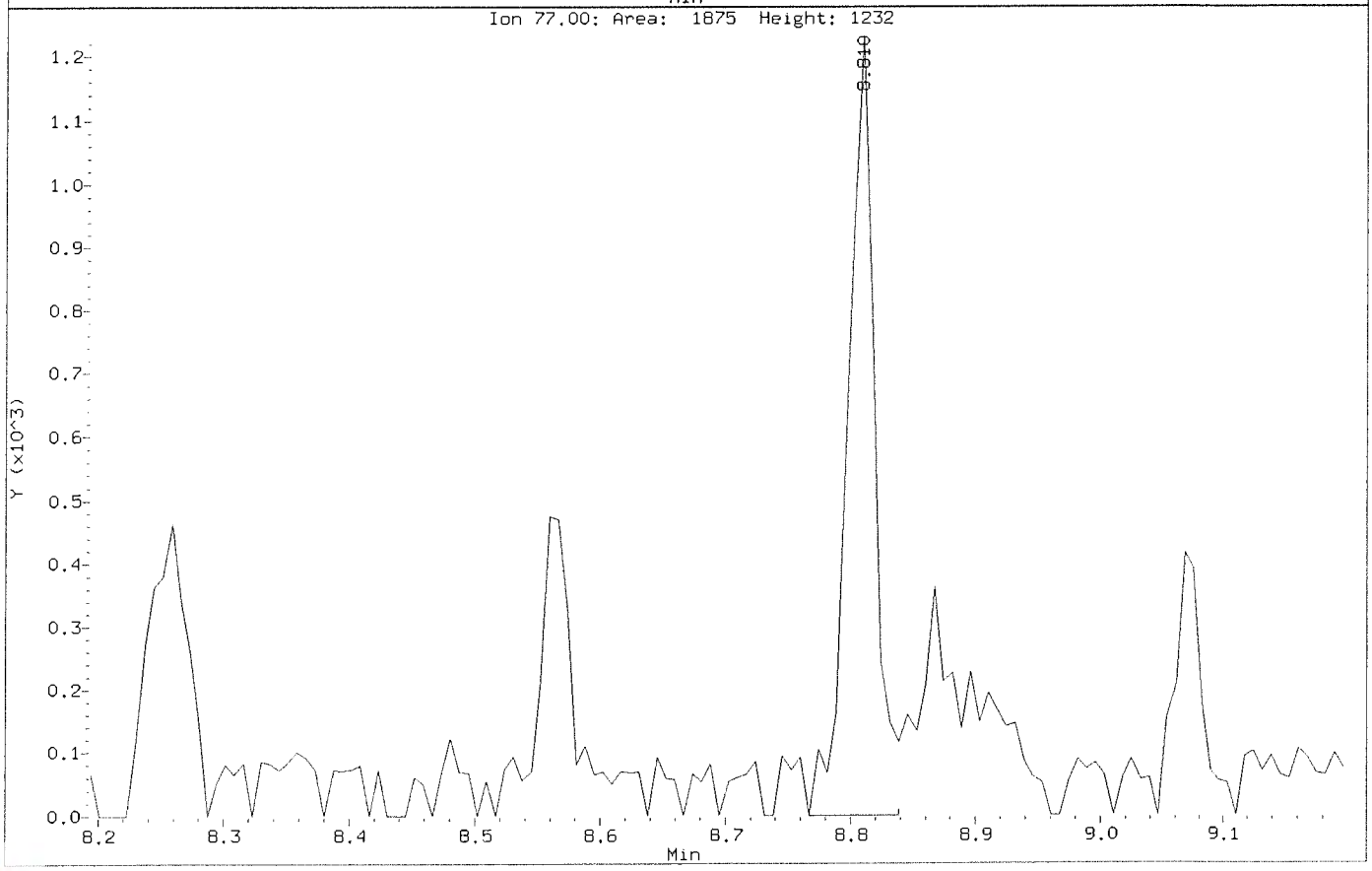
Injection Date: 31-OCT-2019 11:56
Instrument: voa6.i
Client Sample ID: VSTD000.5

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





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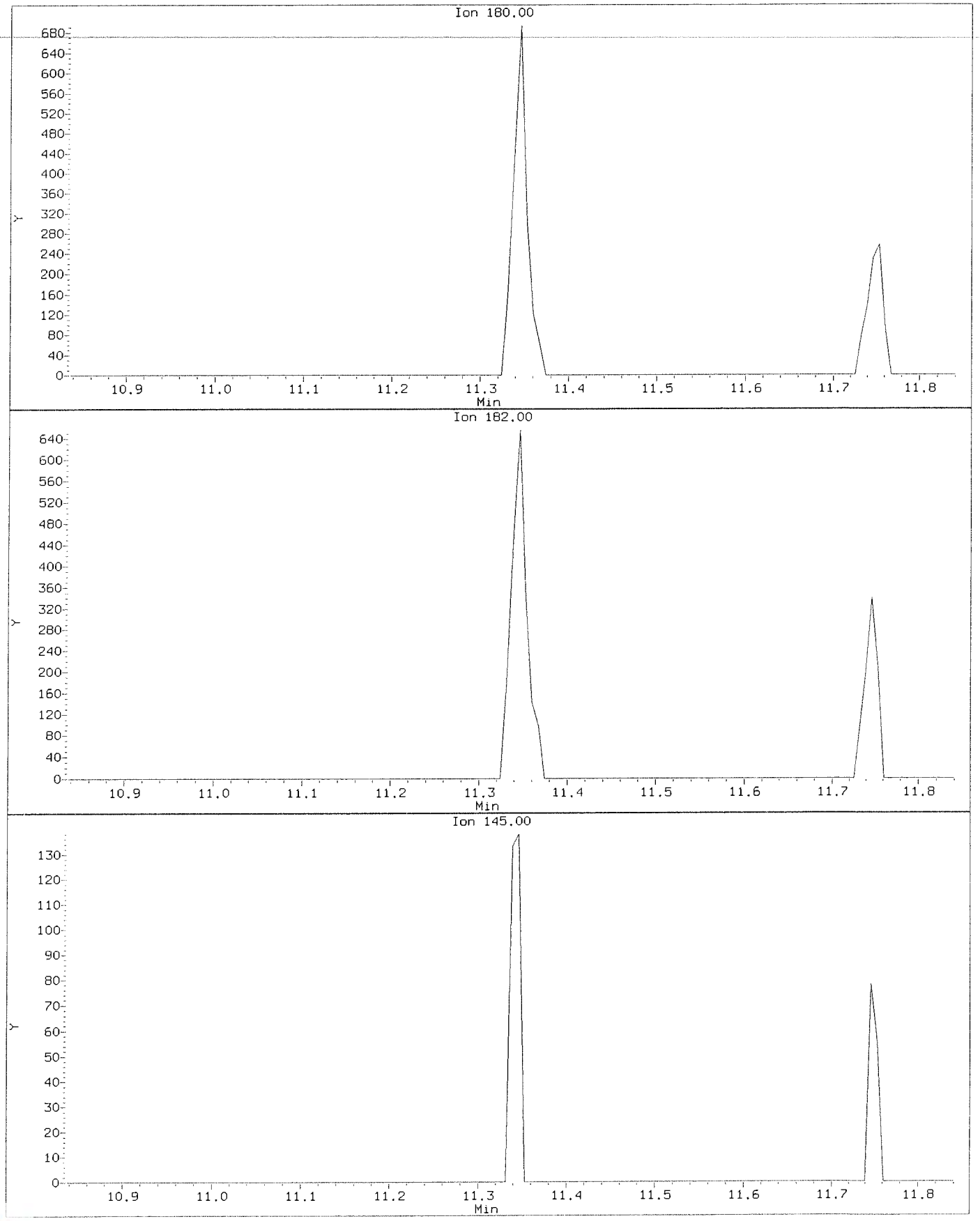
Injection Date: 31-OCT-2019 11:56
Instrument: voa6.i
Client Sample ID: VSTD000.5

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



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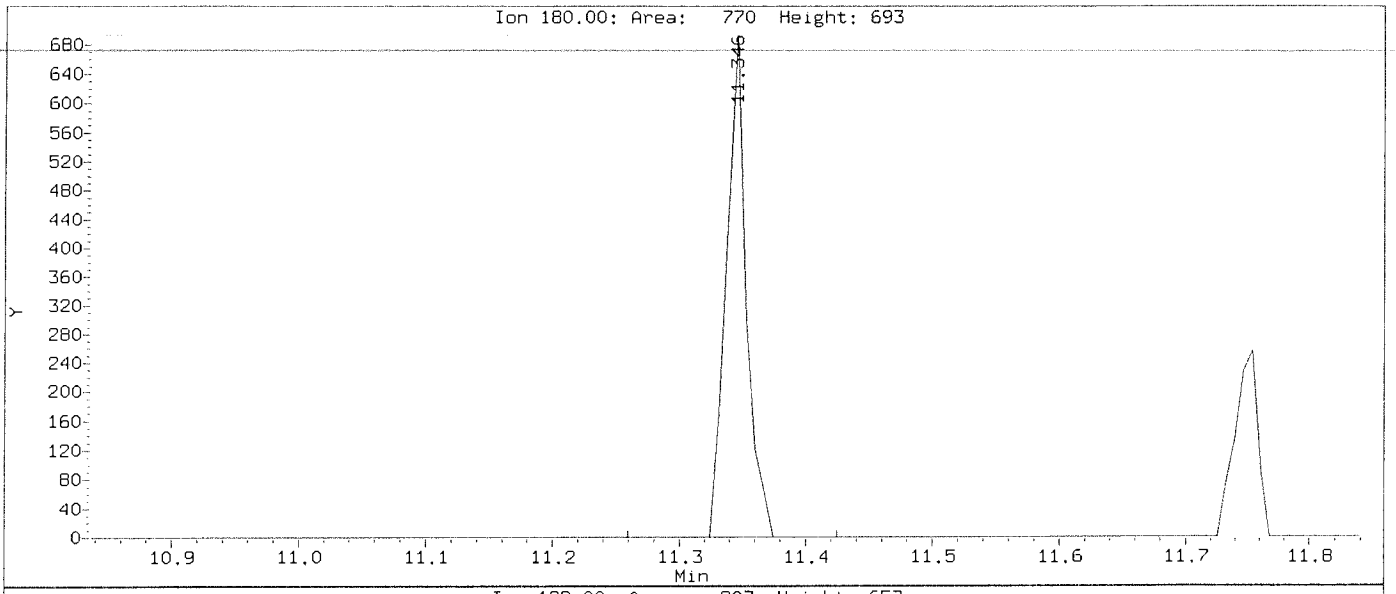
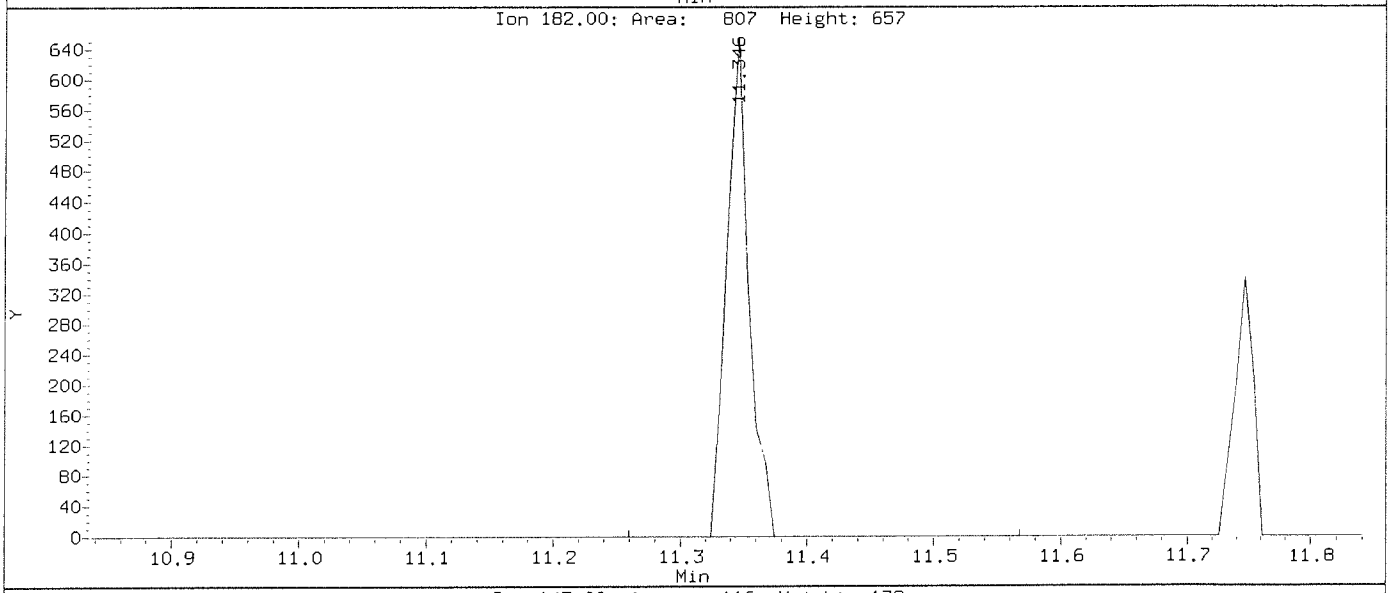
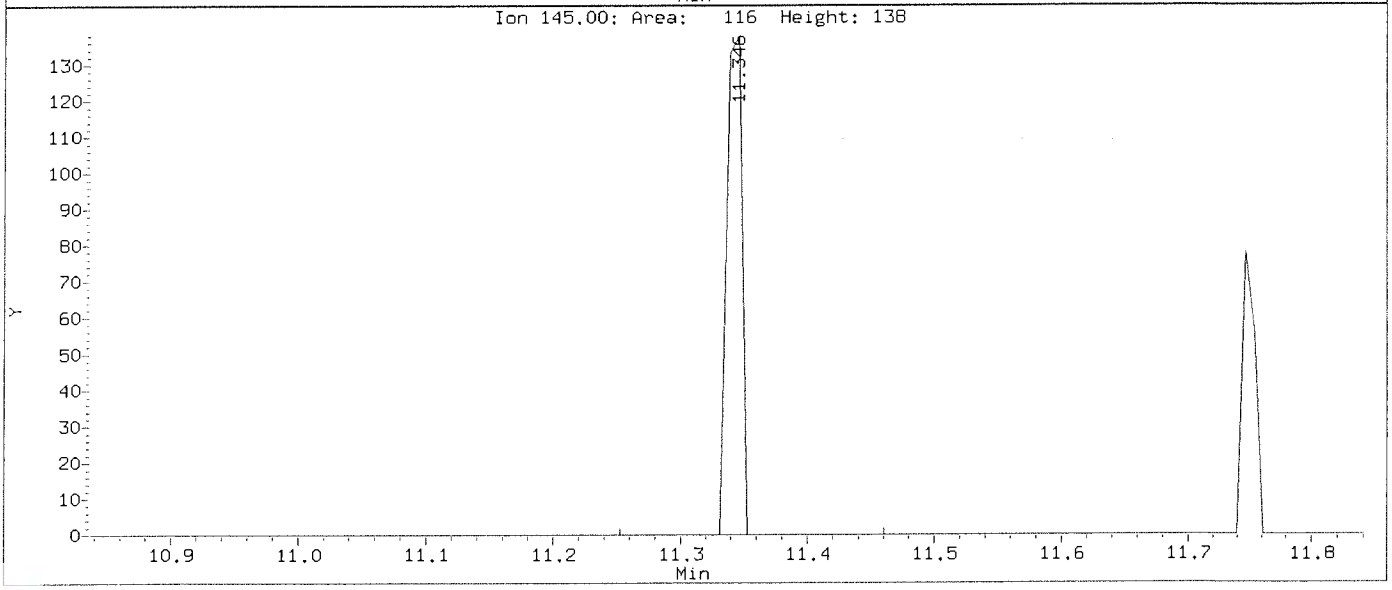
Instrument: voa6.i
Client Sample ID: VSTD000.5

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







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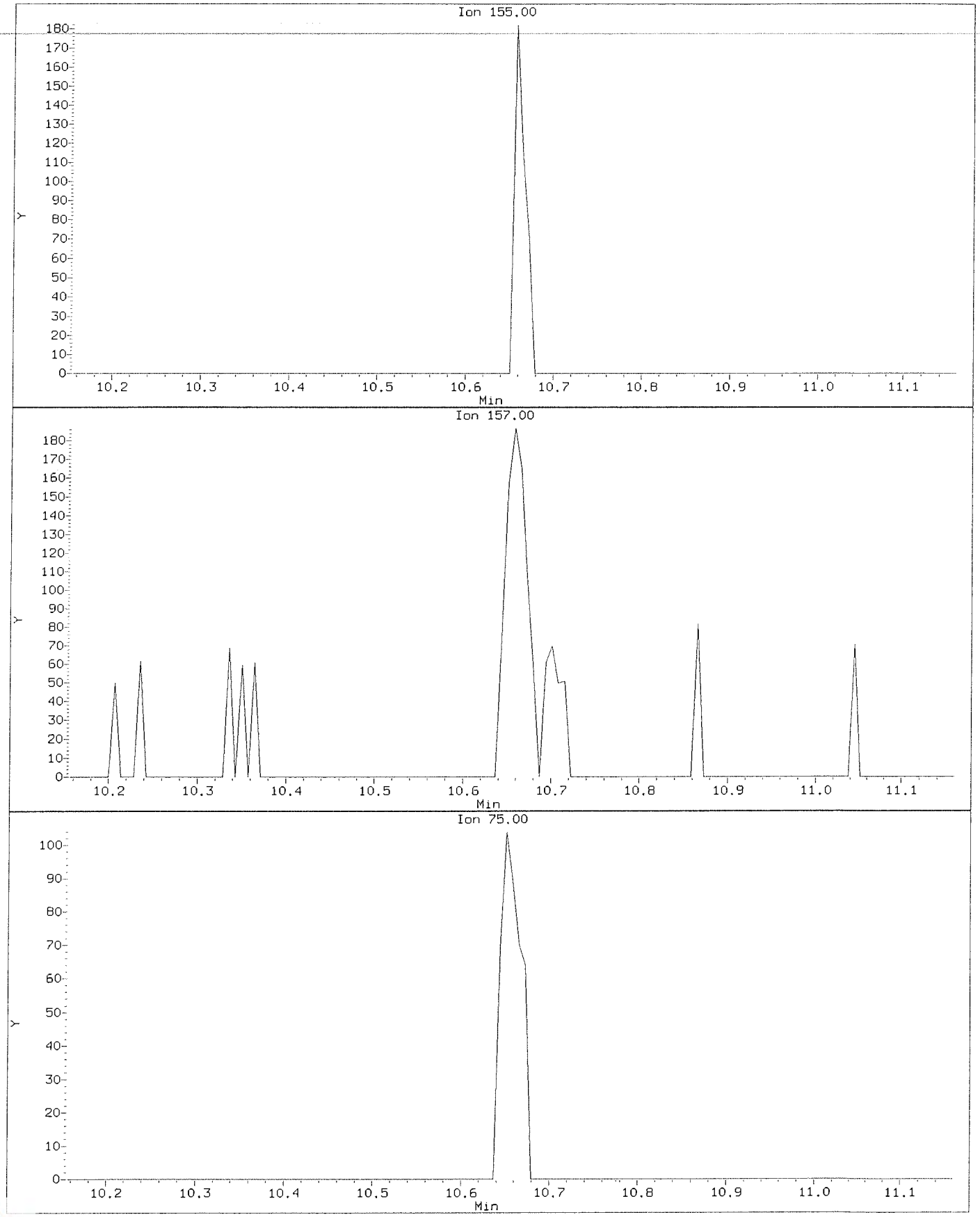
Injection Date: 31-OCT-2019 11:56
Instrument: voa6.i
Client Sample ID: VSTD000.5

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



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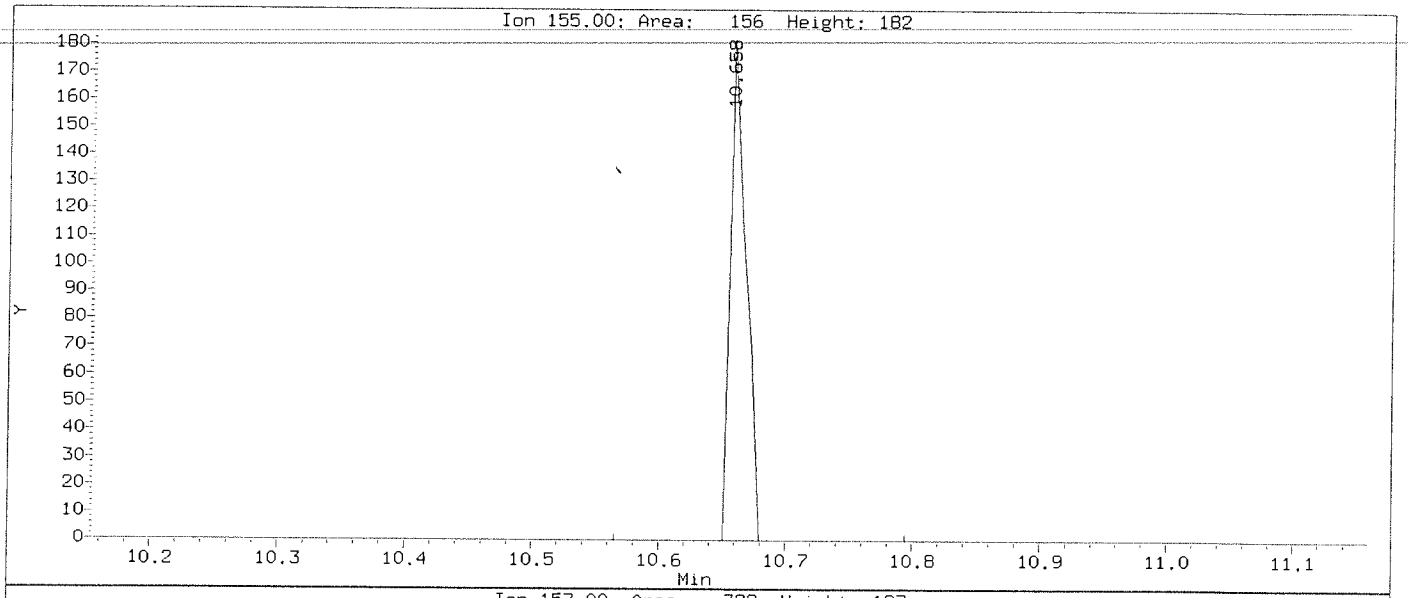
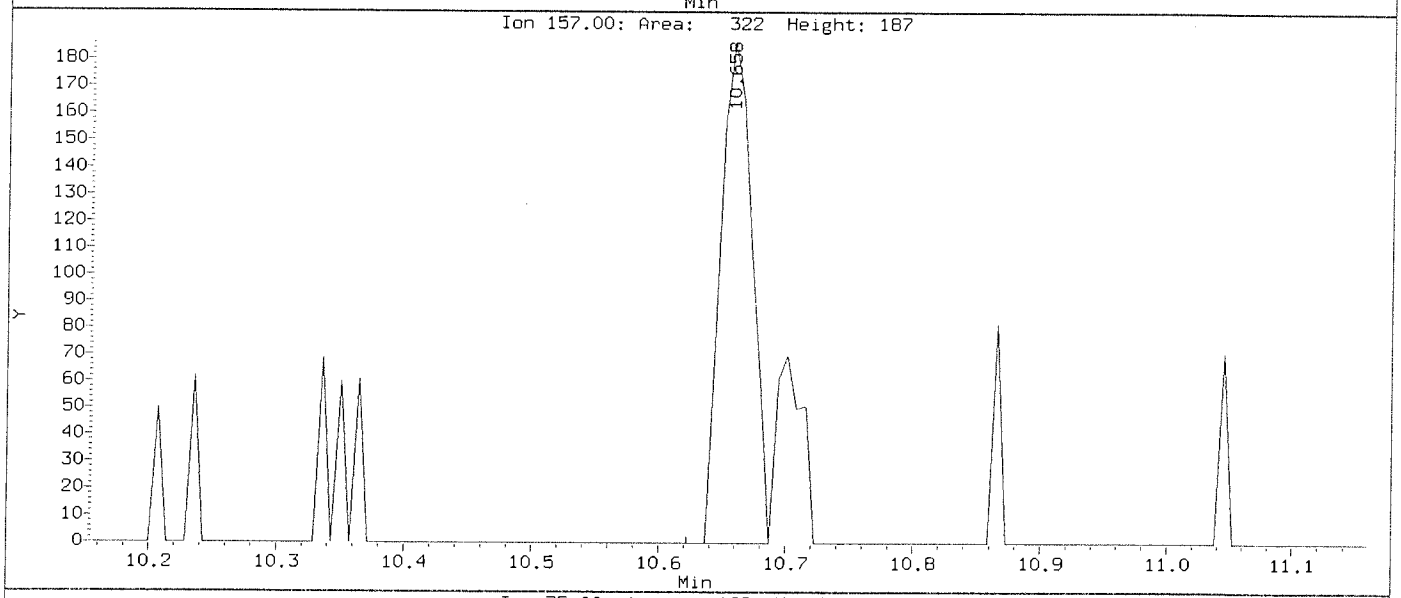
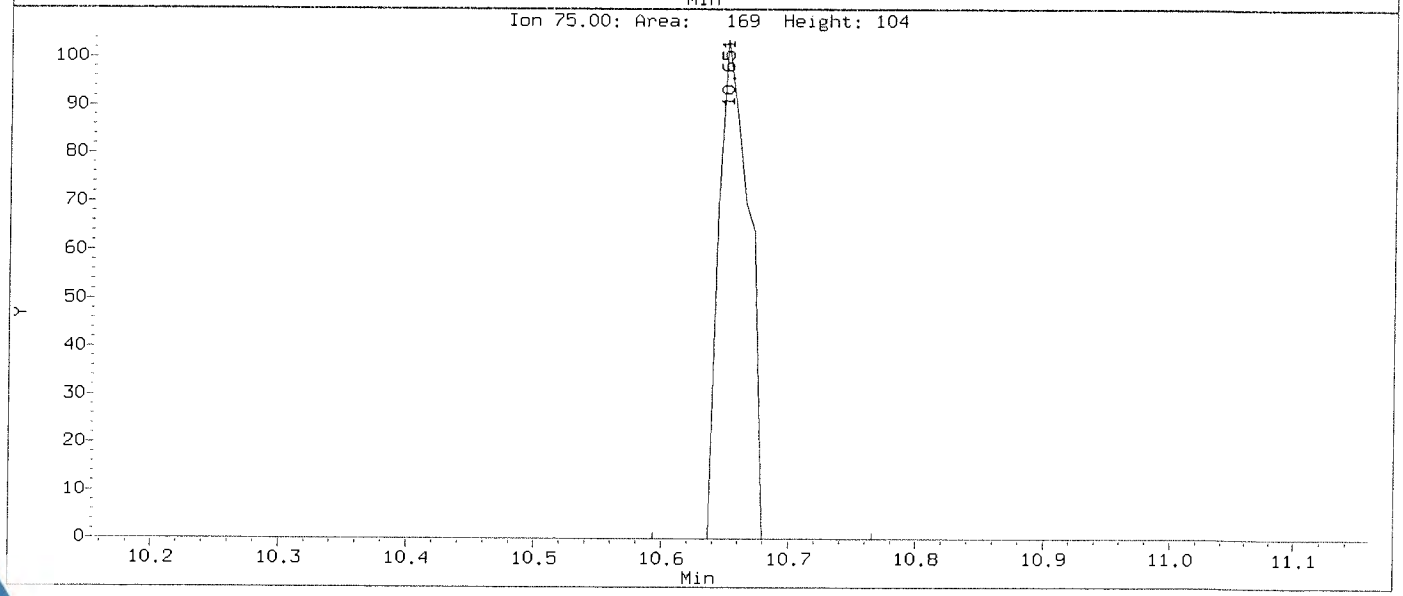
Injection Date: 31-OCT-2019 11:56
Instrument: voa6.i
Client Sample ID: VSTD000.5

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

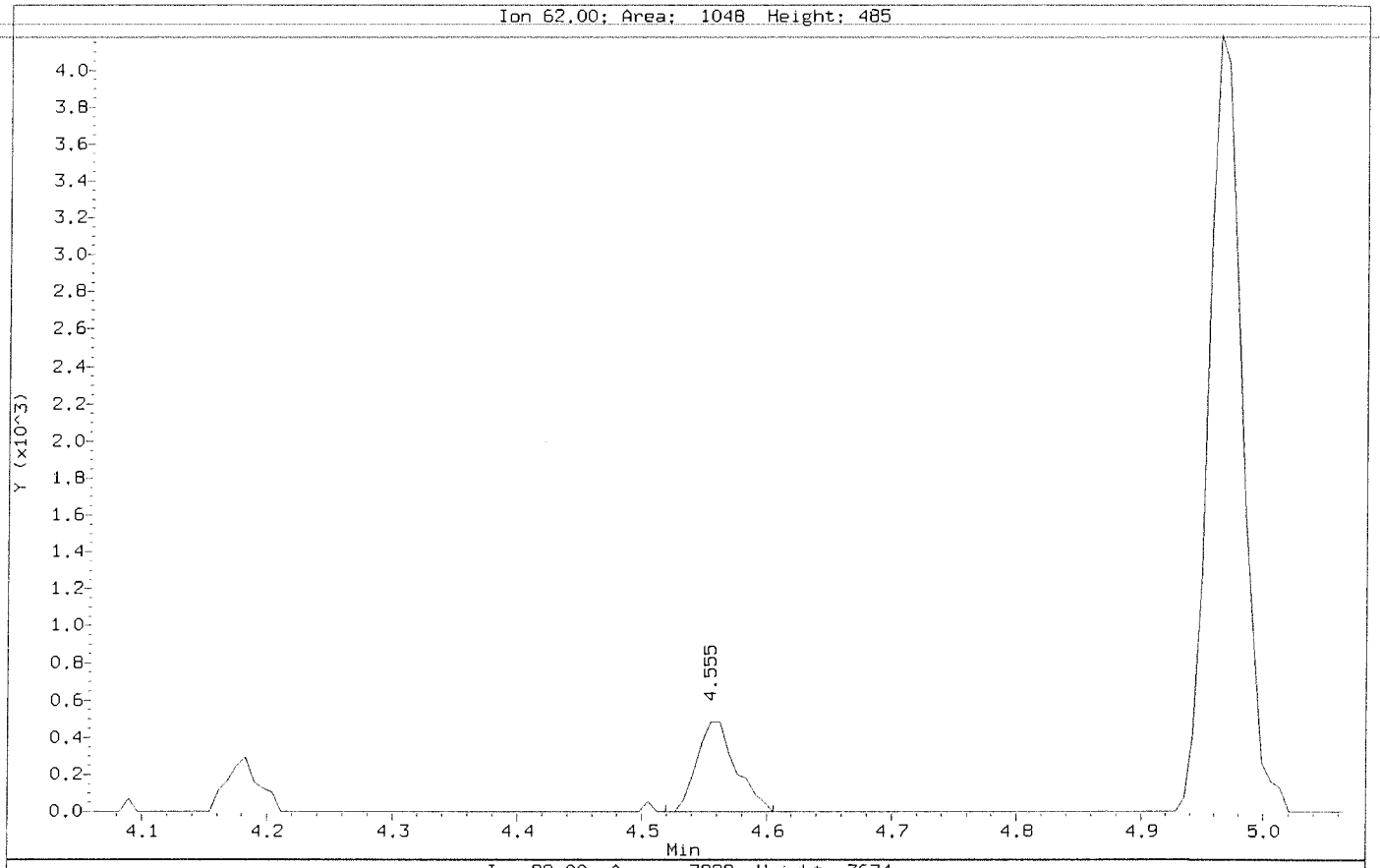


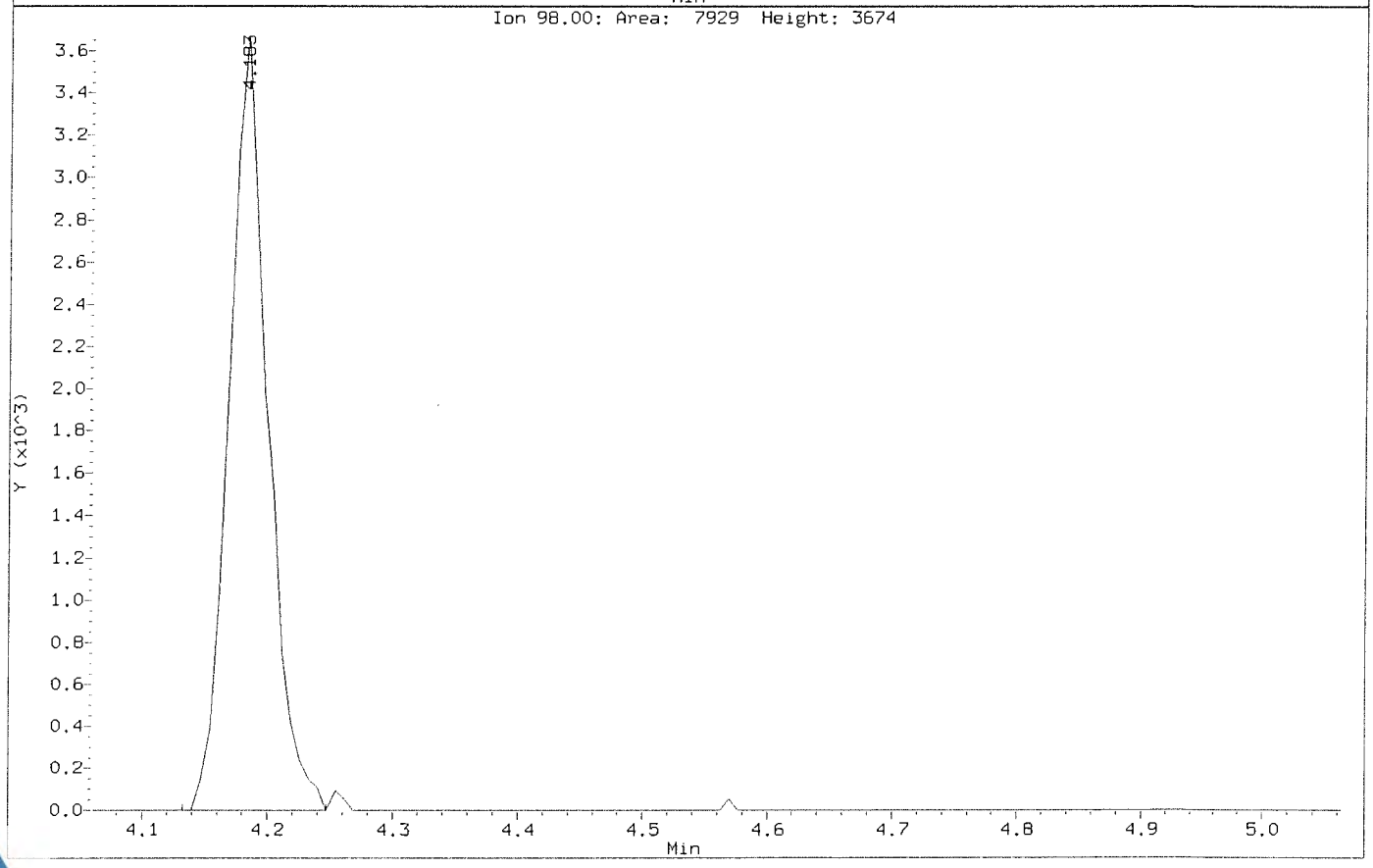




Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\BEFORE2\X103103.D
Injection Date: 31-OCT-2019 11:56
Instrument: voa6.i
Client Sample ID: VSTD000.5

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





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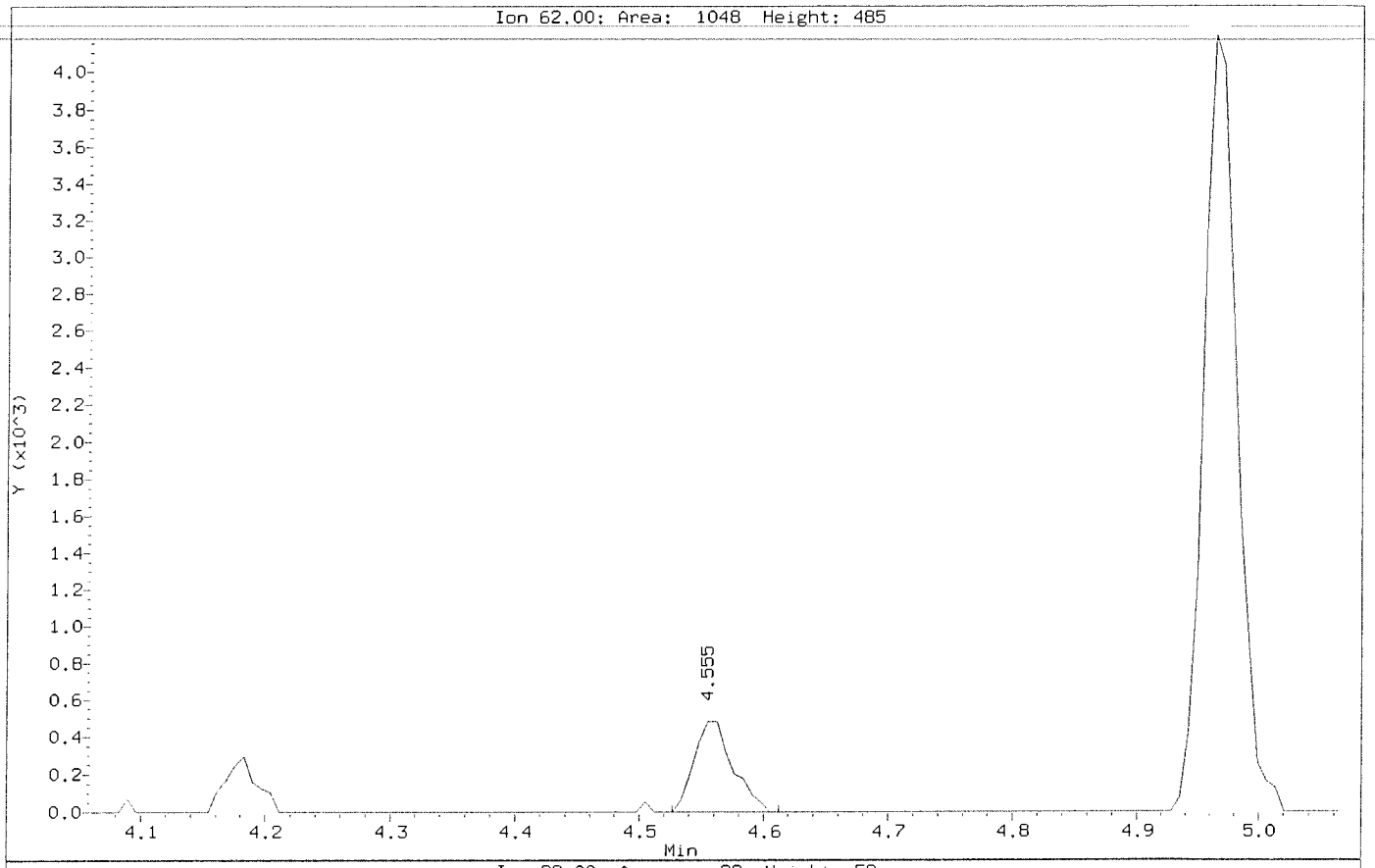
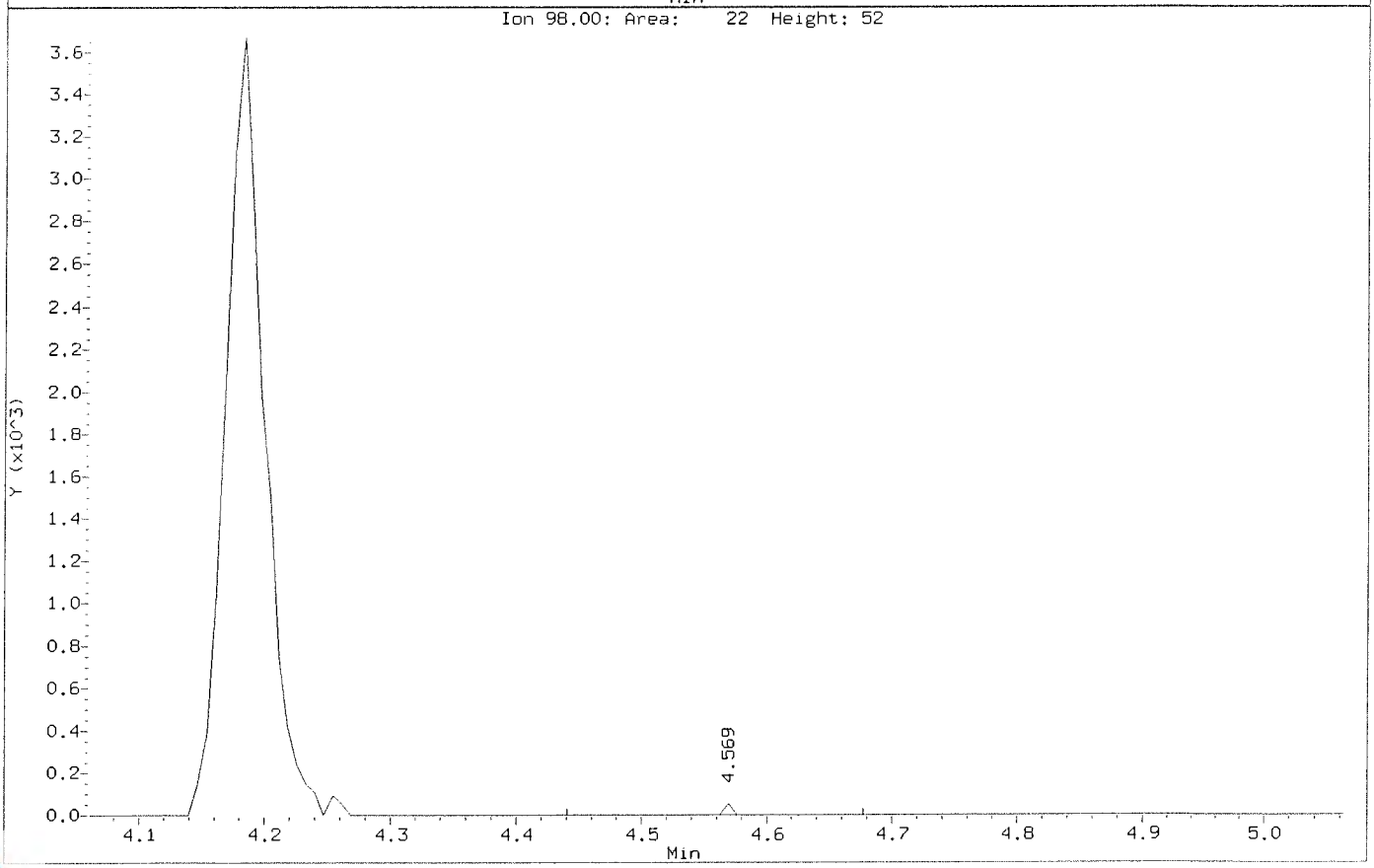
Client Sample ID: VSTD000.5

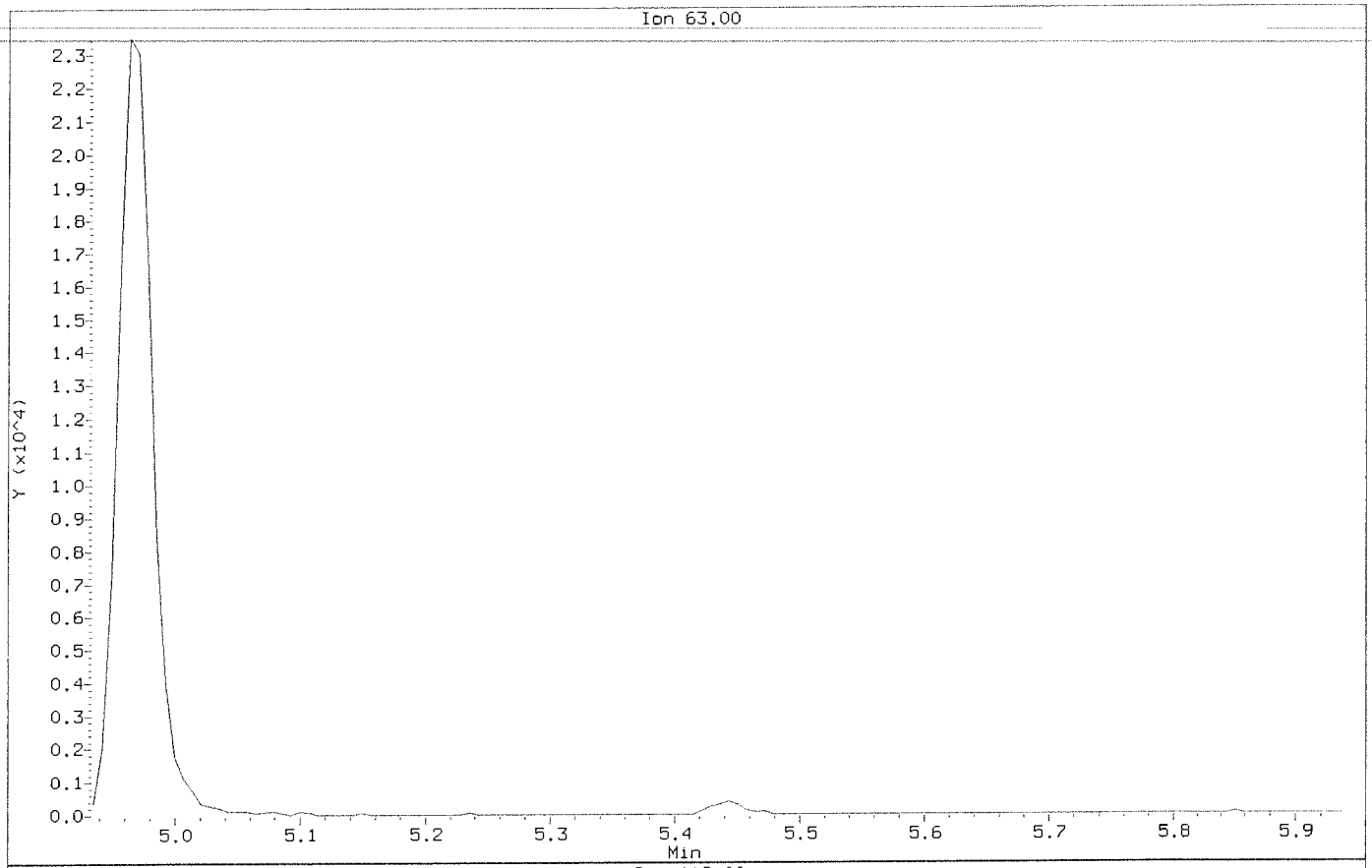
Compound: 1,2-Dichloroethane
CAS Number: 107-06-2

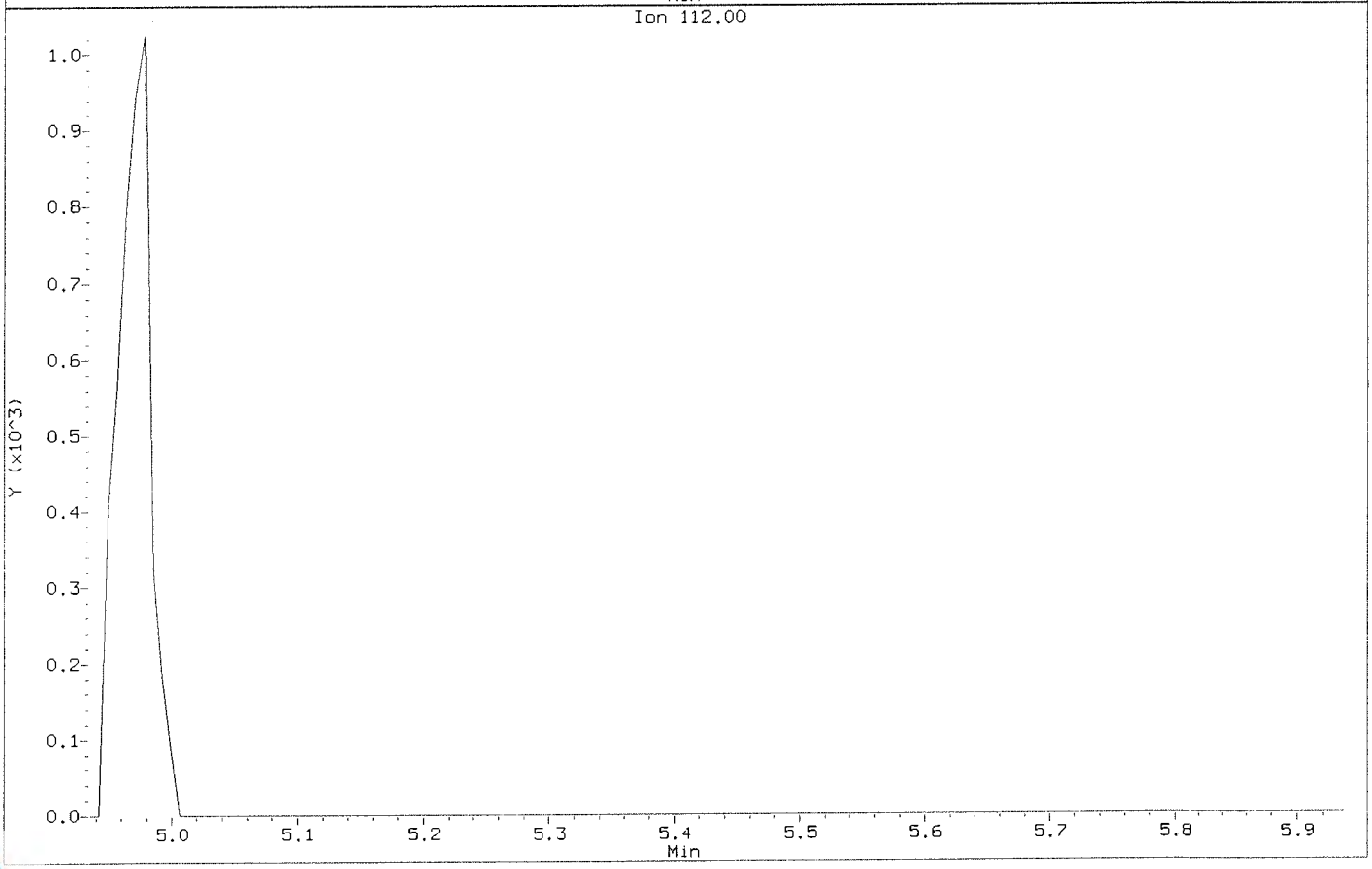




Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\BEFORE2\X103103.D
Injection Date: 31-OCT-2019 11:56
Instrument: voa6.i
Client Sample ID: VSTD000.5

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





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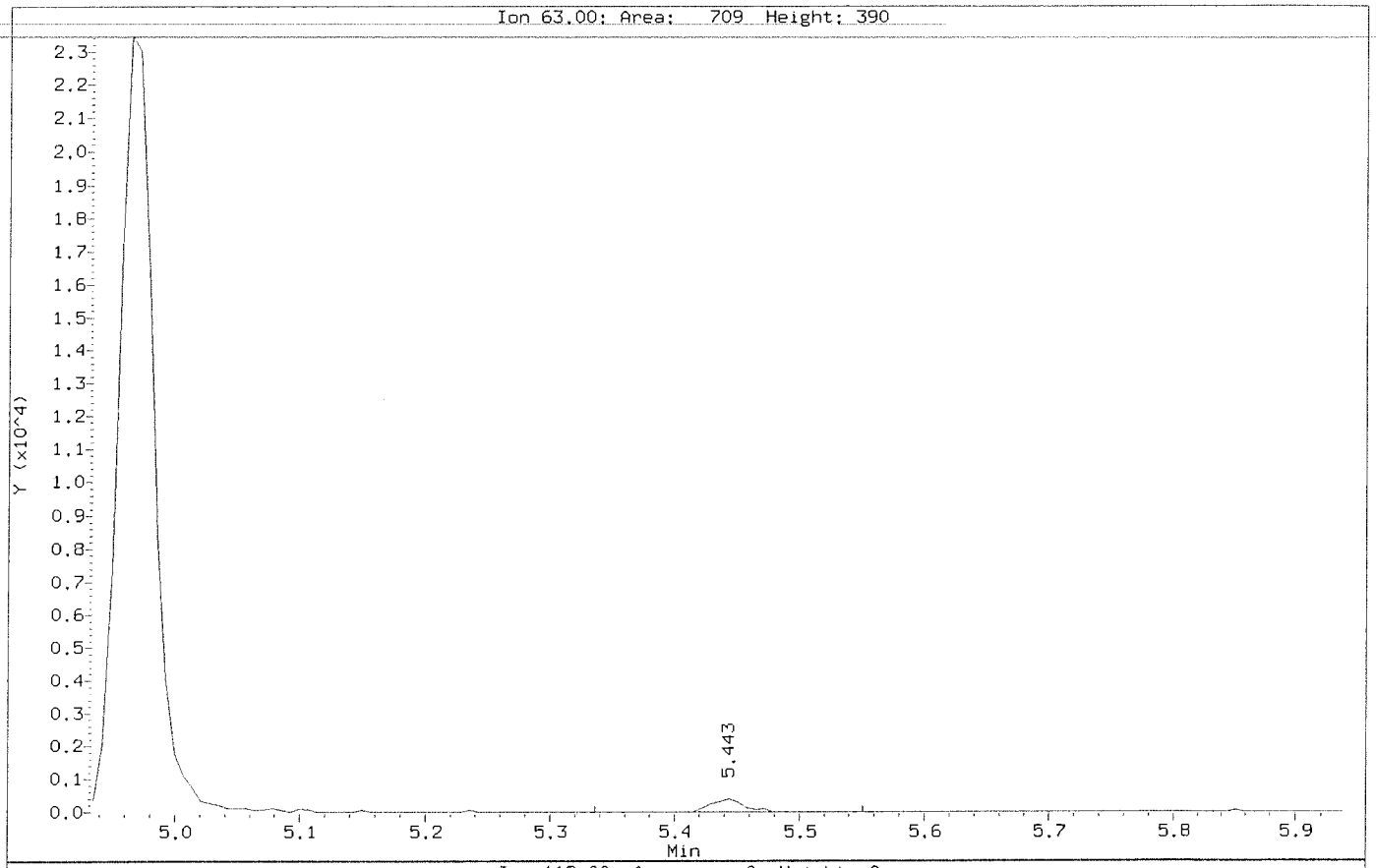
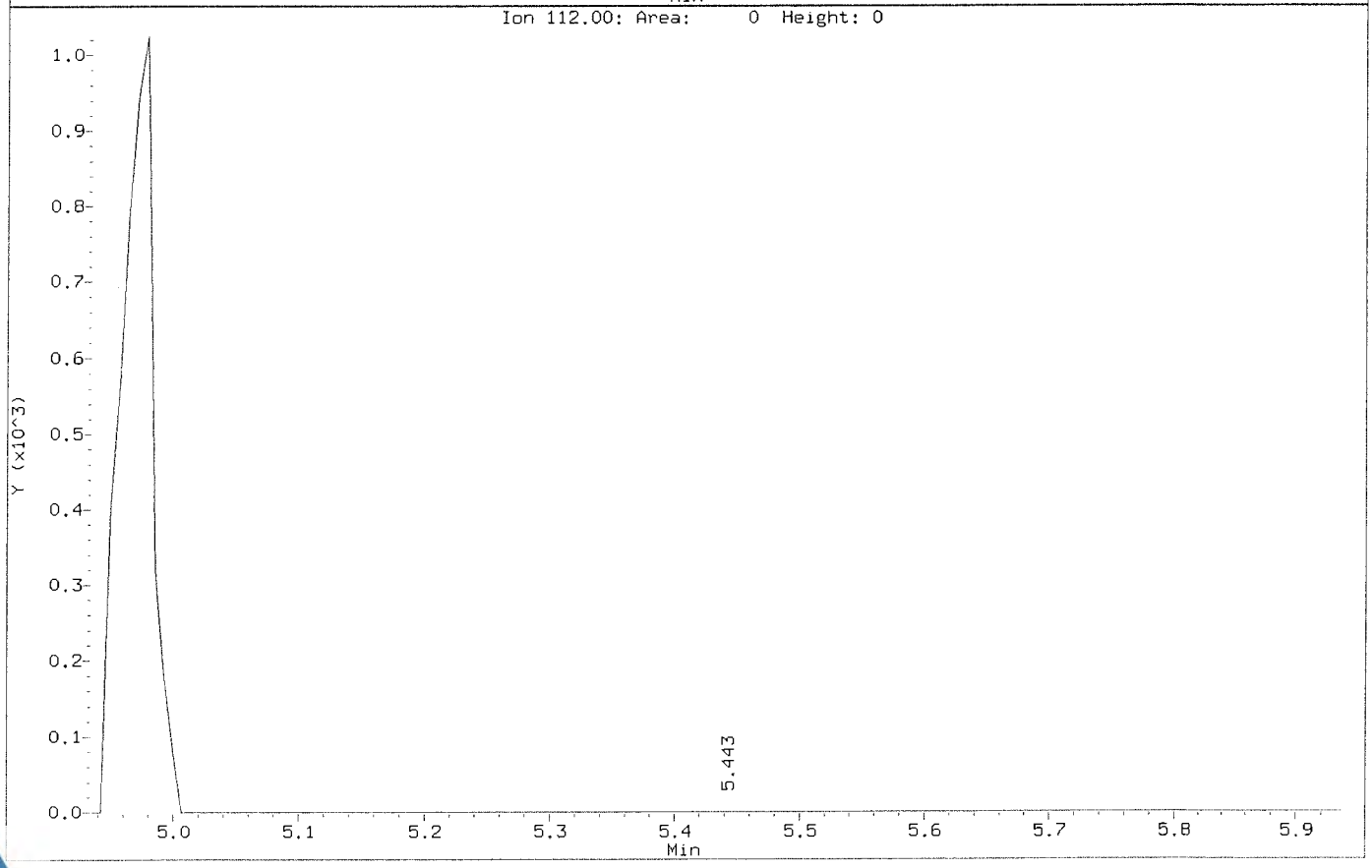
Injection Date: 31-OCT-2019 11:56
Instrument: voa6.i
Client Sample ID: VSTD000.5

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





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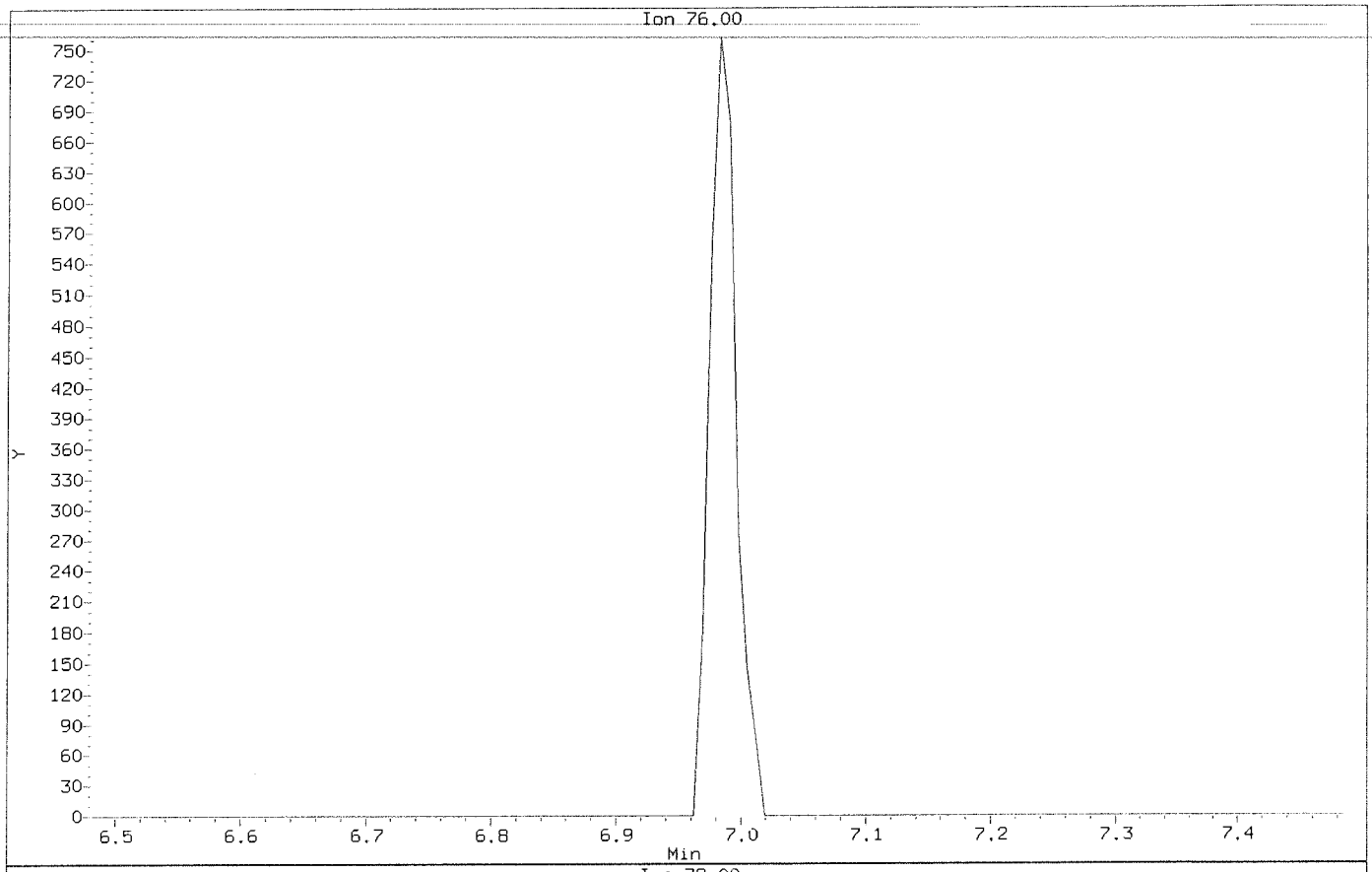
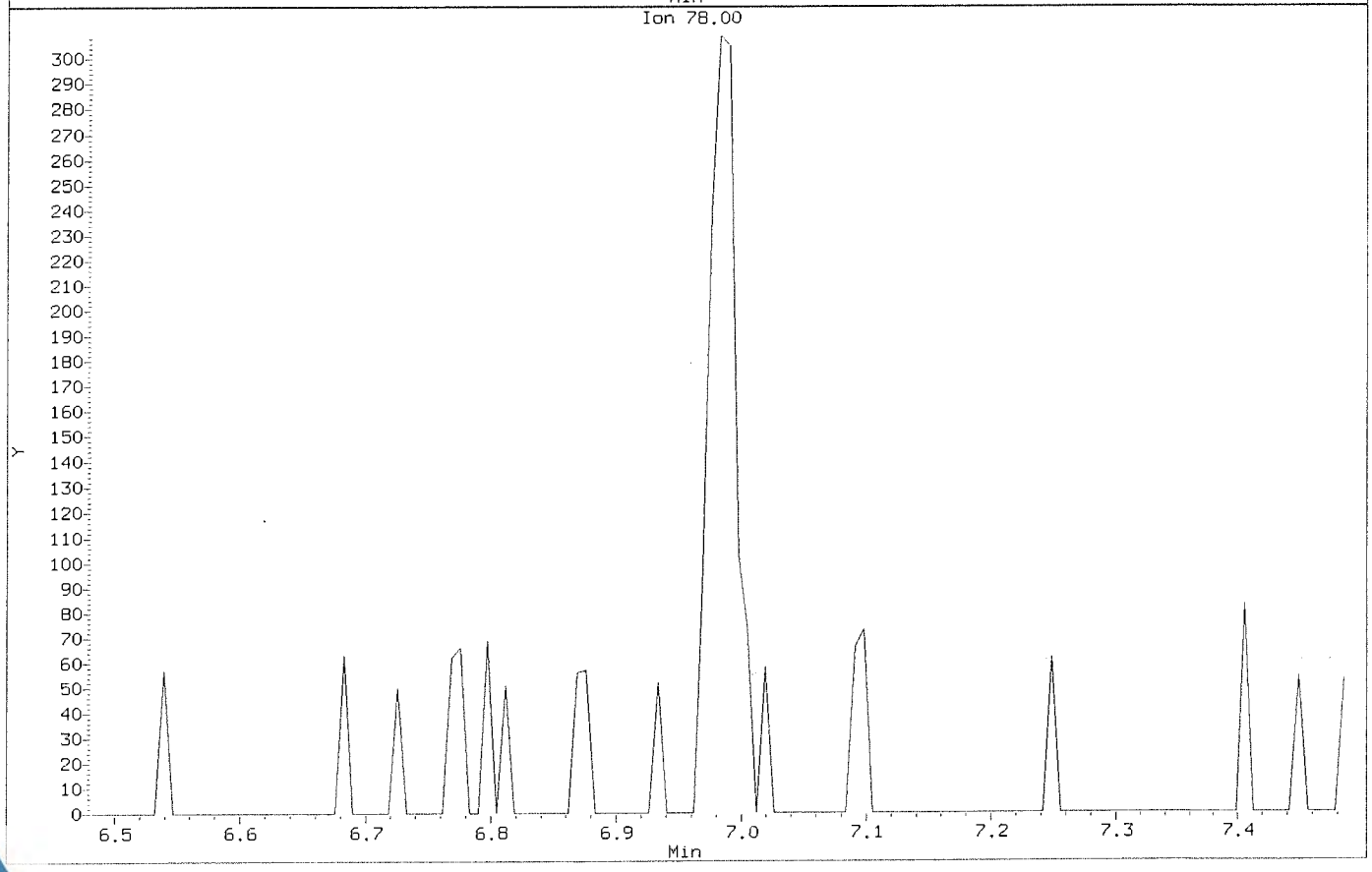
Injection Date: 31-OCT-2019 11:56
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: 1,3-Dichloropropane
CAS Number: 142-28-9





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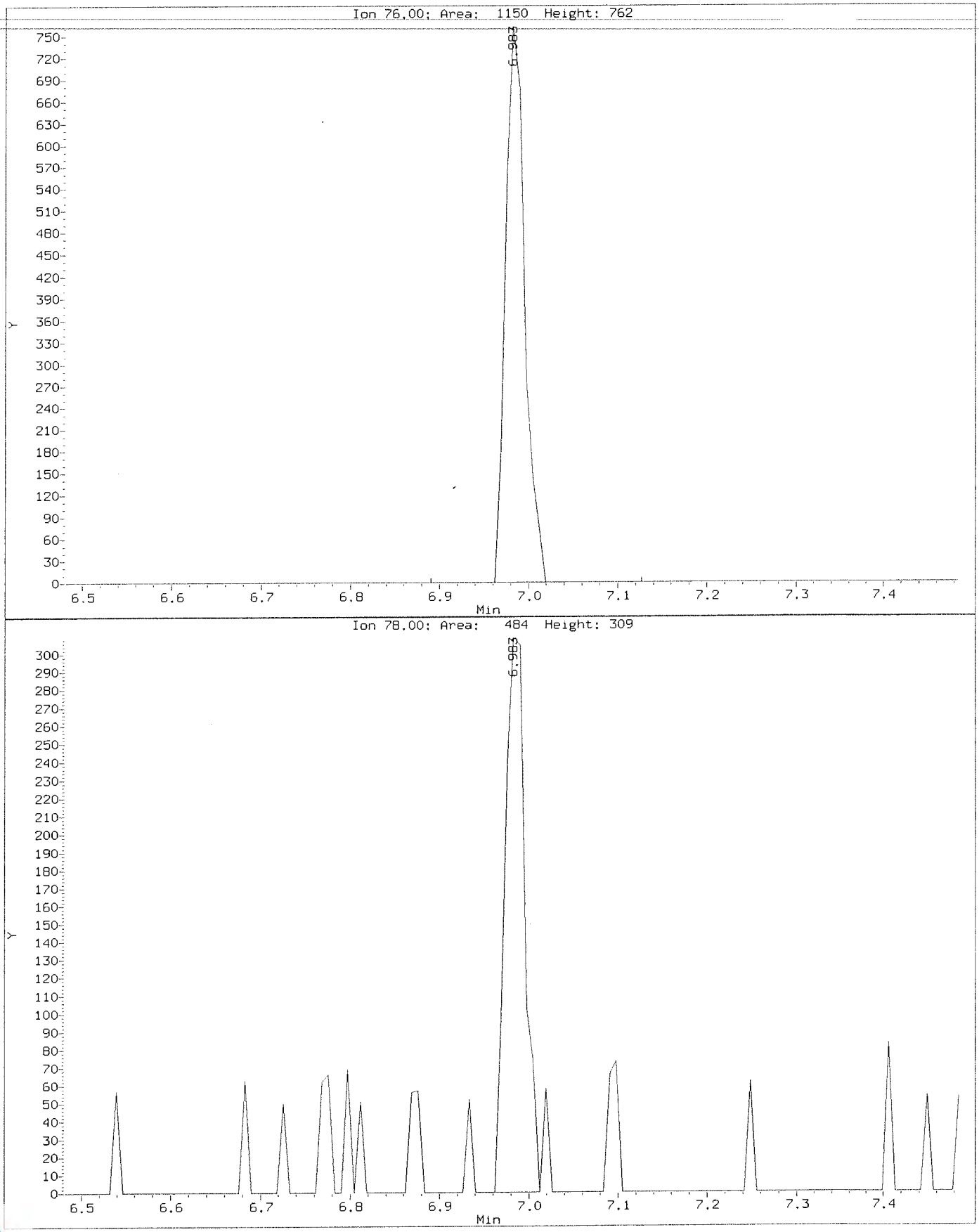
Injection Date: 31-OCT-2019 11:56
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: 1,3-Dichloropropane
CAS Number: 142-28-9



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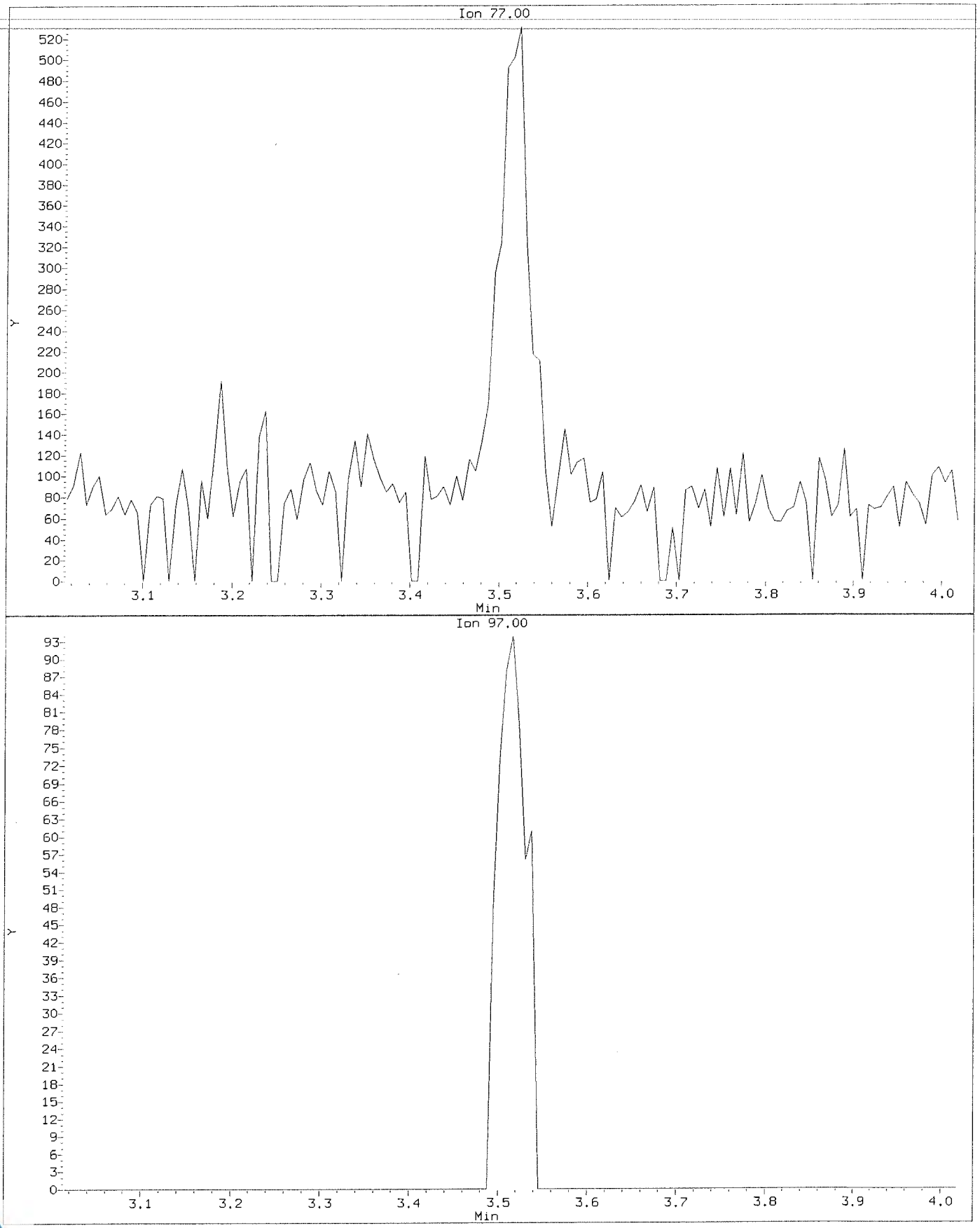
Injection Date: 31-OCT-2019 11:56
Instrument: voa6.i
Client Sample ID: VSTD000.5

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



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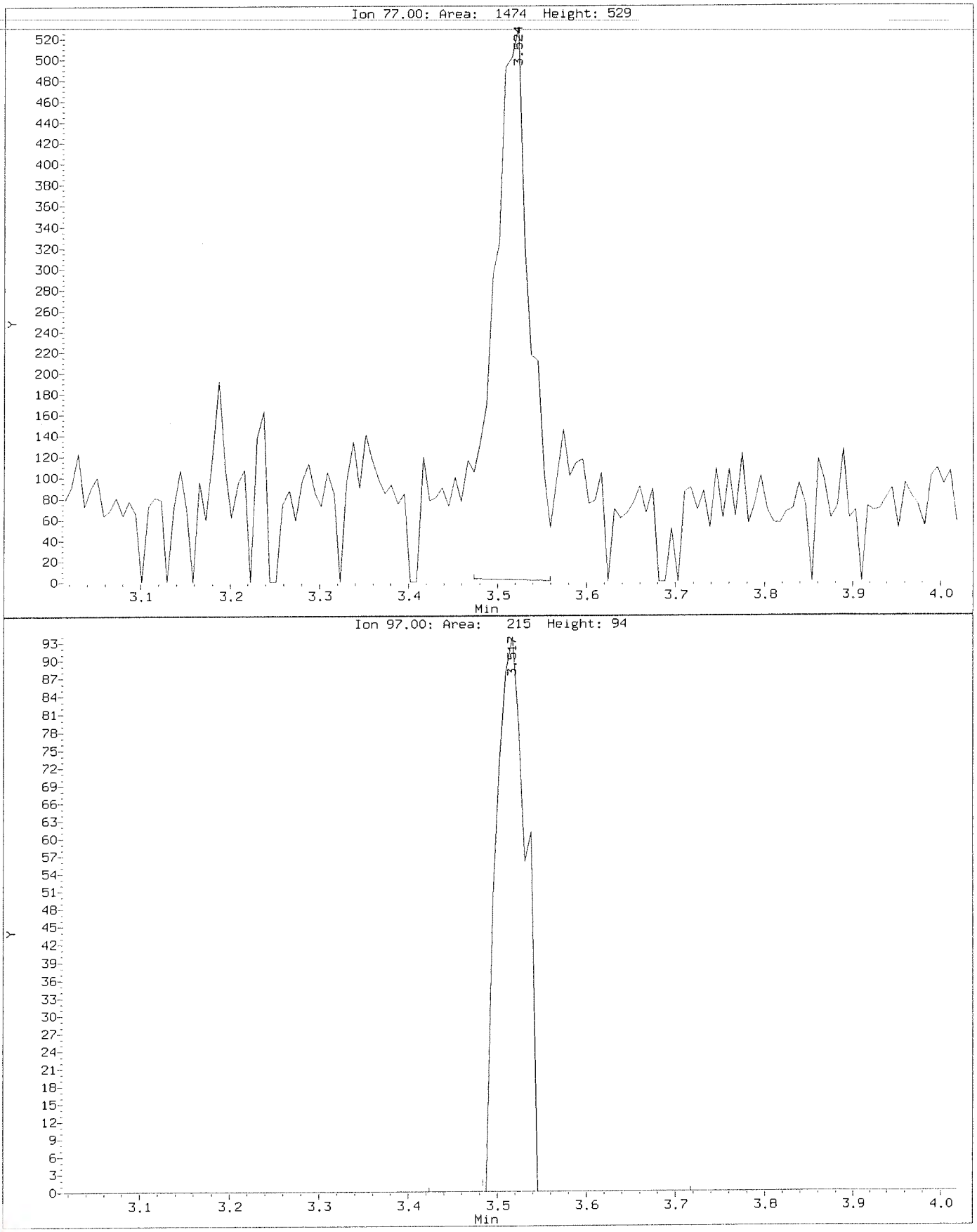
Injection Date: 31-OCT-2019 11:56
Instrument: voa6.i
Client Sample ID: VSTD000.5

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



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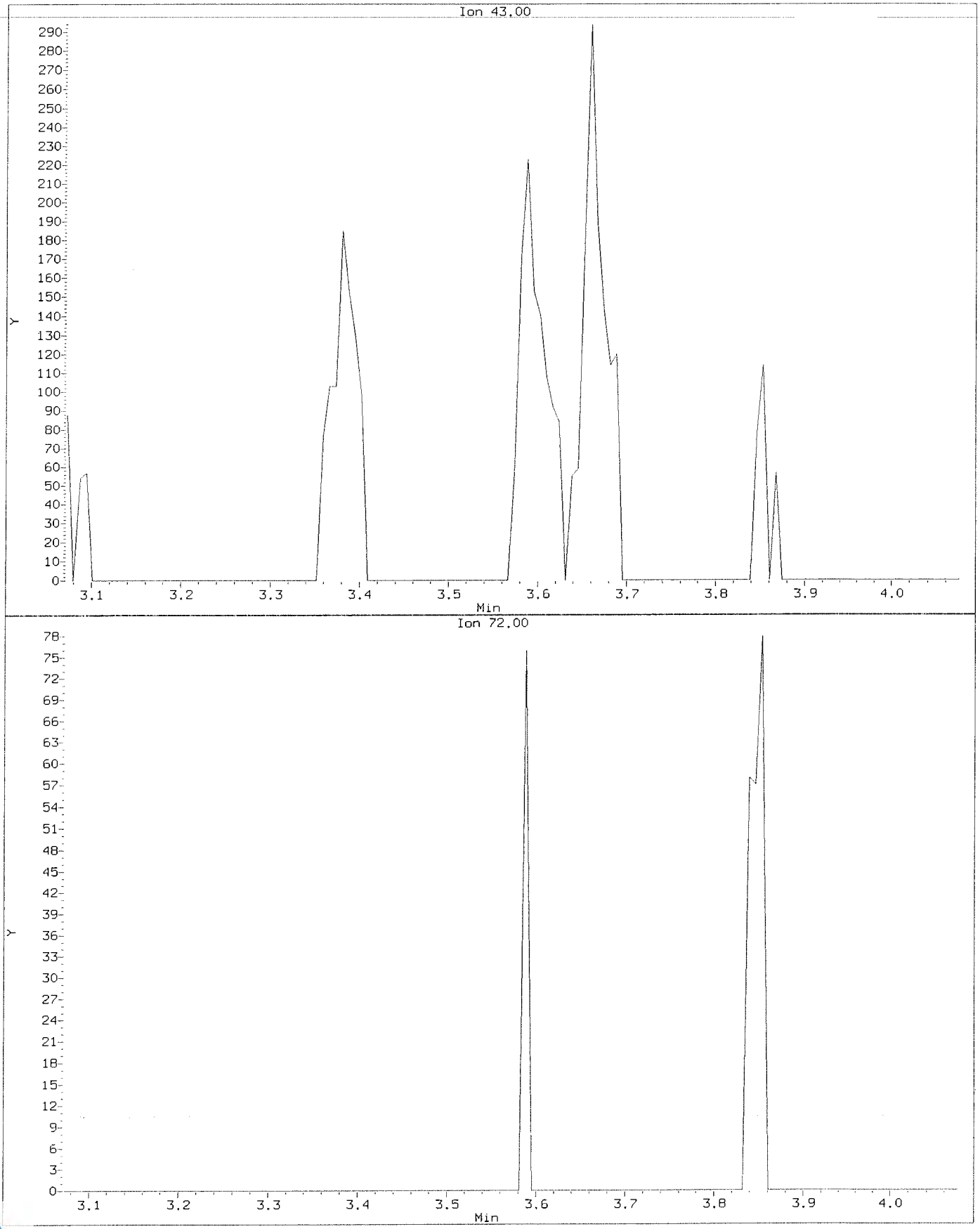
Injection Date: 31-OCT-2019 11:56
Instrument: voa6.i
Client Sample ID: VSTD000.5

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



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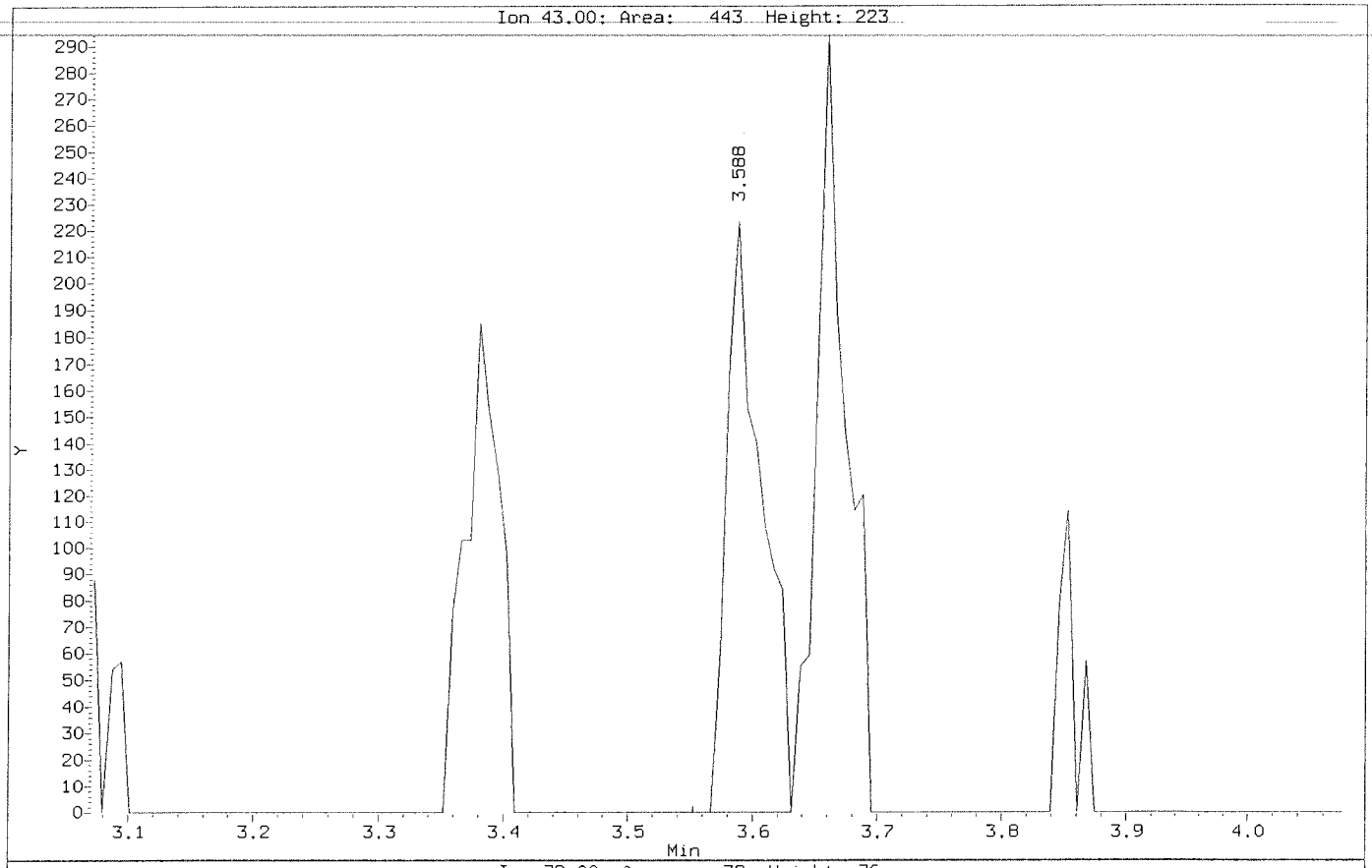
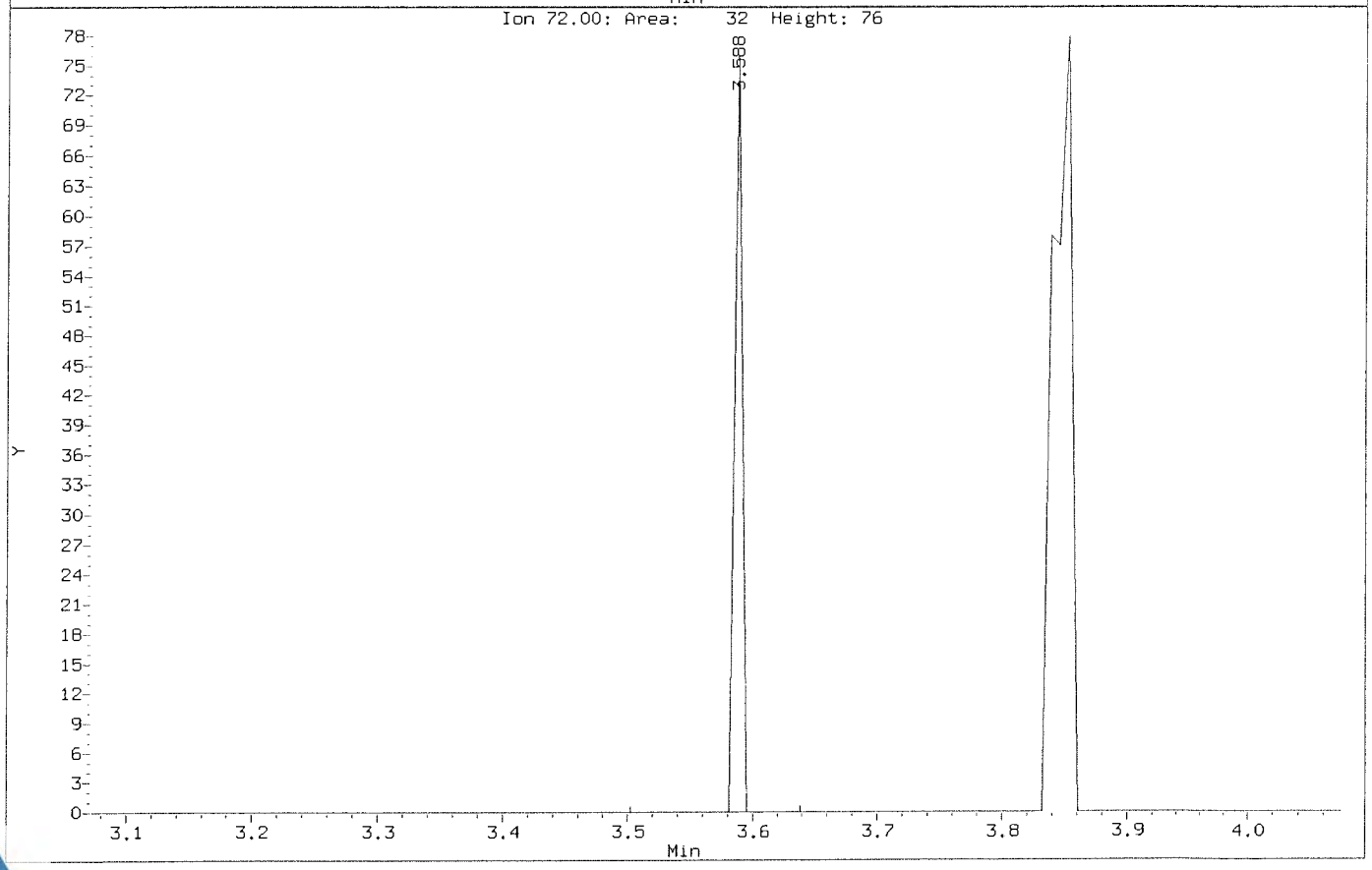
Instrument: voa6.i
Client Sample ID: VSTD000.5

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





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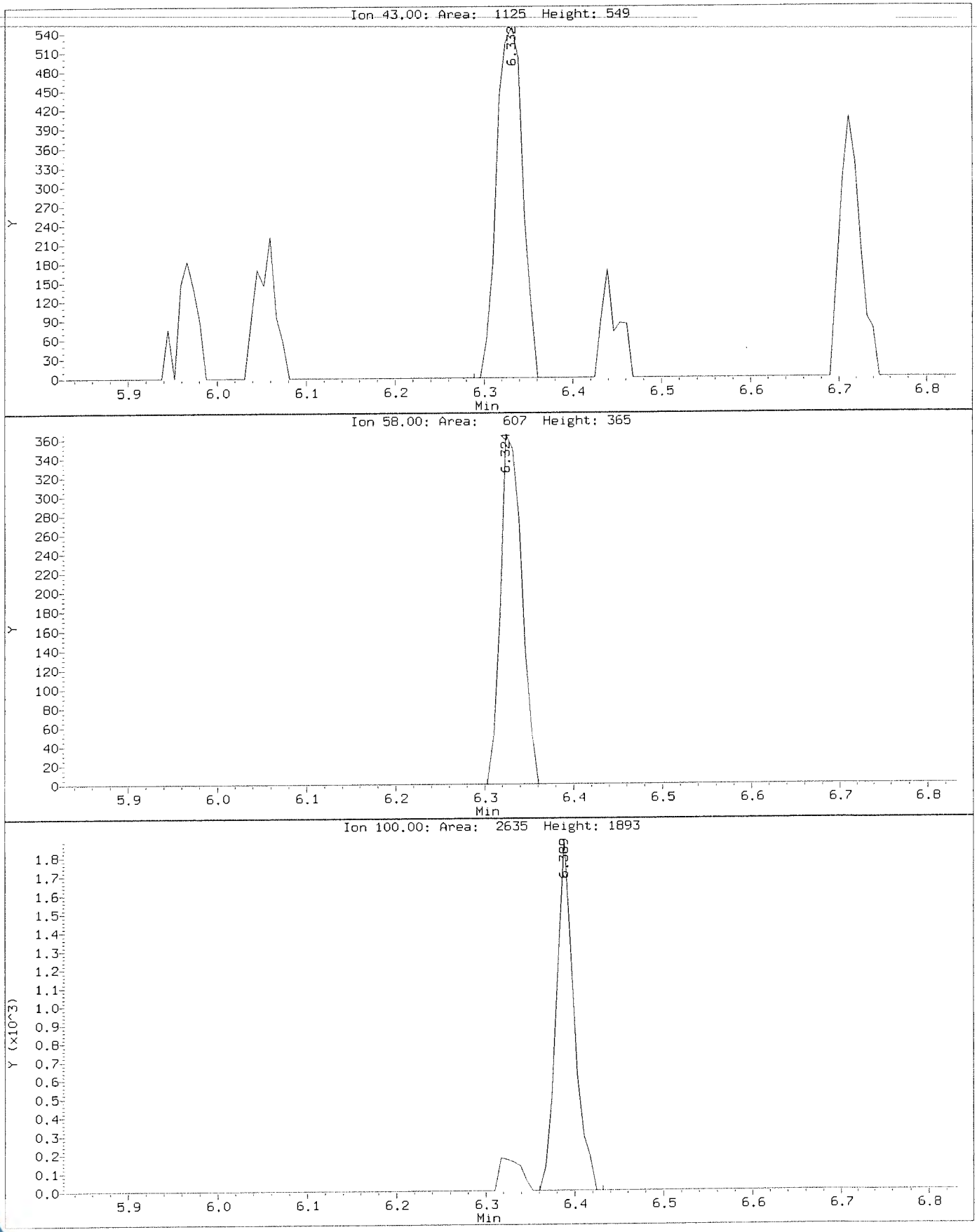
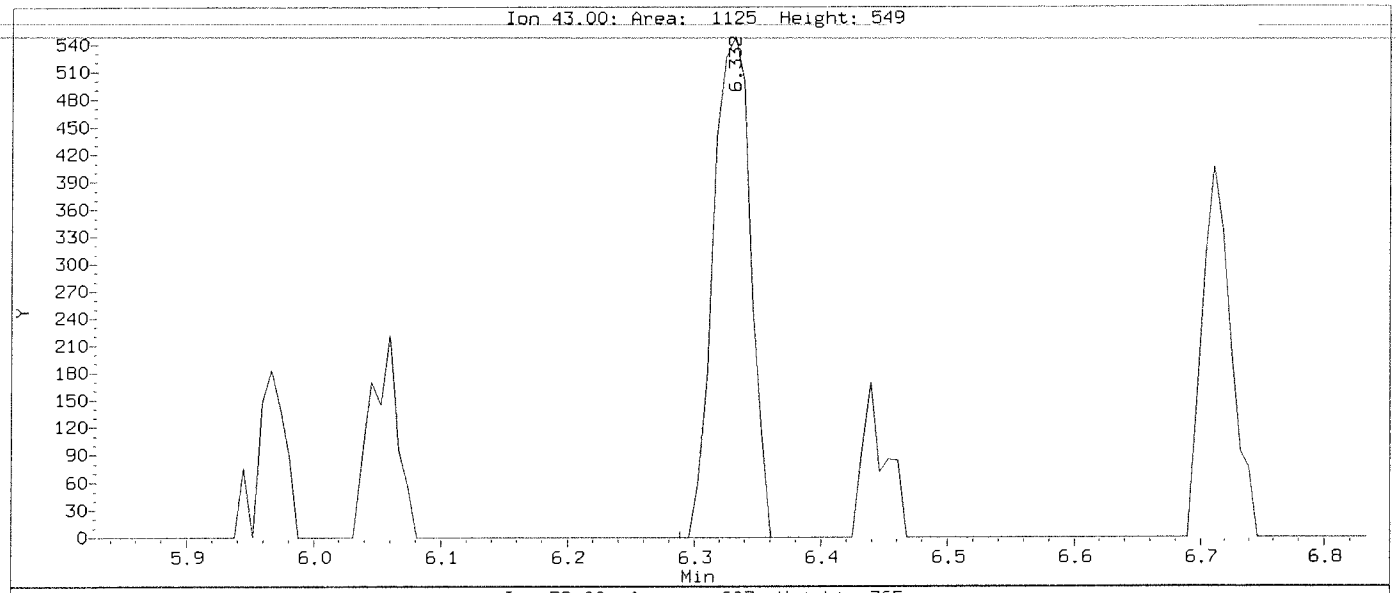
Injection Date: 31-OCT-2019 11:56
Instrument: voa6.i
Client Sample ID: VSTD000.5

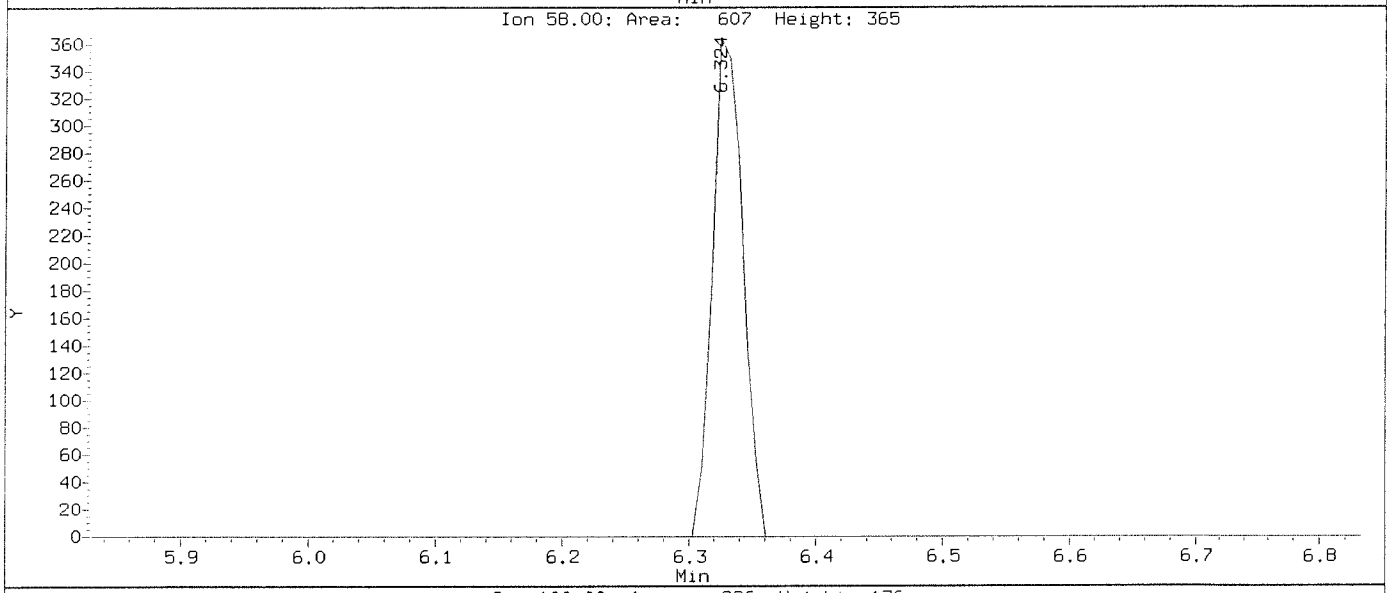
Compound: 4-Methyl-2-Pentanone
CAS Number: 108-10-1

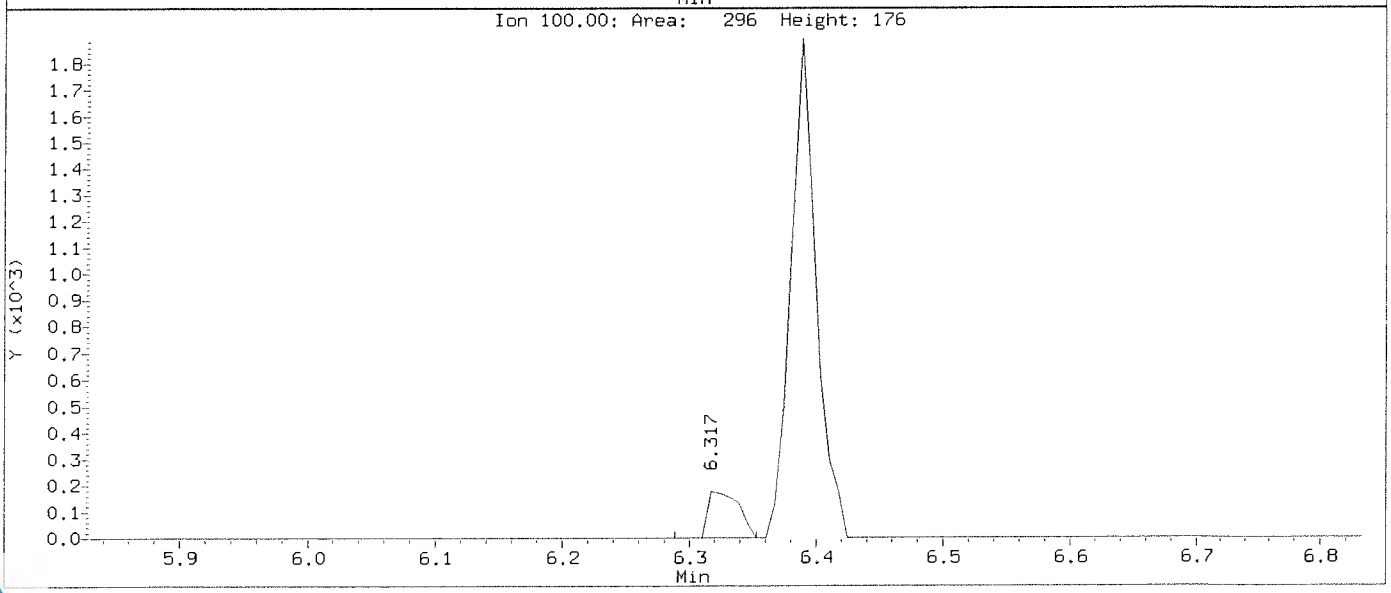


Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\X103103.D
Injection Date: 31-OCT-2019 11:56
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: 4-Methyl-2-Pentanone
CAS Number: 108-10-1

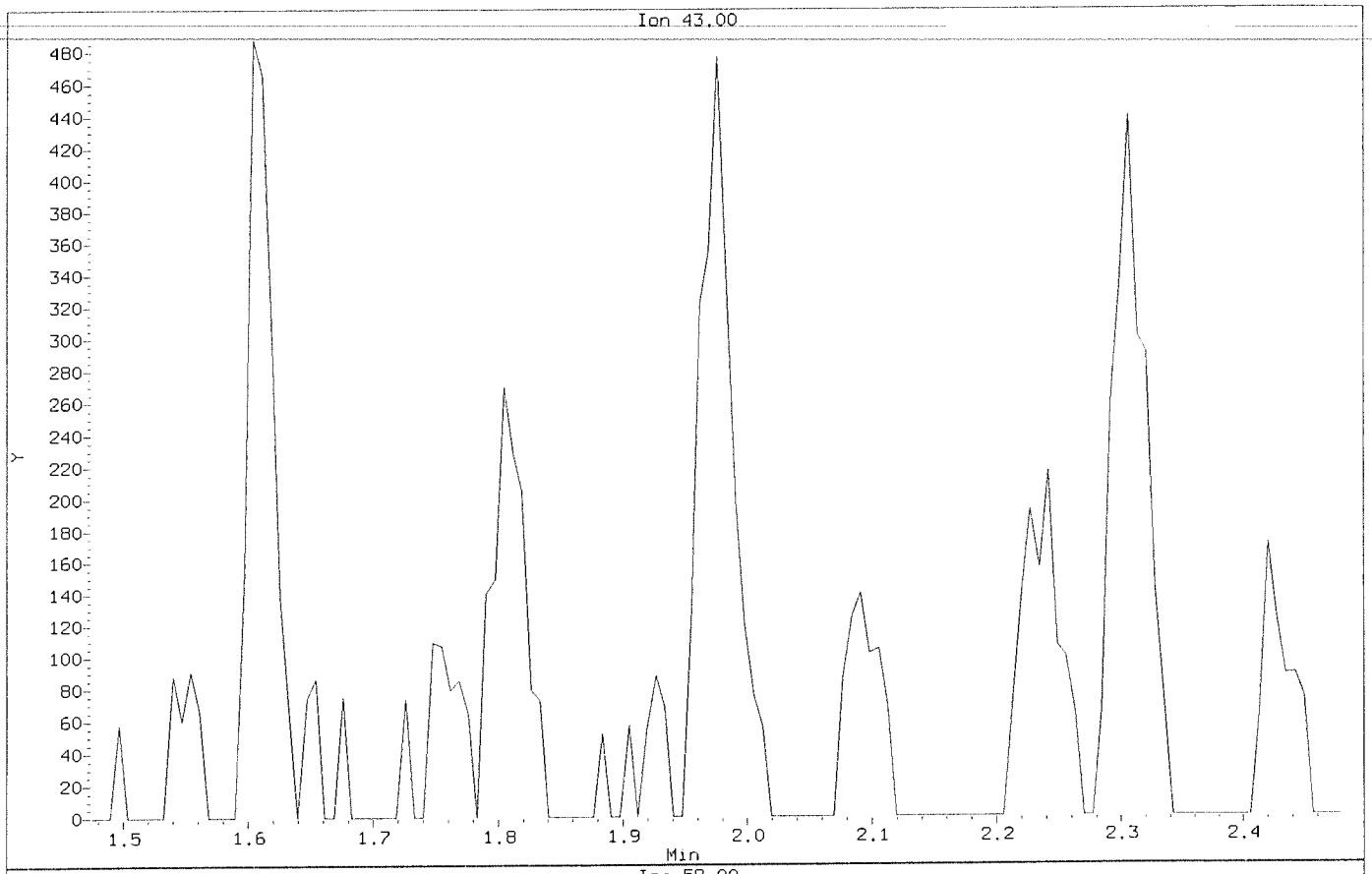


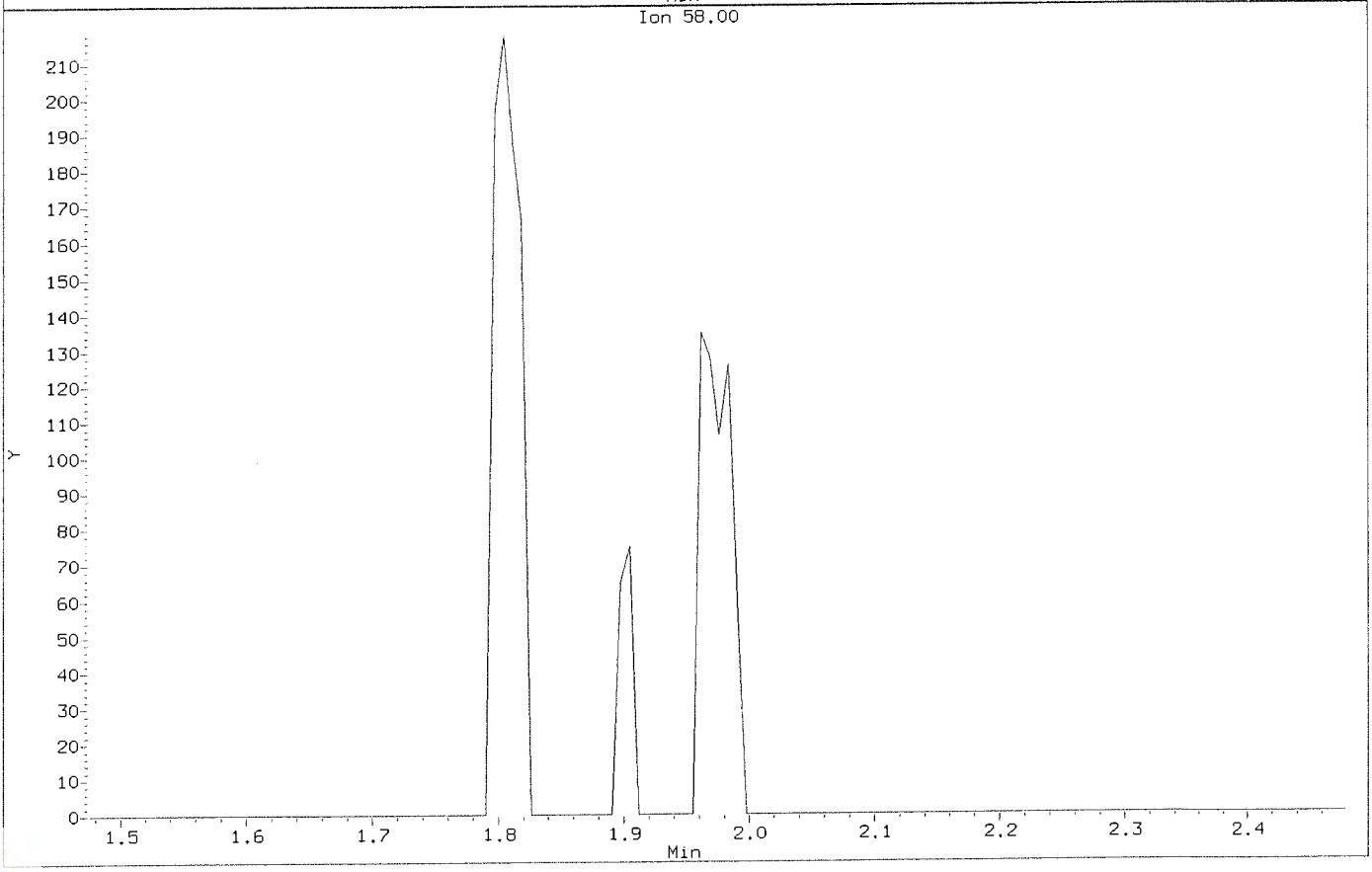




Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\BEFORE2\X103103.D
Injection Date: 31-OCT-2019 11:56
Instrument: voa6.i
Client Sample ID: VSTD000.5

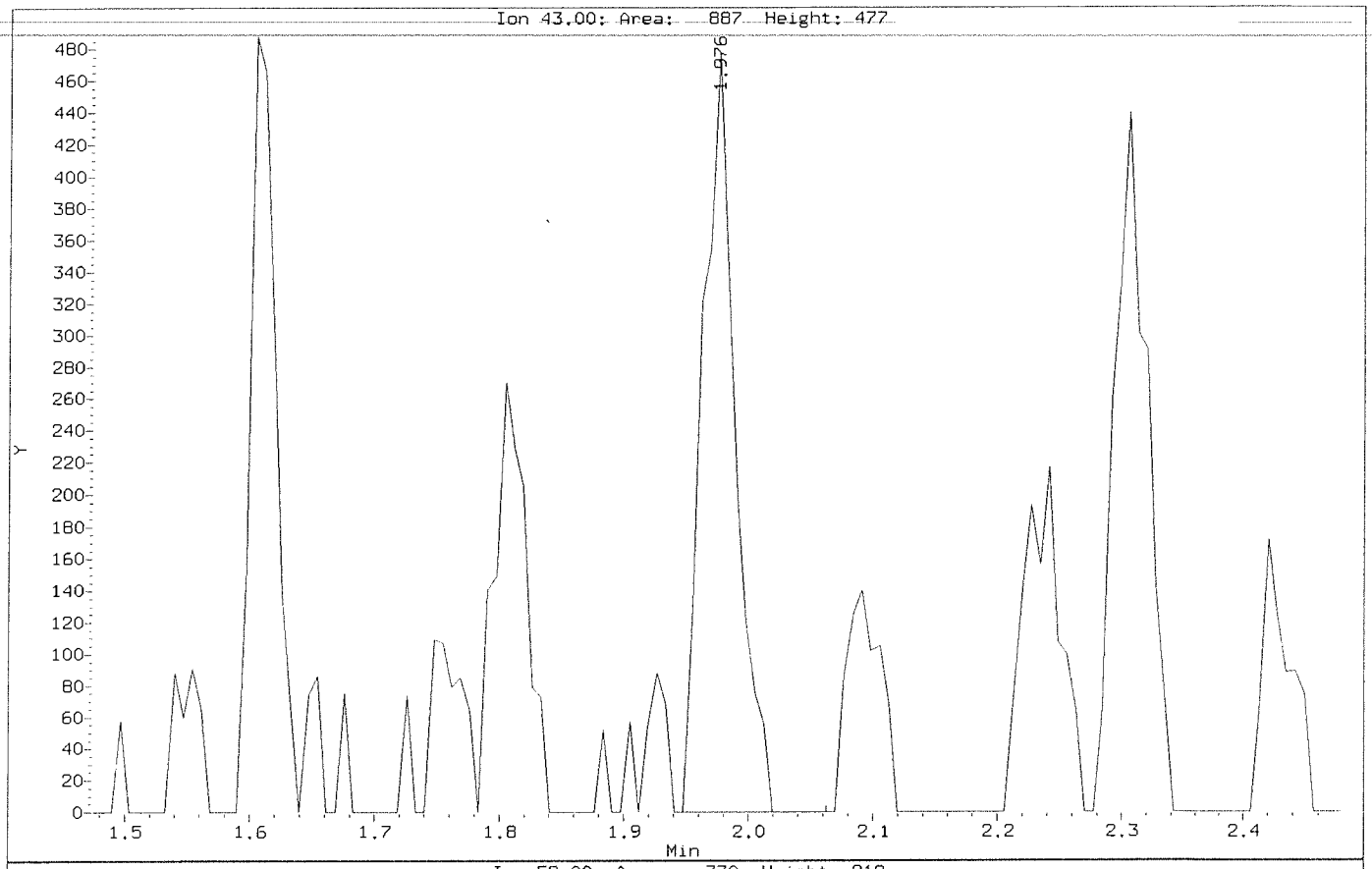
Compound: Acetone
CAS Number: 67-64-1

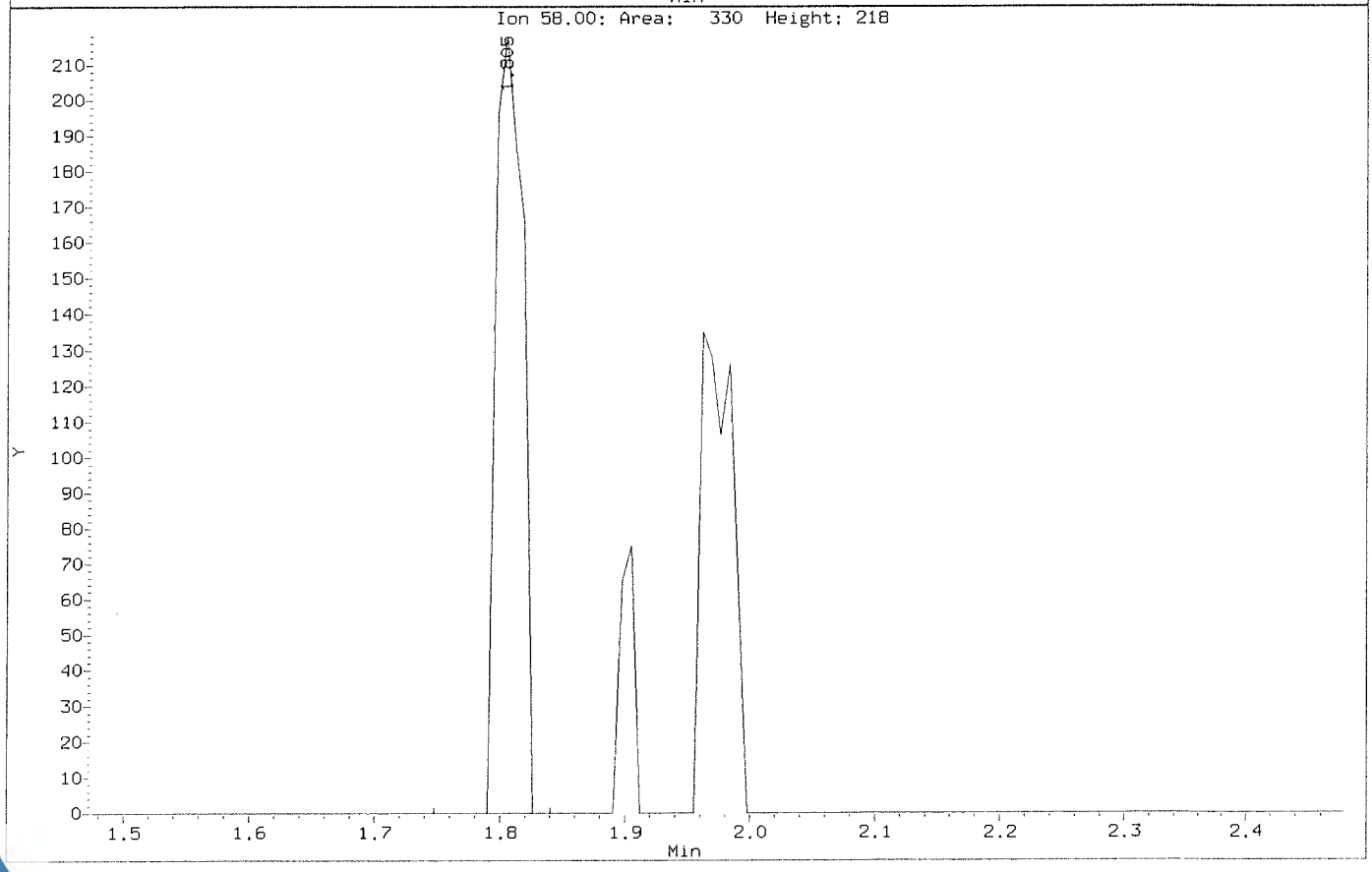




Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\X103103.D
Injection Date: 31-OCT-2019 11:56
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Acetone
CAS Number: 67-64-1





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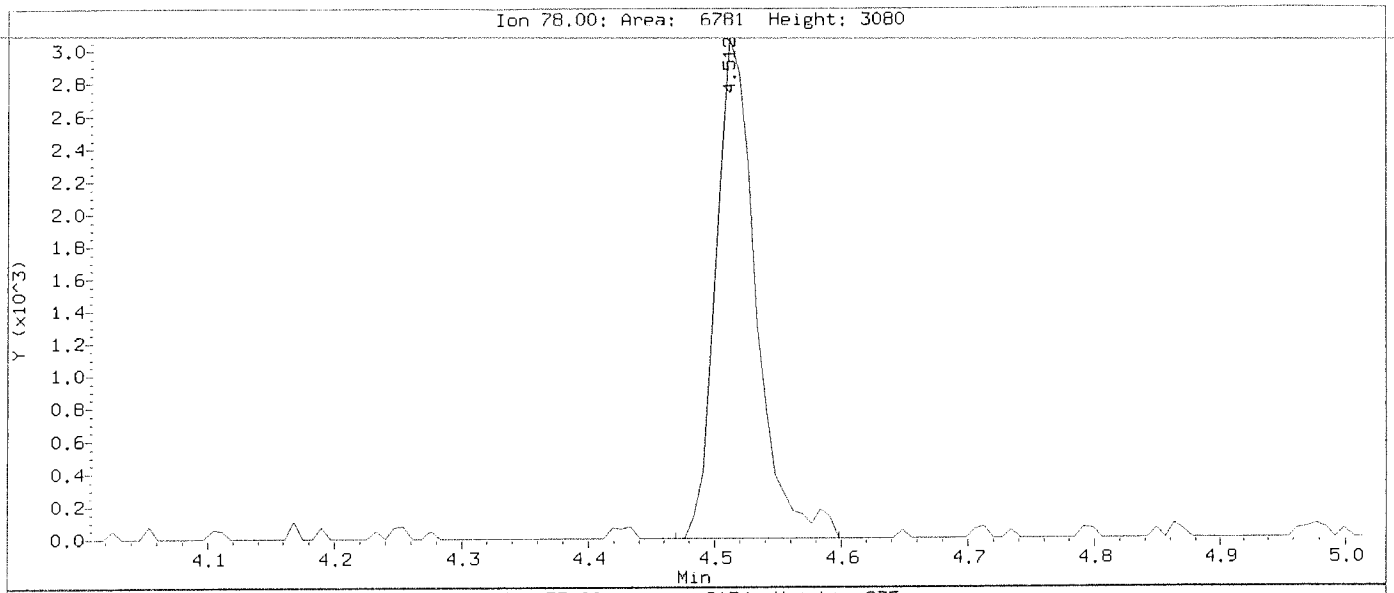
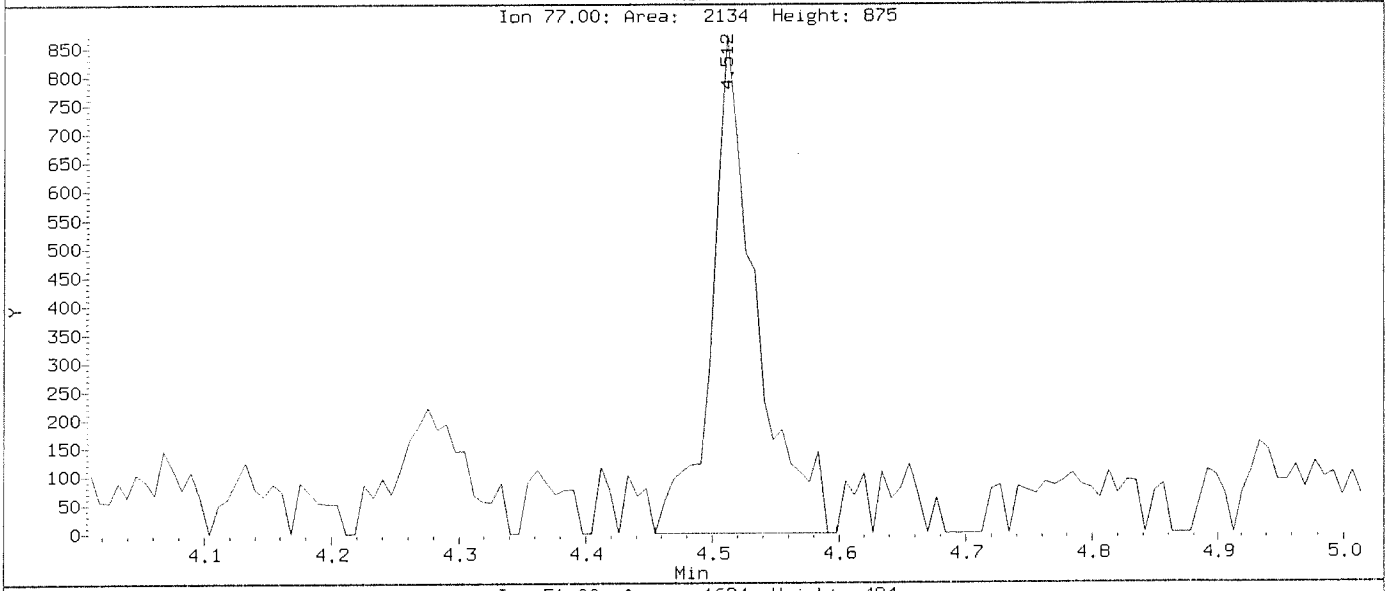
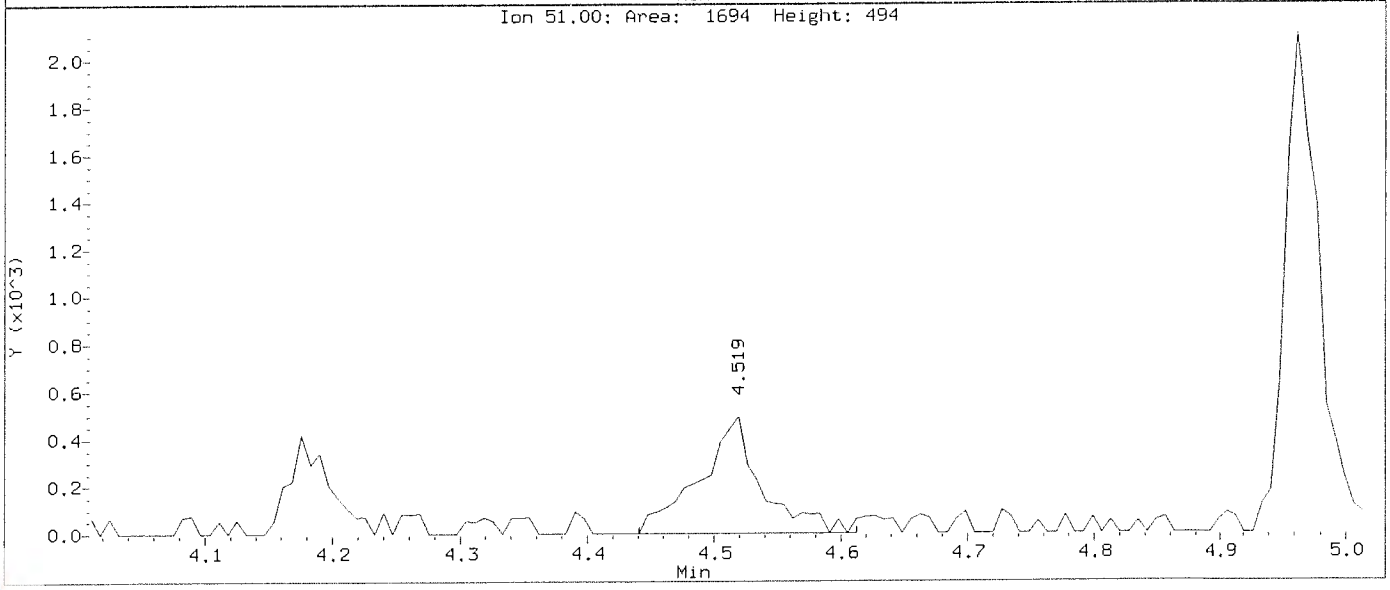
Injection Date: 31-OCT-2019 11:56
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Benzene
CAS Number: 71-43-2







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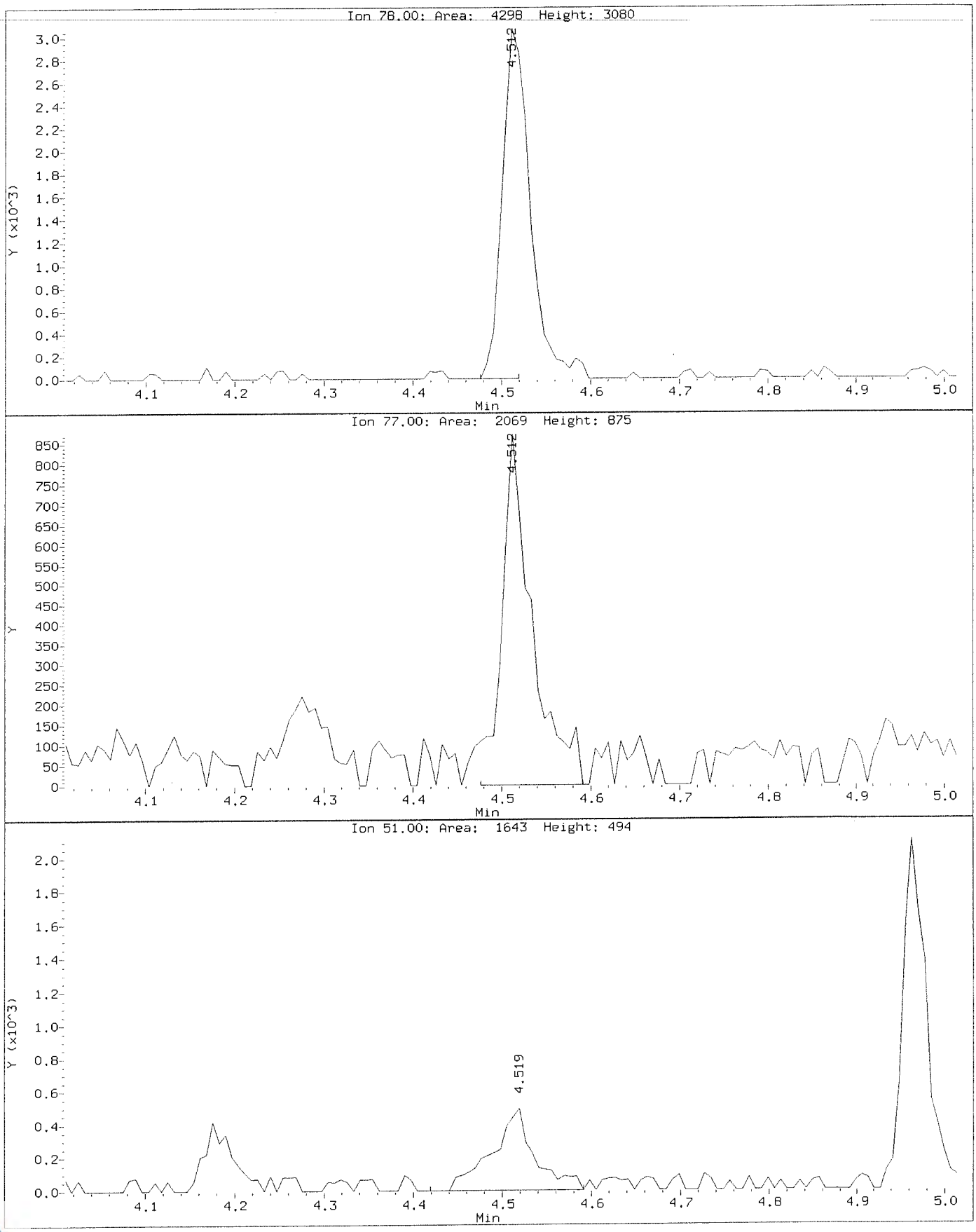
Injection Date: 31-OCT-2019 11:56
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Benzene
CAS Number: 71-43-2



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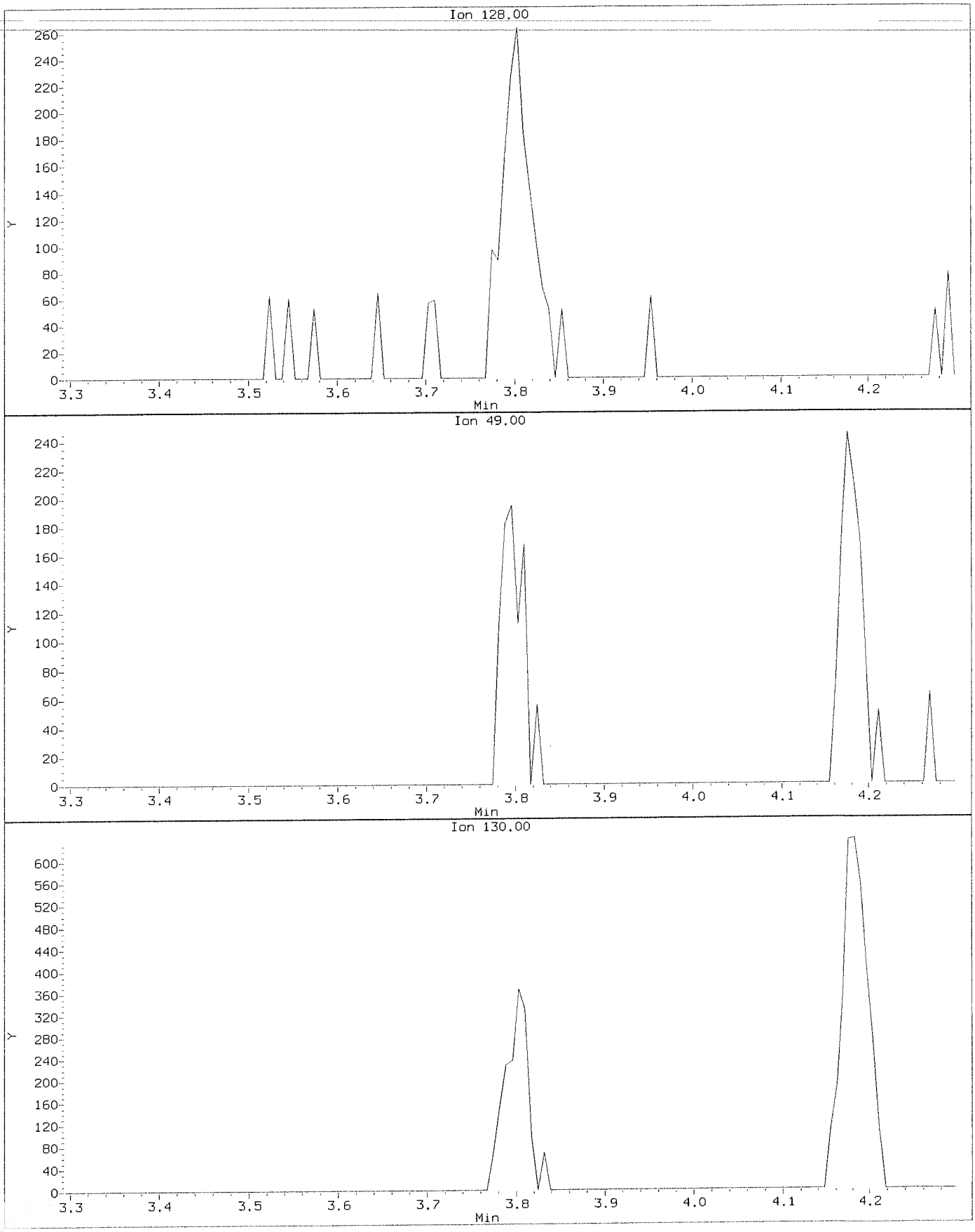
Injection Date: 31-OCT-2019 11:56
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Bromochloromethane
CAS Number: 74-97-5



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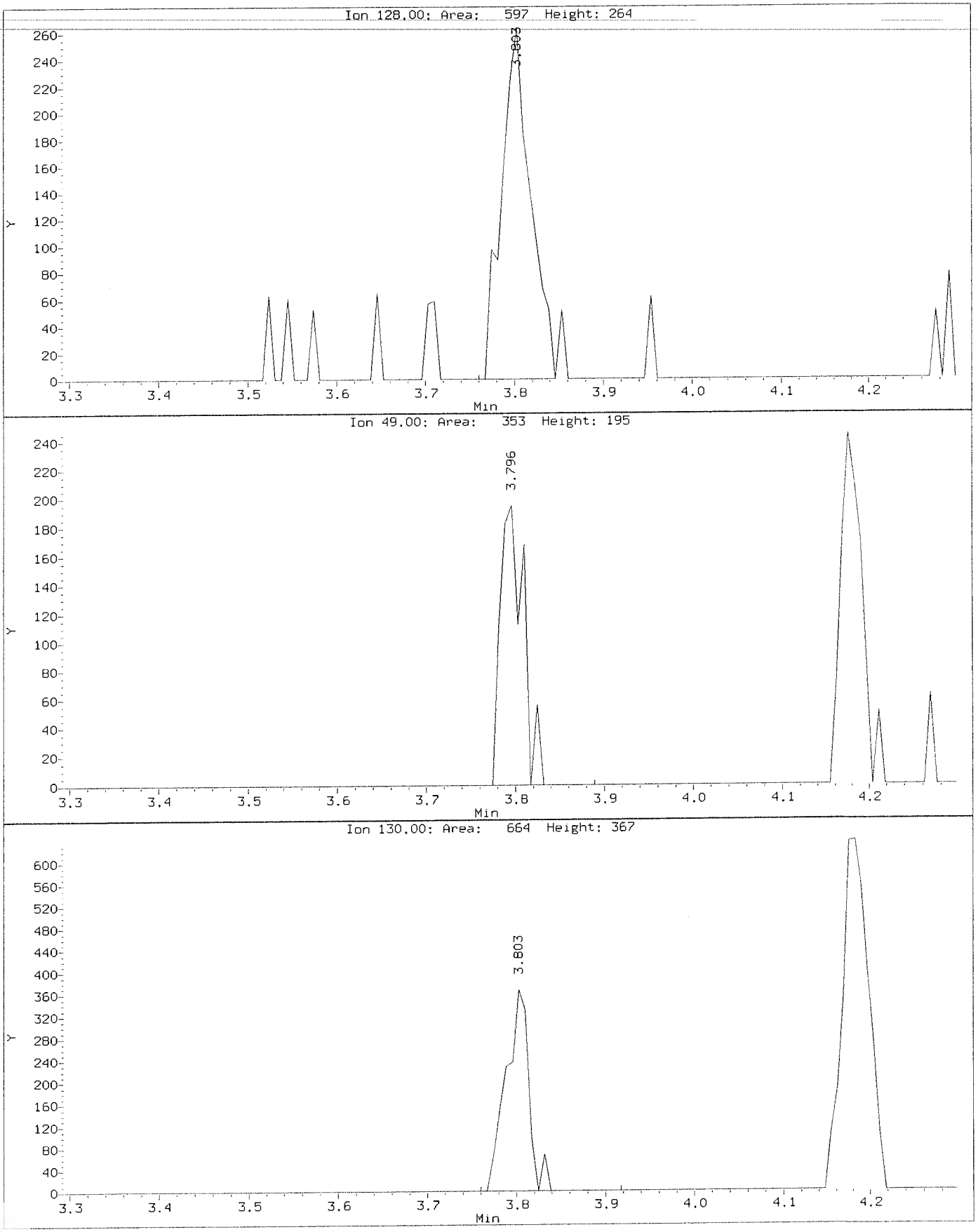
Injection Date: 31-OCT-2019 11:56
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Bromochloromethane
CAS Number: 74-97-5



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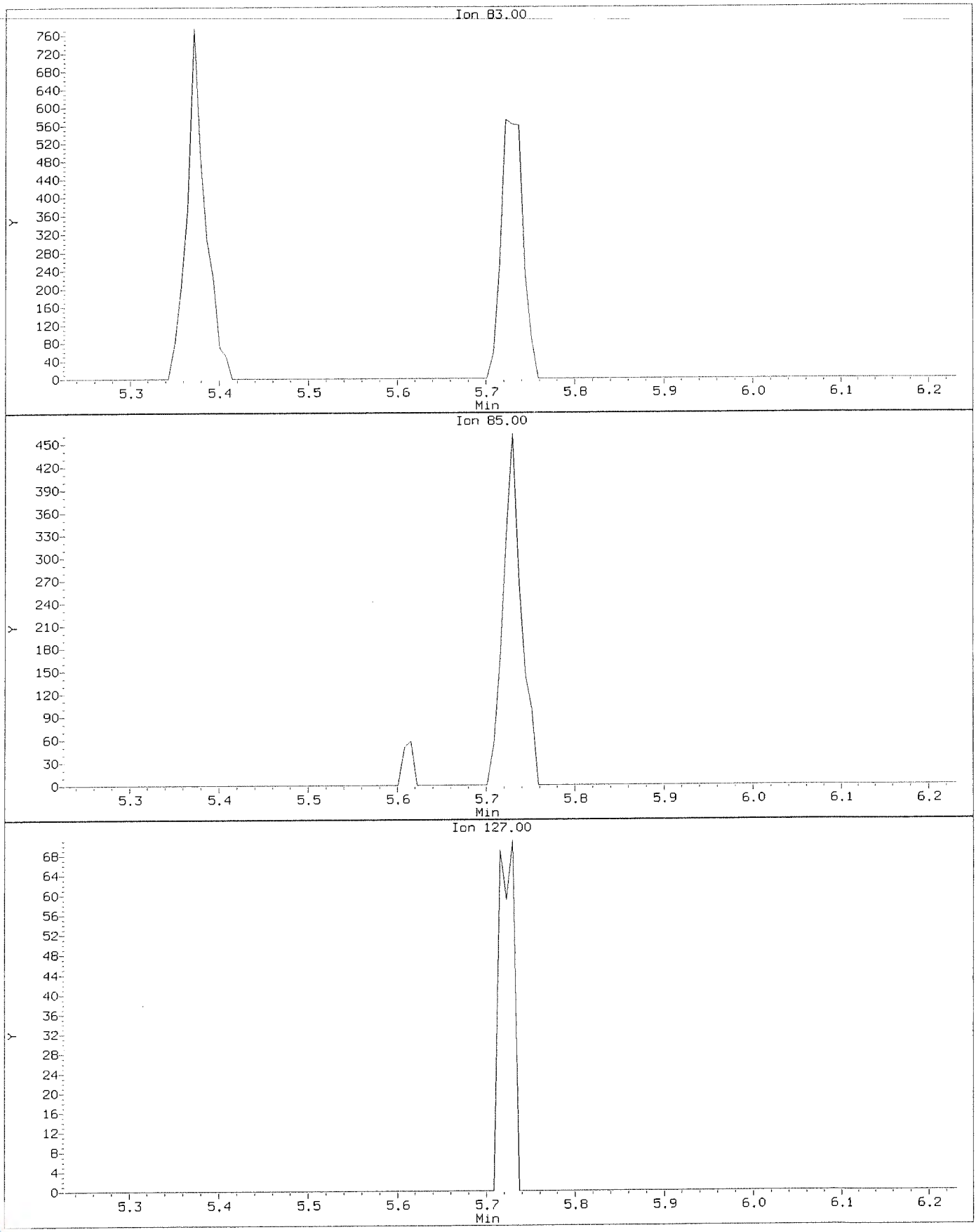
Injection Date: 31-OCT-2019 11:56
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Bromodichloromethane
CAS Number: 75-27-4



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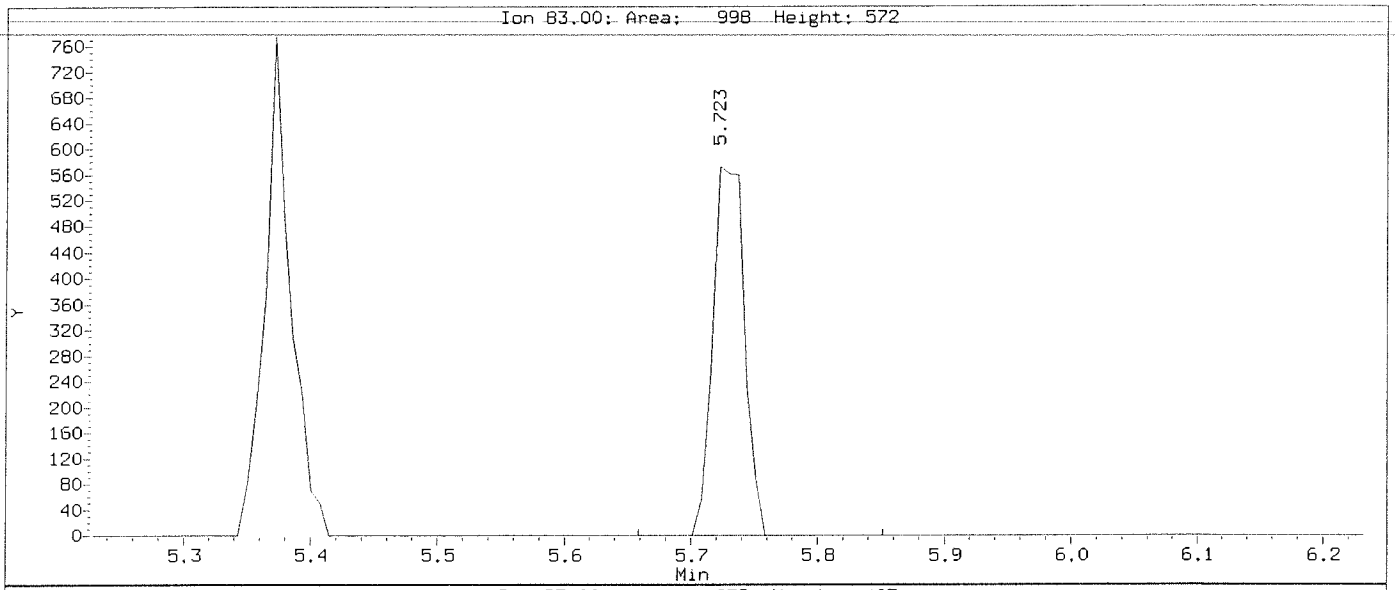
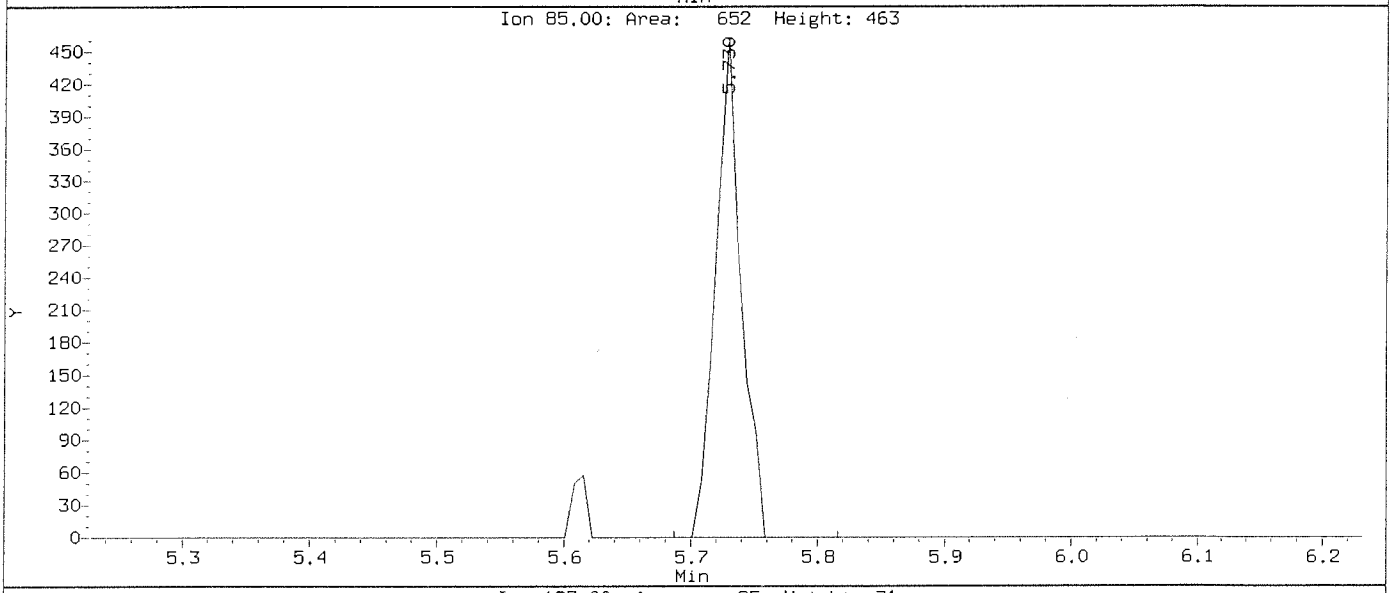
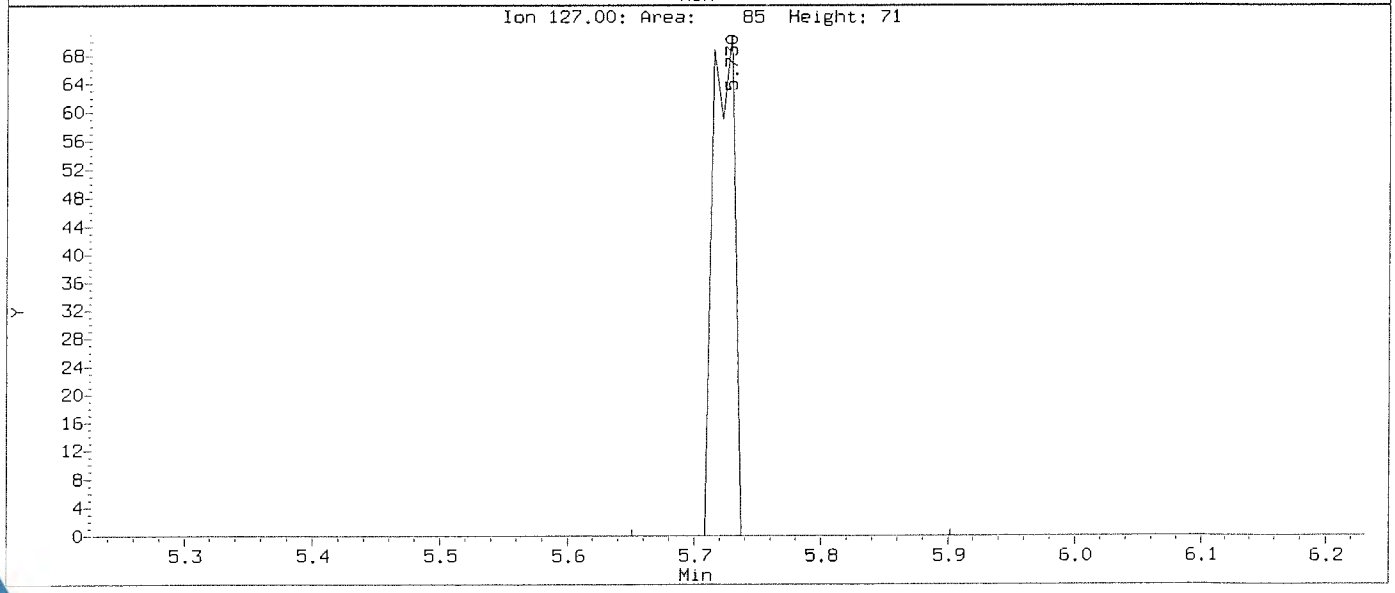
Injection Date: 31-OCT-2019 11:56
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Bromodichloromethane
CAS Number: 75-27-4

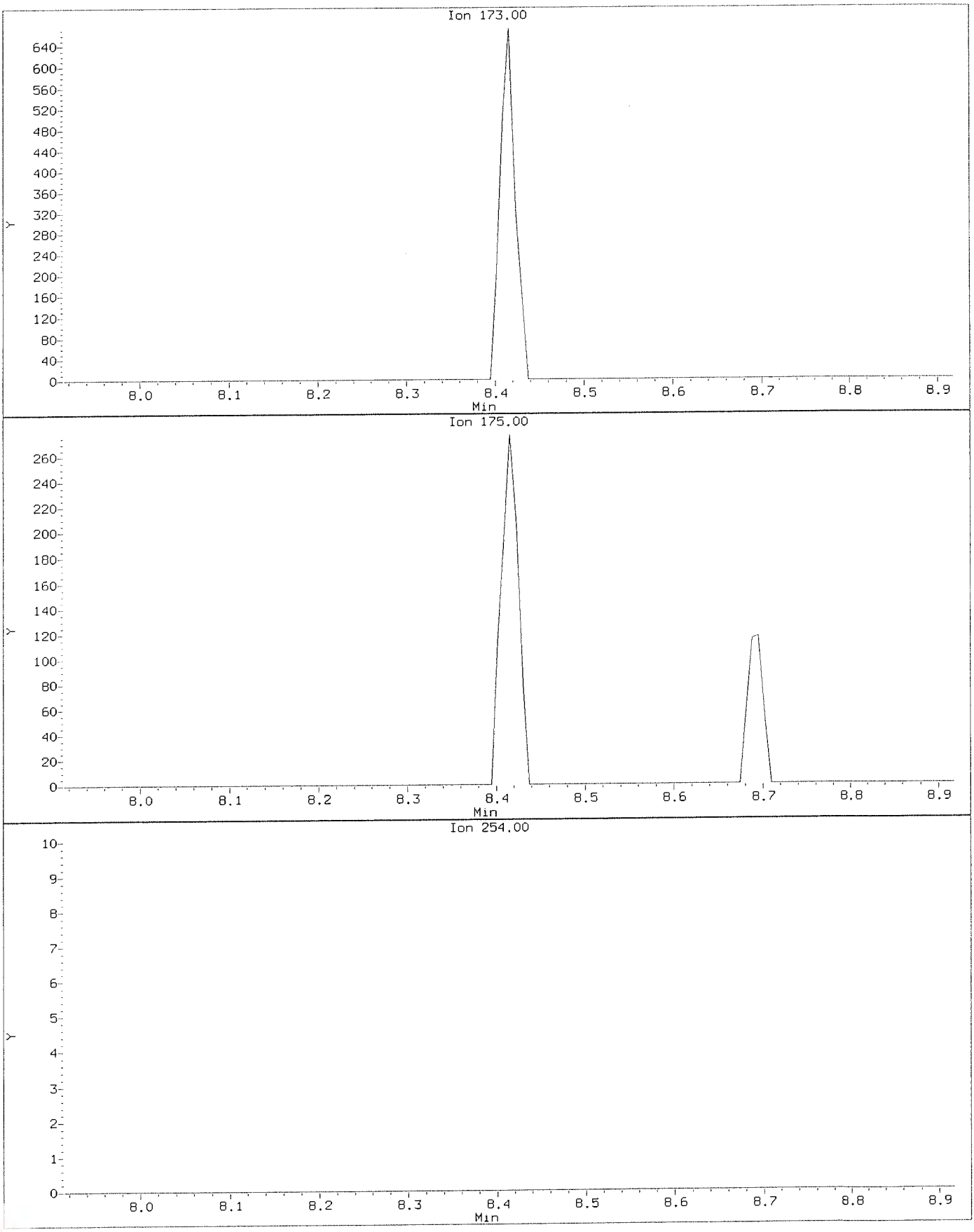






Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\BEFORE2\X103103.D
Injection Date: 31-OCT-2019 11:56
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Bromoform
CAS Number: 75-25-2



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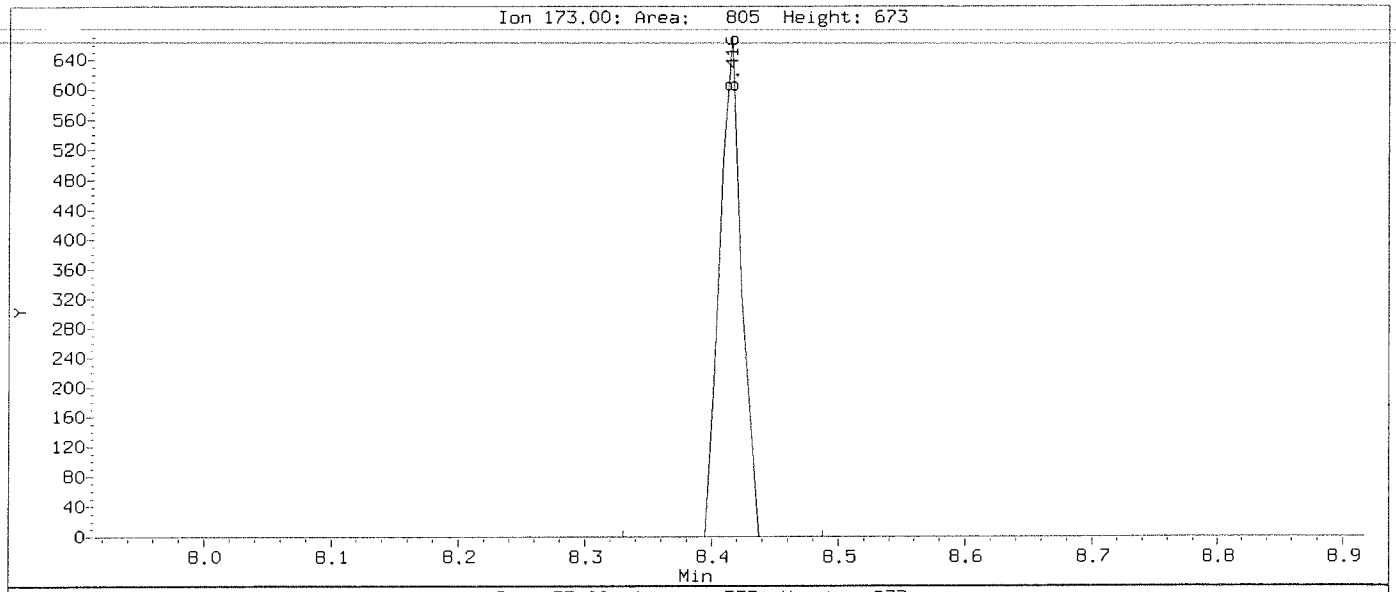
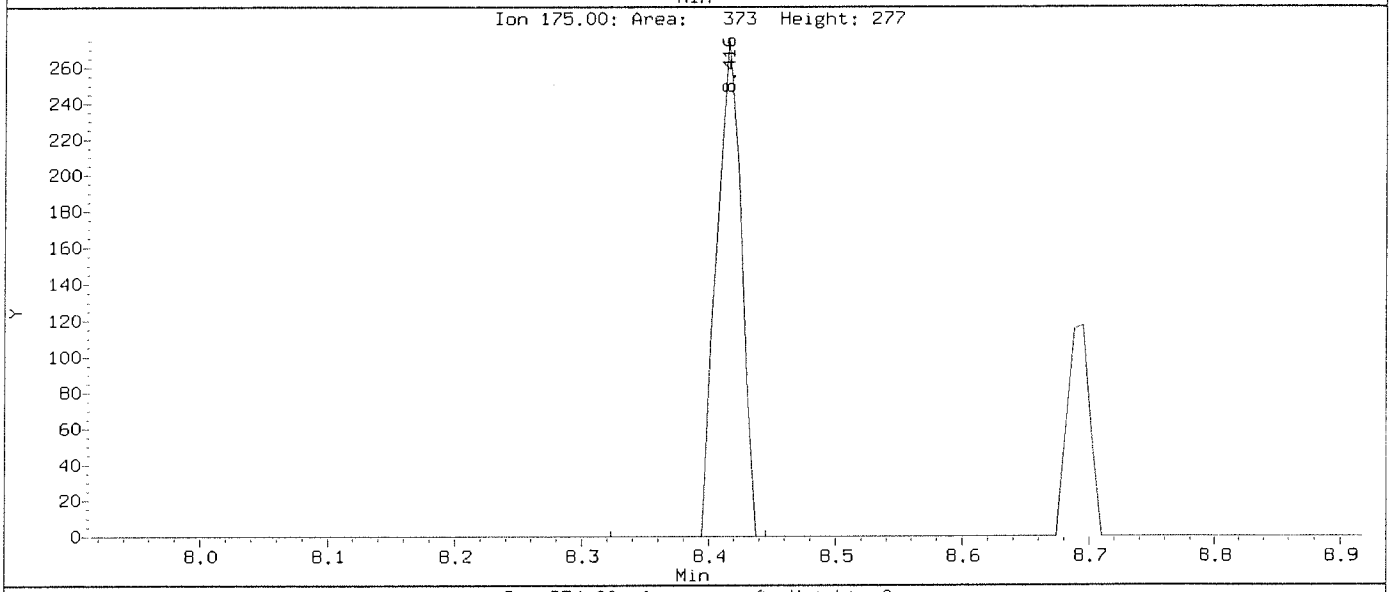
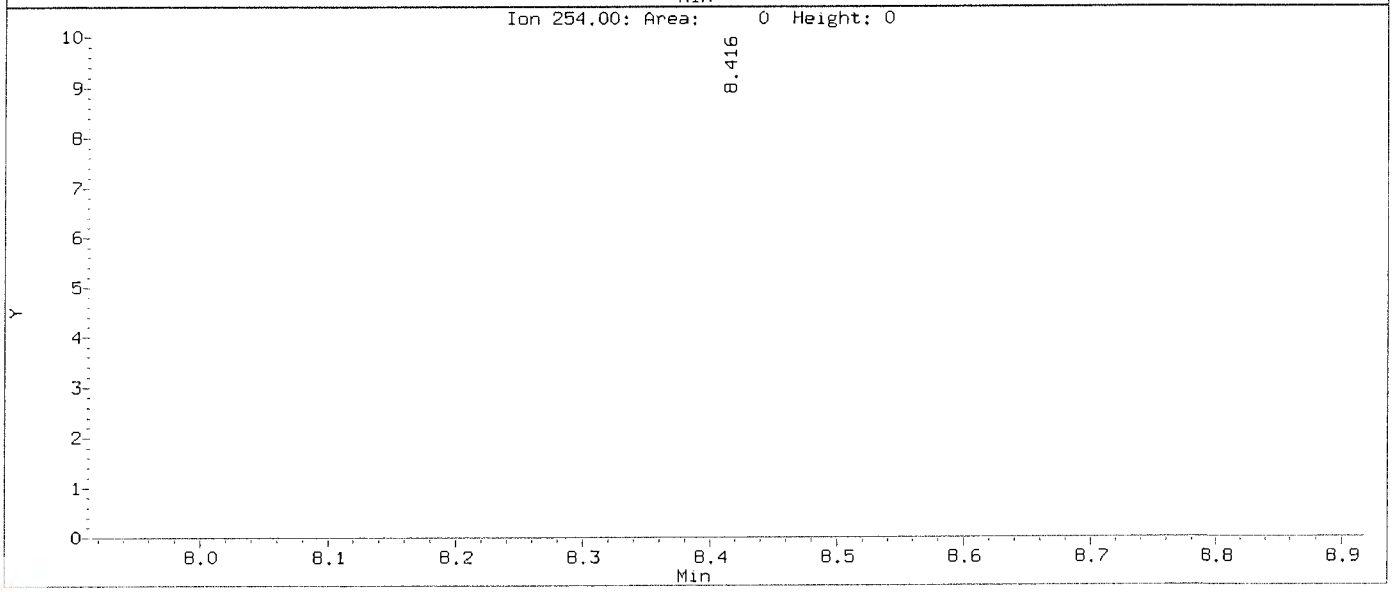
Injection Date: 31-OCT-2019 11:56
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Bromoform
CAS Number: 75-25-2

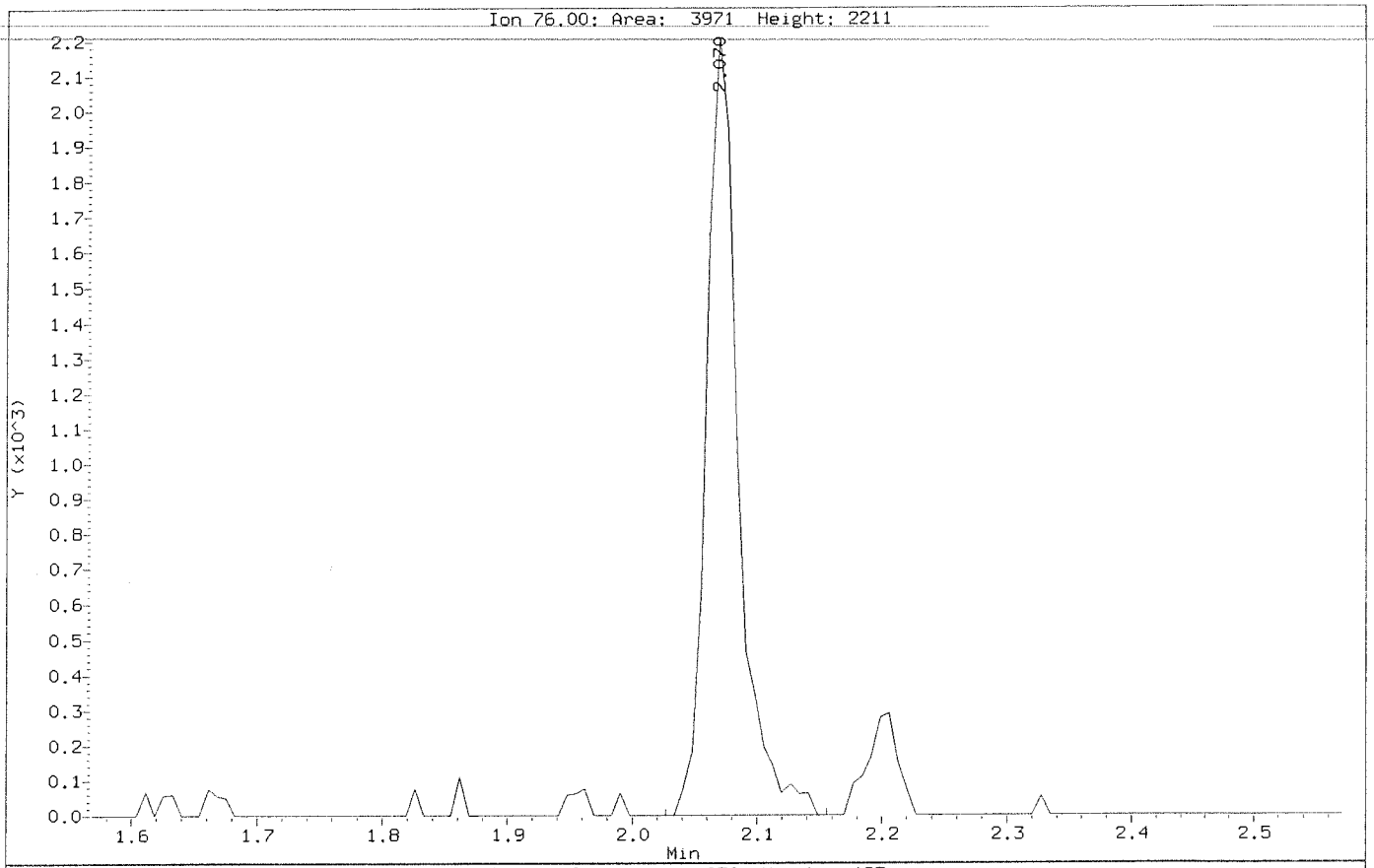


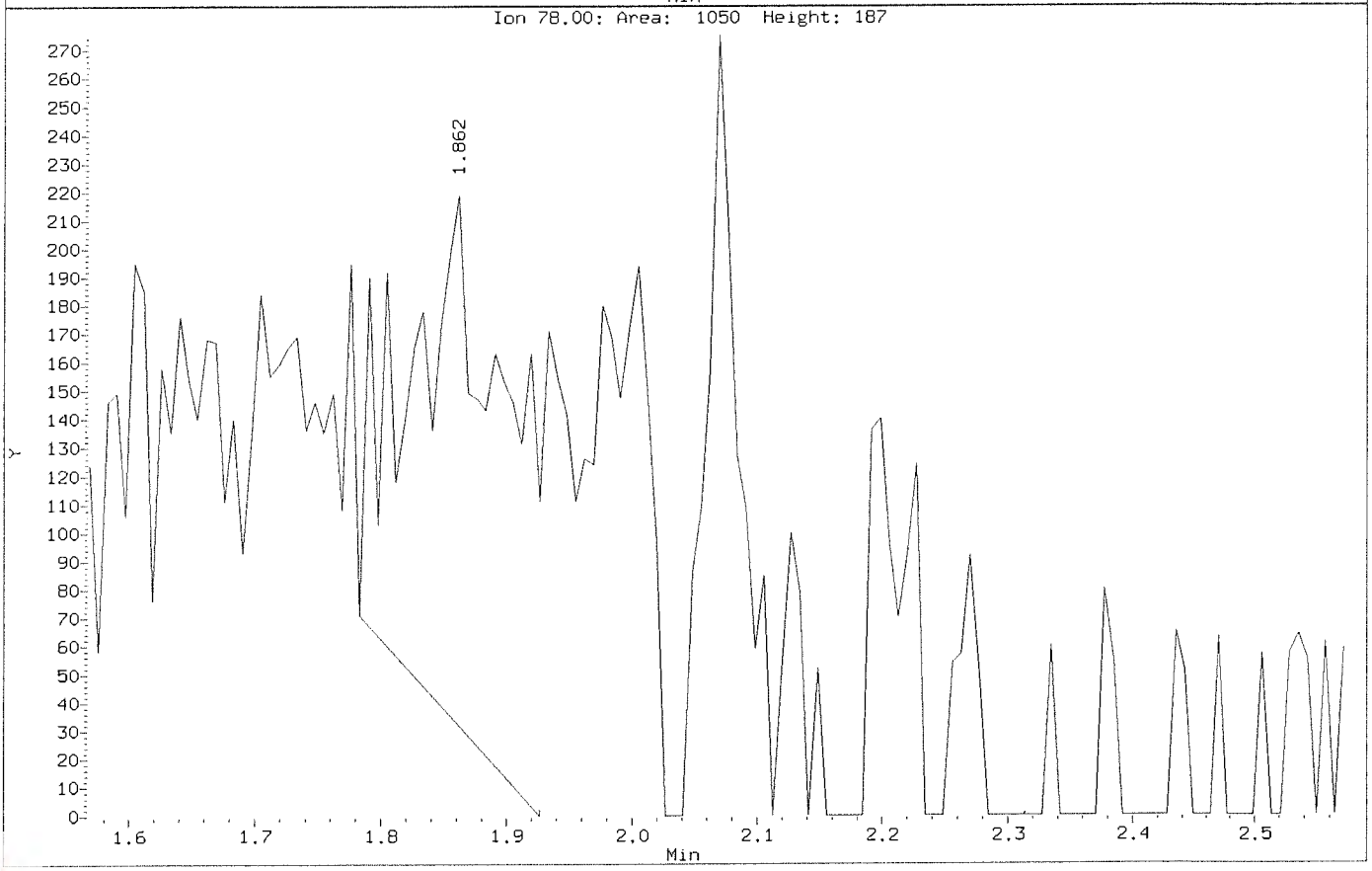




Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\BEFORE2\X103103.D
Injection Date: 31-OCT-2019 11:56
Instrument: voa6.i
Client Sample ID: VSTD000.5

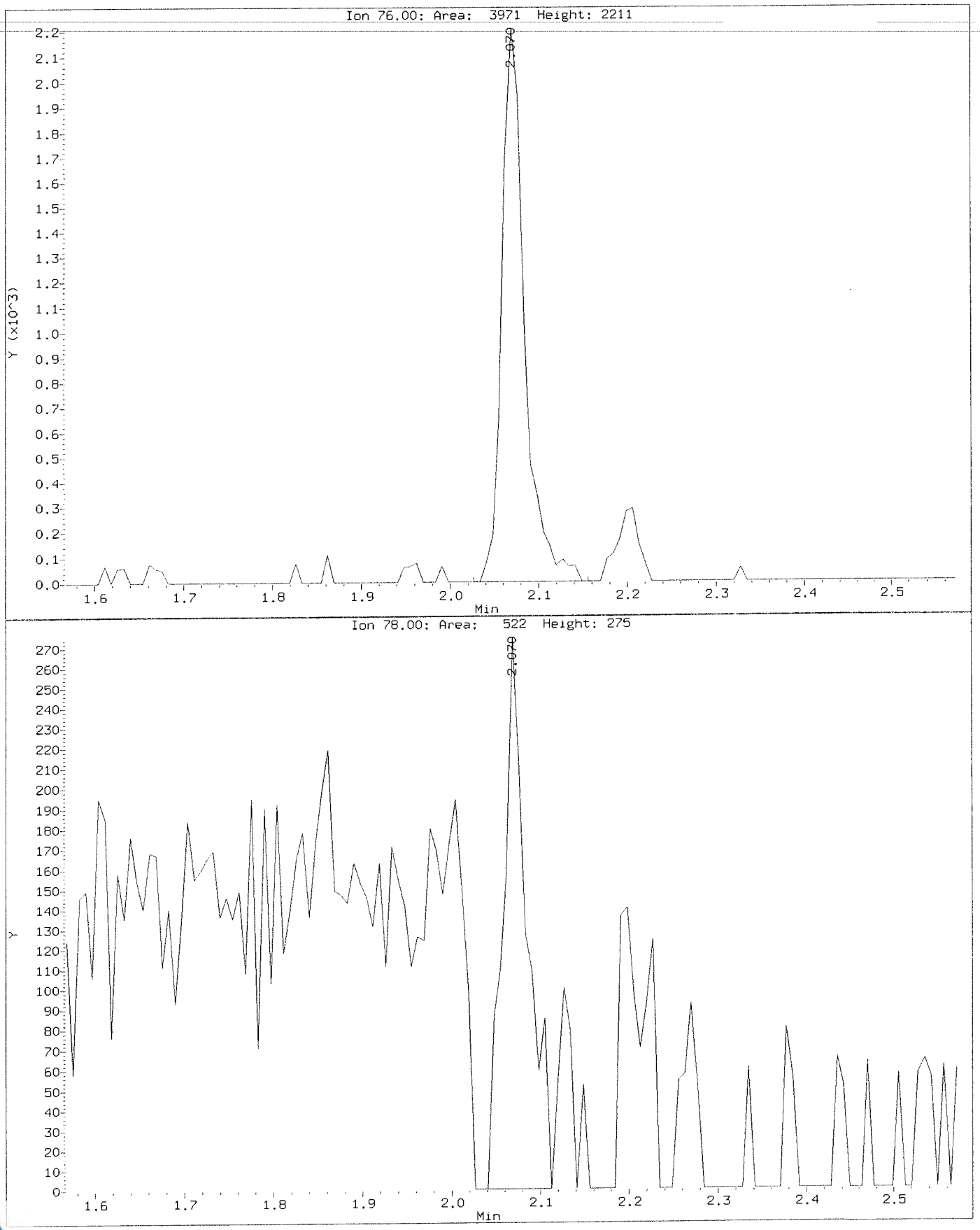
Compound: Carbon Disulfide
CAS Number: 75-15-0





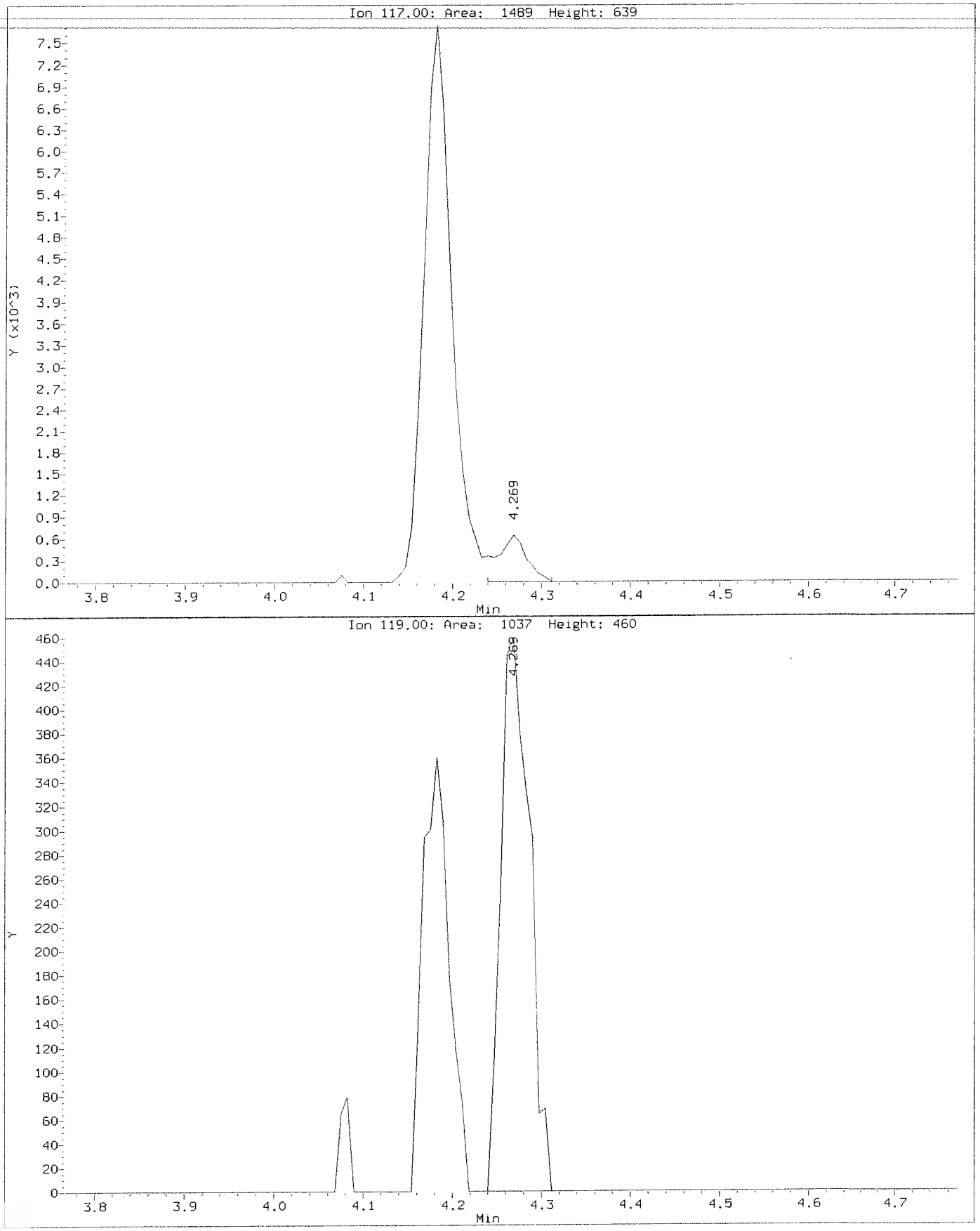
Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\X103103.D
Injection Date: 31-OCT-2019 11:56
Instrument: voa6.i
Client Sample ID: VSTD000.5

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



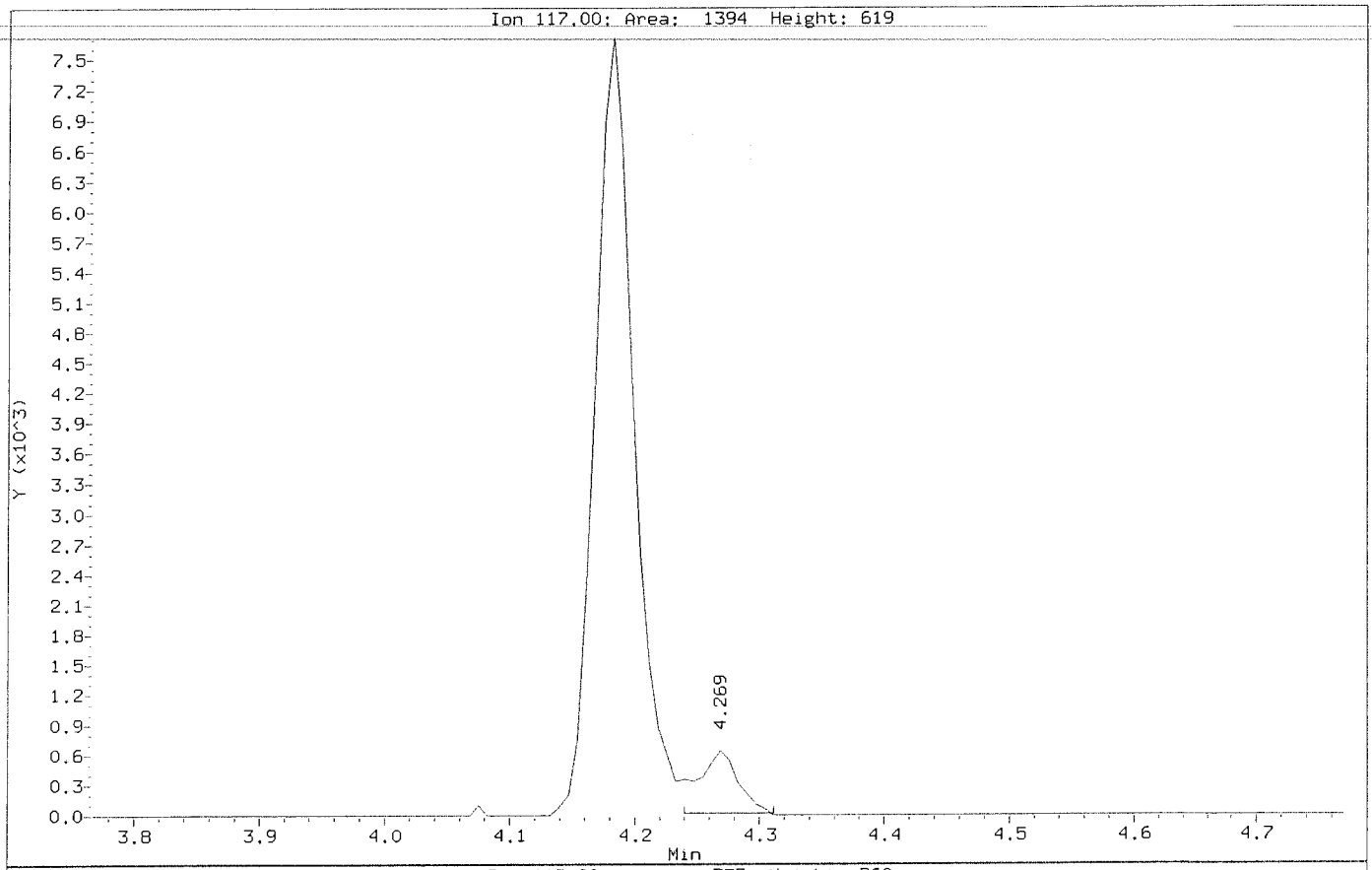
Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\BEFORE2\X103103.D
Injection Date: 31-OCT-2019 11:56
Instrument: voa6.i
Client Sample ID: VSTD000.5

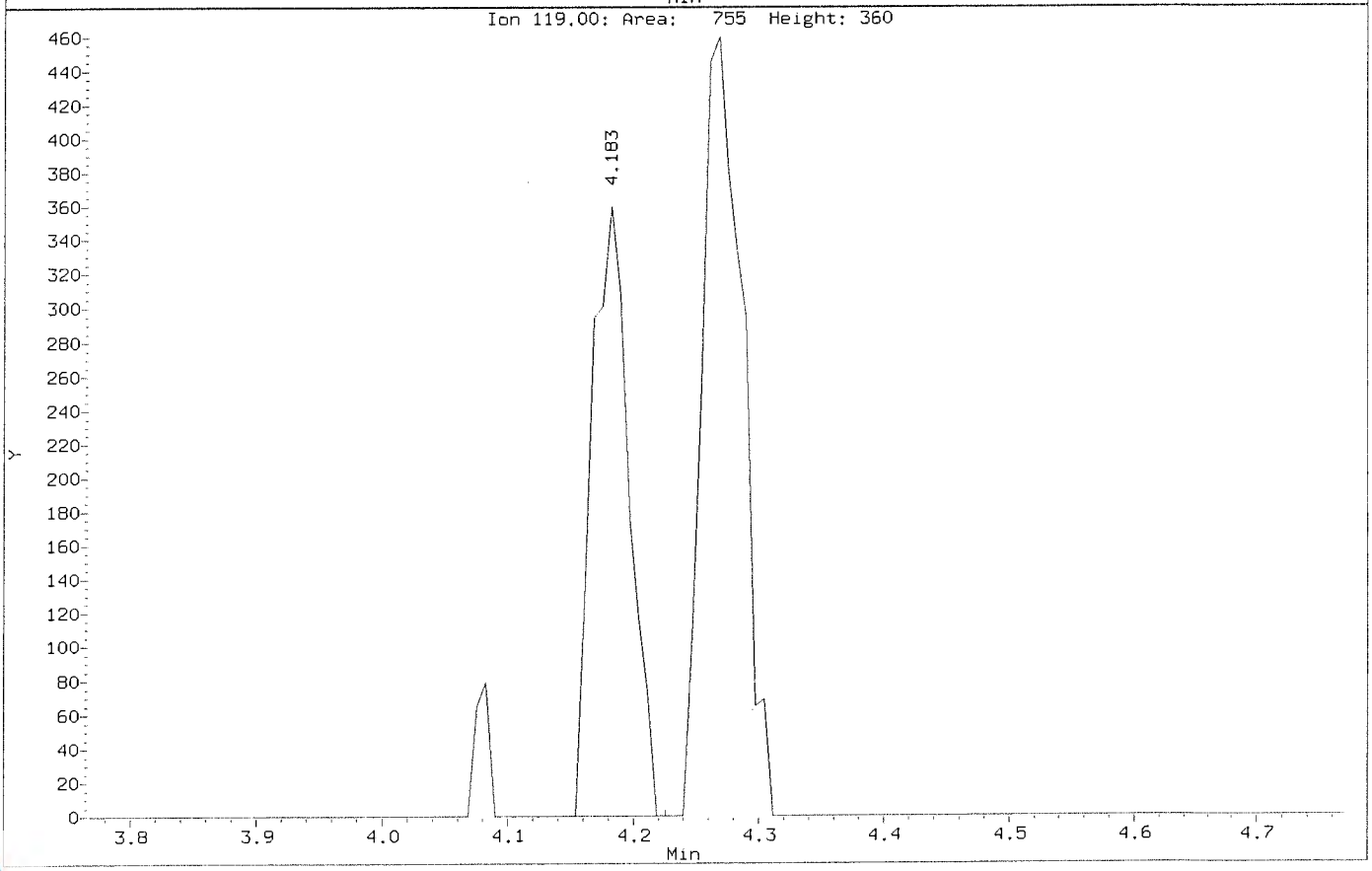
Compound: Carbon Tetrachloride
CAS Number: 56-23-5



Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\X103103.D
Injection Date: 31-OCT-2019 11:56
Instrument: voa6.i
Client Sample ID: VSTD000.5

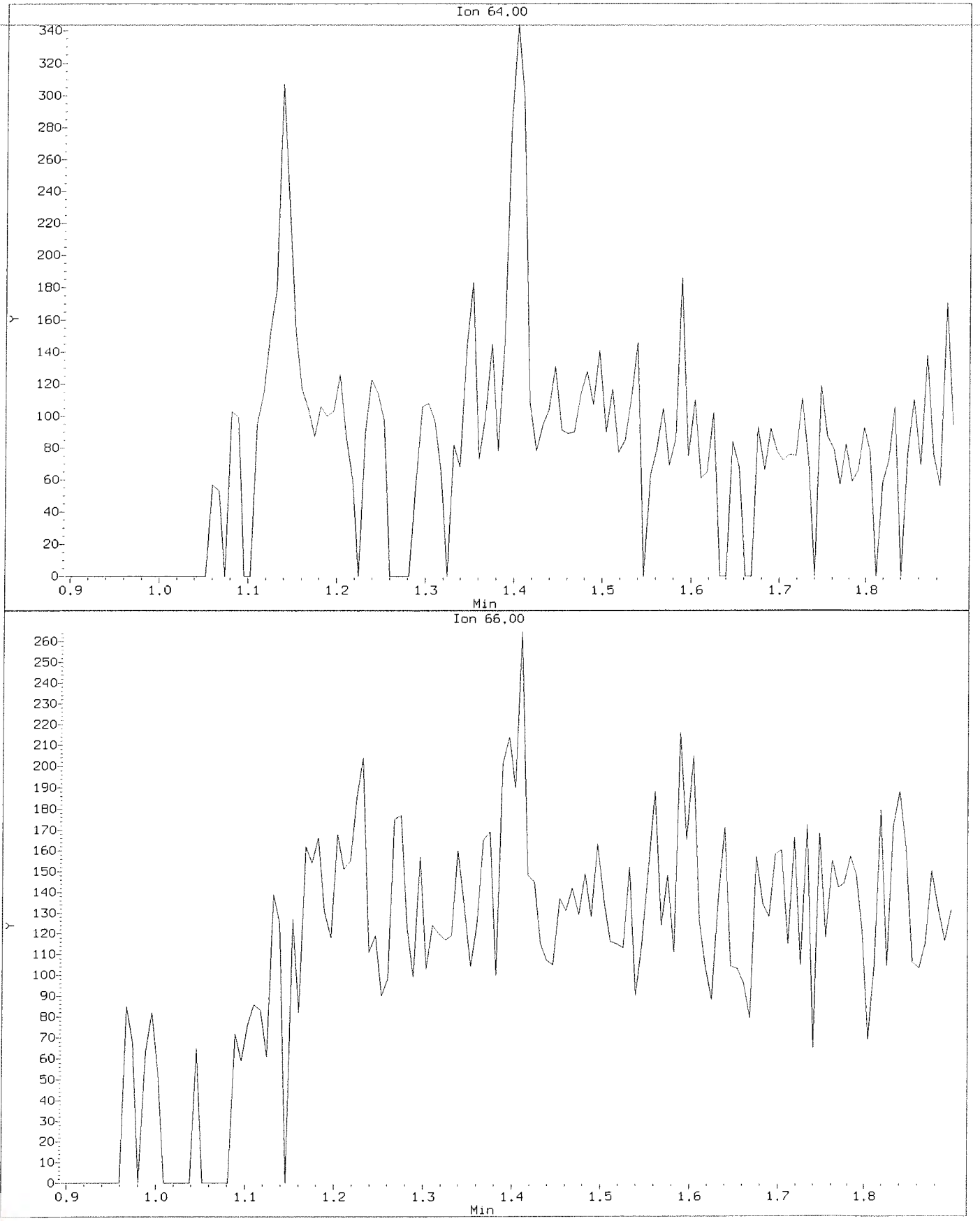
Compound: Carbon Tetrachloride
CAS Number: 56-23-5





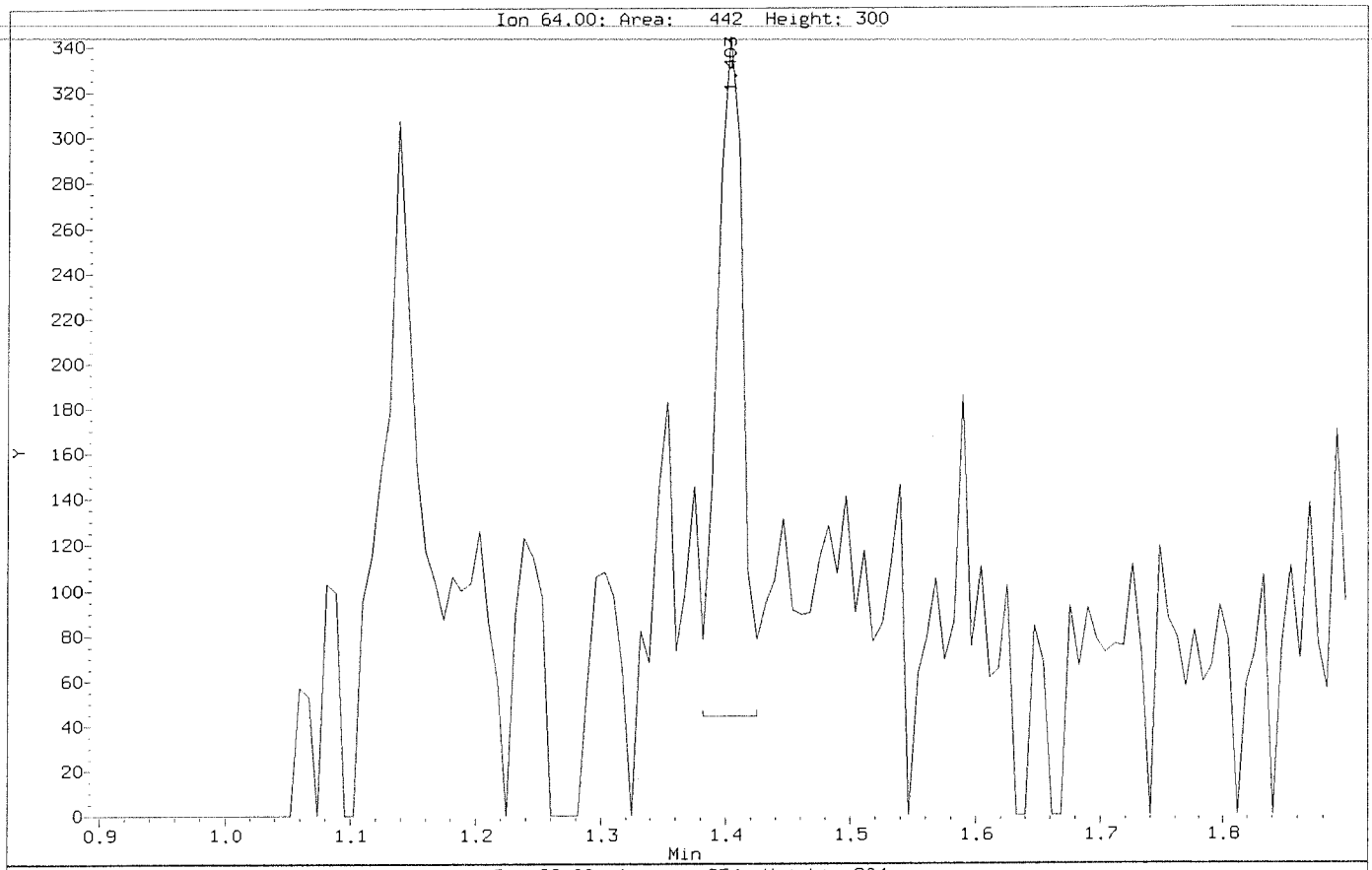
Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\BEFORE2\X103103.D
Injection Date: 31-OCT-2019 11:56
Instrument: voa6.i
Client Sample ID: VSTD000.5

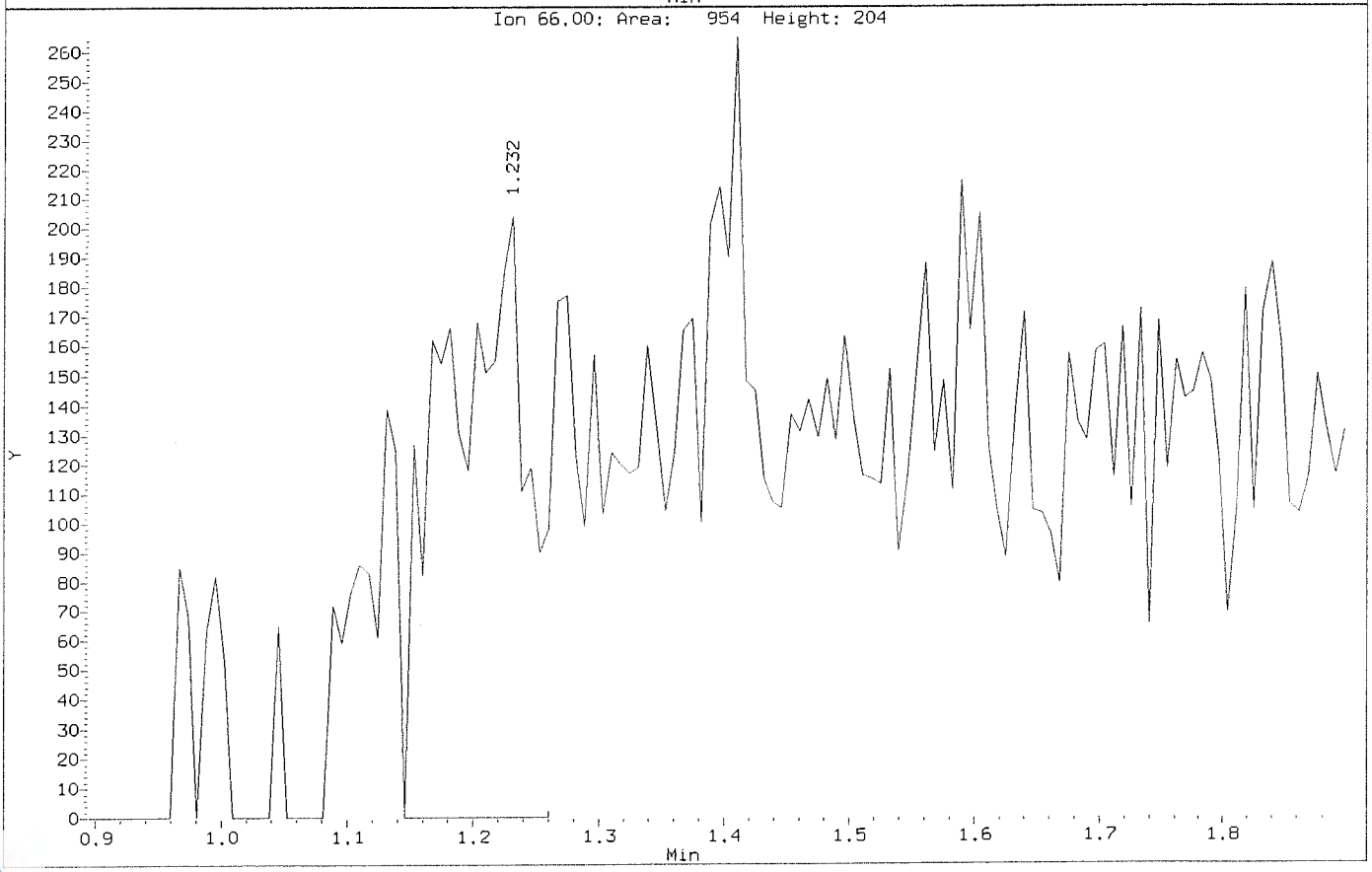
Compound: Chloroethane
CAS Number: 75-00-3



Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\X103103.D
Injection Date: 31-OCT-2019 11:56
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Chloroethane
CAS Number: 75-00-3





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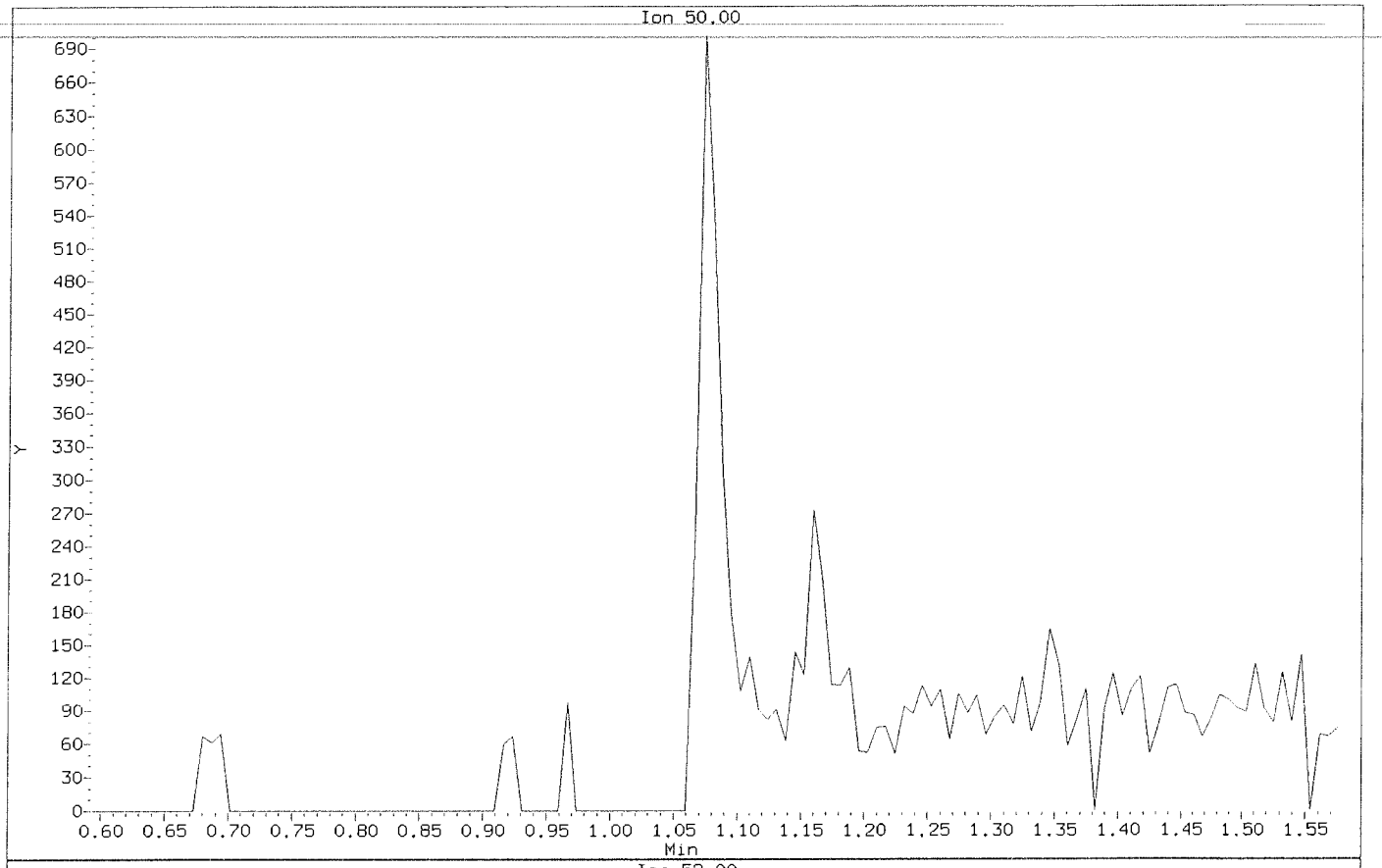
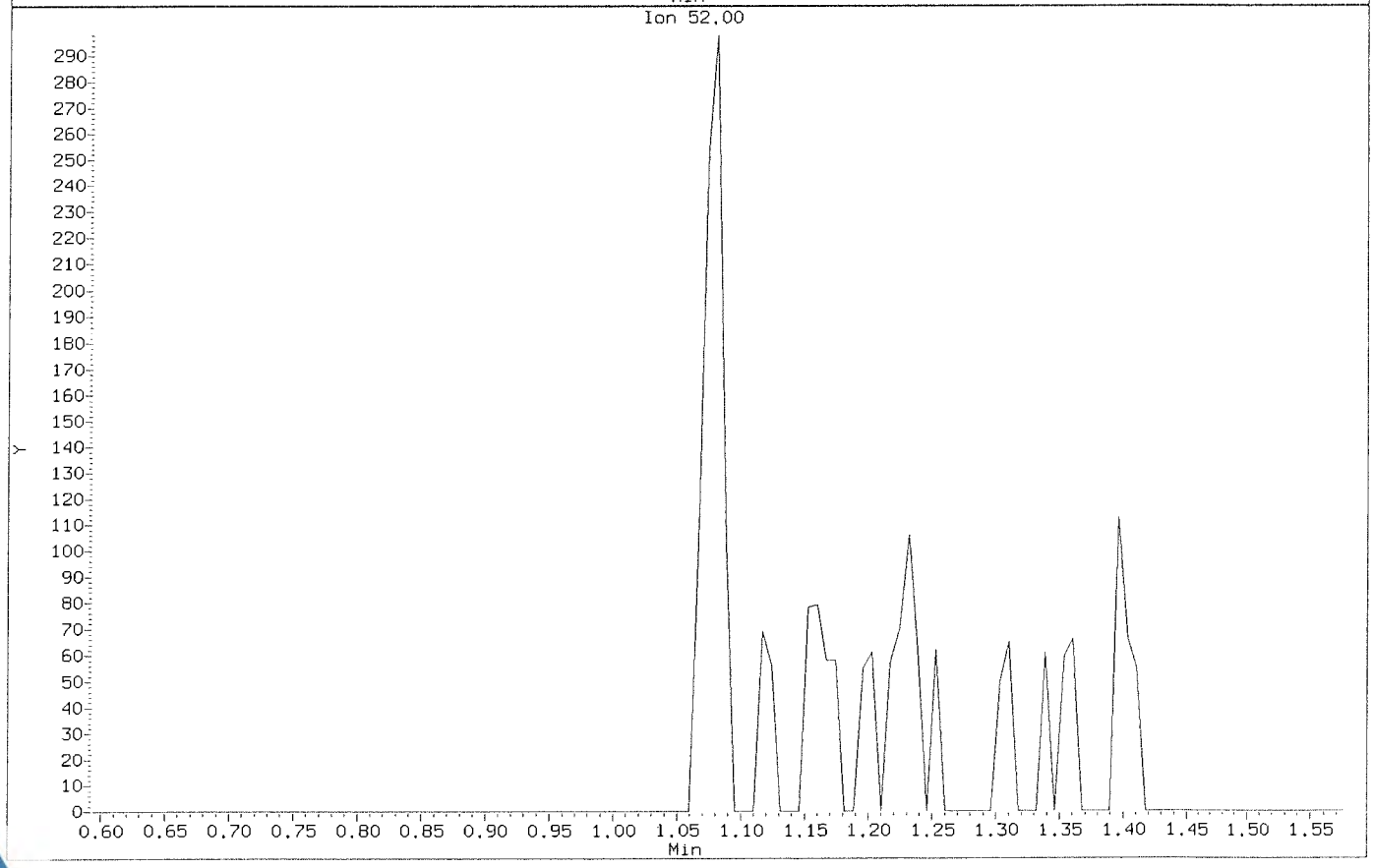
Injection Date: 31-OCT-2019 11:56
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Chloromethane
CAS Number: 74-87-3





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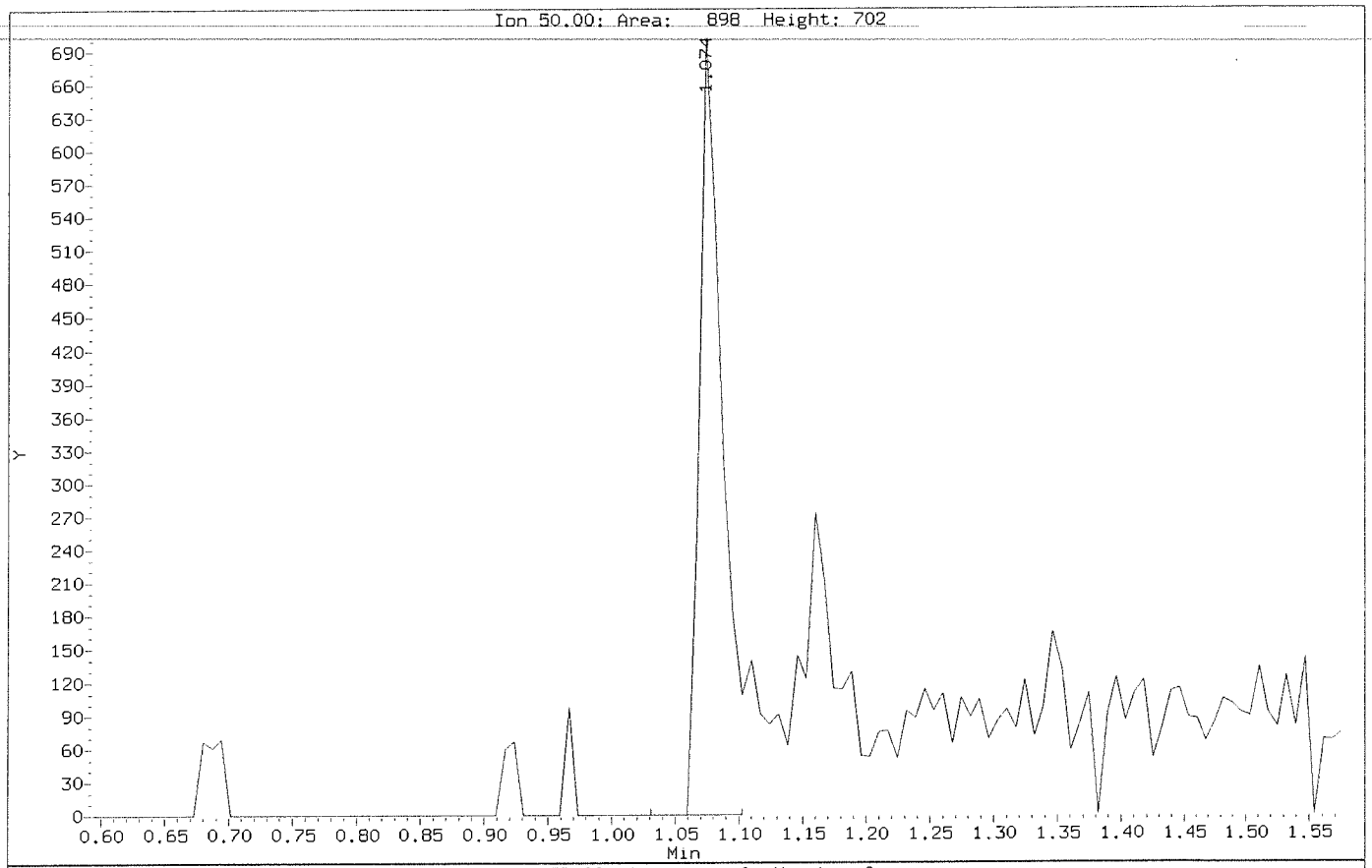
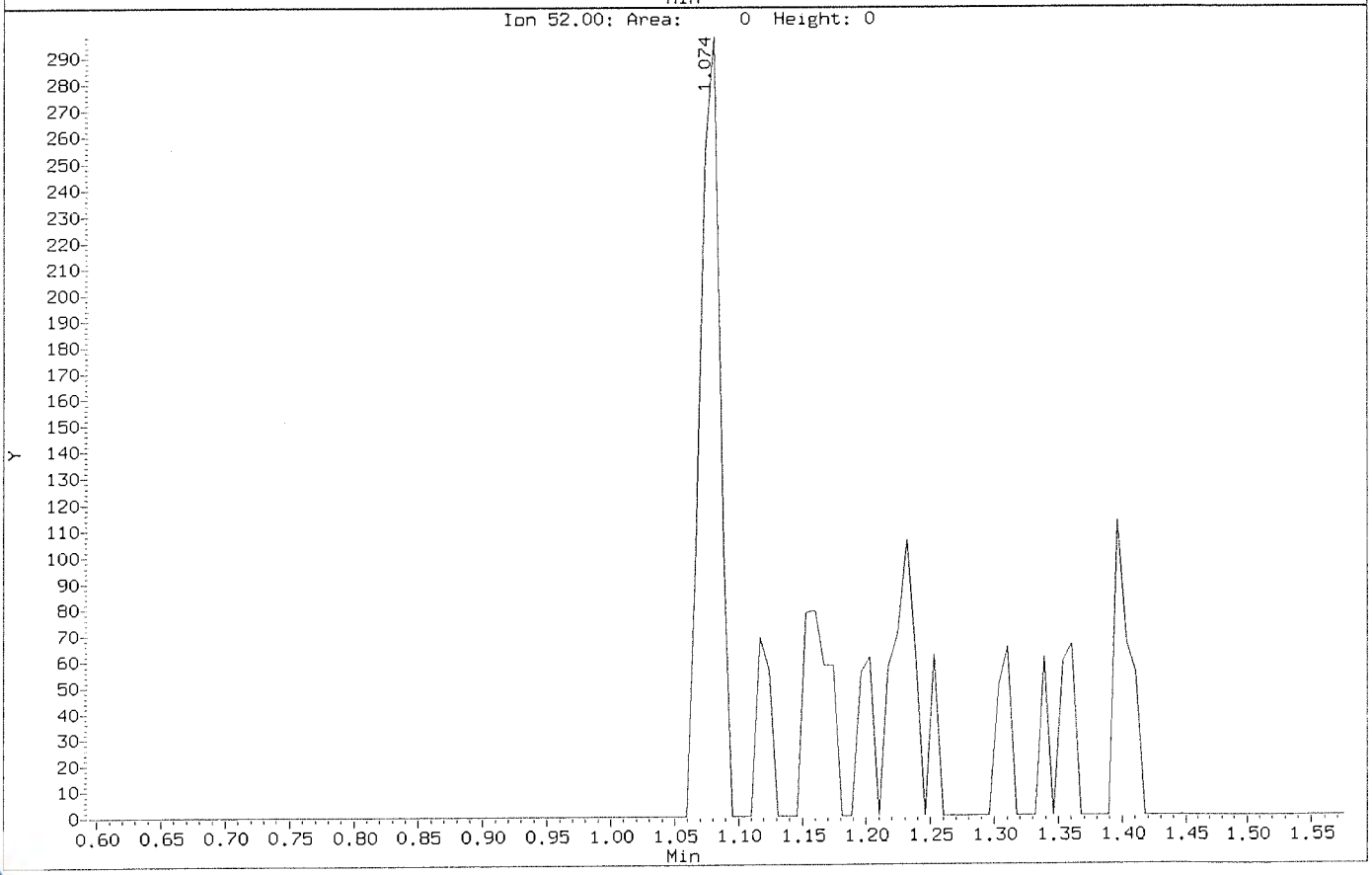
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Chloromethane
CAS Number: 74-87-3





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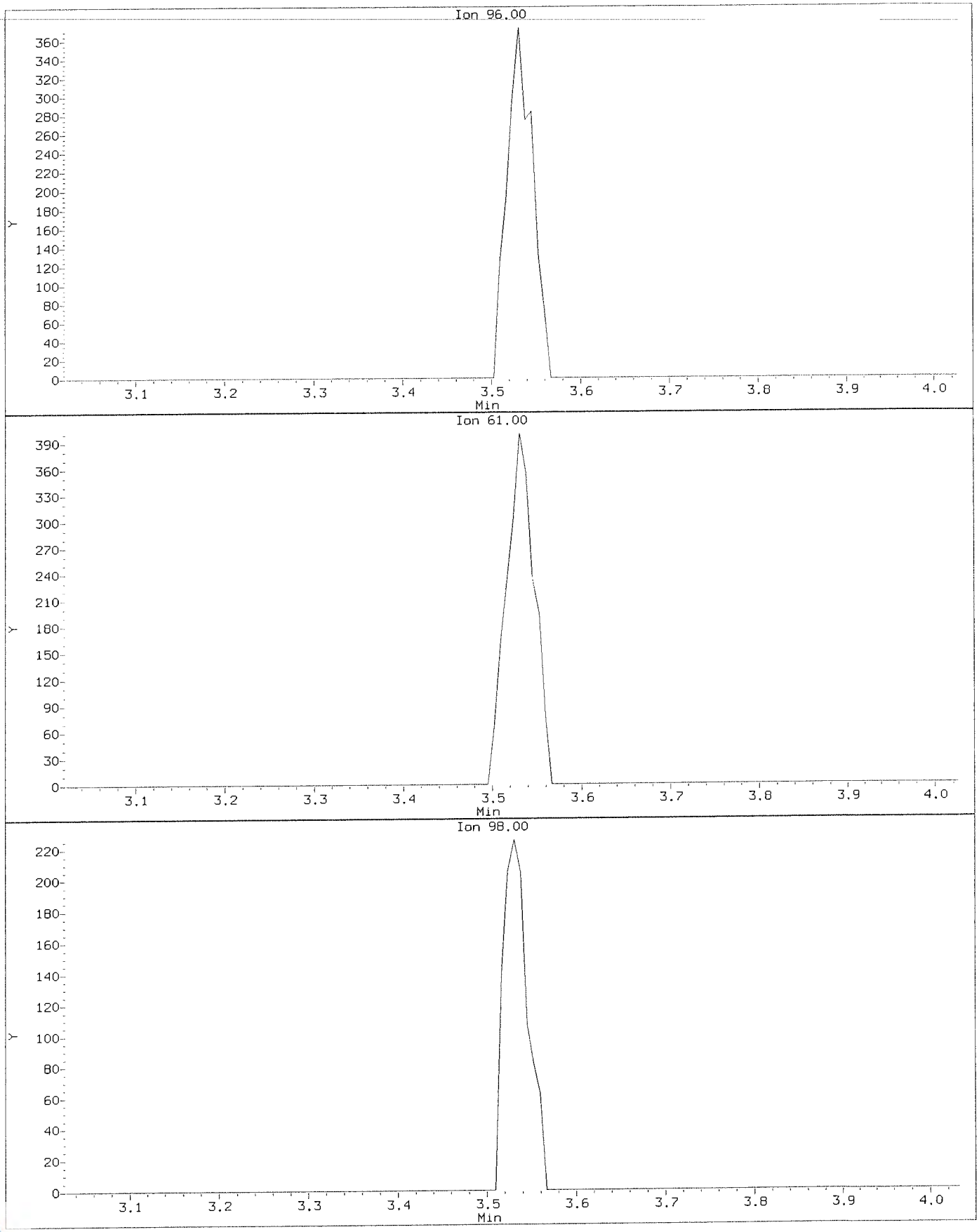
Injection Date: 31-OCT-2019 11:56
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: cis-1,2-Dichloroethene
CAS Number: 156-59-2



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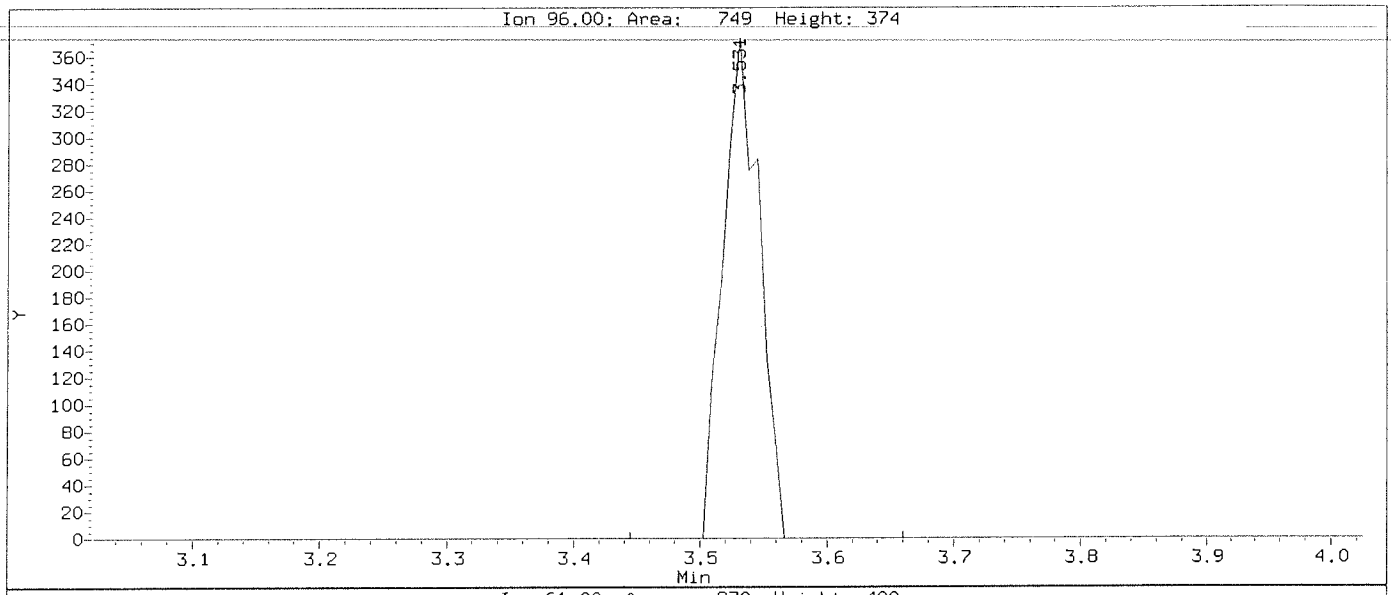
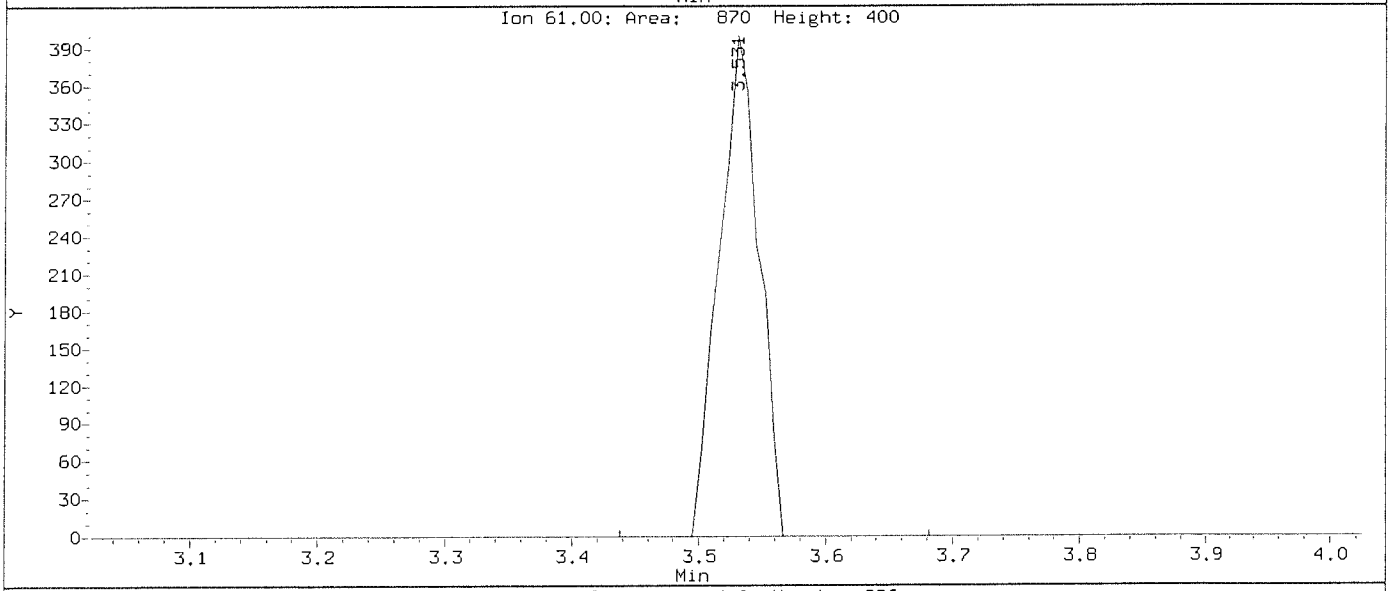
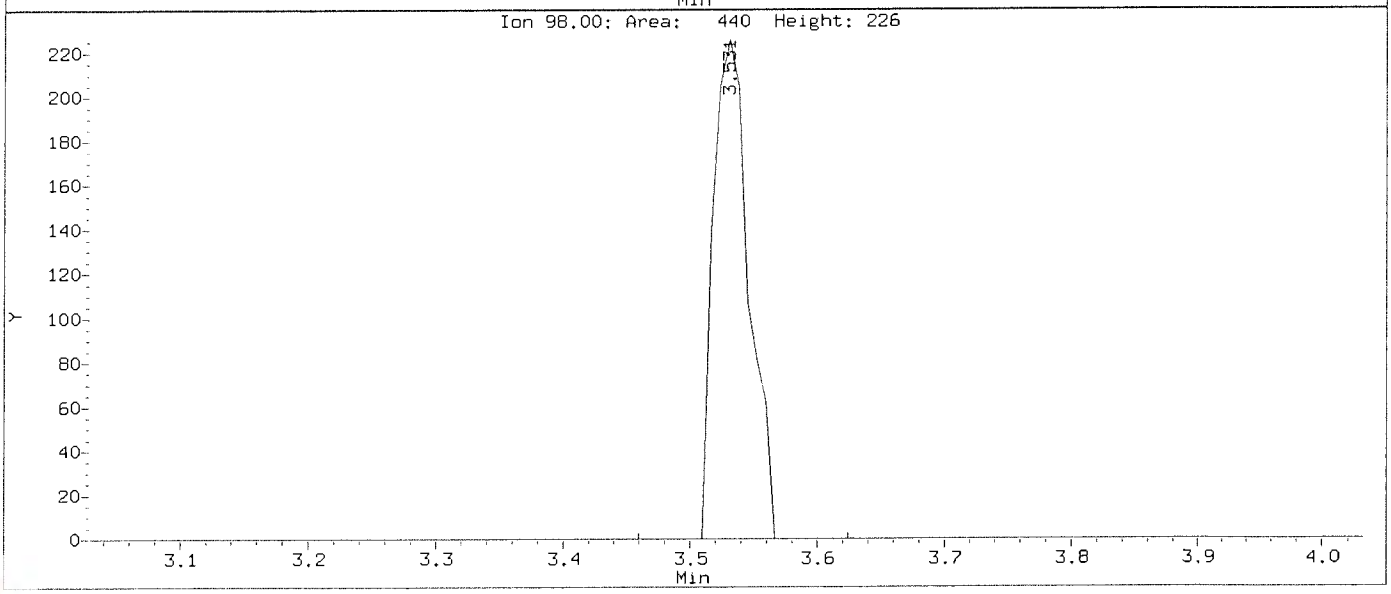
Injection Date: 31-OCT-2019 11:56
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: cis-1,2-Dichloroethene
CAS Number: 156-59-2







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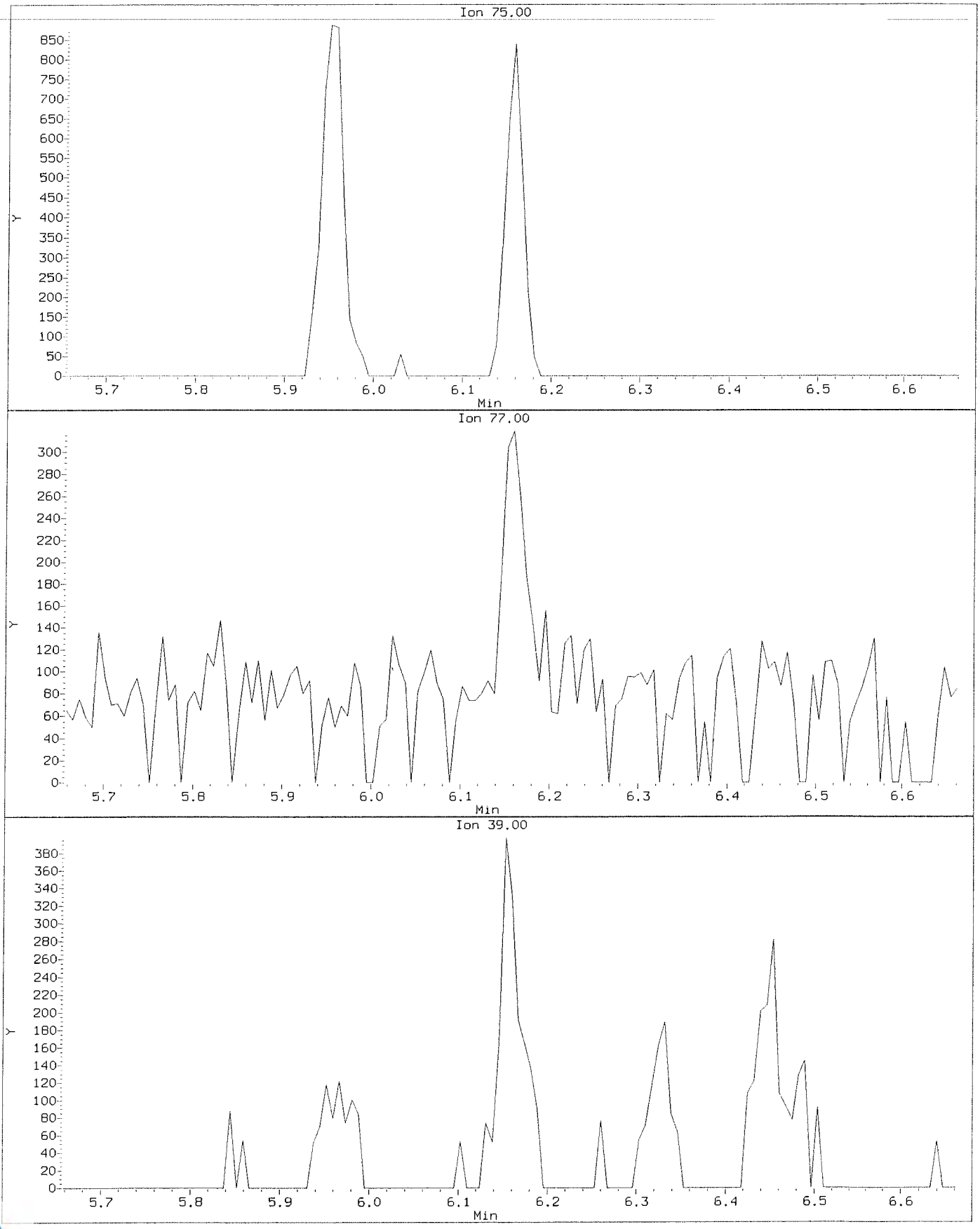
Injection Date: 31-OCT-2019 11:56
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: cis-1,3-Dichloropropene
CAS Number: 10061-01-5



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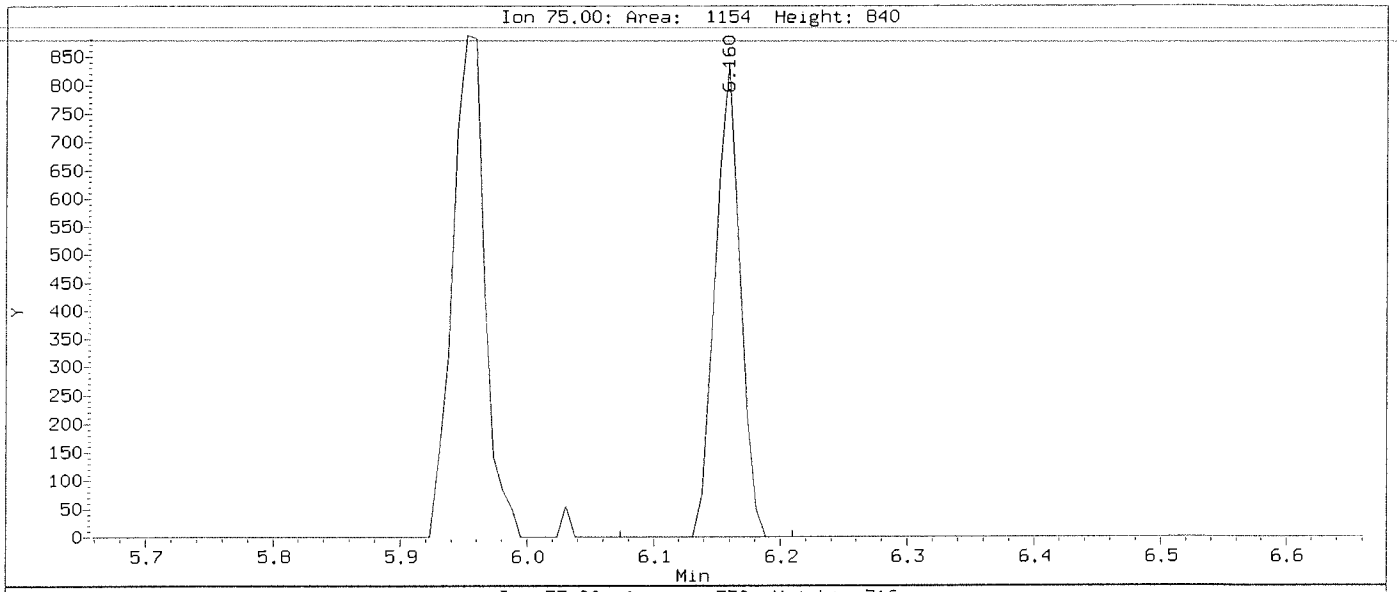
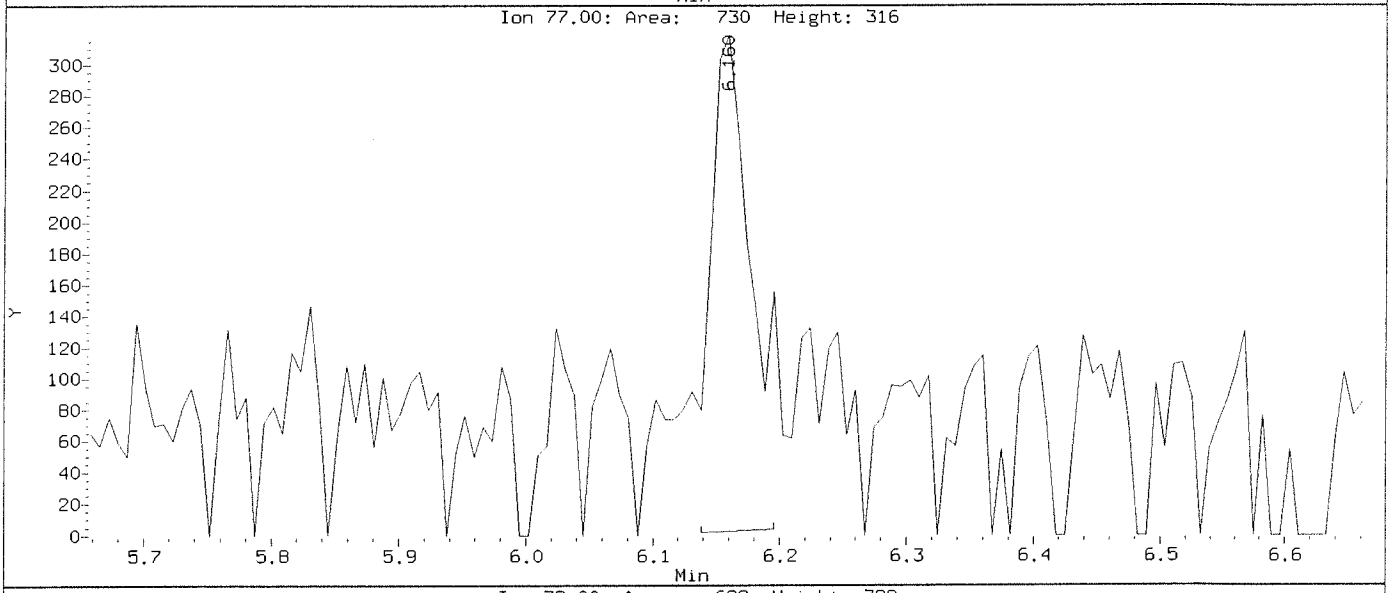
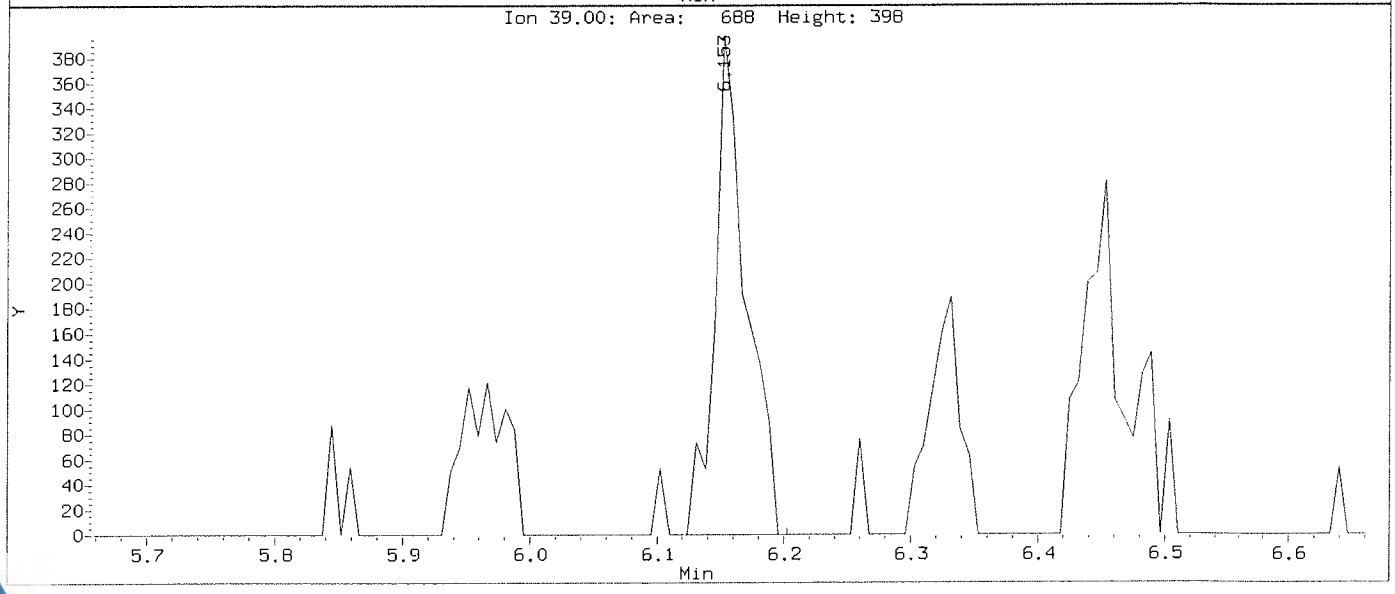
Injection Date: 31-OCT-2019 11:56
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: cis-1,3-Dichloropropene
CAS Number: 10061-01-5







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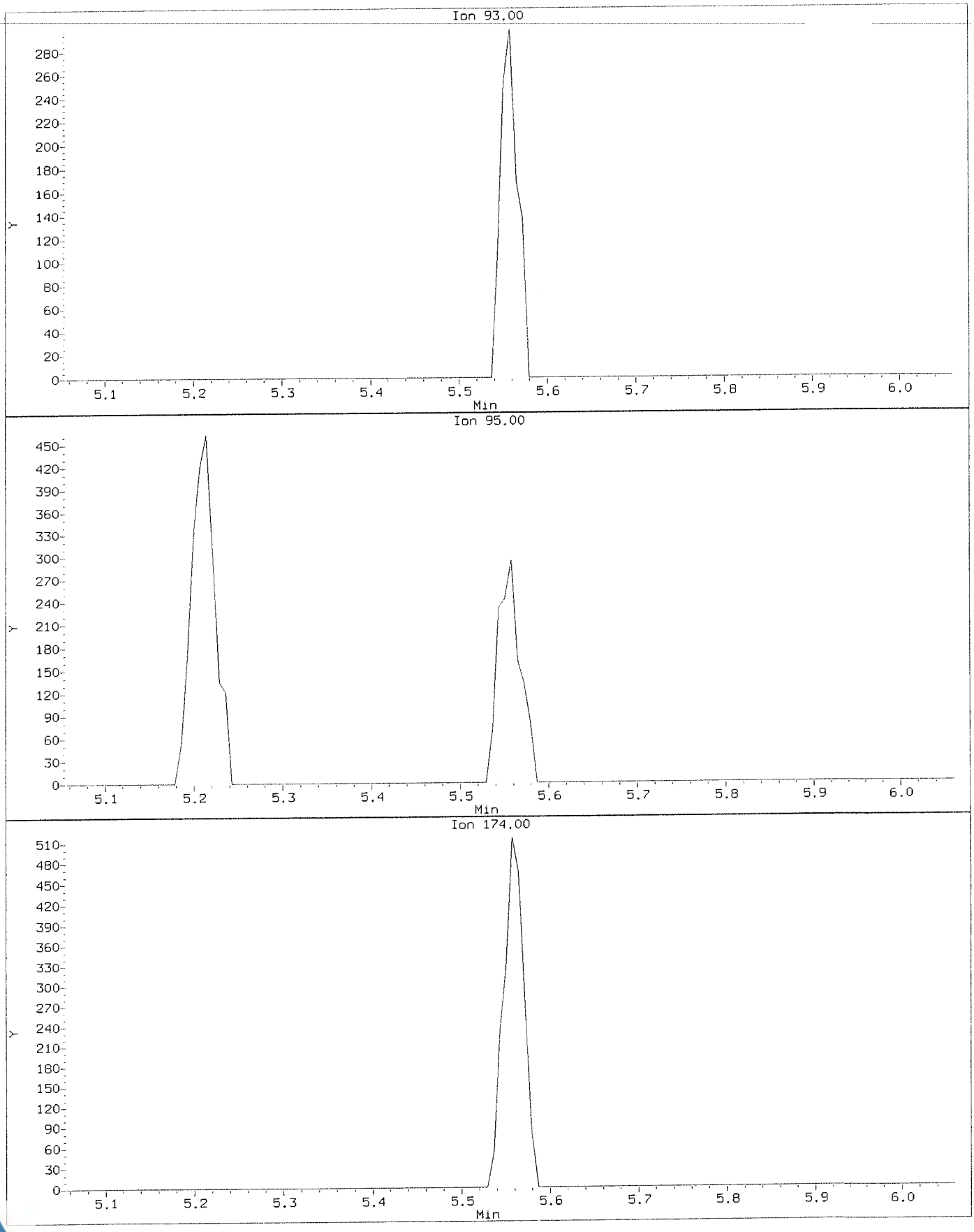
Injection Date: 31-OCT-2019 11:56
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Dibromomethane
CAS Number: 74-95-3



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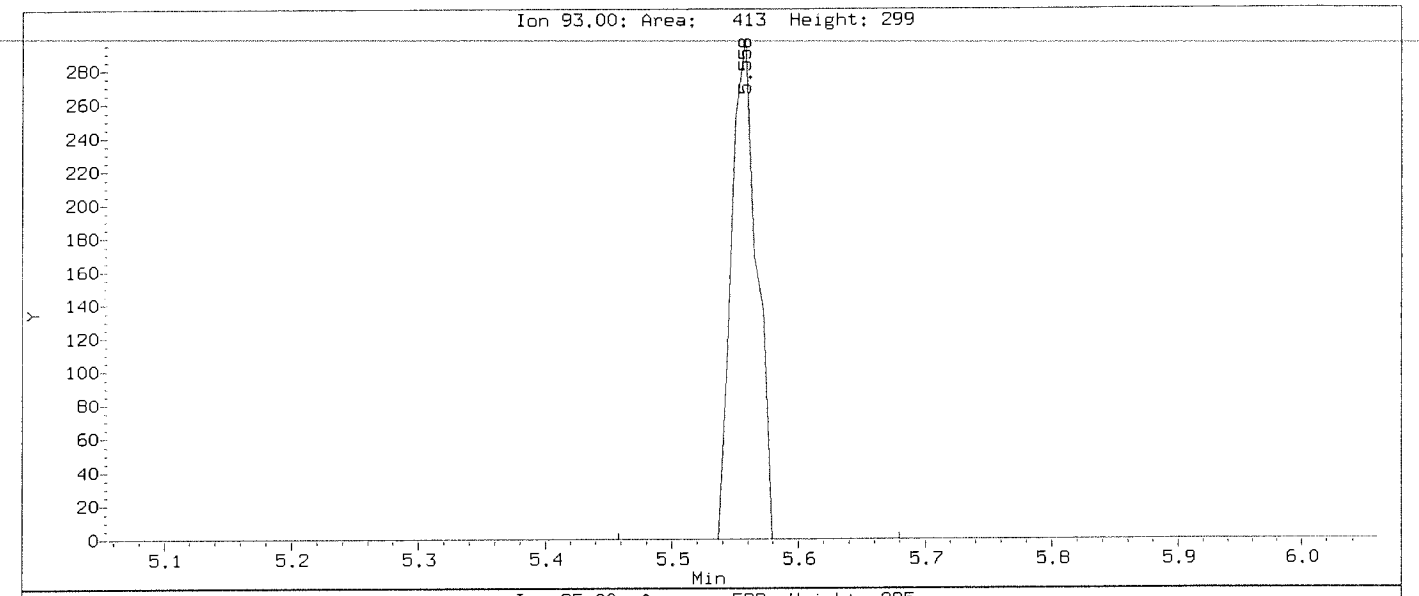
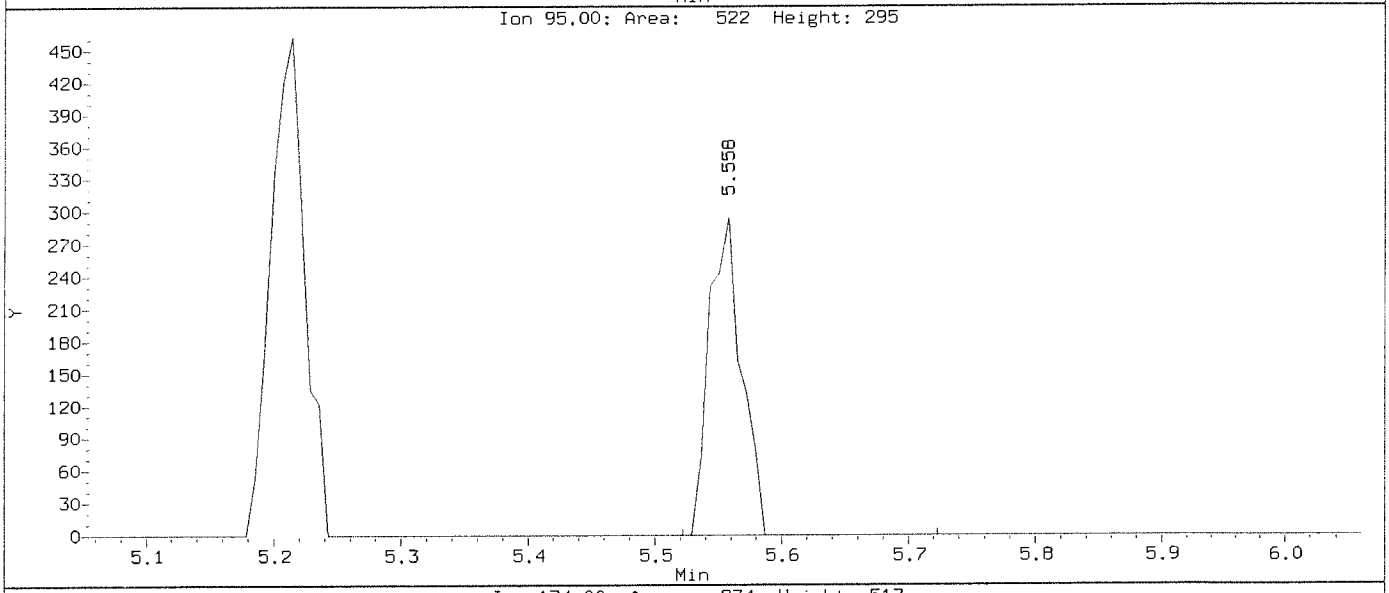
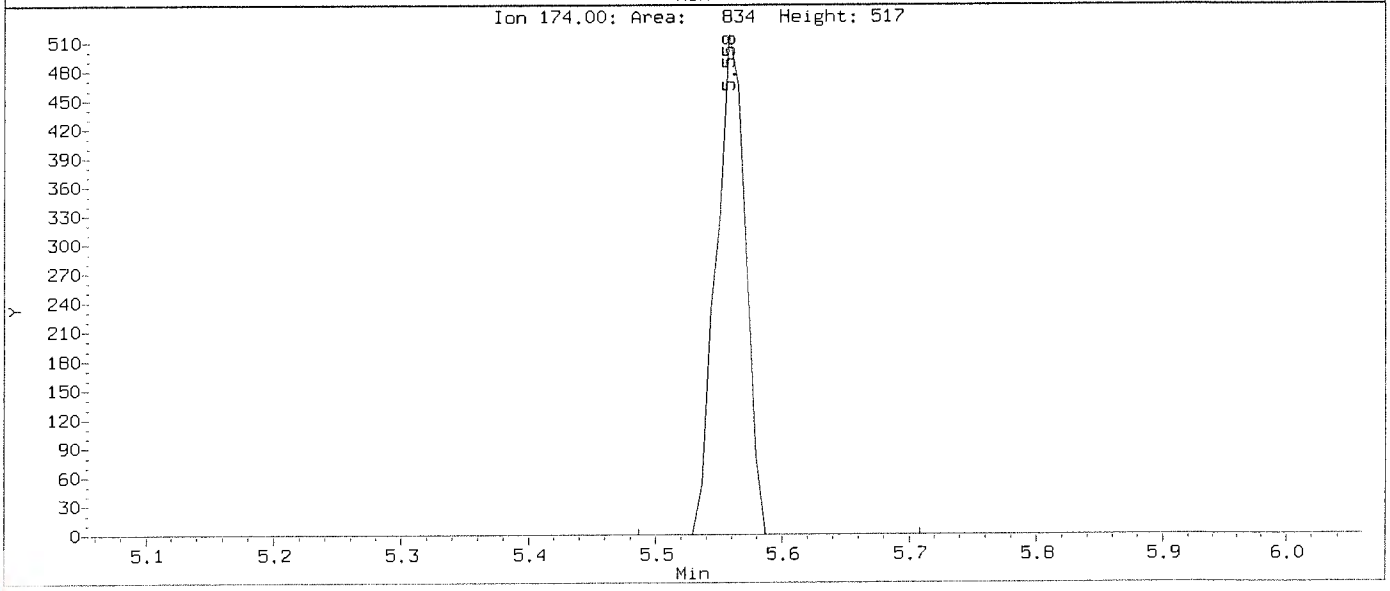
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Dibromomethane
CAS Number: 74-95-3







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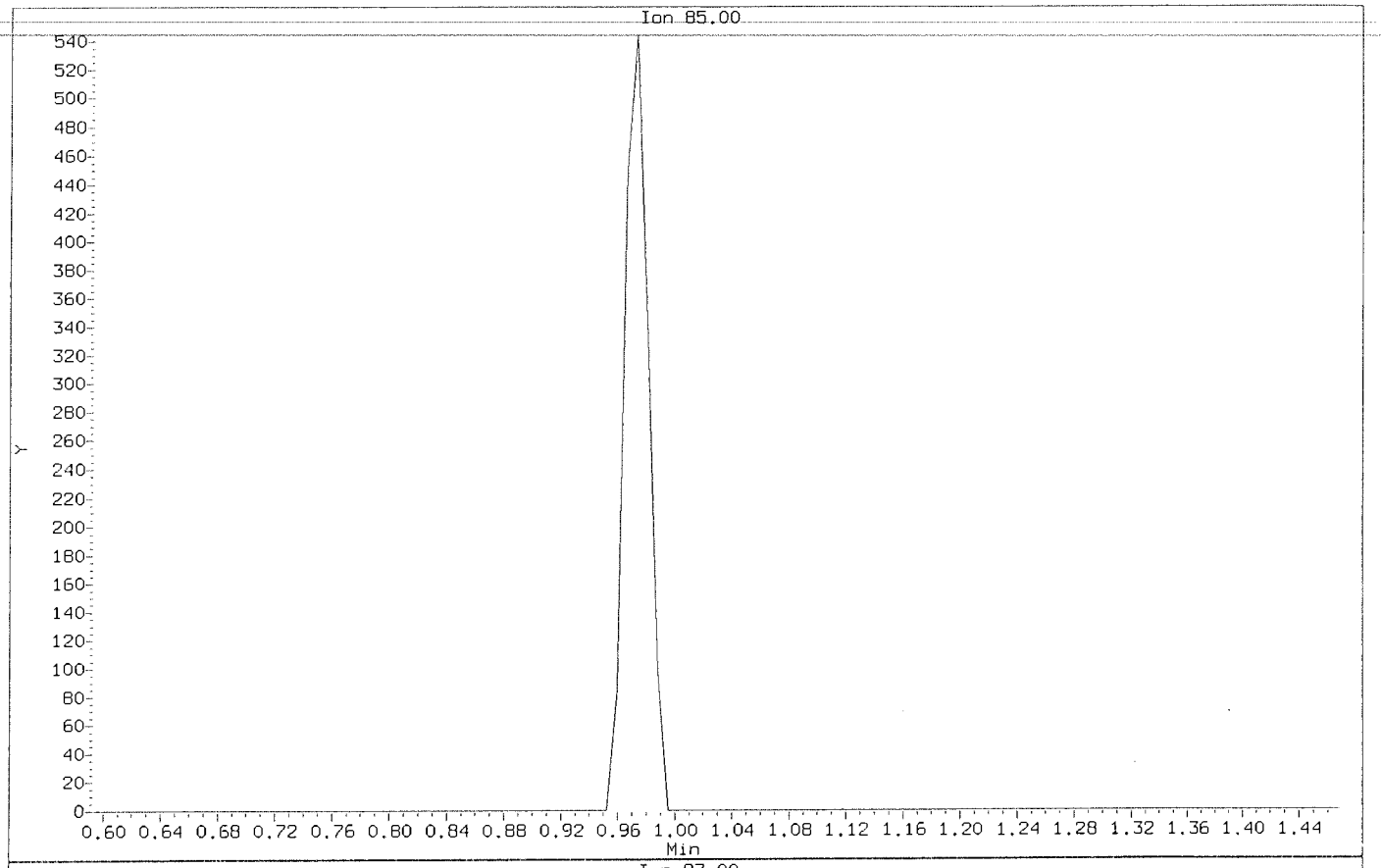
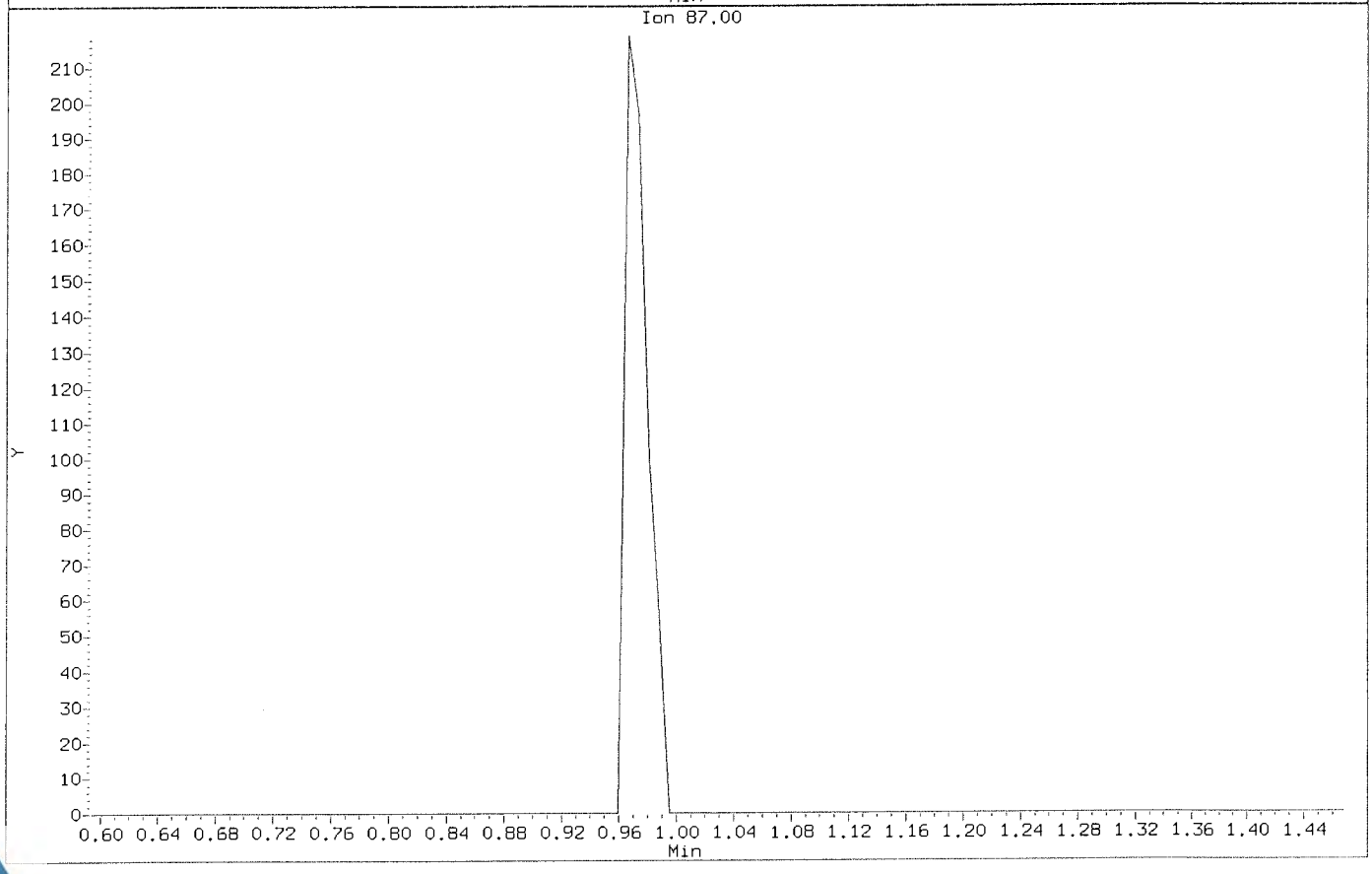
Injection Date: 31-OCT-2019 11:56
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Dichlorodifluoromethane
CAS Number: 75-71-8





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Injection Date: 31-OCT-2019 11:56
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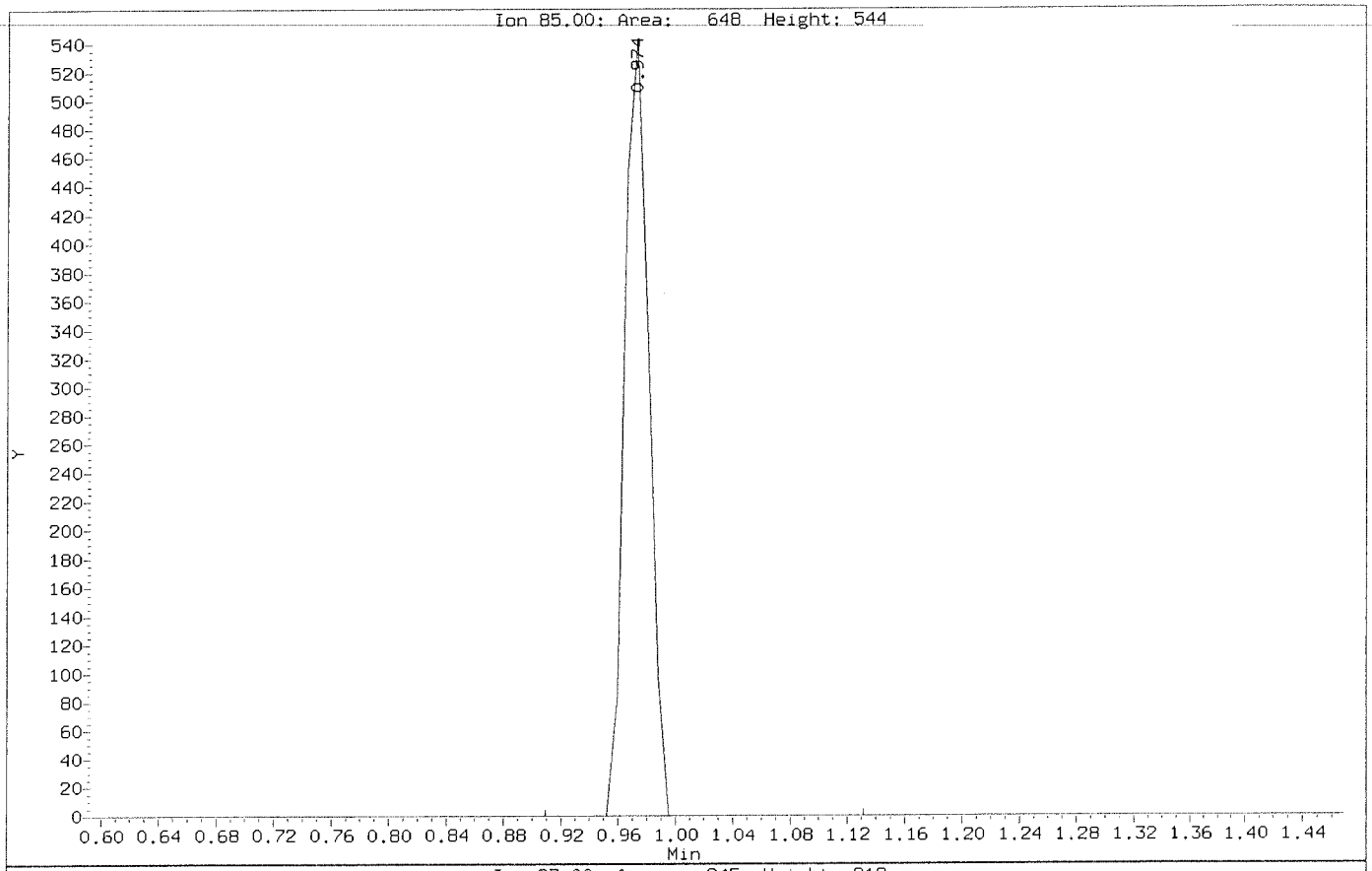
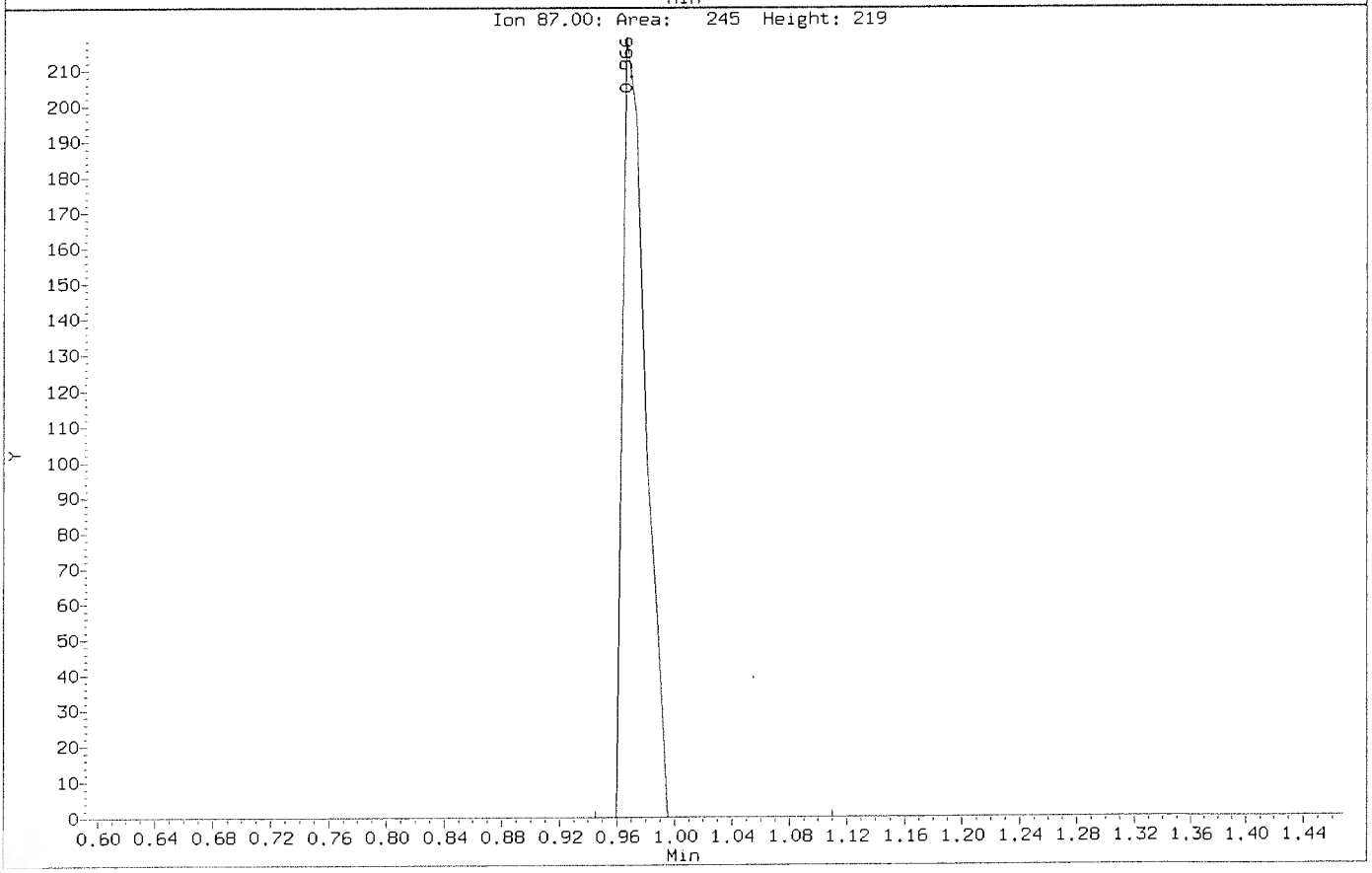
Client Sample ID: VSTD000.5

Compound: Dichlorodifluoromethane
CAS Number: 75-71-8





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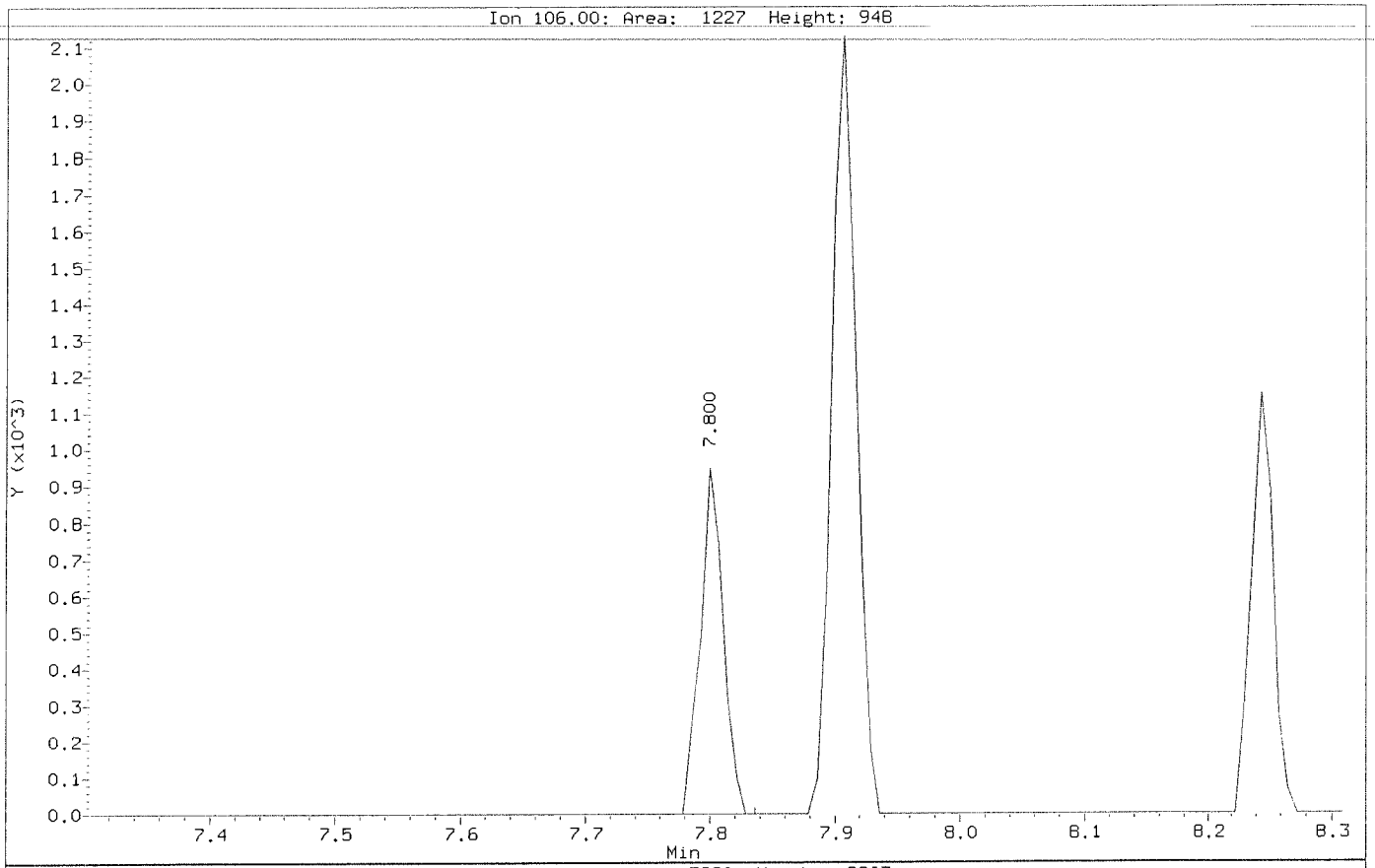
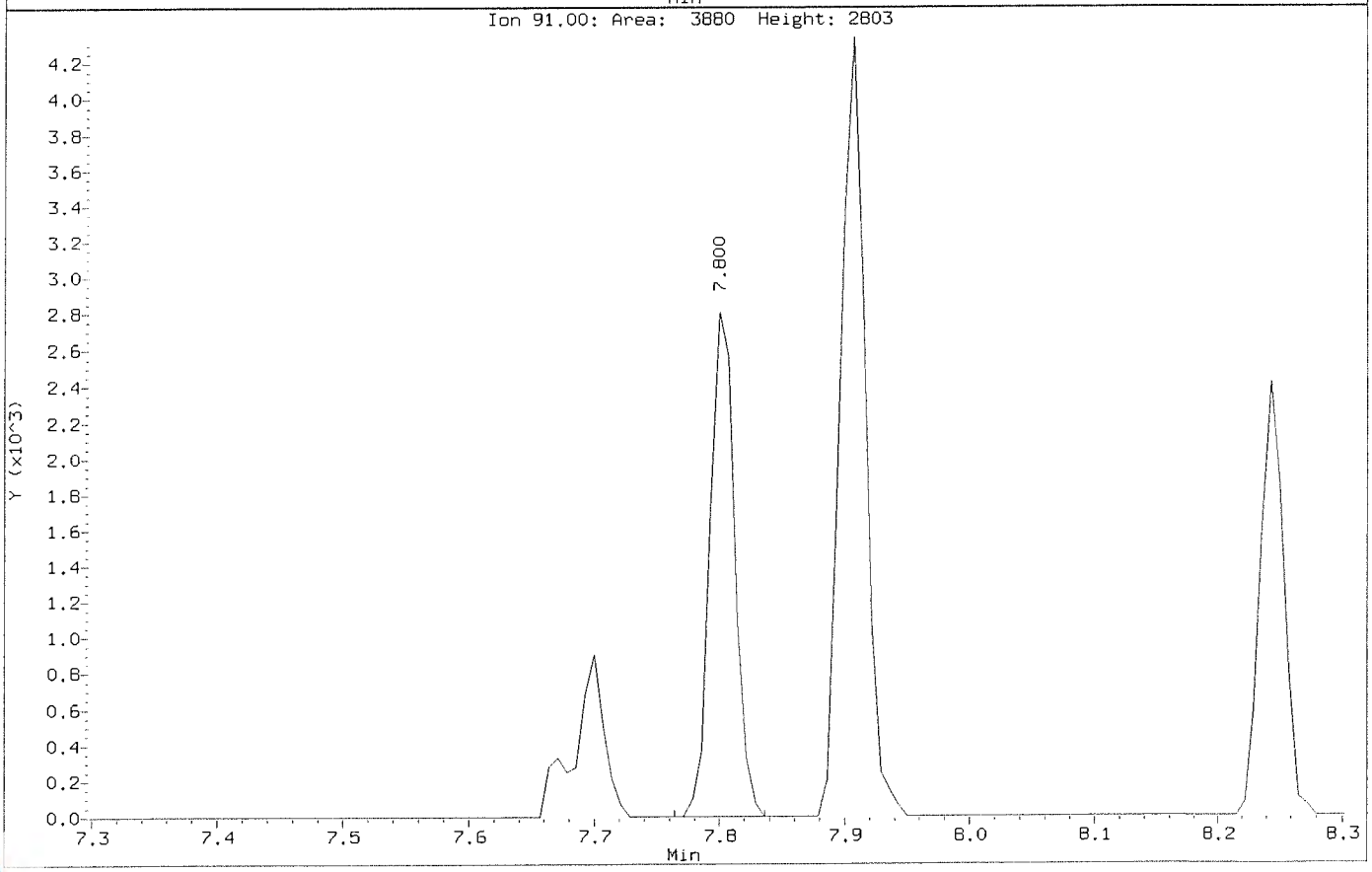
Injection Date: 31-OCT-2019 11:56
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Ethylbenzene
CAS Number: 100-41-4





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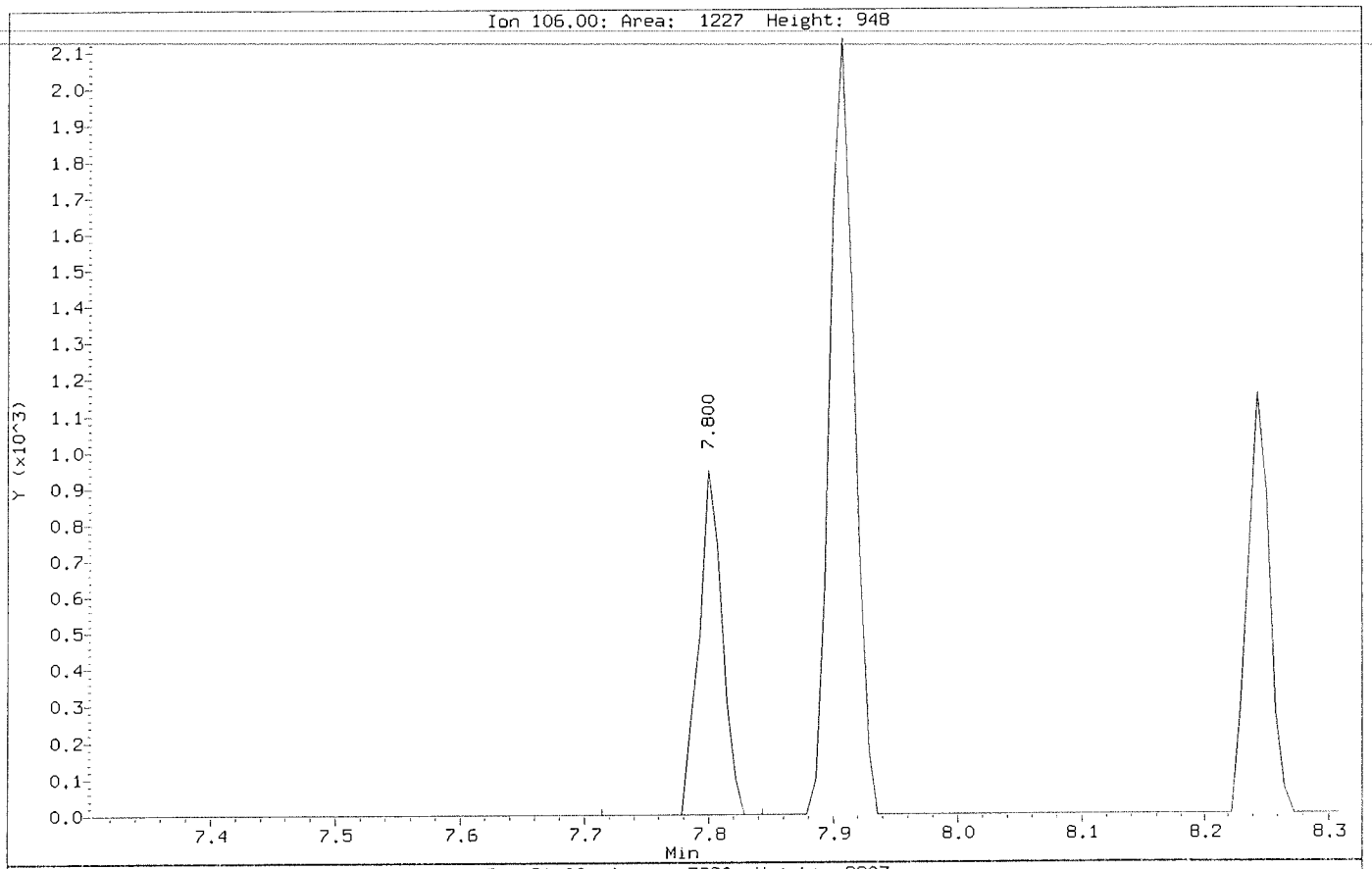
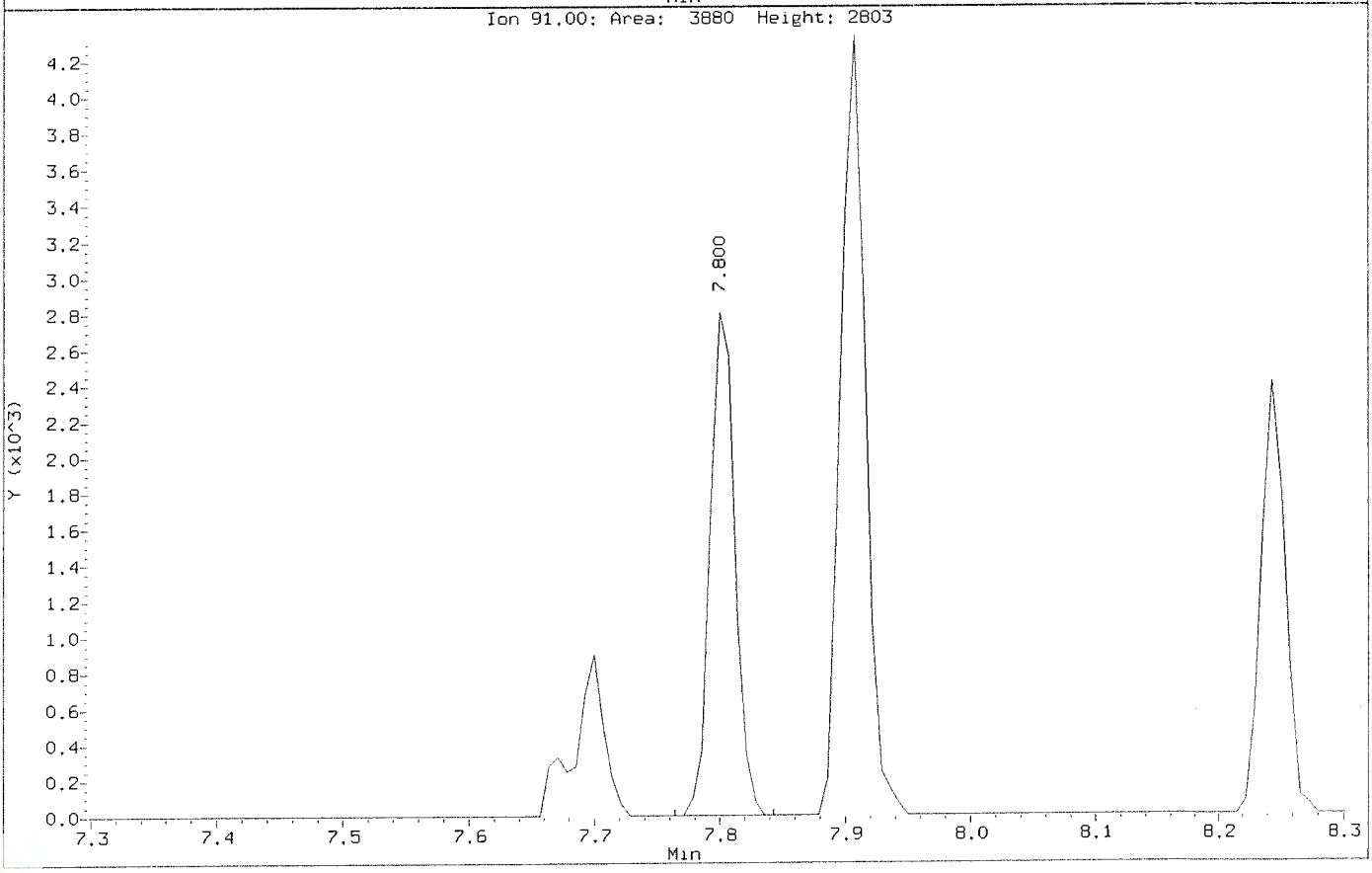
Injection Date: 31-OCT-2019 11:56
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Ethylbenzene
CAS Number: 100-41-4





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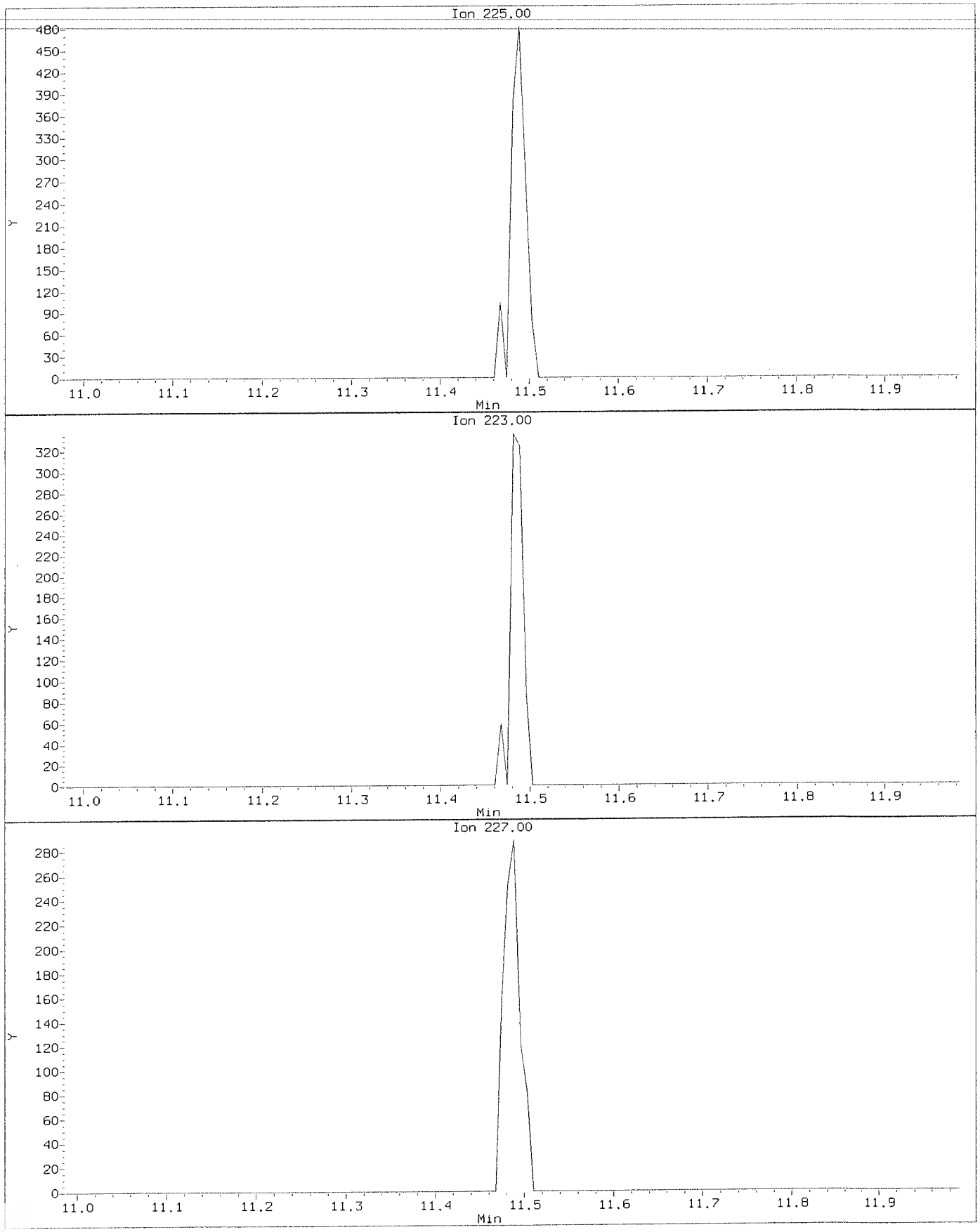
Injection Date: 31-OCT-2019 11:56
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Hexachlorobutadiene
CAS Number: 87-68-3



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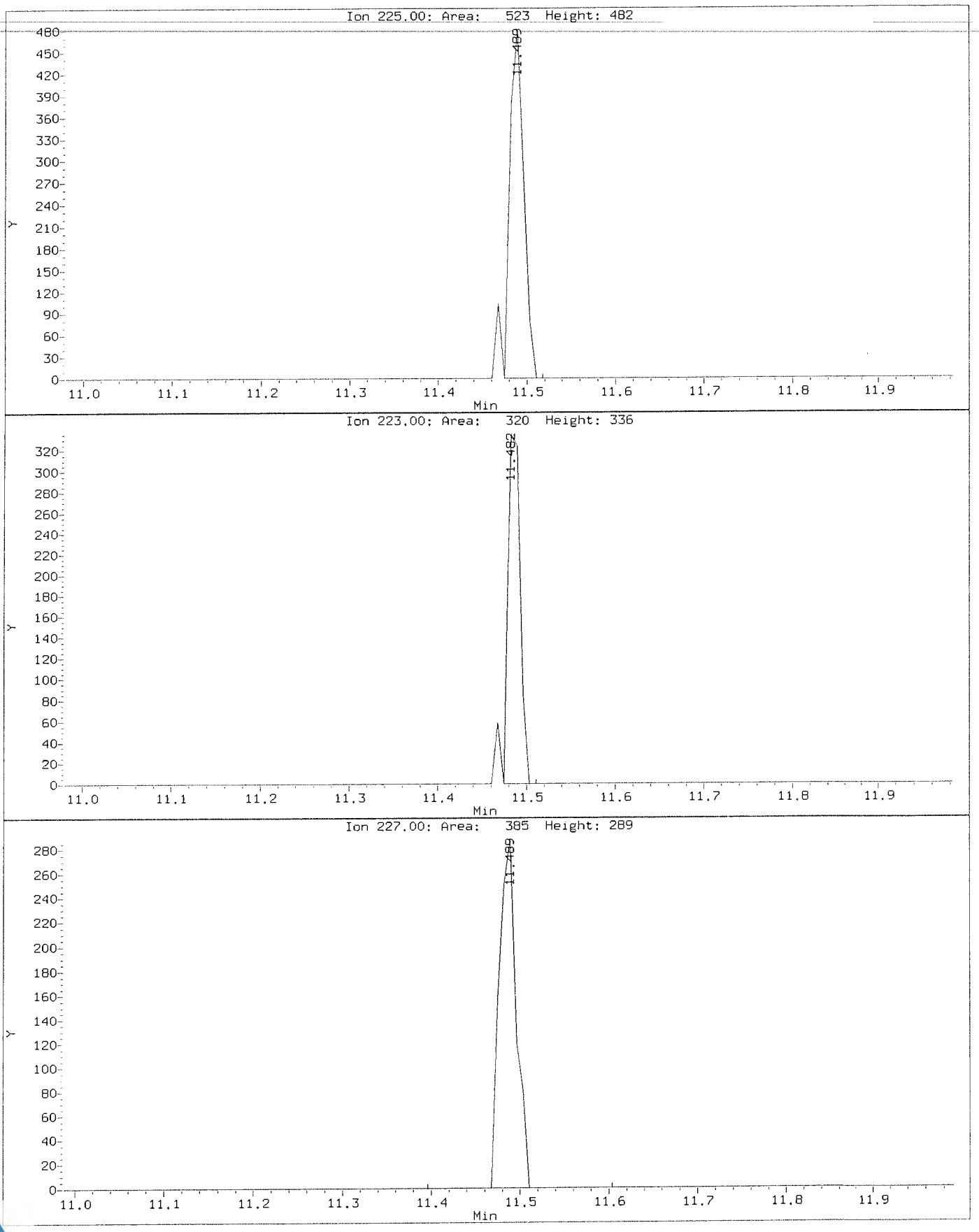
Injection Date: 31-OCT-2019 11:56
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Hexachlorobutadiene
CAS Number: 87-68-3



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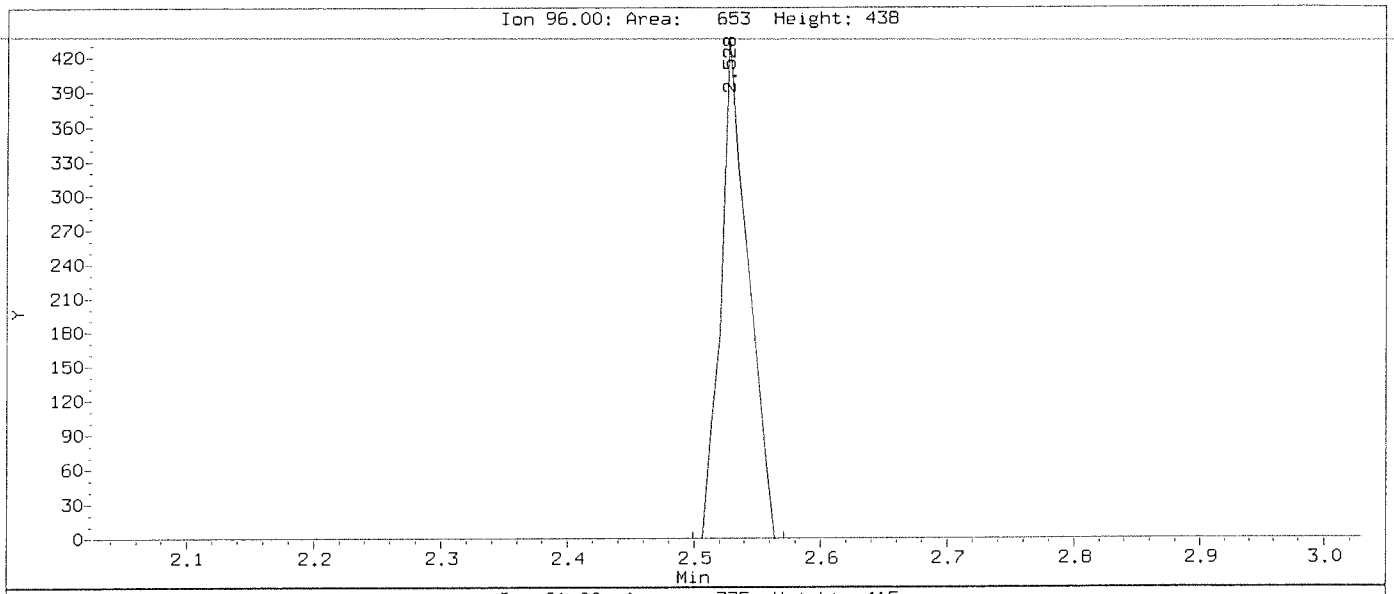
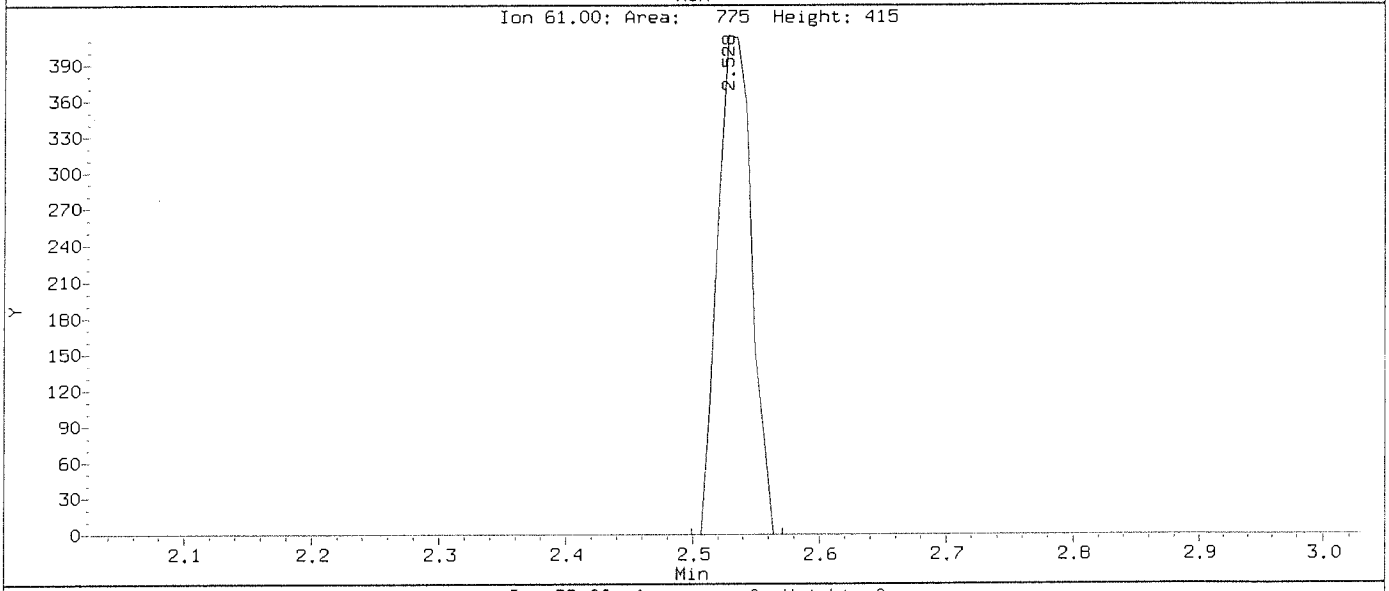
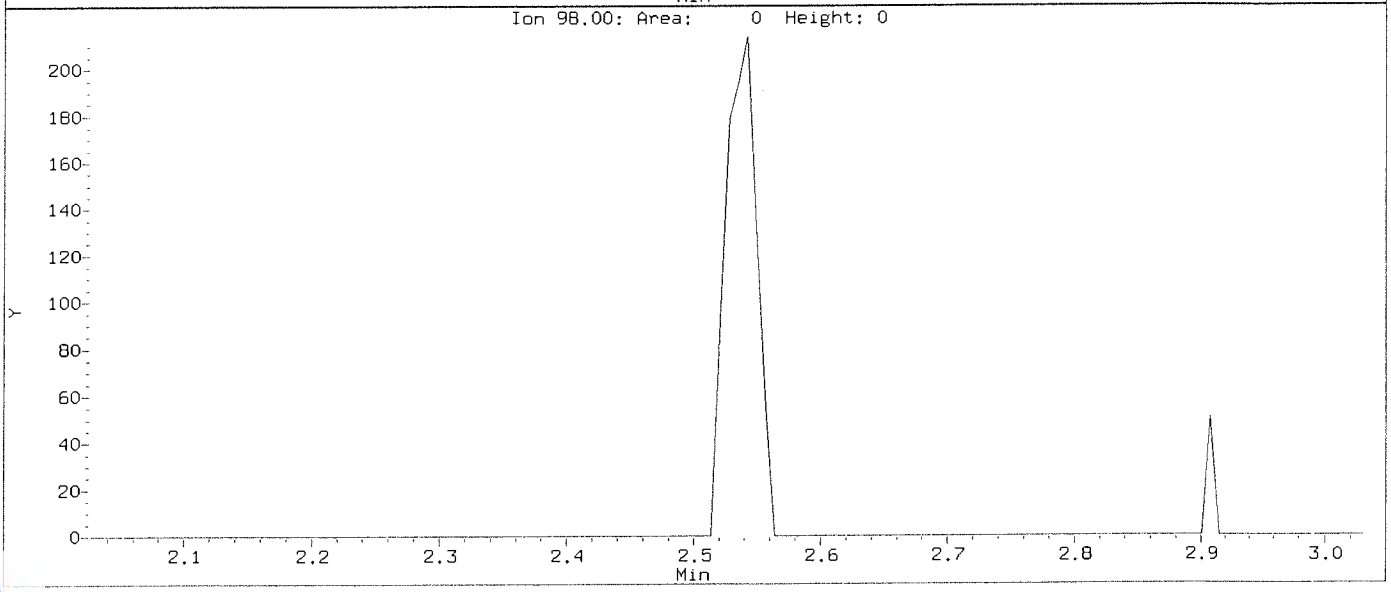
Injection Date: 31-OCT-2019 11:56
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: trans-1,2-Dichloroethene
CAS Number: 156-60-5







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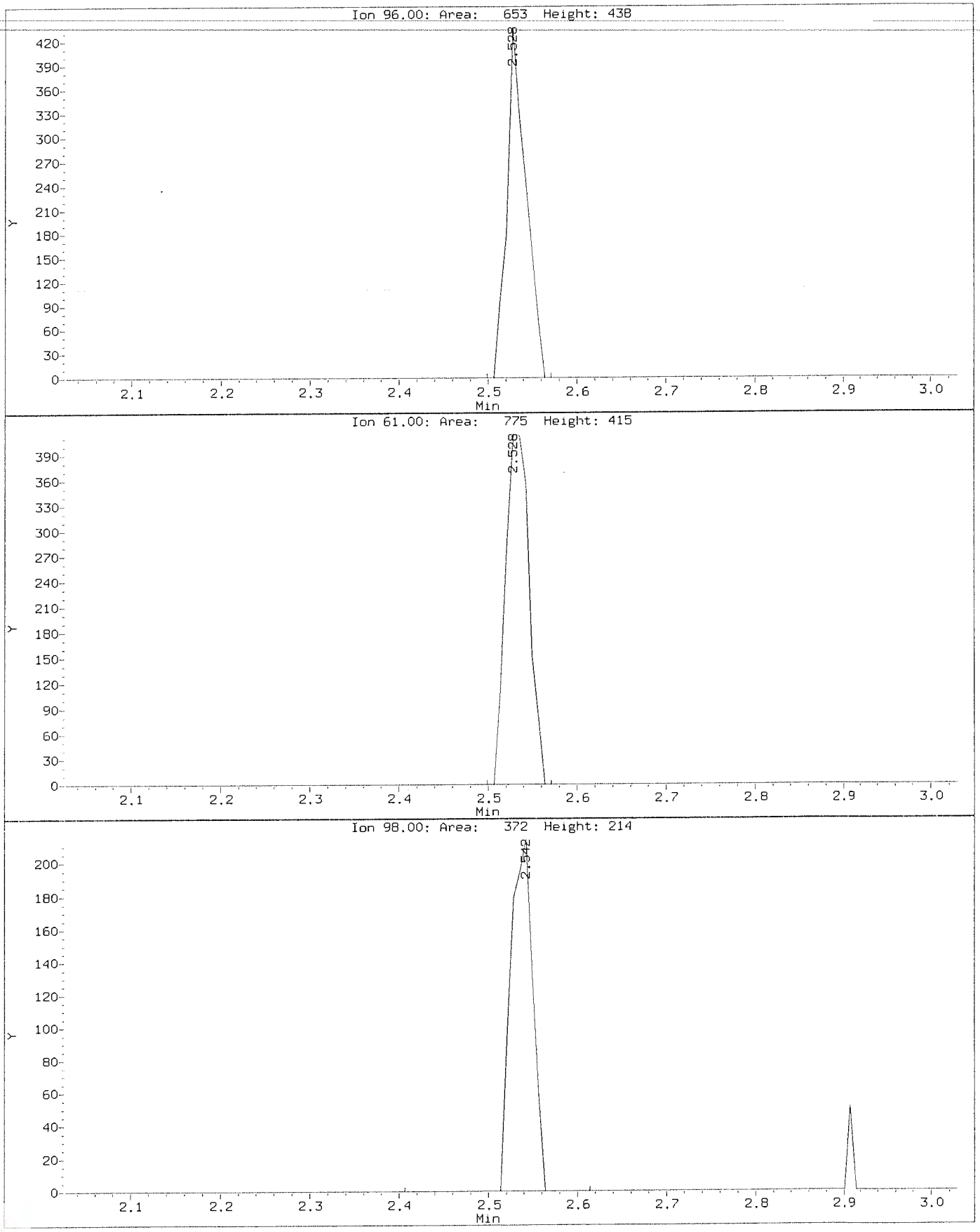
Injection Date: 31-OCT-2019 11:56
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: trans-1,2-Dichloroethene
CAS Number: 156-60-5



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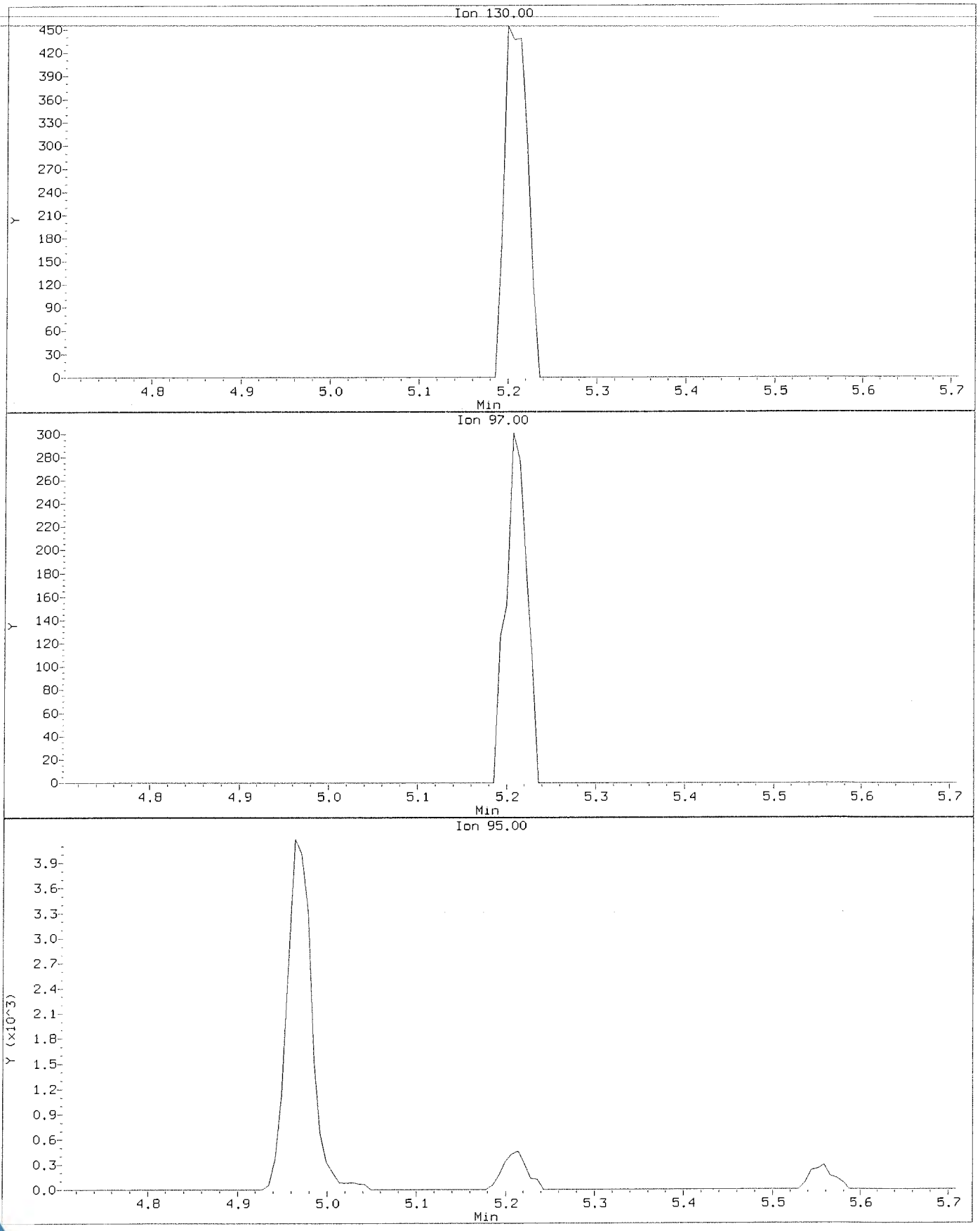
Injection Date: 31-OCT-2019 11:56
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Trichloroethene
CAS Number: 79-01-6



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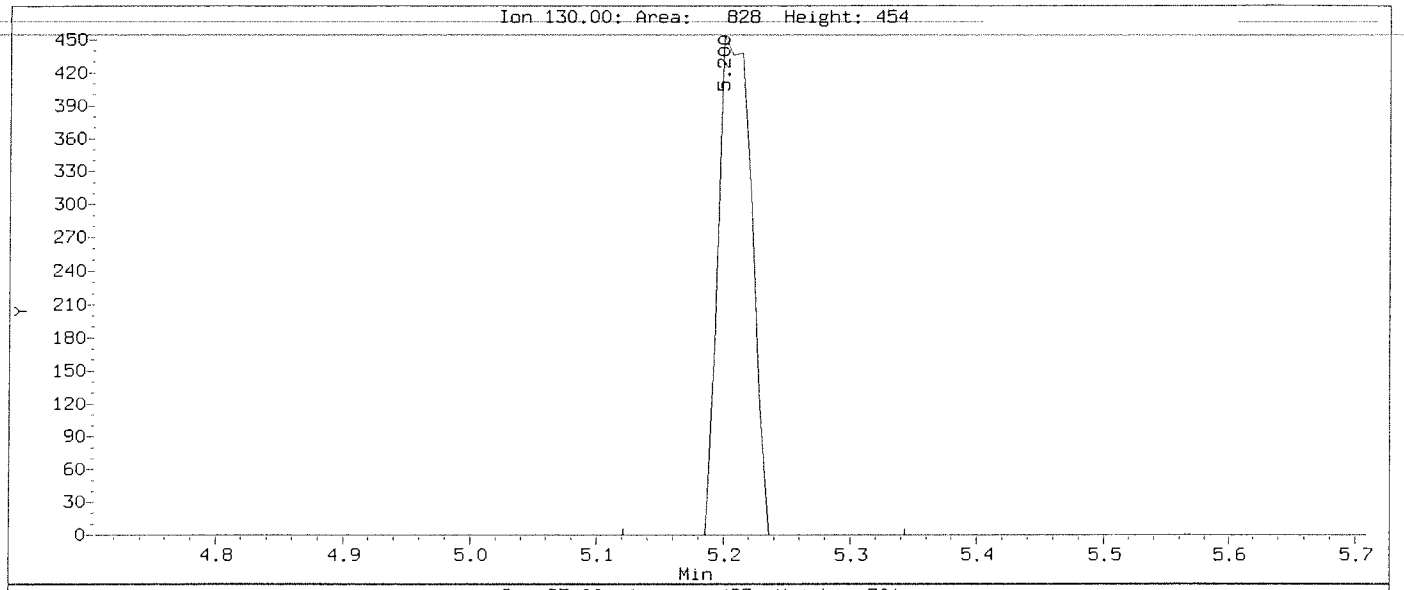
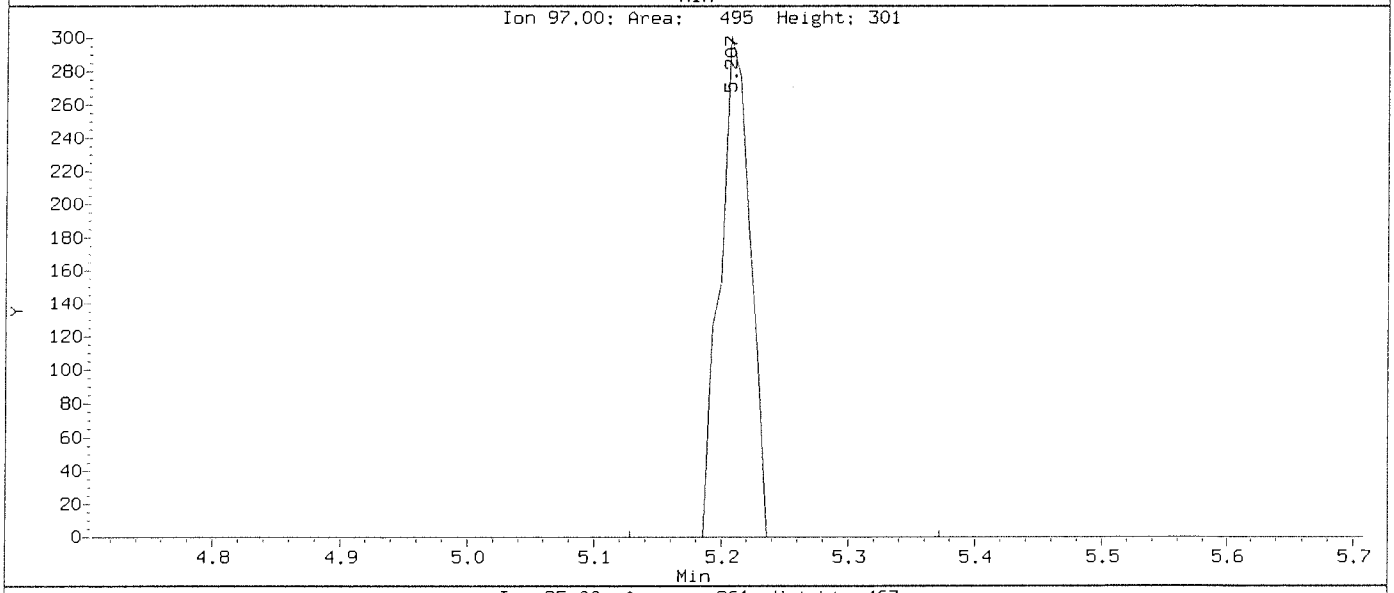
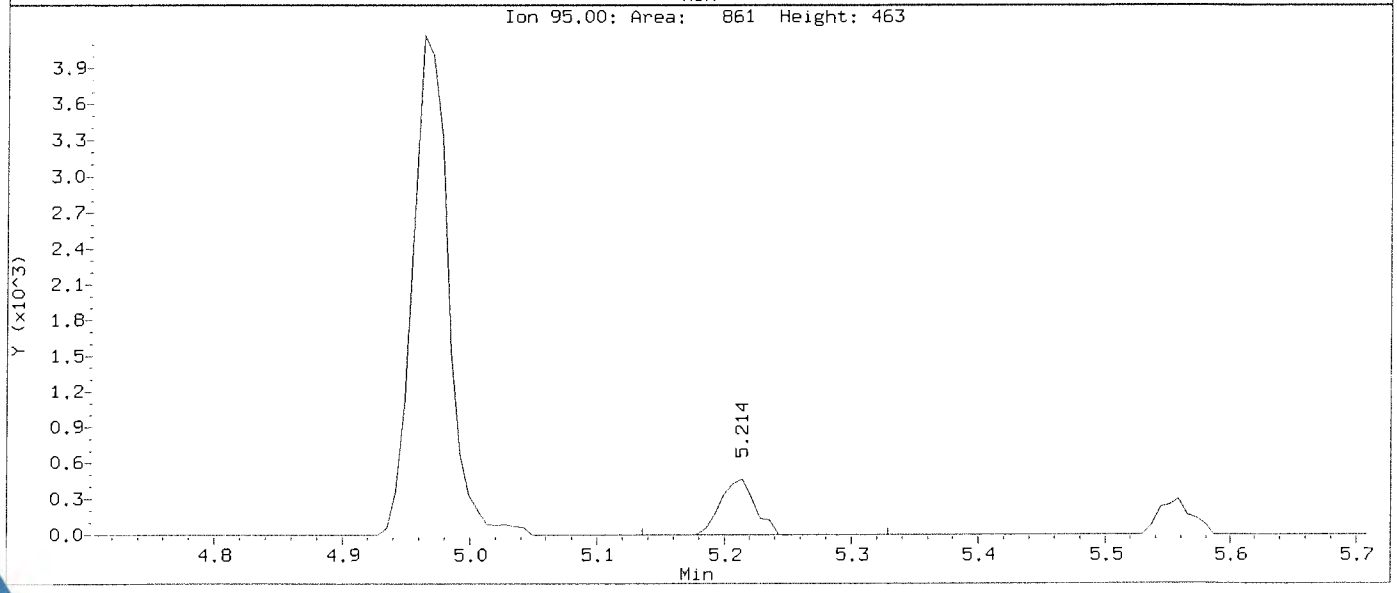
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Trichloroethene
CAS Number: 79-01-6







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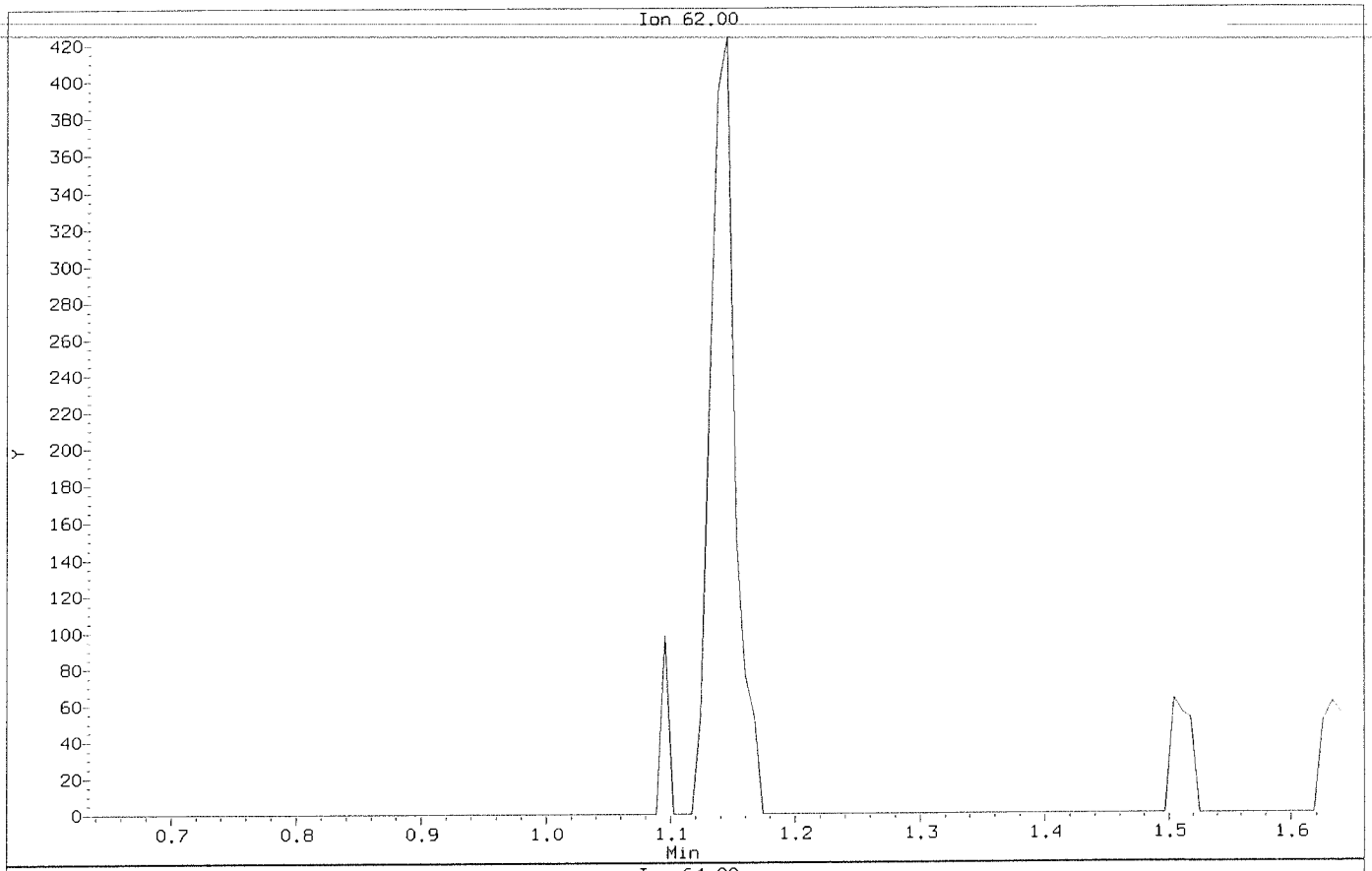
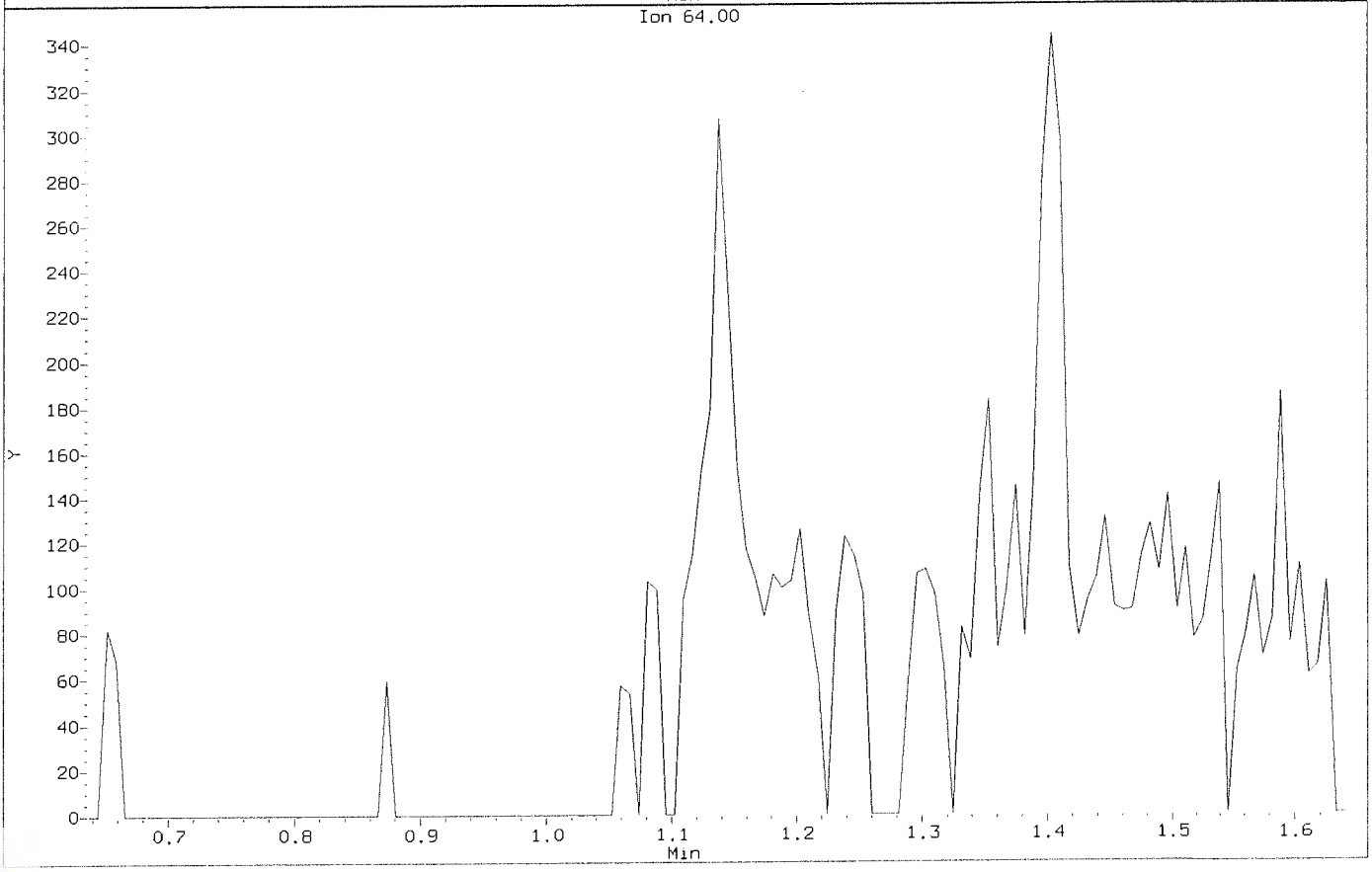
Injection Date: 31-OCT-2019 11:56
Instrument: voa6.i
Client Sample ID: VSTD000.5

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





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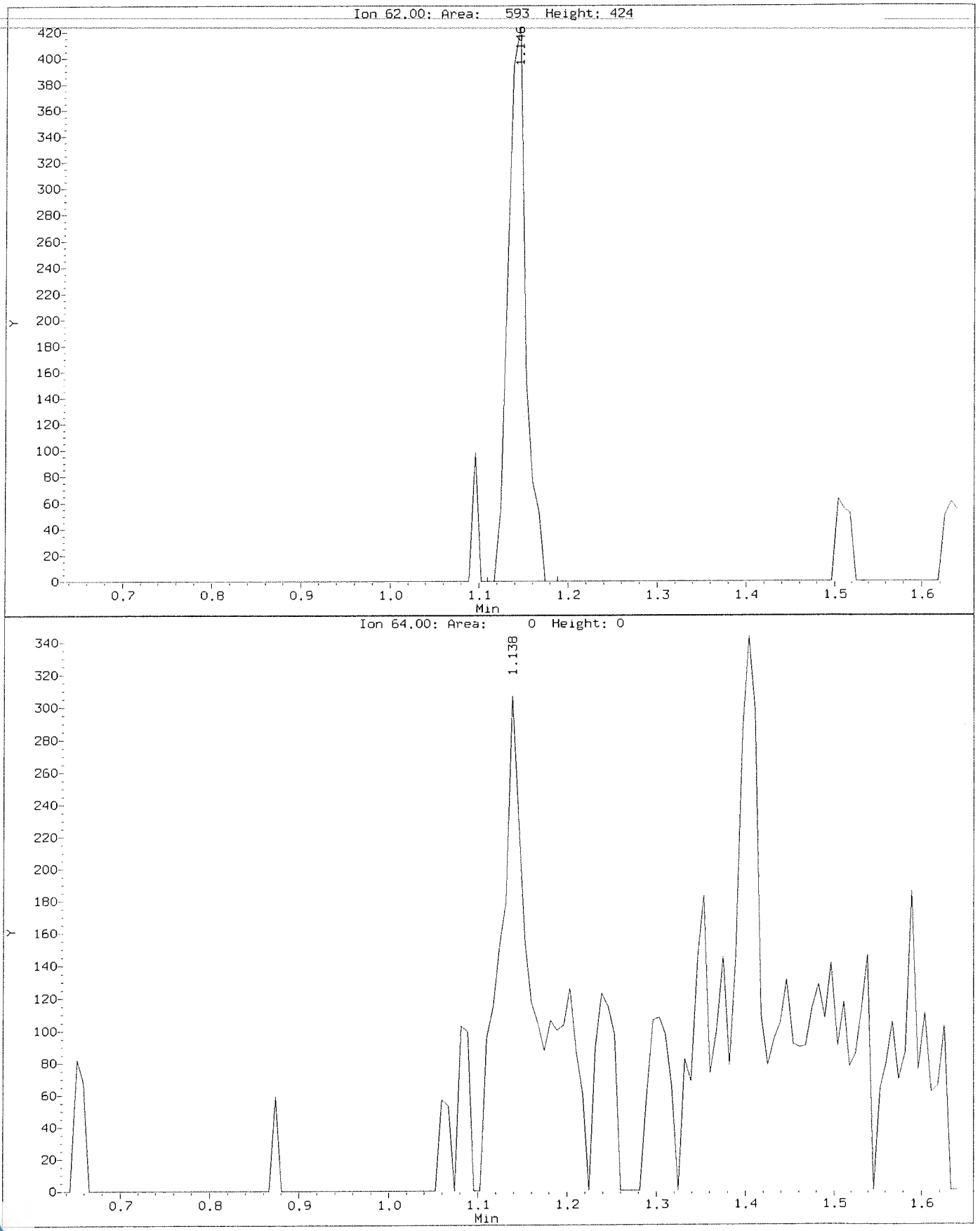
Injection Date: 31-OCT-2019 11:56
Instrument: voa6.i
Client Sample ID: VSTD000.5

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



Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\X103104.D Page 1
Report Date: 19-Nov-2019 17:39

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X191031.b\X103104.D
Lab Smp Id: VSTD001 Client Smp ID: VSTD001
Inj Date : 31-OCT-2019 12:20
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\X191031.b\8260W.m
Meth Date : 19-Nov-2019 17:37 voa6.i Quant Type: ISTD
Cal Date : 31-OCT-2019 12:20 Cal File: X103104.D
Als bottle: 5 Calibration Sample, Level: 3
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

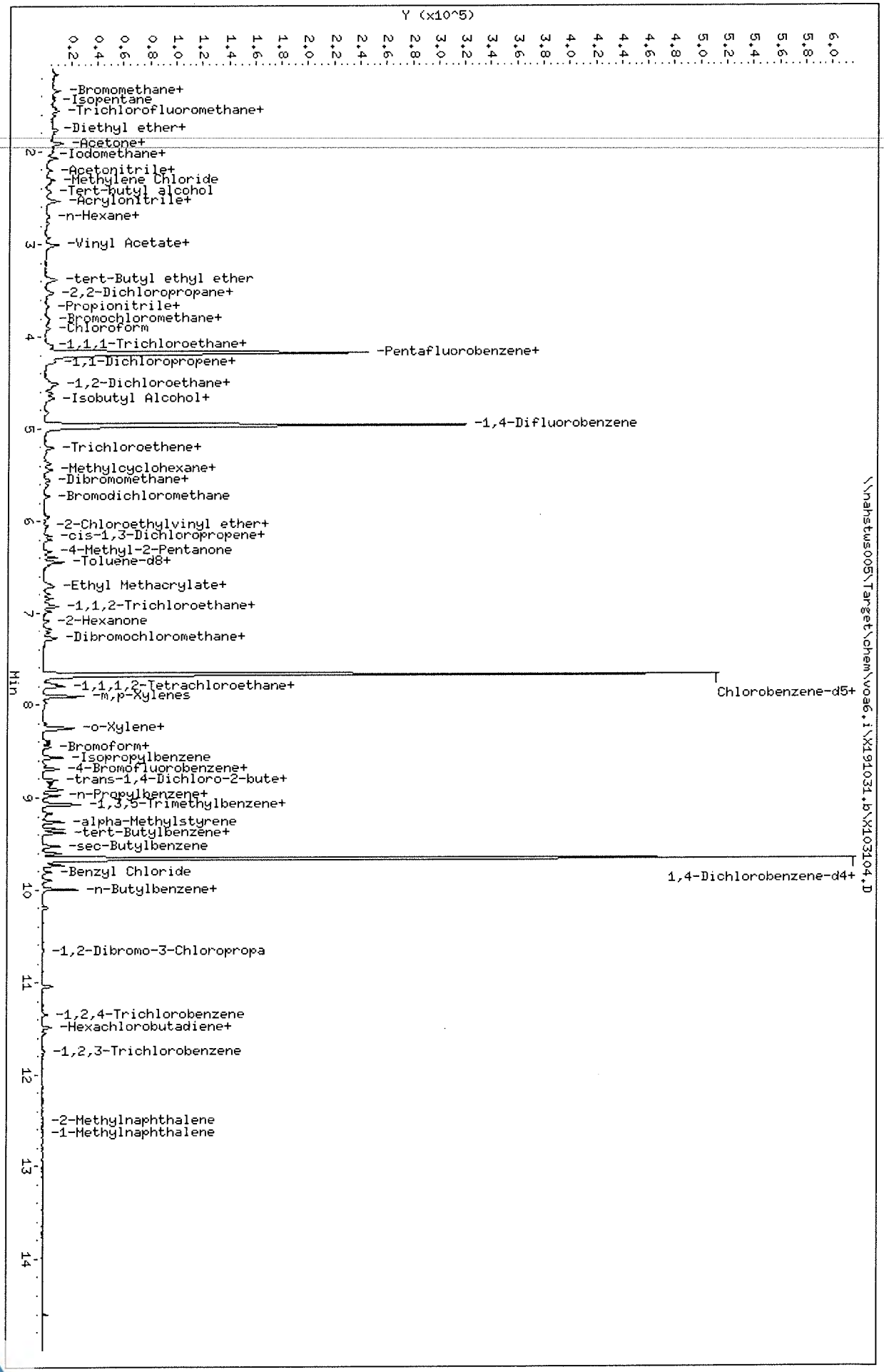
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
*	1 Pentafluorobenzene	168	4.182	4.182	(1.000)	232124	50.0000	
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	286946	50.0000	
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	261334	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.662	9.669	(1.000)	155568	50.0000	
$	35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	2280	1.00000	1.64(Ta)
$	69 4-Bromofluorobenzene	95	8.688	8.695	(1.133)	3396	1.00000	0.79(a)
$	30 Dibromofluoromethane	113	4.103	4.104	(0.981)	1737	1.00000	1.41(a)
$	48 Toluene-d8	98	6.389	6.389	(0.833)	6145	1.00000	0.94(a)
	60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	2516	1.00000	1.18(a)
	31 1,1,1-Trichloroethane	97	4.082	4.089	(0.976)	3106	1.00000	1.06(a)
	68 1,1,2,2-Tetrachloroethane	83	8.845	8.845	(0.915)	2699	1.00000	1.07(aM)
	138 Freon TF	101	1.912	1.912	(0.457)	1626	1.00000	1.05(a)
	53 1,1,2-Trichloroethane	83	6.847	6.840	(0.893)	1310	1.00000	1.10(a)
	22 1,1-Dichloroethane	63	2.922	2.922	(0.699)	2969	1.00000	1.14(Ta)
	11 1,1-Dichloroethene	96	1.912	1.912	(0.457)	1593	1.00000	1.07(a)
	32 1,1-Dichloropropene	75	4.283	4.283	(0.862)	2501	1.00000	1.17(aM)
	93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.216)	789	1.00000	0.35(aM)
	71 1,2,3-Trichloropropane	75	8.867	8.867	(0.918)	2361	1.00000	0.50(aM)
	90 1,2,4-Trichlorobenzene	180	11.345	11.338	(1.174)	1696	1.00000	1.20(aM)
	79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.971)	8378	1.00000	1.12(a)
	89 1,2-Dibromo-3-Chloropropane	155	10.665	10.658	(1.104)	367	1.00000	2.45(aM)
	57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	1913	1.00000	1.08(a)
	88 1,2-Dichlorobenzene	146	9.999	9.999	(1.035)	5244	1.00000	1.21(a)

Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\X103104.D Page 2
Report Date: 19-Nov-2019 17:39

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	2666	1.00000	1.14 (aM)
42 1,2-Dichloropropane	63	5.436	5.436	(1.094)	1807	1.00000	1.29 (aM)
75 1,3,5-Trimethylbenzene	105	9.067	9.075	(0.938)	8216	1.00000	1.13 (a)
83 1,3-Dichlorobenzene	146	9.605	9.612	(0.994)	5648	1.00000	1.19 (a)
54 1,3-Dichloropropane	76	6.983	6.983	(0.910)	2783	1.00000	1.14 (a)
84 1,4-Dichlorobenzene	146	9.683	9.684	(1.002)	5464	1.00000	1.14 (a)
26 2,2-Dichloropropane	77	3.509	3.516	(0.839)	3552	1.00000	1.27 (a)
24 2-Butanone	43	3.581	3.573	(0.856)	1053	2.00000	1.78 (aM)
76 2-Chlorotoluene	91	8.974	8.982	(0.929)	6297	1.00000	1.12 (a)
52 2-Hexanone	43	7.090	7.090	(0.924)	2003	2.00000	2.63 (a)
77 4-Chlorotoluene	91	9.075	9.075	(0.939)	7770	1.00000	1.17 (a)
82 p-Isopropyltoluene	119	9.655	9.655	(0.999)	8687	1.00000	1.12 (a)
45 4-Methyl-2-Pentanone	43	6.324	6.331	(0.824)	2724	2.00000	2.53 (a)
10 Acetone	43	1.976	1.976	(0.473)	1614	2.00000	3.39 (a)
37 Benzene	78	4.519	4.512	(0.909)	9561	1.00000	1.24 (aM)
74 Bromobenzene	156	8.810	8.810	(0.912)	3334	1.00000	1.16 (a)
29 Bromochloromethane	128	3.803	3.795	(0.909)	1419	1.00000	1.18 (a)
39 Bromodichloromethane	83	5.730	5.730	(1.153)	2435	1.00000	1.07 (aM)
66 Bromoform	173	8.416	8.416	(1.097)	1977	1.00000	1.17 (Ta)
6 Bromomethane	94	1.339	1.331	(0.320)	2521	1.00000	(aM)
19 Carbon Disulfide	76	2.069	2.069	(0.495)	9171	2.00000	2.14 (a)
34 Carbon Tetrachloride	117	4.268	4.268	(0.859)	3051	1.00000	1.08 (aM)
59 Chlorobenzene	112	7.692	7.699	(1.003)	6044	1.00000	1.18 (a)
7 Chloroethane	64	1.403	1.396	(0.336)	1148	1.00000	1.24 (aM)
28 Chloroform	83	3.910	3.910	(0.935)	3357	1.00000	1.09 (a)
3 Chloromethane	50	1.074	1.074	(0.257)	1666	1.00000	1.02 (aM)
27 cis-1,2-Dichloroethene	96	3.530	3.523	(0.844)	2003	1.00000	1.08 (a)
46 cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	2884	1.00000	1.09 (a)
55 Dibromochloromethane	129	7.184	7.176	(0.937)	2641	1.00000	1.21 (a)
44 Dibromomethane	93	5.558	5.558	(1.118)	1295	1.00000	1.16 (a)
2 Dichlorodifluoromethane	85	0.973	0.966	(0.233)	1752	1.00000	2.15 (aM)
61 Ethylbenzene	106	7.800	7.807	(1.017)	3167	1.00000	1.19 (aM)
91 Hexachlorobutadiene	225	11.489	11.481	(1.189)	1409	1.00000	1.16 (a)
67 Isopropylbenzene	105	8.566	8.566	(1.117)	9244	1.00000	1.15 (a)
62 m,p-Xylenes	106	7.907	7.907	(1.031)	7628	2.00000	2.38 (a)
17 Methylene Chloride	84	2.306	2.306	(0.551)	2365	1.00000	1.46 (a)
87 n-Butylbenzene	91	9.999	9.999	(1.035)	6081	1.00000	1.10 (a)
73 n-Propylbenzene	91	8.917	8.917	(0.923)	10328	1.00000	1.16 (a)
92 Naphthalene	128	11.546	11.546	(1.195)	2424	1.00000	0.60 (a)
63 o-Xylene	106	8.244	8.244	(1.075)	3830	1.00000	1.21 (a)
81 sec-Butylbenzene	105	9.526	9.526	(0.986)	8732	1.00000	1.10 (a)
64 Styrene	104	8.258	8.265	(1.077)	6283	1.00000	1.15 (a)
78 tert-Butylbenzene	119	9.340	9.340	(0.967)	7025	1.00000	1.12 (a)
56 Tetrachloroethene	164	6.933	6.933	(0.904)	2079	1.00000	1.05 (a)
50 Toluene	91	6.453	6.446	(0.841)	8559	1.00000	1.20 (a)
20 trans-1,2-Dichloroethene	96	2.535	2.528	(0.606)	1603	1.00000	1.02 (a)
51 trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	2585	1.00000	1.05 (a)
38 Trichloroethene	130	5.207	5.207	(1.048)	2489	1.00000	1.16 (a)
8 Trichlorofluoromethane	101	1.561	1.553	(0.373)	3363	1.00000	1.08 (a)
5 Vinyl Chloride	62	1.138	1.138	(0.272)	1640	1.00000	1.12 (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.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-Bromomethane+
-Isopentane
-Trichlorofluoromethane+
-Diethyl ether+
-Acetone+
-Iodomethane+
-Acetonitrile+
-Methylene Chloride
-Tert-butyl alcohol
-Acrylonitrile+
-n-Hexane+
-Vinyl Acetate+
-tert-Butyl ethyl ether
-2,2-Dichloropropane+
-Propionitrile+
-Bromochloromethane+
-Chloroform
-1,1,1-Trichloroethane+
-Pentafluorobenzene+
-1,1-Dichloropropene+
-1,2-Dichloroethane+
-Isobutyl Alcohol+
-1,4-Difluorobenzene
-Trichloroethene+
-Methylcyclohexane+
-Dibromomethane+
-Bromodichloromethane
-2-Chloroethylvinyl ether+
-cis-1,3-Dichloropropene+
-4-Methyl-2-Pentanone
-Toluene-d8+
-Ethyl Methacrylate+
-1,1,2-Trichloroethane+
-2-Hexanone
-Dibromochloromethane+
-1,1,1,2-Tetrachloroethane+
-m,p-Xylenes
Chlorobenzene-d5+
-o-Xylene+
-Bromoform+
-Isopropylbenzene
-4-Bromofluorobenzene+
-trans-1,4-Dichloro-2-bute+
-n-Propylbenzene+
-1,3,5-Trimethylbenzene+
-alpha-Methylstyrene
-tert-Butylbenzene+
-sec-Butylbenzene
-Benzyl Chloride
1,4-Dichlorobenzene-d4+
-n-Butylbenzene+
-1,2-Dibromo-3-Chloropropa
-1,2,4-Trichlorobenzene
-Hexachlorobutadiene+
-1,2,3-Trichlorobenzene
-2-Methylnaphthalene
-1-Methylnaphthalene
Min
1 2 3 4 5 6 7 8 9 10 11 12 13 14
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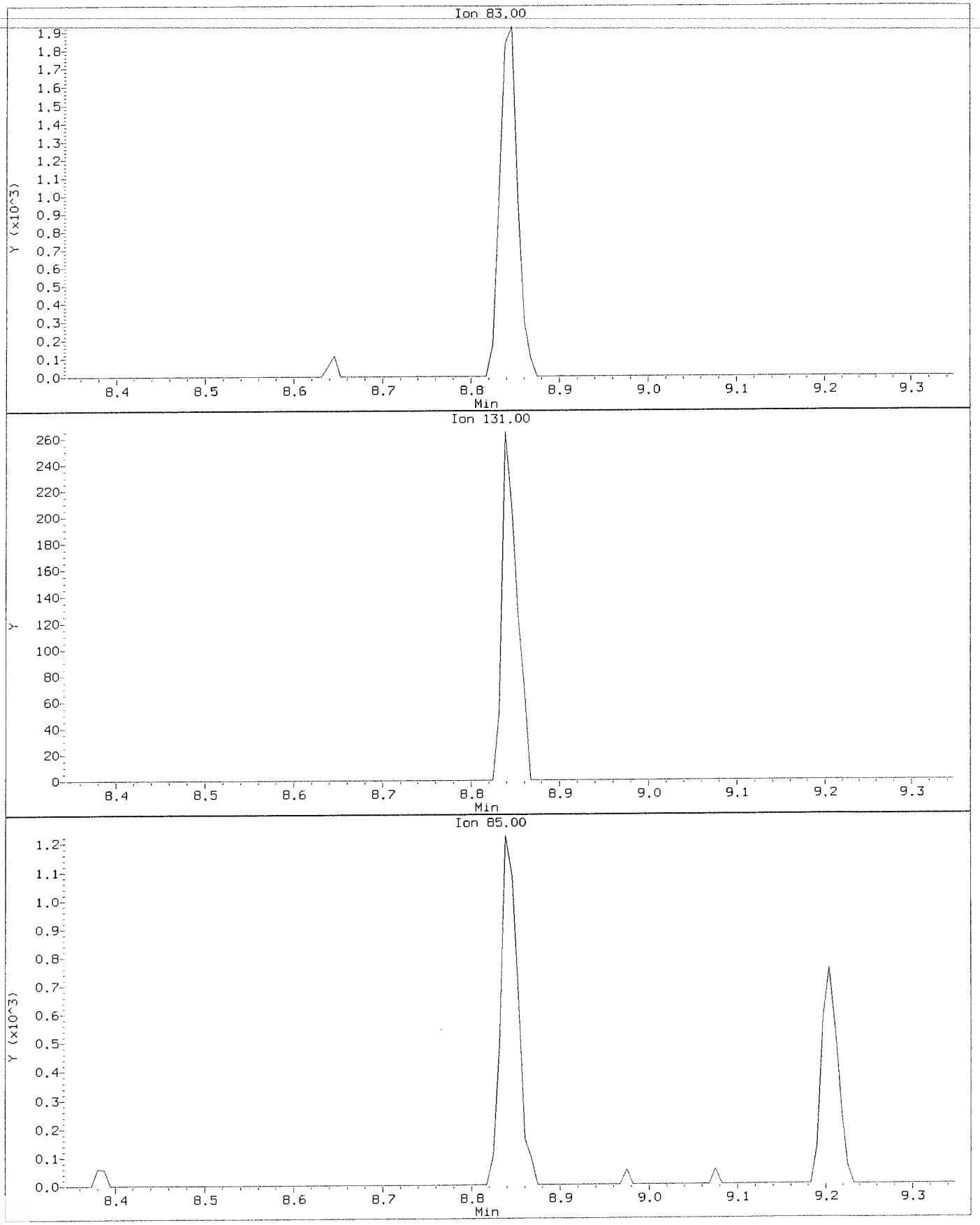
Client ID: VSTD001
Sample Info: VSTD001;VSTD001;1;3;
Purge Volume: 5.0
Column phase: DB624
Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\BEFORE2\X103104.D
Injection Date: 31-OCT-2019 12:20
Instrument: voa6.i
Client Sample ID: VSTD001

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



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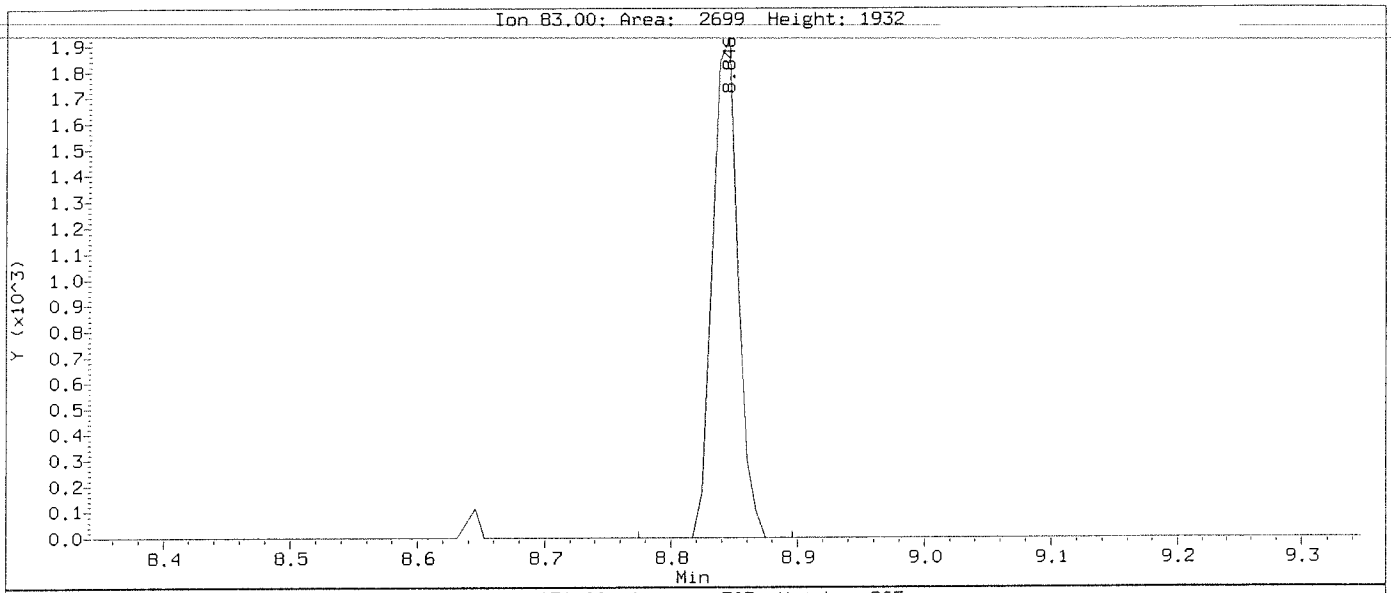
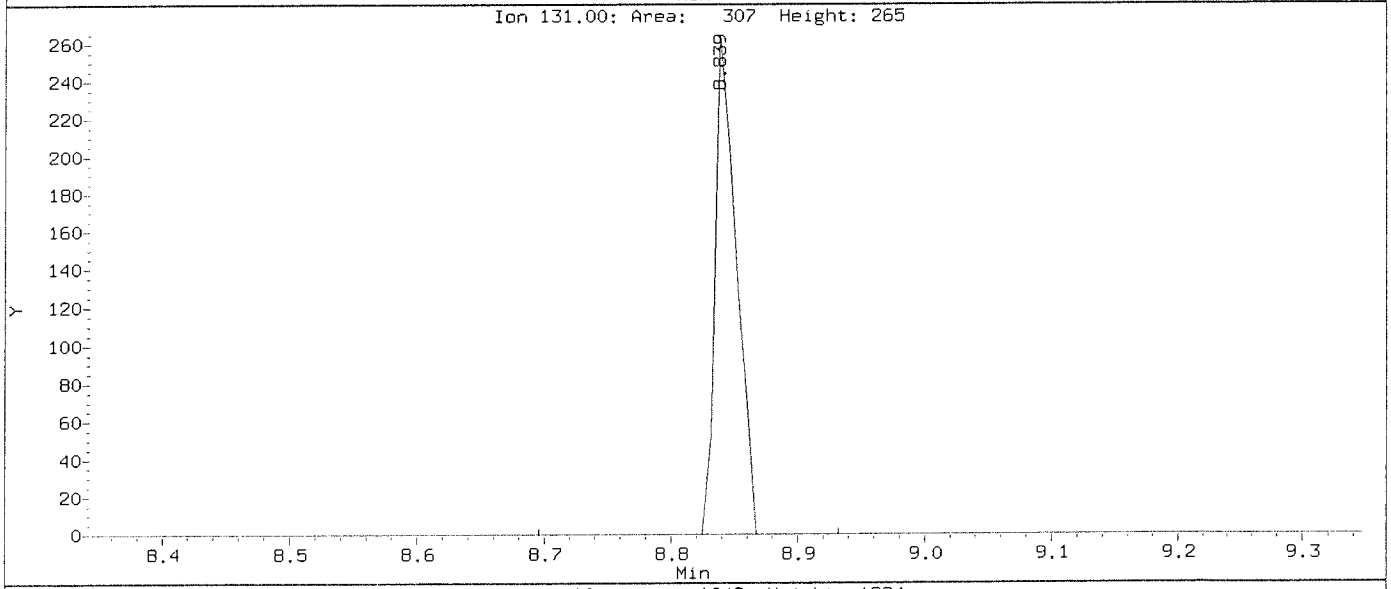
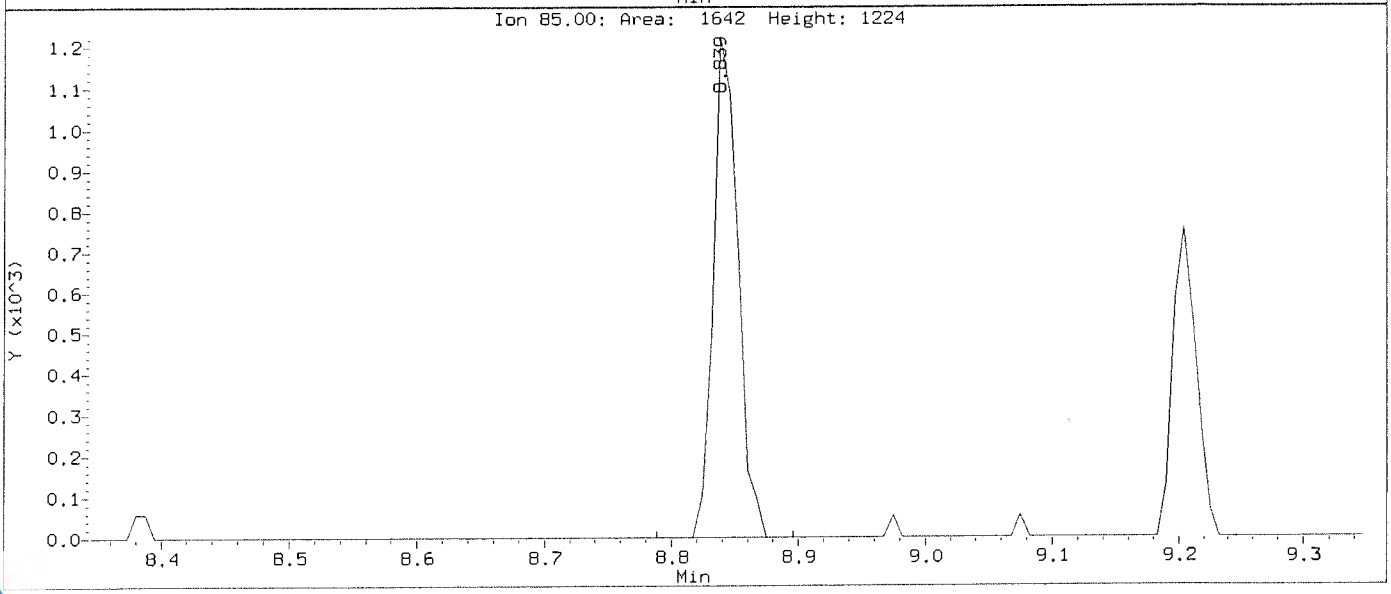
Client Sample ID: VSTD001

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







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Injection Date: 31-OCT-2019 12:20
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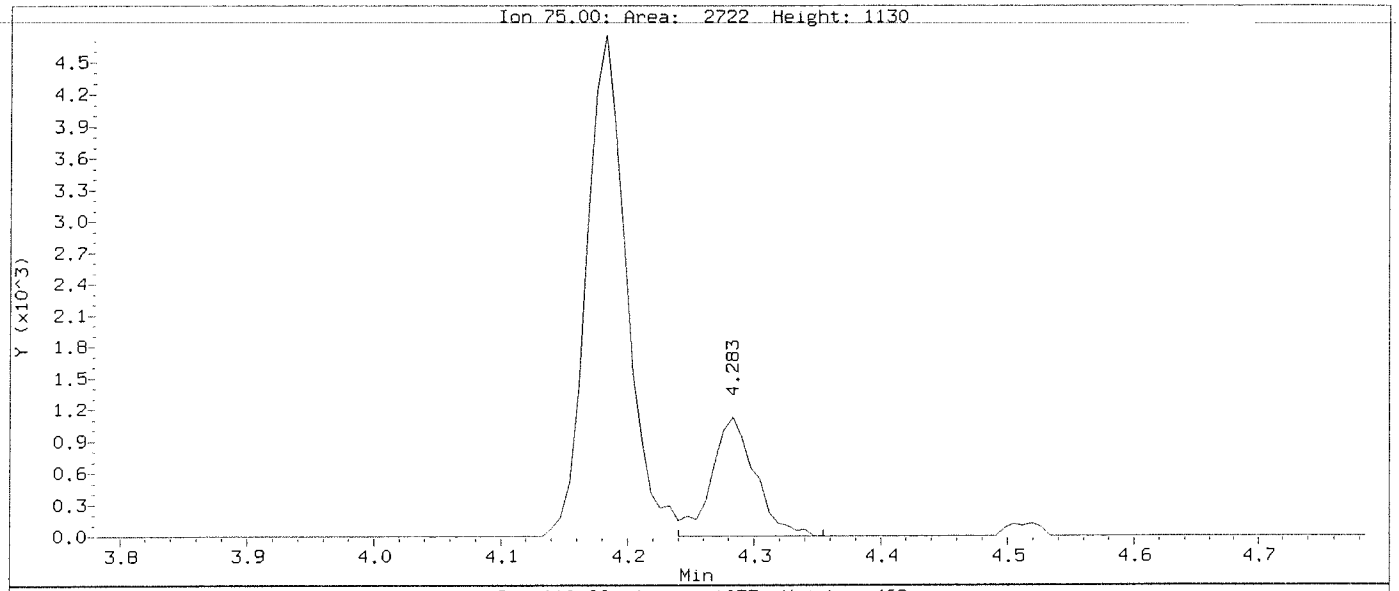
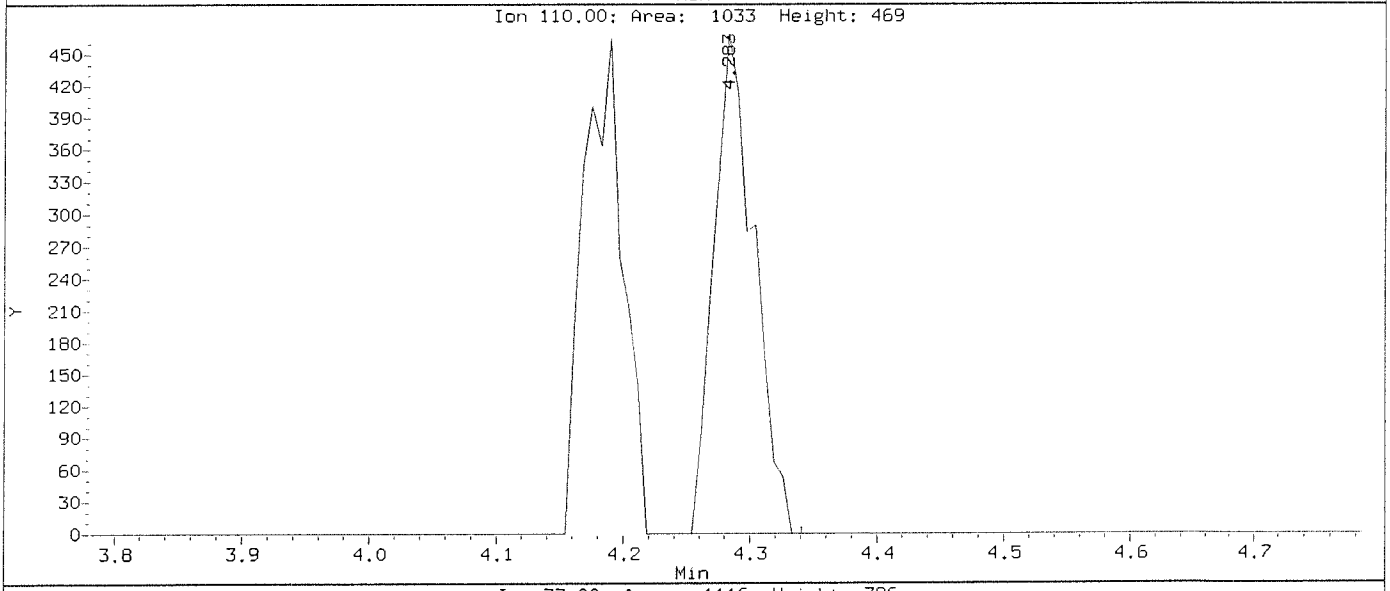
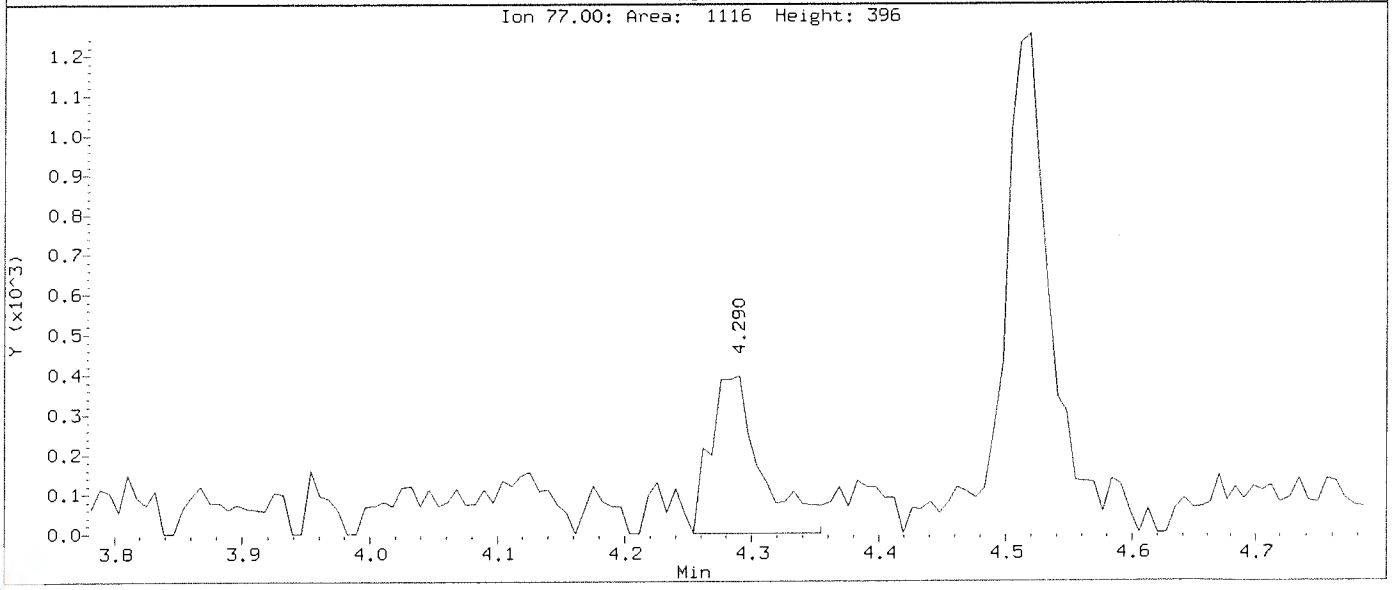
Client Sample ID: VSTD001

Compound: 1,1-Dichloropropene
CAS Number: 563-58-6







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Instrument: voa6.i
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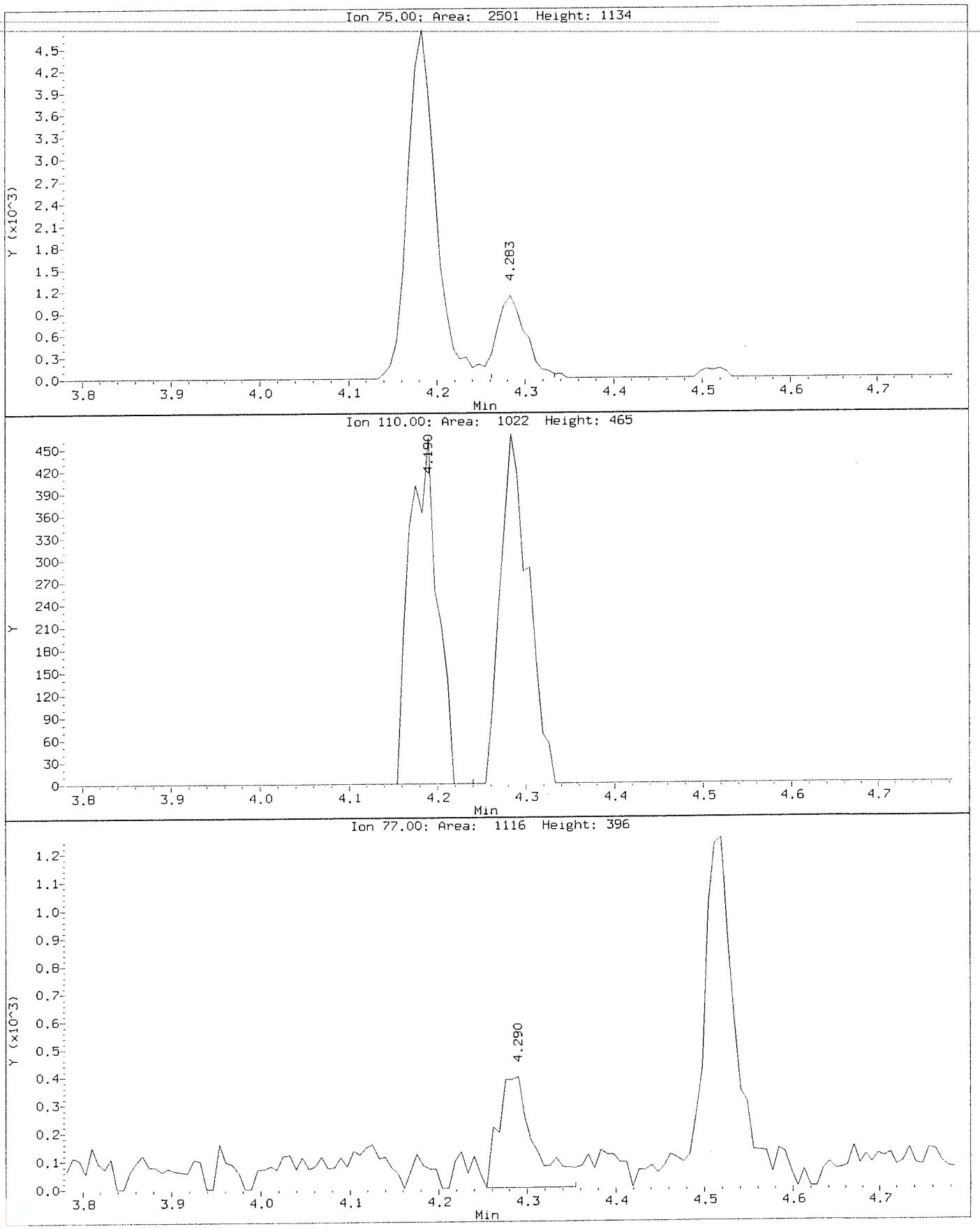
Compound: 1,1-Dichloropropene
CAS Number: 563-58-6



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Injection Date: 31-OCT-2019 12:20
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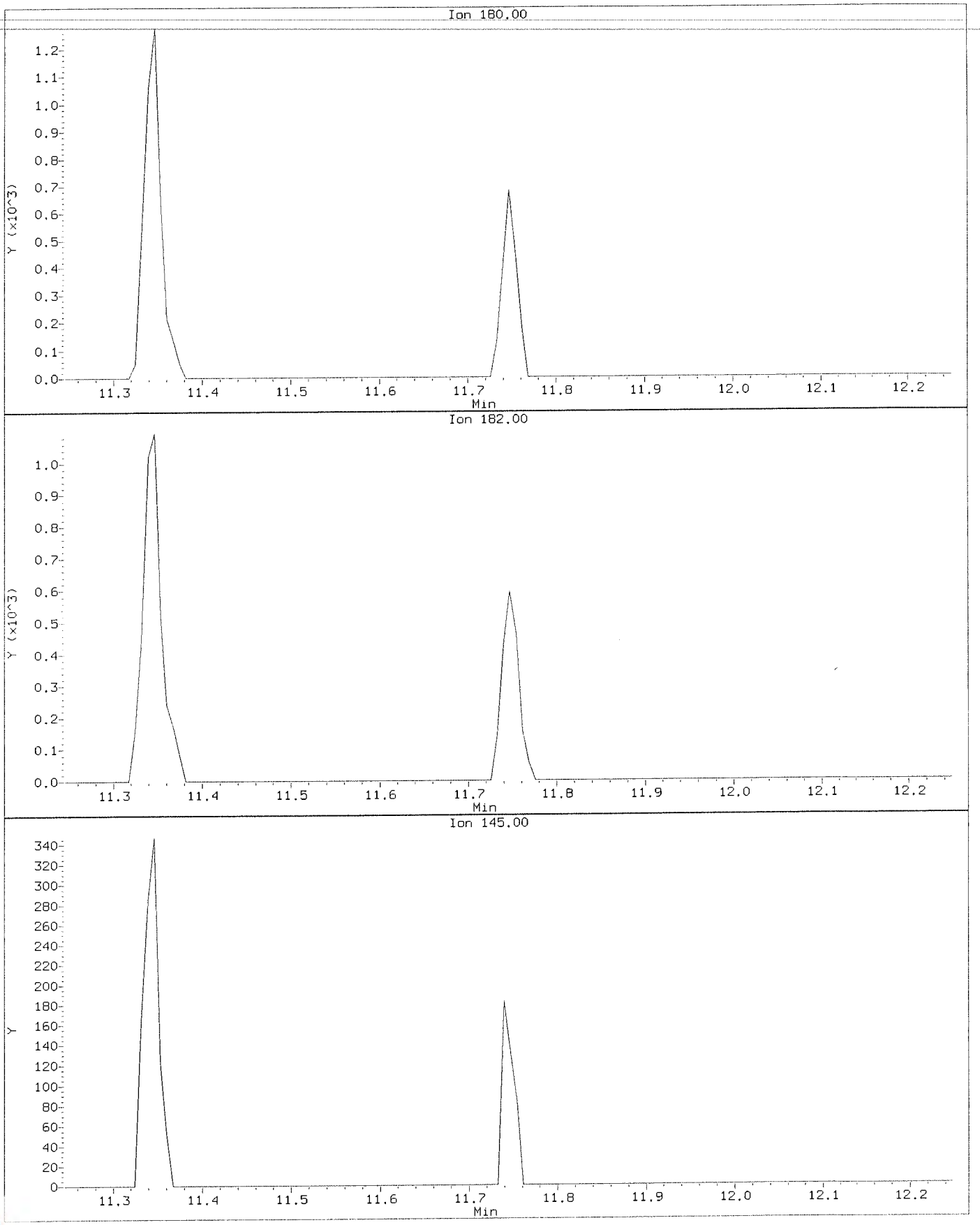
Client Sample ID: VSTD001

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



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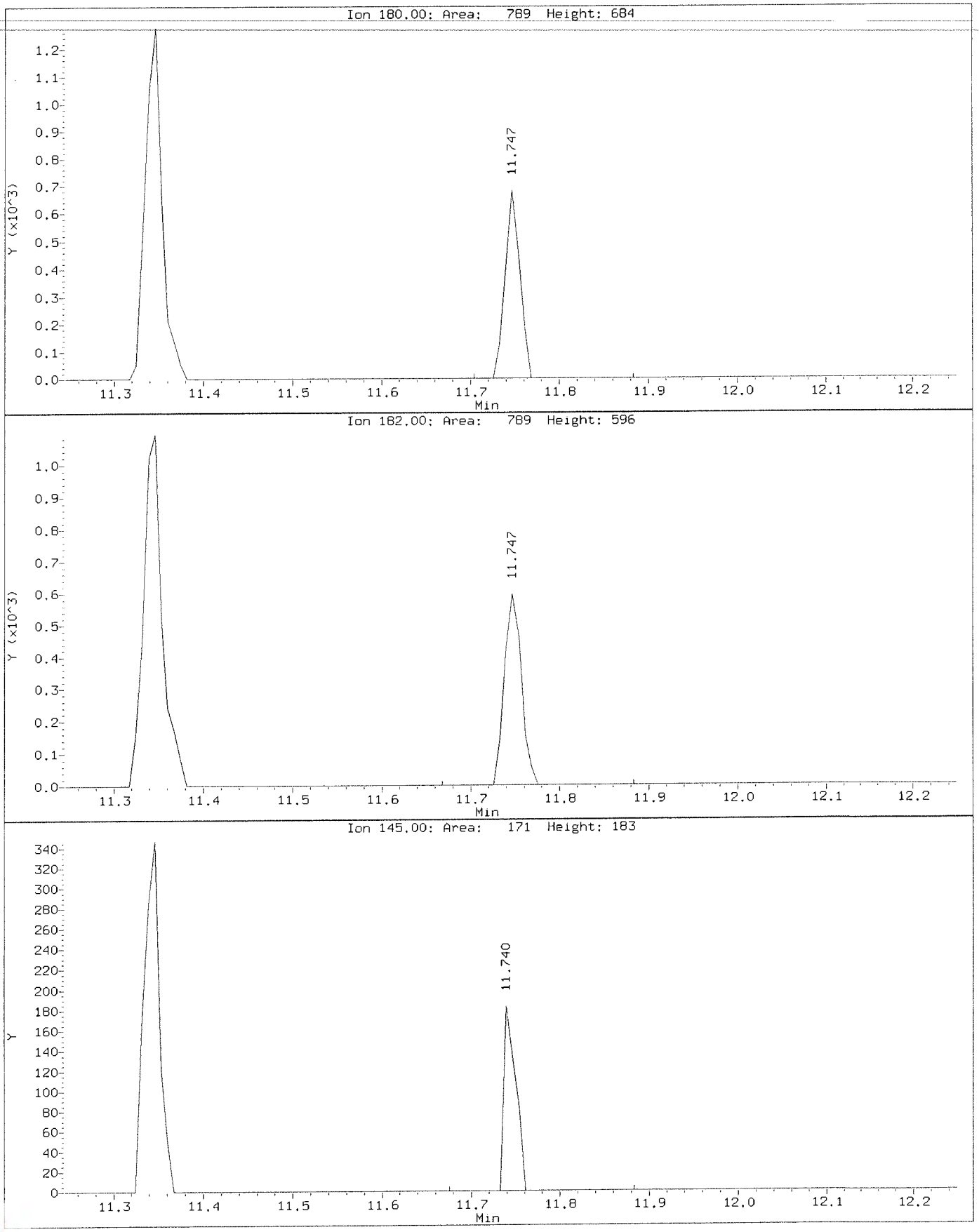
Compound: 1,2,3-Trichlorobenzene
CAS Number: 87-61-6



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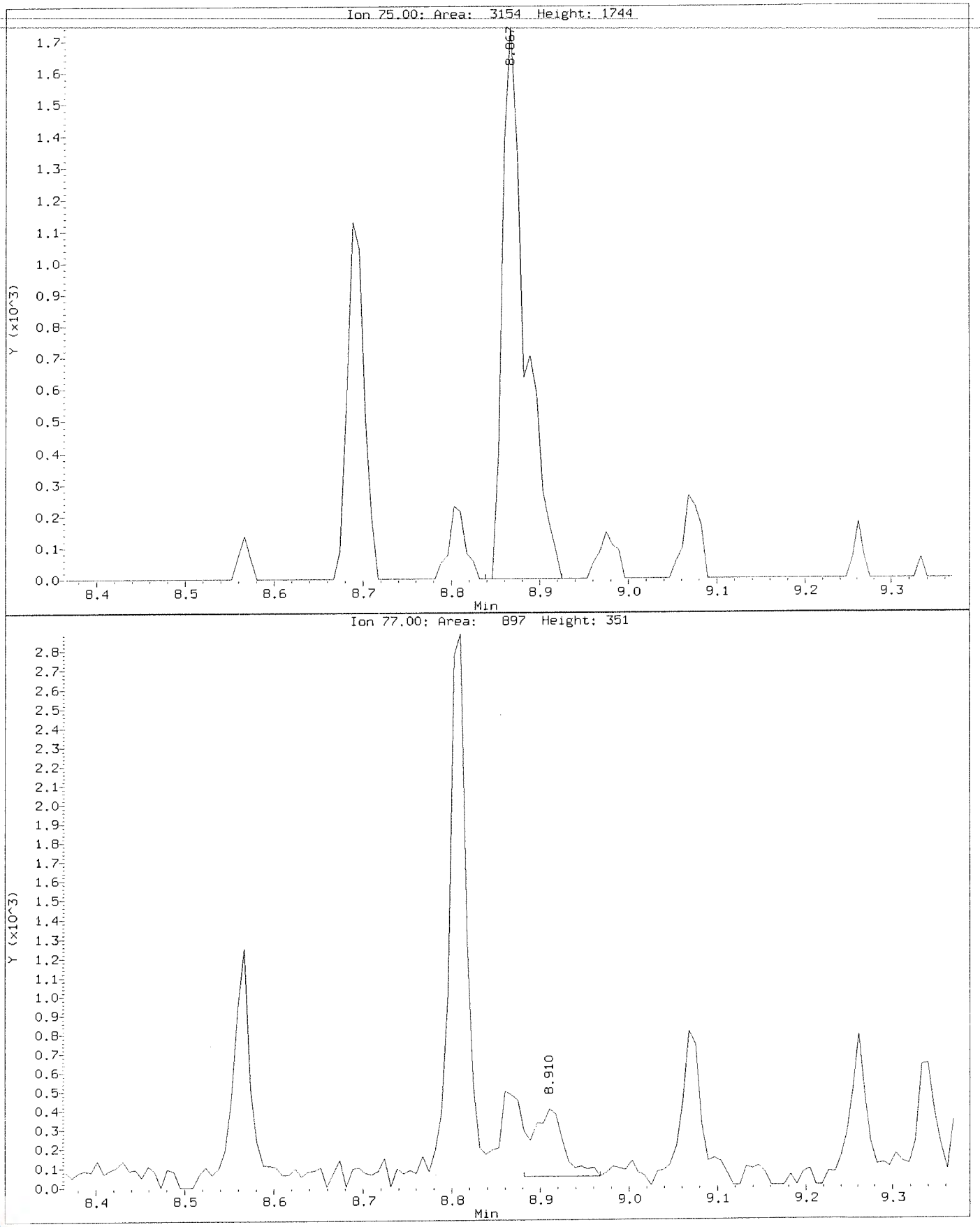
Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4



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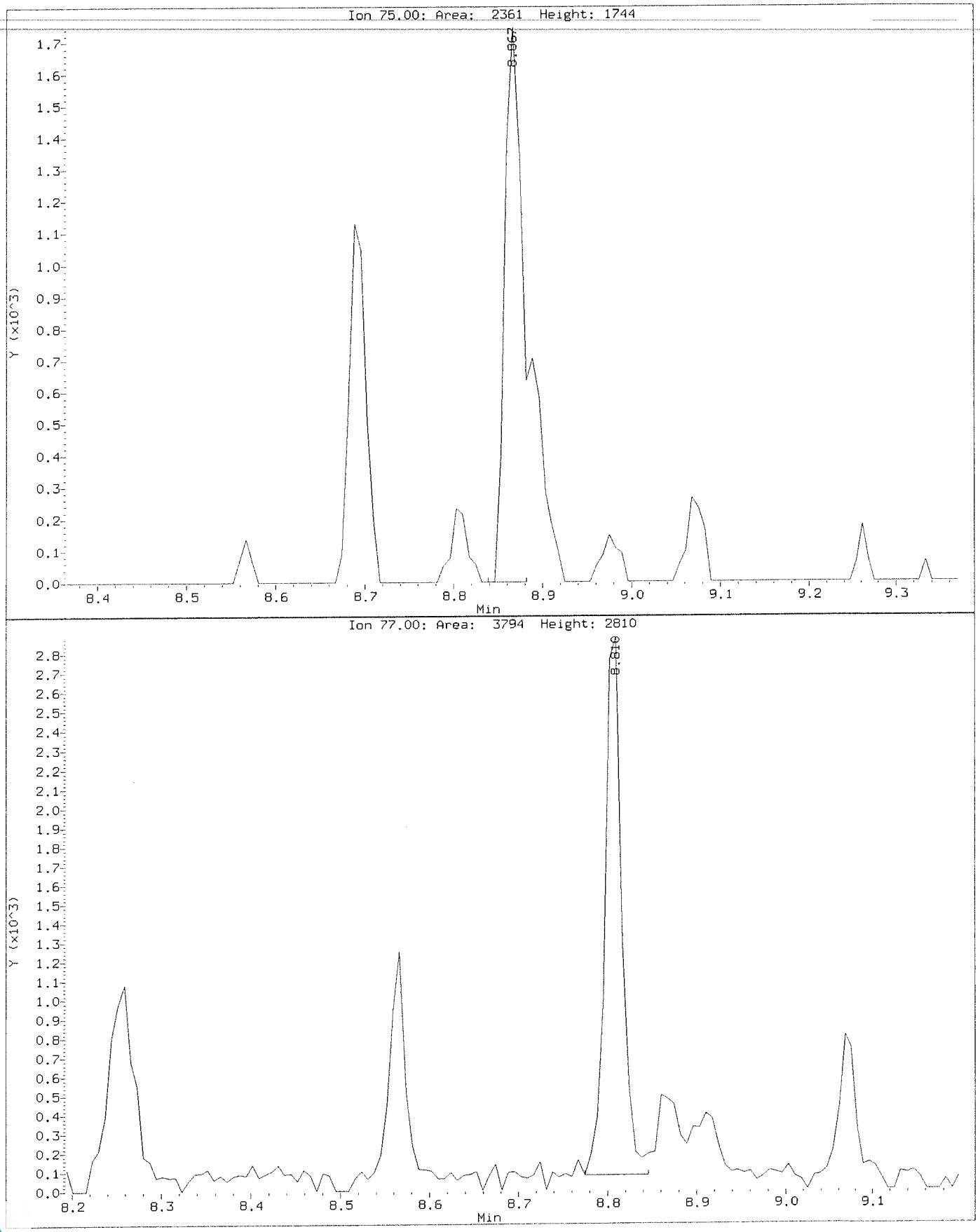
Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4



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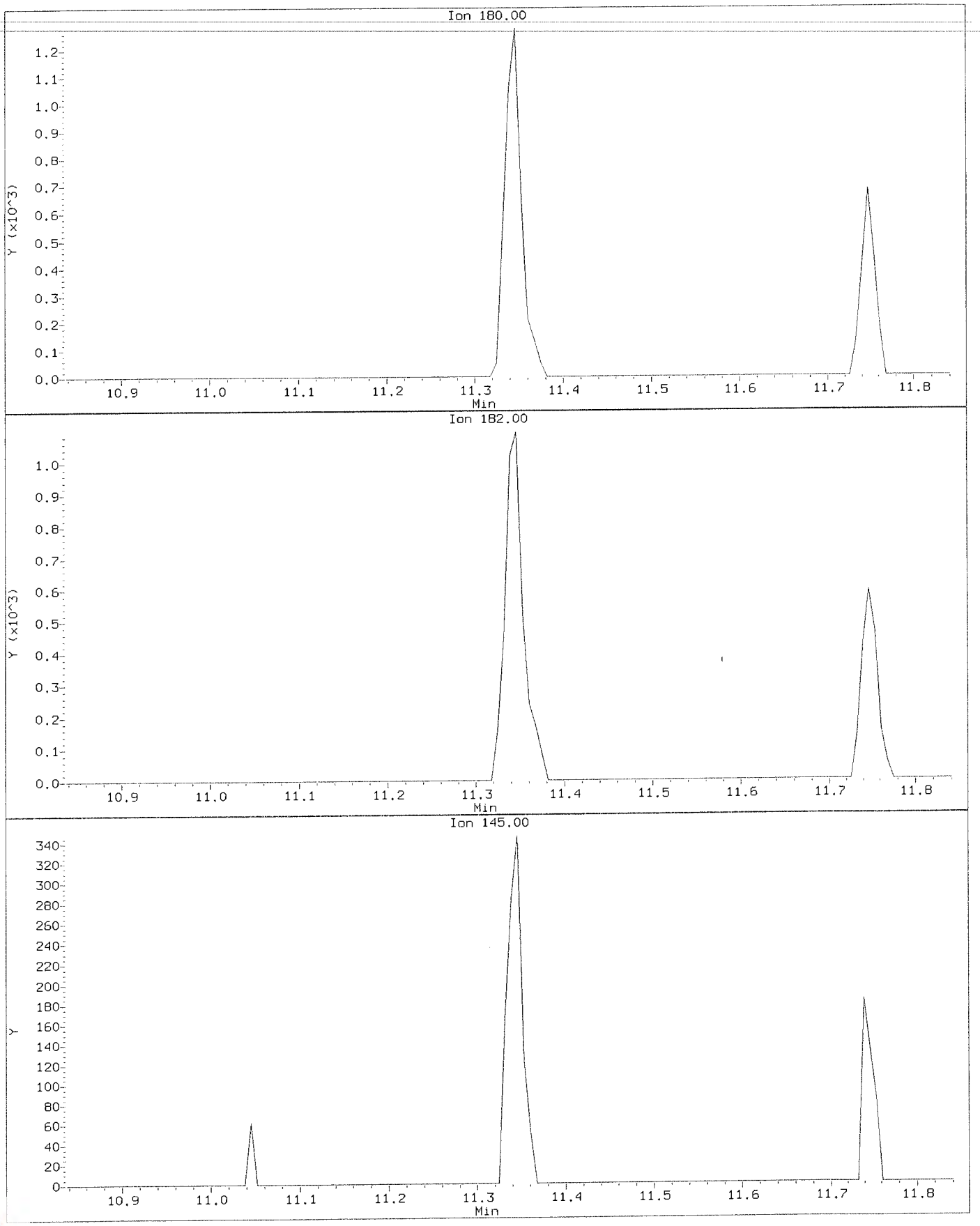
Injection Date: 31-OCT-2019 12:20
Instrument: voa6.i
Client Sample ID: VSTD001

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



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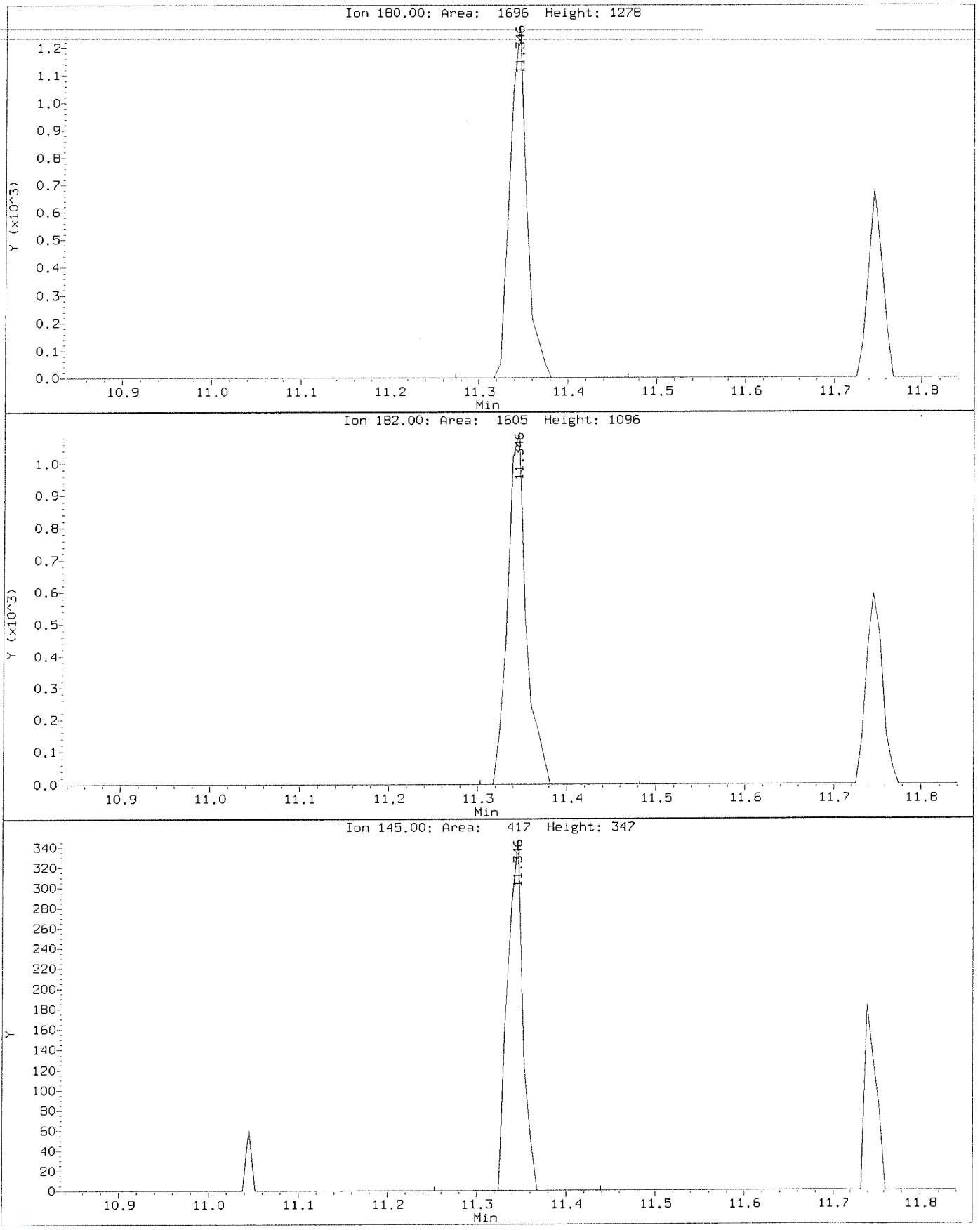
Client Sample ID: VSTD001

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



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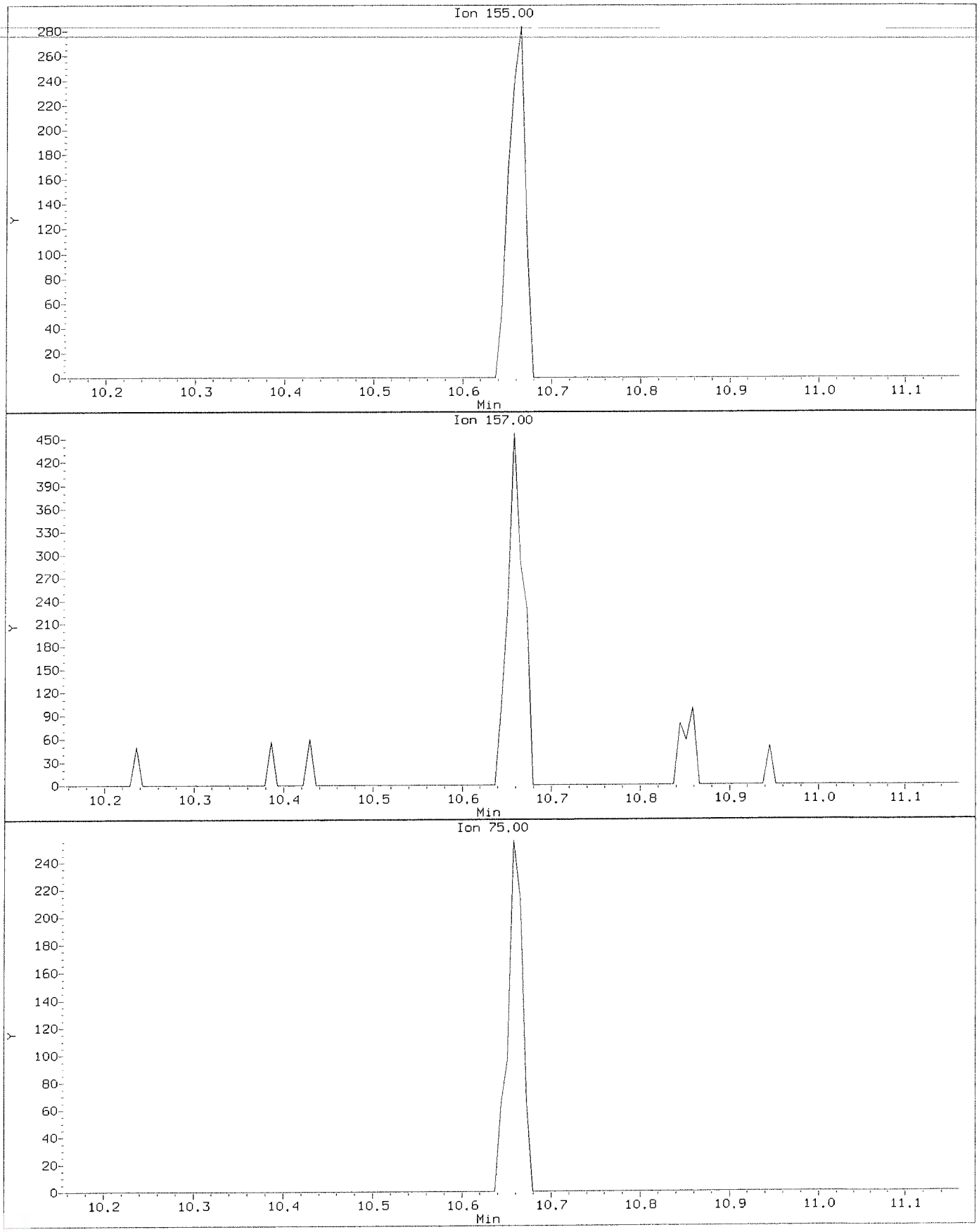
Client Sample ID: VSTD001

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



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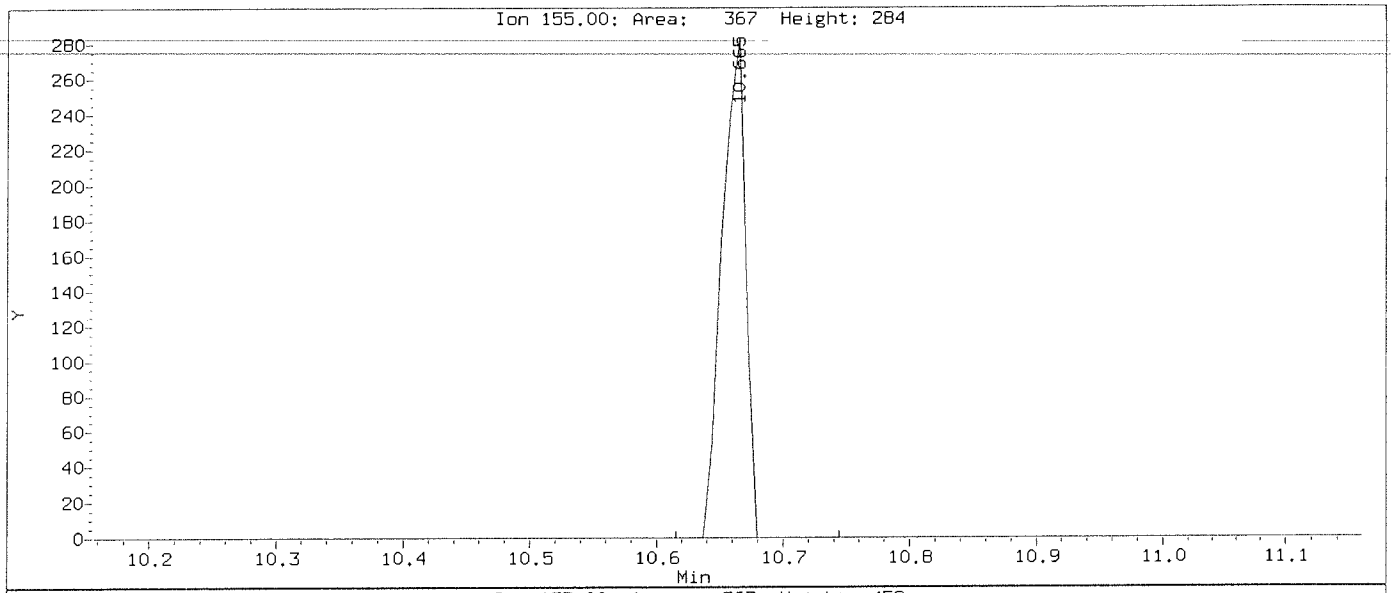
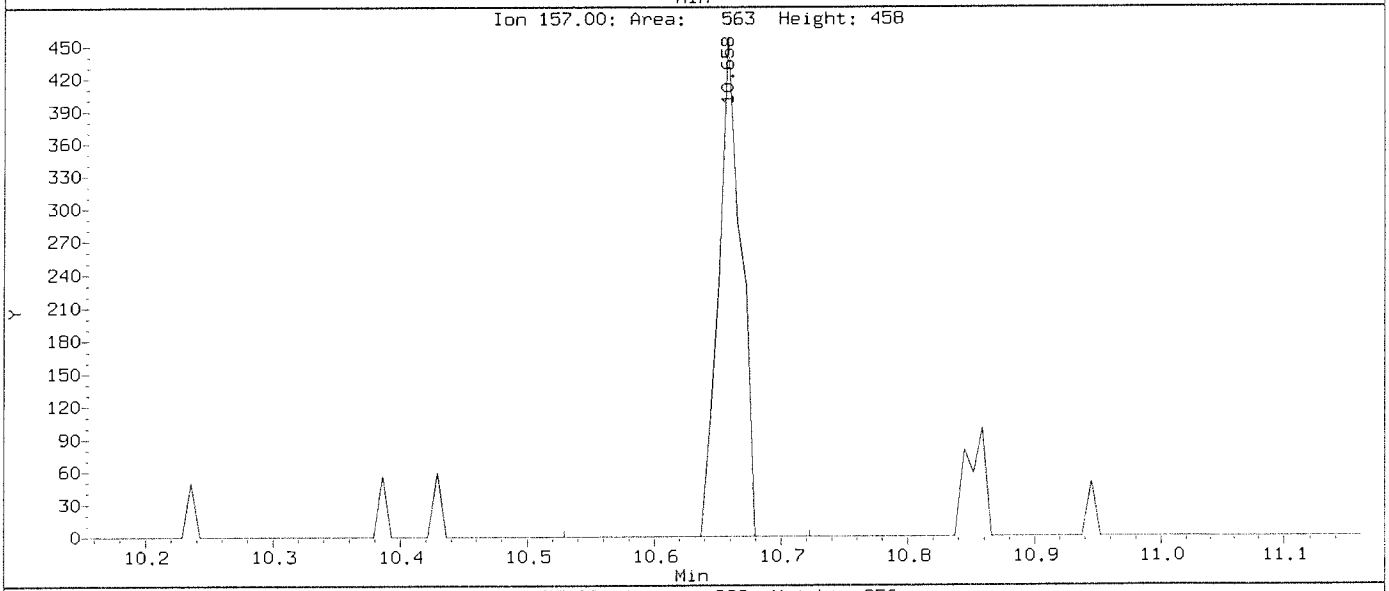
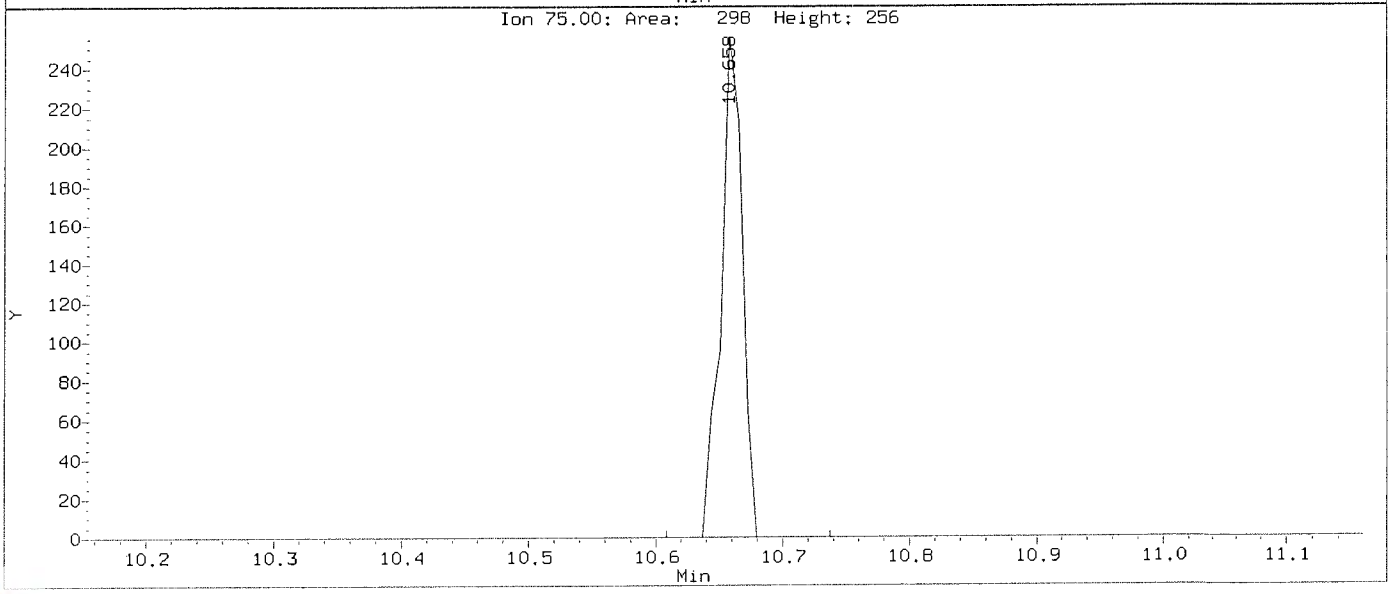
Compound: 1,2-Dibromo-3-Chloropropane
CAS Number: 96-12-8







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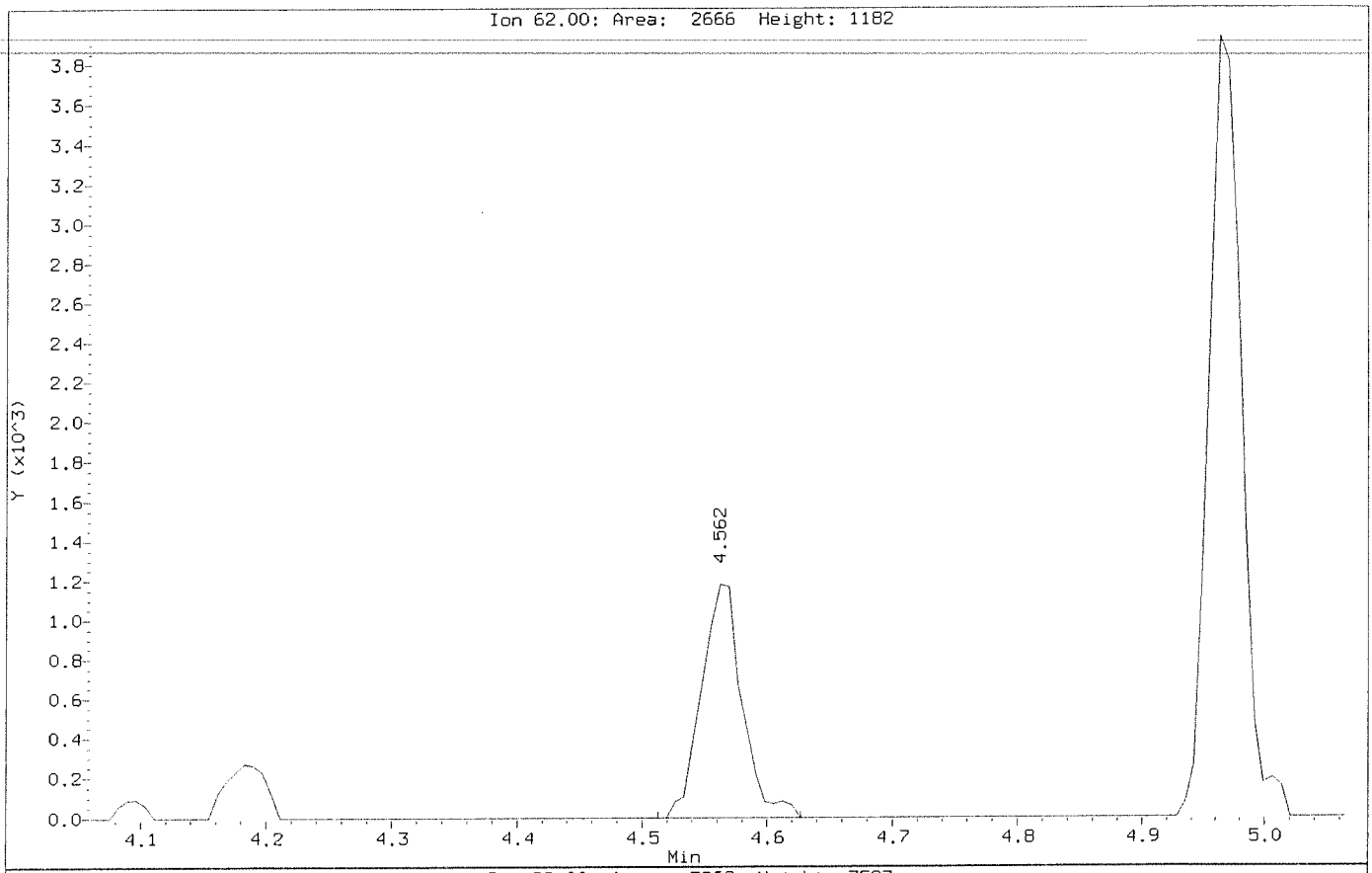
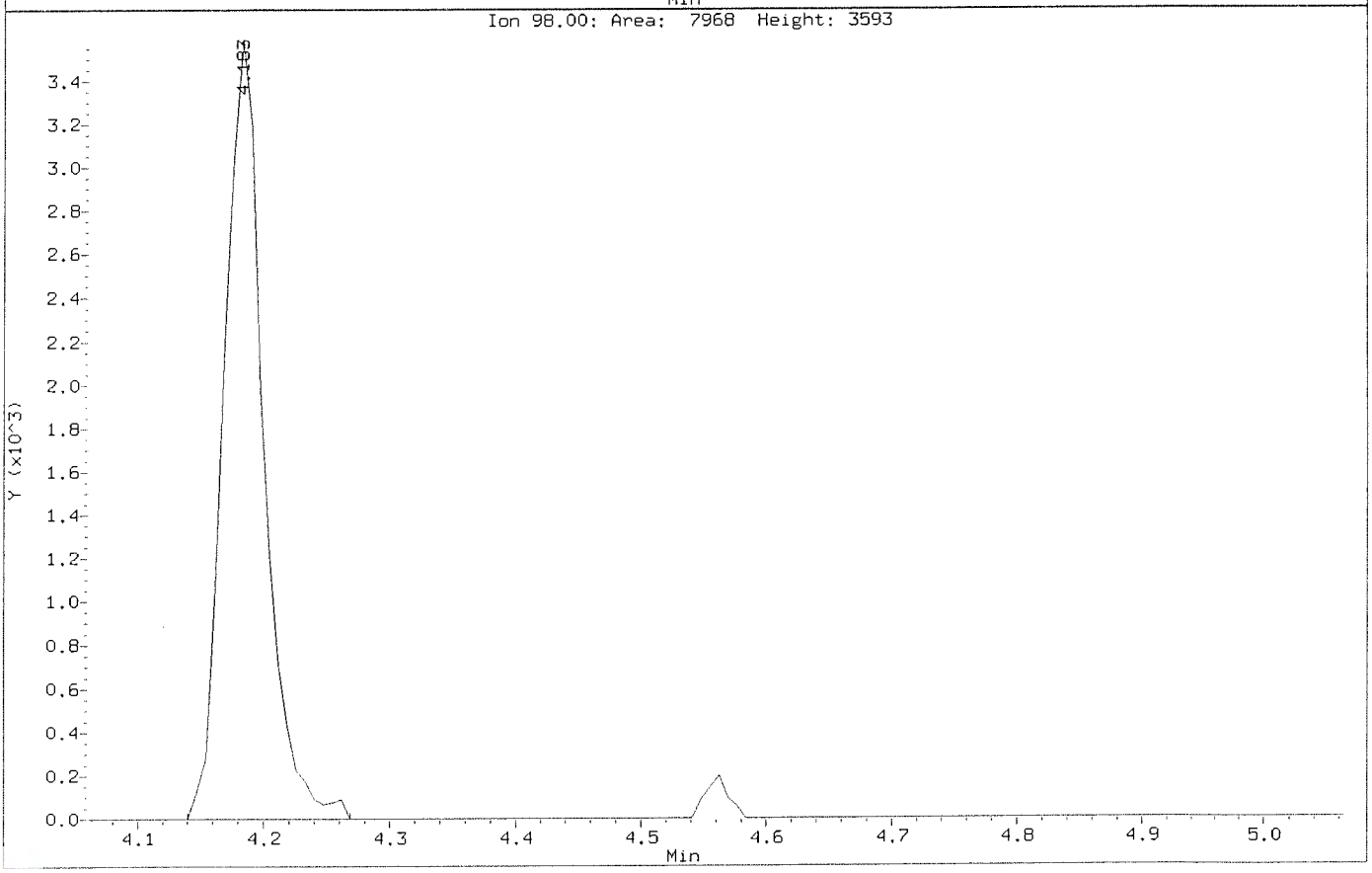
Injection Date: 31-OCT-2019 12:20
Instrument: voa6.i
Client Sample ID: VSTD001

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





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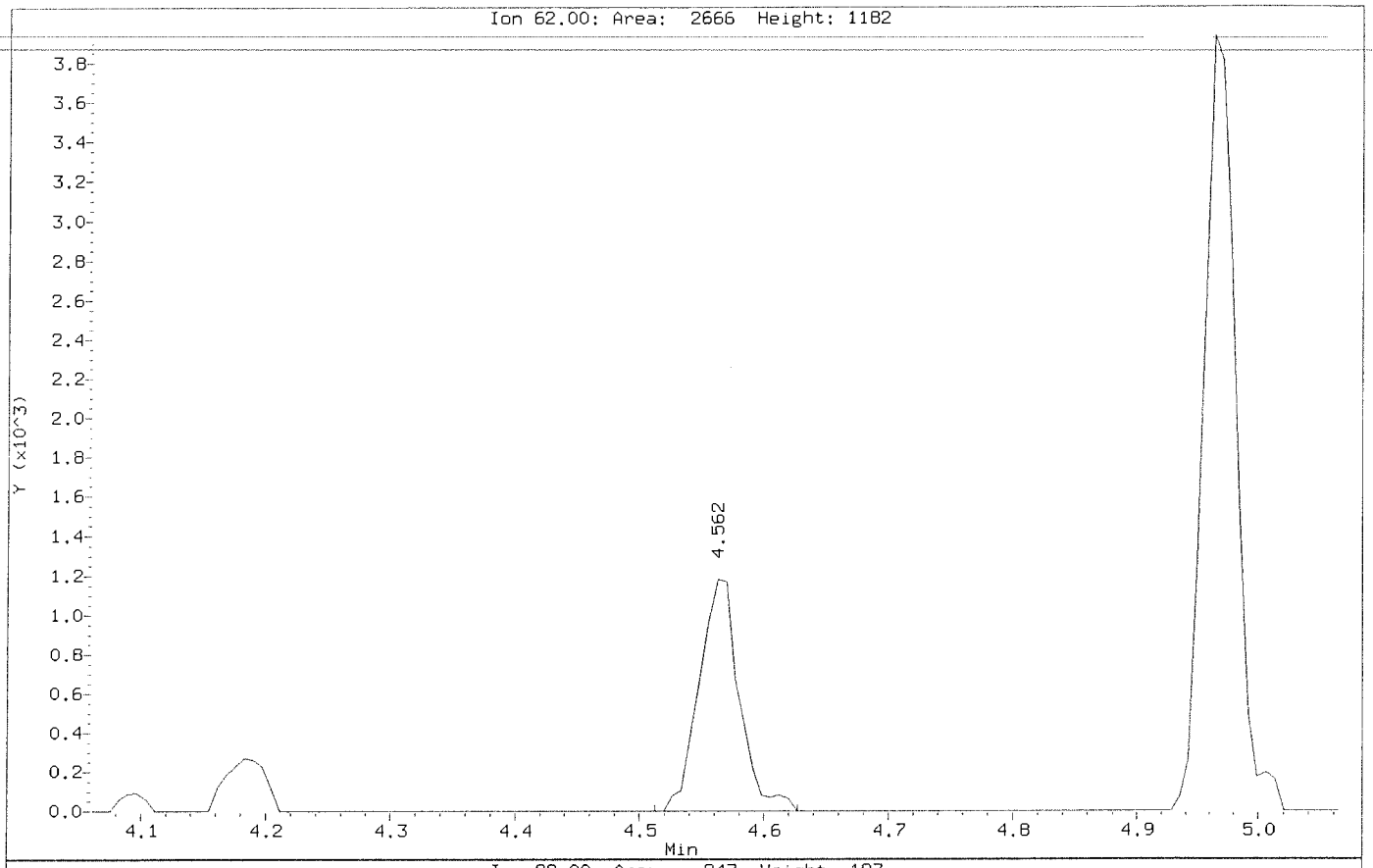
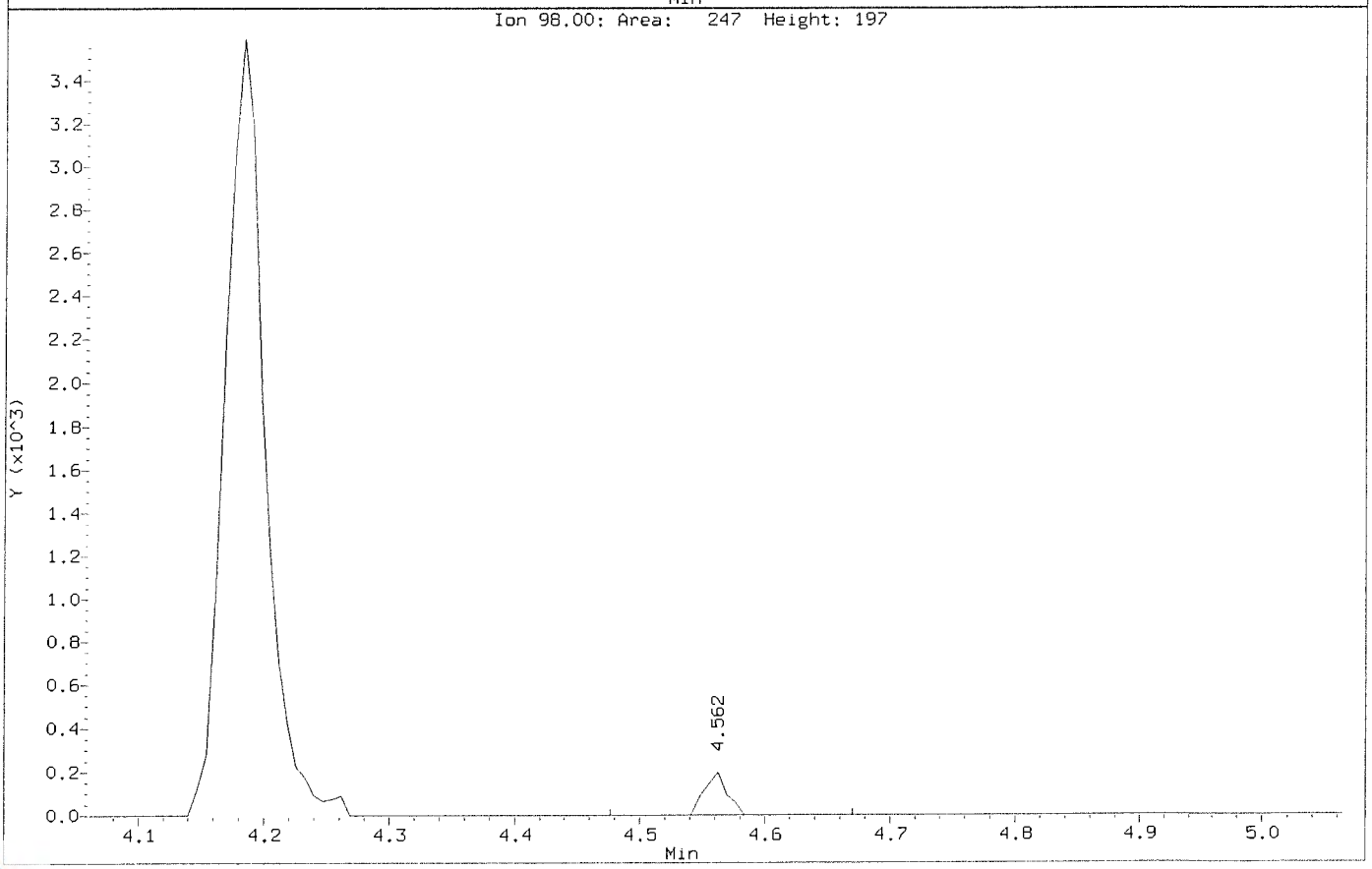
Client Sample ID: VSTD001

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





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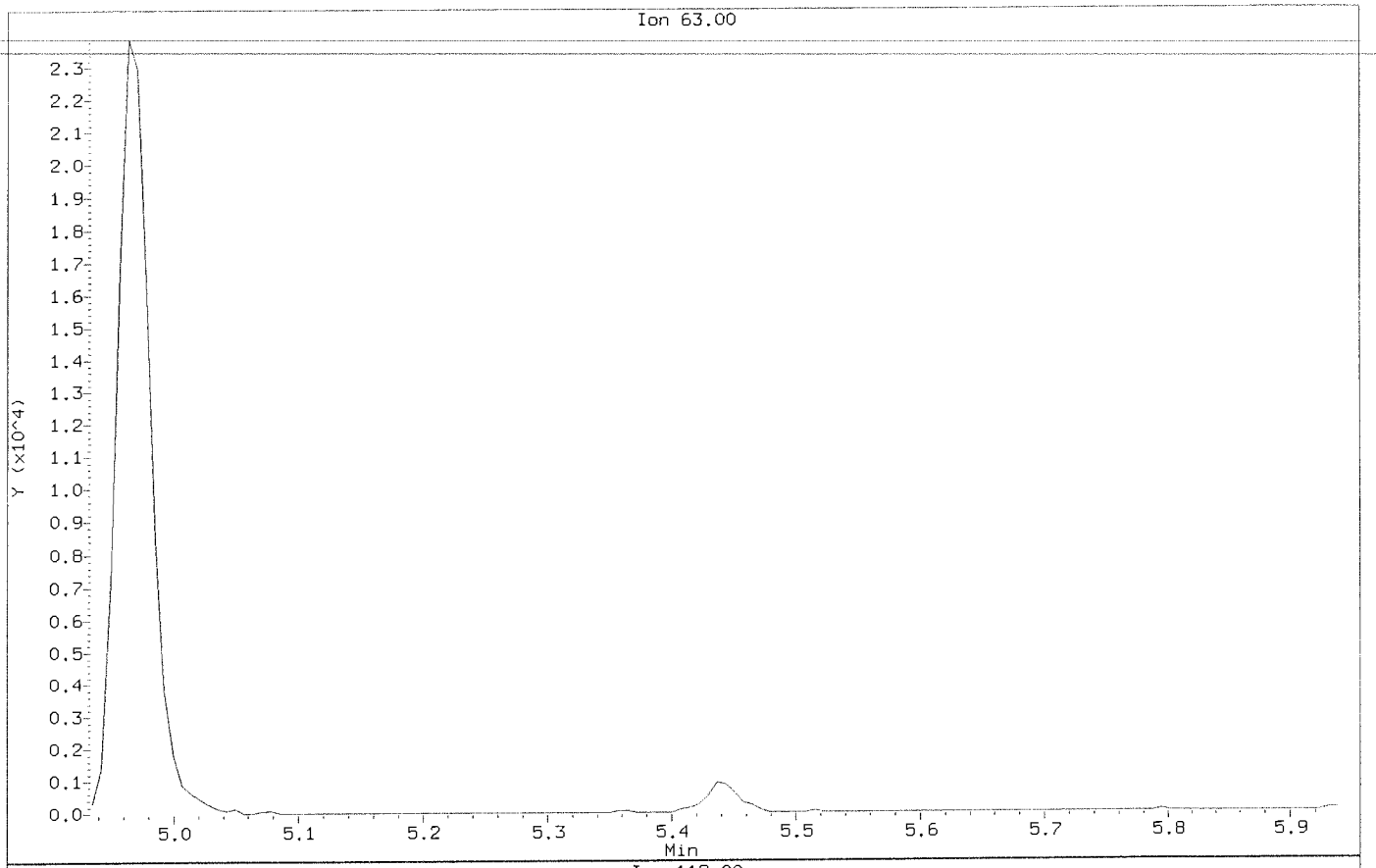
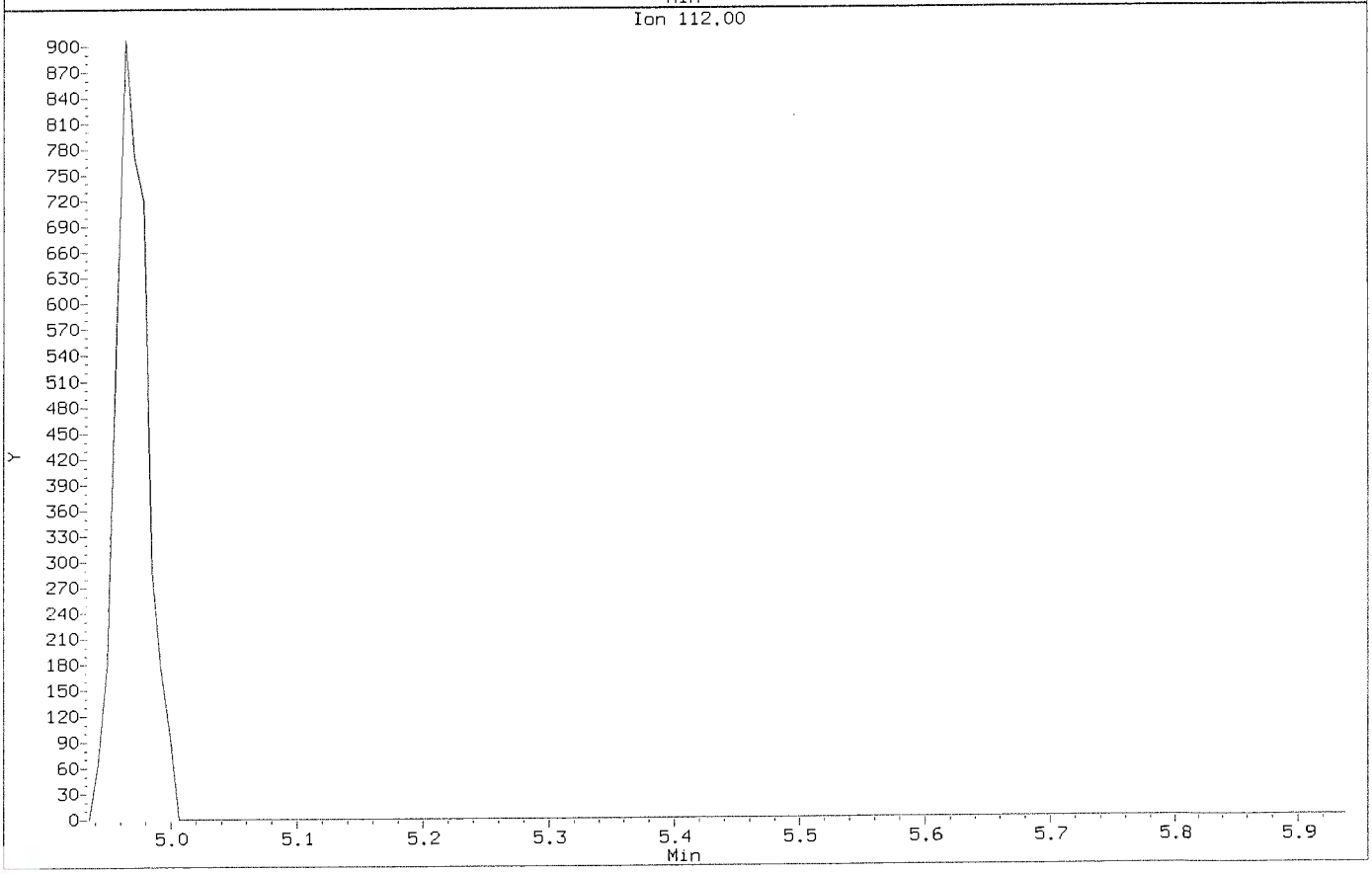
Injection Date: 31-OCT-2019 12:20
Instrument: voa6.i
Client Sample ID: VSTD001

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





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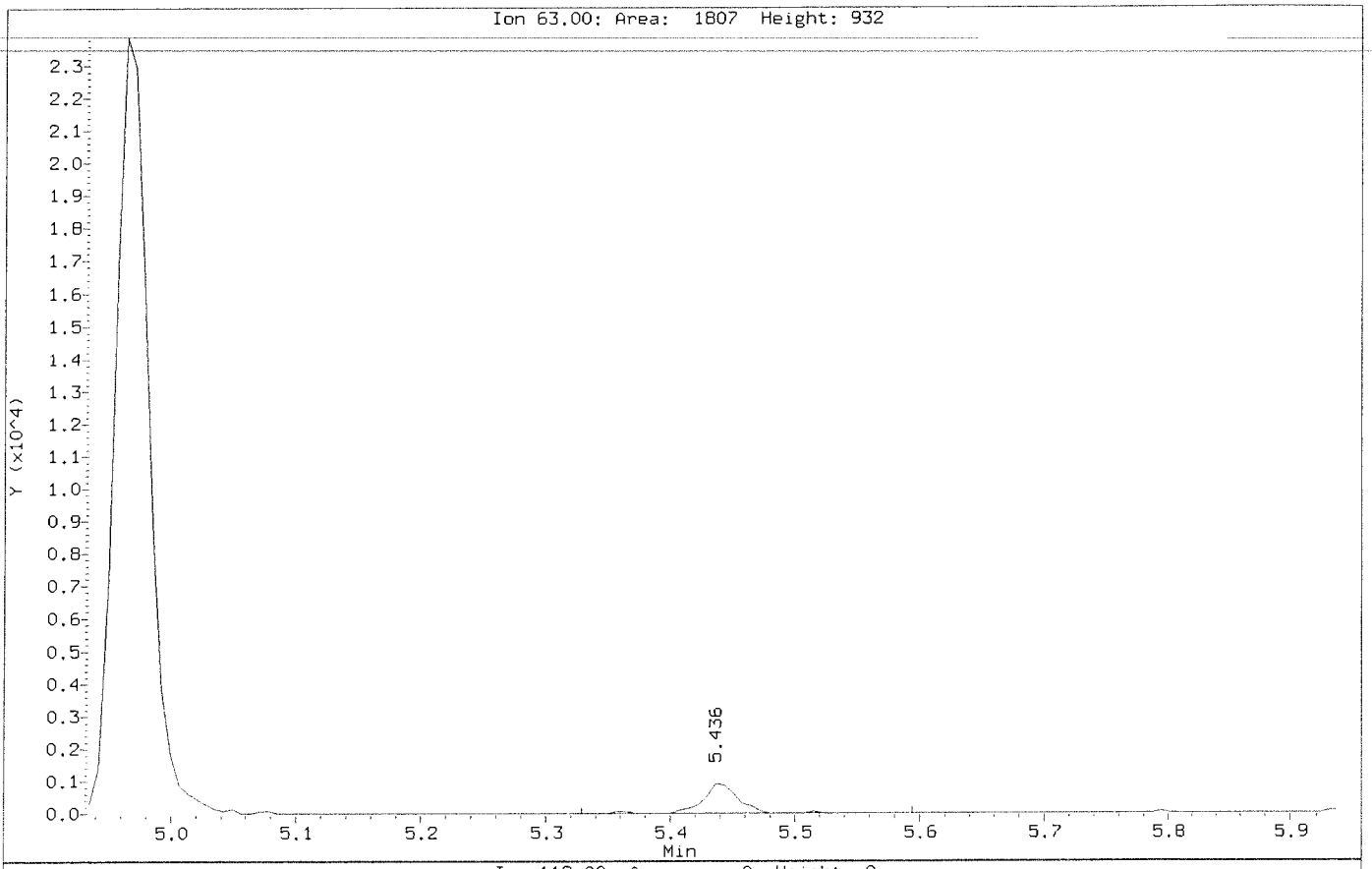
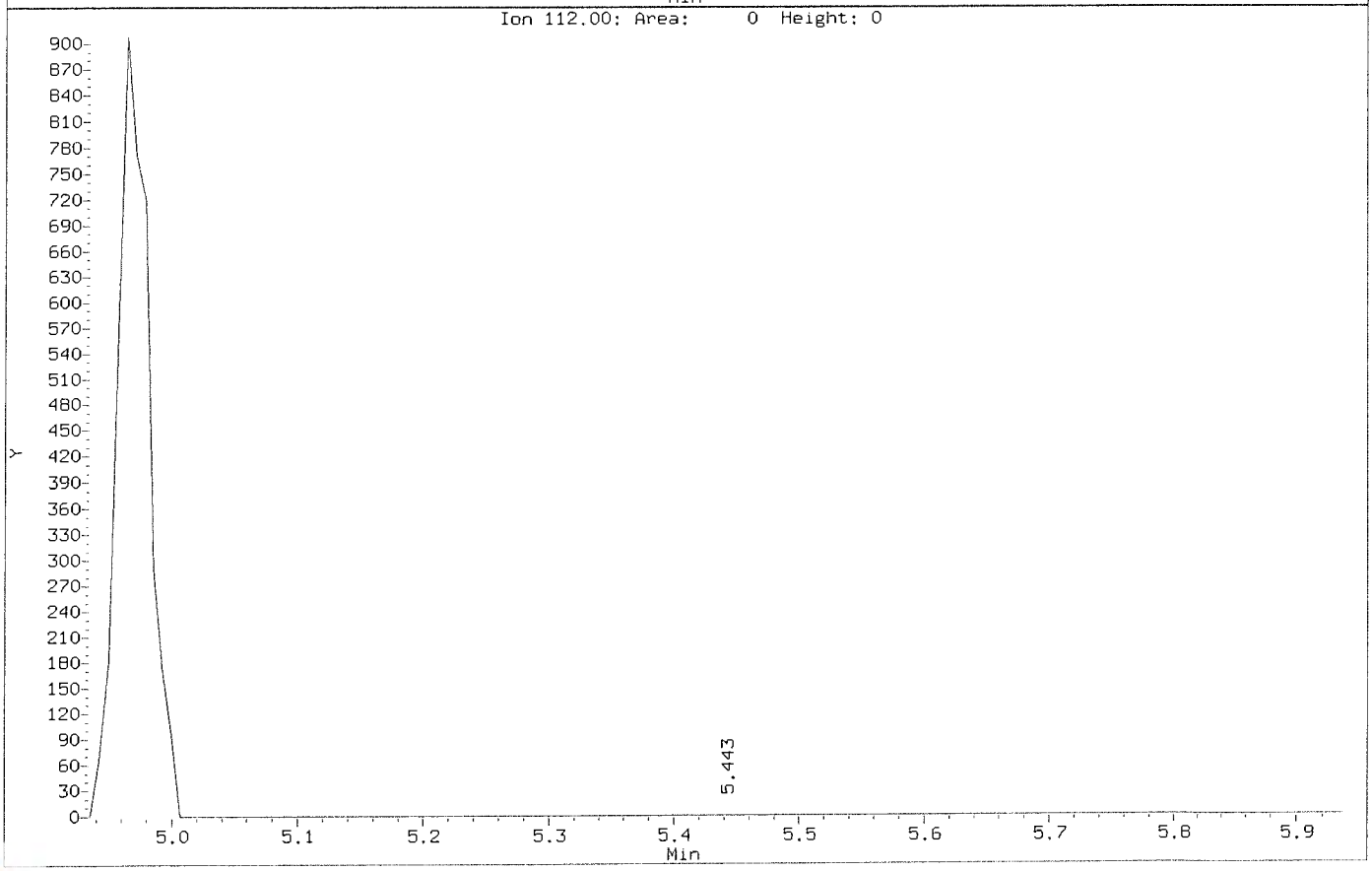
Injection Date: 31-OCT-2019 12:20
Instrument: voa6.i
Client Sample ID: VSTD001

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





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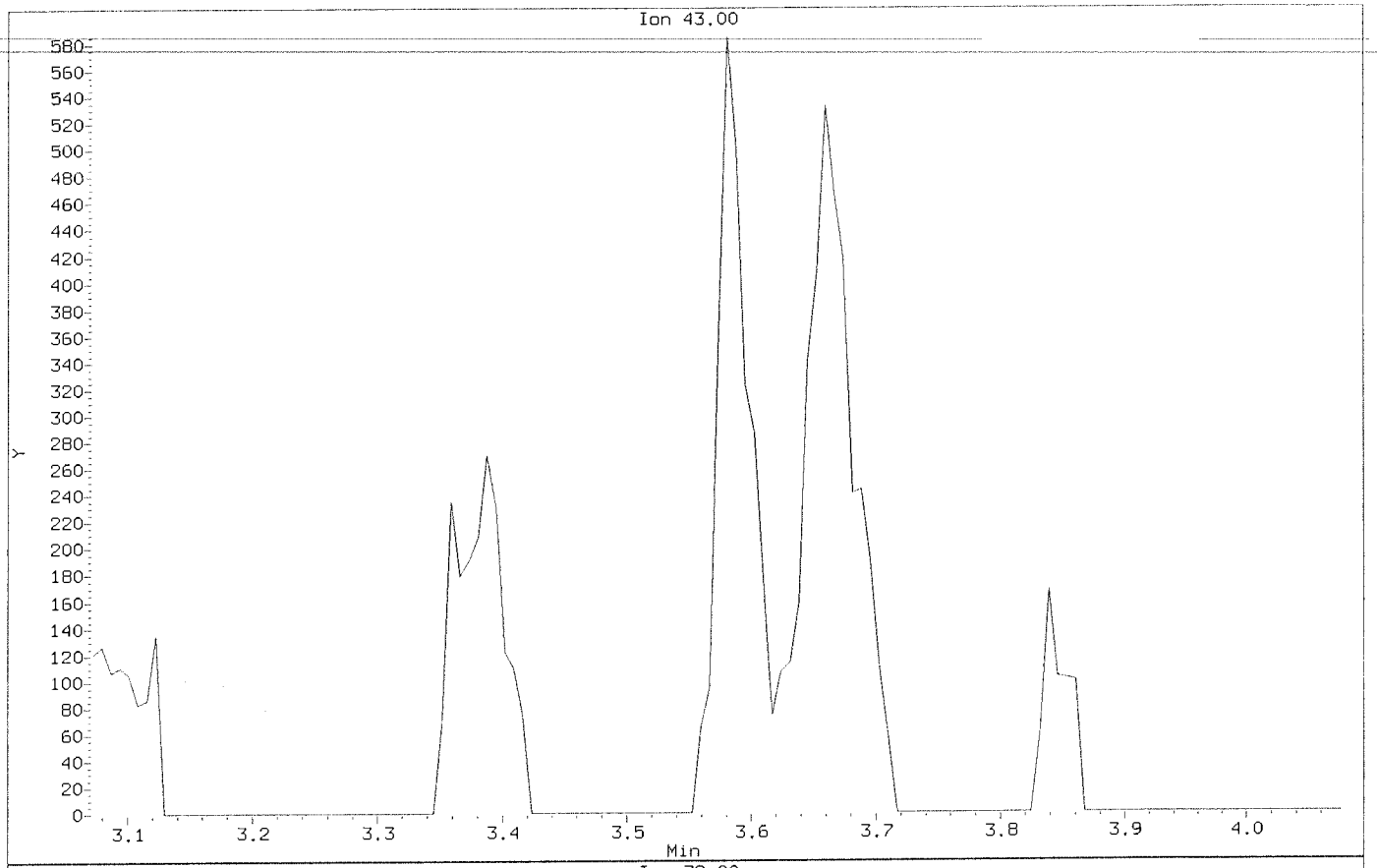
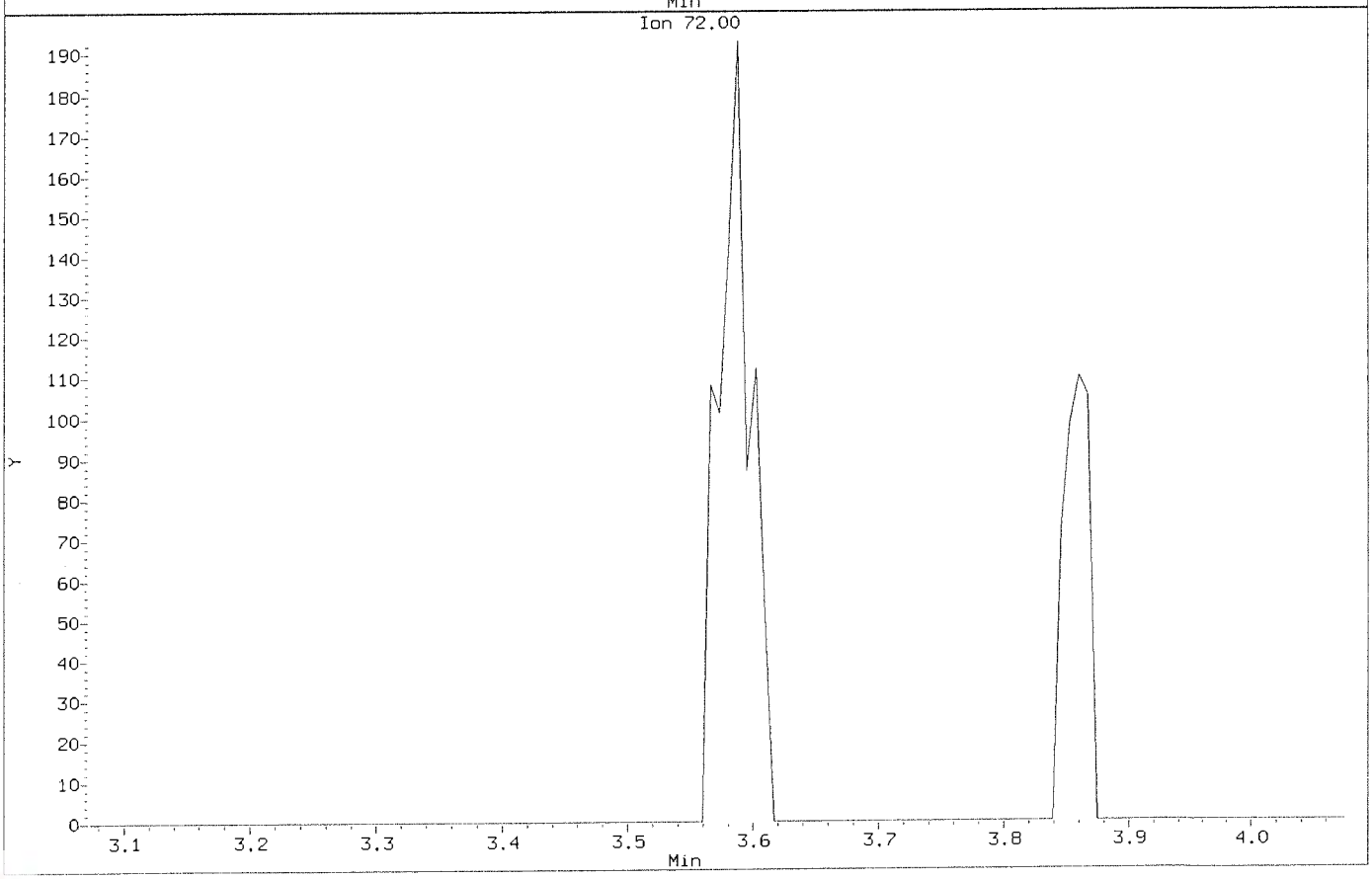
Injection Date: 31-OCT-2019 12:20
Instrument: voa6.i
Client Sample ID: VSTD001

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





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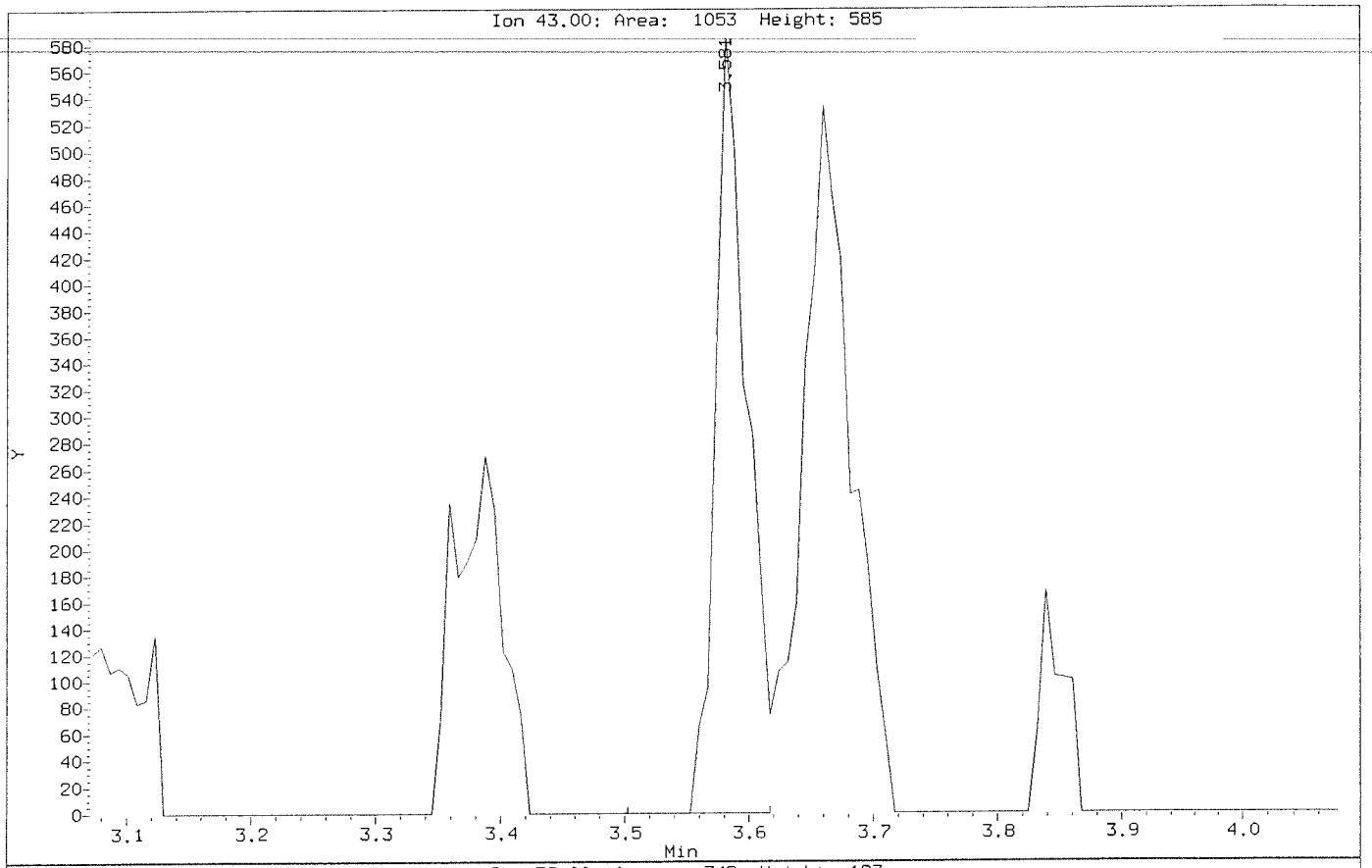
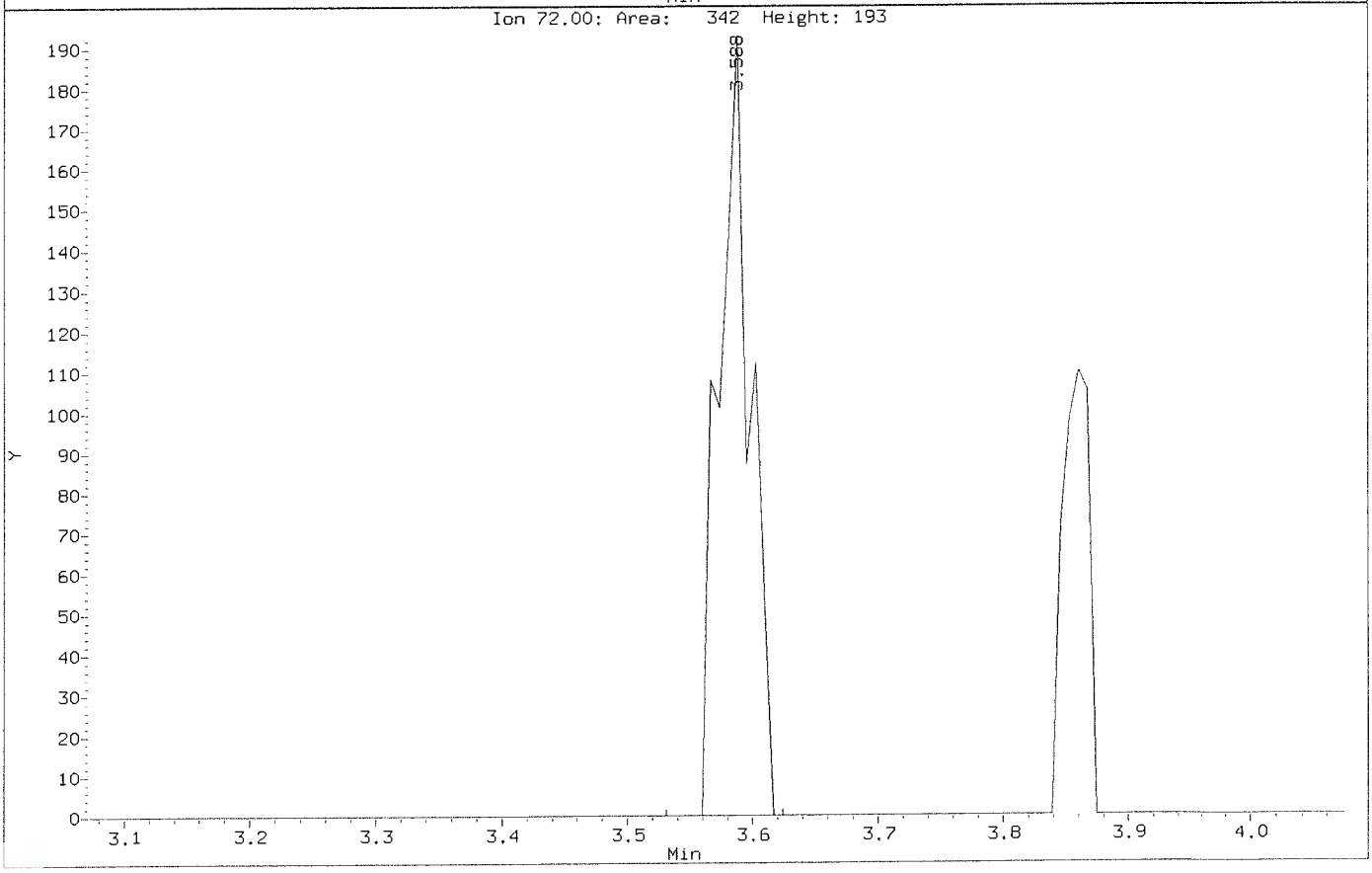
Instrument: voa6.i
Client Sample ID: VSTD001

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





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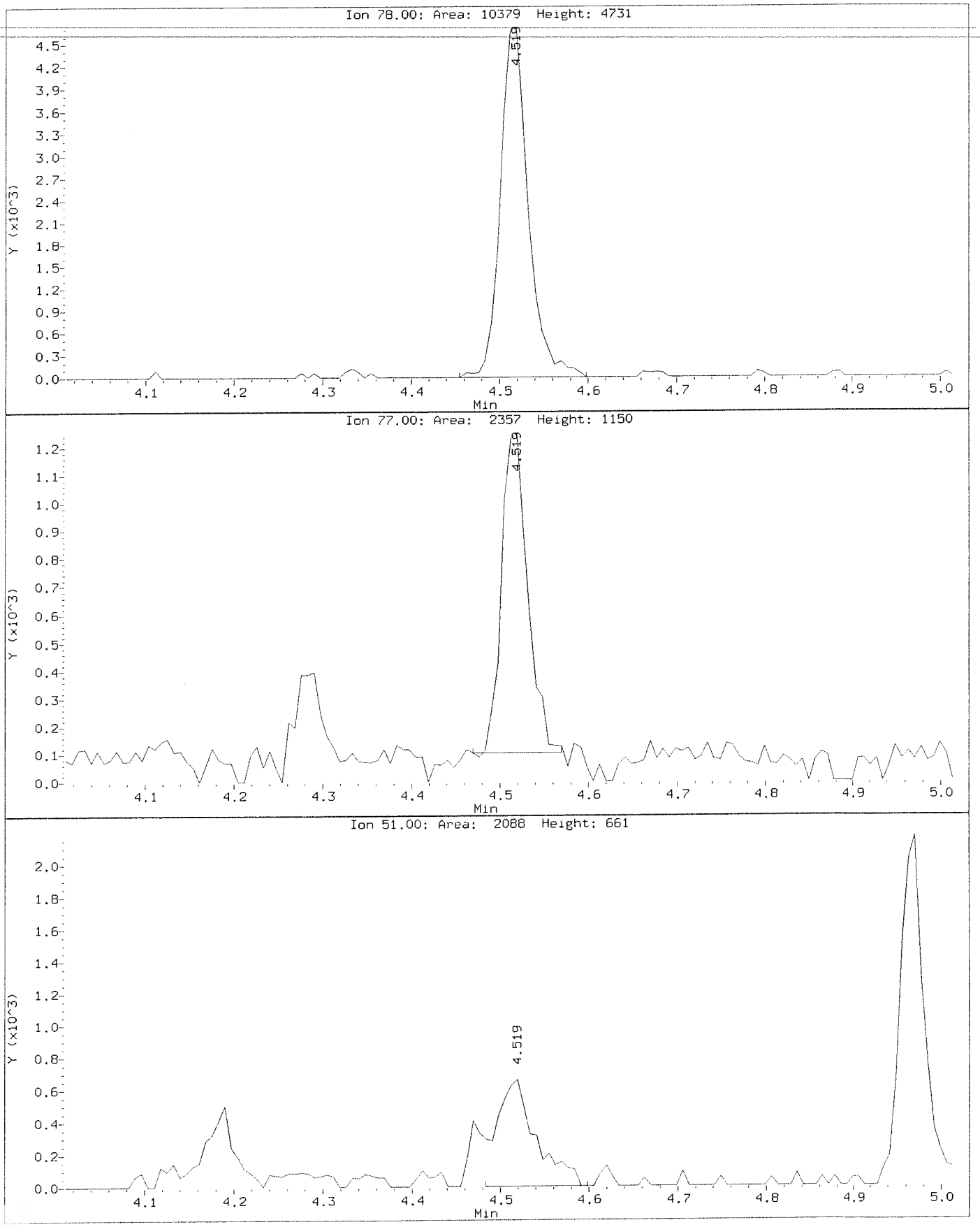
Injection Date: 31-OCT-2019 12:20
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: Benzene
CAS Number: 71-43-2



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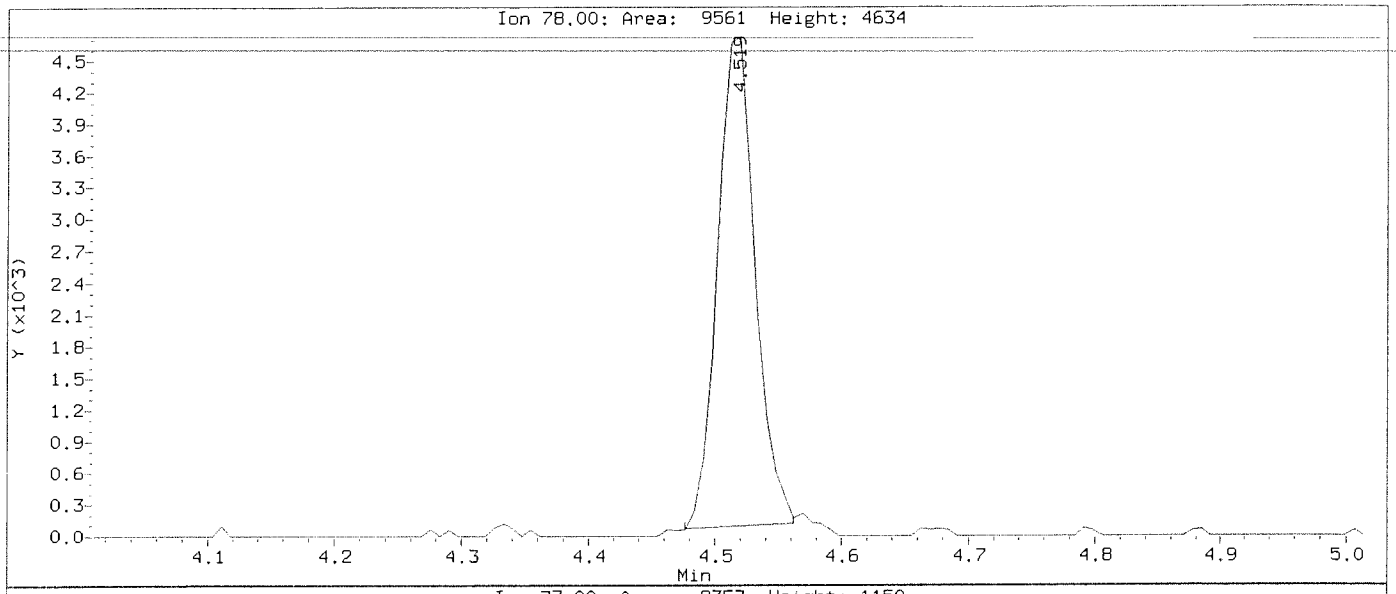
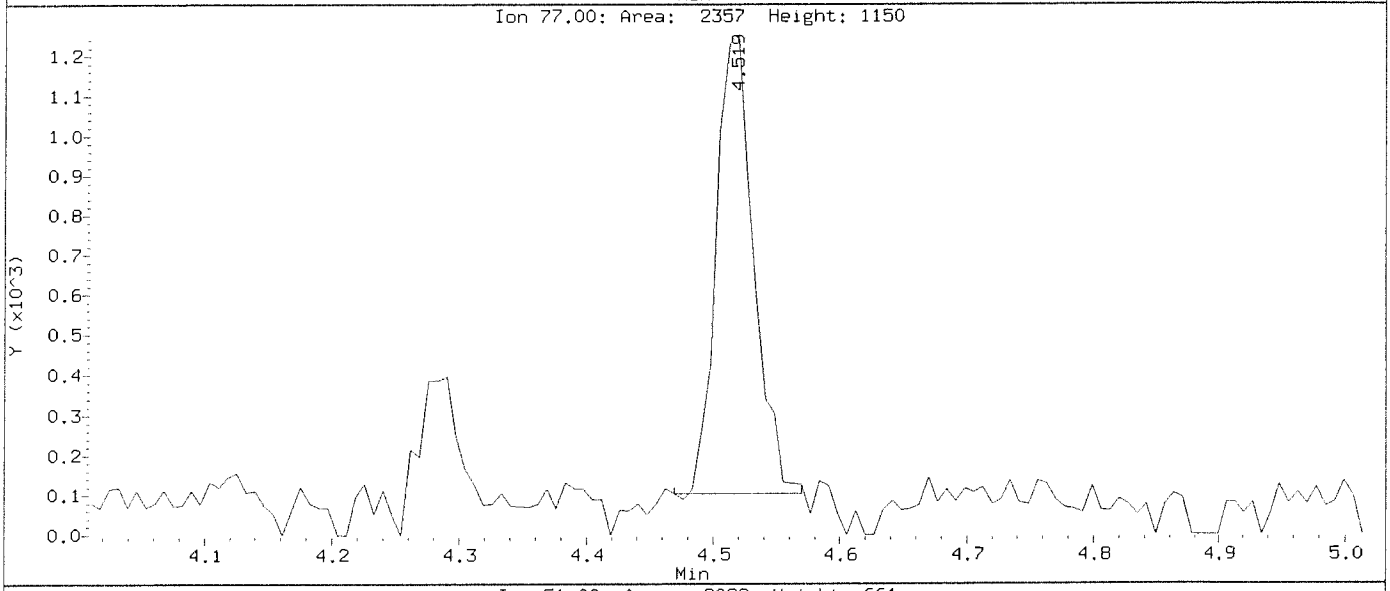
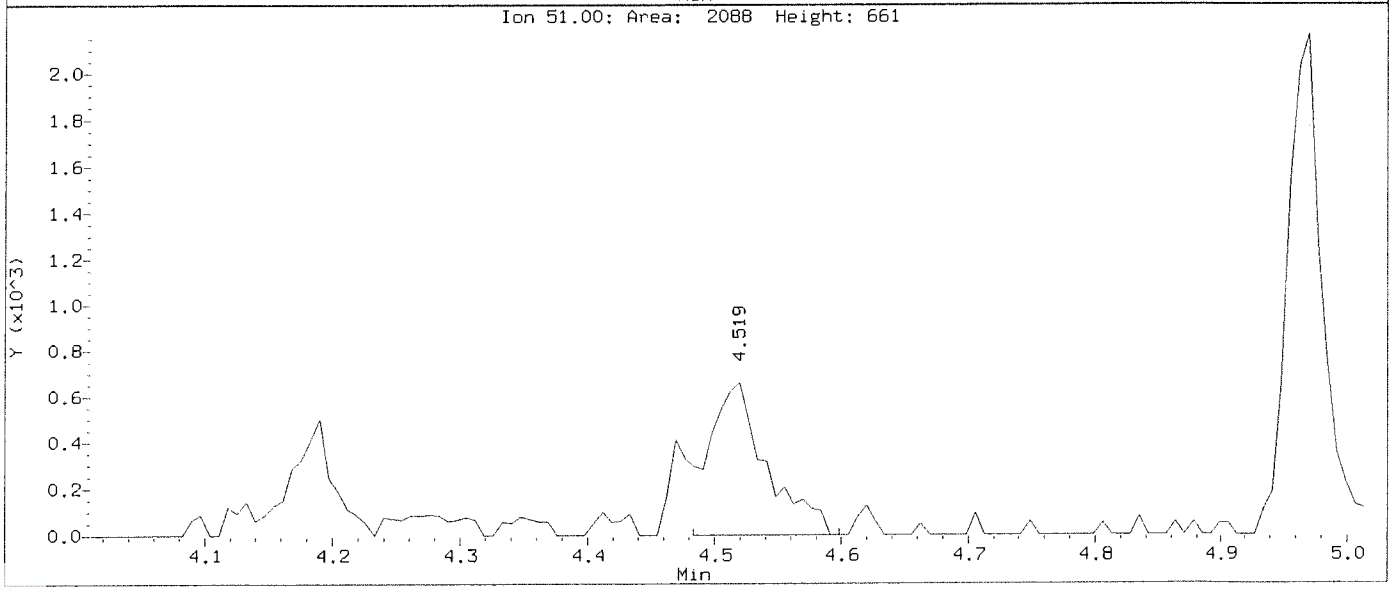
Injection Date: 31-OCT-2019 12:20
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: Benzene
CAS Number: 71-43-2







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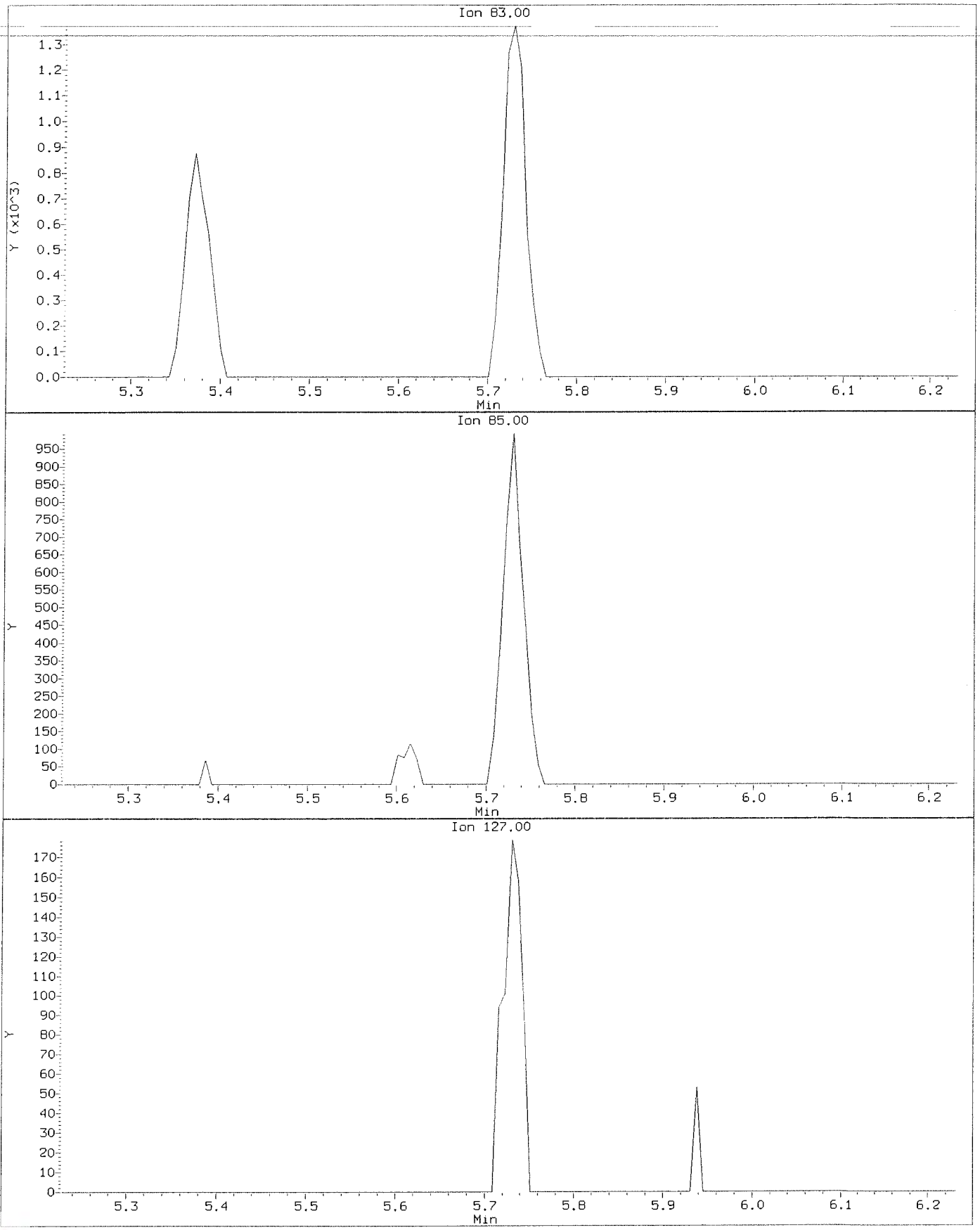
Injection Date: 31-OCT-2019 12:20
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: Bromodichloromethane
CAS Number: 75-27-4



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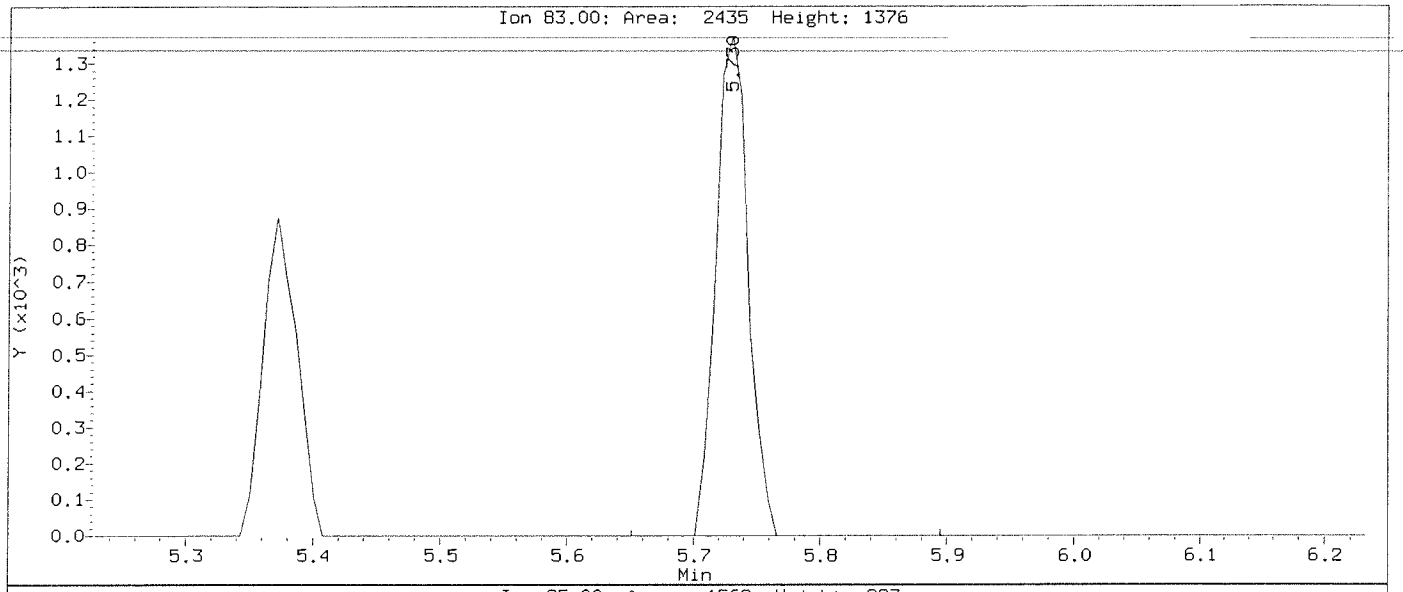
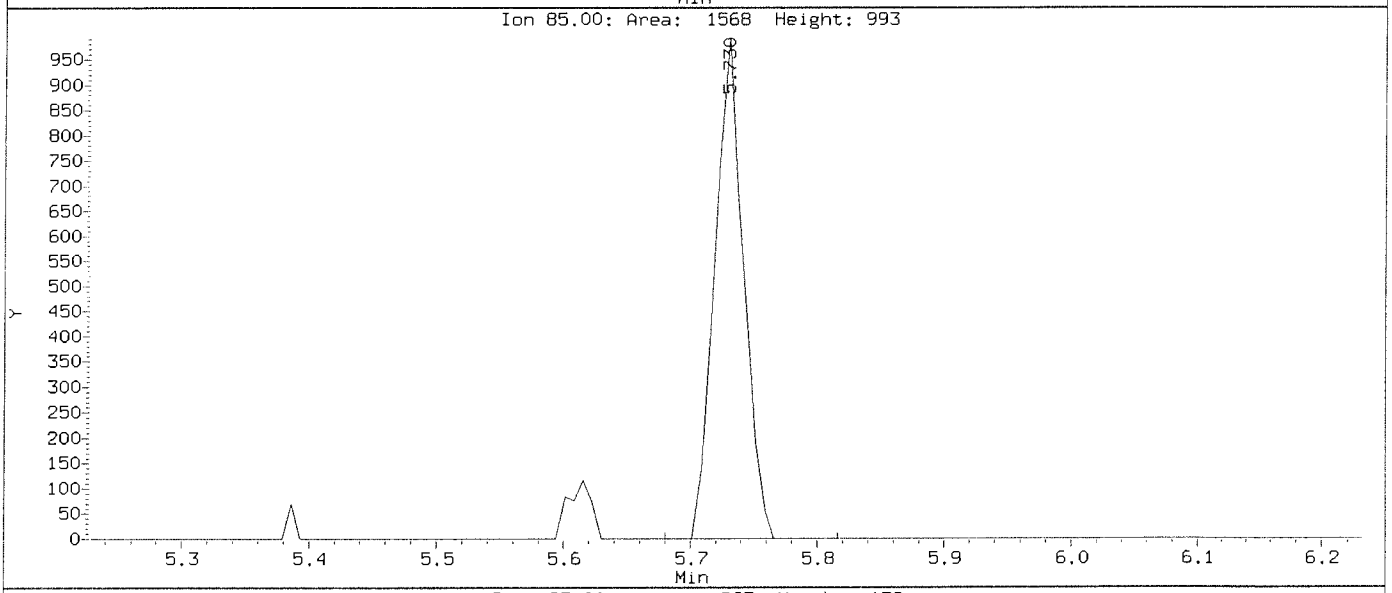
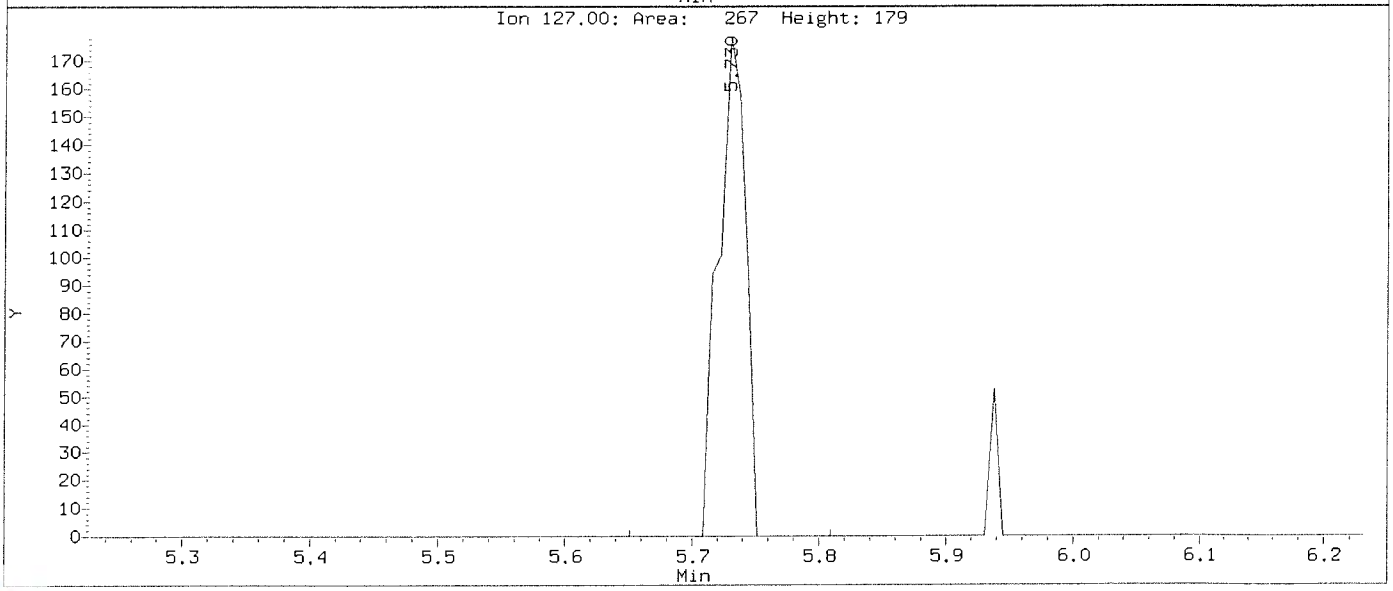
Injection Date: 31-OCT-2019 12:20
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: Bromodichloromethane
CAS Number: 75-27-4







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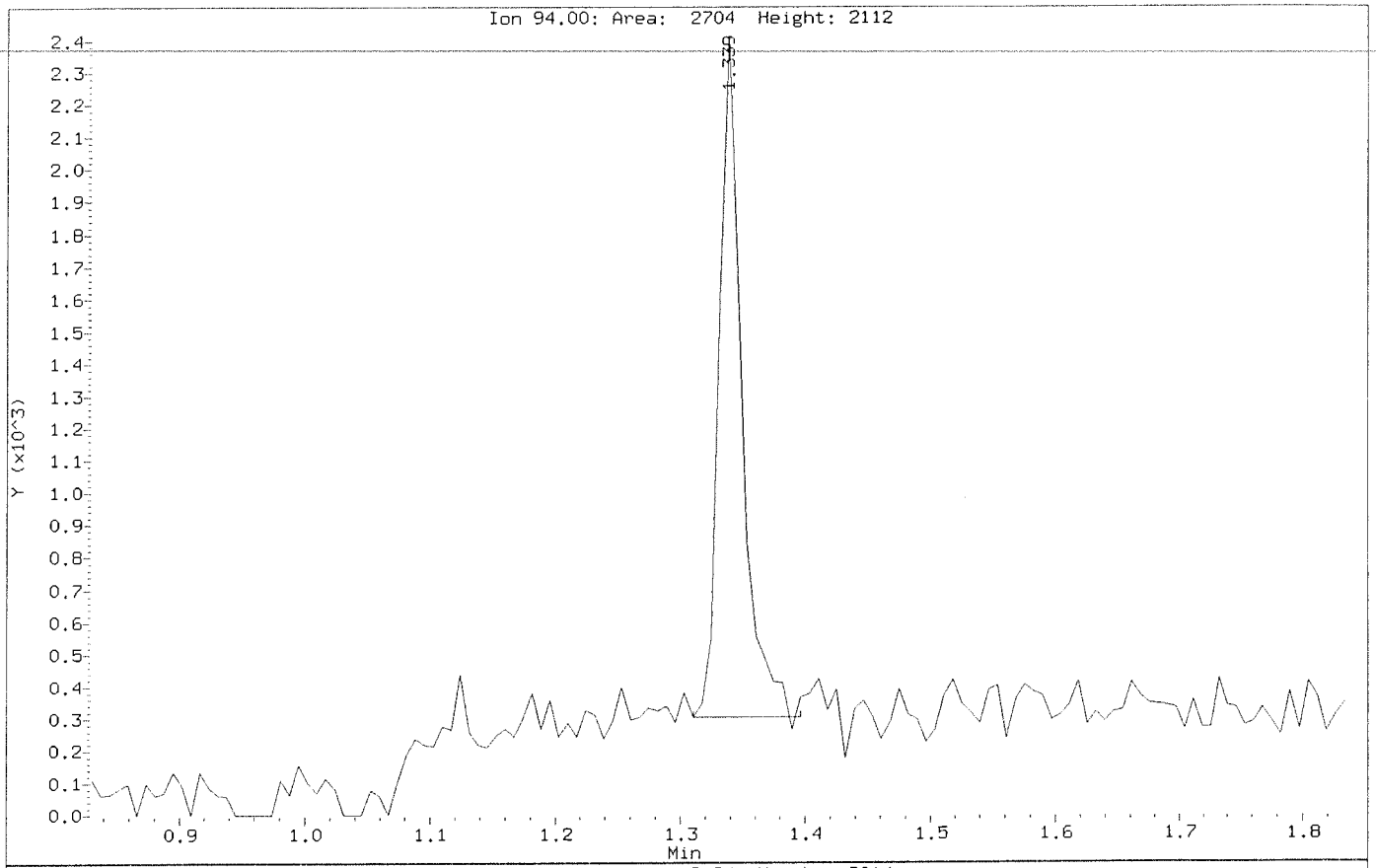
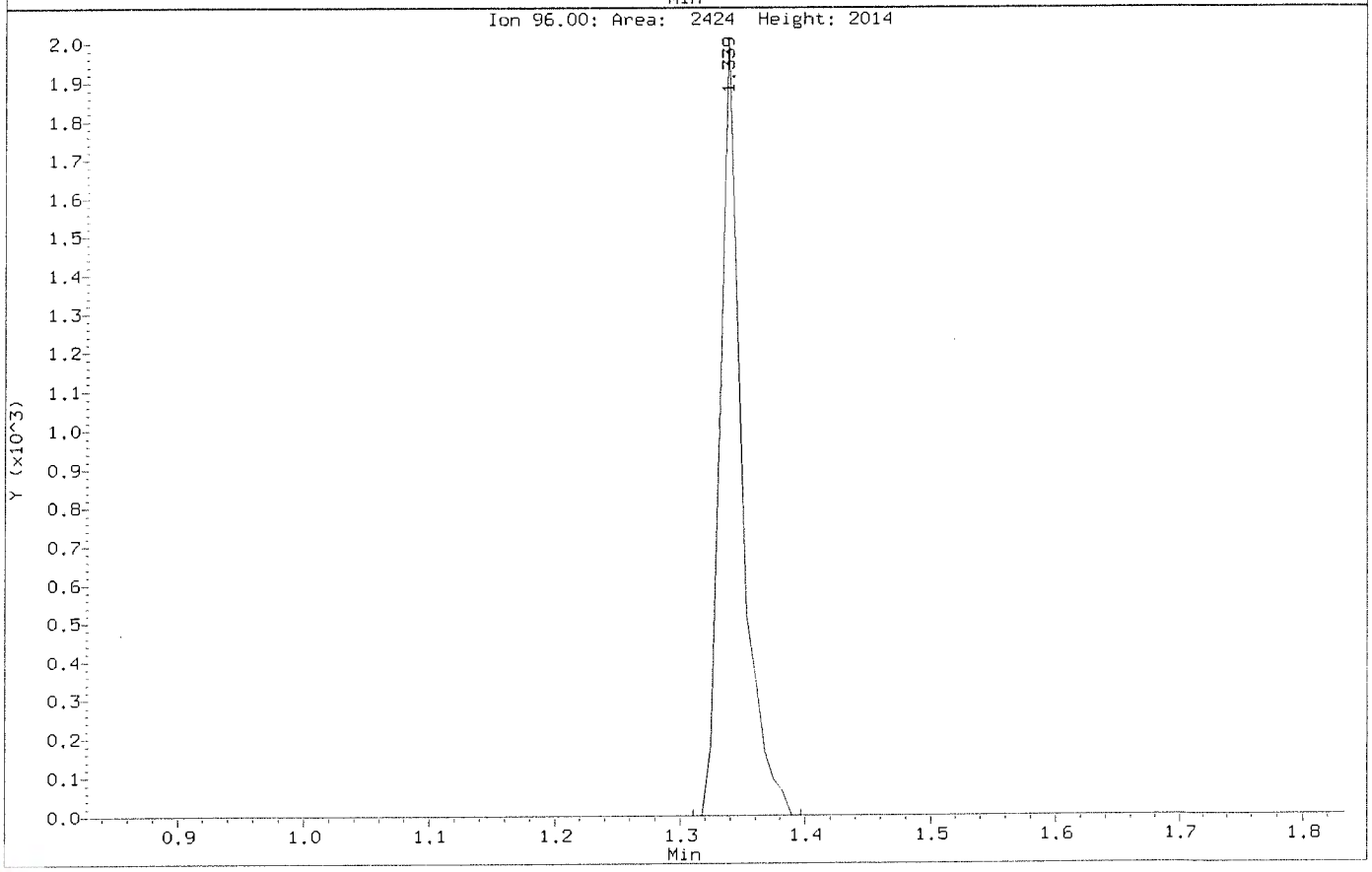
Injection Date: 31-OCT-2019 12:20
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: Bromomethane
CAS Number: 74-83-9





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Injection Date: 31-OCT-2019 12:20
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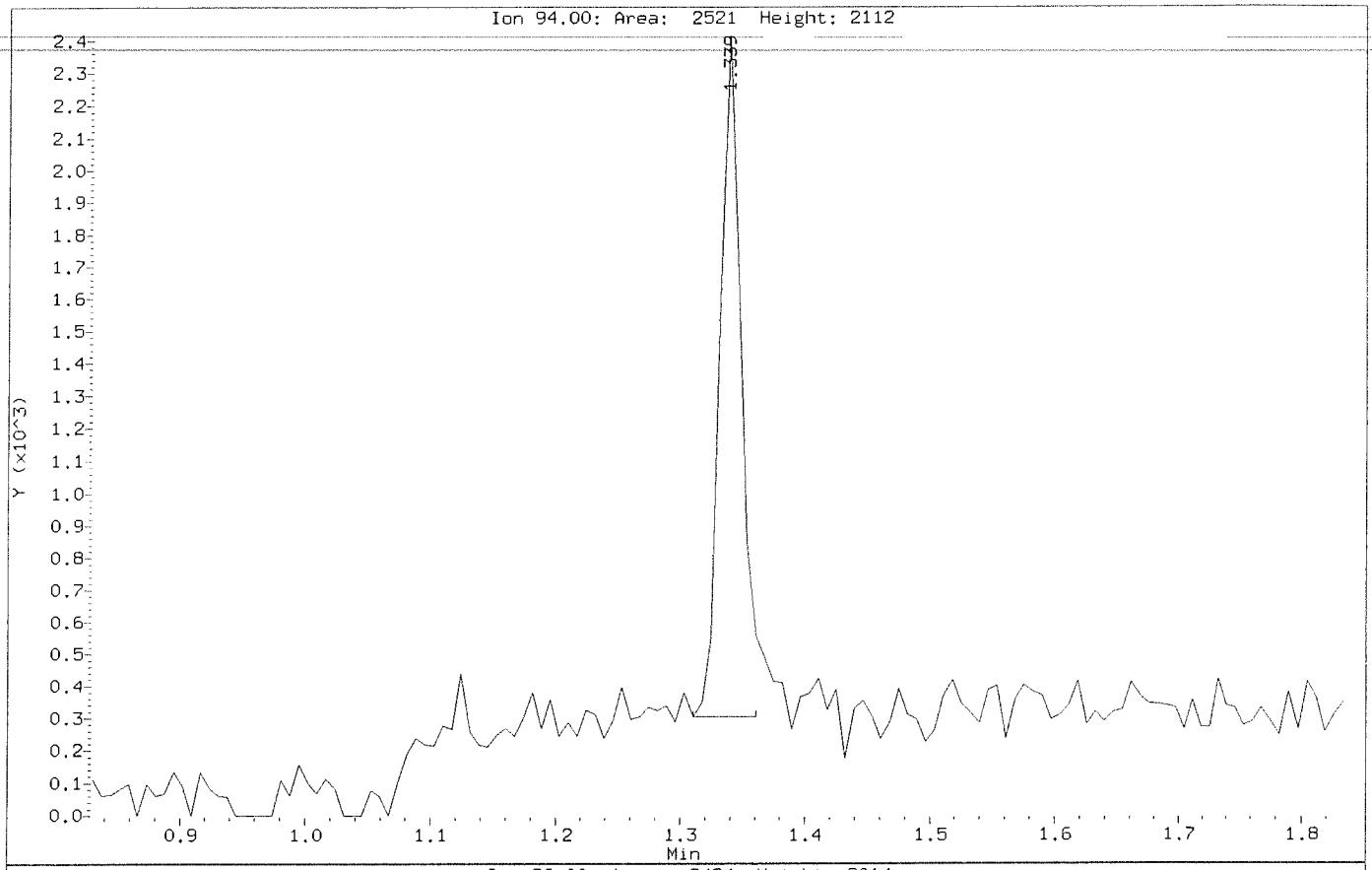
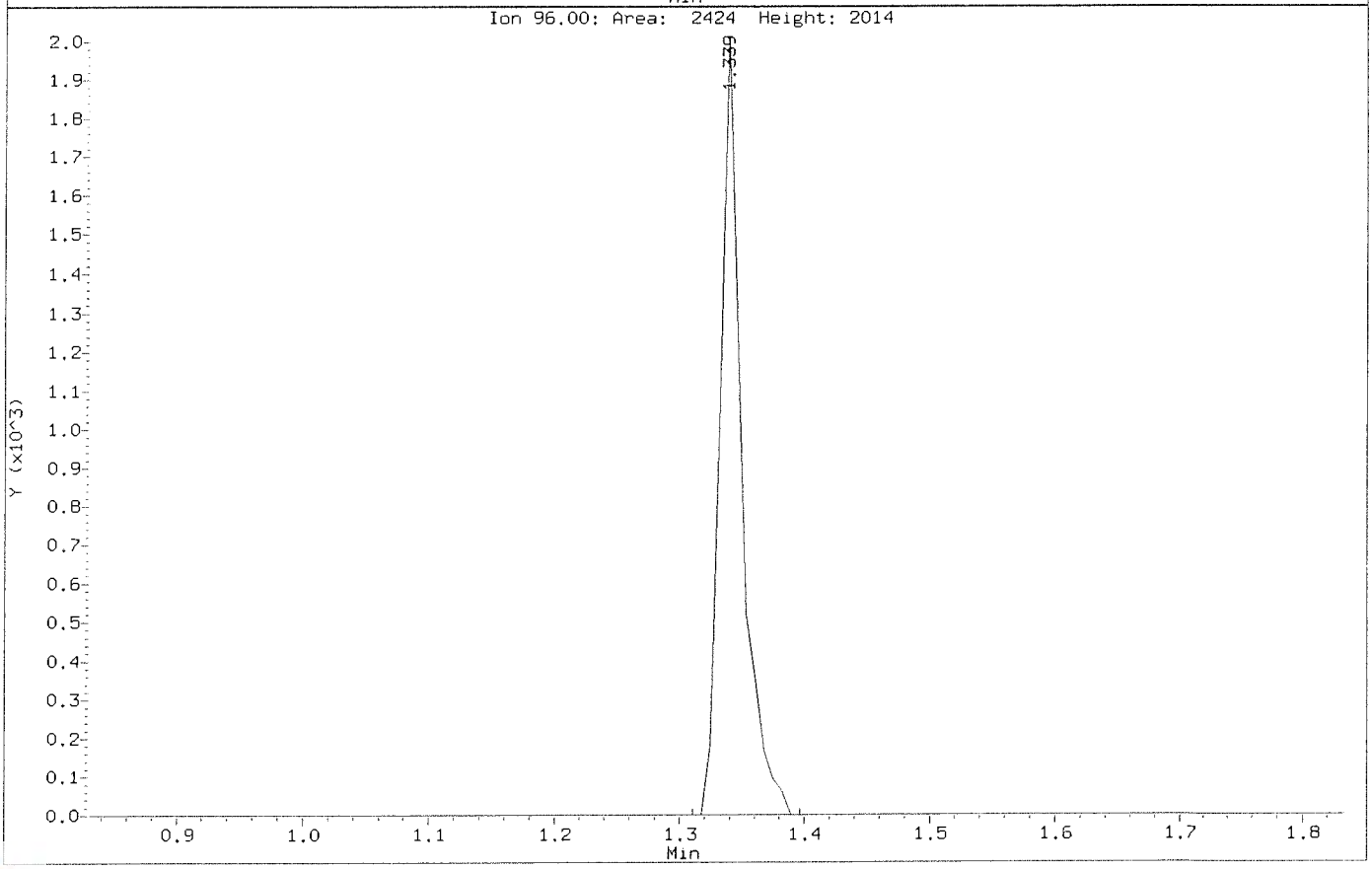
Client Sample ID: VSTD001

Compound: Bromomethane
CAS Number: 74-83-9





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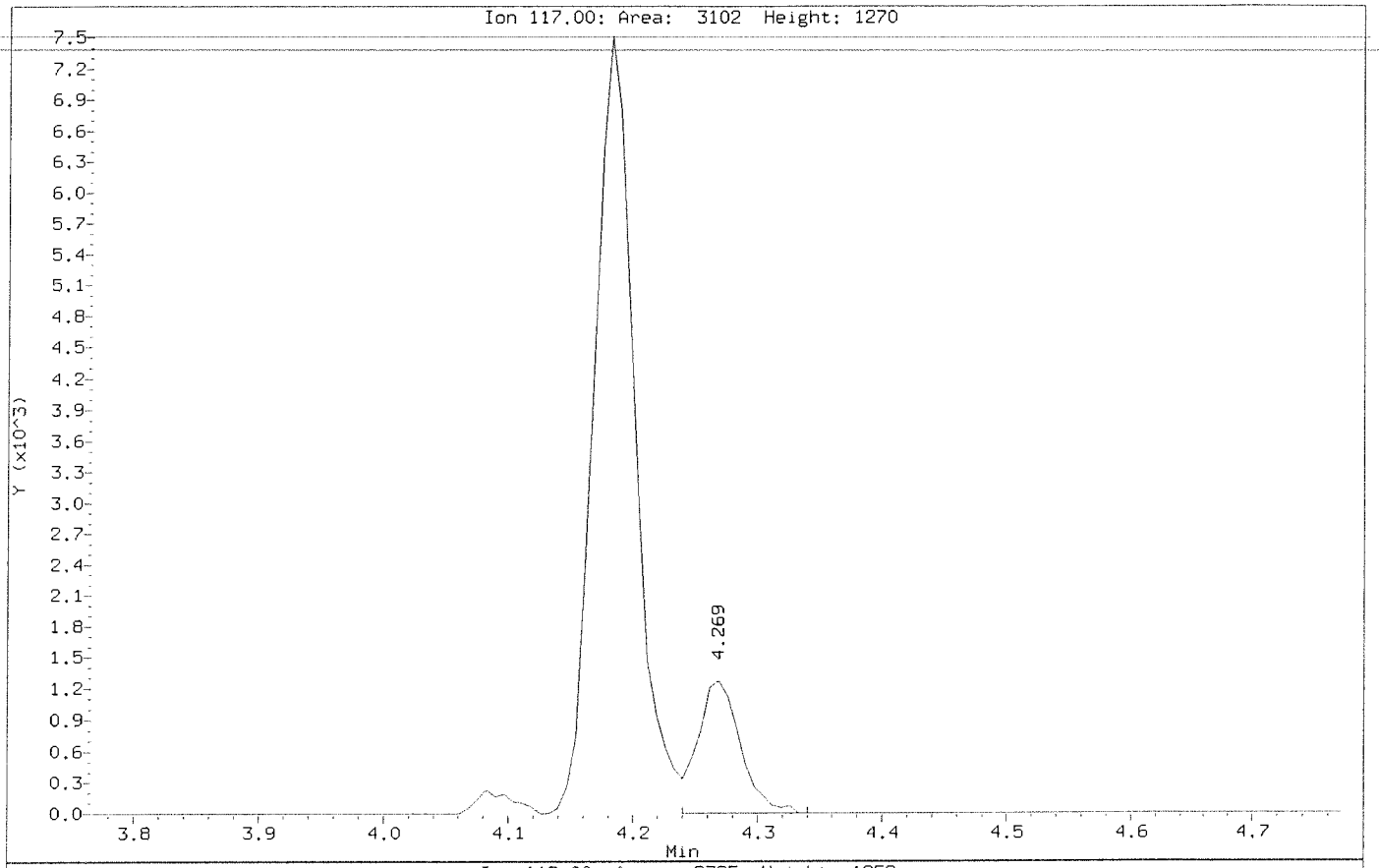
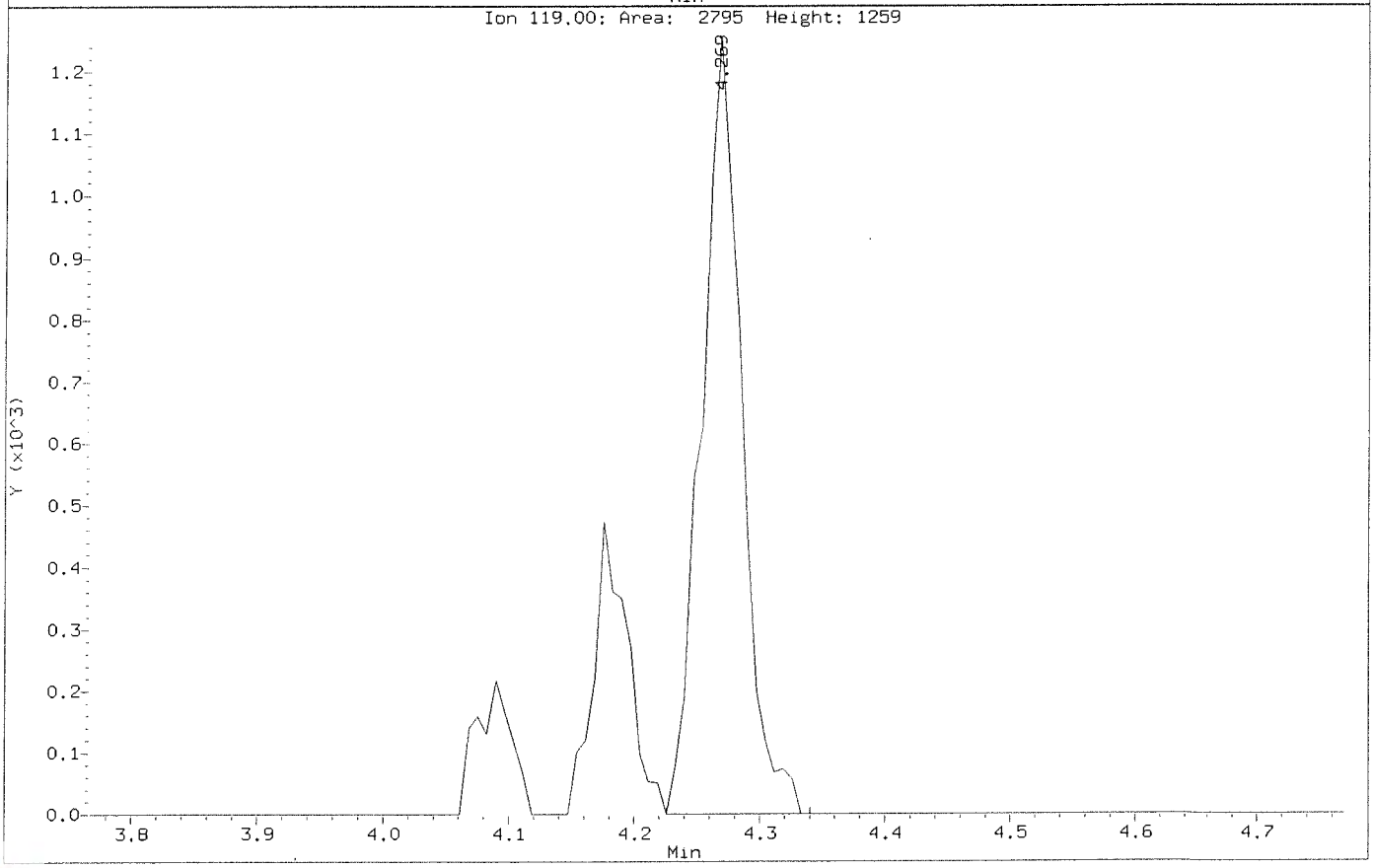
Injection Date: 31-OCT-2019 12:20
Instrument: voa6.i
Client Sample ID: VSTD001

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





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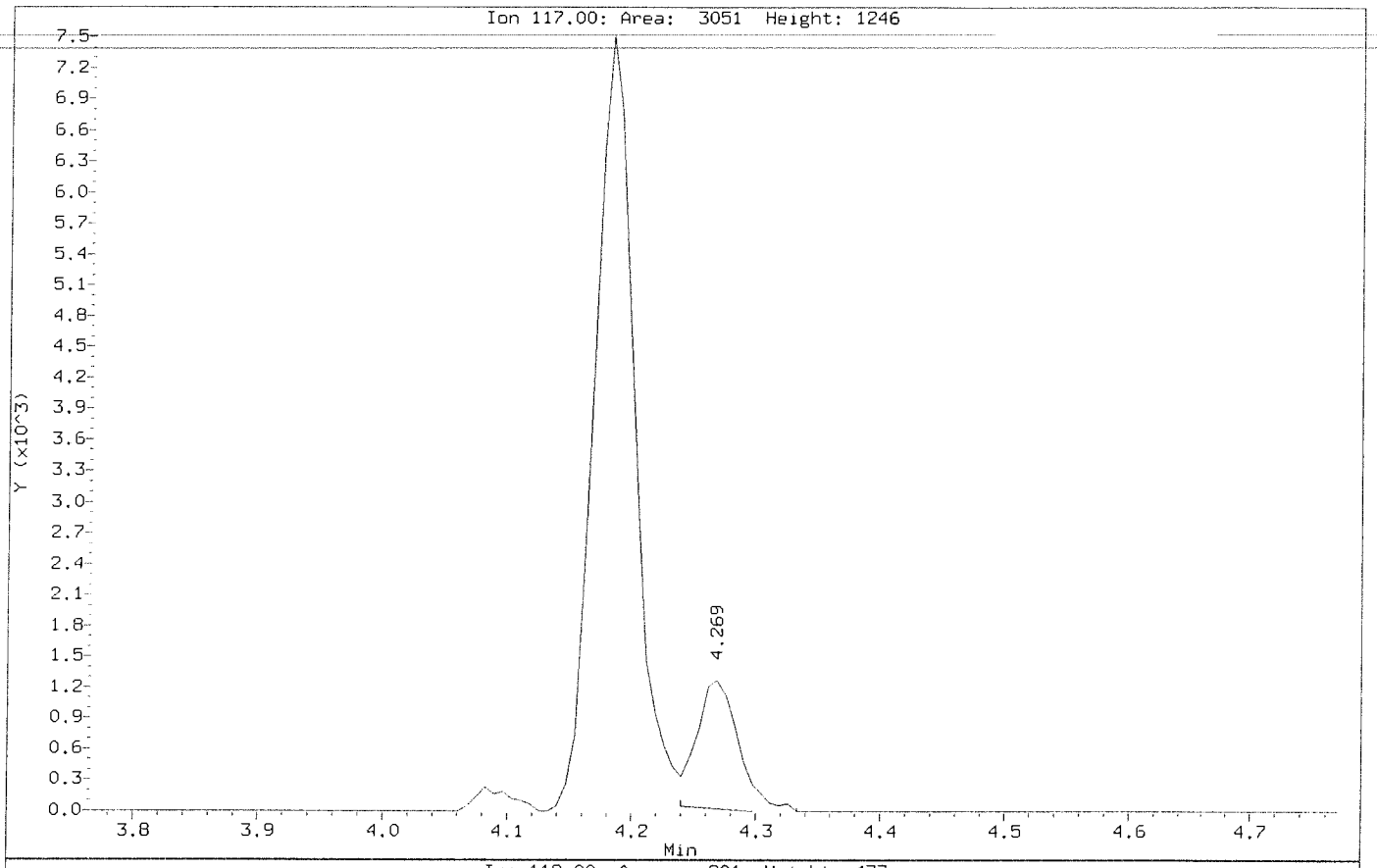
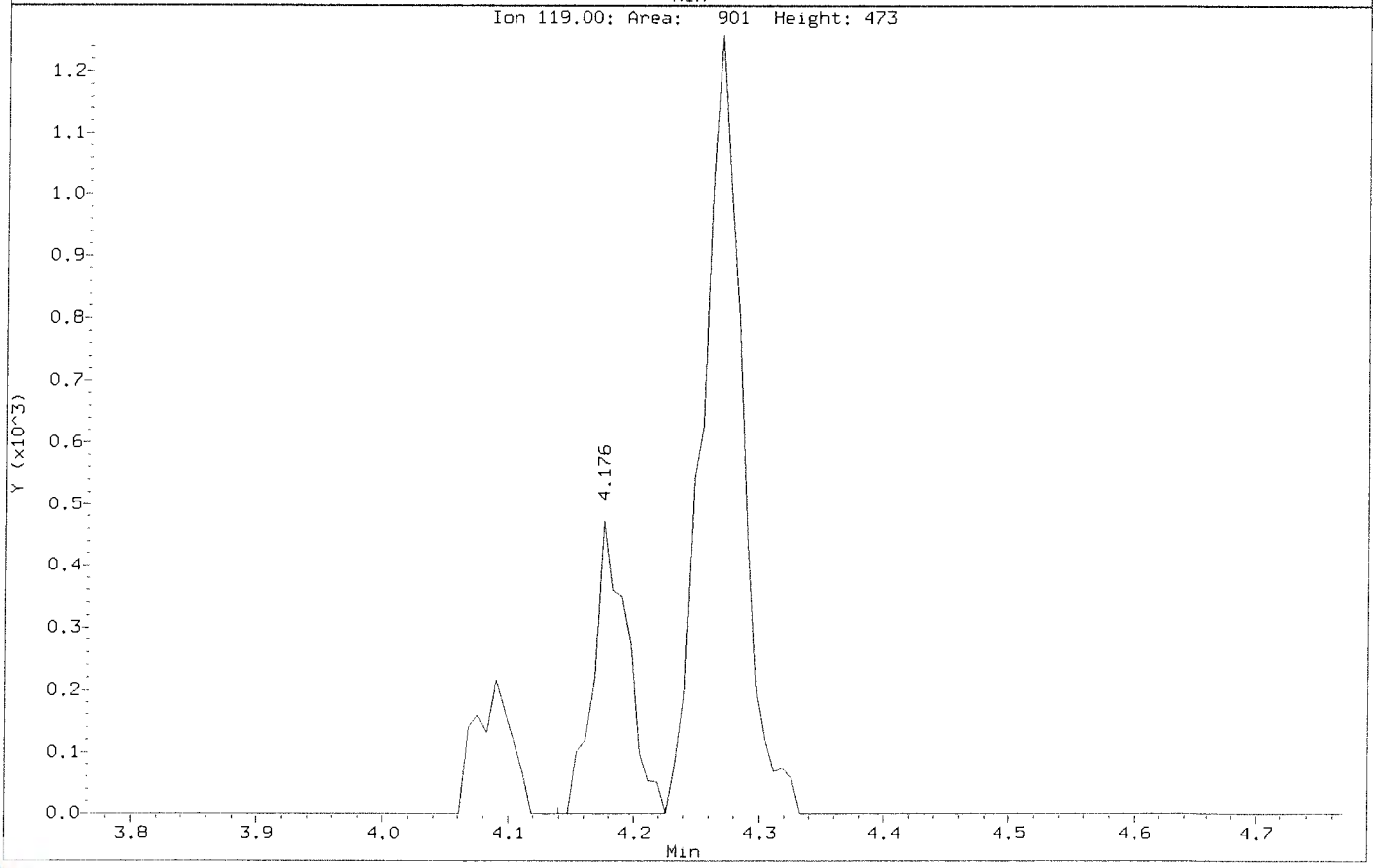
Injection Date: 31-OCT-2019 12:20
Instrument: voa6.i
Client Sample ID: VSTD001

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





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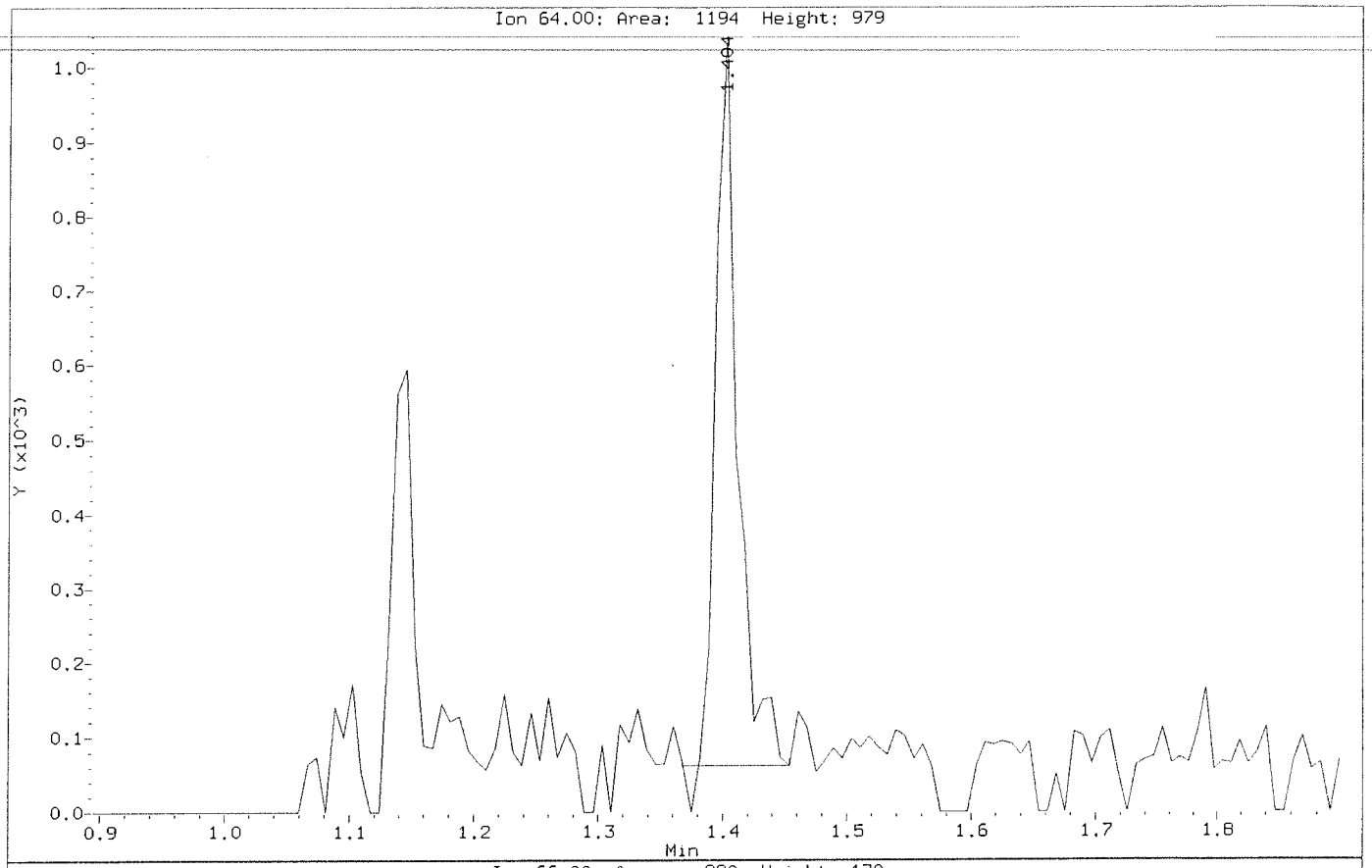
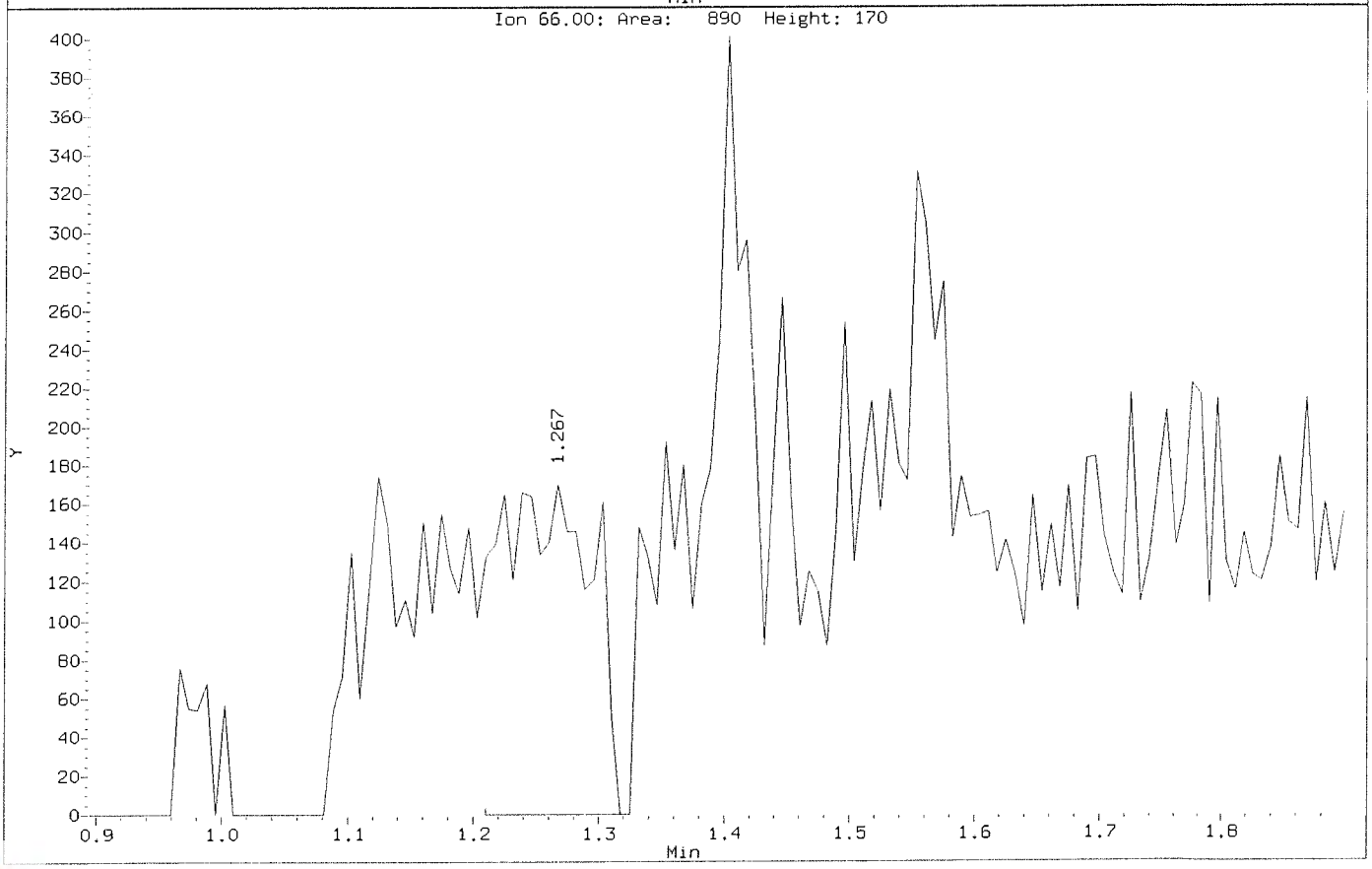
Injection Date: 31-OCT-2019 12:20
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: Chloroethane
CAS Number: 75-00-3





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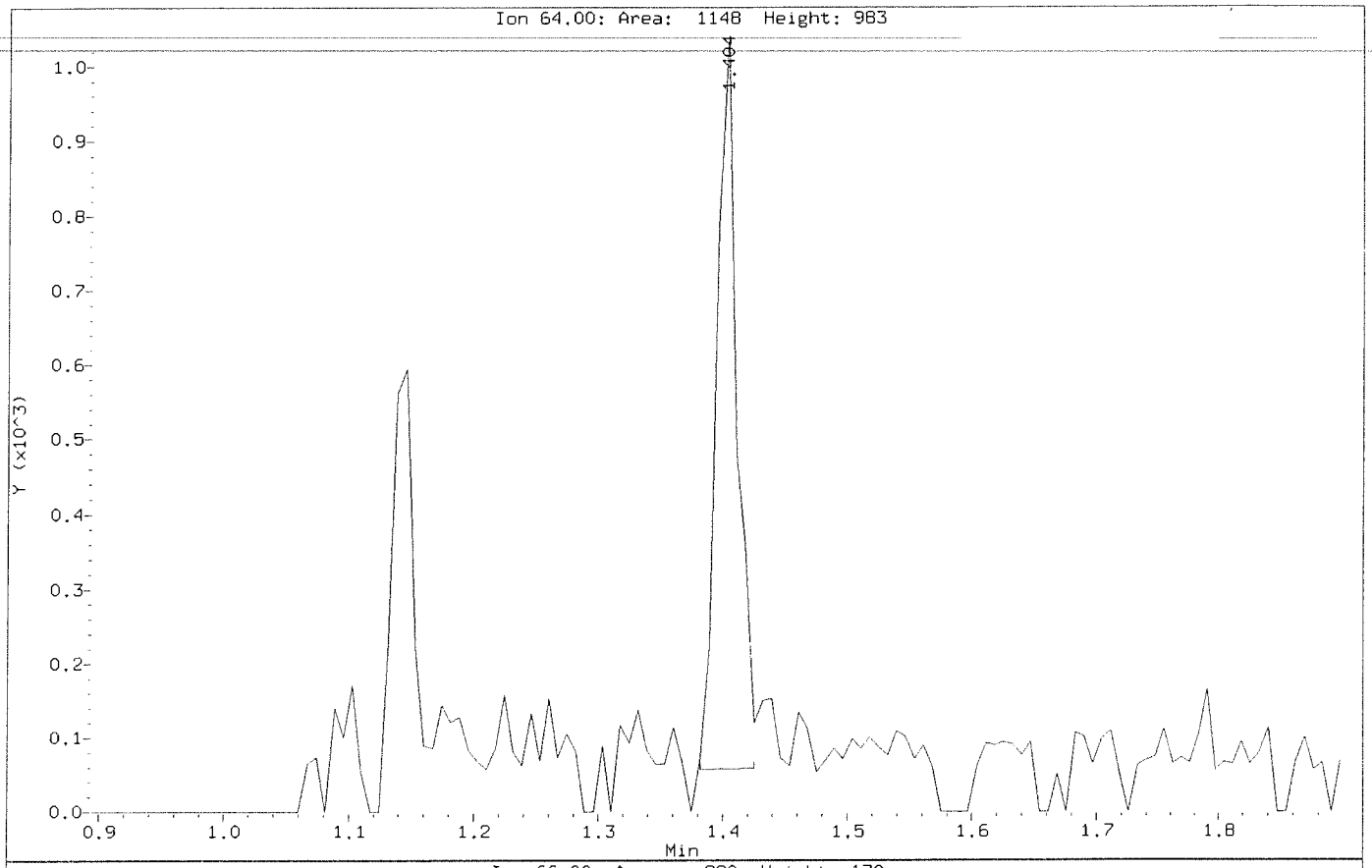
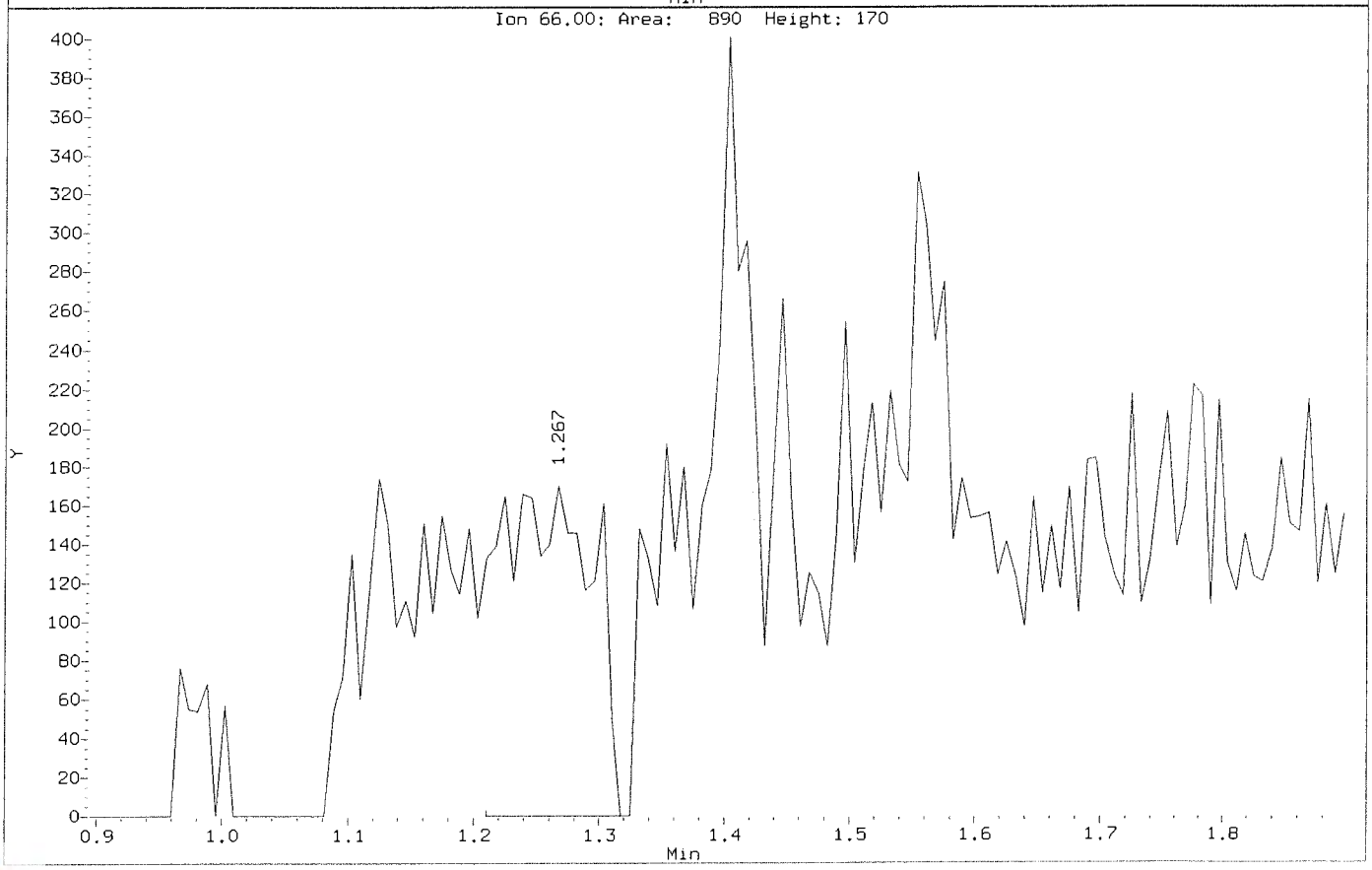
Injection Date: 31-OCT-2019 12:20
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: Chloroethane
CAS Number: 75-00-3





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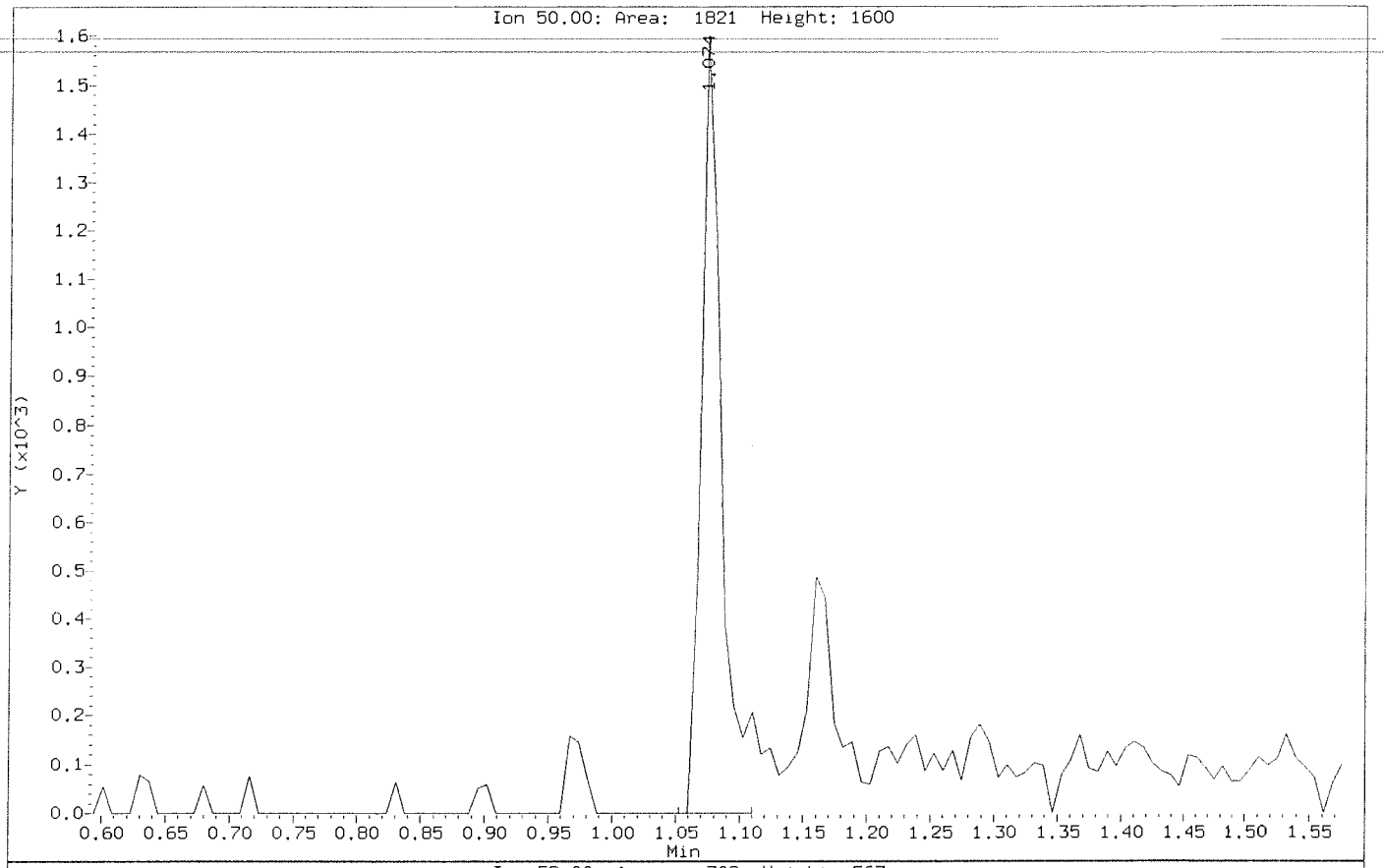
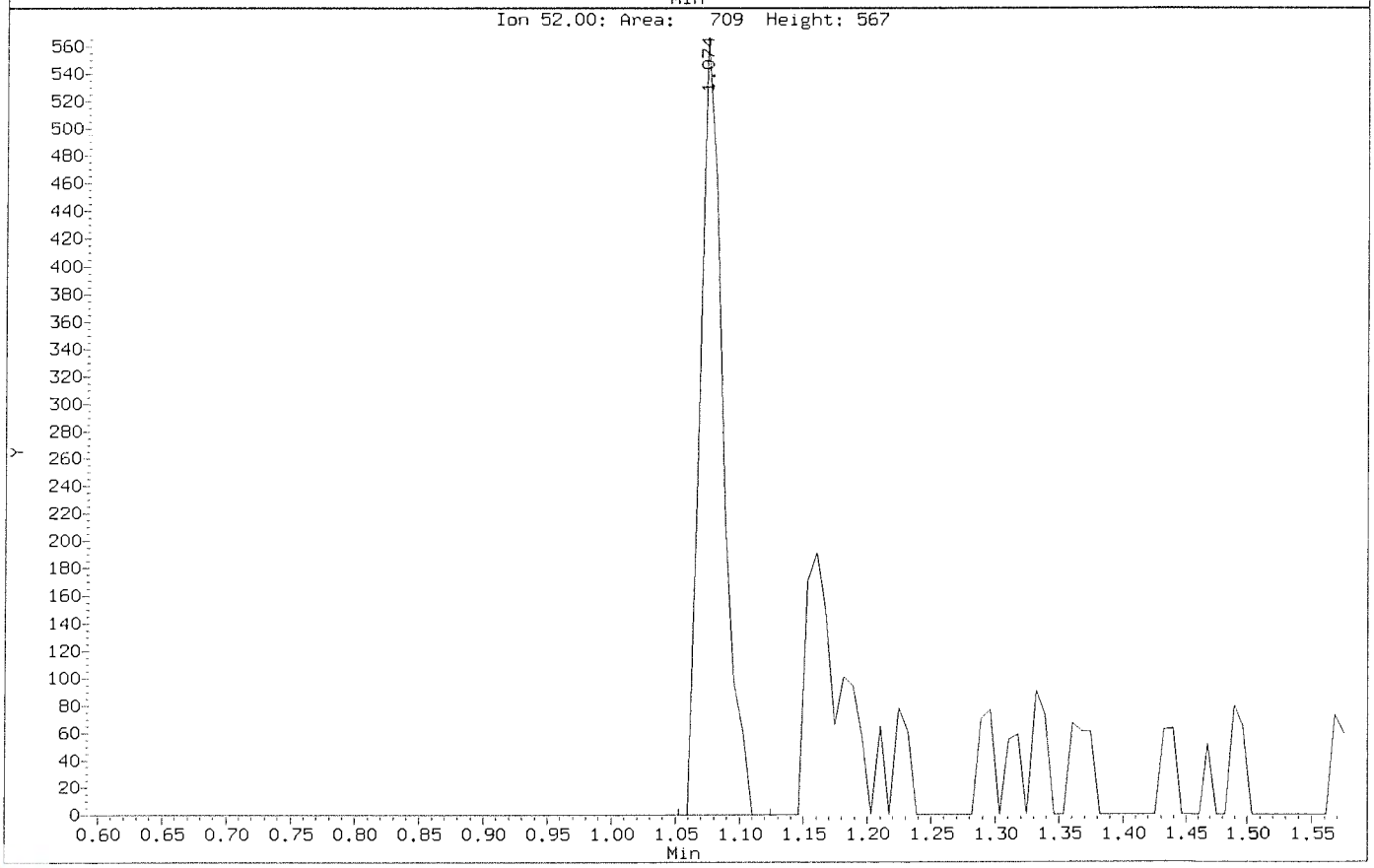
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: Chloromethane
CAS Number: 74-87-3





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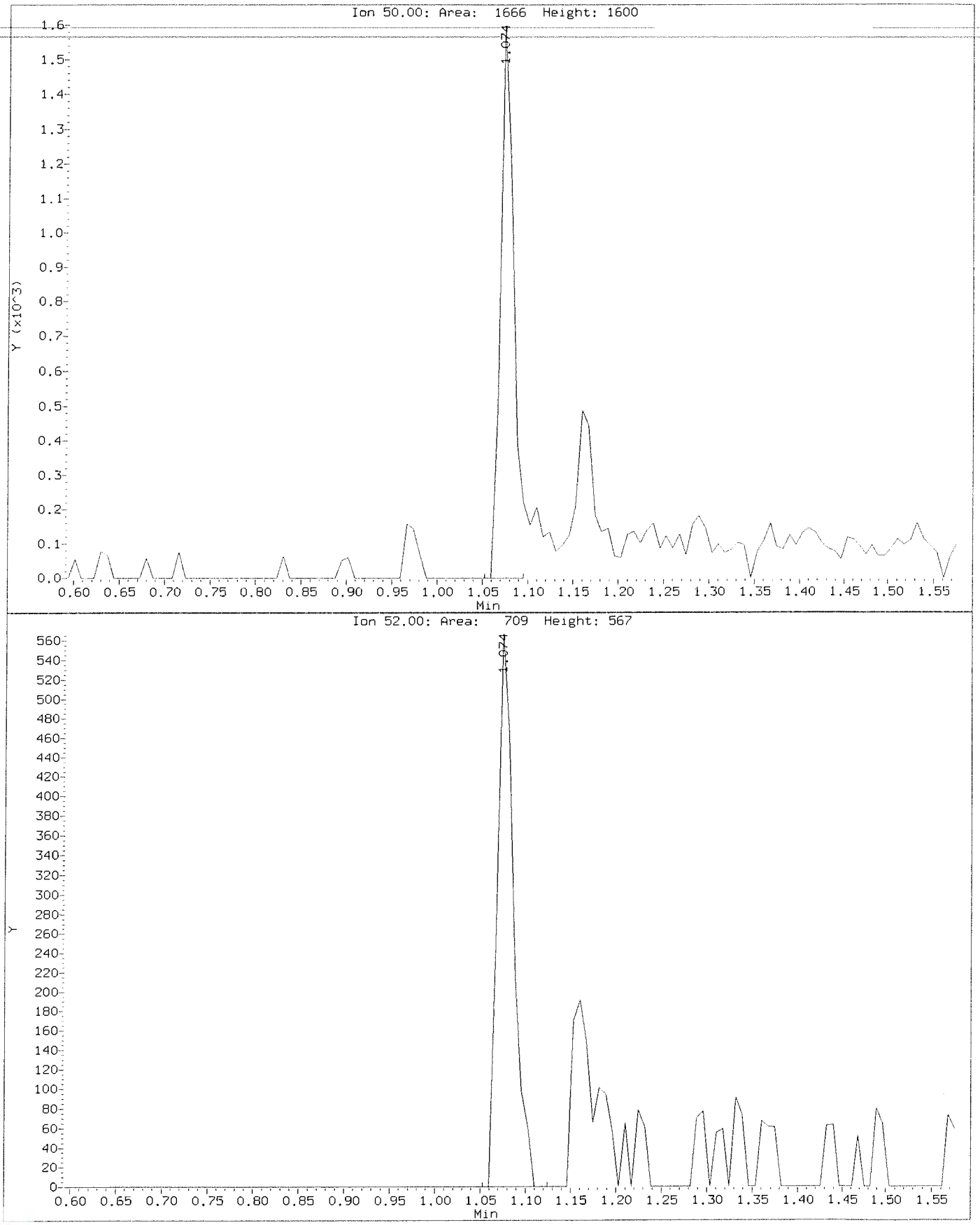
Client Sample ID: VSTD001

Compound: Chloromethane
CAS Number: 74-87-3



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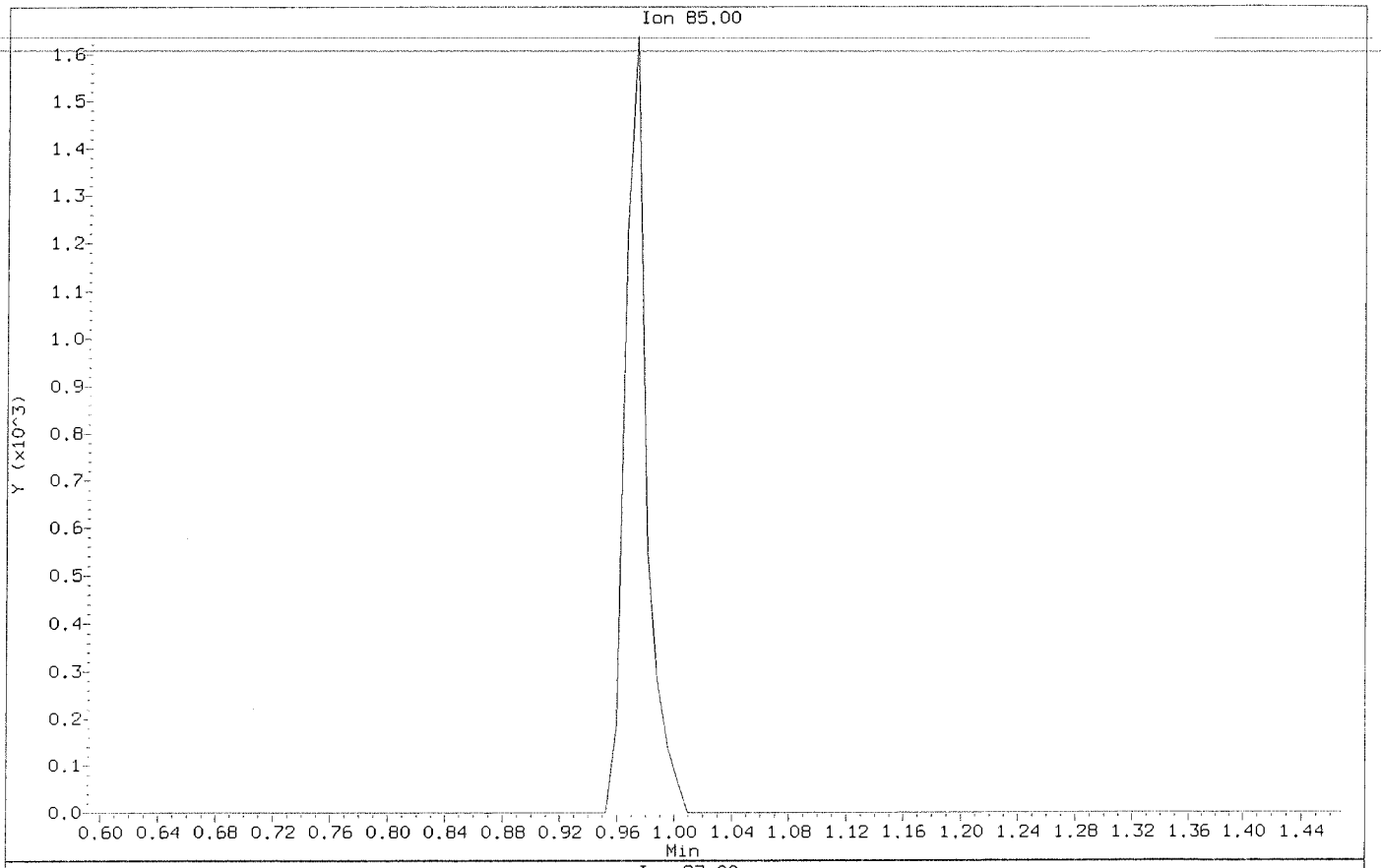
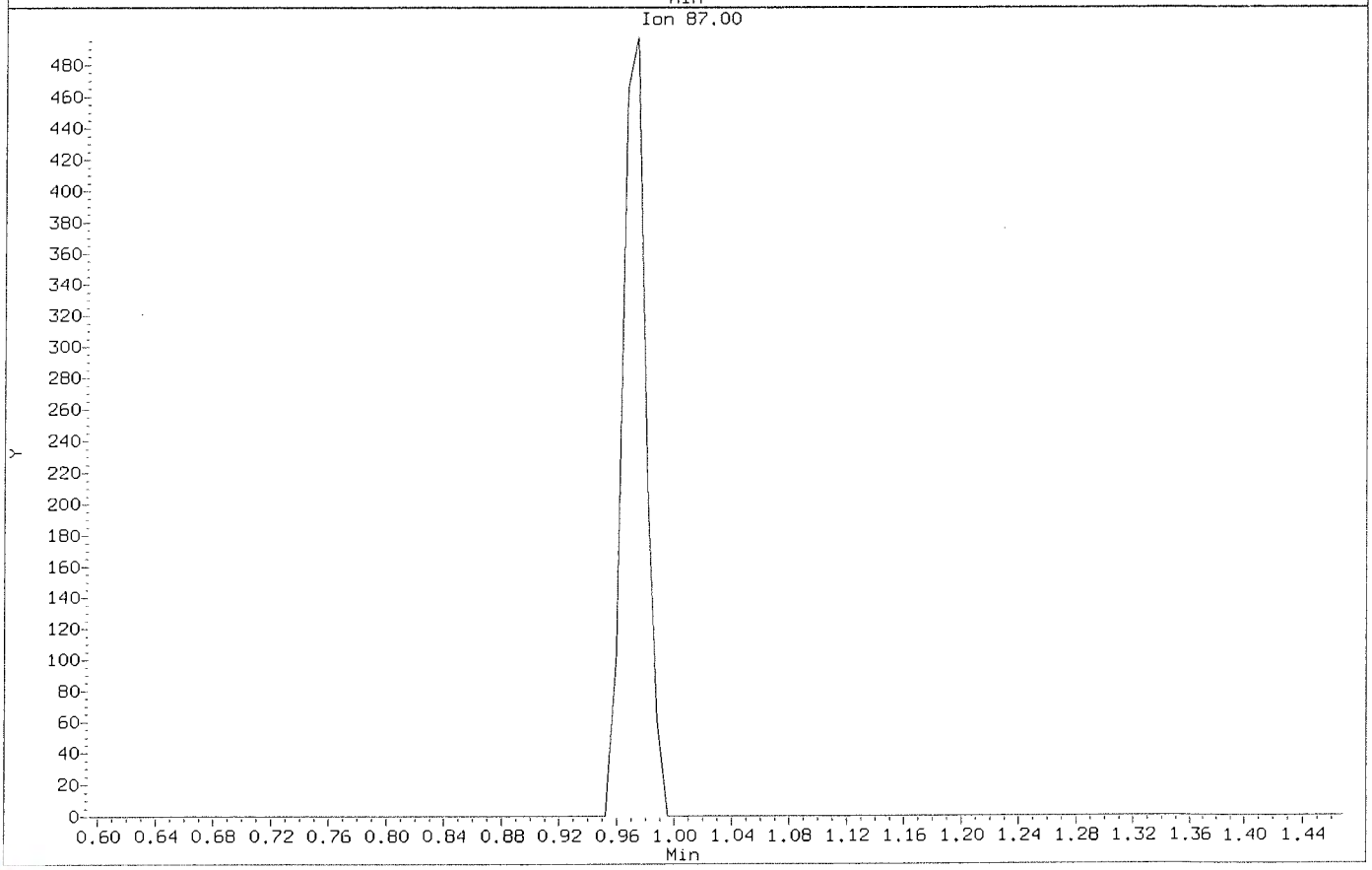
Injection Date: 31-OCT-2019 12:20
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: Dichlorodifluoromethane
CAS Number: 75-71-8





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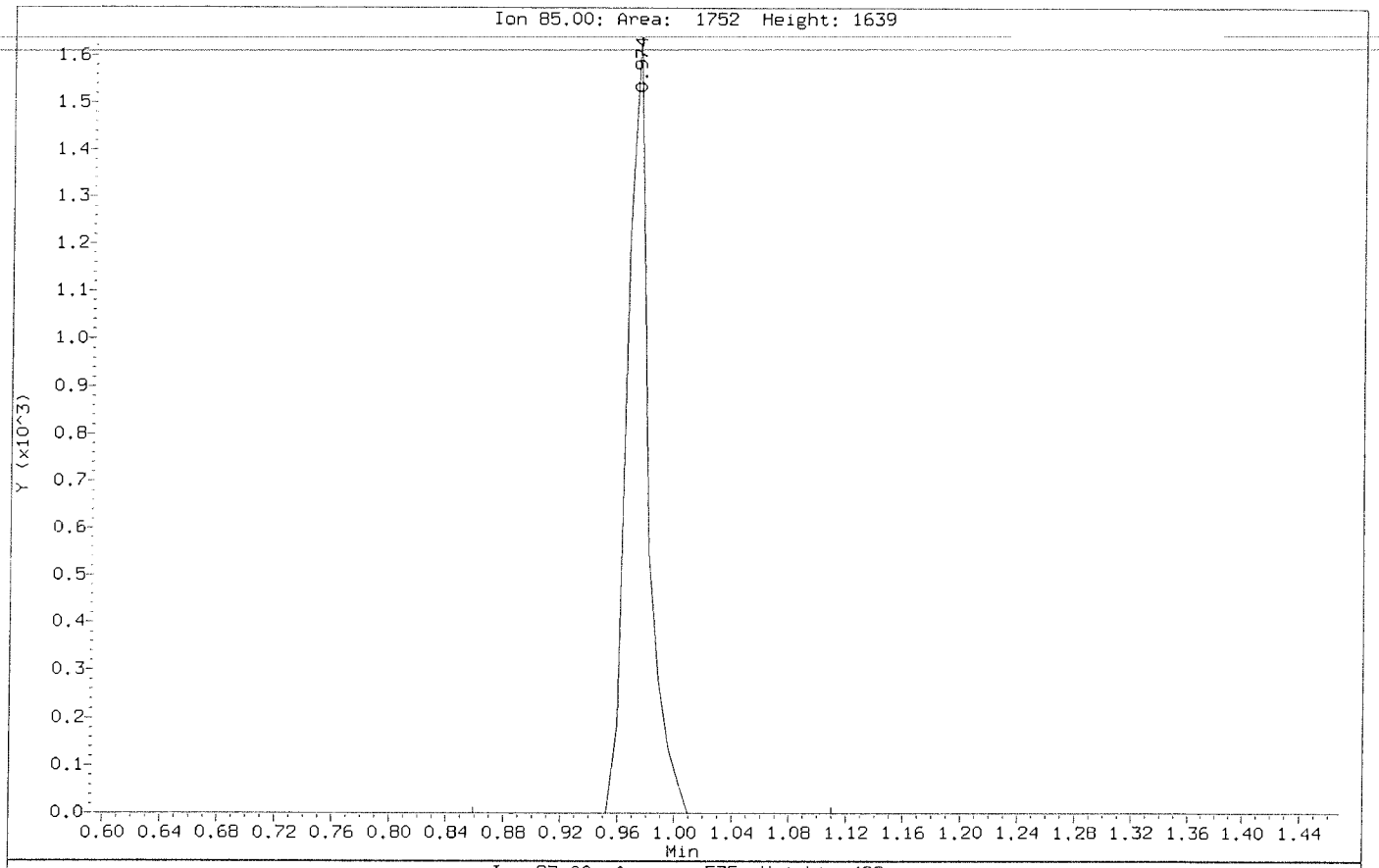
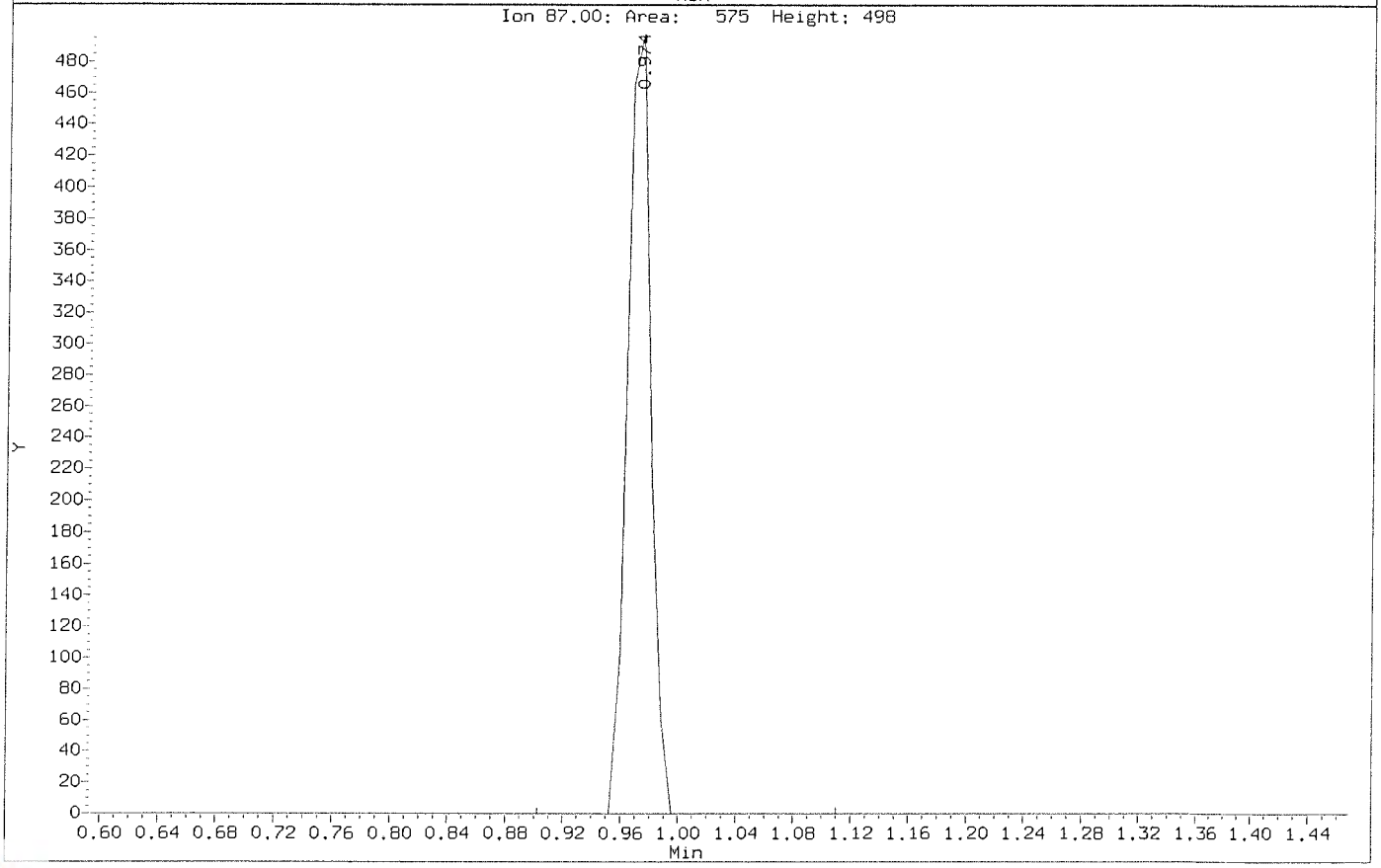
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: Dichlorodifluoromethane
CAS Number: 75-71-8





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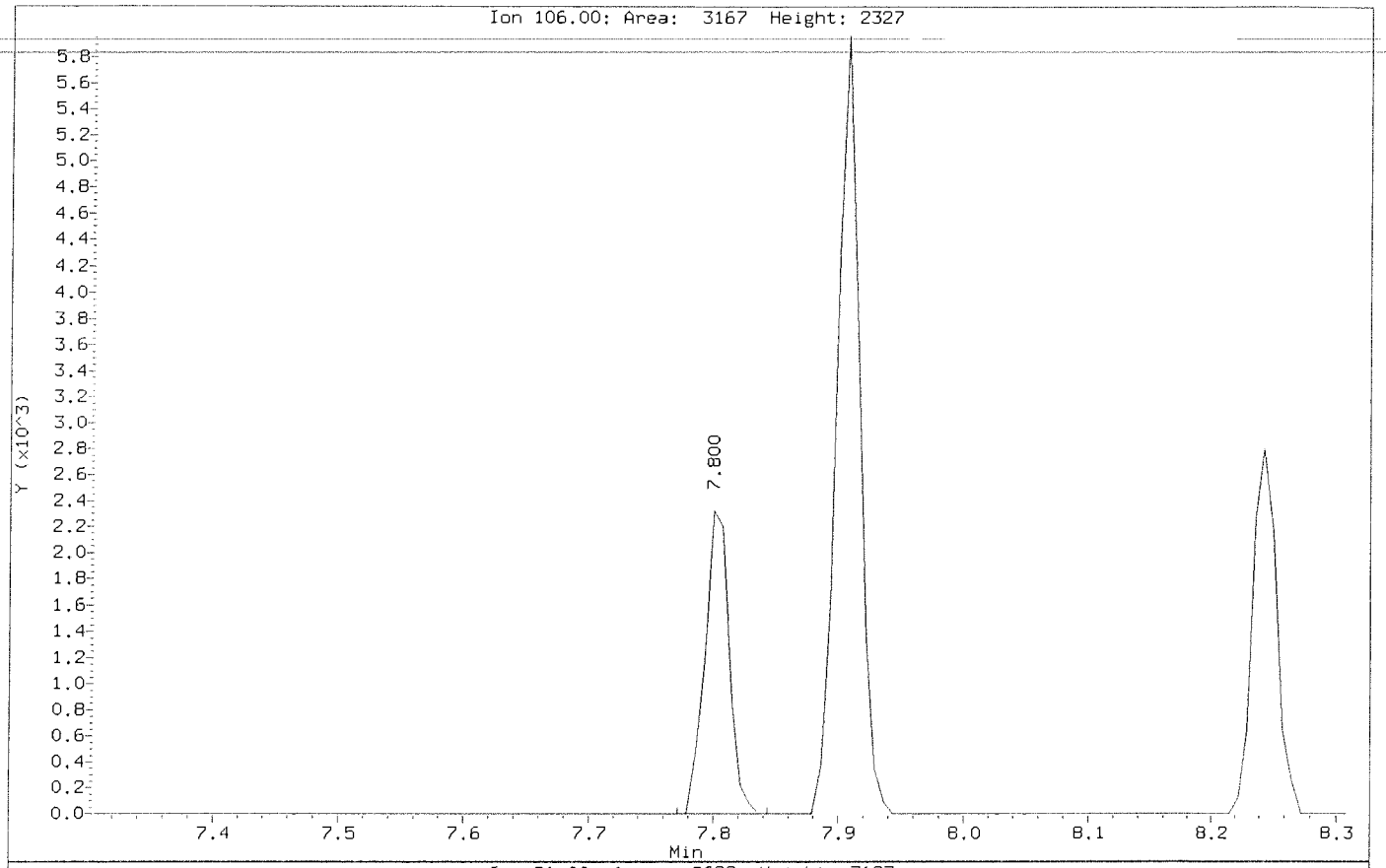
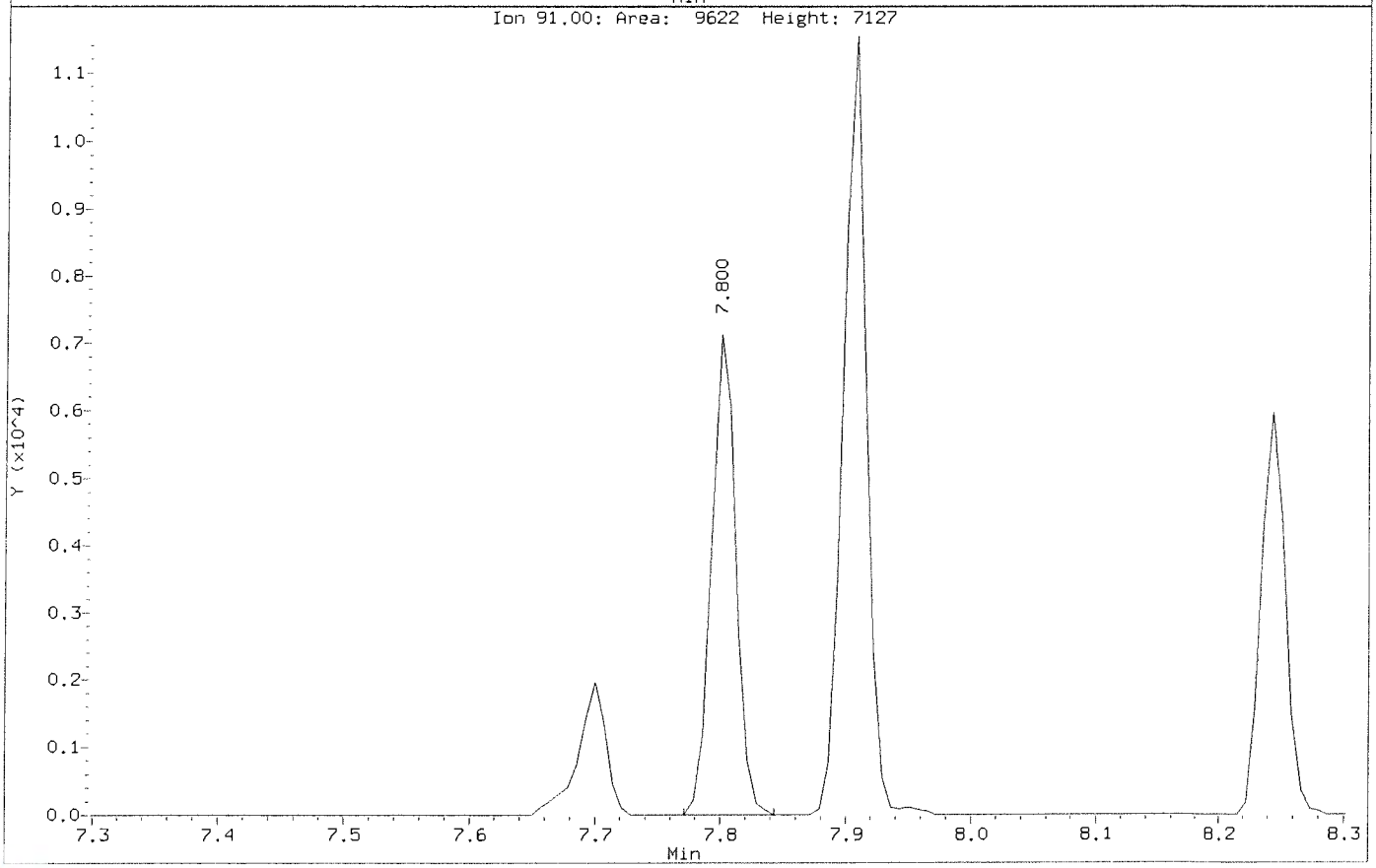
Injection Date: 31-OCT-2019 12:20
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: Ethylbenzene
CAS Number: 100-41-4





Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\X103104.D
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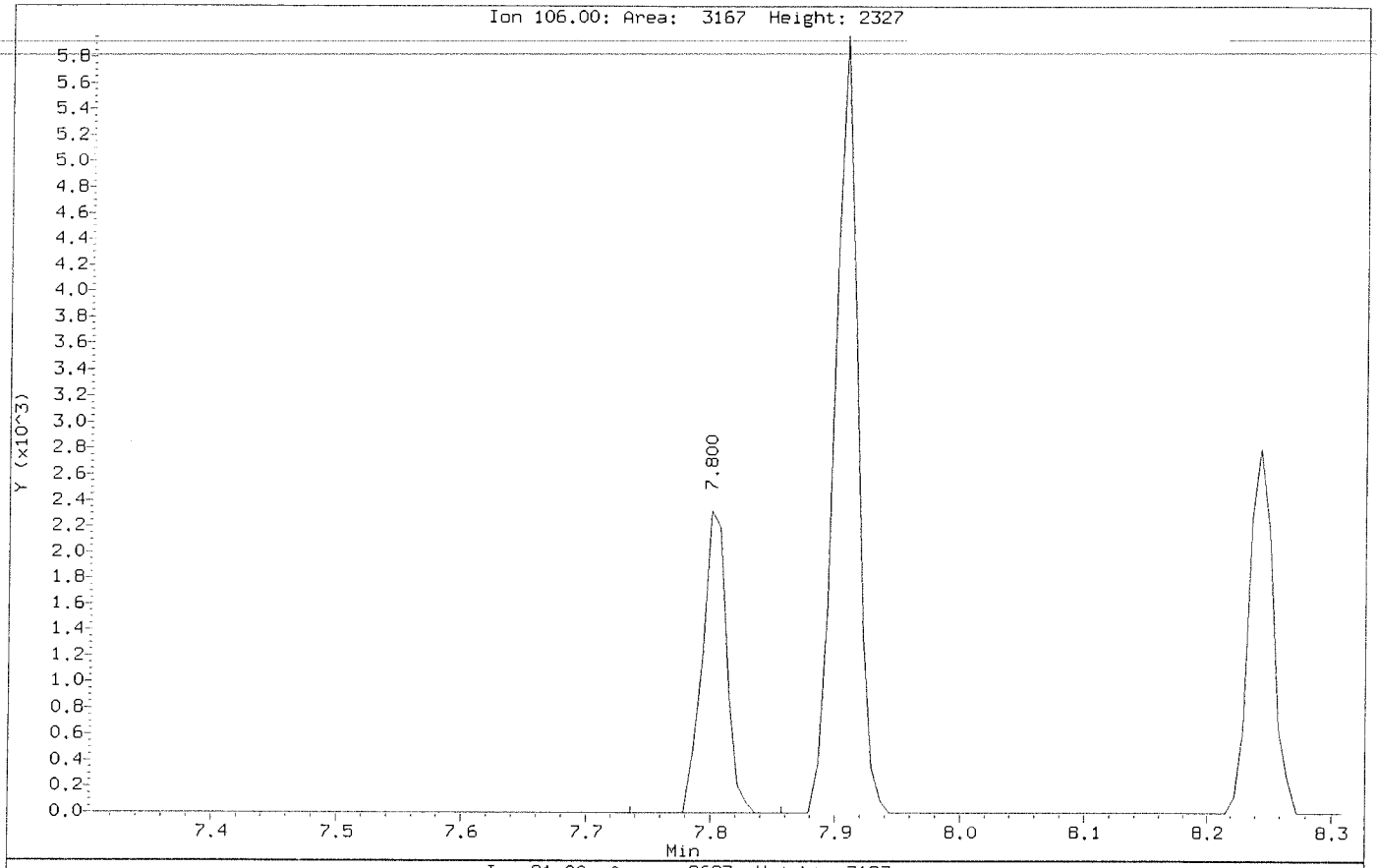
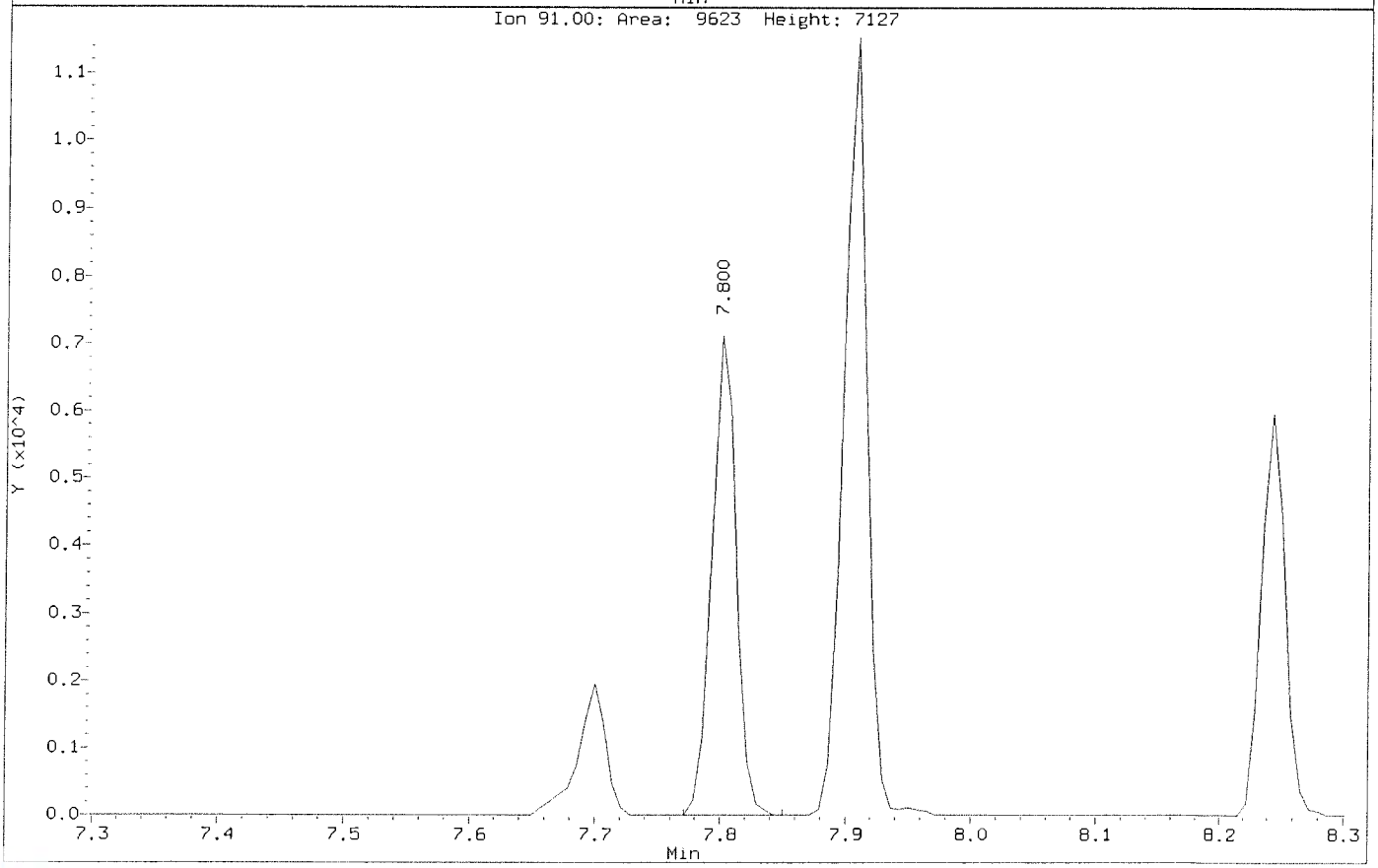
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: Ethylbenzene
CAS Number: 100-41-4





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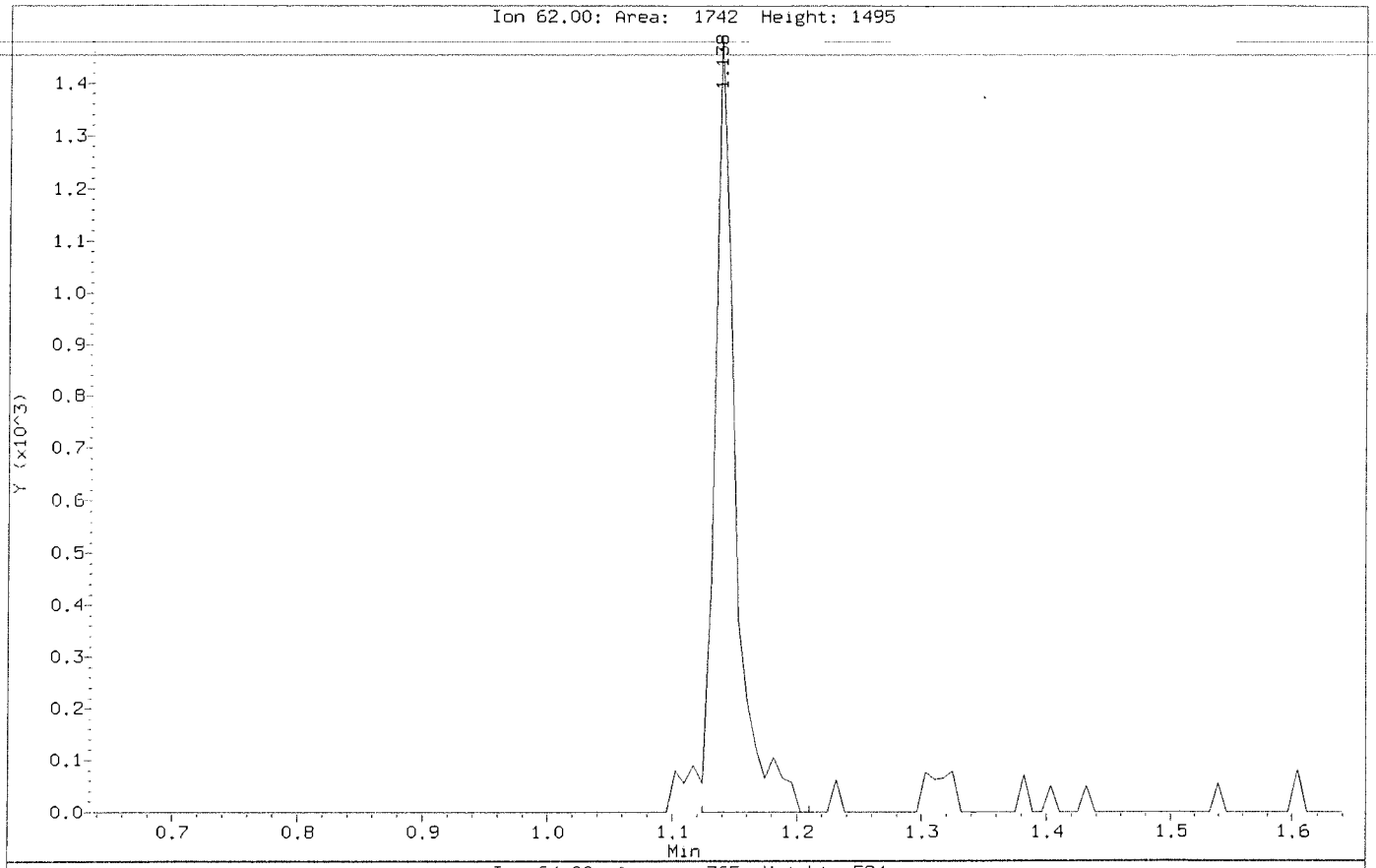
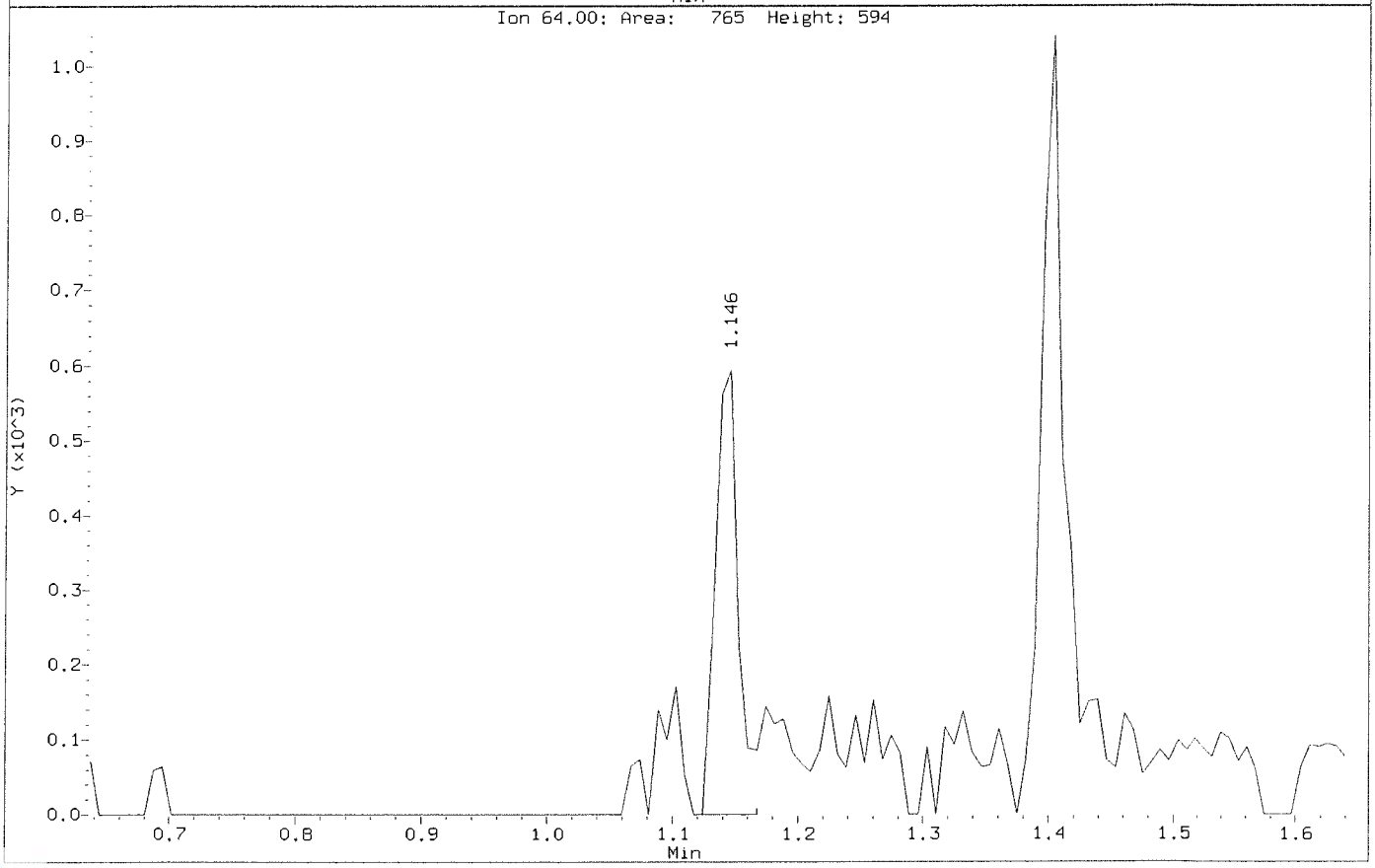
Injection Date: 31-OCT-2019 12:20
Instrument: voa6.i
Client Sample ID: VSTD001

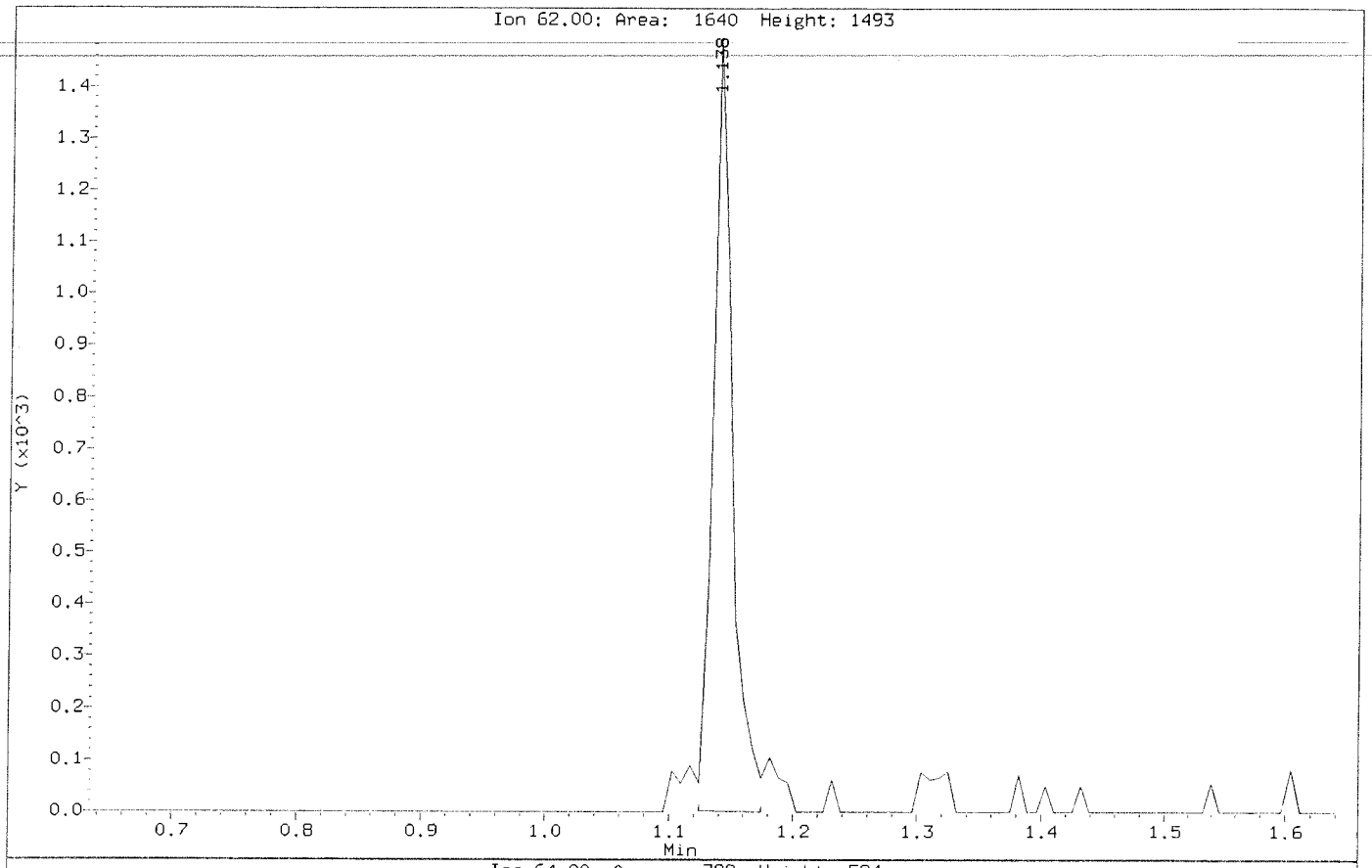
Compound: Vinyl Chloride
CAS Number: 75-01-4

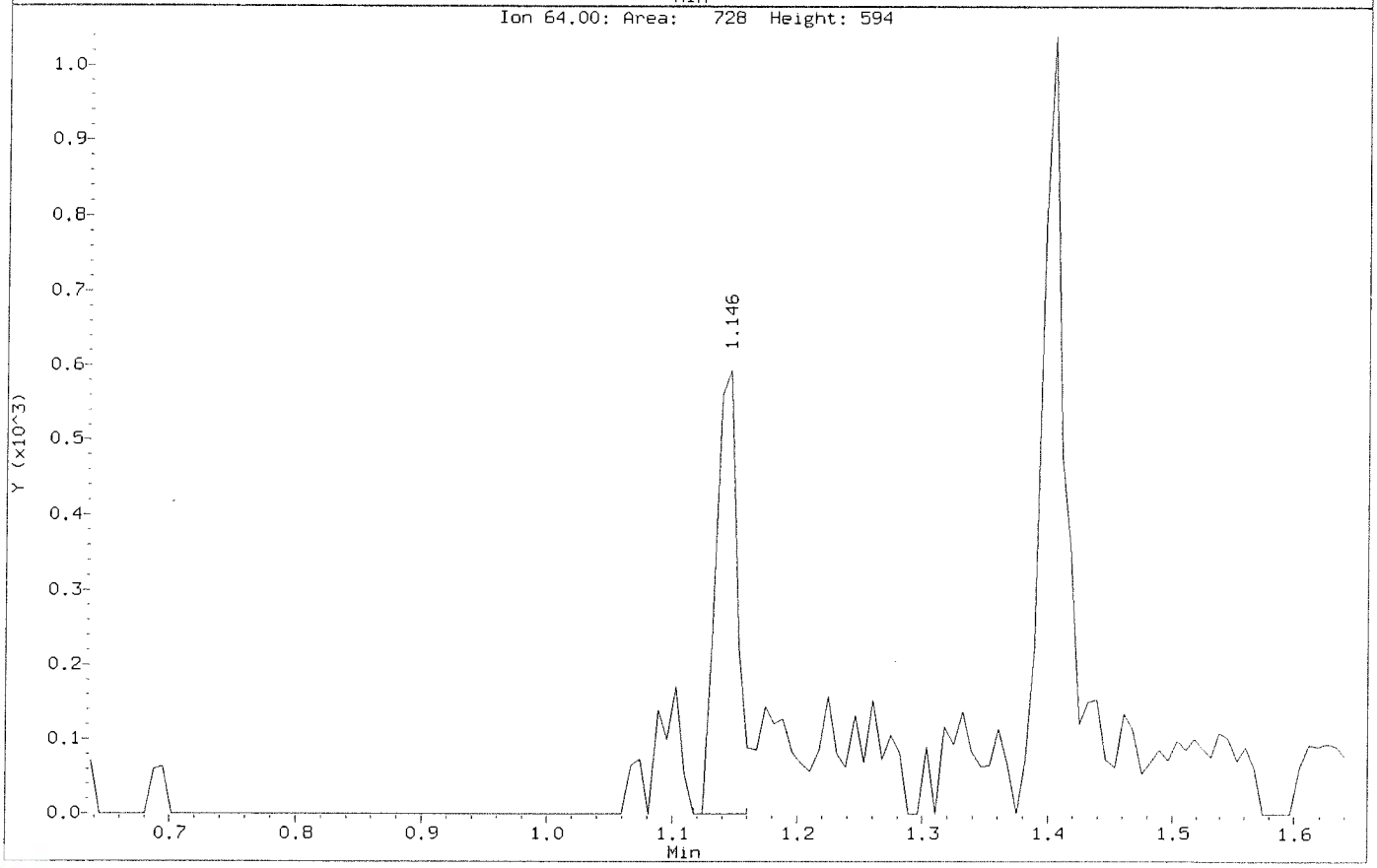




Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\X103104.D
Injection Date: 31-OCT-2019 12:20
Instrument: voa6.i
Client Sample ID: VSTD001

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





Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\X103105.D Page 1
Report Date: 19-Nov-2019 17:39

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X191031.b\X103105.D
Lab Smp Id: VSTD002 Client Smp ID: VSTD002
Inj Date : 31-OCT-2019 12:44
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\X191031.b\8260W.m
Meth Date : 19-Nov-2019 17:37 voa6.i Quant Type: ISTD
Cal Date : 31-OCT-2019 12:44 Cal File: X103105.D
Als bottle: 6 Calibration Sample, Level: 4
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

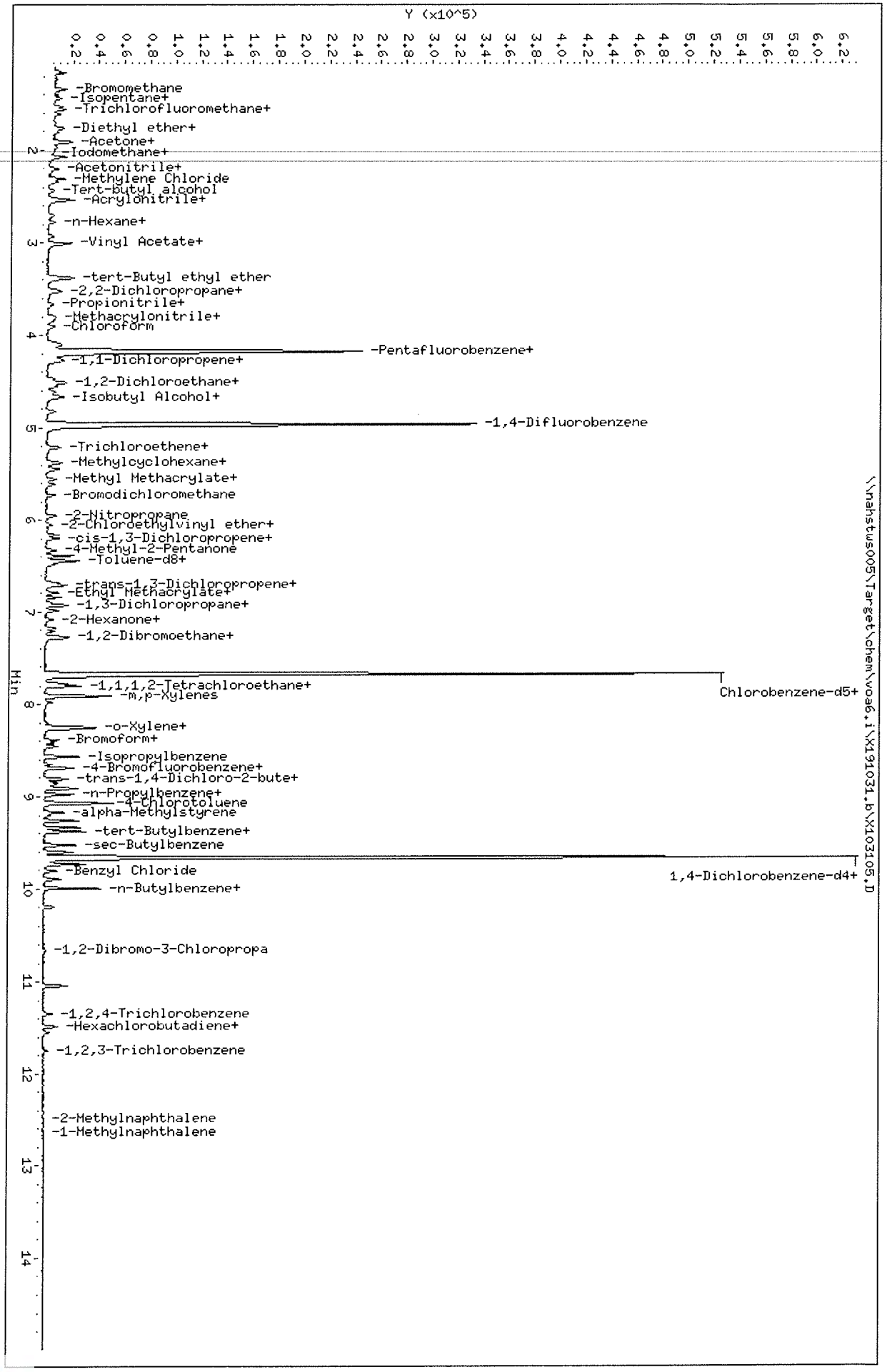
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
*	1 Pentafluorobenzene	168	4.182	4.182	(1.000)	232544	50.0000	
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	291291	50.0000	
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	268147	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.662	9.669	(1.000)	156688	50.0000	
$	35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	4578	2.00000	2.80(a)
$	69 4-Bromofluorobenzene	95	8.688	8.695	(1.133)	5980	2.00000	1.79(a)
$	30 Dibromofluoromethane	113	4.103	4.104	(0.981)	3779	2.00000	2.50(a)
$	48 Toluene-d8	98	6.388	6.389	(0.833)	14029	2.00000	2.10(a)
	60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	4234	2.00000	1.93(a)
	31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	5726	2.00000	1.96(a)
	68 1,1,2,2-Tetrachloroethane	83	8.845	8.845	(0.915)	3659	2.00000	1.63(aM)
	138 Freon TF	101	1.912	1.912	(0.457)	2873	2.00000	1.86(a)
	53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	2488	2.00000	2.04(a)
	22 1,1-Dichloroethane	63	2.921	2.922	(0.699)	5166	2.00000	1.98(a)
	11 1,1-Dichloroethene	96	1.912	1.912	(0.457)	2764	2.00000	1.86(a)
	32 1,1-Dichloropropene	75	4.282	4.283	(0.862)	4178	2.00000	1.92(aM)
	93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.216)	1216	2.00000	1.22(aM)
	71 1,2,3-Trichloropropane	75	8.867	8.867	(0.918)	3184	2.00000	1.05(aM)
	90 1,2,4-Trichlorobenzene	180	11.345	11.338	(1.174)	2720	2.00000	1.92(a)
	79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.971)	14709	2.00000	1.95(a)
	89 1,2-Dibromo-3-Chloropropane	155	10.658	10.658	(1.103)	503	2.00000	2.95(aM)
	57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	3407	2.00000	1.89(a)
	88 1,2-Dichlorobenzene	146	9.991	9.999	(1.034)	8473	2.00000	1.94(a)

Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\X103105.D Page 2
Report Date: 19-Nov-2019 17:39

	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	4.555	4.562	(0.916)	4672	2.00000	1.97(aM)
42	1,2-Dichloropropane	63	5.443	5.436	(1.095)	2831	2.00000	1.99(aM)
75	1,3,5-Trimethylbenzene	105	9.067	9.075	(0.938)	14285	2.00000	1.96(a)
83	1,3-Dichlorobenzene	146	9.605	9.612	(0.994)	9089	2.00000	1.90(a)
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	4989	2.00000	1.99(a)
84	1,4-Dichlorobenzene	146	9.683	9.684	(1.002)	9267	2.00000	1.92(a)
26	2,2-Dichloropropane	77	3.516	3.516	(0.841)	5957	2.00000	2.12(a)
24	2-Butanone	43	3.588	3.573	(0.858)	1970	4.00000	3.74(aM)
76	2-Chlorotoluene	91	8.974	8.982	(0.929)	10891	2.00000	1.93(a)
52	2-Hexanone	43	7.090	7.090	(0.924)	3012	4.00000	3.85(a)
77	4-Chlorotoluene	91	9.075	9.075	(0.939)	12961	2.00000	1.95(a)
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	14762	2.00000	1.89(a)
45	4-Methyl-2-Pentanone	43	6.324	6.331	(0.824)	4391	4.00000	3.97(a)
10	Acetone	43	1.976	1.976	(0.473)	2316	4.00000	4.86(a)
37	Benzene	78	4.512	4.512	(0.908)	15908	2.00000	2.24(a)
74	Bromobenzene	156	8.810	8.810	(0.912)	5436	2.00000	1.88(a)
29	Bromochloromethane	128	3.803	3.795	(0.909)	2624	2.00000	2.18(a)
39	Bromodichloromethane	83	5.722	5.730	(1.151)	4209	2.00000	1.82(aM)
66	Bromoform	173	8.416	8.416	(1.097)	2935	2.00000	1.69(Ta)
6	Bromomethane	94	1.338	1.331	(0.320)	3954	2.00000	0.82(a)
19	Carbon Disulfide	76	2.069	2.069	(0.495)	16437	4.00000	3.83(a)
34	Carbon Tetrachloride	117	4.261	4.268	(0.857)	5693	2.00000	2.00(aM)
59	Chlorobenzene	112	7.692	7.699	(1.003)	10166	2.00000	1.94(a)
7	Chloroethane	64	1.403	1.396	(0.336)	1786	2.00000	1.93(aM)
28	Chloroform	83	3.910	3.910	(0.935)	6020	2.00000	1.95(a)
3	Chloromethane	50	1.073	1.074	(0.257)	2728	2.00000	1.71(a)
27	cis-1,2-Dichloroethene	96	3.530	3.523	(0.844)	3645	2.00000	1.96(a)
46	cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	5187	2.00000	1.94(a)
55	Dibromochloromethane	129	7.176	7.176	(0.936)	4043	2.00000	1.82(a)
44	Dibromomethane	93	5.557	5.558	(1.118)	2153	2.00000	1.91(a)
2	Dichlorodifluoromethane	85	0.973	0.966	(0.233)	3109	2.00000	2.87(a)
61	Ethylbenzene	106	7.800	7.807	(1.017)	5202	2.00000	1.92(aM)
91	Hexachlorobutadiene	225	11.481	11.481	(1.188)	2608	2.00000	2.13(a)
67	Isopropylbenzene	105	8.566	8.566	(1.117)	15953	2.00000	1.93(a)
62	m,p-Xylenes	106	7.907	7.907	(1.031)	12901	4.00000	3.92(a)
17	Methylene Chloride	84	2.305	2.306	(0.551)	3610	2.00000	2.23(a)
87	n-Butylbenzene	91	9.999	9.999	(1.035)	10745	2.00000	1.93(a)
73	n-Propylbenzene	91	8.917	8.917	(0.923)	17276	2.00000	1.93(a)
92	Naphthalene	128	11.546	11.546	(1.195)	3529	2.00000	1.43(a)
63	o-Xylene	106	8.244	8.244	(1.075)	6463	2.00000	1.99(a)
81	sec-Butylbenzene	105	9.526	9.526	(0.986)	15125	2.00000	1.90(a)
64	Styrene	104	8.258	8.265	(1.077)	10578	2.00000	1.89(a)
78	tert-Butylbenzene	119	9.340	9.340	(0.967)	12603	2.00000	1.99(a)
56	Tetrachloroethene	164	6.926	6.933	(0.903)	4373	2.00000	2.15(a)
50	Toluene	91	6.446	6.446	(0.840)	14662	2.00000	2.00(a)
20	trans-1,2-Dichloroethene	96	2.535	2.528	(0.606)	2990	2.00000	1.91(a)
51	trans-1,3-Dichloropropene	75	6.689	6.682	(1.346)	4680	2.00000	1.87(a)
38	Trichloroethene	130	5.207	5.207	(1.048)	4094	2.00000	1.88(a)
8	Trichlorofluoromethane	101	1.561	1.553	(0.373)	5998	2.00000	1.93(a)
5	Vinyl Chloride	62	1.138	1.138	(0.272)	2738	2.00000	1.87(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.



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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

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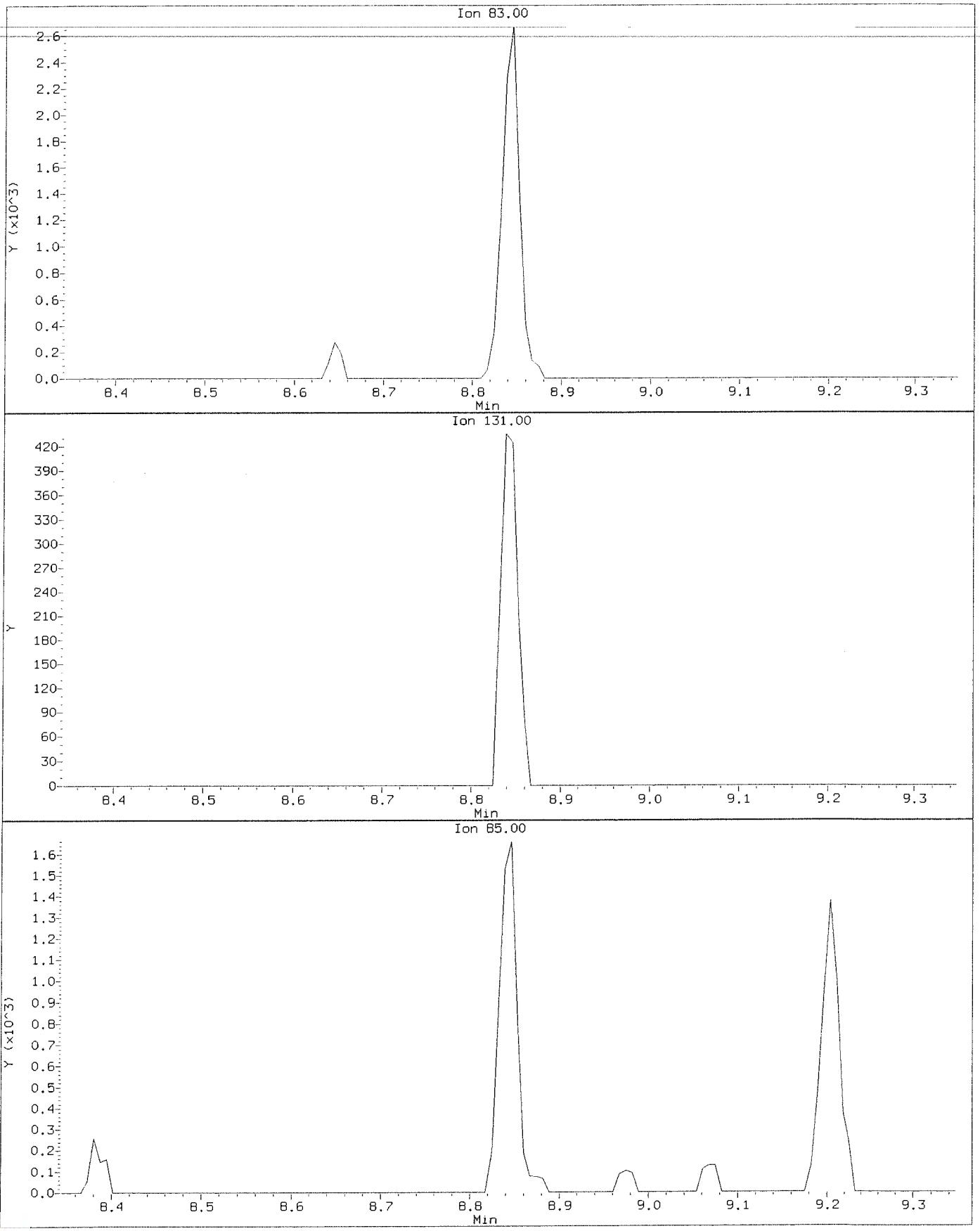
Injection Date: 31-OCT-2019 12:44
Instrument: voa6.i
Client Sample ID: VSTD002

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



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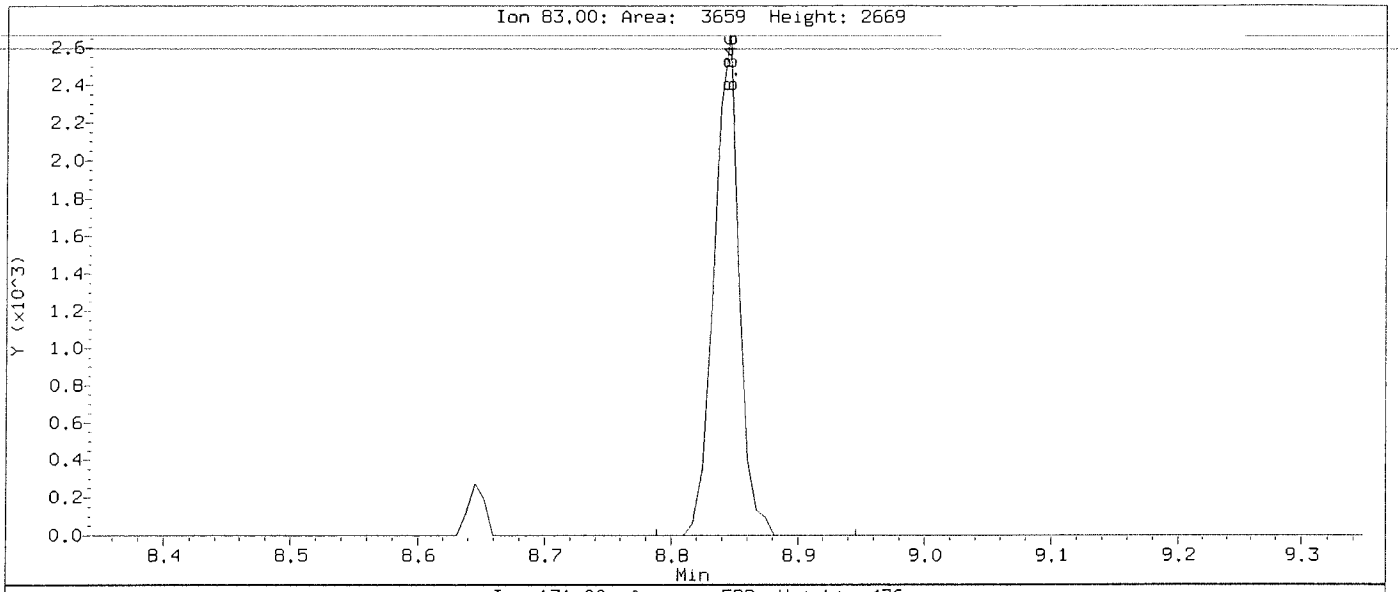
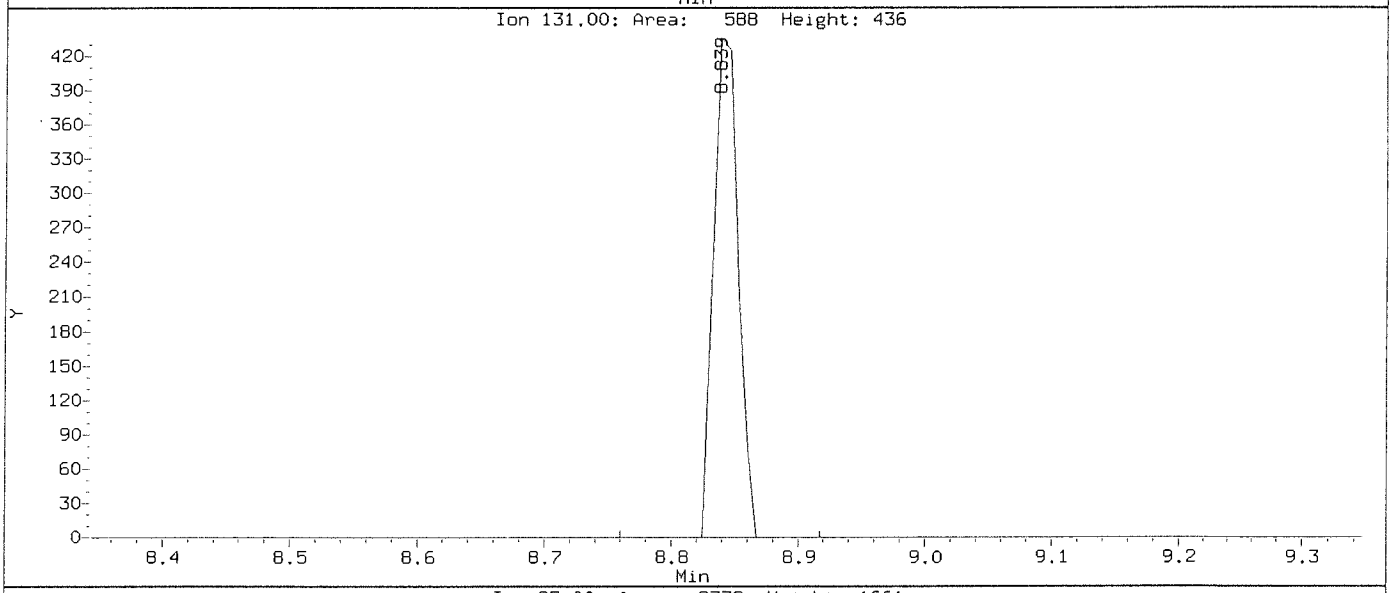
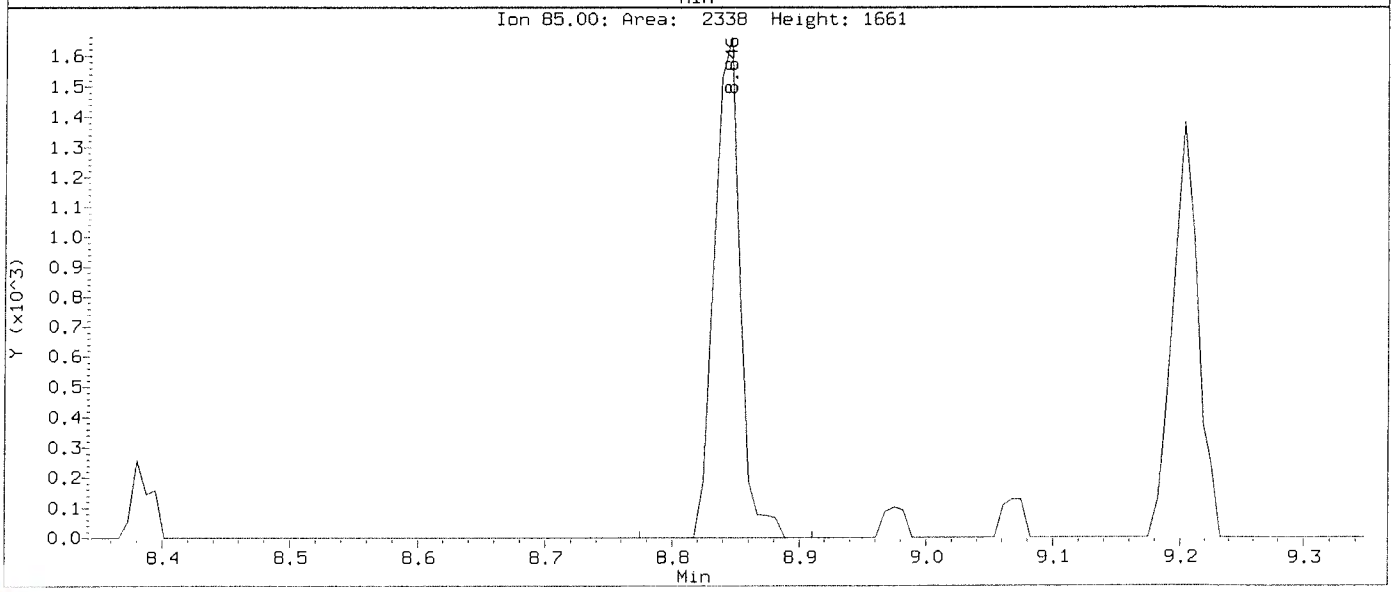
Compound: 1,1,2,2-Tetrachloroethane
CAS Number: 79-34-5







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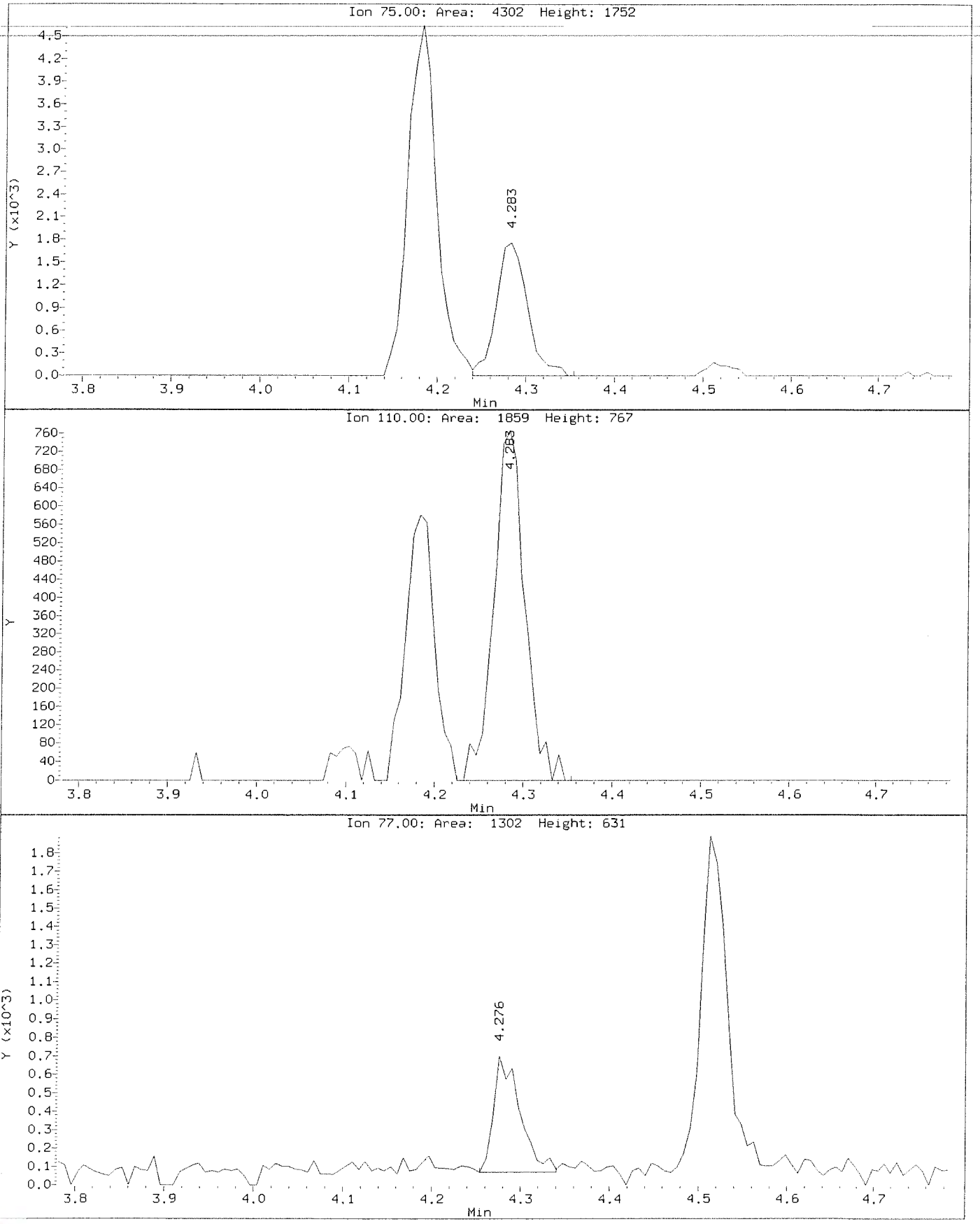
Instrument: voa6.i
Client Sample ID: VSTD002

Compound: 1,1-Dichloropropene
CAS Number: 563-58-6



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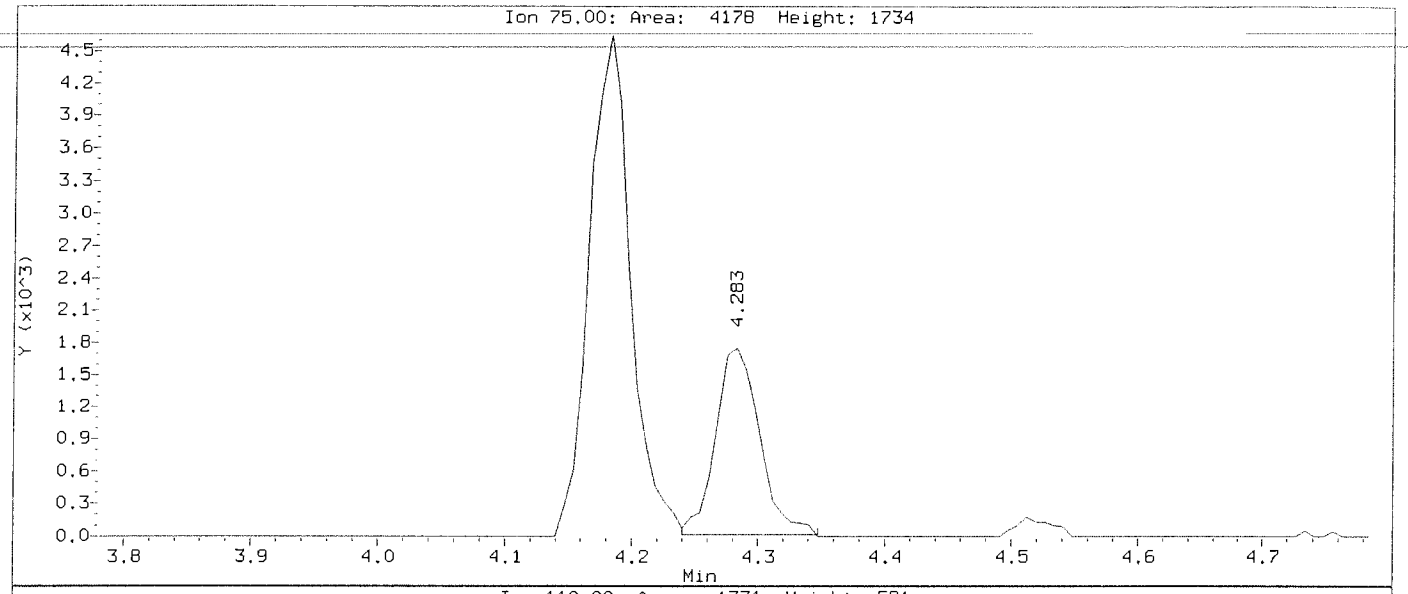
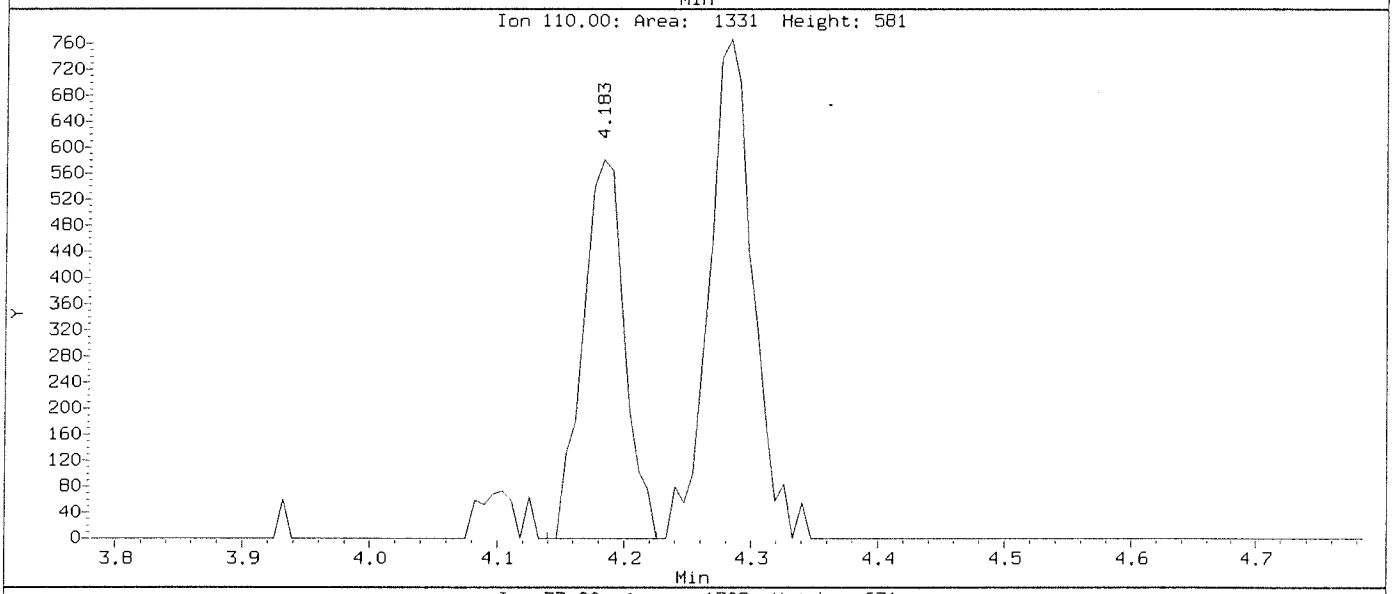
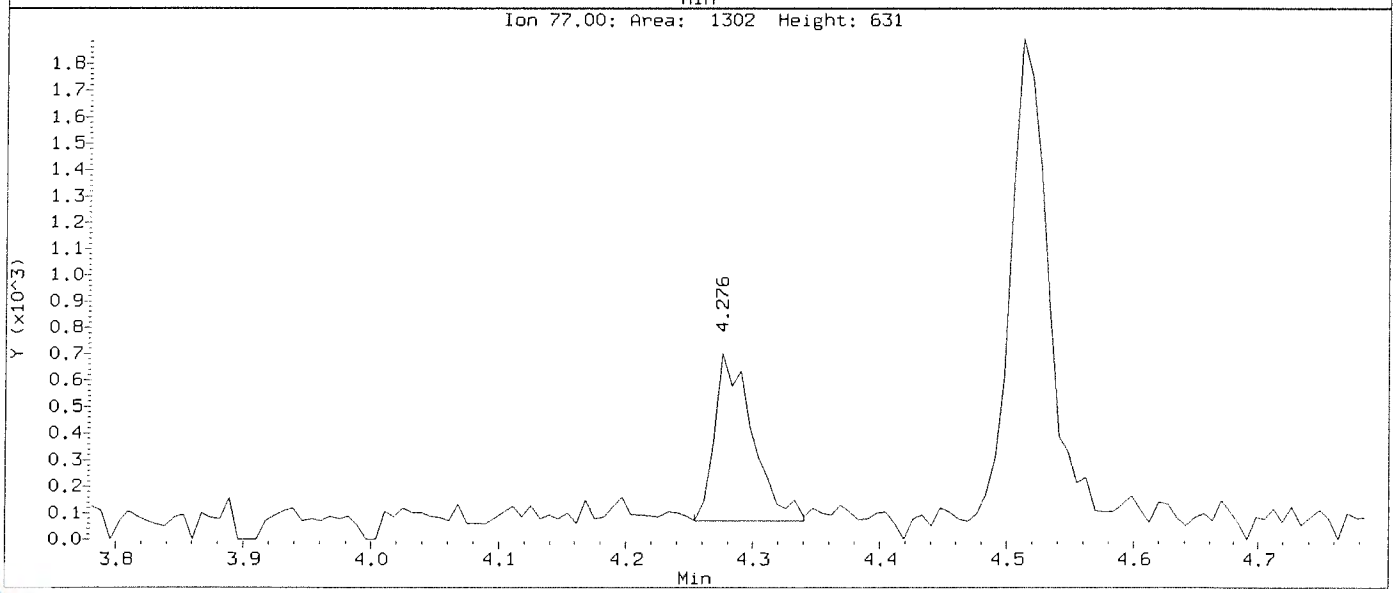
Client Sample ID: VSTD002

Compound: 1,1-Dichloropropene
CAS Number: 563-58-6







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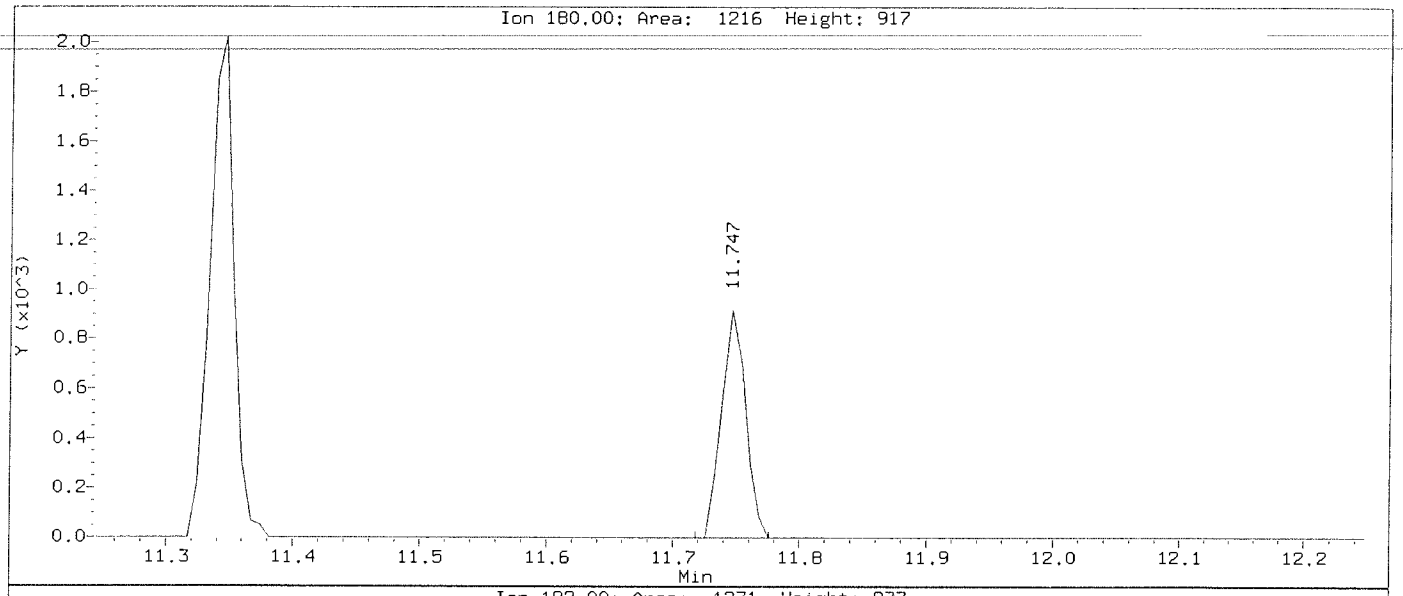
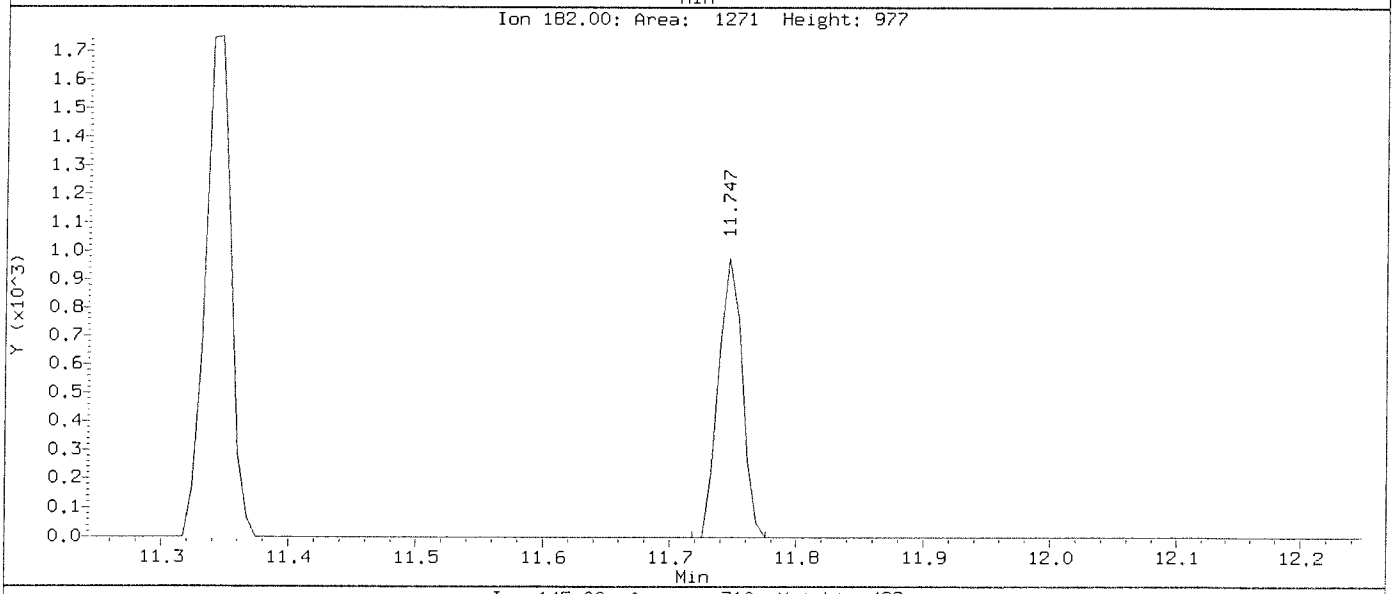
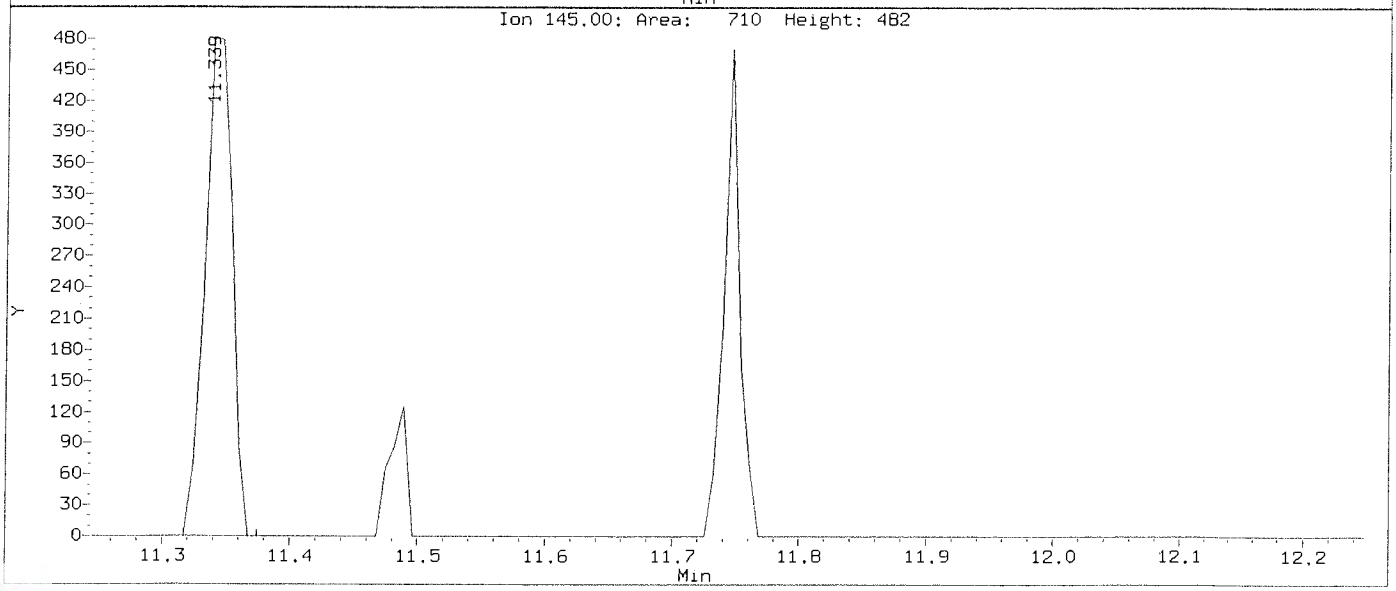
Injection Date: 31-OCT-2019 12:44
Instrument: voa6.i
Client Sample ID: VSTD002

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







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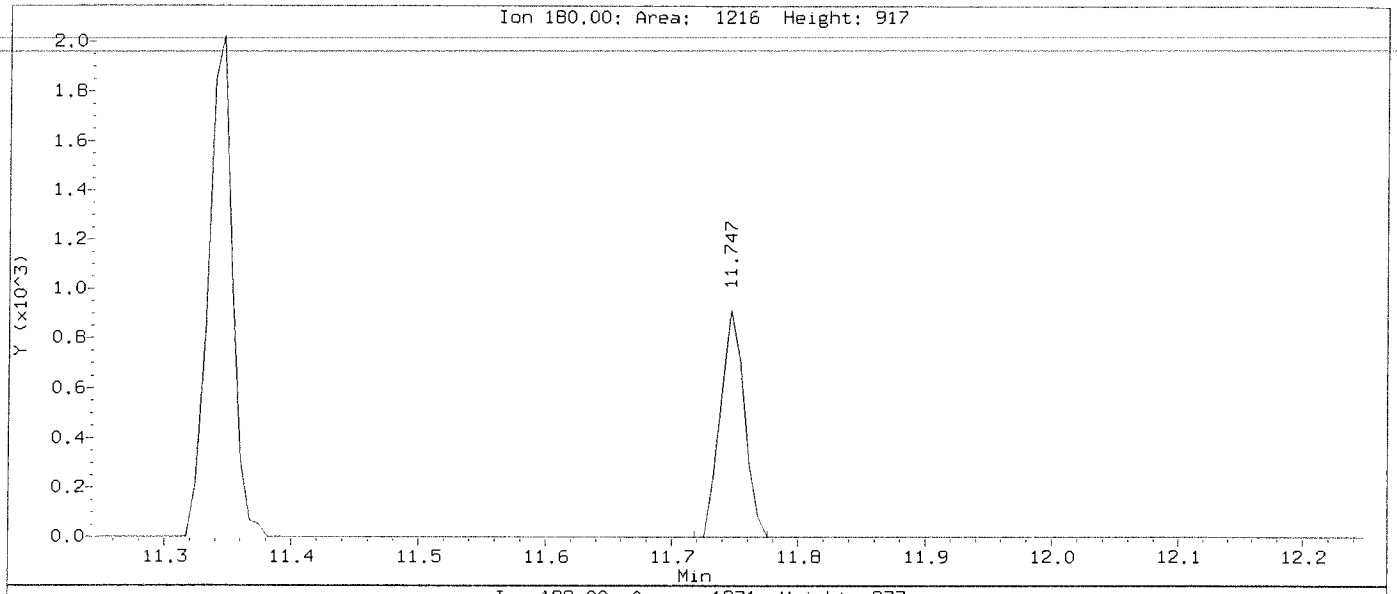
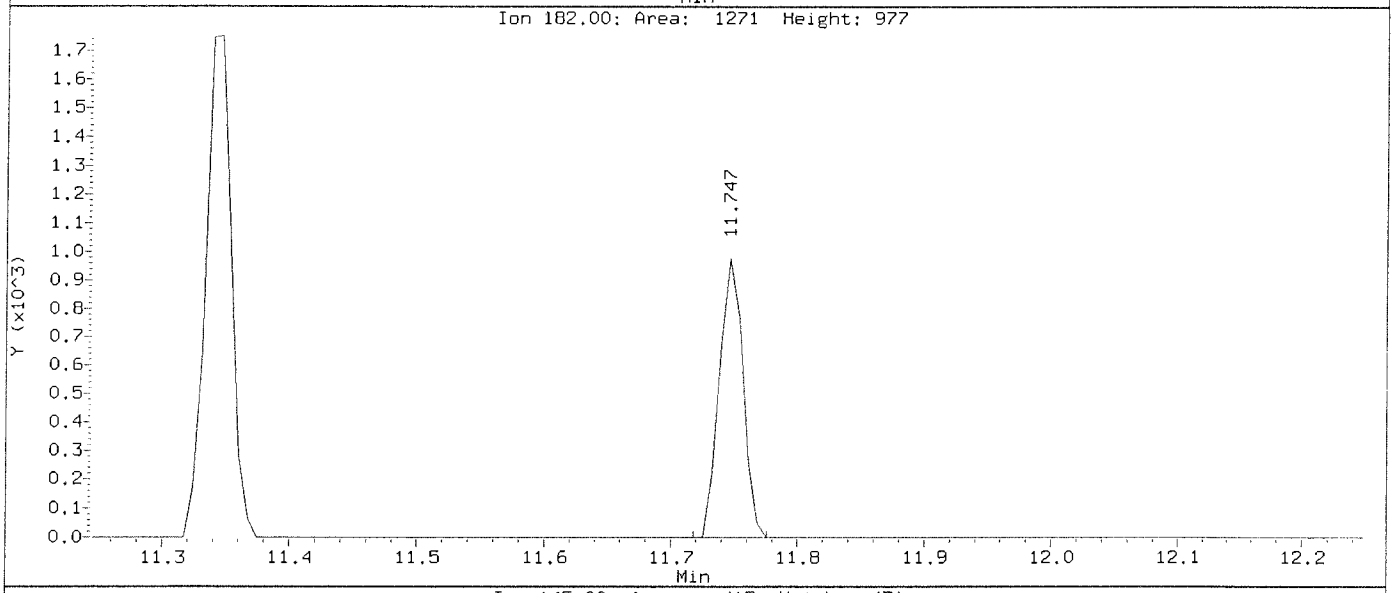
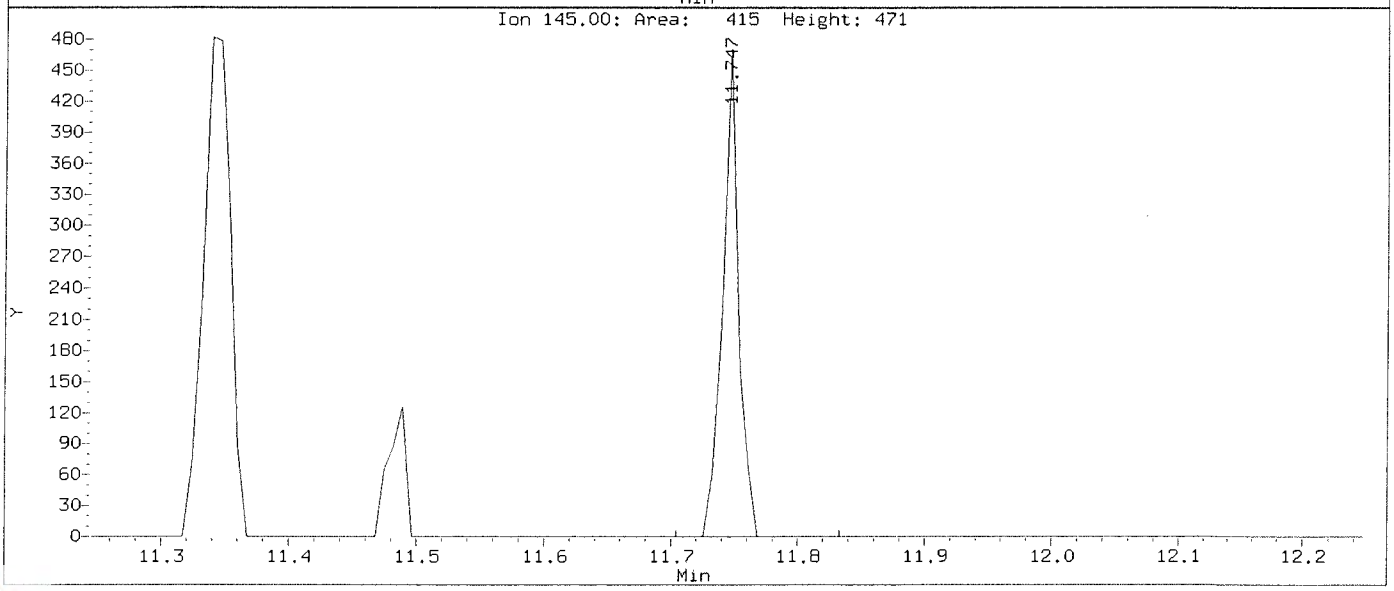
Compound: 1,2,3-Trichlorobenzene
CAS Number: 87-61-6







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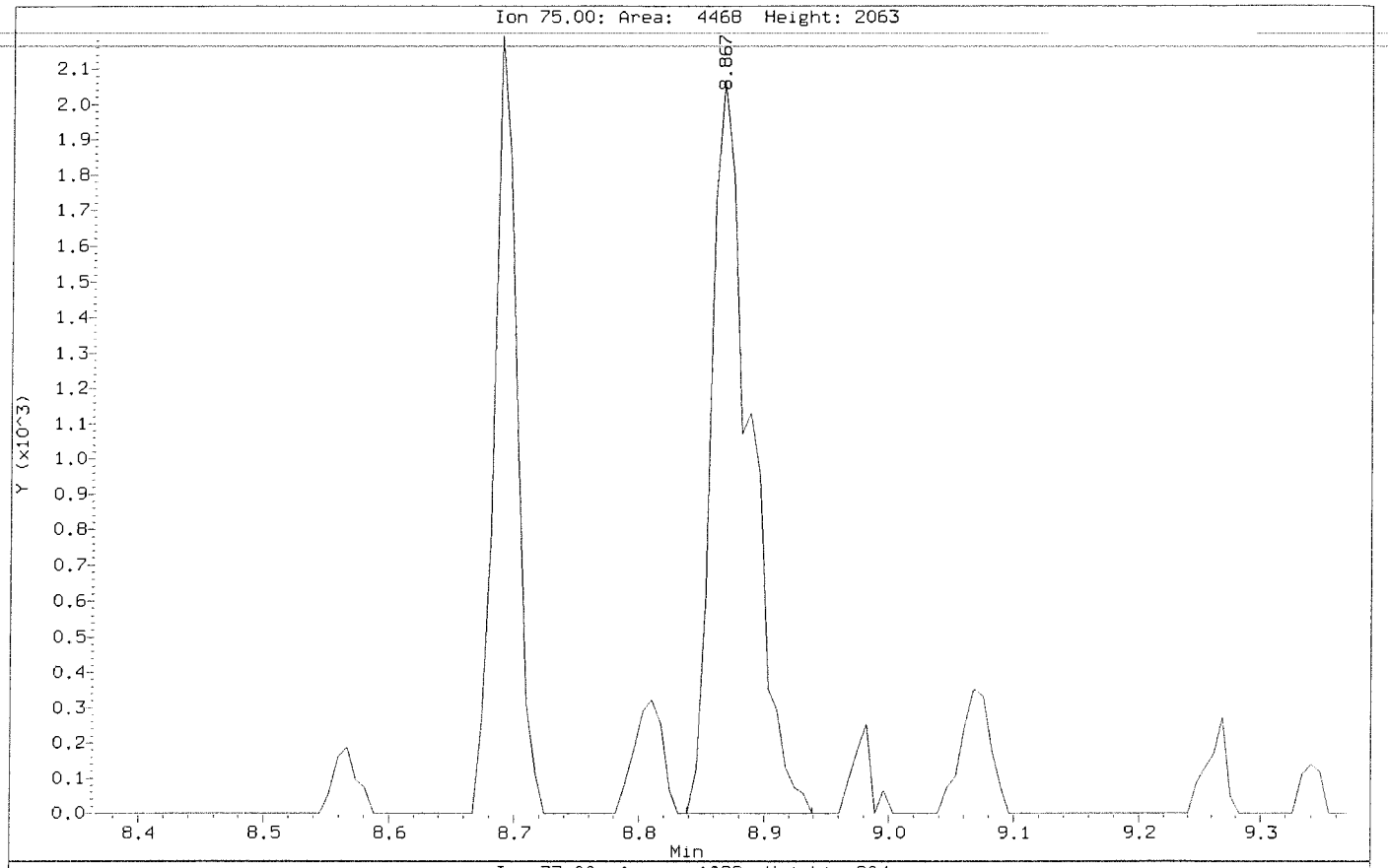
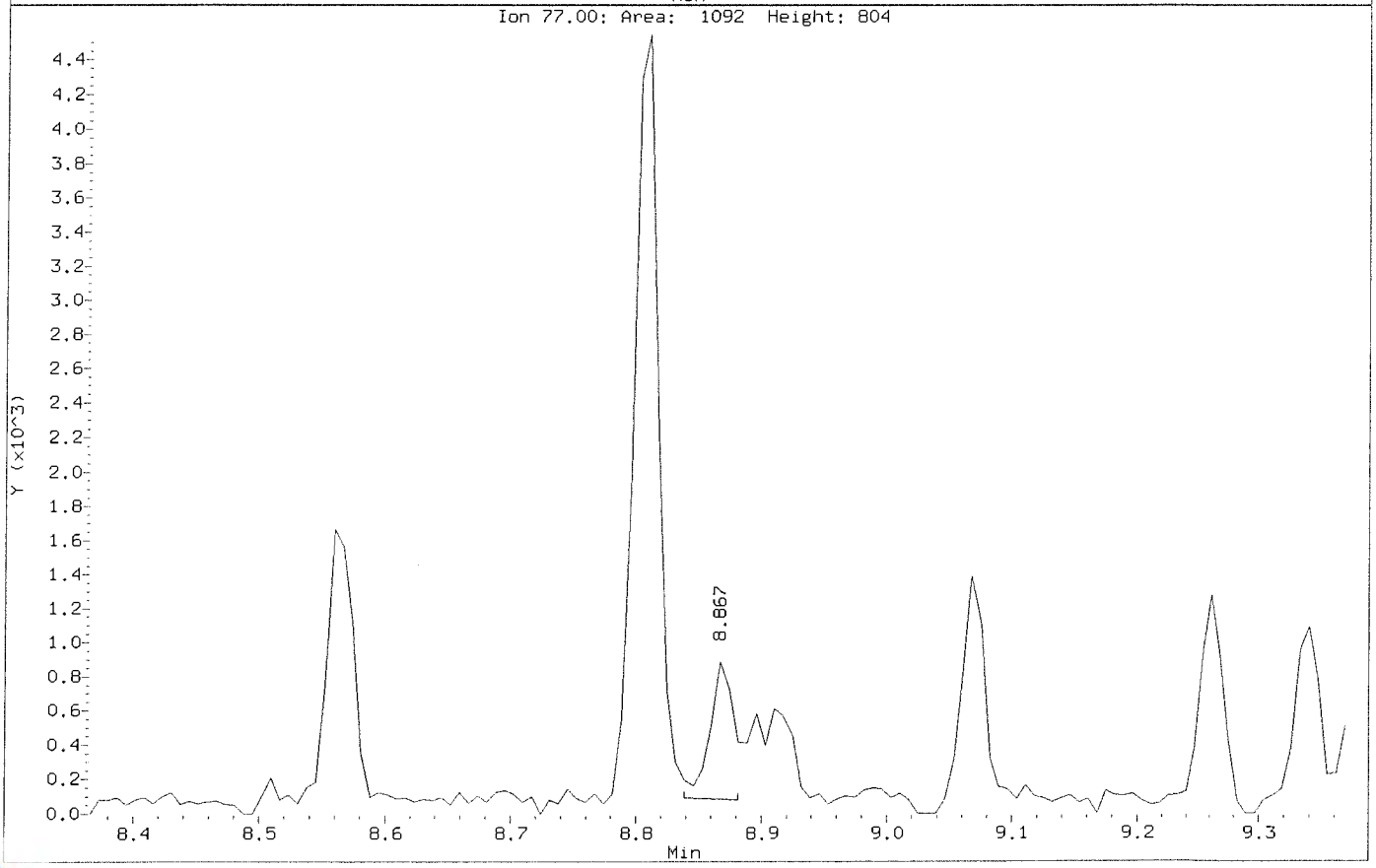
Injection Date: 31-OCT-2019 12:44
Instrument: voa6.i
Client Sample ID: VSTD002

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





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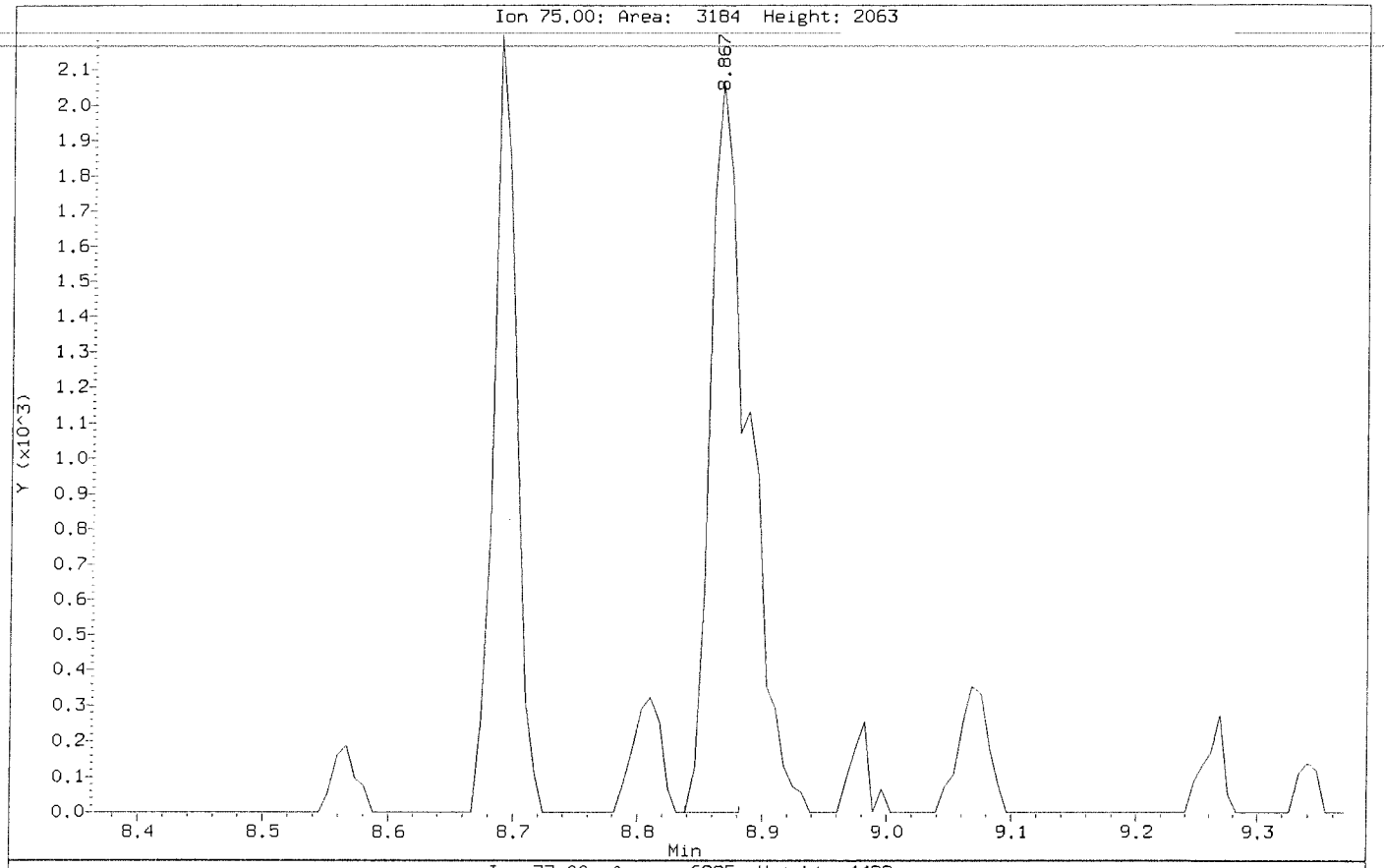
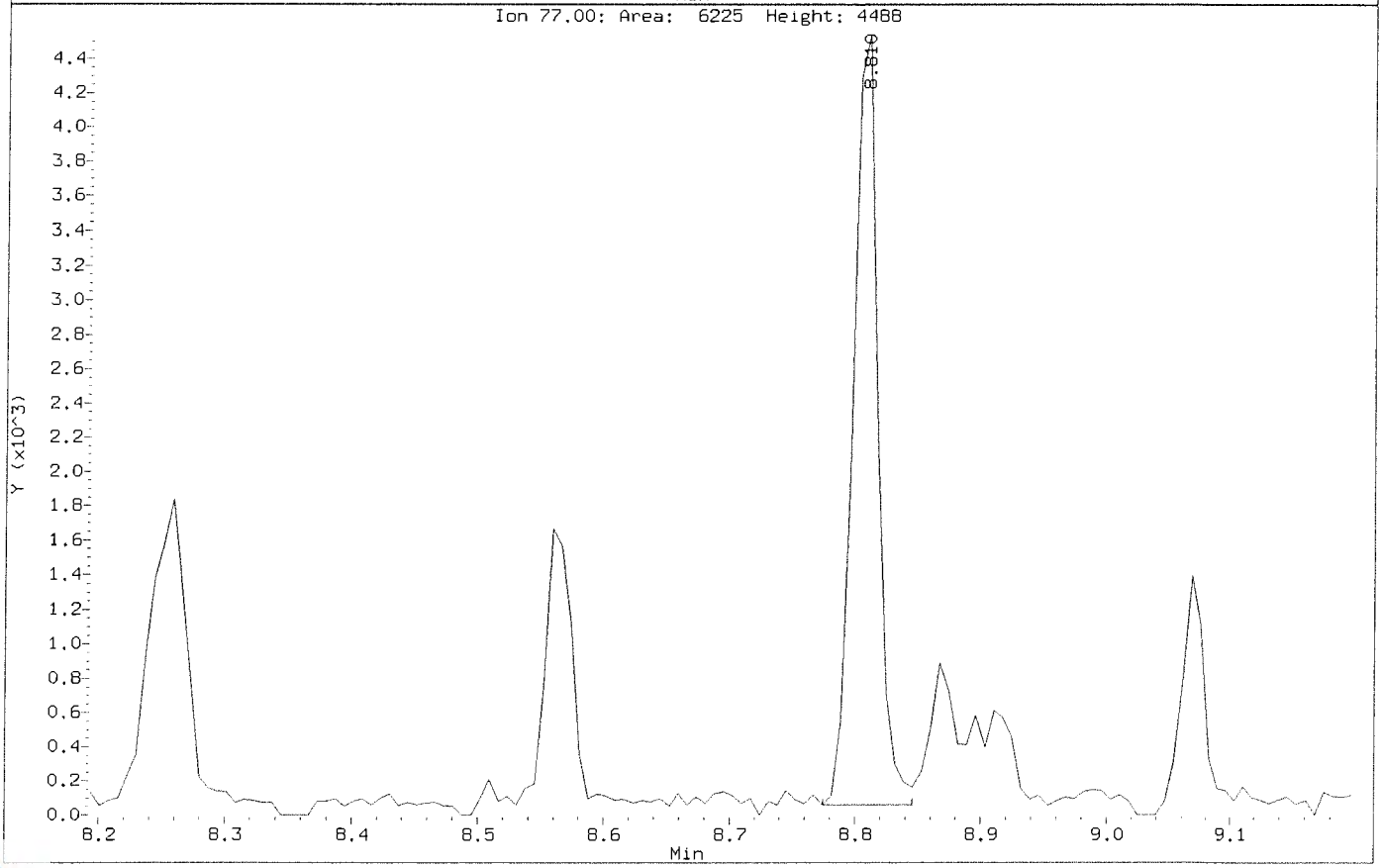
Instrument: voa6.i
Client Sample ID: VSTD002

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





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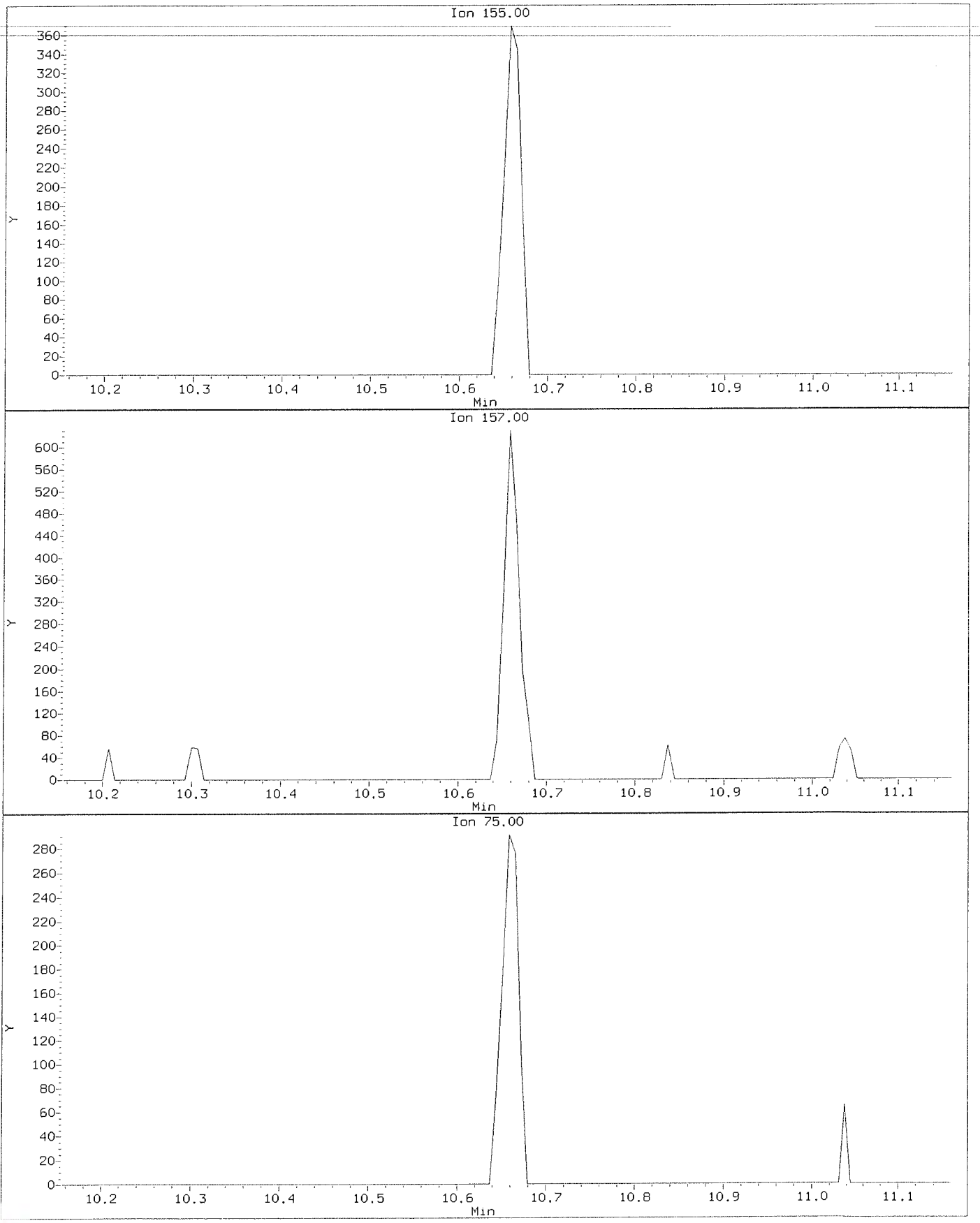
Injection Date: 31-OCT-2019 12:44
Instrument: voa6.i
Client Sample ID: VSTD002

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



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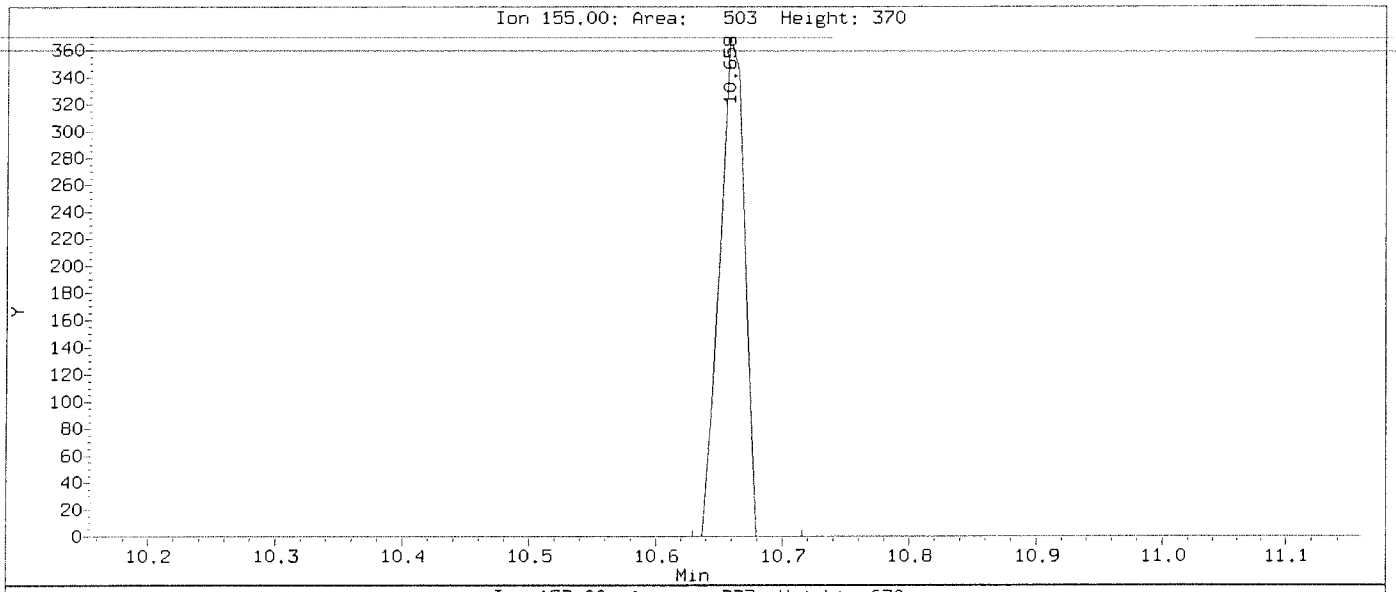
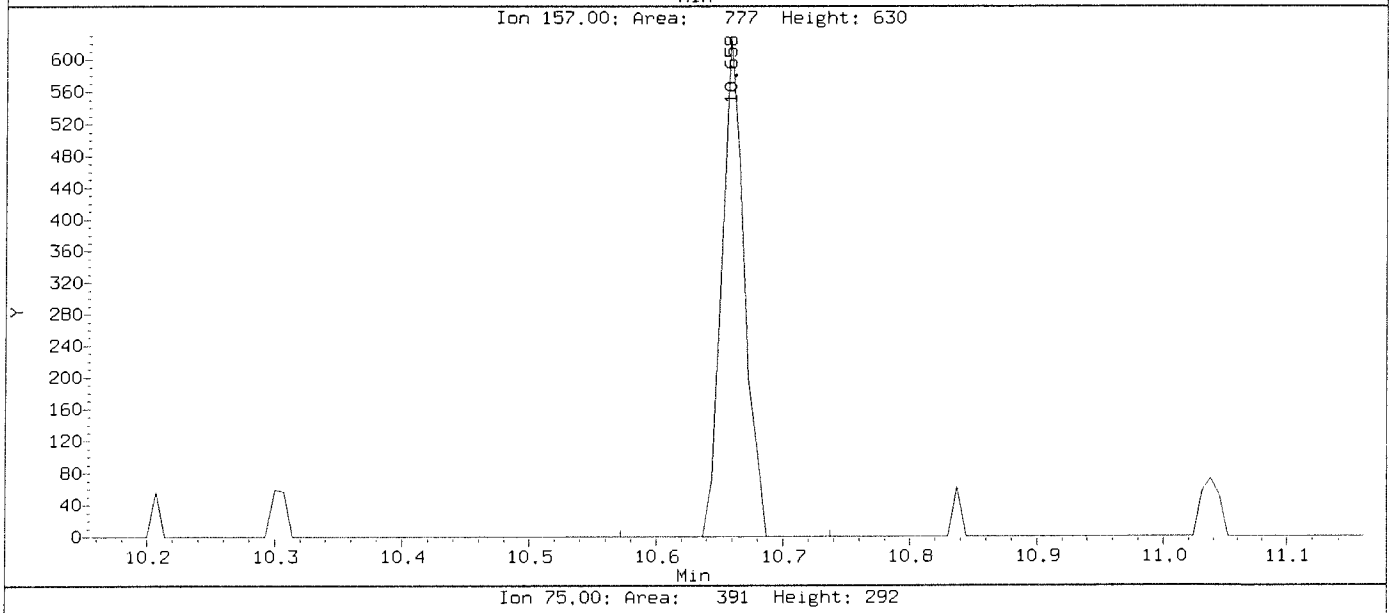
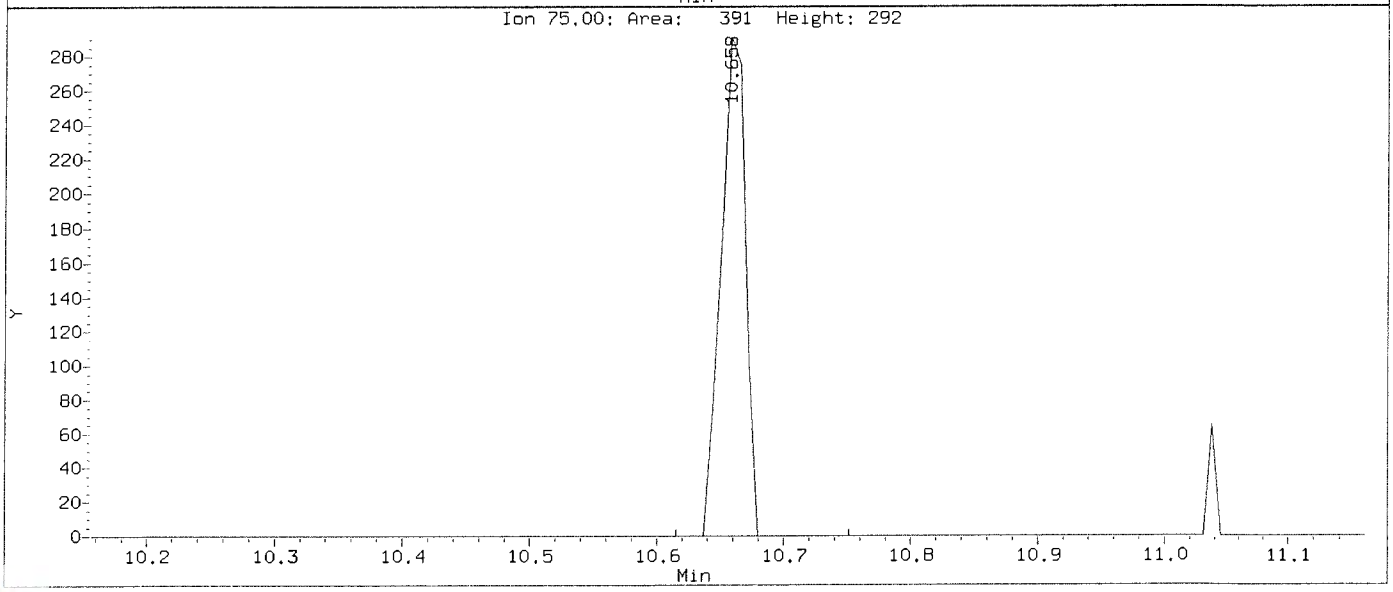
Client Sample ID: VSTD002

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







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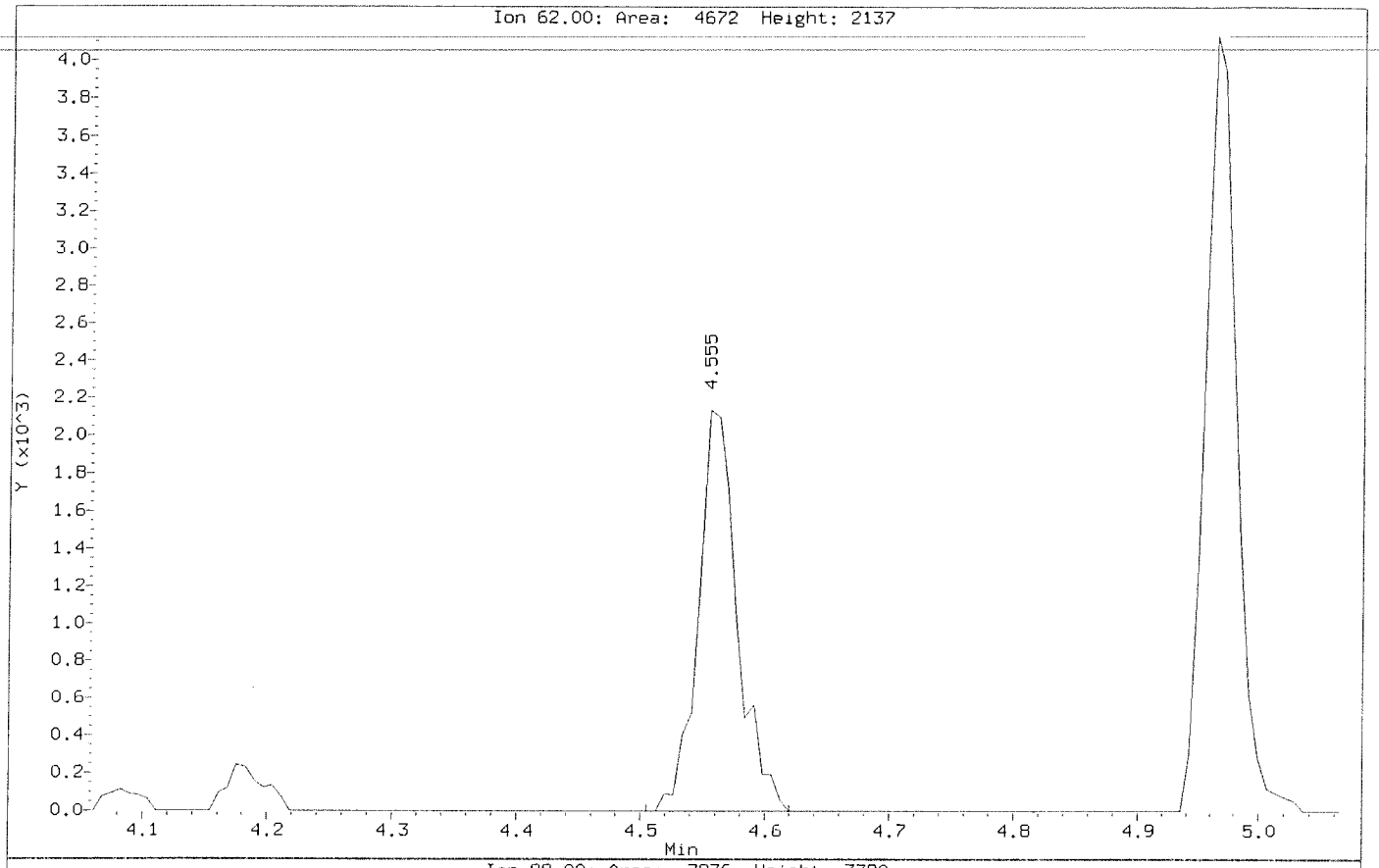
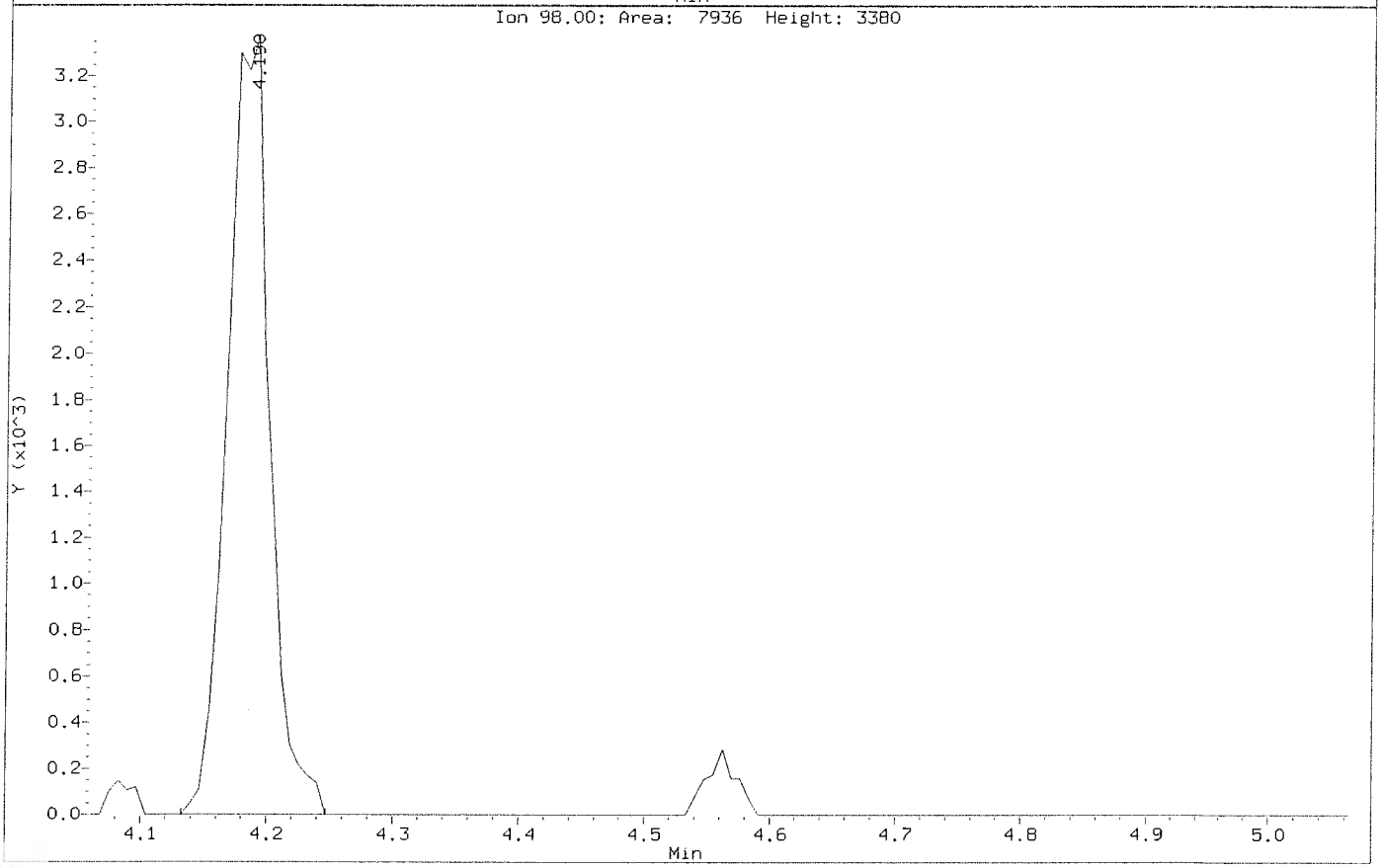
Injection Date: 31-OCT-2019 12:44
Instrument: voa6.i
Client Sample ID: VSTD002

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





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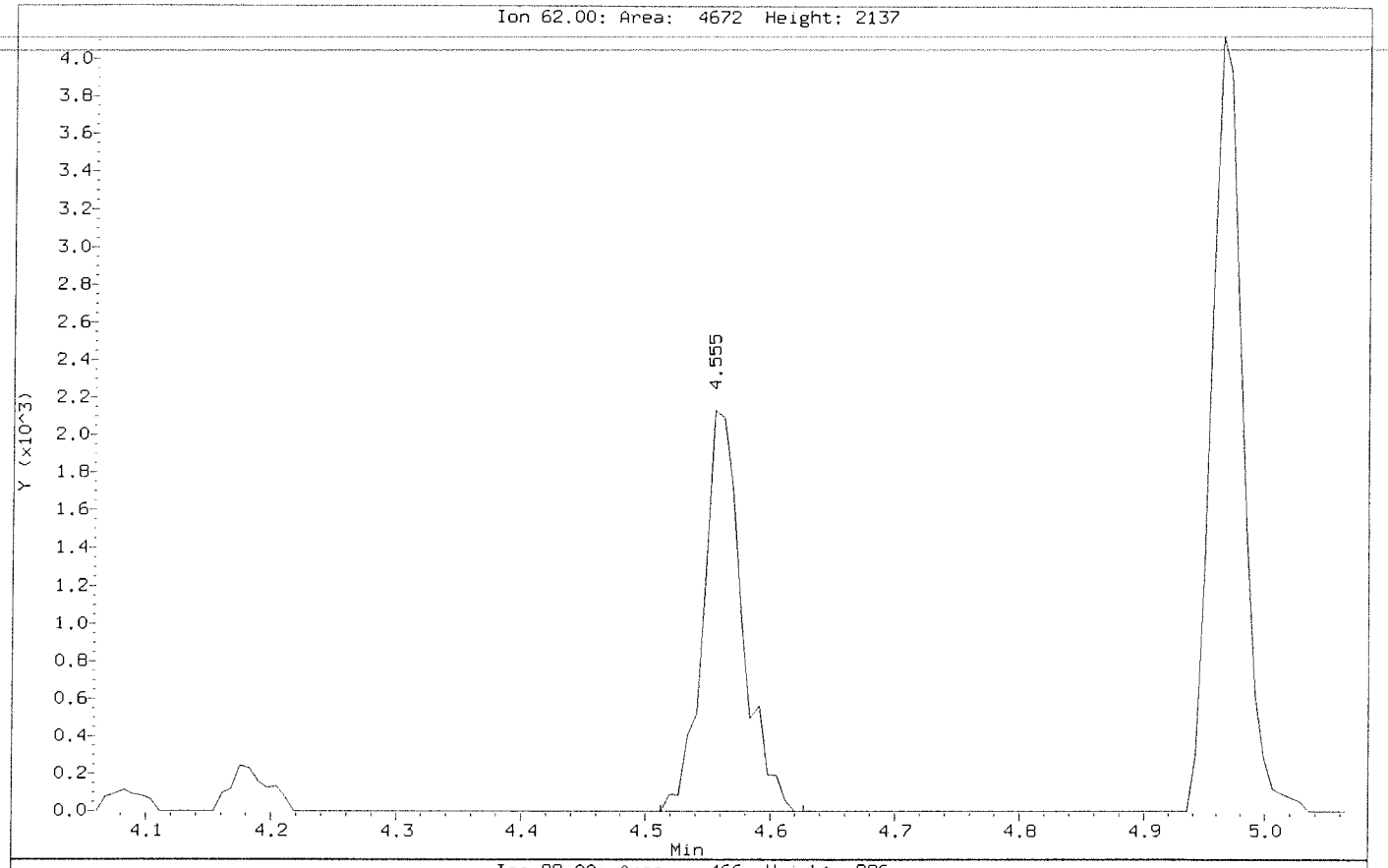
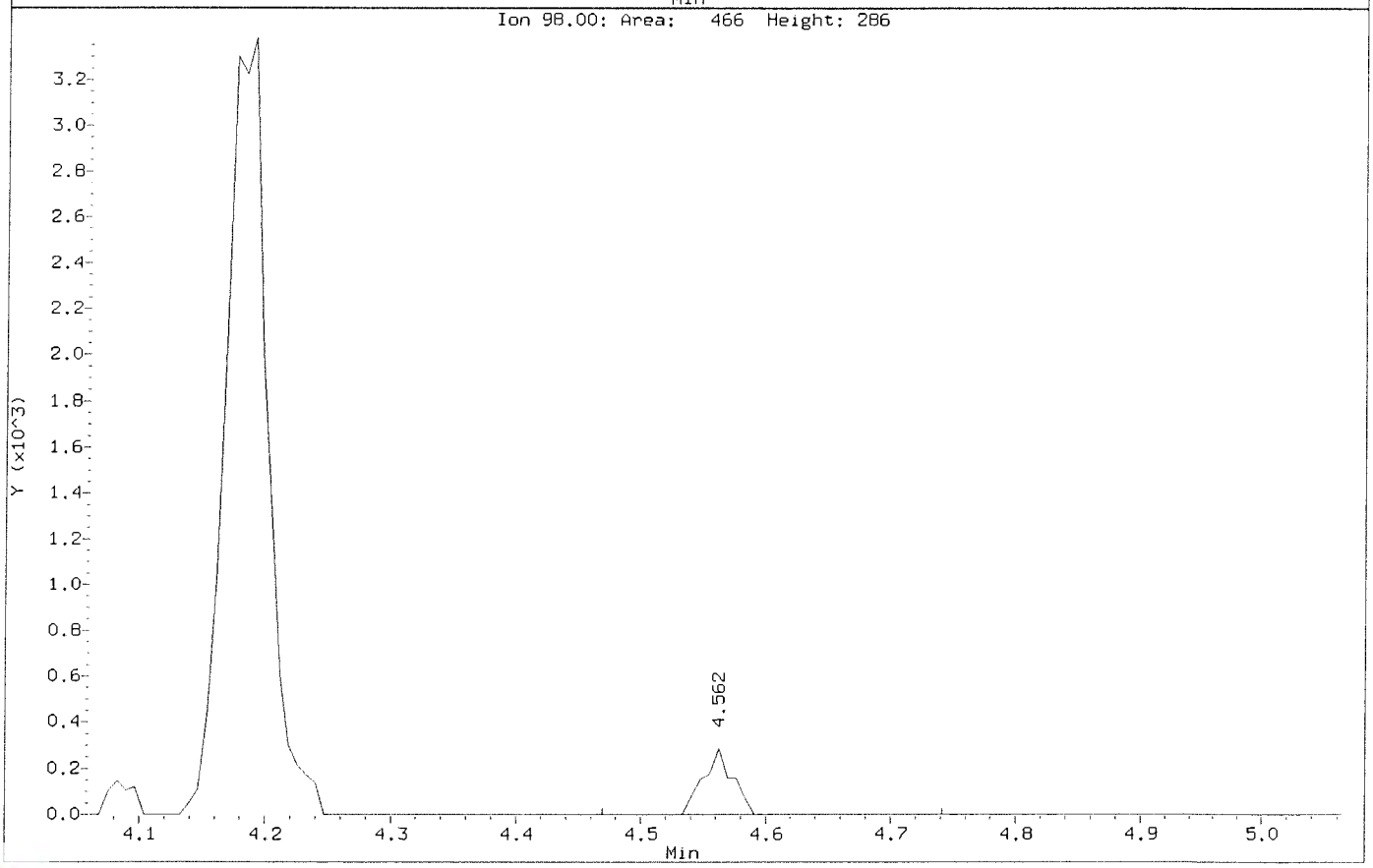
Injection Date: 31-OCT-2019 12:44
Instrument: voa6.i
Client Sample ID: VSTD002

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





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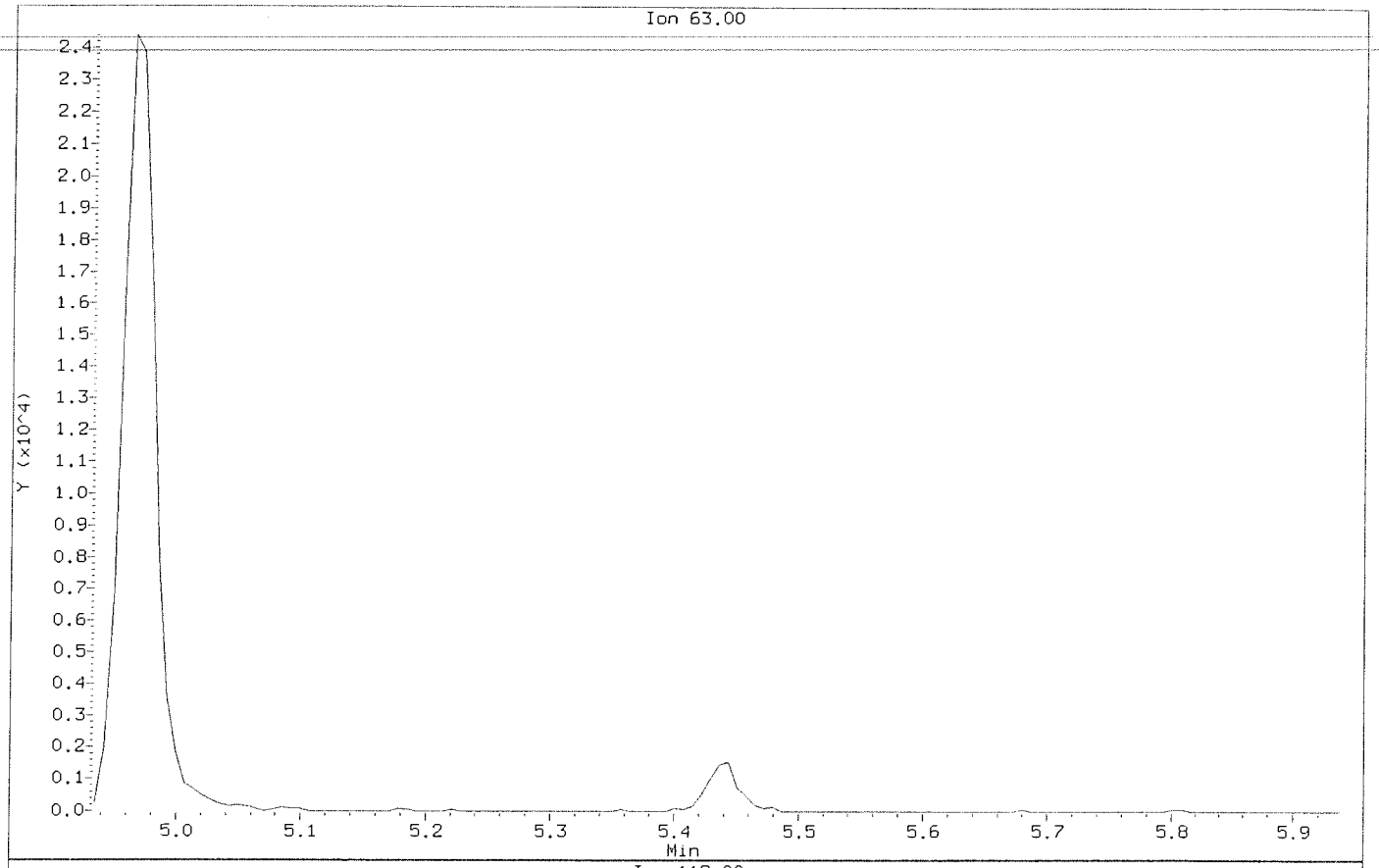
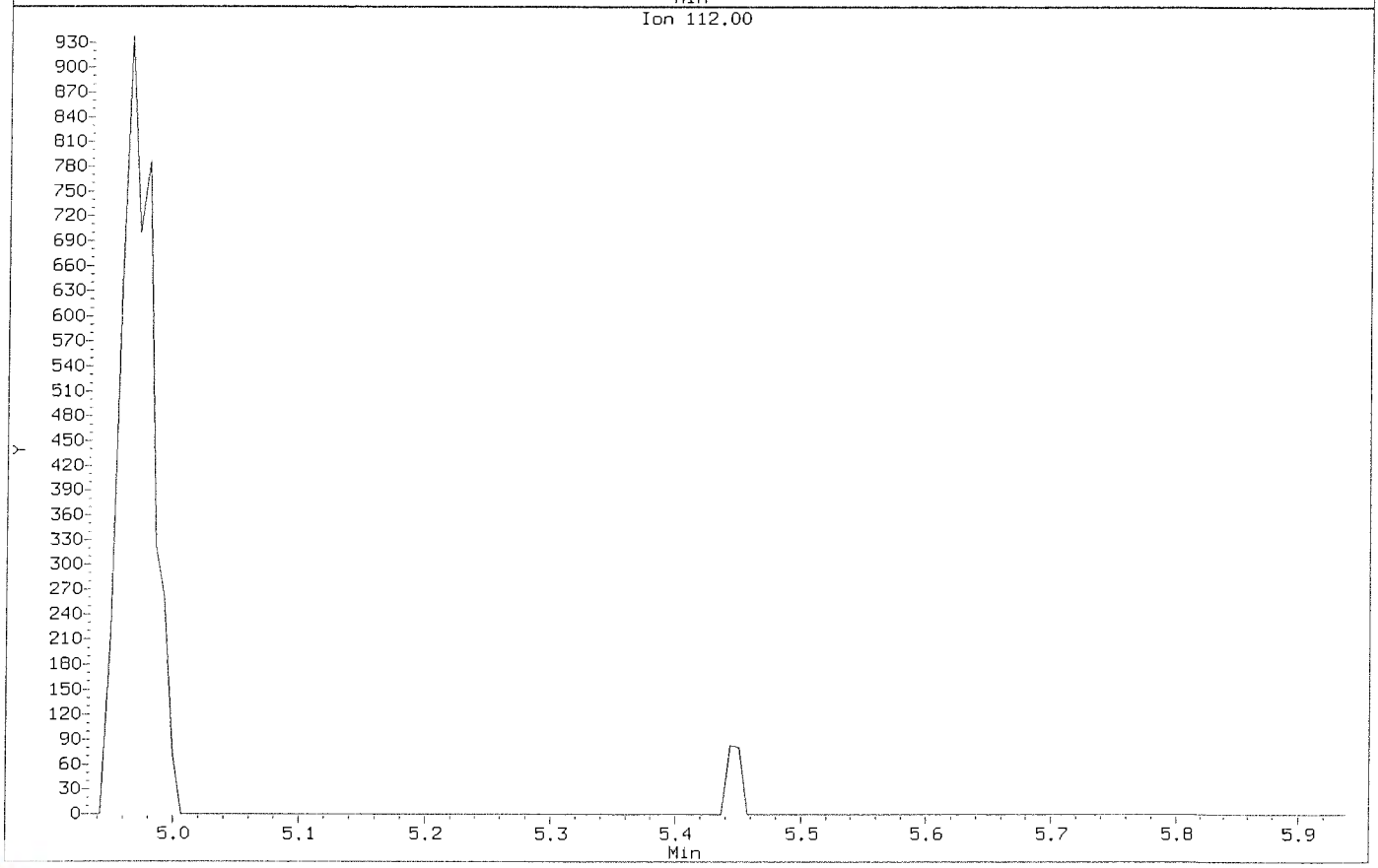
Injection Date: 31-OCT-2019 12:44
Instrument: voa6.i
Client Sample ID: VSTD002

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





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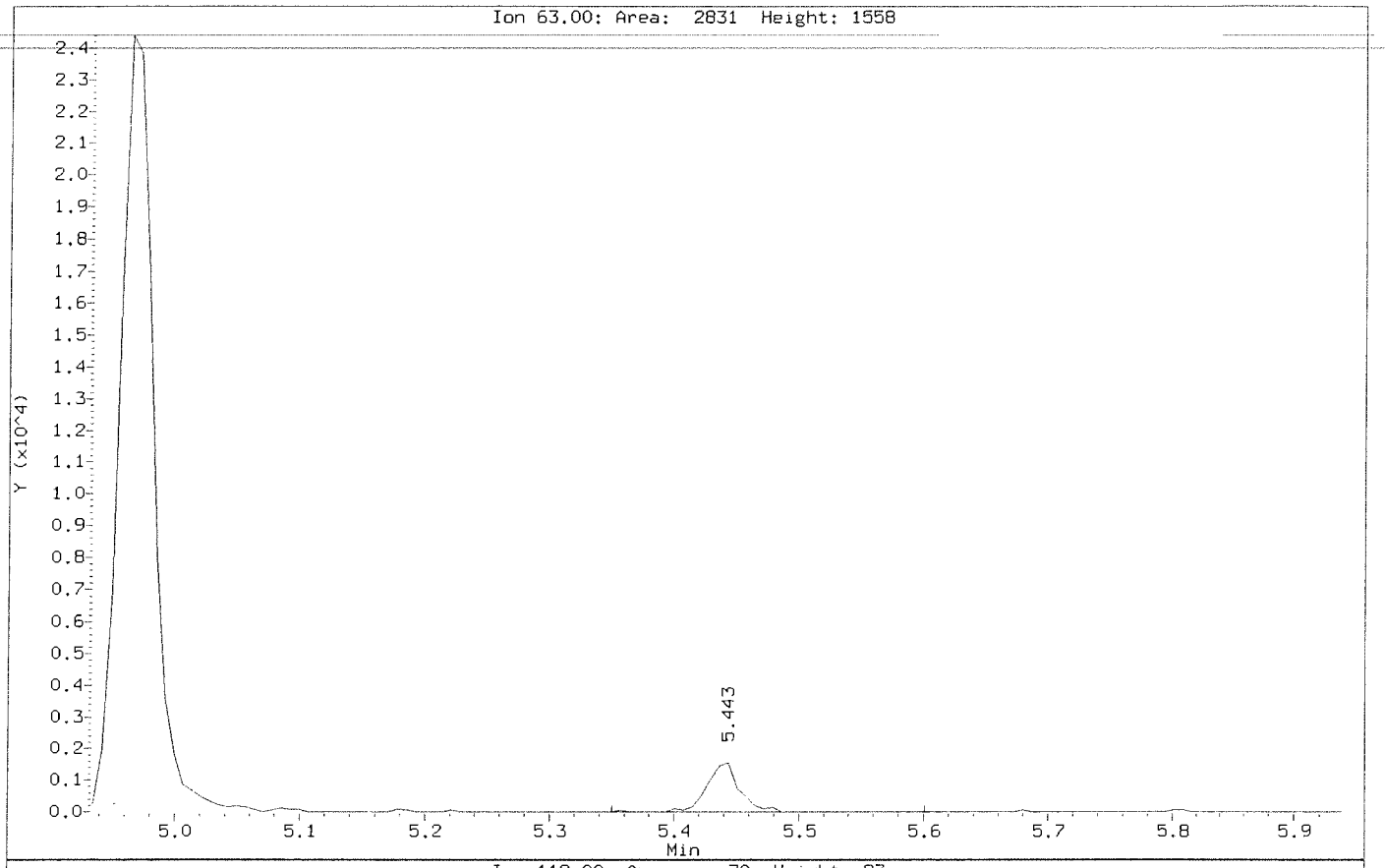
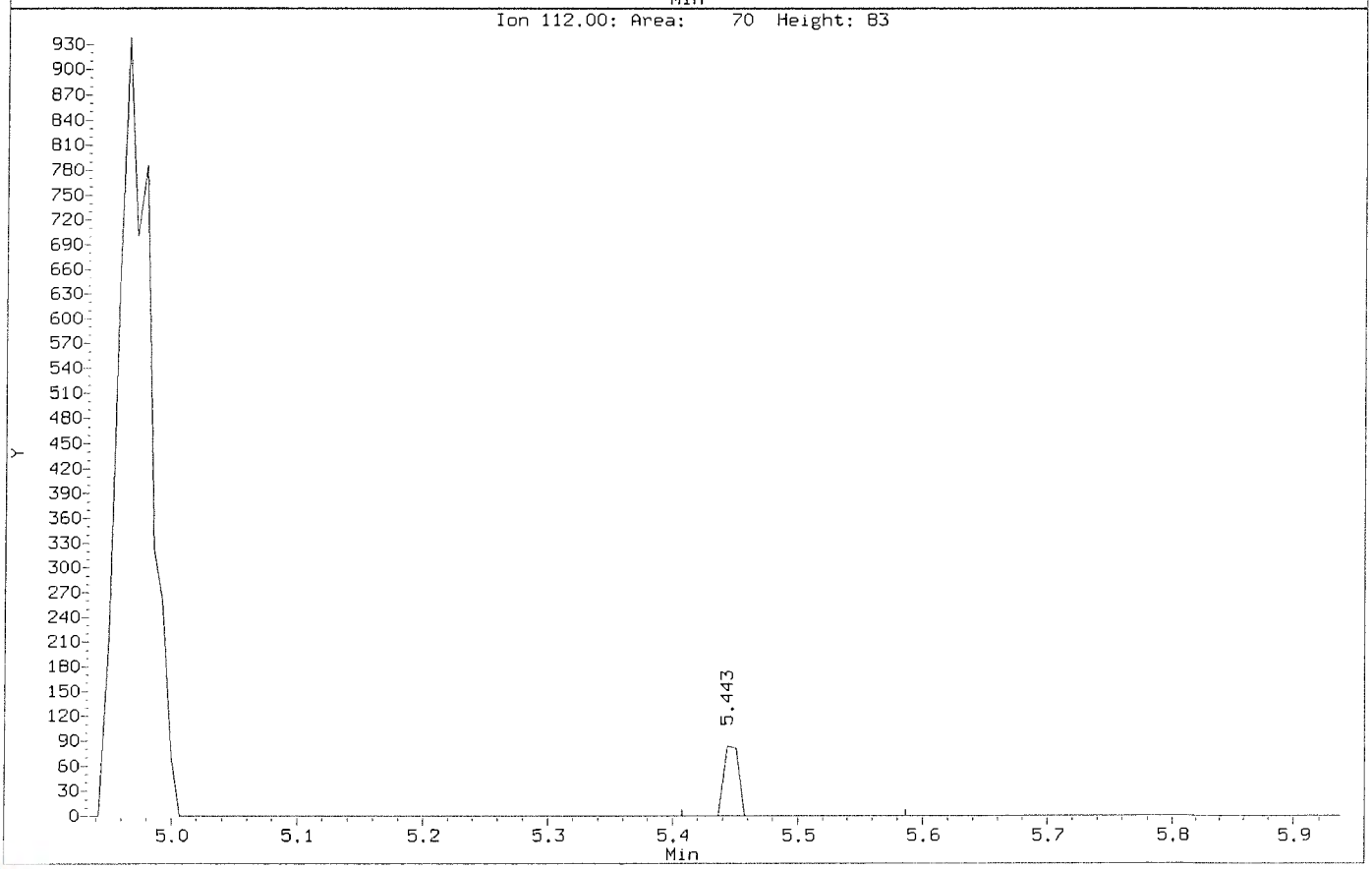
Instrument: voa6.i
Client Sample ID: VSTD002

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





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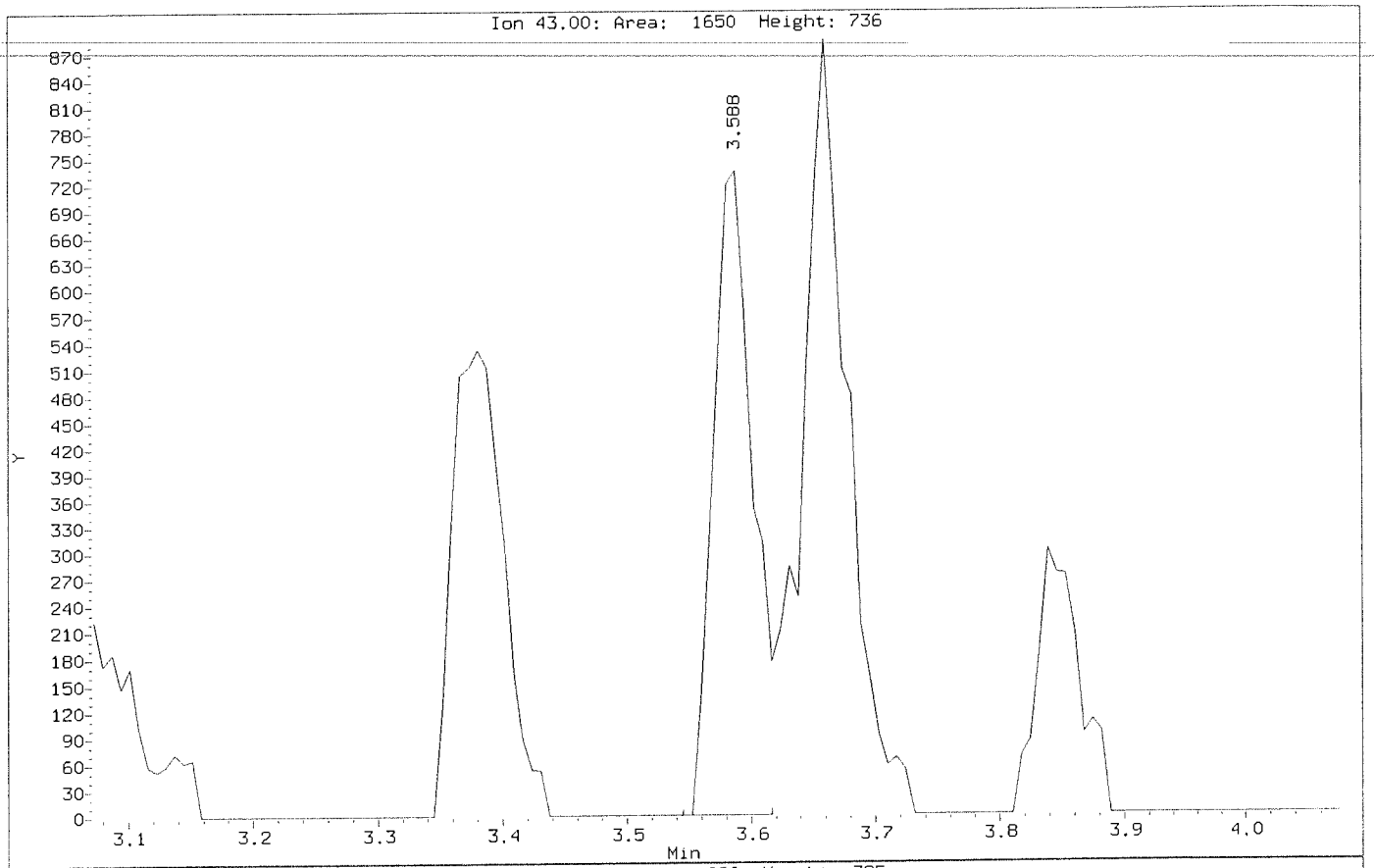
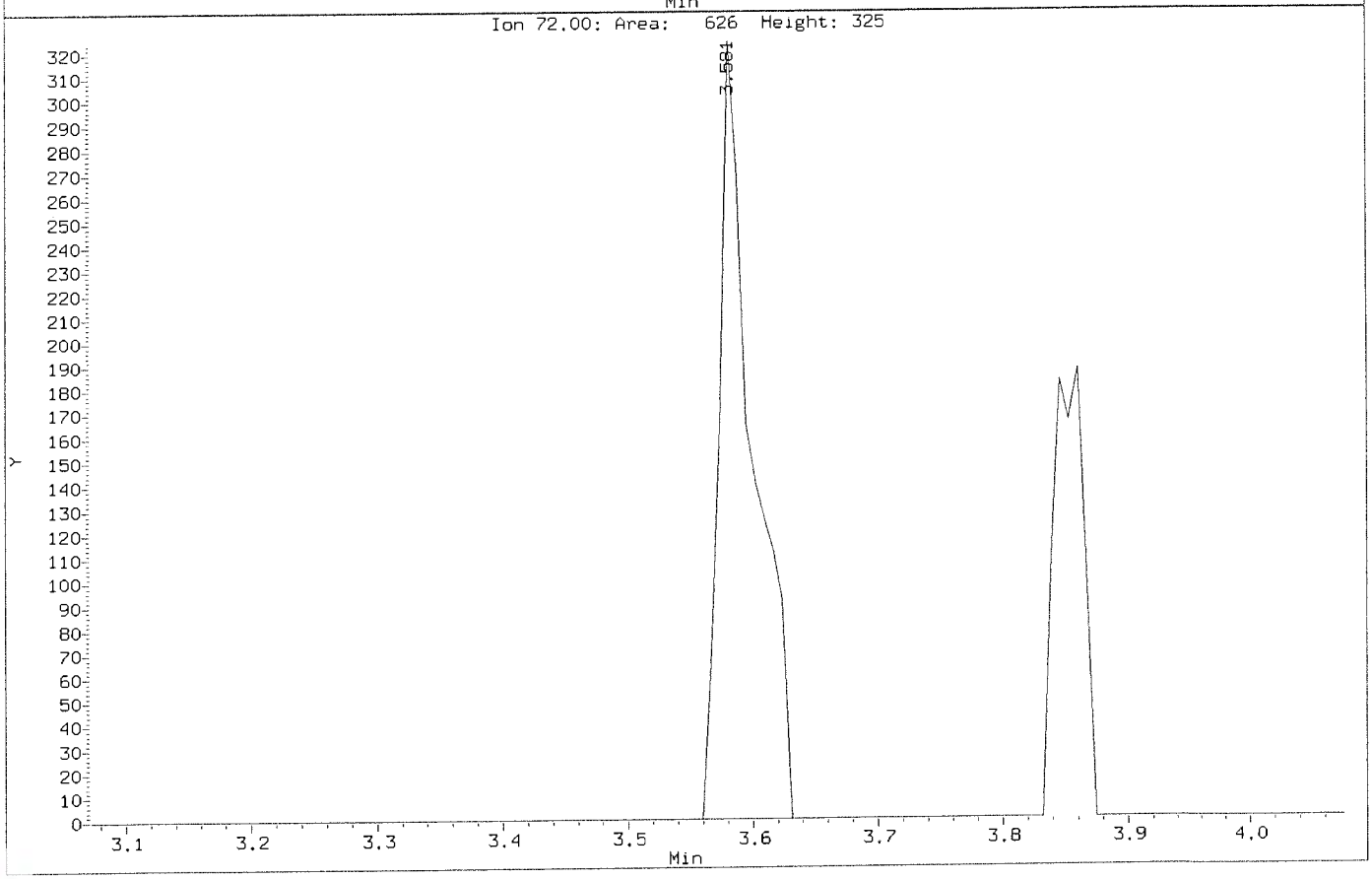
Injection Date: 31-OCT-2019 12:44
Instrument: voa6.i
Client Sample ID: VSTD002

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





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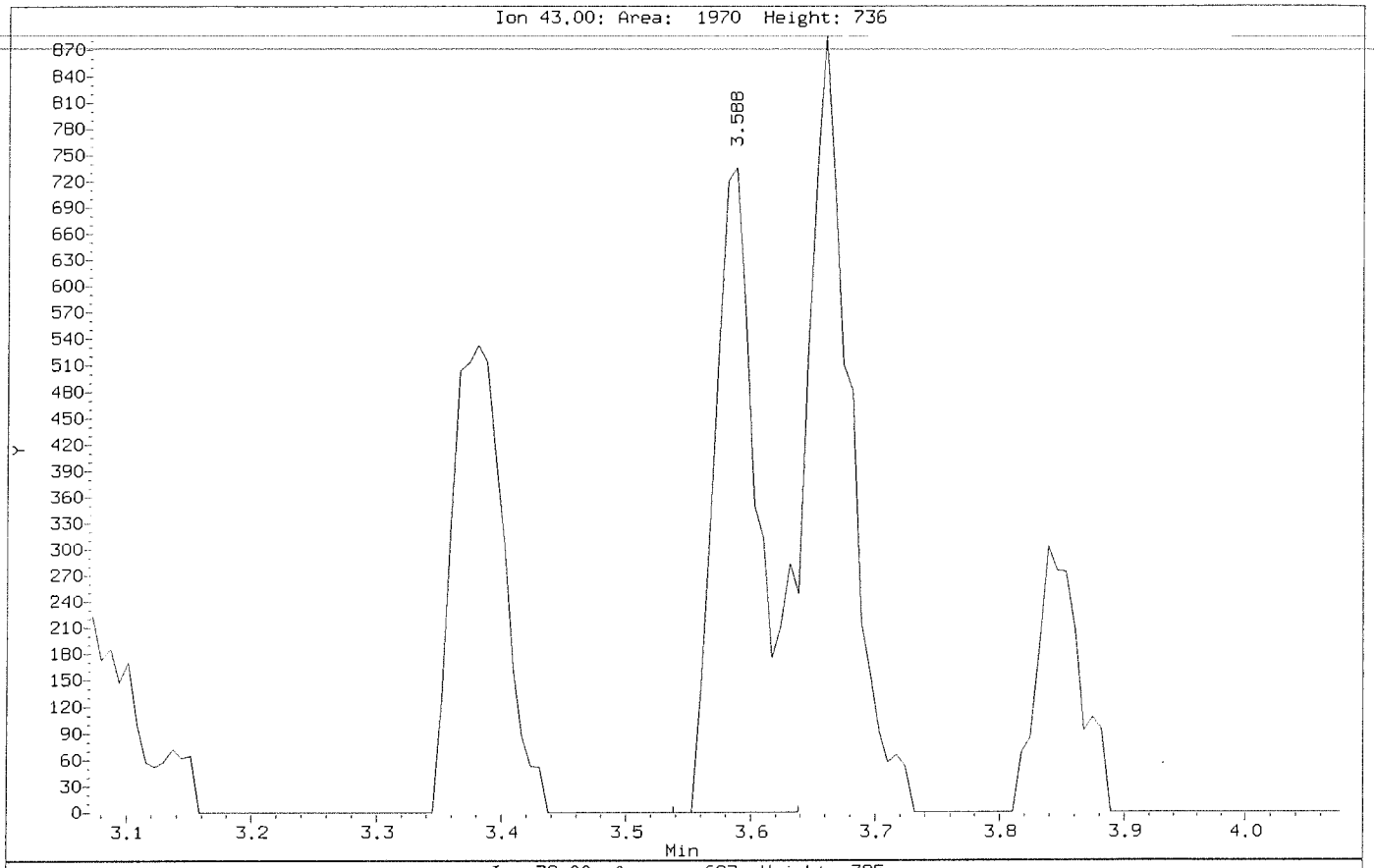
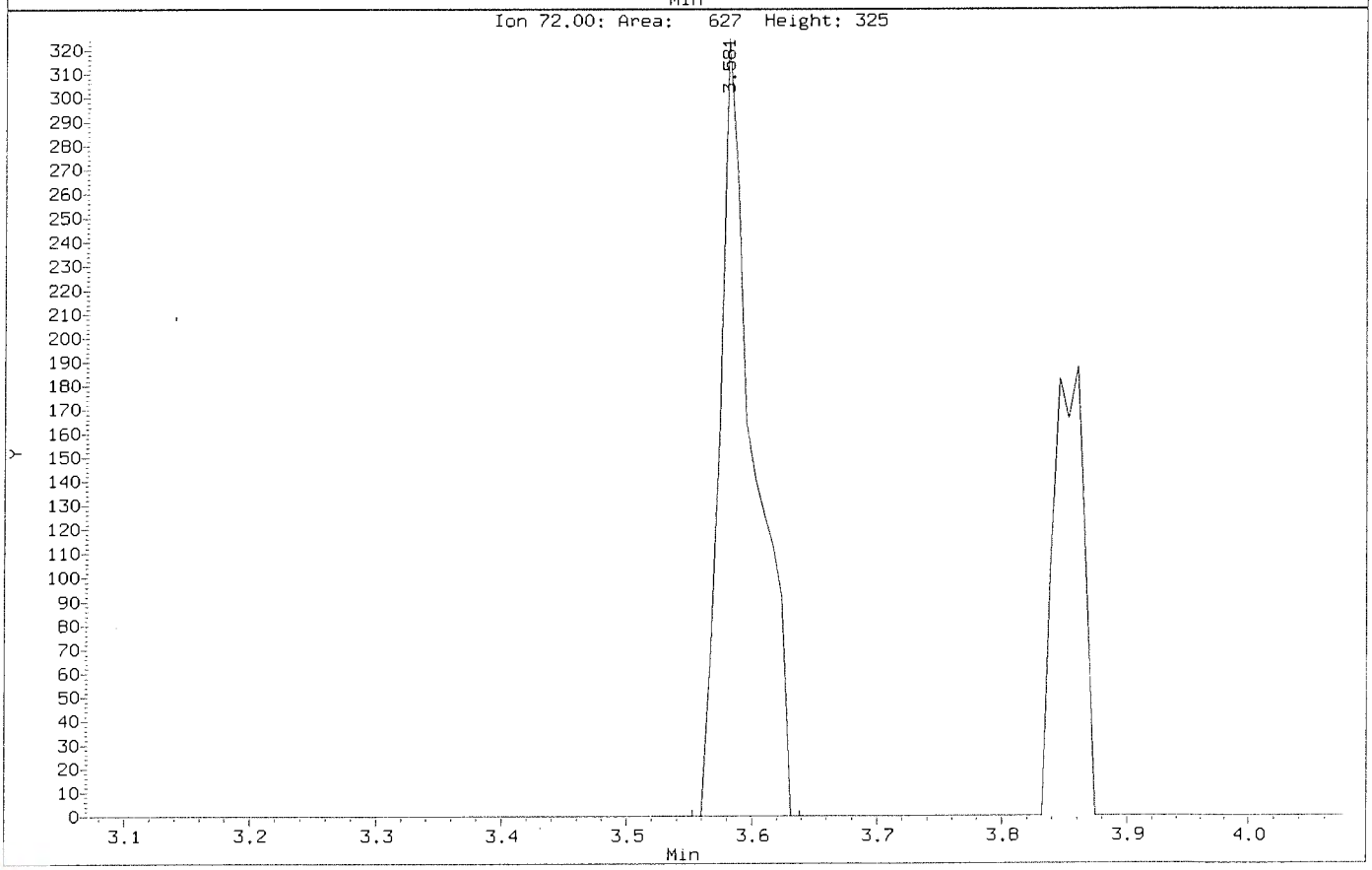
Instrument: voa6.i
Client Sample ID: VSTD002

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





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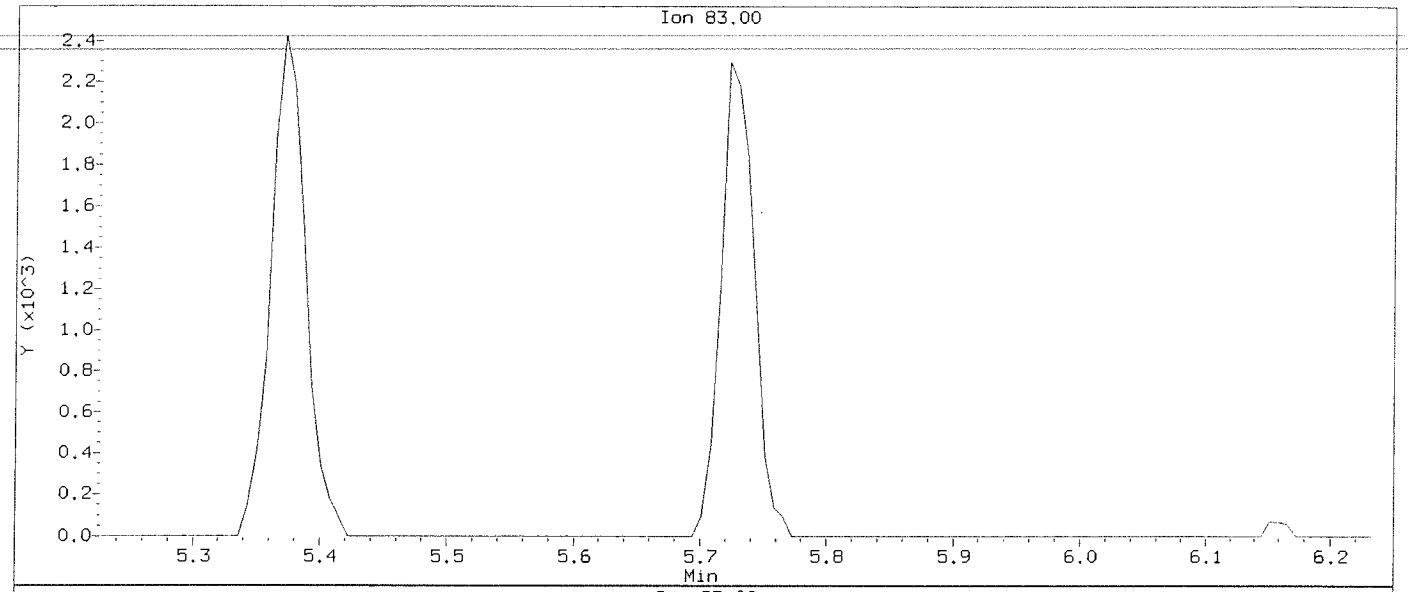
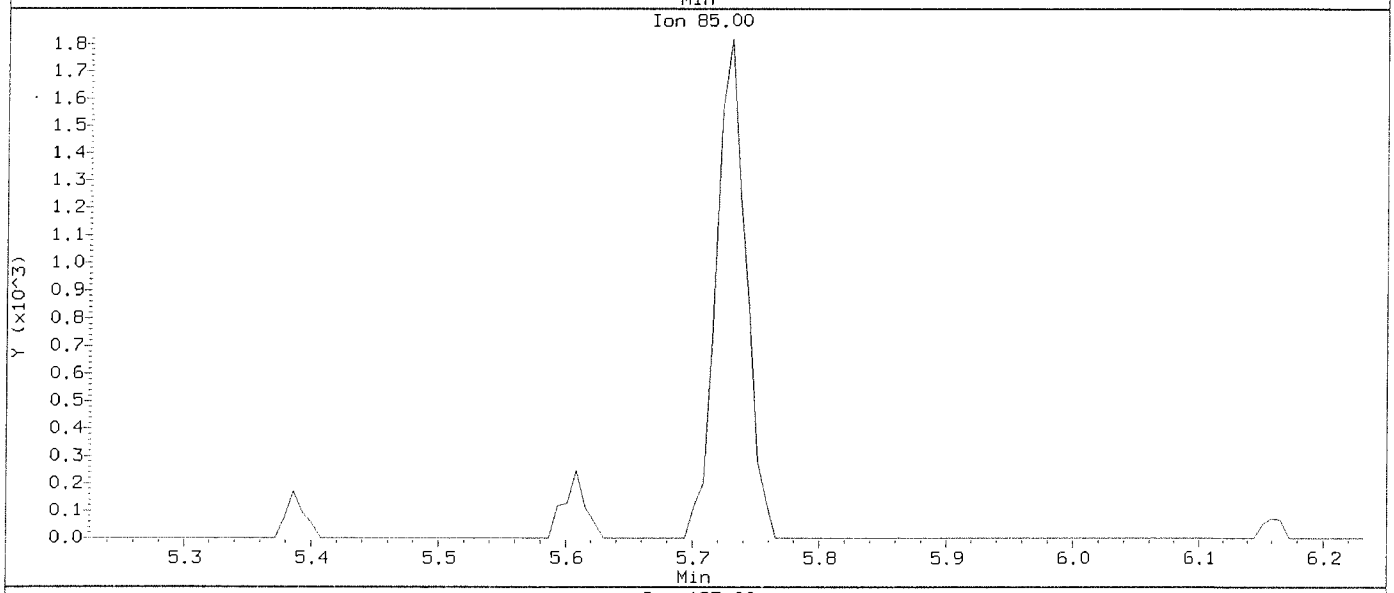
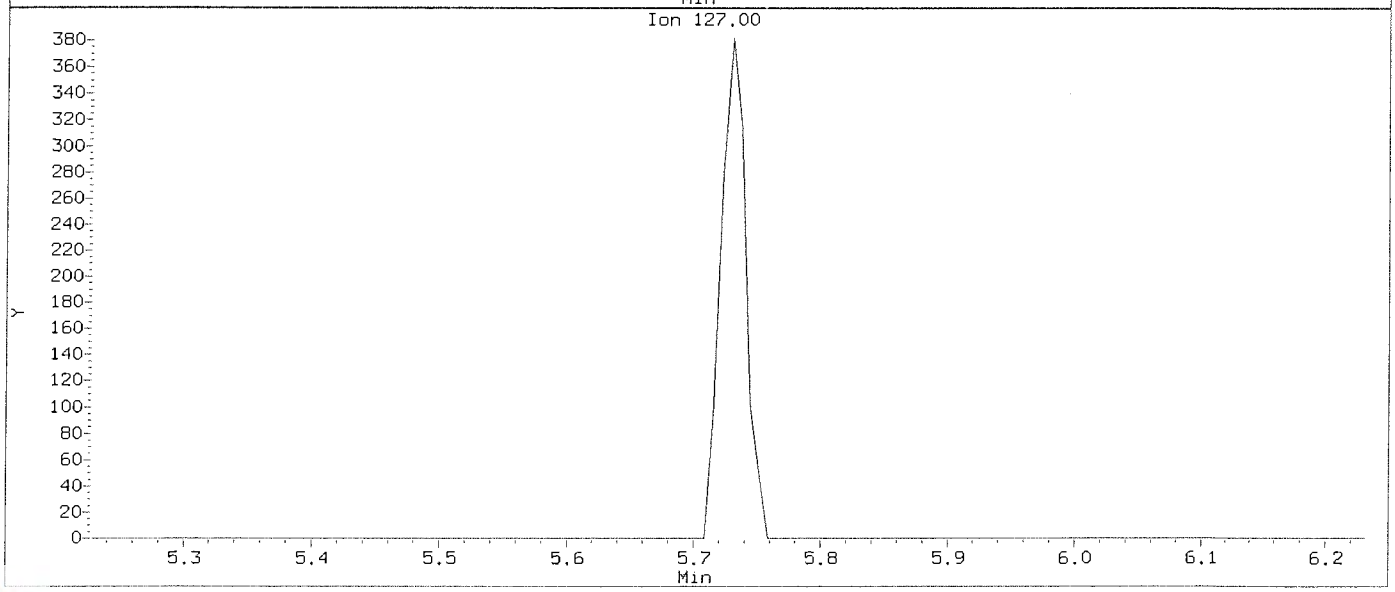
Injection Date: 31-OCT-2019 12:44
Instrument: voa6.i
Client Sample ID: VSTD002

Compound: Bromodichloromethane
CAS Number: 75-27-4







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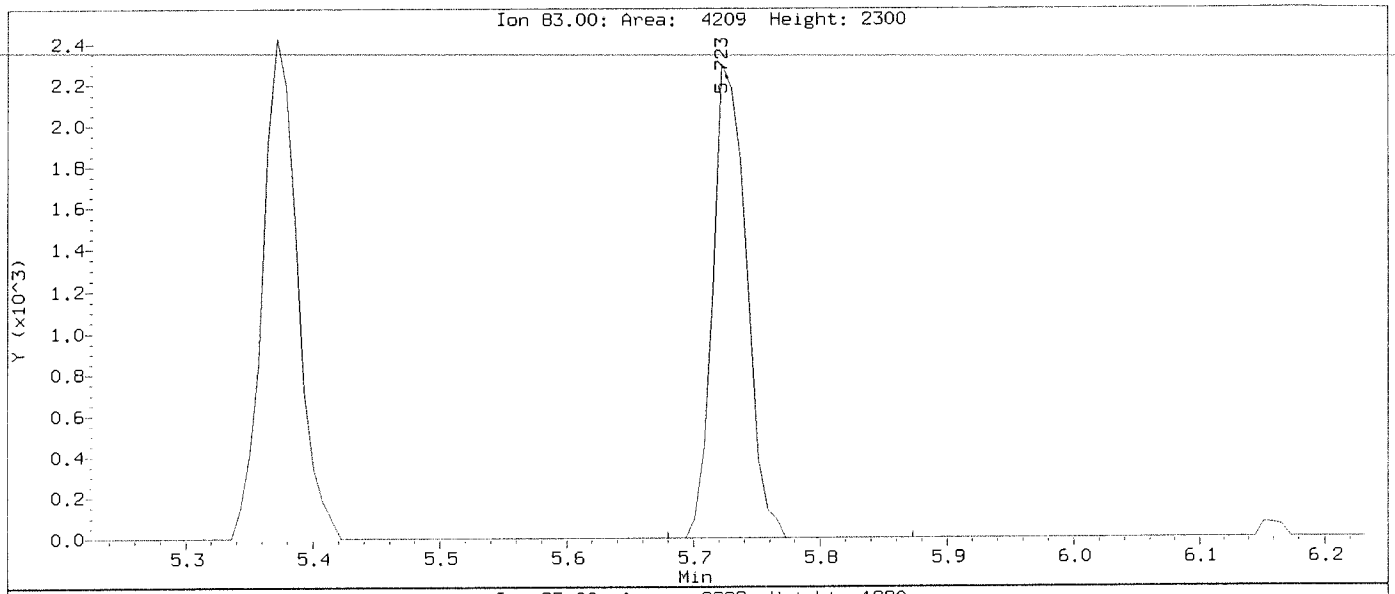
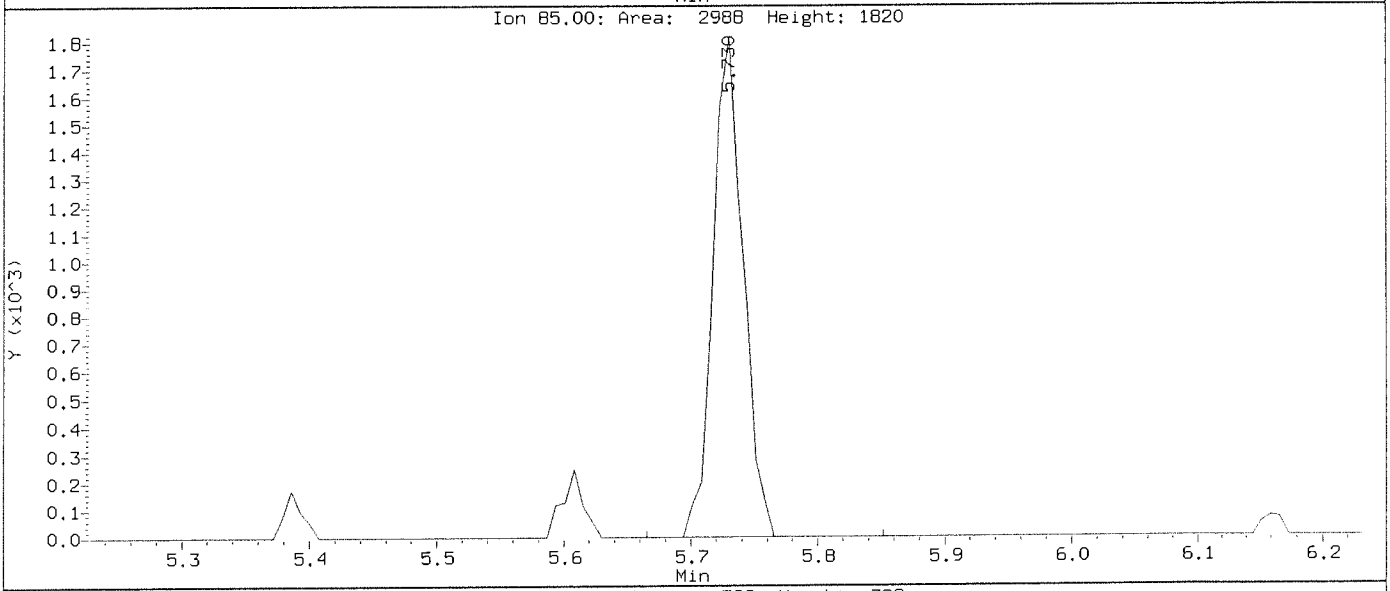
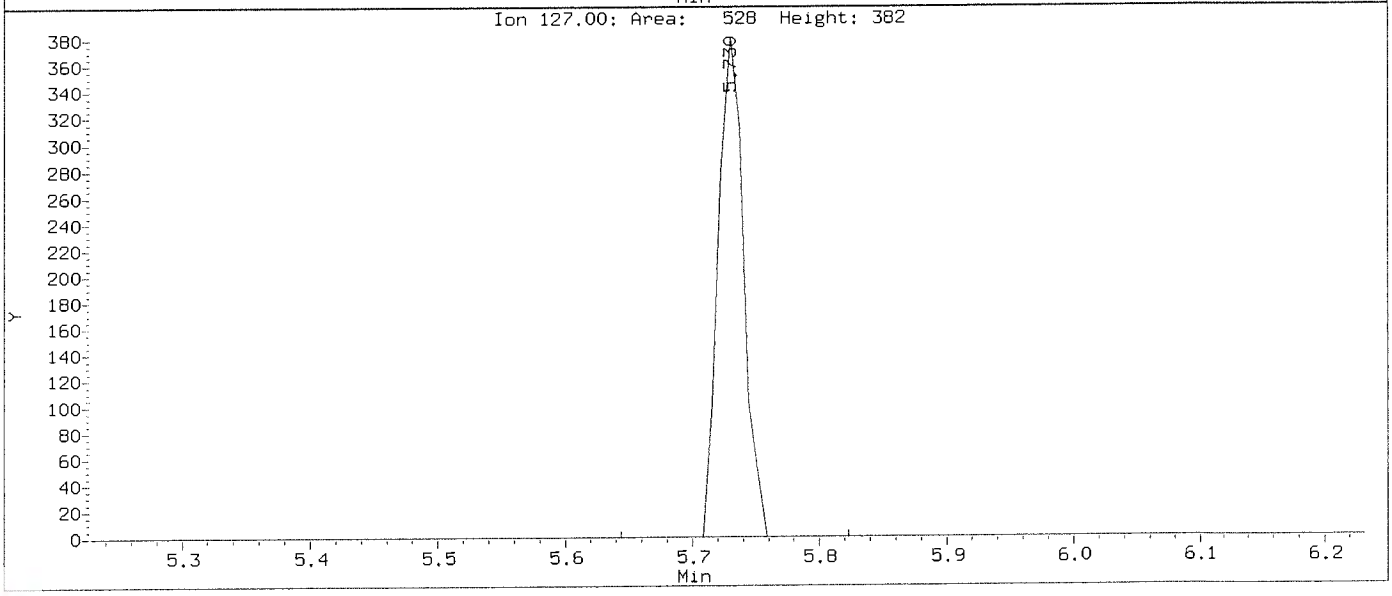
Instrument: voa6.i
Client Sample ID: VSTD002

Compound: Bromodichloromethane
CAS Number: 75-27-4







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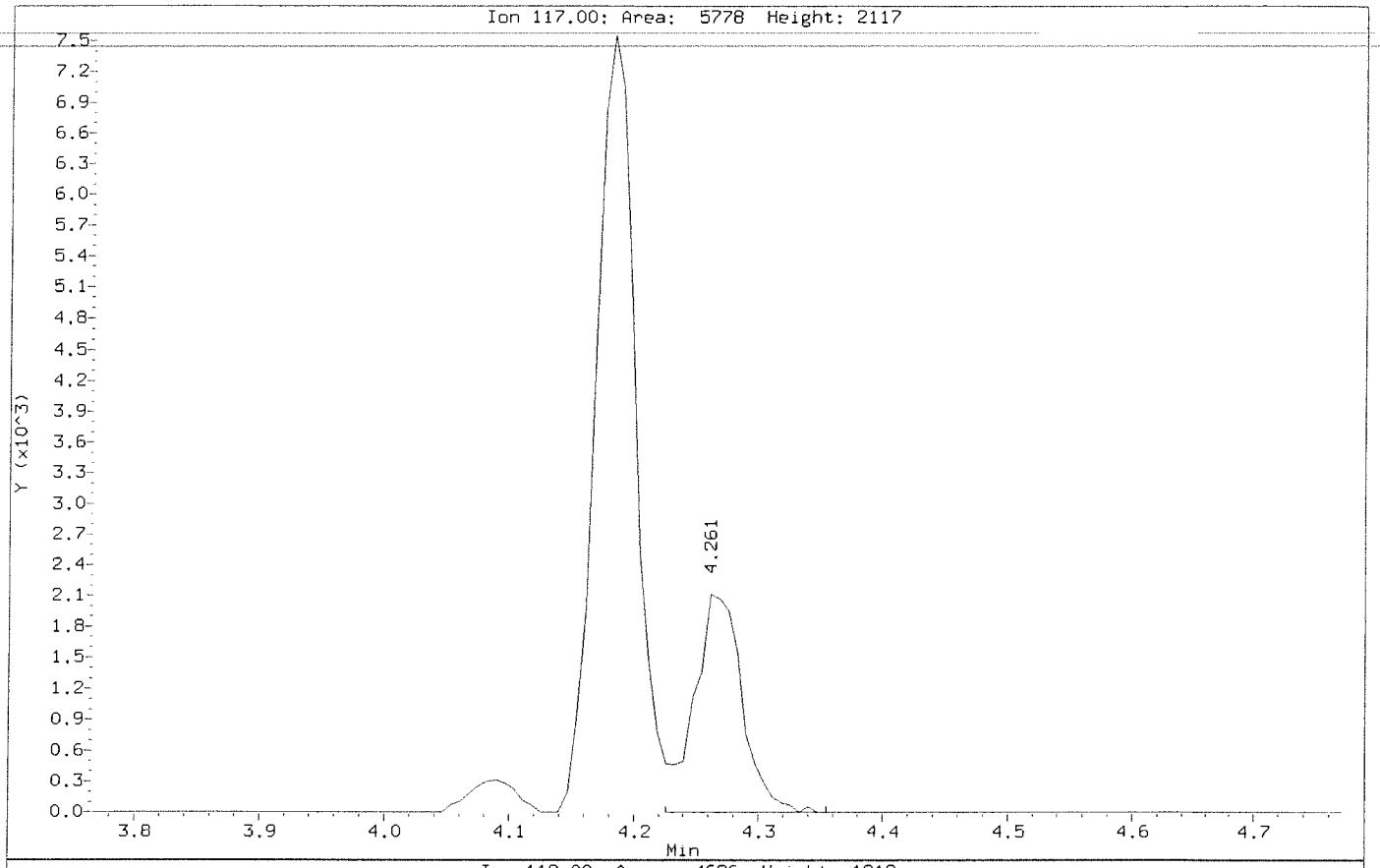
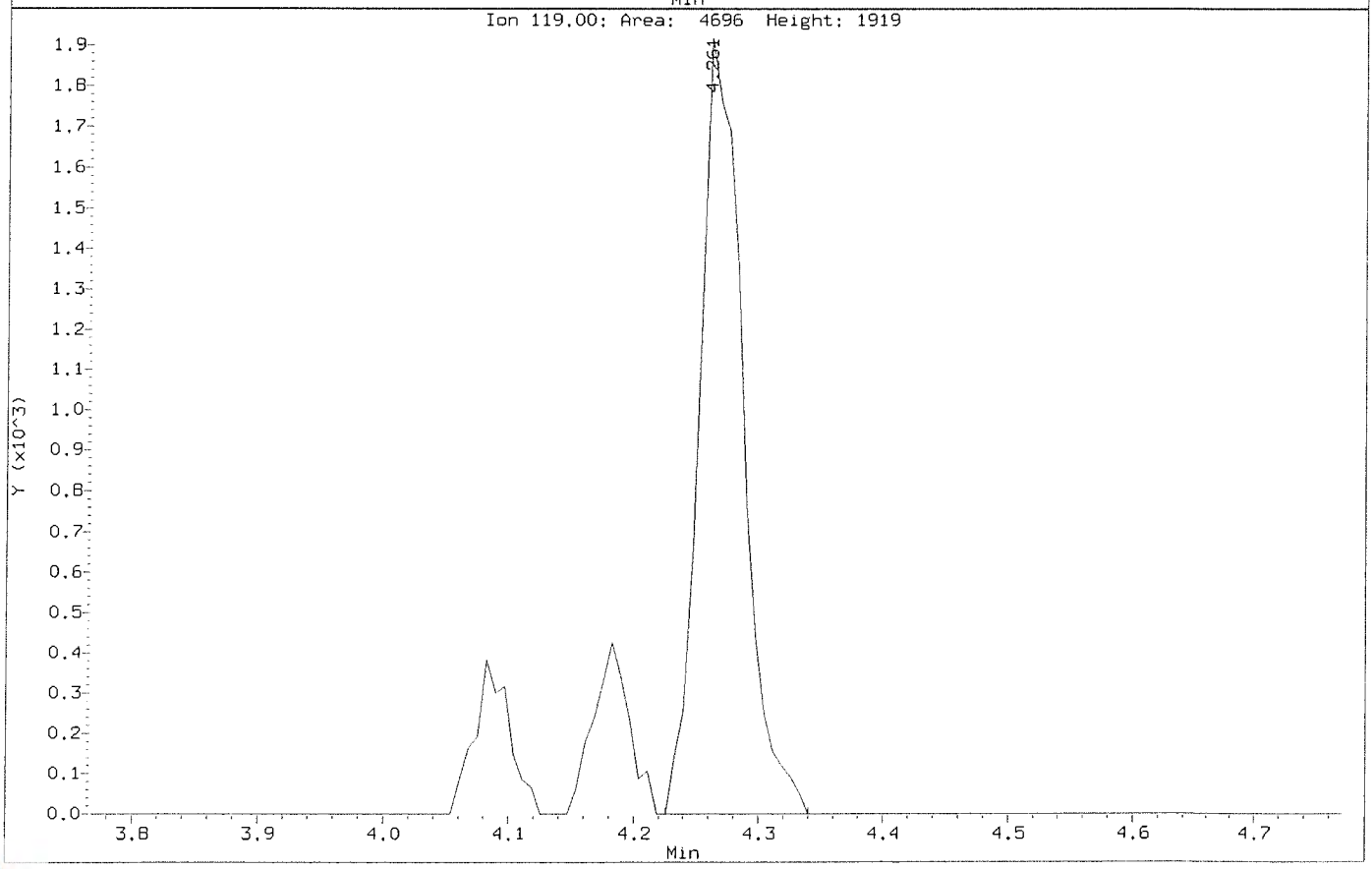
Injection Date: 31-OCT-2019 12:44
Instrument: voa6.i
Client Sample ID: VSTD002

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





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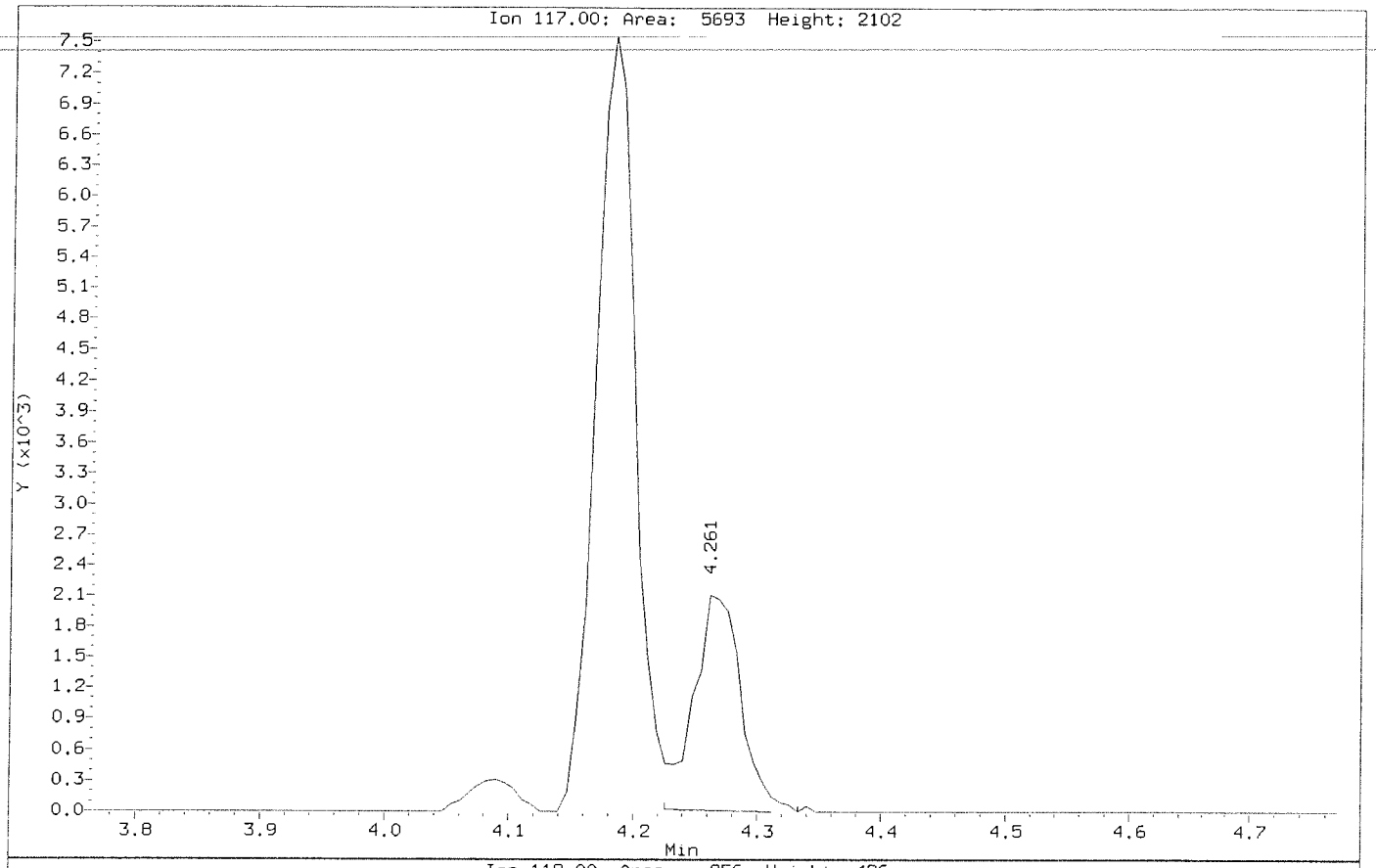
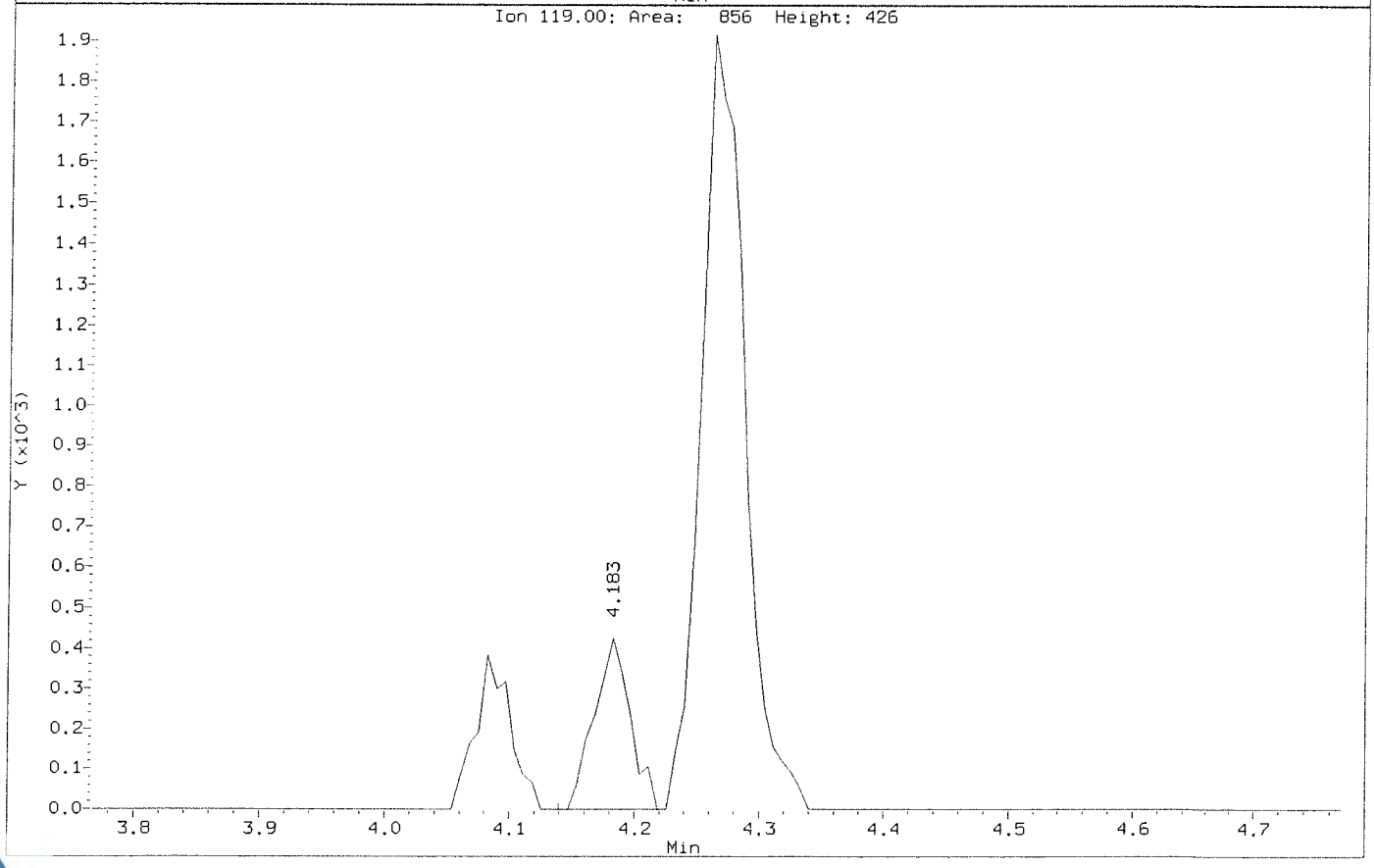
Client Sample ID: VSTD002

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





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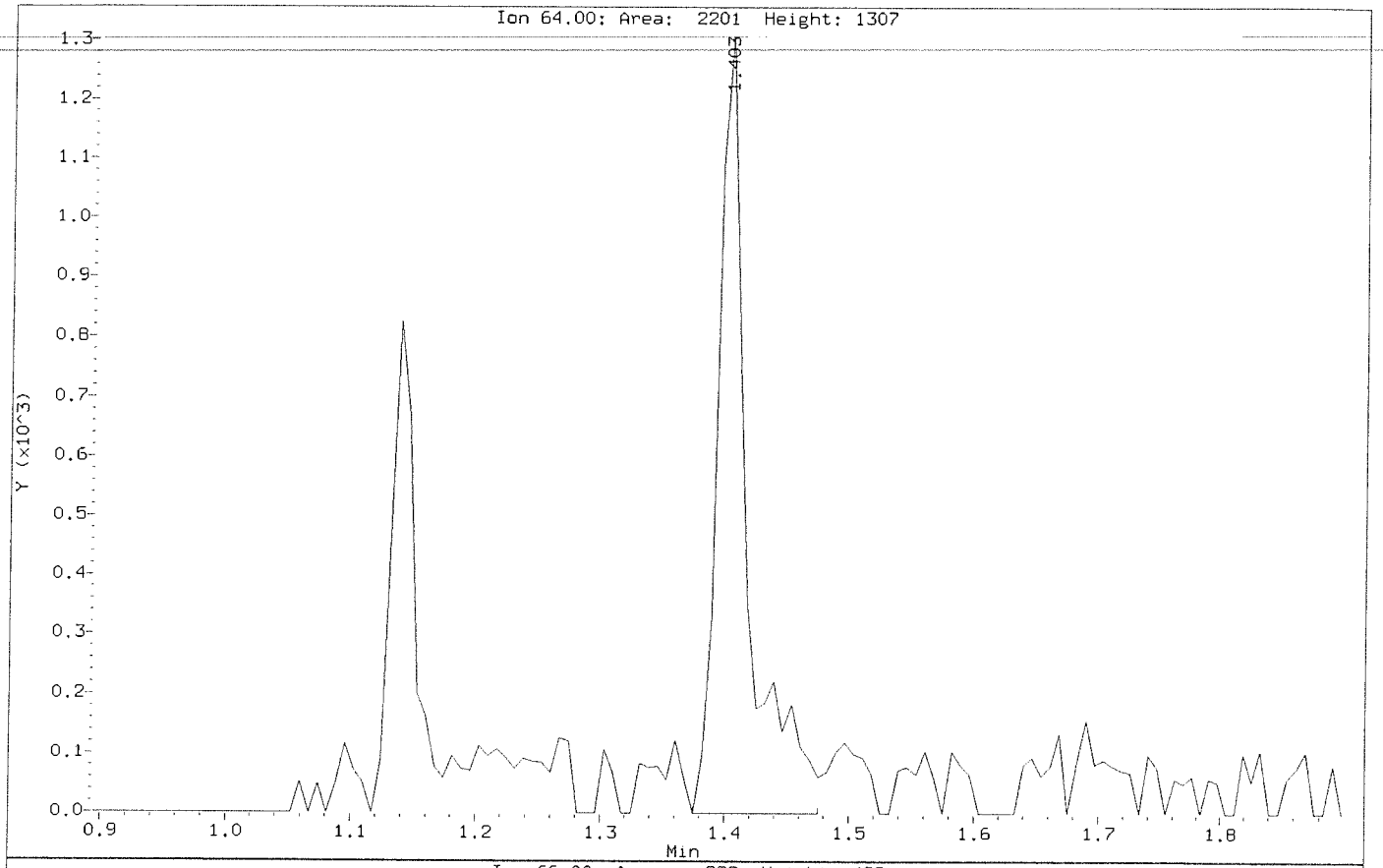
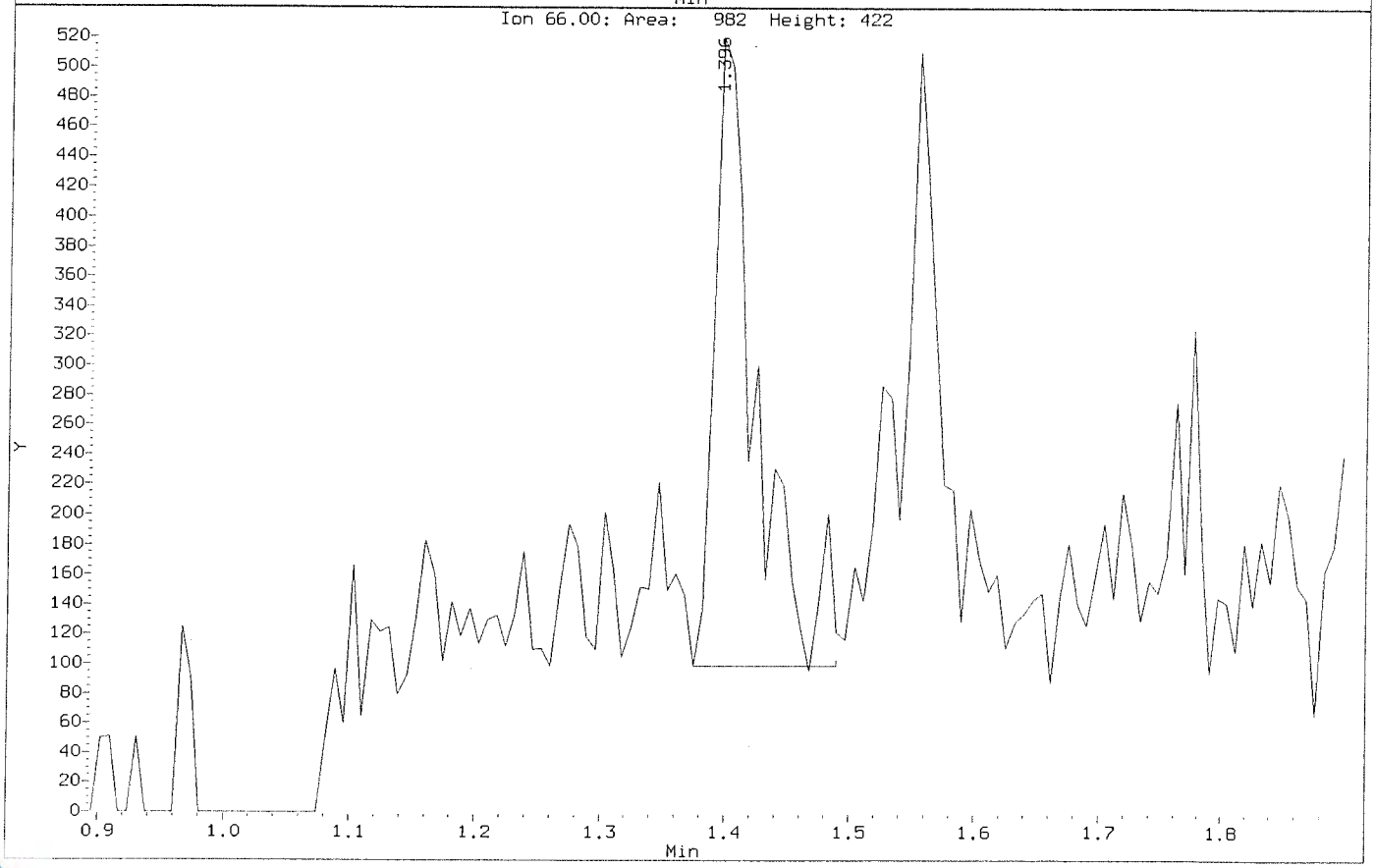
Injection Date: 31-OCT-2019 12:44
Instrument: voa6.i
Client Sample ID: VSTD002

Compound: Chloroethane
CAS Number: 75-00-3





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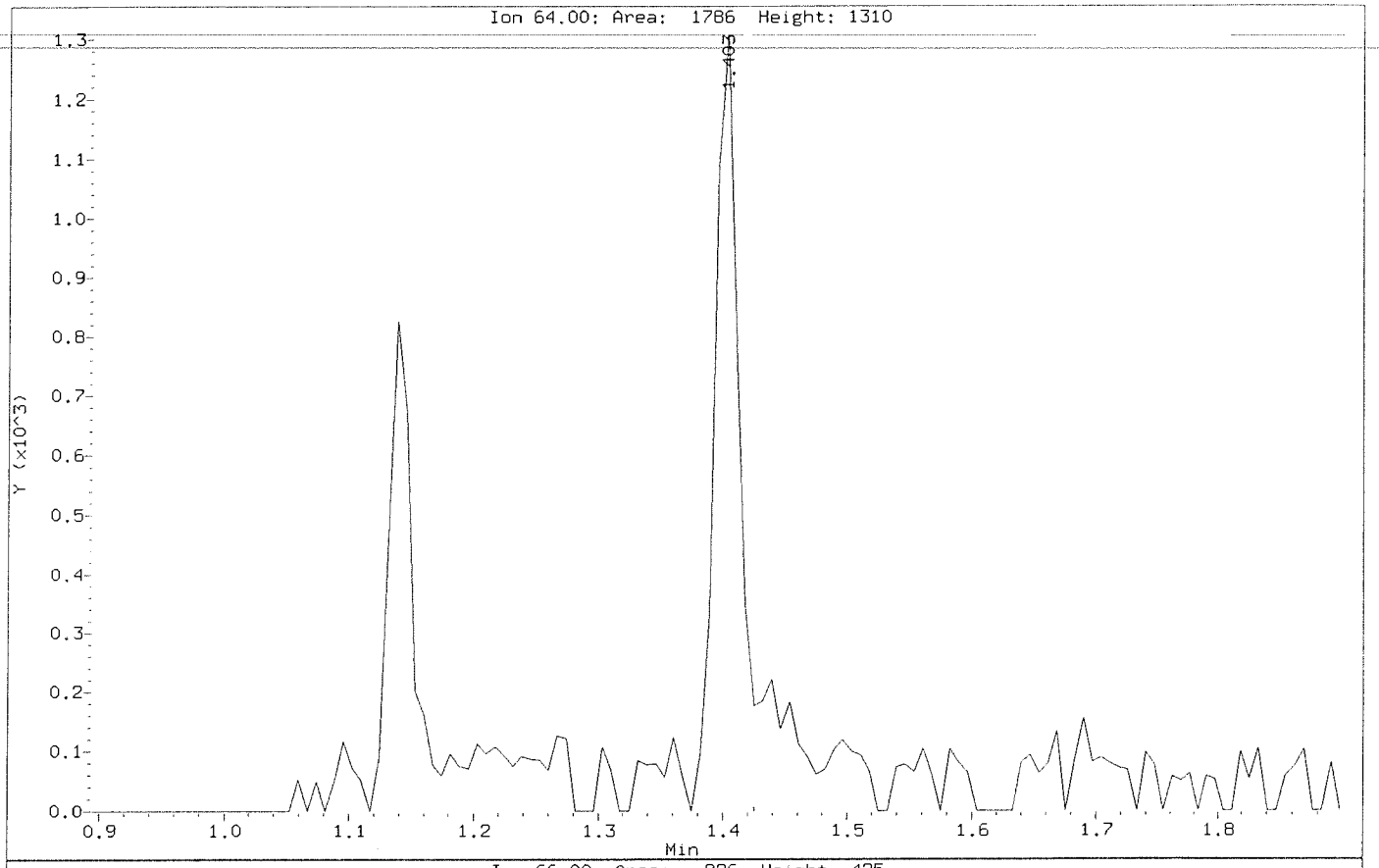
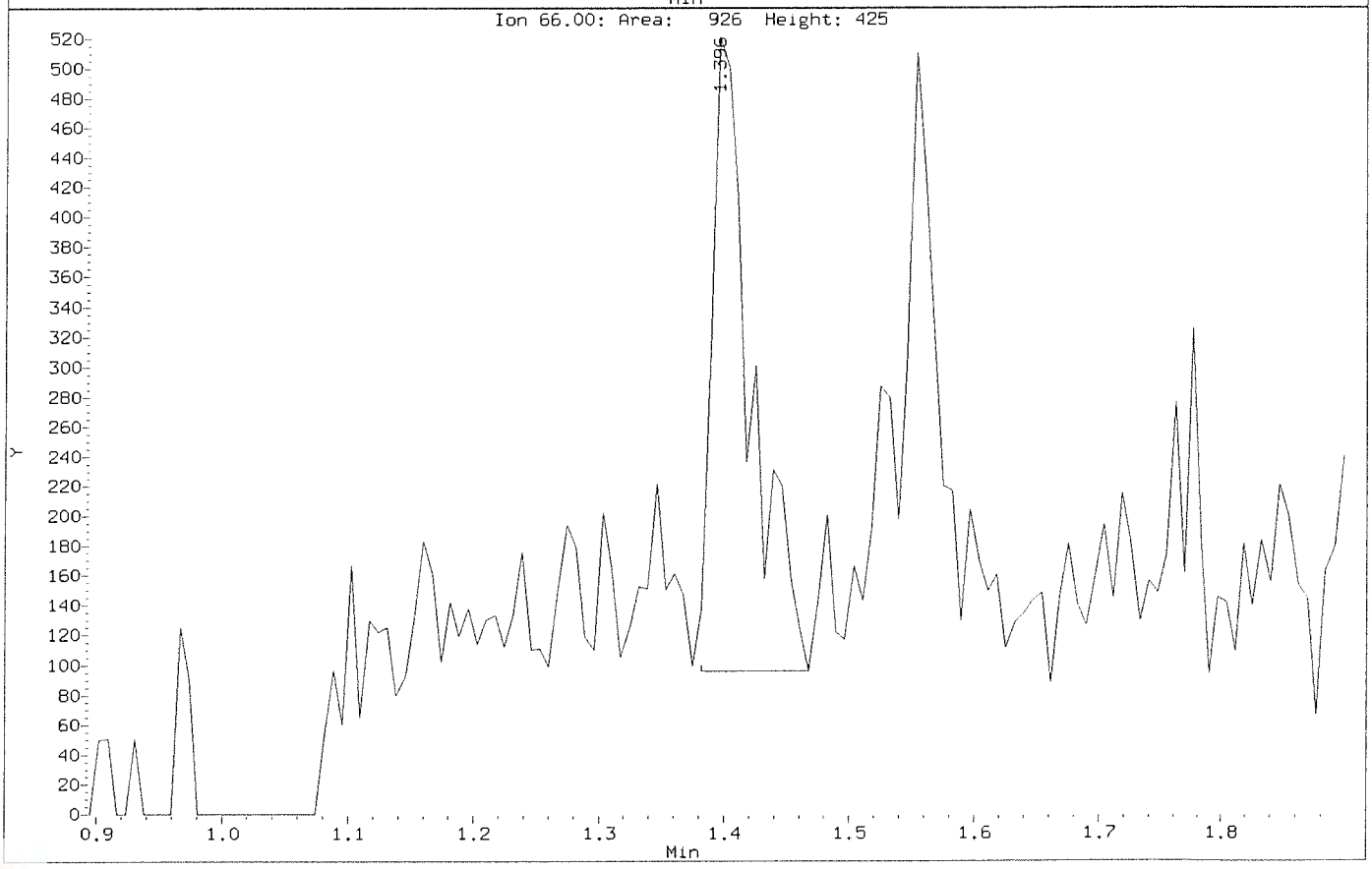
Client Sample ID: VSTD002

Compound: Chloroethane
CAS Number: 75-00-3





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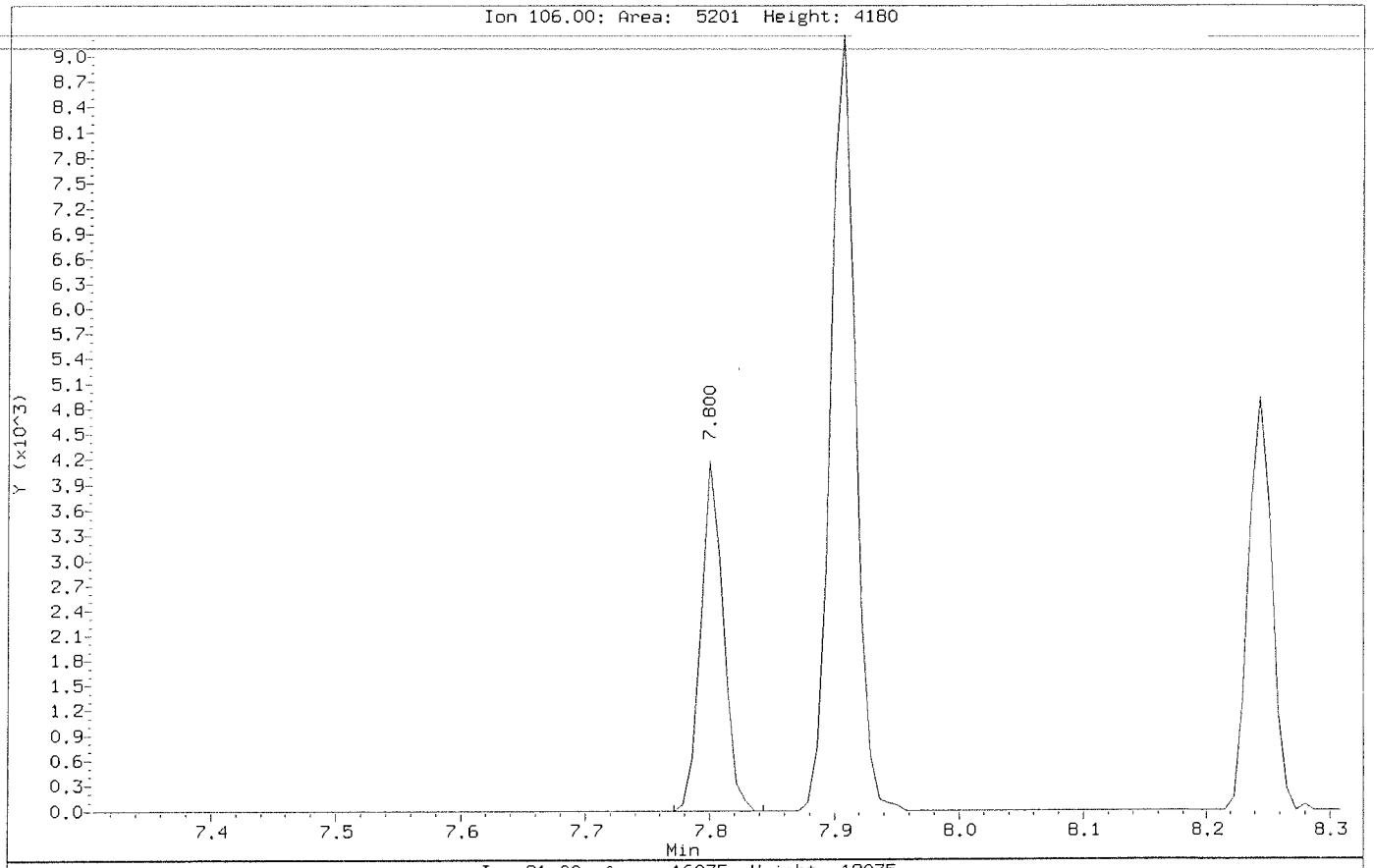
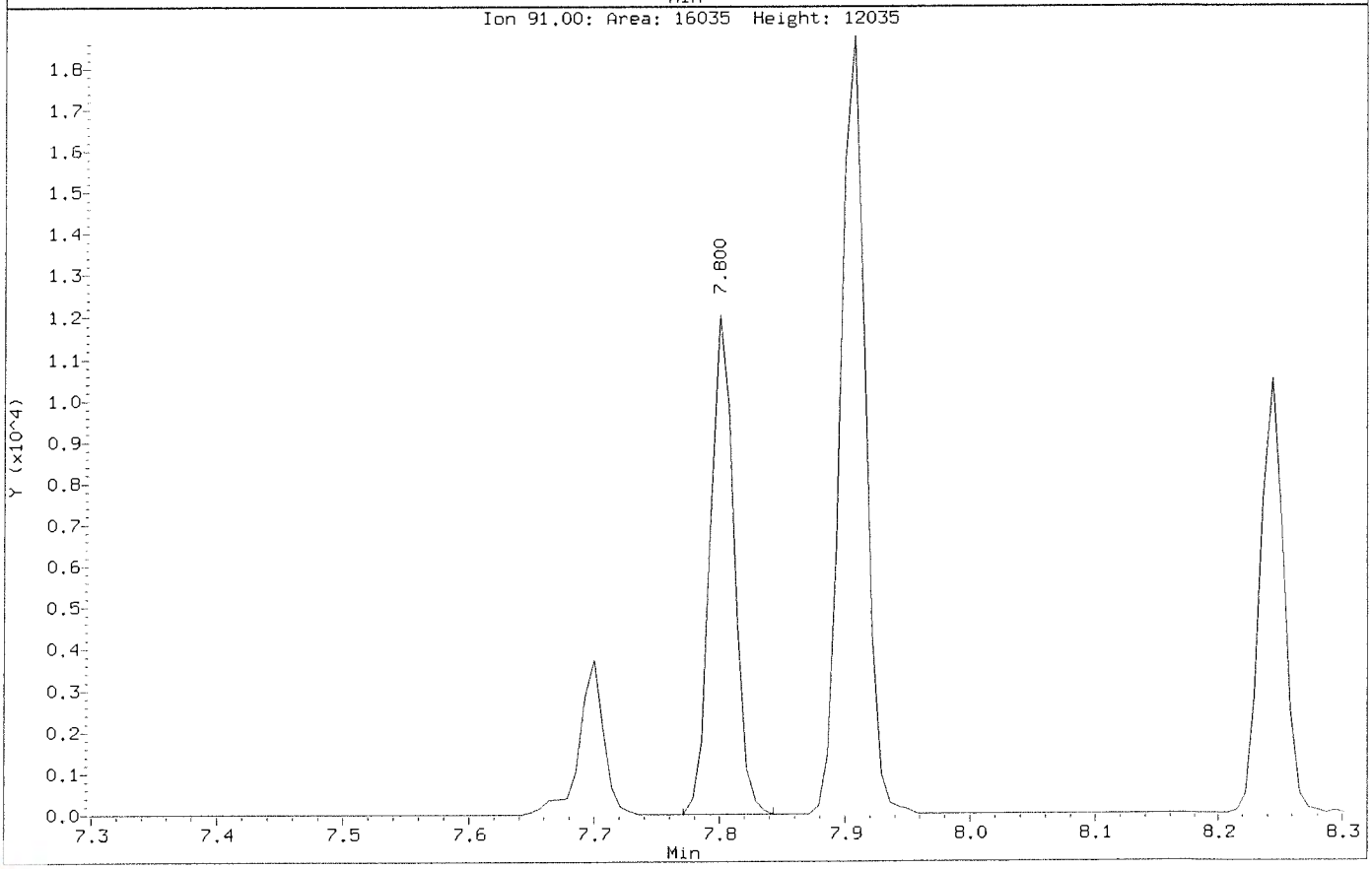
Injection Date: 31-OCT-2019 12:44
Instrument: voa6.i
Client Sample ID: VSTD002

Compound: Ethylbenzene
CAS Number: 100-41-4





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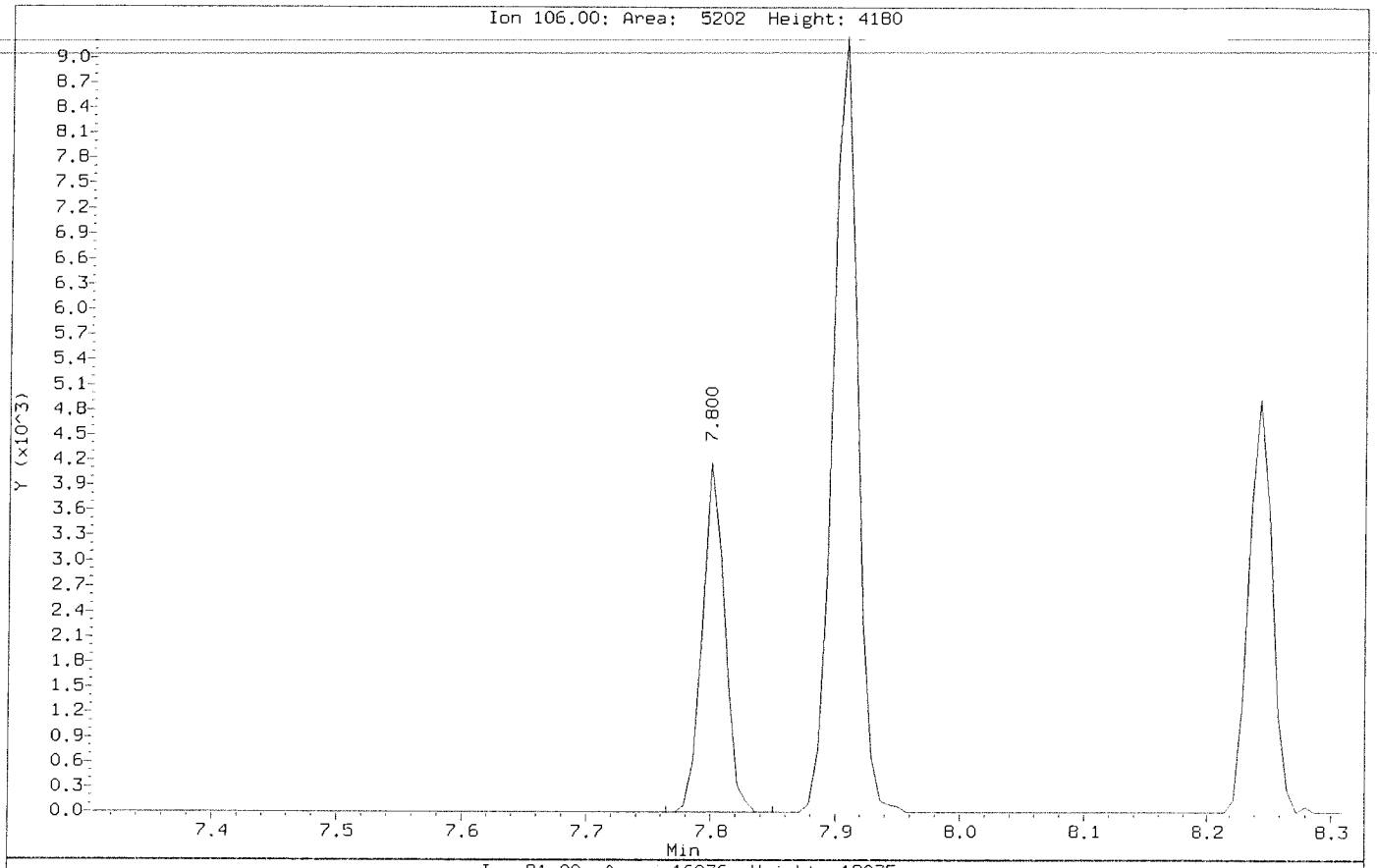
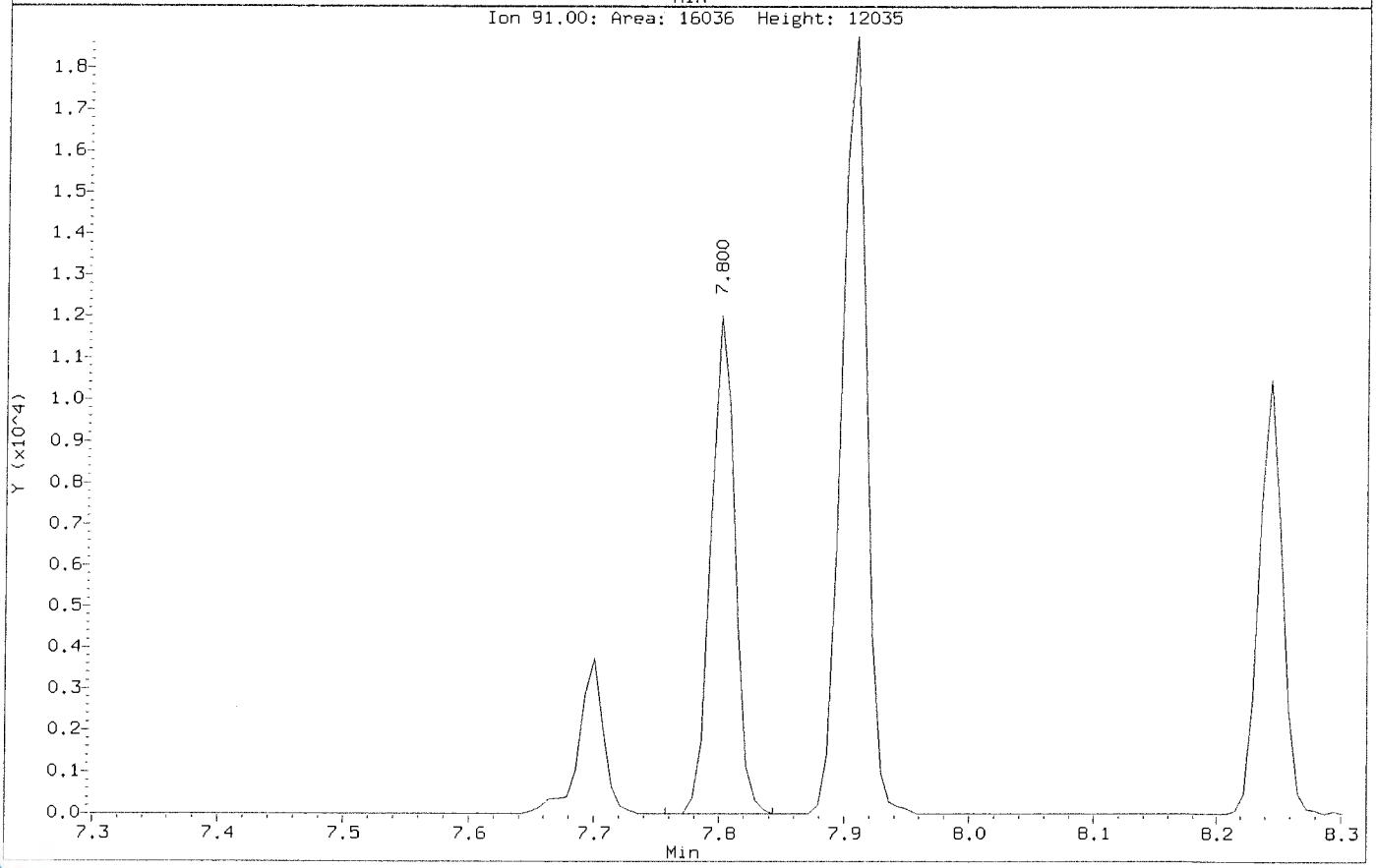
Instrument: voa6.i
Client Sample ID: VSTD002

Compound: Ethylbenzene
CAS Number: 100-41-4





Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\X103106.D Page 1
Report Date: 19-Nov-2019 17:39

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X191031.b\X103106.D
Lab Smp Id: VSTD005 Client Smp ID: VSTD005
Inj Date : 31-OCT-2019 13:08
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\X191031.b\8260W.m
Meth Date : 19-Nov-2019 17:37 voa6.i Quant Type: ISTD
Cal Date : 31-OCT-2019 13:08 Cal File: X103106.D
Als bottle: 7 Calibration Sample, Level: 5
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

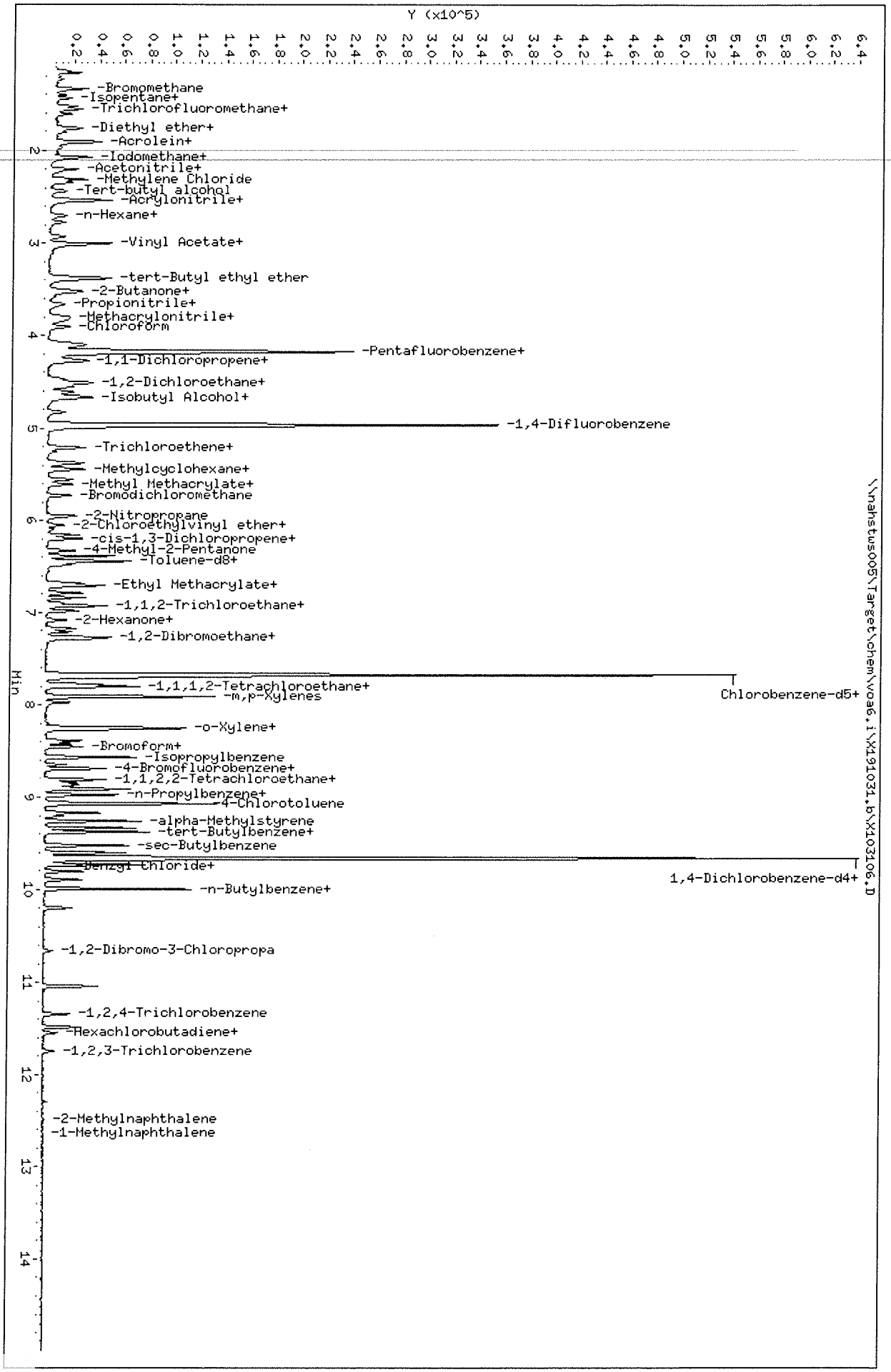
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	228003	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	288494	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	265772	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.669	(1.000)	156556	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	9297	5.00000	5.27
$ 69 4-Bromofluorobenzene	95	8.688	8.695	(1.133)	13391	5.00000	4.81(a)
$ 30 Dibromofluoromethane	113	4.103	4.104	(0.981)	8982	5.00000	5.38
$ 48 Toluene-d8	98	6.388	6.389	(0.833)	32651	5.00000	4.94(a)
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	10805	5.00000	4.99(a)
31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	14579	5.00000	5.10
68 1,1,2,2-Tetrachloroethane	83	8.845	8.845	(0.915)	9716	5.00000	5.22
138 Freon TF	101	1.911	1.912	(0.457)	7368	5.00000	4.88(a)
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	6224	5.00000	5.15
22 1,1-Dichloroethane	63	2.921	2.922	(0.699)	13121	5.00000	5.14
11 1,1-Dichloroethene	96	1.919	1.912	(0.459)	6991	5.00000	4.82(a)
32 1,1-Dichloropropene	75	4.282	4.283	(0.862)	10612	5.00000	4.93(aM)
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.216)	3318	5.00000	5.52
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.918)	8399	5.00000	4.61(aM)
90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	6765	5.00000	4.78(a)
79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.971)	37991	5.00000	5.06
89 1,2-Dibromo-3-Chloropropane	155	10.658	10.658	(1.103)	1446	5.00000	6.48
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	9674	5.00000	5.41
88 1,2-Dichlorobenzene	146	9.999	9.999	(1.035)	22534	5.00000	5.18

Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\X103106.D Page 2
Report Date: 19-Nov-2019 17:39

	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	4.555	4.562	(0.916)	11962	5.00000	5.11
42	1,2-Dichloropropane	63	5.443	5.436	(1.095)	7060	5.00000	5.02(M)
75	1,3,5-Trimethylbenzene	105	9.067	9.075	(0.938)	36351	5.00000	5.00
83	1,3-Dichlorobenzene	146	9.605	9.612	(0.994)	24083	5.00000	5.04
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	13156	5.00000	5.30
84	1,4-Dichlorobenzene	146	9.683	9.684	(1.002)	24076	5.00000	4.99(a)
26	2,2-Dichloropropane	77	3.509	3.516	(0.839)	12356	5.00000	4.50(a)
24	2-Butanone	43	3.573	3.573	(0.854)	4838	10.0000	10.08
76	2-Chlorotoluene	91	8.974	8.982	(0.929)	28055	5.00000	4.98(a)
52	2-Hexanone	43	7.090	7.090	(0.924)	7528	10.0000	9.72
77	4-Chlorotoluene	91	9.075	9.075	(0.939)	32922	5.00000	4.96(a)
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	37316	5.00000	4.79(a)
45	4-Methyl-2-Pentanone	43	6.324	6.331	(0.824)	11085	10.0000	10.12
10	Acetone	43	1.976	1.976	(0.473)	4757	10.0000	10.20(M)
37	Benzene	78	4.512	4.512	(0.908)	34511	5.00000	5.30
74	Bromobenzene	156	8.809	8.810	(0.912)	14474	5.00000	5.02
29	Bromochloromethane	128	3.803	3.795	(0.909)	5891	5.00000	5.00
39	Bromodichloromethane	83	5.729	5.730	(1.153)	11502	5.00000	5.03
66	Bromoform	173	8.416	8.416	(1.097)	8295	5.00000	4.83(a)
6	Bromomethane	94	1.338	1.331	(0.320)	11332	5.00000	5.30
19	Carbon Disulfide	76	2.069	2.069	(0.495)	40914	10.0000	9.73
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	13327	5.00000	4.73(aM)
59	Chlorobenzene	112	7.699	7.699	(1.004)	26649	5.00000	5.14
7	Chloroethane	64	1.403	1.396	(0.336)	4327	5.00000	4.78(aM)
28	Chloroform	83	3.910	3.910	(0.935)	15214	5.00000	5.04
3	Chloromethane	50	1.073	1.074	(0.257)	7622	5.00000	5.00
27	cis-1,2-Dichloroethene	96	3.530	3.523	(0.844)	9260	5.00000	5.08
46	cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	13220	5.00000	4.99(a)
55	Dibromochloromethane	129	7.176	7.176	(0.936)	10937	5.00000	4.96(a)
44	Dibromomethane	93	5.557	5.558	(1.118)	5655	5.00000	5.07
2	Dichlorodifluoromethane	85	0.973	0.966	(0.233)	8109	5.00000	5.61
61	Ethylbenzene	106	7.799	7.807	(1.017)	13799	5.00000	5.13(M)
91	Hexachlorobutadiene	225	11.481	11.481	(1.188)	6060	5.00000	4.96(a)
67	Isopropylbenzene	105	8.566	8.566	(1.117)	40949	5.00000	5.01
62	m,p-Xylenes	106	7.907	7.907	(1.031)	33179	10.0000	10.19
17	Methylene Chloride	84	2.305	2.306	(0.551)	8754	5.00000	5.52
87	n-Butylbenzene	91	9.999	9.999	(1.035)	26629	5.00000	4.79(a)
73	n-Propylbenzene	91	8.917	8.917	(0.923)	43488	5.00000	4.87(a)
92	Naphthalene	128	11.546	11.546	(1.195)	8419	5.00000	5.14
63	o-Xylene	106	8.244	8.244	(1.075)	16351	5.00000	5.10
81	sec-Butylbenzene	105	9.526	9.526	(0.986)	38738	5.00000	4.87(a)
64	Styrene	104	8.258	8.265	(1.077)	28956	5.00000	5.22
78	tert-Butylbenzene	119	9.340	9.340	(0.967)	30777	5.00000	4.88(a)
56	Tetrachloroethene	164	6.933	6.933	(0.904)	10205	5.00000	5.06
50	Toluene	91	6.446	6.446	(0.840)	36212	5.00000	4.99(a)
20	trans-1,2-Dichloroethene	96	2.528	2.528	(0.604)	7756	5.00000	5.06
51	trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	12983	5.00000	5.25
38	Trichloroethene	130	5.206	5.207	(1.048)	10747	5.00000	4.99(a)
8	Trichlorofluoromethane	101	1.560	1.553	(0.373)	14781	5.00000	4.85(a)
5	Vinyl Chloride	62	1.138	1.138	(0.272)	6869	5.00000	4.80(a)

QC Flag Legend

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

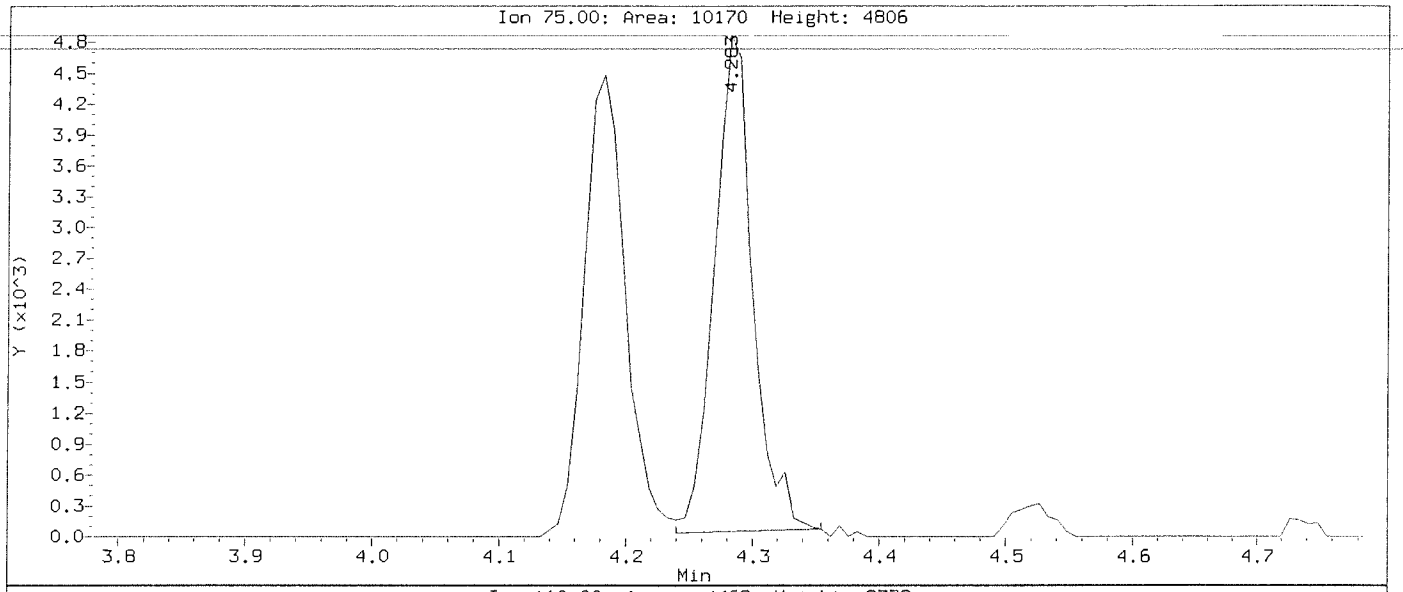


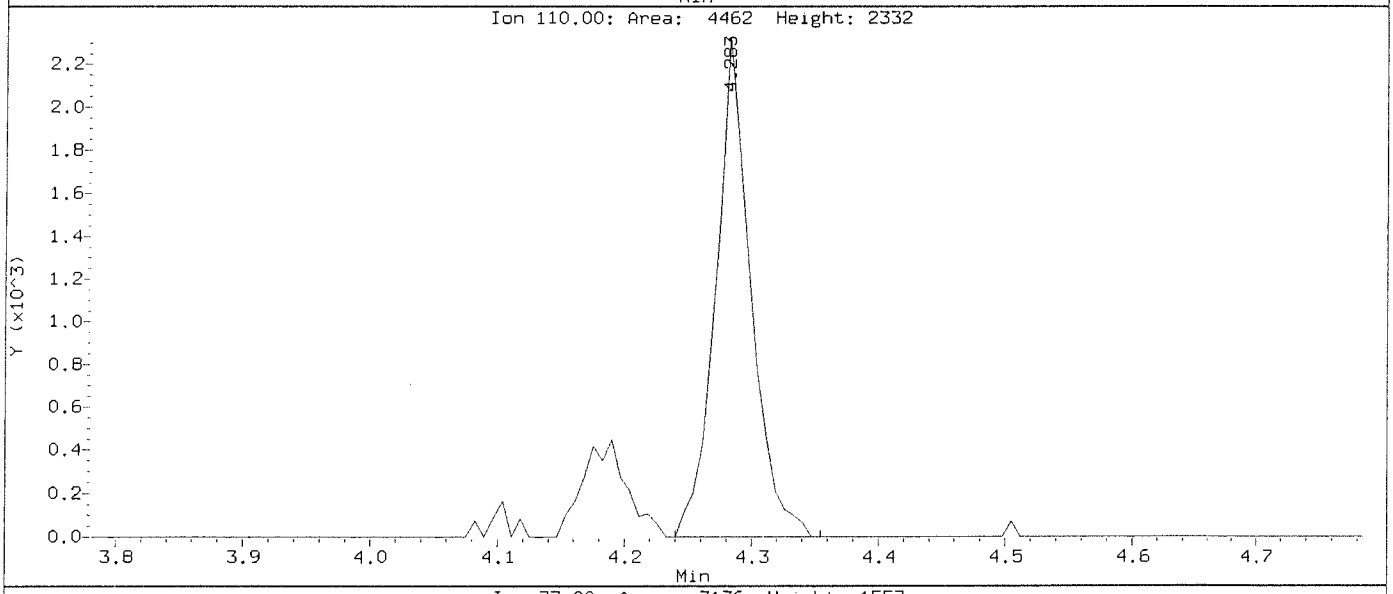
Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\X103106.D
Date : 31-OCT-2019 13:08
Client ID: VSTD005
Sample Info: VSTD005;VSTD005;1;5;
Purge Volume: 5.0
Column phase: DB624

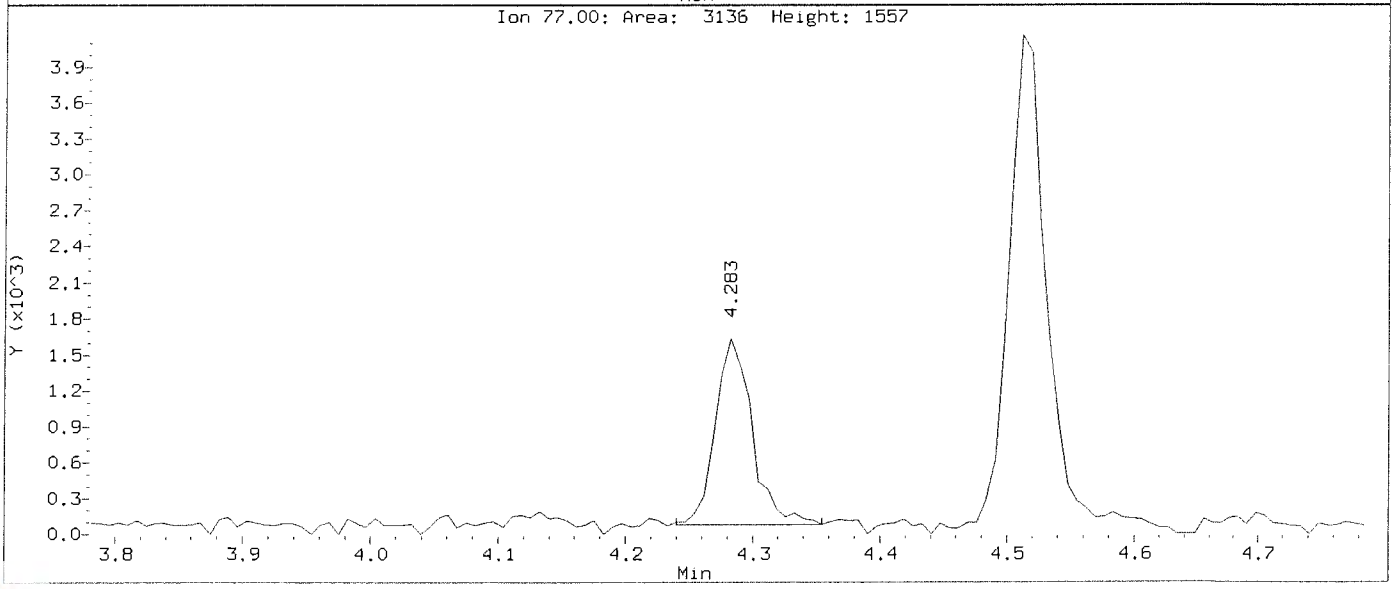
Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\BEFORE2\X103106.D
Injection Date: 31-OCT-2019 13:08
Instrument: voa6.i
Client Sample ID: VSTD005

Compound: 1,1-Dichloropropene
CAS Number: 563-58-6







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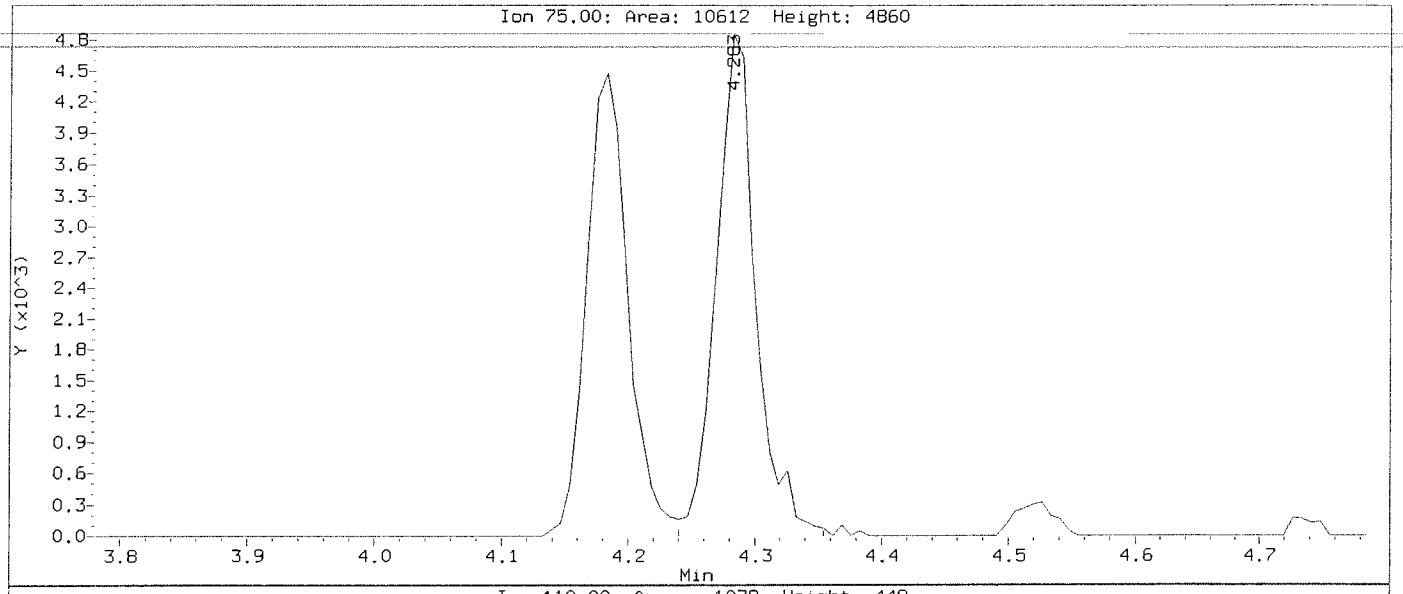
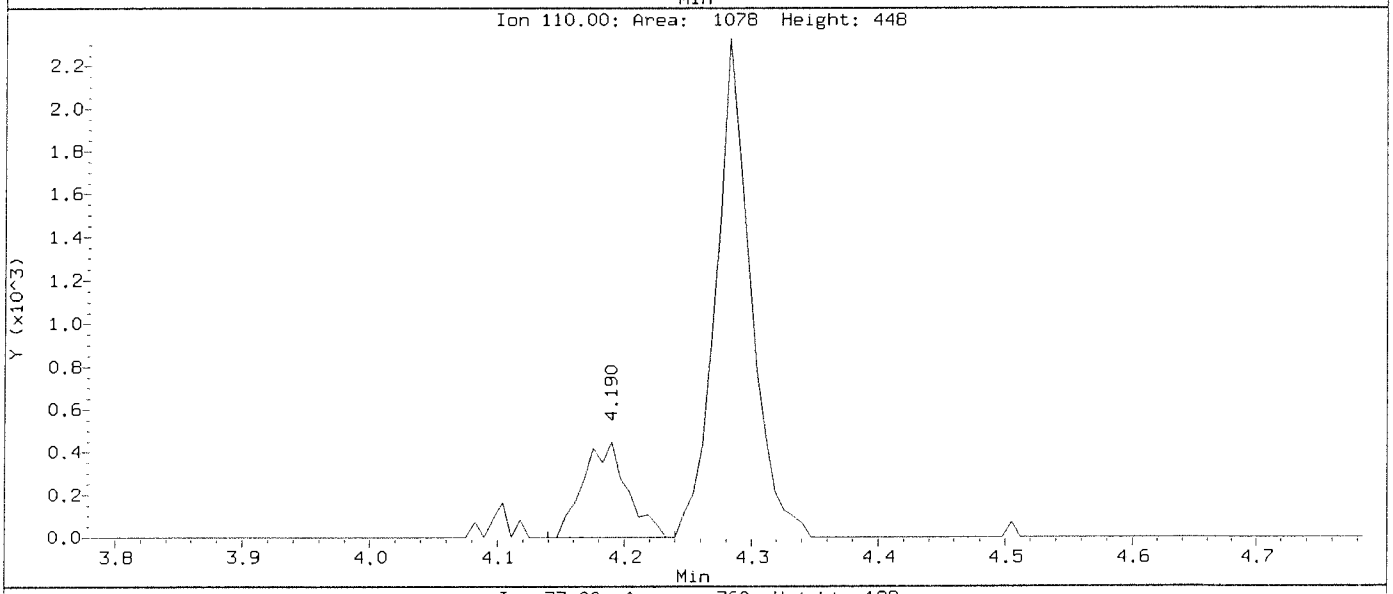
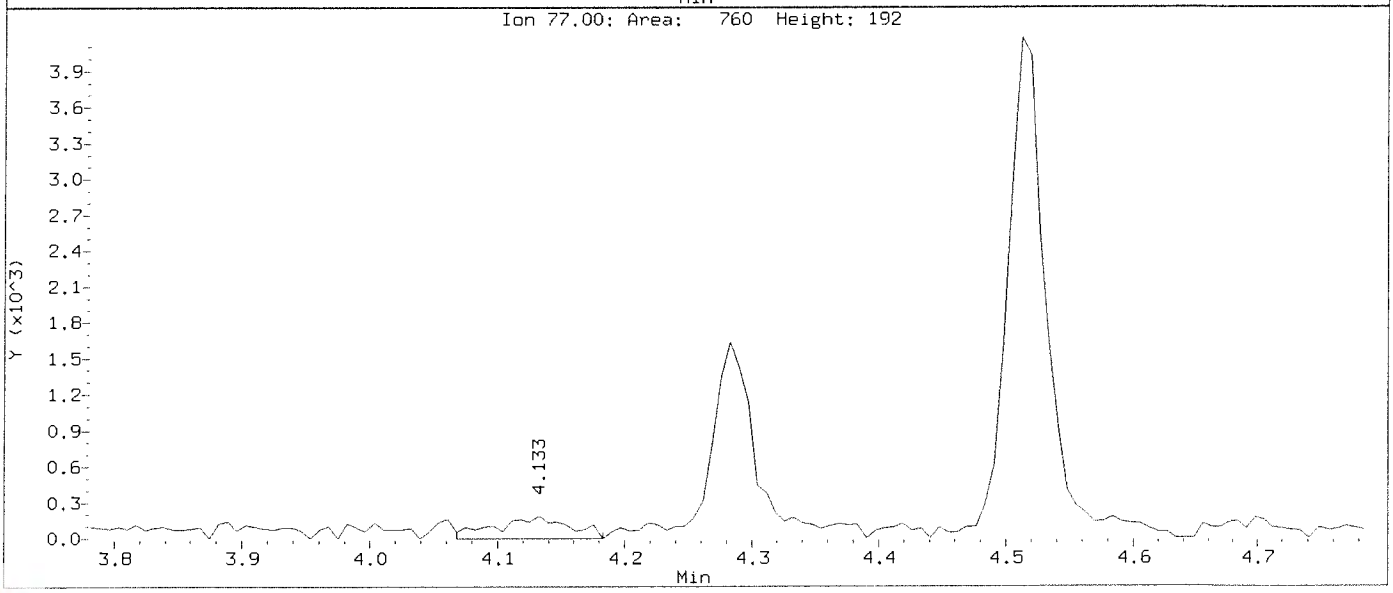
Injection Date: 31-OCT-2019 13:08
Instrument: voa6.i
Client Sample ID: VSTD005

Compound: 1,1-Dichloropropene
CAS Number: 563-58-6







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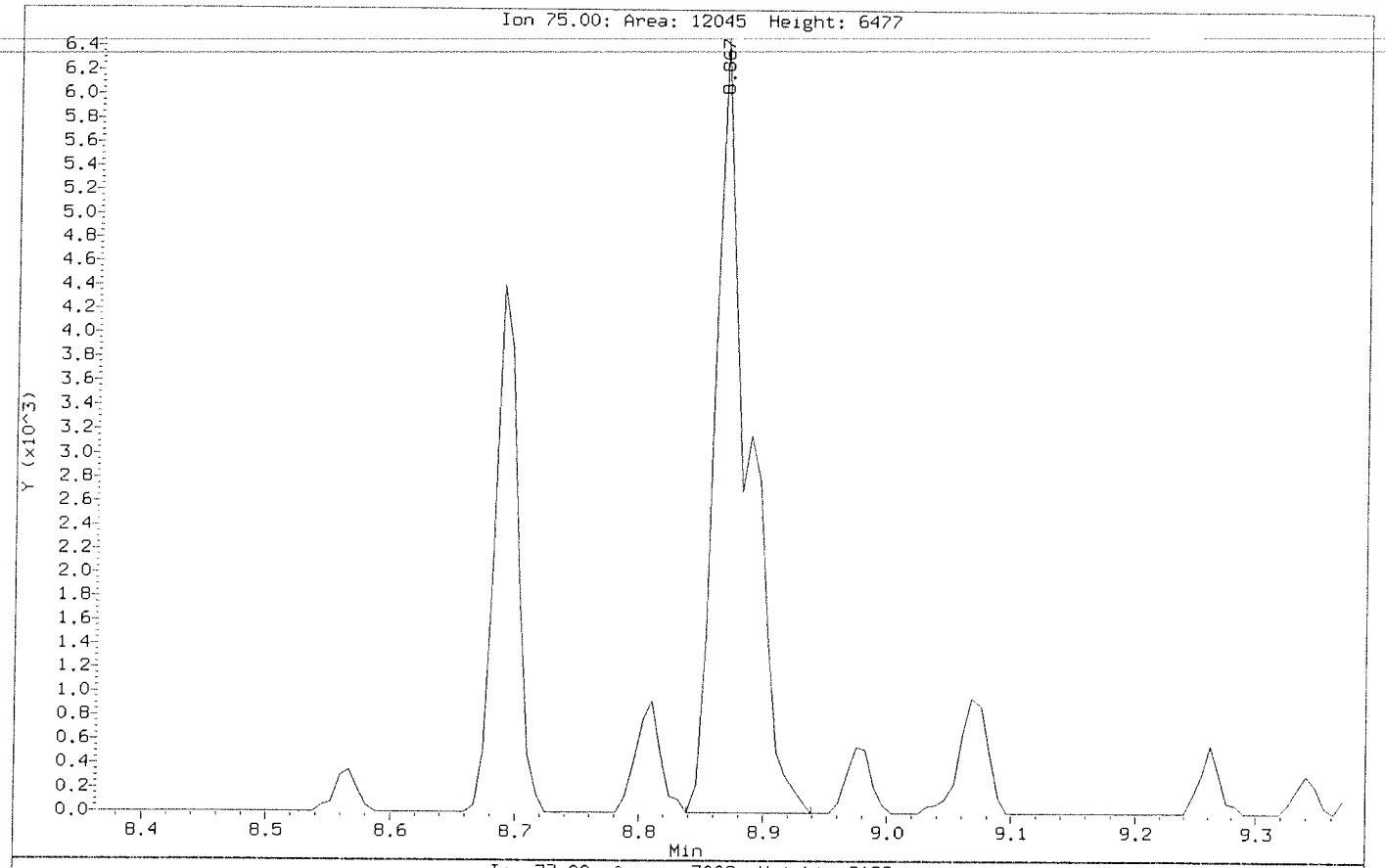
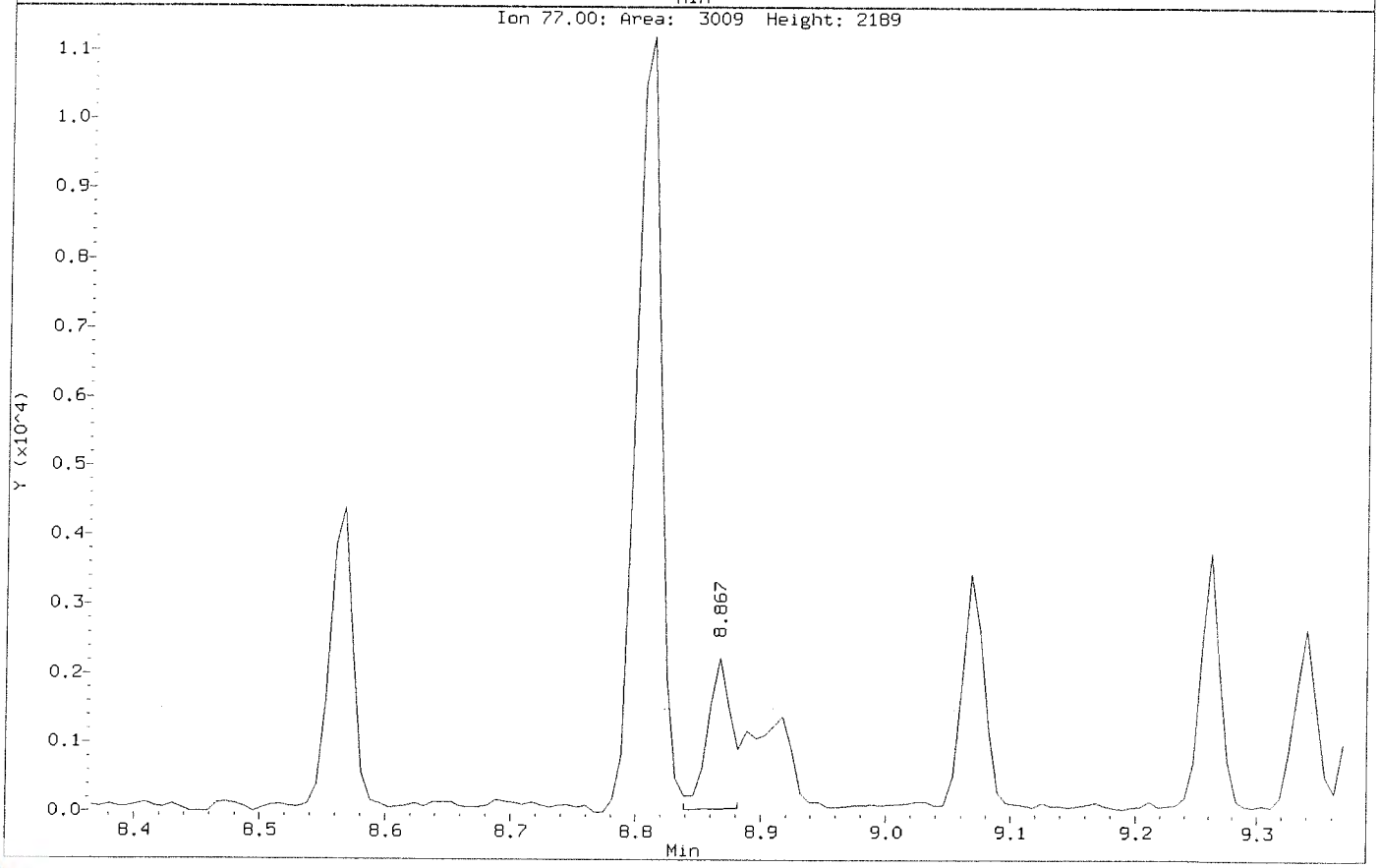
Injection Date: 31-OCT-2019 13:08
Instrument: voa6.i
Client Sample ID: VSTD005

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





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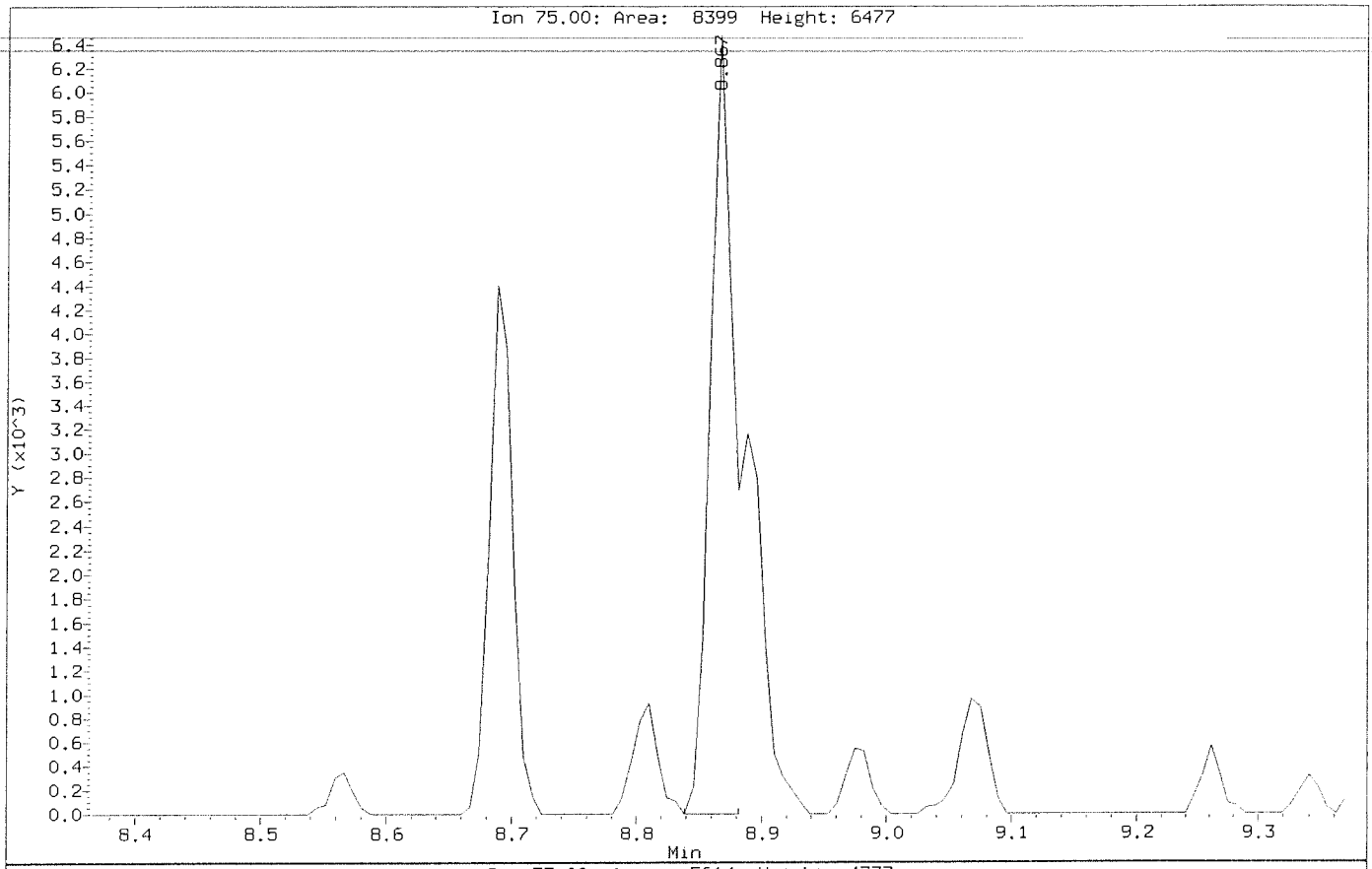
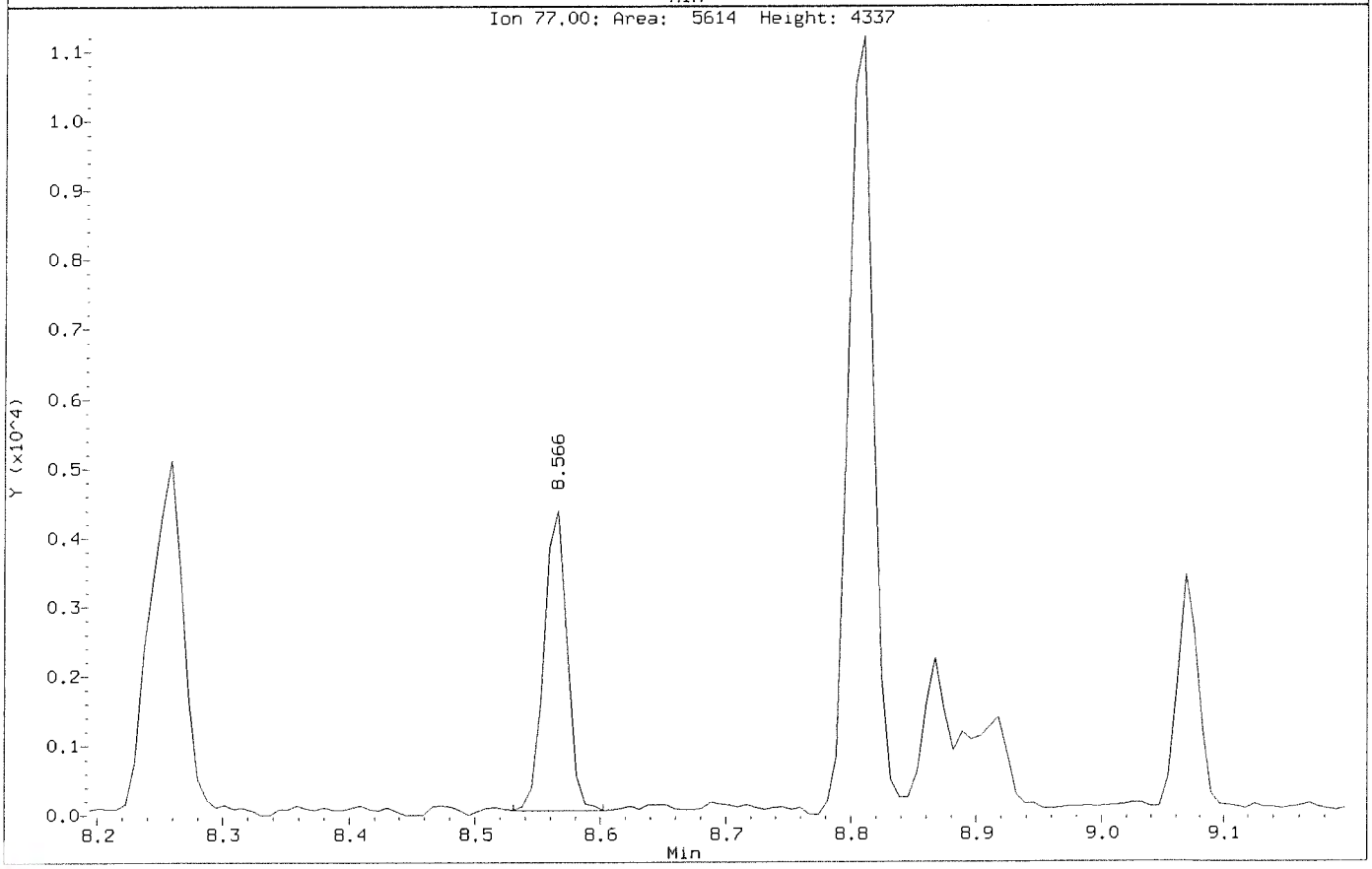
Injection Date: 31-OCT-2019 13:08
Instrument: voa6.i
Client Sample ID: VSTD005

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





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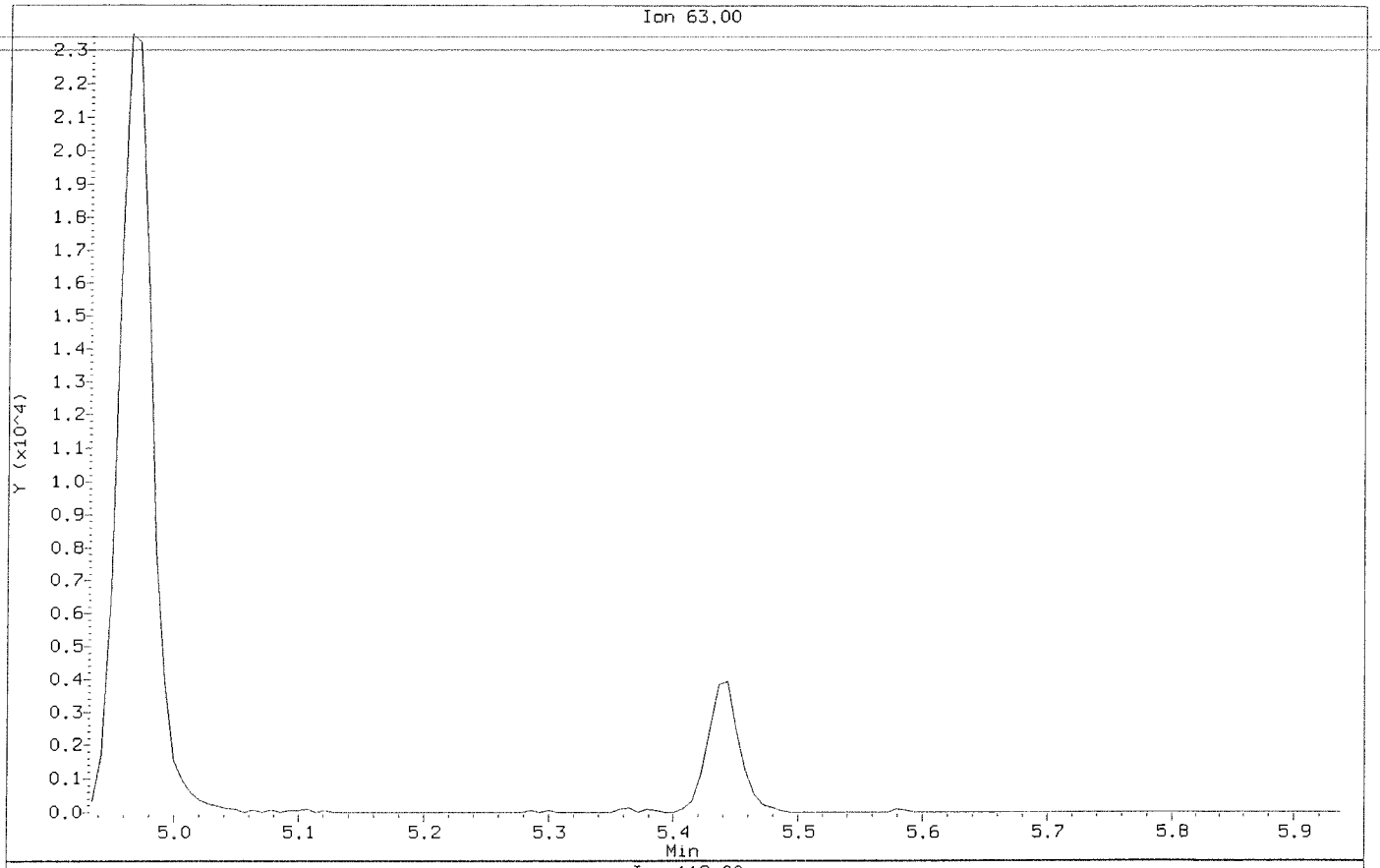
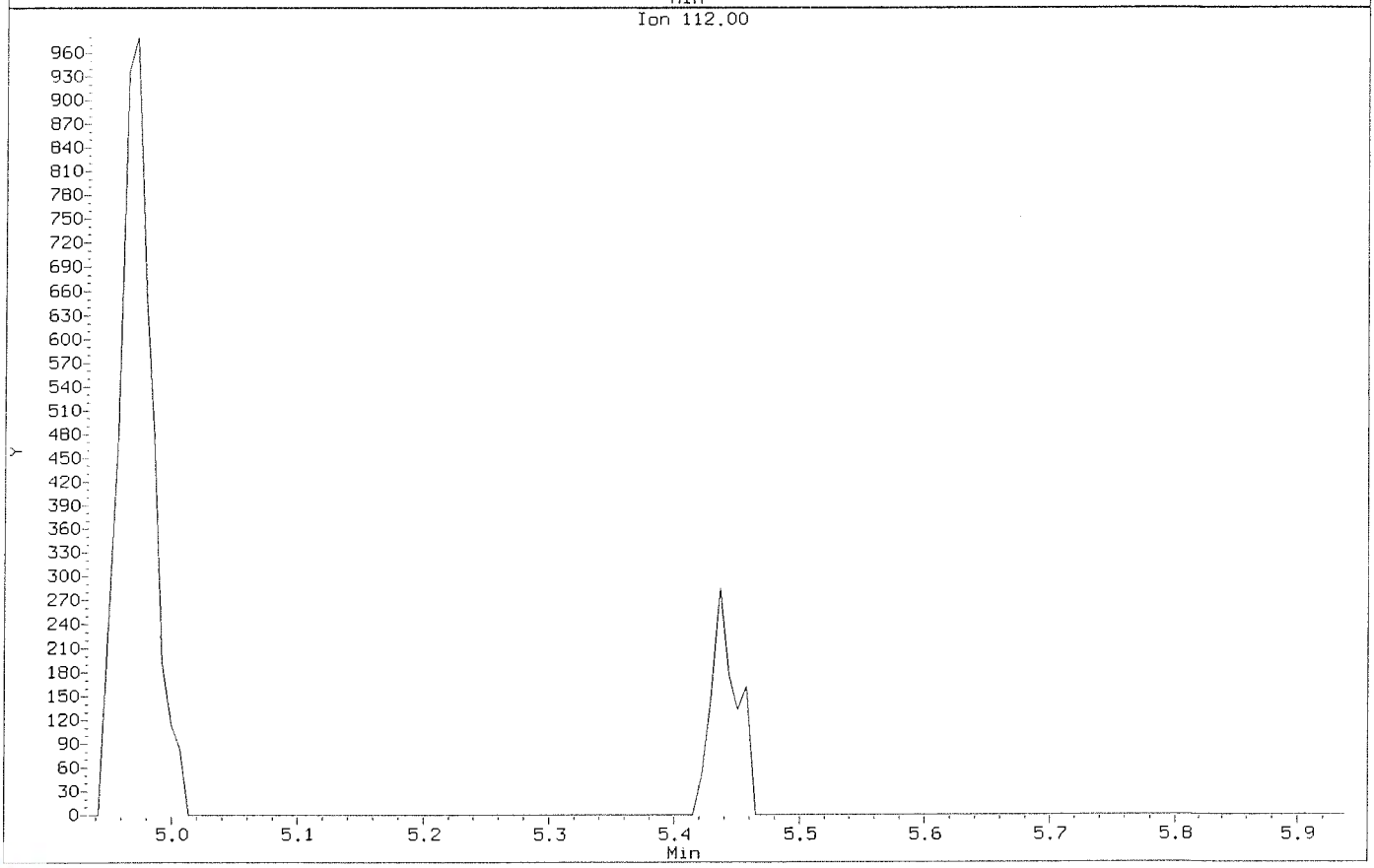
Injection Date: 31-OCT-2019 13:08
Instrument: voa6.i
Client Sample ID: VSTD005

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





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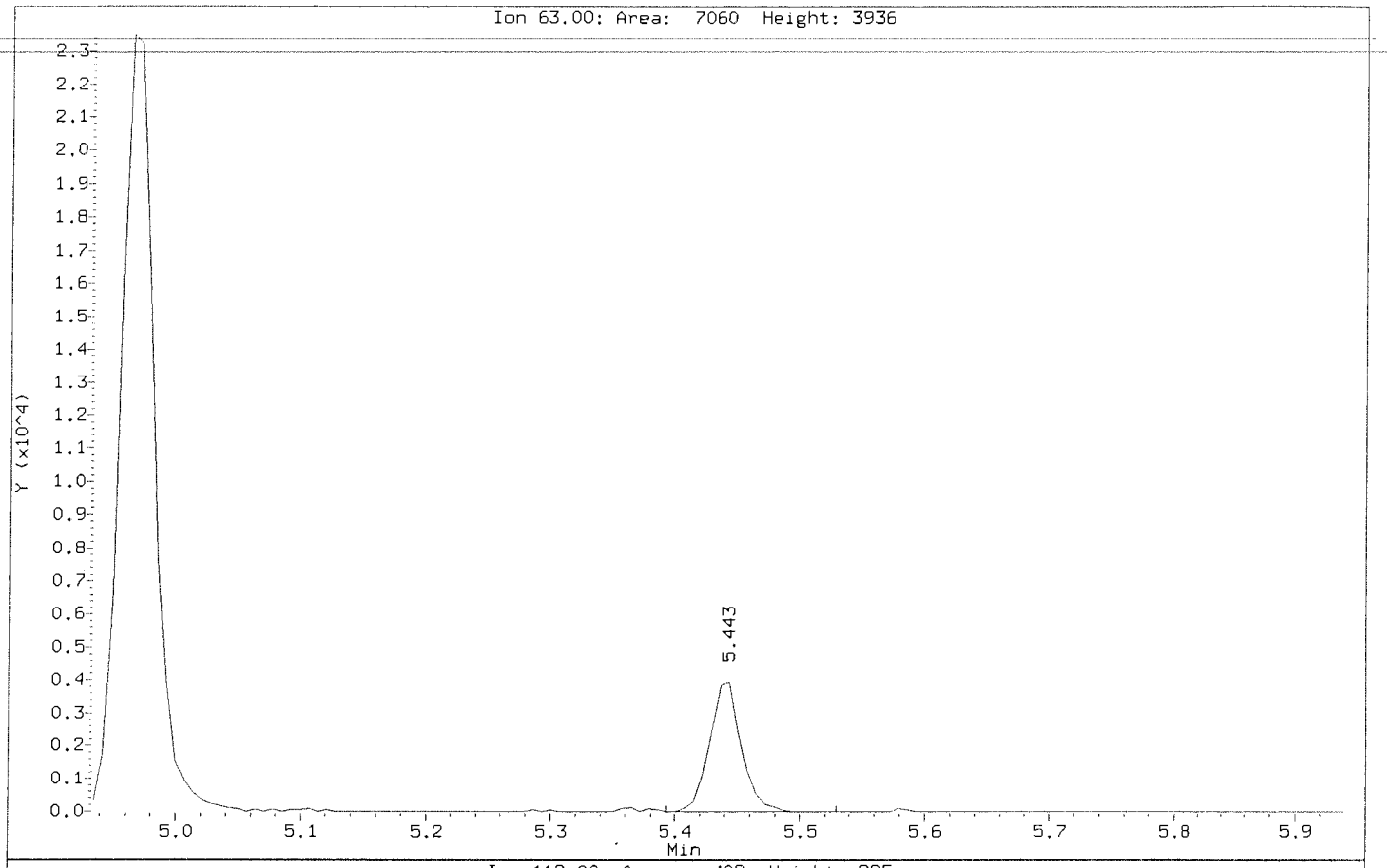
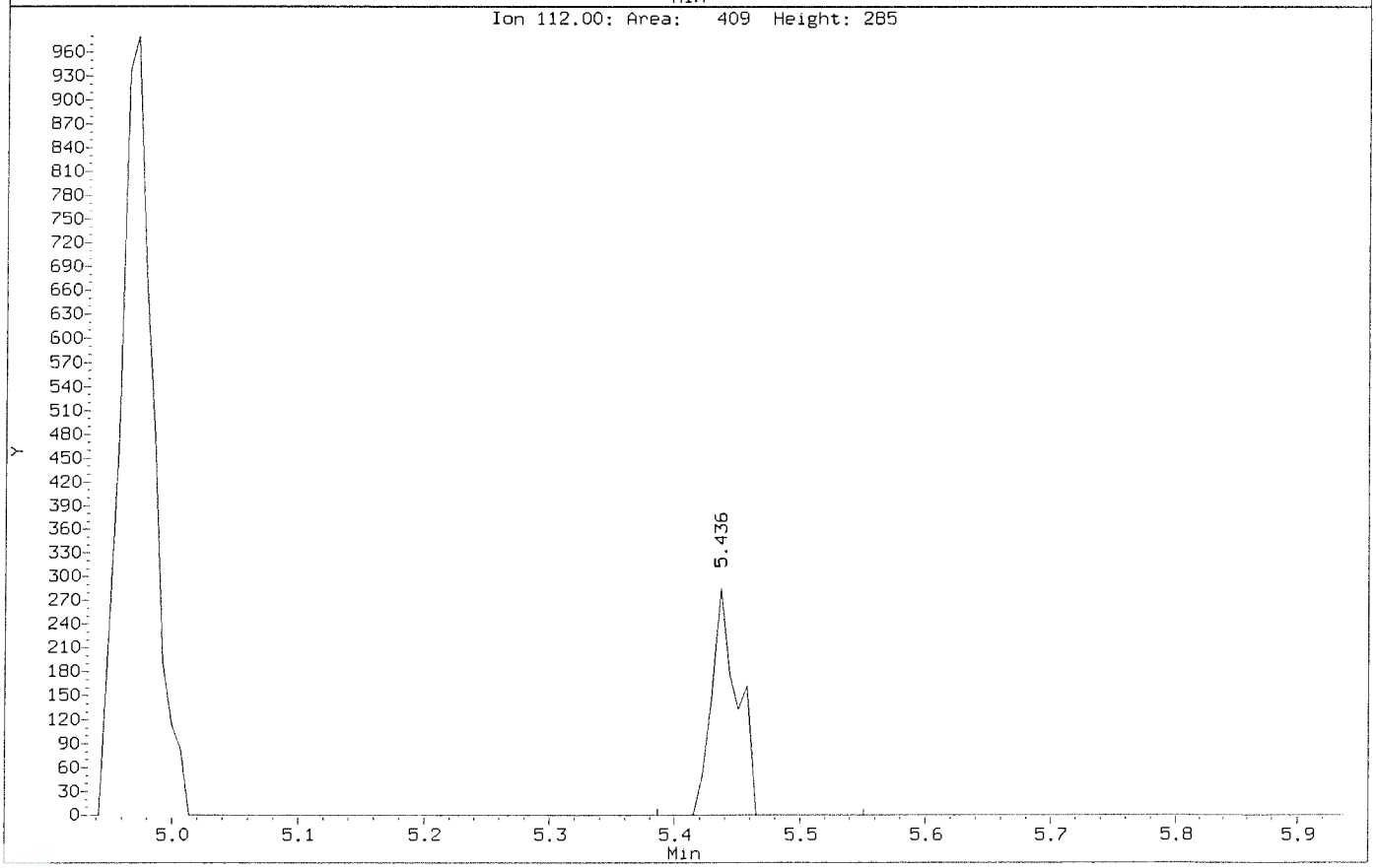
Injection Date: 31-OCT-2019 13:08
Instrument: voa6.i
Client Sample ID: VSTD005

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





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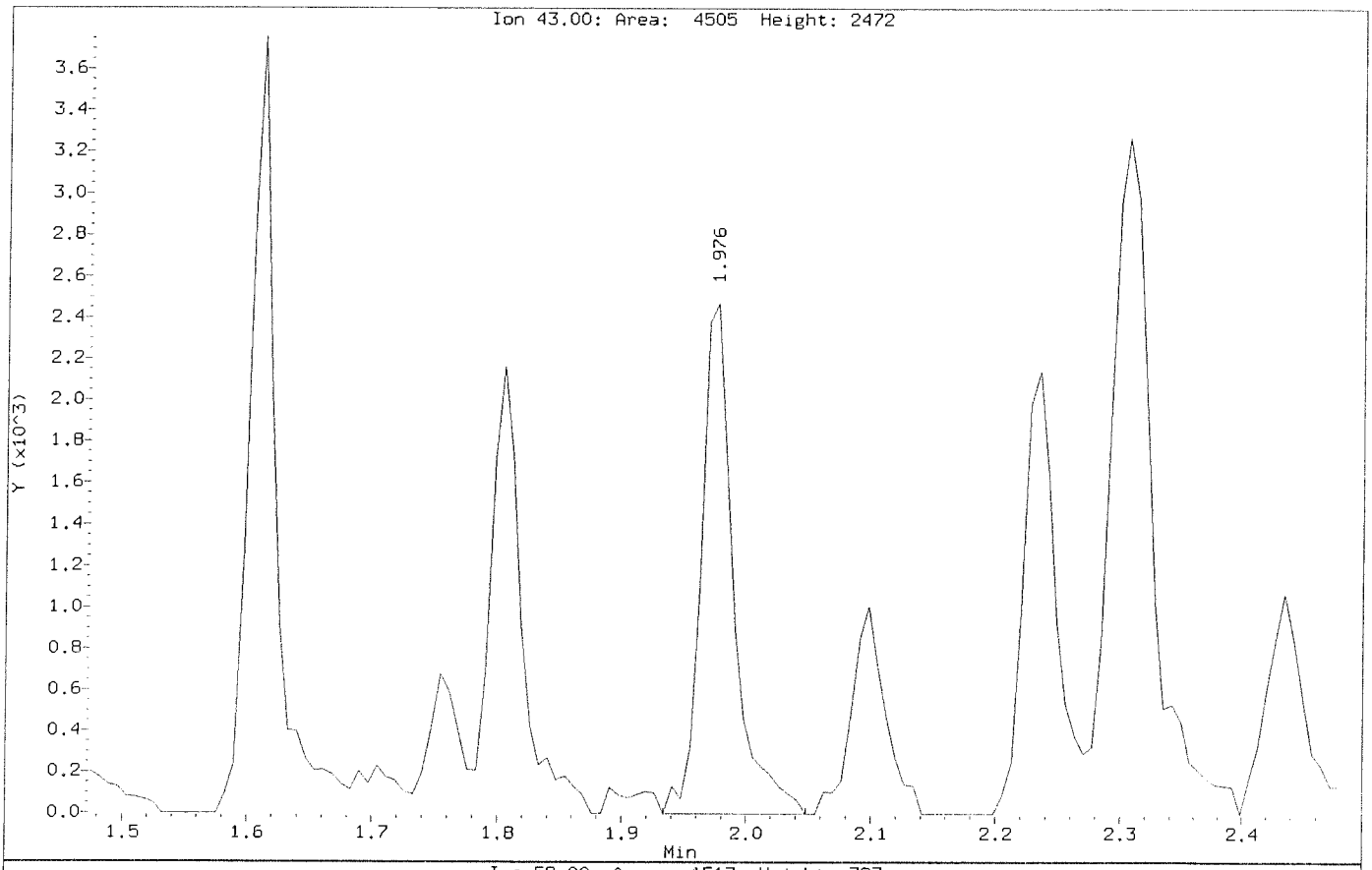
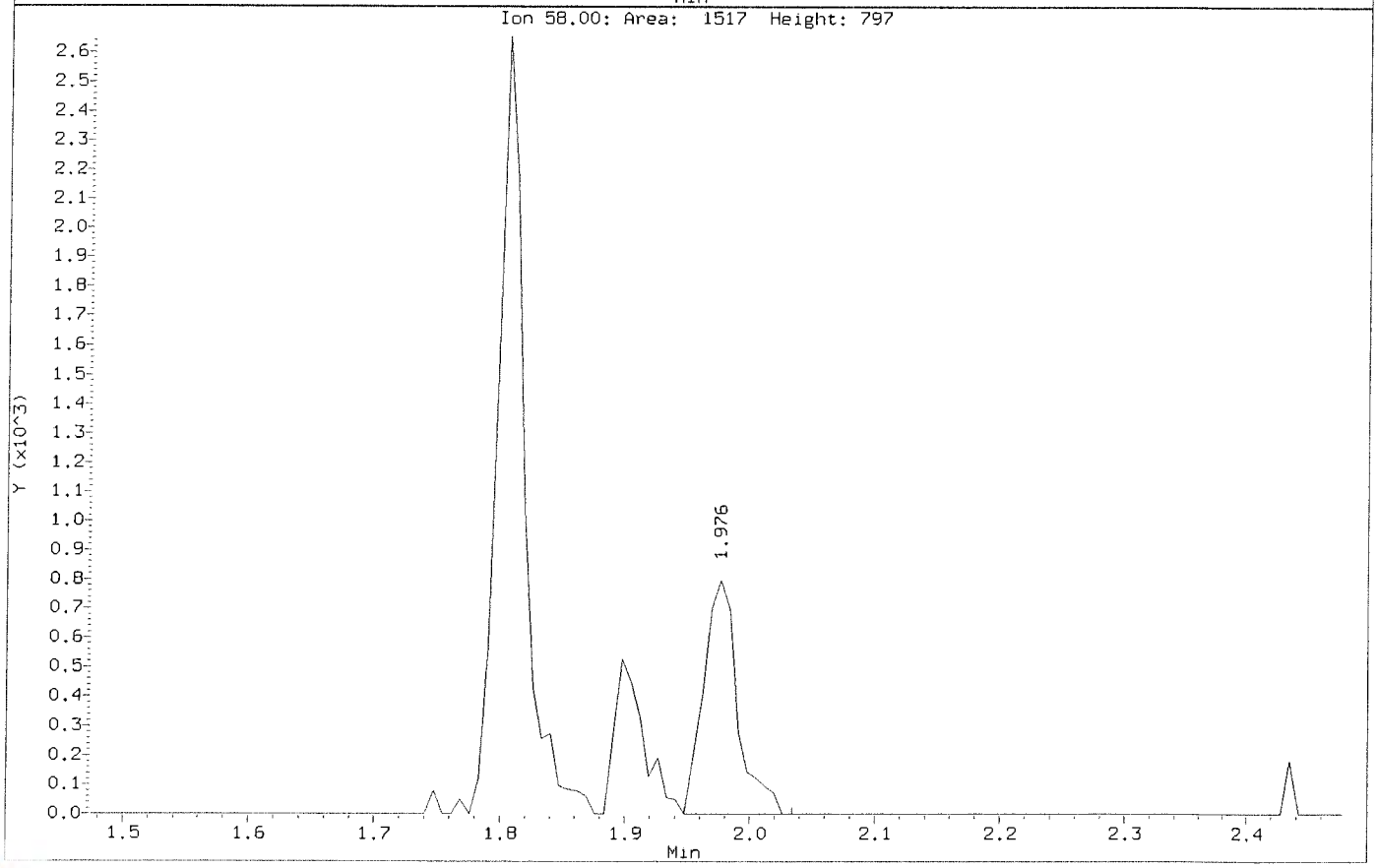
Injection Date: 31-OCT-2019 13:08
Instrument: voa6.i
Client Sample ID: VSTD005

Compound: Acetone
CAS Number: 67-64-1





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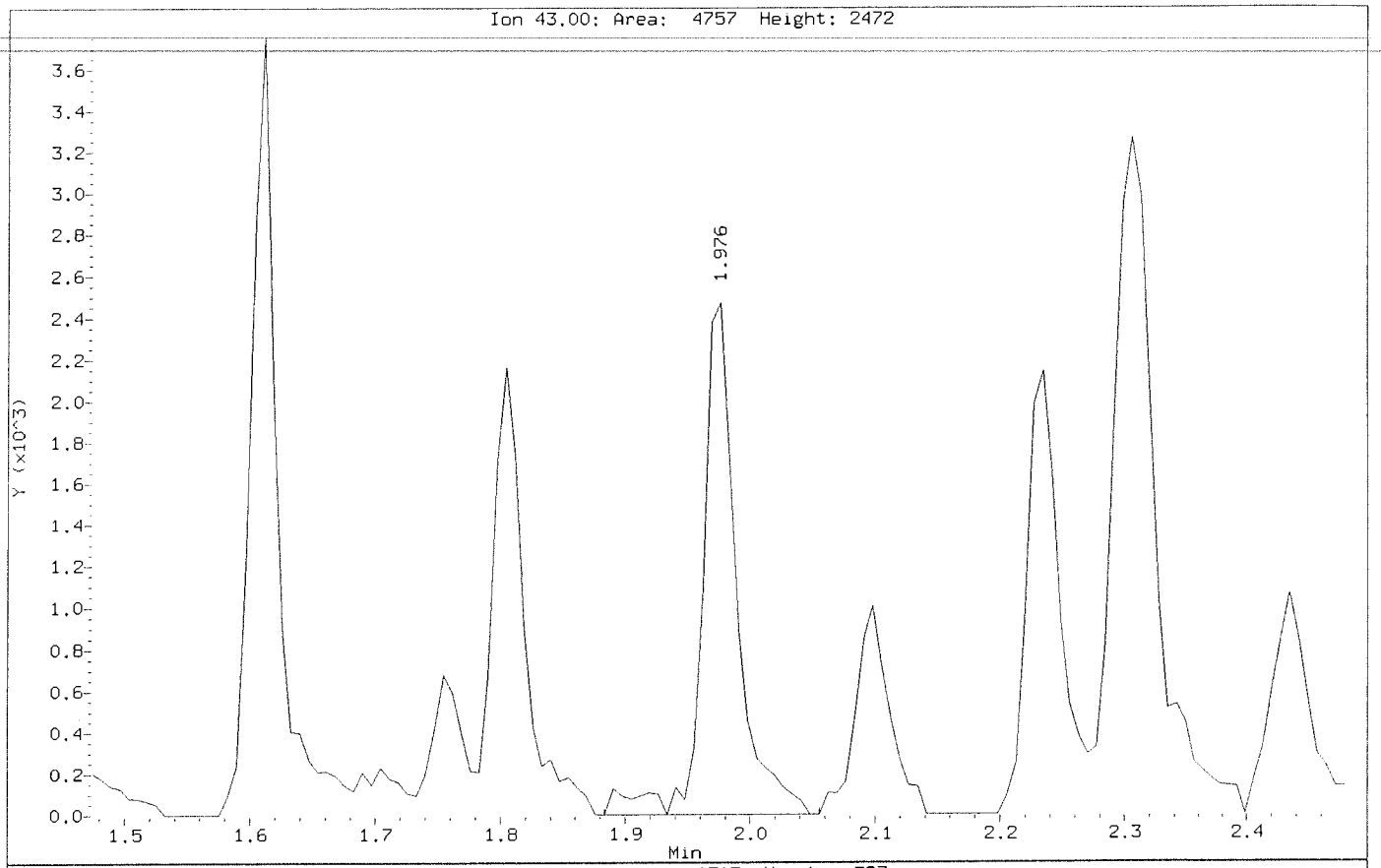
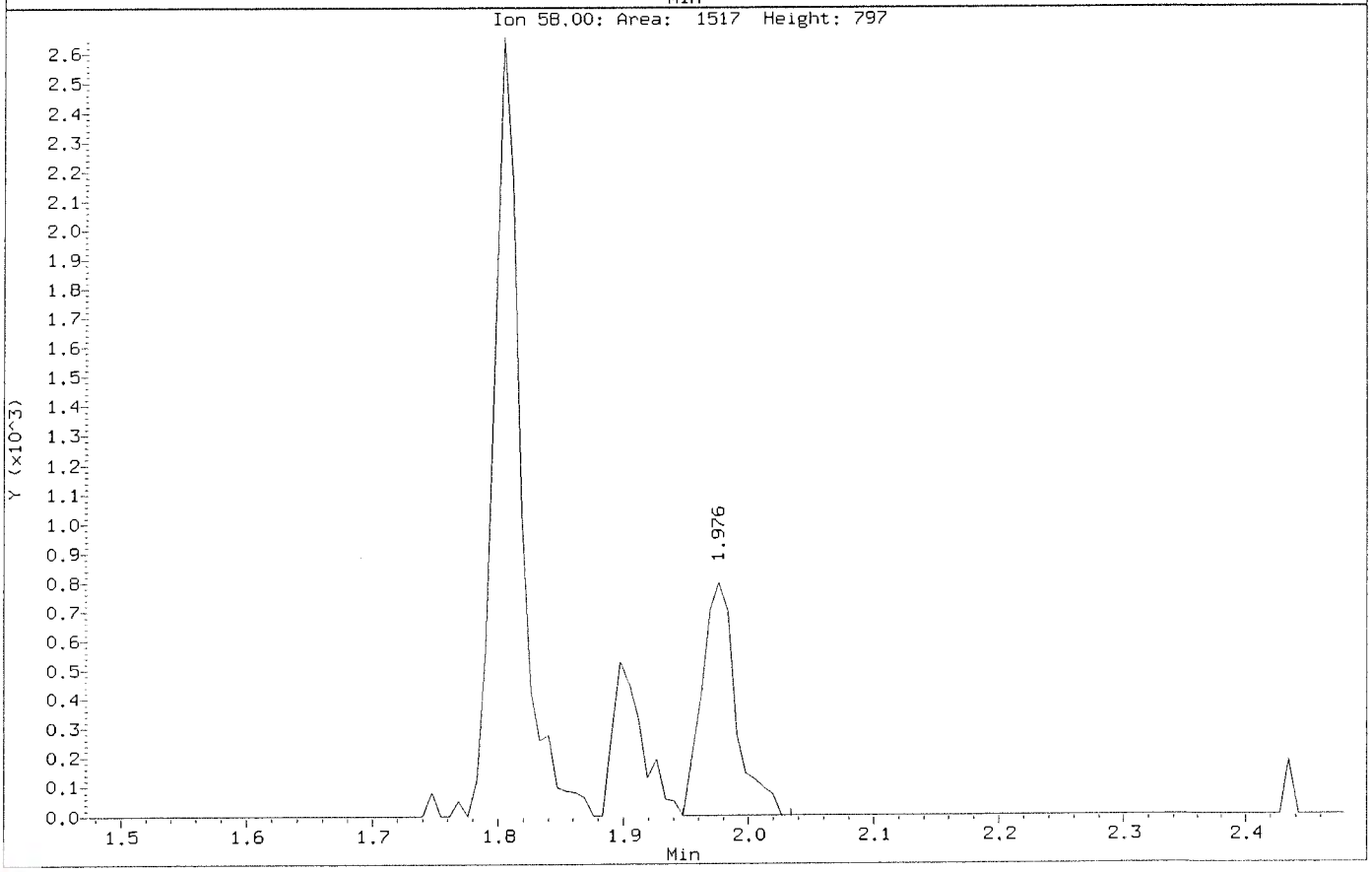
Instrument: voa6.i
Client Sample ID: VSTD005

Compound: Acetone
CAS Number: 67-64-1





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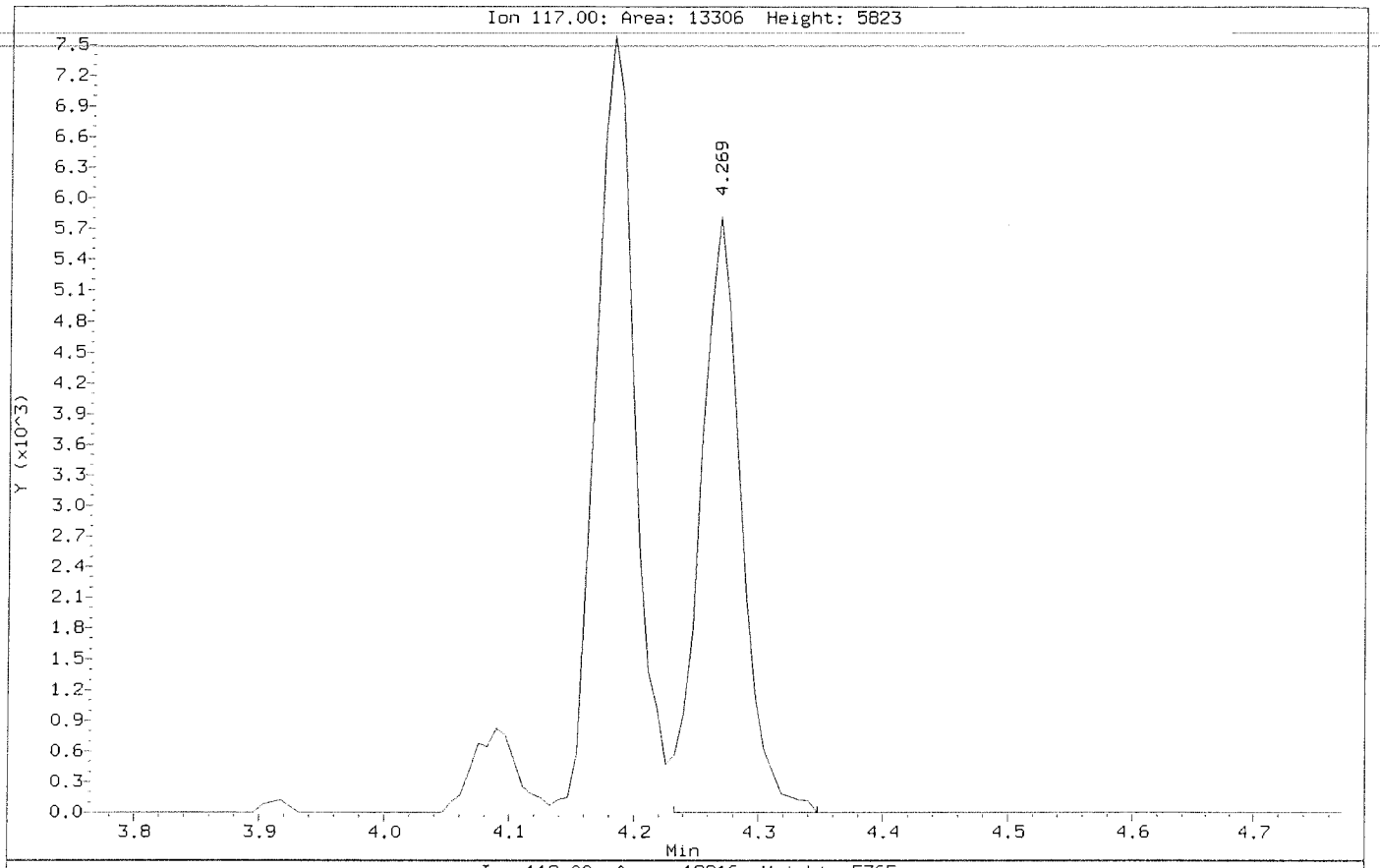
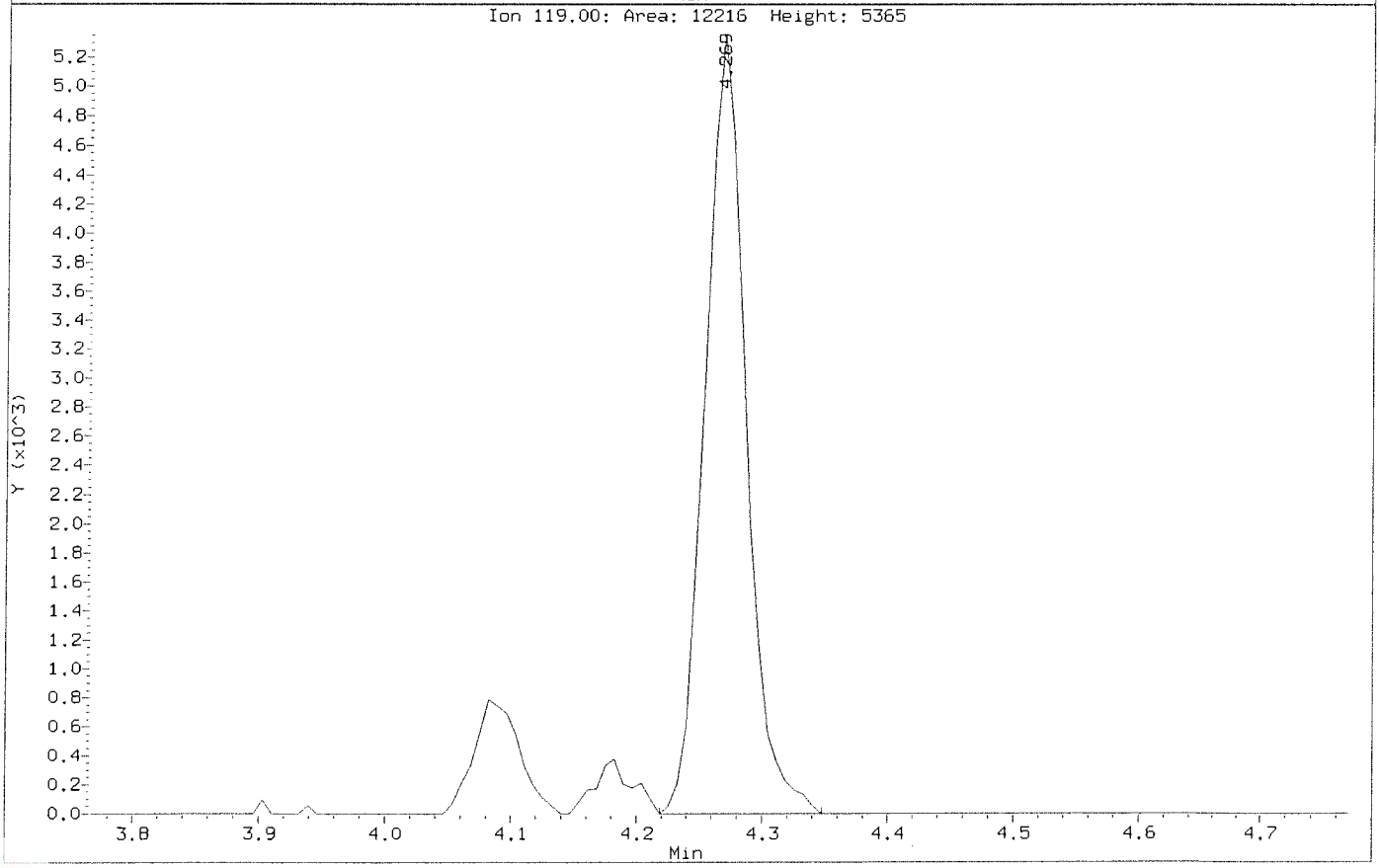
Injection Date: 31-OCT-2019 13:08
Instrument: voa6.i
Client Sample ID: VSTD005

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





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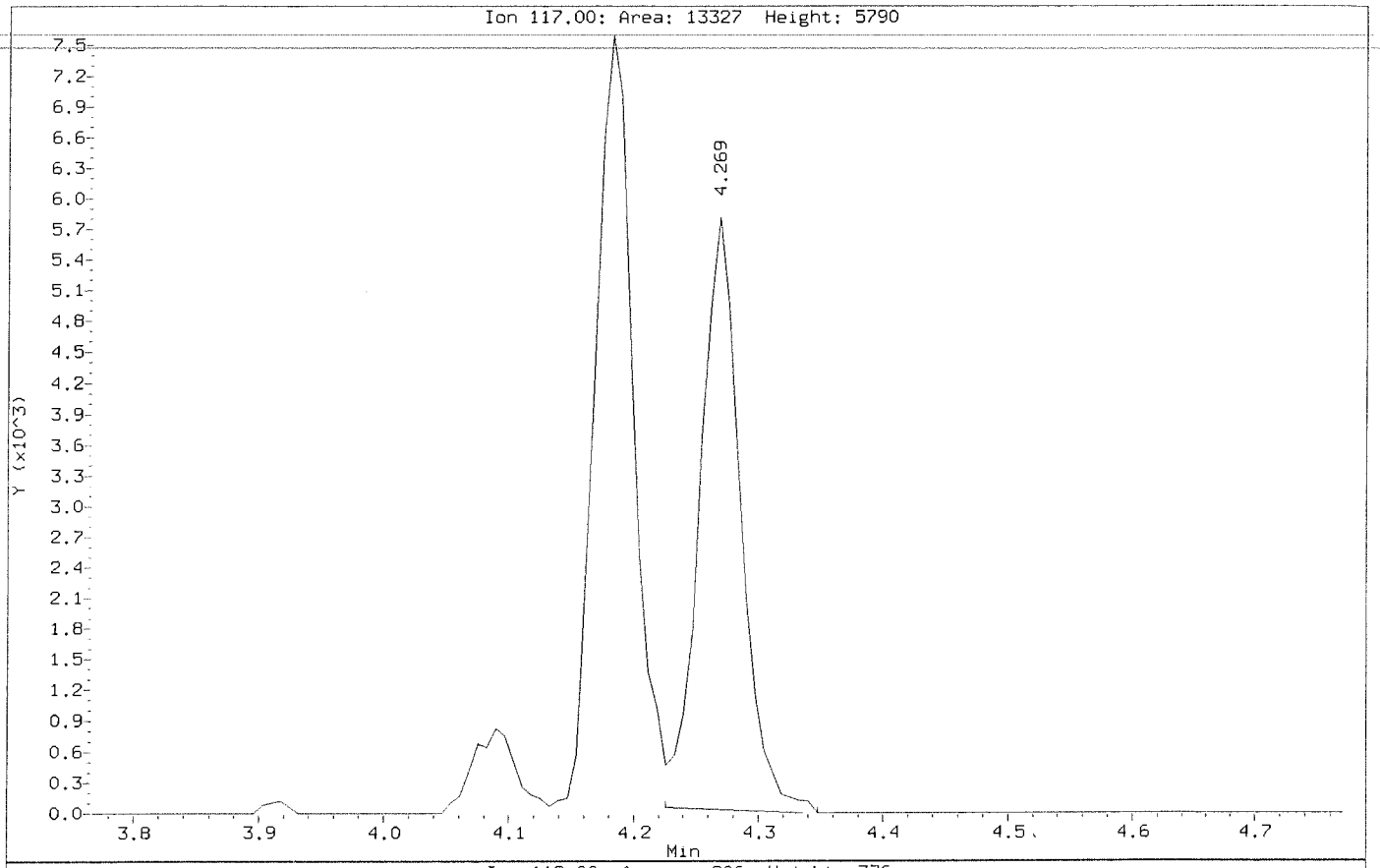
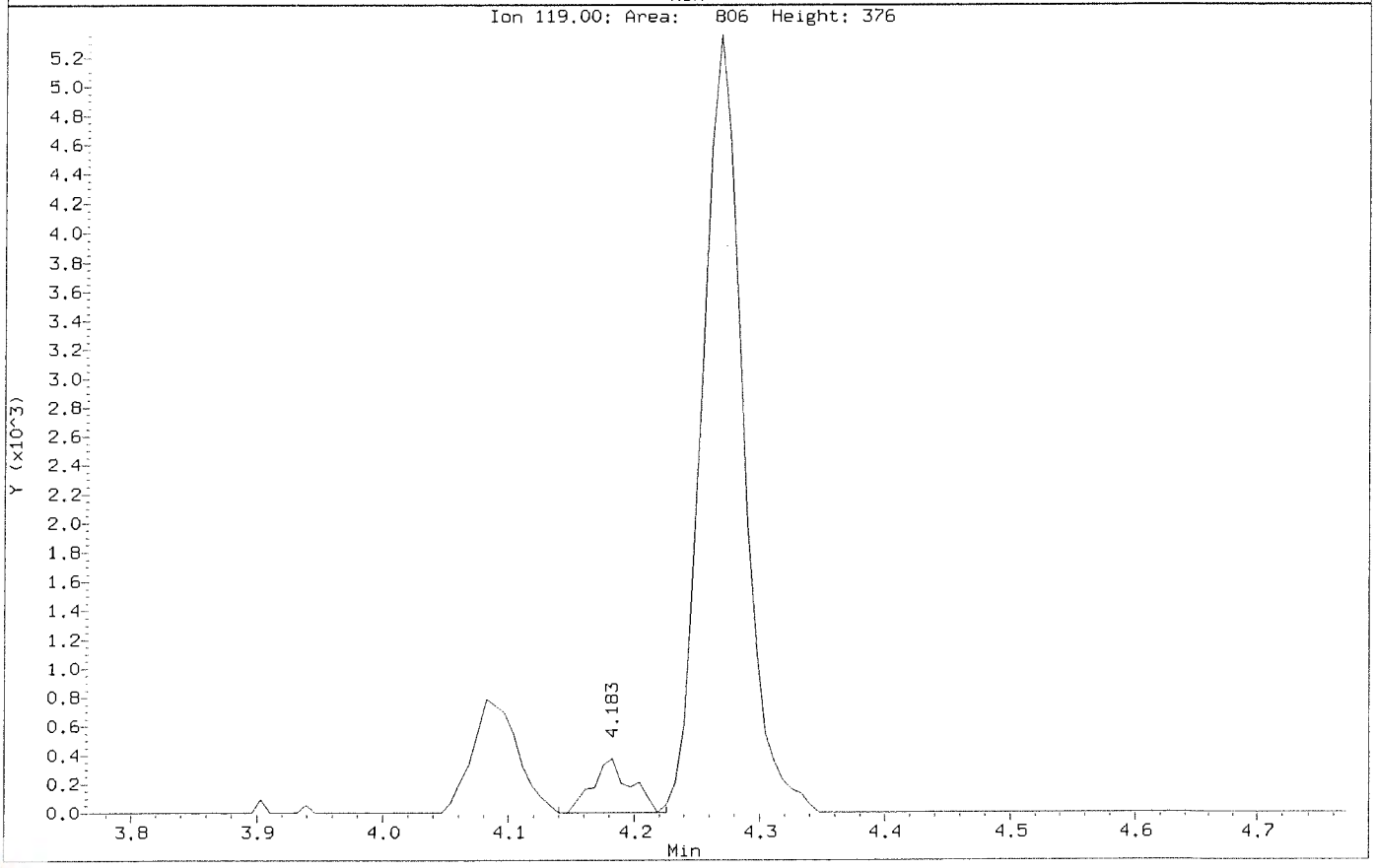
Client Sample ID: VSTD005

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





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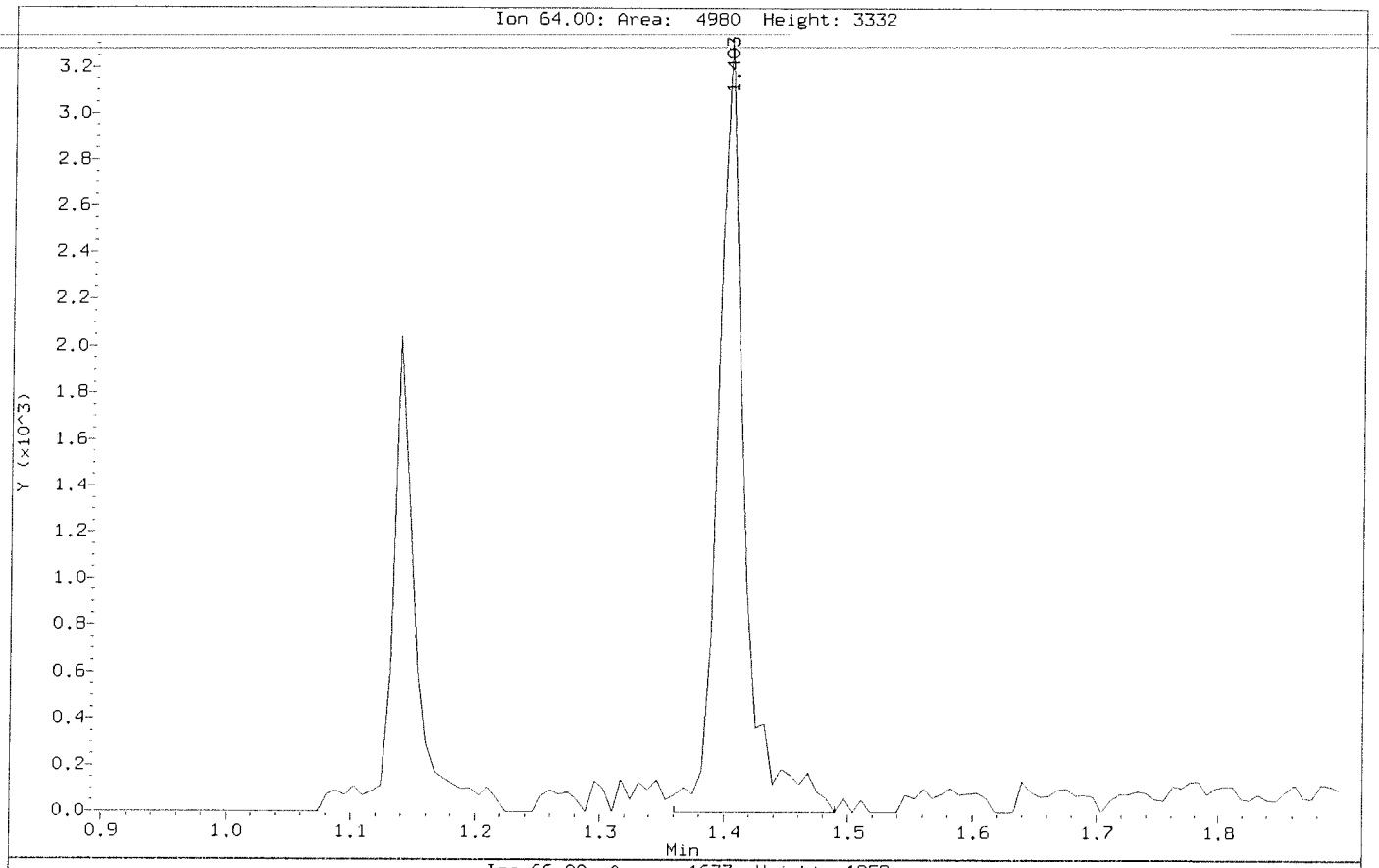
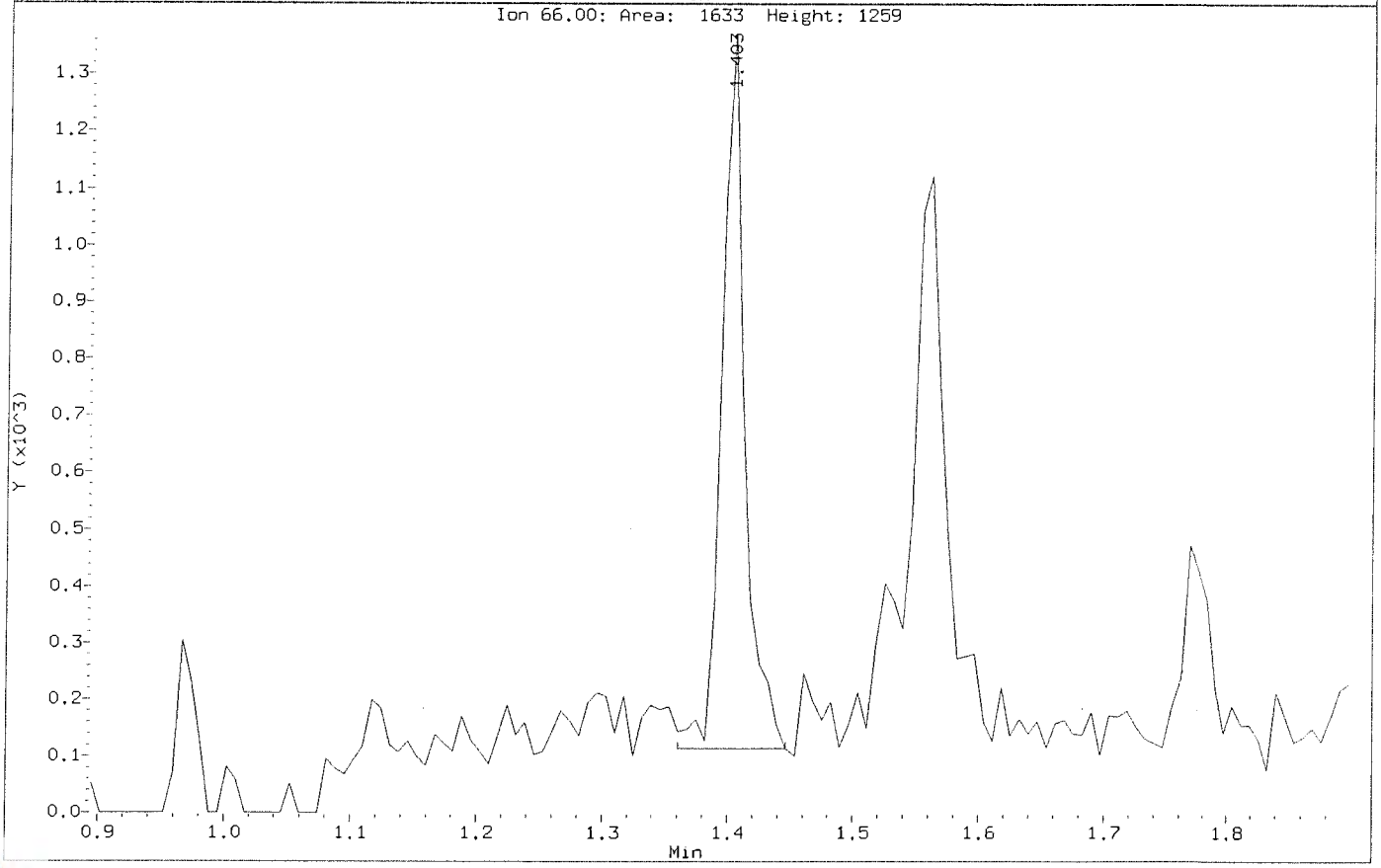
Injection Date: 31-OCT-2019 13:08
Instrument: voa6.i
Client Sample ID: VSTD005

Compound: Chloroethane
CAS Number: 75-00-3





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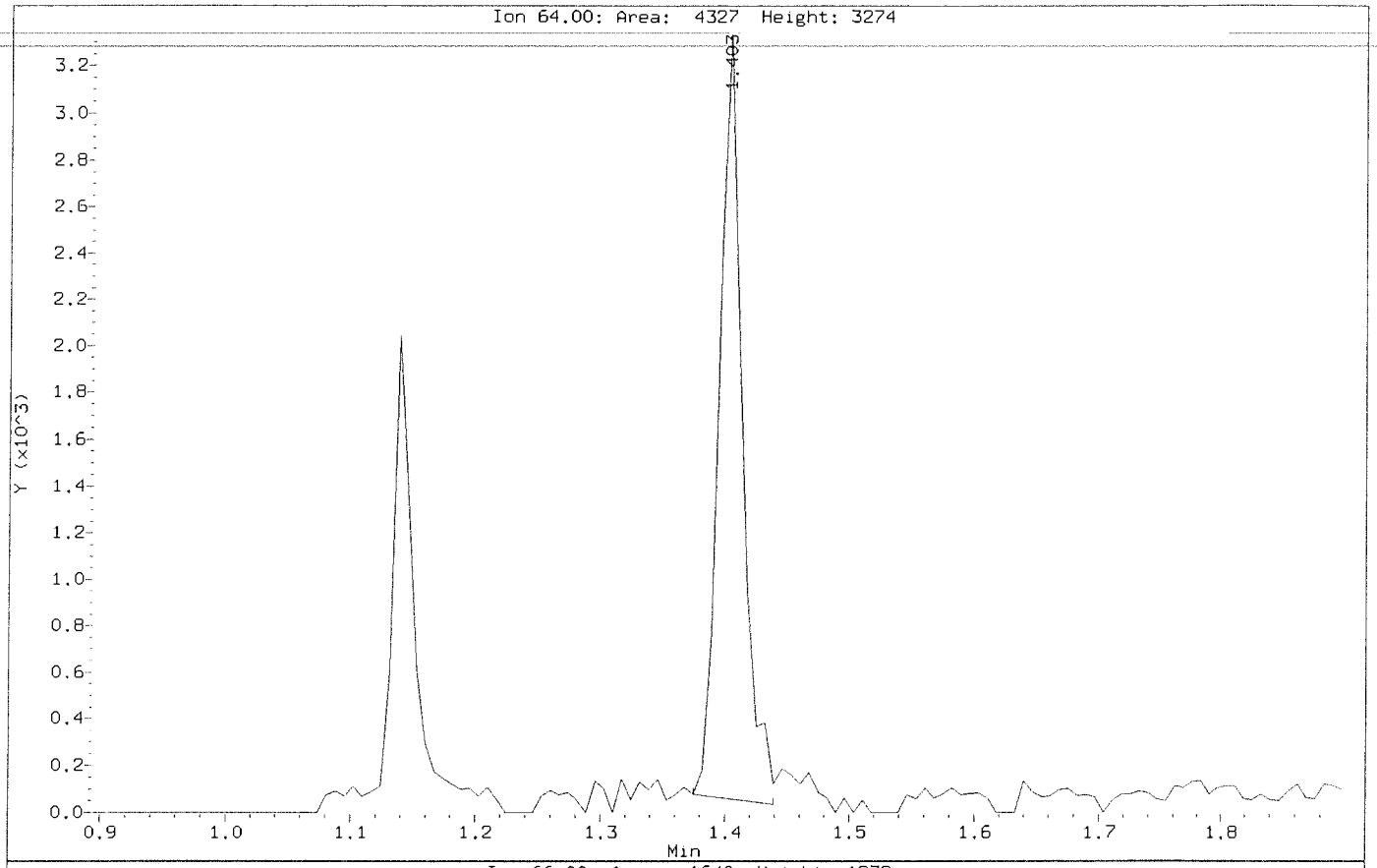
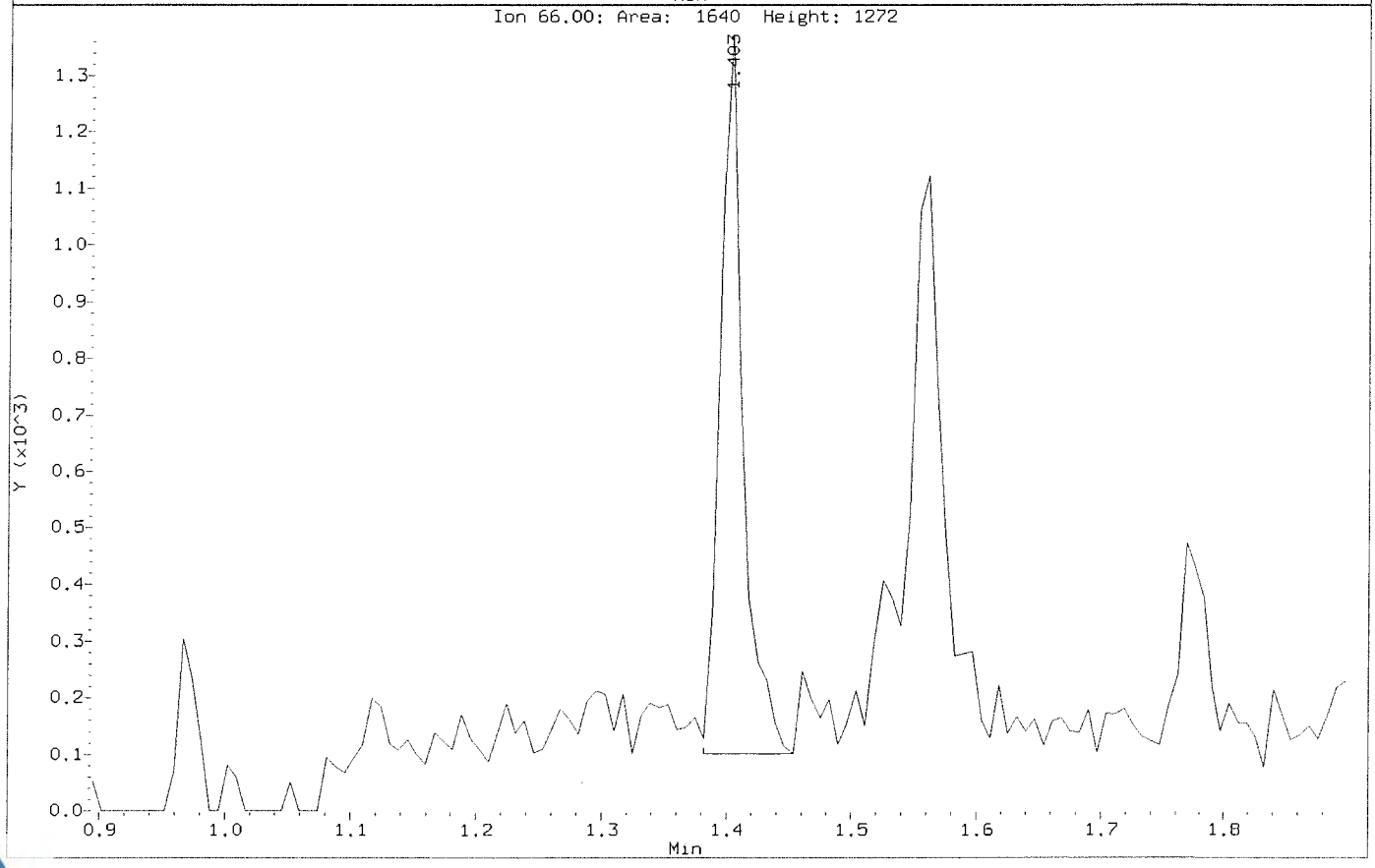
Injection Date: 31-OCT-2019 13:08
Instrument: voa6.i
Client Sample ID: VSTD005

Compound: Chloroethane
CAS Number: 75-00-3





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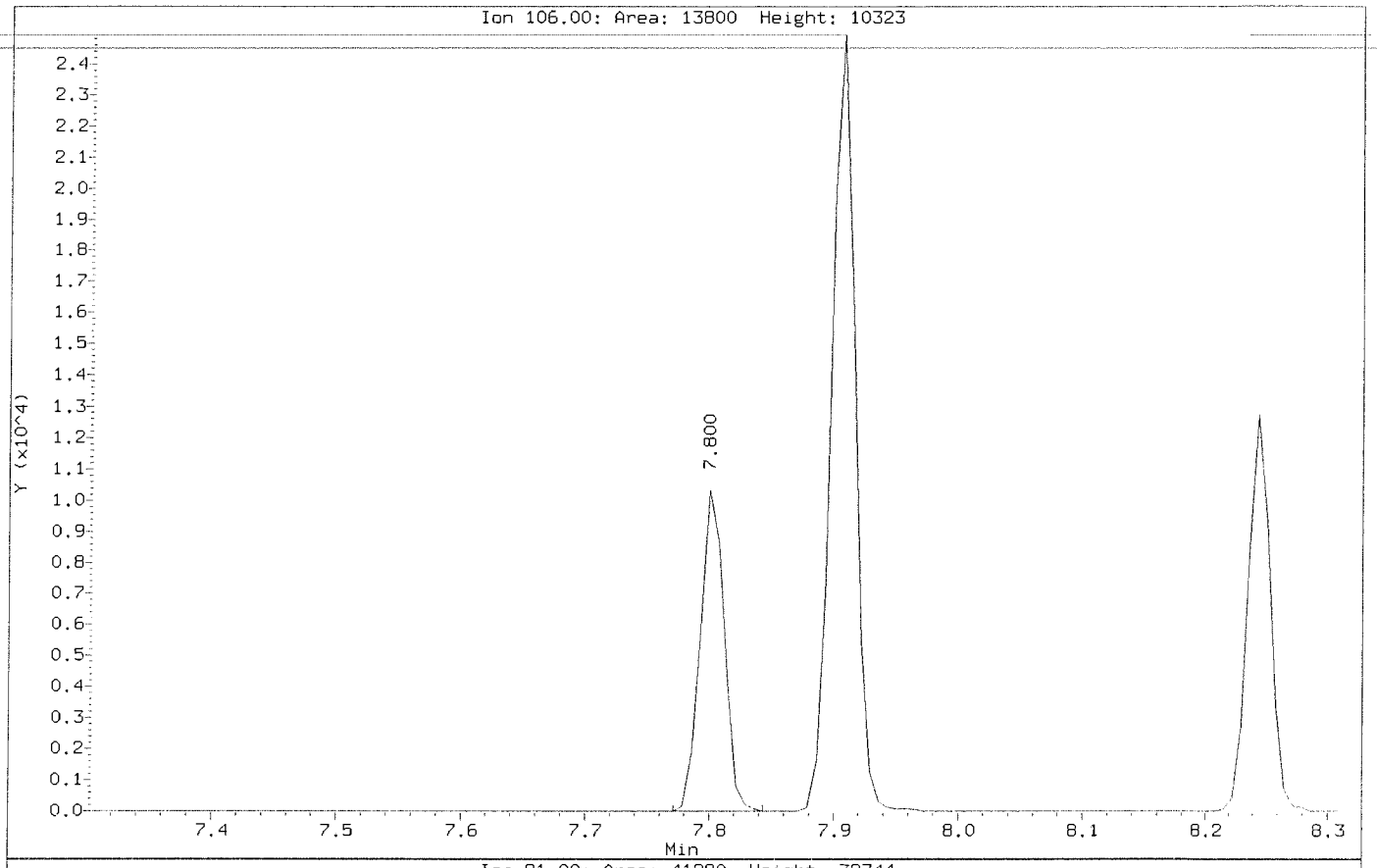
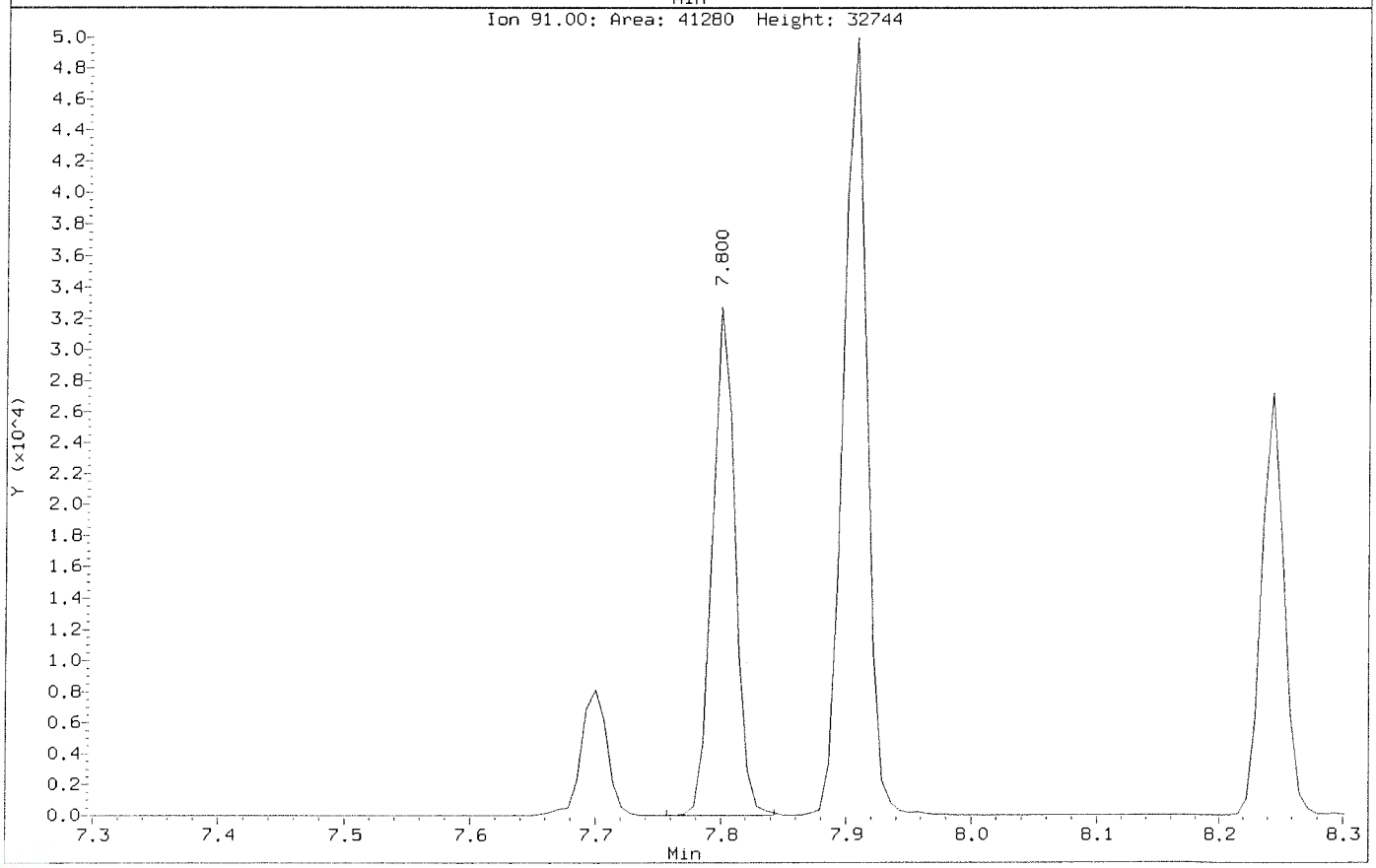
Injection Date: 31-OCT-2019 13:08
Instrument: voa6.i
Client Sample ID: VSTD005

Compound: Ethylbenzene
CAS Number: 100-41-4





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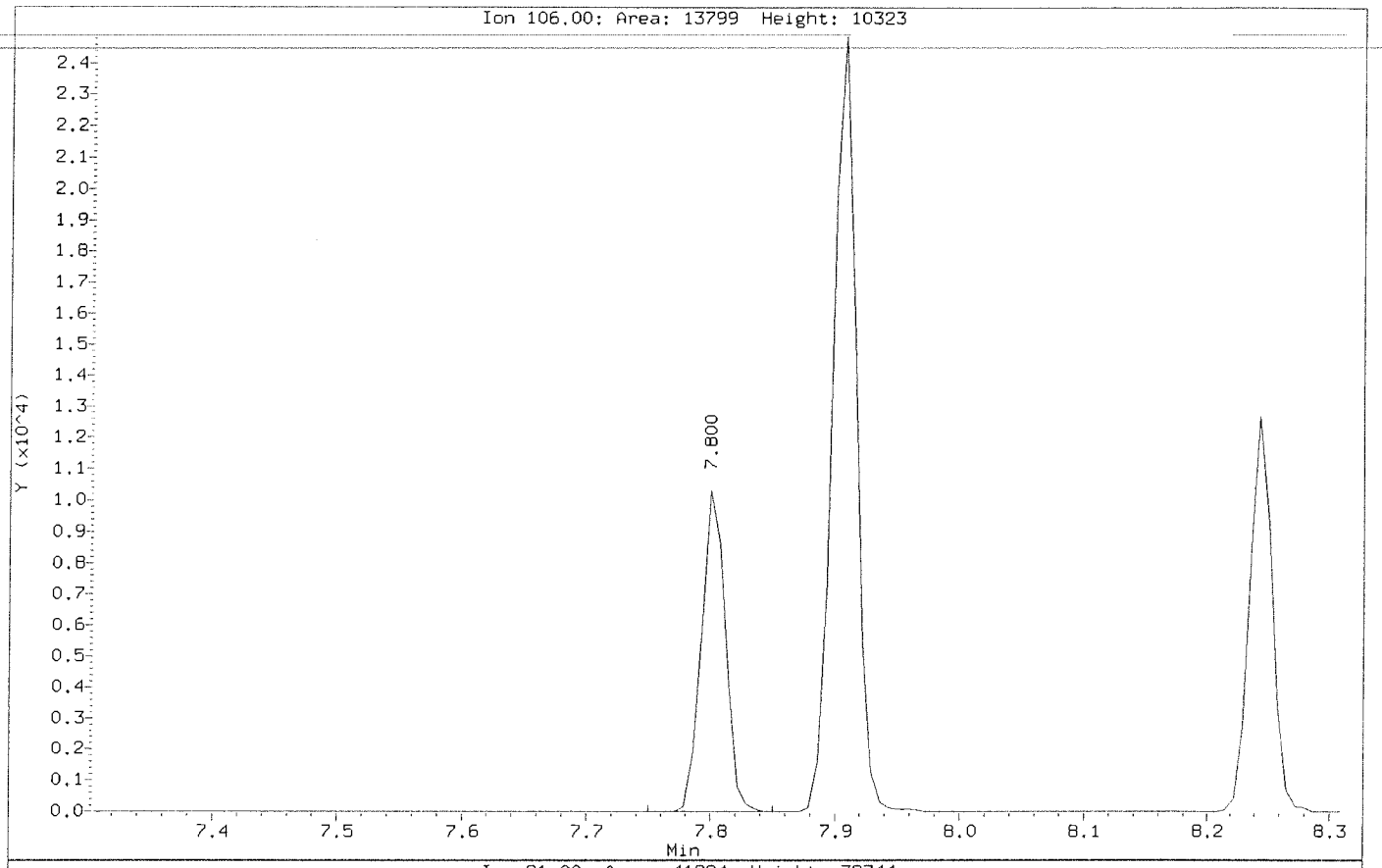
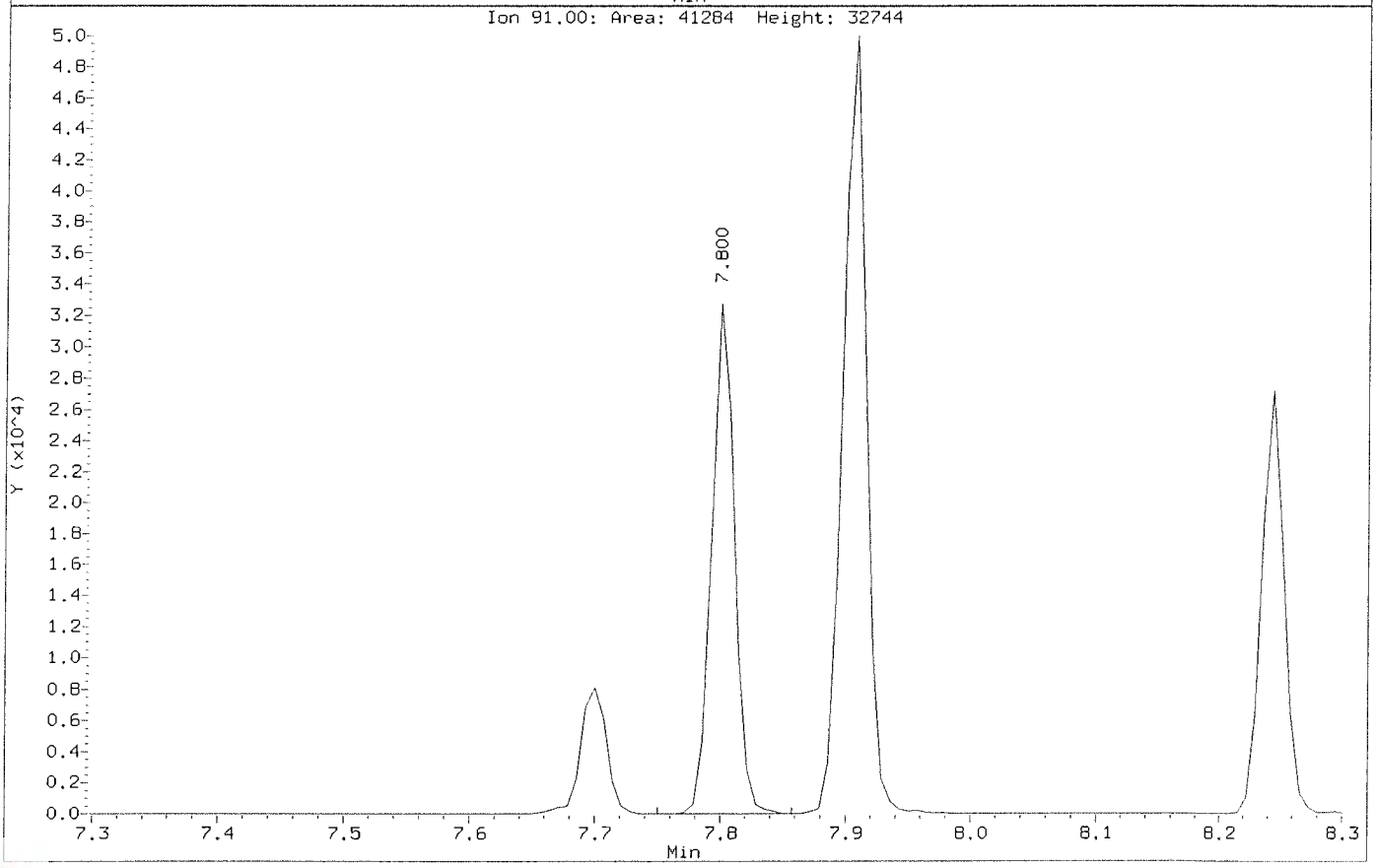
Client Sample ID: VSTD005

Compound: Ethylbenzene
CAS Number: 100-41-4





Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\X103107.D Page 1
Report Date: 19-Nov-2019 17:39

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X191031.b\X103107.D
Lab Smp Id: VSTD020 Client Smp ID: VSTD020
Inj Date : 31-OCT-2019 13:32
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\X191031.b\8260W.m
Meth Date : 19-Nov-2019 17:37 voa6.i Quant Type: ISTD
Cal Date : 31-OCT-2019 13:32 Cal File: X103107.D
Als bottle: 8 Calibration Sample, Level: 6
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBIHOUSTONDOD.sub
Target Version: 4.14

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

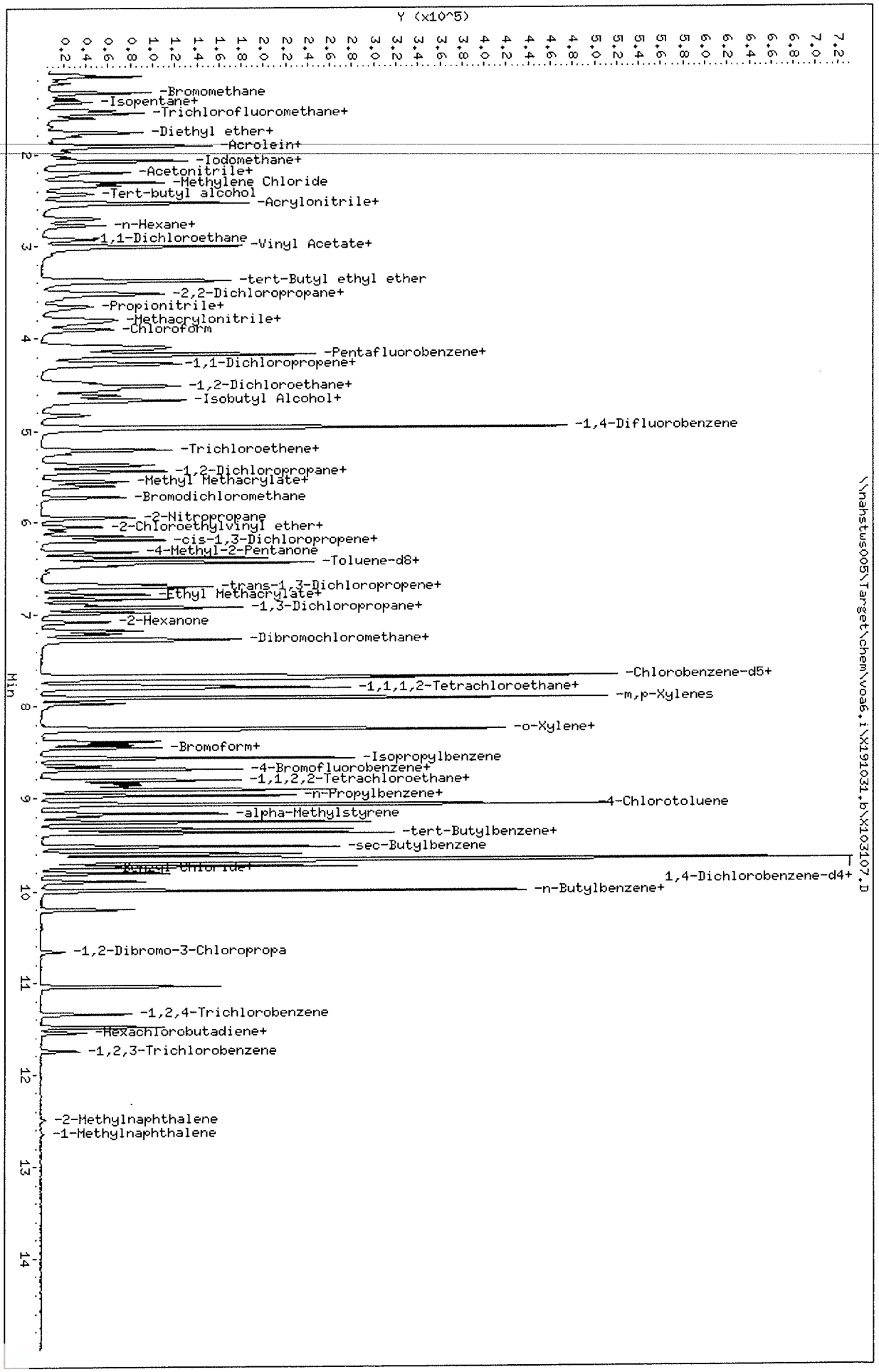
Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

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)	225348	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	280413	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	256253	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.669	(1.000)	150132	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	37631	20.0000	20.08
$ 69 4-Bromofluorobenzene	95	8.688	8.695	(1.133)	49568	20.0000	20.22
$ 30 Dibromofluoromethane	113	4.103	4.104	(0.981)	36041	20.0000	20.36
$ 48 Toluene-d8	98	6.388	6.389	(0.833)	123879	20.0000	19.45
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	41264	20.0000	19.76
31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	57167	20.0000	20.24
68 1,1,2,2-Tetrachloroethane	83	8.845	8.845	(0.915)	34270	20.0000	20.64
138 Freon TF	101	1.919	1.912	(0.459)	30973	20.0000	20.77
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	24296	20.0000	20.86
22 1,1-Dichloroethane	63	2.922	2.922	(0.699)	49501	20.0000	19.62
11 1,1-Dichloroethene	96	1.912	1.912	(0.457)	28144	20.0000	19.64
32 1,1-Dichloropropene	75	4.283	4.283	(0.862)	41159	20.0000	19.70(M)
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.216)	10723	20.0000	21.27
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.918)	30610	20.0000	20.62(M)
90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	25337	20.0000	18.70
79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.971)	145285	20.0000	20.20
89 1,2-Dibromo-3-Chloropropane	155	10.658	10.658	(1.103)	4750	20.0000	19.60
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	35261	20.0000	20.47
88 1,2-Dichlorobenzene	146	9.999	9.999	(1.035)	82599	20.0000	19.82

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
33	1,2-Dichloroethane	62	4.555	4.562	(0.916)	44302	20.0000	19.48
42	1,2-Dichloropropane	63	5.436	5.436	(1.094)	26061	20.0000	19.07
75	1,3,5-Trimethylbenzene	105	9.067	9.075	(0.938)	142629	20.0000	20.46
83	1,3-Dichlorobenzene	146	9.605	9.612	(0.994)	89896	20.0000	19.64
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	48959	20.0000	20.49
84	1,4-Dichlorobenzene	146	9.683	9.684	(1.002)	89790	20.0000	19.44
26	2,2-Dichloropropane	77	3.516	3.516	(0.841)	51105	20.0000	18.85
24	2-Butanone	43	3.573	3.573	(0.854)	18102	40.0000	39.49(M)
76	2-Chlorotoluene	91	8.974	8.982	(0.929)	108549	20.0000	20.11
52	2-Hexanone	43	7.083	7.090	(0.923)	28196	40.0000	37.78
77	4-Chlorotoluene	91	9.075	9.075	(0.939)	129052	20.0000	20.27
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	150670	20.0000	20.18
45	4-Methyl-2-Pentanone	43	6.324	6.331	(0.824)	40666	40.0000	38.54
10	Acetone	43	1.969	1.976	(0.471)	18452	40.0000	40.11(M)
37	Benzene	78	4.512	4.512	(0.908)	123672	20.0000	20.41
74	Bromobenzene	156	8.810	8.810	(0.912)	54908	20.0000	19.86
29	Bromochloromethane	128	3.795	3.795	(0.908)	22884	20.0000	19.68
39	Bromodichloromethane	83	5.729	5.730	(1.153)	44703	20.0000	20.13
66	Bromoform	173	8.416	8.416	(1.097)	34353	20.0000	20.78
6	Bromomethane	94	1.339	1.331	(0.320)	39382	20.0000	22.42
19	Carbon Disulfide	76	2.069	2.069	(0.495)	166059	40.0000	39.99
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	52016	20.0000	19.00(M)
59	Chlorobenzene	112	7.692	7.699	(1.003)	100771	20.0000	20.18
7	Chloroethane	64	1.403	1.396	(0.336)	17654	20.0000	19.76(M)
28	Chloroform	83	3.910	3.910	(0.935)	60261	20.0000	20.20
3	Chloromethane	50	1.074	1.074	(0.257)	28930	20.0000	19.39
27	cis-1,2-Dichloroethene	96	3.530	3.523	(0.844)	36983	20.0000	20.54
46	cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	51927	20.0000	20.19
55	Dibromochloromethane	129	7.176	7.176	(0.936)	41878	20.0000	19.72
44	Dibromomethane	93	5.558	5.558	(1.118)	22495	20.0000	20.77
2	Dichlorodifluoromethane	85	0.973	0.966	(0.233)	33571	20.0000	19.65
61	Ethylbenzene	106	7.800	7.807	(1.017)	51928	20.0000	20.05(M)
91	Hexachlorobutadiene	225	11.489	11.481	(1.189)	22925	20.0000	19.57
67	Isopropylbenzene	105	8.566	8.566	(1.117)	160360	20.0000	20.37
62	m,p-Xylenes	106	7.907	7.907	(1.031)	127177	40.0000	40.52
17	Methylene Chloride	84	2.306	2.306	(0.551)	31523	20.0000	20.15
87	n-Butylbenzene	91	9.999	9.999	(1.035)	109517	20.0000	20.57
73	n-Propylbenzene	91	8.917	8.917	(0.923)	171525	20.0000	20.05
92	Naphthalene	128	11.546	11.546	(1.195)	28087	20.0000	20.67
63	o-Xylene	106	8.244	8.244	(1.075)	62393	20.0000	20.18
81	sec-Butylbenzene	105	9.526	9.526	(0.986)	154749	20.0000	20.30
64	Styrene	104	8.258	8.265	(1.077)	109272	20.0000	20.44
78	tert-Butylbenzene	119	9.340	9.340	(0.967)	121101	20.0000	20.04
56	Tetrachloroethene	164	6.933	6.933	(0.904)	40192	20.0000	20.70
50	Toluene	91	6.446	6.446	(0.840)	141041	20.0000	20.16
20	trans-1,2-Dichloroethene	96	2.528	2.528	(0.604)	31272	20.0000	20.65
51	trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	48447	20.0000	20.17
38	Trichloroethene	130	5.207	5.207	(1.048)	43151	20.0000	20.62
8	Trichlorofluoromethane	101	1.561	1.553	(0.373)	60133	20.0000	19.99
5	Vinyl Chloride	62	1.138	1.138	(0.272)	29073	20.0000	20.56

QC Flag Legend

M - Compound response manually integrated.



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Date : 31-OCT-2019 13:32
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

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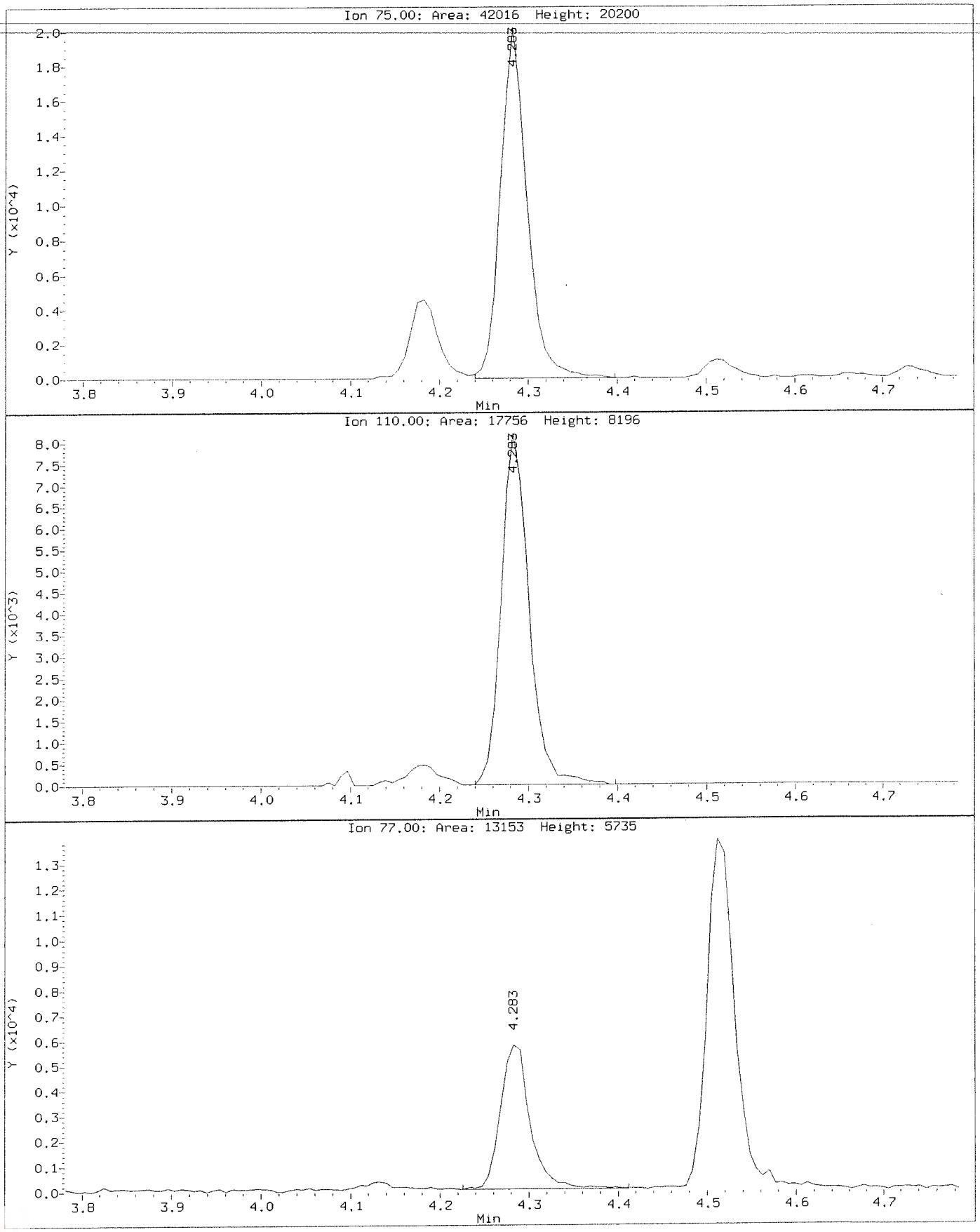
Injection Date: 31-OCT-2019 13:32
Instrument: voa6.i
Client Sample ID: VSTD020

Compound: 1,1-Dichloropropene
CAS Number: 563-58-6



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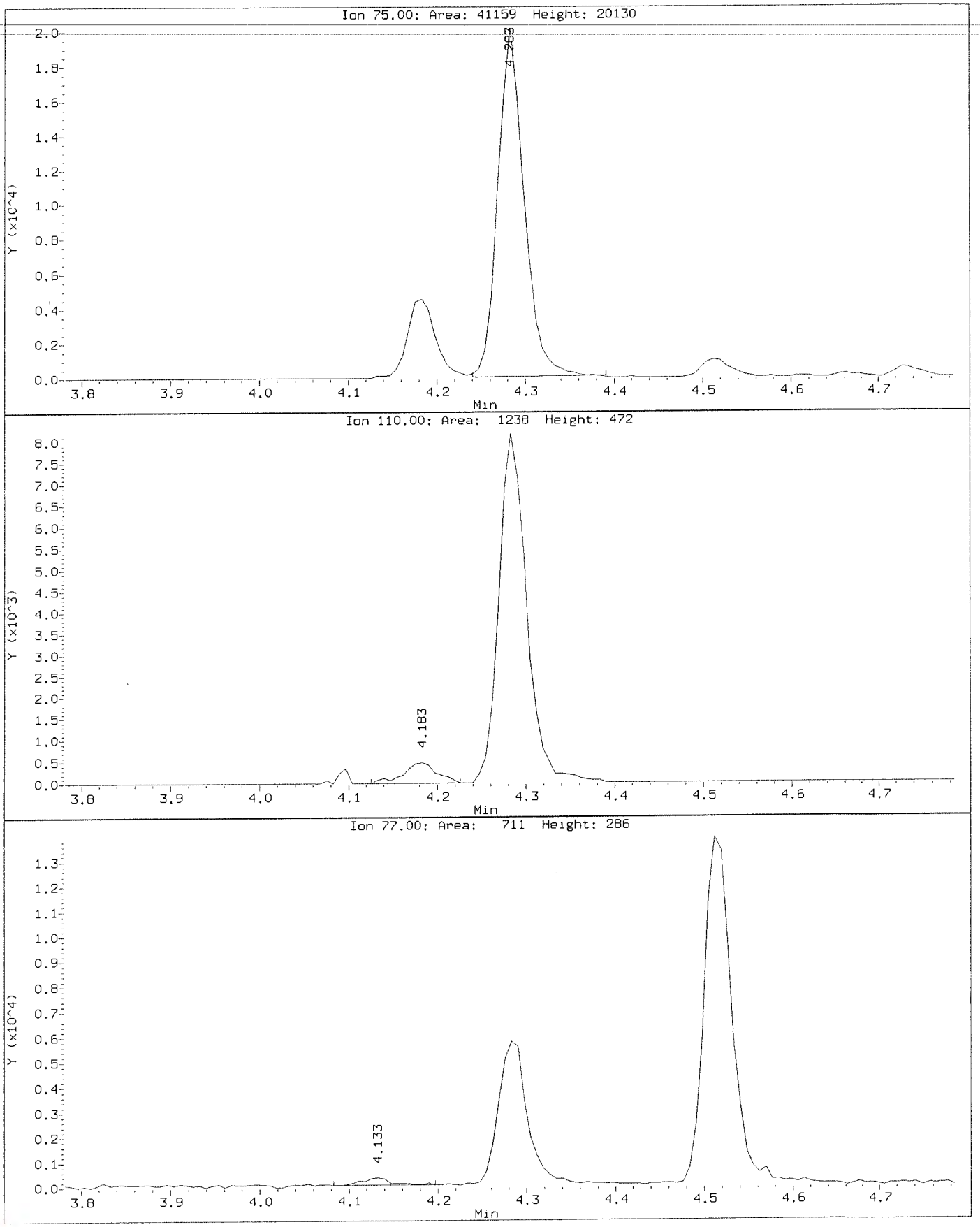
Client Sample ID: VSTD020

Compound: 1,1-Dichloropropene
CAS Number: 563-58-6



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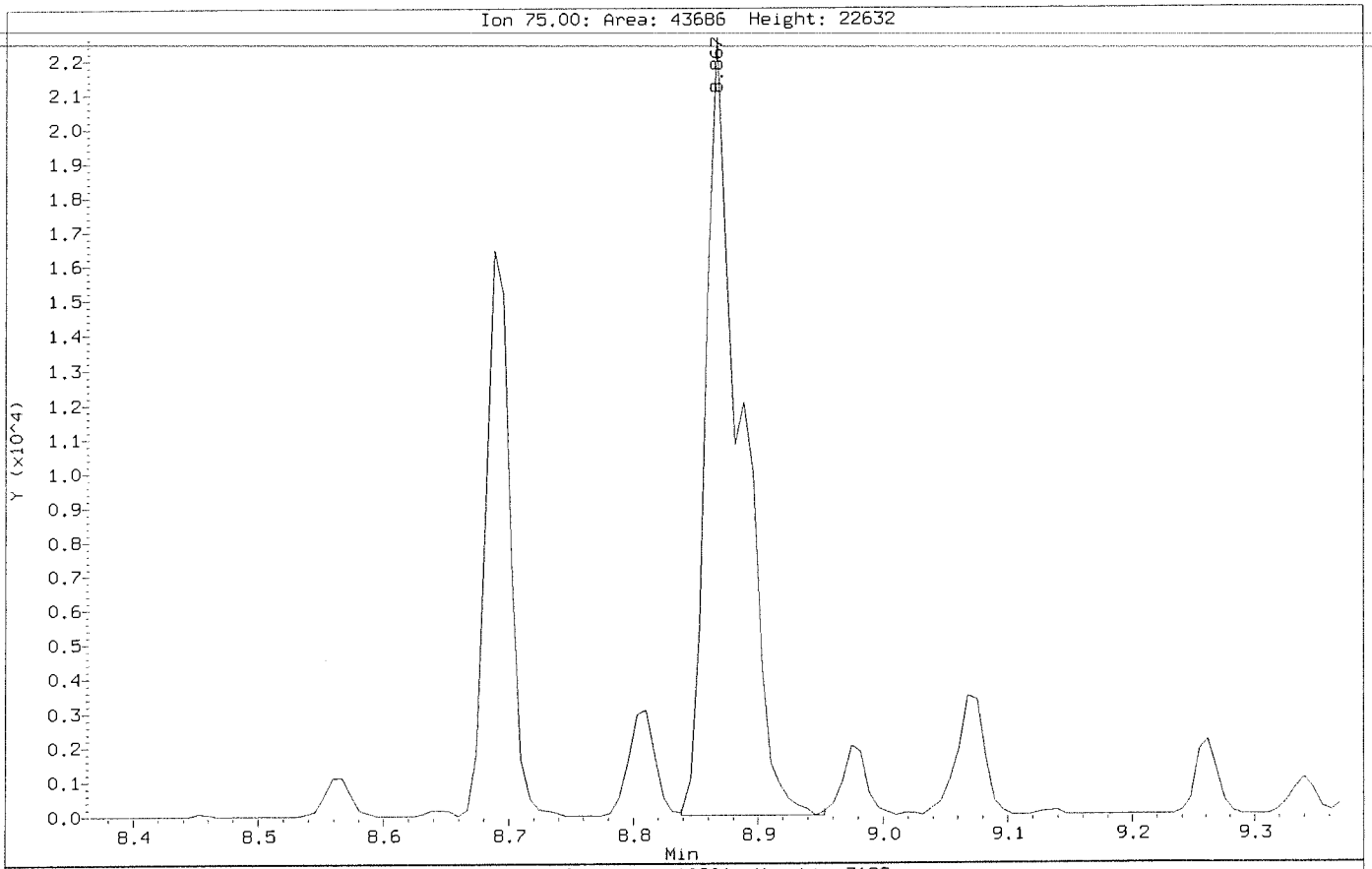
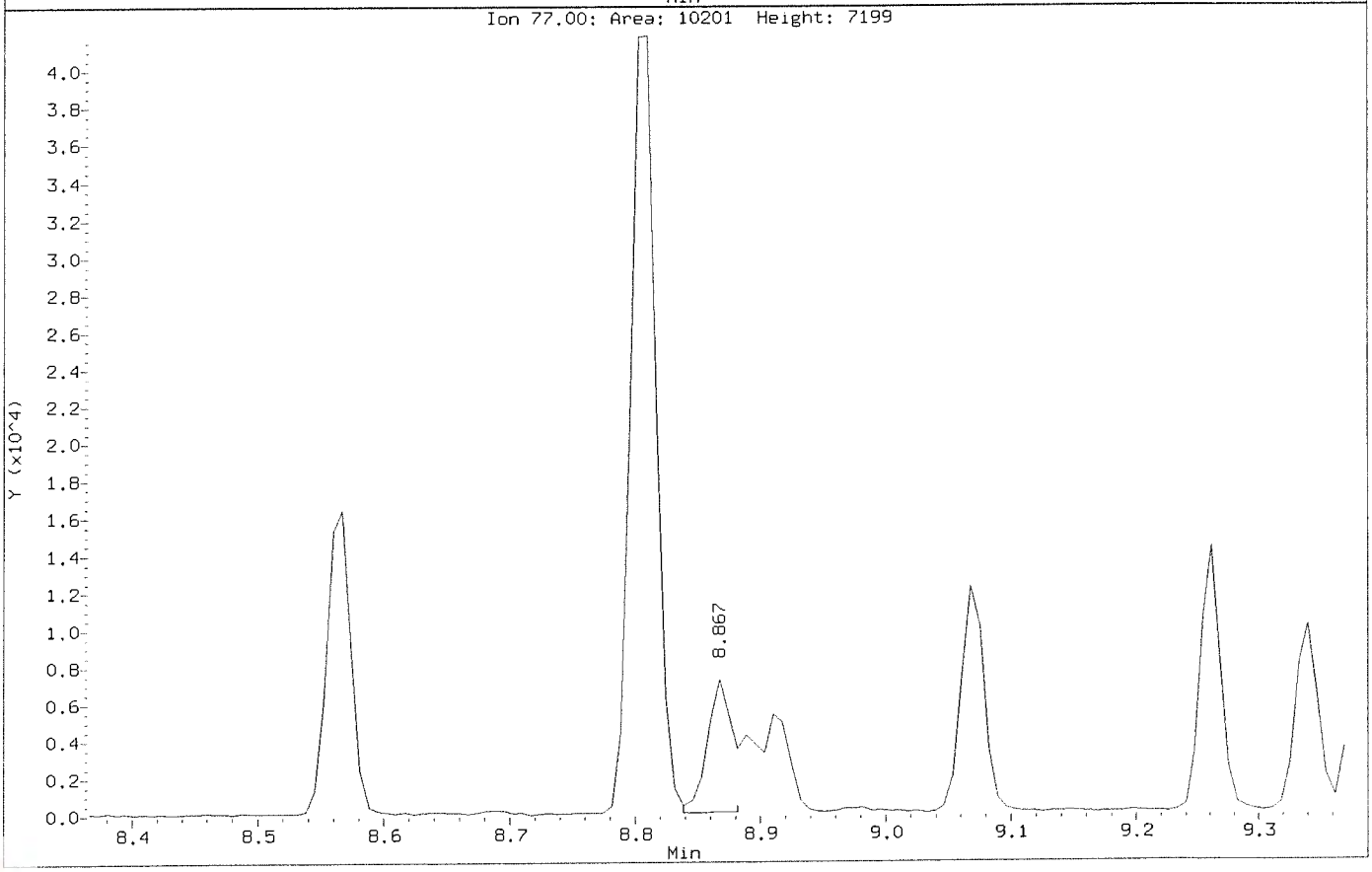
Injection Date: 31-OCT-2019 13:32
Instrument: voa6.i
Client Sample ID: VSTD020

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





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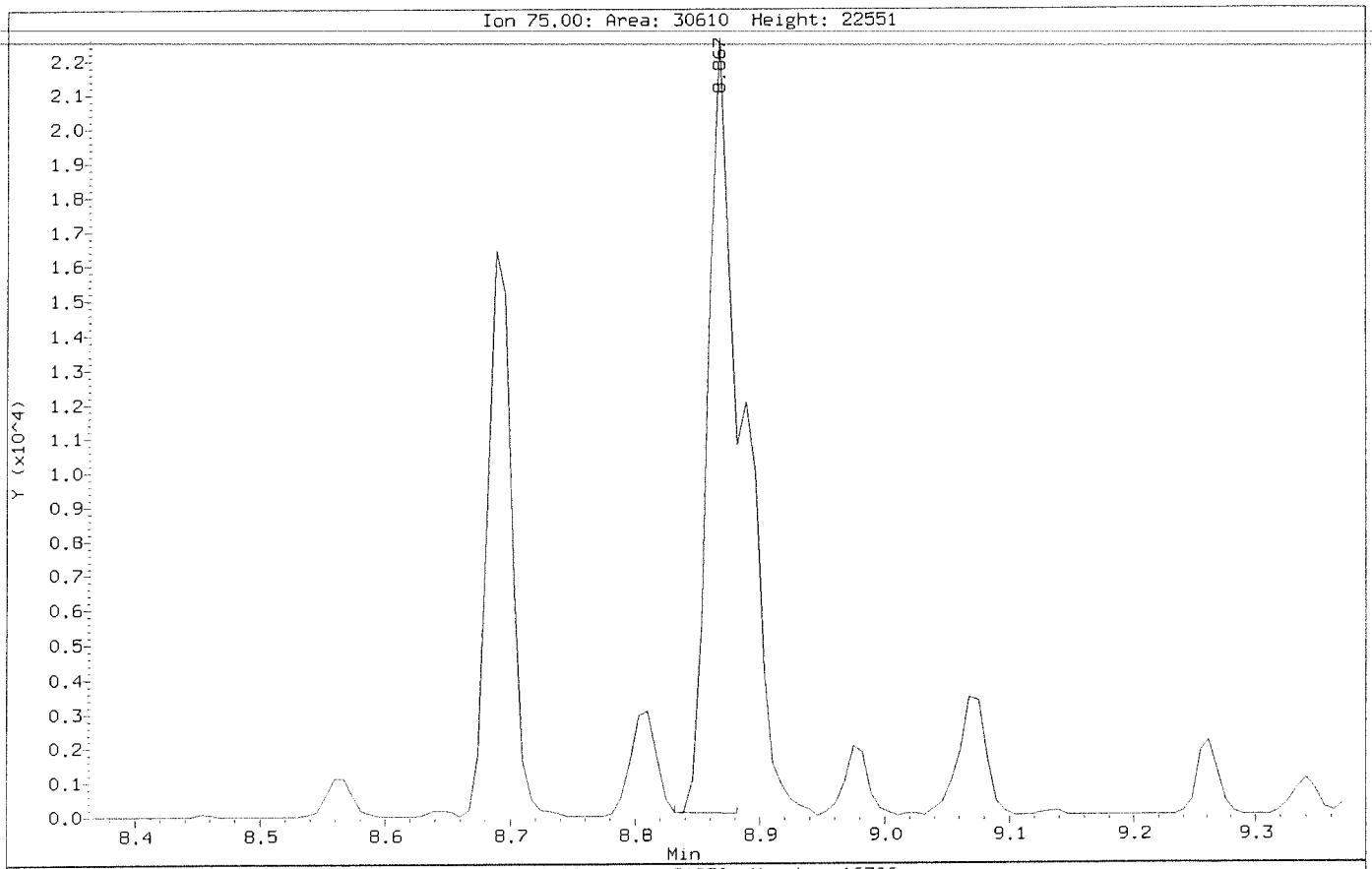
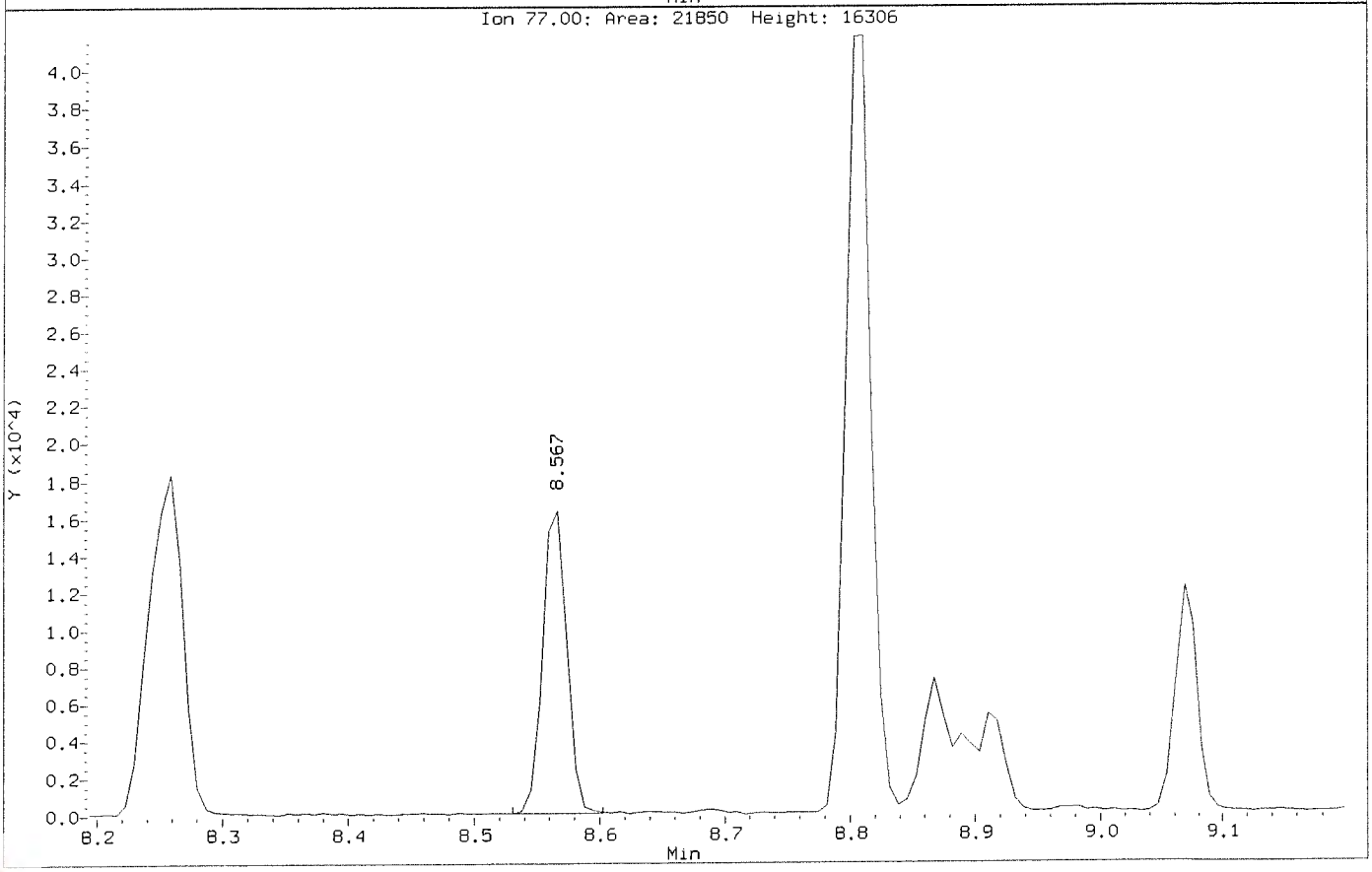
Instrument: voa6.i
Client Sample ID: VSTD020

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





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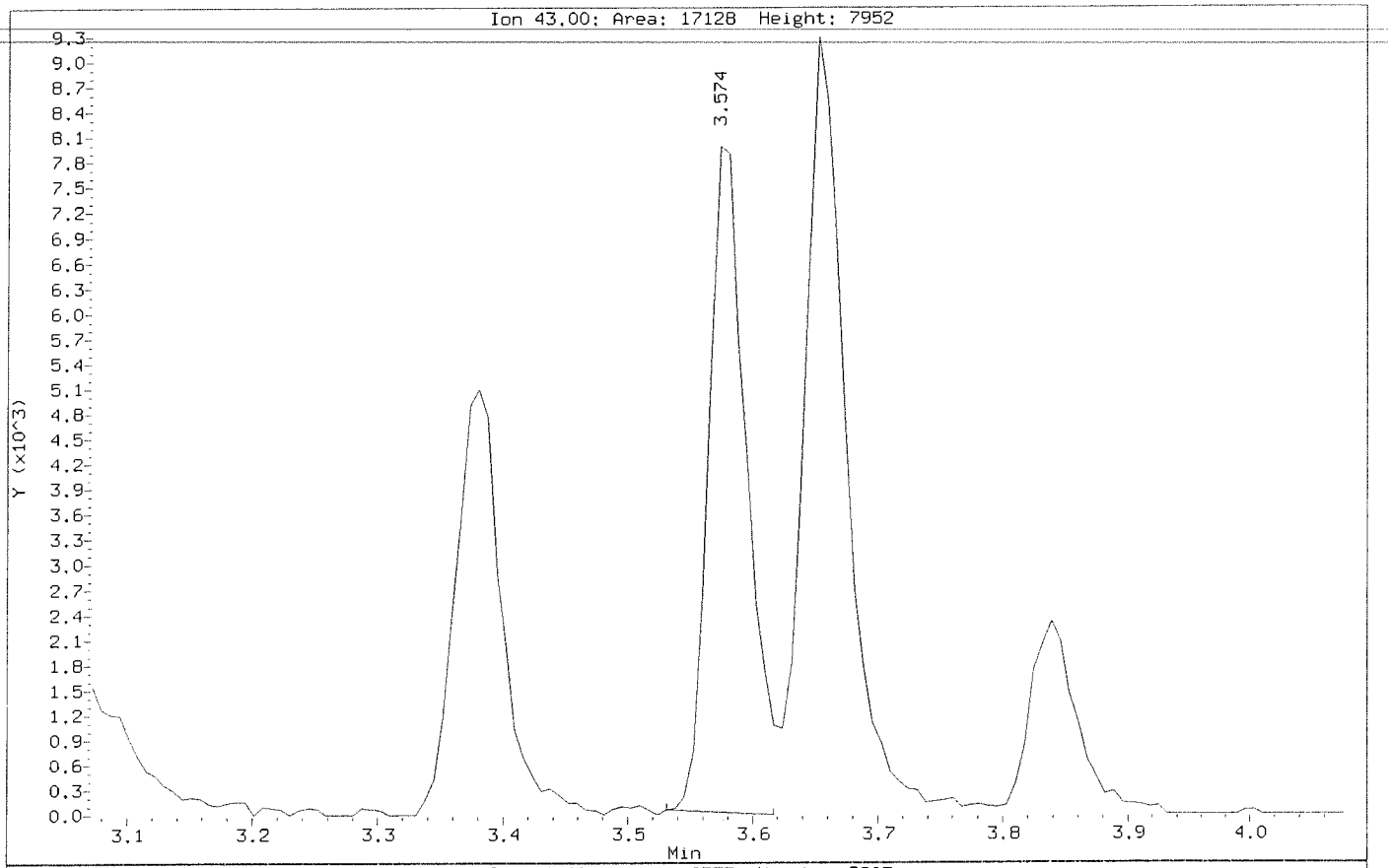
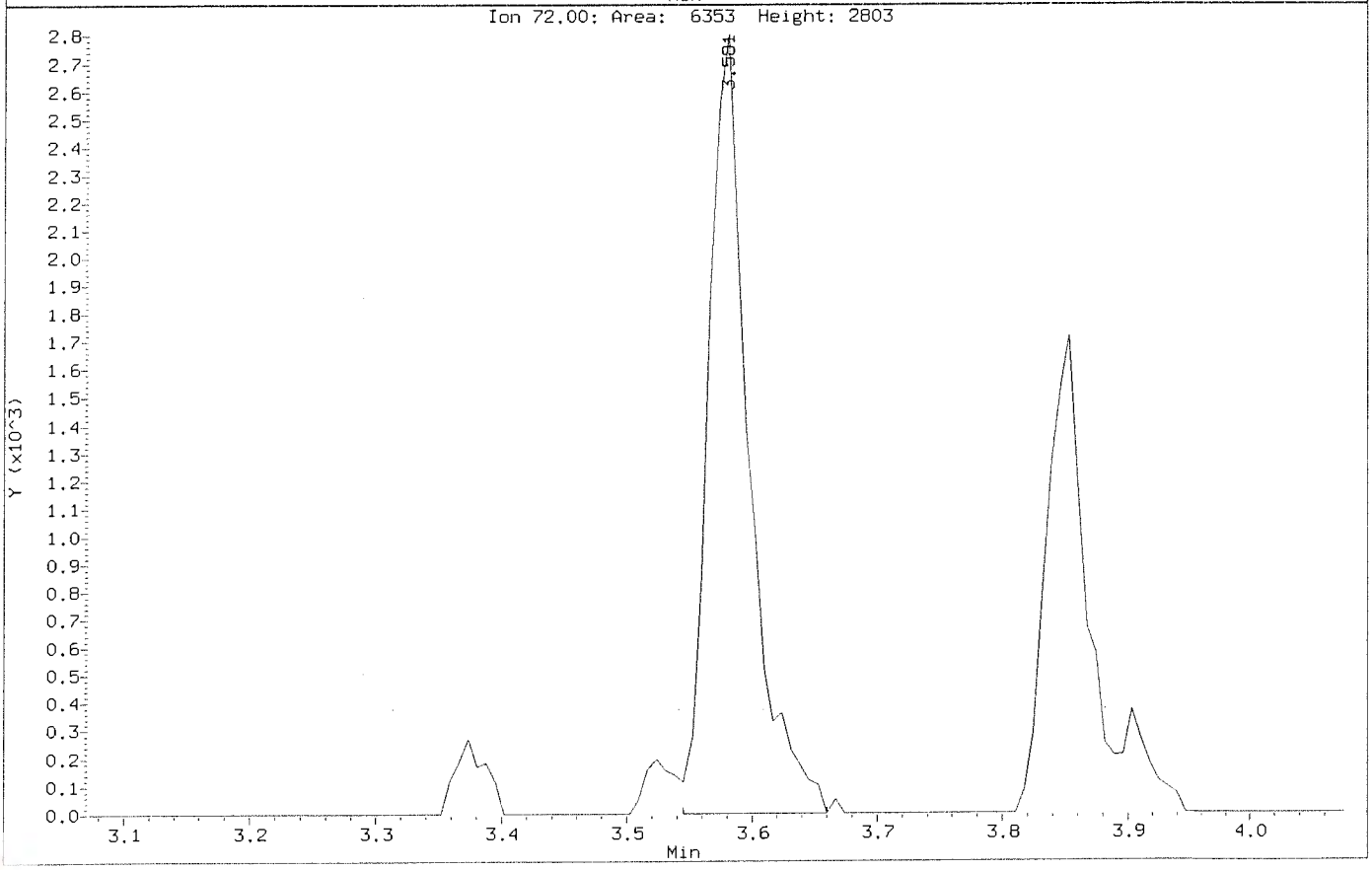
Injection Date: 31-OCT-2019 13:32
Instrument: voa6.i
Client Sample ID: VSTD020

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





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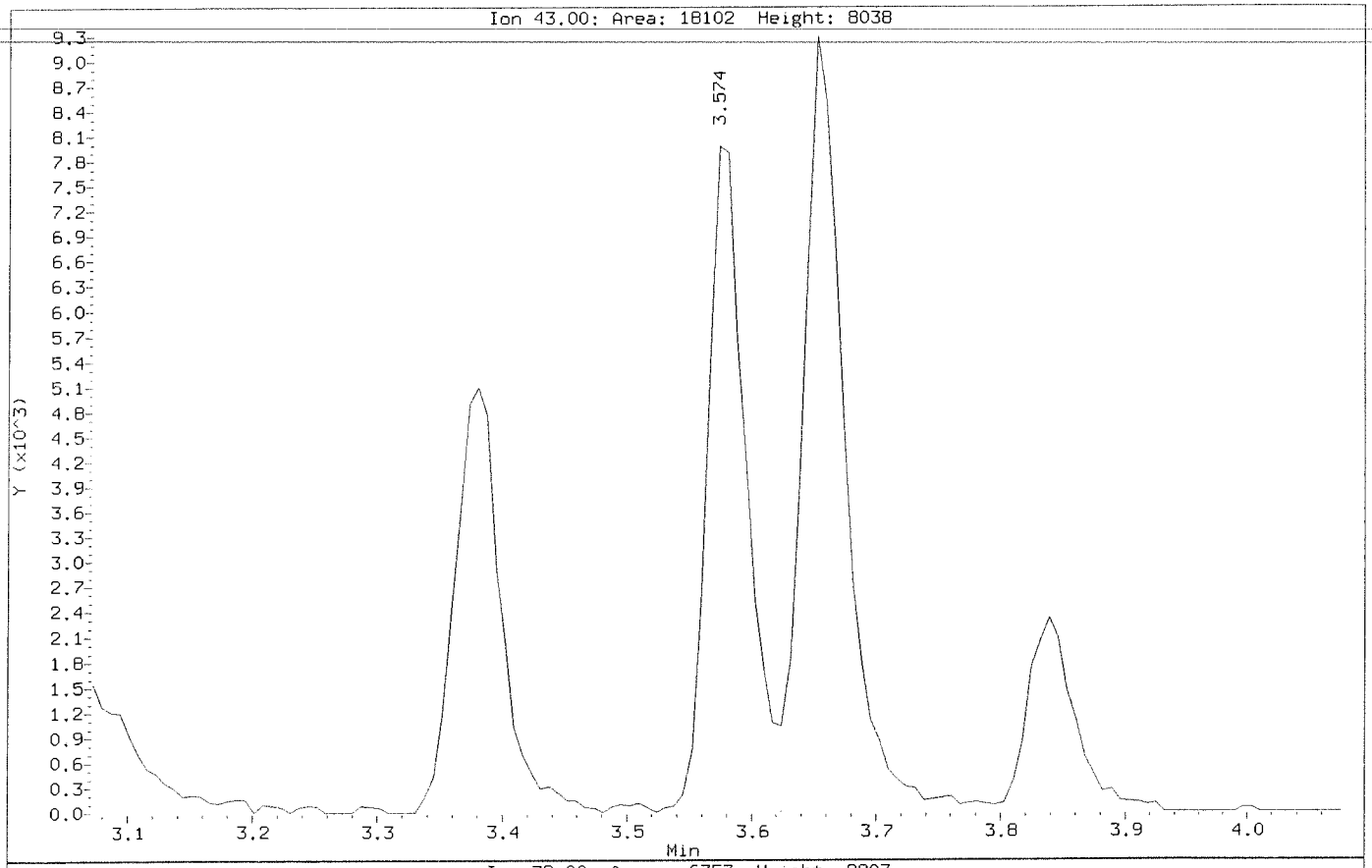
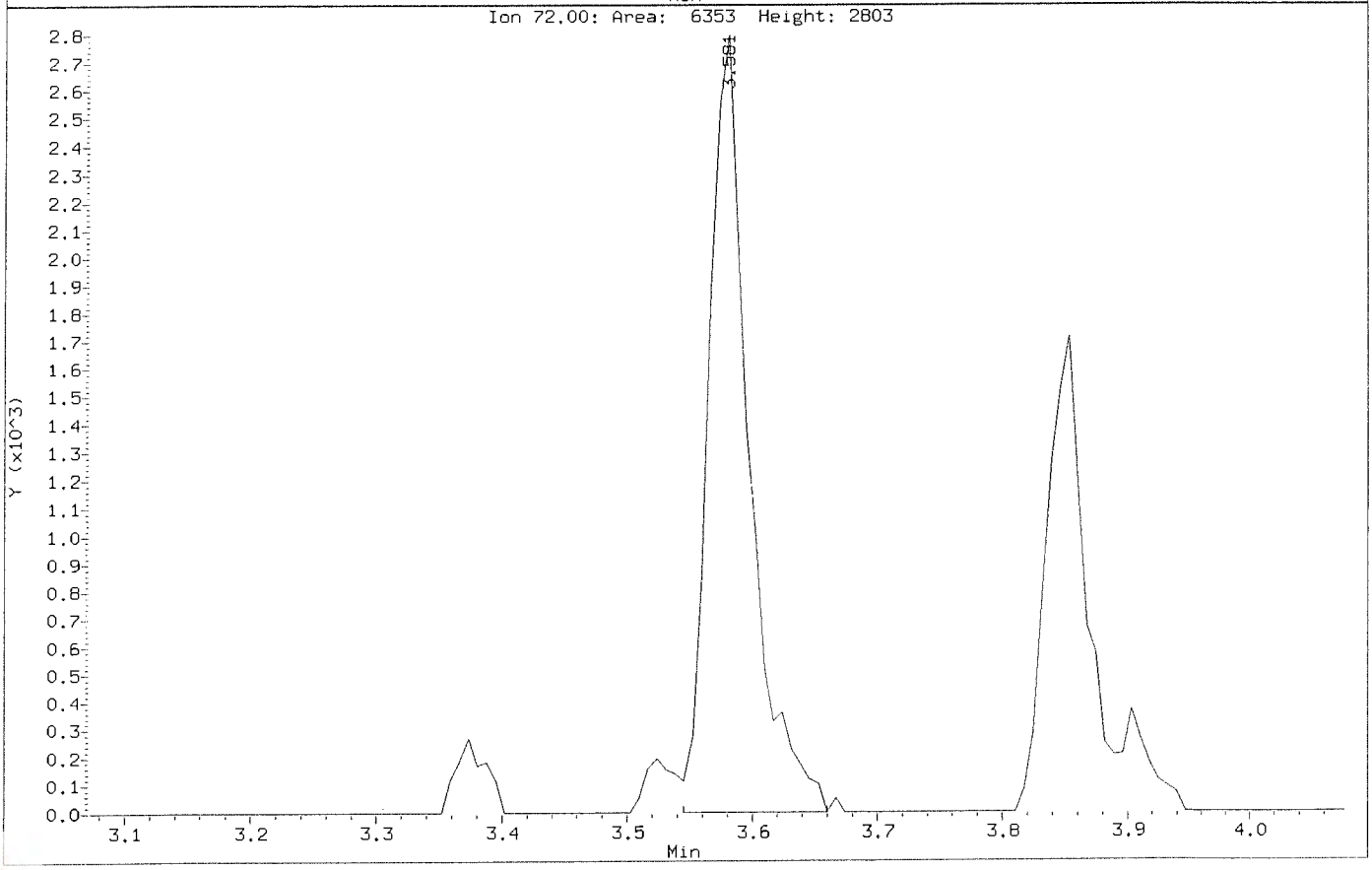
Instrument: voa6.i
Client Sample ID: VSTD020

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





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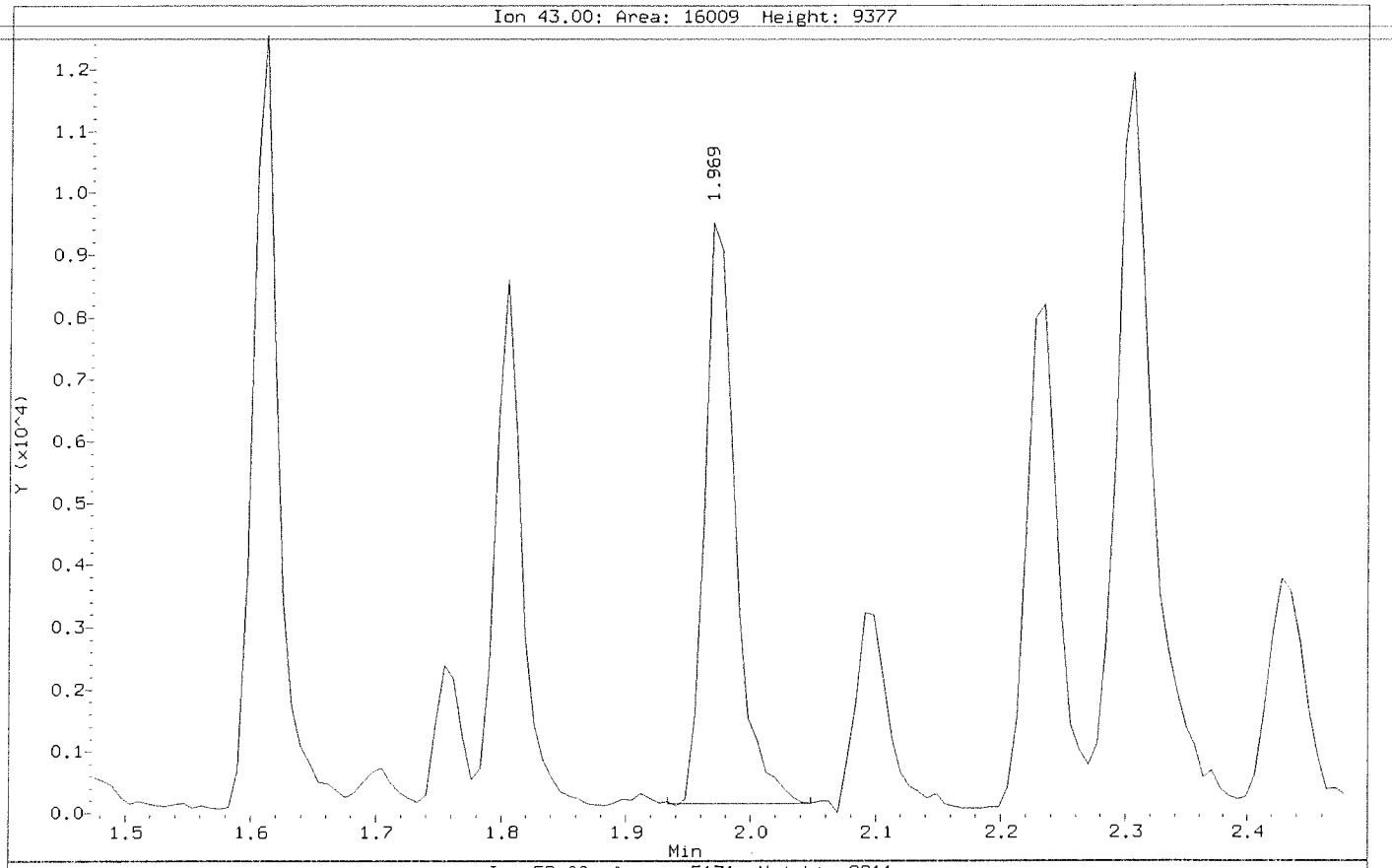
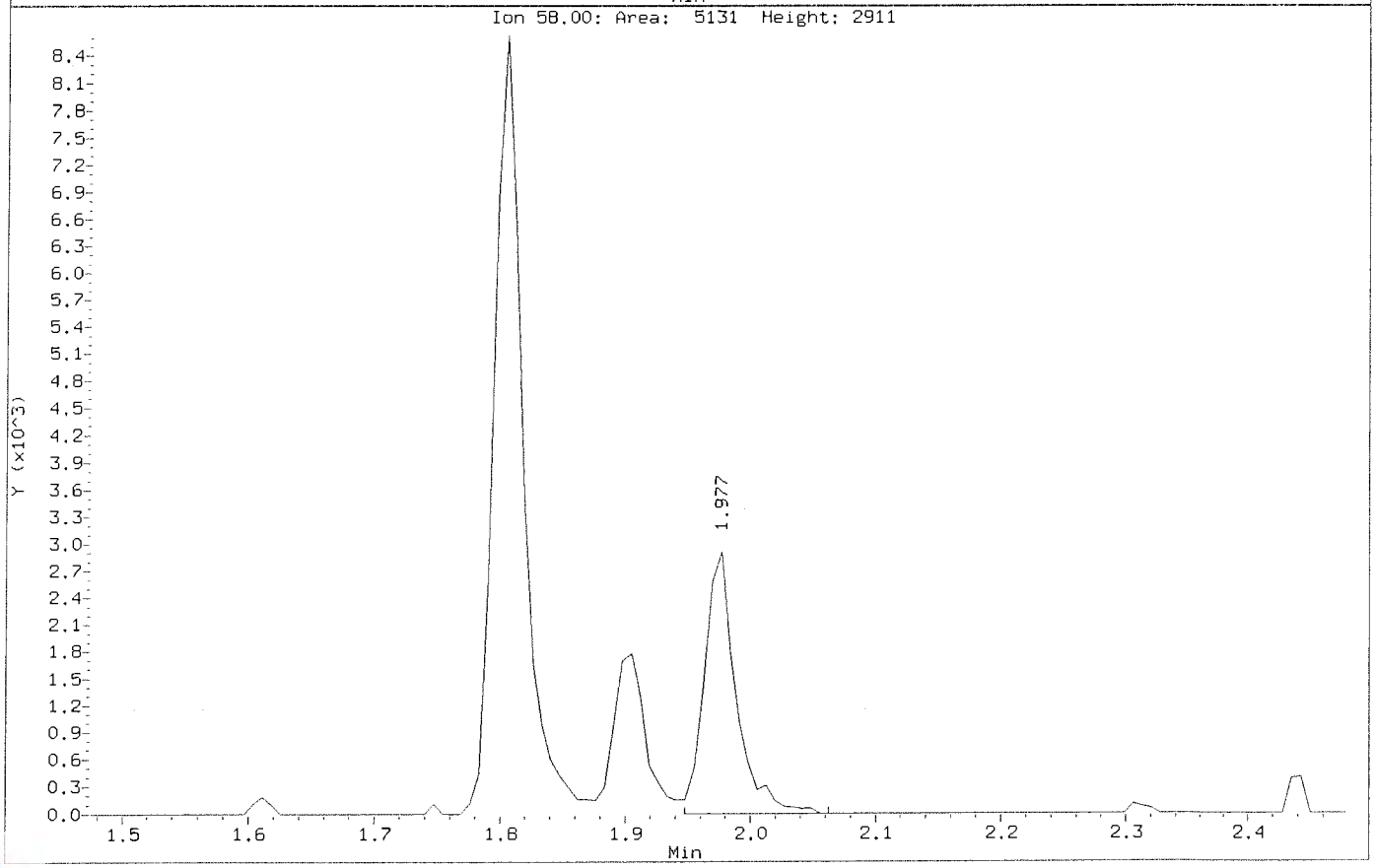
Instrument: voa6.i
Client Sample ID: VSTD020

Compound: Acetone
CAS Number: 67-64-1





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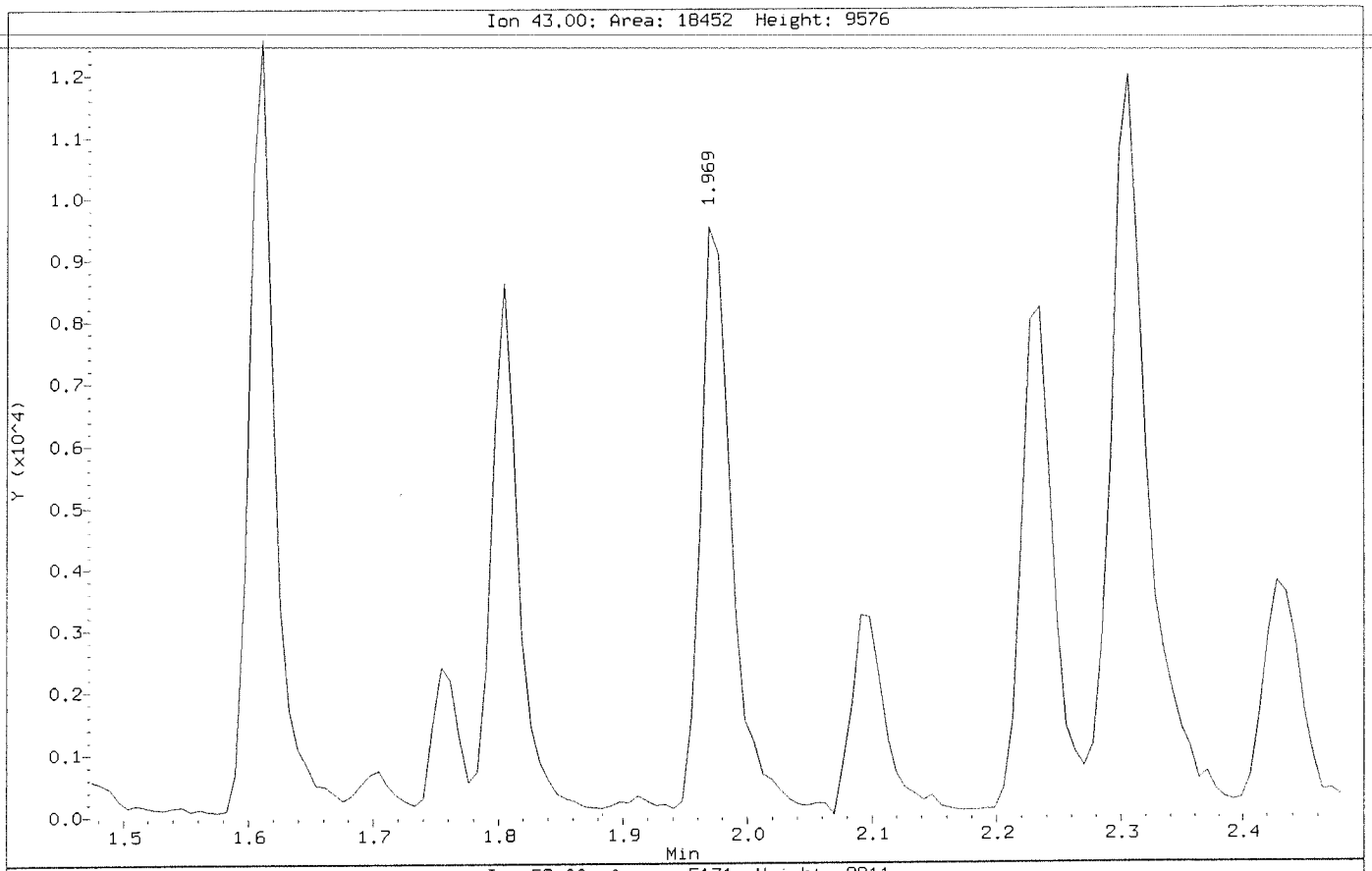
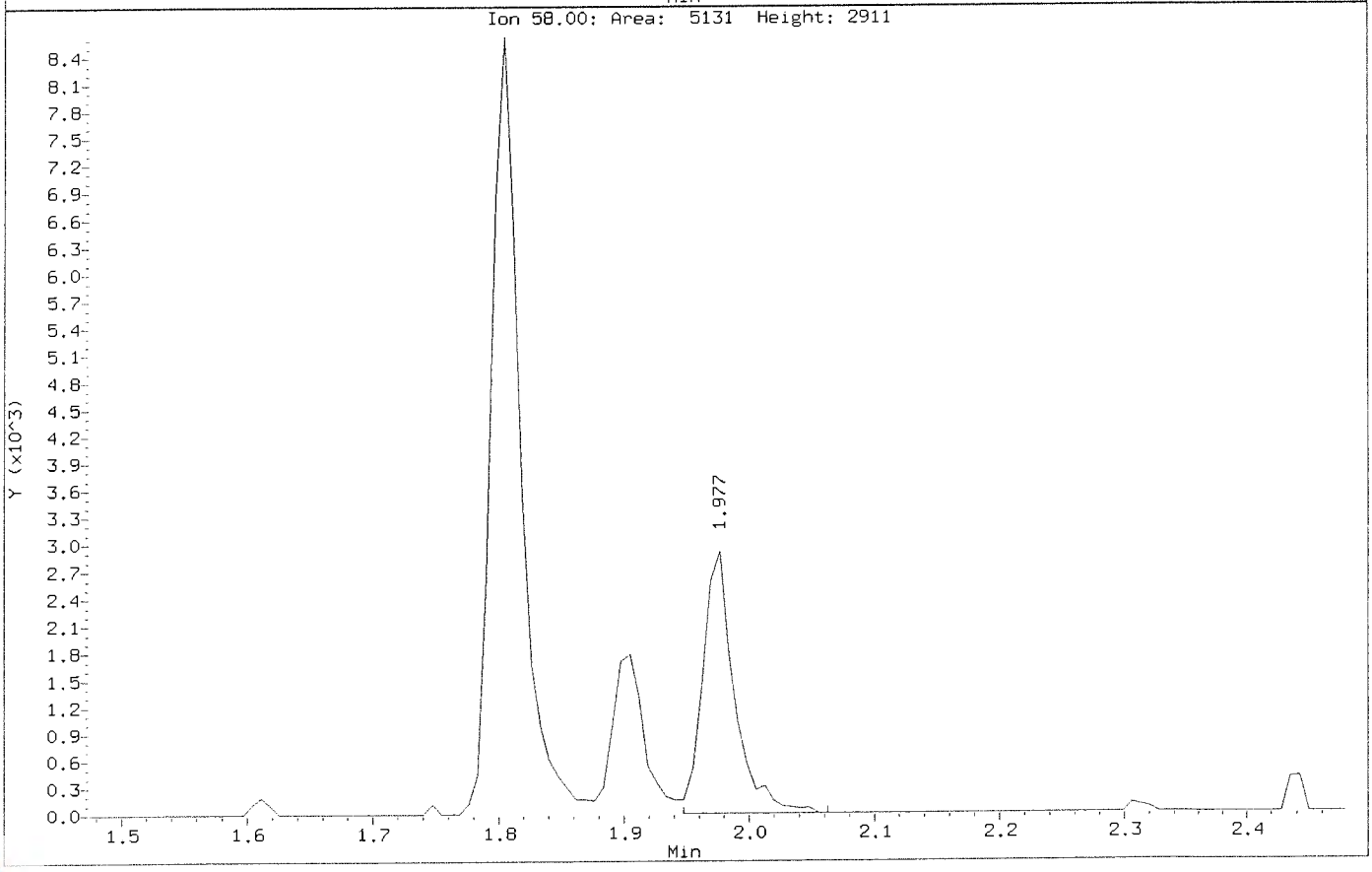
Client Sample ID: VSTD020

Compound: Acetone
CAS Number: 67-64-1





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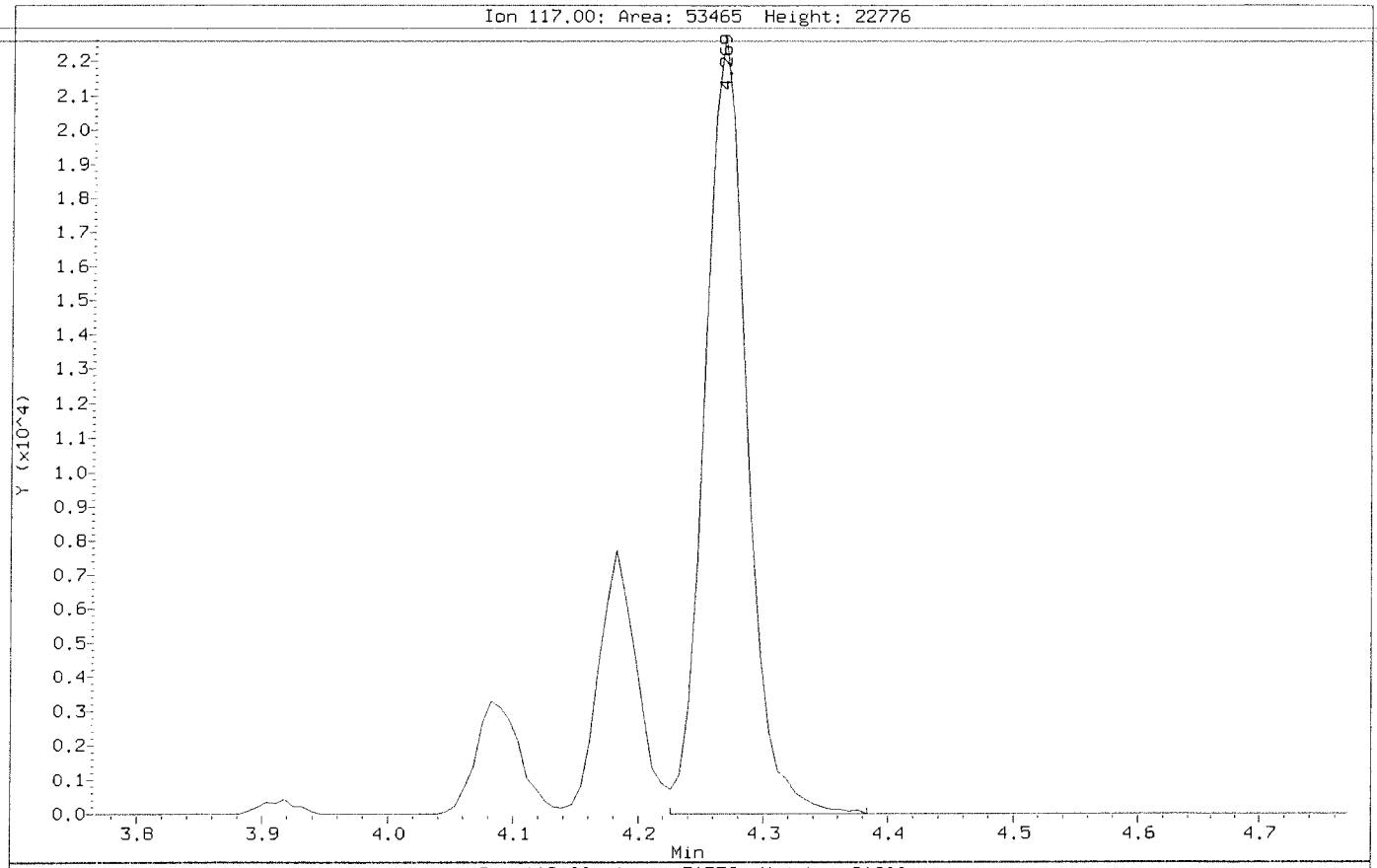
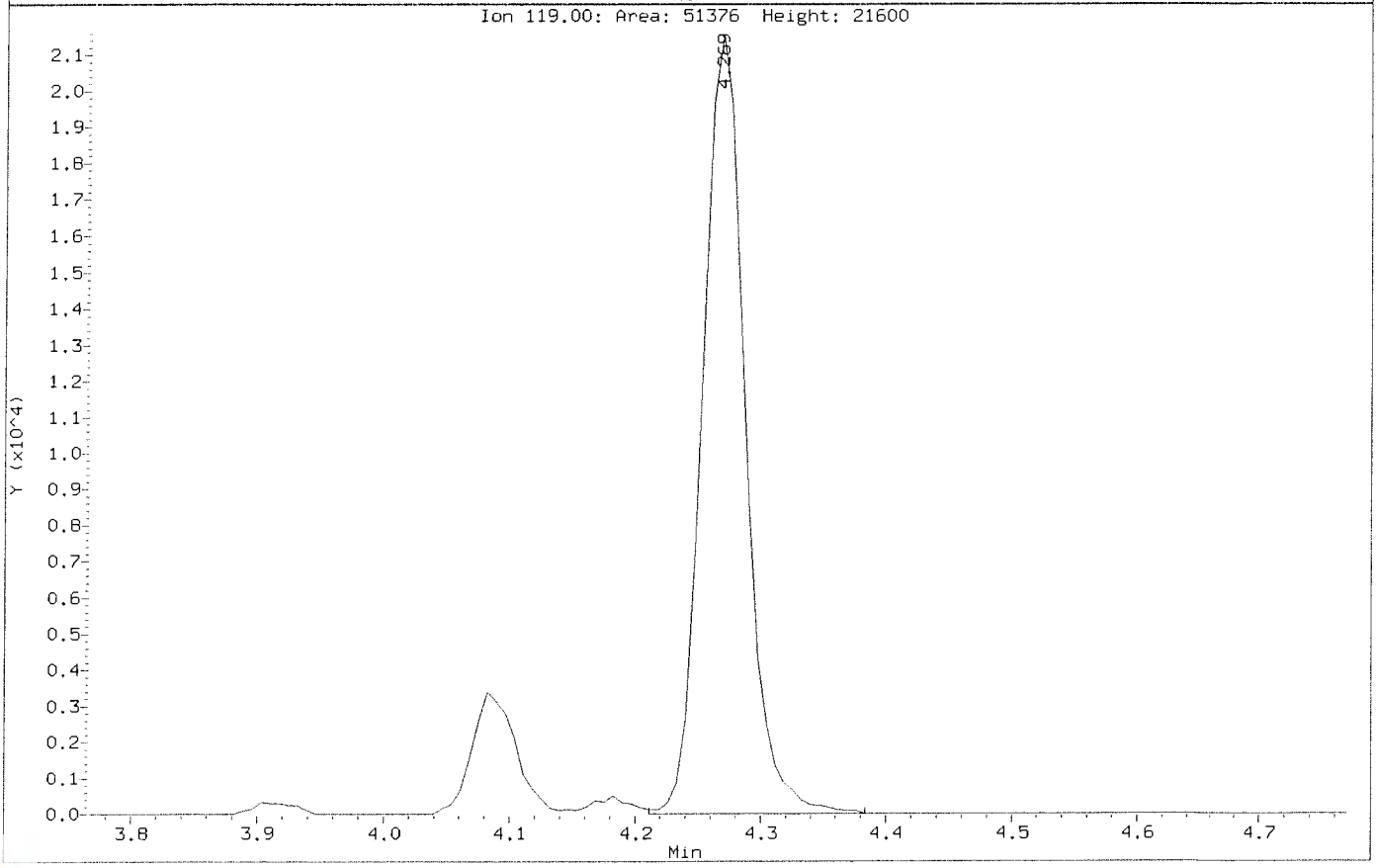
Instrument: voa6.i
Client Sample ID: VSTD020

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





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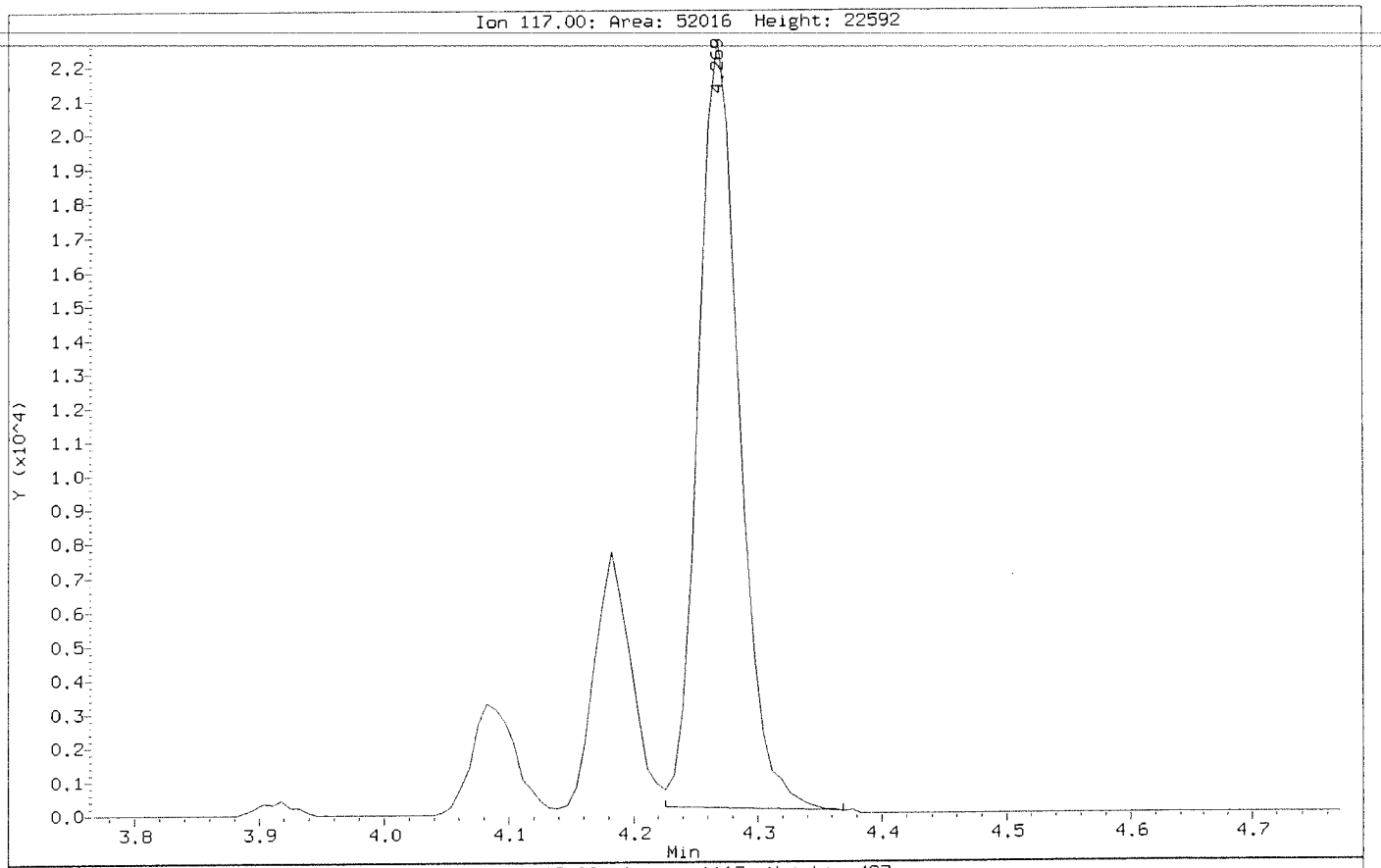
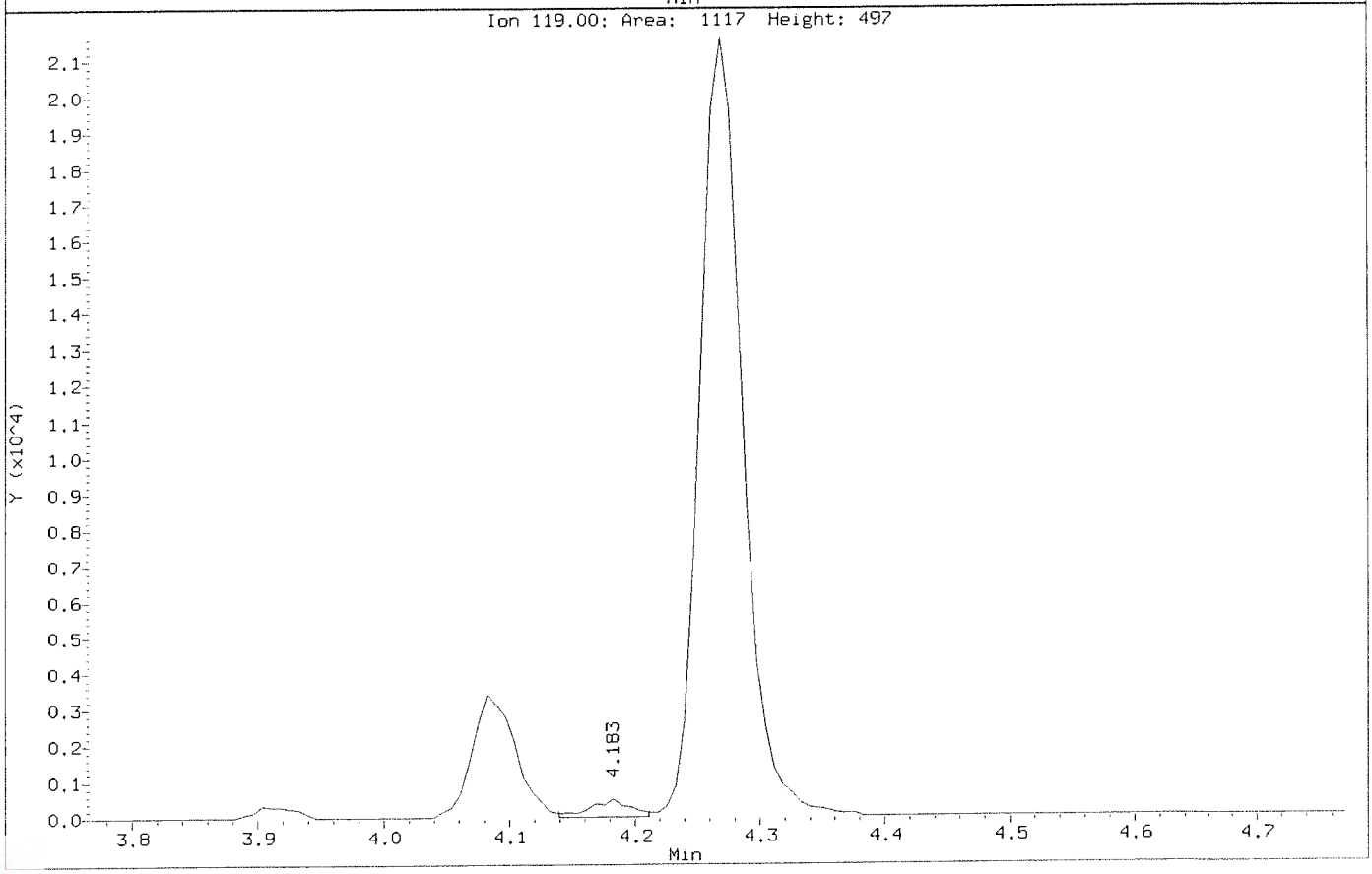
Instrument: voa6.i
Client Sample ID: VSTD020

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





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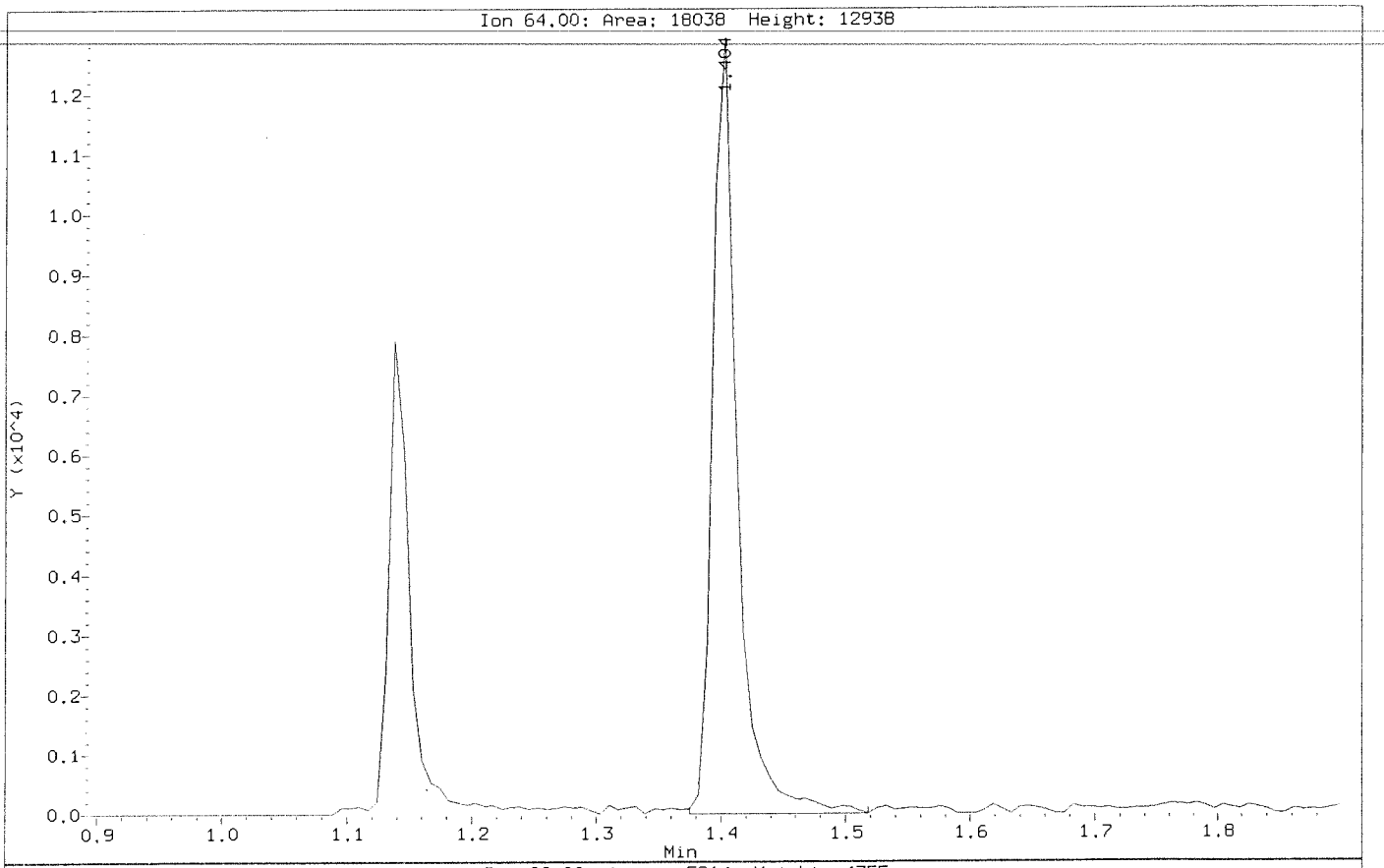
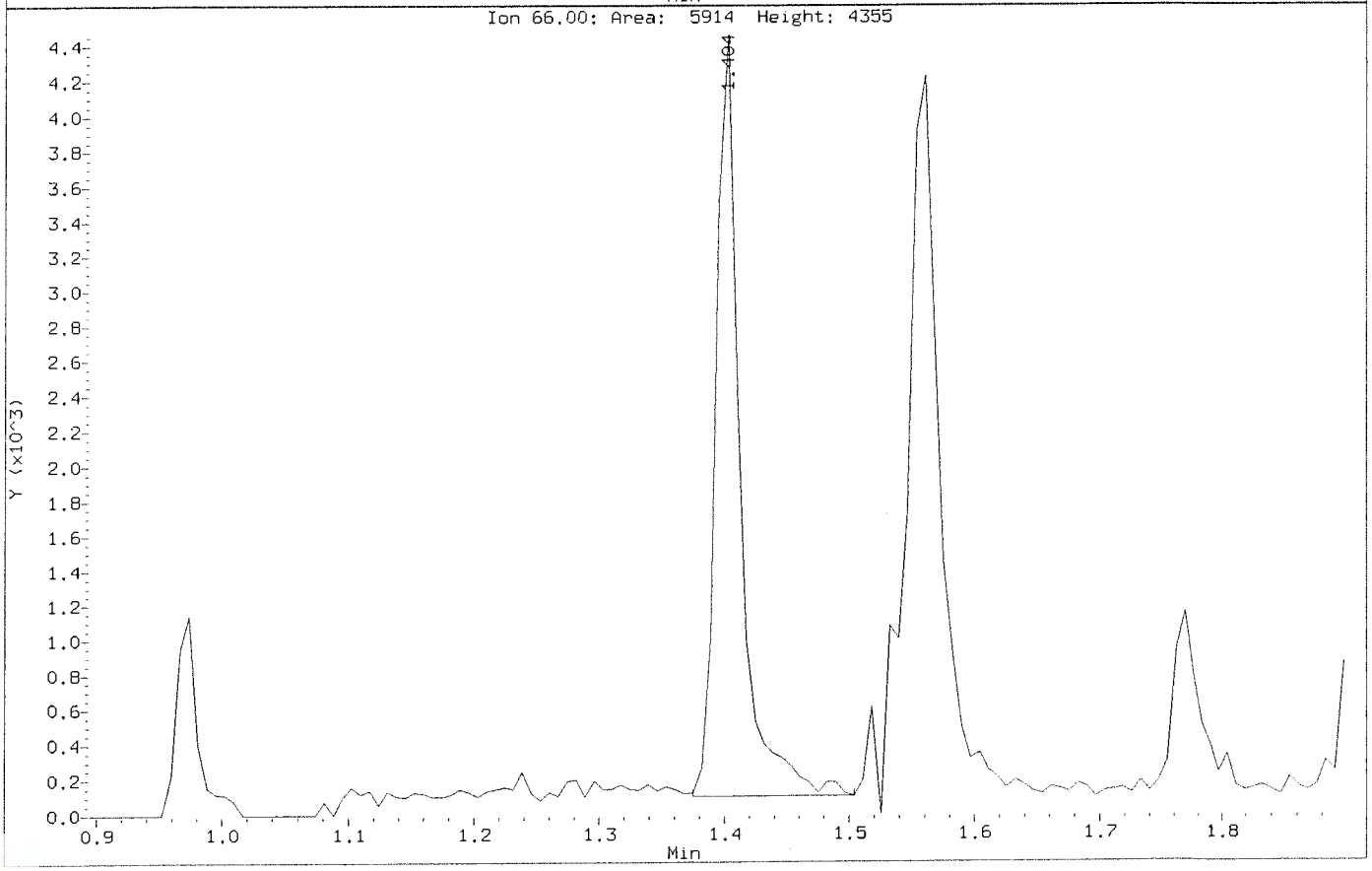
Injection Date: 31-OCT-2019 13:32
Instrument: voa6.i
Client Sample ID: VSTD020

Compound: Chloroethane
CAS Number: 75-00-3





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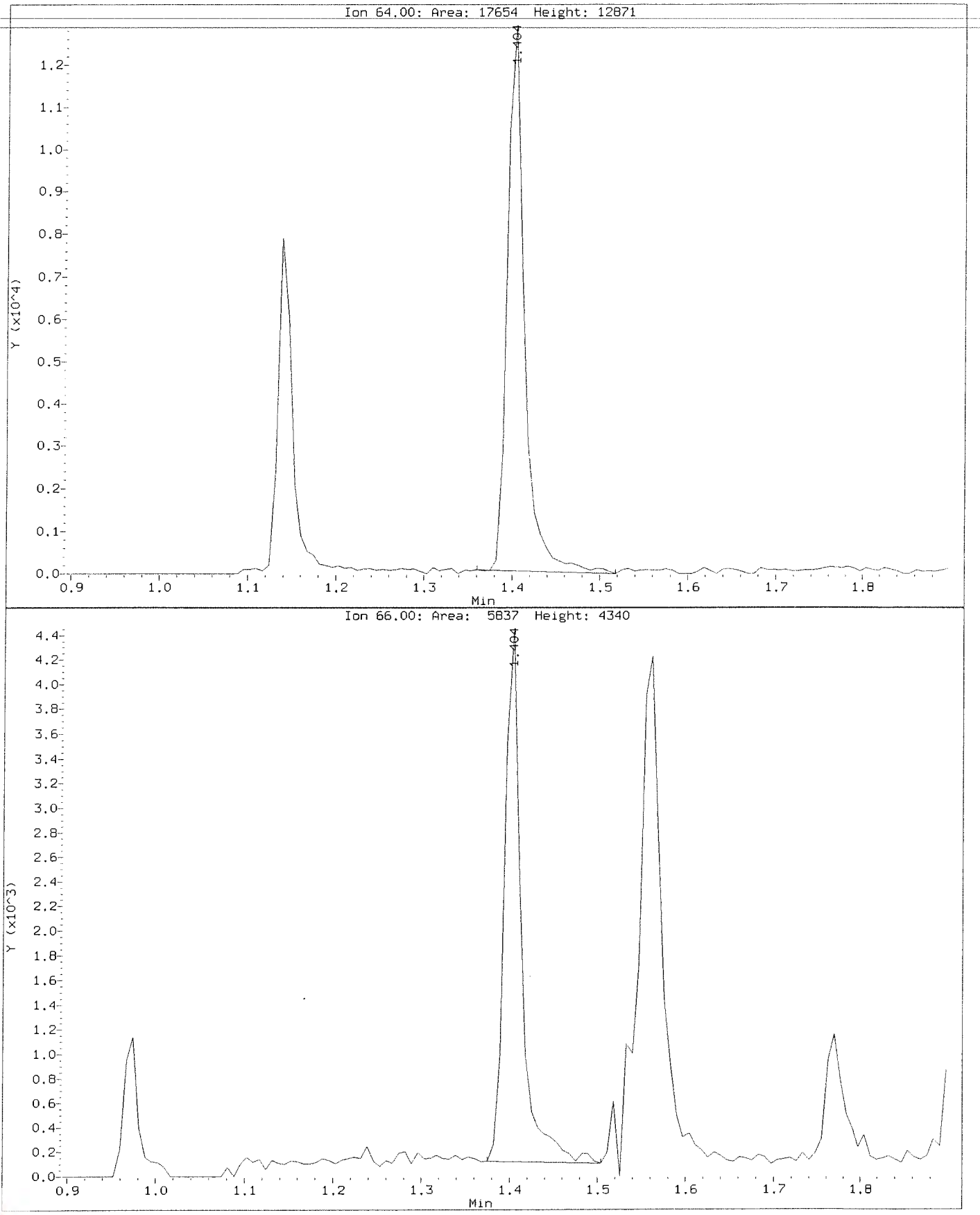
Client Sample ID: VSTD020

Compound: Chloroethane
CAS Number: 75-00-3



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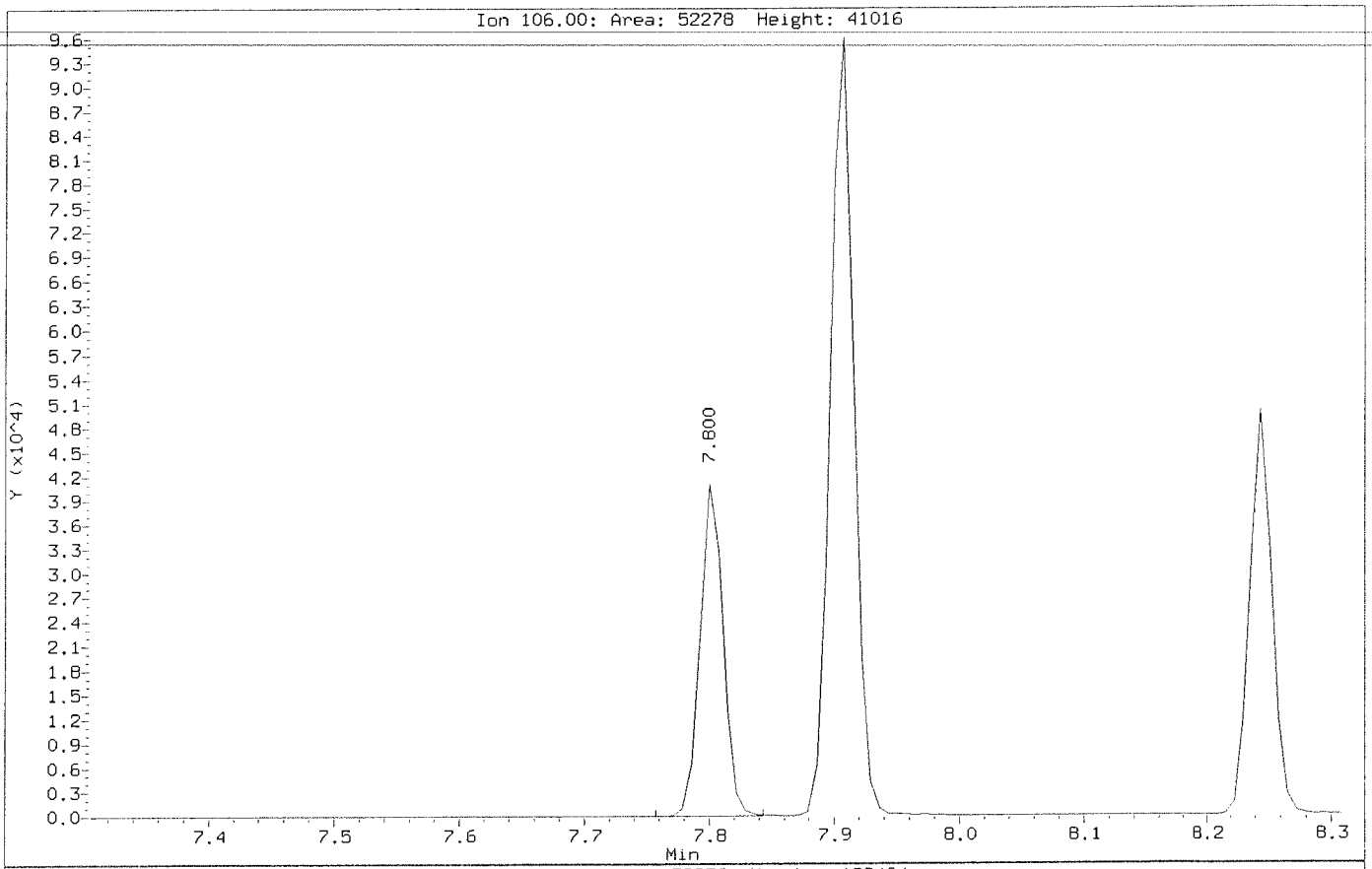
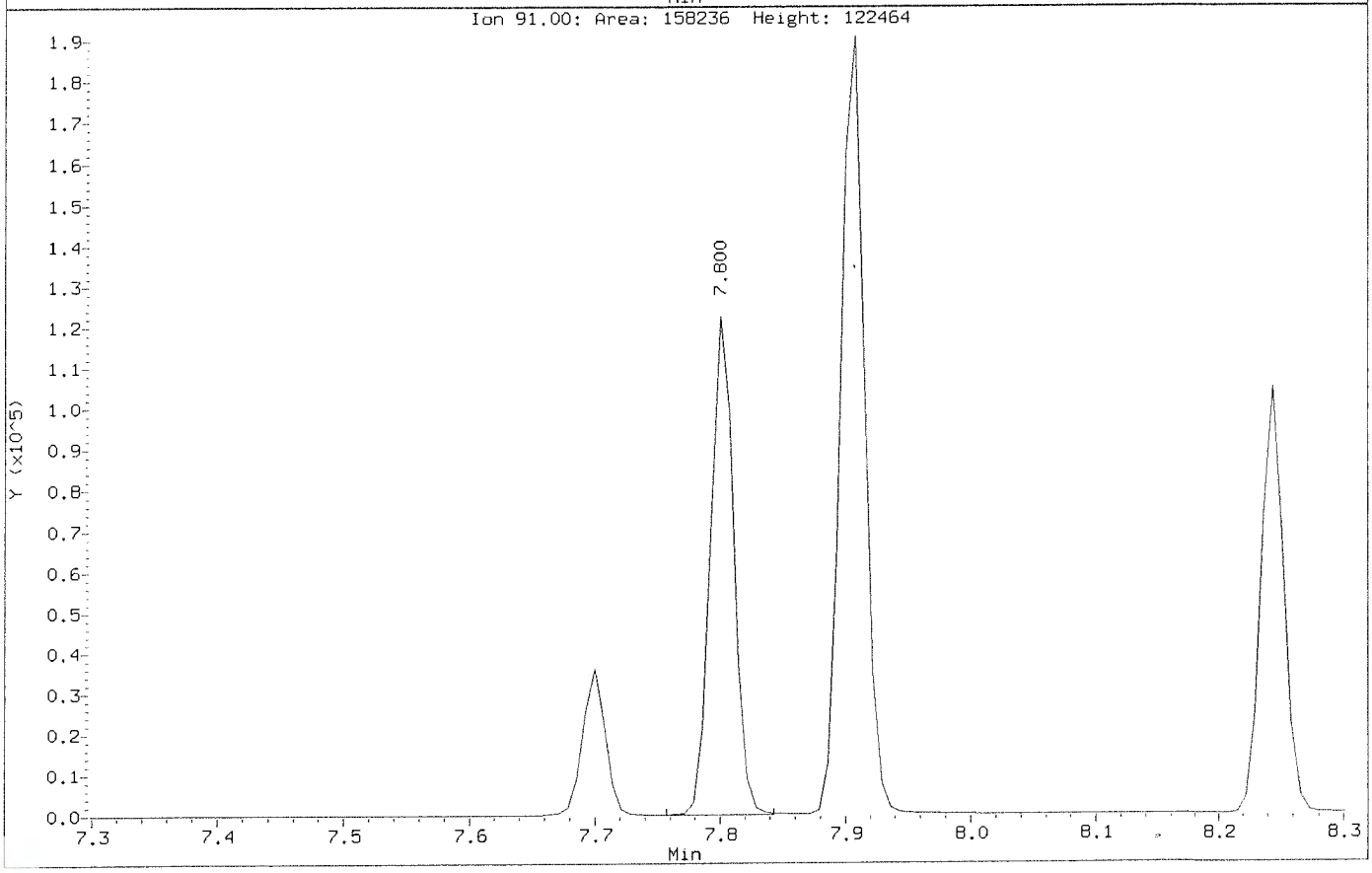
Injection Date: 31-OCT-2019 13:32
Instrument: voa6.i
Client Sample ID: VSTD020

Compound: Ethylbenzene
CAS Number: 100-41-4





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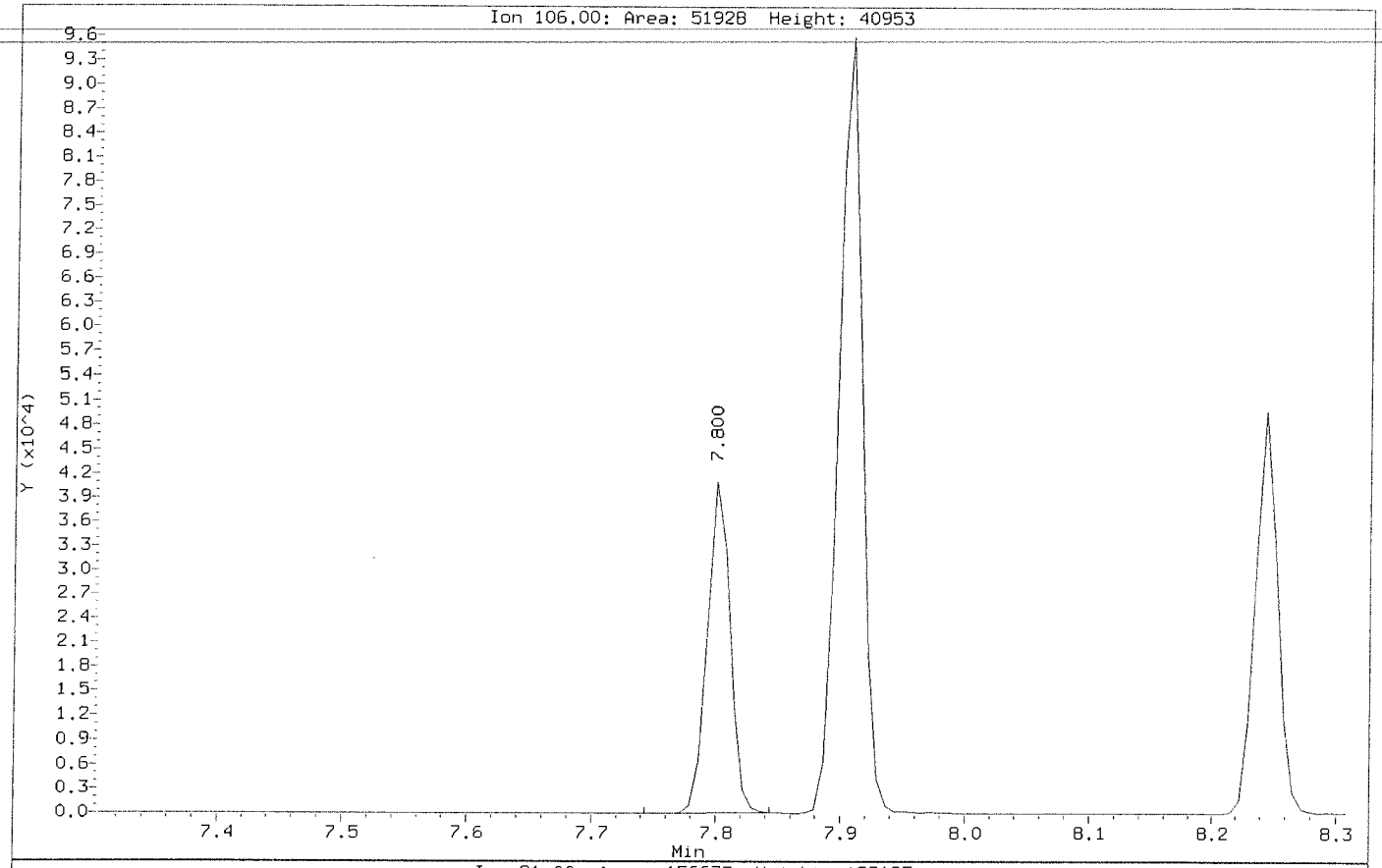
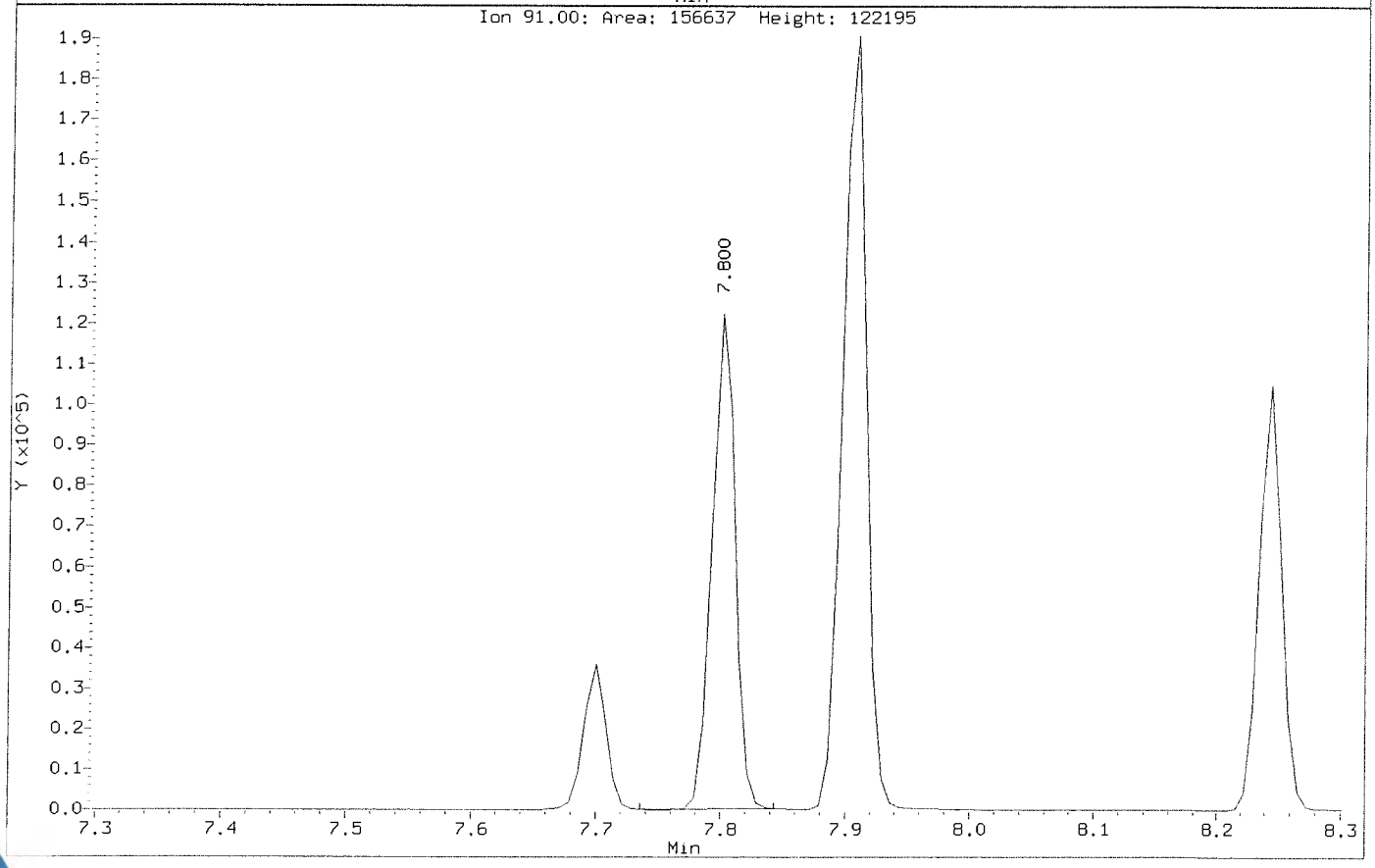
Instrument: voa6.i
Client Sample ID: VSTD020

Compound: Ethylbenzene
CAS Number: 100-41-4





ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X191031.b\X103108.D
Lab Smp Id: VSTD050 Client Smp ID: VSTD050
Inj Date : 31-OCT-2019 13:56
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\X191031.b\8260W.m
Meth Date : 19-Nov-2019 17:37 voa6.i Quant Type: ISTD
Cal Date : 31-OCT-2019 13:56 Cal File: X103108.D
Als bottle: 9 Calibration Sample, Level: 7
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

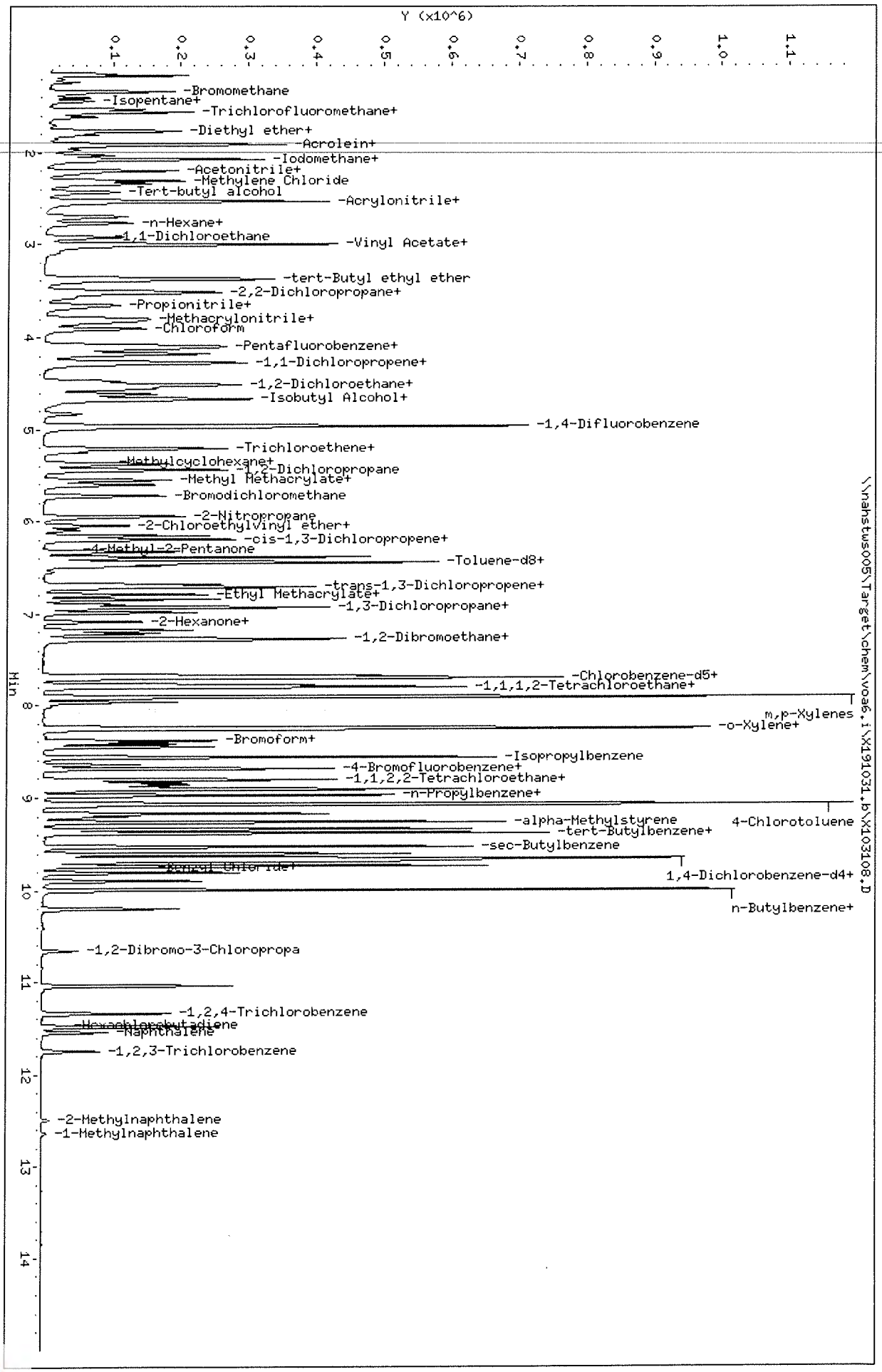
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
*	1 Pentafluorobenzene	168	4.182	4.182	(1.000)	219598	50.0000	
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	269454	50.0000	
*	47 Chlorobenzene-d5	117	7.670	7.671	(1.000)	246961	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	143042	50.0000	
$	35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	88103	50.0000	47.55
$	69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	114681	50.0000	49.41
$	30 Dibromofluoromethane	113	4.103	4.104	(0.981)	82728	50.0000	47.29
$	48 Toluene-d8	98	6.388	6.389	(0.833)	283939	50.0000	46.27
	60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	96591	50.0000	48.01
	31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	136211	50.0000	49.49
	68 1,1,2,2-Tetrachloroethane	83	8.845	8.845	(0.915)	78949	50.0000	50.68
	138 Freon TF	101	1.919	1.912	(0.459)	70742	50.0000	48.69
	53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	56087	50.0000	49.97
	22 1,1-Dichloroethane	63	2.921	2.922	(0.699)	116320	50.0000	47.31
	11 1,1-Dichloroethene	96	1.911	1.912	(0.457)	66894	50.0000	47.91
	32 1,1-Dichloropropene	75	4.282	4.283	(0.862)	96251	50.0000	47.95(M)
	93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.215)	25234	50.0000	52.48
	71 1,2,3-Trichloropropane	75	8.867	8.867	(0.917)	71038	50.0000	51.83(M)
	90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	58485	50.0000	45.30
	79 1,2,4-Trimethylbenzene	105	9.382	9.383	(0.970)	337007	50.0000	49.18
	89 1,2-Dibromo-3-Chloropropane	155	10.657	10.658	(1.102)	11810	50.0000	49.44
	57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	82322	50.0000	49.61
	88 1,2-Dichlorobenzene	146	9.998	9.999	(1.034)	187297	50.0000	47.18

Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\X103108.D Page 2
Report Date: 19-Nov-2019 17:39

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
33	1,2-Dichloroethane	62	4.555	4.562	(0.916)	106493	50.0000	48.74
42	1,2-Dichloropropane	63	5.443	5.436	(1.095)	60515	50.0000	46.10
75	1,3,5-Trimethylbenzene	105	9.067	9.075	(0.938)	325999	50.0000	49.09
83	1,3-Dichlorobenzene	146	9.605	9.612	(0.993)	206696	50.0000	47.39
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	112292	50.0000	48.77
84	1,4-Dichlorobenzene	146	9.683	9.684	(1.001)	208272	50.0000	47.33
26	2,2-Dichloropropane	77	3.509	3.516	(0.839)	121862	50.0000	46.13
24	2-Butanone	43	3.573	3.573	(0.854)	44815	100.000	101.07(M)
76	2-Chlorotoluene	91	8.974	8.982	(0.928)	249303	50.0000	48.49
52	2-Hexanone	43	7.083	7.090	(0.923)	67154	100.000	93.38
77	4-Chlorotoluene	91	9.074	9.075	(0.939)	294400	50.0000	48.54
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	346879	50.0000	48.78
45	4-Methyl-2-Pentanone	43	6.324	6.331	(0.824)	96374	100.000	94.77
10	Acetone	43	1.969	1.976	(0.471)	43941	100.000	98.06(M)
37	Benzene	78	4.512	4.512	(0.908)	279169	50.0000	48.38
74	Bromobenzene	156	8.809	8.810	(0.911)	126752	50.0000	48.13
29	Bromochloromethane	128	3.795	3.795	(0.908)	51797	50.0000	45.73
39	Bromodichloromethane	83	5.729	5.730	(1.153)	106235	50.0000	49.79
66	Bromoform	173	8.415	8.416	(1.097)	79413	50.0000	49.85
6	Bromomethane	94	1.338	1.331	(0.320)	87503	50.0000	53.05
19	Carbon Disulfide	76	2.069	2.069	(0.495)	397691	100.000	98.29
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	126392	50.0000	48.05(M)
59	Chlorobenzene	112	7.699	7.699	(1.004)	232271	50.0000	48.28
7	Chloroethane	64	1.403	1.396	(0.336)	41091	50.0000	47.20(M)
28	Chloroform	83	3.910	3.910	(0.935)	142426	50.0000	49.00
3	Chloromethane	50	1.073	1.074	(0.257)	70697	50.0000	48.73
27	cis-1,2-Dichloroethene	96	3.530	3.523	(0.844)	87258	50.0000	49.74
46	cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	122806	50.0000	49.69
55	Dibromochloromethane	129	7.176	7.176	(0.936)	99989	50.0000	48.87
44	Dibromomethane	93	5.557	5.558	(1.118)	52702	50.0000	50.64
2	Dichlorodifluoromethane	85	0.973	0.966	(0.233)	80612	50.0000	46.64
61	Ethylbenzene	106	7.799	7.807	(1.017)	120027	50.0000	48.10(M)
91	Hexachlorobutadiene	225	11.488	11.481	(1.188)	53101	50.0000	47.59
67	Isopropylbenzene	105	8.566	8.566	(1.117)	370547	50.0000	48.85
62	m,p-Xylenes	106	7.907	7.907	(1.031)	296459	100.000	98.01
17	Methylene Chloride	84	2.305	2.306	(0.551)	75516	50.0000	49.54
87	n-Butylbenzene	91	9.998	9.999	(1.034)	253254	50.0000	49.93
73	n-Propylbenzene	91	8.917	8.917	(0.922)	397191	50.0000	48.75
92	Naphthalene	128	11.546	11.546	(1.194)	67956	50.0000	52.61
63	o-Xylene	106	8.244	8.244	(1.075)	145212	50.0000	48.75
81	sec-Butylbenzene	105	9.526	9.526	(0.985)	358336	50.0000	49.34
64	Styrene	104	8.258	8.265	(1.077)	257969	50.0000	50.07
78	tert-Butylbenzene	119	9.339	9.340	(0.966)	279459	50.0000	48.56
56	Tetrachloroethene	164	6.933	6.933	(0.904)	92580	50.0000	49.48
50	Toluene	91	6.446	6.446	(0.840)	329262	50.0000	48.85
20	trans-1,2-Dichloroethene	96	2.527	2.528	(0.604)	74432	50.0000	50.45
51	trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	115378	50.0000	50.01
38	Trichloroethene	130	5.206	5.207	(1.048)	100105	50.0000	49.79
8	Trichlorofluoromethane	101	1.560	1.553	(0.373)	144949	50.0000	49.45
5	Vinyl Chloride	62	1.138	1.138	(0.272)	67608	50.0000	49.08

QC Flag Legend

M - Compound response manually integrated.



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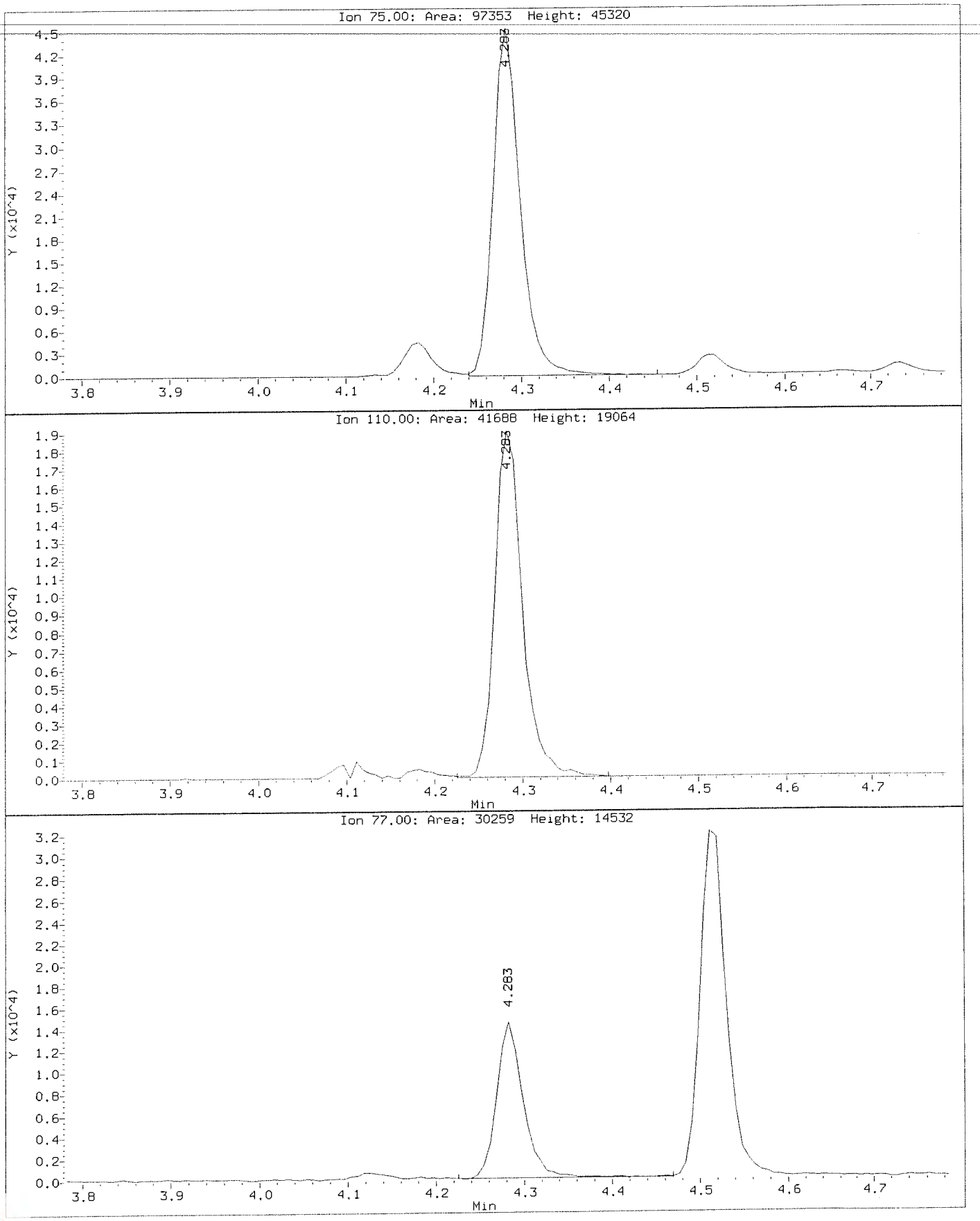
Date : 31-OCT-2019 13:56
Client ID: VSTD050
Sample Info: VSTD050;VSTD050;1;7;
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\BEFORE2\X103108.D
Injection Date: 31-OCT-2019 13:56
Instrument: voa6.i
Client Sample ID: VSTD050

Compound: 1,1-Dichloropropene
CAS Number: 563-58-6



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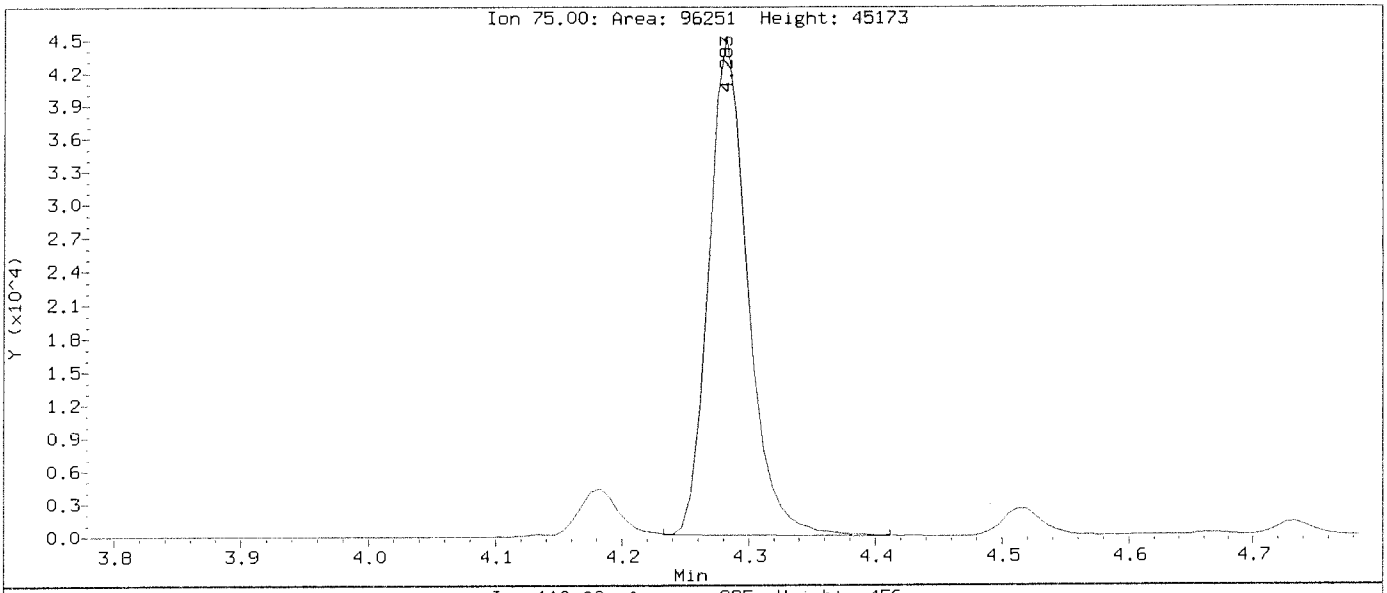
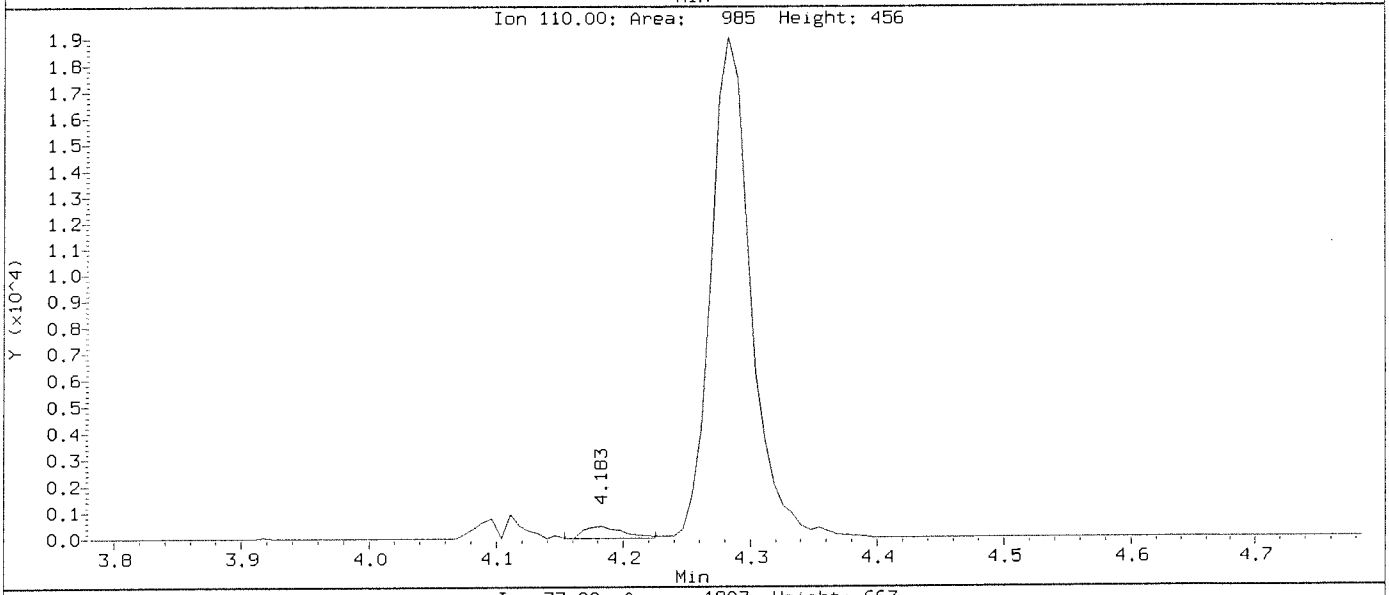
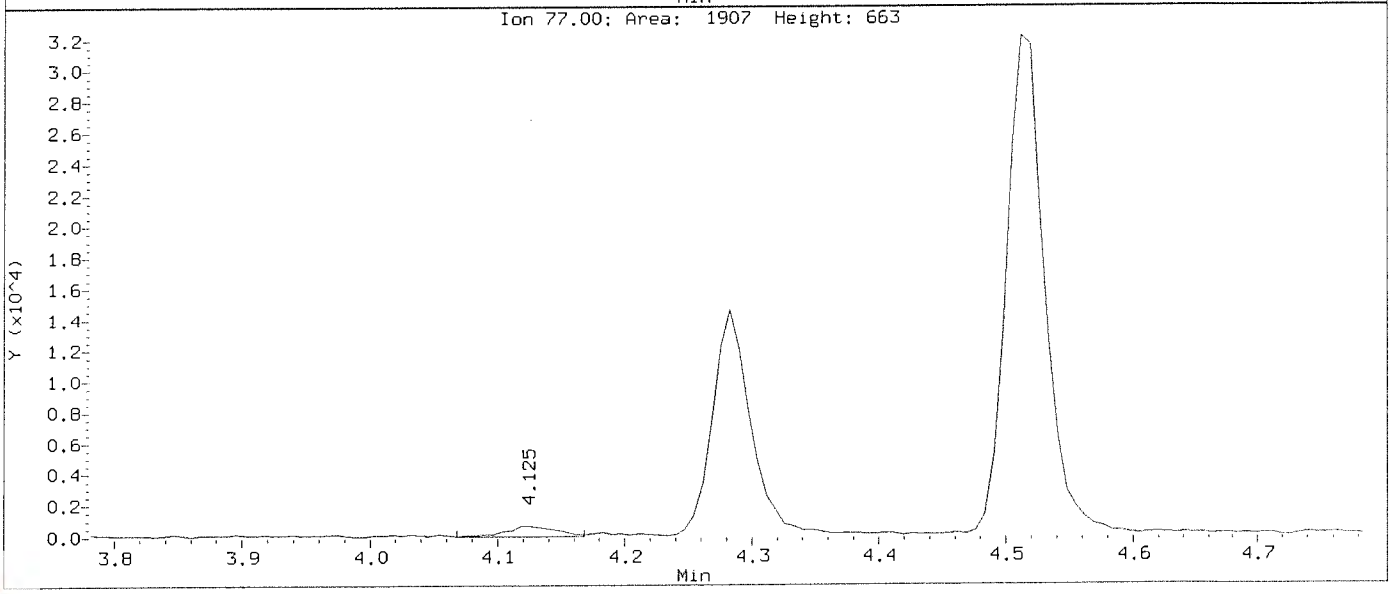
Instrument: voa6.i
Client Sample ID: VSTD050

Compound: 1,1-Dichloropropene
CAS Number: 563-58-6







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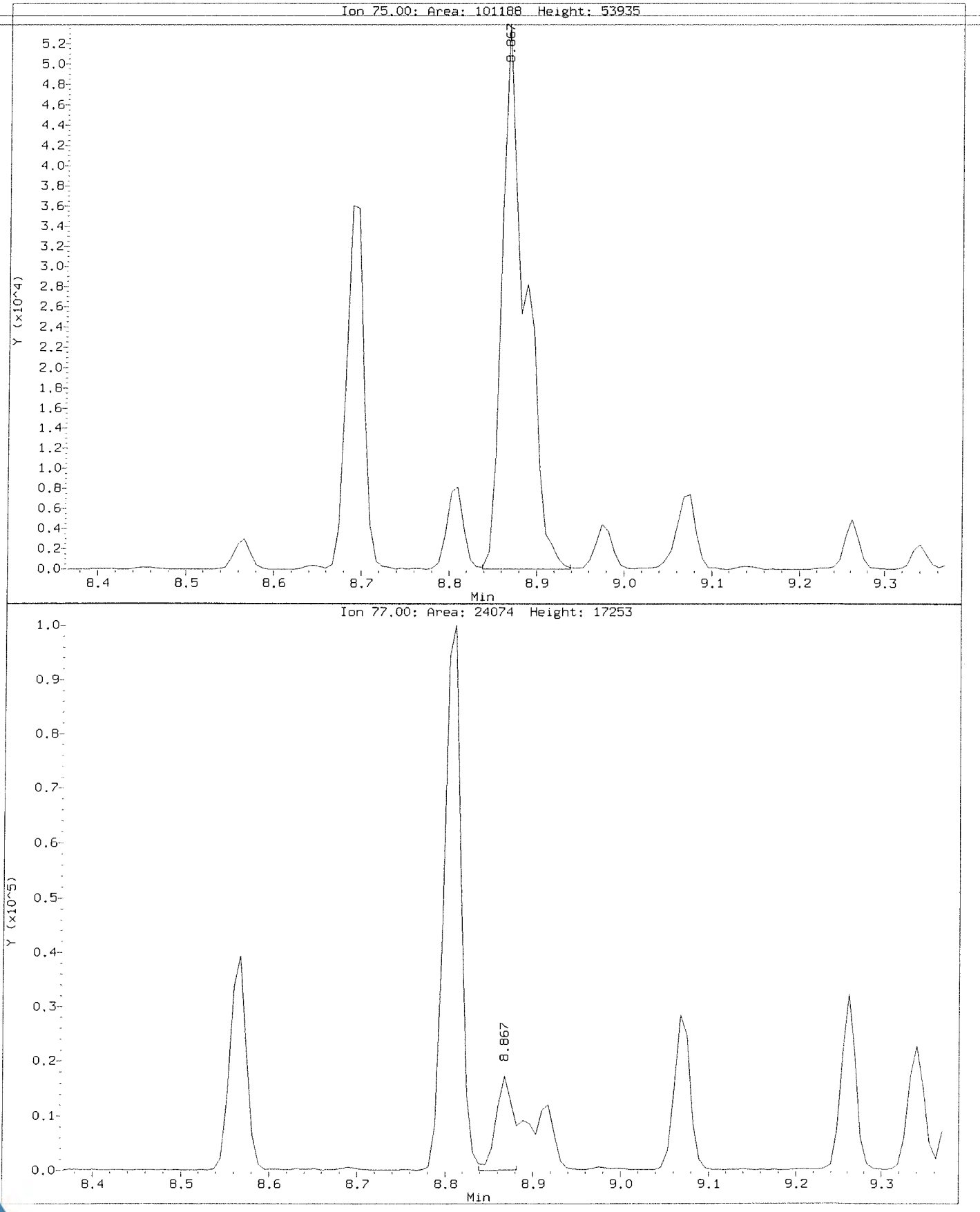
Injection Date: 31-OCT-2019 13:56
Instrument: voa6.i
Client Sample ID: VSTD050

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



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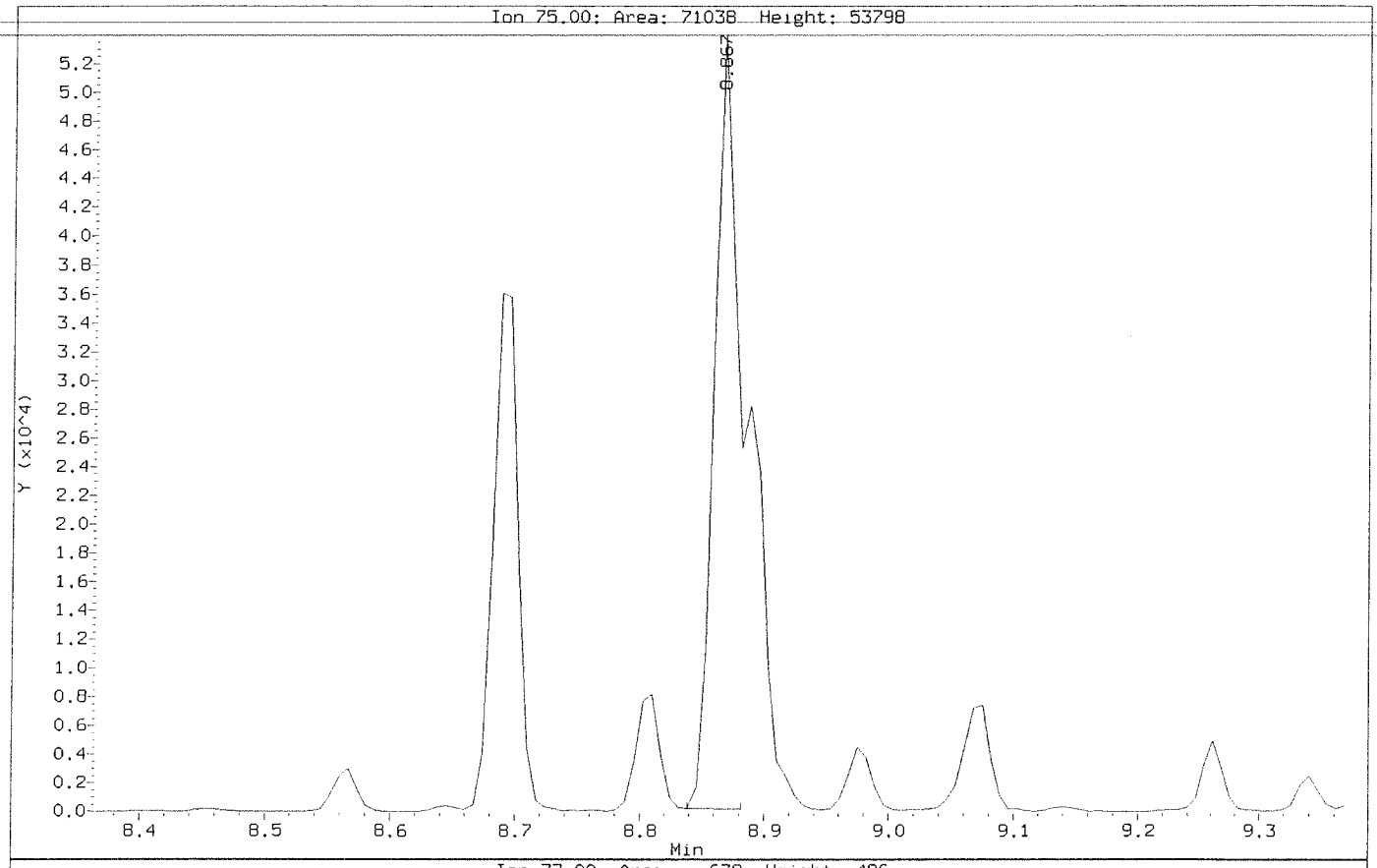
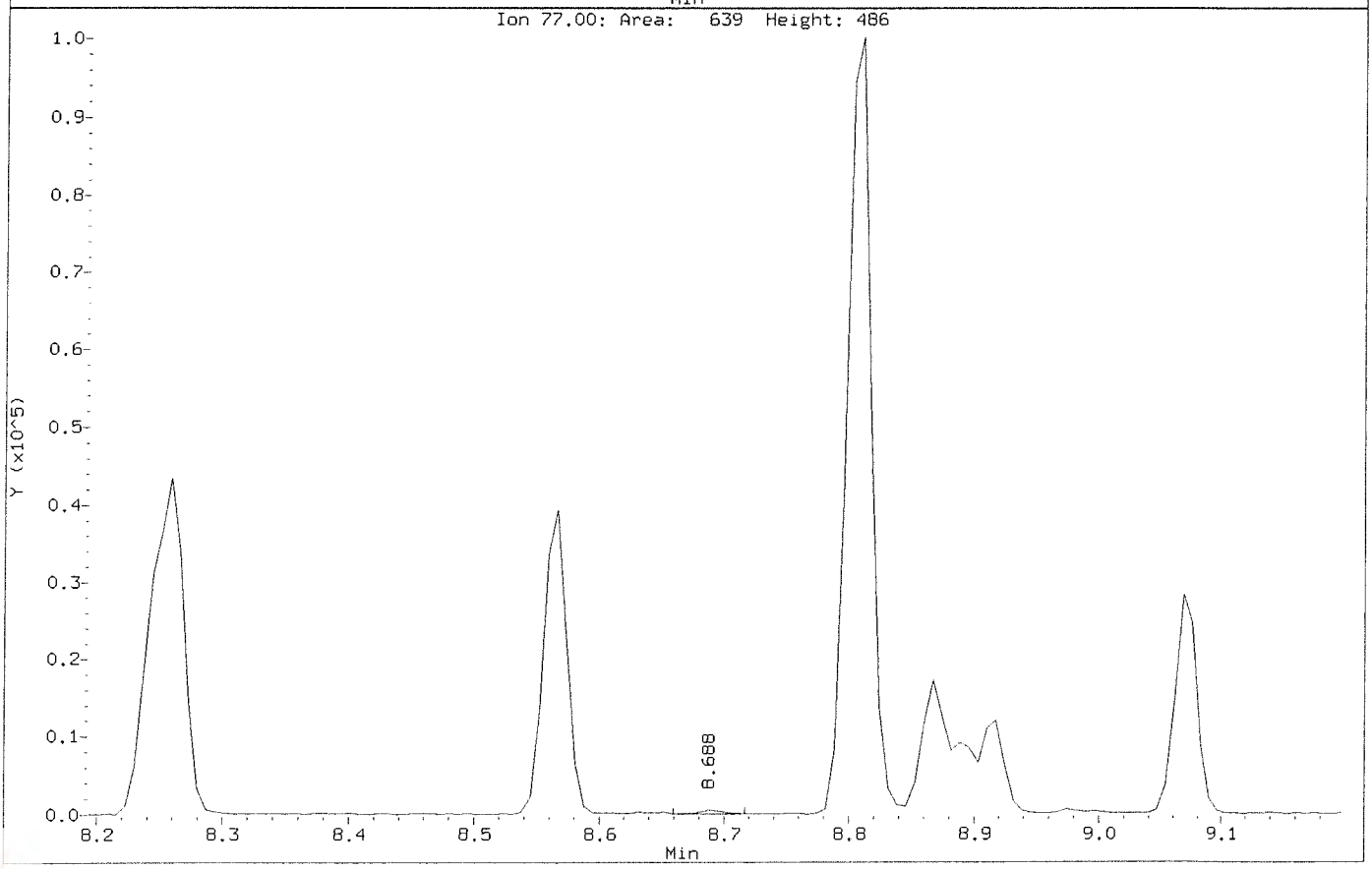
Client Sample ID: VSTD050

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





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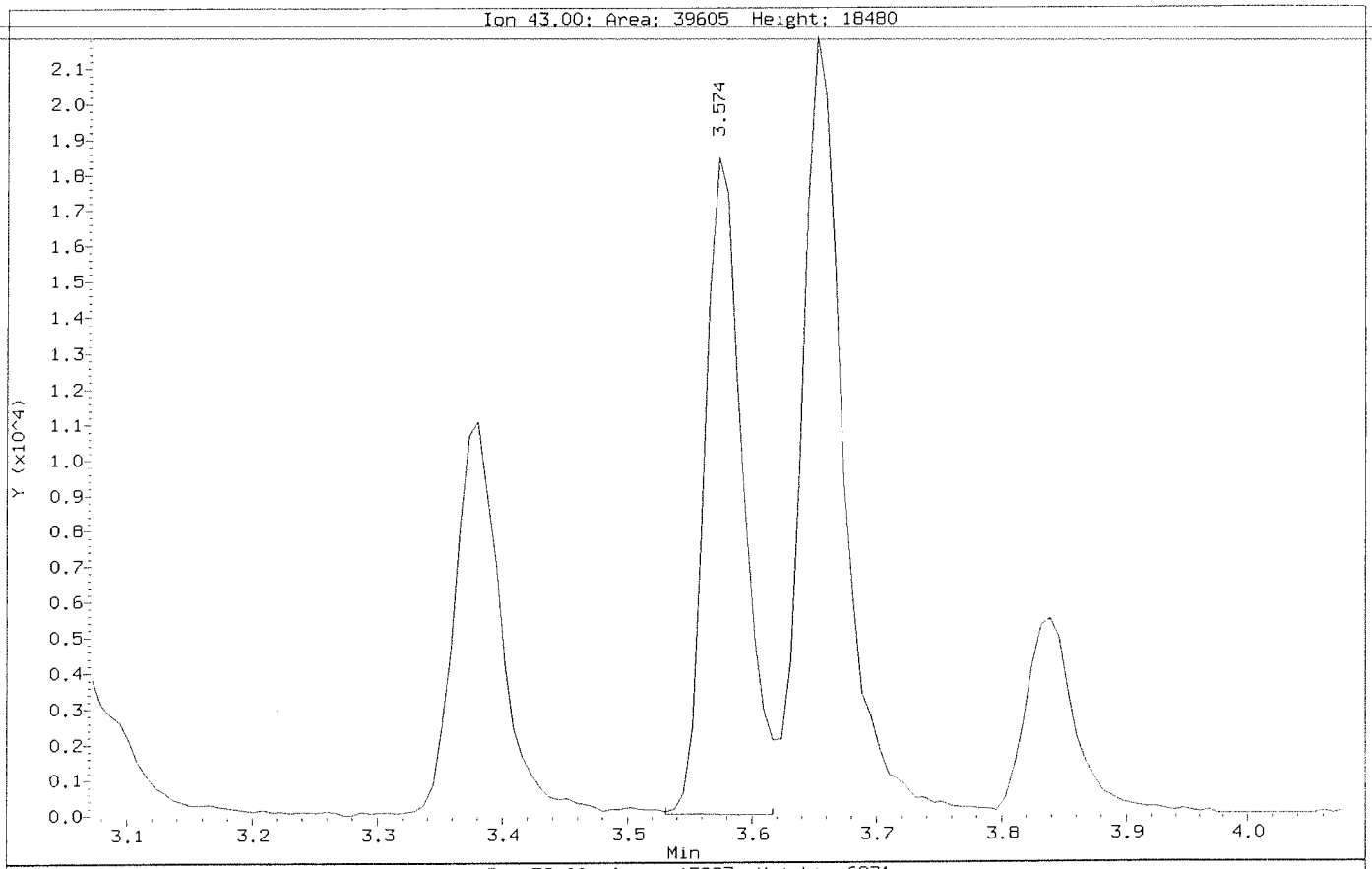
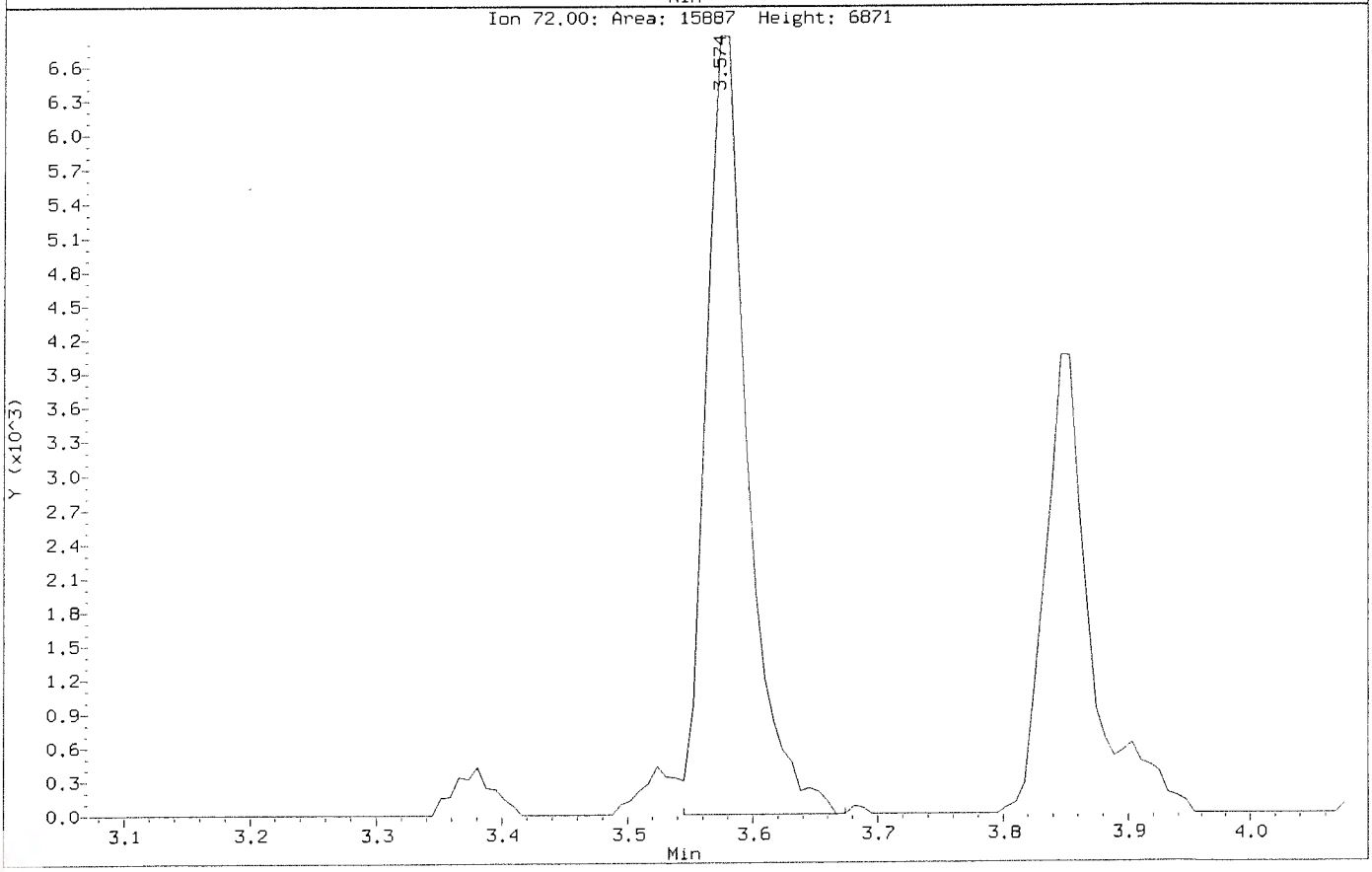
Injection Date: 31-OCT-2019 13:56
Instrument: voa6.i
Client Sample ID: VSTD050

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





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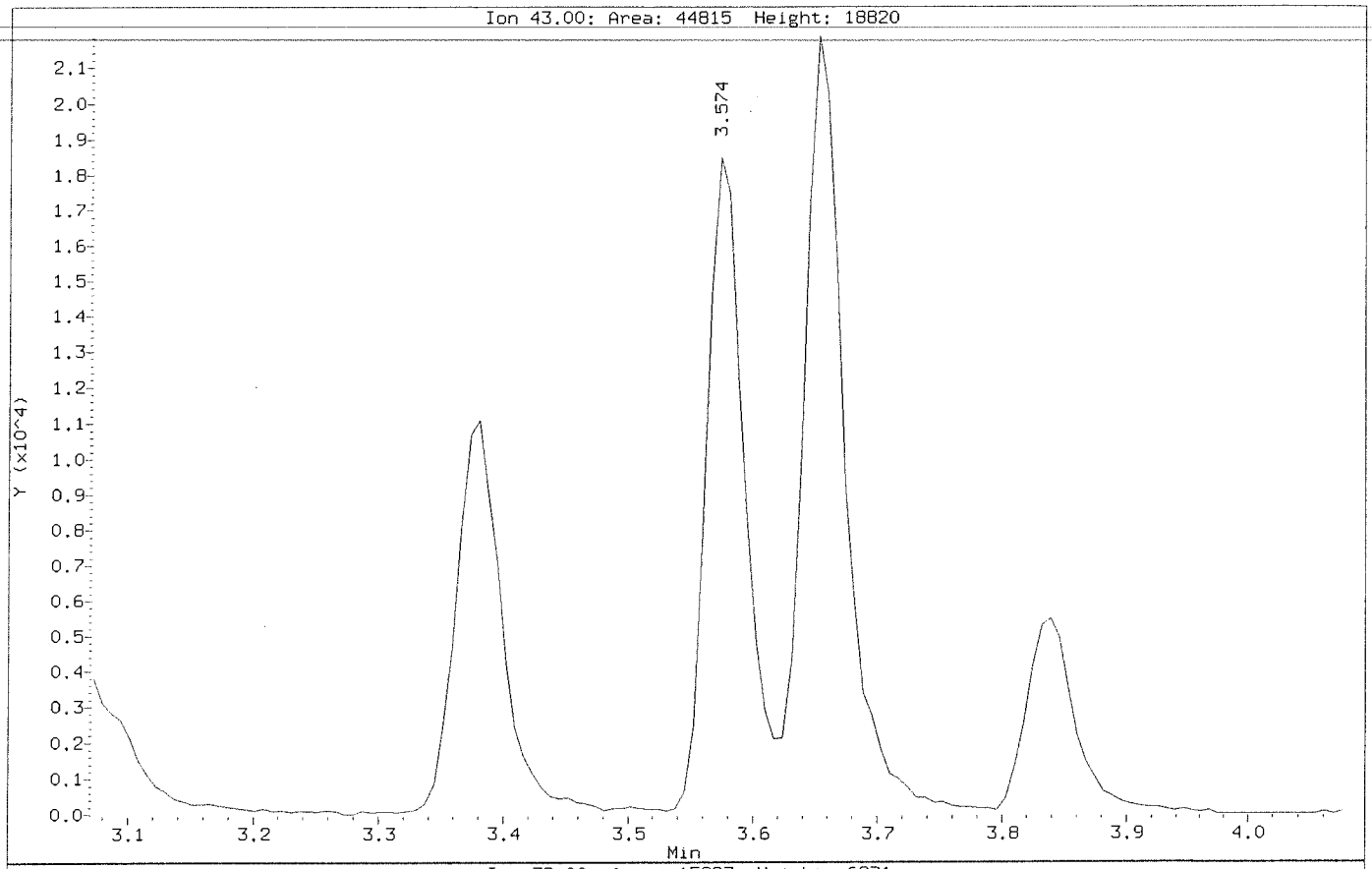
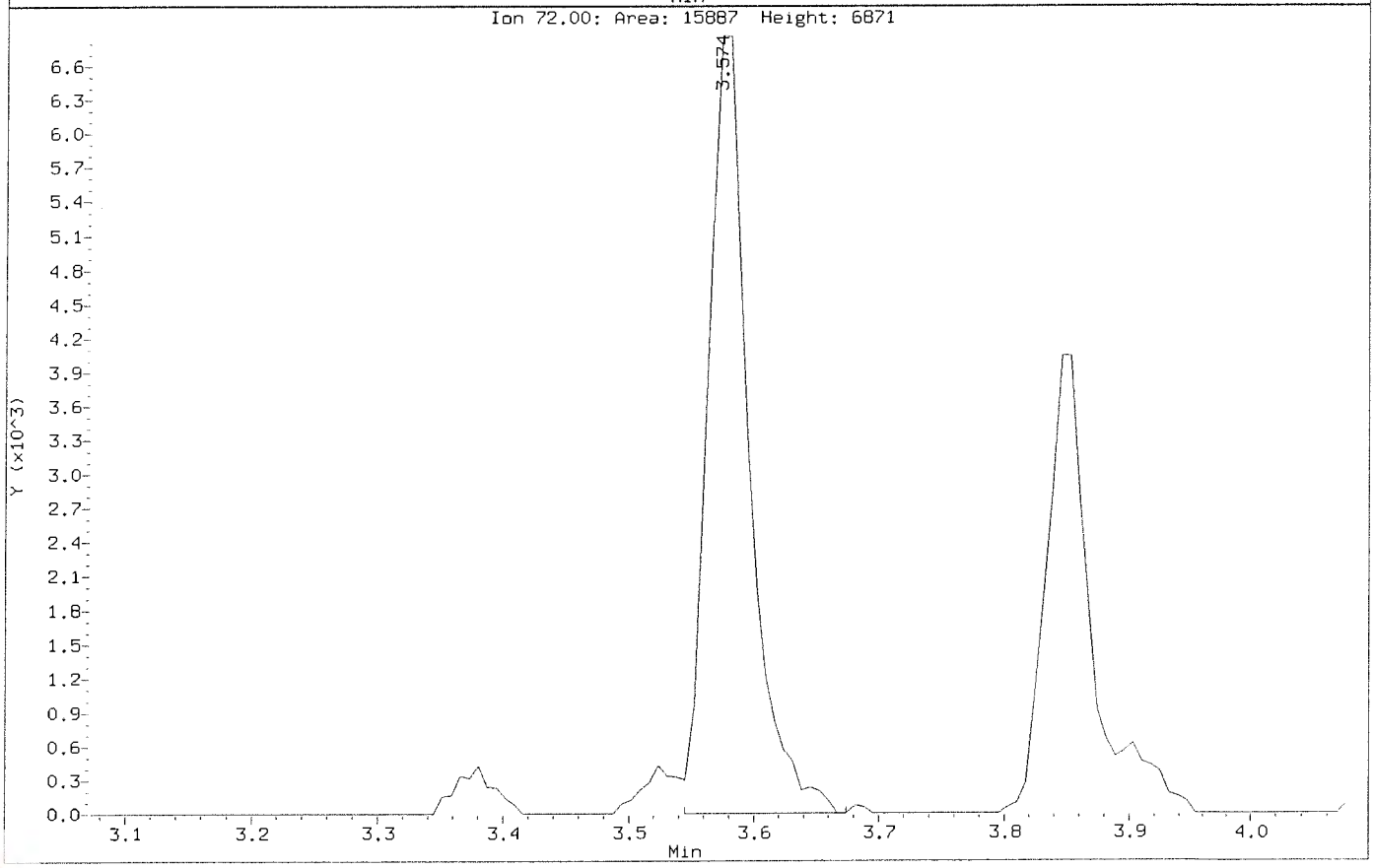
Client Sample ID: VSTD050

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





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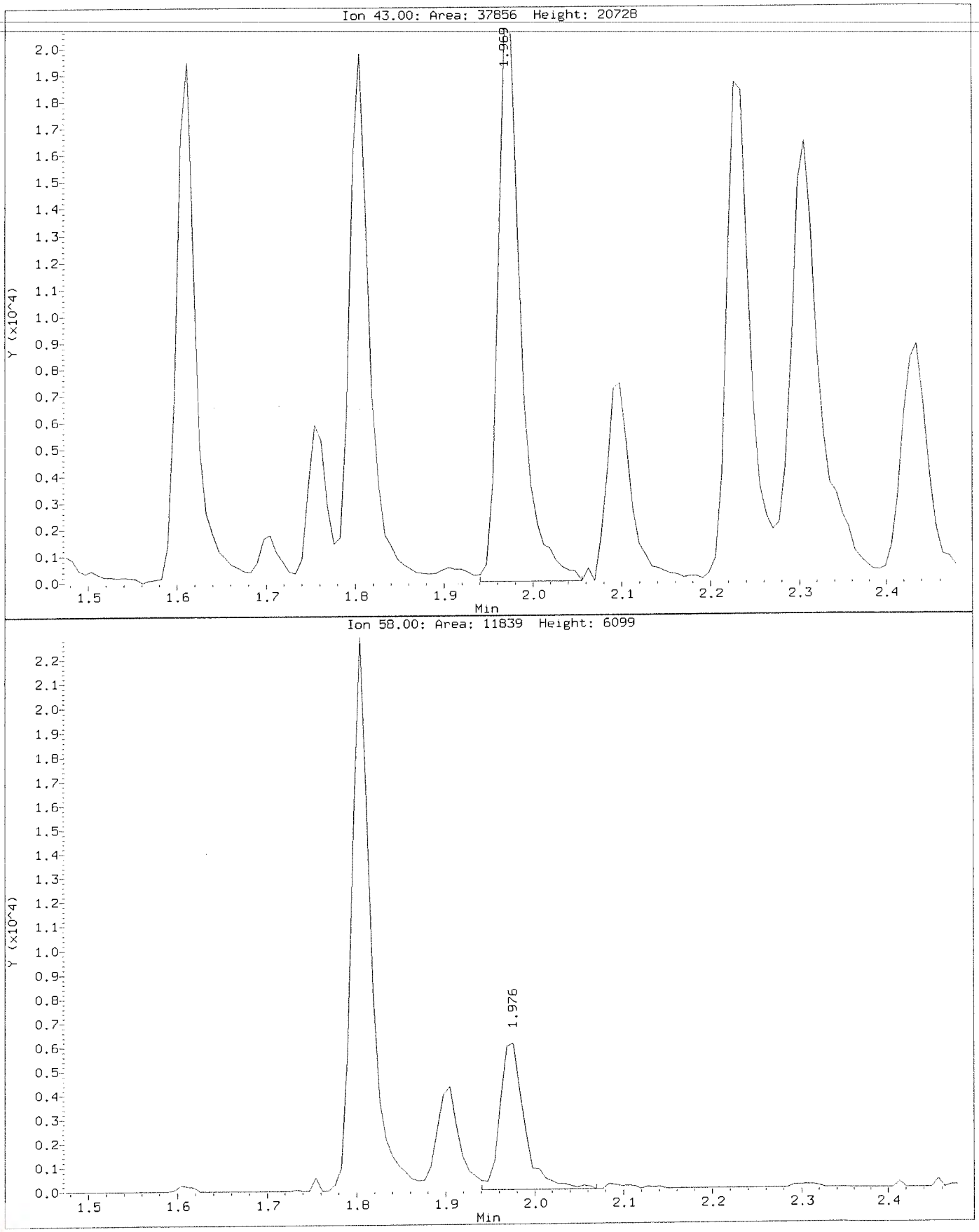
Injection Date: 31-OCT-2019 13:56
Instrument: voa6.i
Client Sample ID: VSTD050

Compound: Acetone
CAS Number: 67-64-1



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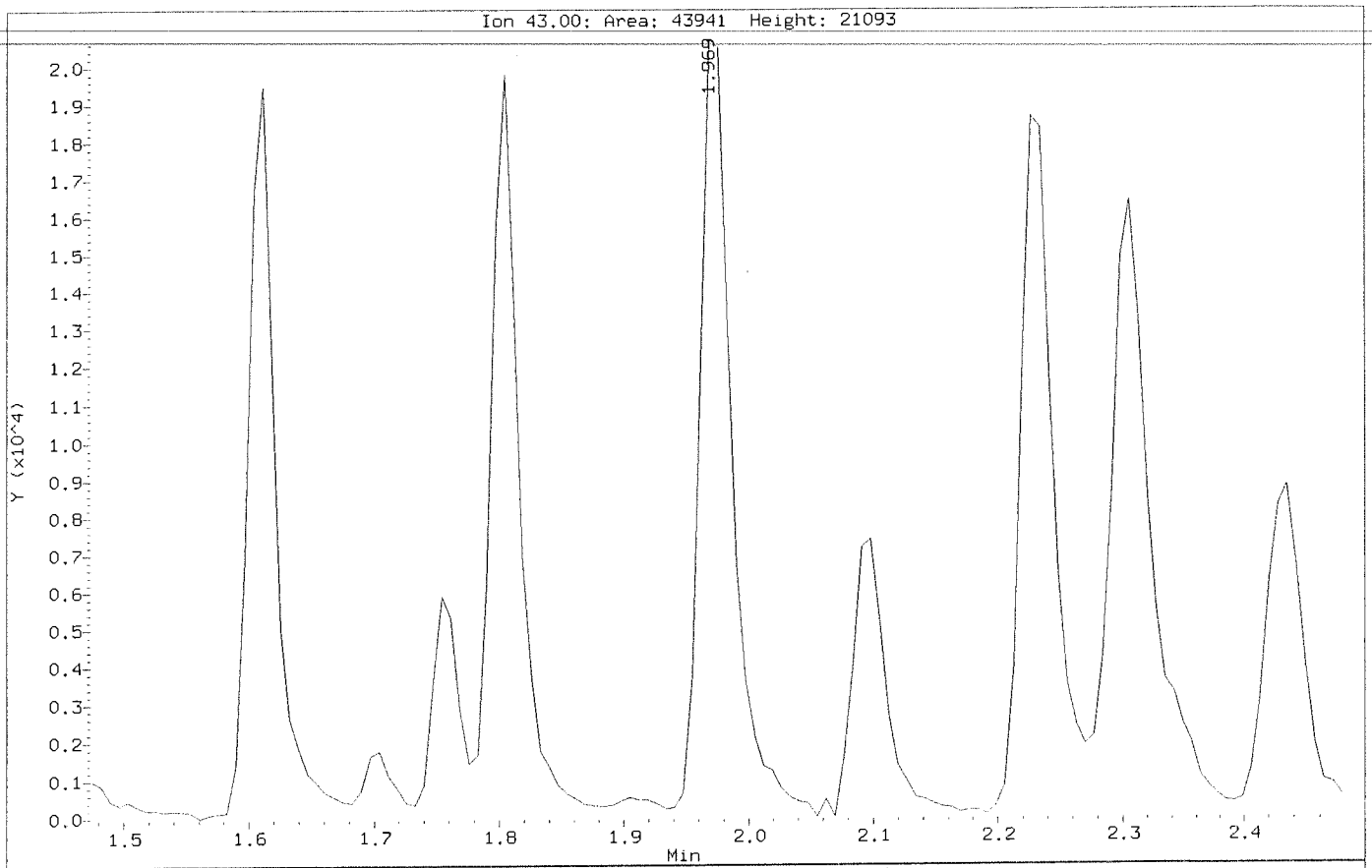
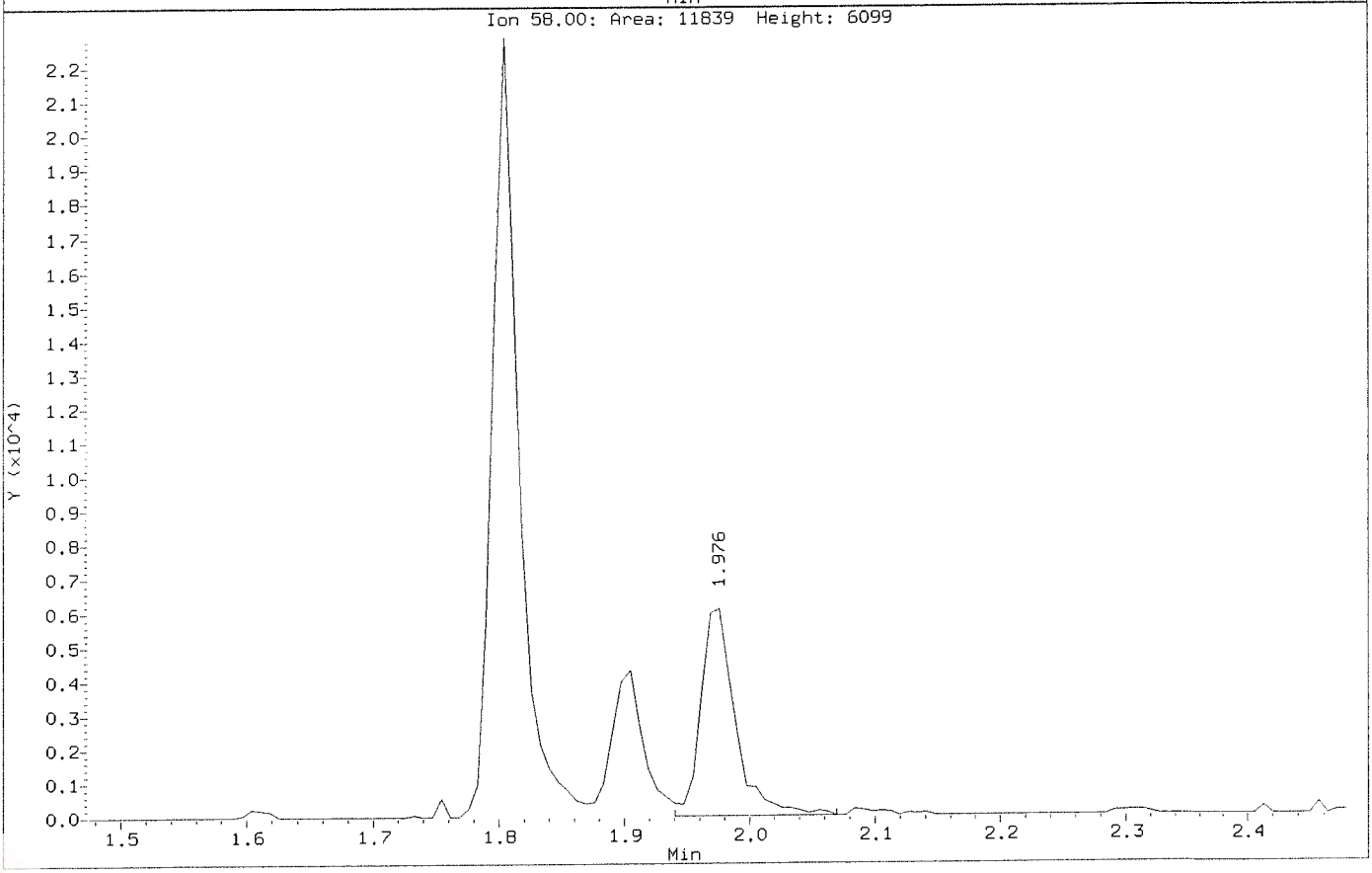
Instrument: voa6.i
Client Sample ID: VSTD050

Compound: Acetone
CAS Number: 67-64-1





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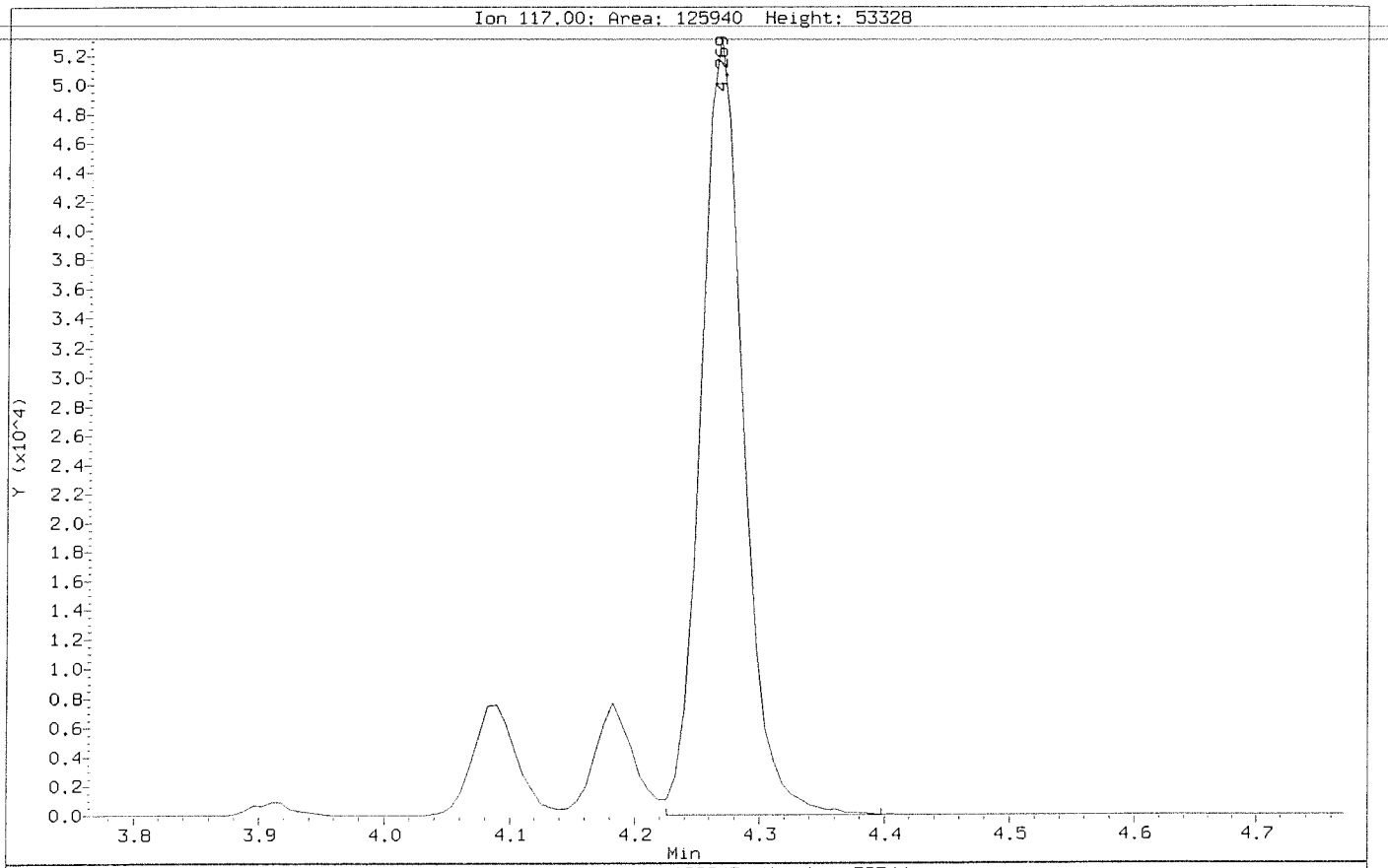
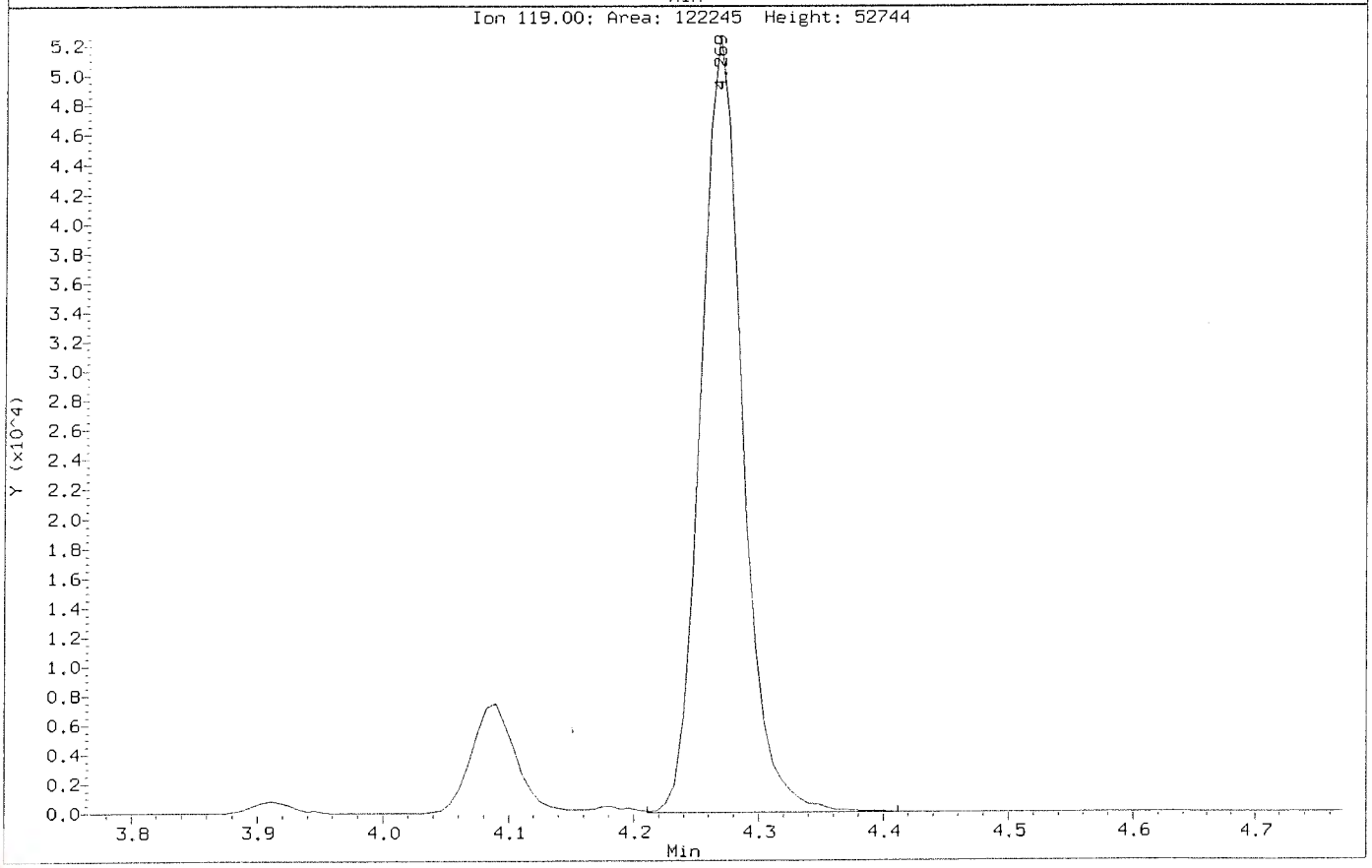
Instrument: voa6.i
Client Sample ID: VSTD050

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





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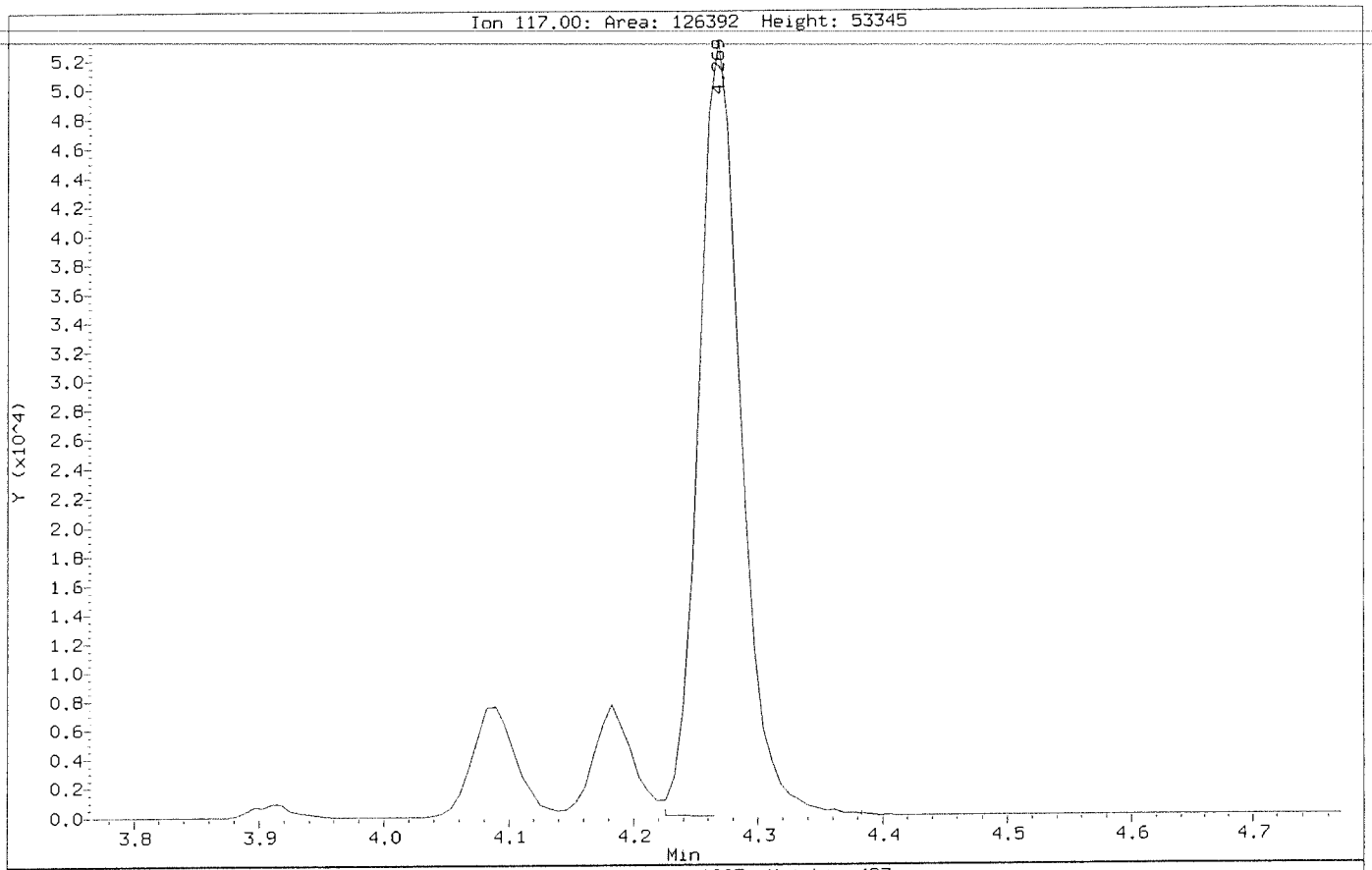
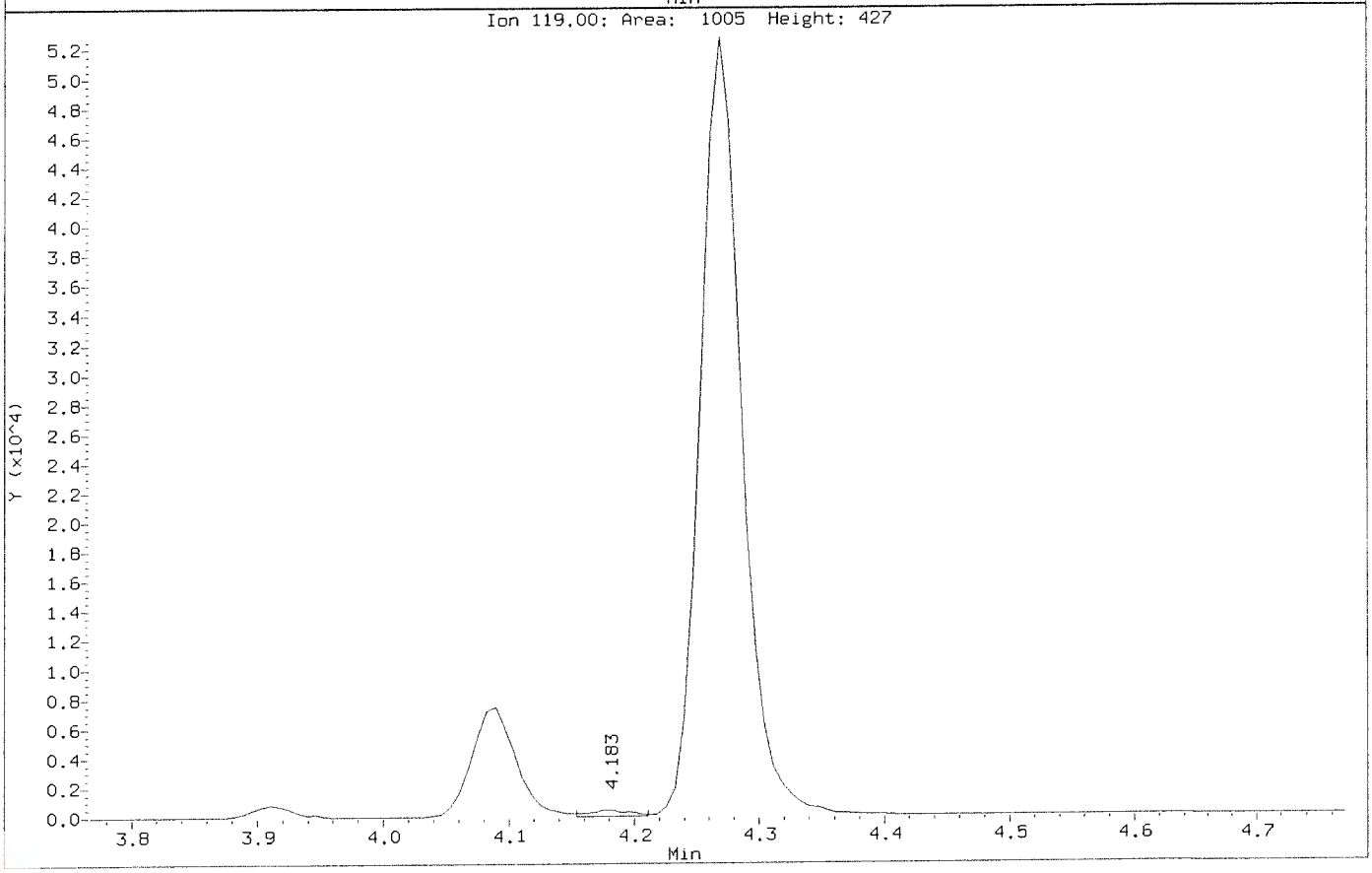
Instrument: voa6.i
Client Sample ID: VSTD050

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





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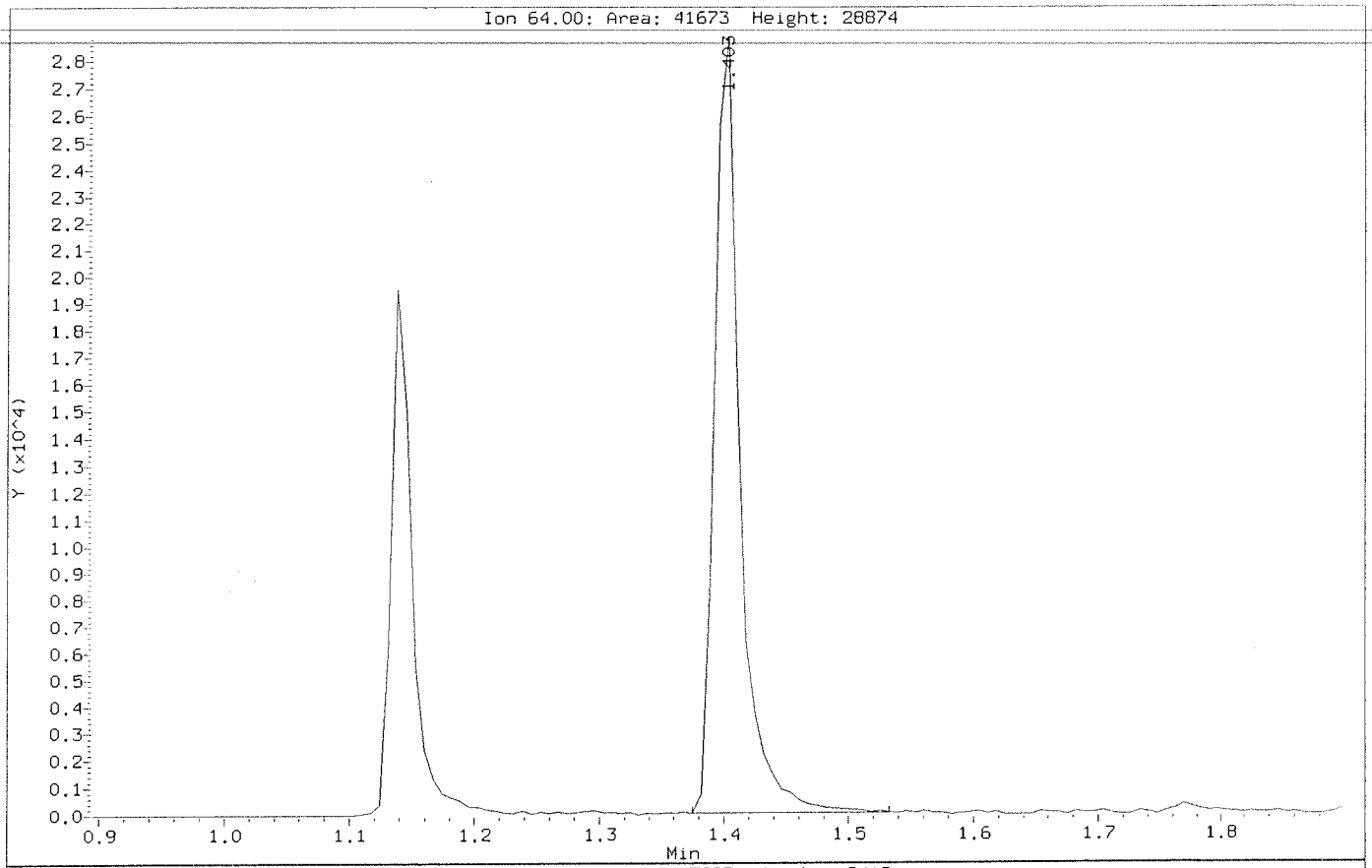
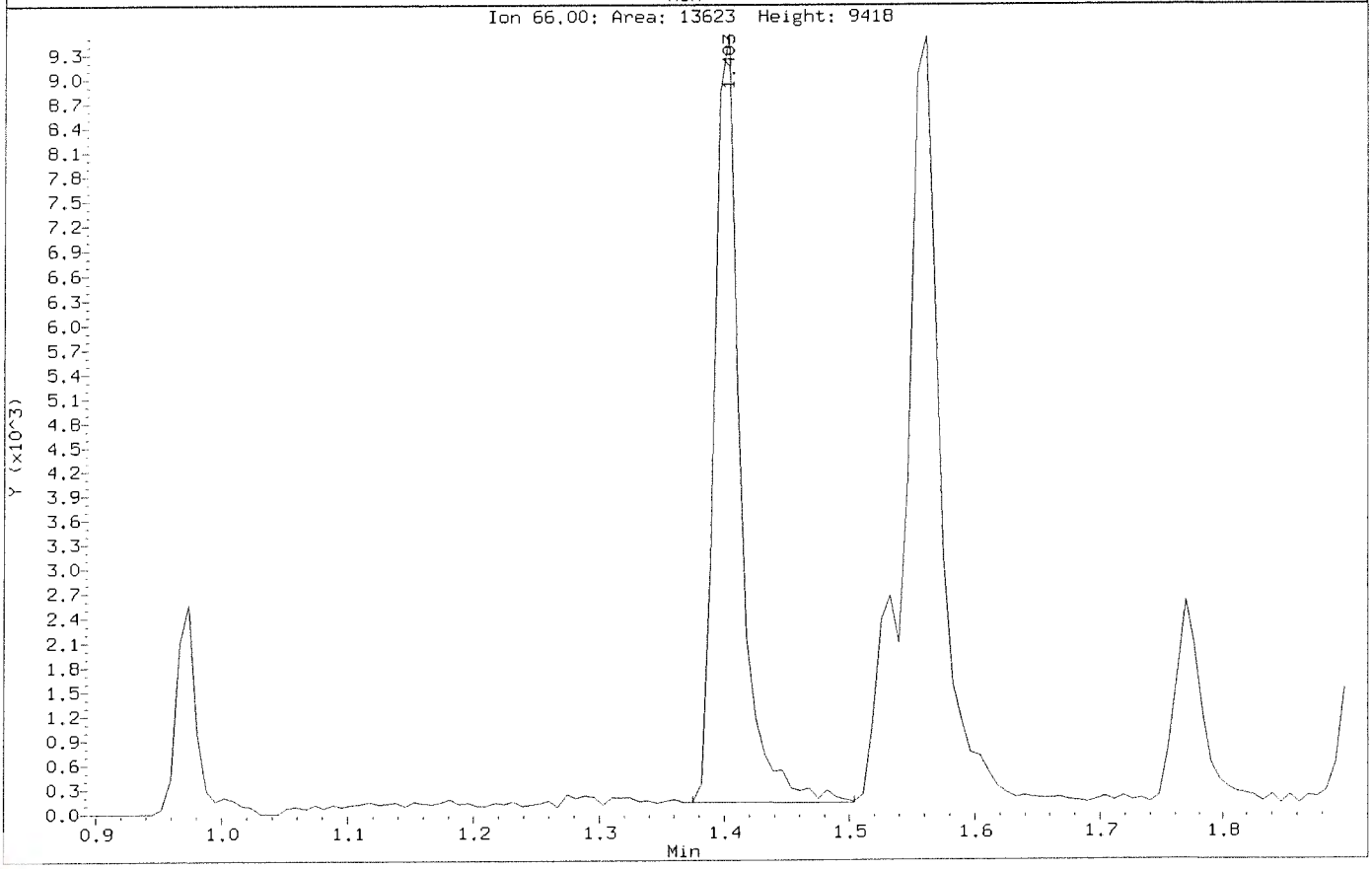
Injection Date: 31-OCT-2019 13:56
Instrument: voa6.i
Client Sample ID: VSTD050

Compound: Chloroethane
CAS Number: 75-00-3





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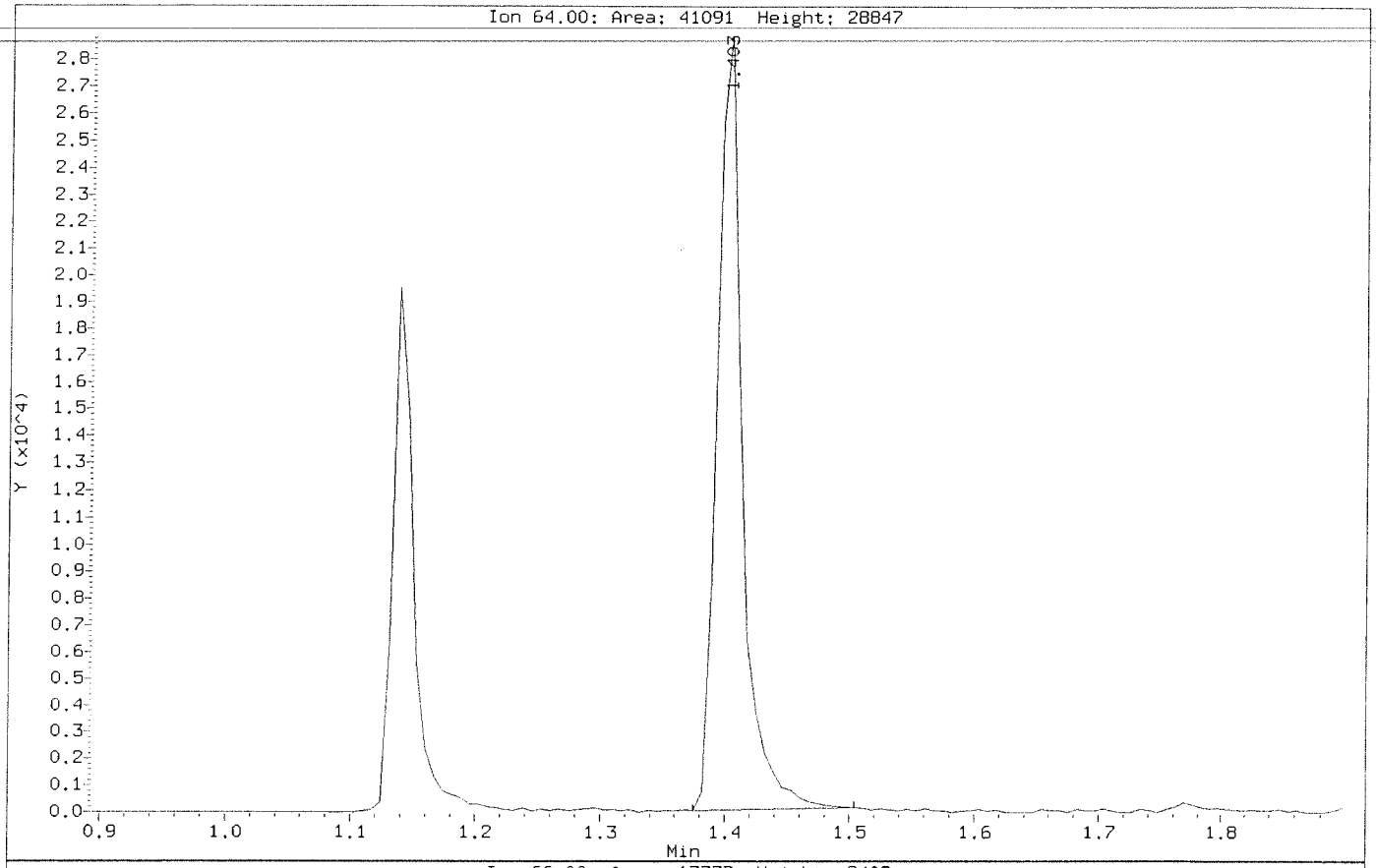
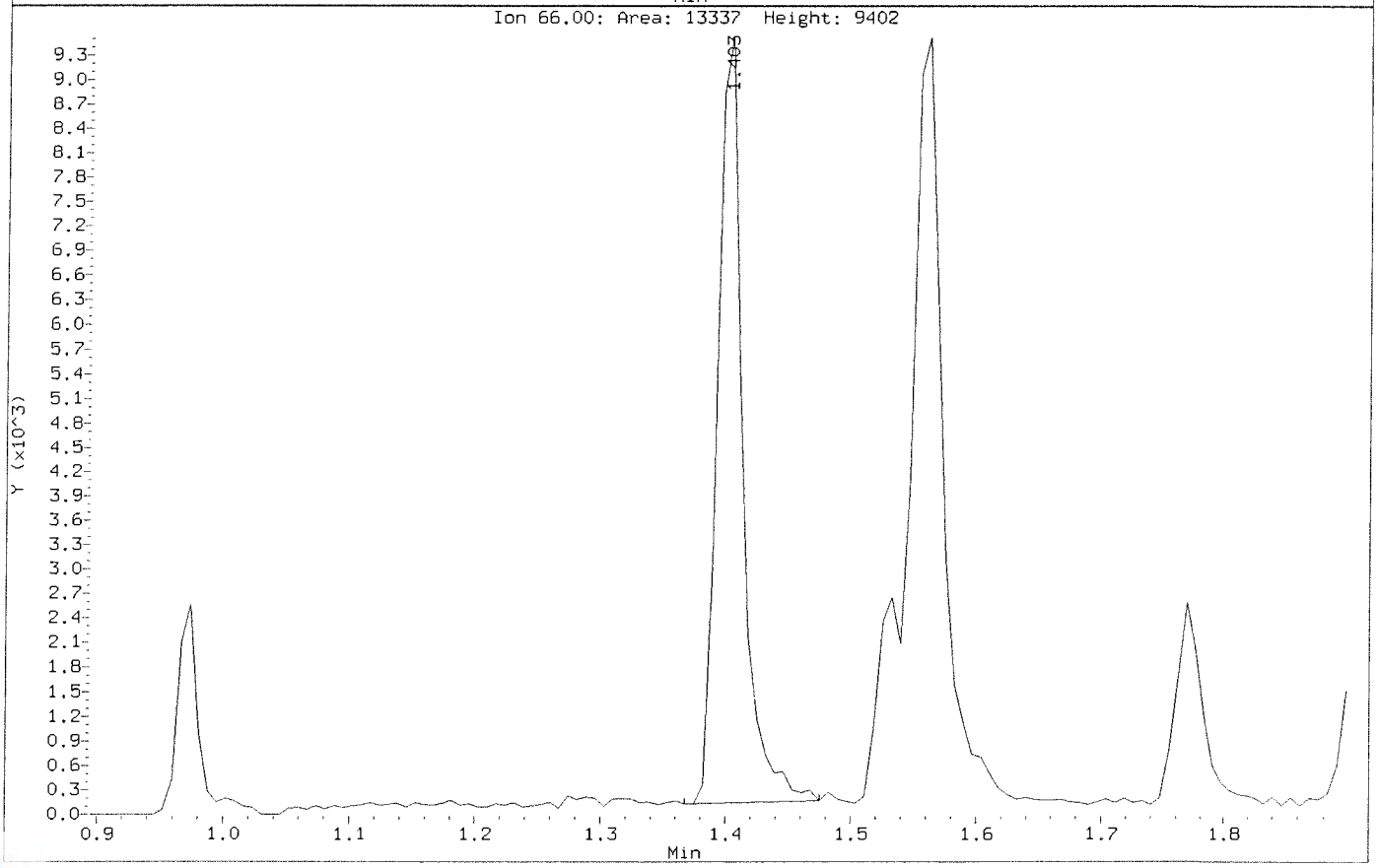
Client Sample ID: VSTD050

Compound: Chloroethane
CAS Number: 75-00-3





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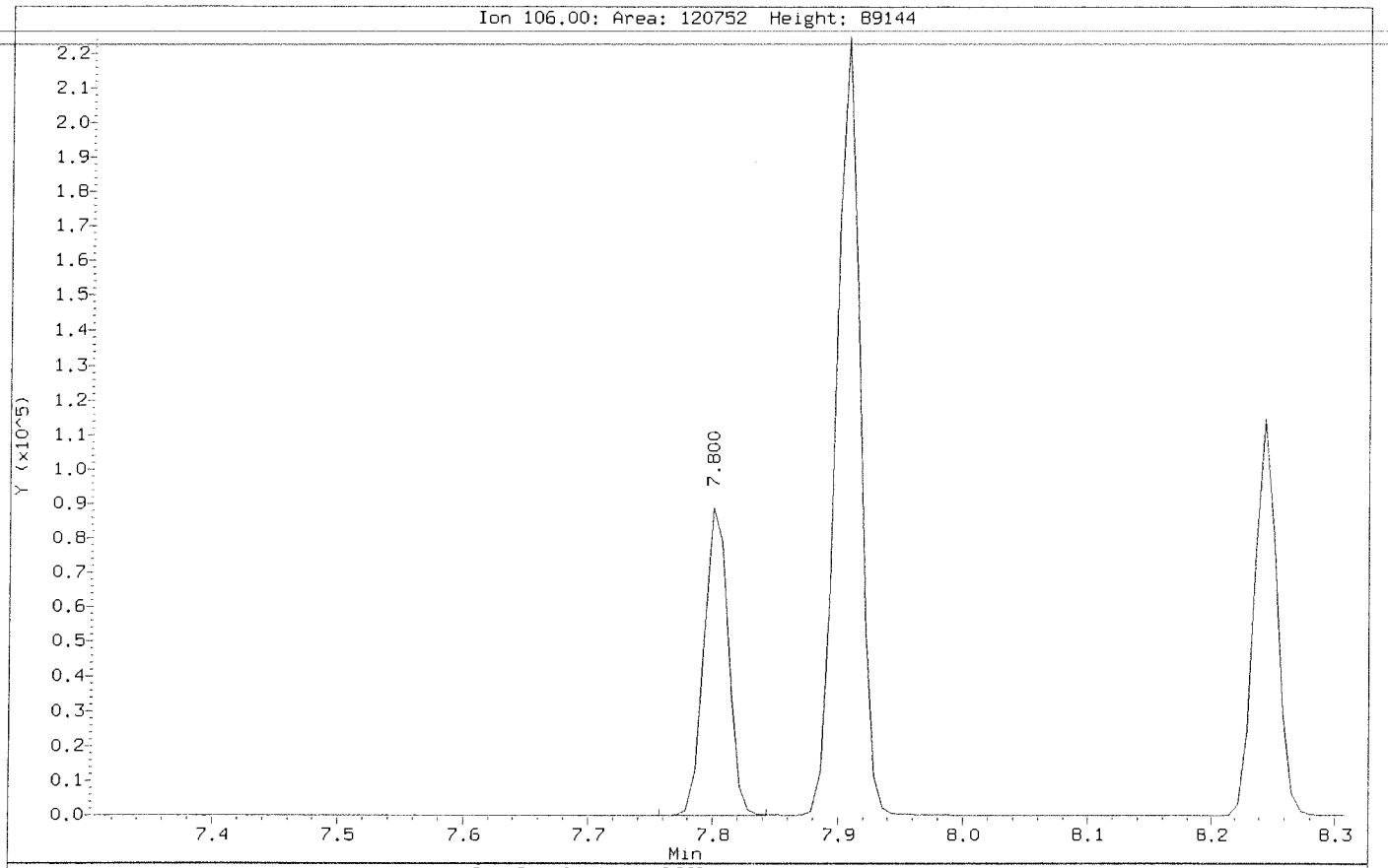
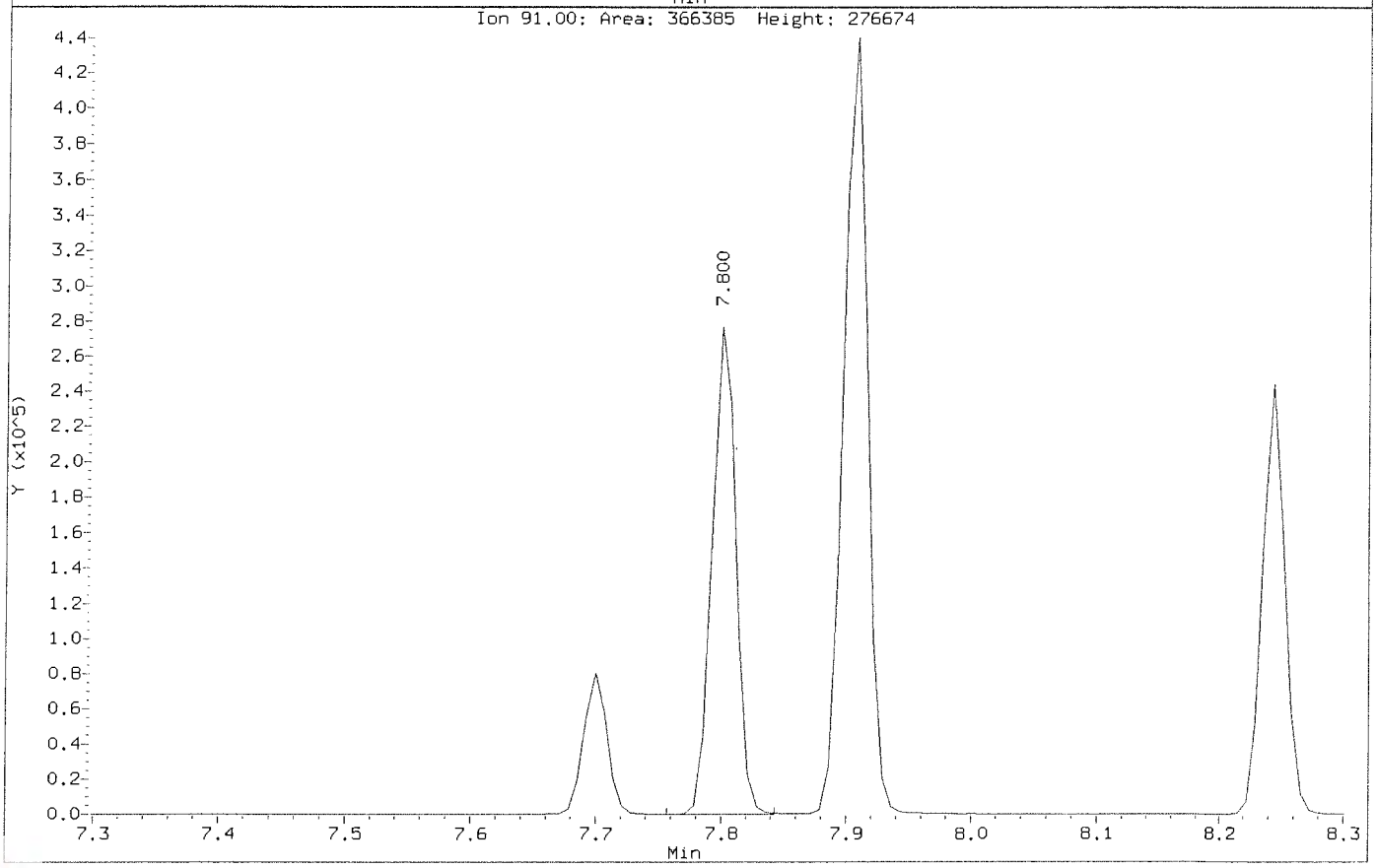
Injection Date: 31-OCT-2019 13:56
Instrument: voa6.i
Client Sample ID: VSTD050

Compound: Ethylbenzene
CAS Number: 100-41-4





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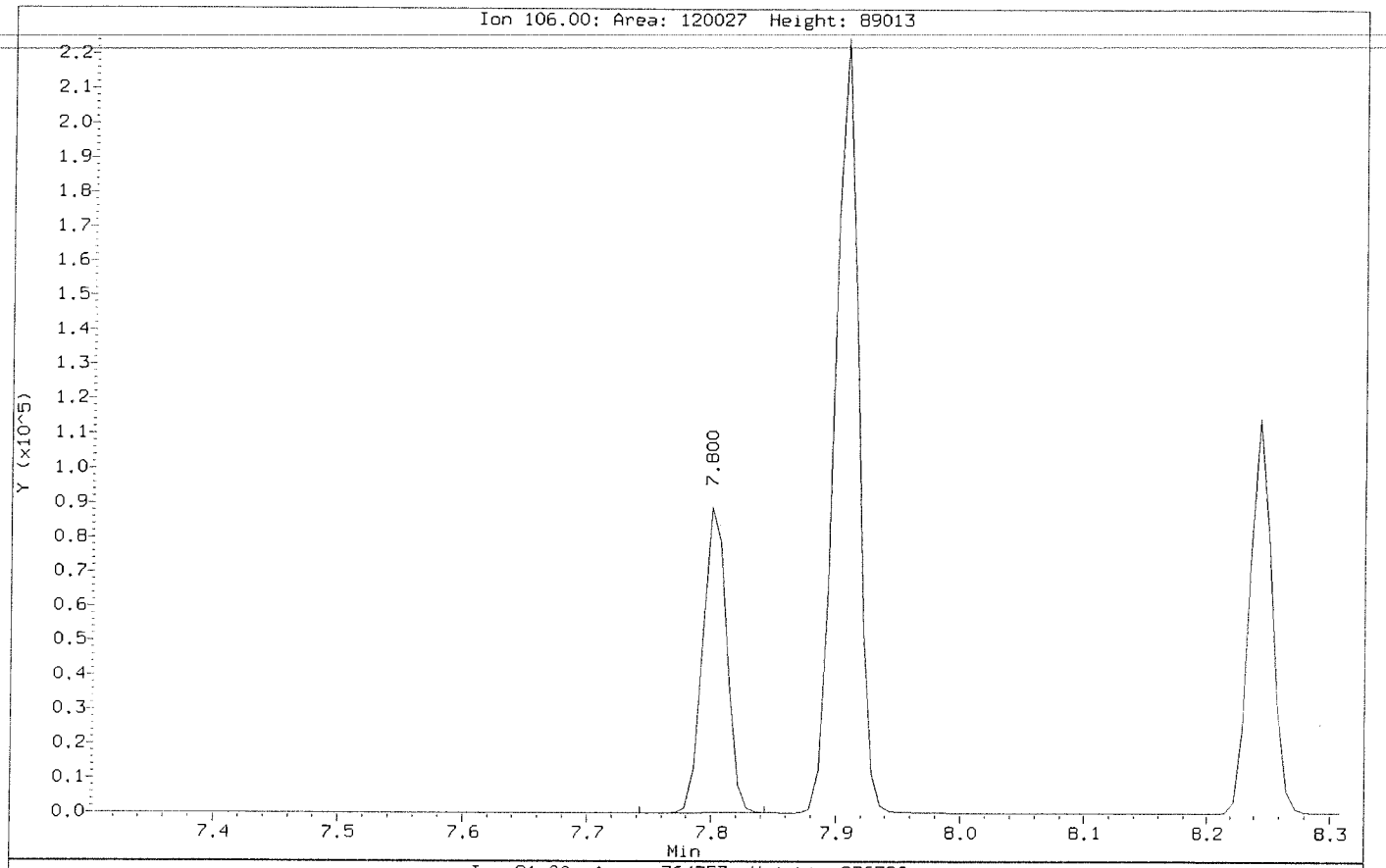
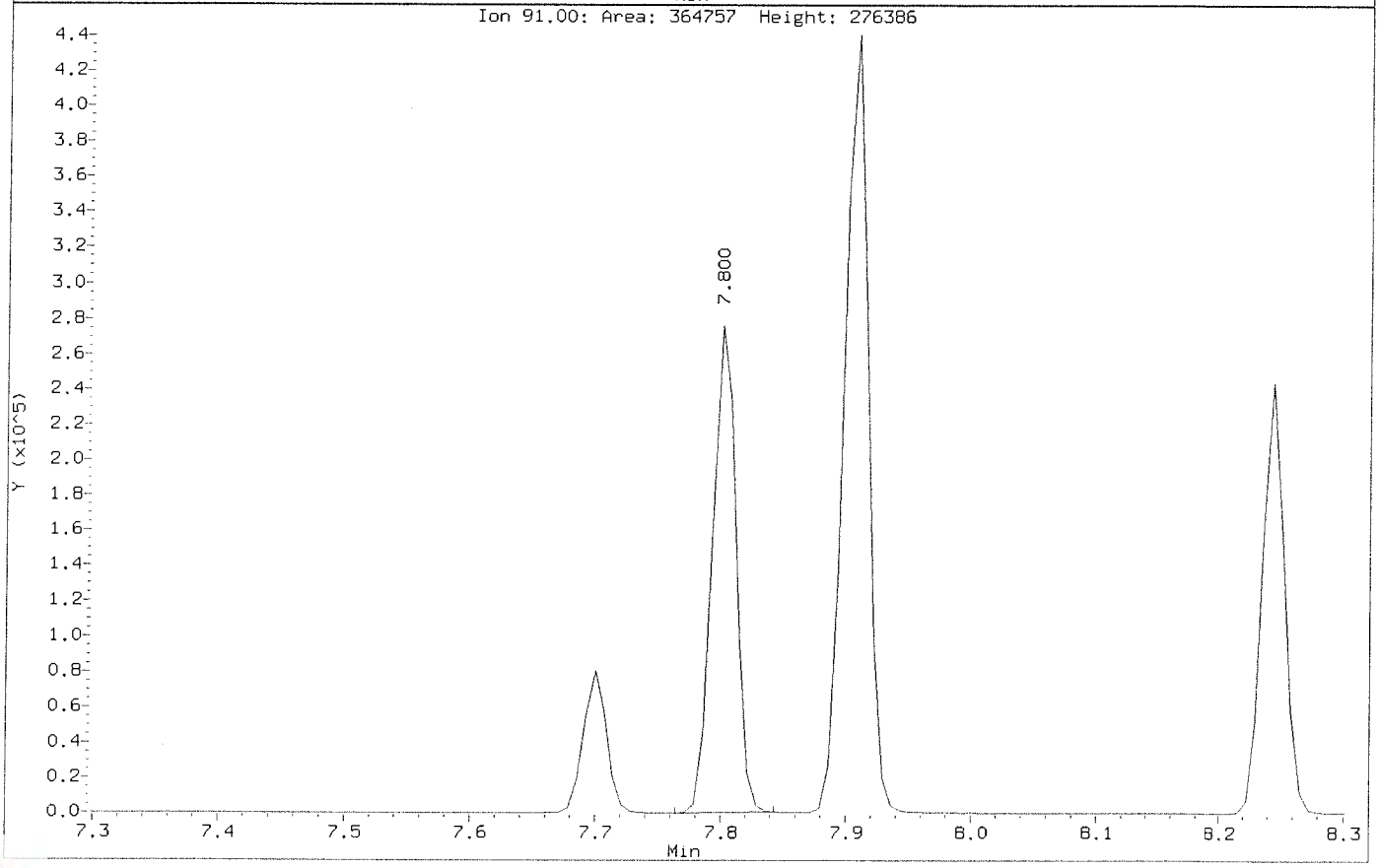
Injection Date: 31-OCT-2019 13:56
Instrument: voa6.i
Client Sample ID: VSTD050

Compound: Ethylbenzene
CAS Number: 100-41-4





Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\X103109.D Page 1
Report Date: 19-Nov-2019 17:39

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X191031.b\X103109.D
Lab Smp Id: VSTD100 Client Smp ID: VSTD100
Inj Date : 31-OCT-2019 14:20
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\X191031.b\8260W.m
Meth Date : 19-Nov-2019 17:37 voa6.i Quant Type: ISTD
Cal Date : 31-OCT-2019 14:20 Cal File: X103109.D
Als bottle: 10 Calibration Sample, Level: 8
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

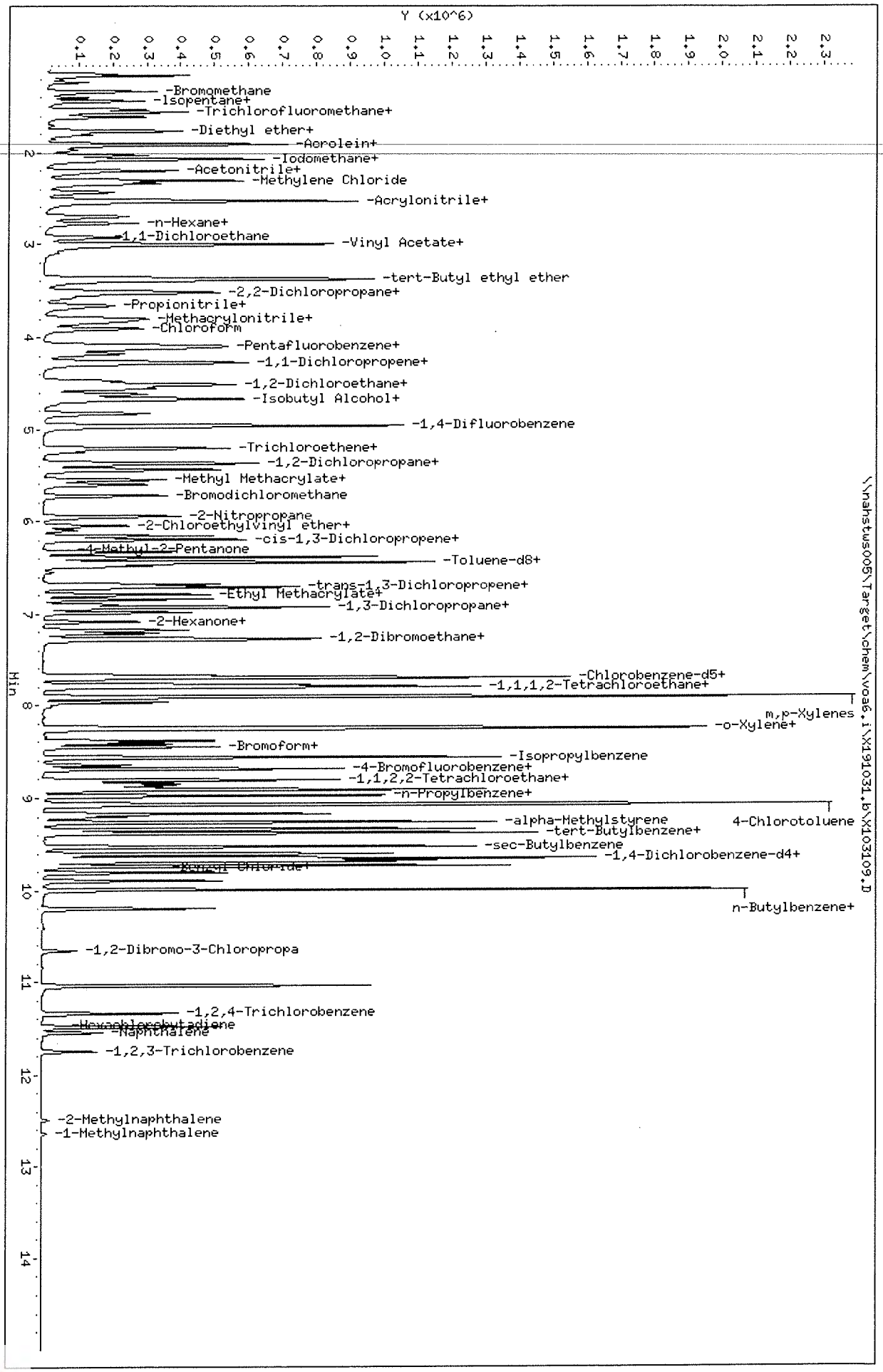
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	211157	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	260534	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	243171	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	139912	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	177646	100.000	99.17
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	230071	100.000	101.30
$ 30 Dibromofluoromethane	113	4.103	4.104	(0.981)	169612	100.000	100.29
$ 48 Toluene-d8	98	6.388	6.389	(0.833)	589193	100.000	97.52
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	193755	100.000	97.81
31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	274084	100.000	103.57
68 1,1,2,2-Tetrachloroethane	83	8.845	8.845	(0.915)	149496	100.000	98.60
138 Freon TF	101	1.912	1.912	(0.457)	147697	100.000	105.72
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	107723	100.000	97.48
22 1,1-Dichloroethane	63	2.922	2.922	(0.699)	233374	100.000	98.72
11 1,1-Dichloroethene	96	1.912	1.912	(0.457)	135961	100.000	101.27
32 1,1-Dichloropropene	75	4.282	4.283	(0.862)	194698	100.000	100.32(M)
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.215)	48520	100.000	98.21
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.917)	133696	100.000	100.75(M)
90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	115070	100.000	91.13
79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.970)	671697	100.000	100.22
89 1,2-Dibromo-3-Chloropropane	155	10.658	10.658	(1.102)	22324	100.000	94.55
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	160121	100.000	97.99
88 1,2-Dichlorobenzene	146	9.999	9.999	(1.034)	365350	100.000	94.09

Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\X103109.D Page 2
Report Date: 19-Nov-2019 17:39

	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)	208488	100.000	98.70
42	1,2-Dichloropropane	63	5.443	5.436	(1.095)	119732	100.000	94.34
75	1,3,5-Trimethylbenzene	105	9.067	9.075	(0.938)	654000	100.000	100.69
83	1,3-Dichlorobenzene	146	9.612	9.612	(0.994)	410642	100.000	96.27
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	219024	100.000	96.61
84	1,4-Dichlorobenzene	146	9.683	9.684	(1.001)	412514	100.000	95.85
26	2,2-Dichloropropane	77	3.516	3.516	(0.841)	240644	100.000	94.74
24	2-Butanone	43	3.573	3.573	(0.854)	85336	200.000	200.61(AM)
76	2-Chlorotoluene	91	8.974	8.982	(0.928)	502345	100.000	99.89
52	2-Hexanone	43	7.090	7.090	(0.924)	128736	200.000	181.81
77	4-Chlorotoluene	91	9.075	9.075	(0.939)	587034	100.000	98.96
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	698133	100.000	100.37
45	4-Methyl-2-Pentanone	43	6.324	6.331	(0.824)	183868	200.000	183.63
10	Acetone	43	1.976	1.976	(0.473)	85856	200.000	199.28(M)
37	Benzene	78	4.512	4.512	(0.908)	554628	100.000	99.75
74	Bromobenzene	156	8.810	8.810	(0.911)	251457	100.000	97.63
29	Bromochloromethane	128	3.795	3.795	(0.908)	103904	100.000	95.40
39	Bromodichloromethane	83	5.729	5.730	(1.153)	212615	100.000	103.07
66	Bromoform	173	8.416	8.416	(1.097)	156487	100.000	99.77
6	Bromomethane	94	1.331	1.331	(0.318)	153089	100.000	97.76
19	Carbon Disulfide	76	2.069	2.069	(0.495)	802077	200.000	206.16(A)
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	256566	100.000	100.89(M)
59	Chlorobenzene	112	7.699	7.699	(1.004)	467223	100.000	98.63
7	Chloroethane	64	1.396	1.396	(0.334)	82836	100.000	98.96(M)
28	Chloroform	83	3.910	3.910	(0.935)	278502	100.000	99.64
3	Chloromethane	50	1.073	1.074	(0.257)	143471	100.000	102.91
27	cis-1,2-Dichloroethene	96	3.530	3.523	(0.844)	173867	100.000	103.07
46	cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	242495	100.000	101.48
55	Dibromochloromethane	129	7.176	7.176	(0.936)	202055	100.000	100.30
44	Dibromomethane	93	5.558	5.558	(1.118)	102350	100.000	101.72
2	Dichlorodifluoromethane	85	0.973	0.966	(0.233)	166586	100.000	98.84
61	Ethylbenzene	106	7.800	7.807	(1.017)	245506	100.000	99.93(M)
91	Hexachlorobutadiene	225	11.488	11.481	(1.188)	105281	100.000	96.46
67	Isopropylbenzene	105	8.566	8.566	(1.117)	752889	100.000	100.80
62	m,p-Xylenes	106	7.907	7.907	(1.031)	590026	200.000	198.12
17	Methylene Chloride	84	2.305	2.306	(0.551)	144719	100.000	98.75
87	n-Butylbenzene	91	9.999	9.999	(1.034)	511584	100.000	103.12
73	n-Propylbenzene	91	8.917	8.917	(0.922)	808567	100.000	101.46
92	Naphthalene	128	11.546	11.546	(1.194)	130449	100.000	98.79
63	o-Xylene	106	8.244	8.244	(1.075)	288145	100.000	98.25
81	sec-Butylbenzene	105	9.526	9.526	(0.985)	730800	100.000	102.88
64	Styrene	104	8.258	8.265	(1.077)	506217	100.000	99.78
78	tert-Butylbenzene	119	9.340	9.340	(0.966)	563883	100.000	100.17
56	Tetrachloroethene	164	6.933	6.933	(0.904)	186113	100.000	101.02
50	Toluene	91	6.446	6.446	(0.840)	655428	100.000	98.77
20	trans-1,2-Dichloroethene	96	2.528	2.528	(0.604)	147422	100.000	103.93
51	trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	226191	100.000	101.39
38	Trichloroethene	130	5.207	5.207	(1.048)	201532	100.000	103.67
8	Trichlorofluoromethane	101	1.561	1.553	(0.373)	294229	100.000	104.40
5	Vinyl Chloride	62	1.138	1.138	(0.272)	138241	100.000	104.37

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.
M - Compound response manually integrated.

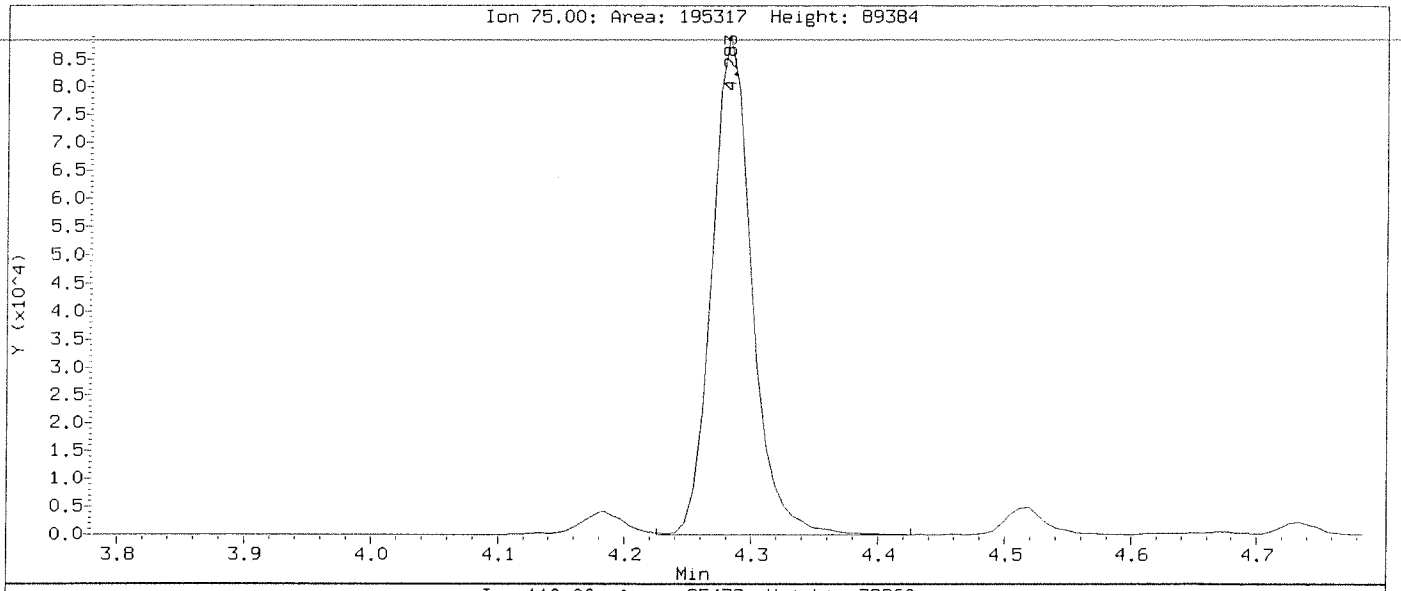


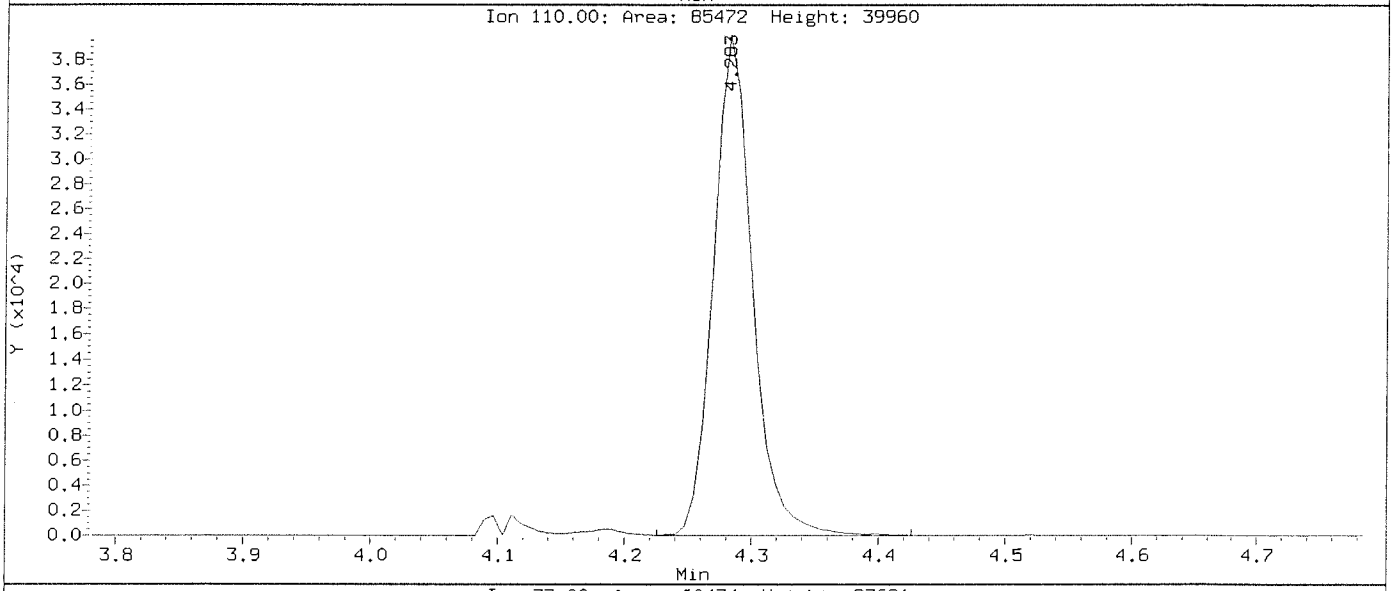
Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\X103109.D
Date : 31-OCT-2019 14:20
Client ID: VSTD100
Sample Info: VSTD100;VSTD100;1;8;
Purge Volume: 5.0
Column Phase: DB624

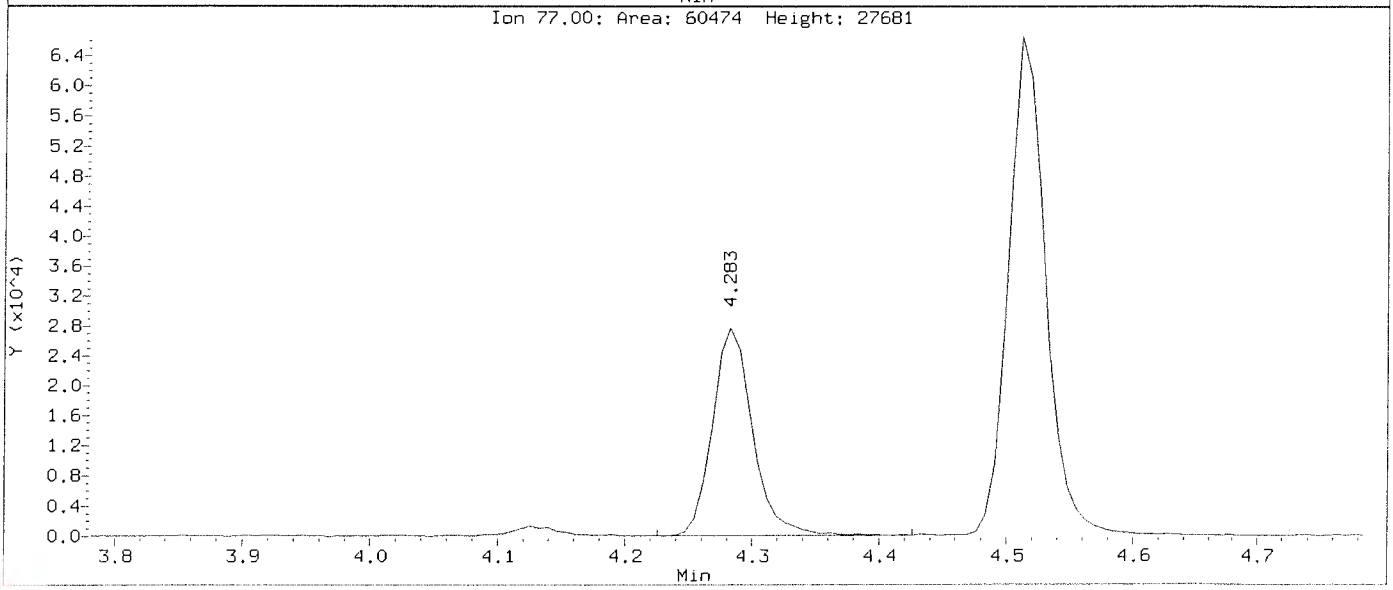
Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\BEFORE2\X103109.D
Injection Date: 31-OCT-2019 14:20
Instrument: voa6.i
Client Sample ID: VSTD100

Compound: 1,1-Dichloropropene
CAS Number: 563-58-6







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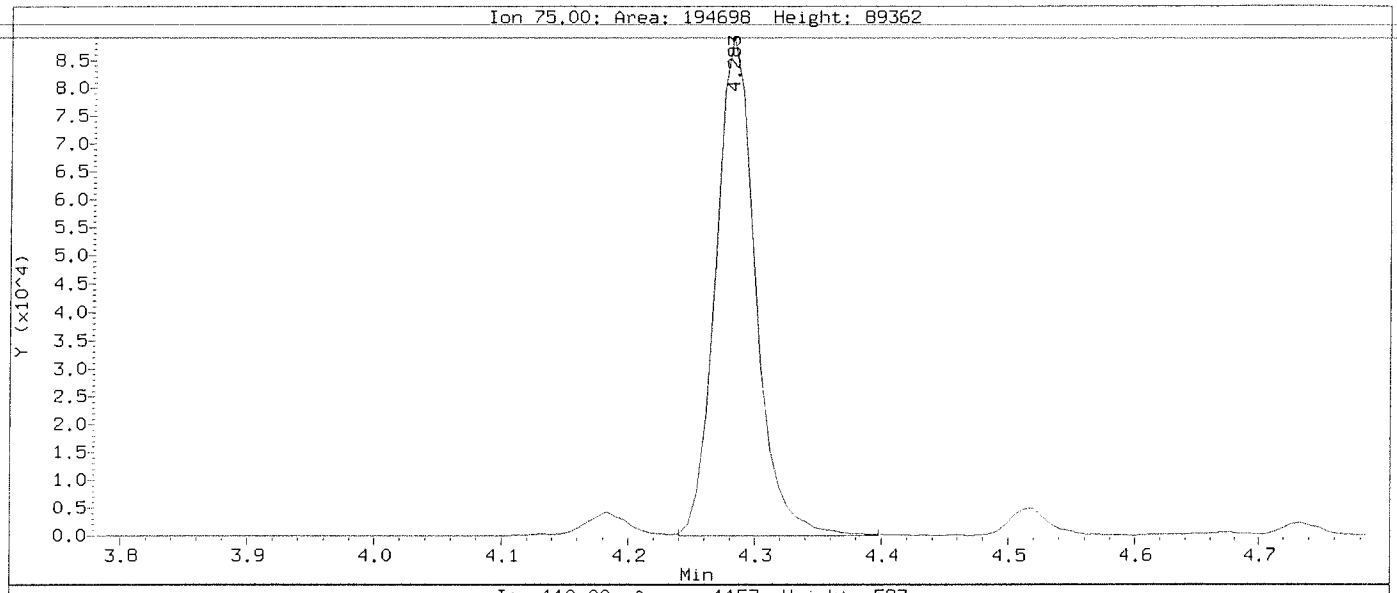
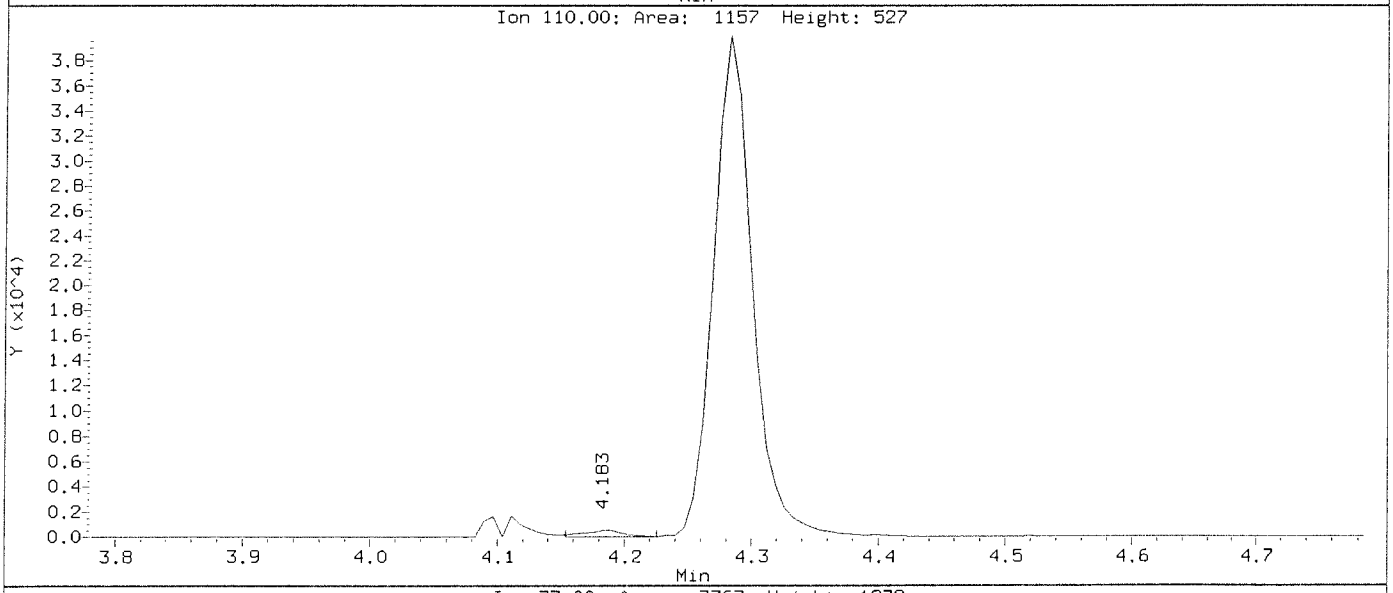
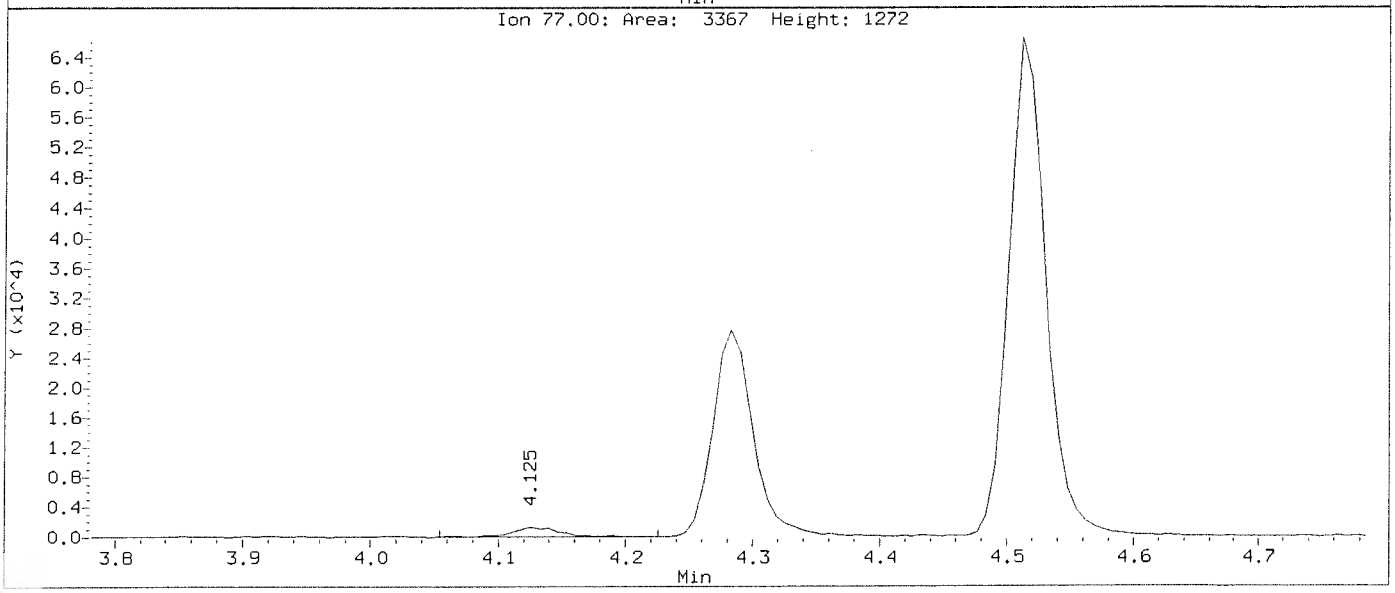
Injection Date: 31-OCT-2019 14:20
Instrument: voa6.i
Client Sample ID: VSTD100

Compound: 1,1-Dichloropropene
CAS Number: 563-58-6







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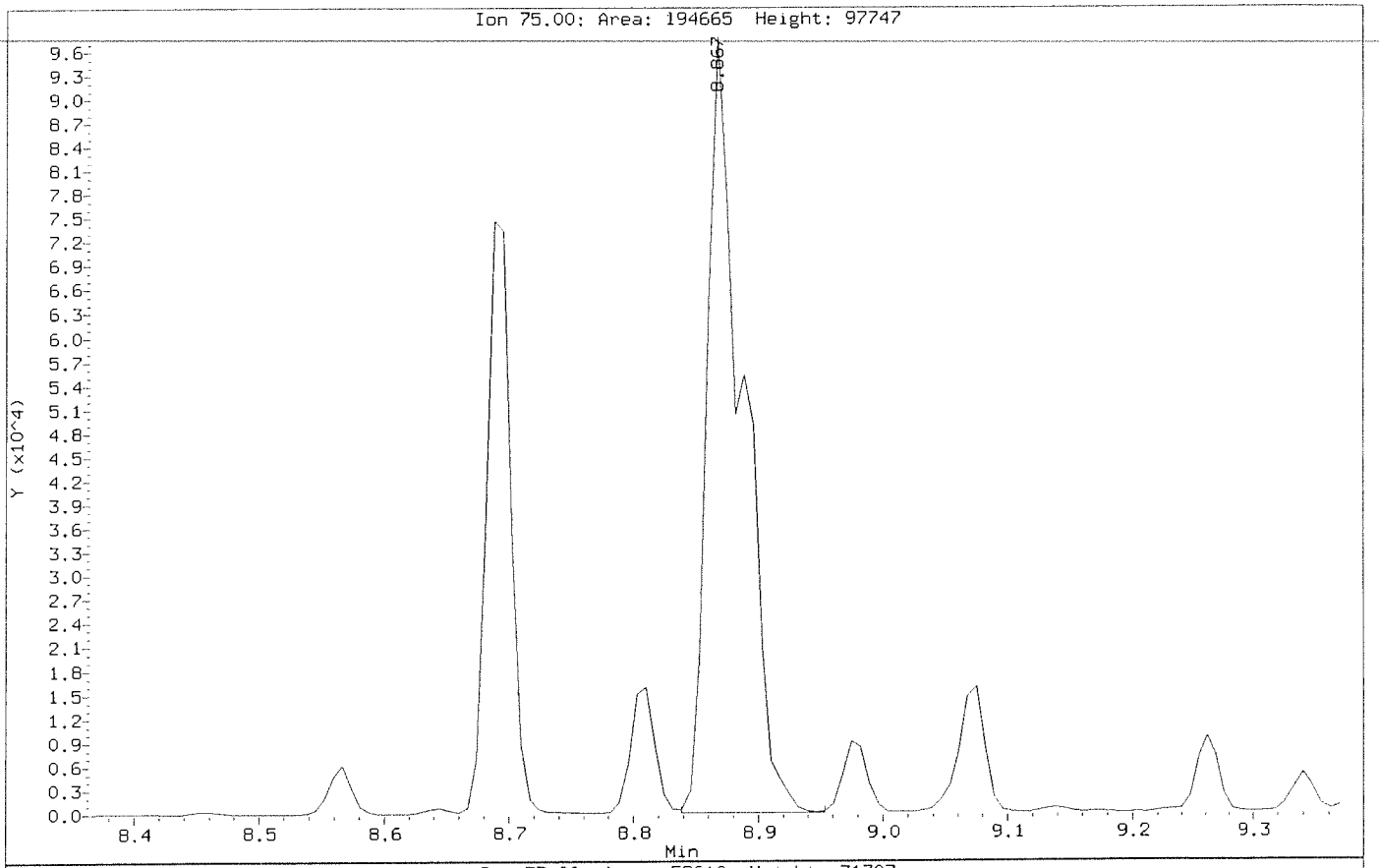
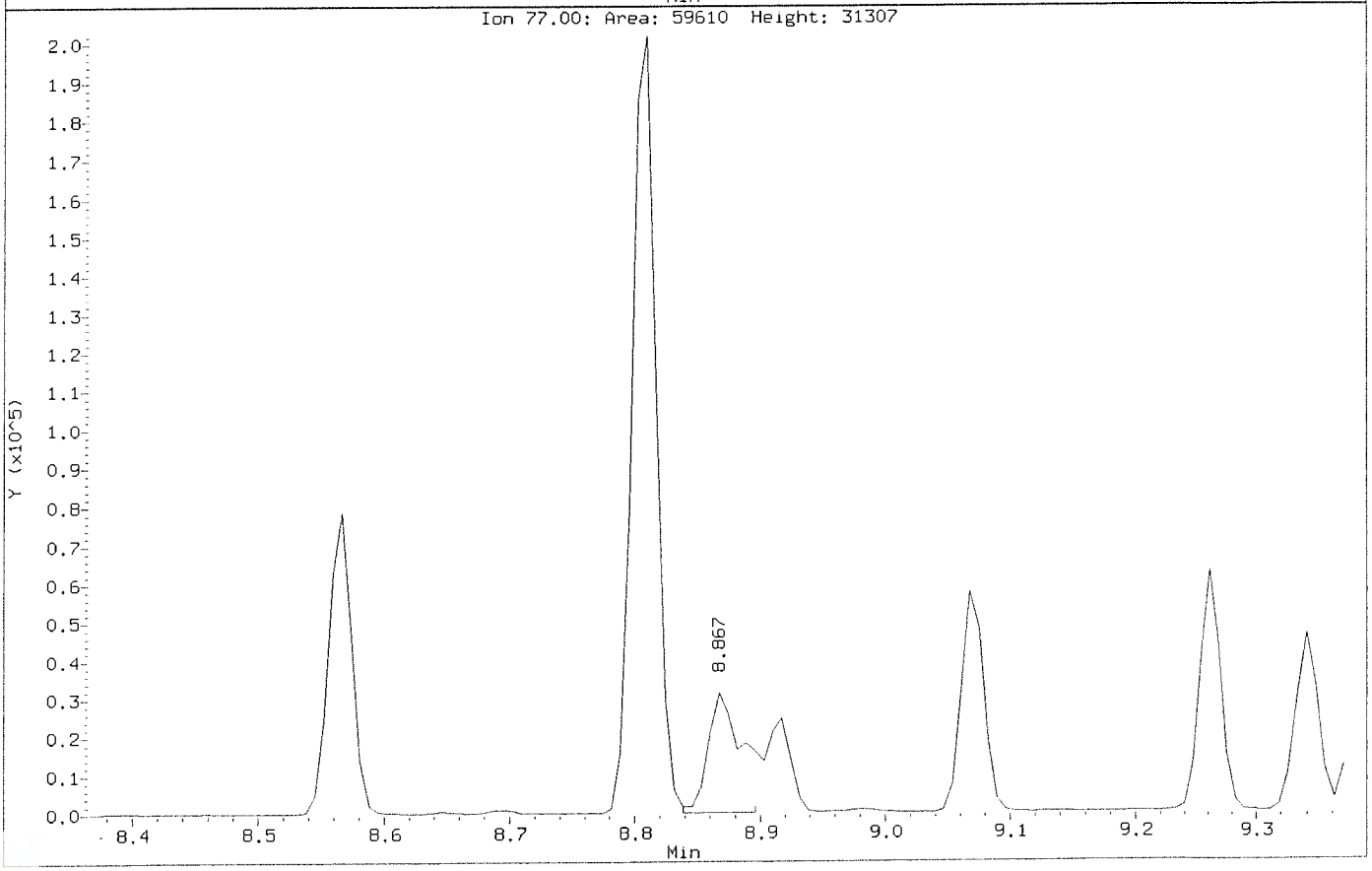
Injection Date: 31-OCT-2019 14:20
Instrument: voa6.i
Client Sample ID: VSTD100

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





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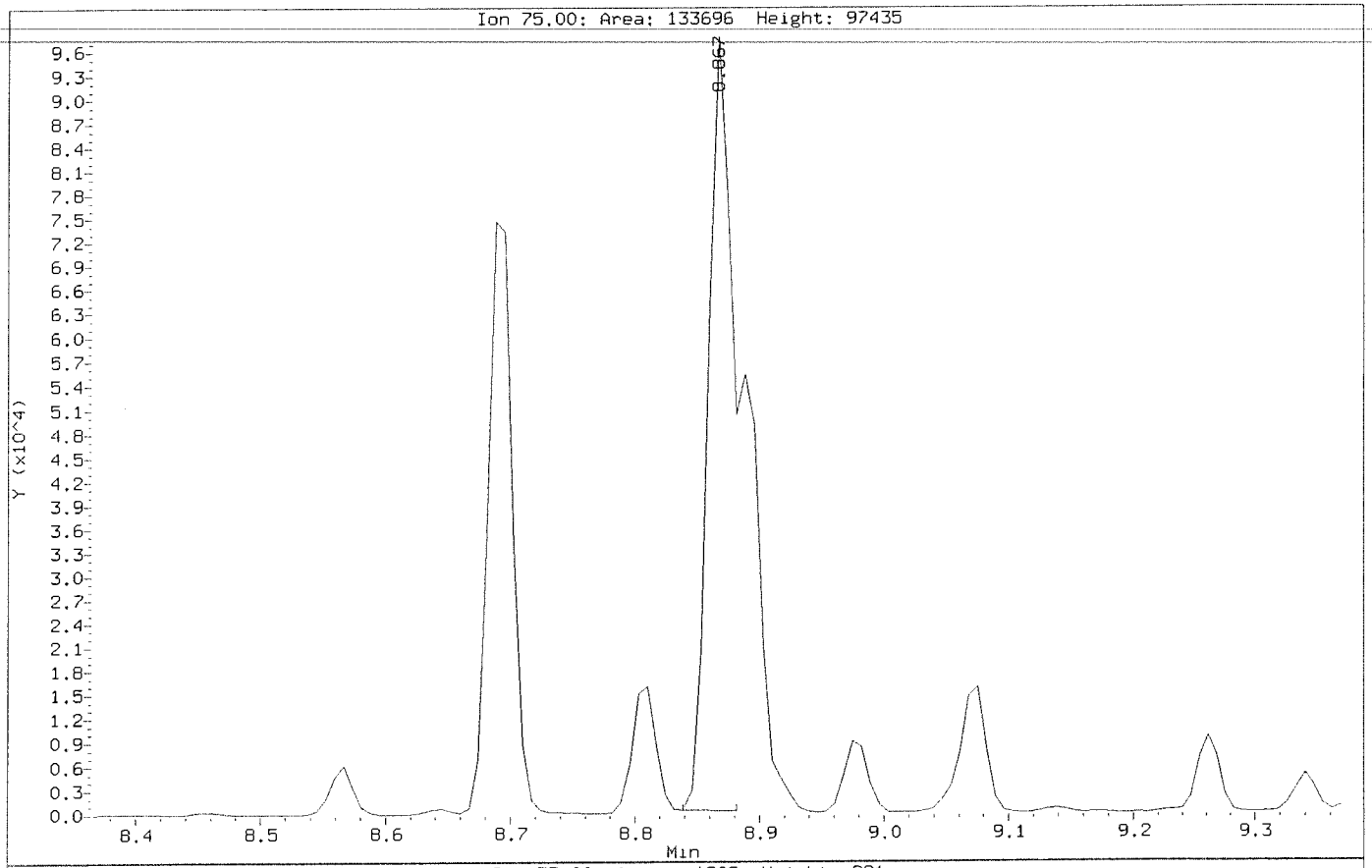
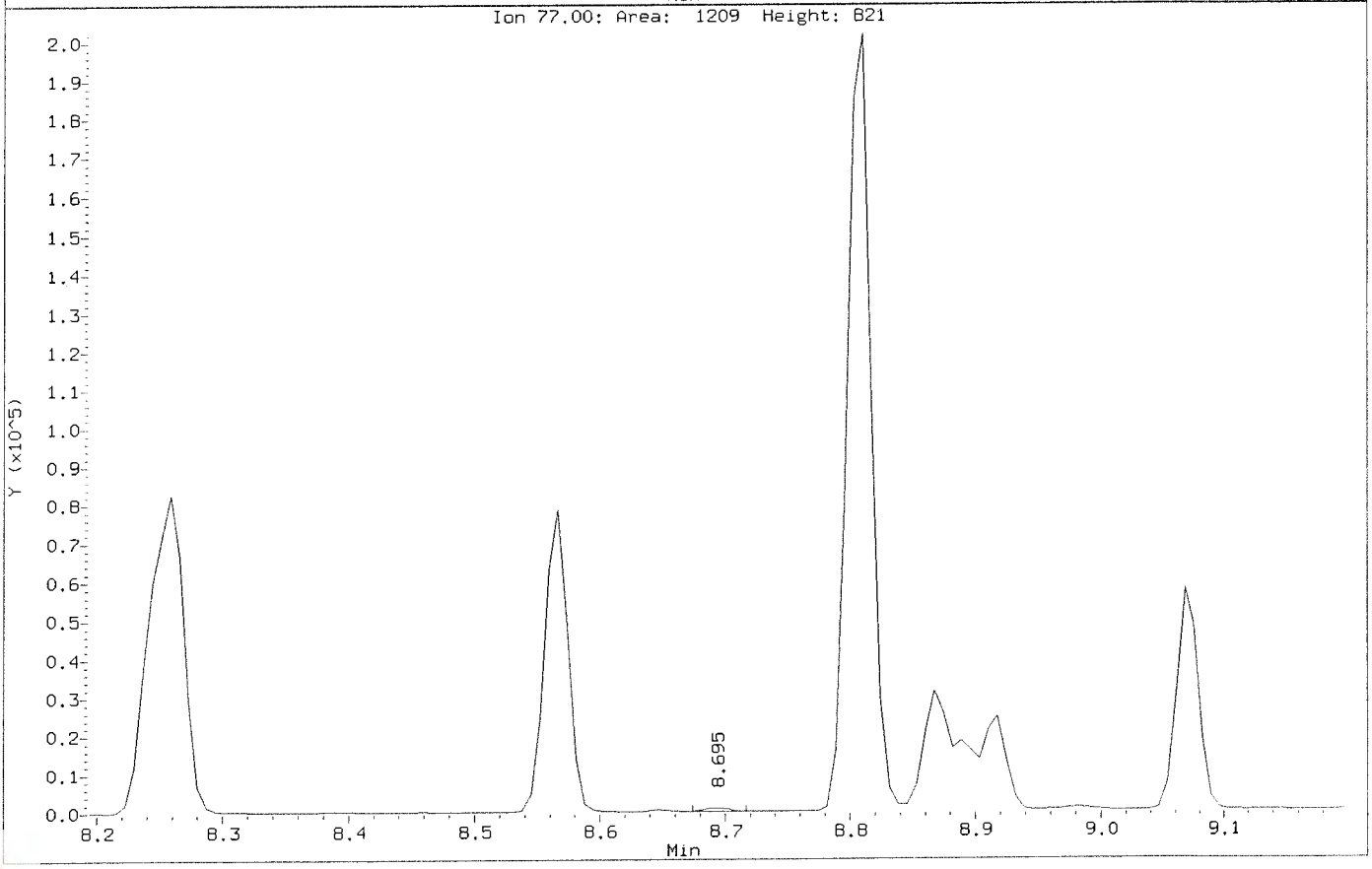
Client Sample ID: VSTD100

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





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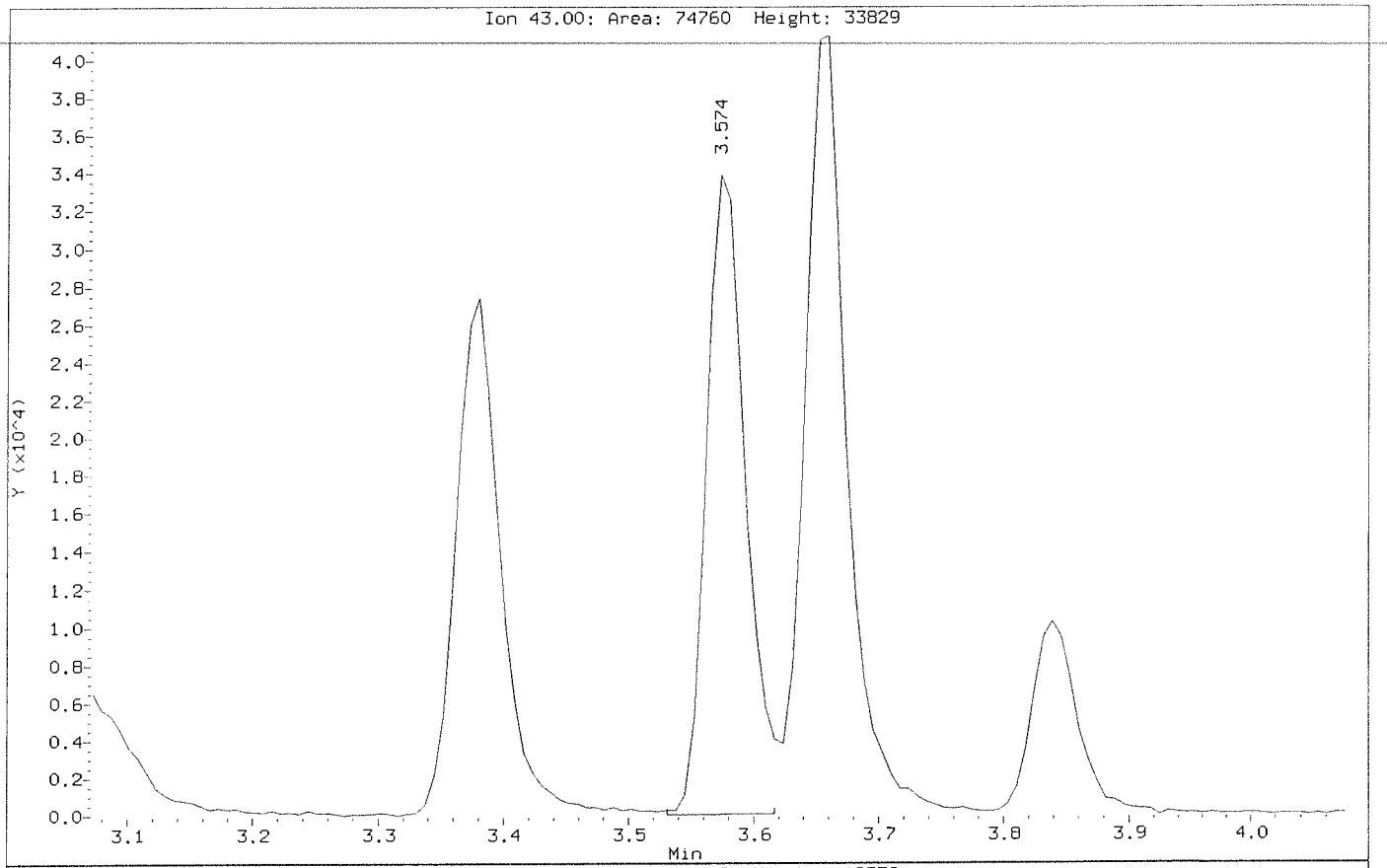
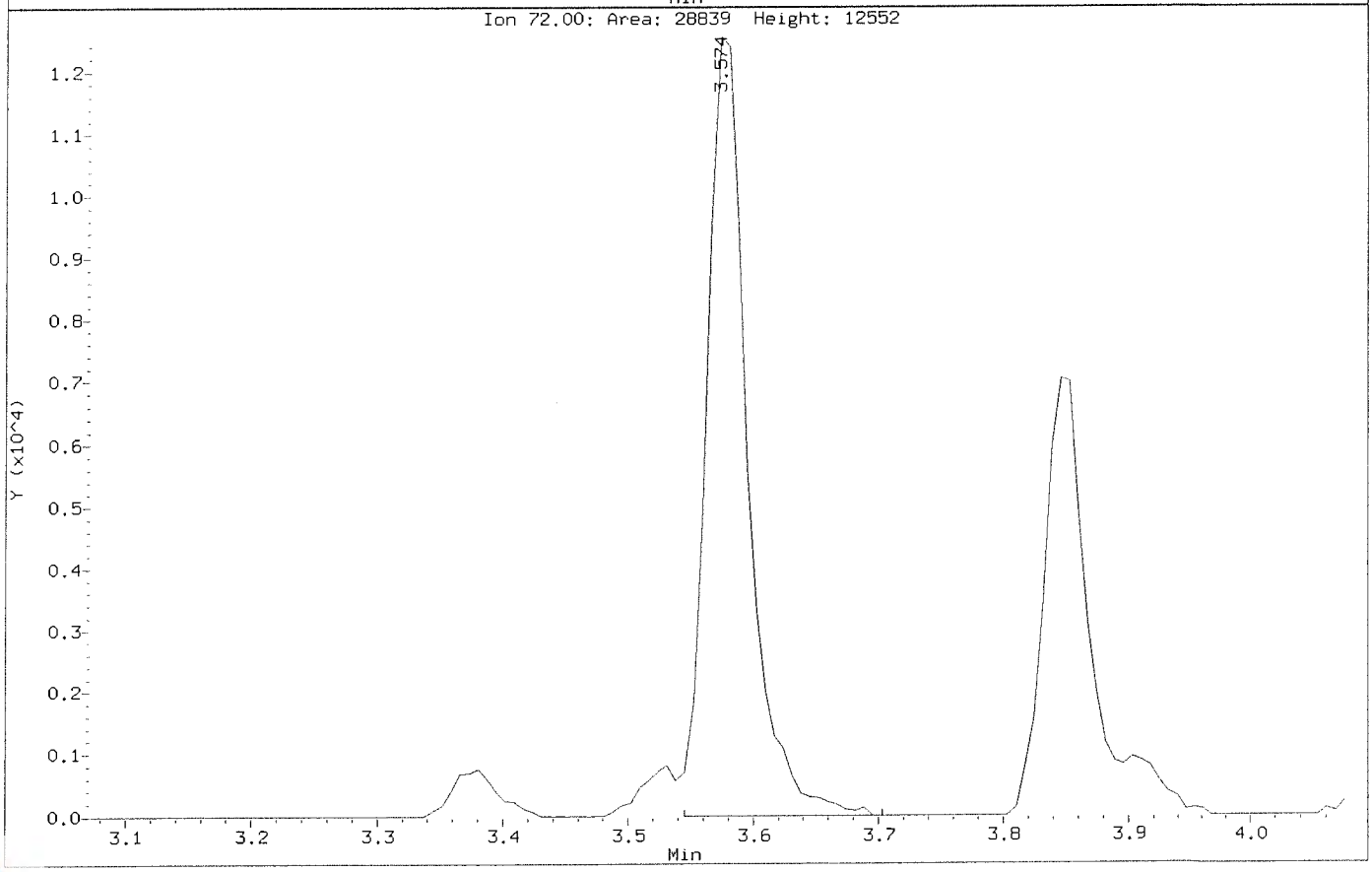
Client Sample ID: VSTD100

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





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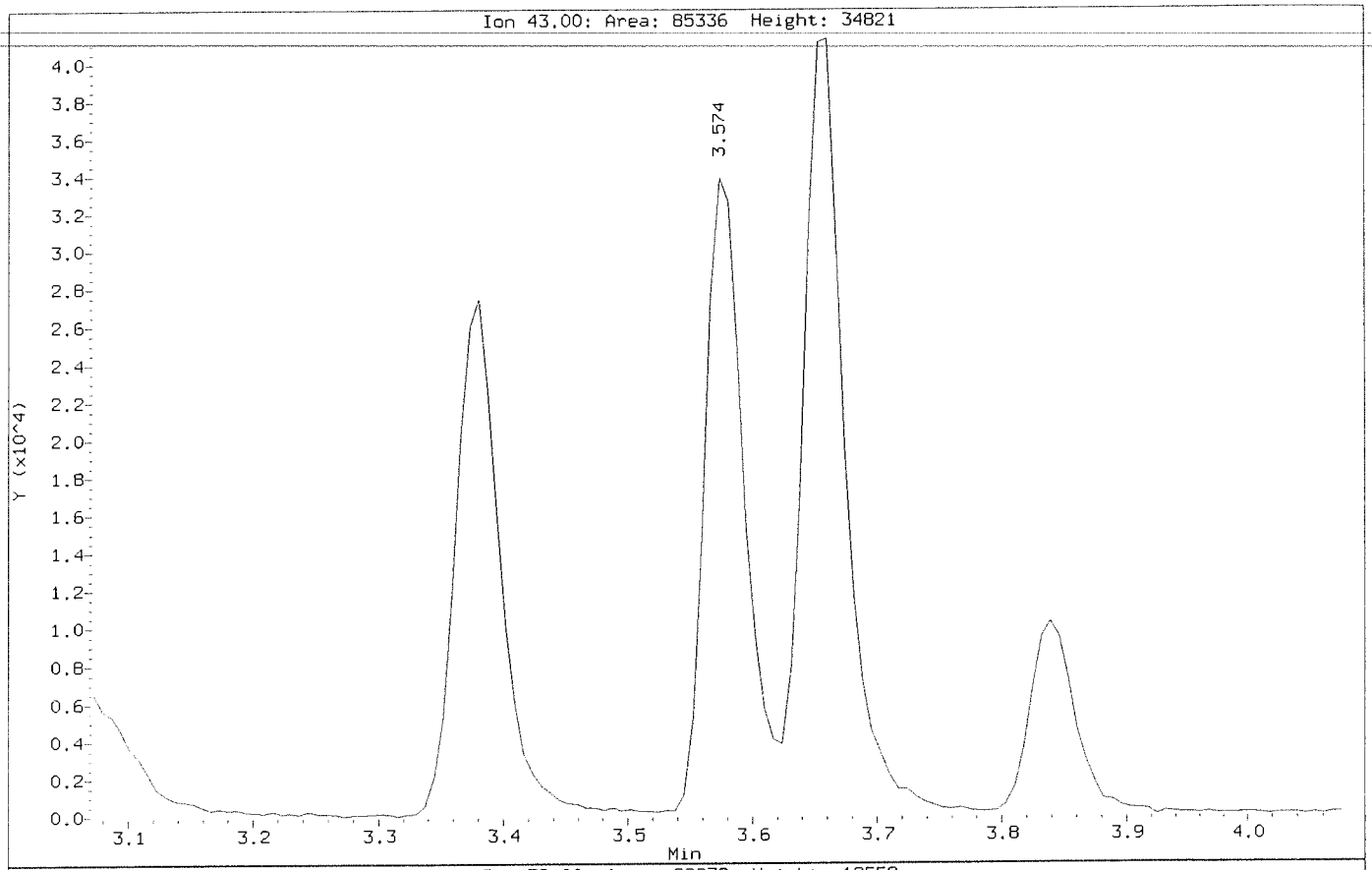
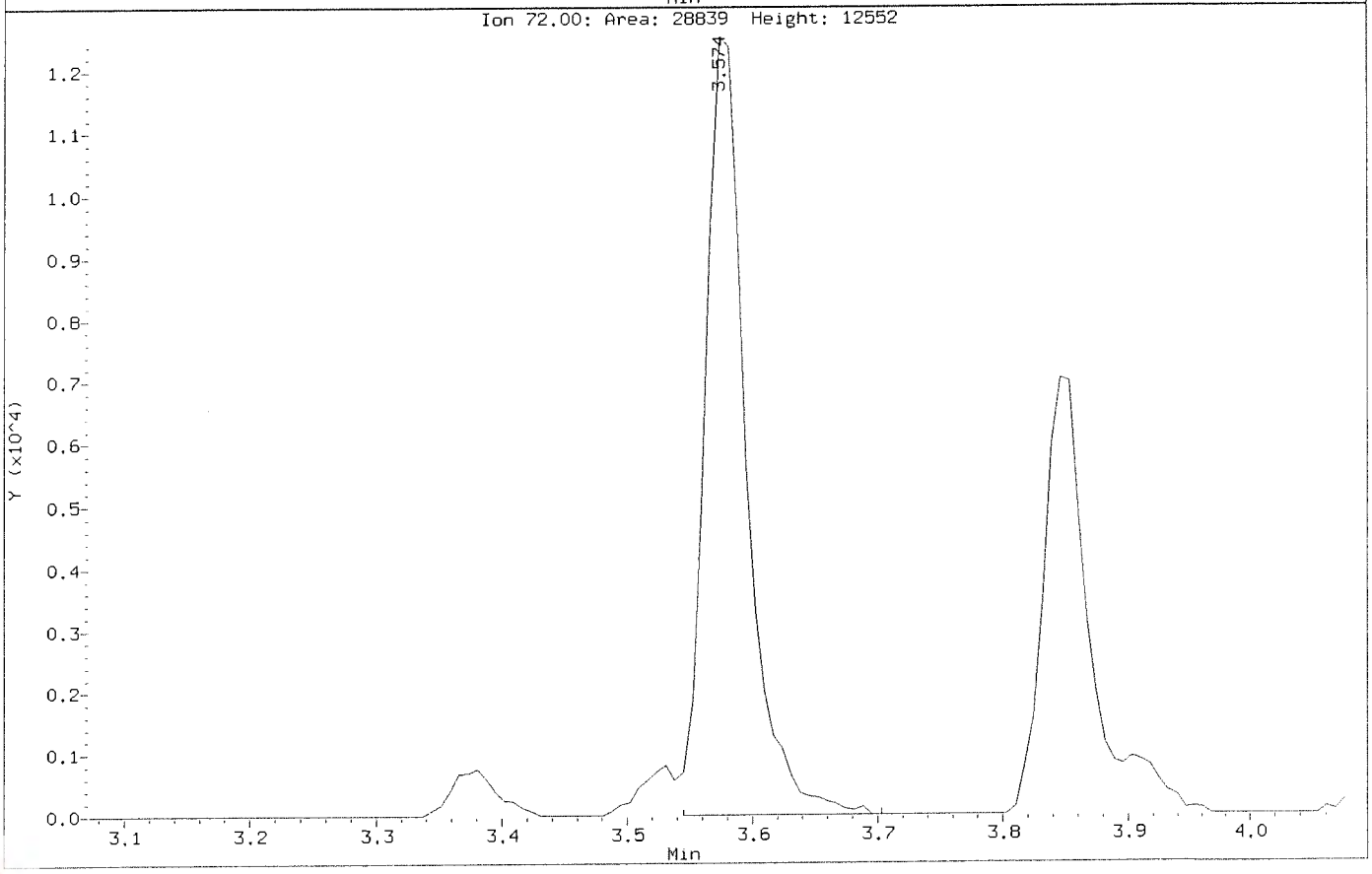
Instrument: voa6.i
Client Sample ID: VSTD100

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





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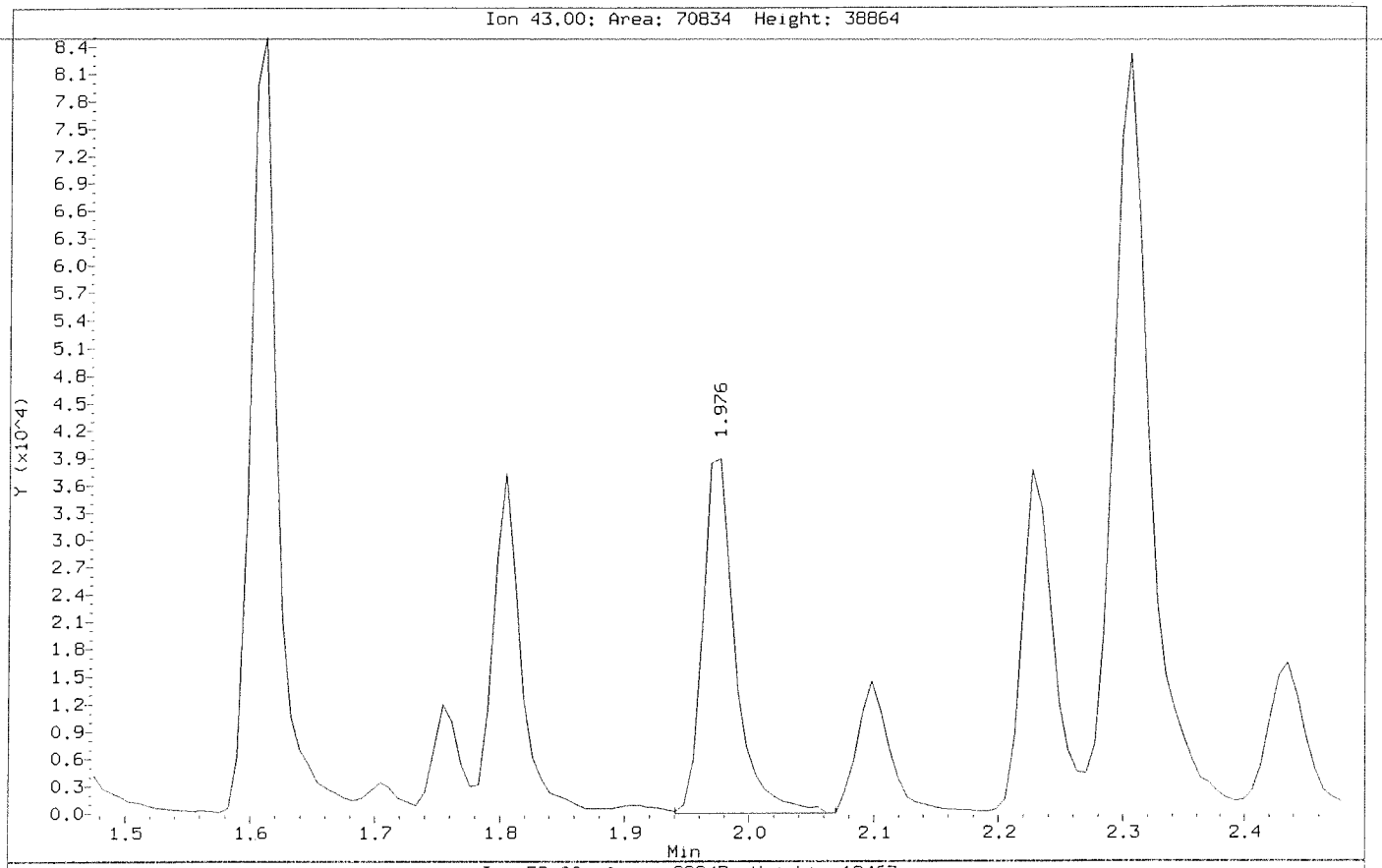
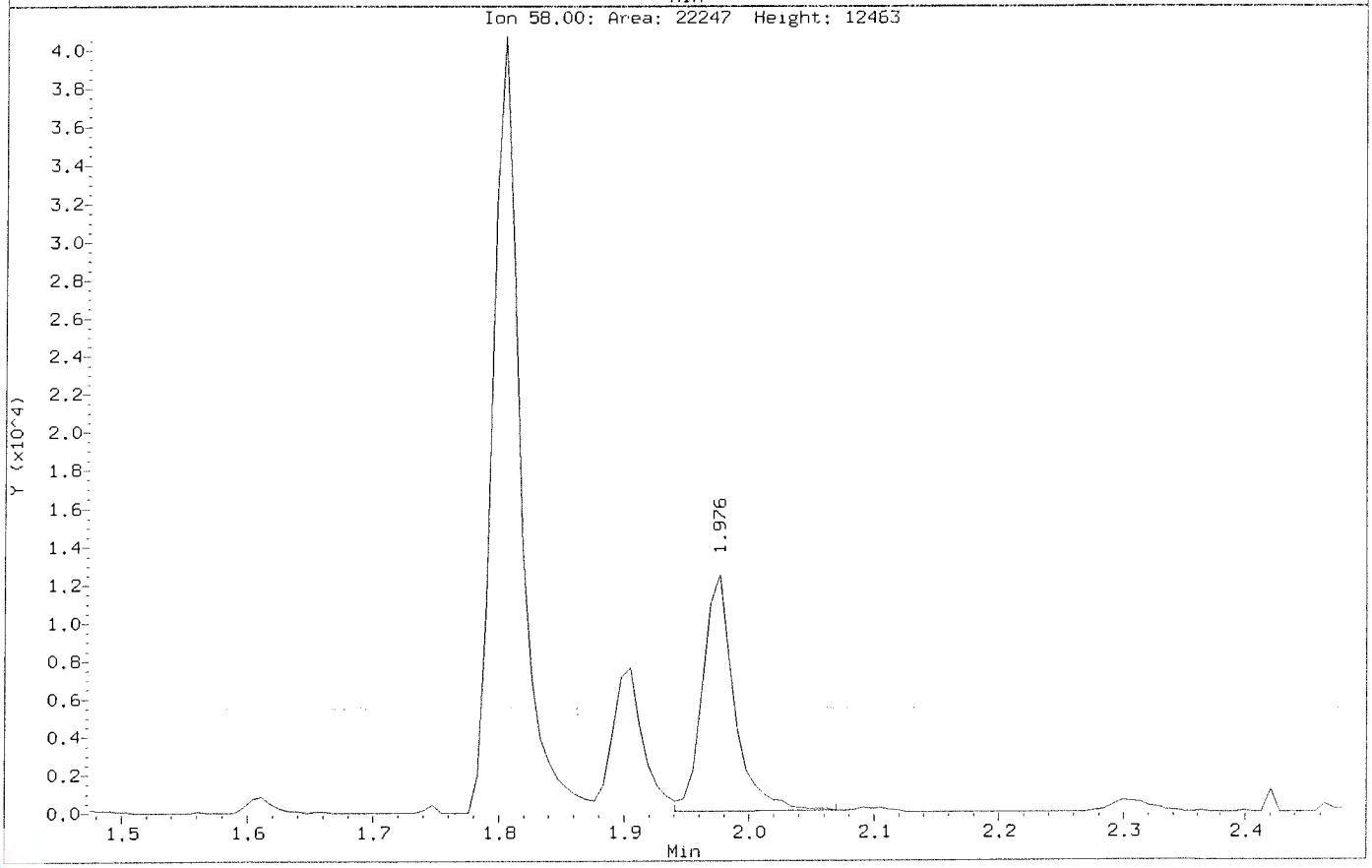
Injection Date: 31-OCT-2019 14:20
Instrument: voa6.i
Client Sample ID: VSTD100

Compound: Acetone
CAS Number: 67-64-1





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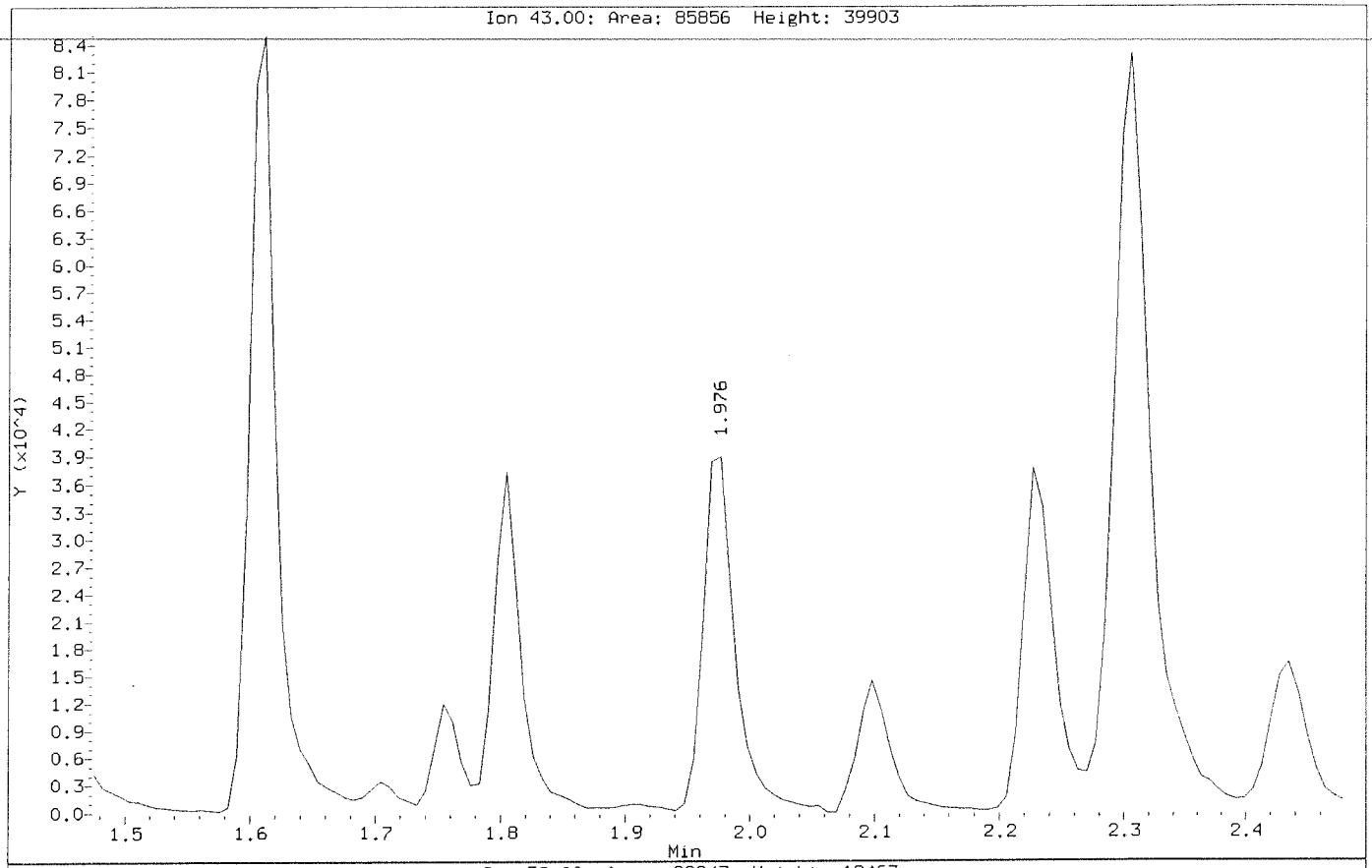
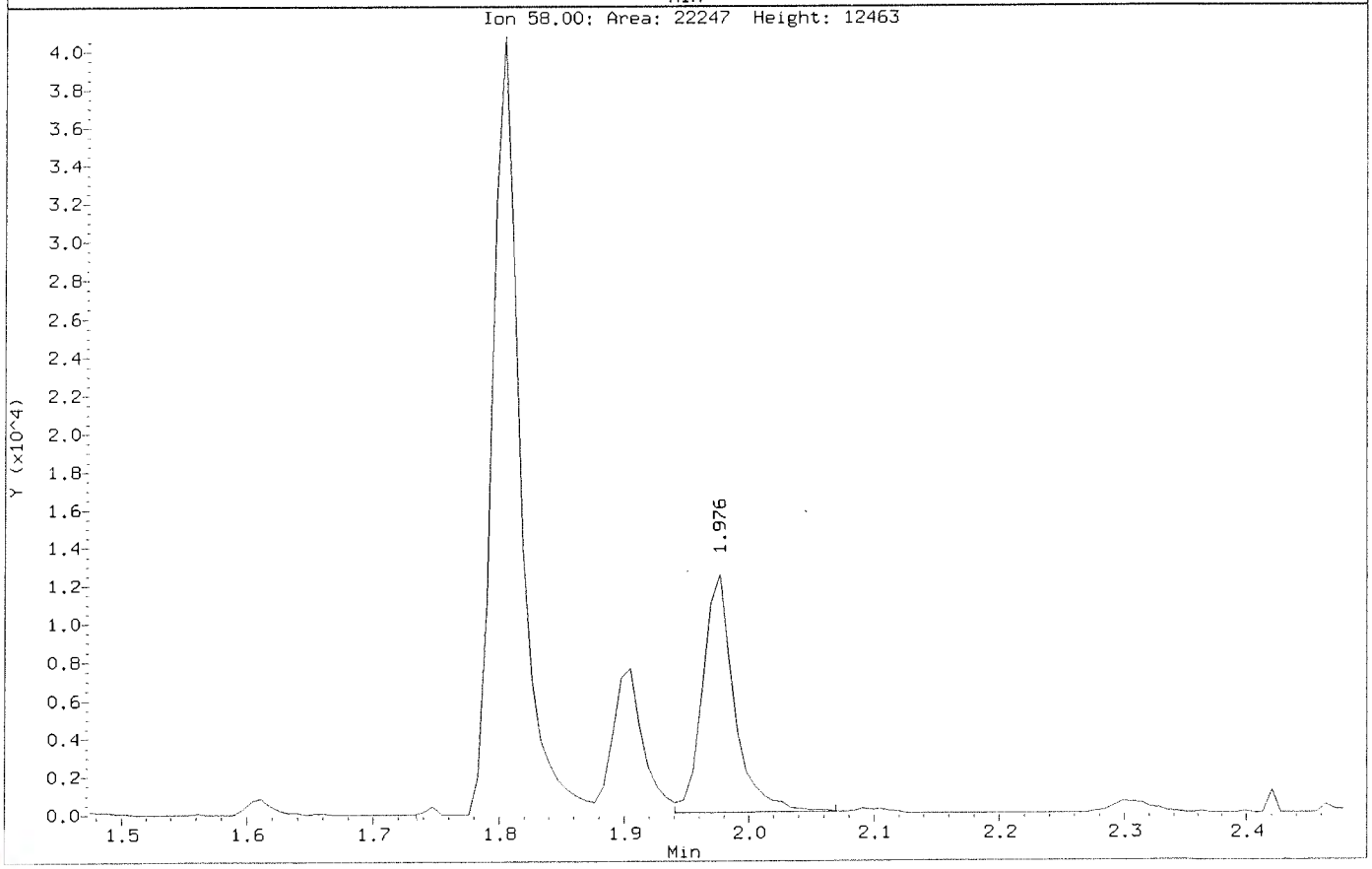
Instrument: voa6.i
Client Sample ID: VSTD100

Compound: Acetone
CAS Number: 67-64-1





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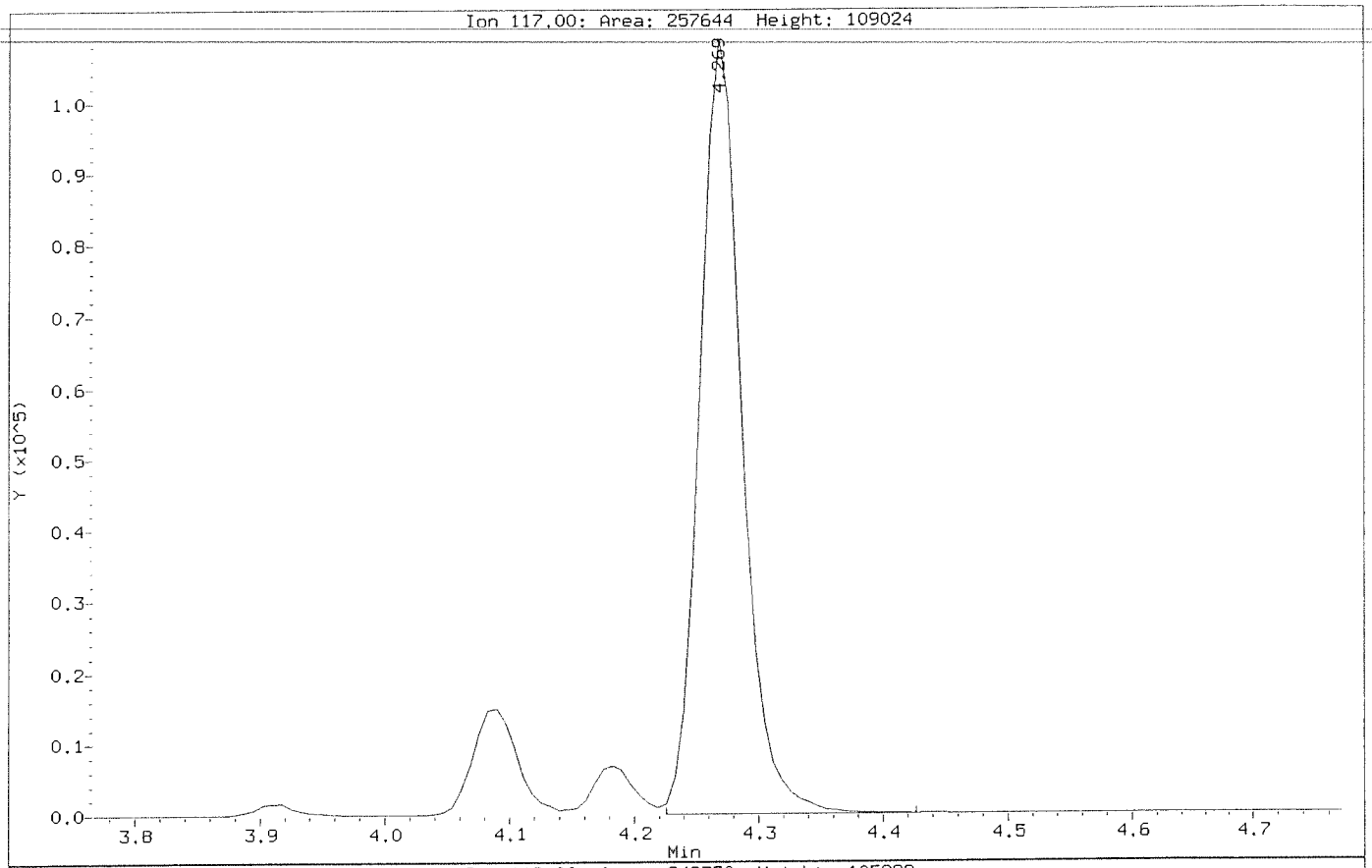
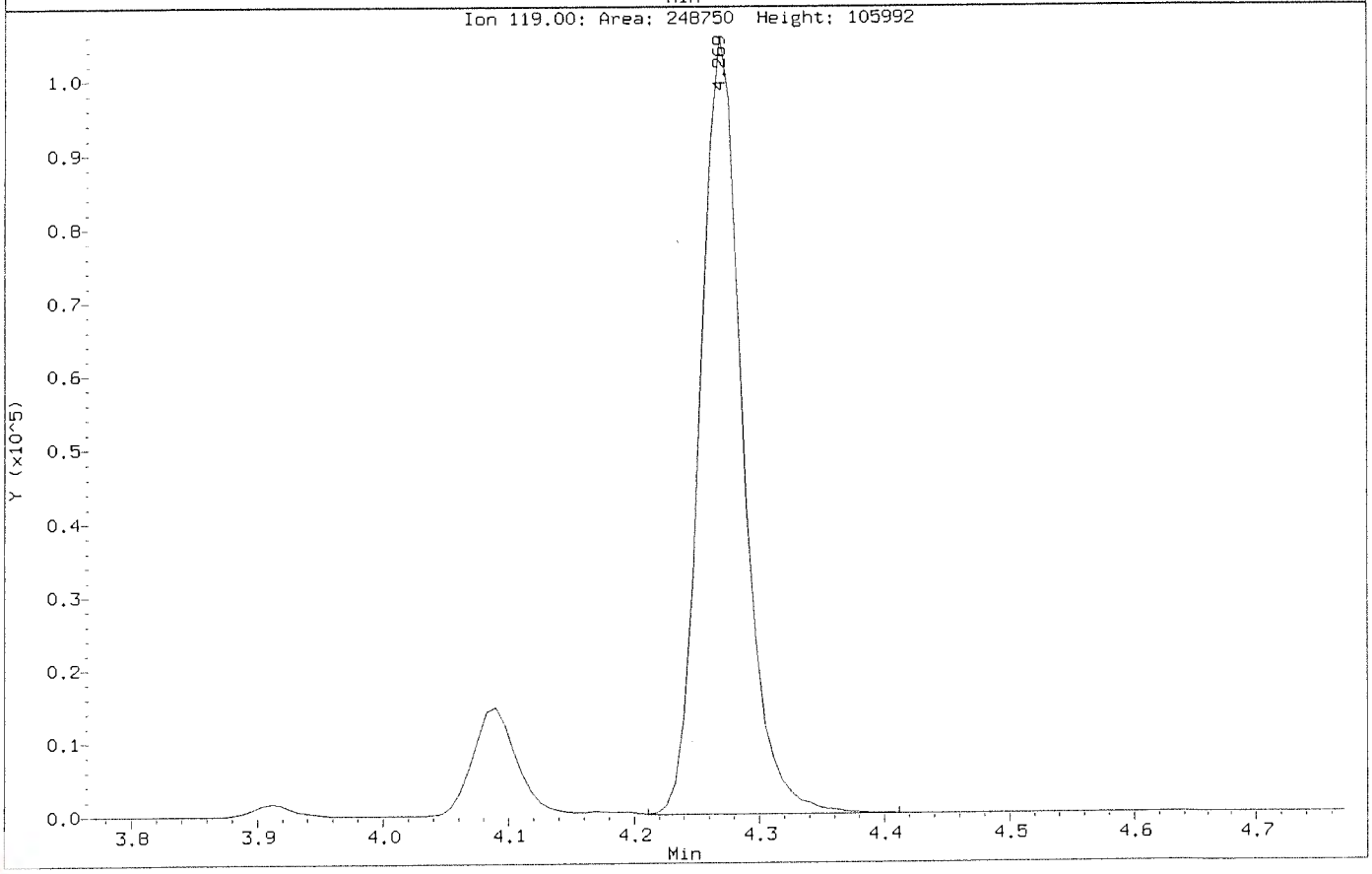
Injection Date: 31-OCT-2019 14:20
Instrument: voa6.i
Client Sample ID: VSTD100

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





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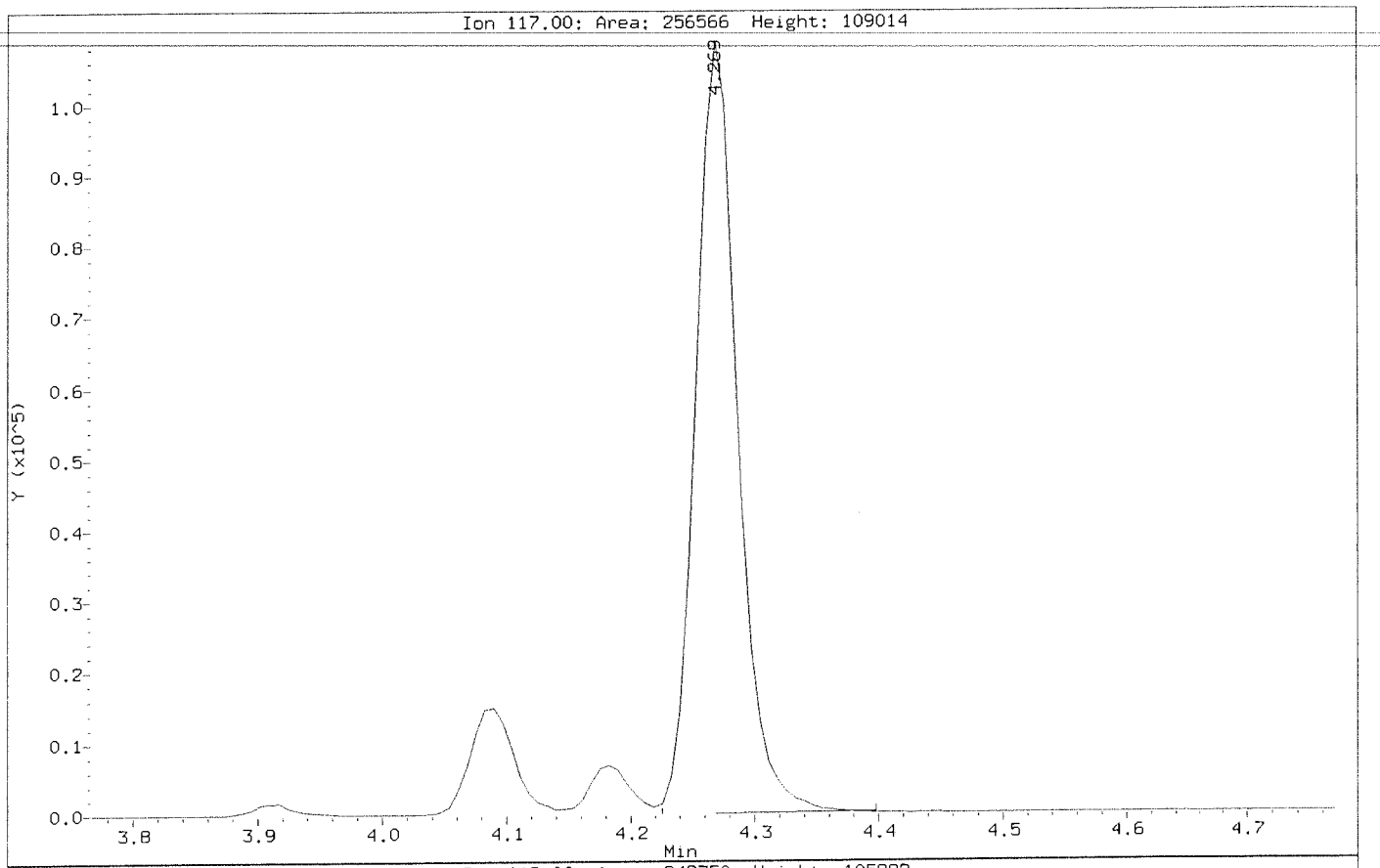
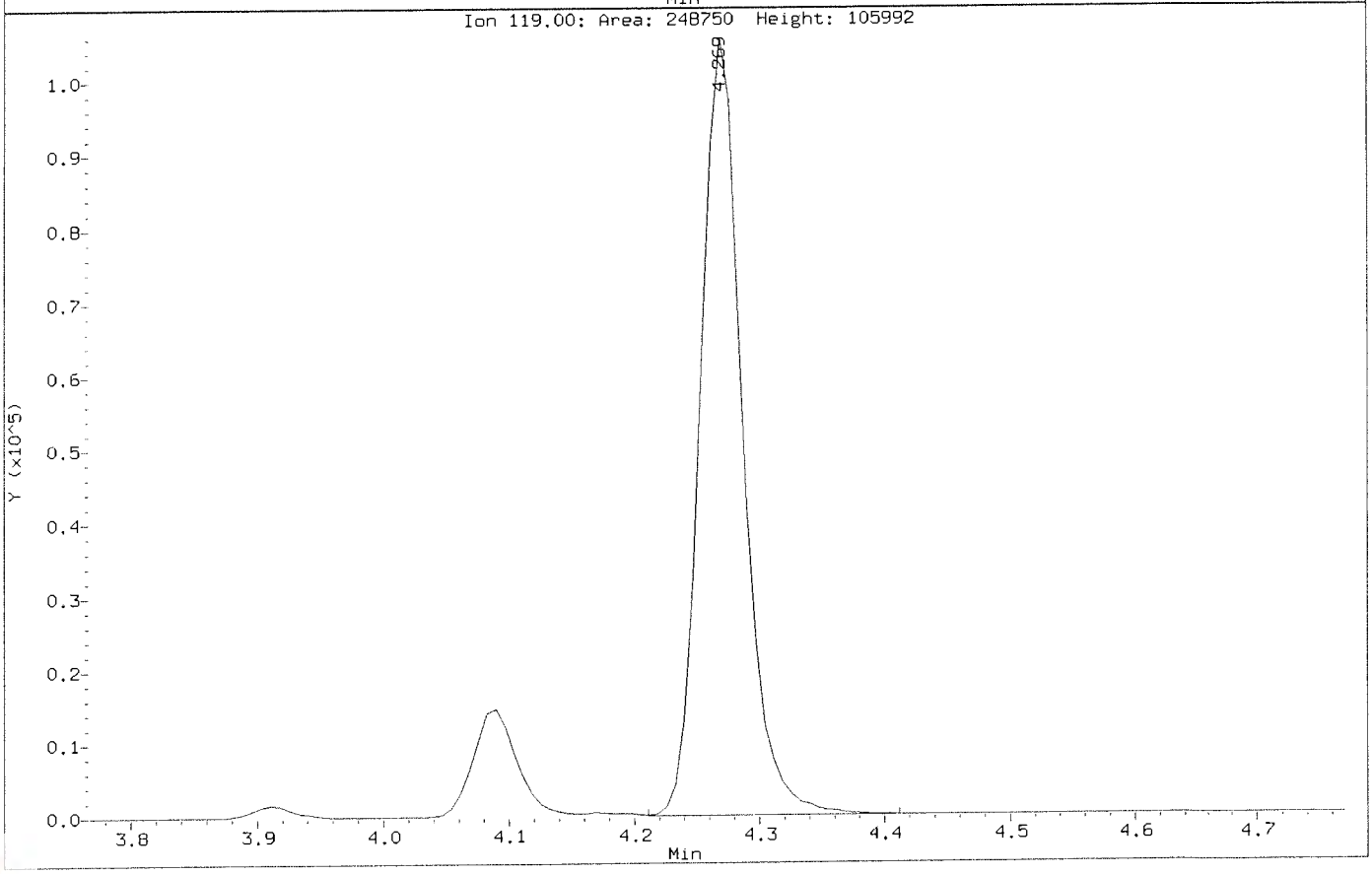
Instrument: voa6.i
Client Sample ID: VSTD100

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





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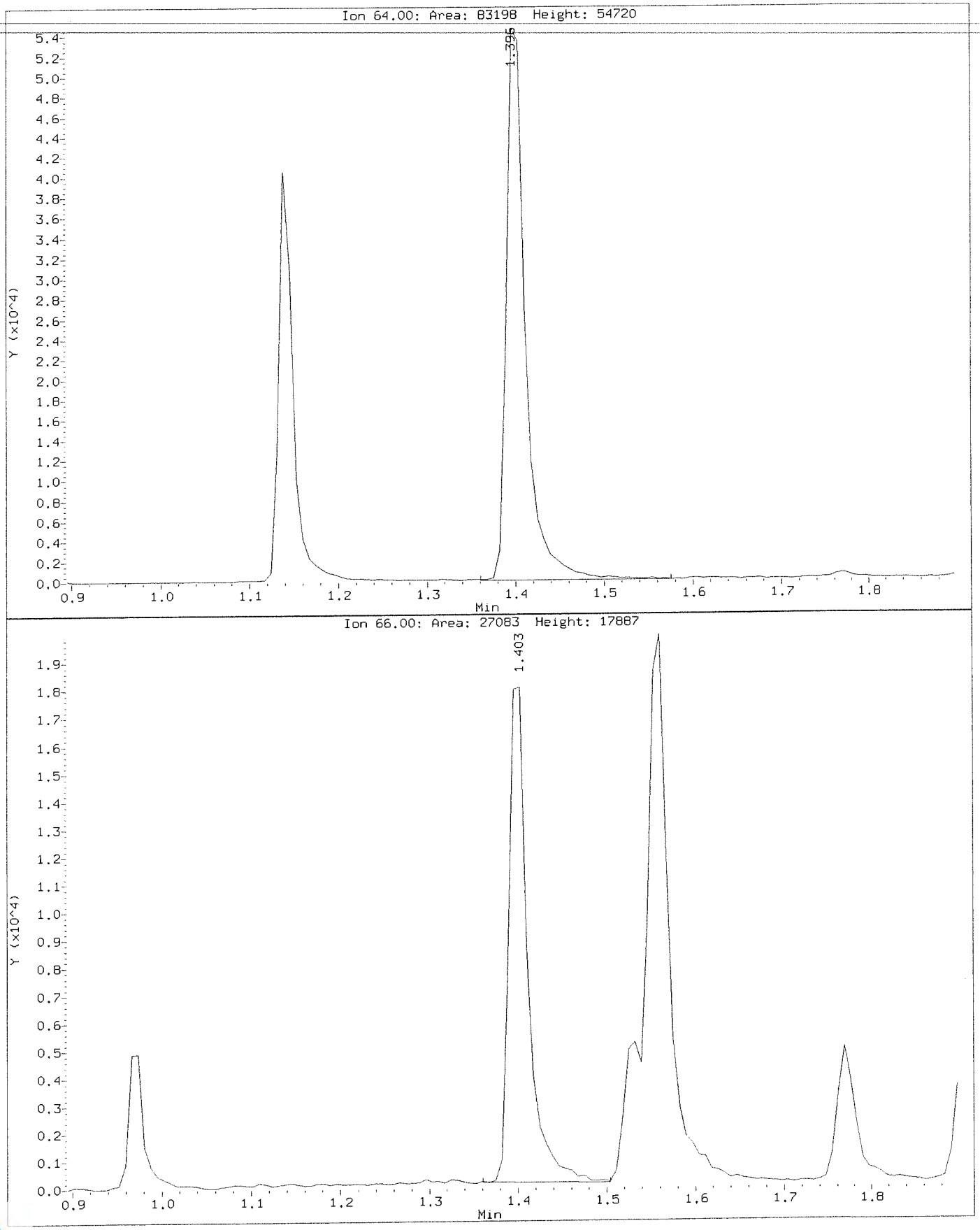
Injection Date: 31-OCT-2019 14:20
Instrument: voa6.i
Client Sample ID: VSTD100

Compound: Chloroethane
CAS Number: 75-00-3



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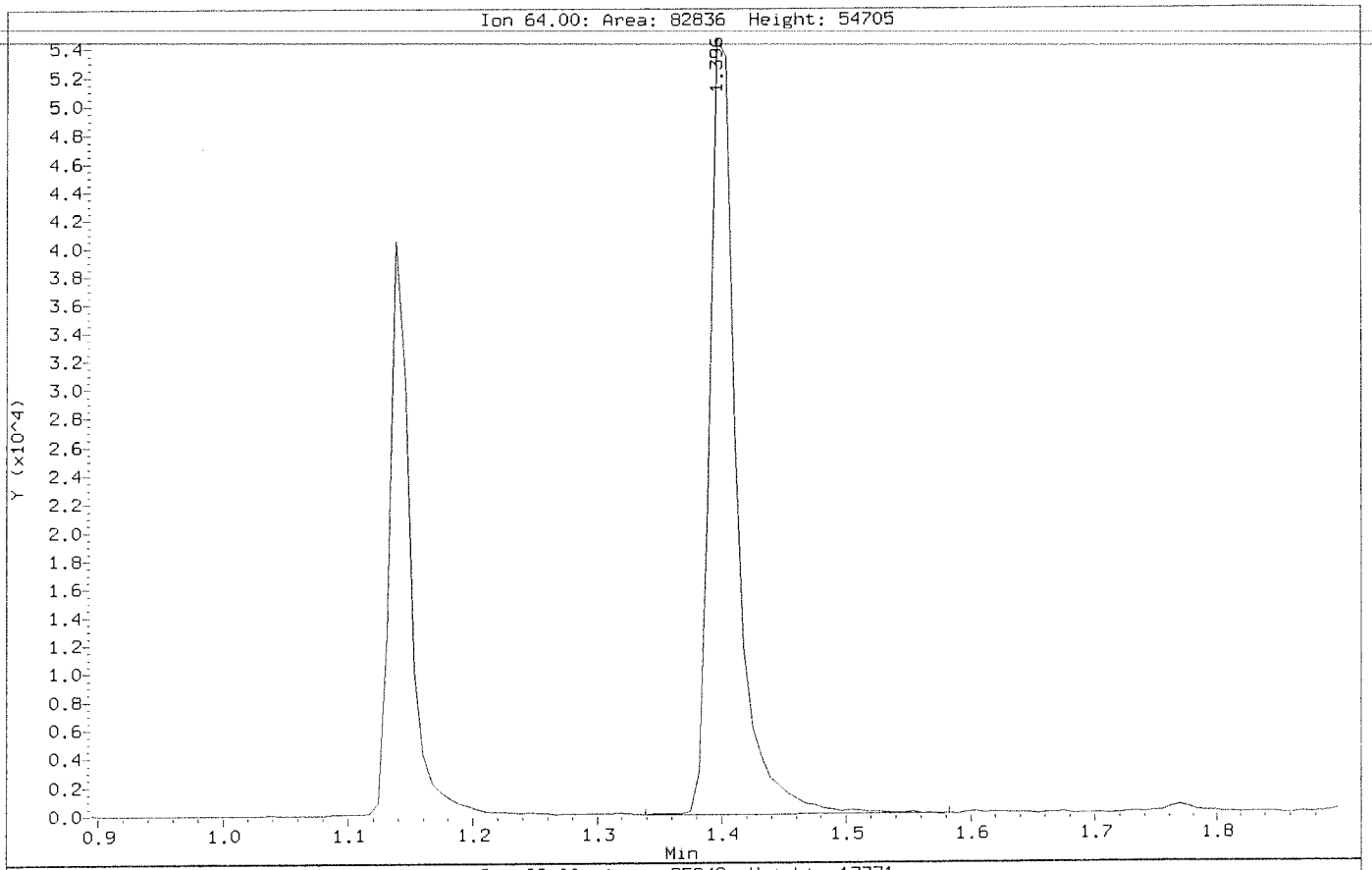
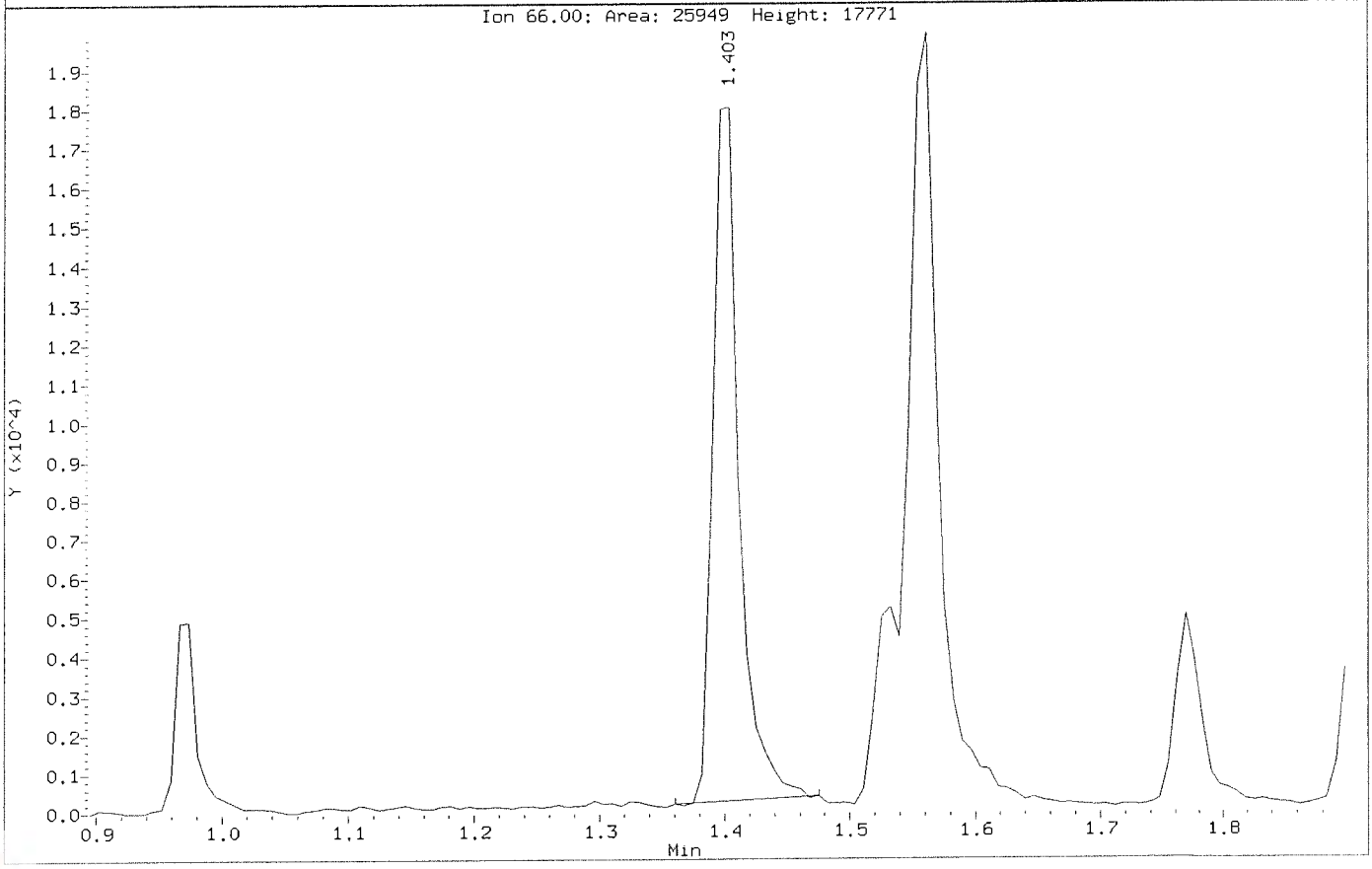
Client Sample ID: VSTD100

Compound: Chloroethane
CAS Number: 75-00-3





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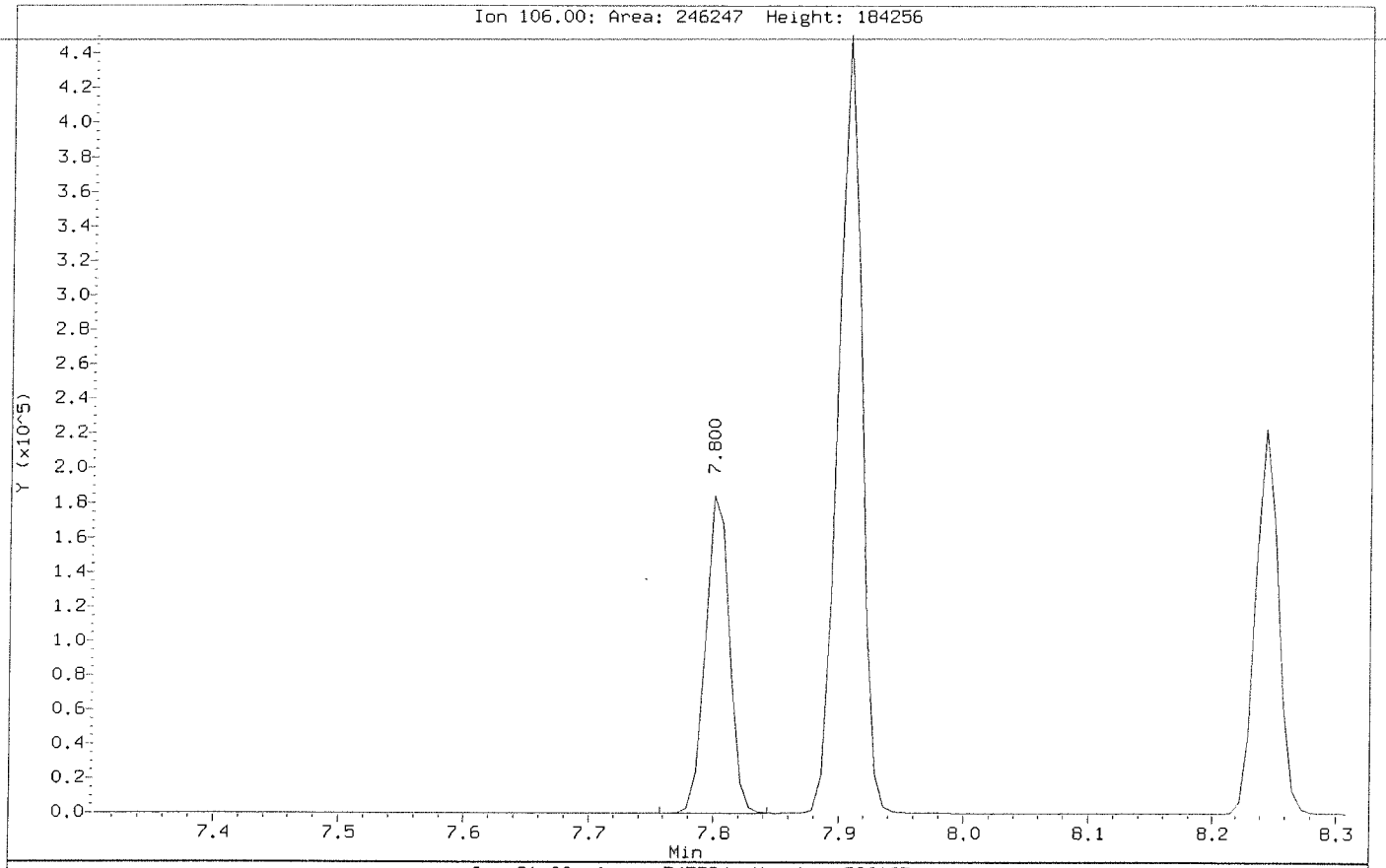
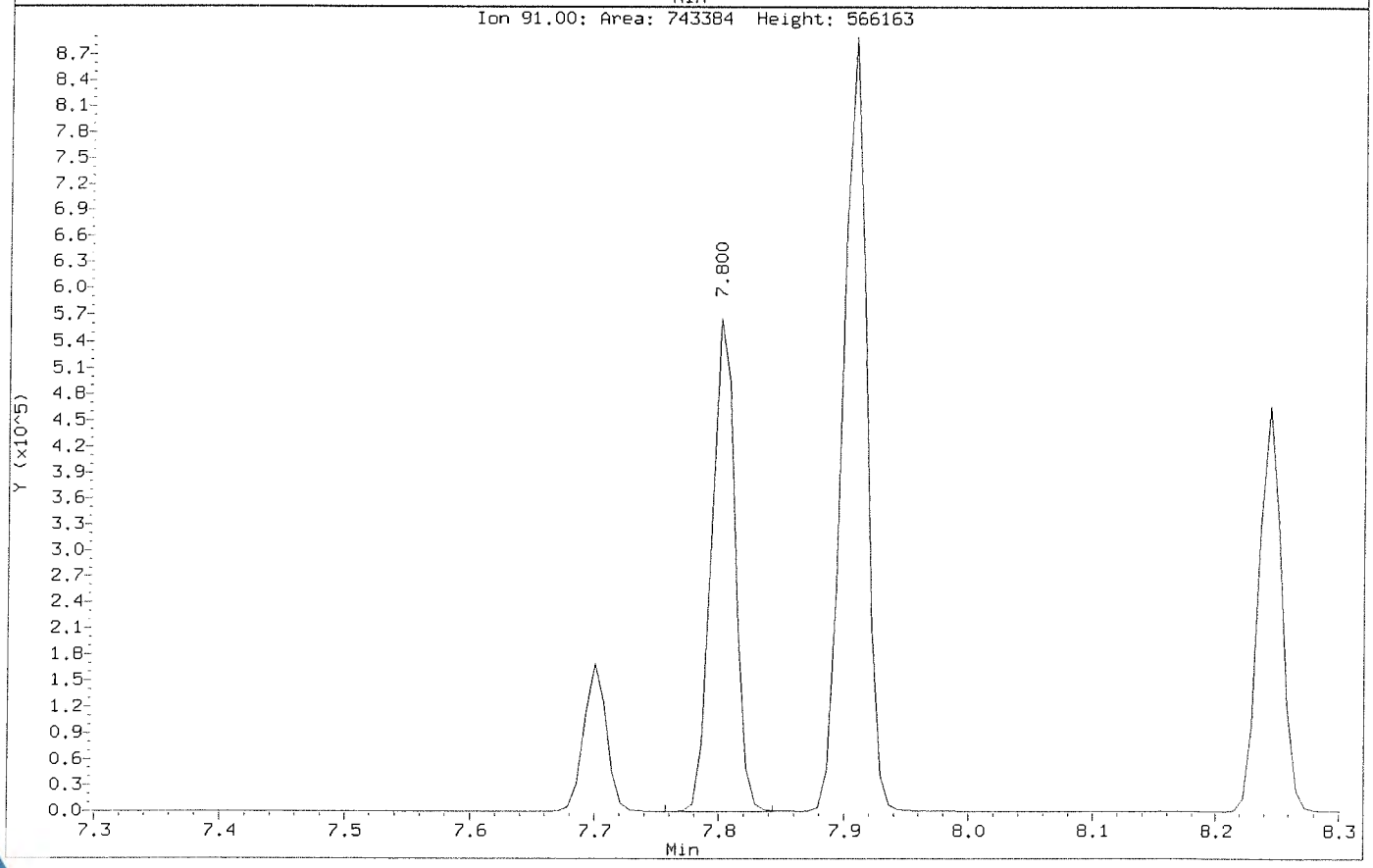
Injection Date: 31-OCT-2019 14:20
Instrument: voa6.i
Client Sample ID: VSTD100

Compound: Ethylbenzene
CAS Number: 100-41-4





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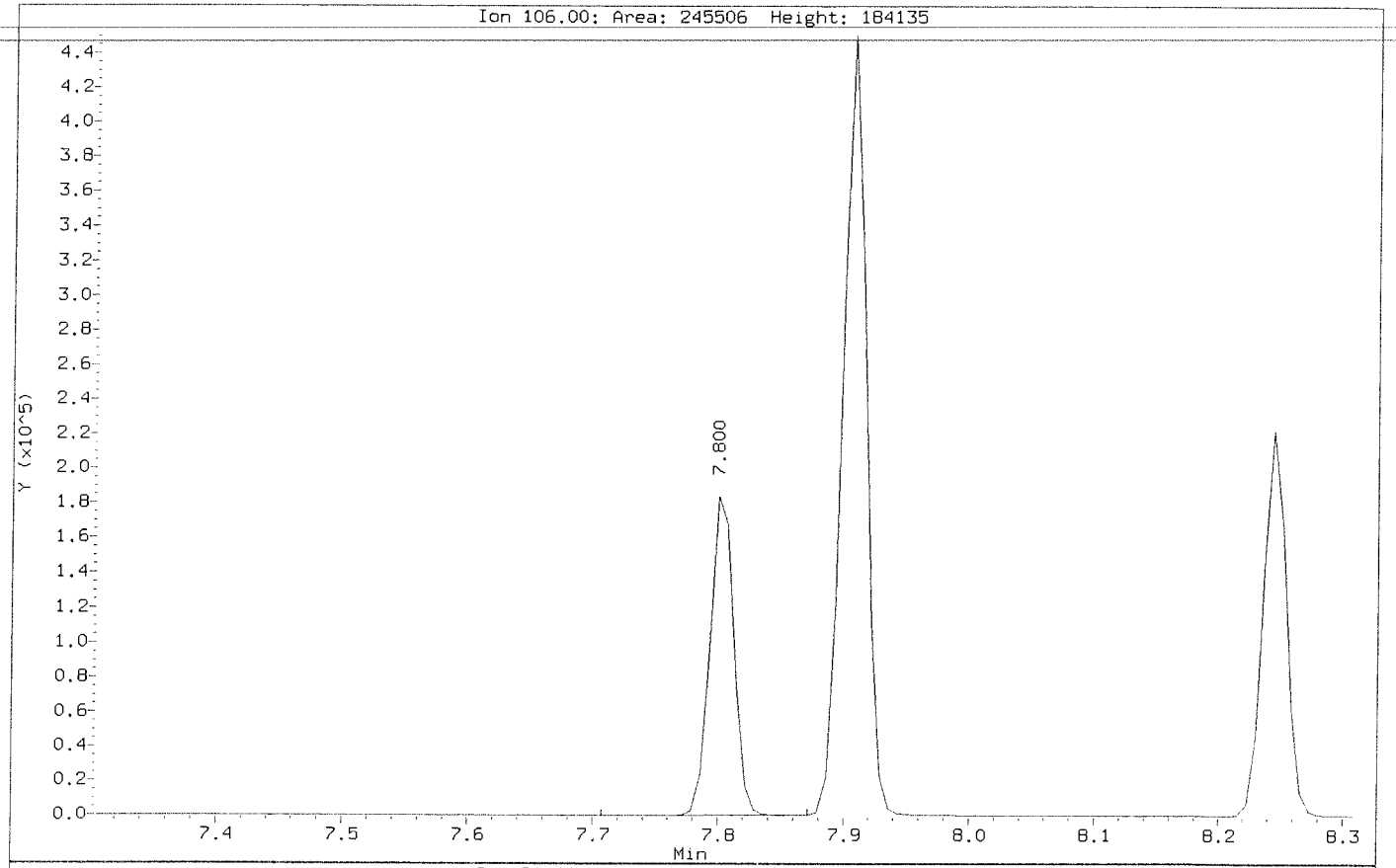
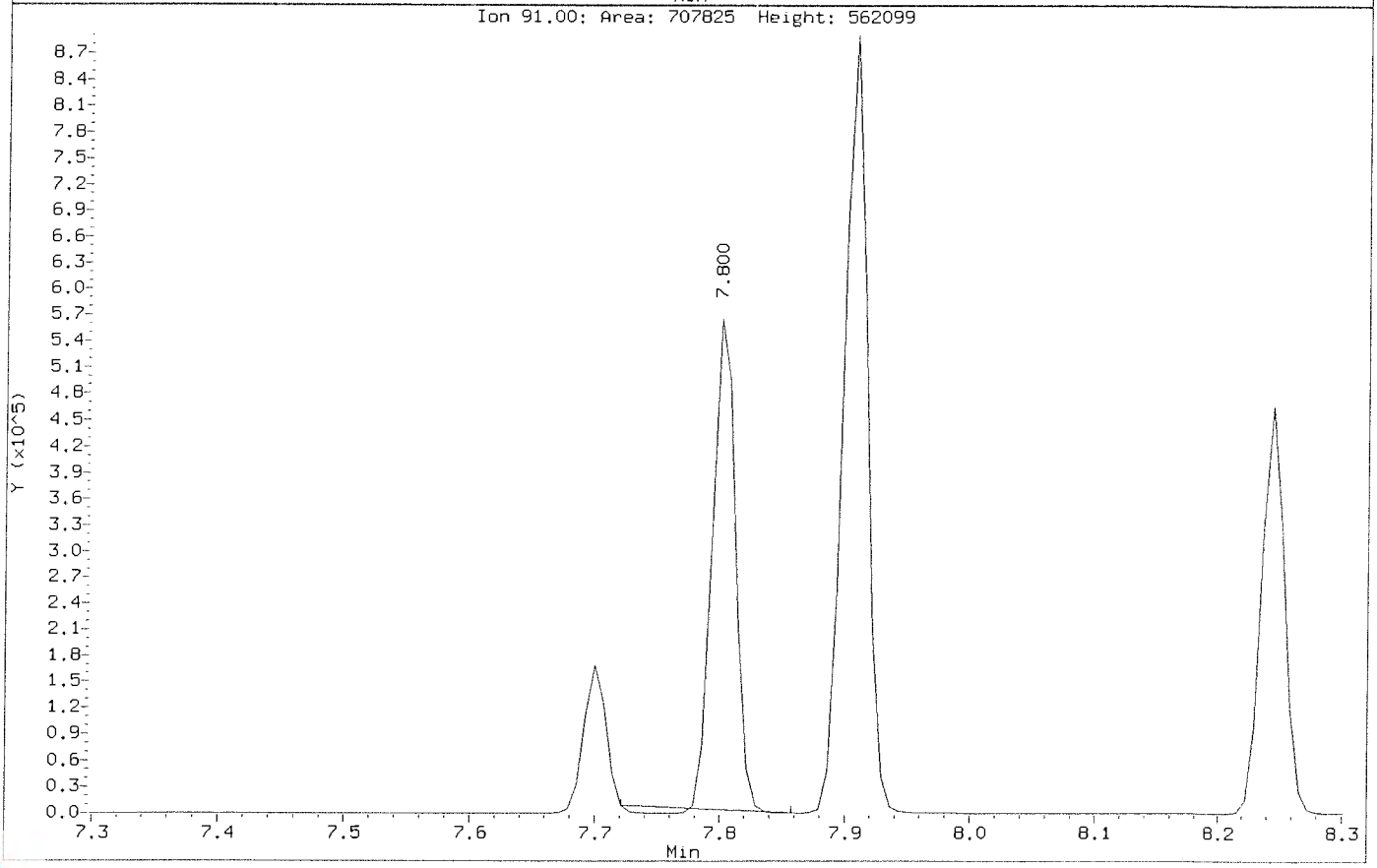
Client Sample ID: VSTD100

Compound: Ethylbenzene
CAS Number: 100-41-4





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Report Date: 19-Nov-2019 17:39

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X191031.b\X103110.D
Lab Smp Id: VSTD150 Client Smp ID: VSTD150
Inj Date : 31-OCT-2019 14:44
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\X191031.b\8260W.m
Meth Date : 19-Nov-2019 17:37 voa6.i Quant Type: ISTD
Cal Date : 31-OCT-2019 14:44 Cal File: X103110.D
Als bottle: 11 Calibration Sample, Level: 9
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

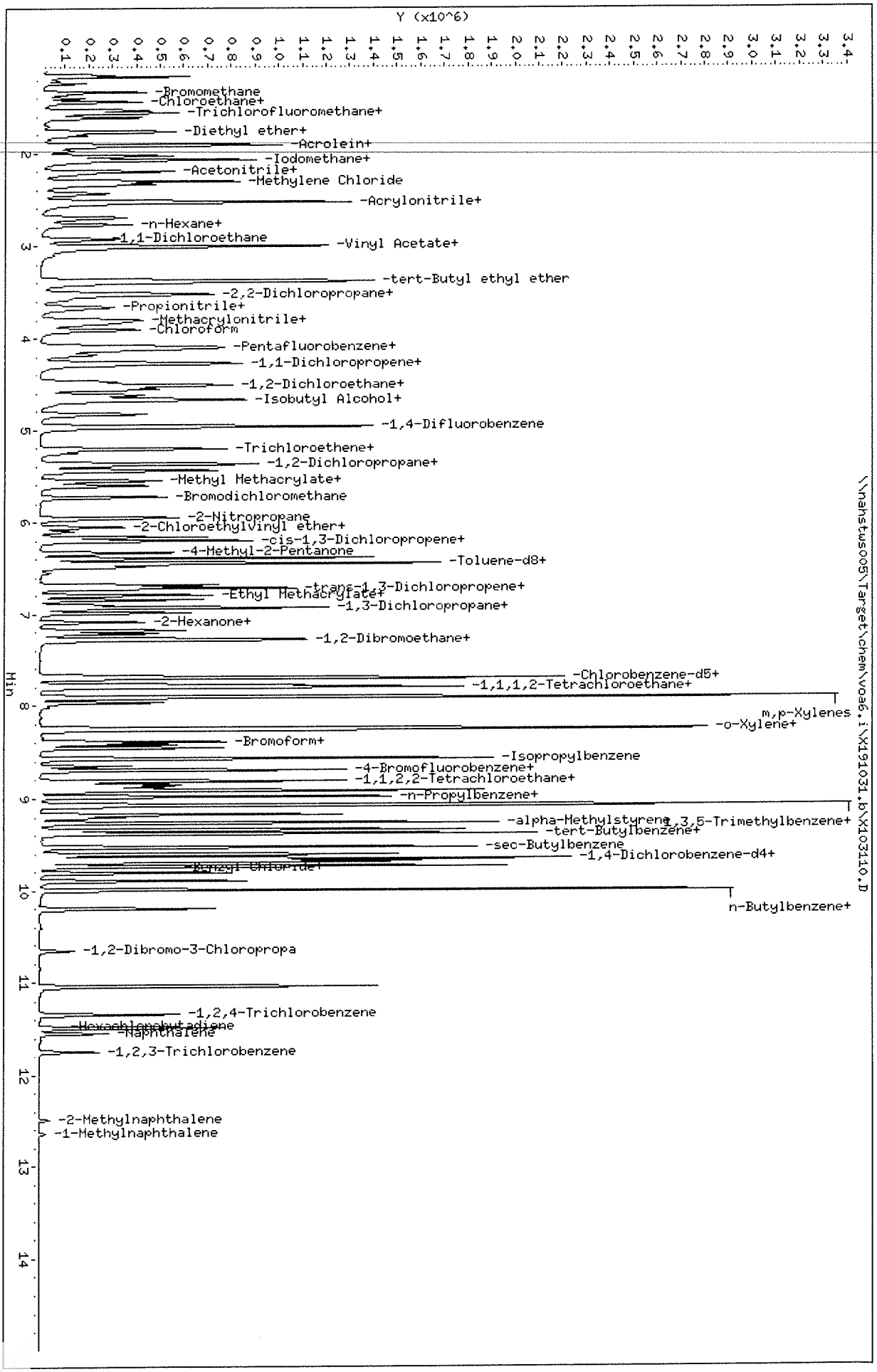
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	201465	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	245662	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	233239	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	132452	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	255632	150.000	149.32
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	330489	150.000	152.02
$ 30 Dibromofluoromethane	113	4.103	4.104	(0.981)	240546	150.000	148.84
$ 48 Toluene-d8	98	6.388	6.389	(0.833)	834607	150.000	144.02
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	277128	150.000	145.86
31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	392034	150.000	155.27
68 1,1,2,2-Tetrachloroethane	83	8.845	8.845	(0.915)	215145	150.000	150.18
138 Freon TF	101	1.911	1.912	(0.457)	208229	150.000	156.22
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	155359	150.000	146.58
22 1,1-Dichloroethane	63	2.921	2.922	(0.699)	331744	150.000	147.09
11 1,1-Dichloroethene	96	1.911	1.912	(0.457)	194601	150.000	151.92
32 1,1-Dichloropropene	75	4.282	4.283	(0.862)	279849	150.000	152.92
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.215)	76003	150.000	149.68
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.917)	190196	150.000	151.96(M)
90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	175289	150.000	146.65
79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.970)	950707	150.000	149.84
89 1,2-Dibromo-3-Chloropropane	155	10.658	10.658	(1.102)	32705	150.000	145.73
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	233055	150.000	148.71
88 1,2-Dichlorobenzene	146	9.999	9.999	(1.034)	523614	150.000	142.44

Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\X103110.D Page 2
Report Date: 19-Nov-2019 17:39

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
33	1,2-Dichloroethane	62	4.562	4.562	(0.918)	302667	150.000	151.96
42	1,2-Dichloropropane	63	5.436	5.436	(1.094)	171017	150.000	142.91
75	1,3,5-Trimethylbenzene	105	9.075	9.075	(0.939)	926902	150.000	150.75
83	1,3-Dichlorobenzene	146	9.612	9.612	(0.994)	589626	150.000	146.01
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	313319	150.000	144.09
84	1,4-Dichlorobenzene	146	9.683	9.684	(1.001)	595025	150.000	146.04
26	2,2-Dichloropropane	77	3.516	3.516	(0.841)	342382	150.000	141.28
24	2-Butanone	43	3.573	3.573	(0.854)	122056	300.000	300.97(AM)
76	2-Chlorotoluene	91	8.981	8.982	(0.929)	717171	150.000	150.65
52	2-Hexanone	43	7.090	7.090	(0.924)	186042	300.000	273.94(A)
77	4-Chlorotoluene	91	9.075	9.075	(0.939)	827361	150.000	147.34
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	1001528	150.000	152.10
45	4-Methyl-2-Pentanone	43	6.324	6.331	(0.824)	269564	300.000	280.68(A)
10	Acetone	43	1.976	1.976	(0.473)	120957	300.000	294.26(AM)
37	Benzene	78	4.512	4.512	(0.908)	792393	150.000	151.31
74	Bromobenzene	156	8.809	8.810	(0.911)	362113	150.000	148.51
29	Bromochloromethane	128	3.795	3.795	(0.908)	147849	150.000	142.29
39	Bromodichloromethane	83	5.729	5.730	(1.153)	309583	150.000	159.16
66	Bromoform	173	8.416	8.416	(1.097)	230945	150.000	153.51
6	Bromomethane	94	1.331	1.331	(0.318)	193515	150.000	130.01
19	Carbon Disulfide	76	2.069	2.069	(0.495)	1135656	300.000	305.95(A)
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	372164	150.000	155.21
59	Chlorobenzene	112	7.699	7.699	(1.004)	666345	150.000	146.66
7	Chloroethane	64	1.396	1.396	(0.334)	117696	150.000	147.37
28	Chloroform	83	3.910	3.910	(0.935)	398838	150.000	149.57
3	Chloromethane	50	1.073	1.074	(0.257)	201305	150.000	151.37
27	cis-1,2-Dichloroethene	96	3.530	3.523	(0.844)	246505	150.000	153.16
46	cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	349168	150.000	154.97
55	Dibromochloromethane	129	7.176	7.176	(0.936)	290873	150.000	150.55
44	Dibromomethane	93	5.557	5.558	(1.118)	146552	150.000	154.46
2	Dichlorodifluoromethane	85	0.973	0.966	(0.233)	241181	150.000	149.36
61	Ethylbenzene	106	7.800	7.807	(1.017)	346132	150.000	146.88(M)
91	Hexachlorobutadiene	225	11.488	11.481	(1.188)	156850	150.000	151.81
67	Isopropylbenzene	105	8.566	8.566	(1.117)	1066134	150.000	148.82
62	m,p-Xylenes	106	7.907	7.907	(1.031)	837027	300.000	293.03(A)
17	Methylene Chloride	84	2.305	2.306	(0.551)	206835	150.000	147.93
87	n-Butylbenzene	91	9.999	9.999	(1.034)	725898	150.000	154.56
73	n-Propylbenzene	91	8.917	8.917	(0.922)	1155965	150.000	153.23
92	Naphthalene	128	11.546	11.546	(1.194)	199967	150.000	149.14
63	o-Xylene	106	8.244	8.244	(1.075)	406630	150.000	144.56
81	sec-Butylbenzene	105	9.526	9.526	(0.985)	1041174	150.000	154.83
64	Styrene	104	8.265	8.265	(1.078)	707159	150.000	145.33
78	tert-Butylbenzene	119	9.340	9.340	(0.966)	797901	150.000	149.73
56	Tetrachloroethene	164	6.933	6.933	(0.904)	265184	150.000	150.07
50	Toluene	91	6.446	6.446	(0.840)	930820	150.000	146.24
20	trans-1,2-Dichloroethene	96	2.528	2.528	(0.604)	210029	150.000	155.19
51	trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	329536	150.000	156.67
38	Trichloroethene	130	5.206	5.207	(1.048)	285356	150.000	155.67
8	Trichlorofluoromethane	101	1.560	1.553	(0.373)	422424	150.000	157.10
5	Vinyl Chloride	62	1.138	1.138	(0.272)	197786	150.000	156.51

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.
M - Compound response manually integrated.



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Sample Info: VSTD150;VSTD150;1;9;
Purge Volume: 5.0
Column phase: DB624

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

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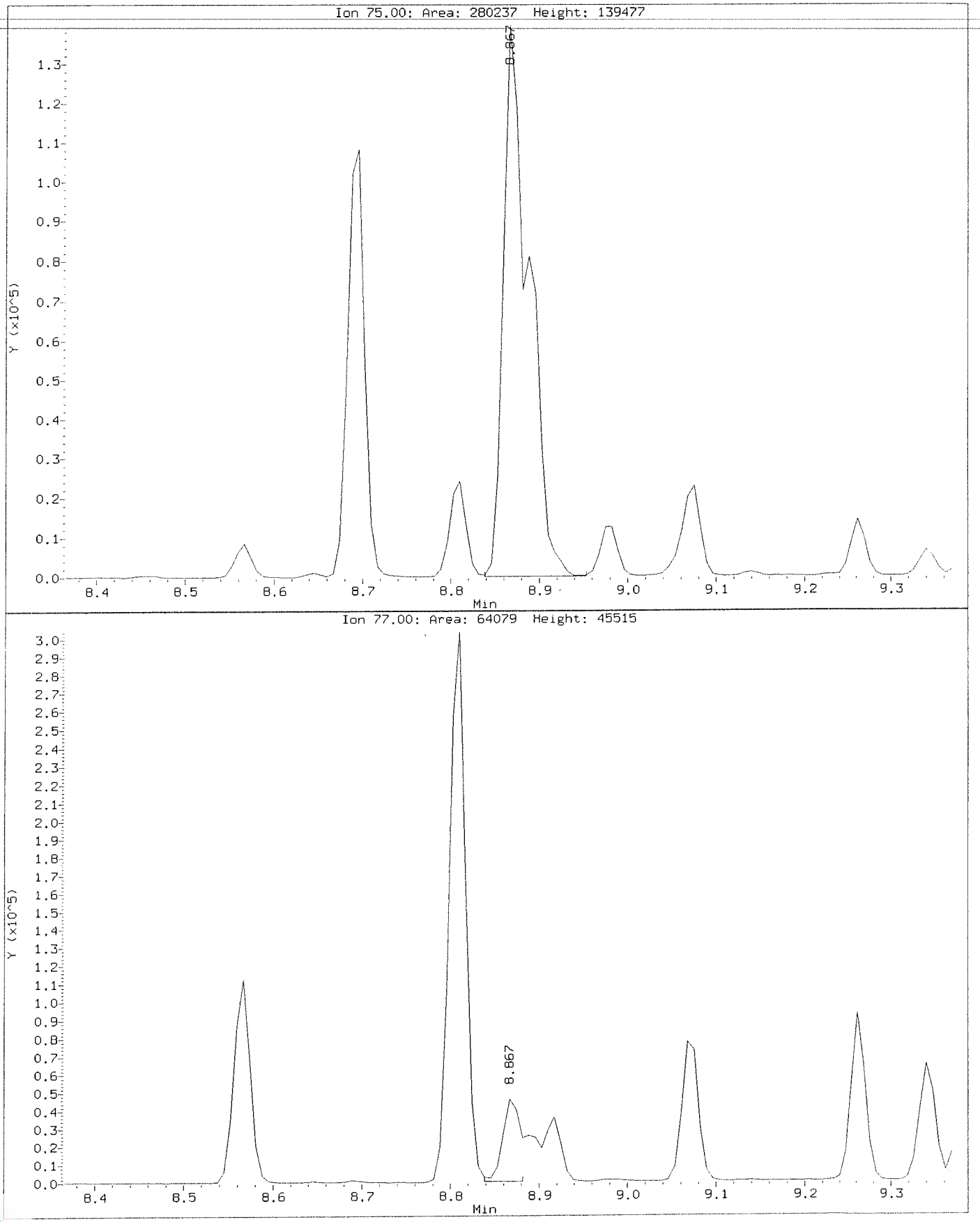
Injection Date: 31-OCT-2019 14:44
Instrument: voa6.i
Client Sample ID: VSTD150

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



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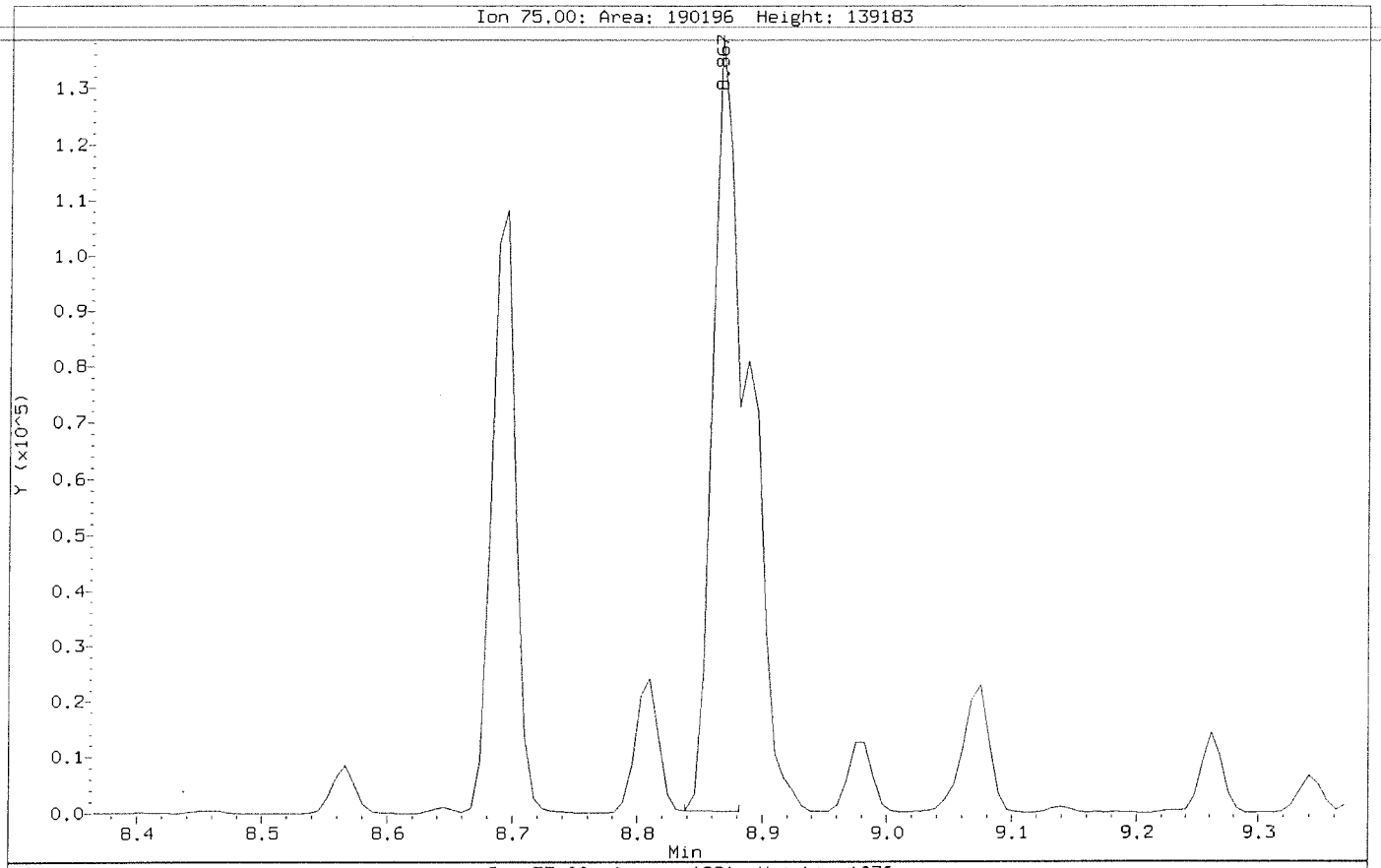
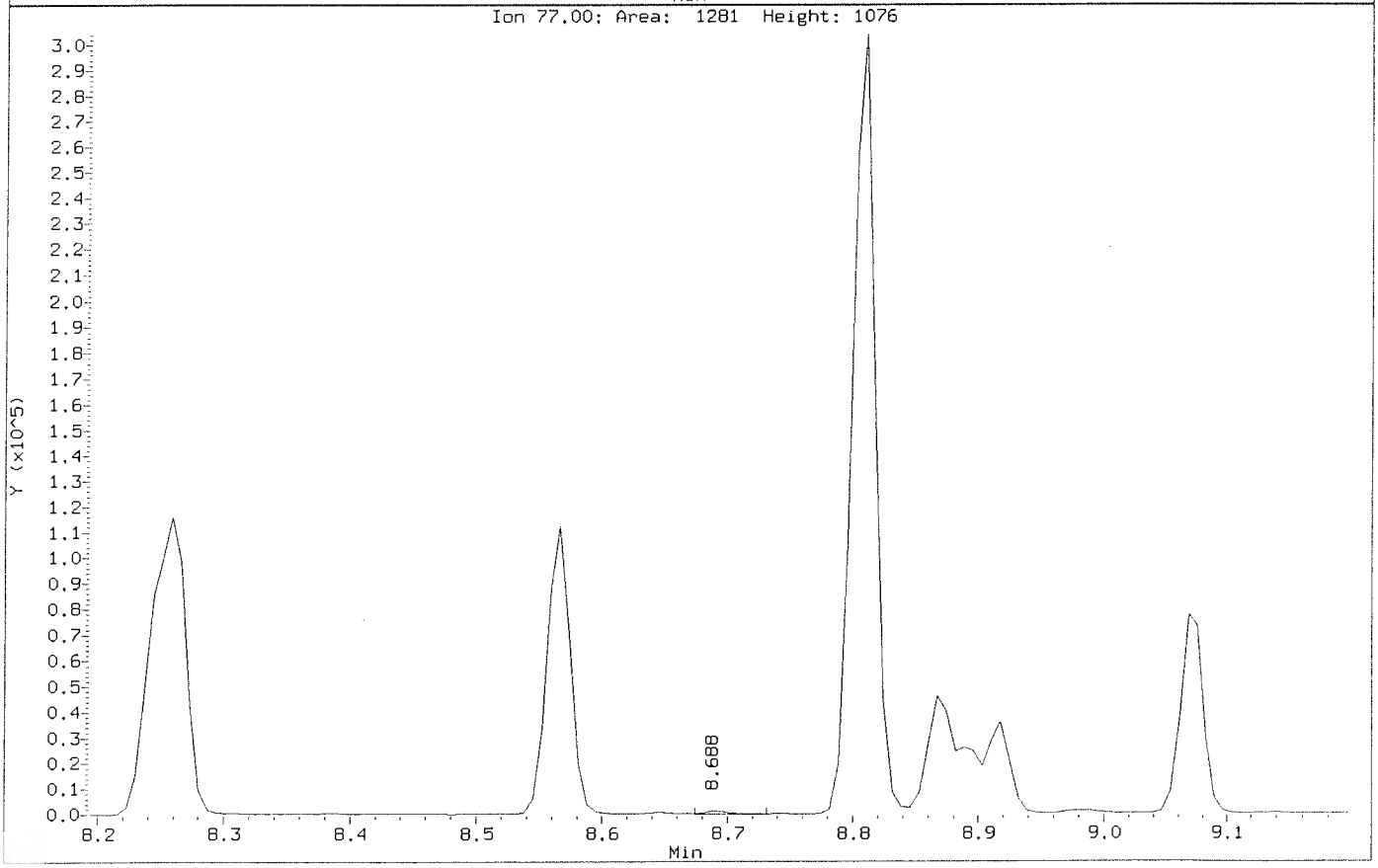
Client Sample ID: VSTD150

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





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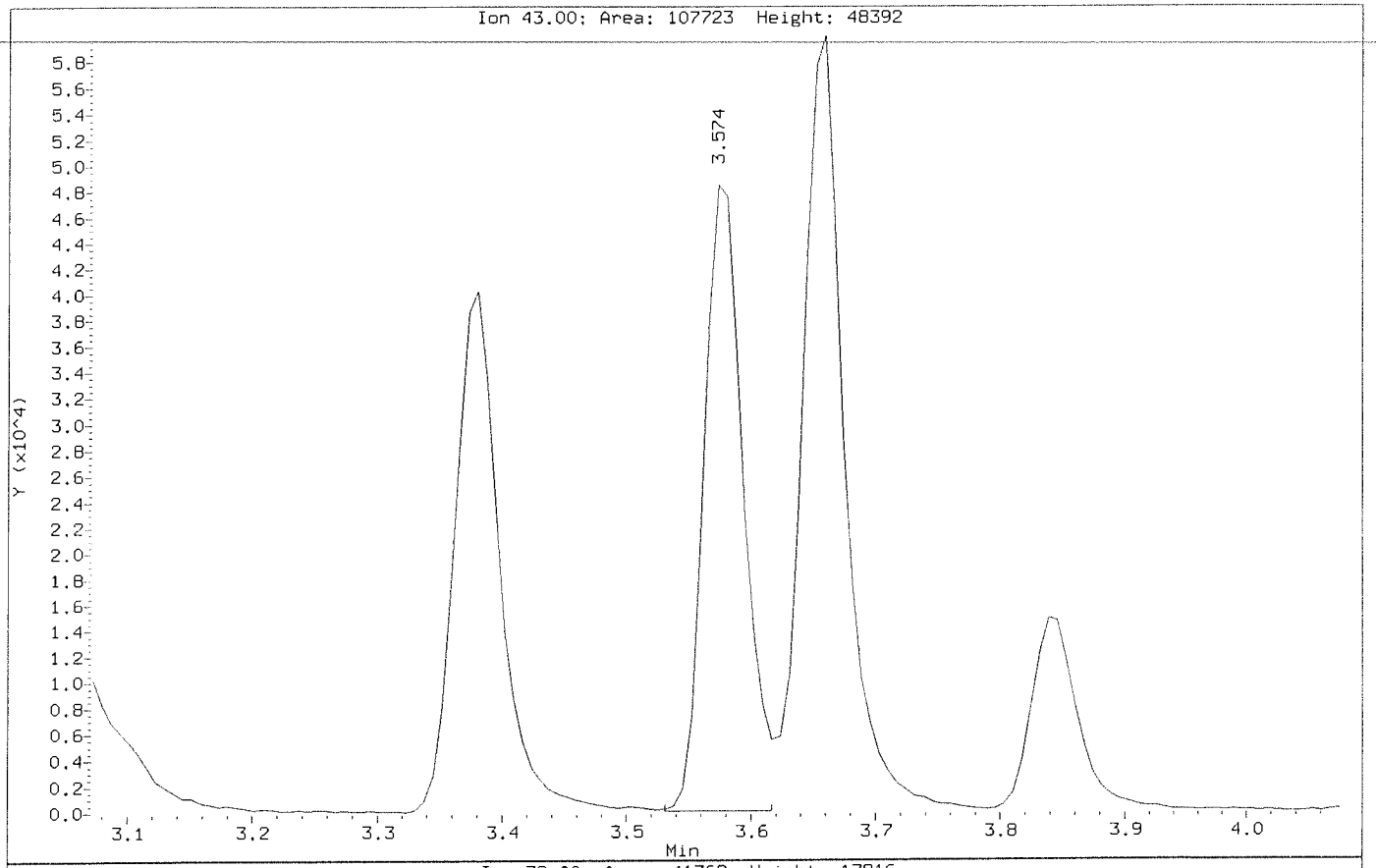
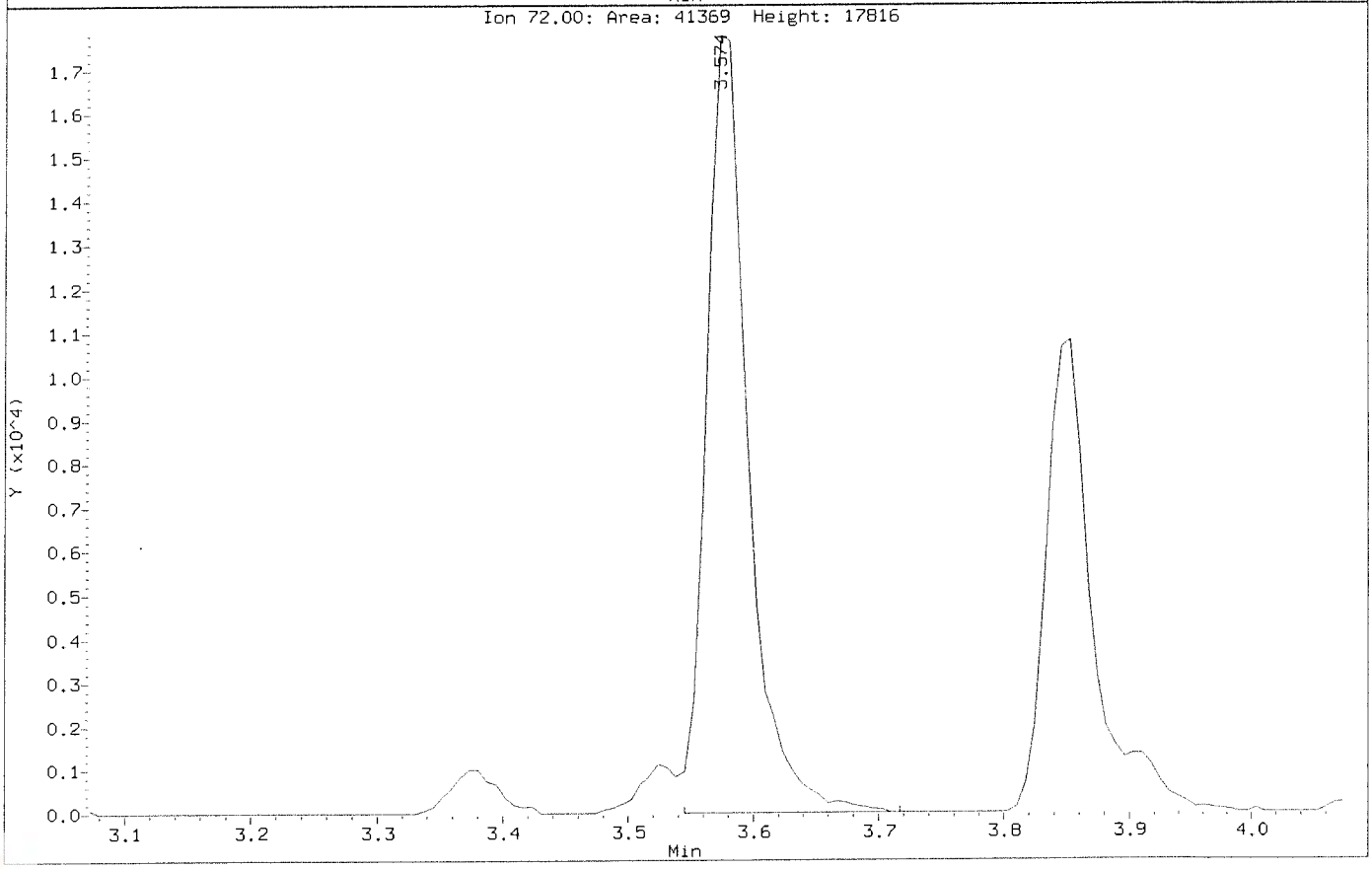
Injection Date: 31-OCT-2019 14:44
Instrument: voa6.i
Client Sample ID: VSTD150

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





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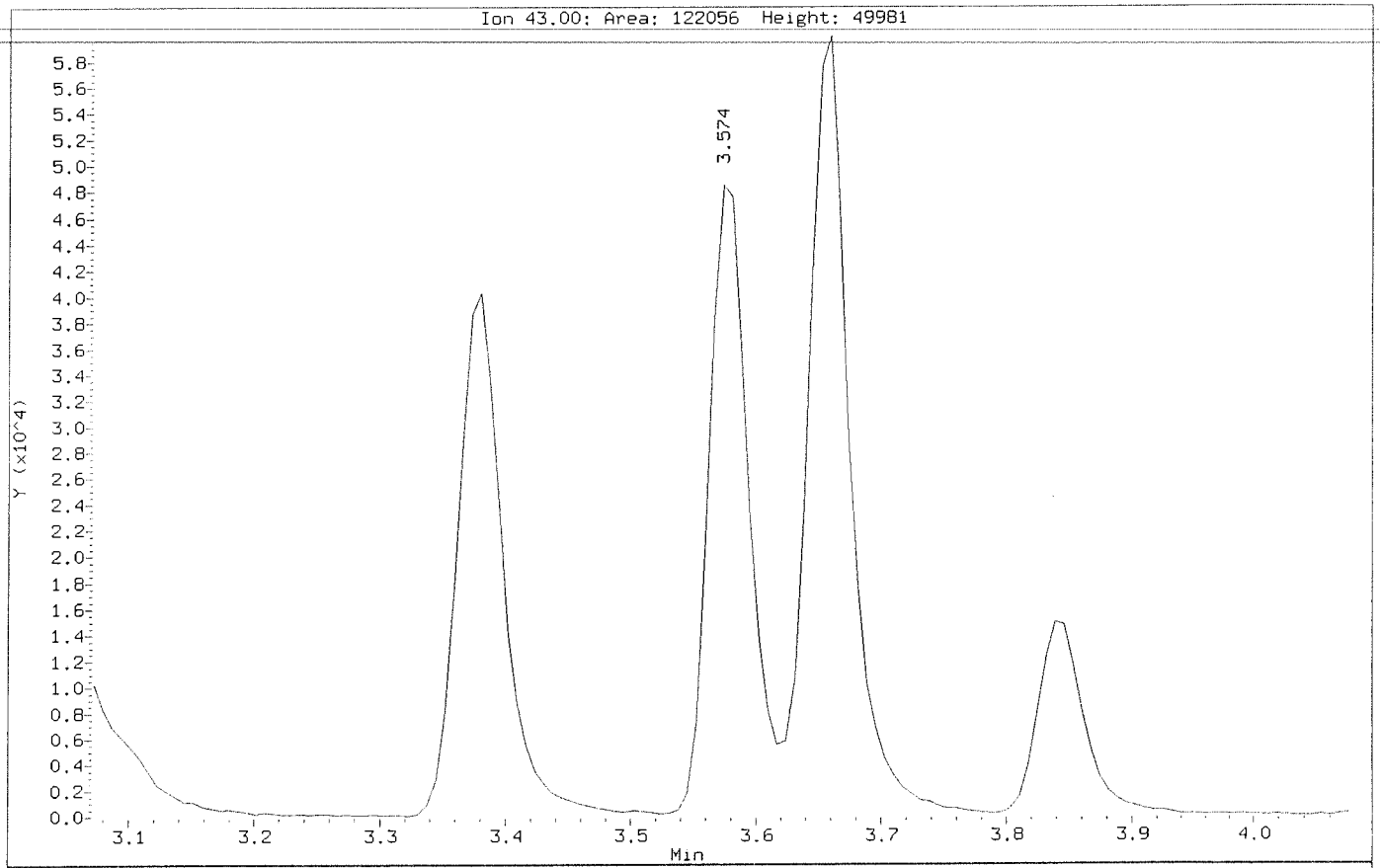
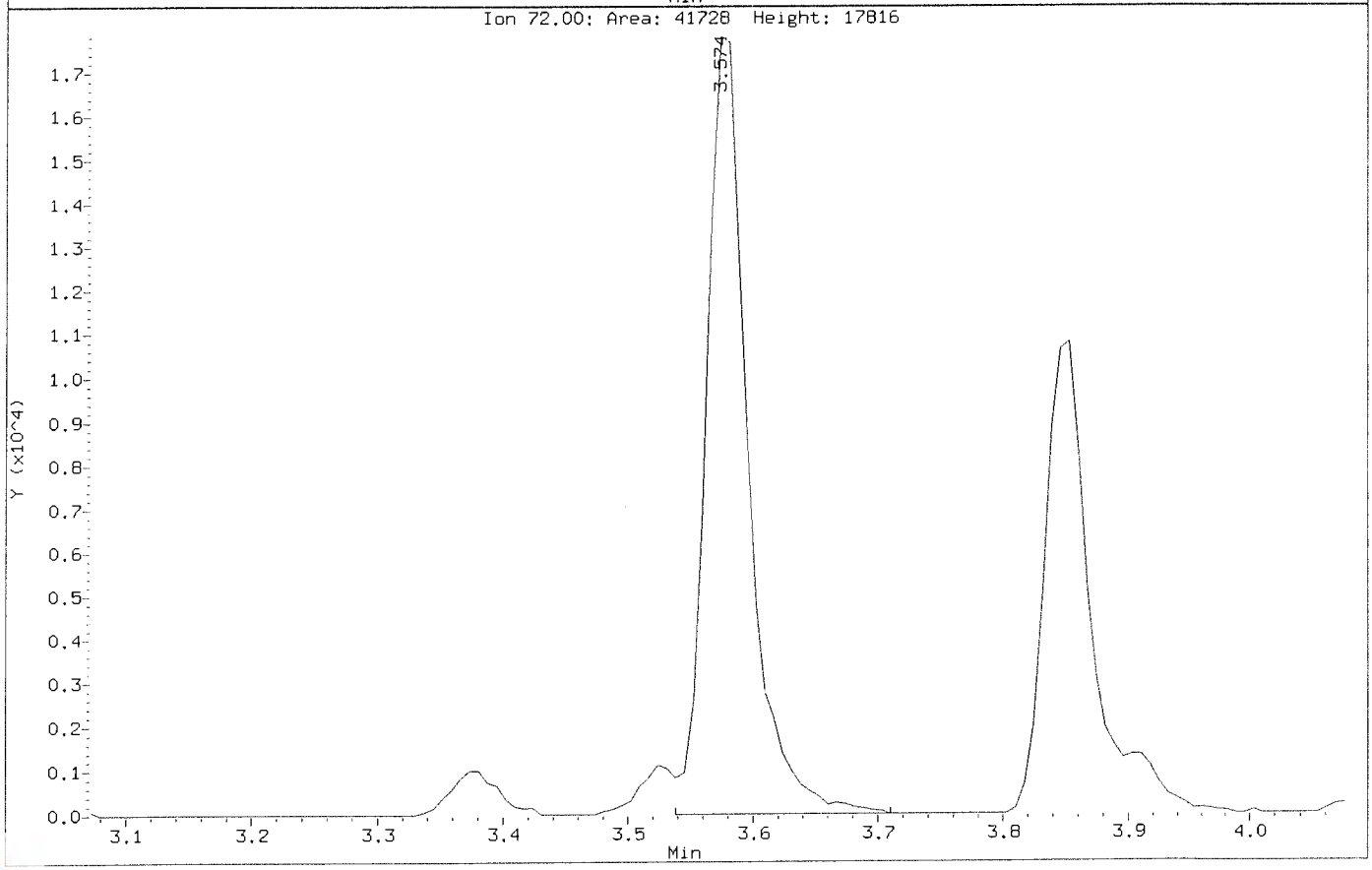
Compound: 2-Butanone
CAS Number: 78-93-3





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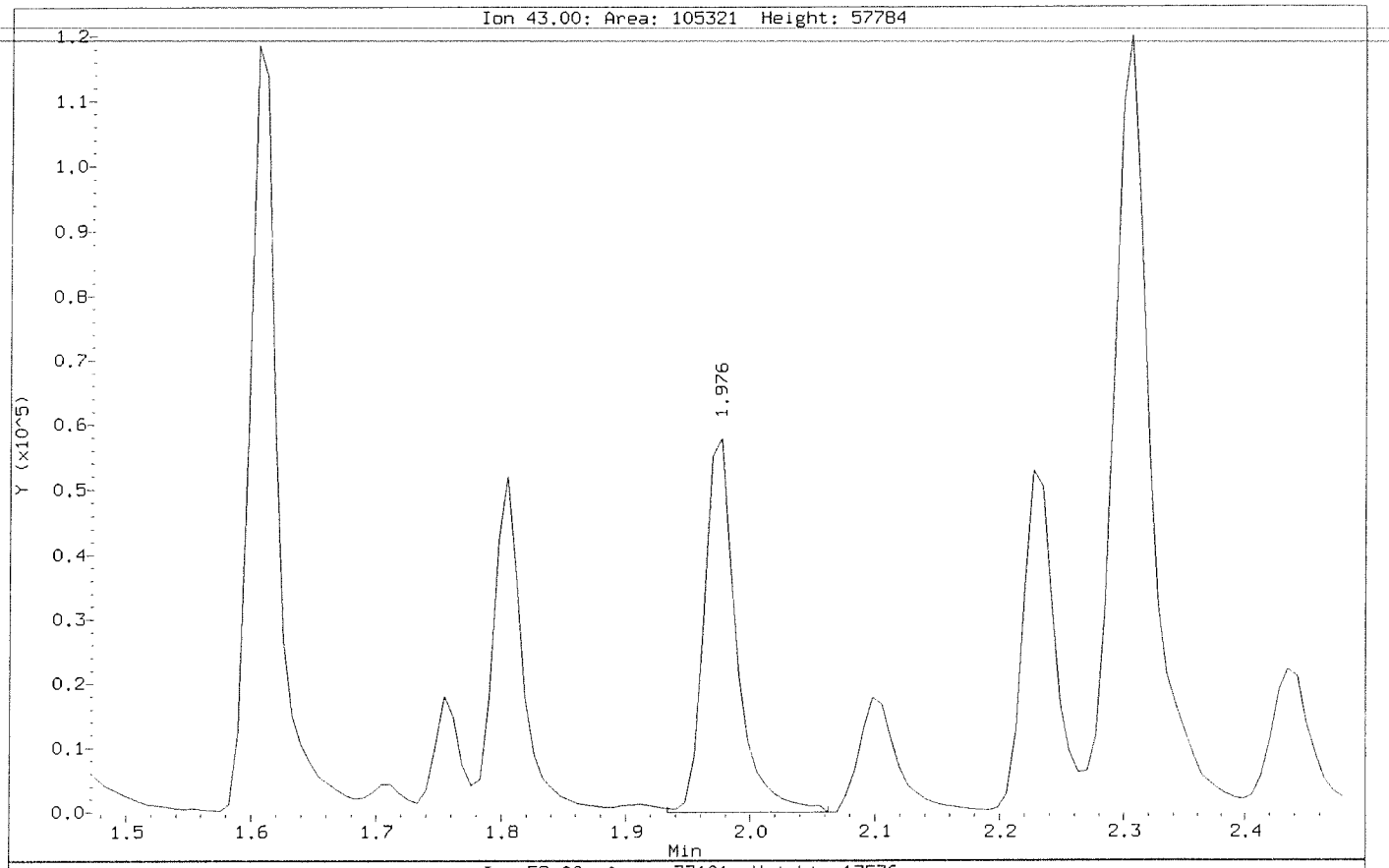
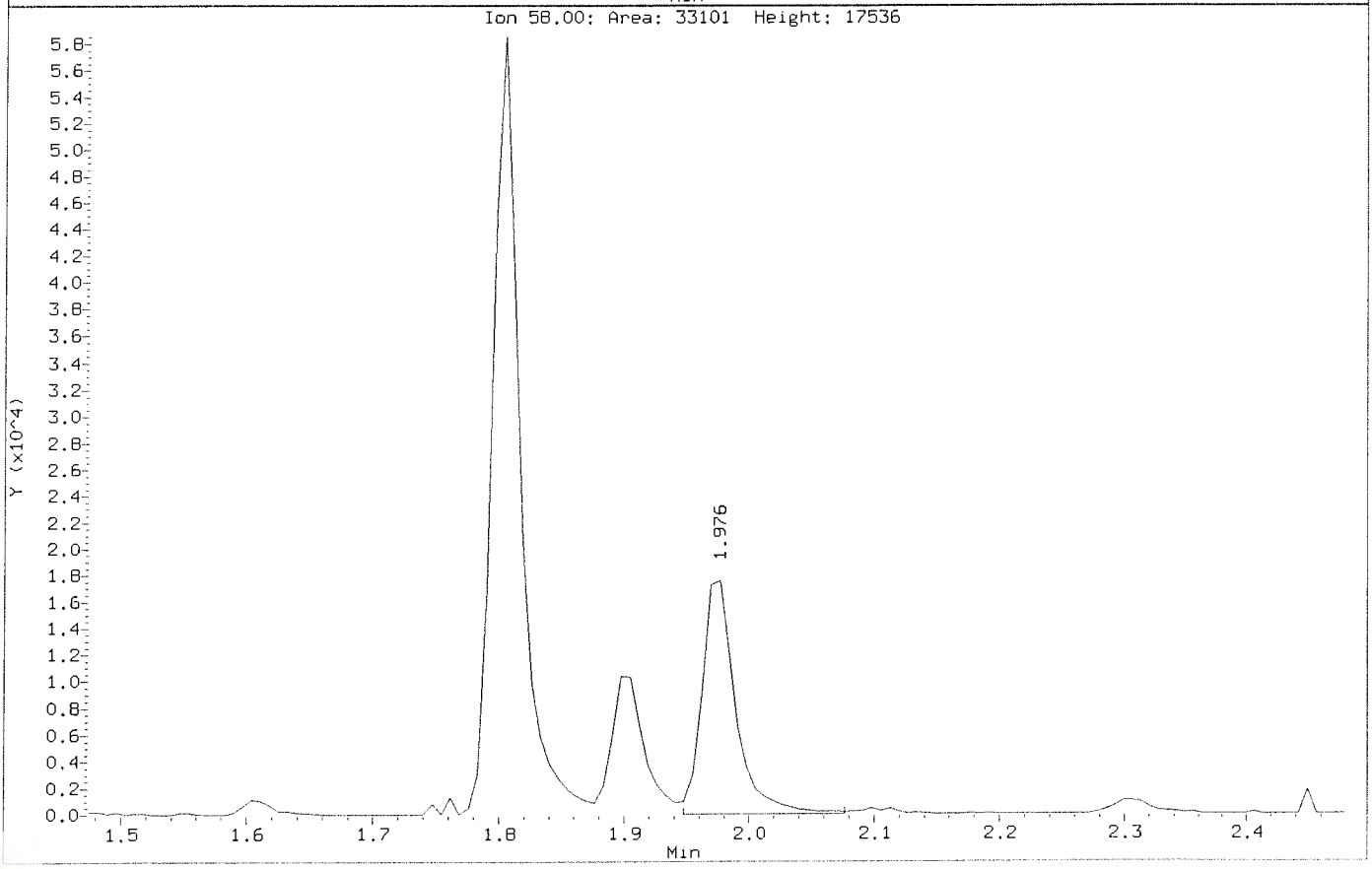
Injection Date: 31-OCT-2019 14:44
Instrument: voa6.i
Client Sample ID: VSTD150

Compound: Acetone
CAS Number: 67-64-1





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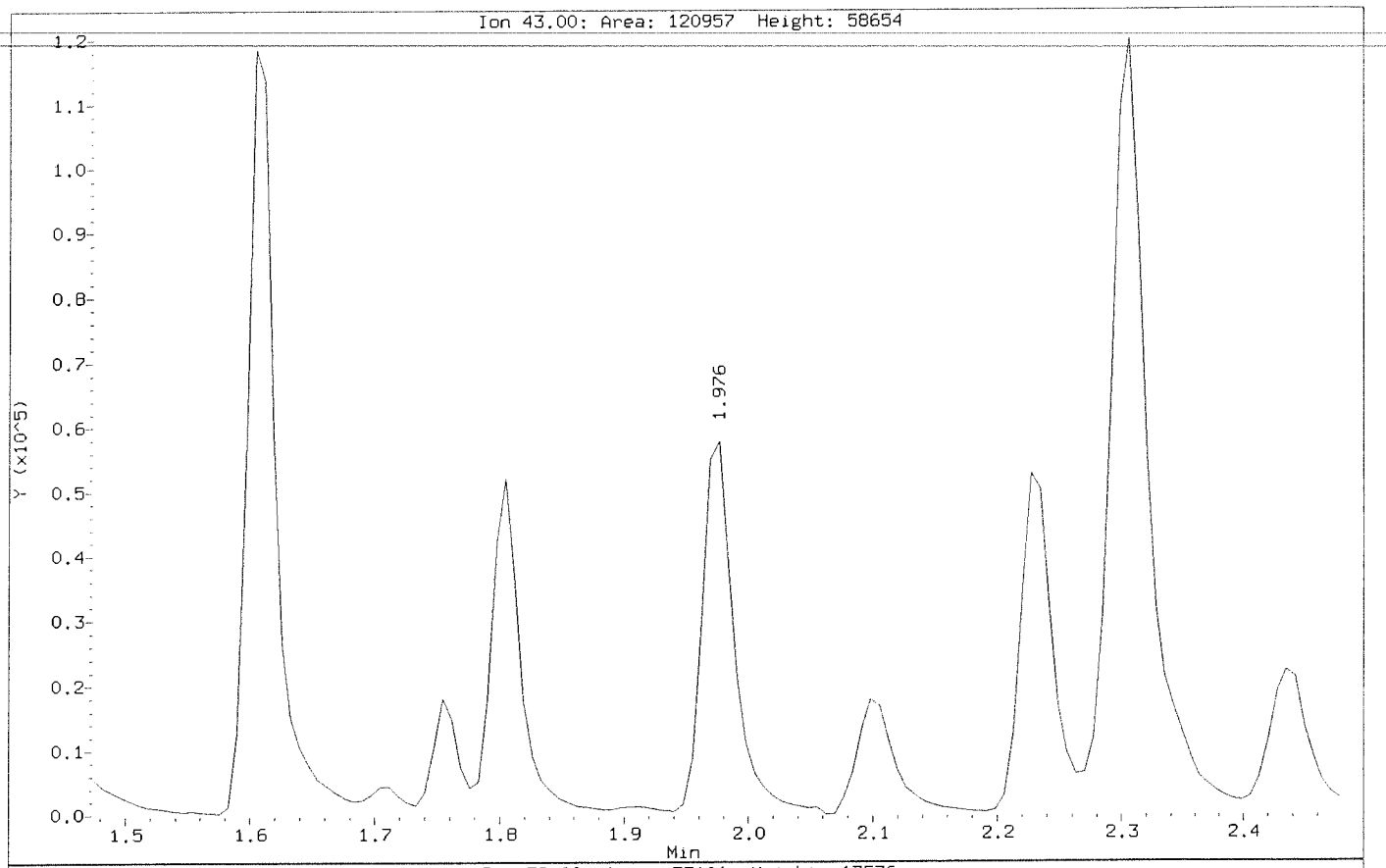
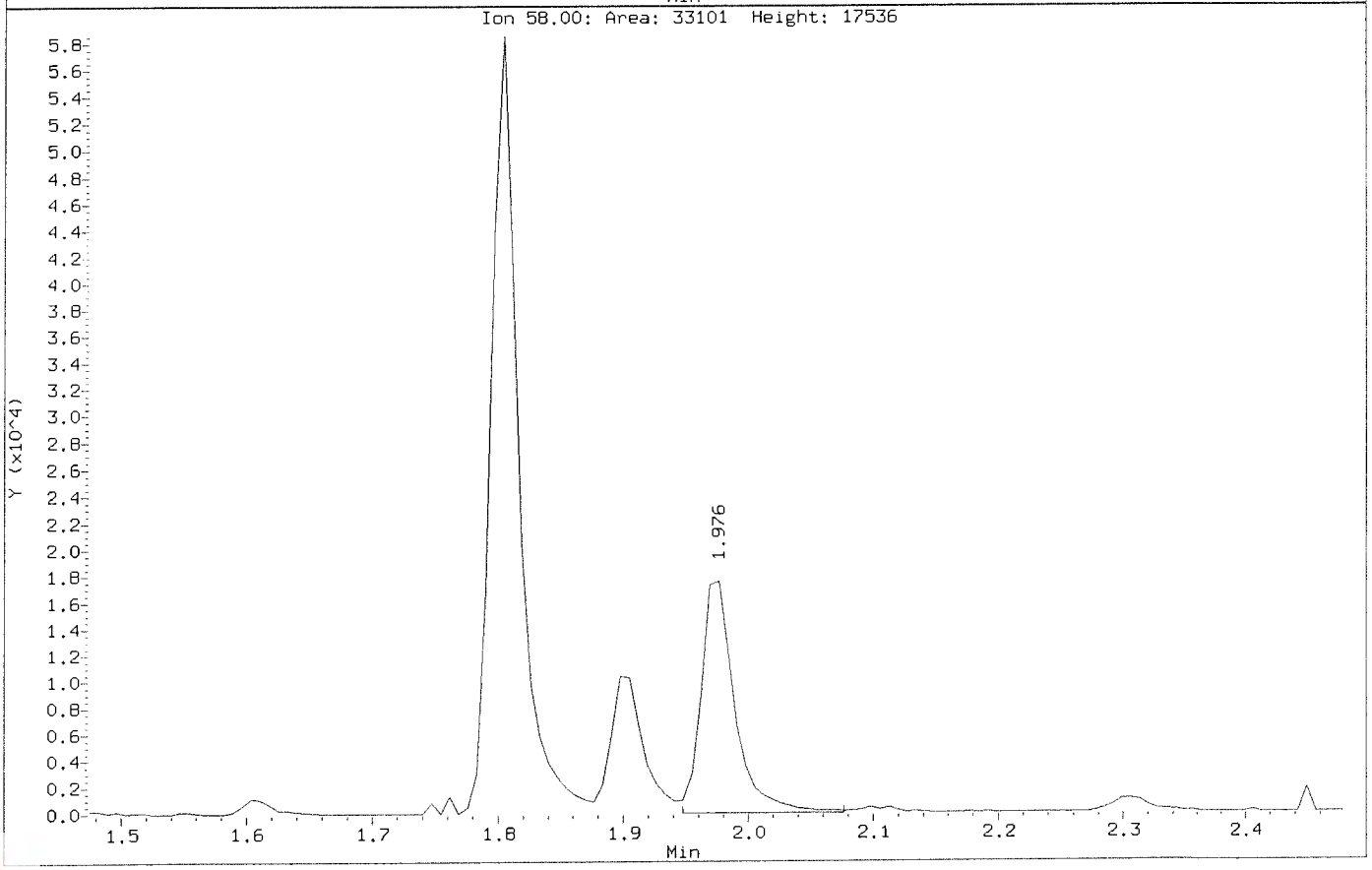
Compound: Acetone
CAS Number: 67-64-1





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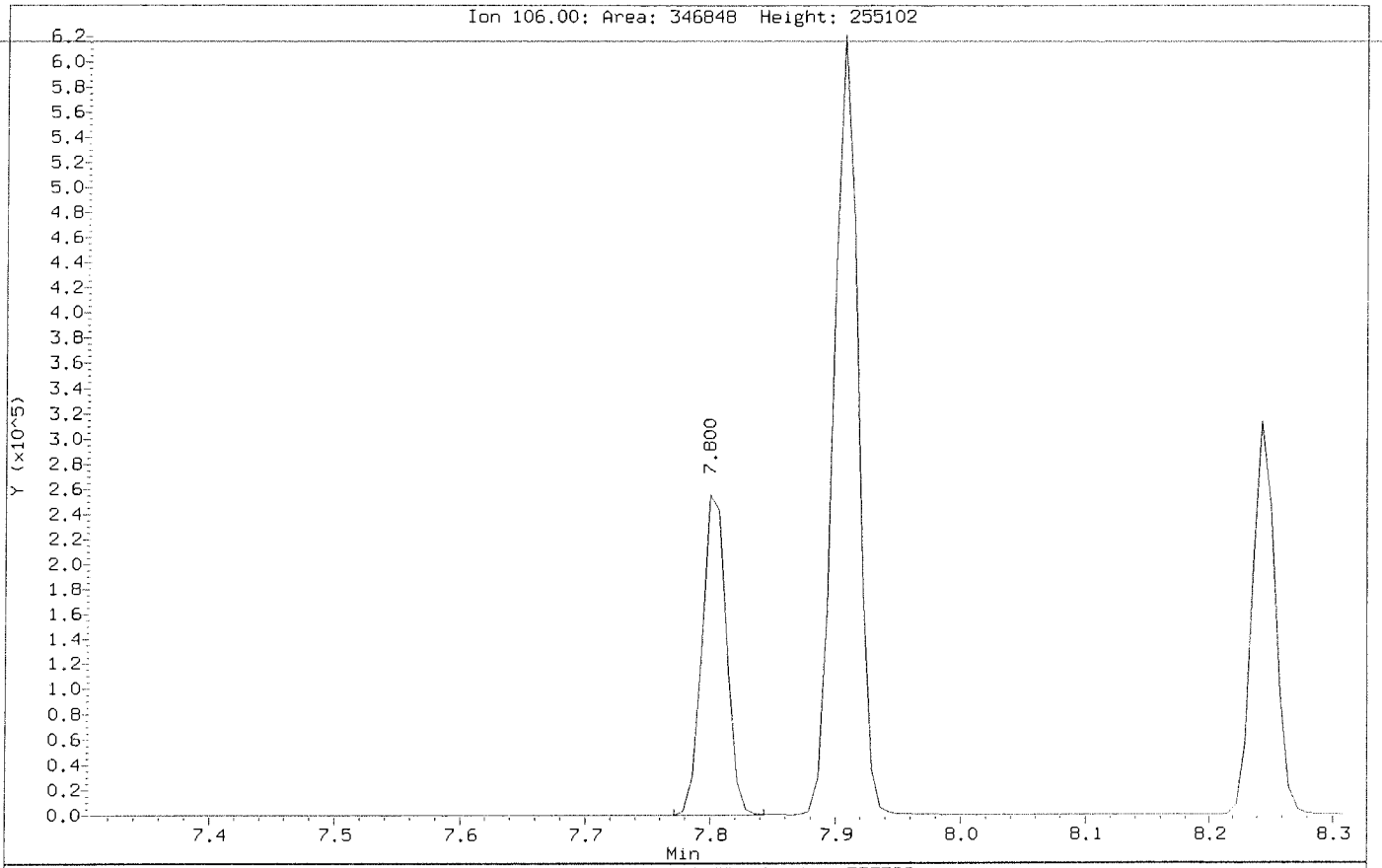
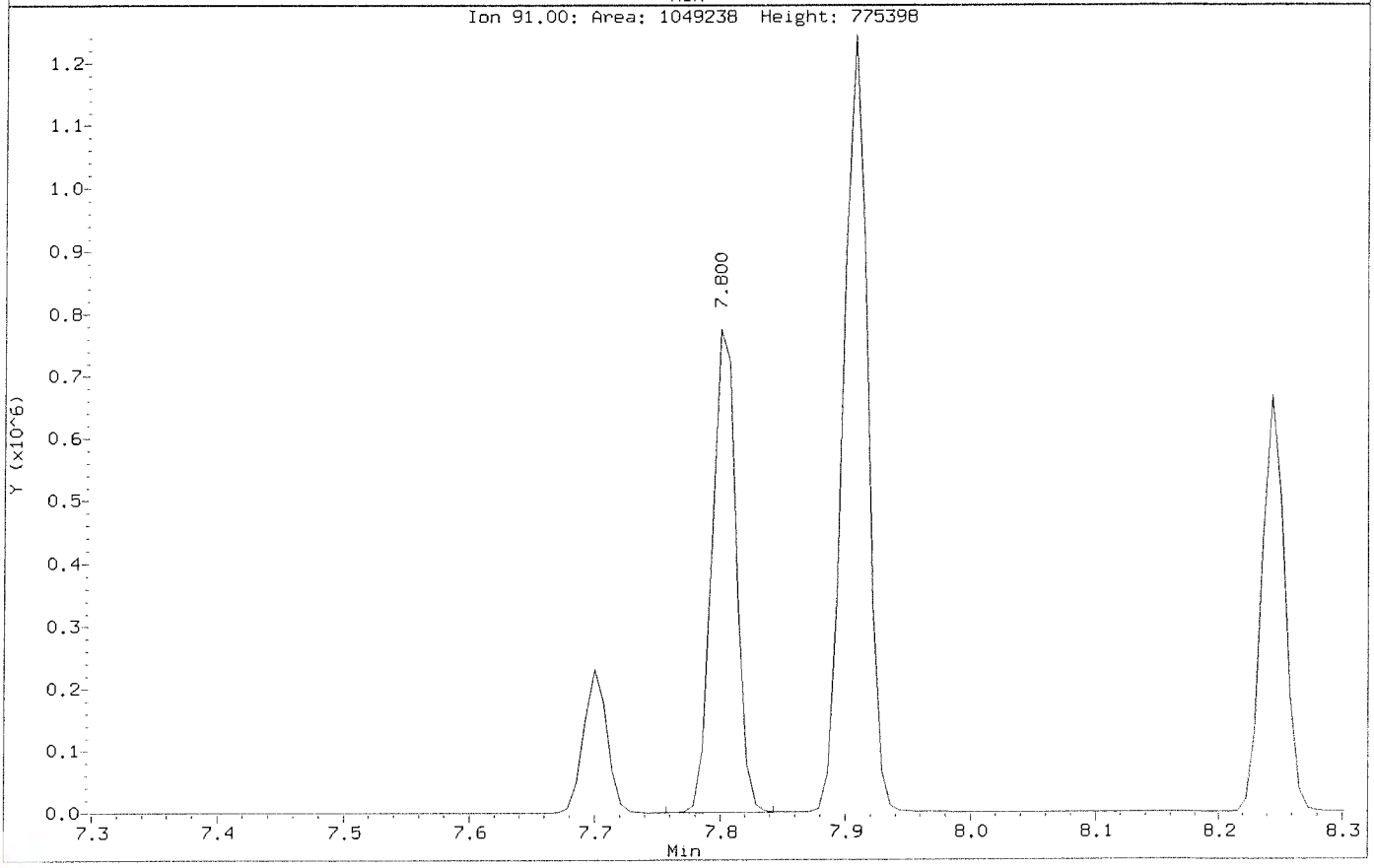
Injection Date: 31-OCT-2019 14:44
Instrument: voa6.i
Client Sample ID: VSTD150

Compound: Ethylbenzene
CAS Number: 100-41-4





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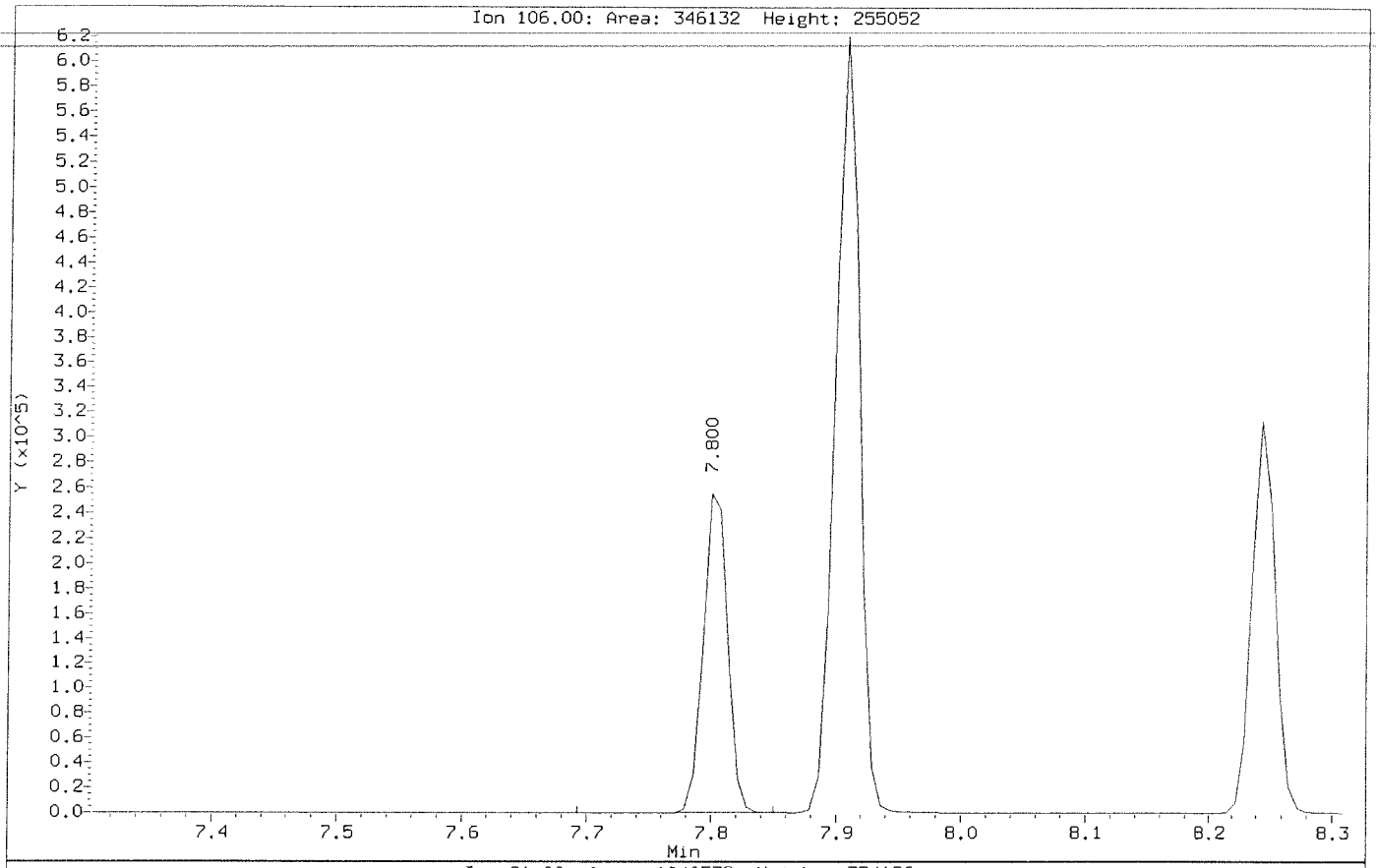
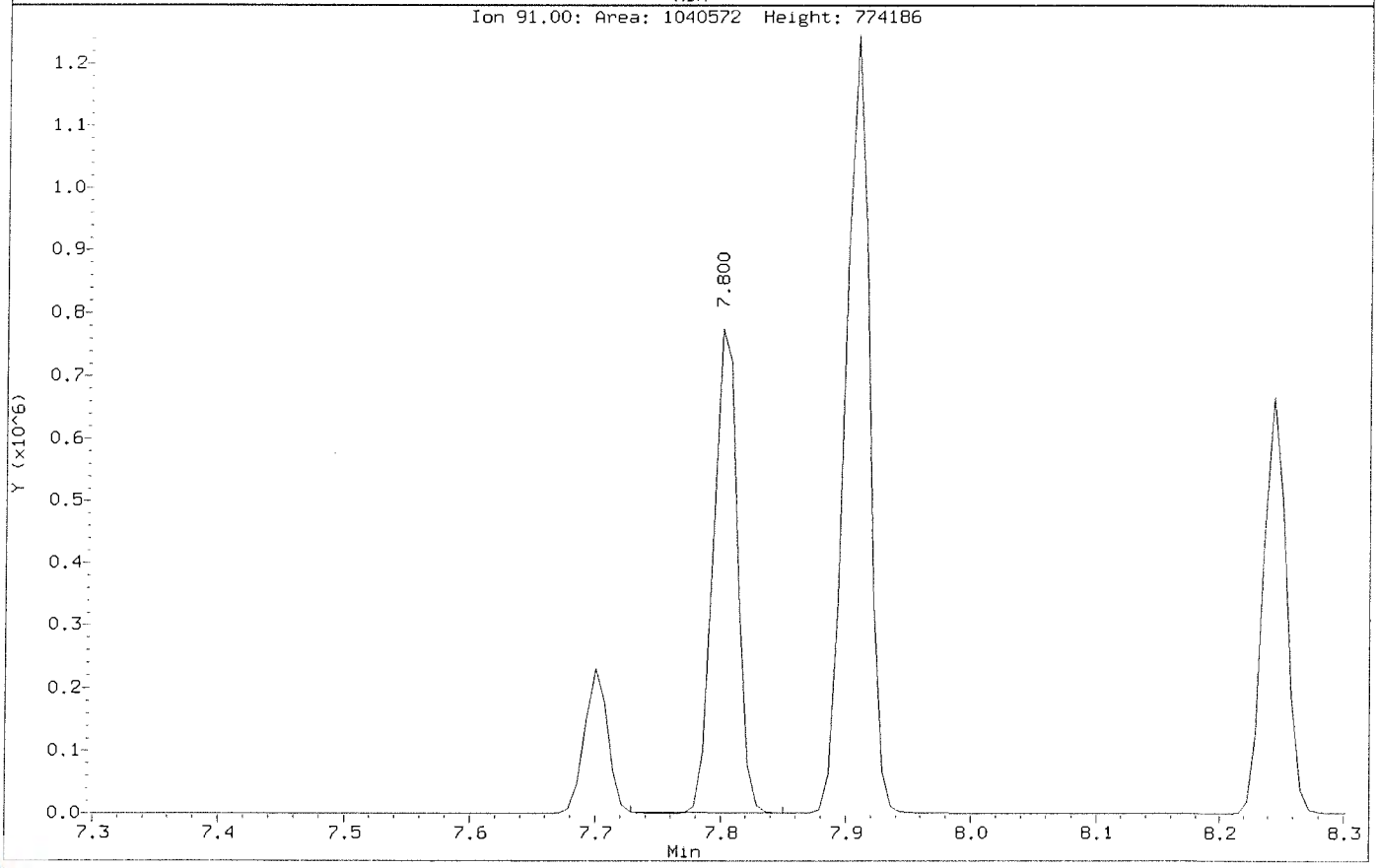
Injection Date: 31-OCT-2019 14:44
Instrument: voa6.i
Client Sample ID: VSTD150

Compound: Ethylbenzene
CAS Number: 100-41-4





Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\X103111.D Page 1
Report Date: 19-Nov-2019 17:39

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X191031.b\X103111.D
Lab Smp Id: VSTD200 Client Smp ID: VSTD200
Inj Date : 31-OCT-2019 15:08
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\X191031.b\8260W.m
Meth Date : 19-Nov-2019 17:37 voa6.i Quant Type: ISTD
Cal Date : 31-OCT-2019 15:08 Cal File: X103111.D
Als bottle: 12 Calibration Sample, Level: 10
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

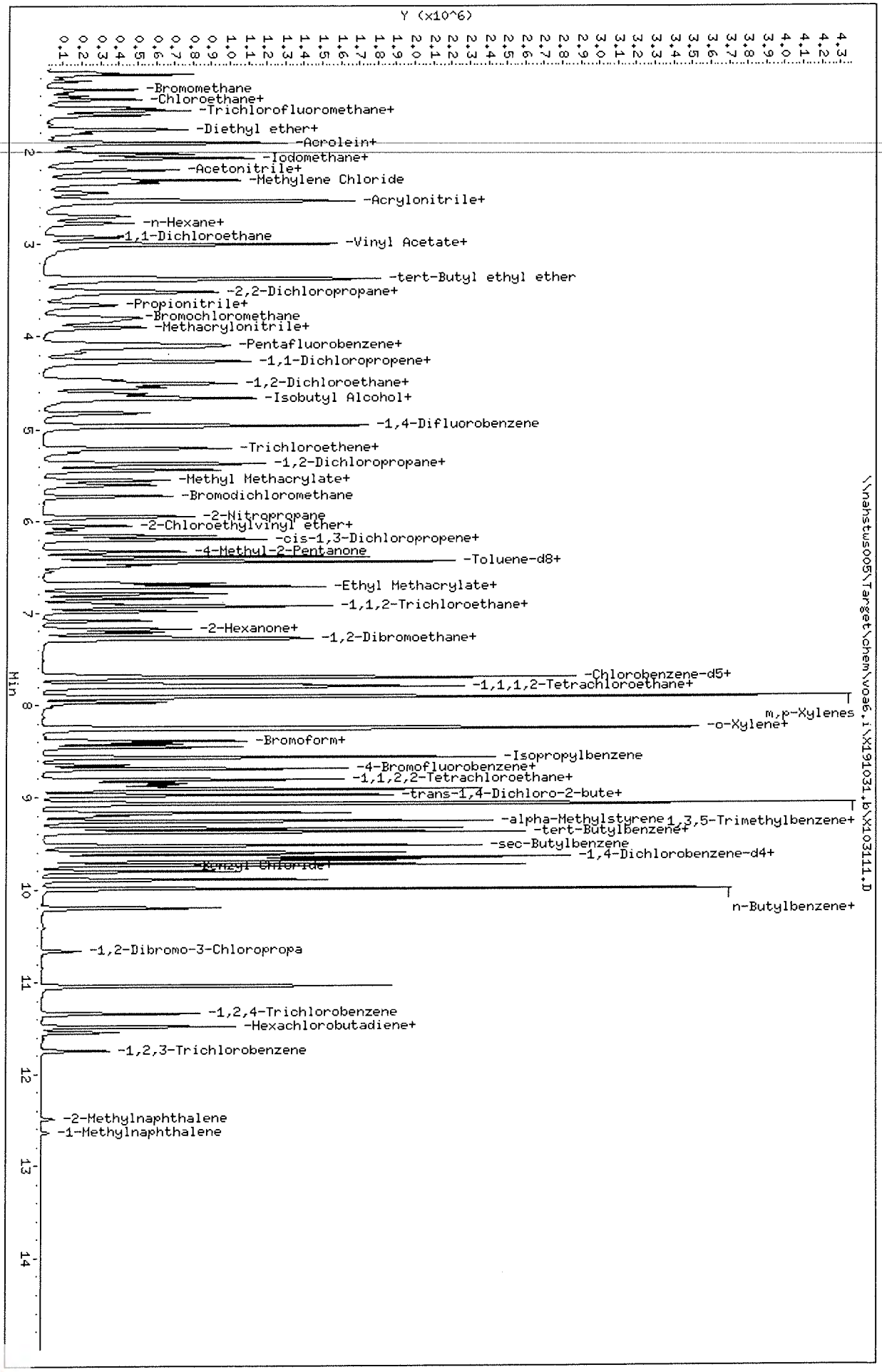
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	192693	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	240601	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	229758	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	129573	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	330151	200.000	201.45(A)
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	423412	200.000	197.90
$ 30 Dibromofluoromethane	113	4.104	4.104	(0.981)	311402	200.000	201.28(A)
$ 48 Toluene-d8	98	6.389	6.389	(0.833)	1086741	200.000	190.37
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	362024	200.000	193.43
31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	509929	200.000	211.16(A)
68 1,1,2,2-Tetrachloroethane	83	8.845	8.845	(0.915)	280469	200.000	200.30(A)
138 Freon TF	101	1.912	1.912	(0.457)	270272	200.000	212.00(A)
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	199951	200.000	191.51
22 1,1-Dichloroethane	63	2.922	2.922	(0.699)	426322	200.000	197.63
11 1,1-Dichloroethene	96	1.912	1.912	(0.457)	248897	200.000	203.16(A)
32 1,1-Dichloropropene	75	4.283	4.283	(0.862)	361761	200.000	201.85(A)
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.215)	112477	200.000	200.31(A)
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.917)	241481	200.000	197.56(M)
90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	249218	200.000	213.13(A)
79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.970)	1210599	200.000	195.05
89 1,2-Dibromo-3-Chloropropane	155	10.658	10.658	(1.102)	45236	200.000	205.61(A)
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	302393	200.000	195.87
88 1,2-Dichlorobenzene	146	9.999	9.999	(1.034)	679744	200.000	189.03

Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\X103111.D Page 2
Report Date: 19-Nov-2019 17:39

	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)	394219	200.000	202.09(A)
42	1,2-Dichloropropane	63	5.436	5.436	(1.094)	220211	200.000	187.89
75	1,3,5-Trimethylbenzene	105	9.075	9.075	(0.939)	1176138	200.000	195.54
83	1,3-Dichlorobenzene	146	9.612	9.612	(0.994)	756206	200.000	191.43
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	407232	200.000	190.12
84	1,4-Dichlorobenzene	146	9.684	9.684	(1.001)	762624	200.000	191.34
26	2,2-Dichloropropane	77	3.516	3.516	(0.841)	438977	200.000	189.39
24	2-Butanone	43	3.573	3.573	(0.854)	154601	400.000	398.73(AM)
76	2-Chlorotoluene	91	8.982	8.982	(0.929)	912637	200.000	195.97
52	2-Hexanone	43	7.090	7.090	(0.924)	245858	400.000	367.50(A)
77	4-Chlorotoluene	91	9.075	9.075	(0.939)	1047506	200.000	190.69
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	1283447	200.000	199.25
45	4-Methyl-2-Pentanone	43	6.331	6.331	(0.825)	356911	400.000	377.26(A)
10	Acetone	43	1.976	1.976	(0.473)	159199	400.000	404.94(AM)
37	Benzene	78	4.512	4.512	(0.908)	1022532	200.000	199.46
74	Bromobenzene	156	8.810	8.810	(0.911)	466669	200.000	195.65
29	Bromochloromethane	128	3.795	3.795	(0.908)	182013	200.000	183.14
39	Bromodichloromethane	83	5.730	5.730	(1.153)	401613	200.000	210.82(A)
66	Bromoform	173	8.416	8.416	(1.097)	303043	200.000	204.49(A)
6	Bromomethane	94	1.331	1.331	(0.318)	196628	200.000	138.21
19	Carbon Disulfide	76	2.069	2.069	(0.495)	1461267	400.000	411.59(A)
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	485222	200.000	206.62(A)
59	Chlorobenzene	112	7.699	7.699	(1.004)	854468	200.000	190.92
7	Chloroethane	64	1.396	1.396	(0.334)	146270	200.000	191.48
28	Chloroform	83	3.910	3.910	(0.935)	520476	200.000	204.07(A)
3	Chloromethane	50	1.074	1.074	(0.257)	251570	200.000	197.80
27	cis-1,2-Dichloroethene	96	3.523	3.523	(0.842)	319301	200.000	207.42(A)
46	cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	451963	200.000	204.81(A)
55	Dibromochloromethane	129	7.176	7.176	(0.936)	378530	200.000	198.88
44	Dibromomethane	93	5.558	5.558	(1.118)	191662	200.000	206.26(A)
2	Dichlorodifluoromethane	85	0.966	0.966	(0.231)	312332	200.000	201.79(A)
61	Ethylbenzene	106	7.807	7.807	(1.018)	447199	200.000	192.65(M)
91	Hexachlorobutadiene	225	11.481	11.481	(1.187)	207467	200.000	205.26(A)
67	Isopropylbenzene	105	8.566	8.566	(1.117)	1362308	200.000	193.05
62	m,p-Xylenes	106	7.907	7.907	(1.031)	1068578	400.000	379.76(A)
17	Methylene Chloride	84	2.306	2.306	(0.551)	270371	200.000	202.18(A)
87	n-Butylbenzene	91	9.999	9.999	(1.034)	917884	200.000	199.79
73	n-Propylbenzene	91	8.917	8.917	(0.922)	1464095	200.000	198.39
92	Naphthalene	128	11.546	11.546	(1.194)	291018	200.000	200.47(A)
63	o-Xylene	106	8.244	8.244	(1.075)	518774	200.000	187.22
81	sec-Butylbenzene	105	9.526	9.526	(0.985)	1323564	200.000	201.20(A)
64	Styrene	104	8.265	8.265	(1.078)	908128	200.000	189.46
78	tert-Butylbenzene	119	9.340	9.340	(0.966)	1015808	200.000	194.86
56	Tetrachloroethene	164	6.933	6.933	(0.904)	340715	200.000	195.74
50	Toluene	91	6.446	6.446	(0.840)	1200814	200.000	191.52
20	trans-1,2-Dichloroethene	96	2.528	2.528	(0.604)	270571	200.000	209.03(A)
51	trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	429004	200.000	208.25(A)
38	Trichloroethene	130	5.207	5.207	(1.048)	372852	200.000	207.68(A)
8	Trichlorofluoromethane	101	1.553	1.553	(0.372)	546705	200.000	212.58(A)
5	Vinyl Chloride	62	1.138	1.138	(0.272)	256102	200.000	211.88(A)

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.
M - Compound response manually integrated.



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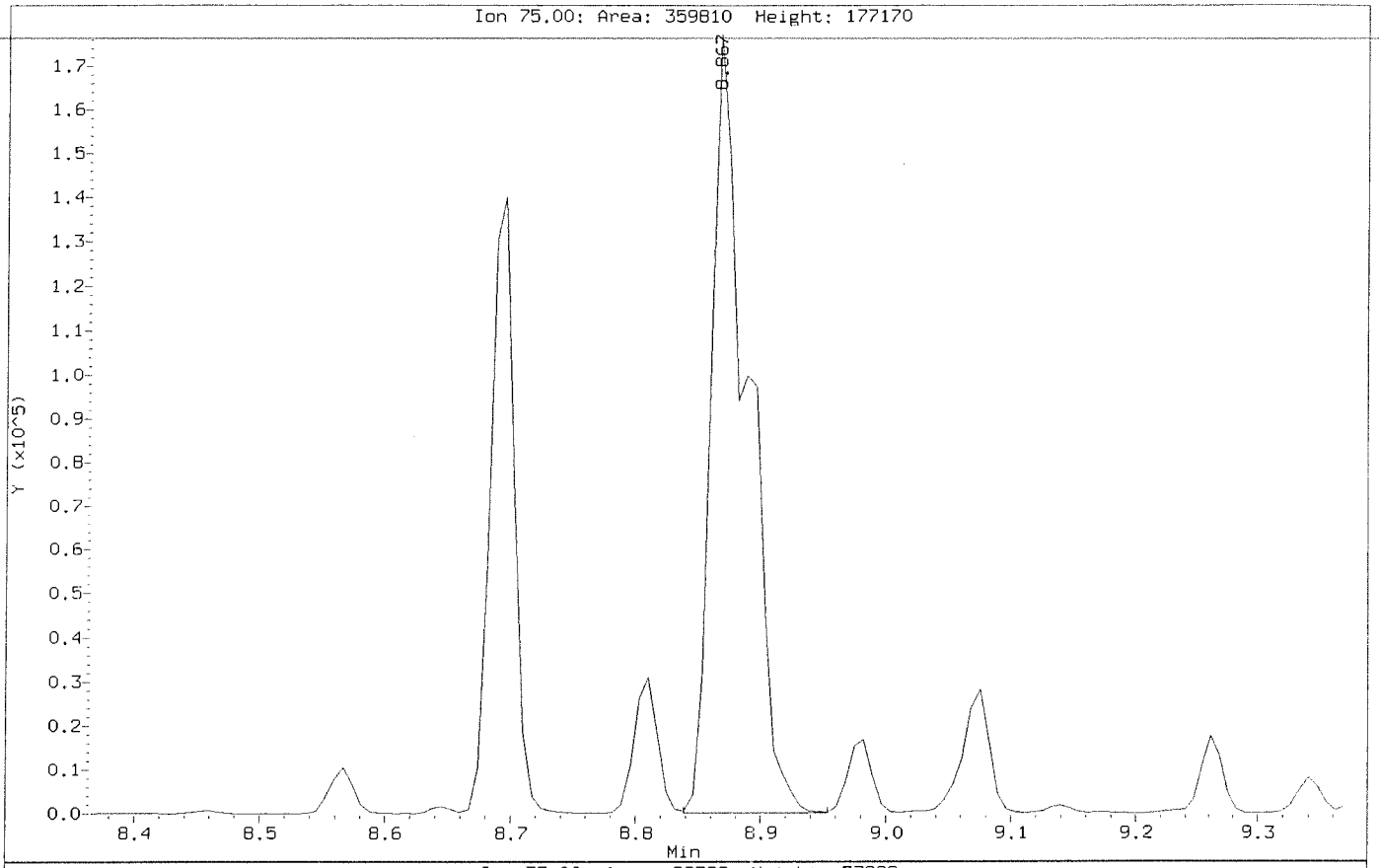
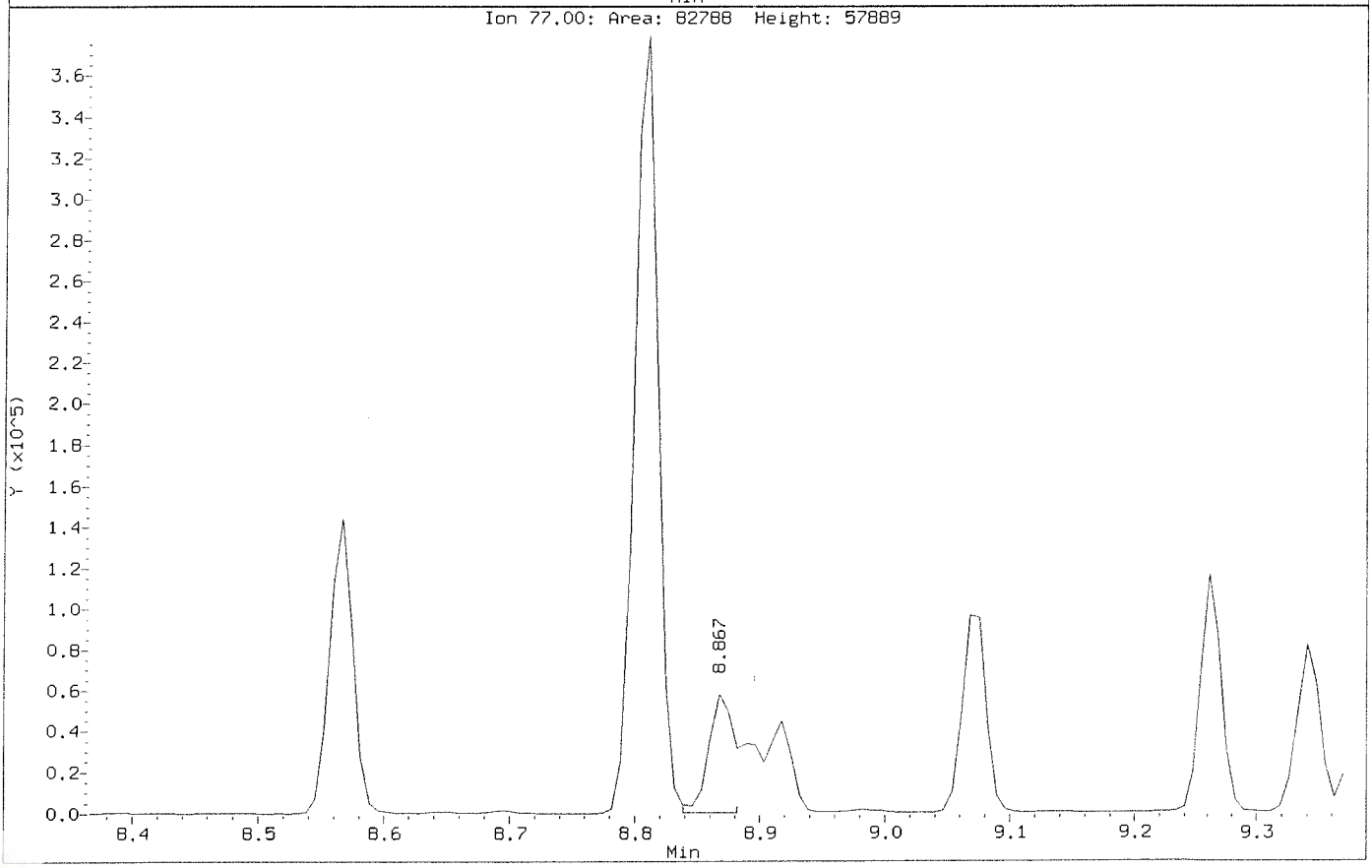
Date : 31-OCT-2019 15:08
Client ID: VSTD200
Sample Info: VSTD200;VSTD200;1;10;
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\BEFORE2\X103111.D
Injection Date: 31-OCT-2019 15:08
Instrument: voa6.i
Client Sample ID: VSTD200

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





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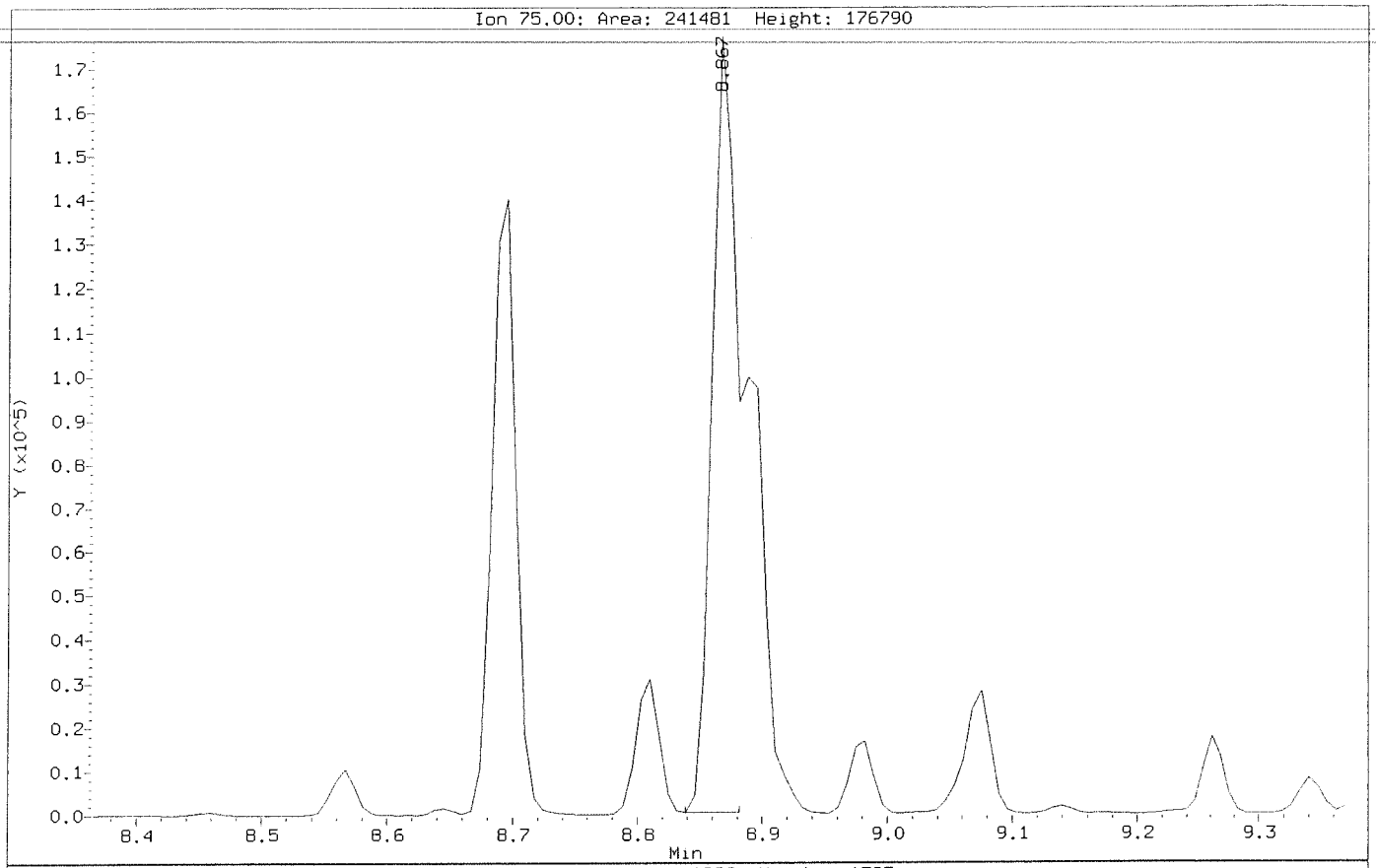
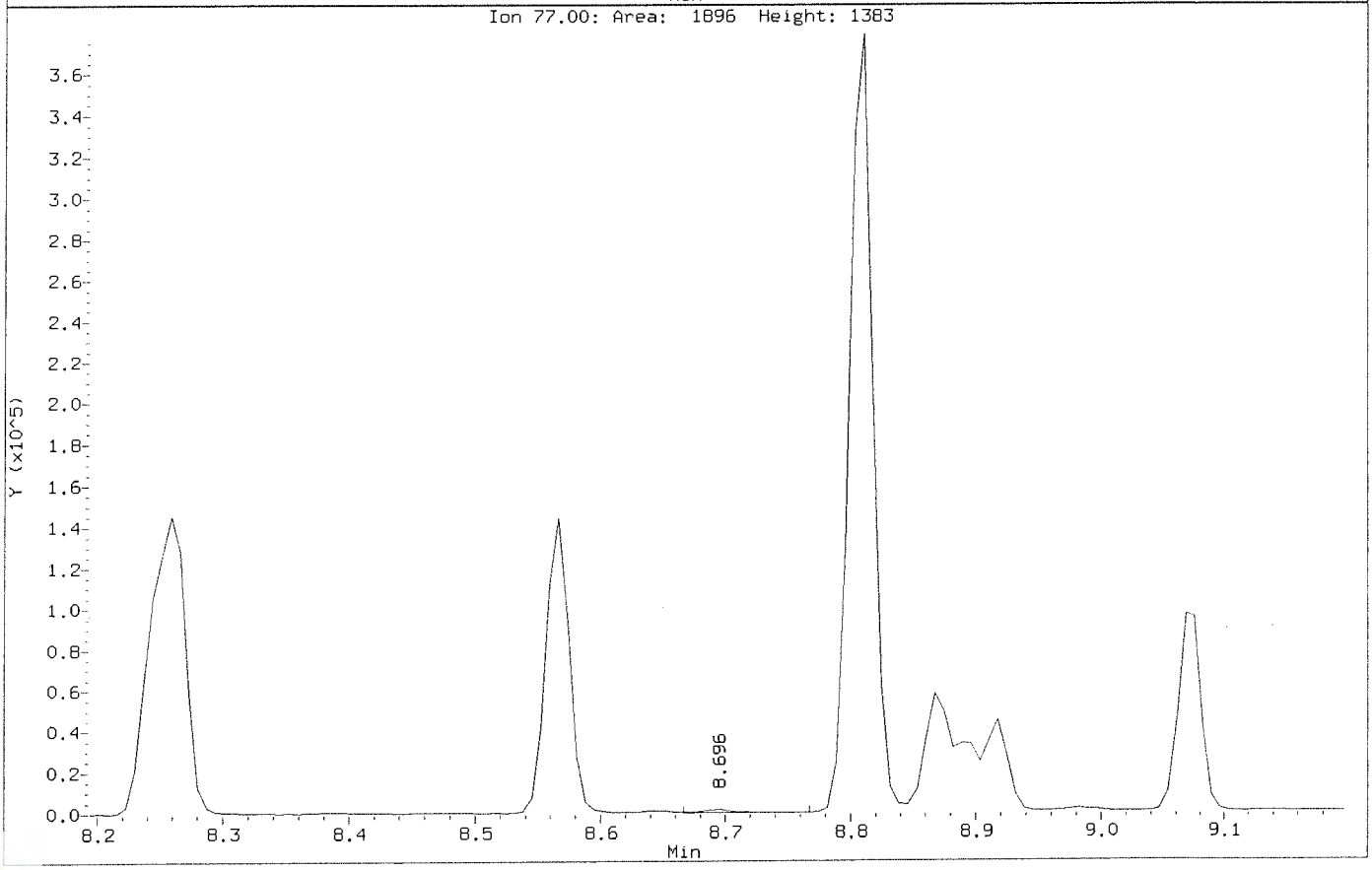
Instrument: voa6.i
Client Sample ID: VSTD200

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





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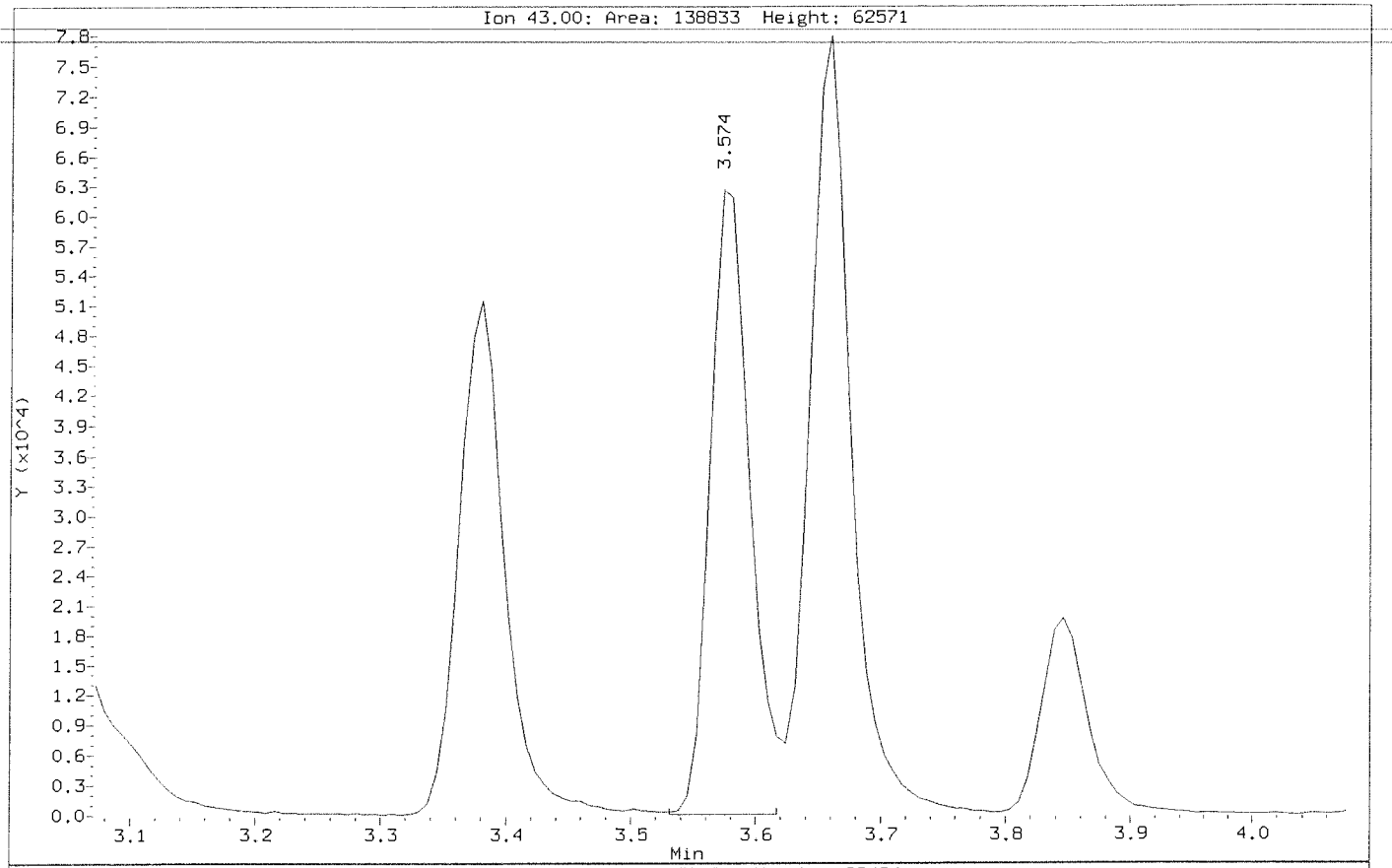
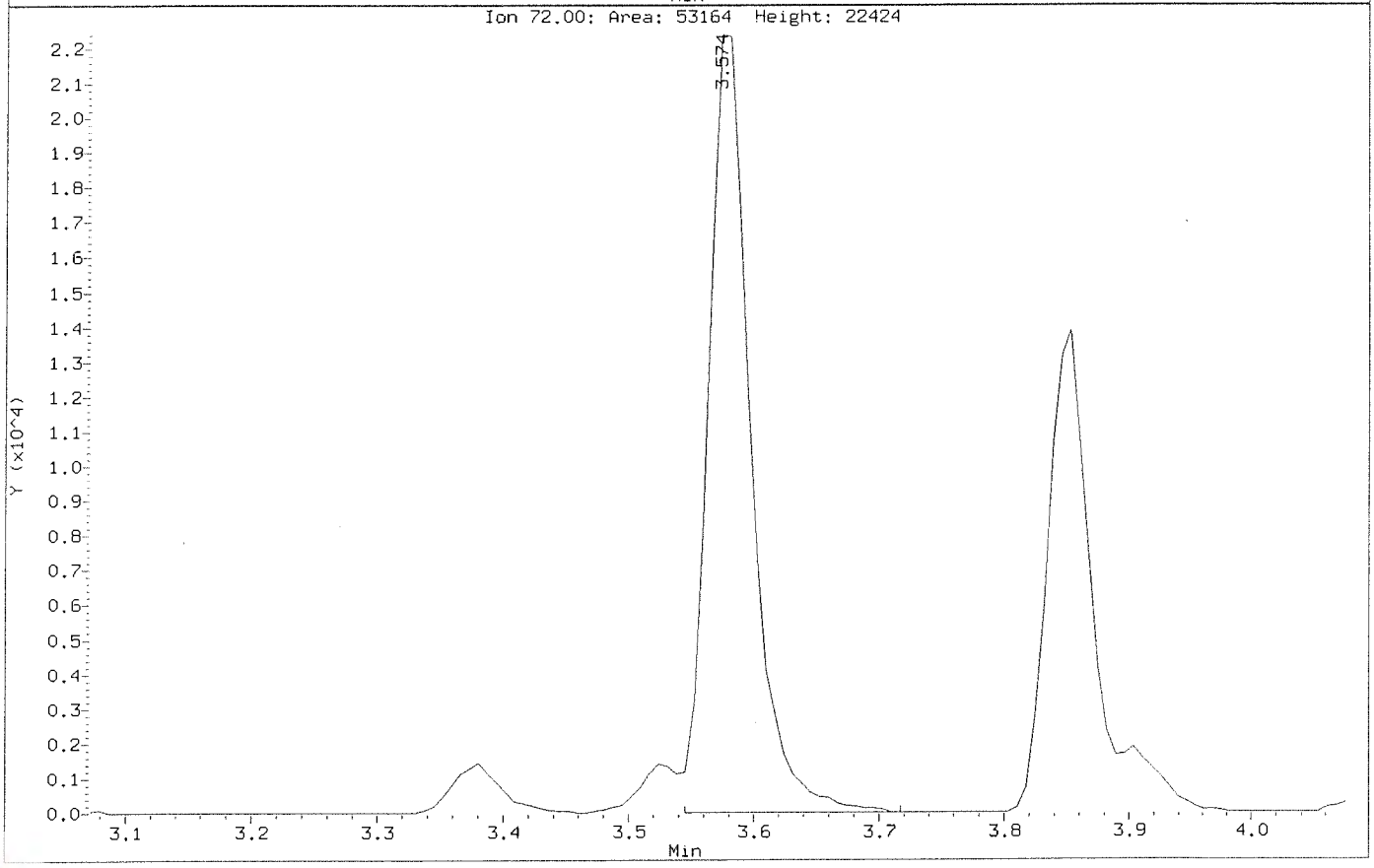
Instrument: voa6.i
Client Sample ID: VSTD200

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





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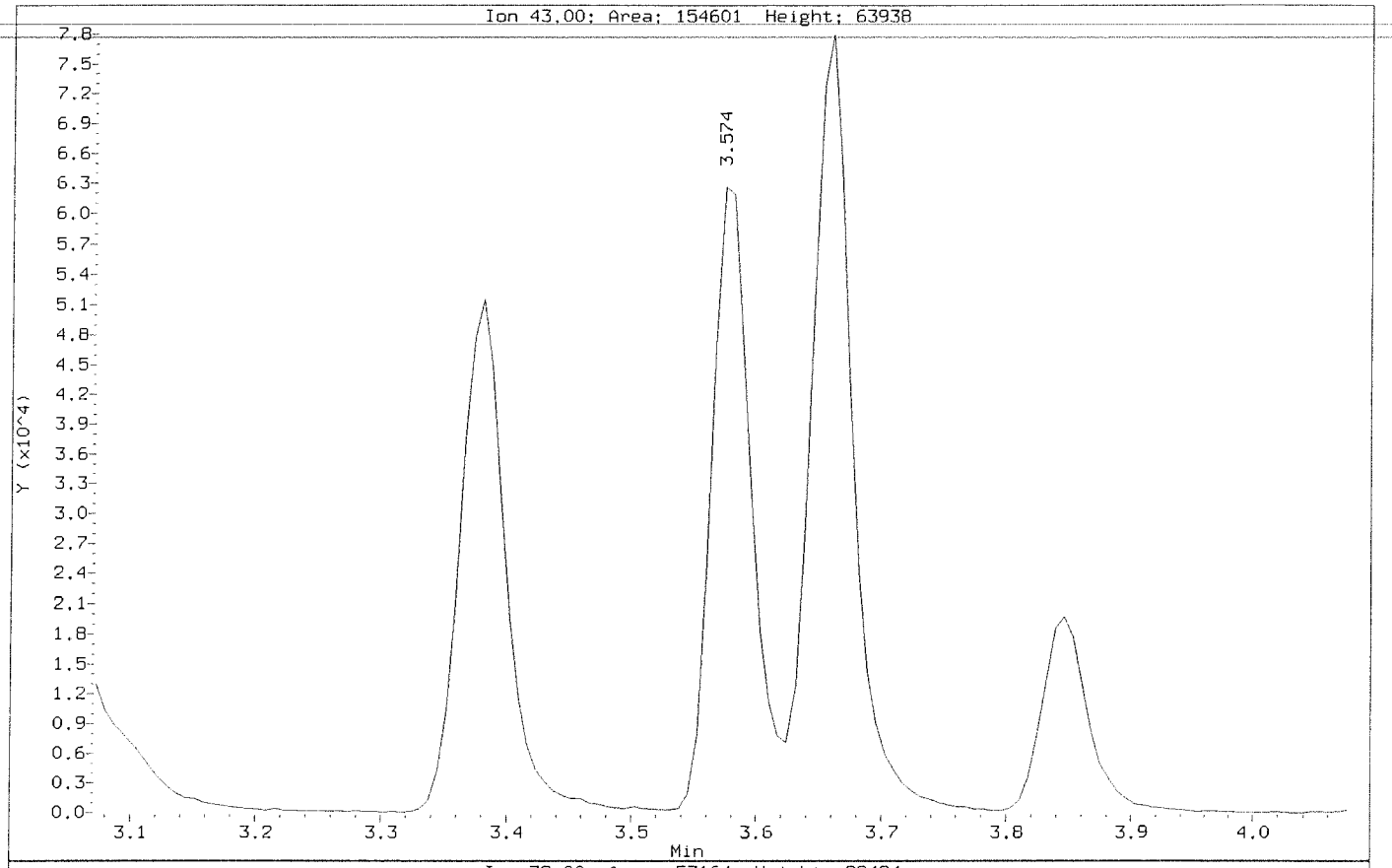
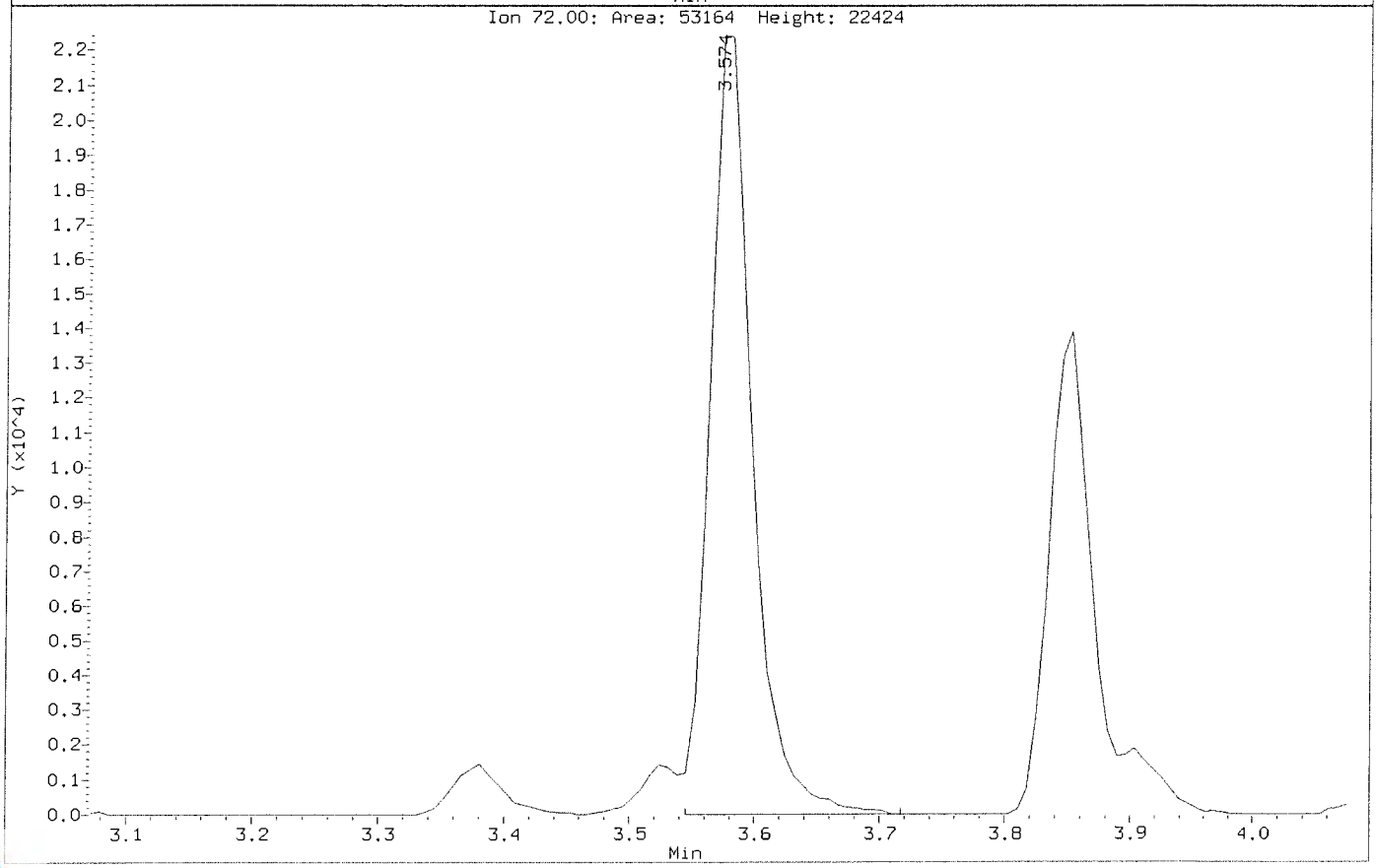
Instrument: voa6.i
Client Sample ID: VSTD200

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





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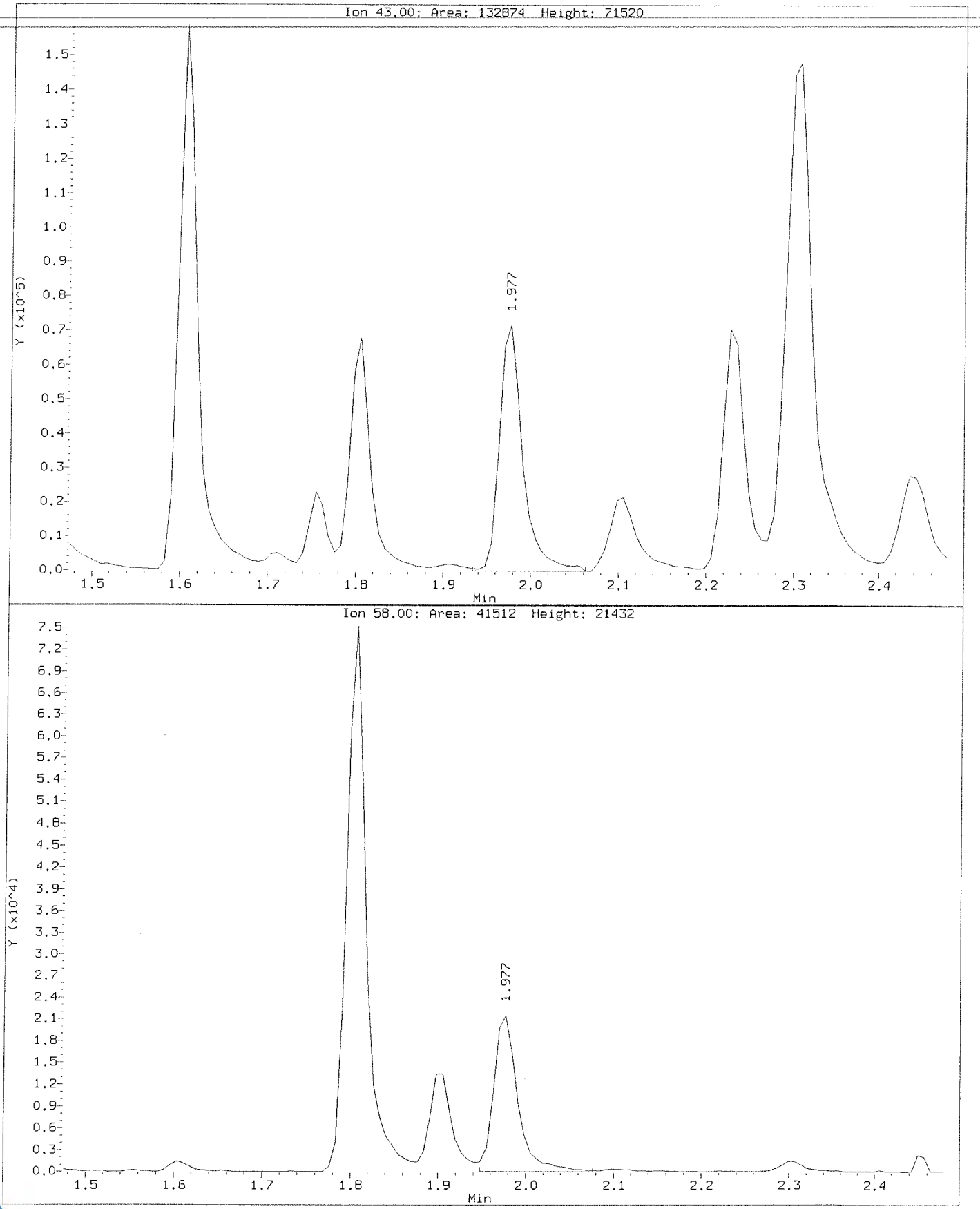
Instrument: voa6.i
Client Sample ID: VSTD200

Compound: Acetone
CAS Number: 67-64-1



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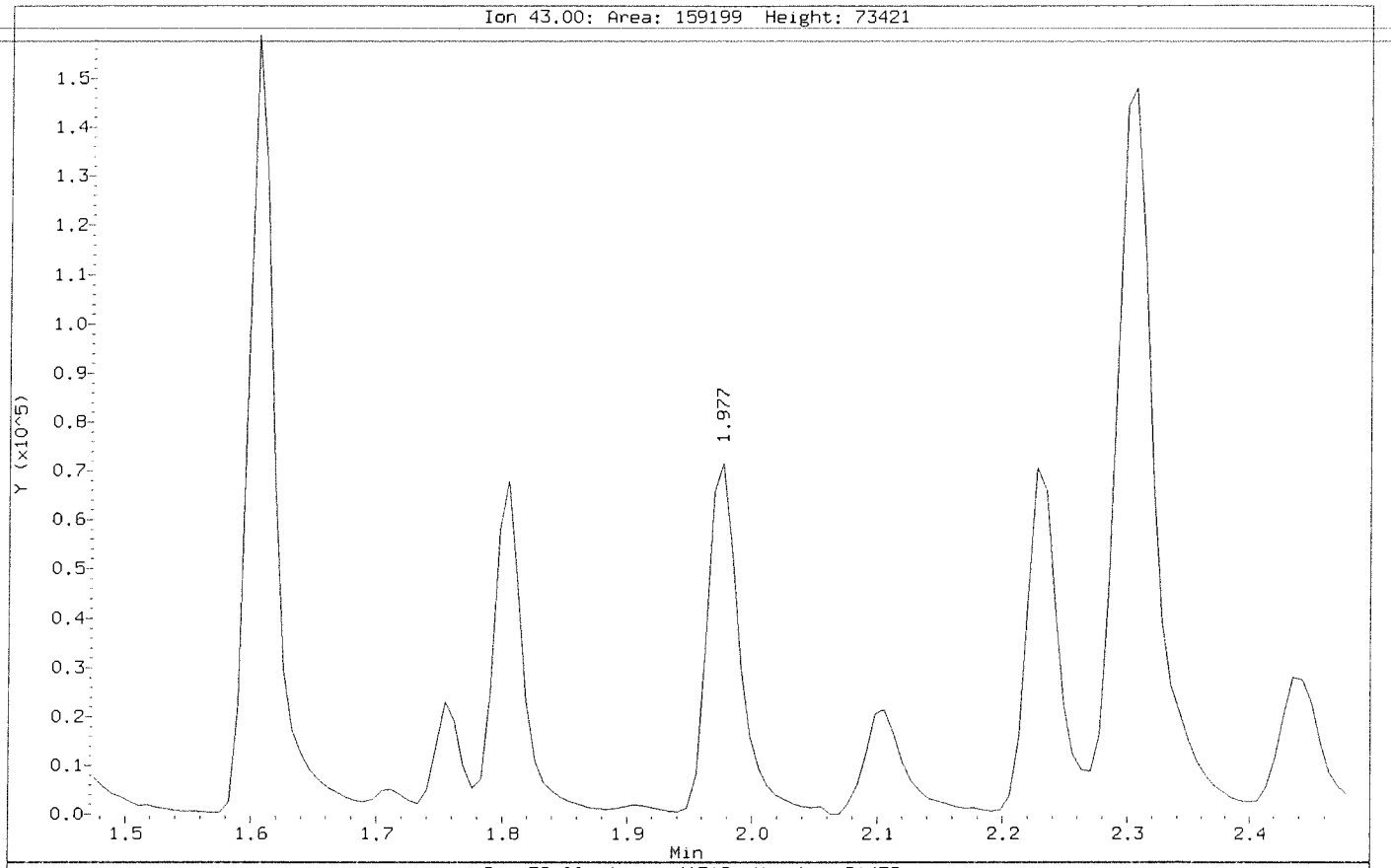
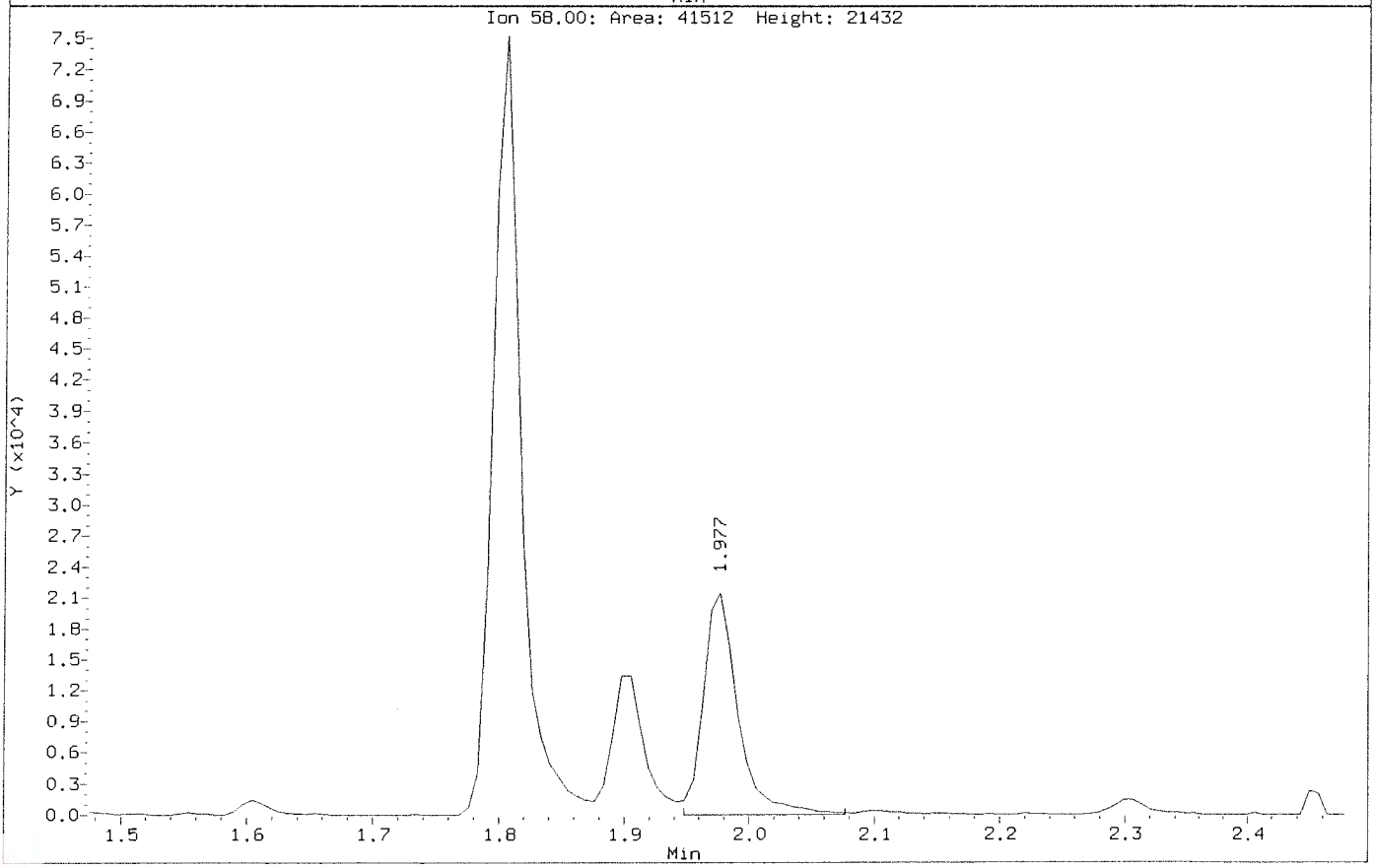
Compound: Acetone
CAS Number: 67-64-1





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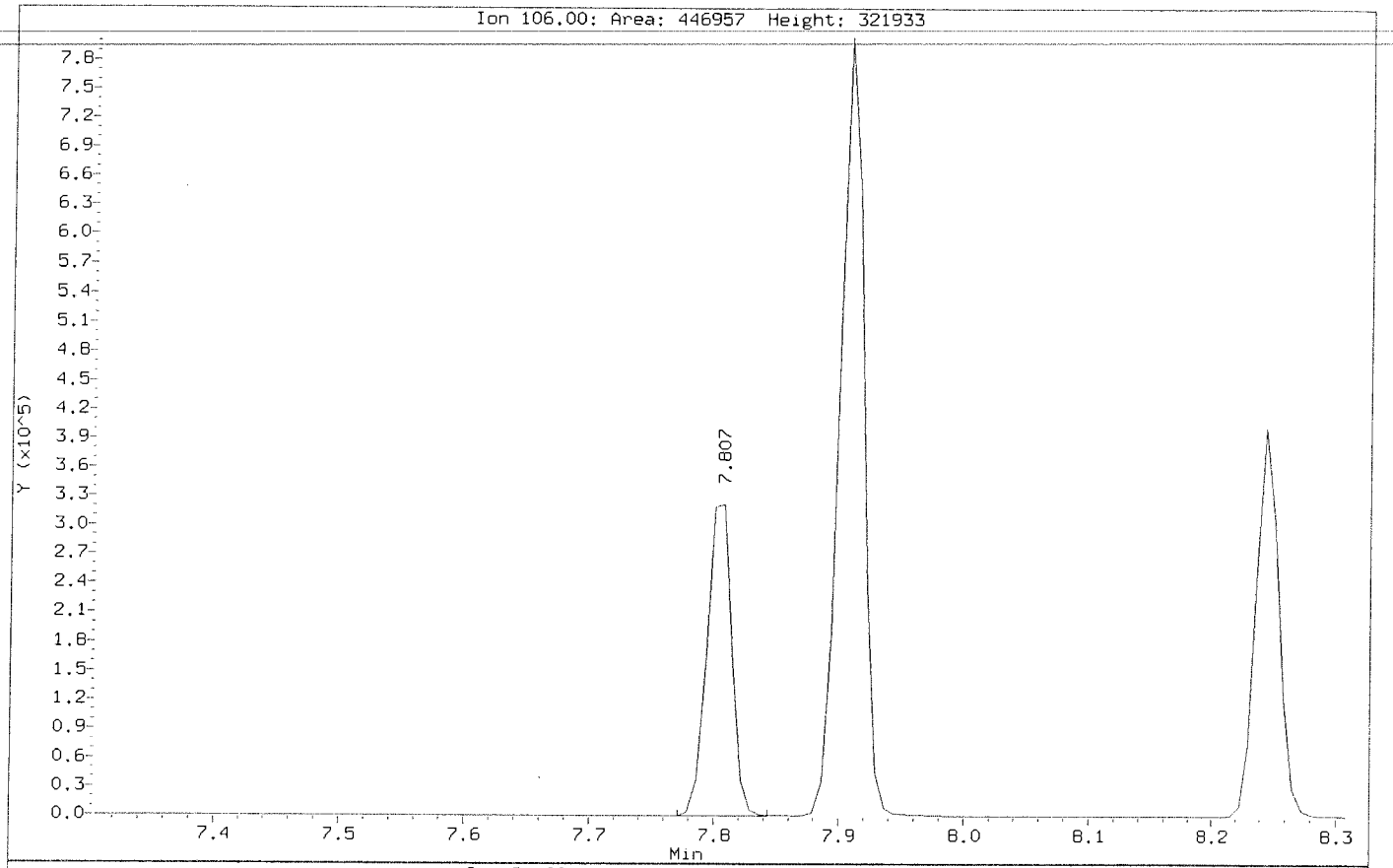
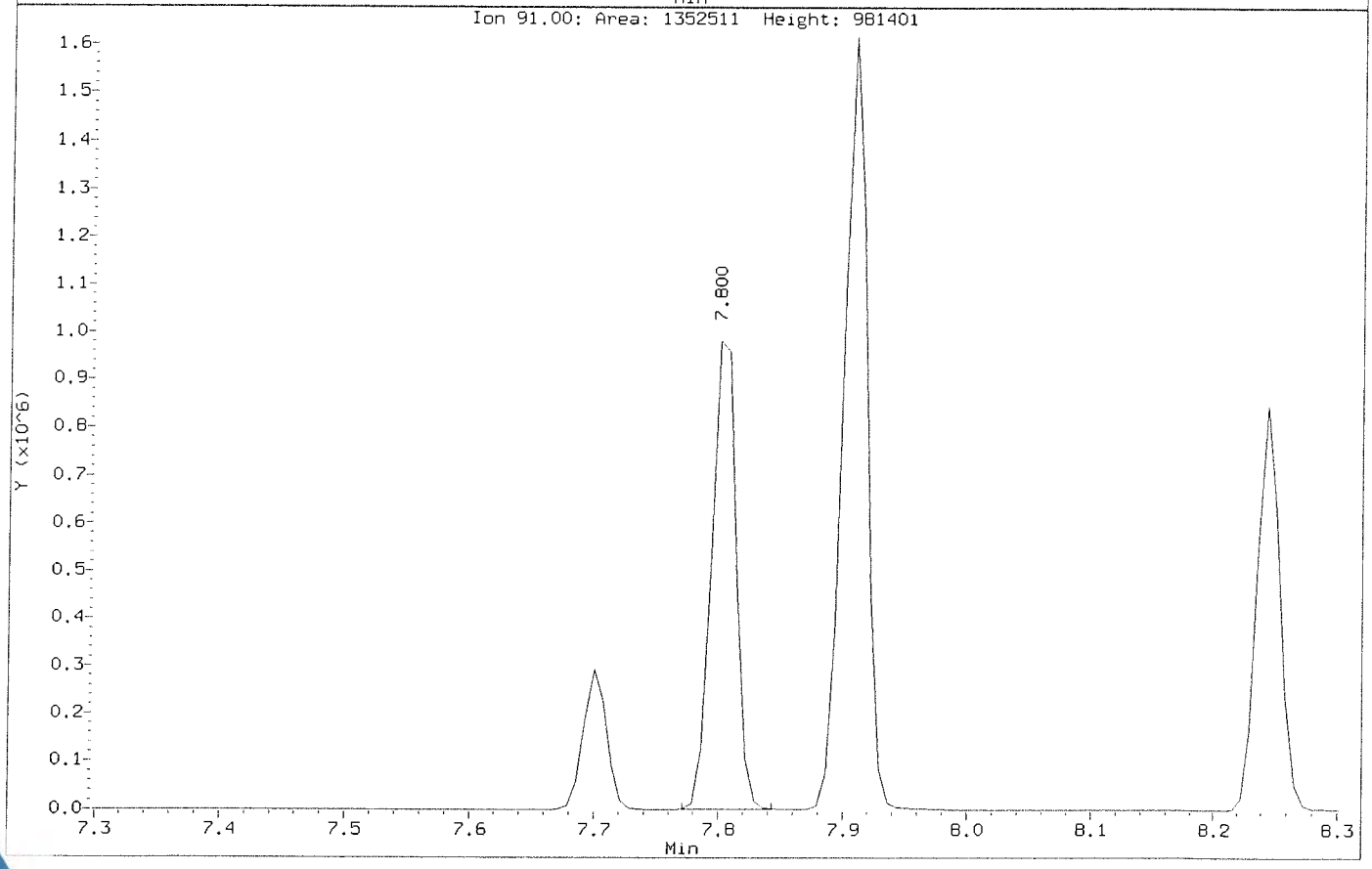
Instrument: voa6.i
Client Sample ID: VSTD200

Compound: Ethylbenzene
CAS Number: 100-41-4





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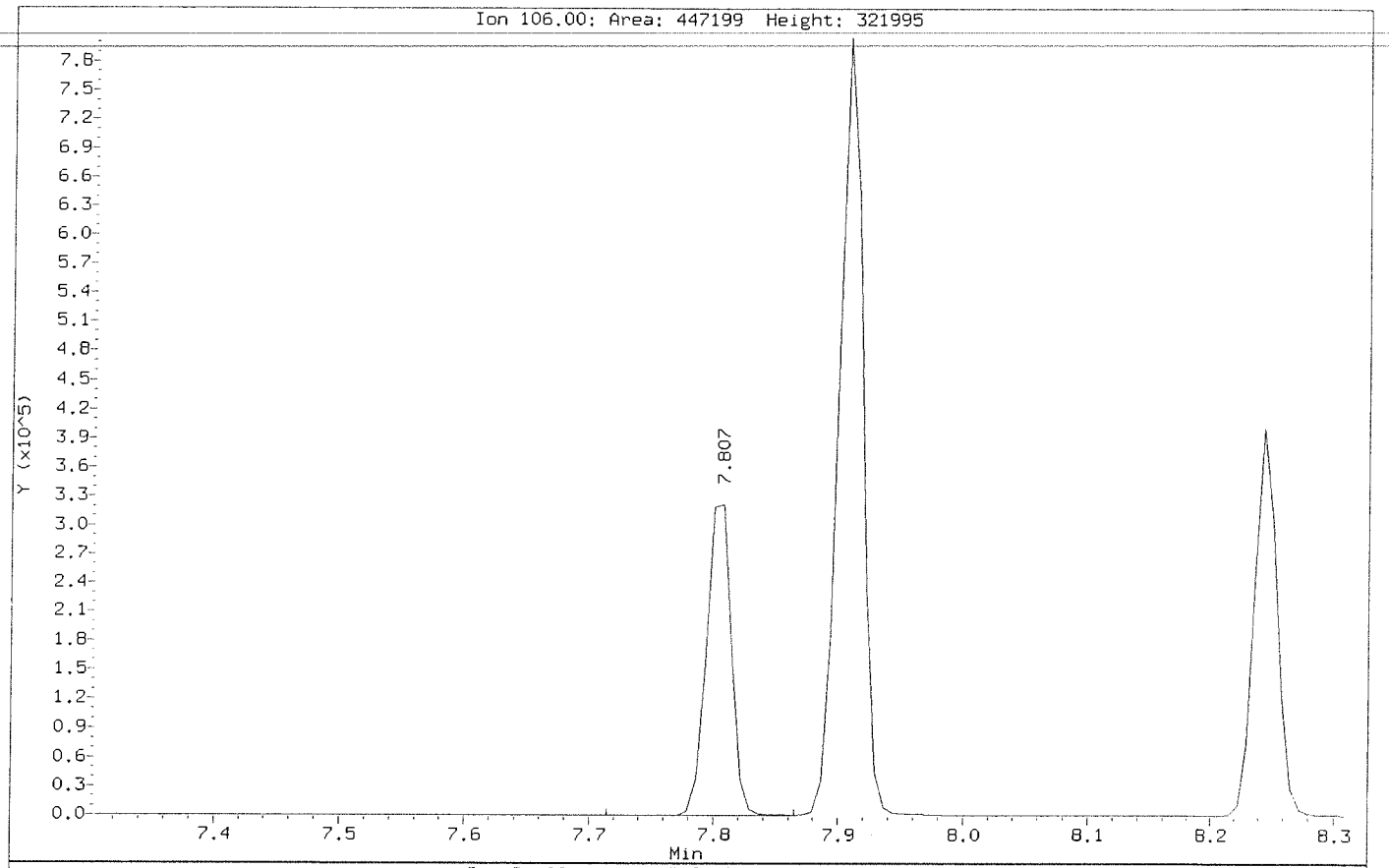
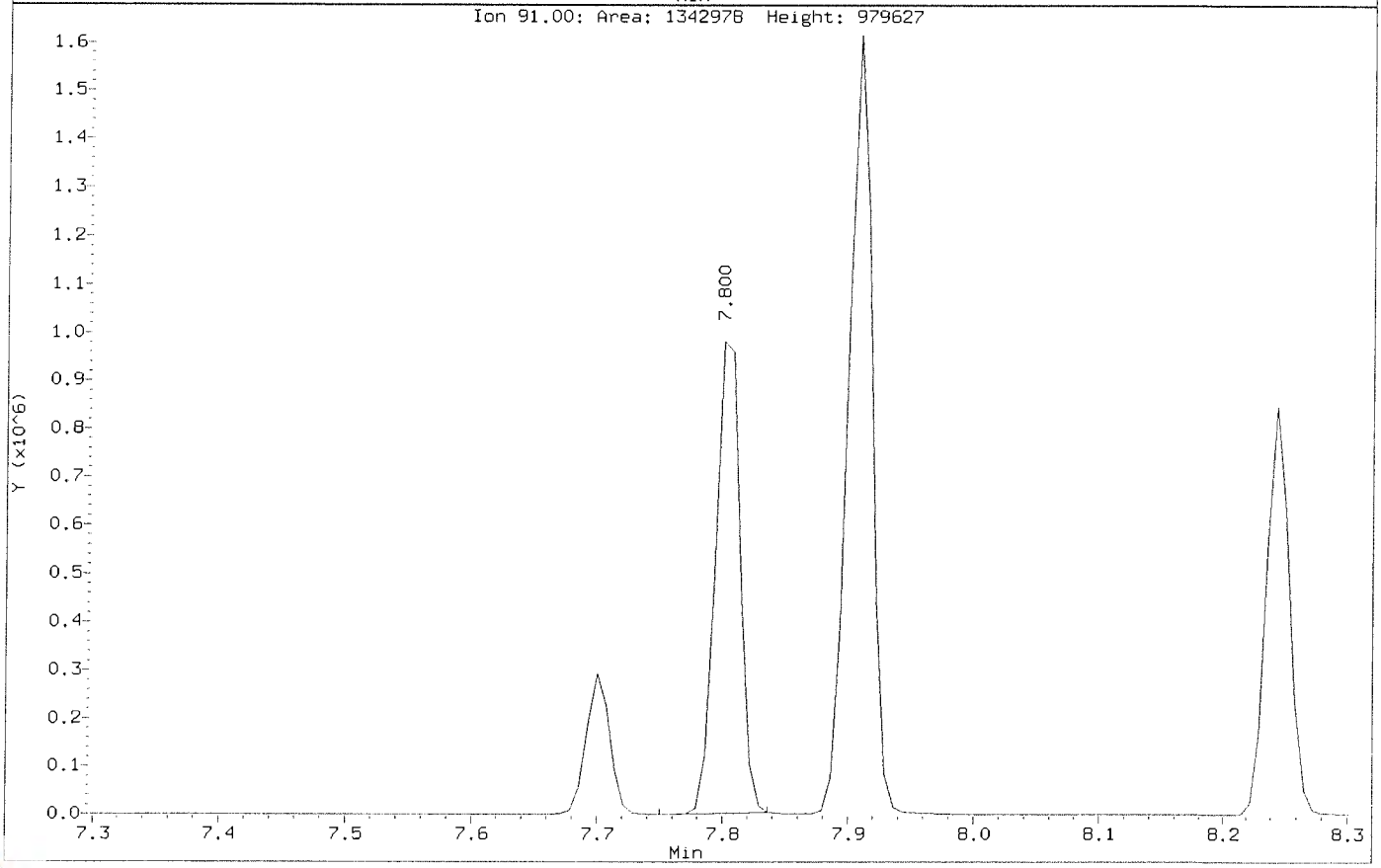
Instrument: voa6.i
Client Sample ID: VSTD200

Compound: Ethylbenzene
CAS Number: 100-41-4





Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\X103114.D Page 1
Report Date: 19-Nov-2019 17:39

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X191031.b\X103114.D
Lab Smp Id: ICV Client Smp ID: ICV
Inj Date : 31-OCT-2019 16:20
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\X191031.b\8260W.m
Meth Date : 19-Nov-2019 17:37 voa6.i Quant Type: ISTD
Cal Date : 31-OCT-2019 15:08 Cal File: X103111.D
Als bottle: 15 QC Sample: METHSPIKE
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

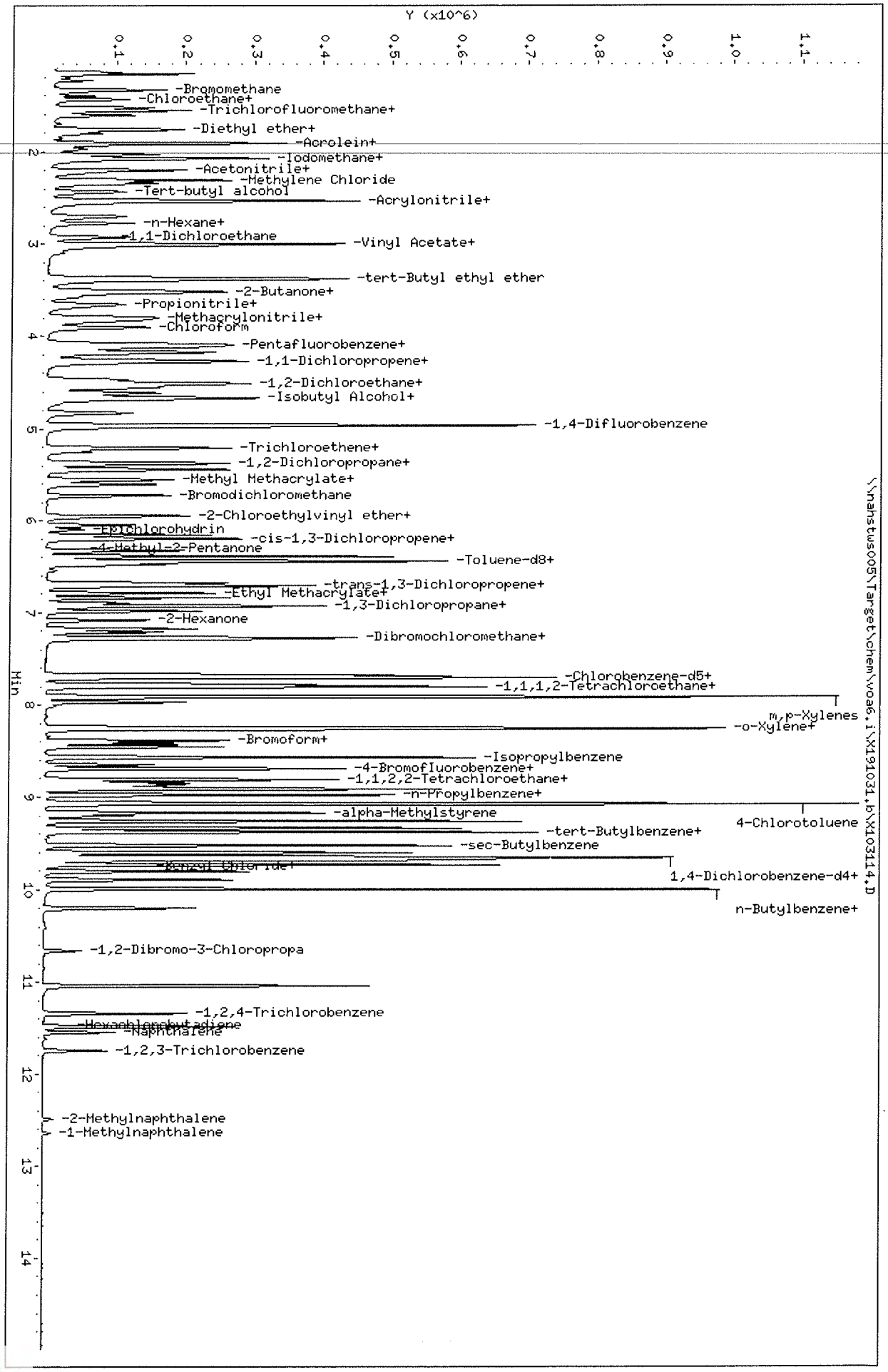
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	222901	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	271395	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	249311	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	145534	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	91238	48.5035	48.50
$ 69 4-Bromofluorobenzene	95	8.688	8.695	(1.133)	118151	50.4414	50.44
$ 30 Dibromofluoromethane	113	4.103	4.104	(0.981)	87286	49.1450	49.14
$ 48 Toluene-d8	98	6.388	6.389	(0.833)	300802	48.5612	48.56
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	96972	47.7498	47.74
31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	132872	47.5658	47.56
68 1,1,2,2-Tetrachloroethane	83	8.845	8.845	(0.915)	77879	49.1210	49.12
138 Freon TF	101	1.912	1.912	(0.457)	67962	46.0865	46.08
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	55155	48.6842	48.68
22 1,1-Dichloroethane	63	2.922	2.922	(0.699)	118345	47.4273	47.42
11 1,1-Dichloroethene	96	1.912	1.912	(0.457)	66655	47.0337	47.03
32 1,1-Dichloropropene	75	4.283	4.283	(0.862)	95177	47.0800	47.08
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.215)	27836	56.7167	56.71
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.917)	70273	50.3661	50.36(M)
90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	62648	47.7024	47.70
79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.970)	326505	46.8369	46.83
89 1,2-Dibromo-3-Chloropropane	155	10.658	10.658	(1.102)	11830	48.6971	48.69
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	81750	48.8016	48.80
88 1,2-Dichlorobenzene	146	9.999	9.999	(1.034)	187662	46.4641	46.46

Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\X103114.D Page 2
Report Date: 19-Nov-2019 17:39

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
33 1,2-Dichloroethane	62	4.555	4.562	(0.916)	105674	48.0274	48.02
42 1,2-Dichloropropane	63	5.436	5.436	(1.094)	60945	46.1006	46.10
75 1,3,5-Trimethylbenzene	105	9.067	9.075	(0.938)	319848	47.3459	47.34
83 1,3-Dichlorobenzene	146	9.605	9.612	(0.993)	206473	46.5359	46.53
54 1,3-Dichloropropane	76	6.983	6.983	(0.910)	111425	47.9423	47.94
84 1,4-Dichlorobenzene	146	9.683	9.684	(1.001)	204599	45.7038	45.70
26 2,2-Dichloropropane	77	3.516	3.516	(0.841)	124902	46.5859	46.58
24 2-Butanone	43	3.573	3.573	(0.854)	41819	92.8796	92.87
76 2-Chlorotoluene	91	8.974	8.982	(0.928)	242660	46.3918	46.39
52 2-Hexanone	43	7.083	7.090	(0.923)	67411	92.8622	92.86
77 4-Chlorotoluene	91	9.075	9.075	(0.939)	290651	47.1081	47.10
82 p-Isopropyltoluene	119	9.655	9.655	(0.999)	334348	46.2154	46.21
45 4-Methyl-2-Pentanone	43	6.324	6.331	(0.824)	93203	90.7923	90.79
10 Acetone	43	1.969	1.976	(0.471)	43147	94.8629	94.86
37 Benzene	78	4.512	4.512	(0.908)	282394	48.5953	48.59
74 Bromobenzene	156	8.810	8.810	(0.911)	127809	47.7075	47.70
29 Bromochloromethane	128	3.795	3.795	(0.908)	53096	46.1857	46.18
39 Bromodichloromethane	83	5.729	5.730	(1.153)	104561	48.6604	48.66
66 Bromoform	173	8.416	8.416	(1.097)	79401	49.3778	49.37
6 Bromomethane	94	1.339	1.331	(0.320)	78511	46.7242	46.72
19 Carbon Disulfide	76	2.069	2.069	(0.495)	398279	96.9804	96.98
34 Carbon Tetrachloride	117	4.268	4.268	(0.859)	121917	46.0259	46.02
59 Chlorobenzene	112	7.699	7.699	(1.004)	235939	48.5835	48.58
7 Chloroethane	64	1.403	1.396	(0.336)	40878	46.2623	46.26
28 Chloroform	83	3.910	3.910	(0.935)	142247	48.2146	48.21
3 Chloromethane	50	1.074	1.074	(0.257)	69924	47.4826	47.48
27 cis-1,2-Dichloroethene	96	3.530	3.523	(0.844)	87003	48.8598	48.85
46 cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	121466	48.7997	48.79
55 Dibromochloromethane	129	7.176	7.176	(0.936)	100135	48.4872	48.48
44 Dibromomethane	93	5.550	5.558	(1.117)	51989	49.6014	49.60
2 Dichlorodifluoromethane	85	0.973	0.966	(0.233)	79696	45.4615	45.46
61 Ethylbenzene	106	7.800	7.807	(1.017)	120889	47.9946	47.99
91 Hexachlorobutadiene	225	11.489	11.481	(1.188)	55154	48.5846	48.58
67 Isopropylbenzene	105	8.566	8.566	(1.117)	355632	46.4438	46.44
62 m,p-Xylenes	106	7.907	7.907	(1.031)	292741	95.8779	95.87
17 Methylene Chloride	84	2.306	2.306	(0.551)	73218	47.3288	47.32
87 n-Butylbenzene	91	9.999	9.999	(1.034)	246174	47.7070	47.70
73 n-Propylbenzene	91	8.917	8.917	(0.922)	383682	46.2884	46.28
92 Naphthalene	128	11.546	11.546	(1.194)	73378	55.7244	55.72
63 o-Xylene	106	8.244	8.244	(1.075)	142268	47.3188	47.31
81 sec-Butylbenzene	105	9.526	9.526	(0.985)	339907	46.0052	46.00
64 Styrene	104	8.258	8.265	(1.077)	252523	48.5514	48.55
78 tert-Butylbenzene	119	9.340	9.340	(0.966)	266237	45.4717	45.47
56 Tetrachloroethene	164	6.933	6.933	(0.904)	90330	47.8251	47.82
50 Toluene	91	6.446	6.446	(0.840)	329332	48.4073	48.40
20 trans-1,2-Dichloroethene	96	2.528	2.528	(0.604)	73884	49.3441	49.34
51 trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	114282	49.1814	49.18
38 Trichloroethene	130	5.207	5.207	(1.048)	99222	48.9983	48.99
8 Trichlorofluoromethane	101	1.561	1.553	(0.373)	140155	47.1125	47.11
5 Vinyl Chloride	62	1.138	1.138	(0.272)	67120	48.0063	48.00

QC Flag Legend

M - Compound response manually integrated.



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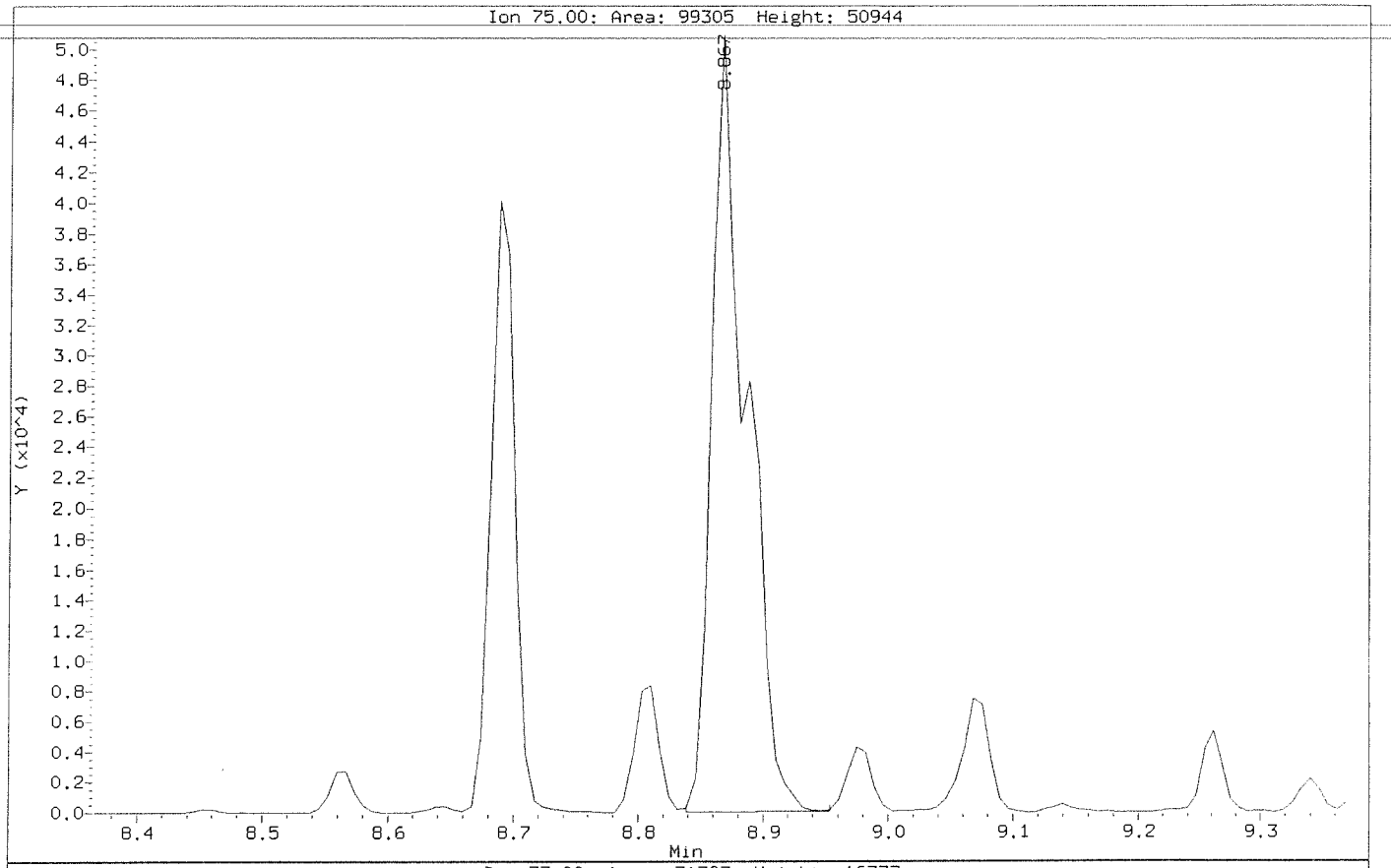
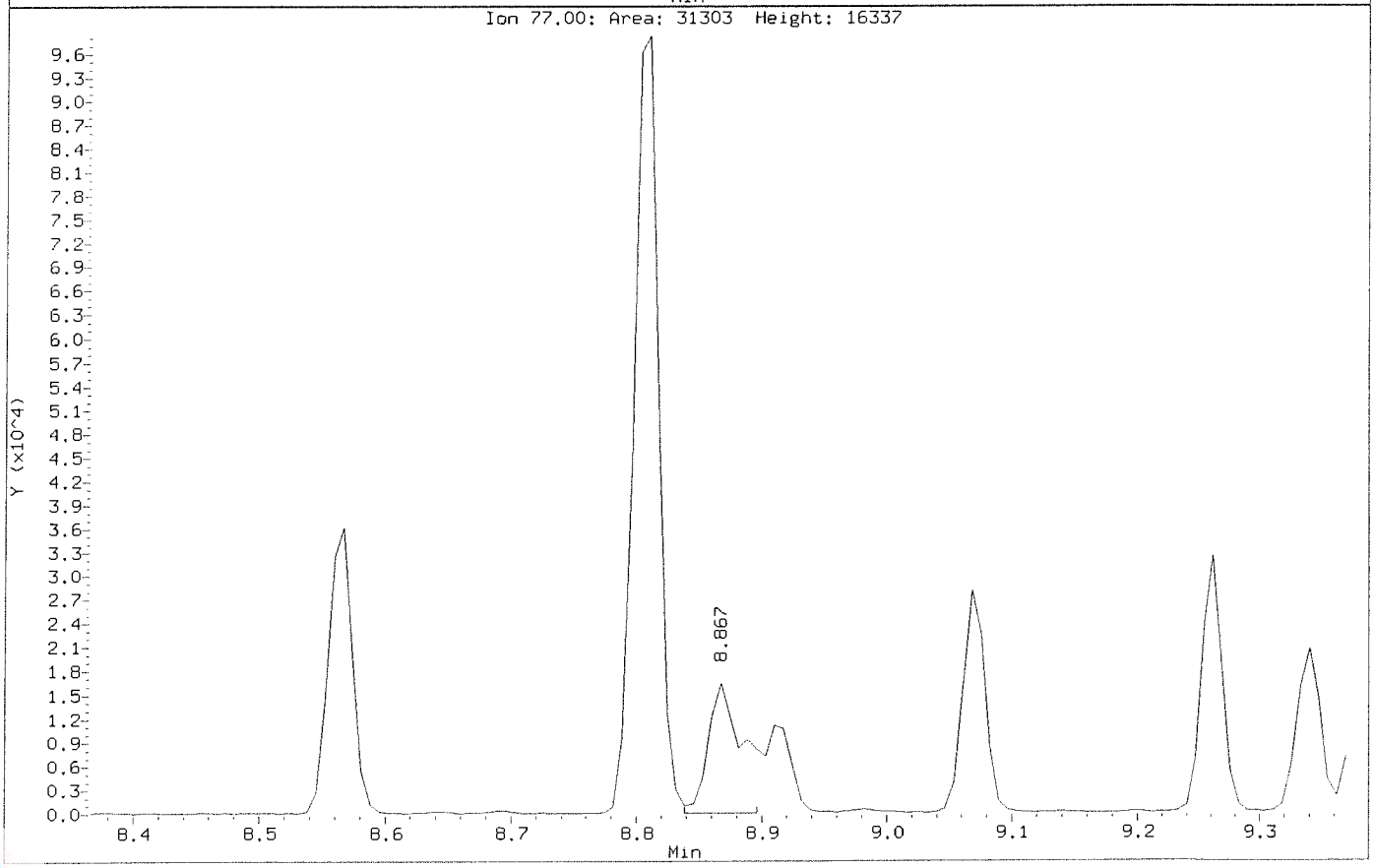
Sample Info: CCV;CCV;2;;ICV
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\BEFORE2\X103114.D
Injection Date: 31-OCT-2019 16:20
Instrument: voa6.i
Client Sample ID: ICV

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





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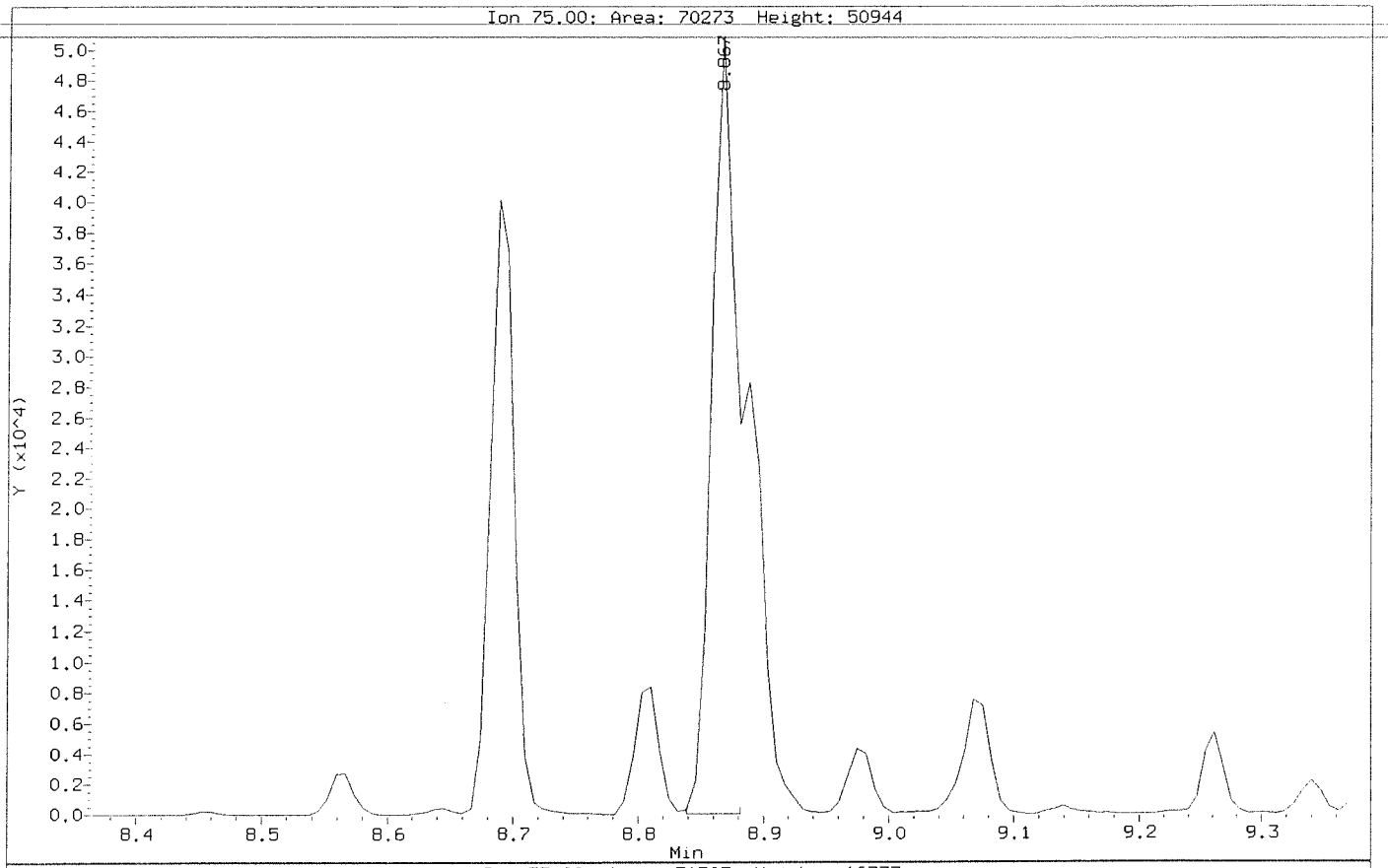
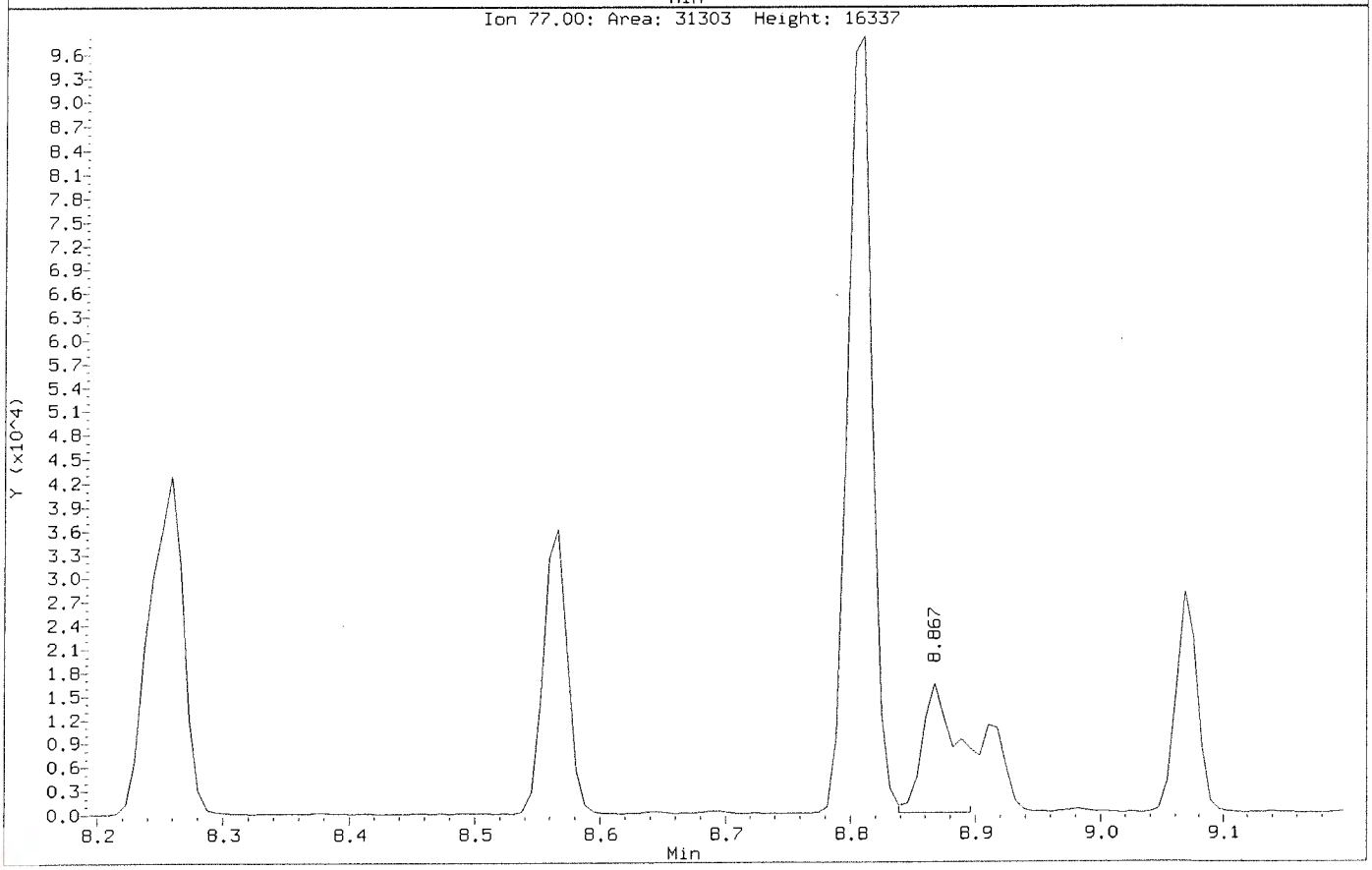
Injection Date: 31-OCT-2019 16:20
Instrument: voa6.i
Client Sample ID: ICV

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





Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\X103116.D Page 1
Report Date: 19-Nov-2019 19:07

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X191031.b\X103116.D
Lab Smp Id: VLCSW-191031 Client Smp ID: VLCSW-191031
Inj Date : 31-OCT-2019 17:08
Operator : PC Inst ID: voa6.i
Smp Info : VLCSW-191031;VLCSW-191031;3;;LCS
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X191031.b\8260W.m
Meth Date : 19-Nov-2019 19:06 voa6.i Quant Type: ISTD
Cal Date : 31-OCT-2019 13:56 Cal File: X103108.D
Als bottle: 17 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

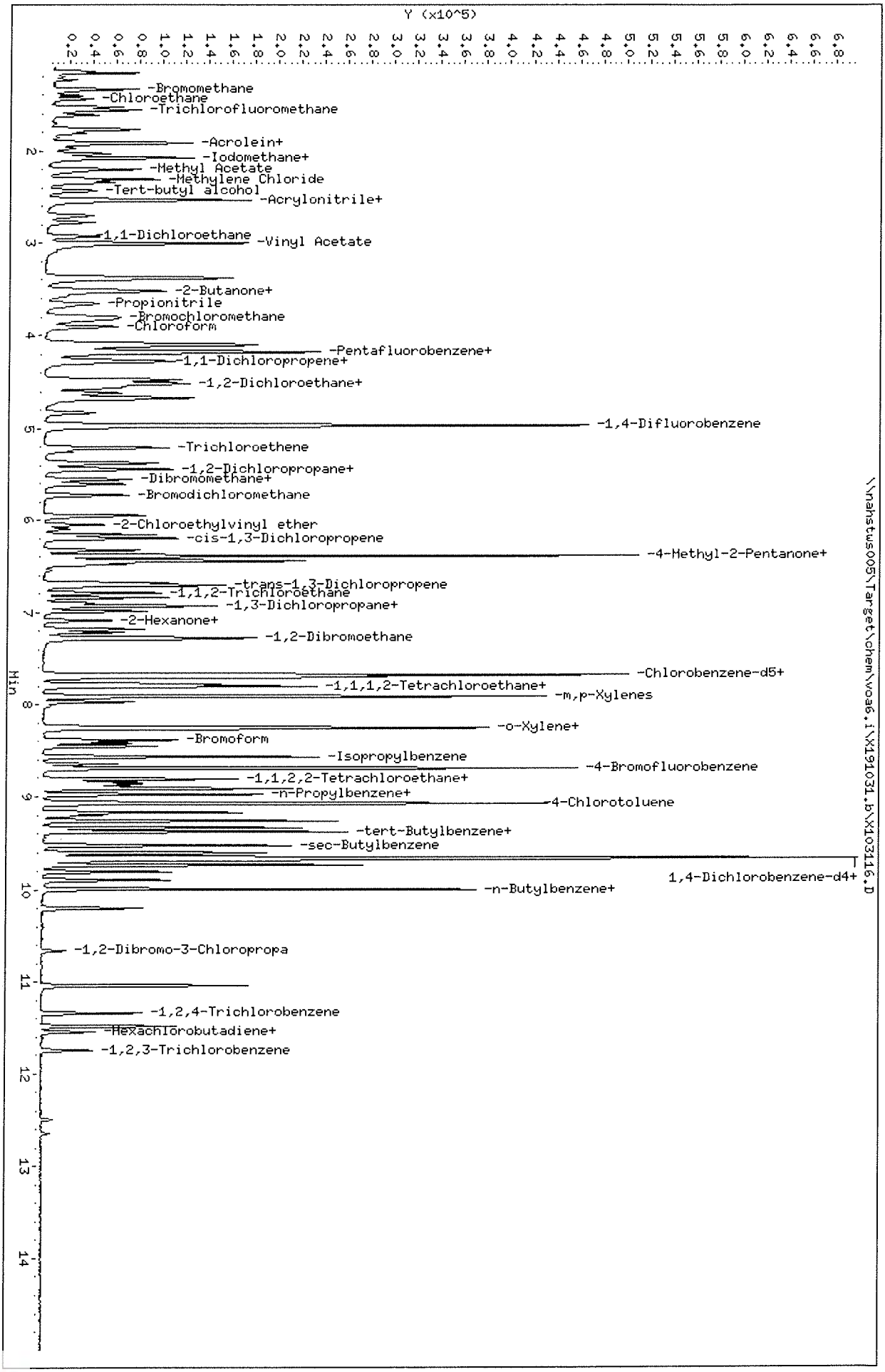
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	216849	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	272961	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	252984	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.662	(1.000)	149700	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	93492	51.0626	51.06
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	123216	51.8569	51.85
$ 30 Dibromofluoromethane	113	4.103	4.104	(0.981)	87565	50.6628	50.66
$ 48 Toluene-d8	98	6.388	6.389	(0.833)	307031	48.8471	48.84
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	37051	17.9793	17.97
31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	51568	18.9756	18.97
68 1,1,2,2-Tetrachloroethane	83	8.845	8.845	(0.915)	31907	19.2459	19.24
138 Freon TF	101	1.919	1.912	(0.459)	23956	16.6984	16.69
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	22637	19.6911	19.69
22 1,1-Dichloroethane	63	2.921	2.922	(0.699)	46593	19.1935	19.19
11 1,1-Dichloroethene	96	1.911	1.912	(0.457)	25808	18.7191	18.71
32 1,1-Dichloropropene	75	4.282	4.283	(0.862)	37210	18.3006	18.30
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.215)	13517	27.0567	27.05
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.917)	28745	19.3608	19.36(M)
90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	26247	19.4292	19.42
79 1,2,4-Trimethylbenzene	105	9.382	9.383	(0.970)	120557	16.8125	16.81
89 1,2-Dibromo-3-Chloropropane	155	10.658	10.658	(1.102)	4536	18.8258	18.82
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	33608	19.7714	19.77
88 1,2-Dichlorobenzene	146	9.999	9.992	(1.034)	69957	16.8390	16.83

Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\X103116.D Page 2
Report Date: 19-Nov-2019 19:07

	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)	43212	19.5266	19.52
42	1,2-Dichloropropane	63	5.436	5.436	(1.094)	24694	18.5721	18.57
75	1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	117104	16.8521	16.85
83	1,3-Dichlorobenzene	146	9.612	9.605	(0.994)	76723	16.8110	16.81
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	45284	19.2013	19.20
84	1,4-Dichlorobenzene	146	9.683	9.684	(1.001)	77382	16.8047	16.80
26	2,2-Dichloropropane	77	3.509	3.516	(0.839)	49510	18.9816	18.98
24	2-Butanone	43	3.573	3.573	(0.854)	17031	38.6083	38.60
76	2-Chlorotoluene	91	8.974	8.974	(0.928)	91042	16.9211	16.92
52	2-Hexanone	43	7.083	7.083	(0.923)	27875	37.8418	37.84
77	4-Chlorotoluene	91	9.074	9.075	(0.939)	108480	17.0929	17.09
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	123080	16.5394	16.53
45	4-Methyl-2-Pentanone	43	6.324	6.324	(0.824)	38459	36.9203	36.92
10	Acetone	43	1.969	1.969	(0.471)	18021	40.7164	40.71
37	Benzene	78	4.512	4.512	(0.908)	114060	19.3243	19.32
74	Bromobenzene	156	8.809	8.810	(0.911)	48909	17.7483	17.74
29	Bromochloromethane	128	3.795	3.795	(0.908)	21365	19.1031	19.10
39	Bromodichloromethane	83	5.729	5.730	(1.153)	42387	19.6128	19.61
66	Bromoform	173	8.415	8.416	(1.097)	30886	18.9285	18.92
6	Bromomethane	94	1.338	1.339	(0.320)	32584	19.0706	19.07
19	Carbon Disulfide	76	2.069	2.069	(0.495)	155051	38.8084	38.80
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	45969	17.2546	17.25
59	Chlorobenzene	112	7.699	7.699	(1.004)	90419	18.3483	18.34
7	Chloroethane	64	1.403	1.403	(0.336)	16176	18.8176	18.81
28	Chloroform	83	3.910	3.910	(0.935)	56295	19.6137	19.61
3	Chloromethane	50	1.073	1.074	(0.257)	26996	18.8069	18.80
27	cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	34701	20.0315	20.03
46	cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	48894	19.5308	19.53
55	Dibromochloromethane	129	7.176	7.176	(0.936)	39598	18.8957	18.89
44	Dibromomethane	93	5.557	5.558	(1.118)	20522	19.4672	19.46
2	Dichlorodifluoromethane	85	0.973	0.973	(0.233)	29862	18.2575	18.25
61	Ethylbenzene	106	7.799	7.800	(1.017)	44458	17.3942	17.39
91	Hexachlorobutadiene	225	11.488	11.489	(1.188)	23377	20.0195	20.01
67	Isopropylbenzene	105	8.566	8.566	(1.117)	130013	16.7326	16.73
62	m,p-Xylenes	106	7.907	7.907	(1.031)	109002	35.1818	35.18
17	Methylene Chloride	84	2.305	2.306	(0.551)	29677	19.7152	19.71
87	n-Butylbenzene	91	9.999	9.999	(1.034)	90629	17.0746	17.07
73	n-Propylbenzene	91	8.917	8.917	(0.922)	137197	16.0912	16.09
92	Naphthalene	128	11.546	11.546	(1.194)	32064	23.7765	23.77
63	o-Xylene	106	8.244	8.244	(1.075)	53328	17.4795	17.47
81	sec-Butylbenzene	105	9.526	9.526	(0.985)	123090	16.1962	16.19
64	Styrene	104	8.258	8.258	(1.077)	95323	18.0612	18.06
78	tert-Butylbenzene	119	9.340	9.340	(0.966)	96987	16.1038	16.10
56	Tetrachloroethene	164	6.933	6.933	(0.904)	33573	17.5171	17.51
50	Toluene	91	6.446	6.446	(0.840)	125991	18.2501	18.25
20	trans-1,2-Dichloroethene	96	2.527	2.528	(0.604)	29797	20.4556	20.45
51	trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	46558	19.9213	19.92
38	Trichloroethene	130	5.206	5.207	(1.048)	39048	19.1723	19.17
8	Trichlorofluoromethane	101	1.560	1.561	(0.373)	51784	17.8928	17.89
5	Vinyl Chloride	62	1.138	1.138	(0.272)	25832	18.9915	18.99

QC Flag Legend

M - Compound response manually integrated.



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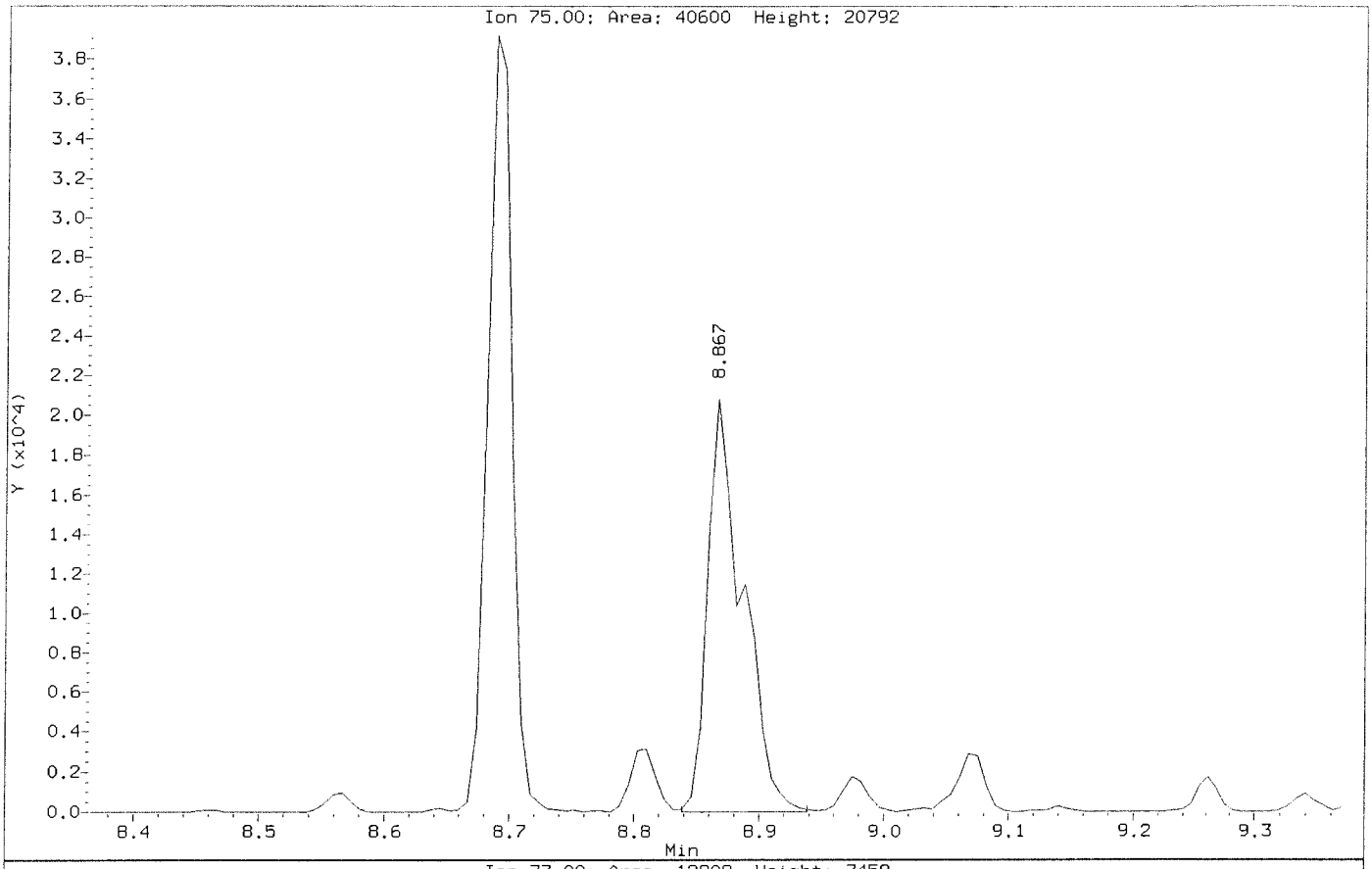
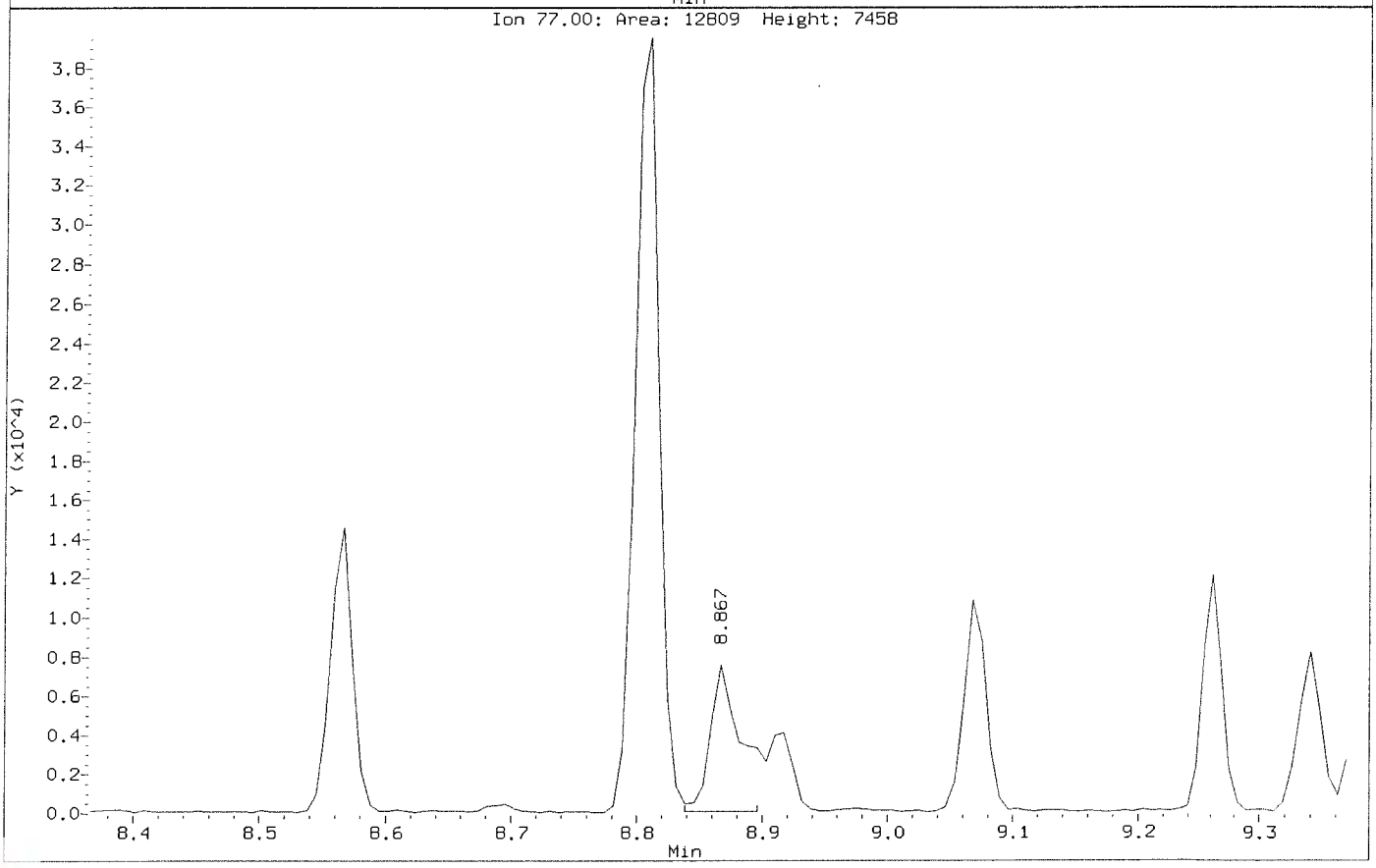
Date : 31-OCT-2019 17:08
Client ID: VLCSW-191031
Sample Info: VLCSW-191031,VLCSW-191031,3,,LCS
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\BEFORE2\X103116.D
Injection Date: 31-OCT-2019 17:08
Instrument: voa6.i
Client Sample ID: VLCSW-191031

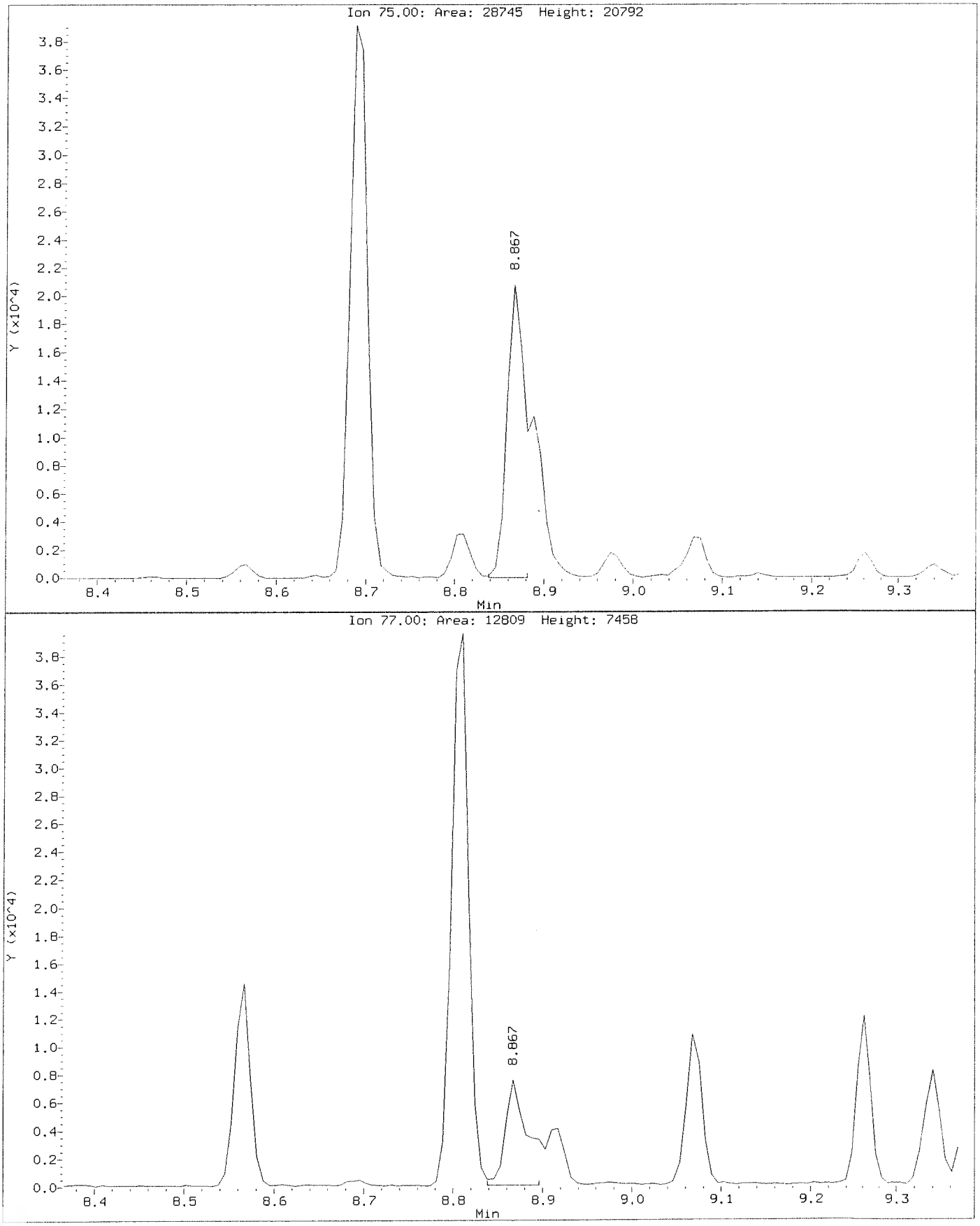
Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4





Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\X103116.D
Injection Date: 31-OCT-2019 17:08
Instrument: voa6.i
Client Sample ID: VLCSW-191031

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



ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X191031.b\X103119.D
Lab Smp Id: VBLKW-191031 Client Smp ID: VBLKW-191031
Inj Date : 31-OCT-2019 18:20
Operator : PC Inst ID: voa6.i
Smp Info : VBLKW-191031;VBLKW-191031;3;;BLANK
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X191031.b\8260W.m
Meth Date : 19-Nov-2019 19:06 voa6.i Quant Type: ISTD
Cal Date : 31-OCT-2019 13:56 Cal File: X103108.D
Als bottle: 20 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBIHOUSTONDOD.sub
Target Version: 4.14

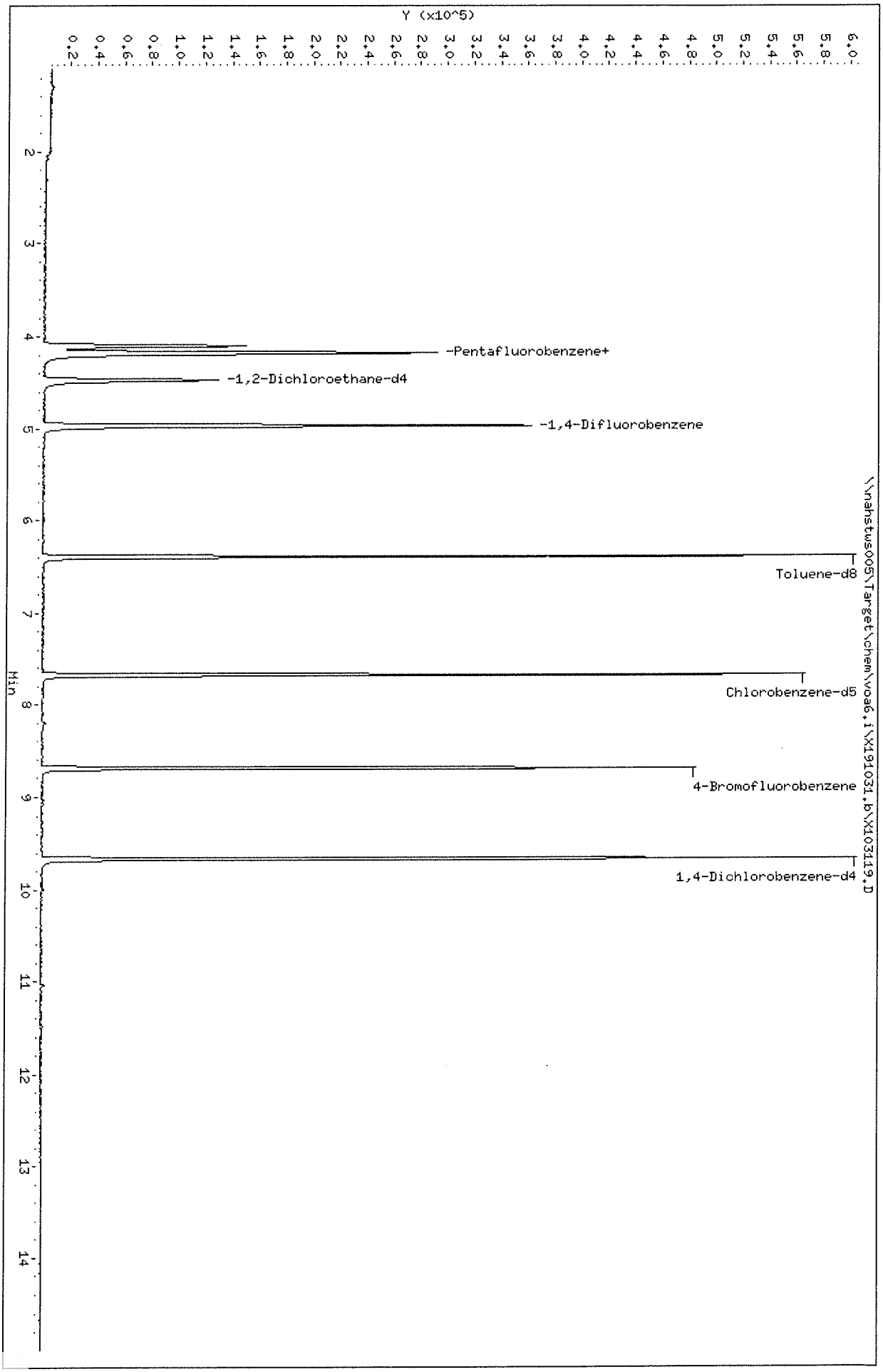
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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)	277010	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	326333	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	289842	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.662	(1.000)	159687	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	104212	44.6191	44.61
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	136200	50.0106	50.01
$ 30 Dibromofluoromethane	113	4.103	4.104	(0.981)	102331	46.3894	46.38
$ 48 Toluene-d8	98	6.388	6.389	(0.833)	363066	50.4167	50.41

Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\X103119.D
Date : 31-OCT-2019 18:20
Client ID: VBLKW-191031
Sample Info: VBLKW-191031;VBLKW-191031;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\X191031.b\X103121.D Page 1
Report Date: 19-Nov-2019 19:19

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X191031.b\X103121.D
Lab Smp Id: HS19101523-05 Client Smp ID: HS19101523-05
Inj Date : 31-OCT-2019 19:08
Operator : PC Inst ID: voa6.i
Smp Info : HS19101523-05;HS19101523-05;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X191031.b\8260W.m
Meth Date : 19-Nov-2019 19:19 DevakG Quant Type: ISTD
Cal Date : 31-OCT-2019 13:56 Cal File: X103108.D
Als bottle: 22
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

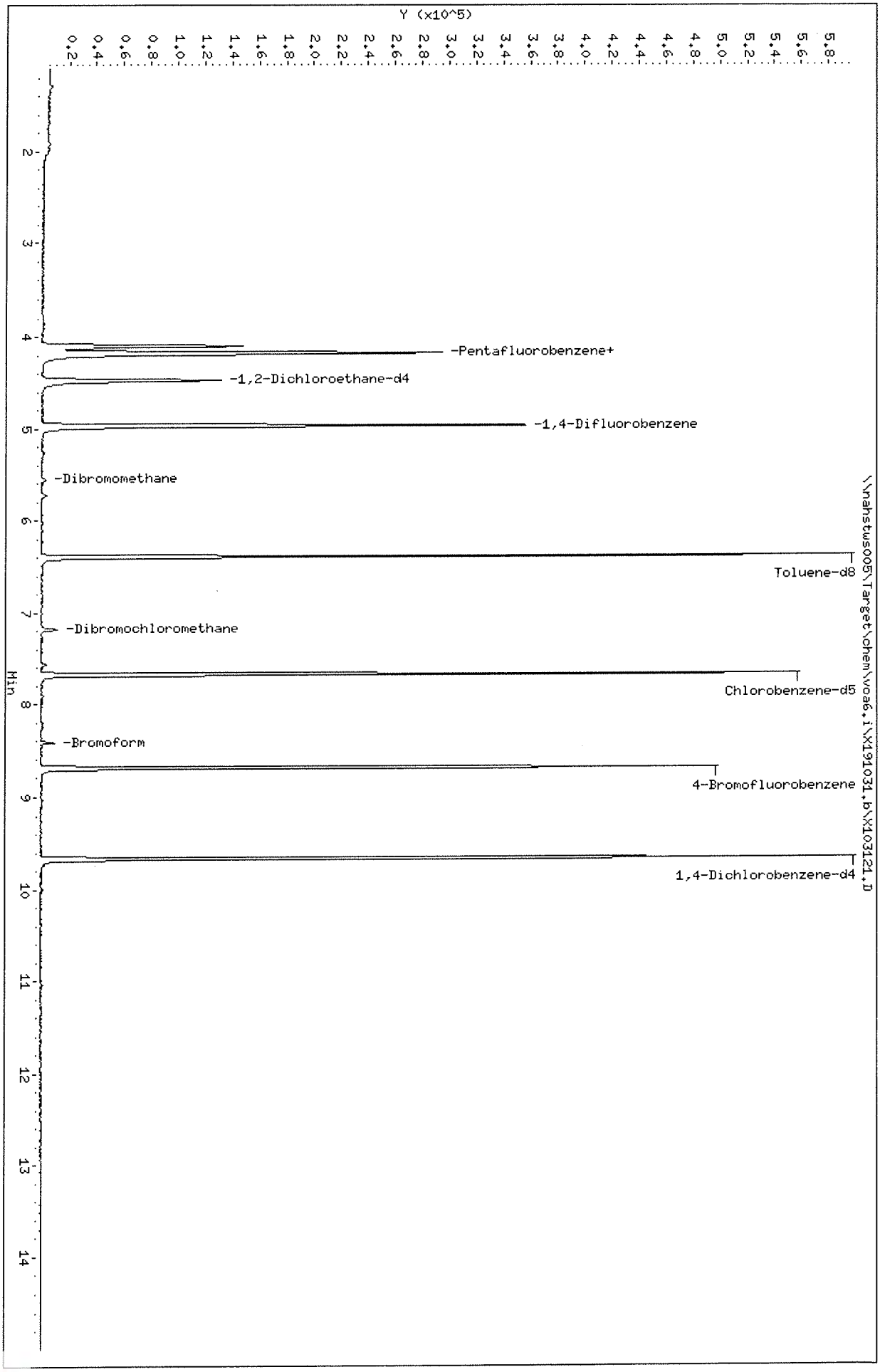
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	276132	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	328334	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	286983	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.662	(1.000)	159817	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	104642	44.9421	44.94
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	135214	50.1448	50.14
$ 30 Dibromofluoromethane	113	4.103	4.104	(0.981)	102605	46.6586	46.65
$ 48 Toluene-d8	98	6.388	6.389	(0.833)	362185	50.7954	50.79
66 Bromoform	173	8.415	8.416	(1.097)	4237	2.28902	2.28(a)
55 Dibromochloromethane	129	7.176	7.176	(0.936)	5168	2.17395	2.17(a)
44 Dibromomethane	93	5.557	5.558	(1.118)	914	0.72080	0.72(a)

QC Flag Legend

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

Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\X103121.D
Date : 31-OCT-2019 19:08
Client ID: HS19101523-05
Sample Info: HS19101523-05;HS19101523-05;;;
Purge Volume: 5.0
Column phase: DB624

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



Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\X103121.D

Date : 31-OCT-2019 19:08

Client ID: HS19101523-05

Instrument: voa6.i

Sample Info: HS19101523-05;HS19101523-05;;;

Purge Volume: 5.0

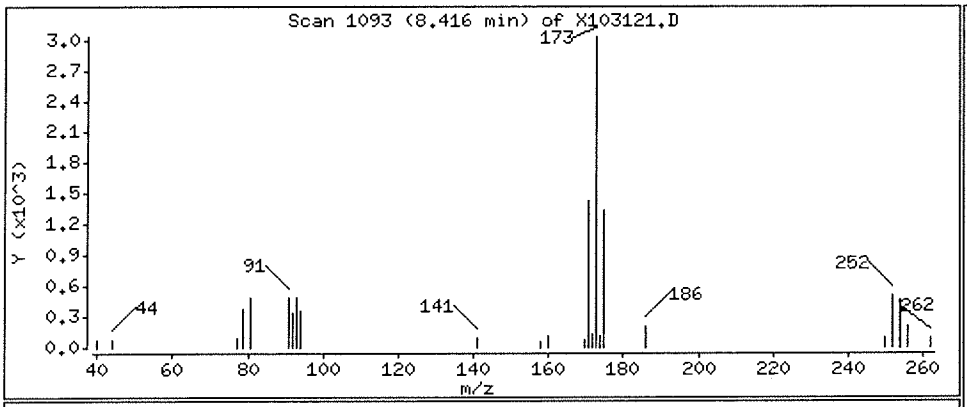
Operator: PC

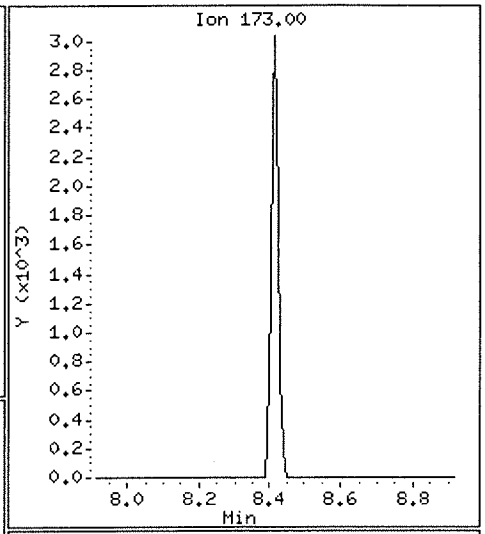
Column phase: DB624

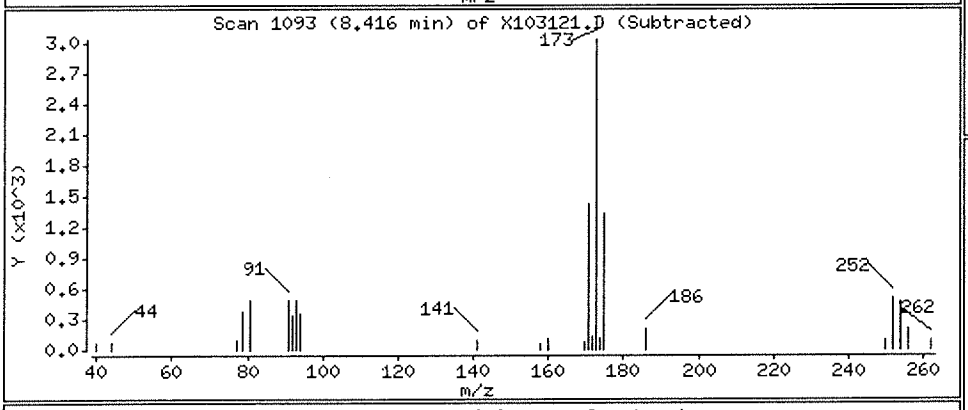
Column diameter: 0.18

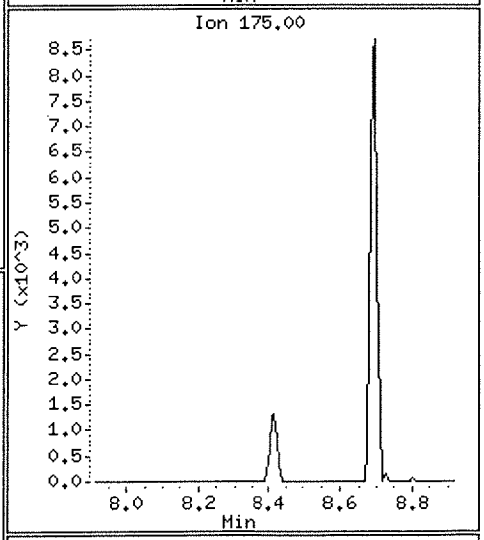
66 Bromoform

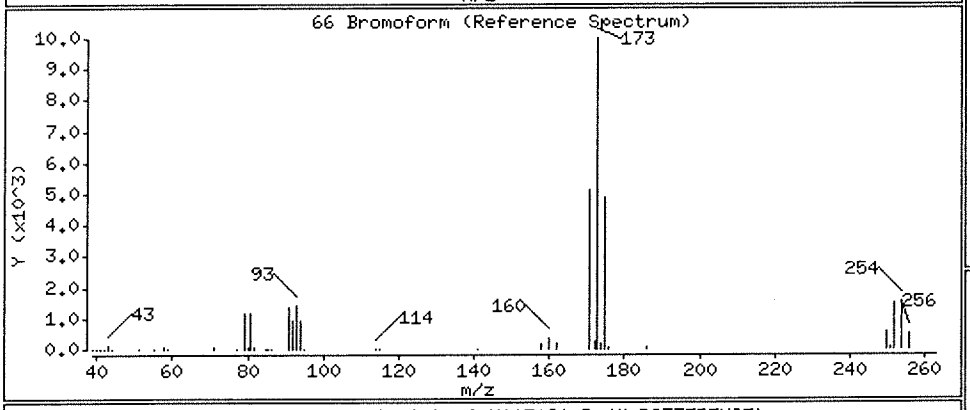
Concentration: 2.28 ug/l

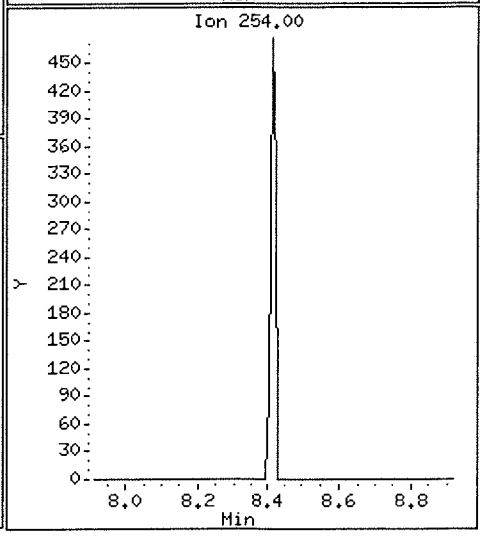


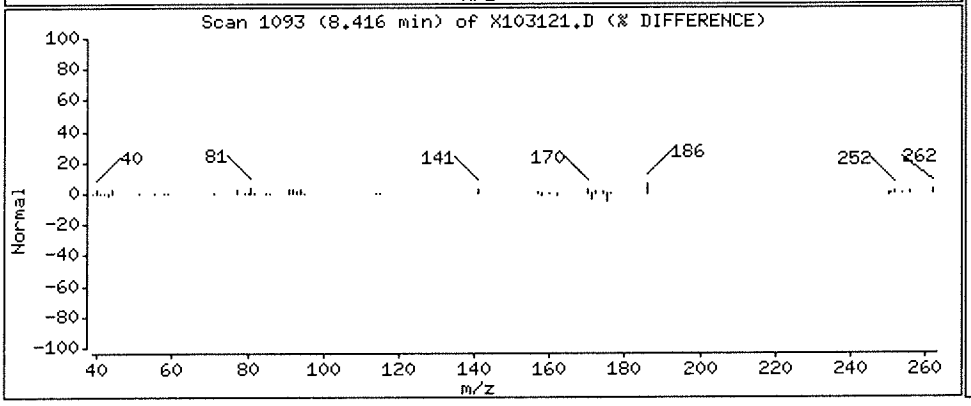












Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\X103121.D

Date : 31-OCT-2019 19:08

Client ID: HS19101523-05

Instrument: voa6.i

Sample Info: HS19101523-05;HS19101523-05;;;

Purge Volume: 5.0

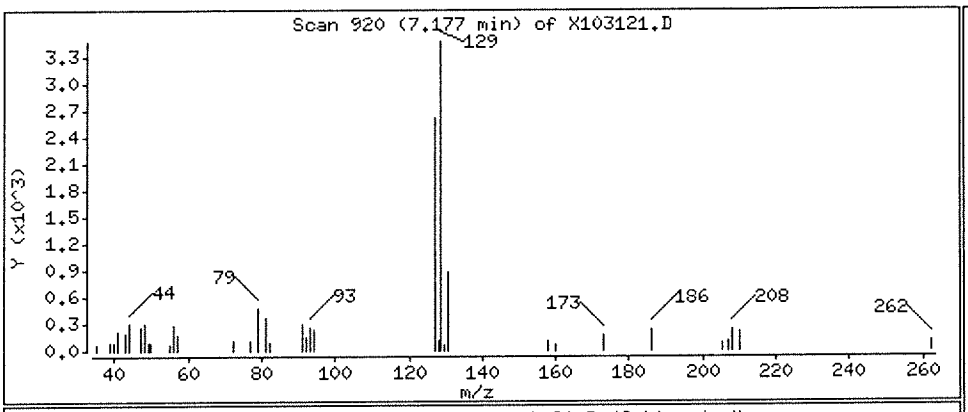
Operator: PC

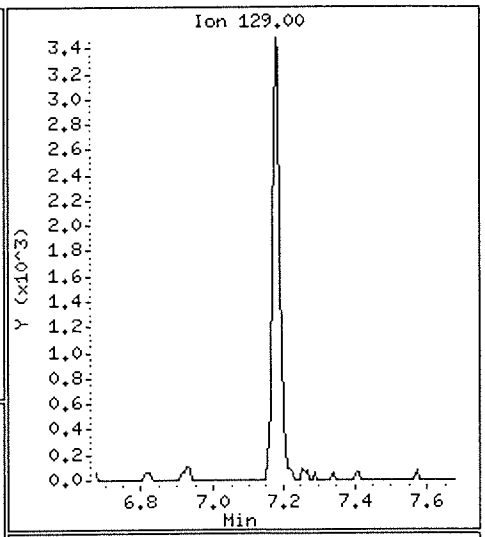
Column phase: DB624

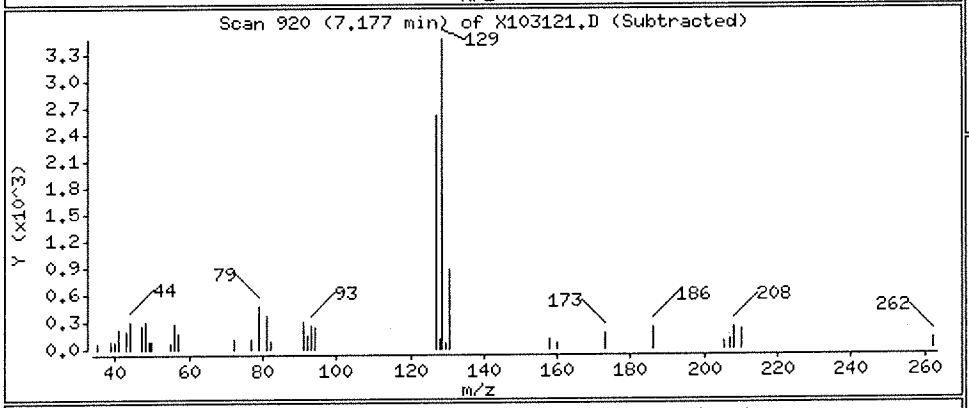
Column diameter: 0.18

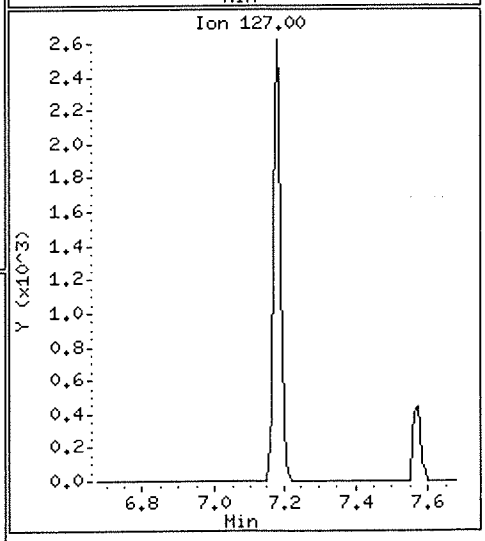
55 Dibromochloromethane

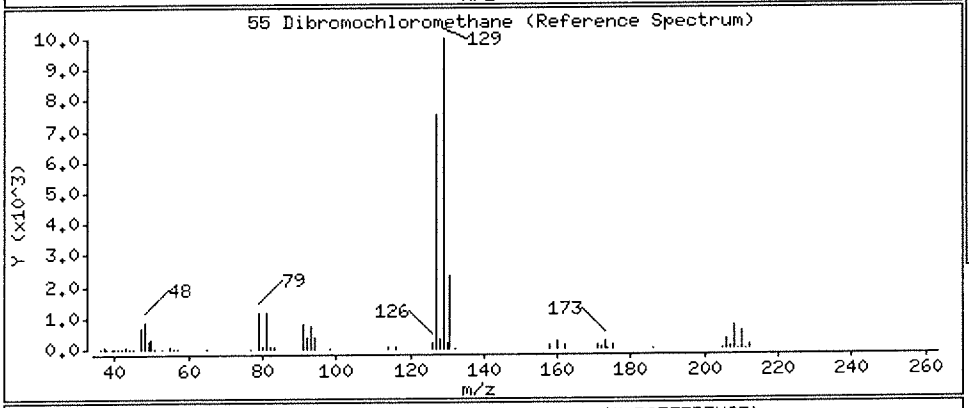
Concentration: 2.17 ug/l

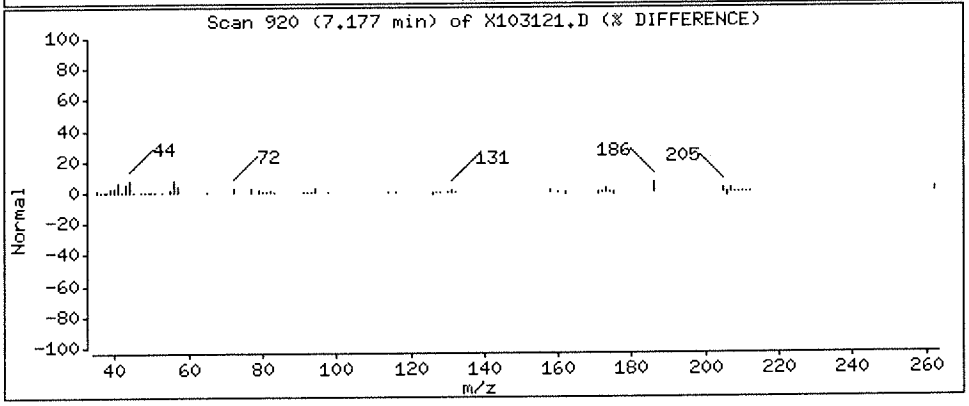












Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\X103121.D

Date : 31-OCT-2019 19:08

Client ID: HS19101523-05

Instrument: voa6.i

Sample Info: HS19101523-05;HS19101523-05;;;

Purge Volume: 5.0

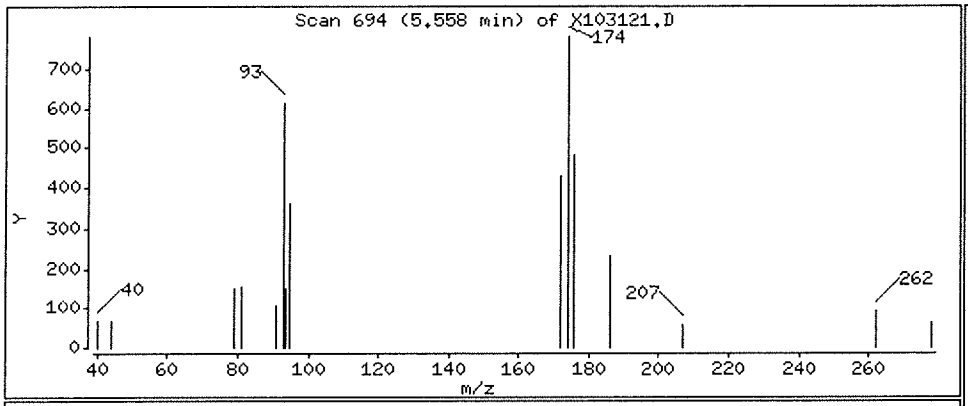
Operator: PC

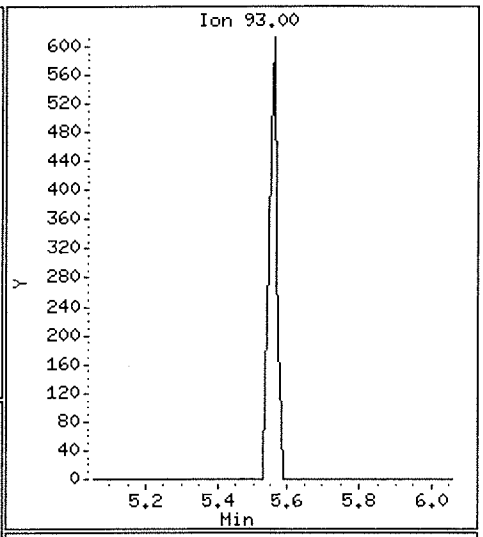
Column phase: DB624

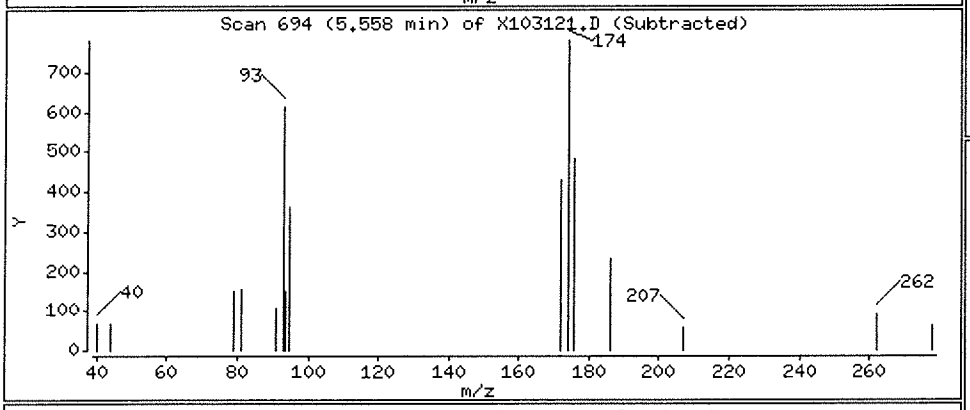
Column diameter: 0.18

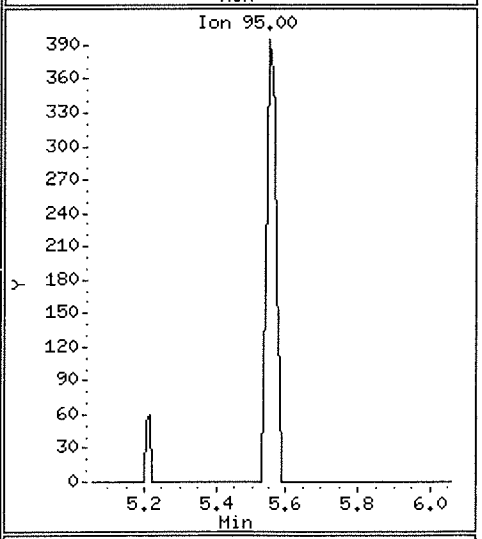
44 Dibromomethane

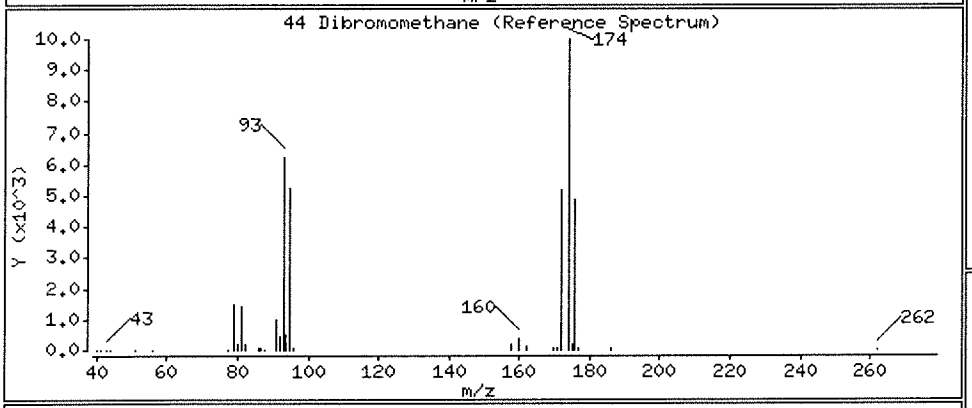
Concentration: 0.72 ug/l

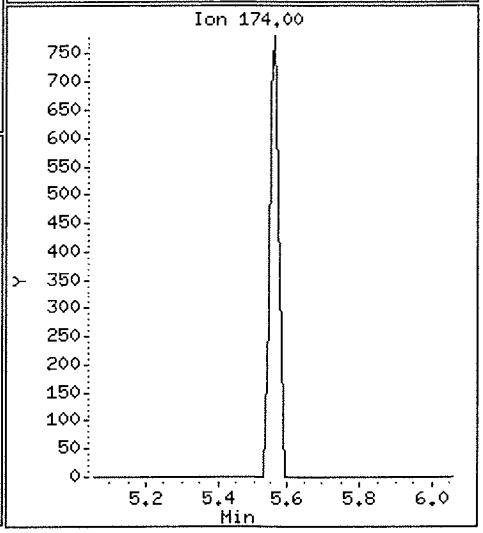


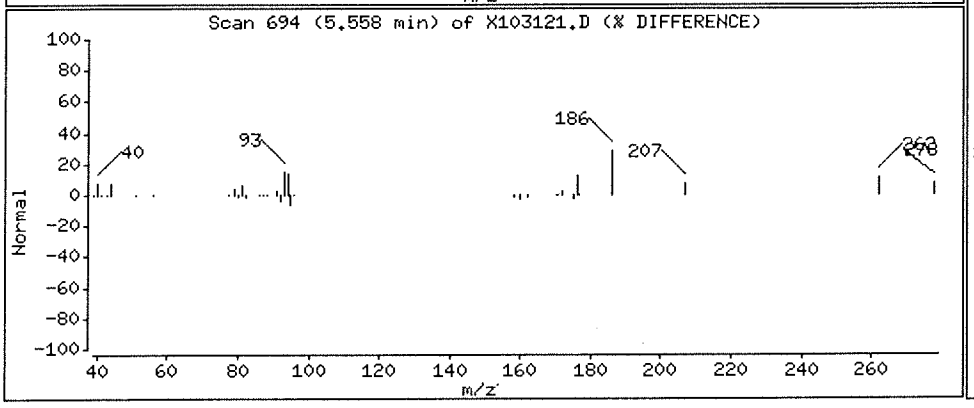












Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\X103122.D Page 1
Report Date: 19-Nov-2019 19:19

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X191031.b\X103122.D
Lab Smp Id: HS19101523-01 Client Smp ID: HS19101523-01
Inj Date : 31-OCT-2019 19:32
Operator : PC Inst ID: voa6.i
Smp Info : HS19101523-01;HS19101523-01;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X191031.b\8260W.m
Meth Date : 19-Nov-2019 19:19 DevakG Quant Type: ISTD
Cal Date : 31-OCT-2019 13:56 Cal File: X103108.D
Als bottle: 23
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBIHOUSTONDOD.sub
Target Version: 4.14

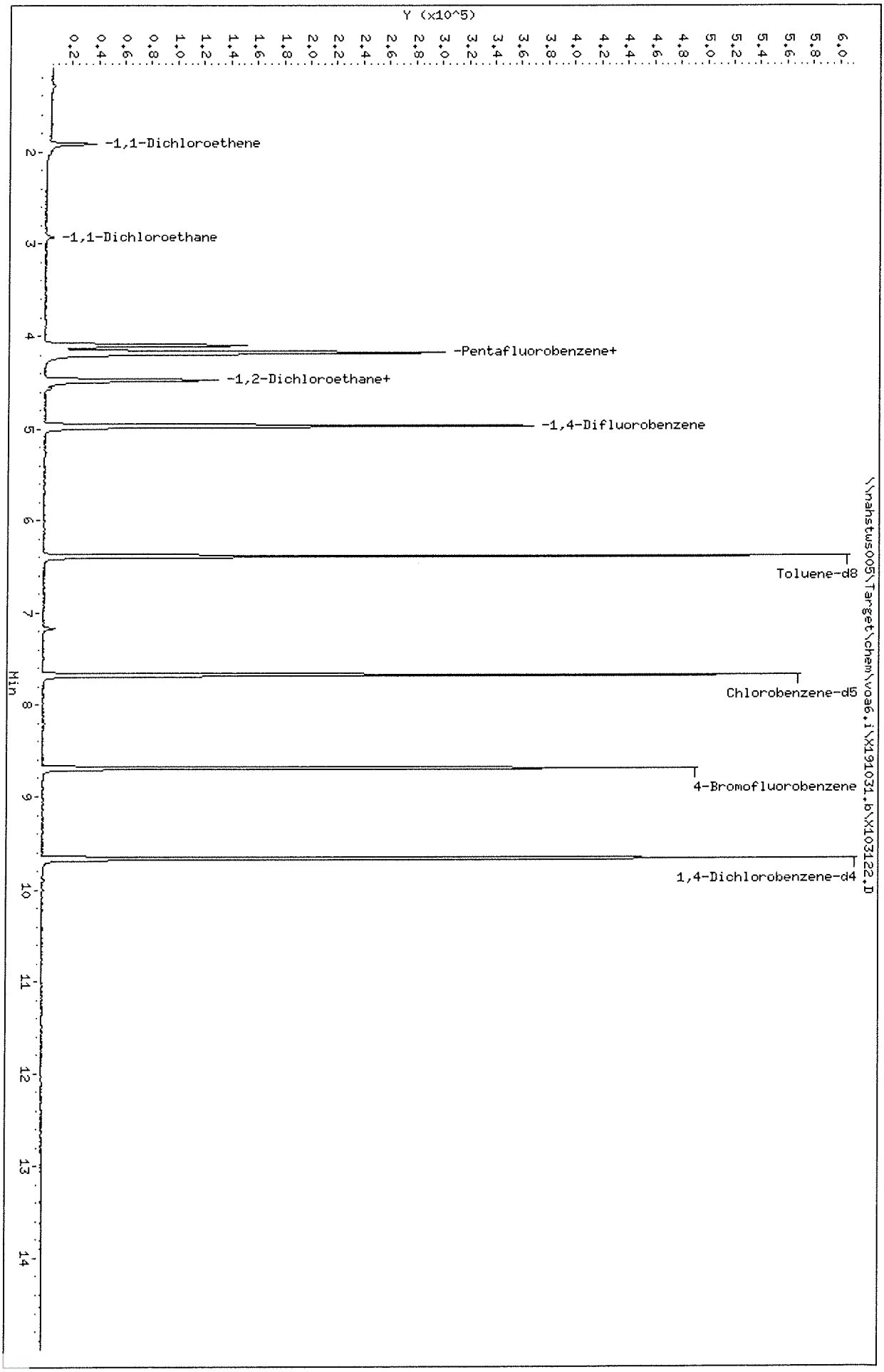
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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)	284222	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	330690	50.0000	
* 47 Chlorobenzene-d5	117	7.670	7.671	(1.000)	289089	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.662	(1.000)	164454	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	105777	44.1453	44.14
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	136856	50.3869	50.38
$ 30 Dibromofluoromethane	113	4.103	4.104	(0.981)	105297	46.5213	46.52
$ 48 Toluene-d8	98	6.388	6.389	(0.833)	366266	50.9935	50.99
22 1,1-Dichloroethane	63	2.928	2.922	(0.700)	5885	1.84961	1.84(a)
11 1,1-Dichloroethene	96	1.911	1.912	(0.457)	13451	7.44364	7.44
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	3965	1.47892	1.47(a)

QC Flag Legend

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



Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\X103122.D
Date : 31-OCT-2019 19:32
Client ID: HS19101523-01
Sample Info: HS19101523-01;HS19101523-01;;;
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\X103122.D Page 3

Date : 31-OCT-2019 19:32

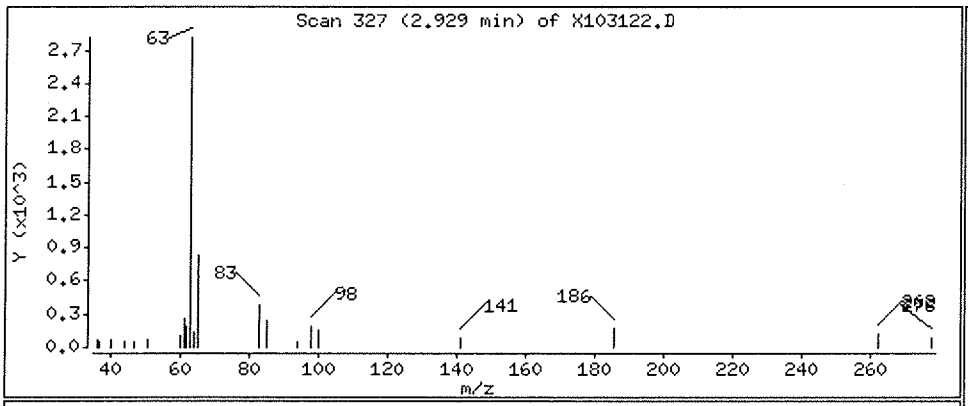
Client ID: HS19101523-01 Instrument: voa6.i

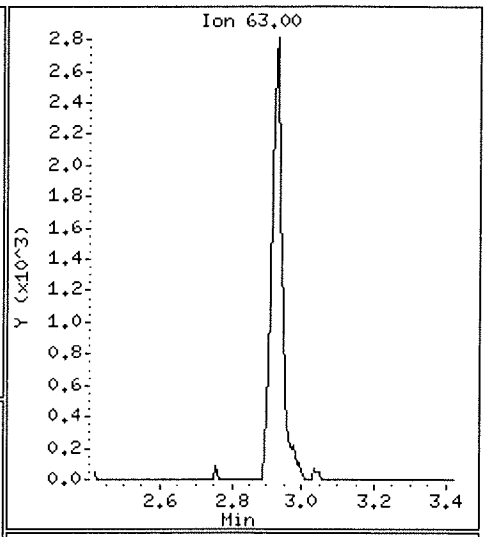
Sample Info: HS19101523-01;HS19101523-01;;;

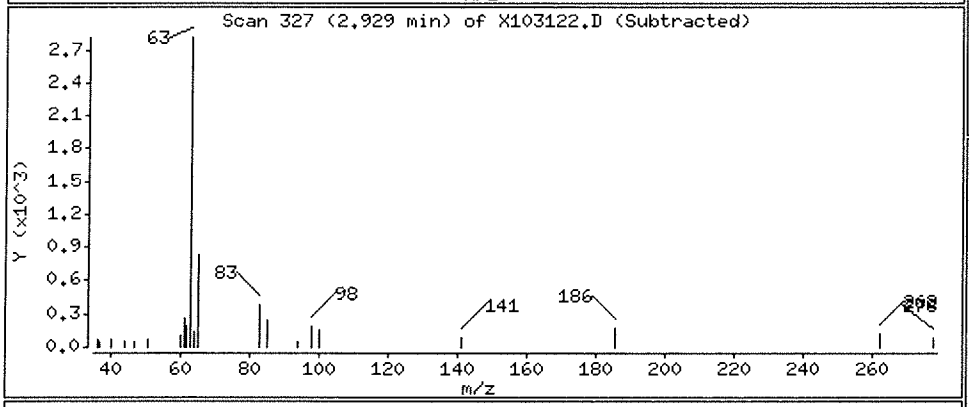
Purge Volume: 5.0 Operator: PC

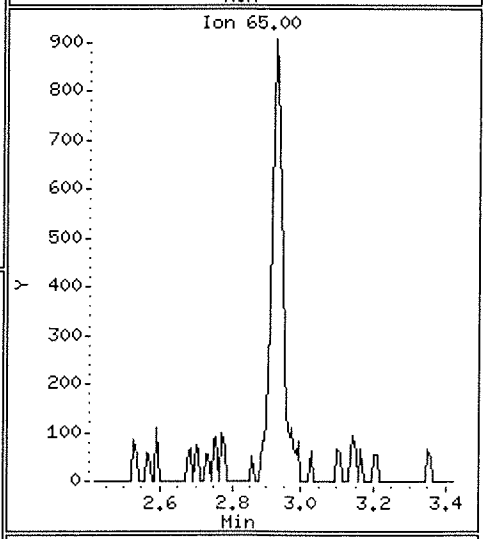
Column phase: DB624 Column diameter: 0.18

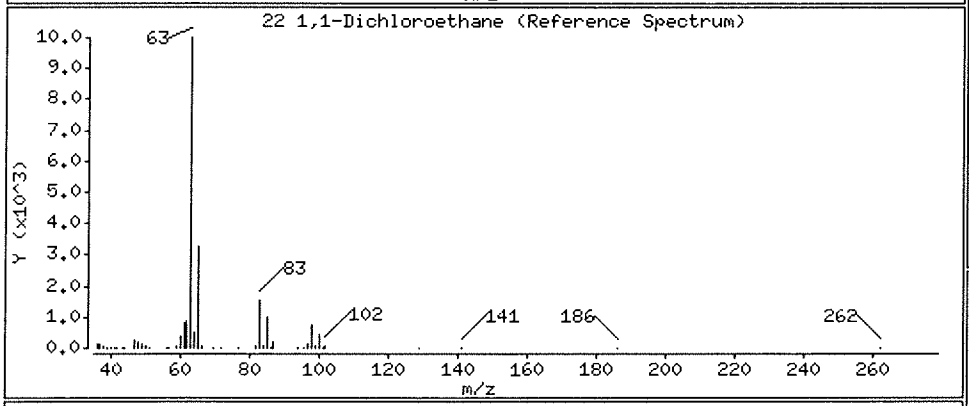
22 1,1-Dichloroethane Concentration: 1.84 ug/l

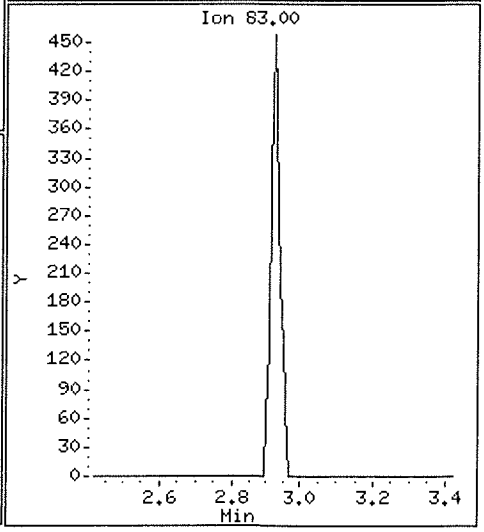


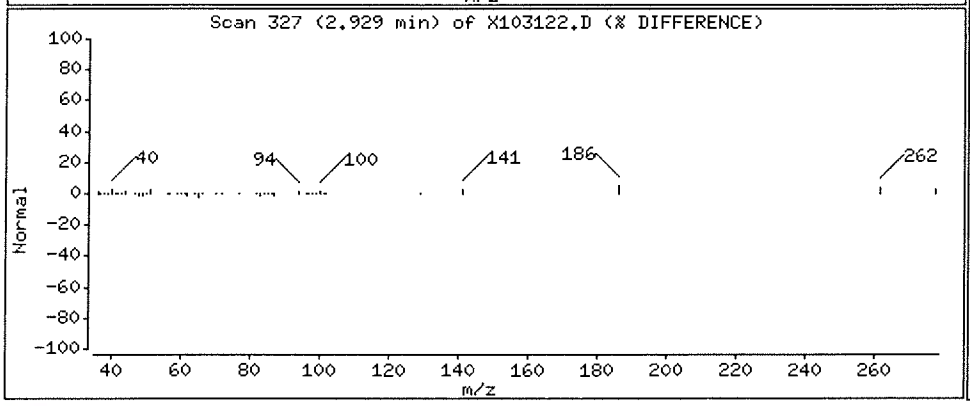












Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\X103122.D Page 4

Date : 31-OCT-2019 19:32

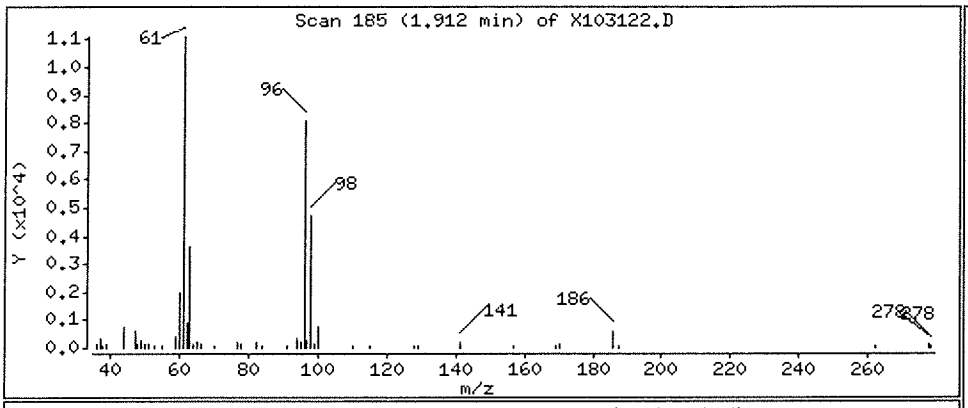
Client ID: HS19101523-01 Instrument: voa6.i

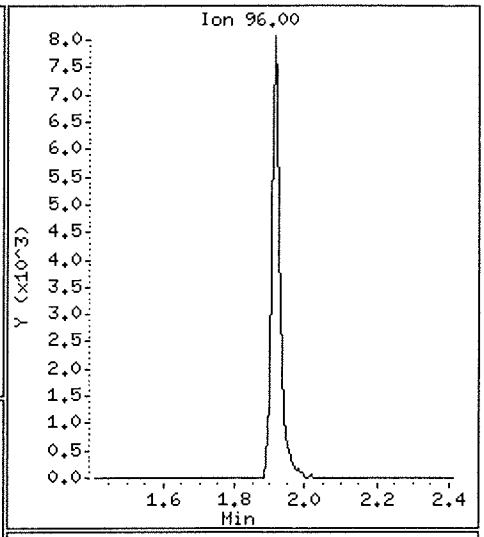
Sample Info: HS19101523-01;HS19101523-01;;;

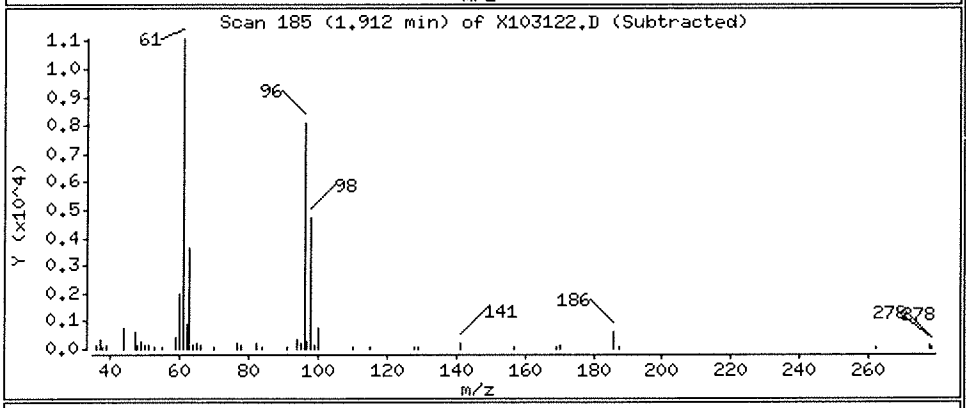
Purge Volume: 5.0 Operator: PC

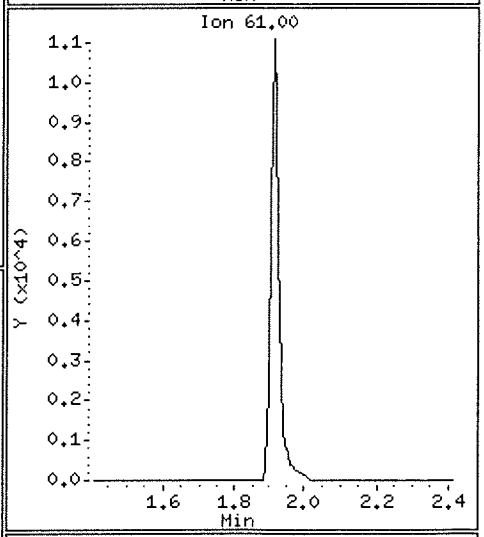
Column phase: DB624 Column diameter: 0.18

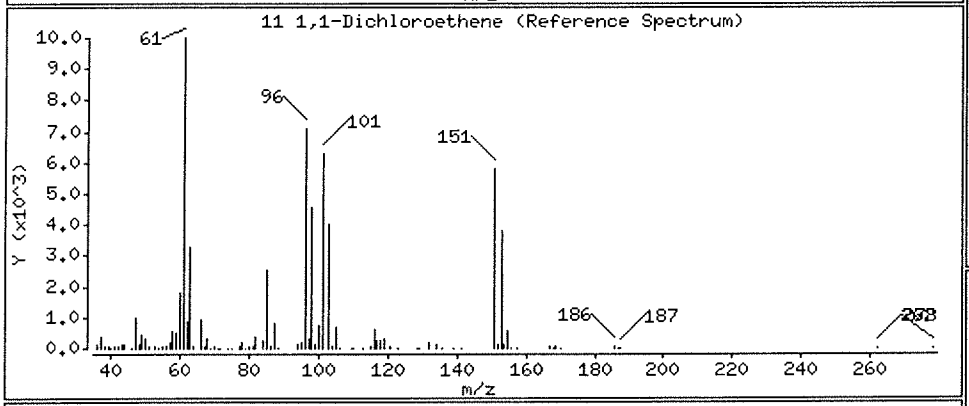
11 1,1-Dichloroethene Concentration: 7.44 ug/l

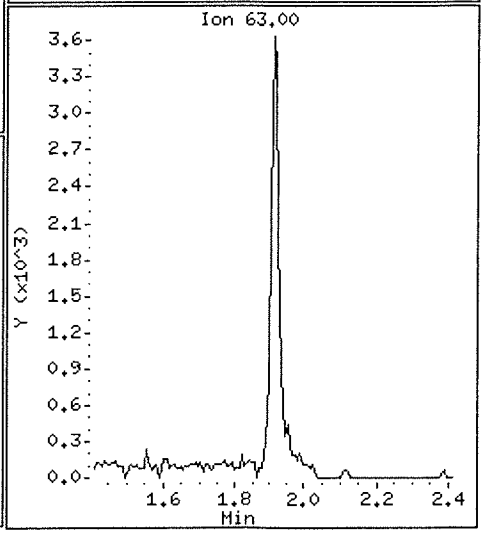


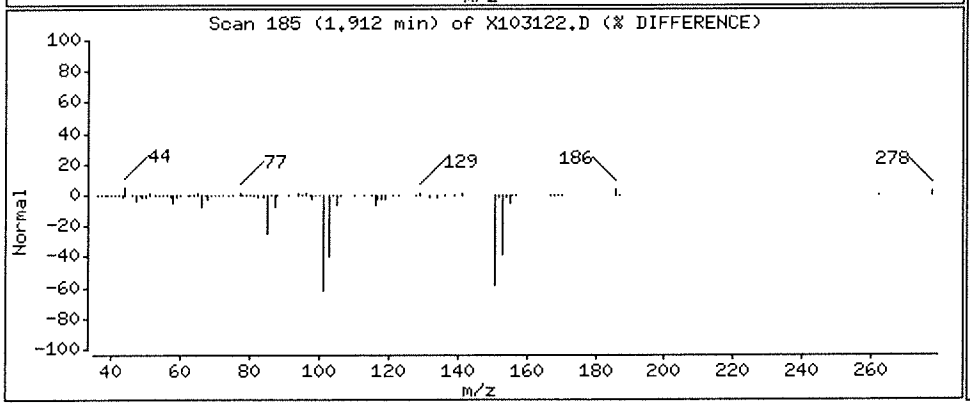












Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\X103122.D Page 5

Date : 31-OCT-2019 19:32

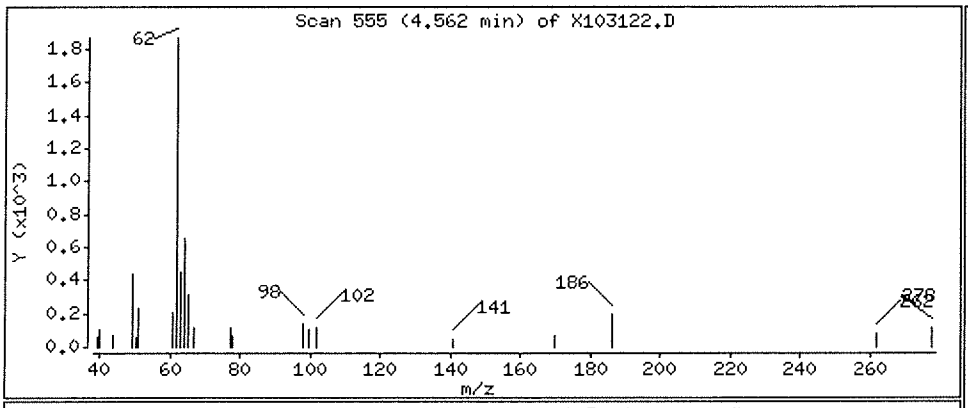
Client ID: HS19101523-01 Instrument: voa6.i

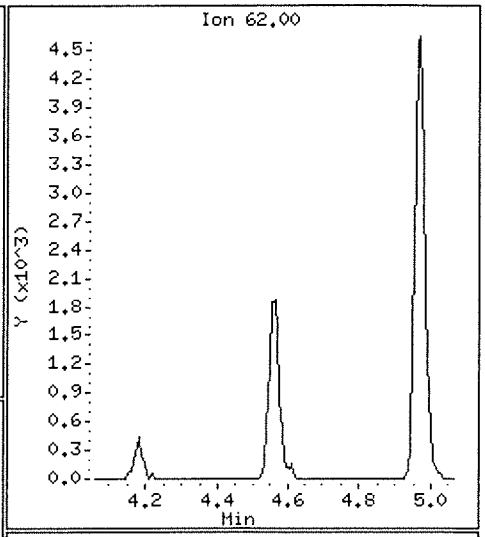
Sample Info: HS19101523-01;HS19101523-01;;;

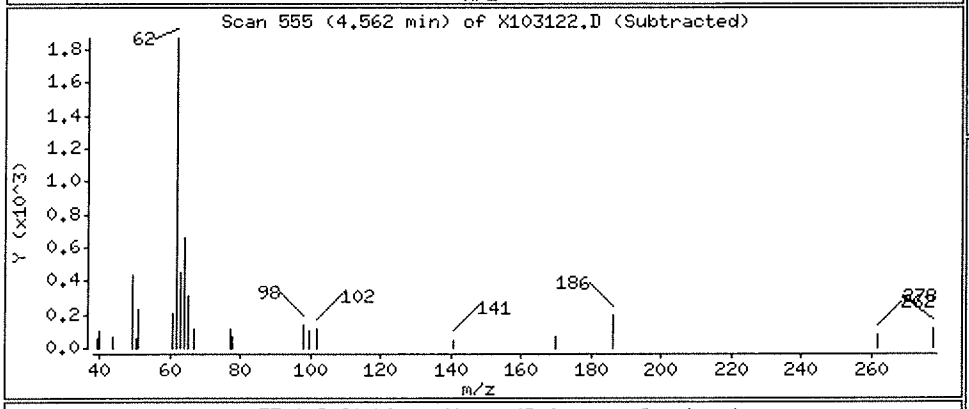
Purge Volume: 5.0 Operator: PC

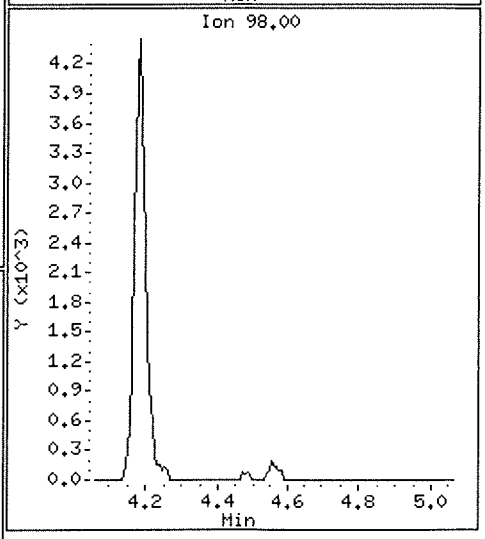
Column phase: DB624 Column diameter: 0.18

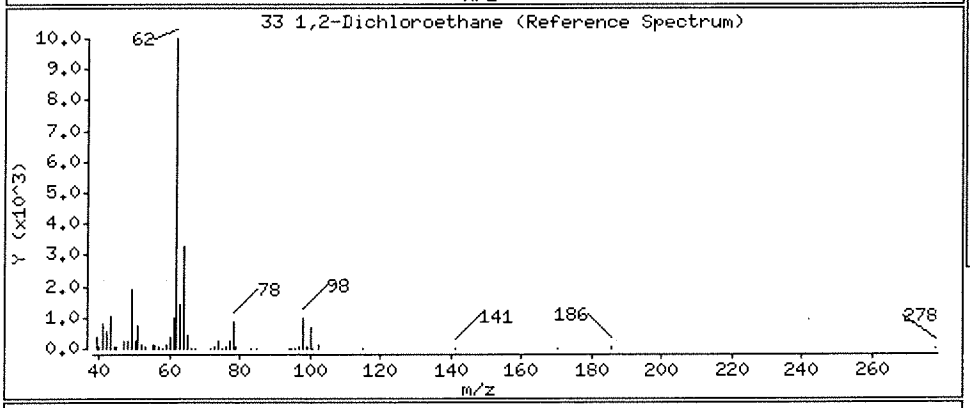
33 1,2-Dichloroethane Concentration: 1.47 ug/l

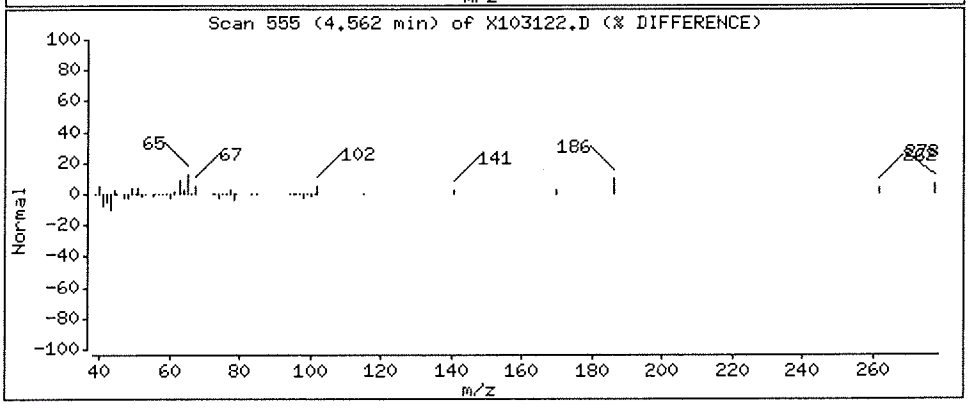












Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\X103123.D Page 1
Report Date: 19-Nov-2019 19:19

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X191031.b\X103123.D
Lab Smp Id: HS19101523-02 Client Smp ID: HS19101523-02
Inj Date : 31-OCT-2019 19:56
Operator : PC Inst ID: voa6.i
Smp Info : HS19101523-02;HS19101523-02;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X191031.b\8260W.m
Meth Date : 19-Nov-2019 19:19 DevakG Quant Type: ISTD
Cal Date : 31-OCT-2019 13:56 Cal File: X103108.D
Als bottle: 24
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBIHOUSTONDOD.sub
Target Version: 4.14

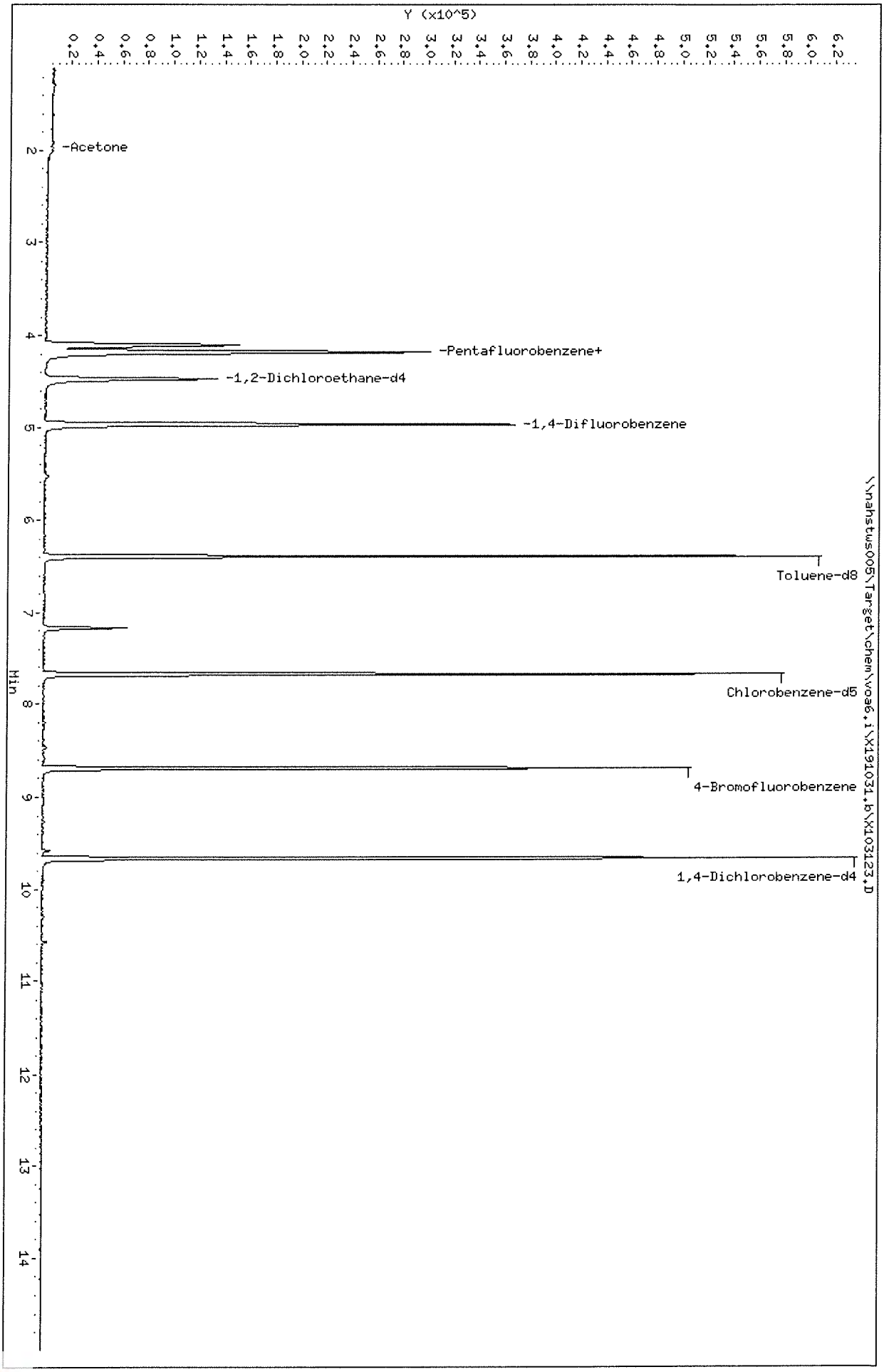
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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)	283682	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	335933	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	294291	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.662	(1.000)	166801	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	107431	44.9123	44.91
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	138914	50.2388	50.23
$ 30 Dibromofluoromethane	113	4.103	4.104	(0.981)	104174	46.1171	46.11
$ 48 Toluene-d8	98	6.388	6.389	(0.833)	370981	50.7370	50.73
10 Acetone	43	1.976	1.969	(0.473)	1260	2.15909	2.15(a)

QC Flag Legend

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



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Date : 31-OCT-2019 19:56
Client ID: HS191015523-02
Sample Info: HS191015523-02;HS191015523-02;;;
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\X103123.D

Date : 31-OCT-2019 19:56

Client ID: HS19101523-02

Instrument: voa6.i

Sample Info: HS19101523-02;HS19101523-02;;;

Purge Volume: 5.0

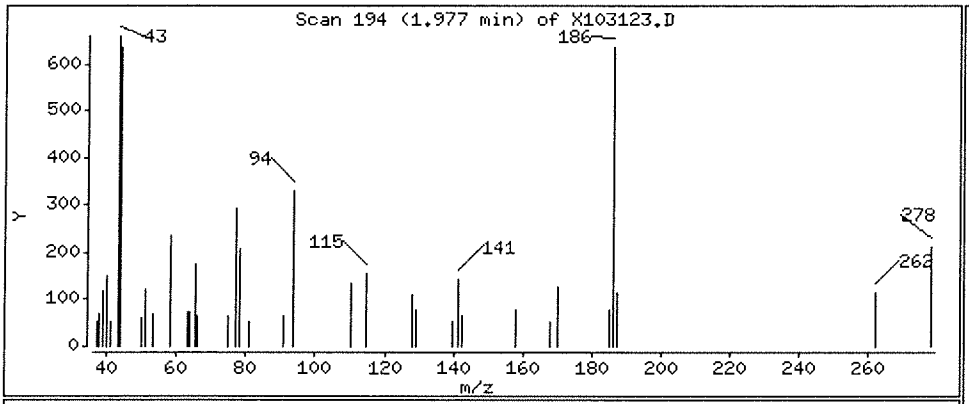
Operator: PC

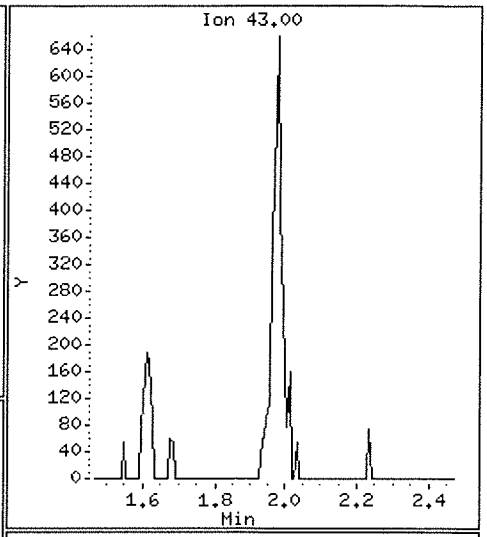
Column phase: DB624

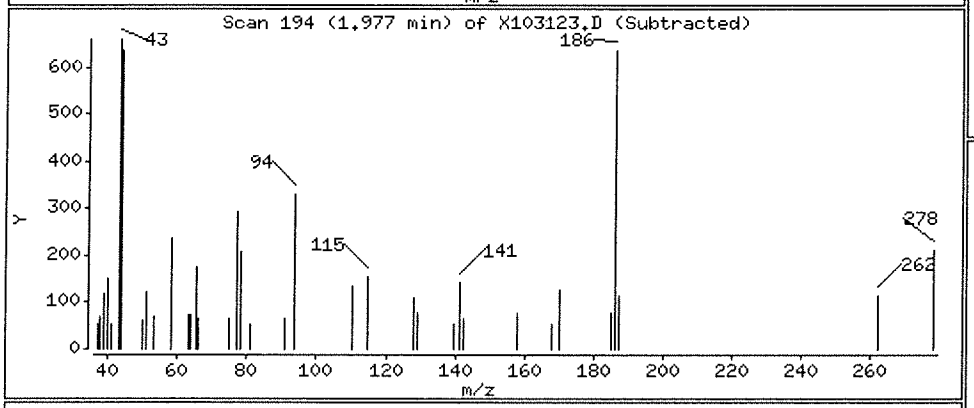
Column diameter: 0.18

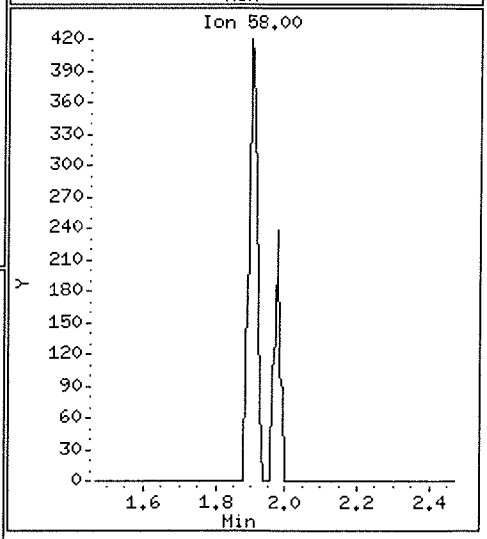
10 Acetone

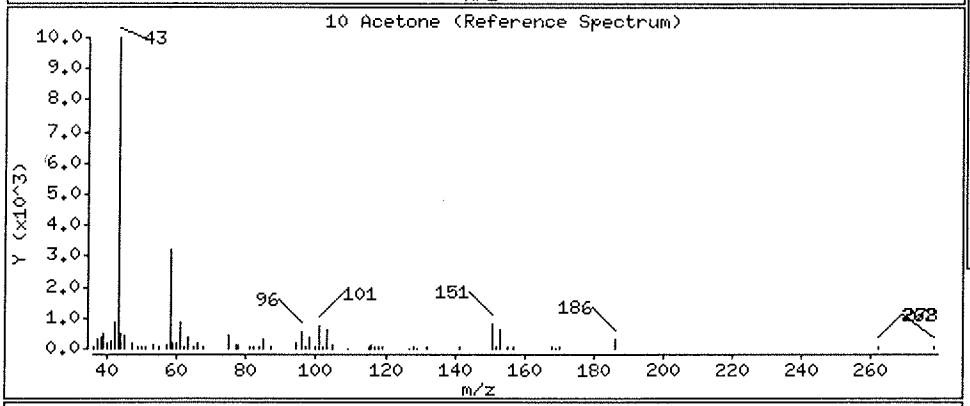
Concentration: 2.15 ug/l

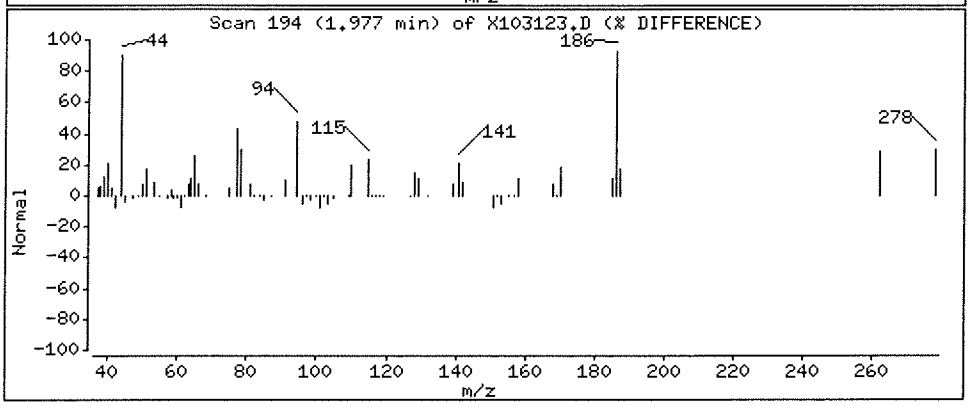












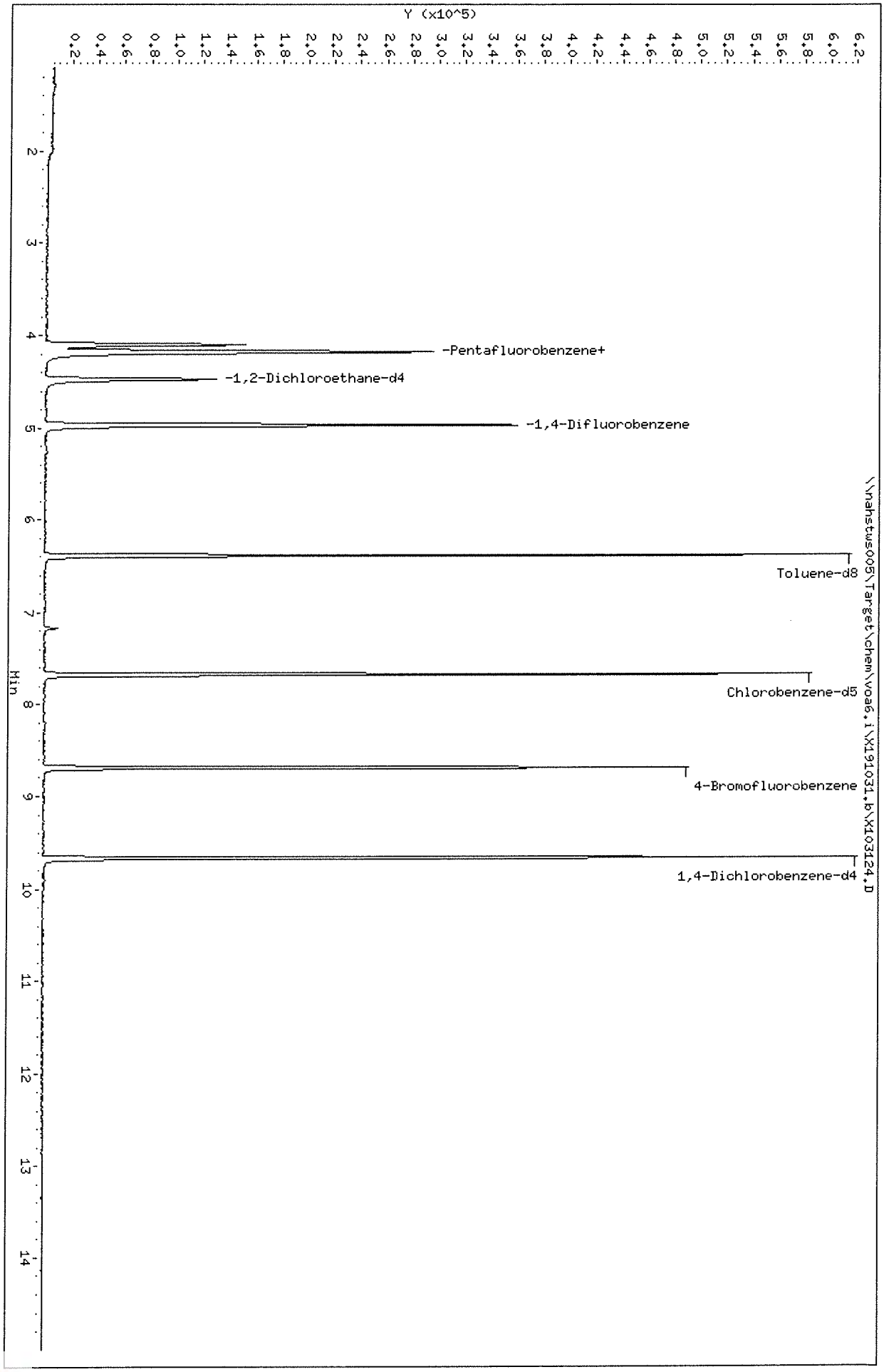
ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X191031.b\X103124.D
Lab Smp Id: HS19101523-03 Client Smp ID: HS19101523-03
Inj Date : 31-OCT-2019 20:20
Operator : PC Inst ID: voa6.i
Smp Info : HS19101523-03;HS19101523-03;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X191031.b\8260W.m
Meth Date : 19-Nov-2019 19:19 DevakG Quant Type: ISTD
Cal Date : 31-OCT-2019 13:56 Cal File: X103108.D
Als bottle: 25
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)	279459	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	327975	50.0000	
* 47 Chlorobenzene-d5	117	7.670	7.671	(1.000)	291970	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	160157	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	106320	45.1172	45.11
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	136799	49.8627	49.86
$ 30 Dibromofluoromethane	113	4.103	4.104	(0.981)	102698	46.1503	46.15
$ 48 Toluene-d8	98	6.388	6.389	(0.833)	367164	50.6141	50.61



Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\X103124.D
Date : 31-OCT-2019 20:20
Client ID: HS191015523-03
Sample Info: HS191015523-03;HS191015523-03;;;
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\X191031.b\X103125.D
Lab Smp Id: HS19101523-04 Client Smp ID: HS19101523-04
Inj Date : 31-OCT-2019 20:44
Operator : PC Inst ID: voa6.i
Smp Info : HS19101523-04;HS19101523-04;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X191031.b\8260W.m
Meth Date : 19-Nov-2019 19:19 DevakG Quant Type: ISTD
Cal Date : 31-OCT-2019 13:56 Cal File: X103108.D
Als bottle: 26
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBIHOUSTONDOD.sub
Target Version: 4.14

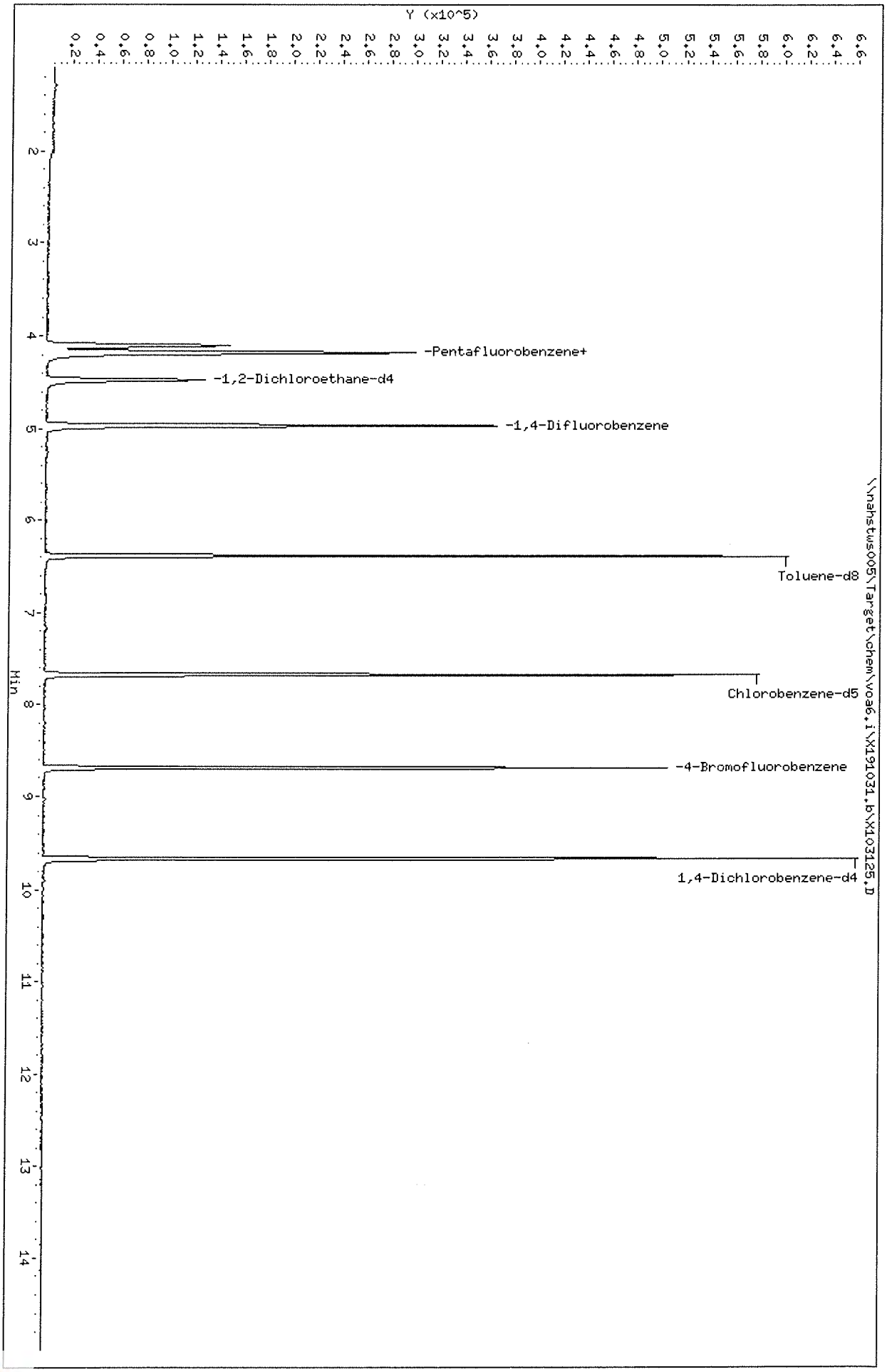
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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)	284417	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	337190	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	294000	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	168093	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	106863	44.5632	44.56
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	138568	50.1623	50.16
$ 30 Dibromofluoromethane	113	4.103	4.104	(0.981)	103568	45.7344	45.73
$ 48 Toluene-d8	98	6.388	6.389	(0.833)	370748	50.7553	50.75

Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\X103125.D
Date : 31-OCT-2019 20:44
Client ID: HS19101523-04
Sample Info: HS19101523-04;HS19101523-04;;;
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\X191031.b\X103126.D
Lab Smp Id: HS19101523-06 Client Smp ID: HS19101523-06
Inj Date : 31-OCT-2019 21:08
Operator : PC Inst ID: voa6.i
Smp Info : HS19101523-06;HS19101523-06;;;
Misc Info : HS18090001;WATER;0;1;
Comment   :
Method   : \\nahstws005\Target\chem\voa6.i\X191031.b\8260W.m
Meth Date : 19-Nov-2019 19:19 DevakG Quant Type: ISTD
Cal Date : 31-OCT-2019 13:56 Cal File: X103108.D
Als bottle: 27
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

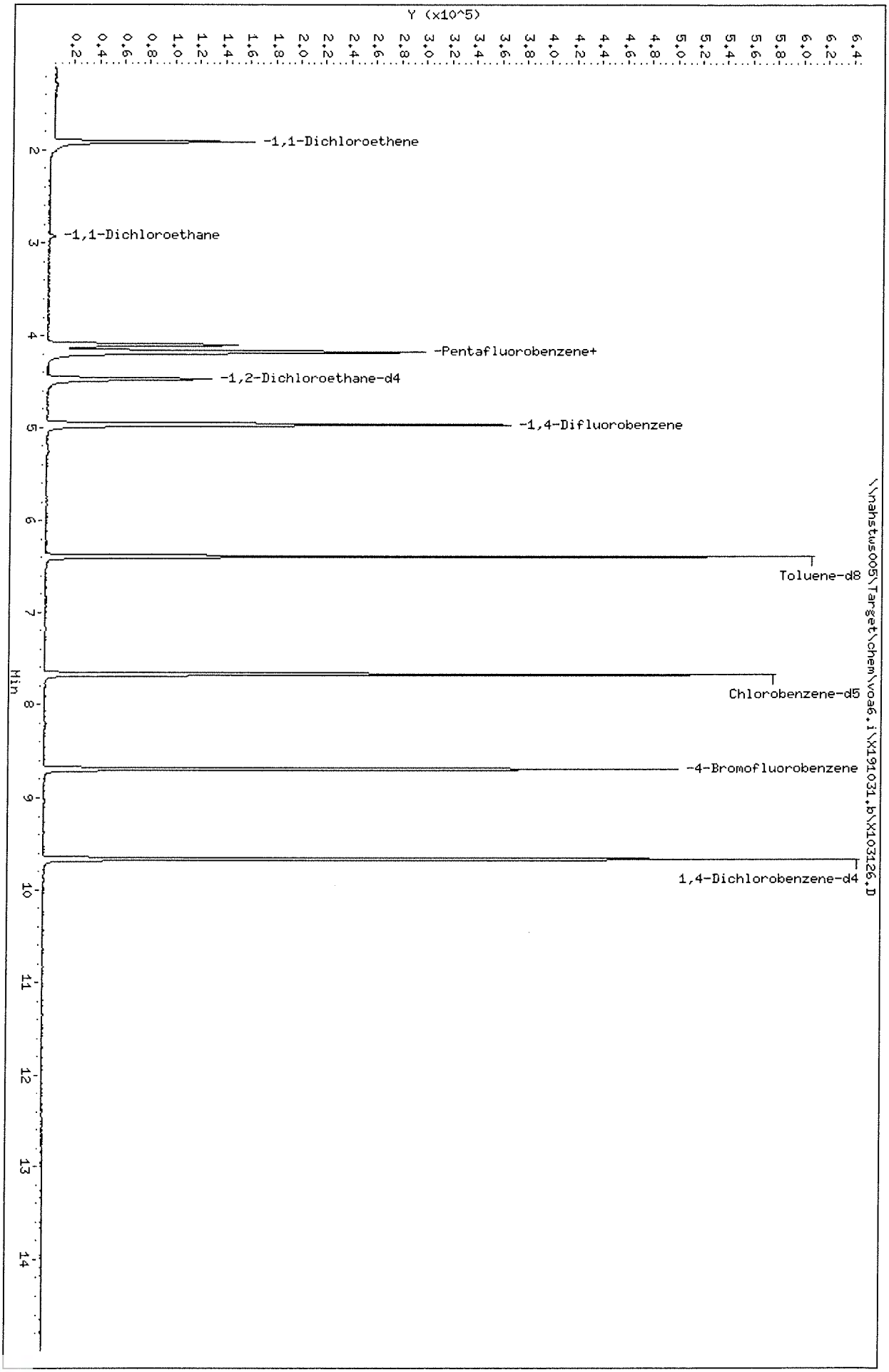
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	279197	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	333119	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	294322	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.662	(1.000)	170567	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	106951	45.4241	45.42
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	137947	49.8795	49.87
$ 30 Dibromofluoromethane	113	4.103	4.104	(0.981)	102985	46.3209	46.32
$ 48 Toluene-d8	98	6.388	6.389	(0.833)	368325	50.3684	50.36
22 1,1-Dichloroethane	63	2.921	2.922	(0.699)	5247	1.67877	1.67(a)
11 1,1-Dichloroethene	96	1.911	1.912	(0.457)	60364	34.0060	34.00

QC Flag Legend

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

Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\X103126.D
Date : 31-OCT-2019 21:08
Client ID: HS19101523-06
Sample Info: HS19101523-06;HS19101523-06;;;
Purge Volume: 5.0
Column phase: DB624

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



Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\X103126.D

Date : 31-OCT-2019 21:08

Client ID: HS19101523-06

Instrument: voa6.i

Sample Info: HS19101523-06;HS19101523-06;;;

Purge Volume: 5.0

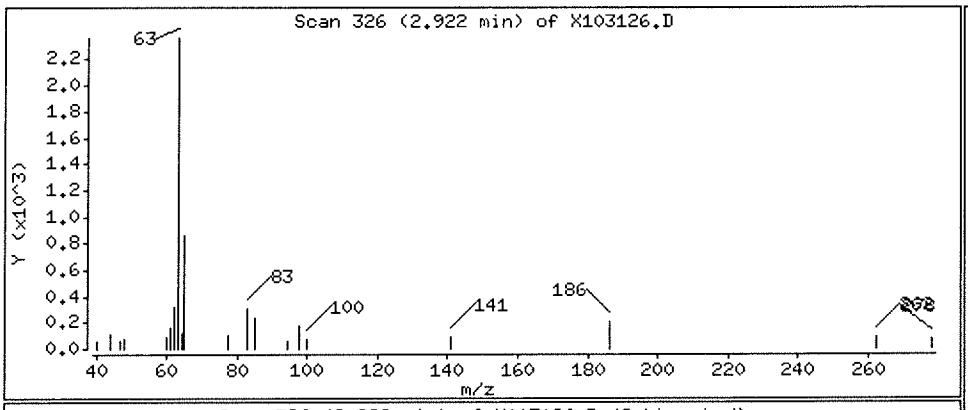
Operator: PC

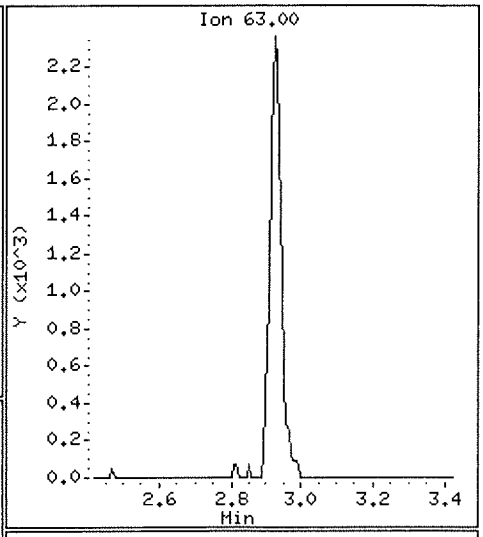
Column phase: DB624

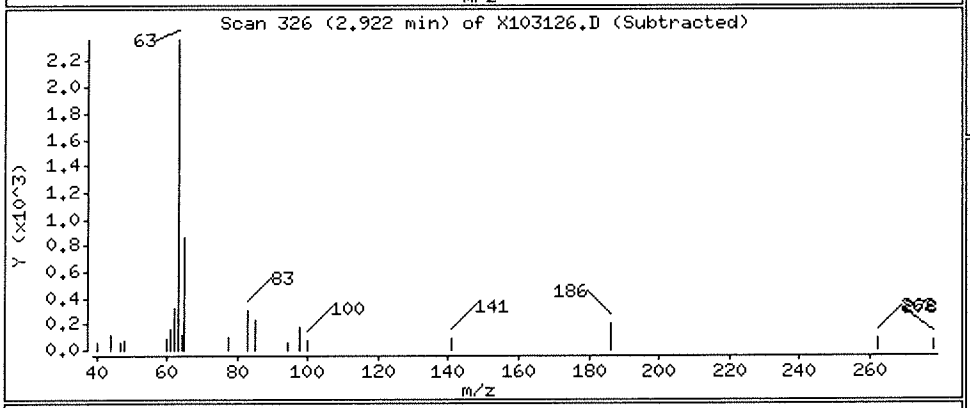
Column diameter: 0.18

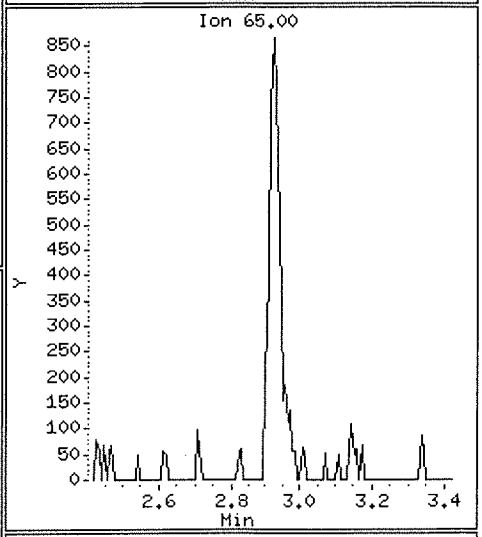
22 1,1-Dichloroethane

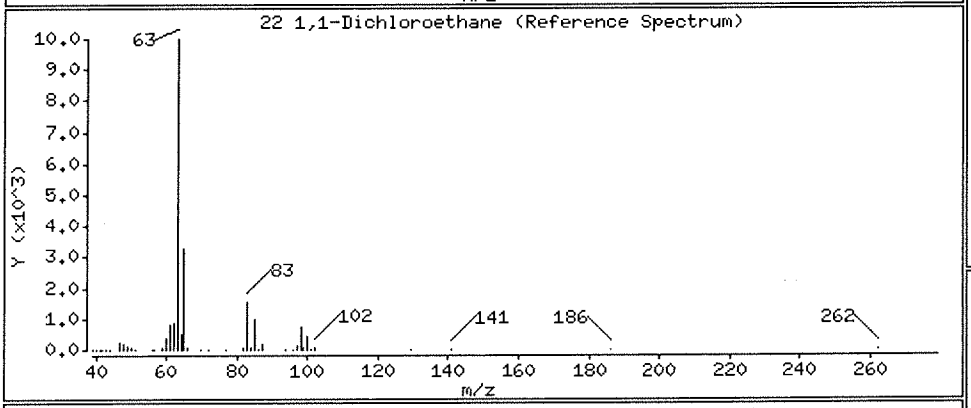
Concentration: 1.67 ug/l

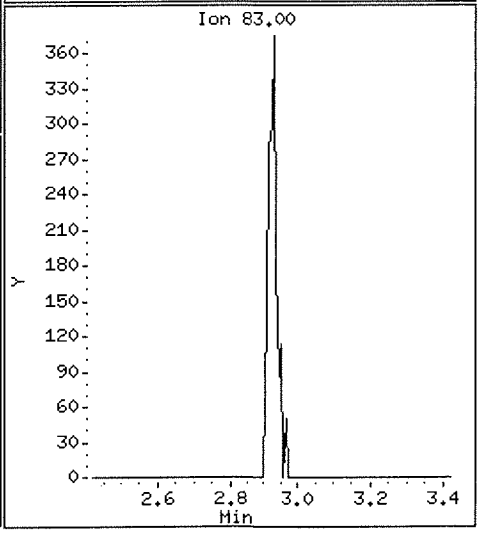


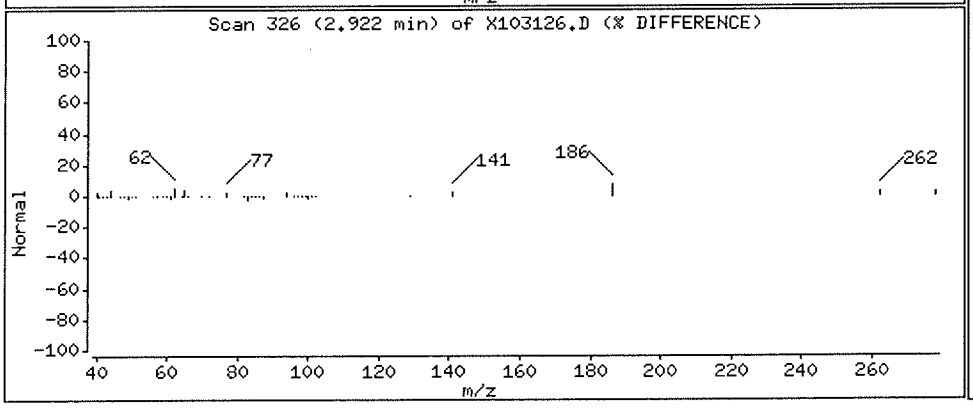












Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\X103126.D

Date : 31-OCT-2019 21:08

Client ID: HS19101523-06

Instrument: voa6.i

Sample Info: HS19101523-06;HS19101523-06;;;

Purge Volume: 5.0

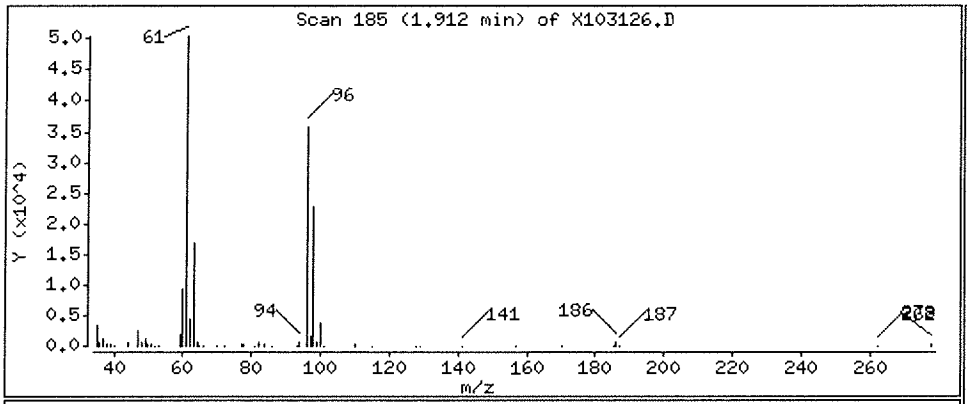
Operator: PC

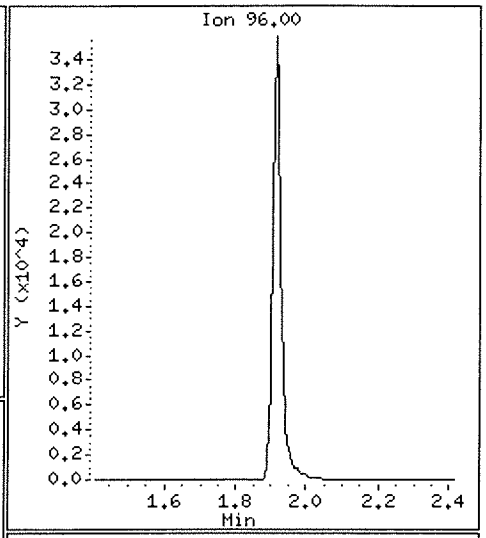
Column phase: DB624

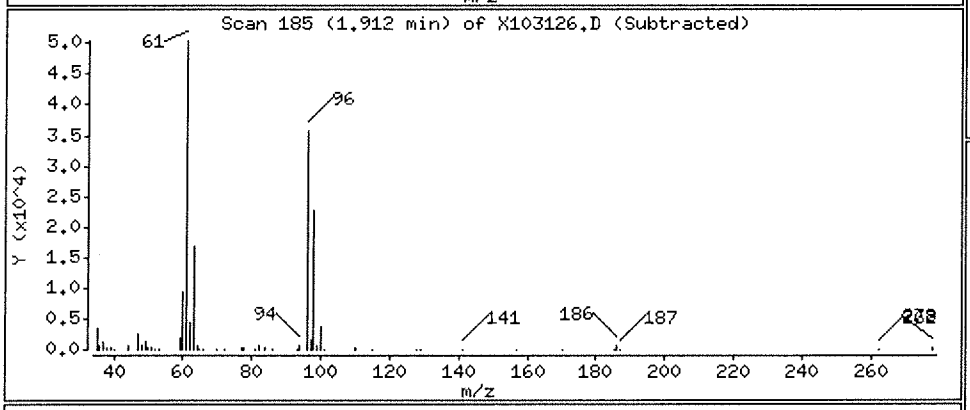
Column diameter: 0.18

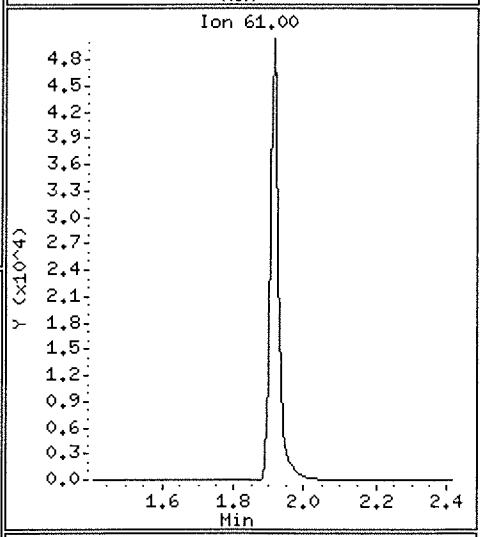
11 1,1-Dichloroethene

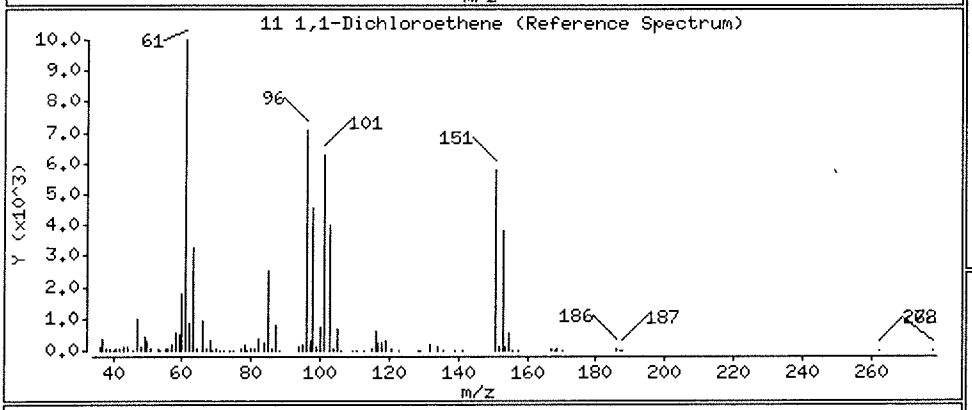
Concentration: 34.00 ug/l

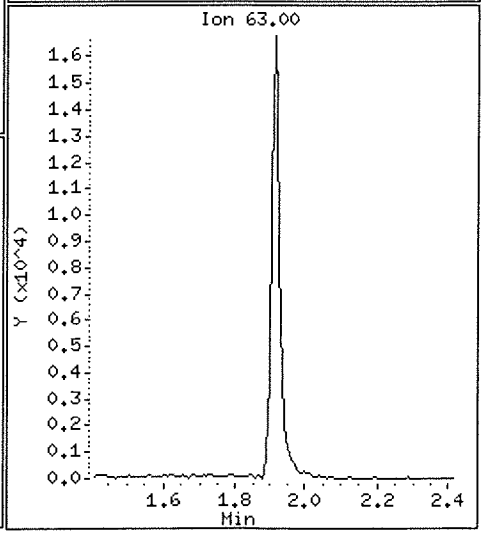


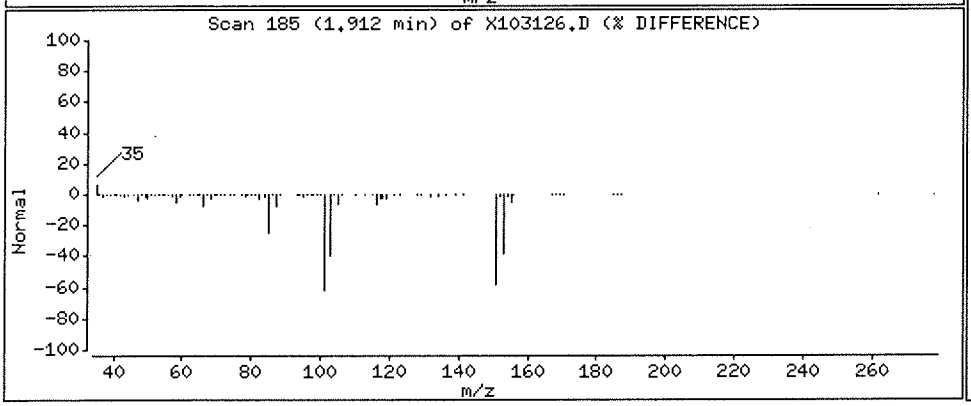












Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\X103127.D Page 1
Report Date: 19-Nov-2019 19:07

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X191031.b\X103127.D
Lab Smp Id: HS19101523-05MS Client Smp ID: HS19101523-05MS
Inj Date : 31-OCT-2019 21:32
Operator : PC Inst ID: voa6.i
Smp Info : HS19101523-05MS;HS19101523-05MS;3;;MS
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X191031.b\8260W.m
Meth Date : 19-Nov-2019 19:06 voa6.i Quant Type: ISTD
Cal Date : 31-OCT-2019 13:56 Cal File: X103108.D
Als bottle: 28 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

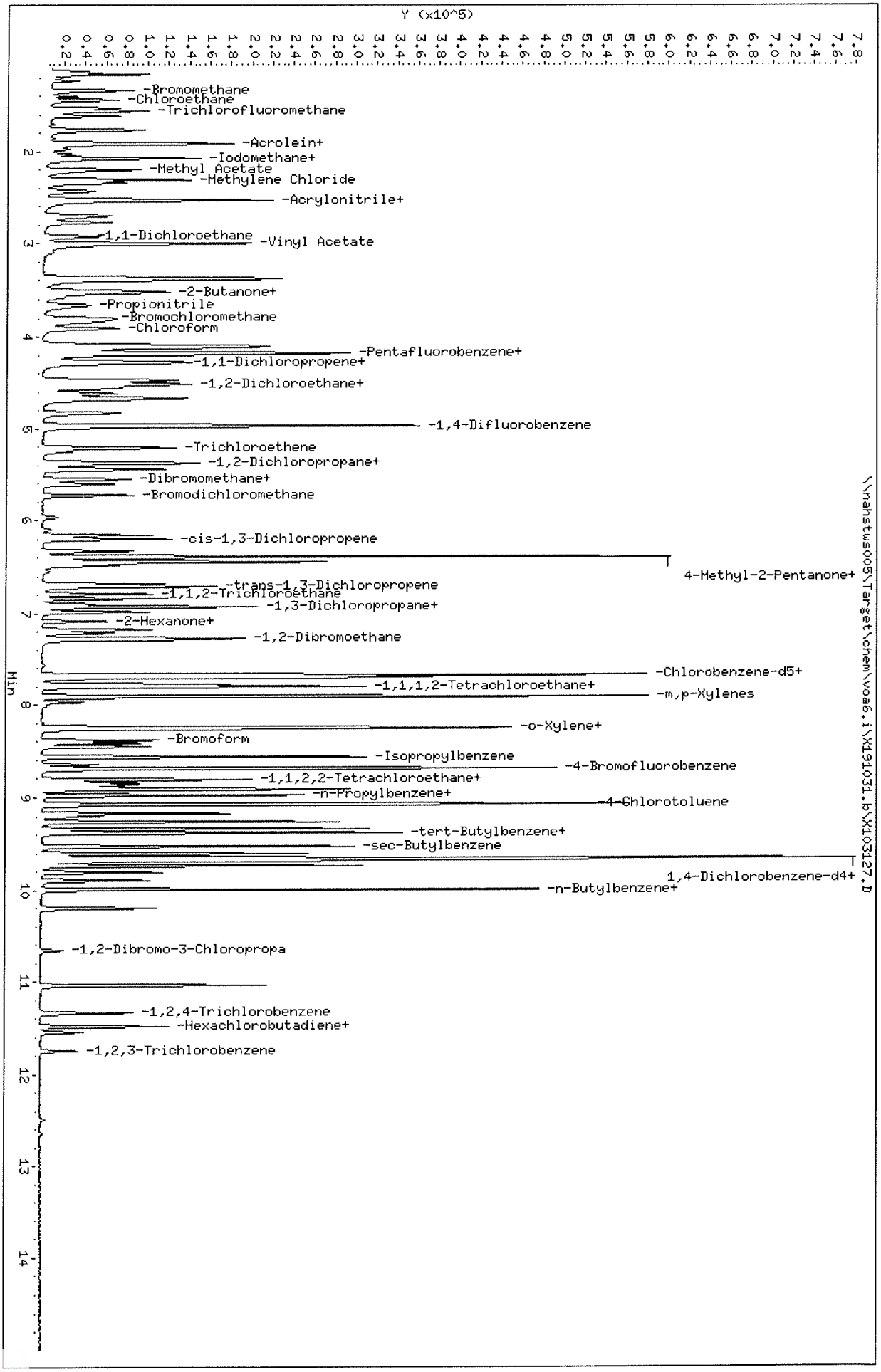
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
*	1 Pentafluorobenzene	168	4.182	4.182	(1.000)	276714	50.0000	
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	327814	50.0000	
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	287247	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	159427	50.0000	
$	35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	104303	44.7049	44.70
$	69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	134152	49.6999	49.69
$	30 Dibromofluoromethane	113	4.103	4.104	(0.981)	102623	46.5696	46.56
$	48 Toluene-d8	98	6.388	6.389	(0.833)	364111	51.0186	51.01
	60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	43663	18.6606	18.66
	31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	64445	18.5837	18.58
	68 1,1,2,2-Tetrachloroethane	83	8.838	8.845	(0.915)	35241	19.9796	19.97
	138 Freon TF	101	1.912	1.912	(0.457)	33649	18.3806	18.38
	53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	25158	19.2737	19.27
	22 1,1-Dichloroethane	63	2.922	2.922	(0.699)	54752	17.6750	17.67
	11 1,1-Dichloroethene	96	1.912	1.912	(0.457)	32017	18.1986	18.19
	32 1,1-Dichloropropene	75	4.283	4.283	(0.862)	47508	19.4556	19.45
	93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.216)	11148	20.8145	20.81
	71 1,2,3-Trichloropropane	75	8.867	8.867	(0.918)	31653	20.0564	20.05(M)
	90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	26825	18.6456	18.64
	79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.971)	158611	20.7699	20.76
	89 1,2-Dibromo-3-Chloropropane	155	10.658	10.658	(1.103)	5222	20.2637	20.26
	57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	37426	19.3912	19.39
	88 1,2-Dichlorobenzene	146	9.991	9.992	(1.034)	87455	19.7665	19.76

Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\X103127.D Page 2
Report Date: 19-Nov-2019 19:07

	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)	48600	18.2865	18.28
42	1,2-Dichloropropane	63	5.436	5.436	(1.094)	28698	17.9719	17.97
75	1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	157011	21.2164	21.21
83	1,3-Dichlorobenzene	146	9.605	9.605	(0.994)	97047	19.9668	19.96
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	50762	18.9566	18.95
84	1,4-Dichlorobenzene	146	9.683	9.684	(1.002)	96919	19.7633	19.76
26	2,2-Dichloropropane	77	3.509	3.516	(0.839)	57942	17.4084	17.40
24	2-Butanone	43	3.581	3.573	(0.856)	17000	30.0984	30.09
76	2-Chlorotoluene	91	8.974	8.974	(0.929)	119307	20.8215	20.82
52	2-Hexanone	43	7.083	7.083	(0.923)	29313	35.0473	35.04
77	4-Chlorotoluene	91	9.075	9.075	(0.939)	138519	20.4944	20.49
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	168930	21.3156	21.31
45	4-Methyl-2-Pentanone	43	6.324	6.324	(0.824)	41044	34.7020	34.70
10	Acetone	43	1.976	1.969	(0.473)	14801	26.2000	26.20
37	Benzene	78	4.512	4.512	(0.908)	132118	18.6270	18.62
74	Bromobenzene	156	8.810	8.810	(0.912)	59355	20.2248	20.22
29	Bromochloromethane	128	3.795	3.795	(0.908)	25061	17.5600	17.56
39	Bromodichloromethane	83	5.729	5.730	(1.153)	50083	19.2962	19.29
66	Bromoform	173	8.416	8.416	(1.097)	39456	21.2963	21.29
6	Bromomethane	94	1.339	1.339	(0.320)	44732	20.6306	20.63
19	Carbon Disulfide	76	2.069	2.069	(0.495)	189941	37.2560	37.25
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	61253	19.1443	19.14
59	Chlorobenzene	112	7.699	7.699	(1.004)	108150	19.3286	19.32
7	Chloroethane	64	1.403	1.403	(0.336)	19270	17.5671	17.56
28	Chloroform	83	3.910	3.910	(0.935)	66199	18.0746	18.07
3	Chloromethane	50	1.073	1.074	(0.257)	31966	17.4471	17.44
27	cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	40535	18.3370	18.33
46	cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	54862	18.2477	18.24
55	Dibromochloromethane	129	7.176	7.176	(0.936)	49514	20.8092	20.80
44	Dibromomethane	93	5.558	5.558	(1.118)	24009	18.9640	18.96
2	Dichlorodifluoromethane	85	0.973	0.973	(0.233)	36120	17.3694	17.36
61	Ethylbenzene	106	7.800	7.800	(1.017)	57963	19.9729	19.97
91	Hexachlorobutadiene	225	11.481	11.489	(1.188)	24577	19.7630	19.76
67	Isopropylbenzene	105	8.566	8.566	(1.117)	180129	20.4172	20.41
62	m,p-Xylenes	106	7.907	7.907	(1.031)	142891	40.6187	40.61
17	Methylene Chloride	84	2.306	2.306	(0.551)	34027	17.7140	17.71
87	n-Butylbenzene	91	9.999	9.999	(1.035)	123983	21.9333	21.93
73	n-Propylbenzene	91	8.917	8.917	(0.923)	192134	21.1596	21.15
92	Naphthalene	128	11.546	11.546	(1.195)	29715	20.5961	20.59
63	o-Xylene	106	8.244	8.244	(1.075)	68015	19.6344	19.63
81	sec-Butylbenzene	105	9.526	9.526	(0.986)	175223	21.6491	21.64
64	Styrene	104	8.258	8.258	(1.077)	118394	19.7568	19.75
78	tert-Butylbenzene	119	9.340	9.340	(0.967)	136215	21.2374	21.23
56	Tetrachloroethene	164	6.933	6.933	(0.904)	45086	20.7182	20.71
50	Toluene	91	6.446	6.446	(0.840)	156348	19.9460	19.94
20	trans-1,2-Dichloroethene	96	2.528	2.528	(0.604)	35748	19.2317	19.23
51	trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	50343	17.9364	17.93
38	Trichloroethene	130	5.207	5.207	(1.048)	47083	19.2491	19.24
8	Trichlorofluoromethane	101	1.561	1.561	(0.373)	66542	18.0179	18.01
5	Vinyl Chloride	62	1.138	1.138	(0.272)	31568	18.1876	18.18

QC Flag Legend

M - Compound response manually integrated.

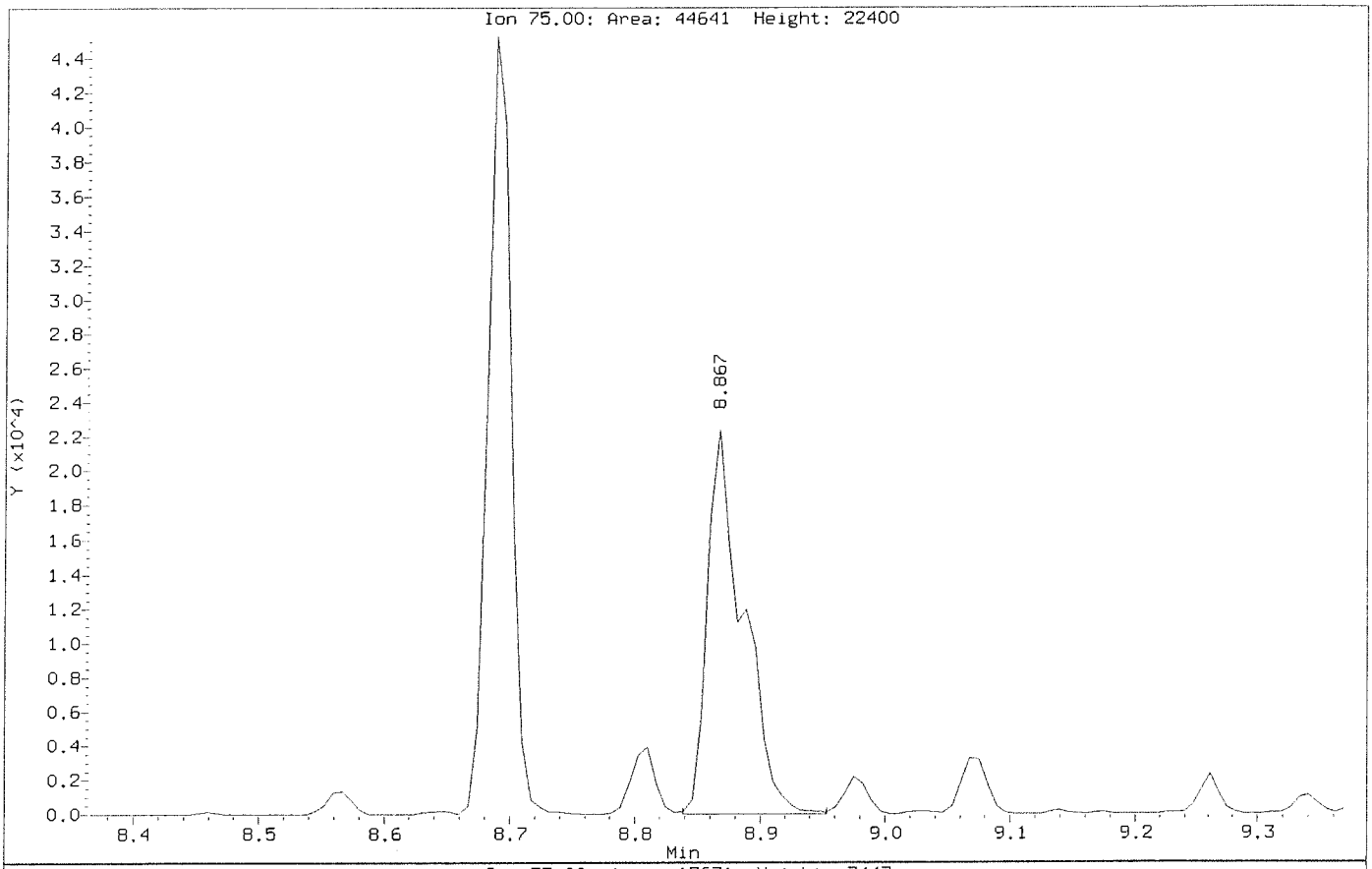


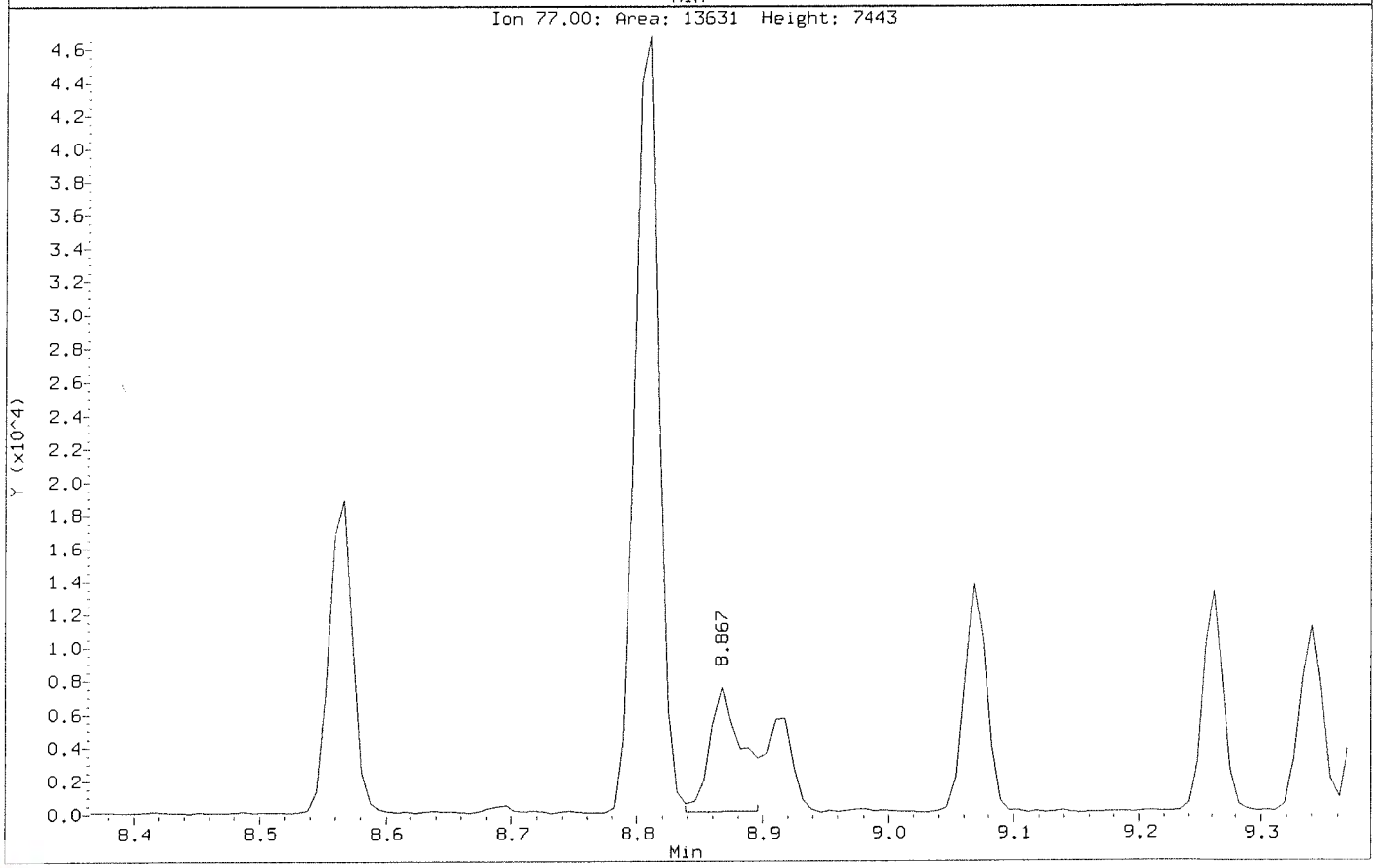
Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\X103127.D
Date : 31-OCT-2019 21:32
Client ID: HS191015Z3-05MS
Sample Info: HS191015Z3-05MS;HS191015Z3-05MS;3;;MS
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\BEFORE2\X103127.D
Injection Date: 31-OCT-2019 21:32
Instrument: voa6.i
Client Sample ID: HS19101523-05MS

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





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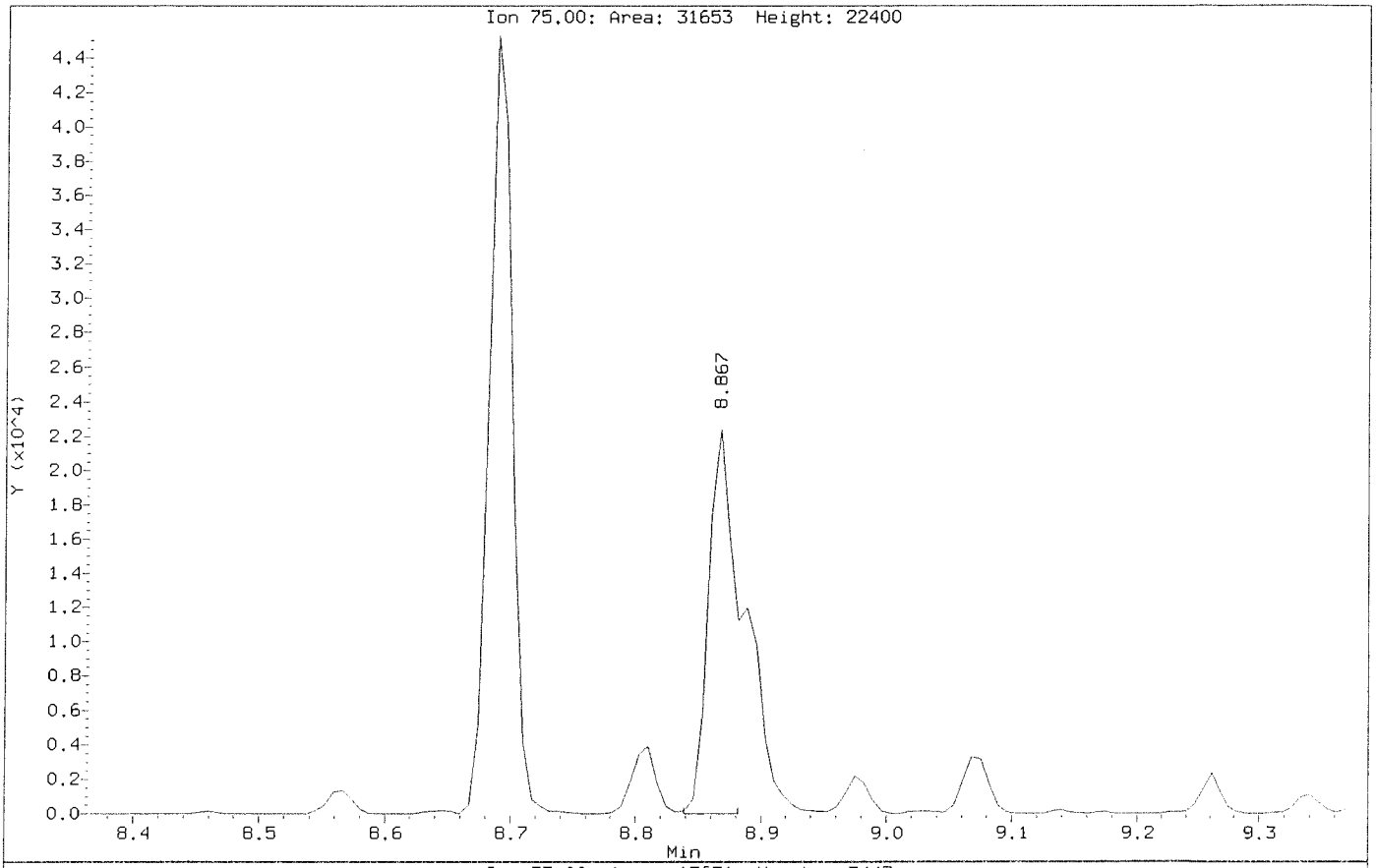
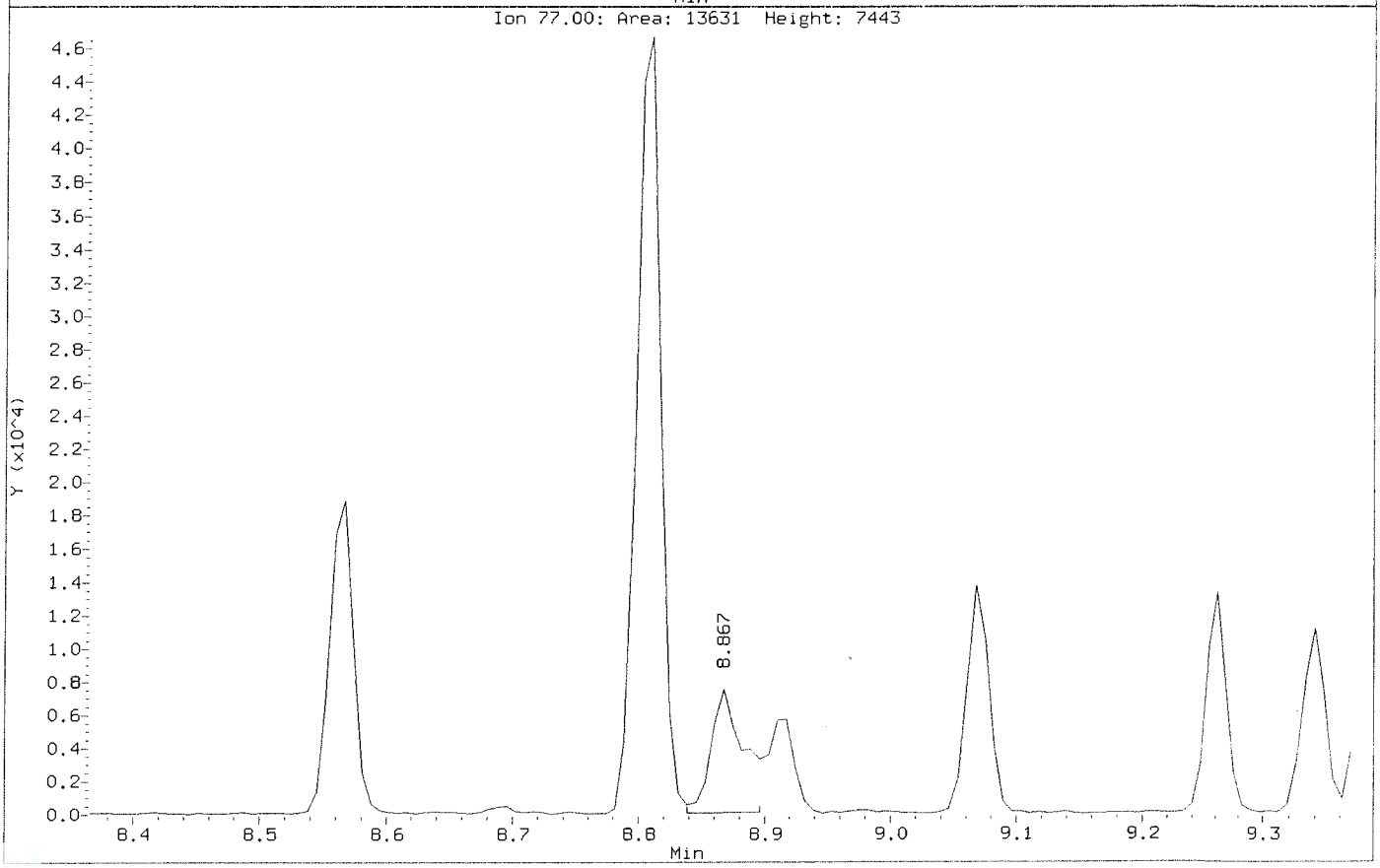
Injection Date: 31-OCT-2019 21:32
Instrument: voa6.i
Client Sample ID: HS19101523-05MS

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





Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\X103128.D Page 1
Report Date: 19-Nov-2019 19:07

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X191031.b\X103128.D
Lab Smp Id: HS19101523-05MSD Client Smp ID: HS19101523-05MSD
Inj Date : 31-OCT-2019 21:56
Operator : PC Inst ID: voa6.i
Smp Info : HS19101523-05MSD;HS19101523-05MSD;3;;MSD
Misc Info : HS18090001;WATER;0;1;
Comment   :
Method   : \\nahstws005\Target\chem\voa6.i\X191031.b\8260W.m
Meth Date : 19-Nov-2019 19:06 voa6.i Quant Type: ISTD
Cal Date : 31-OCT-2019 13:56 Cal File: X103108.D
Als bottle: 28 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

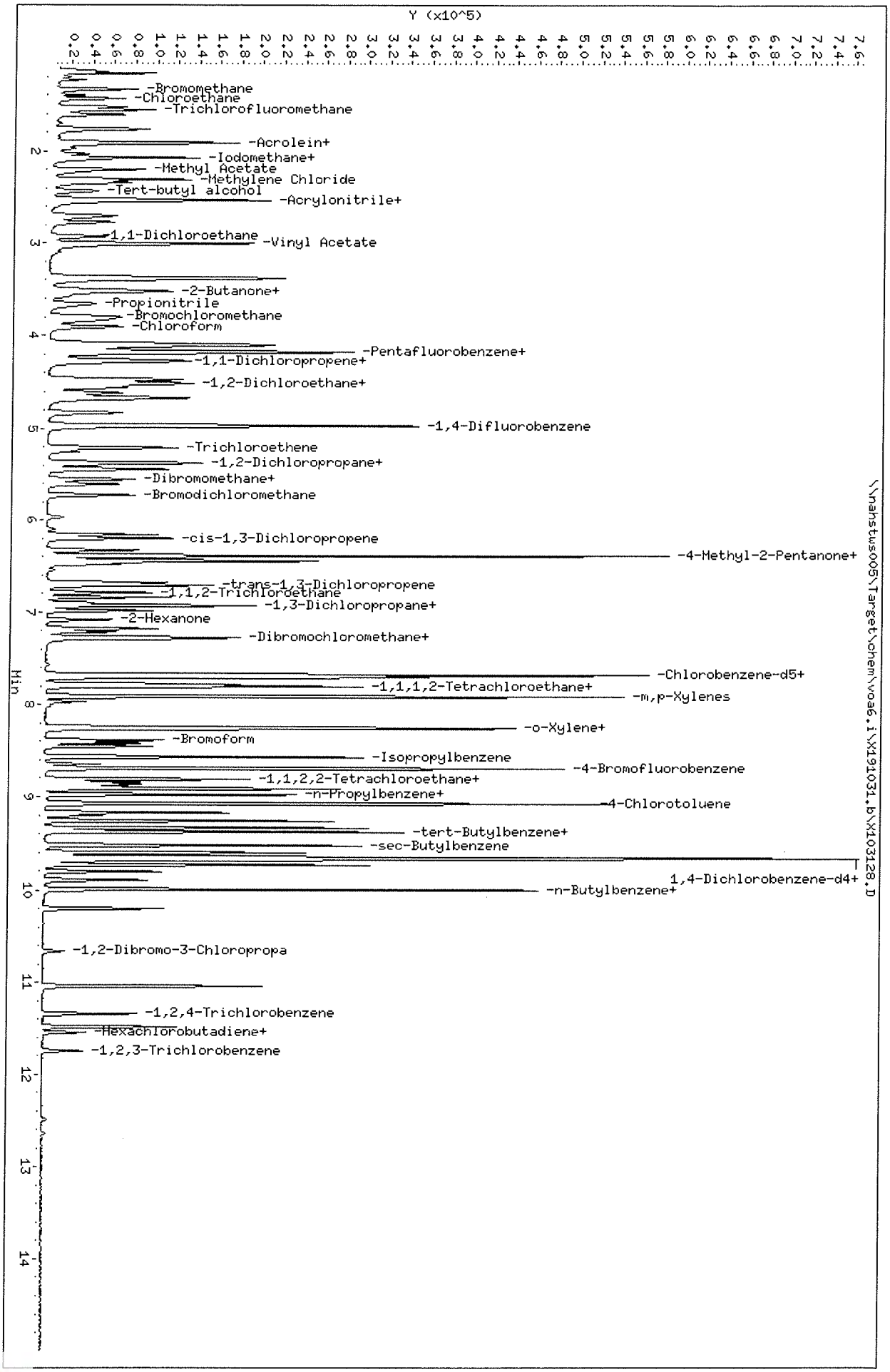
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	266665	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	316296	50.0000	
* 47 Chlorobenzene-d5	117	7.670	7.671	(1.000)	281414	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.662	(1.000)	160666	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	102000	45.3580	45.35
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	133050	50.3208	50.32
$ 30 Dibromofluoromethane	113	4.103	4.104	(0.981)	98412	46.3440	46.34
$ 48 Toluene-d8	98	6.388	6.389	(0.833)	353492	50.5573	50.55
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	43053	18.7813	18.78
31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	61172	18.3046	18.30
68 1,1,2,2-Tetrachloroethane	83	8.838	8.845	(0.914)	33776	18.9754	18.97
138 Freon TF	101	1.911	1.912	(0.457)	32819	18.6028	18.60
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	24295	18.9984	18.99
22 1,1-Dichloroethane	63	2.921	2.922	(0.699)	52236	17.4982	17.49
11 1,1-Dichloroethene	96	1.911	1.912	(0.457)	30225	17.8274	17.82
32 1,1-Dichloropropene	75	4.282	4.283	(0.862)	44693	18.9693	18.96
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.215)	11286	20.9131	20.91
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.917)	30450	19.0950	19.09(M)
90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	27260	18.8018	18.80
79 1,2,4-Trimethylbenzene	105	9.382	9.383	(0.970)	153430	19.9365	19.93
89 1,2-Dibromo-3-Chloropropane	155	10.657	10.658	(1.102)	4930	19.0509	19.05
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	36158	19.1226	19.12
88 1,2-Dichlorobenzene	146	9.998	9.992	(1.034)	82889	18.5900	18.58

Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\X103128.D Page 2
Report Date: 19-Nov-2019 19:07

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
33	1,2-Dichloroethane	62	4.555	4.562	(0.916)	47403	18.4857	18.48
42	1,2-Dichloropropane	63	5.436	5.436	(1.094)	27159	17.6275	17.62
75	1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	149552	20.0526	20.05
83	1,3-Dichlorobenzene	146	9.604	9.605	(0.993)	93264	19.0405	19.04
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	50094	19.0949	19.09
84	1,4-Dichlorobenzene	146	9.683	9.684	(1.001)	94778	19.1777	19.17
26	2,2-Dichloropropane	77	3.509	3.516	(0.839)	53719	16.7478	16.74
24	2-Butanone	43	3.573	3.573	(0.854)	15963	29.3154	29.31
76	2-Chlorotoluene	91	8.974	8.974	(0.928)	114230	19.7817	19.78
52	2-Hexanone	43	7.083	7.083	(0.923)	27881	34.0261	34.02
77	4-Chlorotoluene	91	9.074	9.075	(0.939)	133744	19.6353	19.63
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	163588	20.4824	20.48
45	4-Methyl-2-Pentanone	43	6.324	6.324	(0.824)	40272	34.7550	34.75
10	Acetone	43	1.976	1.969	(0.473)	14175	26.0374	26.03
37	Benzene	78	4.512	4.512	(0.908)	126375	18.4633	18.46
74	Bromobenzene	156	8.809	8.810	(0.911)	56782	19.1989	19.19
29	Bromochloromethane	128	3.795	3.795	(0.908)	23598	17.1580	17.15
39	Bromodichloromethane	83	5.729	5.730	(1.153)	48636	19.4210	19.42
66	Bromoform	173	8.415	8.416	(1.097)	37725	20.7841	20.78
6	Bromomethane	94	1.338	1.339	(0.320)	40873	19.4832	19.48
19	Carbon Disulfide	76	2.069	2.069	(0.495)	176983	36.0225	36.02
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	57899	18.7550	18.75
59	Chlorobenzene	112	7.699	7.699	(1.004)	105039	19.1617	19.16
7	Chloroethane	64	1.403	1.403	(0.336)	18120	17.1412	17.14
28	Chloroform	83	3.910	3.910	(0.935)	62879	17.8151	17.81
3	Chloromethane	50	1.073	1.074	(0.257)	30534	17.2930	17.29
27	cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	38879	18.2507	18.25
46	cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	52654	18.1511	18.15
55	Dibromochloromethane	129	7.176	7.176	(0.936)	48206	20.6794	20.67
44	Dibromomethane	93	5.557	5.558	(1.118)	23393	19.1503	19.15
2	Dichlorodifluoromethane	85	0.973	0.973	(0.233)	33836	16.9182	16.91
61	Ethylbenzene	106	7.799	7.800	(1.017)	56399	19.8368	19.83
91	Hexachlorobutadiene	225	11.481	11.489	(1.187)	24932	19.8939	19.89
67	Isopropylbenzene	105	8.566	8.566	(1.117)	172159	19.9183	19.91
62	m,p-Xylenes	106	7.907	7.907	(1.031)	134794	39.1112	39.11
17	Methylene Chloride	84	2.305	2.306	(0.551)	32605	17.6133	17.61
87	n-Butylbenzene	91	9.998	9.999	(1.034)	119889	21.0455	21.04
73	n-Propylbenzene	91	8.917	8.917	(0.922)	184276	20.1377	20.13
92	Naphthalene	128	11.546	11.546	(1.194)	28453	19.5286	19.52
63	o-Xylene	106	8.244	8.244	(1.075)	66428	19.5737	19.57
81	sec-Butylbenzene	105	9.526	9.526	(0.985)	170285	20.8768	20.87
64	Styrene	104	8.258	8.258	(1.077)	113788	19.3817	19.38
78	tert-Butylbenzene	119	9.339	9.340	(0.966)	131375	20.3248	20.32
56	Tetrachloroethene	164	6.933	6.933	(0.904)	44091	20.6809	20.68
50	Toluene	91	6.446	6.446	(0.840)	148748	19.3697	19.36
20	trans-1,2-Dichloroethene	96	2.527	2.528	(0.604)	32830	18.3274	18.32
51	trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	49154	18.1505	18.15
38	Trichloroethene	130	5.206	5.207	(1.048)	44984	19.0607	19.06
8	Trichlorofluoromethane	101	1.560	1.561	(0.373)	63732	17.9073	17.90
5	Vinyl Chloride	62	1.138	1.138	(0.272)	29943	17.9014	17.90

QC Flag Legend

M - Compound response manually integrated.



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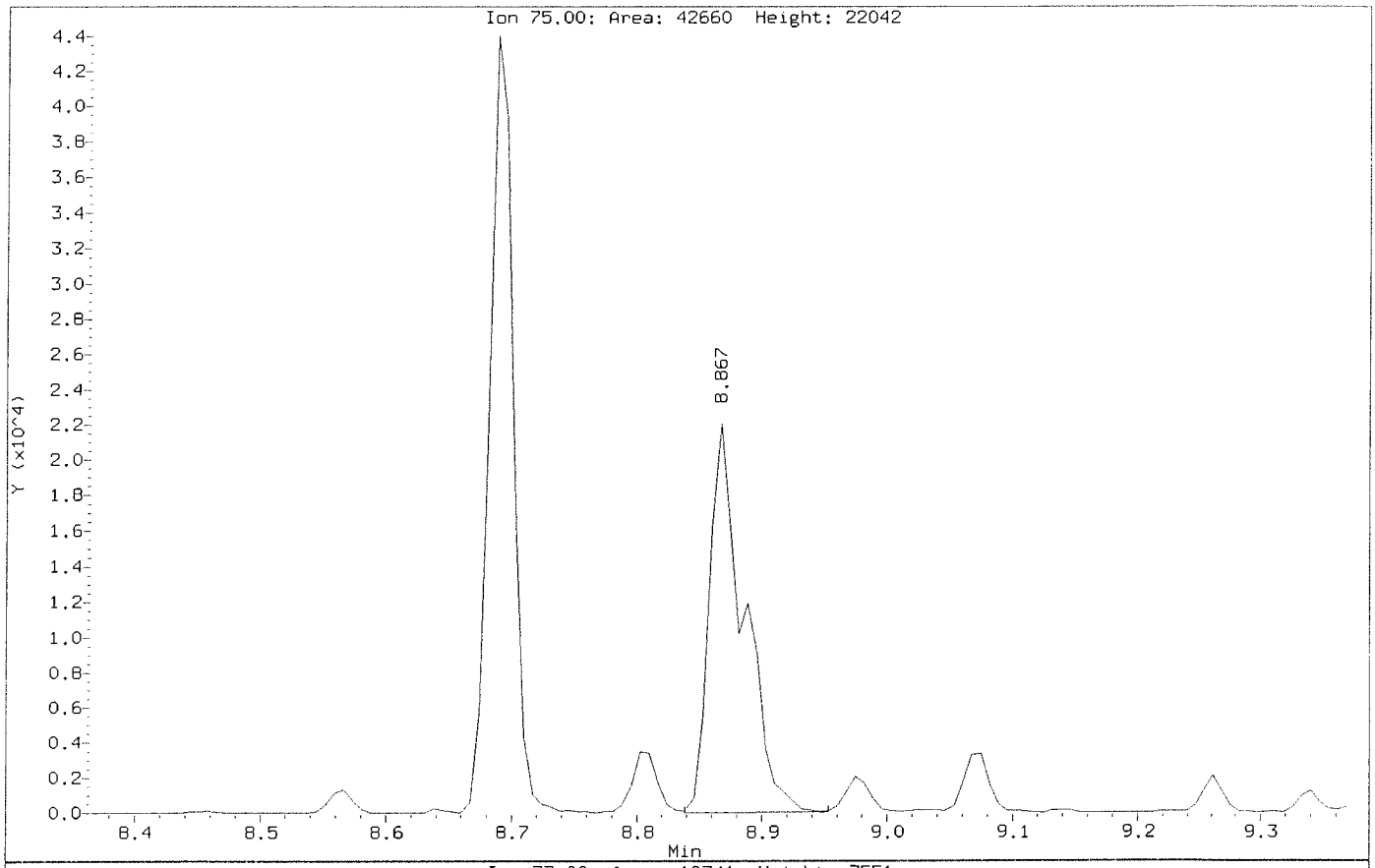
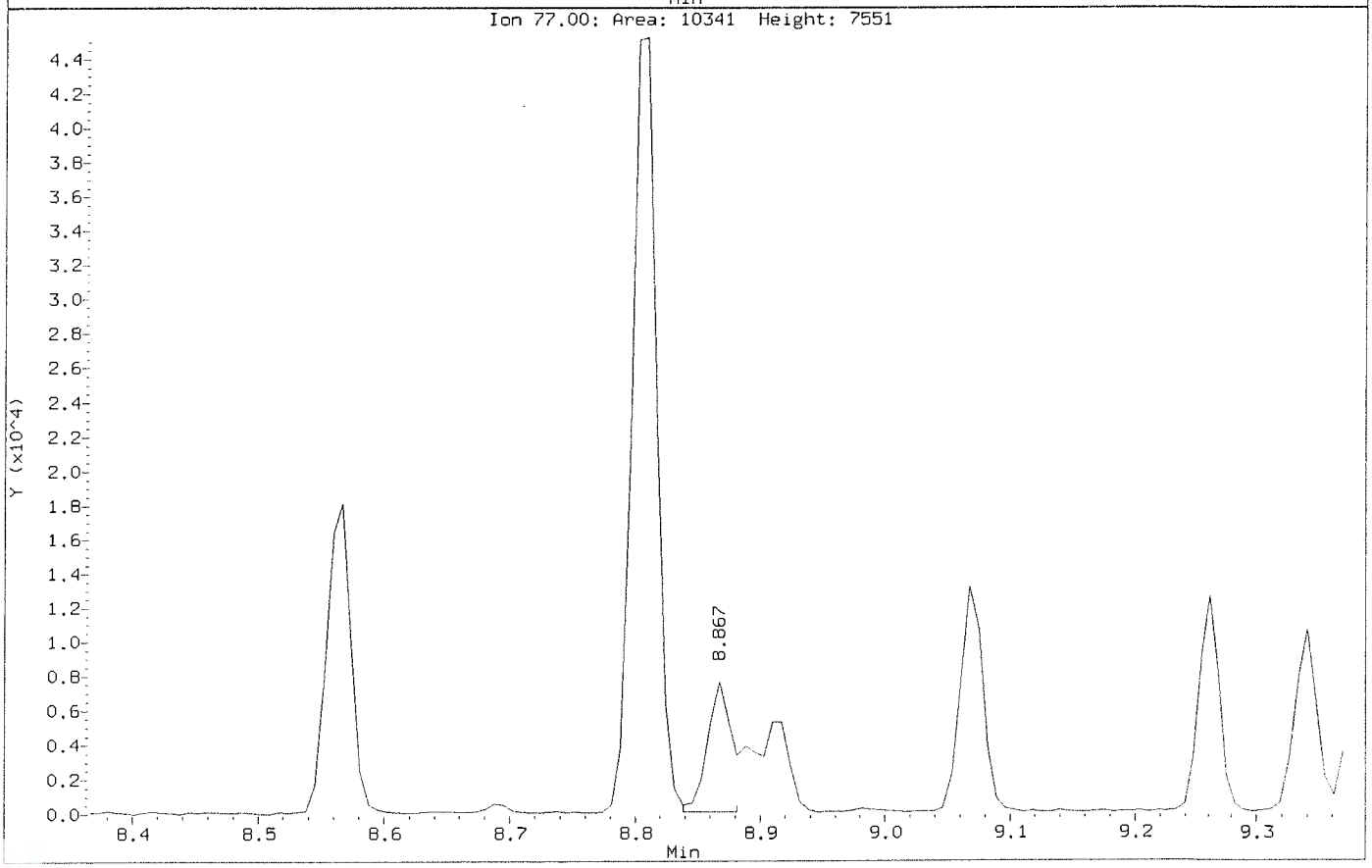
Date : 31-OCT-2019 21:56
Client ID: HS19101523-05HSD
Sample Info: HS19101523-05HSD;HS19101523-05HSD;3;;HSD
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\BEFORE2\X103128.D
Injection Date: 31-OCT-2019 21:56
Instrument: voa6.i
Client Sample ID: HS19101523-05MSD

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





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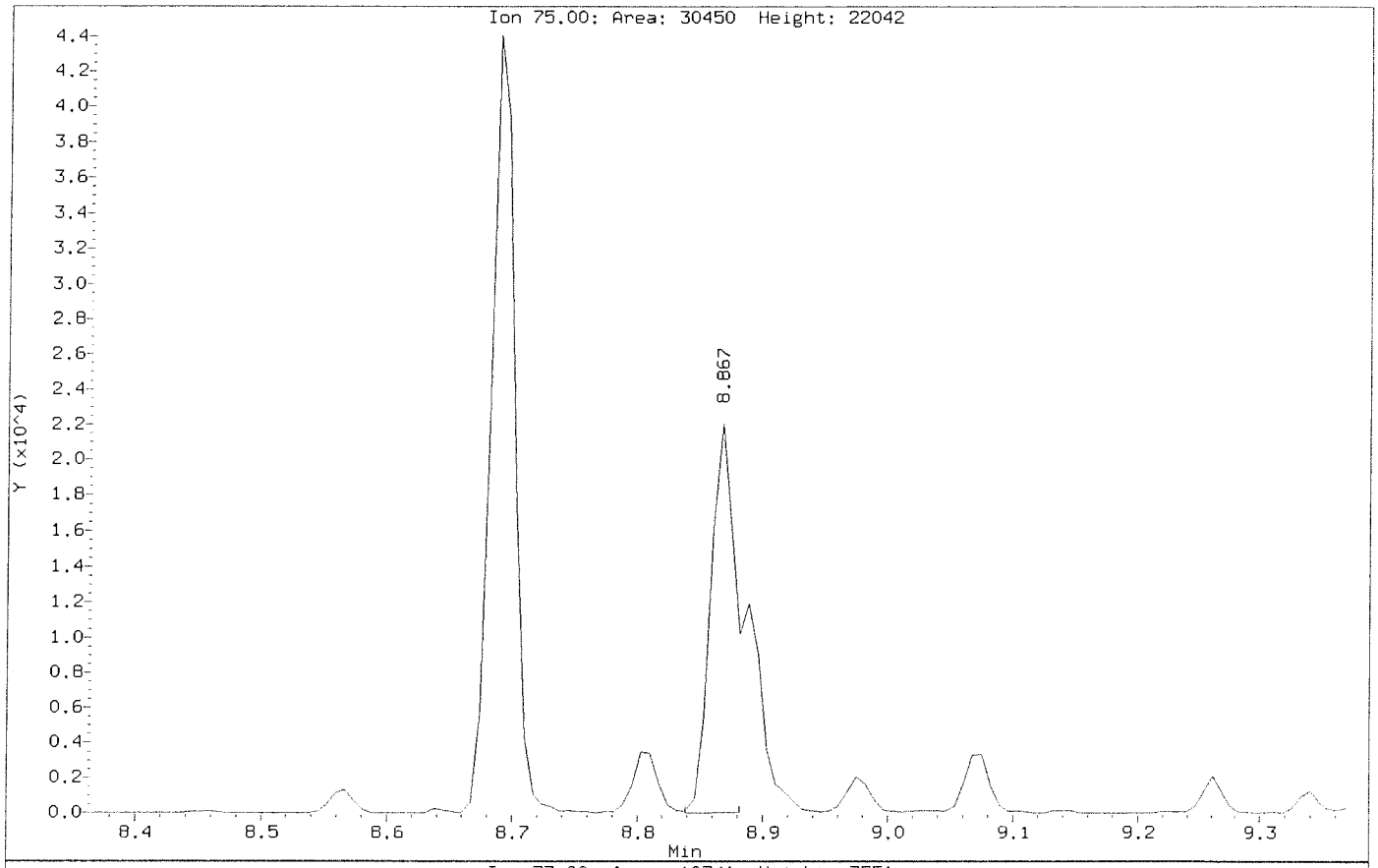
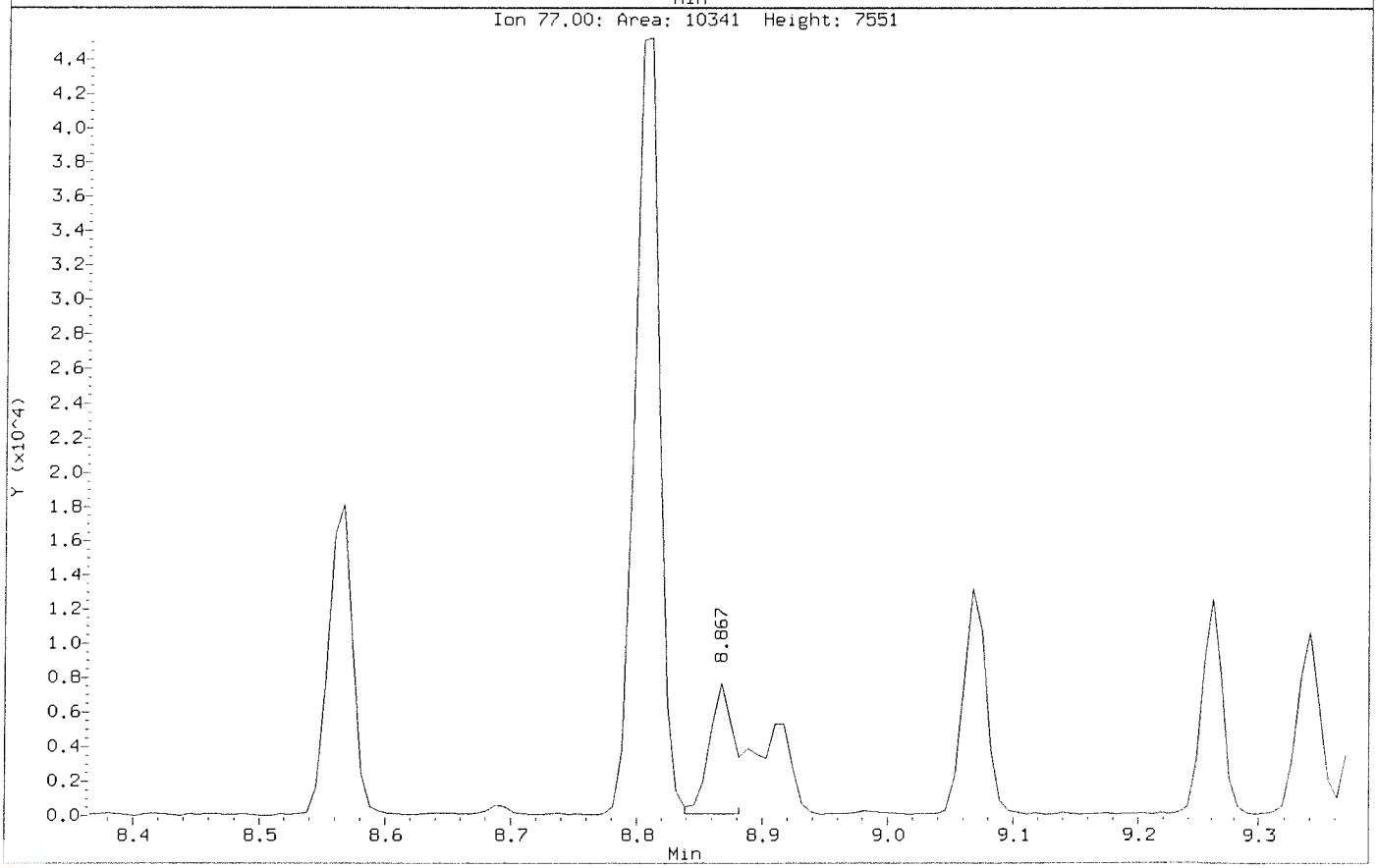
Injection Date: 31-OCT-2019 21:56
Instrument: voa6.i
Client Sample ID: HS19101523-05MSD

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





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Report Date: 19-Nov-2019 19:07

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X191031.b\X103129.D
Lab Smp Id: CCV-END Client Smp ID: CCV-END
Inj Date : 31-OCT-2019 22:20
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\X191031.b\8260W.m
Meth Date : 19-Nov-2019 19:06 voa6.i Quant Type: ISTD
Cal Date : 31-OCT-2019 13:56 Cal File: X103108.D
Als bottle: 29 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

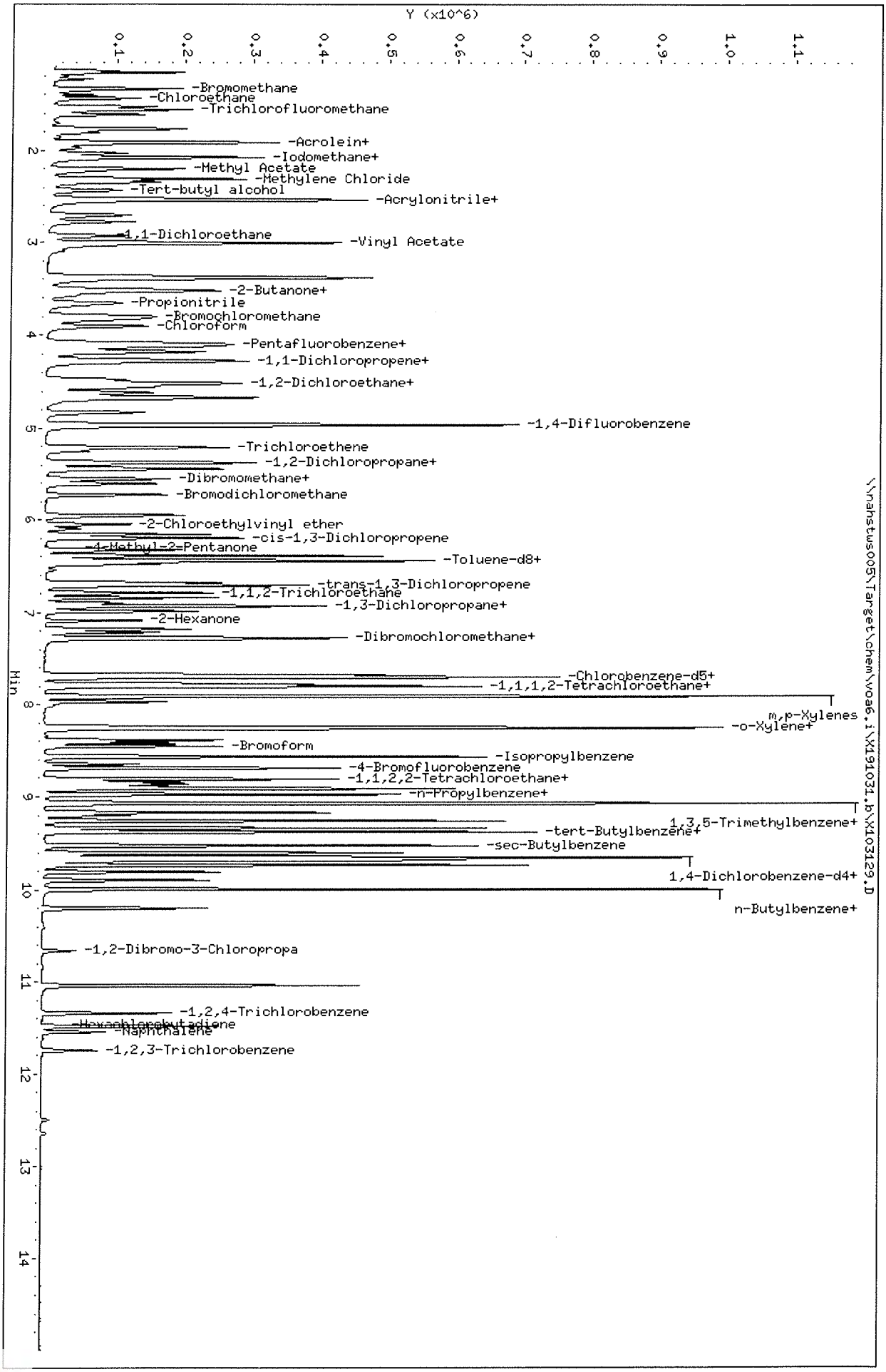
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	211148	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	263685	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	246454	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	142178	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	90647	50.0000	50.84
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	118432	50.0000	51.15
$ 30 Dibromofluoromethane	113	4.104	4.104	(0.981)	85998	50.0000	51.09
$ 48 Toluene-d8	98	6.389	6.389	(0.833)	297646	50.0000	48.60
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	96841	50.0000	48.23
31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	134945	50.0000	50.99
68 1,1,2,2-Tetrachloroethane	83	8.845	8.845	(0.915)	77442	50.0000	50.00
138 Freon TF	101	1.912	1.912	(0.457)	70908	50.0000	50.76
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	55258	50.0000	49.34
22 1,1-Dichloroethane	63	2.922	2.922	(0.699)	116481	50.0000	49.27
11 1,1-Dichloroethene	96	1.912	1.912	(0.457)	66432	50.0000	49.48
32 1,1-Dichloropropene	75	4.283	4.283	(0.862)	95988	50.0000	48.86
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.216)	24510	50.0000	51.33
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.918)	70037	50.0000	51.40(M)
90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	56217	50.0000	43.81
79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.971)	335143	50.0000	49.21
89 1,2-Dibromo-3-Chloropropane	155	10.658	10.658	(1.103)	11043	50.0000	46.57
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	81904	50.0000	49.46
88 1,2-Dichlorobenzene	146	9.992	9.992	(1.034)	184737	50.0000	46.81

Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\X103129.D Page 2
Report Date: 19-Nov-2019 19:07

	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)	105894	50.0000	49.53
42	1,2-Dichloropropane	63	5.436	5.436	(1.094)	60468	50.0000	47.07
75	1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	325649	50.0000	49.34
83	1,3-Dichlorobenzene	146	9.605	9.605	(0.994)	206567	50.0000	47.65
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	111980	50.0000	48.73
84	1,4-Dichlorobenzene	146	9.684	9.684	(1.002)	207175	50.0000	47.37
26	2,2-Dichloropropane	77	3.516	3.516	(0.841)	116057	50.0000	45.69
24	2-Butanone	43	3.573	3.573	(0.854)	39077	100.000	91.61
76	2-Chlorotoluene	91	8.974	8.974	(0.929)	249730	50.0000	48.87
52	2-Hexanone	43	7.083	7.083	(0.923)	65324	100.000	91.03
77	4-Chlorotoluene	91	9.075	9.075	(0.939)	293676	50.0000	48.72
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	349024	50.0000	49.38
45	4-Methyl-2-Pentanone	43	6.324	6.324	(0.824)	93993	100.000	92.62
10	Acetone	43	1.969	1.969	(0.471)	34924	100.000	81.05
37	Benzene	78	4.512	4.512	(0.908)	275701	50.0000	48.83
74	Bromobenzene	156	8.810	8.810	(0.912)	128386	50.0000	49.05
29	Bromochloromethane	128	3.795	3.795	(0.908)	53132	50.0000	48.78
39	Bromodichloromethane	83	5.730	5.730	(1.153)	106503	50.0000	51.01
66	Bromoform	173	8.416	8.416	(1.097)	77783	50.0000	48.93
6	Bromomethane	94	1.339	1.339	(0.320)	88674	50.0000	55.99
19	Carbon Disulfide	76	2.069	2.069	(0.495)	391883	100.000	100.73
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	125106	50.0000	48.61
59	Chlorobenzene	112	7.699	7.699	(1.004)	230725	50.0000	48.06
7	Chloroethane	64	1.403	1.403	(0.336)	42480	50.0000	50.75
28	Chloroform	83	3.910	3.910	(0.935)	140268	50.0000	50.19
3	Chloromethane	50	1.074	1.074	(0.257)	72166	50.0000	51.73
27	cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	87407	50.0000	51.81
46	cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	120733	50.0000	49.92
55	Dibromochloromethane	129	7.176	7.176	(0.936)	99283	50.0000	48.63
44	Dibromomethane	93	5.558	5.558	(1.118)	51662	50.0000	50.73
2	Dichlorodifluoromethane	85	0.973	0.973	(0.233)	80409	50.0000	48.34
61	Ethylbenzene	106	7.800	7.800	(1.017)	121980	50.0000	48.98
91	Hexachlorobutadiene	225	11.489	11.489	(1.189)	52077	50.0000	46.95
67	Isopropylbenzene	105	8.566	8.566	(1.117)	369734	50.0000	48.84
62	m,p-Xylenes	106	7.907	7.907	(1.031)	295119	100.000	97.77
17	Methylene Chloride	84	2.306	2.306	(0.551)	74230	50.0000	50.65
87	n-Butylbenzene	91	9.999	9.999	(1.035)	250437	50.0000	49.67
73	n-Propylbenzene	91	8.917	8.917	(0.923)	398983	50.0000	49.27
92	Naphthalene	128	11.546	11.546	(1.195)	64514	50.0000	50.32
63	o-Xylene	106	8.244	8.244	(1.075)	145233	50.0000	48.86
81	sec-Butylbenzene	105	9.526	9.526	(0.986)	360490	50.0000	49.94
64	Styrene	104	8.258	8.258	(1.077)	254567	50.0000	49.51
78	tert-Butylbenzene	119	9.340	9.340	(0.967)	280289	50.0000	49.00
56	Tetrachloroethene	164	6.933	6.933	(0.904)	90567	50.0000	48.50
50	Toluene	91	6.446	6.446	(0.840)	326166	50.0000	48.49
20	trans-1,2-Dichloroethene	96	2.528	2.528	(0.604)	73520	50.0000	51.83
51	trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	113849	50.0000	50.42
38	Trichloroethene	130	5.207	5.207	(1.048)	99822	50.0000	50.73
8	Trichlorofluoromethane	101	1.561	1.561	(0.373)	142408	50.0000	50.53
5	Vinyl Chloride	62	1.138	1.138	(0.272)	66618	50.0000	50.29

QC Flag Legend

M - Compound response manually integrated.

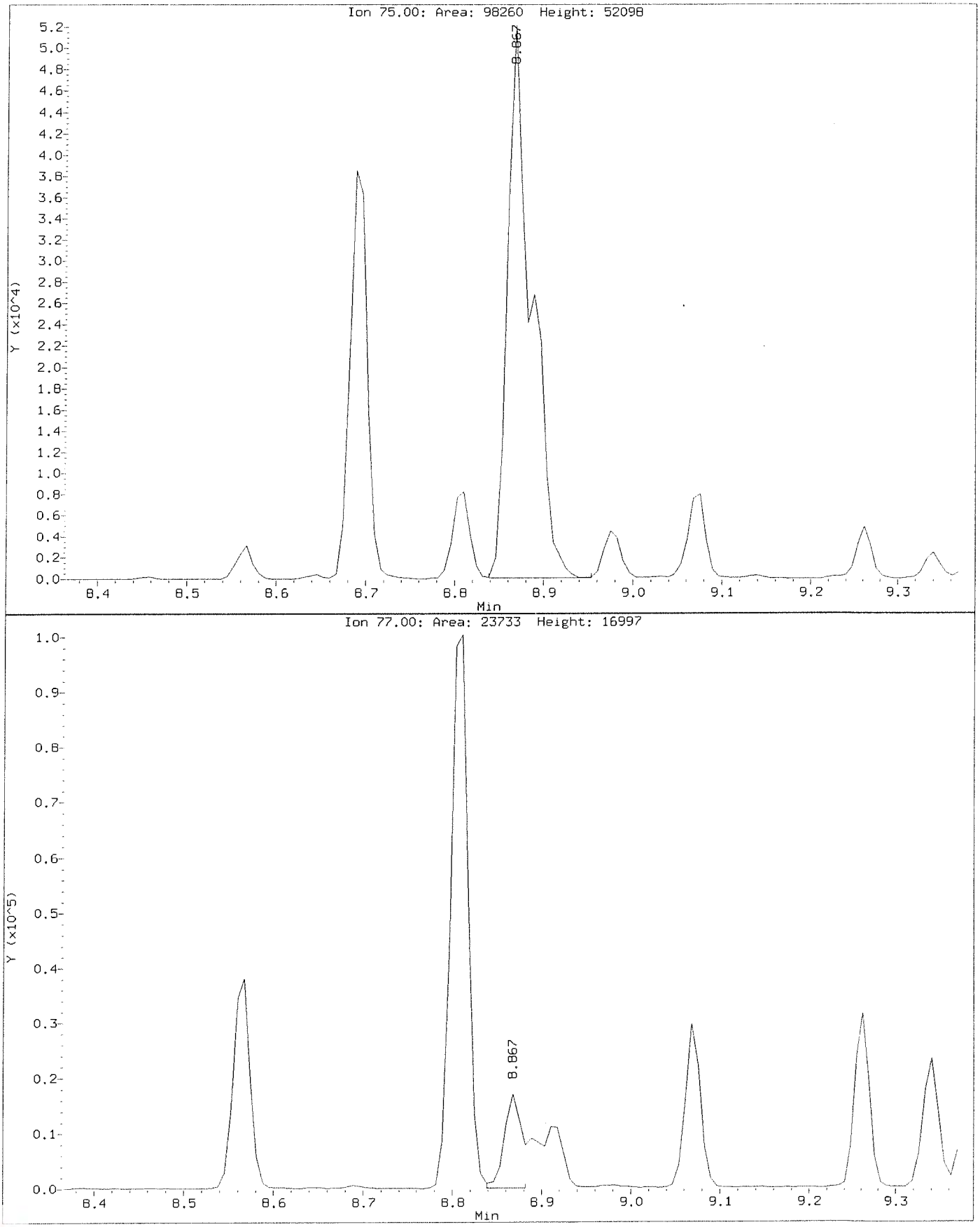


Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\X103129.D
Date : 31-OCT-2019 22:20
Client ID: CCV-END
Sample Info: CCV-END;CCV-END;2;;
Purge Volume: 5.0
Column phase: DB624

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

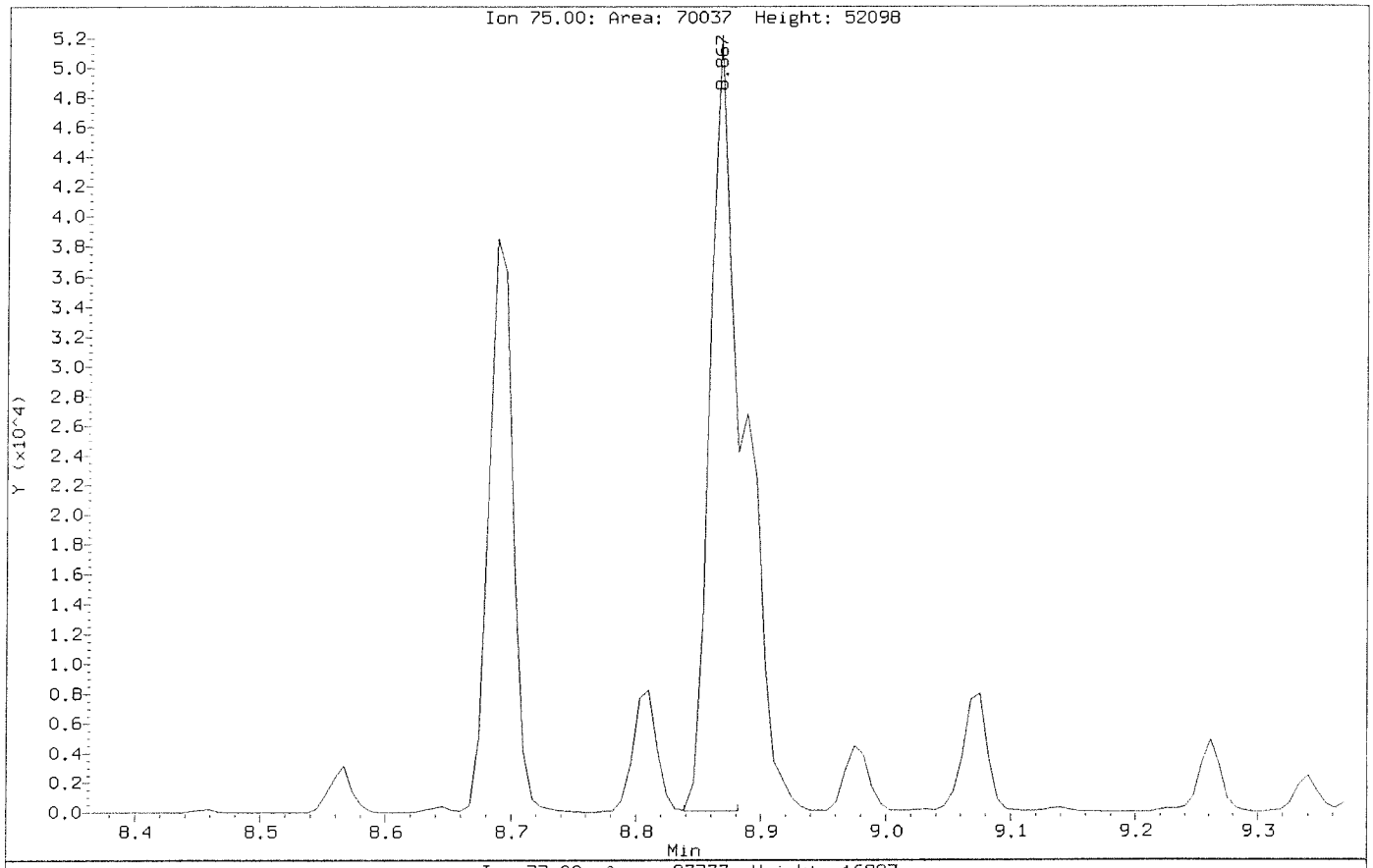
Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\BEFORE2\X103129.D
Injection Date: 31-OCT-2019 22:20
Instrument: voa6.i
Client Sample ID: CCV-END

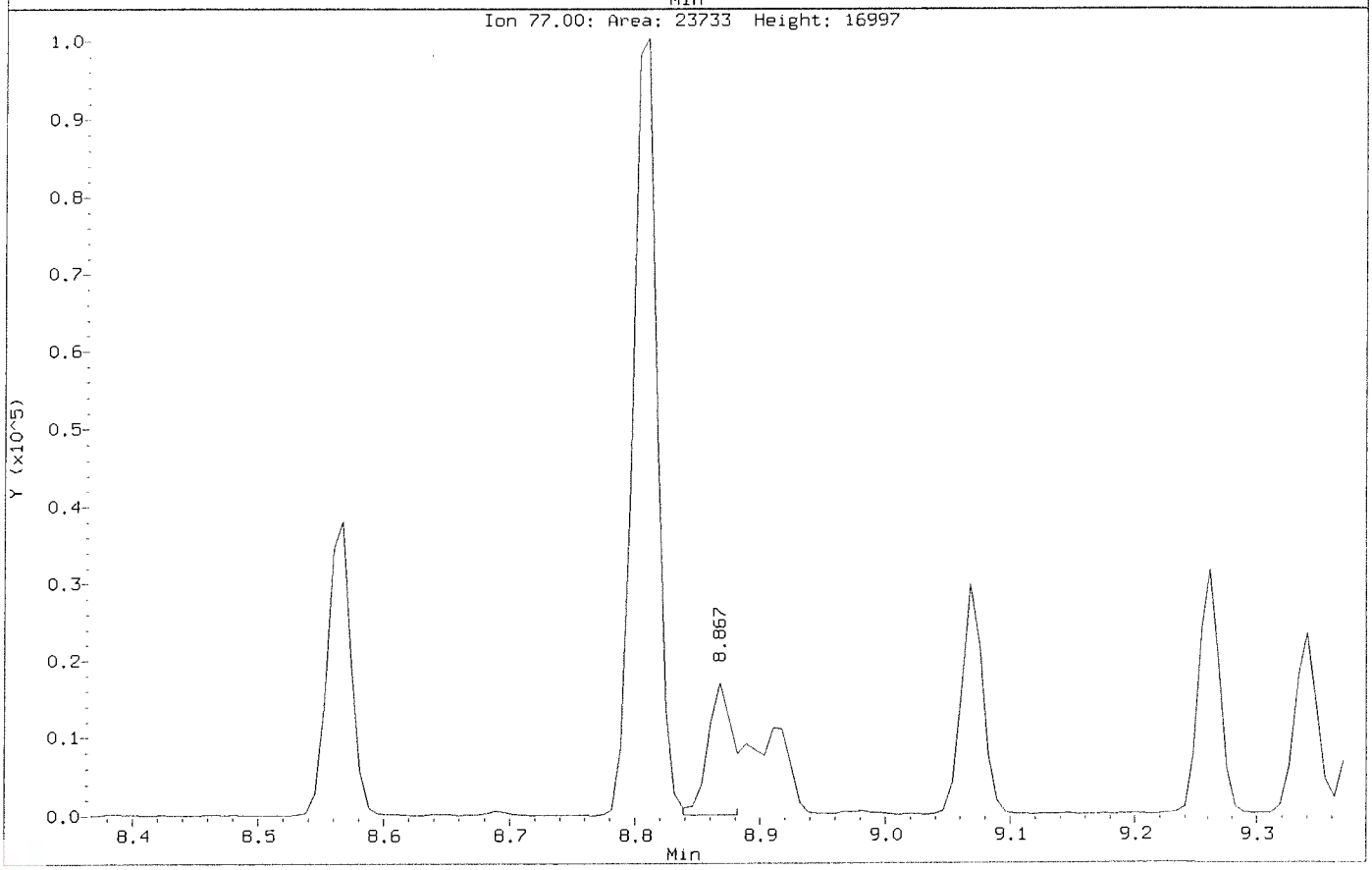
Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4



Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\X103129.D
Injection Date: 31-OCT-2019 22:20
Instrument: voa6.i
Client Sample ID: CCV-END

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





MSVOA06 -Logbook

Batch: 38076 **Analyst:** Devak Giga

Date: 11-01-2019 **Reviewer:**

Method: 8260 **Laboratory:** Houston

Comments:

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
1	BFB	TUNE	11-01-2019 10:45 am	1.00	0.00 mL	0.00 mL	X110101.D	Liquid	Y	NA
	Auto find/purged									
2	CCV	CCV	11-01-2019 11:09 am	1.00	5.00 mL	0.00 mL	X110102a.D	Liquid	Y	NA
	10 uL cal std/50 mL DI									
3	CCV	CCV	11-01-2019 11:33 am	1.00	5.00 mL	0.00 mL	X110103.D	Liquid	Y	NA
	10 uL cal std/50 mL DI									
4	CCB	SAMP	11-01-2019 11:57 am	1.00	5.00 mL	0.00 mL	X110104.D	Liquid	Y	NA
	CCB									
5	VLCSW-191101	LCS	11-01-2019 12:21 pm	1.00	5.00 mL	0.00 mL	X110105.D	Liquid	Y	NA
	4 uL LCS std/50 mL DI									
6	BLK	SAMP	11-01-2019 12:45 pm	1.00	5.00 mL	0.00 mL	X110106.D	Liquid	Y	NA
	Cleanup blk									
7	VBLKW-191101	MBLK	11-01-2019 01:09 pm	1.00	5.00 mL	0.00 mL	X110107.D	Liquid	Y	<2
8	HS19101523-12	SAMP	11-01-2019 01:33 pm	1.00	5.00 mL	0.00 mL	X110108.D	Liquid	Y	<2
9	HS19101523-08	SAMP	11-01-2019 01:57 pm	1.00	5.00 mL	0.00 mL	X110109.D	Liquid	Y	<2
10	HS19101523-09	SAMP	11-01-2019 02:21 pm	1.00	5.00 mL	0.00 mL	X110110.D	Liquid	Y	<2
11	HS19101523-10	SAMP	11-01-2019 02:45 pm	1.00	5.00 mL	0.00 mL	X110111.D	Liquid	Y	<2
12	HS19101523-11	SAMP	11-01-2019 03:09 pm	1.00	5.00 mL	0.00 mL	X110112.D	Liquid	Y	<2
13	HS19101706-06	SAMP	11-01-2019 03:33 pm	1.00	5.00 mL	0.00 mL	X110113.D	Liquid	Y	<2
14	HS19101706-07	SAMP	11-01-2019 03:57 pm	1.00	5.00 mL	0.00 mL	X110114.D	Liquid	Y	<2
15	HS19101523-07	SAMP	11-01-2019 04:21 pm	10.00	5.00 mL	0.00 mL	X110115.D	Liquid	Y	<2
16	HS19101523-07	SAMP	11-01-2019 04:45 pm	1.00	5.00 mL	0.00 mL	X110116.D	Liquid	Y	<2
17	HS19101706-05	SAMP	11-01-2019 05:09 pm	1.00	5.00 mL	0.00 mL	X110117.D	Liquid	Y	<2
18	HS19101523-07MS	MS	11-01-2019 05:34 pm	10.00	5.00 mL	0.00 mL	X110118.D	Liquid	Y	NA
	3.2 uL cal std/40 mL sample									
19	HS19101523-07MSD	MSD	11-01-2019 05:58 pm	10.00	5.00 mL	0.00 mL	X110119.D	Liquid	Y	NA
	3.2 uL cal std/40 mL sample									
20	HS19101706-05	SAMP	11-01-2019 06:22 pm	10.00	5.00 mL	0.00 mL	X110120.D	Liquid	Y	<2
21	HS19101706-08	SAMP	11-01-2019 06:46 pm	1.00	5.00 mL	0.00 mL	X110121.D	Liquid	Y	<2
22	HS19101706-01	SAMP	11-01-2019 07:10 pm	1.00	5.00 mL	0.00 mL	X110122.D	Liquid	Y	<2
23	HS19101706-02	SAMP	11-01-2019 07:34 pm	1.00	5.00 mL	0.00 mL	X110123.D	Liquid	Y	<2
24	HS19101706-03	SAMP	11-01-2019 07:58 pm	1.00	5.00 mL	0.00 mL	X110124.D	Liquid	Y	<2
25	HS19101706-04	SAMP	11-01-2019 08:22 pm	1.00	5.00 mL	0.00 mL	X110125.D	Liquid	Y	<2
26	HS19101774-02	SAMP	11-01-2019 08:46 pm	1.00	5.00 mL	0.00 mL	X110126.D	Liquid	Y	<2
27	HS19101774-01	SAMP	11-01-2019 09:10 pm	1.00	5.00 mL	0.00 mL	X110127.D	Liquid	Y	<2
28	HS19110039-01	SAMP	11-01-2019 09:34 pm	1.00	5.00 mL	0.00 mL	X110128.D	Liquid	Y	<2
29	HS19110039-02	SAMP	11-01-2019 09:58 pm	1.00	5.00 mL	0.00 mL	X110129.D	Liquid	Y	<2
30	CCV-END	CCV	11-01-2019 10:22 pm	1.00	5.00 mL	0.00 mL	X110130.D	Liquid	Y	NA
	10 uL cal std/50 mL DI									
31	BFB	TUNE	11-01-2019 10:46 pm	1.00	0.00 mL	0.00 mL	Y110101.D	Liquid	Y	NA
	Auto find/purged									
32	CCV	CCV	11-01-2019 11:10 pm	1.00	5.00 mL	0.00 mL	Y110102.D	Liquid	Y	NA
	10 uL cal std/50 mL DI									
33	BLANK	SAMP	11-01-2019 11:34 pm	1.00	5.00 mL	0.00 mL	Y110103.D	Liquid	Y	NA
	Cleanup blk									
34	CCB	SAMP	11-01-2019 11:58 pm	1.00	5.00 mL	0.00 mL	Y110104.D	Liquid	Y	NA
	CCB									

MSVOA06 -Logbook

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
35	VLCSW-191101	LCS	11-02-2019 12:22 am	1.00	5.00 mL	0.00 mL	Y110105.D	Liquid	Y	NA
	4 uL LCS std/50 mL DI									
36	BLK	SAMP	11-02-2019 12:46 am	1.00	5.00 mL	0.00 mL	Y110106.D	Liquid	Y	NA
	Cleanup blk									
37	VBLKW-191101	MBLK	11-02-2019 01:10 am	1.00	5.00 mL	0.00 mL	Y110107.D	Liquid	Y	<2
38	HS19101843-10	SAMP	11-02-2019 01:34 am	1.00	5.00 mL	0.00 mL	Y110108.D	Liquid	Y	<2
39	HS19101843-01	SAMP	11-02-2019 01:58 am	1.00	5.00 mL	0.00 mL	Y110109.D	Liquid	Y	<2
40	HS19101843-01MS	MS	11-02-2019 02:22 am	1.00	5.00 mL	0.00 mL	Y110110.D	Liquid	Y	NA
	3.2 uL cal std/40 mL sample									
41	HS19101843-01MSD	MSD	11-02-2019 02:46 am	1.00	5.00 mL	0.00 mL	Y110111.D	Liquid	Y	NA
	3.2 uL cal std/40 mL sample									
42	HS19101843-02	SAMP	11-02-2019 03:10 am	1.00	5.00 mL	0.00 mL	Y110112.D	Liquid	Y	<2
43	HS19101843-04	SAMP	11-02-2019 03:34 am	1.00	5.00 mL	0.00 mL	Y110113.D	Liquid	Y	<2
44	HS19101843-05	SAMP	11-02-2019 03:58 am	1.00	5.00 mL	0.00 mL	Y110114.D	Liquid	Y	<2
45	HS19101843-06	SAMP	11-02-2019 04:22 am	1.00	5.00 mL	0.00 mL	Y110115.D	Liquid	Y	<2
46	HS19101843-07	SAMP	11-02-2019 04:47 am	1.00	5.00 mL	0.00 mL	Y110116.D	Liquid	Y	<2
47	HS19101843-08	SAMP	11-02-2019 05:11 am	1.00	5.00 mL	0.00 mL	Y110117.D	Liquid	Y	<2
48	HS19101906-01	SAMP	11-02-2019 05:35 am	1.00	5.00 mL	0.00 mL	Y110118.D	Liquid	Y	<2
49	HS19101906-02	SAMP	11-02-2019 05:59 am	1.00	5.00 mL	0.00 mL	Y110119.D	Liquid	Y	<2
50	HS19101906-03	SAMP	11-02-2019 06:23 am	1.00	5.00 mL	0.00 mL	Y110120.D	Liquid	Y	<2
51	HS19101906-04	SAMP	11-02-2019 06:47 am	1.00	5.00 mL	0.00 mL	Y110121.D	Liquid	Y	<2
52	HS19101906-05	SAMP	11-02-2019 07:11 am	1.00	5.00 mL	0.00 mL	Y110122.D	Liquid	Y	<2
53	HS19101906-06	SAMP	11-02-2019 07:35 am	1.00	5.00 mL	0.00 mL	Y110123.D	Liquid	Y	<2
54	HS19101906-07	SAMP	11-02-2019 07:59 am	1.00	5.00 mL	0.00 mL	Y110124.D	Liquid	Y	<2
55	HS19101906-08	SAMP	11-02-2019 08:23 am	1.00	5.00 mL	0.00 mL	Y110125.D	Liquid	Y	<2
56	HS19101906-09	SAMP	11-02-2019 08:47 am	1.00	5.00 mL	0.00 mL	Y110126.D	Liquid	Y	<2
57	HS19101906-10	SAMP	11-02-2019 09:11 am	1.00	5.00 mL	0.00 mL	Y110127.D	Liquid	Y	<2
58	HS19101843-09	SAMP	11-02-2019 09:35 am	5.00	5.00 mL	0.00 mL	Y110128.D	Liquid	Y	<2
59	HS19101843-03	SAMP	11-02-2019 09:59 am	100.0	5.00 mL	0.00 mL	Y110129.D	Liquid	Y	<2
60	BLK	SAMP	11-02-2019 10:24 am	1.00	5.00 mL	0.00 mL	Y110140.D	Liquid	Y	NA
	Cleanup blk									

Chemical	Value
SURR SPK ID	30502-94-03
IS ID	30502-94-04
ICV STD ID	31106-01-01
LCS/MS ID	31106-01-01
CAL STD ID	31106-01-05
BFB ID	30502-94-03
pH Paper	634-64-11

FORM 2
WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS19101523

	CLIENT SAMPLE NO.	SMC1 #	SMC2 #	SMC3 (TOL) #	OTHER (DCE) #	TOT OUT
01	VLCSW-191101	105	102	99	105	0
02	VBLKW-191101	101	94	100	92	0
03	HS19101523-12	102	93	101	91	0
04	HS19101523-08	100	94	102	92	0
05	HS19101523-09	102	91	100	89	0
06	HS19101523-10	101	94	101	91	0
07	HS19101523-11	102	92	99	92	0
08	HS19101523-07	100	92	102	90	0
09	HS19101523-07	100	92	102	89	0
10	HS19101523-07	100	93	102	91	0
11	HS19101523-07	100	92	102	89	0
12						
13						
14						
15						
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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-191101

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS19101523

Lab File ID: X110107 Lab Sample ID: VBLKW-191101

Date Analyzed: 11/01/19 Time Analyzed: 1309

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-191101	VLCSW-191101	X110105	1221
02	HS19101523-1	HS19101523-12	X110108	1333
03	HS19101523-0	HS19101523-08	X110109	1357
04	HS19101523-0	HS19101523-09	X110110	1421
05	HS19101523-1	HS19101523-10	X110111	1445
06	HS19101523-1	HS19101523-11	X110112	1509
07	HS19101523-0	HS19101523-07	X110115	1621
08	HS19101523-0	HS19101523-07	X110116	1645
09	HS19101523-0	HS19101523-07M	X110118	1734
10	HS19101523-0	HS19101523-07M	X110119	1758
11				
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COMMENTS:

FORM 5
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS19101523

Lab File ID: X110101 BFB Injection Date: 11/01/19

Instrument ID: VOA6 BFB Injection Time: 1045

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	16.0
75	30.0 - 60.0% of mass 95	46.3
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	7.2
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	Greater than 50.0% of mass 95	84.8
175	5.0 - 9.0% of mass 174	7.2 (8.5)1
176	95.0 - 101.0% of mass 174	84.1 (99.1)1
177	5.0 - 9.0% of mass 176	6.2 (7.3)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	X110103	11/01/19	1133
02	VLCSW-191101	VLCSW-191101	X110105	11/01/19	1221
03	VBLKW-191101	VBLKW-191101	X110107	11/01/19	1309
04	HS19101523-1	HS19101523-12	X110108	11/01/19	1333
05	HS19101523-0	HS19101523-08	X110109	11/01/19	1357
06	HS19101523-0	HS19101523-09	X110110	11/01/19	1421
07	HS19101523-1	HS19101523-10	X110111	11/01/19	1445
08	HS19101523-1	HS19101523-11	X110112	11/01/19	1509
09	HS19101523-0	HS19101523-07	X110115	11/01/19	1621
10	HS19101523-0	HS19101523-07	X110116	11/01/19	1645
11	HS19101523-0	HS19101523-07M	X110118	11/01/19	1734
12	HS19101523-0	HS19101523-07M	X110119	11/01/19	1758
13	CCV-END	CCV-END	X110130	11/01/19	2222
14					
15					
16					
17					
18					
19					
20					
21					
22					

FORM V VOA

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS19101523

Instrument ID: VOA6 Calibration Date: 11/01/19 Time: 1133

Lab File ID: X110103 Init. Calib. Date(s): 10/31/19 10/31/19

Init. Calib. Times: 1108 1508

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	0.4580000	0.4525371	0.4525371	0.2	1.19	20.00	AVRG	
trans-1,3-Dichloropropene	0.4280000	0.4369688	0.4369688	0.1	-2.10	20.00	AVRG	
1,3-Dichlorobenzene	1.5240000	1.4389550	1.4389550	0.6	5.58	20.00	AVRG	
2,2-Dichloropropane	0.6010000	0.5643334	0.5643334	0.1	6.10	20.00	AVRG	
1,1-Dichloropropene	0.3720000	0.3496141	0.3496141	0.1	6.02	20.00	AVRG	
Dibromomethane	0.1930000	0.1955463	0.1955463	0.1	-1.32	20.00	AVRG	
1,2-Dibromoethane	0.3360000	0.3368678	0.3368678	0.1	-0.26	20.00	AVRG	
trans-1,2-Dichloroethene	0.3360000	0.3424481	0.3424481	0.1	-1.92	20.00	AVRG	
1,1,1,2-Tetrachloroethane	0.4070000	0.3930733	0.3930733	0.1	3.42	20.00	AVRG	
1,1,1-Trichloroethane	0.6270000	0.6163339	0.6163339	0.1	1.70	20.00	AVRG	
1,1,2,2-Tetrachloroethane	50.619333	50.000000	0.5512744	0.3	-1.24	20.00	LINR	
Toluene	1.3640000	1.3140441	1.3140441	0.4	3.66	20.00	AVRG	
1,1,2-Trichloroethane	0.2270000	0.2248964	0.2248964	0.1	0.93	20.00	AVRG	
1,1-Dichloroethane	0.5600000	0.5471260	0.5471260	0.2	2.30	20.00	AVRG	
1,1-Dichloroethene	0.3180000	0.3029674	0.3029674	0.1	4.73	20.00	AVRG	
Trichlorofluoromethane	0.6670000	0.6152178	0.6152178	0.1	7.76	20.00	AVRG	
1,2,3-Trichlorobenzene	64.326195	50.000000	0.2184155	0.1	-28.65	20.00	2RDR	<-
Tetrachloroethene	0.3790000	0.3539173	0.3539173	0.2	6.62	20.00	AVRG	
1,2,4-Trichlorobenzene	0.4510000	0.4579581	0.4579581	0.2	-1.54	20.00	AVRG	
1,2,4-Trimethylbenzene	2.3950000	2.3013877	2.3013877	0.1	3.91	20.00	AVRG	
tert-Butylbenzene	2.0120000	1.8327386	1.8327386	0.1	8.91	20.00	AVRG	
Trichloroethene	0.3730000	0.3727498	0.3727498	0.2	0.07	20.00	AVRG	
1,2-Dichlorobenzene	1.3880000	1.3137709	1.3137709	0.4	5.35	20.00	AVRG	
1,2-Dichloroethane	0.4050000	0.3927849	0.3927849	0.1	3.02	20.00	AVRG	
1,2-Dichloropropane	0.2440000	0.2274927	0.2274927	0.1	6.76	20.00	AVRG	
1,3,5-Trimethylbenzene	2.3210000	2.2087015	2.2087015	0.1	4.84	20.00	AVRG	
1,3-Dichloropropane	0.4660000	0.4522923	0.4522923	0.1	2.94	20.00	AVRG	
1,4-Dichlorobenzene	1.5380000	1.4607972	1.4607972	0.4	5.02	20.00	AVRG	
2-Butanone	100.44840	100.00000	0.1014121	0.1	-0.45	20.00	LINR	
2-Chlorotoluene	1.7970000	1.7075616	1.7075616	0.1	4.98	20.00	AVRG	
2-Hexanone	0.1460000	0.1395934	0.1395934	0.1	4.39	20.00	AVRG	
4-Chlorotoluene	2.1200000	2.0242212	2.0242212	0.1	4.52	20.00	AVRG	
Styrene	1.0430000	1.0382648	1.0382648	0.3	0.45	20.00	AVRG	
4-Methyl-2-Pentanone	0.2060000	0.1950195	0.1950195	0.1	5.33	20.00	AVRG	
Acetone	99.153880	100.00000	0.1011622	0.1	0.85	20.00	LINR	
Benzene	48.200375	50.000000	1.0321267	0.5	3.60	20.00	LINR	
Bromobenzene	0.9200000	0.8924880	0.8924880	0.1	2.99	20.00	AVRG	
Bromochloromethane	0.2580000	0.2486279	0.2486279	0.1	3.63	20.00	AVRG	
Bromodichloromethane	0.3960000	0.4002103	0.4002103	0.2	-1.06	20.00	AVRG	
Bromoform	0.3220000	0.3296883	0.3296883	0.1	-2.39	20.00	AVRG	
Bromomethane	49.239471	50.000000	0.3705932	0.1	1.52	20.00	LINR	
Carbon Disulfide	0.9210000	0.9080650	0.9080650	0.1	1.40	20.00	AVRG	

FORM VII VOA

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS1910152

Instrument ID: VOA6 Calibration Date: 11/01/19 Time: 1133

Lab File ID: X110103 Init. Calib. Date(s): 10/31/19 10/31/19

Init. Calib. Times: 1108 1508

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	0.4880000	0.4484311	0.4484311	0.1	8.11	20.00	AVRG	
Chlorobenzene	0.9740000	0.9540209	0.9540209	0.5	2.05	20.00	AVRG	
Chloroethane	0.1980000	0.1901832	0.1901832	0.1	3.95	20.00	AVRG	
Chloroform	0.6620000	0.6638263	0.6638263	0.2	-0.28	20.00	AVRG	
Chloromethane	49.004500	50.000000	0.3237414	0.1	1.99	20.00	LINR	
cis-1,2-Dichloroethene	0.3990000	0.4078467	0.4078467	0.1	-2.22	20.00	AVRG	
Dibromochloromethane	0.4140000	0.4040955	0.4040955	0.1	2.39	20.00	AVRG	
Dichlorodifluoromethane	44.221398	50.000000	0.3475191	0.1	11.56	20.00	LINR	
Ethylbenzene	0.5050000	0.4841734	0.4841734	0.1	4.12	20.00	AVRG	
Hexachlorobutadiene	0.3900000	0.3587794	0.3587794	0.1	8.00	20.00	AVRG	
Isopropylbenzene	1.5360000	1.4418214	1.4418214	0.1	6.13	20.00	AVRG	
m,p-Xylenes	0.6120000	0.5926318	0.5926318	0.1	3.16	20.00	AVRG	
Methylene Chloride	49.836397	50.000000	0.3458789	0.1	0.33	20.00	LINR	
n-Butylbenzene	1.7730000	1.6329935	1.6329935	0.5	7.90	20.00	AVRG	
n-Propylbenzene	2.8480000	2.6202705	2.6202705	0.1	8.00	20.00	AVRG	
Naphthalene	61.390075	50.000000	0.5578590	0.2	-22.78	20.00	2RDR	<-
o-Xylene	0.6030000	0.5758705	0.5758705	0.3	4.50	20.00	AVRG	
sec-Butylbenzene	2.5380000	2.3149250	2.3149250	0.1	8.79	20.00	AVRG	
Vinyl Chloride	0.3130000	0.2989009	0.2989009	0.1	4.50	20.00	AVRG	
1,2,3-Trichloropropane	53.325841	50.000000	0.5106273	0.1	-6.65	20.00	LINR	
p-Isopropyltoluene	2.4850000	2.2651161	2.2651161	0.1	8.85	20.00	AVRG	
1,2-Dibromo-3-Chloropropane	52.127769	50.000000	8.71e-002	0.05	-4.26	20.00	LINR	
Freon TF	0.3310000	0.2922091	0.2922091	0.1	11.72	20.00	AVRG	
4-Bromofluorobenzene	52.952151	50.000000	0.4972185	0.1	-5.90	20.00	LINR	
Dibromofluoromethane	51.904625	50.000000	0.4138008	0.1	-3.81	20.00	LINR	
Toluene-d8	1.2420000	1.2506052	1.2506052	0.1	-0.69	20.00	AVRG	
1,2-Dichloroethane-d4	52.178185	50.000000	0.4406502	0.1	-4.36	20.00	LINR	

FORM VII VOA

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS19101523

Instrument ID: VOA6 Calibration Date: 11/01/19 Time: 2222

Lab File ID: X110130 Init. Calib. Date(s): 10/31/19 10/31/19

Init. Calib. Times: 1108 1508

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	0.4580000	0.4581132	0.4581132	0.2	-0.02	50.00	AVRG	
trans-1,3-Dichloropropene	0.4280000	0.4379381	0.4379381	0.1	-2.32	50.00	AVRG	
1,3-Dichlorobenzene	1.5240000	1.5130506	1.5130506	0.6	0.72	50.00	AVRG	
2,2-Dichloropropane	0.6010000	0.5637085	0.5637085	0.1	6.20	50.00	AVRG	
1,1-Dichloropropene	0.3720000	0.3793921	0.3793921	0.1	-1.99	50.00	AVRG	
Dibromomethane	0.1930000	0.2012031	0.2012031	0.1	-4.25	50.00	AVRG	
1,2-Dibromoethane	0.3360000	0.3517798	0.3517798	0.1	-4.70	50.00	AVRG	
trans-1,2-Dichloroethene	0.3360000	0.3642232	0.3642232	0.1	-8.40	50.00	AVRG	
1,1,1,2-Tetrachloroethane	0.4070000	0.4109453	0.4109453	0.1	-0.97	50.00	AVRG	
1,1,1-Trichloroethane	0.6270000	0.6593860	0.6593860	0.1	-5.16	50.00	AVRG	
1,1,2,2-Tetrachloroethane	51.059341	50.000000	0.5560167	0.3	-2.12	50.00	LINR	
Toluene	1.3640000	1.4038982	1.4038982	0.4	-2.92	50.00	AVRG	
1,1,2-Trichloroethane	0.2270000	0.2343813	0.2343813	0.1	-3.25	50.00	AVRG	
1,1-Dichloroethane	0.5600000	0.5748951	0.5748951	0.2	-2.66	50.00	AVRG	
1,1-Dichloroethene	0.3180000	0.3270279	0.3270279	0.1	-2.84	50.00	AVRG	
Trichlorofluoromethane	0.6670000	0.7054214	0.7054214	0.1	-5.76	50.00	AVRG	
1,2,3-Trichlorobenzene	46.992934	50.000000	0.1573525	0.1	6.01	50.00	2RDR	
Tetrachloroethene	0.3790000	0.3871959	0.3871959	0.2	-2.16	50.00	AVRG	
1,2,4-Trichlorobenzene	0.4510000	0.3882515	0.3882515	0.2	13.91	50.00	AVRG	
1,2,4-Trimethylbenzene	2.3950000	2.4607971	2.4607971	0.1	-2.75	50.00	AVRG	
tert-Butylbenzene	2.0120000	2.0563382	2.0563382	0.1	-2.20	50.00	AVRG	
Trichloroethene	0.3730000	0.3894356	0.3894356	0.2	-4.41	50.00	AVRG	
1,2-Dichlorobenzene	1.3880000	1.3552085	1.3552085	0.4	2.36	50.00	AVRG	
1,2-Dichloroethane	0.4050000	0.4193703	0.4193703	0.1	-3.55	50.00	AVRG	
1,2-Dichloropropane	0.2440000	0.2297874	0.2297874	0.1	5.82	50.00	AVRG	
1,3,5-Trimethylbenzene	2.3210000	2.3772470	2.3772470	0.1	-2.42	50.00	AVRG	
1,3-Dichloropropane	0.4660000	0.4667047	0.4667047	0.1	-0.15	50.00	AVRG	
1,4-Dichlorobenzene	1.5380000	1.5220238	1.5220238	0.4	1.04	50.00	AVRG	
2-Butanone	93.605410	100.00000	9.45e-002	0.1	6.39	50.00	LINR	<-
2-Chlorotoluene	1.7970000	1.8238170	1.8238170	0.1	-1.49	50.00	AVRG	
2-Hexanone	0.1460000	0.1374437	0.1374437	0.1	5.86	50.00	AVRG	
4-Chlorotoluene	2.1200000	2.1159062	2.1159062	0.1	0.19	50.00	AVRG	
Styrene	1.0430000	1.0586573	1.0586573	0.3	-1.50	50.00	AVRG	
4-Methyl-2-Pentanone	0.2060000	0.1987405	0.1987405	0.1	3.52	50.00	AVRG	
Acetone	85.439753	100.00000	8.72e-002	0.1	14.56	50.00	LINR	<-
Benzene	50.430954	50.000000	1.0795766	0.5	-0.86	50.00	LINR	
Bromobenzene	0.9200000	0.9381887	0.9381887	0.1	-1.98	50.00	AVRG	
Bromochloromethane	0.2580000	0.2615644	0.2615644	0.1	-1.38	50.00	AVRG	
Bromodichloromethane	0.3960000	0.4128102	0.4128102	0.2	-4.24	50.00	AVRG	
Bromoform	0.3220000	0.3269218	0.3269218	0.1	-1.53	50.00	AVRG	
Bromomethane	61.408353	50.000000	0.4594661	0.1	-22.82	50.00	LINR	
Carbon Disulfide	0.9210000	0.9629182	0.9629182	0.1	-4.55	50.00	AVRG	

FORM VII VOA

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS1910152

Instrument ID: VOA6 Calibration Date: 11/01/19 Time: 2222

Lab File ID: X110130 Init. Calib. Date(s): 10/31/19 10/31/19

Init. Calib. Times: 1108 1508

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	0.4880000	0.4886349	0.4886349	0.1	-0.13	50.00	AVRG
Chlorobenzene	0.9740000	0.9949268	0.9949268	0.5	-2.15	50.00	AVRG
Chloroethane	0.1980000	0.2064715	0.2064715	0.1	-4.28	50.00	AVRG
Chloroform	0.6620000	0.6875045	0.6875045	0.2	-3.85	50.00	AVRG
Chloromethane	54.221495	50.000000	0.3581640	0.1	-8.44	50.00	LINR
cis-1,2-Dichloroethene	0.3990000	0.4321442	0.4321442	0.1	-8.31	50.00	AVRG
Dibromochloromethane	0.4140000	0.4199284	0.4199284	0.1	-1.43	50.00	AVRG
Dichlorodifluoromethane	50.918295	50.000000	0.4016357	0.1	-1.84	50.00	LINR
Ethylbenzene	0.5050000	0.5176640	0.5176640	0.1	-2.51	50.00	AVRG
Hexachlorobutadiene	0.3900000	0.3628153	0.3628153	0.1	6.97	50.00	AVRG
Isopropylbenzene	1.5360000	1.5774467	1.5774467	0.1	-2.70	50.00	AVRG
m,p-Xylenes	0.6120000	0.6272027	0.6272027	0.1	-2.48	50.00	AVRG
Methylene Chloride	52.541808	50.000000	0.3646529	0.1	-5.08	50.00	LINR
n-Butylbenzene	1.7730000	1.8269737	1.8269737	0.5	-3.04	50.00	AVRG
n-Propylbenzene	2.8480000	2.9122556	2.9122556	0.1	-2.26	50.00	AVRG
Naphthalene	48.320189	50.000000	0.4351416	0.2	3.36	50.00	2RDR
o-Xylene	0.6030000	0.6095031	0.6095031	0.3	-1.08	50.00	AVRG
sec-Butylbenzene	2.5380000	2.6433666	2.6433666	0.1	-4.15	50.00	AVRG
Vinyl Chloride	0.3130000	0.3300309	0.3300309	0.1	-5.44	50.00	AVRG
1,2,3-Trichloropropane	53.730619	50.000000	0.5144243	0.1	-7.46	50.00	LINR
p-Isopropyltoluene	2.4850000	2.5191886	2.5191886	0.1	-1.38	50.00	AVRG
1,2-Dibromo-3-Chloropropane	47.882600	50.000000	7.99e-002	0.05	4.23	50.00	LINR
Freon TF	0.3310000	0.3438247	0.3438247	0.1	-3.87	50.00	AVRG
4-Bromofluorobenzene	52.473205	50.000000	0.4927723	0.1	-4.95	50.00	LINR
Dibromofluoromethane	52.135783	50.000000	0.4156612	0.1	-4.27	50.00	LINR
Toluene-d8	1.2420000	1.2435703	1.2435703	0.1	-0.13	50.00	AVRG
1,2-Dichloroethane-d4	51.508381	50.000000	0.4349396	0.1	-3.02	50.00	LINR

FORM VII VOA

FORM 8
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS19101523

Lab File ID (Standard): X110103 Date Analyzed: 11/01/19

Instrument ID: VOA6 Time Analyzed: 1133

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	141240	9.67	241240	7.67	260593	4.97
	UPPER LIMIT	282480	10.17	482480	8.17	521186	5.47
	LOWER LIMIT	70620	9.17	120620	7.17	130297	4.47
	CLIENT SAMPLE NO.						
01	VLCSW-191101	151884	9.66	257370	7.67	277482	4.97
02	VBLKW-191101	165314	9.66	288826	7.67	327078	4.97
03	HS19101523-12	170099	9.67	289271	7.67	330333	4.97
04	HS19101523-08	167193	9.66	297065	7.67	342608	4.97
05	HS19101523-09	170922	9.67	296888	7.67	330322	4.97
06	HS19101523-10	166439	9.66	290926	7.67	331325	4.97
07	HS19101523-11	173054	9.67	297182	7.67	332561	4.97
08	HS19101523-07	167815	9.66	291209	7.67	331533	4.97
09	HS19101523-07	169779	9.67	292806	7.67	329565	4.97
10	HS19101523-07	165445	9.66	283230	7.67	322705	4.97
11	HS19101523-07	157766	9.67	277291	7.67	315266	4.97
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: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS19101523

Lab File ID (Standard): X110103 Date Analyzed: 11/01/19

Instrument ID: VOA6 Time Analyzed: 1133

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

		IS4 AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	206075	4.18				
	UPPER LIMIT	412150	4.68				
	LOWER LIMIT	103038	3.68				
	CLIENT SAMPLE NO.						
01	VLCSW-191101	223304	4.18				
02	VBLKW-191101	273156	4.18				
03	HS19101523-12	278155	4.18				
04	HS19101523-08	286823	4.18				
05	HS19101523-09	280003	4.18				
06	HS19101523-10	276849	4.18				
07	HS19101523-11	279979	4.18				
08	HS19101523-07	280600	4.18				
09	HS19101523-07	277213	4.18				
10	HS19101523-07	270472	4.18				
11	HS19101523-07	266313	4.18				
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.

FORM VIII VOA

Data File: \\nahstws005\Target\chem\voa6.i\X191101.b\X110101.D

Date : 01-NOV-2019 10:45

Client ID: BFB

Instrument: voa6.i

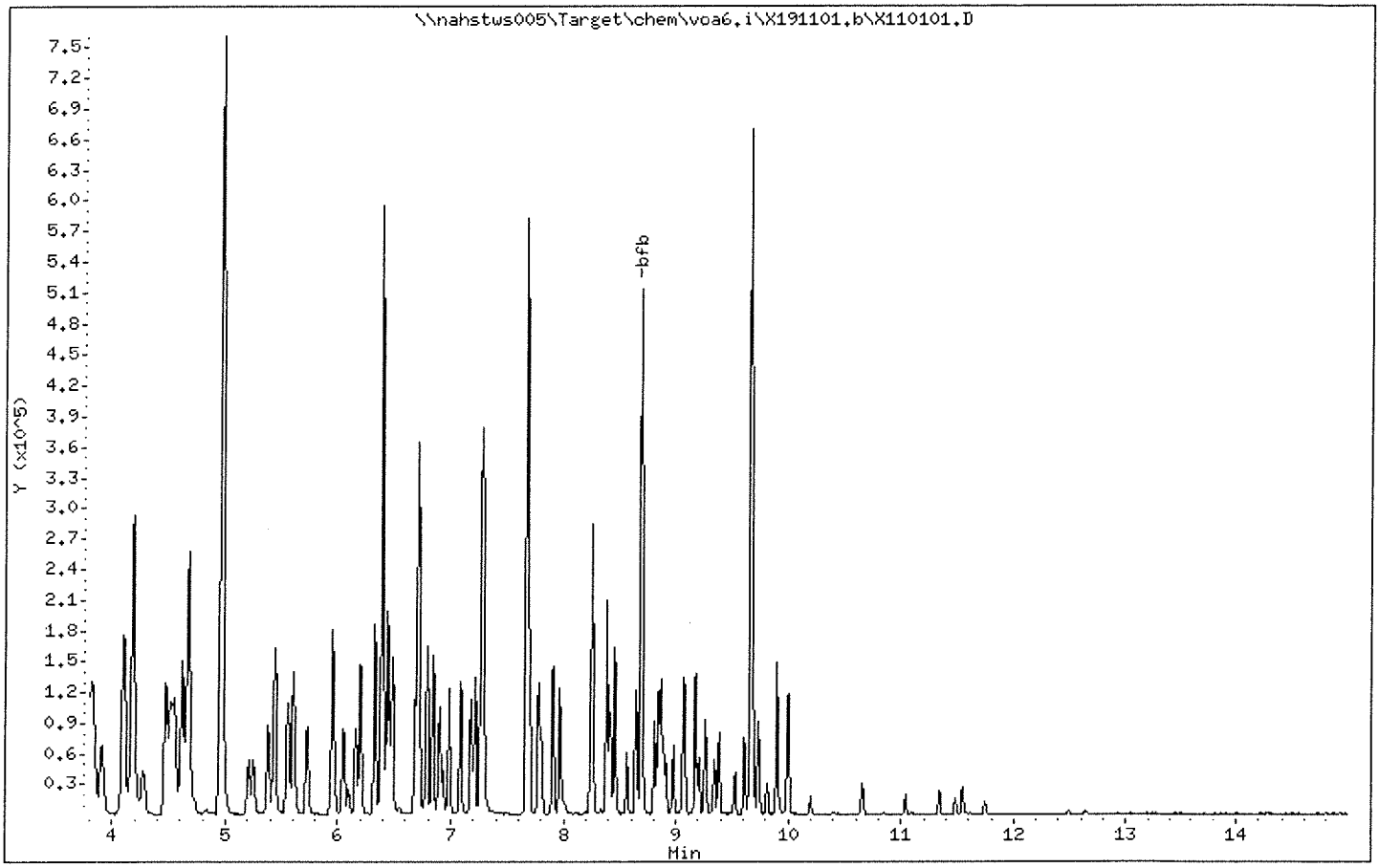
Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0

Operator: PC

Column phase: DB624

Column diameter: 0.25



Data File: \\nahstws005\Target\chem\voa6.i\X191101.b\X110101.D Page 3

Date : 01-NOV-2019 10:45

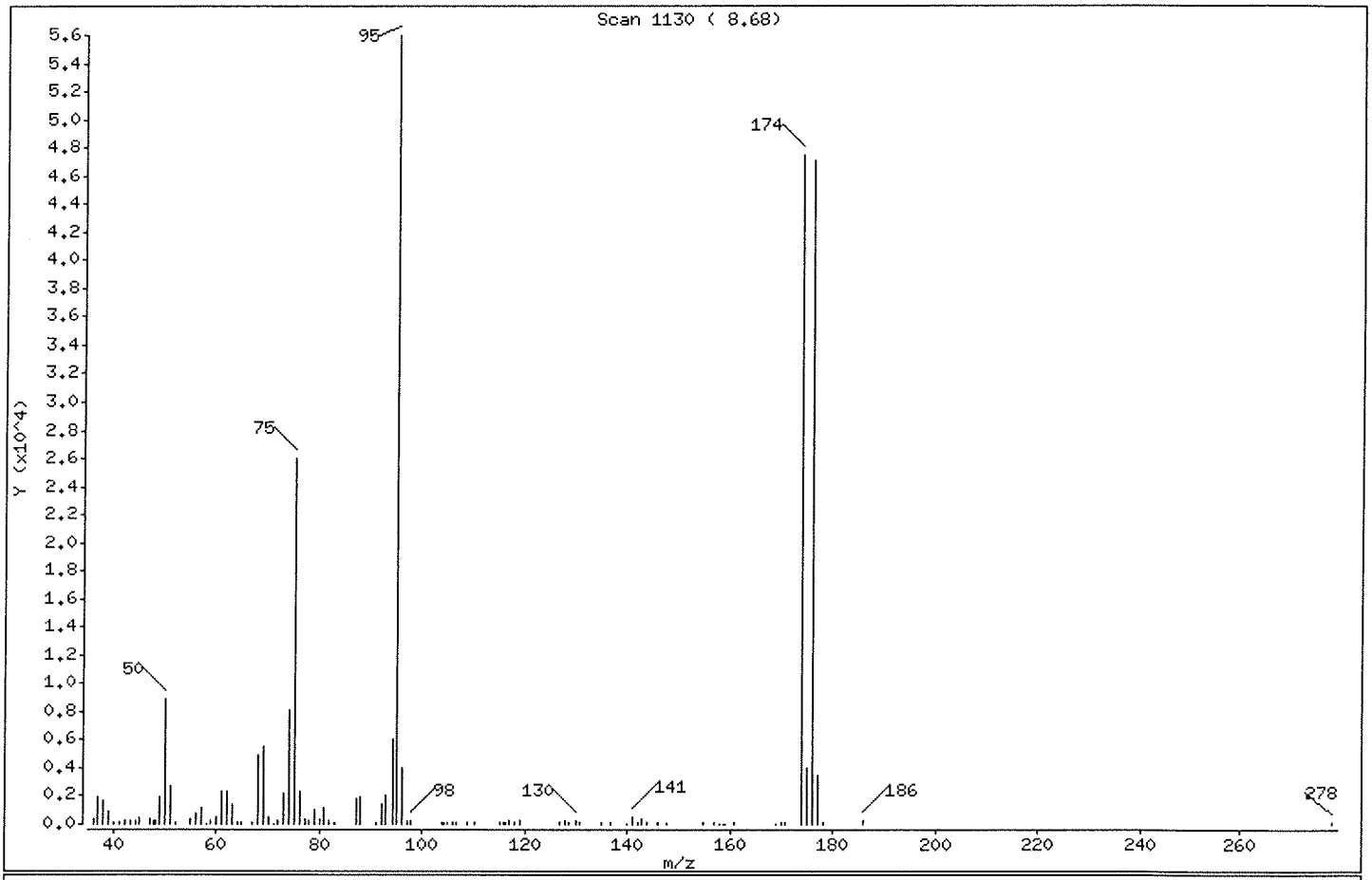
Client ID: BFB Instrument: voa6.i

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	15.95
75	30.00 - 60.00% of mass 95	46.32
96	5.00 - 9.00% of mass 95	7.16
173	Less than 2.00% of mass 174	0.00 (0.00)
174	Greater than 50.00% of mass 95	84.82
175	5.00 - 9.00% of mass 174	7.19 (8.48)
176	95.00 - 101.00% of mass 174	84.07 (99.12)
177	5.00 - 9.00% of mass 176	6.17 (7.34)

Data File: \\nahstws005\Target\chem\voa6.i\X191101.b\X110101.D Page 4

Date : 01-NOV-2019 10:45

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: X110101.D
Spectrum: Scan 1130 (8.68)
Location of Maximum: 95.00
Number of points: 98

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.10	402	63.10	1443	94.10	6044	139.80	54
37.00	1935	64.00	151	95.00	56008	140.90	523
38.10	1733	65.00	89	96.00	4012	141.90	152
39.10	942	67.00	181	97.00	205	142.90	394
40.00	151	68.00	4858	97.90	221	143.80	67
41.00	171	69.00	5508	103.70	162	145.80	69
42.10	205	70.00	530	104.10	177	147.80	131
43.10	237	71.10	64	104.90	88	154.90	165
44.20	290	72.00	268	106.00	147	157.00	161
45.00	553	73.00	2212	106.80	114	158.00	60
47.10	369	74.10	8134	108.80	79	158.60	55
47.80	264	75.10	25944	110.20	68	159.20	62
48.20	227	76.10	2276	115.00	162	160.70	67
49.00	1881	77.10	323	115.70	113	169.00	53
50.00	8936	77.80	260	116.10	156	170.00	66
51.00	2761	78.90	1059	116.90	245	170.90	88
52.00	123	80.10	322	118.00	174	173.90	47504
55.00	390	80.90	1185	118.90	253	175.00	4028
56.00	785	81.80	248	126.90	107	175.90	47088
57.10	1123	83.00	118	128.00	246	177.00	3458
58.00	61	87.00	1795	128.70	134	178.00	76
59.00	271	87.90	1989	130.00	293	186.10	290
60.00	485	90.90	184	130.70	77	278.10	113
61.00	2369	92.00	1393	135.00	87		
62.00	2307	93.00	2109	136.90	101		

Data File: \\nahstws005\Target\chem\voa6.i\X191101.b\X110103.D Page 1
Report Date: 20-Nov-2019 14:02

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X191101.b\X110103.D
Lab Smp Id: CCV Client Smp ID: CCV
Inj Date : 01-NOV-2019 11:33
Operator : PC Inst ID: voa6.i
Smp Info : CCV;CCV;2;;
Misc Info : HS18090001;WATER;0;1;
Comment   :
Method   : \\nahstws005\Target\chem\voa6.i\X191101.b\8260W.m
Meth Date : 20-Nov-2019 14:02 voa6.i Quant Type: ISTD
Cal Date : 31-OCT-2019 13:56 Cal File: X103108.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

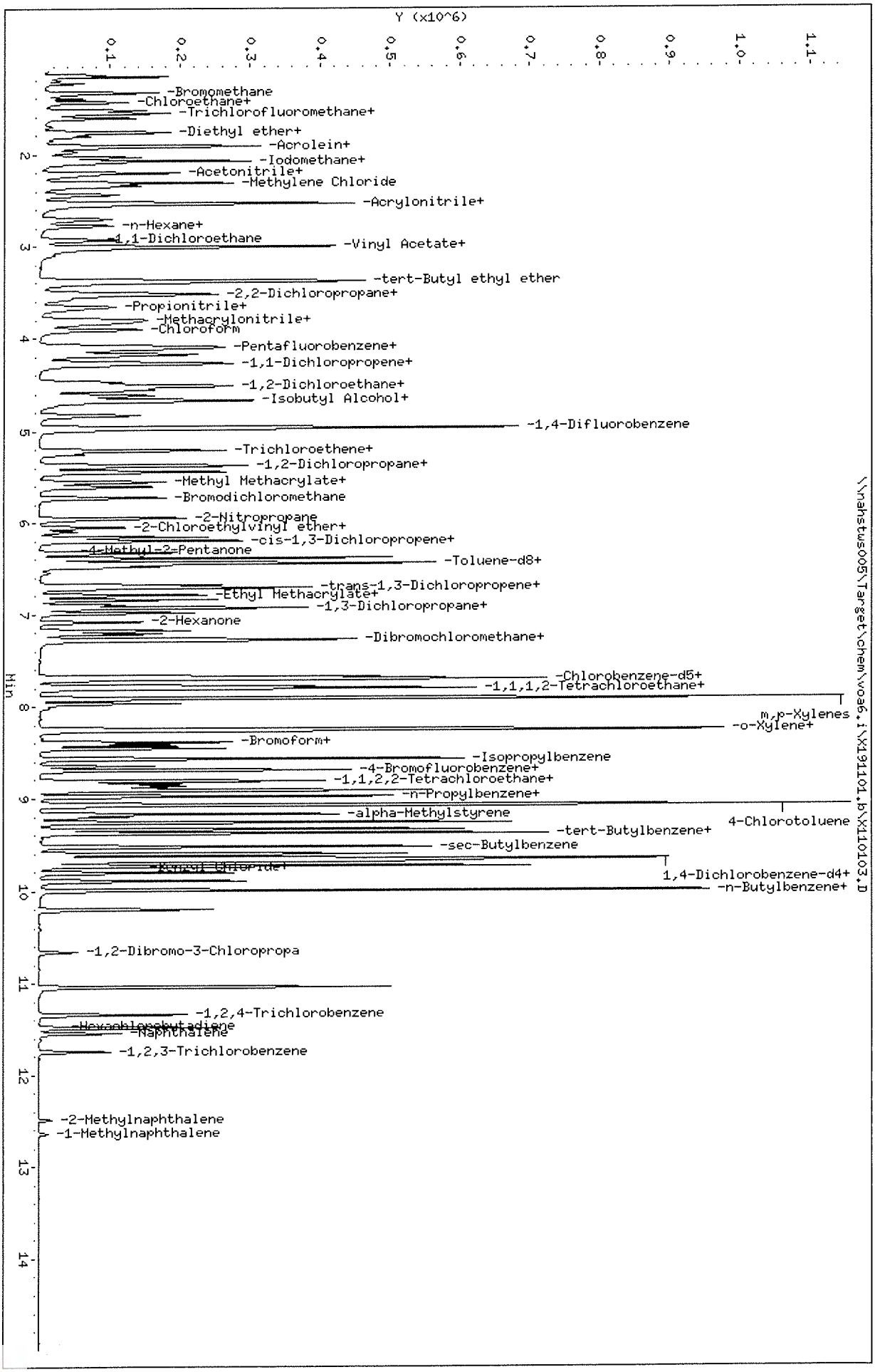
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
*	1 Pentafluorobenzene	168	4.182	4.182	(1.000)	206075	50.0000	
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	260593	50.0000	
*	47 Chlorobenzene-d5	117	7.670	7.671	(1.000)	241240	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	141240	50.0000	
$	35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	90807	50.0000	52.17
$	69 4-Bromofluorobenzene	95	8.688	8.695	(1.133)	119949	50.0000	52.95
$	30 Dibromofluoromethane	113	4.103	4.103	(0.981)	85274	50.0000	51.90
$	48 Toluene-d8	98	6.388	6.388	(0.833)	301696	50.0000	50.33
	60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	94825	50.0000	48.25
	31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	127011	50.0000	49.18
	68 1,1,2,2-Tetrachloroethane	83	8.838	8.838	(0.914)	77862	50.0000	50.61
	138 Freon TF	101	1.919	1.919	(0.459)	60217	50.0000	44.16
	53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	54254	50.0000	49.49
	22 1,1-Dichloroethane	63	2.921	2.921	(0.699)	112749	50.0000	48.87
	11 1,1-Dichloroethene	96	1.911	1.911	(0.457)	62434	50.0000	47.65
	32 1,1-Dichloropropene	75	4.282	4.282	(0.862)	91107	50.0000	46.93
	93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.215)	30849	50.0000	64.32
	71 1,2,3-Trichloropropane	75	8.867	8.867	(0.917)	72121	50.0000	53.32(M)
	90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	64682	50.0000	50.74
	79 1,2,4-Trimethylbenzene	105	9.382	9.382	(0.970)	325048	50.0000	48.04
	89 1,2-Dibromo-3-Chloropropane	155	10.657	10.657	(1.102)	12308	50.0000	52.12
	57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	81266	50.0000	50.13
	88 1,2-Dichlorobenzene	146	9.998	9.999	(1.034)	185557	50.0000	47.33

Data File: \\nahstws005\Target\chem\voa6.i\X191101.b\X110103.D Page 2
Report Date: 20-Nov-2019 14:02

	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)	102357	50.0000	48.44
42	1,2-Dichloropropane	63	5.436	5.443	(1.094)	59283	50.0000	46.70
75	1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	311957	50.0000	47.58
83	1,3-Dichlorobenzene	146	9.604	9.605	(0.993)	203238	50.0000	47.19
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	109111	50.0000	48.51
84	1,4-Dichlorobenzene	146	9.683	9.683	(1.001)	206323	50.0000	47.49
26	2,2-Dichloropropane	77	3.516	3.509	(0.841)	116295	50.0000	46.91
24	2-Butanone	43	3.573	3.573	(0.854)	41797	100.000	100.44(M)
76	2-Chlorotoluene	91	8.974	8.974	(0.928)	241176	50.0000	47.50
52	2-Hexanone	43	7.083	7.083	(0.923)	67351	100.000	95.88
77	4-Chlorotoluene	91	9.074	9.074	(0.939)	285901	50.0000	47.74
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	319925	50.0000	45.56
45	4-Methyl-2-Pentanone	43	6.324	6.324	(0.824)	94093	100.000	94.72
10	Acetone	43	1.976	1.976	(0.473)	41694	100.000	99.15
37	Benzene	78	4.512	4.512	(0.908)	268965	50.0000	48.20
74	Bromobenzene	156	8.809	8.809	(0.911)	126055	50.0000	48.48
29	Bromochloromethane	128	3.795	3.795	(0.908)	51236	50.0000	48.20
39	Bromodichloromethane	83	5.729	5.729	(1.153)	104292	50.0000	50.54
66	Bromoform	173	8.415	8.415	(1.097)	79534	50.0000	51.11
6	Bromomethane	94	1.338	1.338	(0.320)	76370	50.0000	49.23
19	Carbon Disulfide	76	2.069	2.069	(0.495)	374259	100.000	98.57
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	116858	50.0000	45.94
59	Chlorobenzene	112	7.699	7.699	(1.004)	230148	50.0000	48.97
7	Chloroethane	64	1.403	1.403	(0.336)	39192	50.0000	47.97
28	Chloroform	83	3.910	3.910	(0.935)	136798	50.0000	50.15
3	Chloromethane	50	1.073	1.073	(0.257)	66715	50.0000	49.00
27	cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	84047	50.0000	51.05
46	cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	117928	50.0000	49.34
55	Dibromochloromethane	129	7.176	7.176	(0.936)	97484	50.0000	48.78
44	Dibromomethane	93	5.557	5.557	(1.118)	50958	50.0000	50.63
2	Dichlorodifluoromethane	85	0.973	0.973	(0.233)	71615	50.0000	44.22
61	Ethylbenzene	106	7.799	7.799	(1.017)	116802	50.0000	47.92
91	Hexachlorobutadiene	225	11.481	11.488	(1.187)	50674	50.0000	45.99
67	Isopropylbenzene	105	8.566	8.566	(1.117)	347825	50.0000	46.94
62	m,p-Xylenes	106	7.907	7.907	(1.031)	285933	100.000	96.78
17	Methylene Chloride	84	2.305	2.305	(0.551)	71277	50.0000	49.83
87	n-Butylbenzene	91	9.998	9.999	(1.034)	230644	50.0000	46.05
73	n-Propylbenzene	91	8.917	8.917	(0.922)	370087	50.0000	46.00
92	Naphthalene	128	11.546	11.546	(1.194)	78792	50.0000	61.39
63	o-Xylene	106	8.243	8.244	(1.075)	138923	50.0000	47.75
81	sec-Butylbenzene	105	9.526	9.526	(0.985)	326960	50.0000	45.59
64	Styrene	104	8.258	8.258	(1.077)	250471	50.0000	49.76
78	tert-Butylbenzene	119	9.339	9.340	(0.966)	258856	50.0000	45.55
56	Tetrachloroethene	164	6.933	6.933	(0.904)	85379	50.0000	46.71
50	Toluene	91	6.446	6.446	(0.840)	317000	50.0000	48.15
20	trans-1,2-Dichloroethene	96	2.527	2.527	(0.604)	70570	50.0000	50.97
51	trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	113871	50.0000	51.03
38	Trichloroethene	130	5.206	5.206	(1.048)	97136	50.0000	49.95
8	Trichlorofluoromethane	101	1.560	1.560	(0.373)	126781	50.0000	46.09
5	Vinyl Chloride	62	1.138	1.138	(0.272)	61596	50.0000	47.65

QC Flag Legend

M - Compound response manually integrated.



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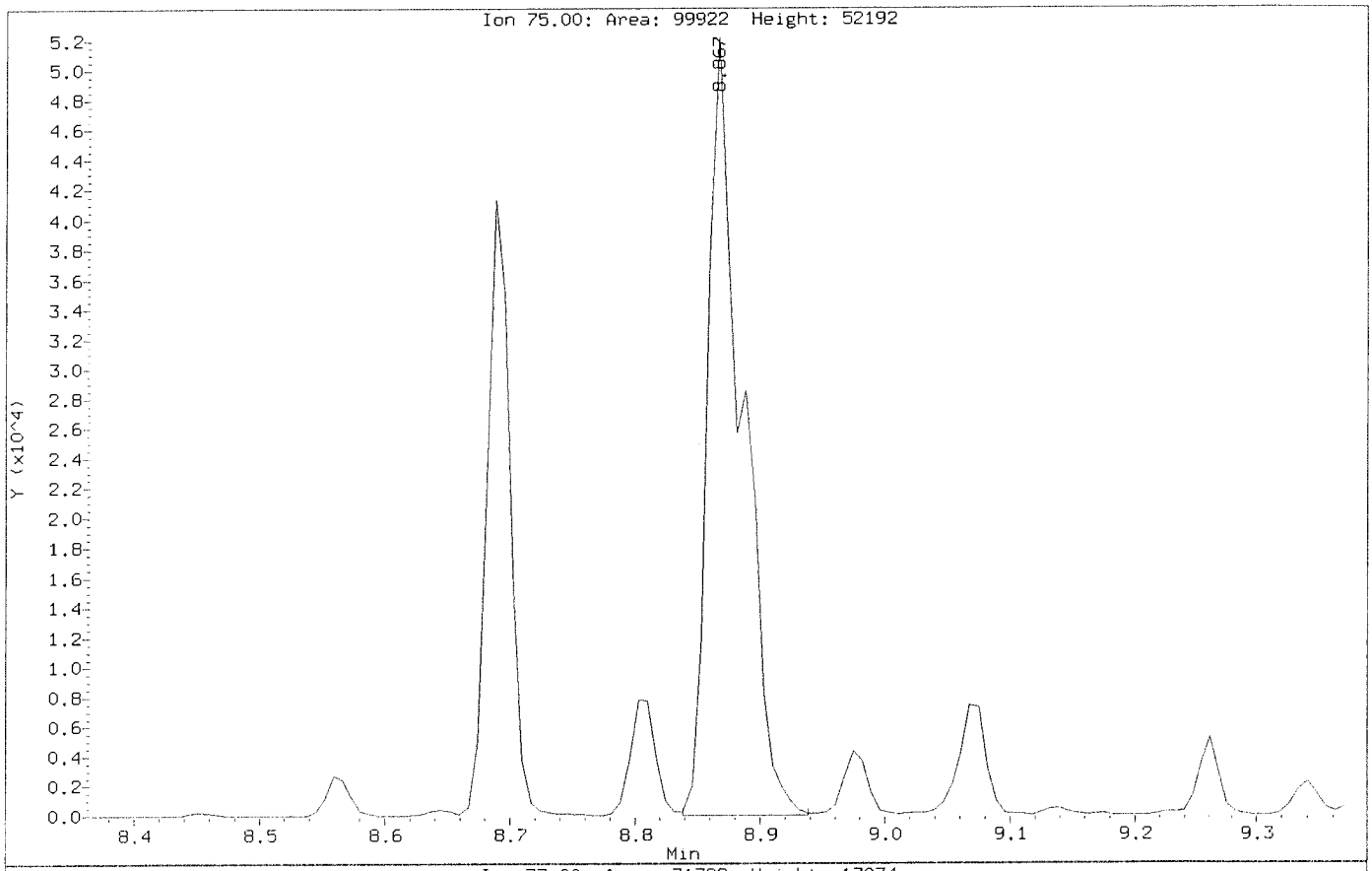
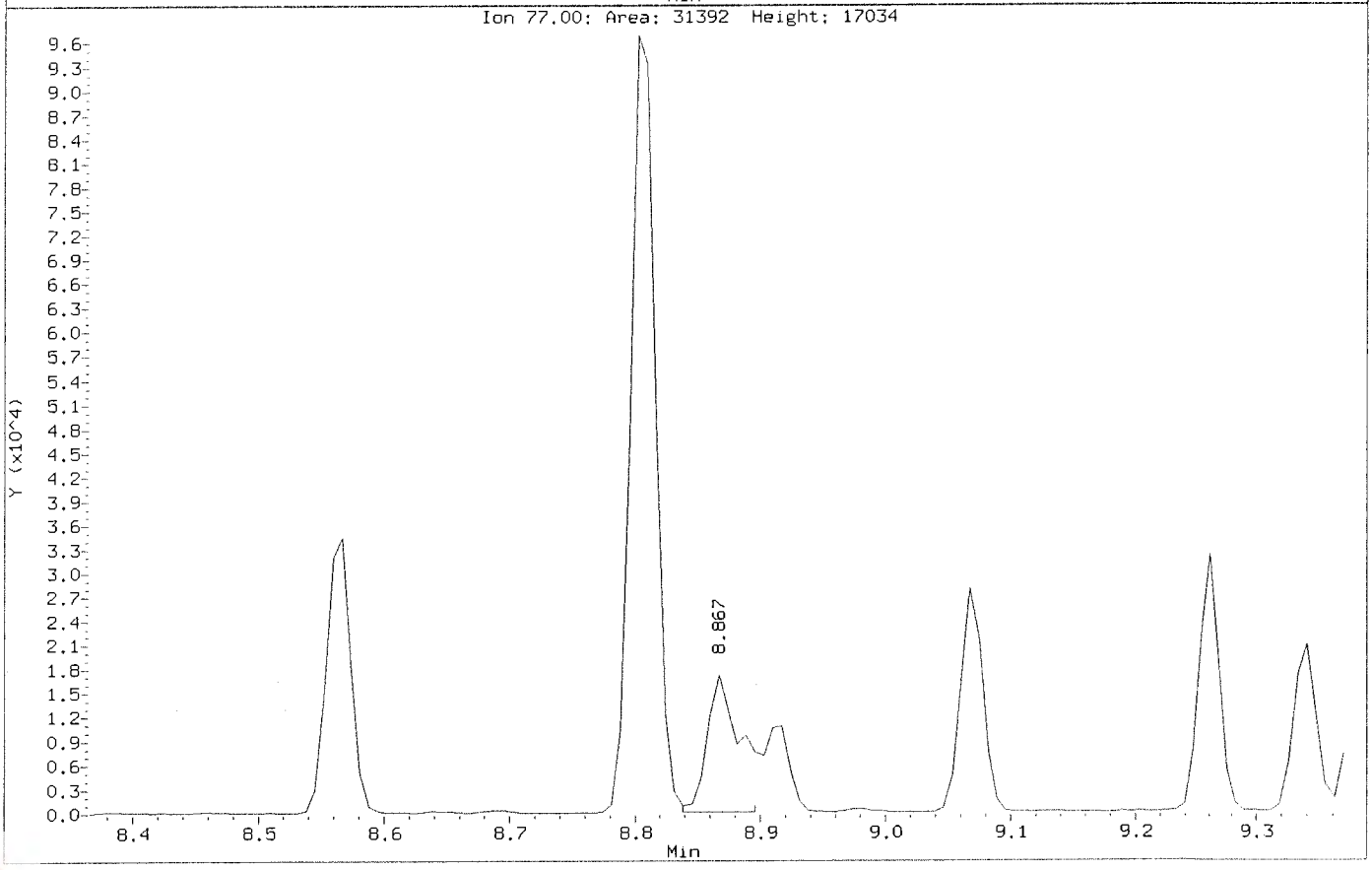
Date : 01-NOV-2019 11:33
Client ID: CCV
Sample Info: CCV;CCV;2;;
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\nahstws005\Target\chem\voa6.i\X191101.b\BEFORE2\X110103.D
Injection Date: 01-NOV-2019 11:33
Instrument: voa6.i
Client Sample ID: CCV

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





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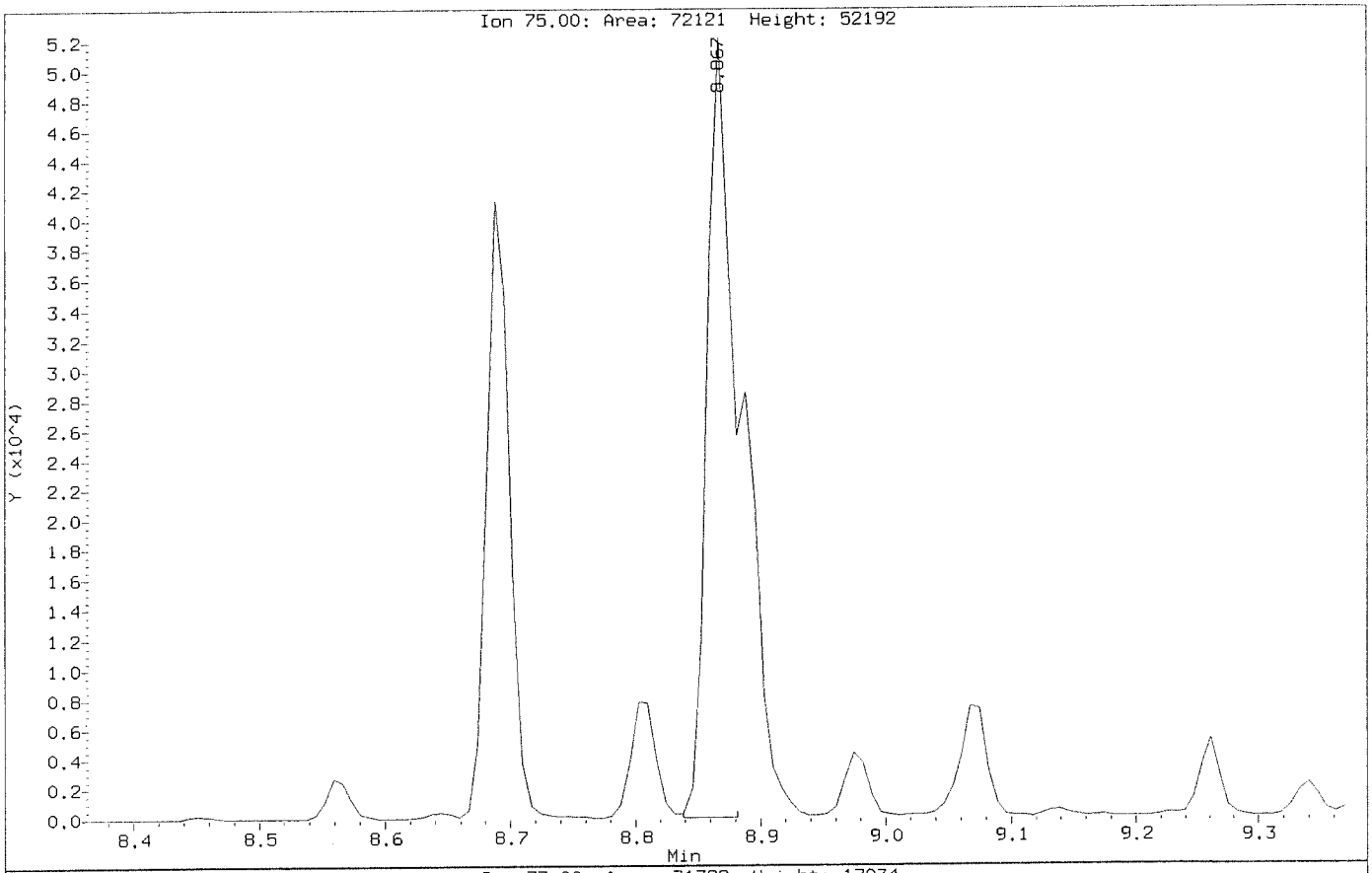
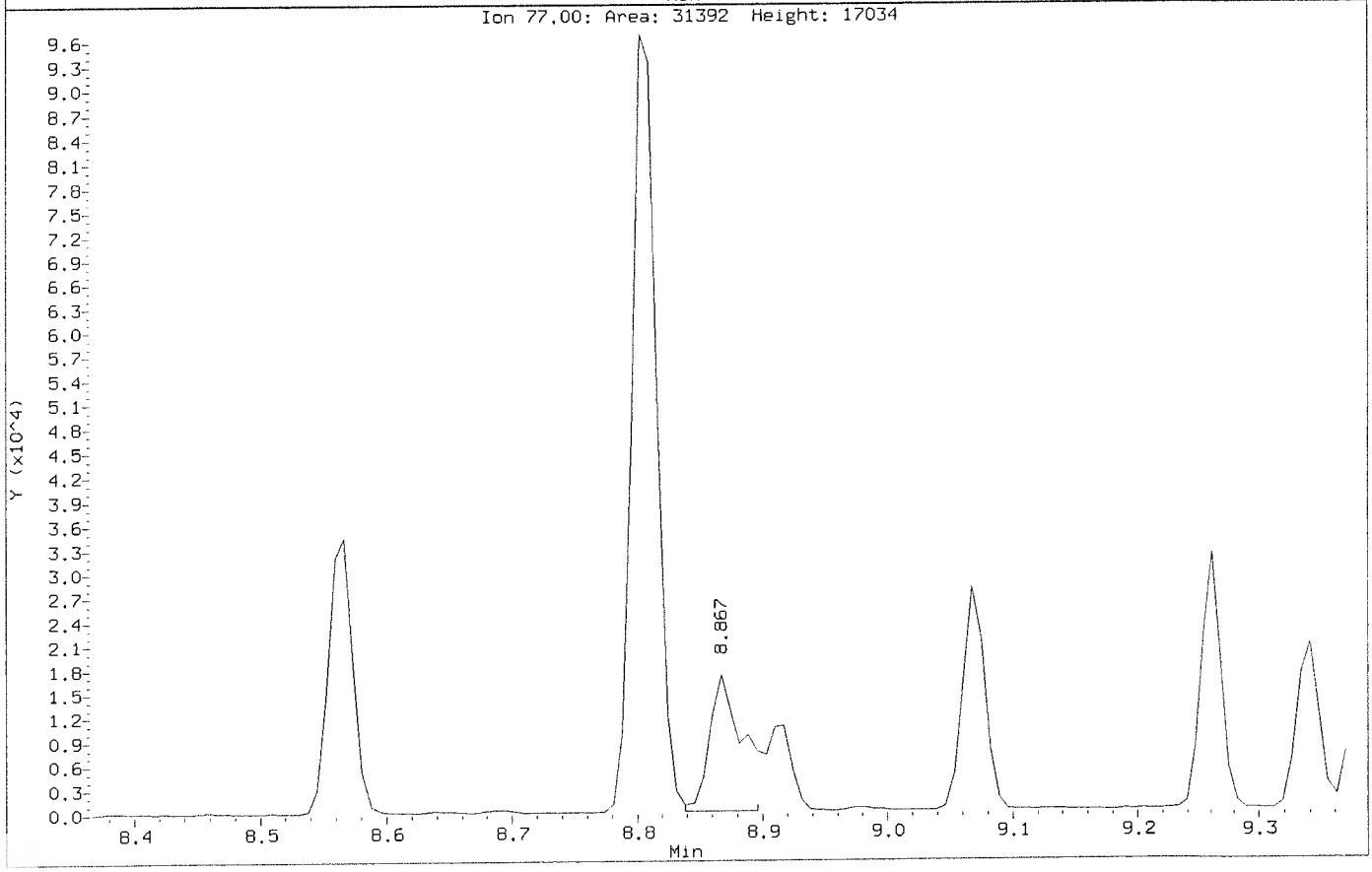
Injection Date: 01-NOV-2019 11:33
Instrument: voa6.i
Client Sample ID: CCV

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





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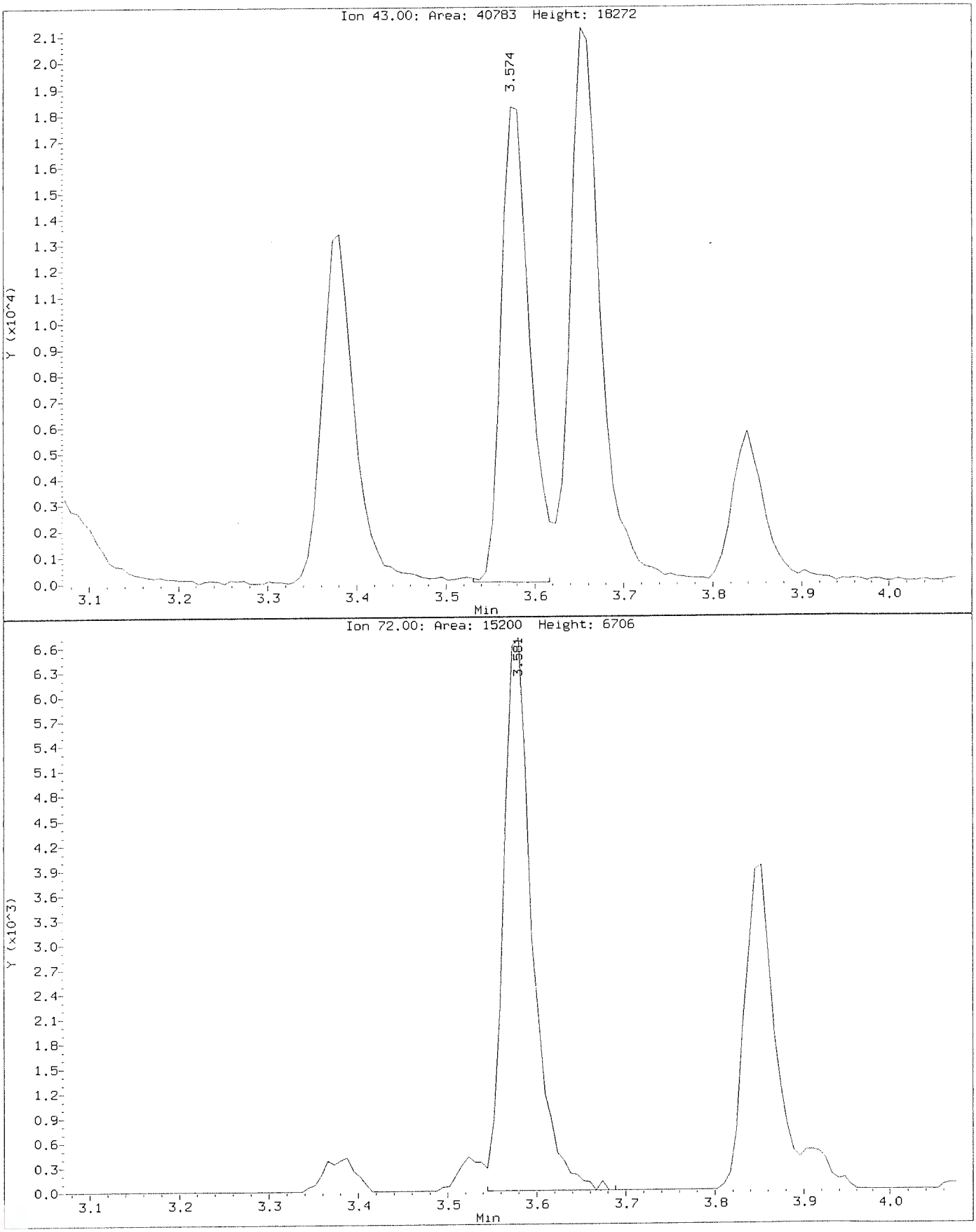
Injection Date: 01-NOV-2019 11:33
Instrument: voa6.i
Client Sample ID: CCV

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



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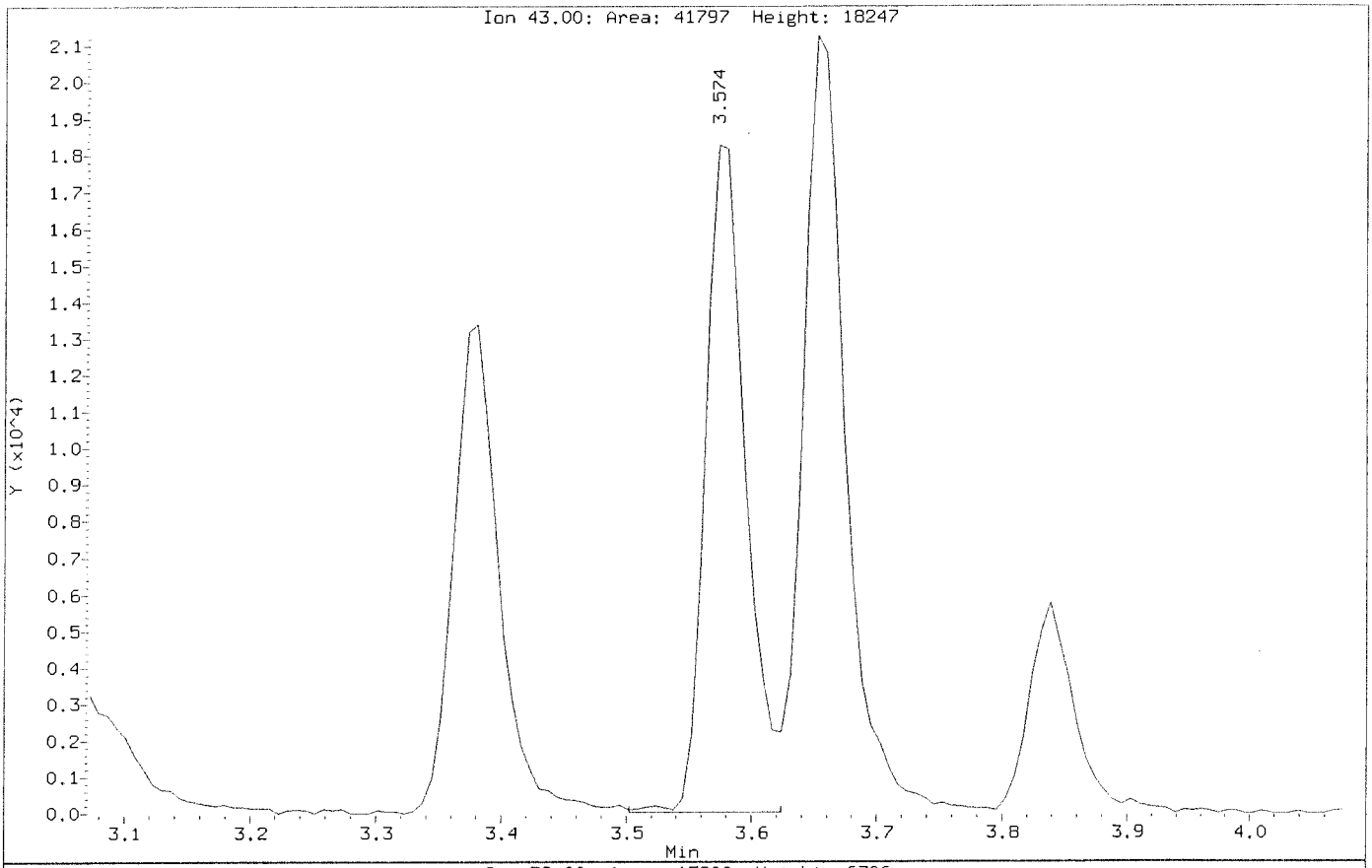
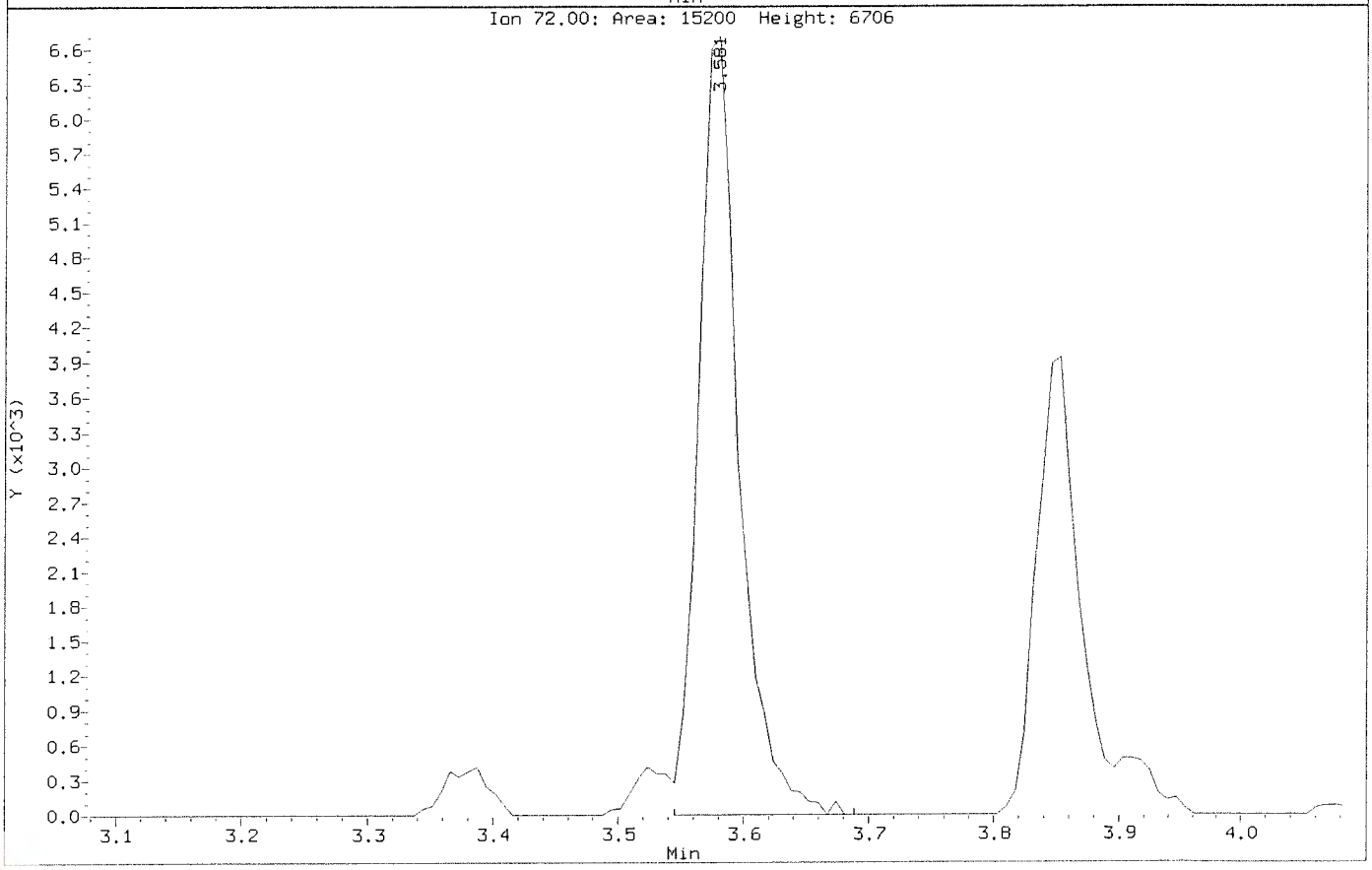
Injection Date: 01-NOV-2019 11:33
Instrument: voa6.i
Client Sample ID: CCV

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





Data File: \\nahstws005\Target\chem\voa6.i\X191101.b\X110105.D Page 1
Report Date: 20-Nov-2019 14:02

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X191101.b\X110105.D
Lab Smp Id: VLCSW-191101 Client Smp ID: VLCSW-191101
Inj Date : 01-NOV-2019 12:21
Operator : PC Inst ID: voa6.i
Smp Info : VLCSW-191101;VLCSW-191101;3;;LCS
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X191101.b\8260W.m
Meth Date : 20-Nov-2019 14:02 voa6.i Quant Type: ISTD
Cal Date : 31-OCT-2019 13:56 Cal File: X103108.D
Als bottle: 5 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

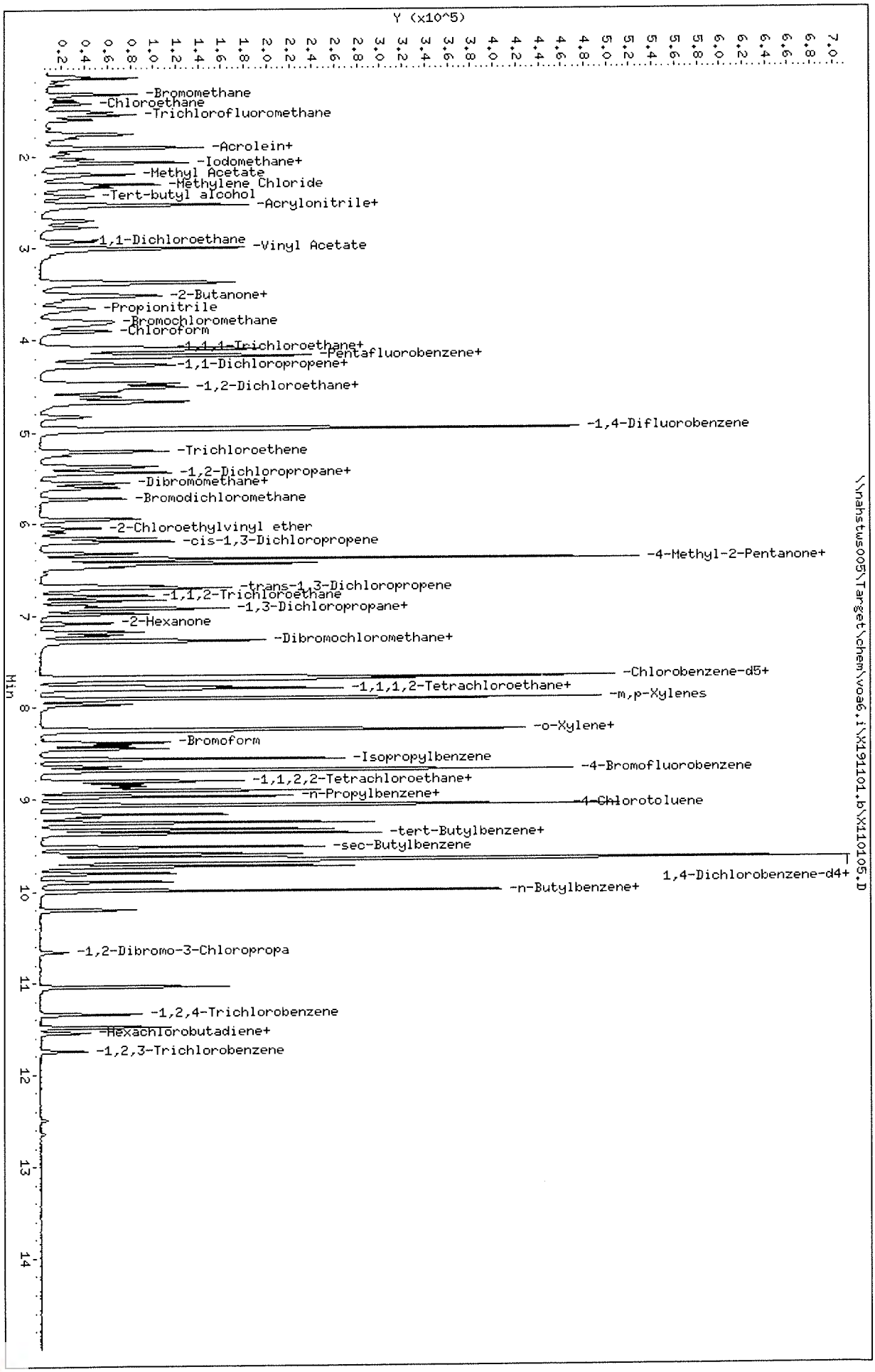
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	223304	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	277482	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	257370	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.669	(1.000)	151884	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	98971	52.4786	52.47
$ 69 4-Bromofluorobenzene	95	8.688	8.695	(1.133)	126518	52.3448	52.34
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	91023	51.1366	51.13
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	315860	49.3954	49.39
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	40091	19.1230	19.12
31 1,1,1-Trichloroethane	97	4.082	4.089	(0.976)	55239	19.7389	19.73
68 1,1,2,2-Tetrachloroethane	83	8.838	8.838	(0.915)	33596	19.9933	19.99
138 Freon TF	101	1.919	1.919	(0.459)	27589	18.6749	18.67
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	23578	20.1602	20.16
22 1,1-Dichloroethane	63	2.922	2.921	(0.699)	49050	19.6215	19.62
11 1,1-Dichloroethene	96	1.912	1.911	(0.457)	26647	18.7690	18.76
32 1,1-Dichloropropene	75	4.283	4.282	(0.862)	39634	19.1752	19.17
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.216)	12649	24.9172	24.91
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.918)	31266	20.8359	20.83(M)
90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	26462	19.3067	19.30
79 1,2,4-Trimethylbenzene	105	9.383	9.382	(0.971)	138587	19.0490	19.04
89 1,2-Dibromo-3-Chloropropane	155	10.658	10.657	(1.103)	5369	21.7837	21.78
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	35679	20.6320	20.63
88 1,2-Dichlorobenzene	146	9.991	9.999	(1.034)	79677	18.9028	18.90

Data File: \\nahstws005\Target\chem\voa6.i\X191101.b\X110105.D Page 2
Report Date: 20-Nov-2019 14:02

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
33	1,2-Dichloroethane	62	4.555	4.562	(0.916)	45417	20.1886	20.18
42	1,2-Dichloropropane	63	5.436	5.443	(1.094)	26473	19.5857	19.58
75	1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	134947	19.1405	19.14
83	1,3-Dichlorobenzene	146	9.605	9.605	(0.994)	88149	19.0368	19.03
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	48486	20.2086	20.20
84	1,4-Dichlorobenzene	146	9.683	9.683	(1.002)	88597	18.9636	18.96
26	2,2-Dichloropropane	77	3.509	3.509	(0.839)	51041	19.0029	19.00
24	2-Butanone	43	3.573	3.573	(0.854)	17811	39.2167	39.21
76	2-Chlorotoluene	91	8.974	8.974	(0.929)	105550	19.3354	19.33
52	2-Hexanone	43	7.083	7.083	(0.923)	29037	38.7475	38.74
77	4-Chlorotoluene	91	9.075	9.074	(0.939)	123131	19.1224	19.12
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	140514	18.6106	18.61
45	4-Methyl-2-Pentanone	43	6.324	6.324	(0.824)	40793	38.4936	38.49
10	Acetone	43	1.976	1.976	(0.473)	17778	39.0055	39.00
37	Benzene	78	4.512	4.512	(0.908)	119318	19.8950	19.89
74	Bromobenzene	156	8.810	8.809	(0.912)	54149	19.3672	19.36
29	Bromochloromethane	128	3.803	3.795	(0.909)	22816	19.8107	19.81
39	Bromodichloromethane	83	5.729	5.729	(1.153)	44955	20.4621	20.46
66	Bromoform	173	8.416	8.415	(1.097)	33867	20.4017	20.40
6	Bromomethane	94	1.339	1.338	(0.320)	37323	21.3817	21.38
19	Carbon Disulfide	76	2.069	2.069	(0.495)	161471	39.2470	39.24
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	50961	18.8167	18.81
59	Chlorobenzene	112	7.692	7.699	(1.003)	100226	19.9918	19.99
7	Chloroethane	64	1.403	1.403	(0.336)	17700	19.9952	19.99
28	Chloroform	83	3.910	3.910	(0.935)	60517	20.4752	20.47
3	Chloromethane	50	1.073	1.073	(0.257)	29645	20.0593	20.05
27	cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	36751	20.6017	20.60
46	cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	50909	20.0043	20.00
55	Dibromochloromethane	129	7.176	7.176	(0.936)	41819	19.6155	19.61
44	Dibromomethane	93	5.558	5.557	(1.118)	22160	20.6785	20.67
2	Dichlorodifluoromethane	85	0.973	0.973	(0.233)	33012	19.5105	19.51
61	Ethylbenzene	106	7.800	7.799	(1.017)	50035	19.2426	19.24
91	Hexachlorobutadiene	225	11.481	11.488	(1.188)	22320	18.8395	18.83
67	Isopropylbenzene	105	8.566	8.566	(1.117)	151627	19.1817	19.18
62	m,p-Xylenes	106	7.907	7.907	(1.031)	122458	38.8513	38.85
17	Methylene Chloride	84	2.306	2.305	(0.551)	31108	20.0686	20.06
87	n-Butylbenzene	91	9.999	9.999	(1.035)	101832	18.9094	18.90
73	n-Propylbenzene	91	8.917	8.917	(0.923)	162361	18.7687	18.76
92	Naphthalene	128	11.546	11.546	(1.195)	31119	22.7148	22.71
63	o-Xylene	106	8.244	8.244	(1.075)	60585	19.5198	19.51
81	sec-Butylbenzene	105	9.526	9.526	(0.986)	144506	18.7407	18.74
64	Styrene	104	8.258	8.258	(1.077)	108588	20.2240	20.22
78	tert-Butylbenzene	119	9.340	9.340	(0.967)	114135	18.6786	18.67
56	Tetrachloroethene	164	6.933	6.933	(0.904)	37906	19.4408	19.44
50	Toluene	91	6.446	6.446	(0.840)	138992	19.7902	19.79
20	trans-1,2-Dichloroethene	96	2.528	2.527	(0.604)	30648	20.4316	20.43
51	trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	47761	20.1031	20.10
38	Trichloroethene	130	5.207	5.206	(1.048)	41029	19.8167	19.81
8	Trichlorofluoromethane	101	1.561	1.560	(0.373)	55905	18.7583	18.75
5	Vinyl Chloride	62	1.138	1.138	(0.272)	27685	19.7654	19.76

QC Flag Legend

M - Compound response manually integrated.

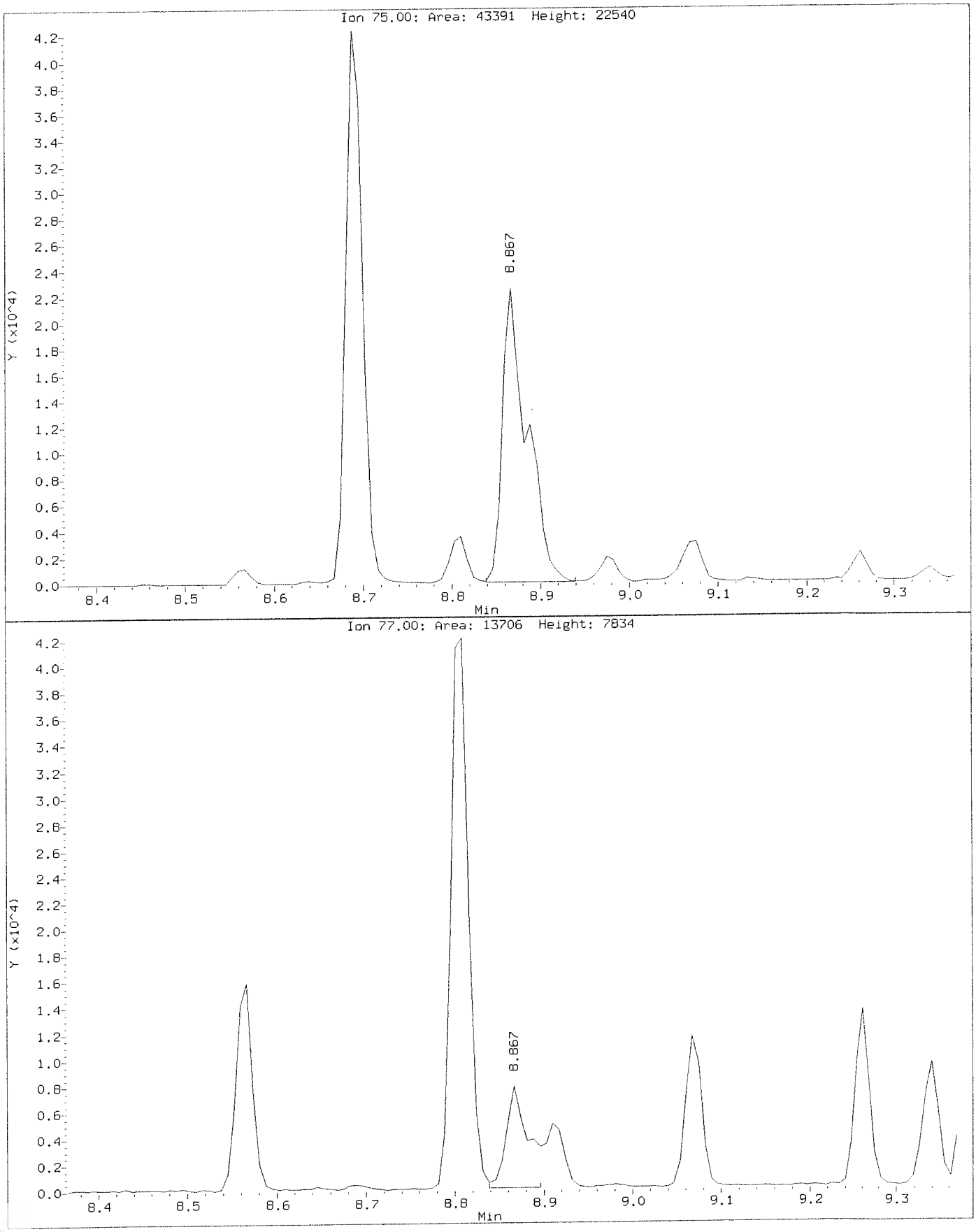


Data File: \\nahstws005\Target\chem\voa6.i\X191101.b\X110105.D
Date : 01-NOV-2019 12:21
Client ID: VLCSW-191101
Sample Info: VLCSW-191101;VLCSW-191101;3;;LCS
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\nahstws005\Target\chem\voa6.i\X191101.b\BEFORE2\X110105.D
Injection Date: 01-NOV-2019 12:21
Instrument: voa6.i
Client Sample ID: VLCSW-191101

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



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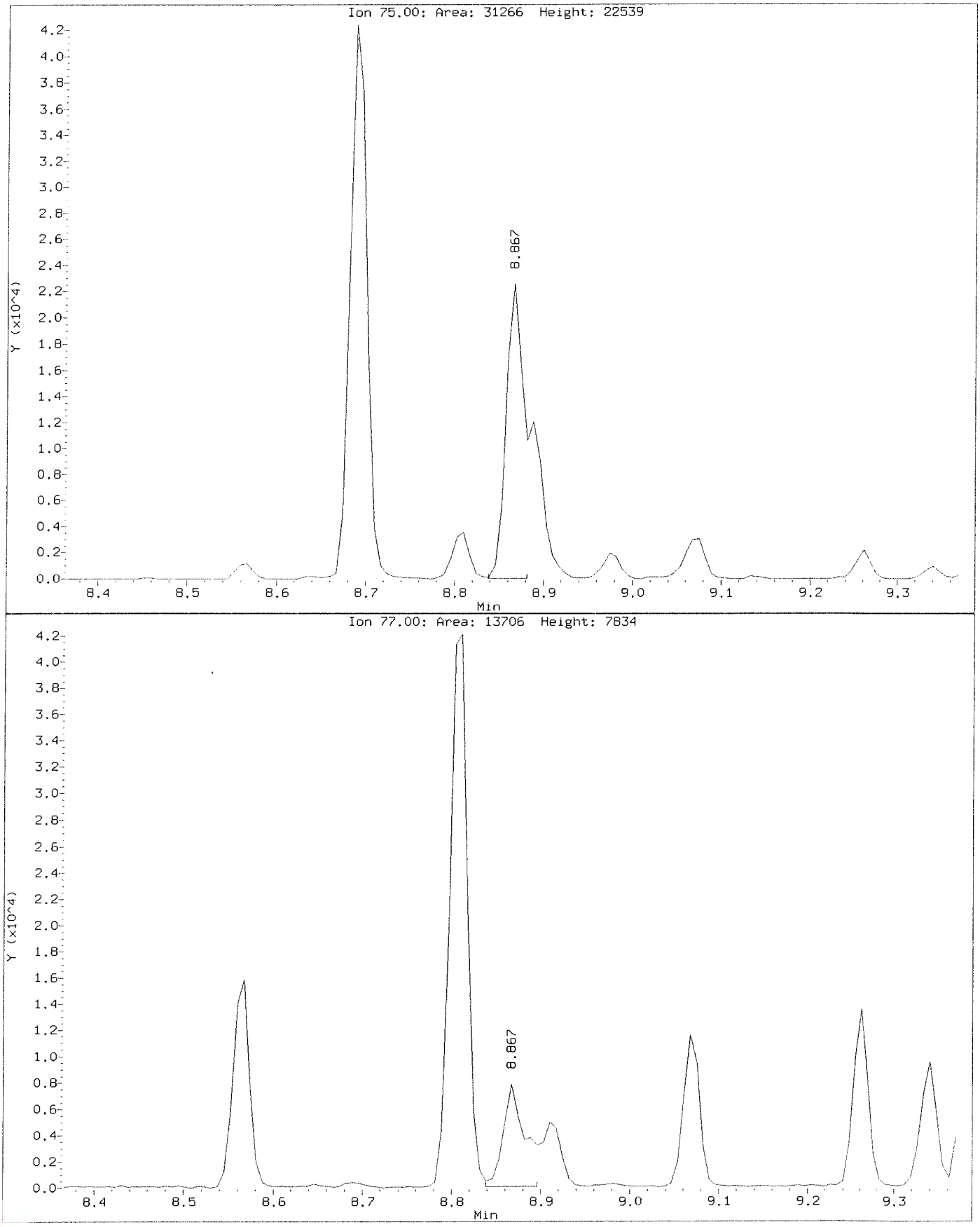
Injection Date: 01-NOV-2019 12:21
Instrument: voa6.i
Client Sample ID: VLCSW-191101

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



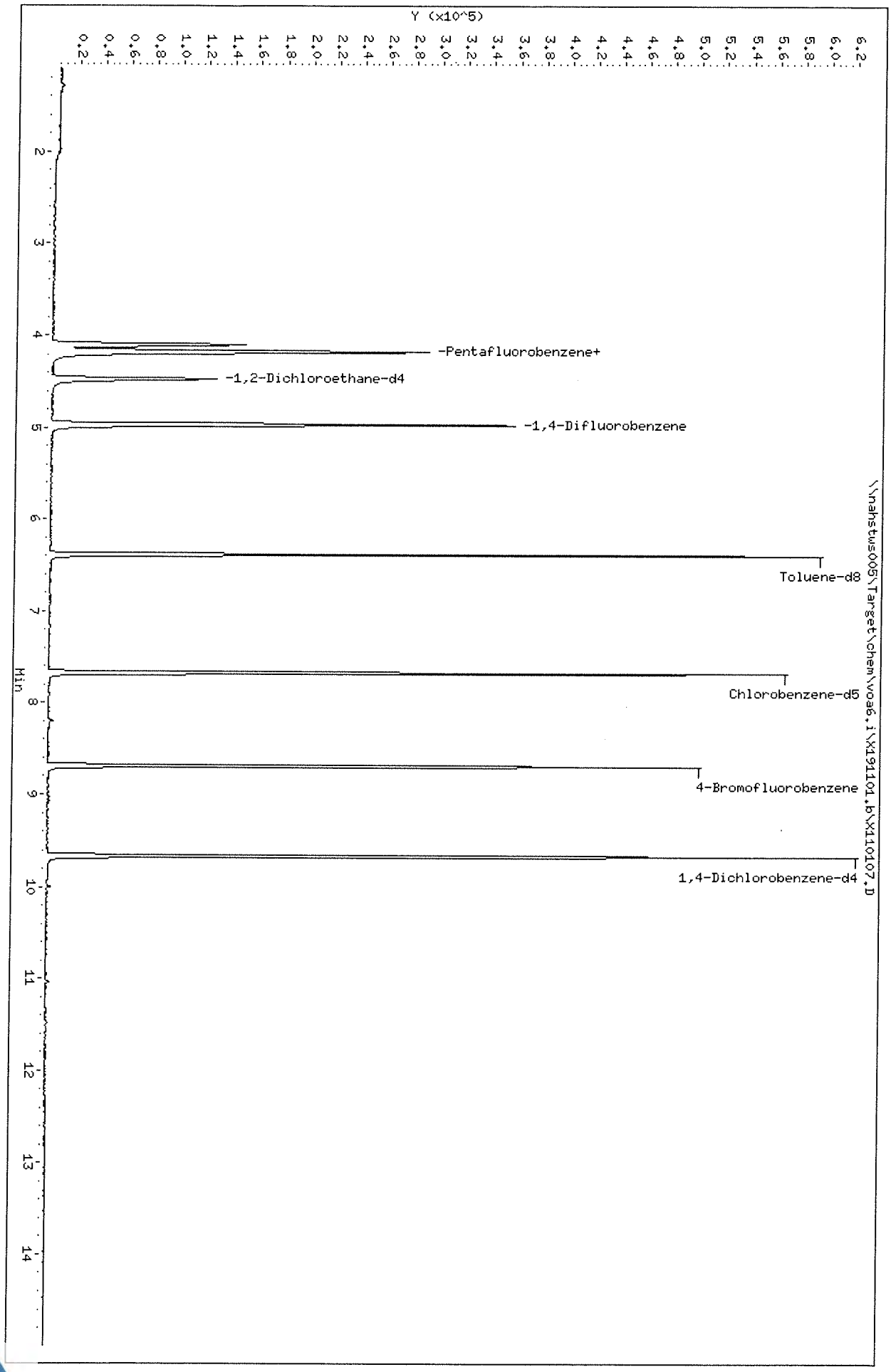
ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X191101.b\X110107.D
Lab Smp Id: VBLKW-191101 Client Smp ID: VBLKW-191101
Inj Date : 01-NOV-2019 13:09
Operator : PC Inst ID: voa6.i
Smp Info : VBLKW-191101;VBLKW-191101;3;;BLANK
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X191101.b\8260W.m
Meth Date : 20-Nov-2019 14:02 voa6.i Quant Type: ISTD
Cal Date : 31-OCT-2019 13:56 Cal File: X103108.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)	CONCENTRATIONS FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	273156	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	327078	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	288826	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.669	(1.000)	165314	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	105635	45.8527	45.85
$ 69 4-Bromofluorobenzene	95	8.688	8.695	(1.133)	137034	50.4997	50.49
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	102270	47.0092	47.00
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	360761	50.2728	50.27



Data File: \\nahstus005\Target\chem\voa6.i\X191101.b\X110107.D
Date : 01-NOV-2019 13:09
Client ID: VBLKW-191101
Sample Info: VBLKW-191101;VBLKW-191101;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\X191101.b\X110108.D Page 1
Report Date: 20-Nov-2019 14:41

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X191101.b\X110108.D
Lab Smp Id: HS19101523-12 Client Smp ID: HS19101523-12
Inj Date : 01-NOV-2019 13:33
Operator : PC Inst ID: voa6.i
Smp Info : HS19101523-12;HS19101523-12;;;
Misc Info : HS18090001;WATER;0;1;
Comment   :
Method   : \\nahstws005\Target\chem\voa6.i\X191101.b\8260W.m
Meth Date : 20-Nov-2019 14:41 voa6.i Quant Type: ISTD
Cal Date : 31-OCT-2019 13:56 Cal File: X103108.D
Als bottle: 8
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBIHOUSTONDOD.sub
Target Version: 4.14

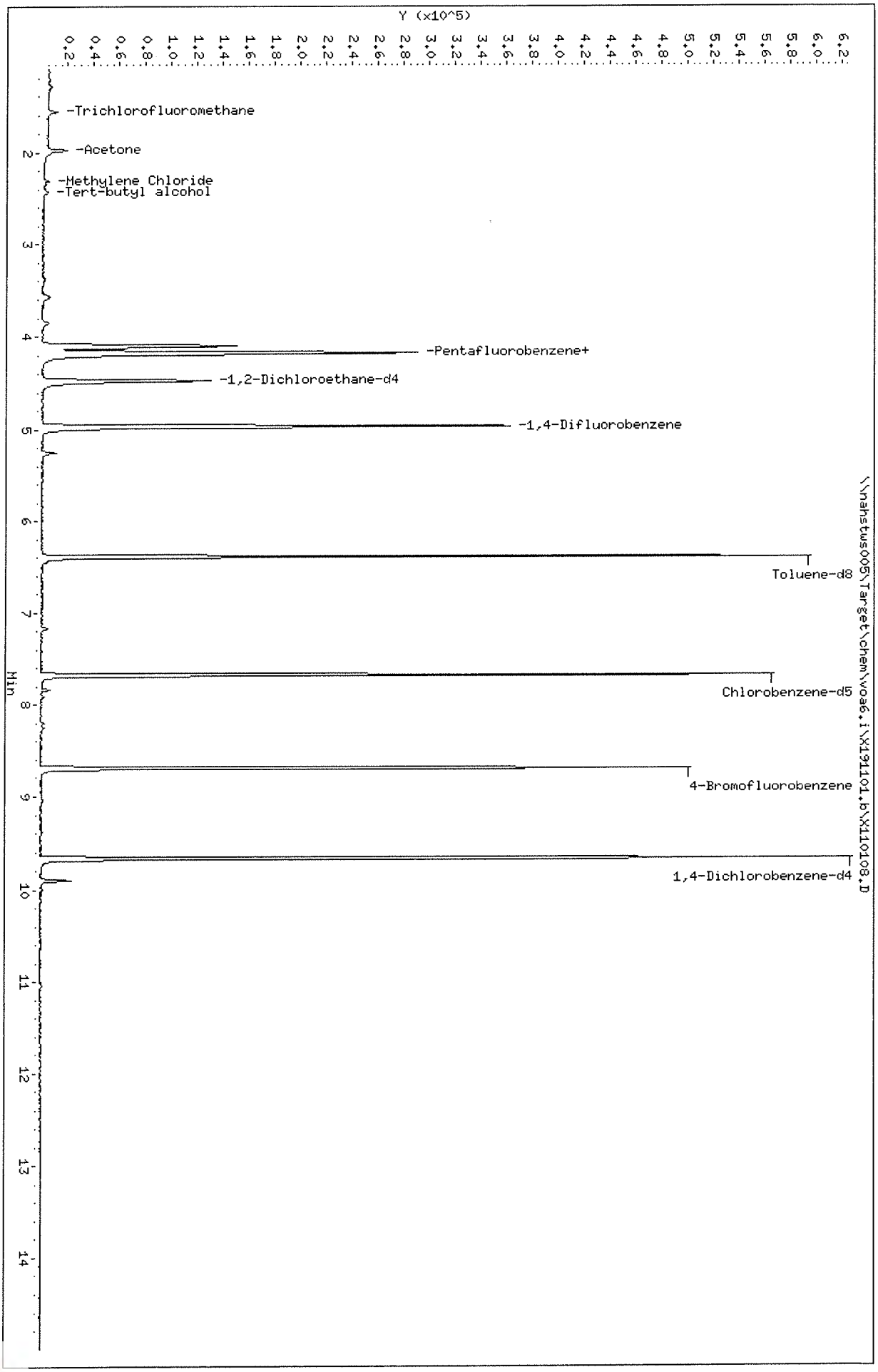
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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)	278155	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	330333	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.670	(1.000)	289271	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	170099	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	106958	45.5954	45.59
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	138263	50.8788	50.87
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	103042	46.5180	46.51
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	364402	50.7021	50.70
10 Acetone	43	1.969	1.976	(0.471)	17769	31.2944	31.29
17 Methylene Chloride	84	2.306	2.305	(0.551)	2237	1.15263	1.15(a)
8 Trichlorofluoromethane	101	1.561	1.560	(0.373)	5517	1.48612	1.48(a)

QC Flag Legend

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



Data File: \\nahstws005\Target\chem\voa6.i\X191101.b\X110108.D
Date : 01-NOV-2019 13:33
Client ID: HS19101523-12
Sample Info: HS19101523-12;HS19101523-12;;;
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\nahstws005\Target\chem\voa6.i\X191101.b\X110108.D

Date : 01-NOV-2019 13:33

Client ID: HS19101523-12

Instrument: voa6.i

Sample Info: HS19101523-12;HS19101523-12;;;

Purge Volume: 5.0

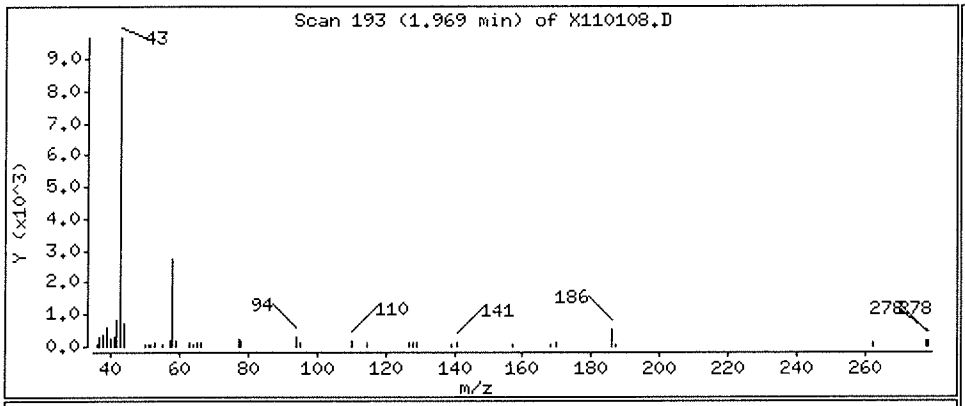
Operator: PC

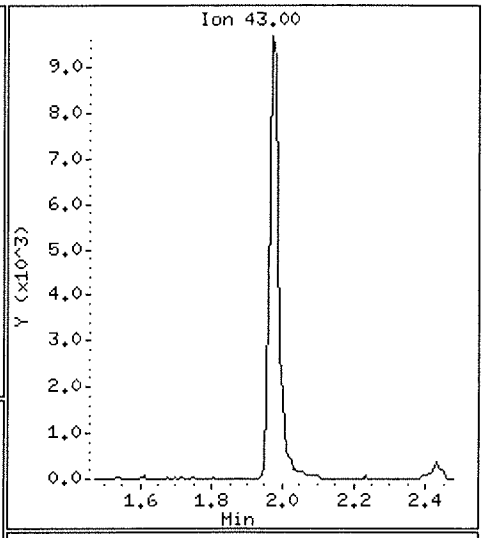
Column phase: DB624

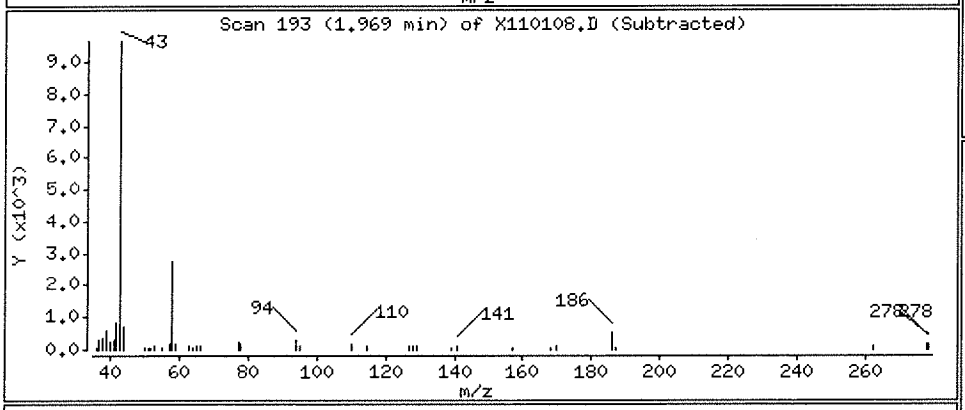
Column diameter: 0.18

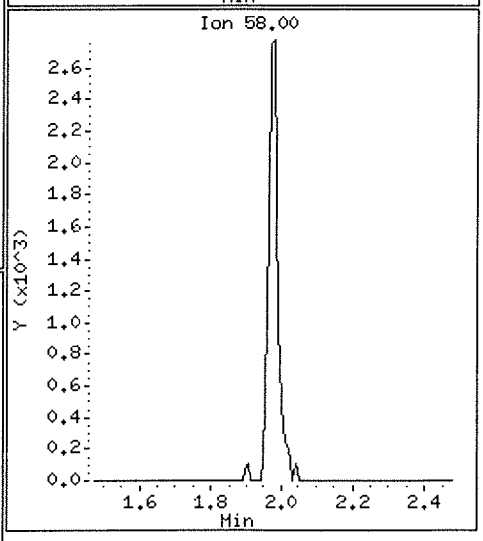
10 Acetone

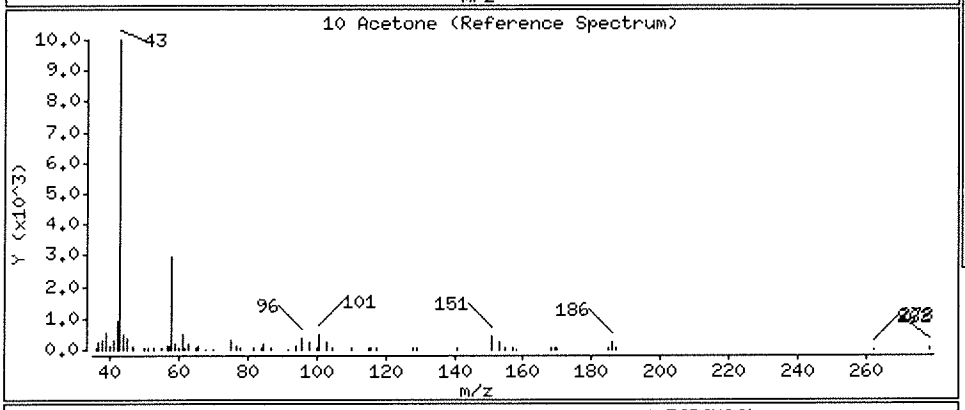
Concentration: 31.29 ug/l

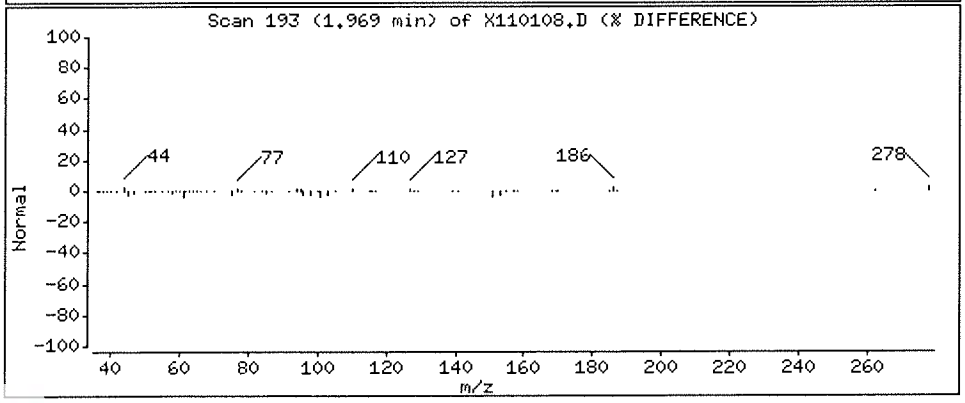












Data File: \\nahstws005\Target\chem\voa6.i\X191101.b\X110108.D

Date : 01-NOV-2019 13:33

Client ID: HS19101523-12

Instrument: voa6.i

Sample Info: HS19101523-12;HS19101523-12;;;

Purge Volume: 5.0

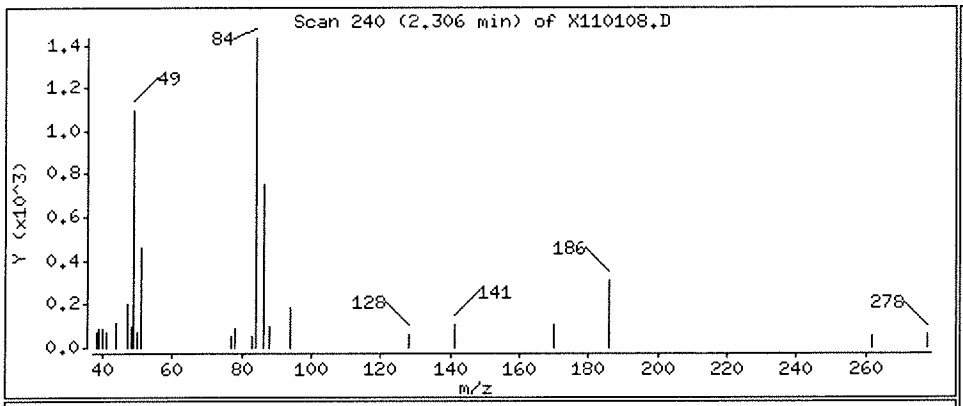
Operator: PC

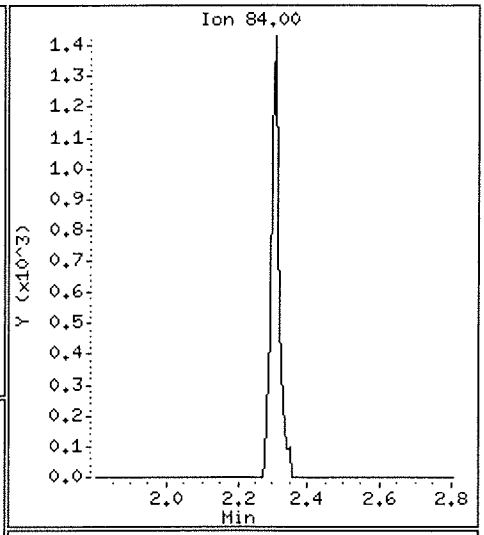
Column phase: DB624

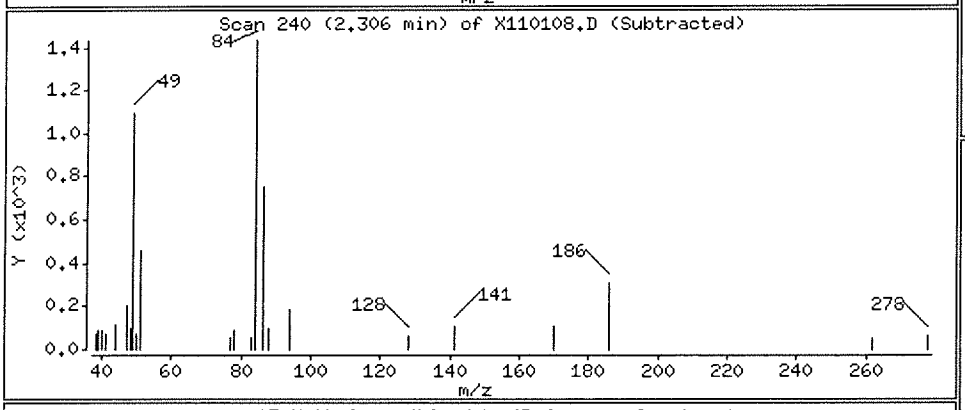
Column diameter: 0.18

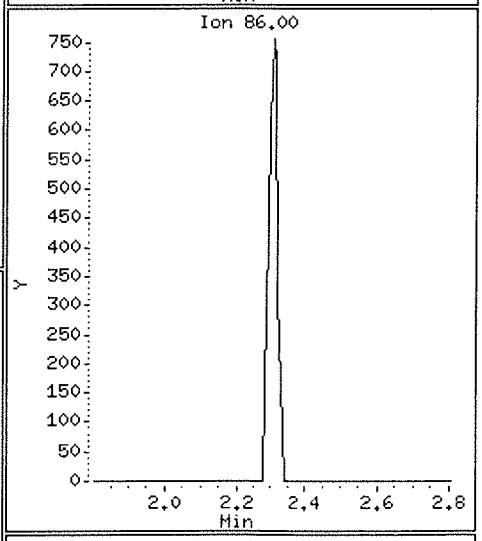
17 Methylene Chloride

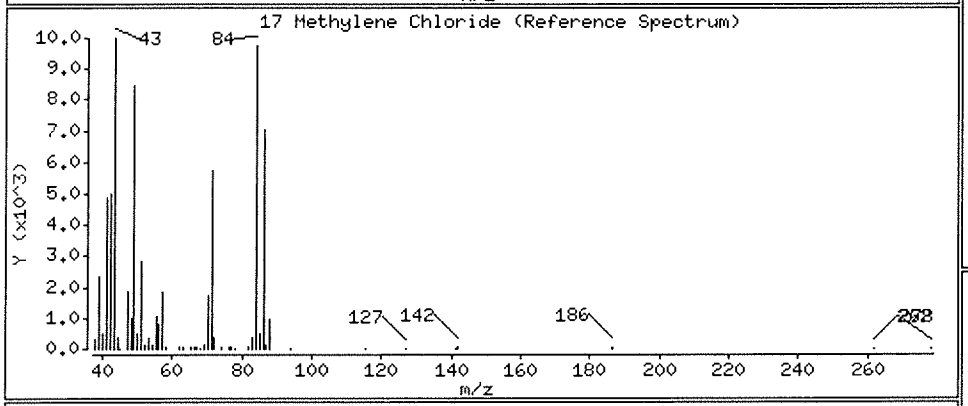
Concentration: 1.15 ug/l

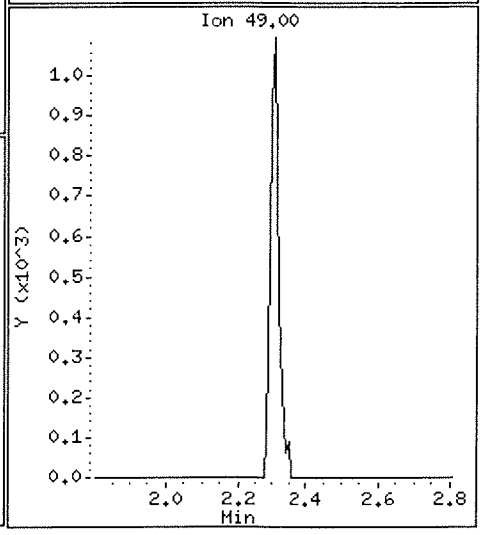


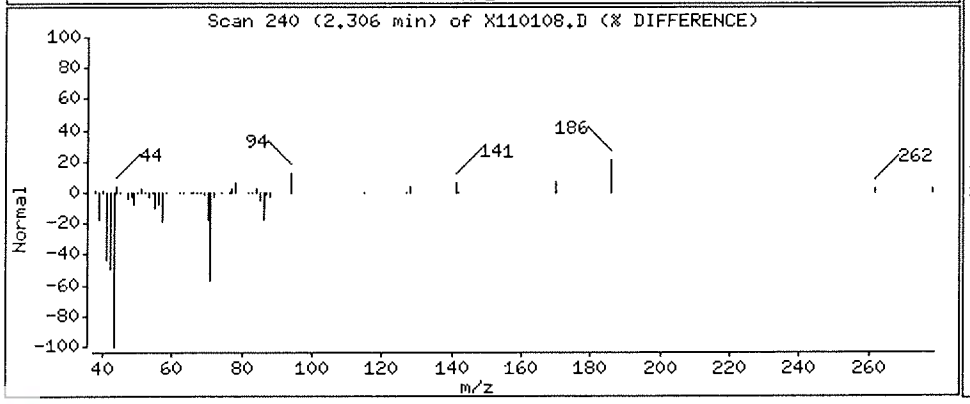












Data File: \\nahstws005\Target\chem\voa6.i\X191101.b\X110108.D

Date : 01-NOV-2019 13:33

Client ID: HS19101523-12

Instrument: voa6.i

Sample Info: HS19101523-12;HS19101523-12;;;

Purge Volume: 5.0

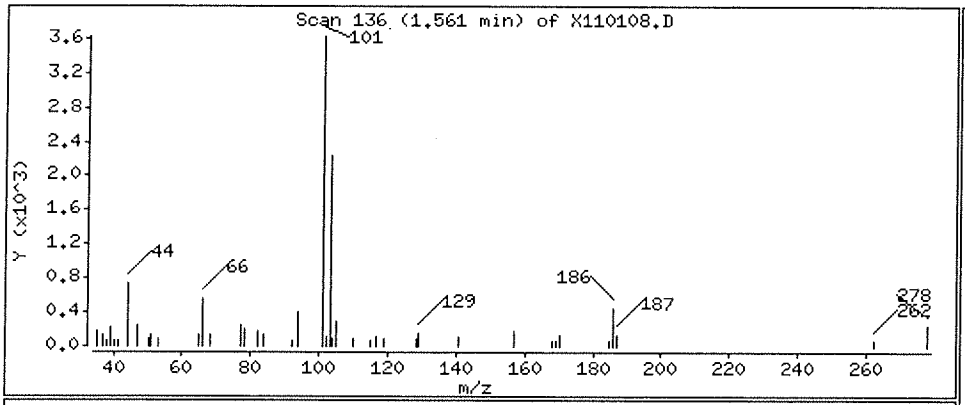
Operator: PC

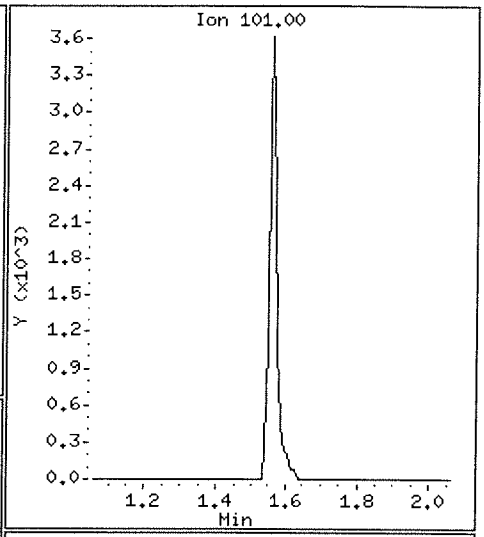
Column phase: DB624

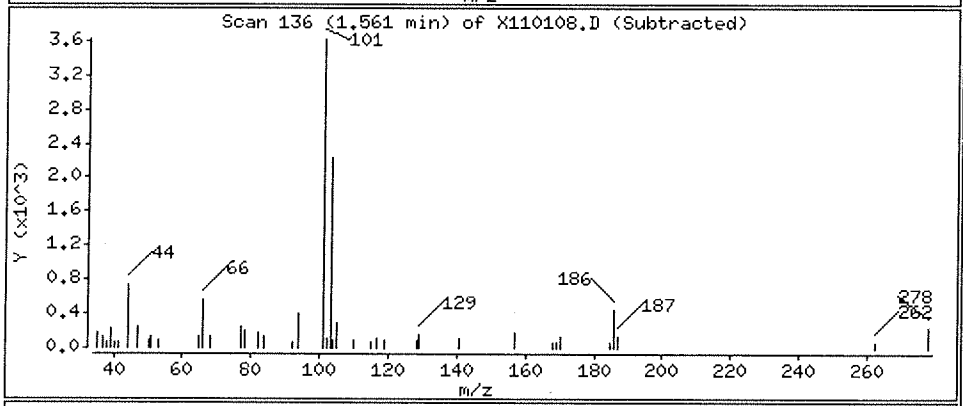
Column diameter: 0.18

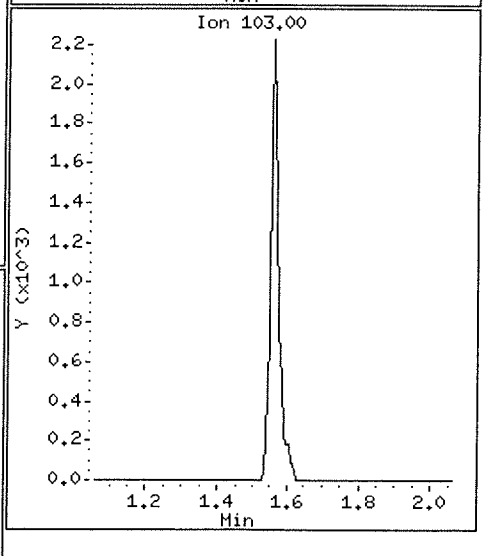
8 Trichlorofluoromethane

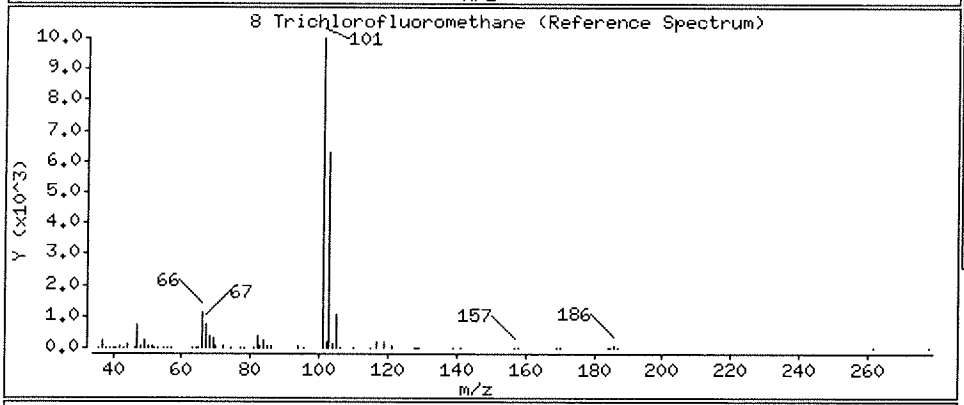
Concentration: 1.48 ug/l

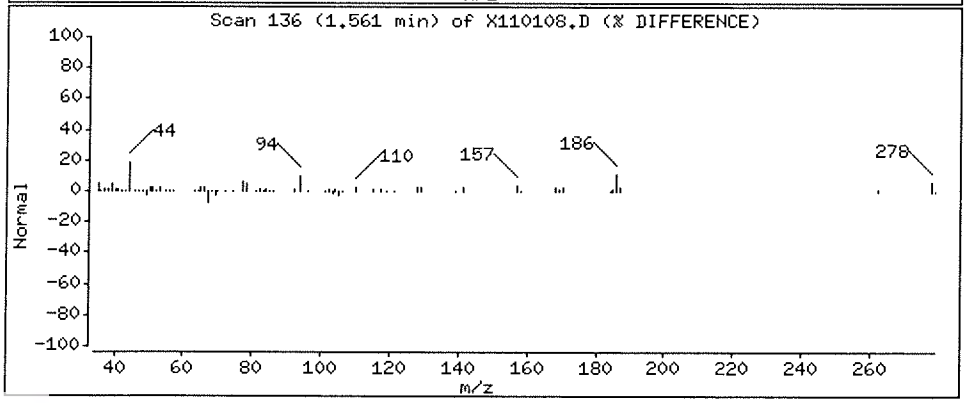












Data File: \\nahstws005\Target\chem\voa6.i\X191101.b\X110109.D Page 1
Report Date: 20-Nov-2019 14:41

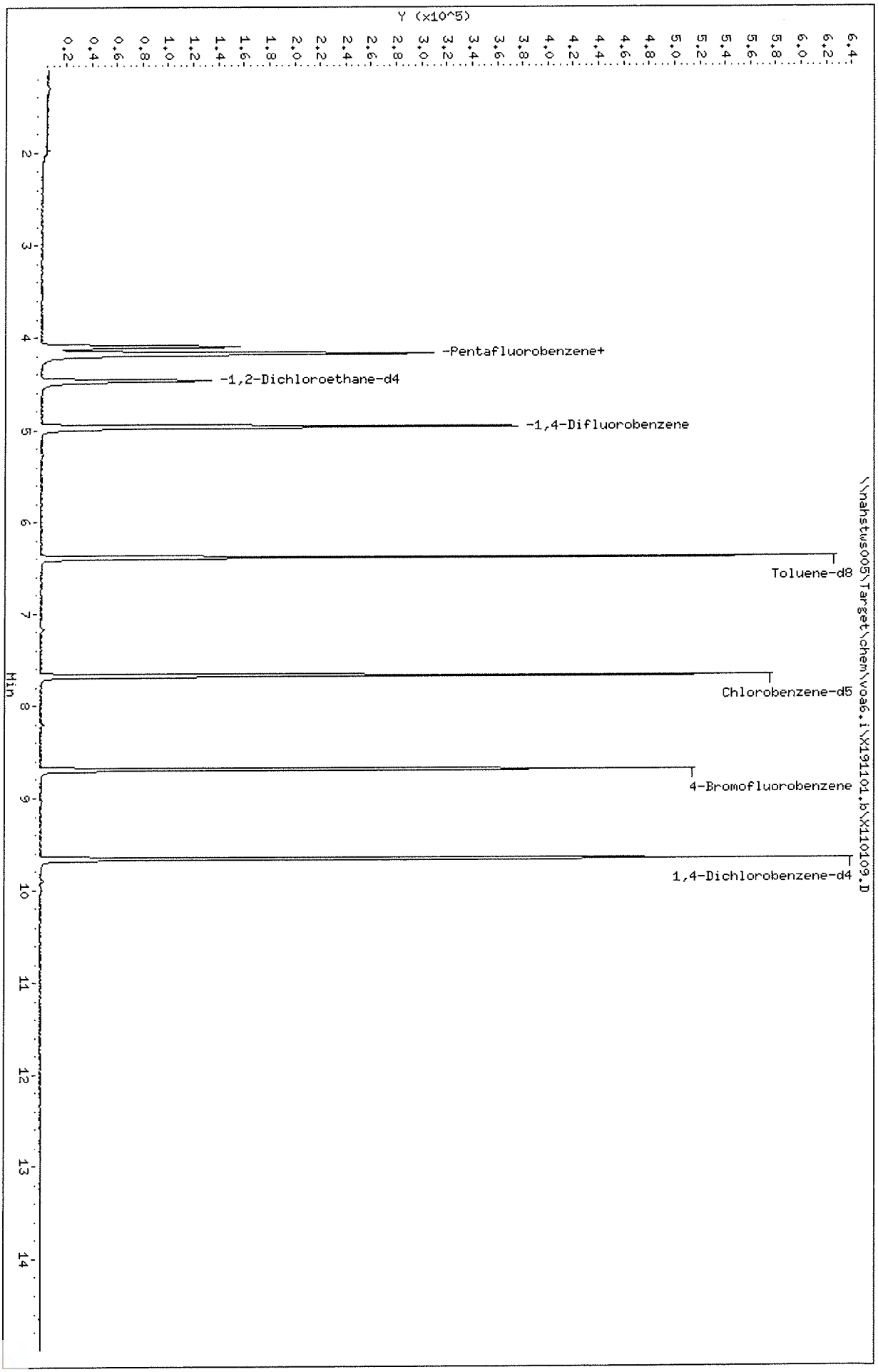
ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X191101.b\X110109.D
Lab Smp Id: HS19101523-08 Client Smp ID: HS19101523-08
Inj Date : 01-NOV-2019 13:57
Operator : PC Inst ID: voa6.i
Smp Info : HS19101523-08;HS19101523-08;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X191101.b\8260W.m
Meth Date : 20-Nov-2019 14:41 voa6.i Quant Type: ISTD
Cal Date : 31-OCT-2019 13:56 Cal File: X103108.D
Als bottle: 9
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)	286823	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	342608	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.670	(1.000)	297065	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.669	(1.000)	167193	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	111448	46.0685	46.06
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	138925	49.7680	49.76
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	107004	46.8434	46.84
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	376753	51.0452	51.04



Data File: \\nahstus005\Target\chem\voa6.i\X191101.b\X110109.D
Date : 01-NOV-2019 13:57
Client ID: HS19101523-08
Sample Info: HS19101523-08;HS19101523-08;;;
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\nahstws005\Target\chem\voa6.i\X191101.b\X110110.D Page 1
Report Date: 20-Nov-2019 14:41

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X191101.b\X110110.D
Lab Smp Id: HS19101523-09 Client Smp ID: HS19101523-09
Inj Date : 01-NOV-2019 14:21
Operator : PC Inst ID: voa6.i
Smp Info : HS19101523-09;HS19101523-09;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X191101.b\8260W.m
Meth Date : 20-Nov-2019 14:41 voa6.i Quant Type: ISTD
Cal Date : 31-OCT-2019 13:56 Cal File: X103108.D
Als bottle: 10
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBIHOUSTONDOD.sub
Target Version: 4.14

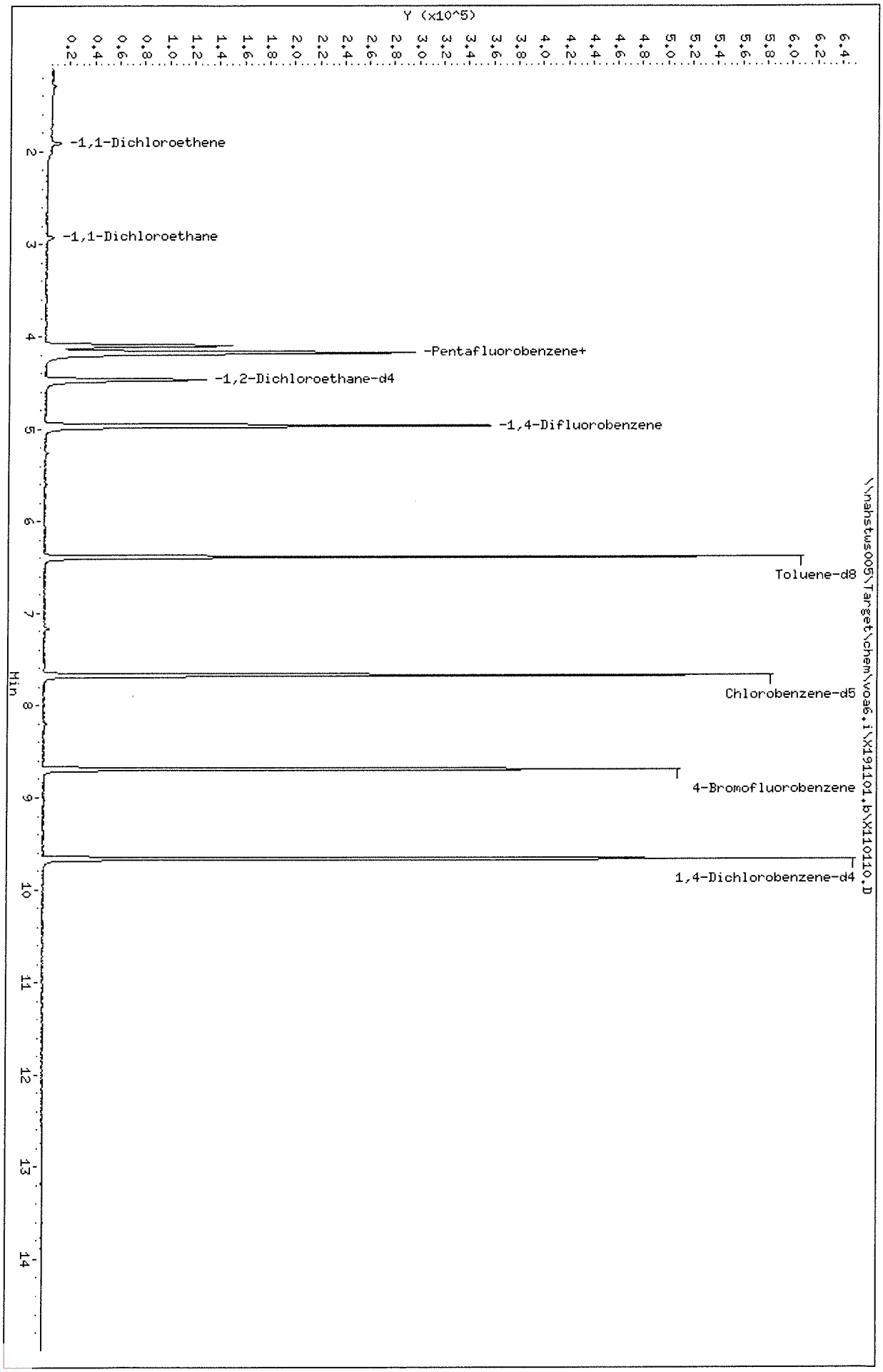
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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)	280003	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	330322	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.670	(1.000)	296888	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	170922	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	105491	44.6832	44.68
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	142026	50.9231	50.92
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	101857	45.6884	45.68
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	367498	49.8210	49.82
22 1,1-Dichloroethane	63	2.929	2.921	(0.700)	5987	1.91002	1.91(a)
11 1,1-Dichloroethene	96	1.919	1.911	(0.459)	3379	1.89808	1.89(a)

QC Flag Legend

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



Data File: \\nahstws005\Target\chem\voa6.i\X191101.b\X110110.D
Date : 01-NOV-2019 14:21
Client ID: HS19101523-09
Sample Info: HS19101523-09;HS19101523-09;;;
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\nahstws005\Target\chem\voa6.i\X191101.b\X110110.D

Date : 01-NOV-2019 14:21

Client ID: HS19101523-09

Instrument: voa6.i

Sample Info: HS19101523-09;HS19101523-09;;;

Purge Volume: 5.0

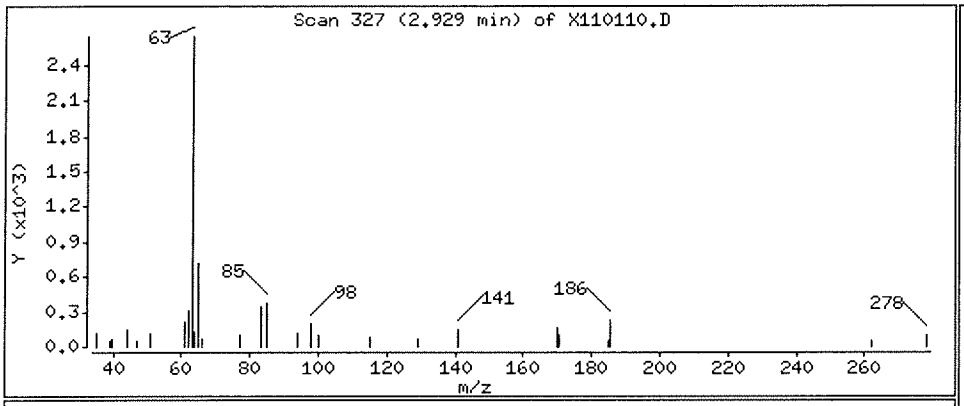
Operator: PC

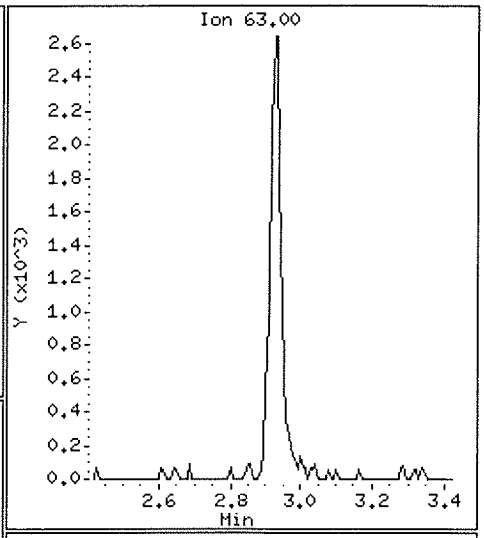
Column phase: DB624

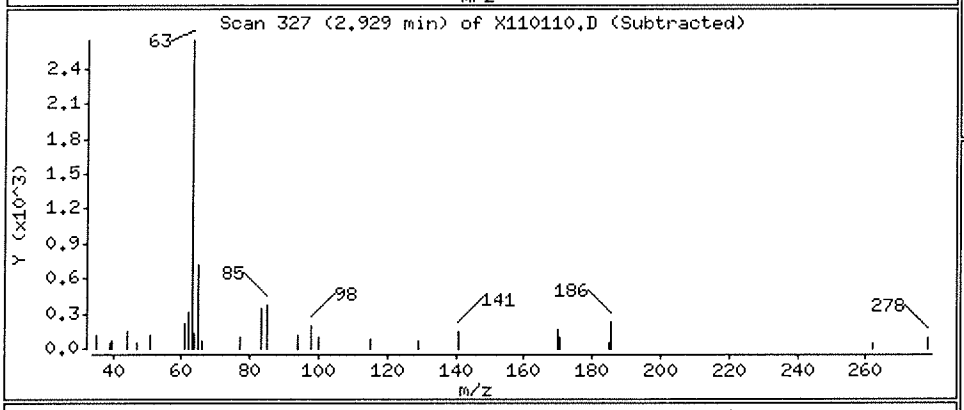
Column diameter: 0.18

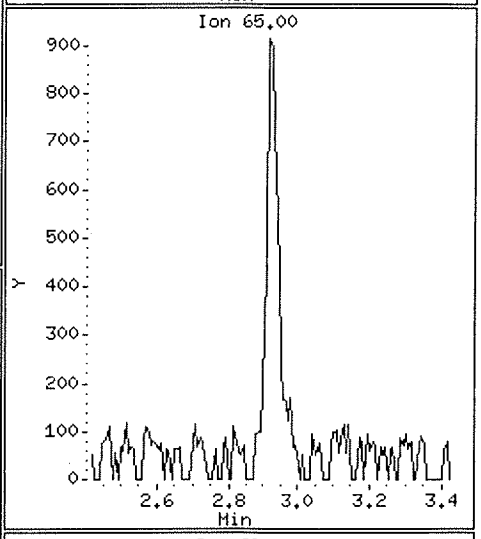
22 1,1-Dichloroethane

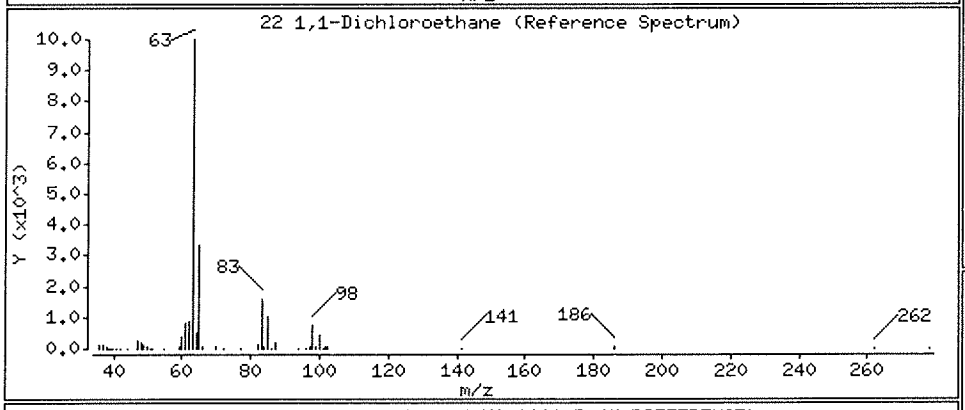
Concentration: 1.91 ug/l

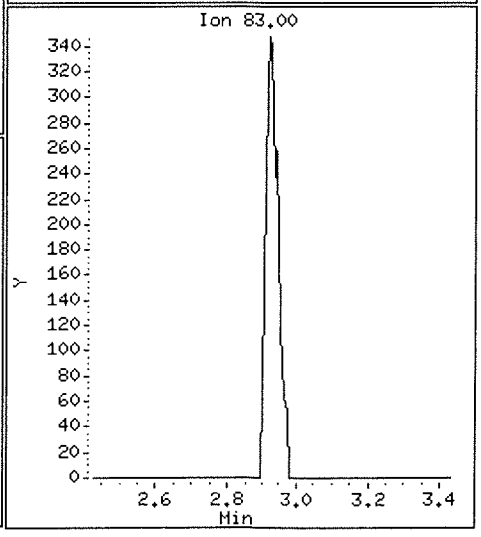


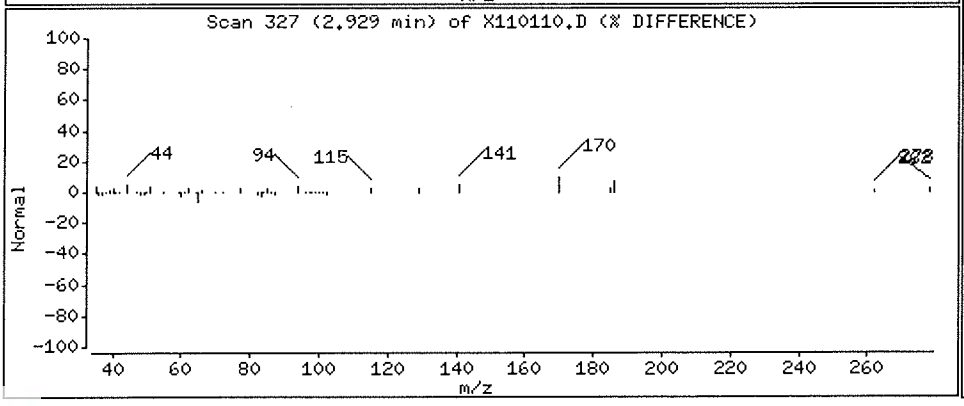












Data File: \\nahstws005\Target\chem\voa6.i\X191101.b\X110110.D

Date : 01-NOV-2019 14:21

Client ID: HS19101523-09

Instrument: voa6.i

Sample Info: HS19101523-09;HS19101523-09;;;

Purge Volume: 5.0

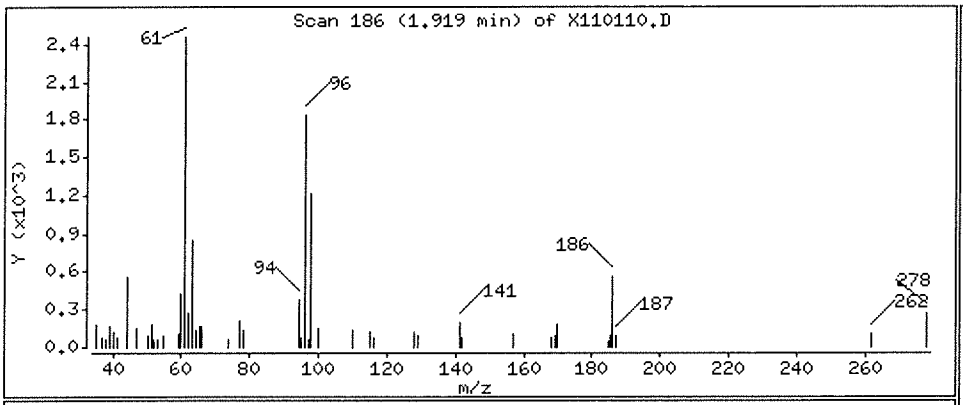
Operator: PC

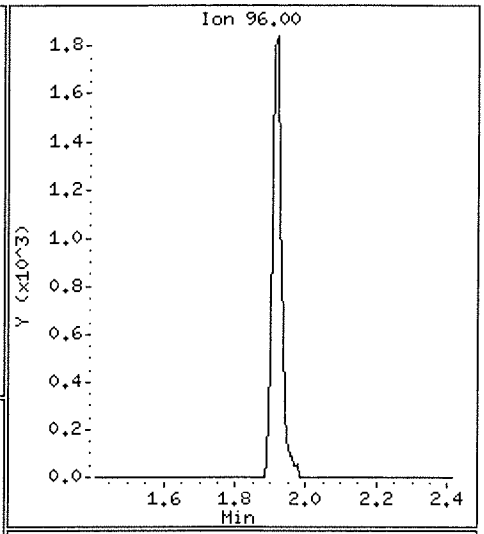
Column phase: DB624

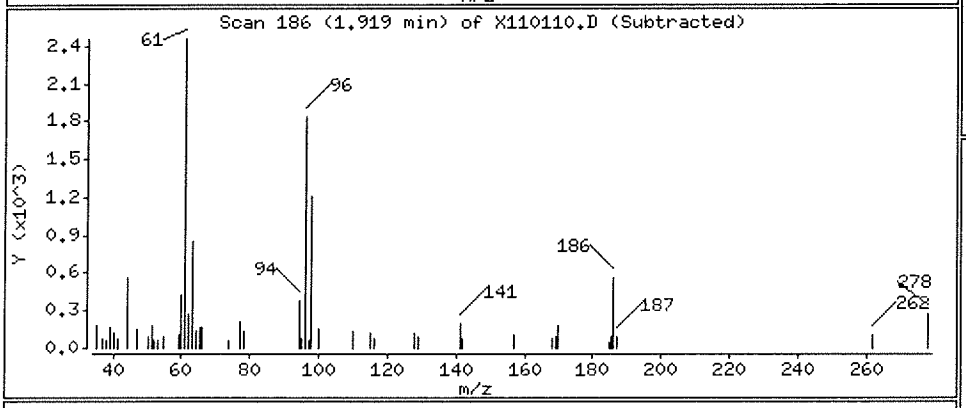
Column diameter: 0.18

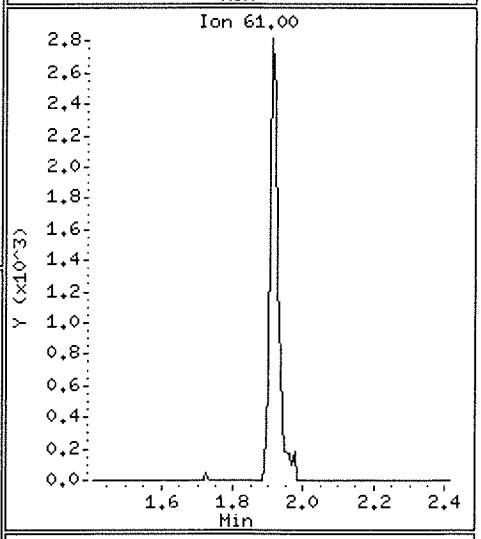
11 1,1-Dichloroethene

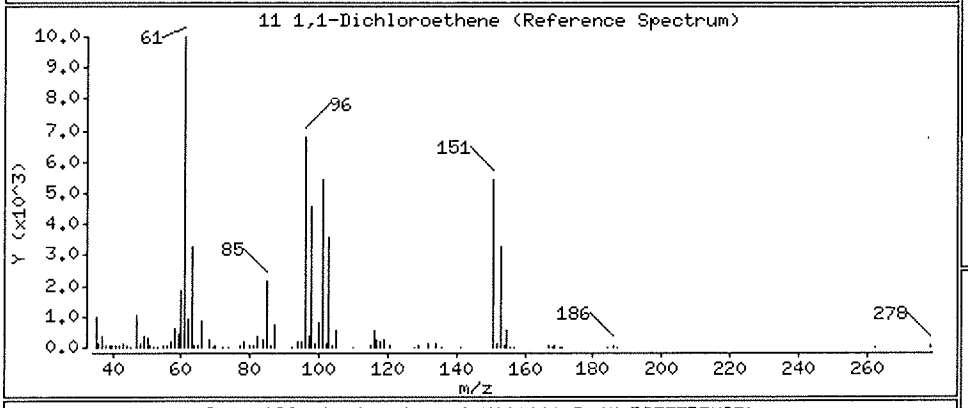
Concentration: 1.89 ug/l

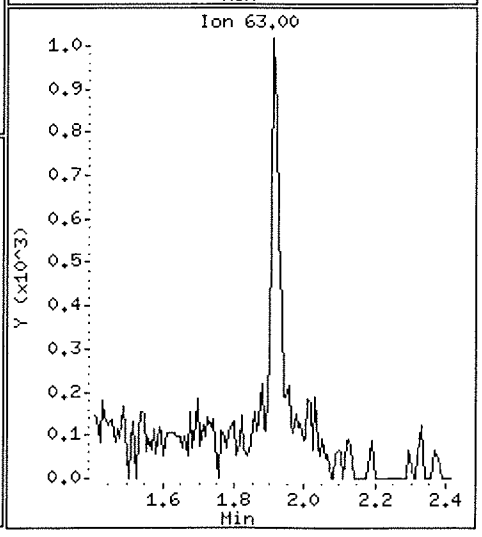


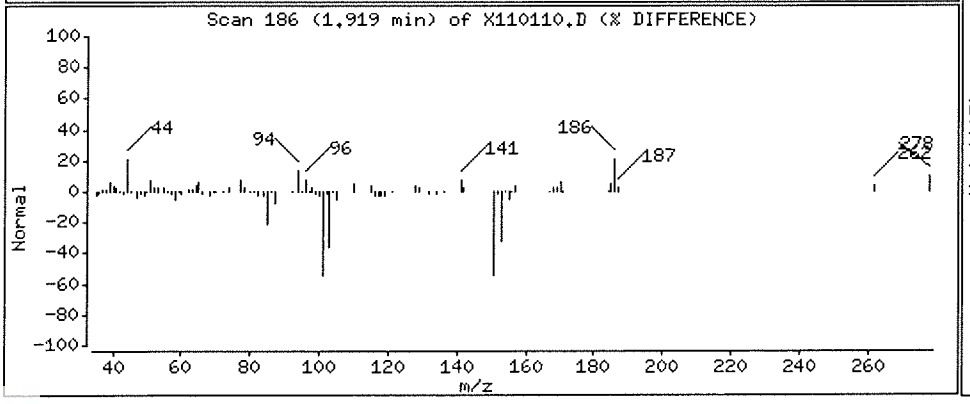












Data File: \\nahstws005\Target\chem\voa6.i\X191101.b\X110111.D Page 1
Report Date: 20-Nov-2019 14:41

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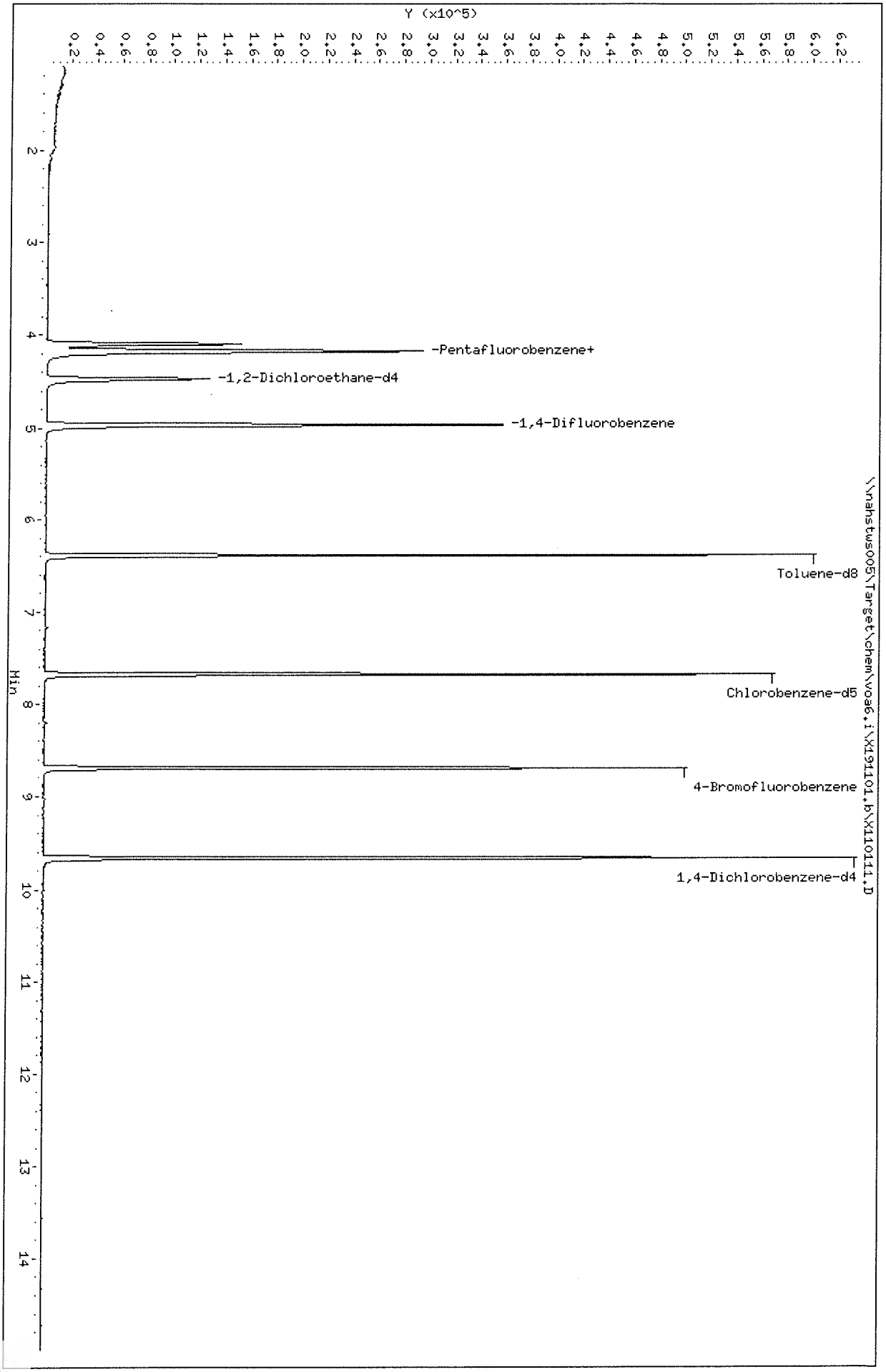
Data file : \\nahstws005\Target\chem\voa6.i\X191101.b\X110111.D
Lab Smp Id: HS19101523-10 Client Smp ID: HS19101523-10
Inj Date : 01-NOV-2019 14:45
Operator : PC Inst ID: voa6.i
Smp Info : HS19101523-10;HS19101523-10;;;
Misc Info : HS18090001;WATER;0;1;
Comment   :
Method   : \\nahstws005\Target\chem\voa6.i\X191101.b\8260W.m
Meth Date : 20-Nov-2019 14:41 voa6.i Quant Type: ISTD
Cal Date : 31-OCT-2019 13:56 Cal File: X103108.D
Als bottle: 11
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)	276849	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	331325	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.670	(1.000)	290926	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.669	(1.000)	166439	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	106238	45.5031	45.50
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	137816	50.4204	50.42
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	103143	46.7805	46.78
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	363948	50.3508	50.35



Data File: \\nahstws005\Target\chem\voa6.i\X191101.b\X110111.D
Date : 01-NOV-2019 14:45
Client ID: HS19101523-10
Sample Info: HS19101523-10;HS19101523-10;;;
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\nahstws005\Target\chem\voa6.i\X191101.b\X110112.D Page 1
Report Date: 20-Nov-2019 14:41

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X191101.b\X110112.D
Lab Smp Id: HS19101523-11 Client Smp ID: HS19101523-11
Inj Date : 01-NOV-2019 15:09
Operator : PC Inst ID: voa6.i
Smp Info : HS19101523-11;HS19101523-11;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X191101.b\8260W.m
Meth Date : 20-Nov-2019 14:41 voa6.i Quant Type: ISTD
Cal Date : 31-OCT-2019 13:56 Cal File: X103108.D
Als bottle: 12
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBIHOUSTONDOD.sub
Target Version: 4.14

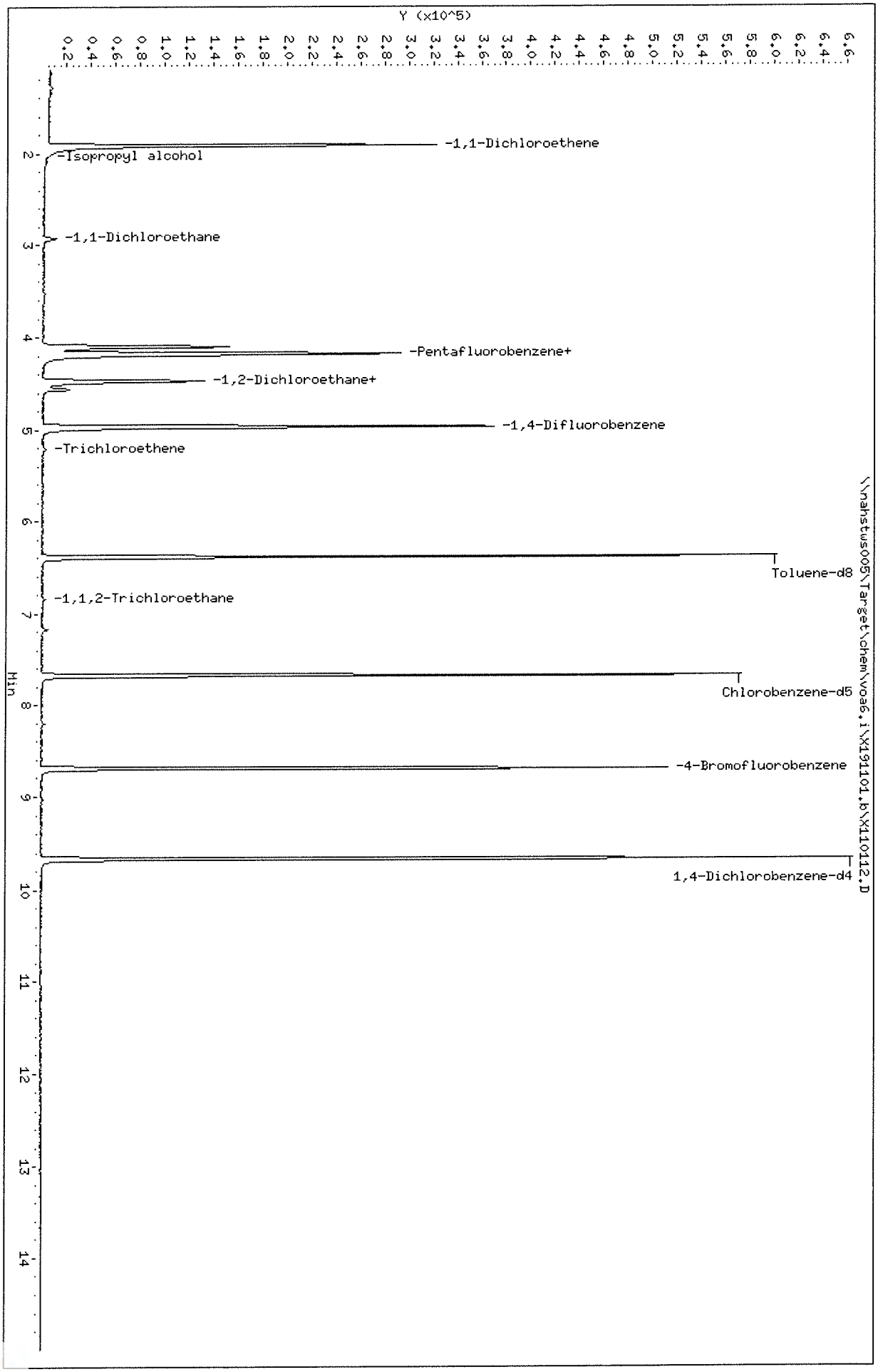
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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)	279979	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	332561	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.670	(1.000)	297182	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	173054	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	108196	45.8202	45.82
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	141762	50.7765	50.77
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	102746	46.0868	46.08
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	366892	49.6896	49.68
53 1,1,2-Trichloroethane	83	6.847	6.840	(0.893)	720	0.53316	0.53(a)
22 1,1-Dichloroethane	63	2.921	2.921	(0.699)	10560	3.36922	3.36(a)
11 1,1-Dichloroethene	96	1.911	1.911	(0.457)	123764	69.5276	69.52
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	20379	7.55848	7.55
38 Trichloroethene	130	5.206	5.206	(1.048)	1308	0.52712	0.52(a)

QC Flag Legend

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



Data File: \\nahstws005\Target\chem\voa6.i\X191101.b\X110112.D
Date : 01-NOV-2019 15:09
Client ID: HS19101523-11
Sample Info: HS19101523-11;HS19101523-11;;;
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\nahstws005\Target\chem\voa6.i\X191101.b\X110112.D

Date : 01-NOV-2019 15:09

Client ID: HS19101523-11

Instrument: voa6.i

Sample Info: HS19101523-11;HS19101523-11;;;

Purge Volume: 5.0

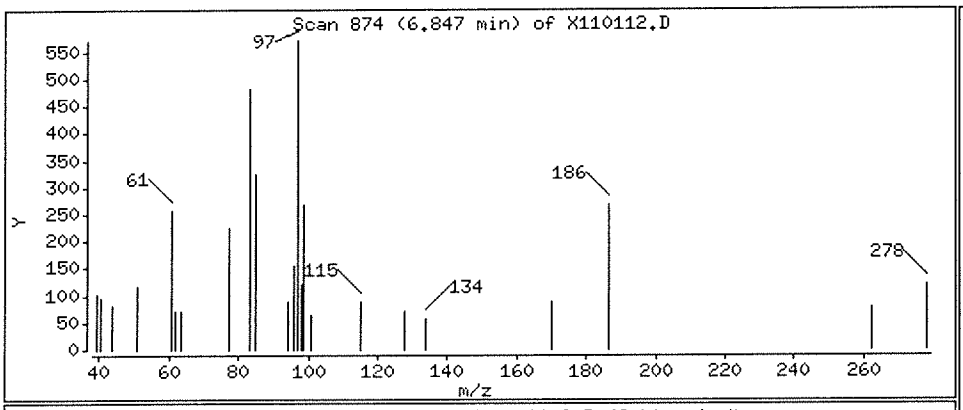
Operator: PC

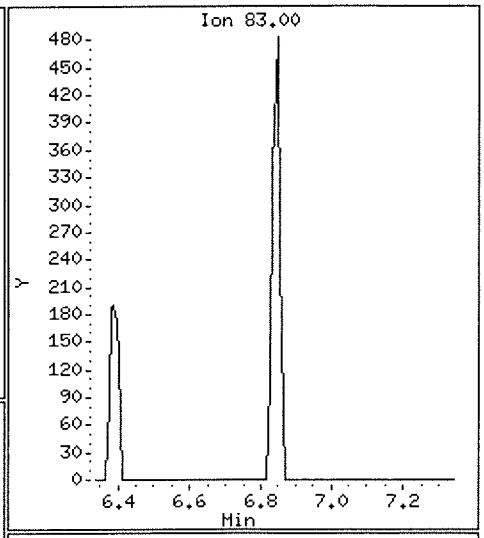
Column phase: DB624

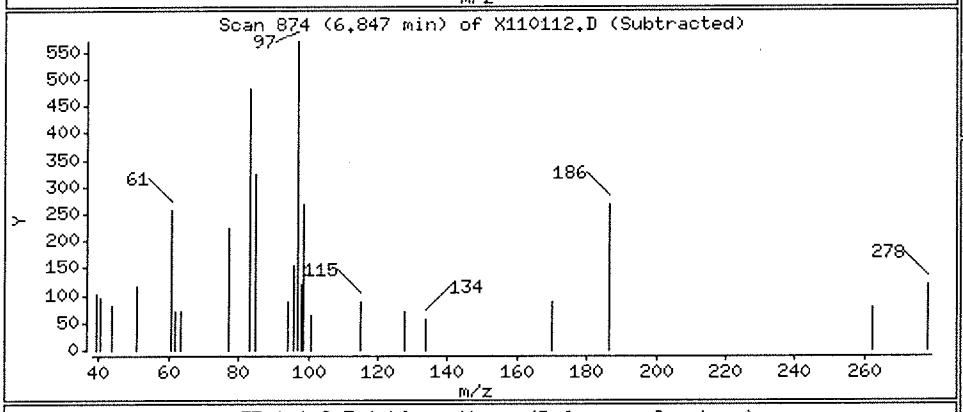
Column diameter: 0.18

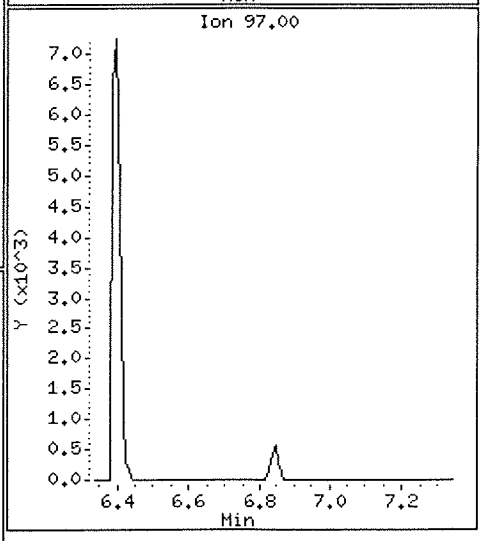
53 1,1,2-Trichloroethane

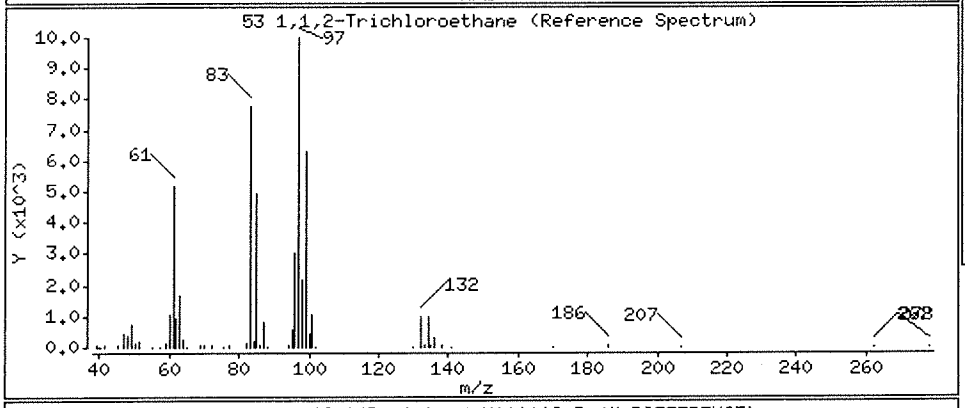
Concentration: 0.53 ug/l

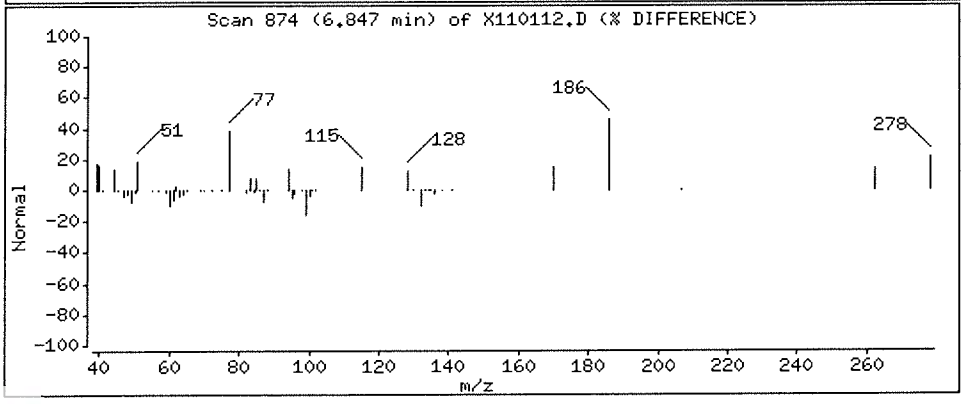












Data File: \\nahstws005\Target\chem\voa6.i\X191101.b\X110112.D

Date : 01-NOV-2019 15:09

Client ID: HS19101523-11

Instrument: voa6.i

Sample Info: HS19101523-11;HS19101523-11;;;

Purge Volume: 5.0

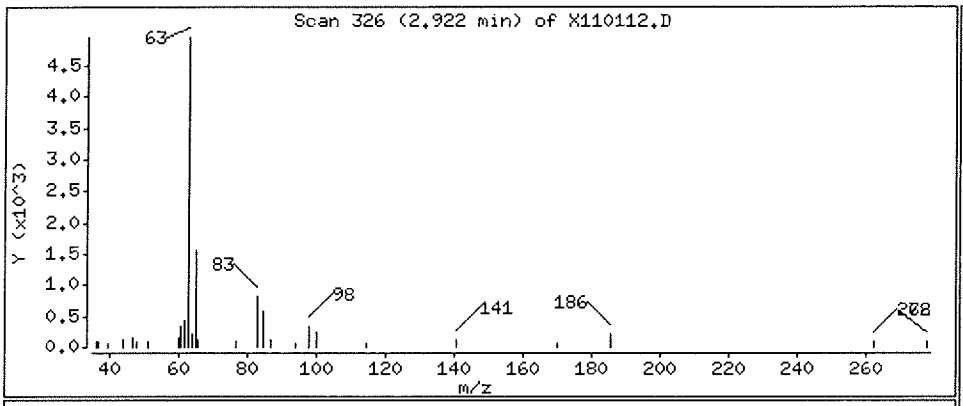
Operator: PC

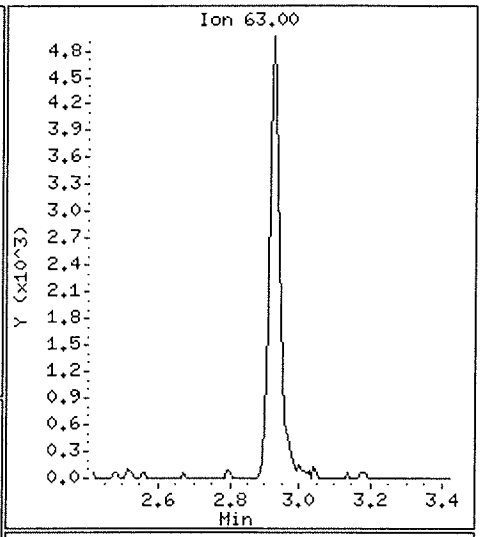
Column phase: DB624

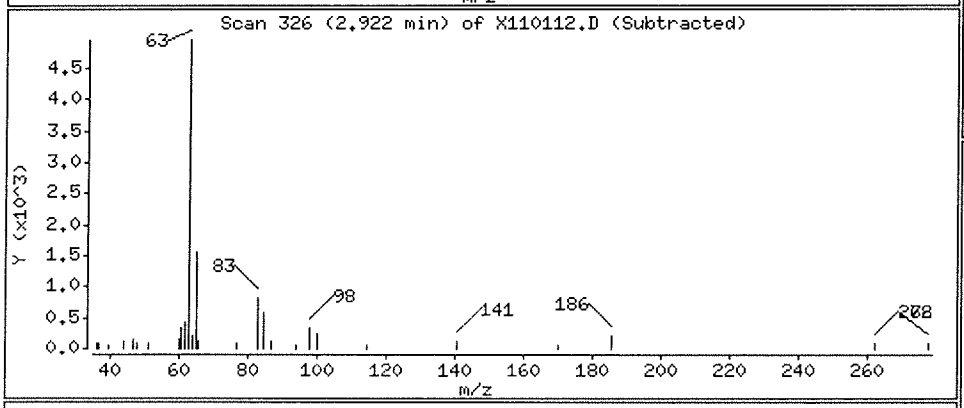
Column diameter: 0.18

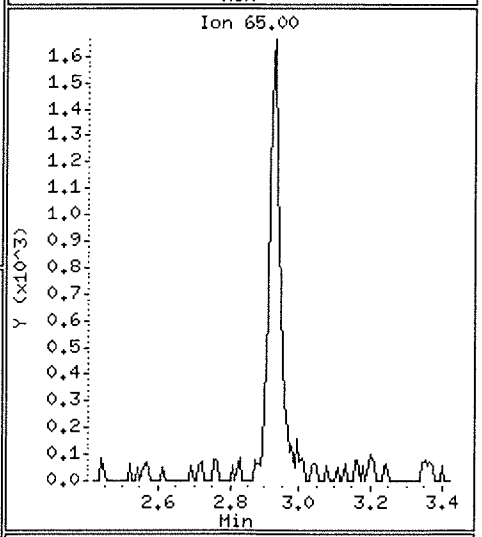
22 1,1-Dichloroethane

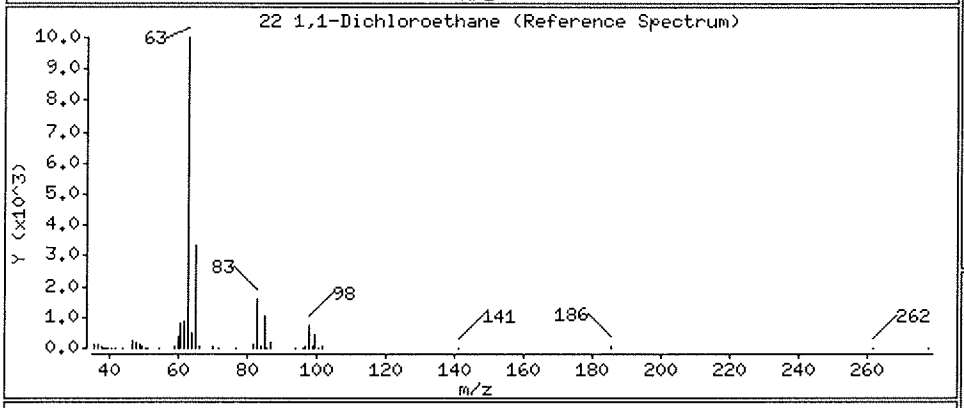
Concentration: 3.36 ug/l

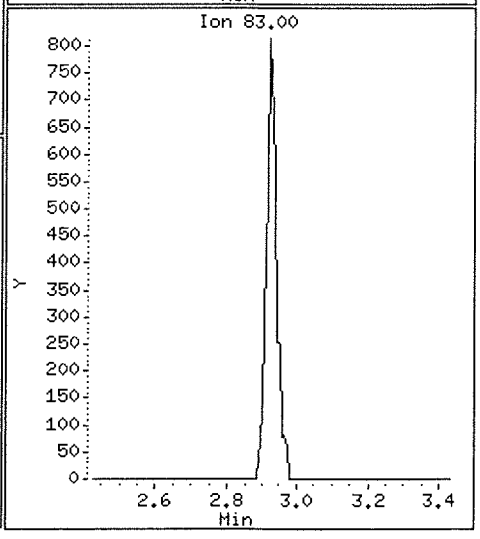


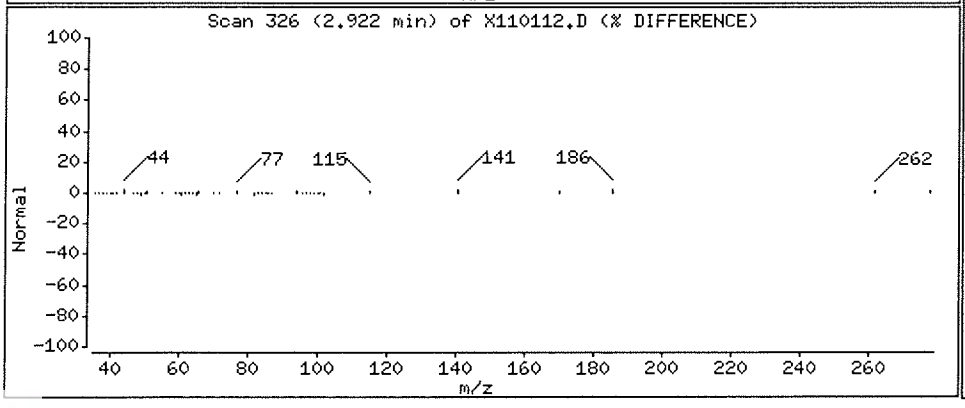












Data File: \\nahstws005\Target\chem\voa6.i\X191101.b\X110112.D

Date : 01-NOV-2019 15:09

Client ID: HS19101523-11

Instrument: voa6.i

Sample Info: HS19101523-11;HS19101523-11;;;

Purge Volume: 5.0

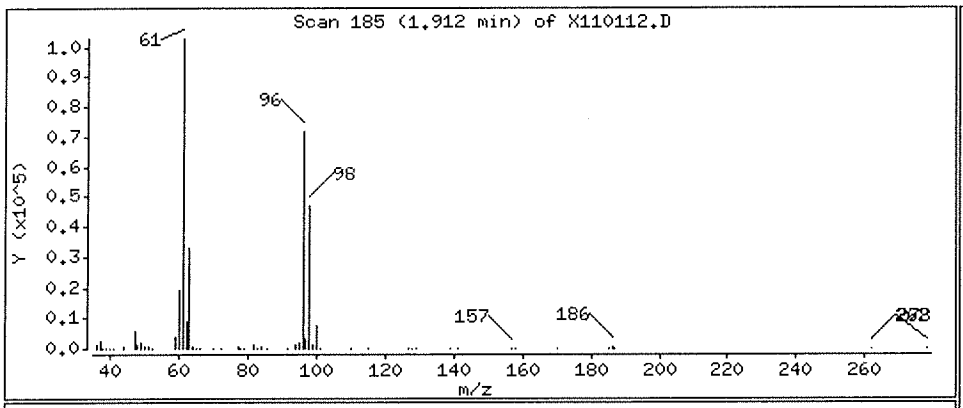
Operator: PC

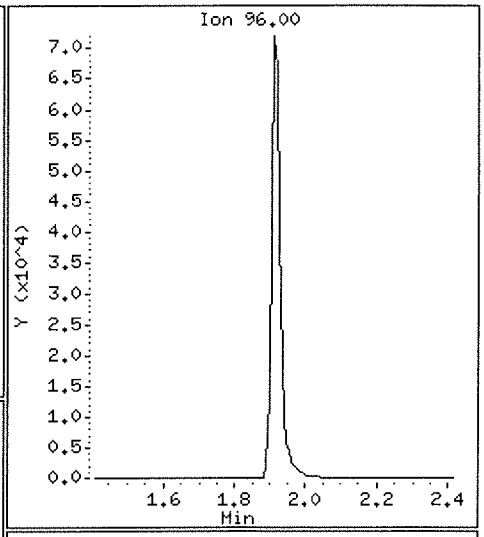
Column phase: DB624

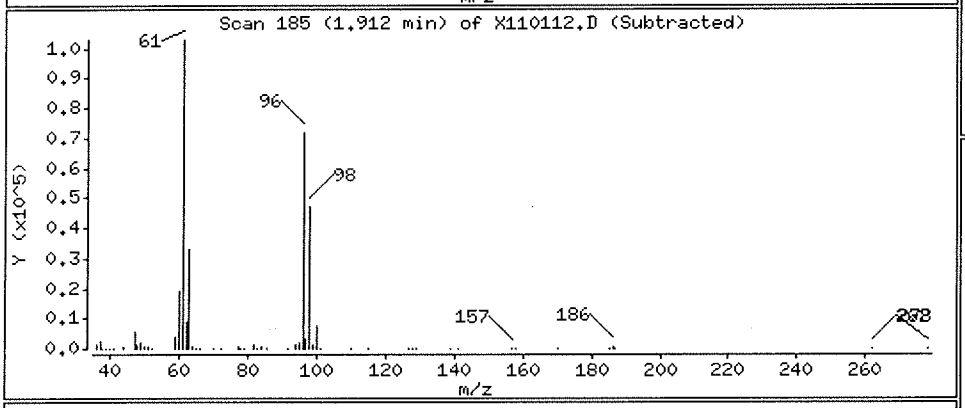
Column diameter: 0.18

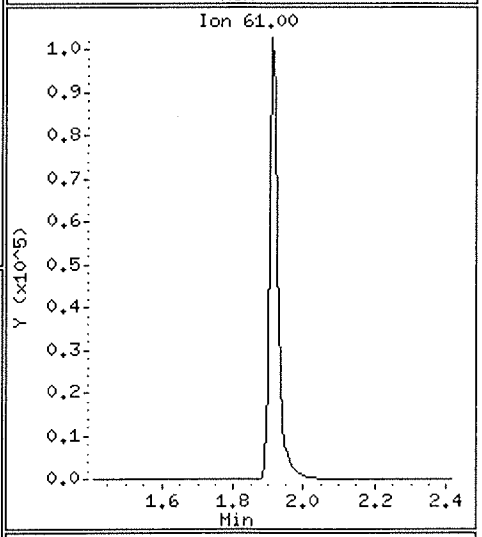
11 1,1-Dichloroethene

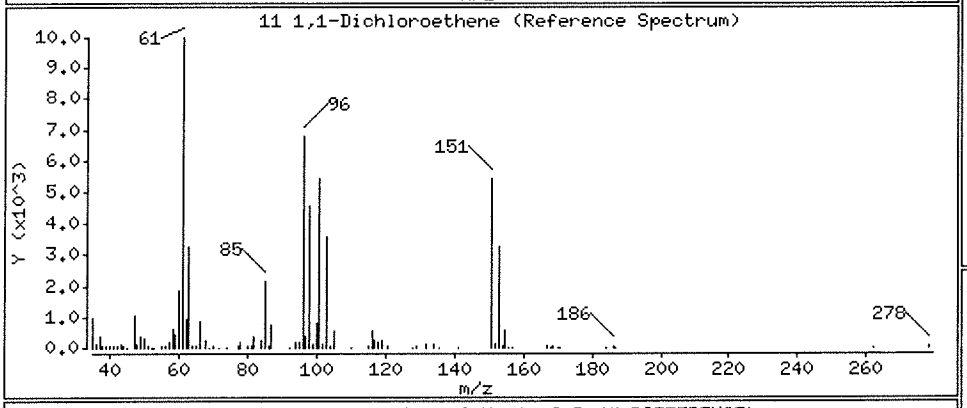
Concentration: 69.52 ug/l

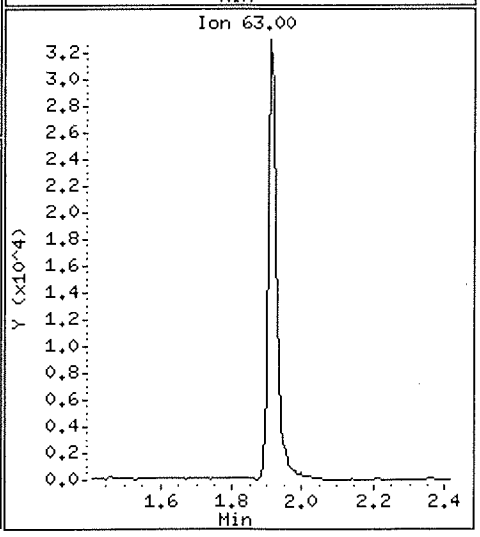


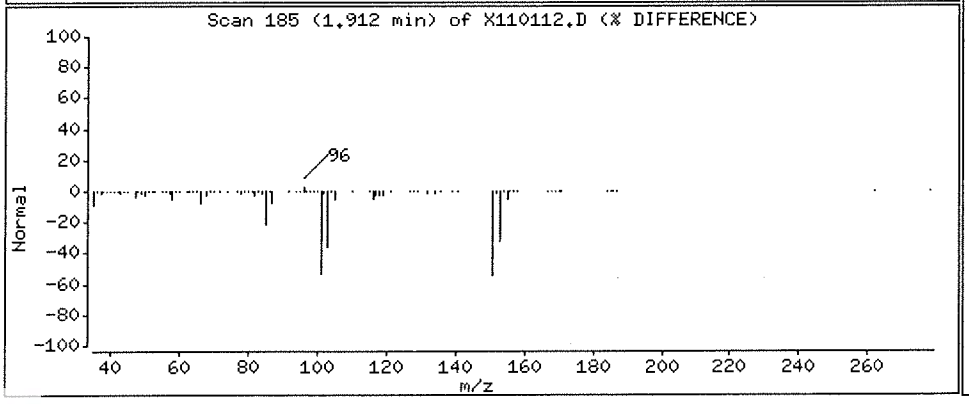












Data File: \\nahstws005\Target\chem\voa6.i\X191101.b\X110112.D Page 6

Date : 01-NOV-2019 15:09

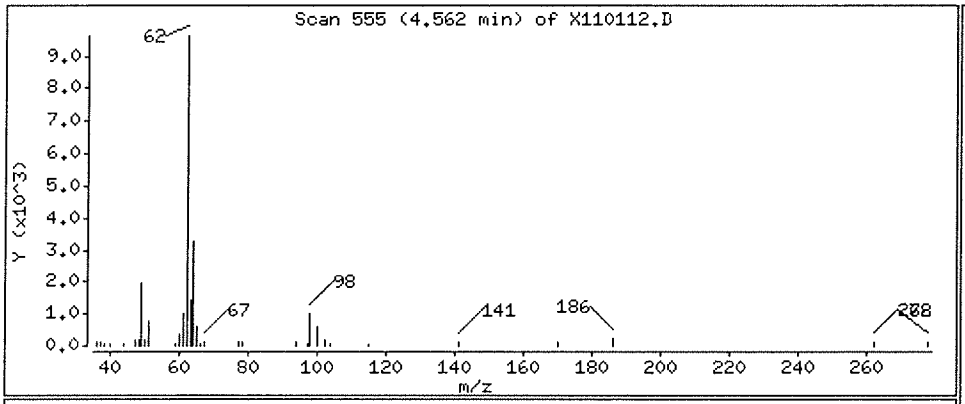
Client ID: HS19101523-11 Instrument: voa6.i

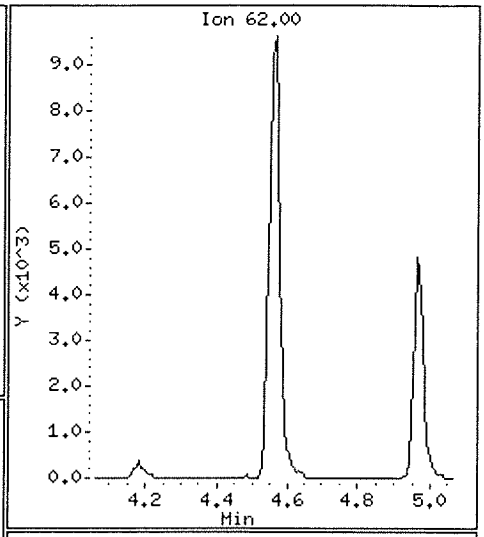
Sample Info: HS19101523-11;HS19101523-11;;;

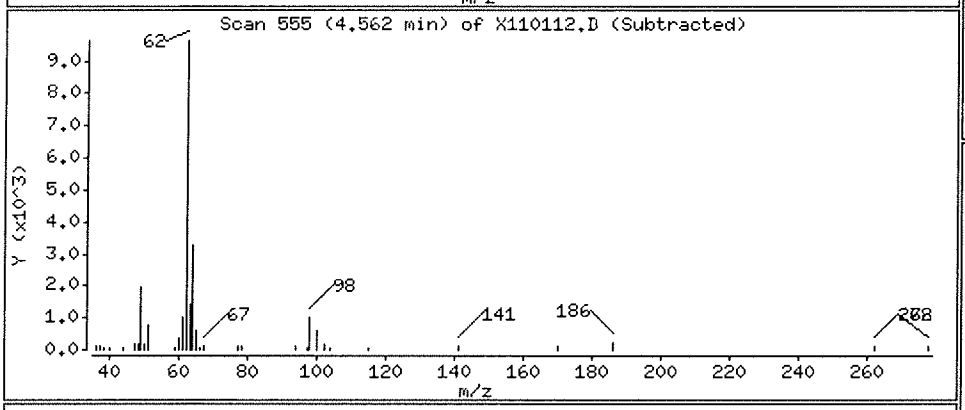
Purge Volume: 5.0 Operator: PC

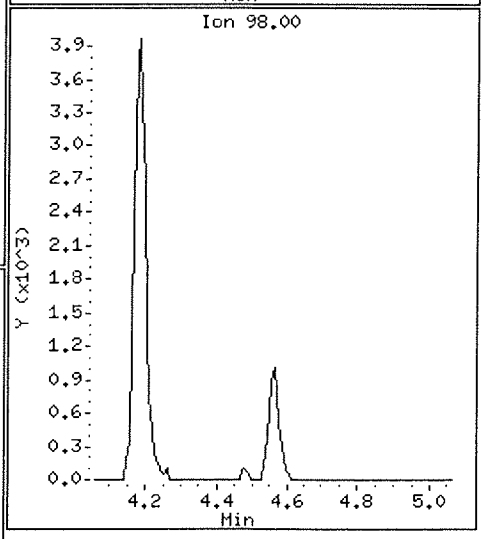
Column phase: DB624 Column diameter: 0.18

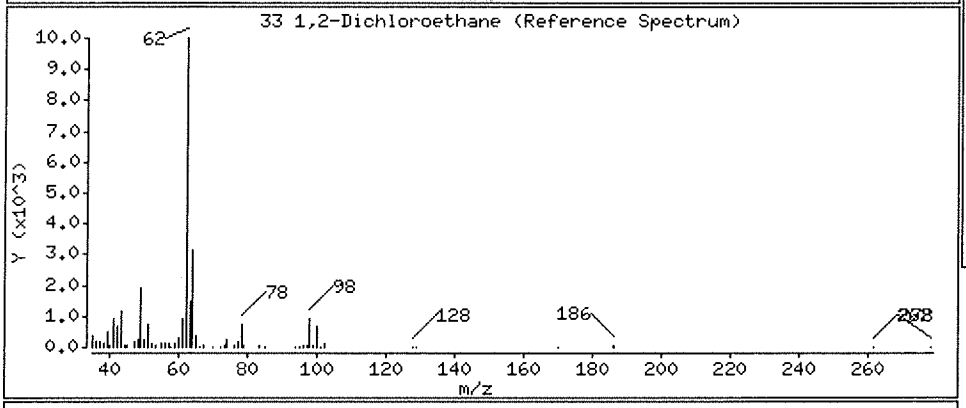
33 1,2-Dichloroethane Concentration: 7.55 ug/l

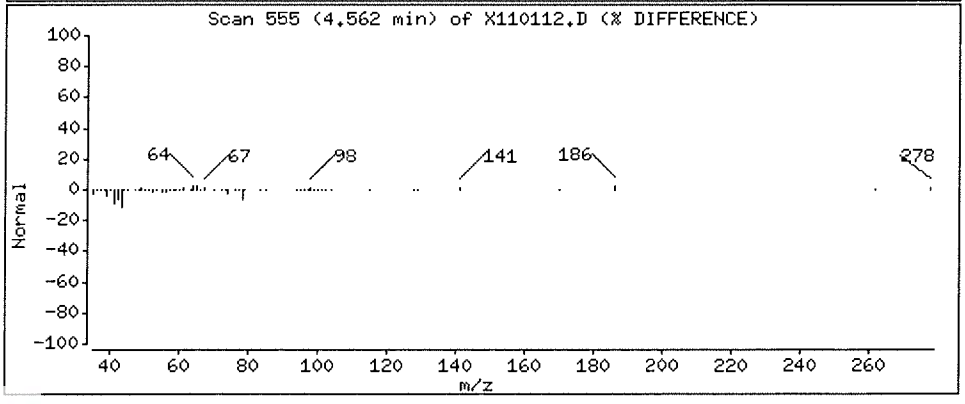












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Date : 01-NOV-2019 15:09

Client ID: HS19101523-11

Instrument: voa6.i

Sample Info: HS19101523-11;HS19101523-11;;;

Purge Volume: 5.0

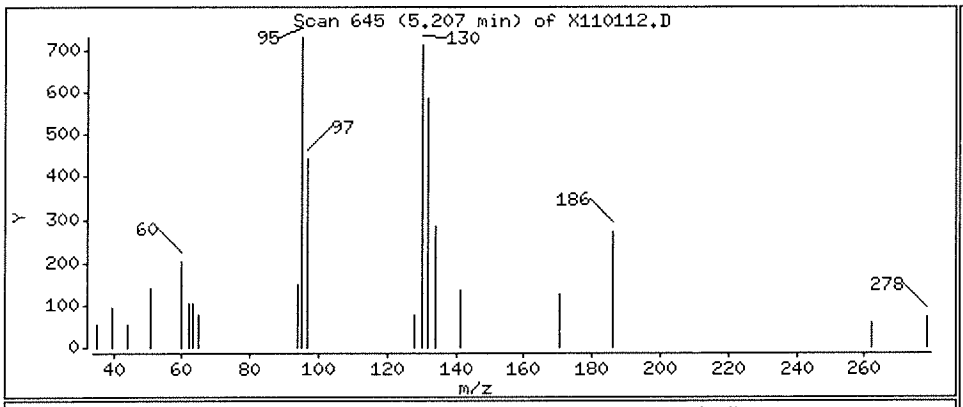
Operator: PC

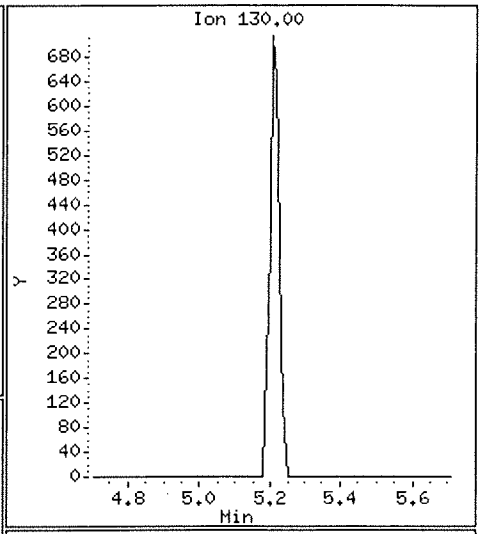
Column phase: DB624

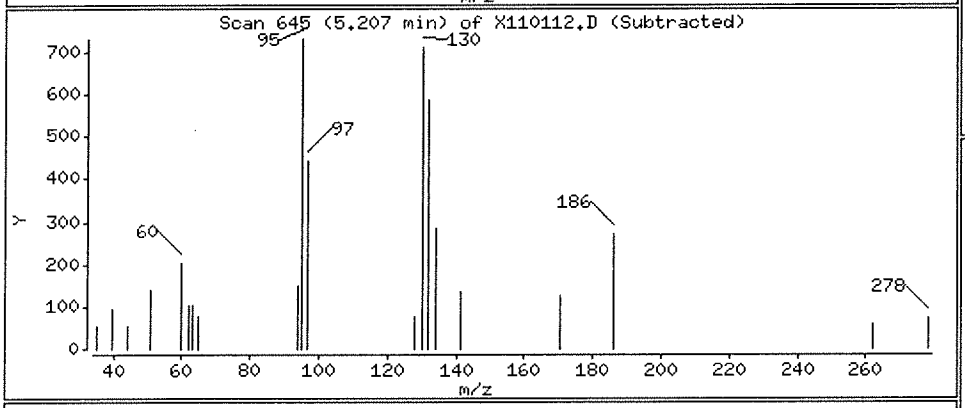
Column diameter: 0.18

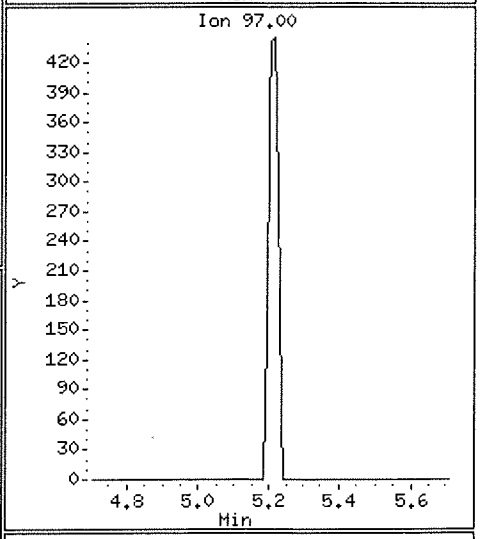
38 Trichloroethene

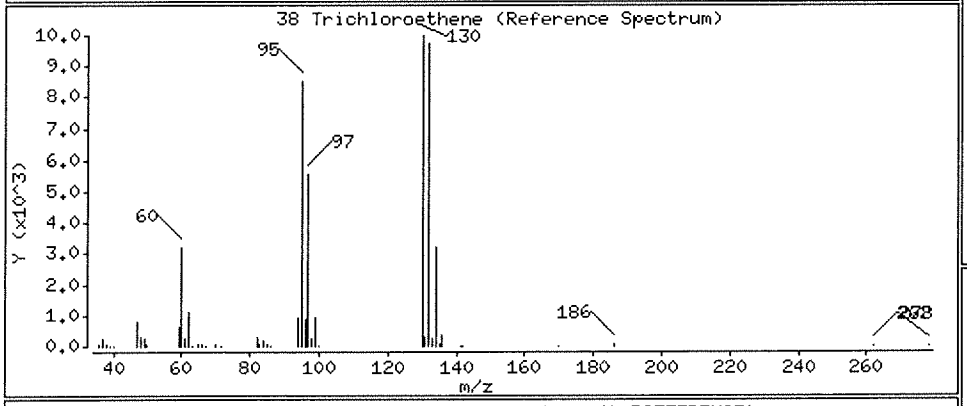
Concentration: 0.52 ug/l

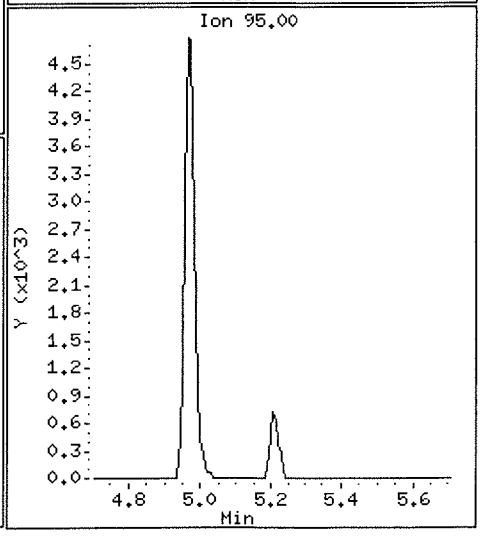


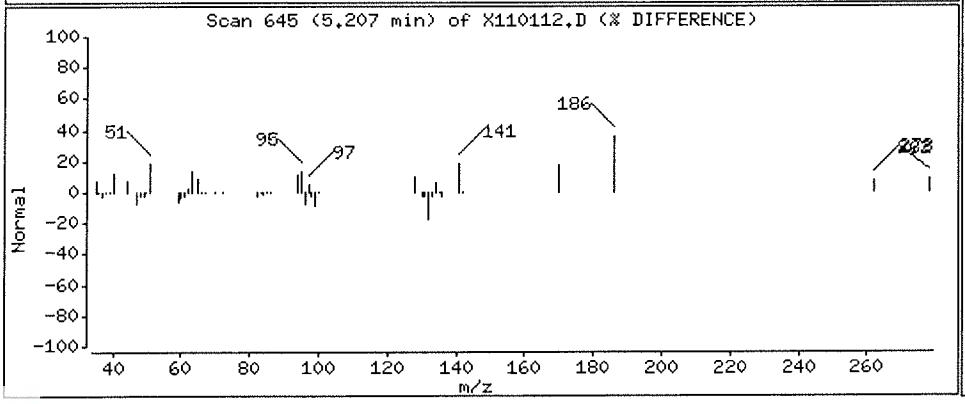












Data File: \\nahstws005\Target\chem\voa6.i\X191101.b\X110115.D Page 1
Report Date: 20-Nov-2019 14:41

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X191101.b\X110115.D
Lab Smp Id: HS19101523-07 Client Smp ID: HS19101523-07
Inj Date : 01-NOV-2019 16:21
Operator : PC Inst ID: voa6.i
Smp Info : HS19101523-07;HS19101523-07;;;
Misc Info : HS18090001;WATER;0;10;
Comment   :
Method   : \\nahstws005\Target\chem\voa6.i\X191101.b\8260W.m
Meth Date : 20-Nov-2019 14:41 voa6.i Quant Type: ISTD
Cal Date : 31-OCT-2019 13:56 Cal File: X103108.D
Als bottle: 15
Dil Factor: 10.00000
Integrator: HP RTE Compound Sublist: CBIHOUSTONDOD.sub
Target Version: 4.14

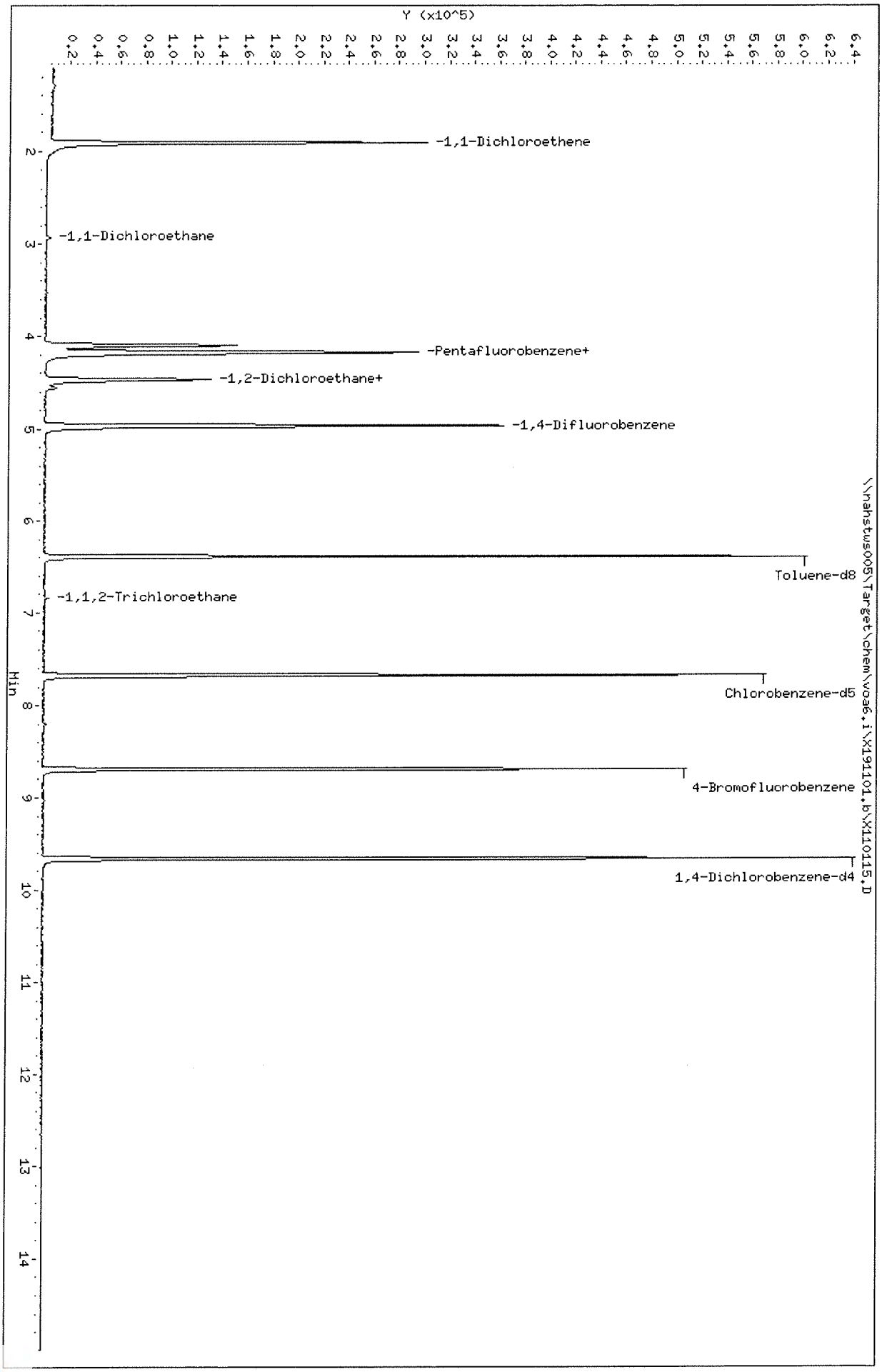
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	10.000	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)	280600	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	331533	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.670	(1.000)	291209	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.669	(1.000)	167815	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	106664	45.0795	45.07
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	137054	50.0889	50.08
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	102675	45.9545	45.95
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	368655	50.9525	50.95
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	882	0.66651	6.66(a)
22 1,1-Dichloroethane	63	2.922	2.921	(0.699)	4292	1.36635	13.66(a)
11 1,1-Dichloroethene	96	1.912	1.911	(0.457)	113850	63.8166	638.16
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	7709	2.86810	28.68(a)

QC Flag Legend

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



Data File: \\nahstws005\Target\chem\voa6.i\X191101.b\X110115.D
Date : 01-NOV-2019 16:21
Client ID: HS19101523-07
Sample Info: HS19101523-07;HS19101523-07;;;
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\nahstws005\Target\chem\voa6.i\X191101.b\X110115.D Page 3

Date : 01-NOV-2019 16:21

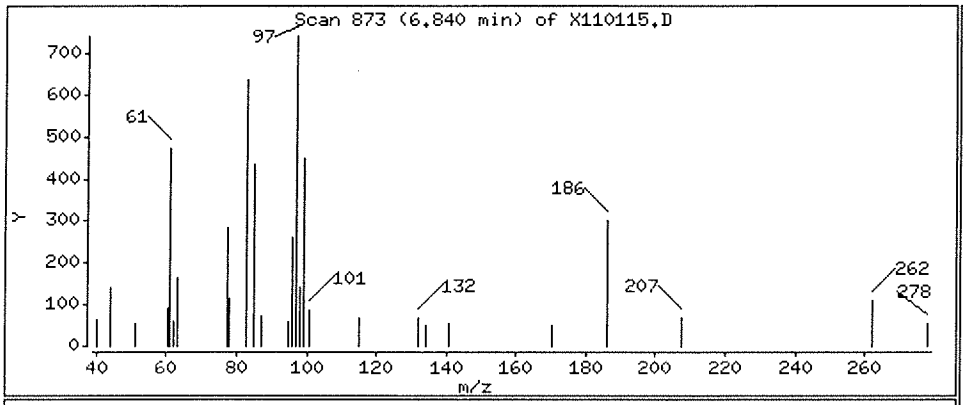
Client ID: HS19101523-07 Instrument: voa6.i

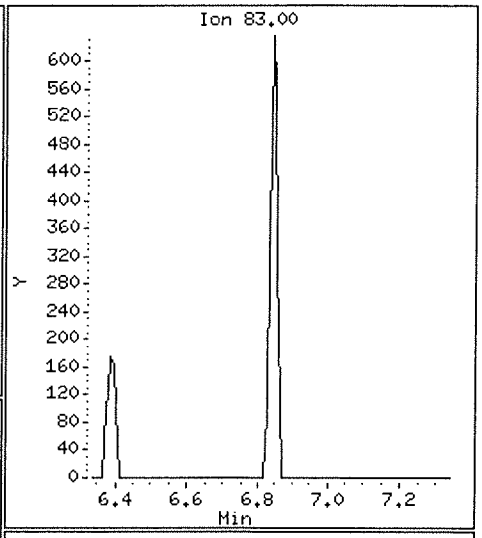
Sample Info: HS19101523-07;HS19101523-07;;;

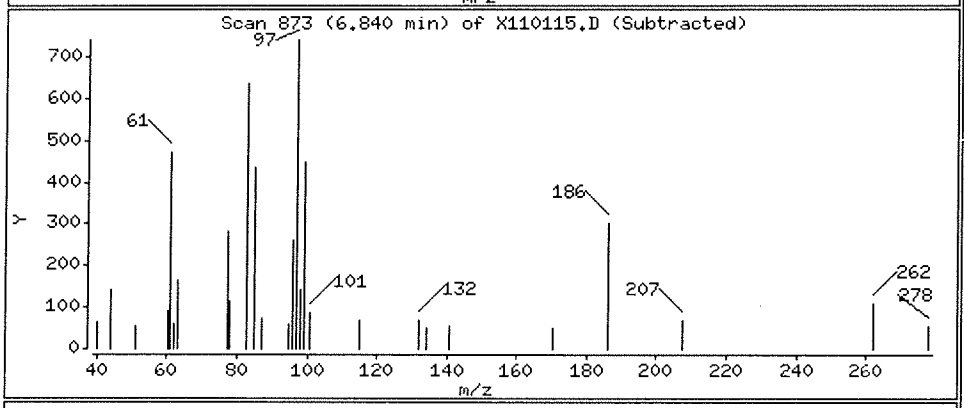
Purge Volume: 5.0 Operator: PC

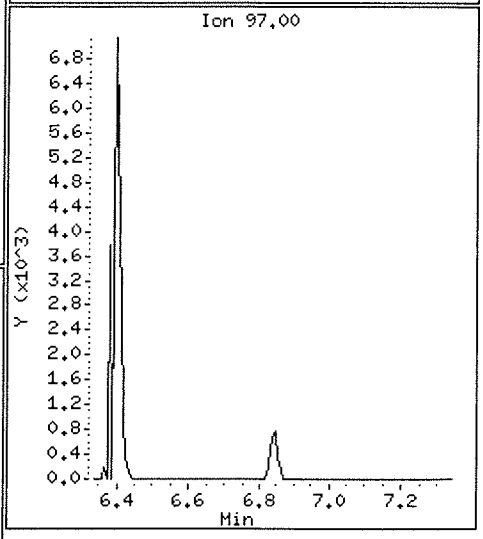
Column phase: DB624 Column diameter: 0.18

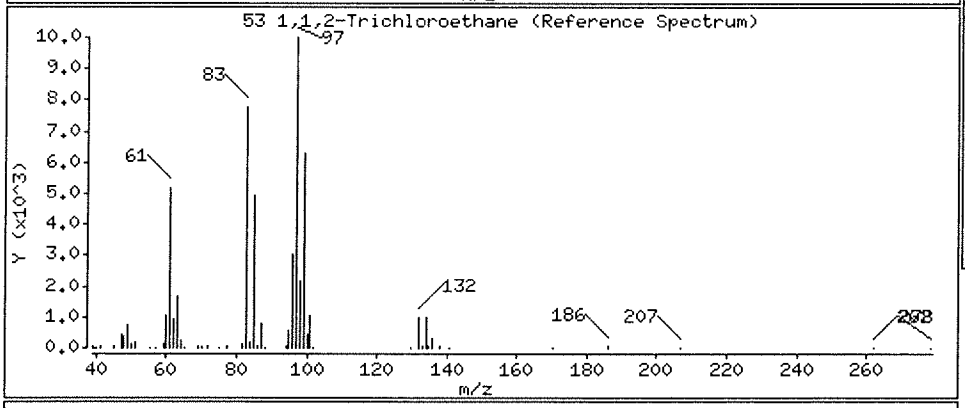
53 1,1,2-Trichloroethane Concentration: 6.66 ug/l

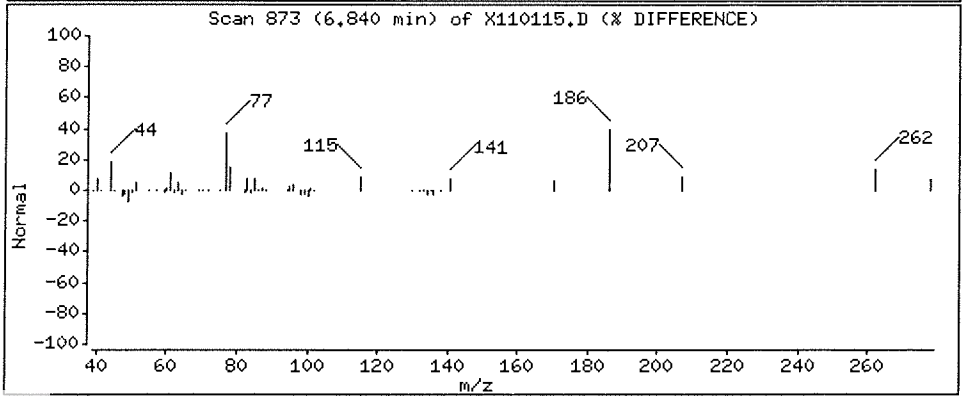












Data File: \\nahstws005\Target\chem\voa6.i\X191101.b\X110115.D Page 4

Date : 01-NOV-2019 16:21

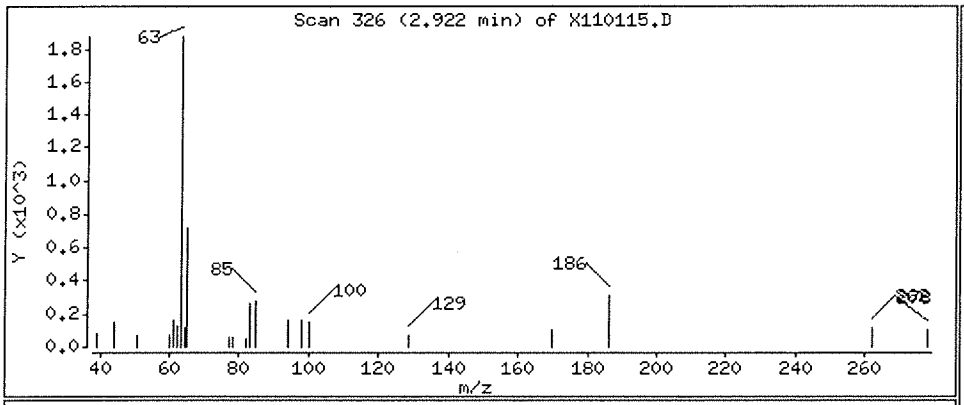
Client ID: HS19101523-07 Instrument: voa6.i

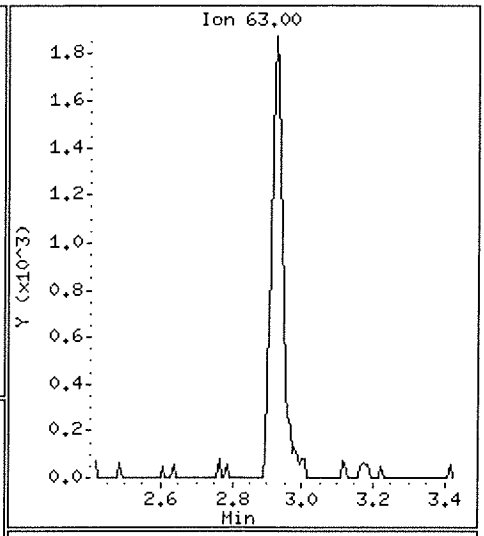
Sample Info: HS19101523-07;HS19101523-07;;;

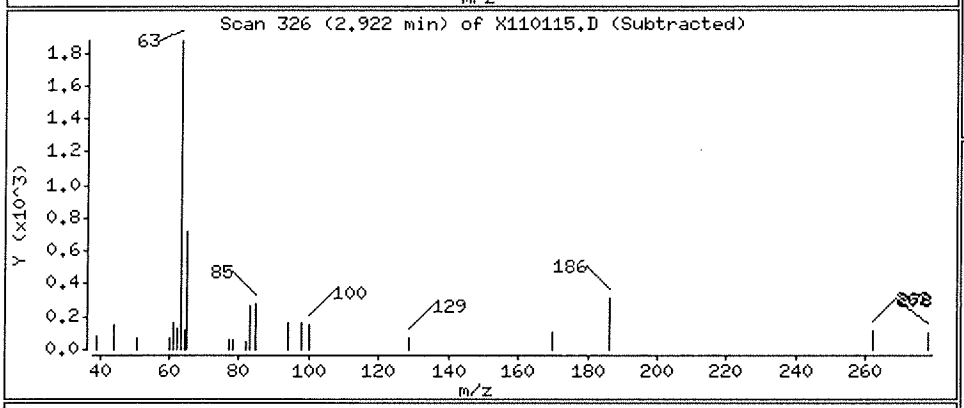
Purge Volume: 5.0 Operator: PC

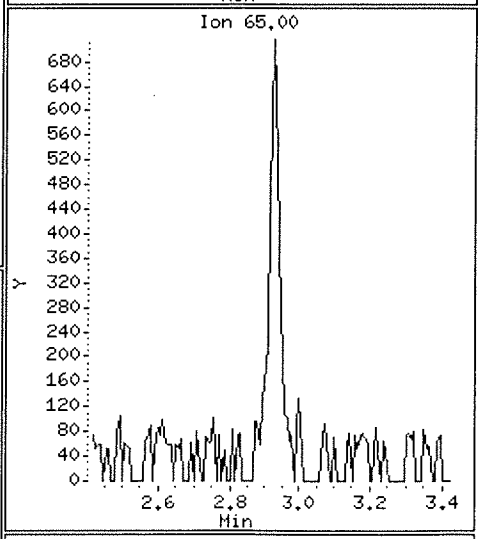
Column phase: DB624 Column diameter: 0.18

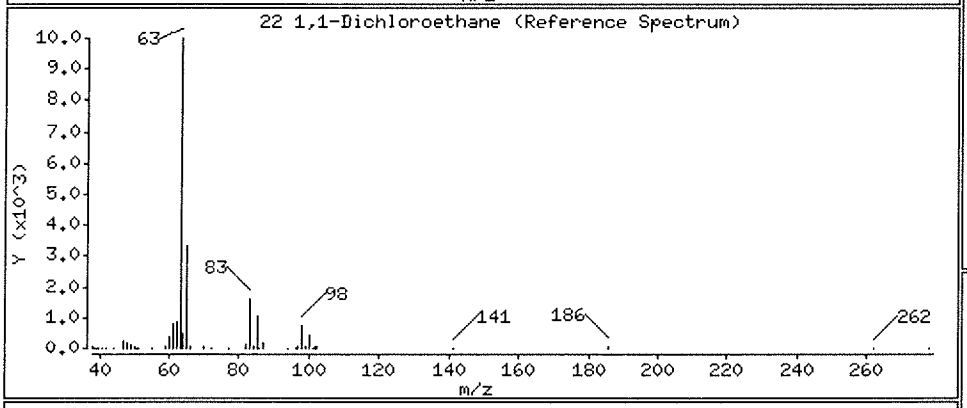
22 1,1-Dichloroethane Concentration: 13.66 ug/l

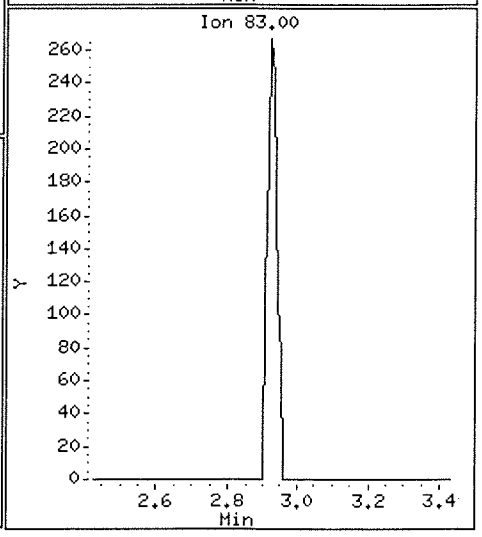


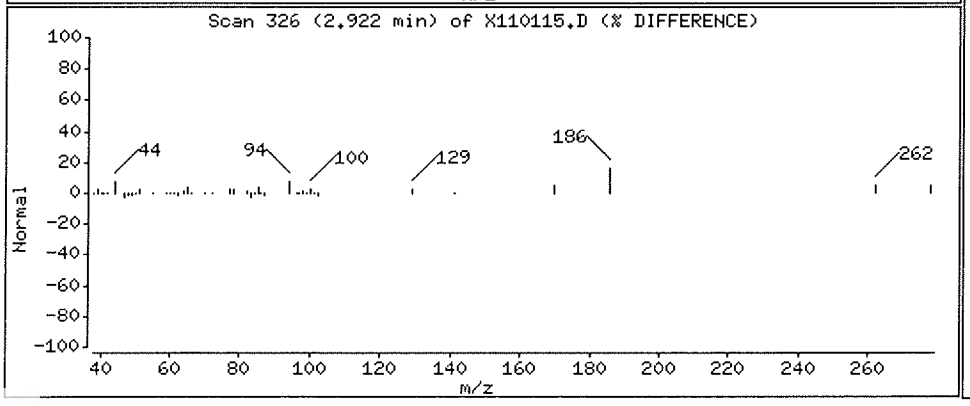












Data File: \\nahstws005\Target\chem\voa6.i\X191101.b\X110115.D Page 5

Date : 01-NOV-2019 16:21

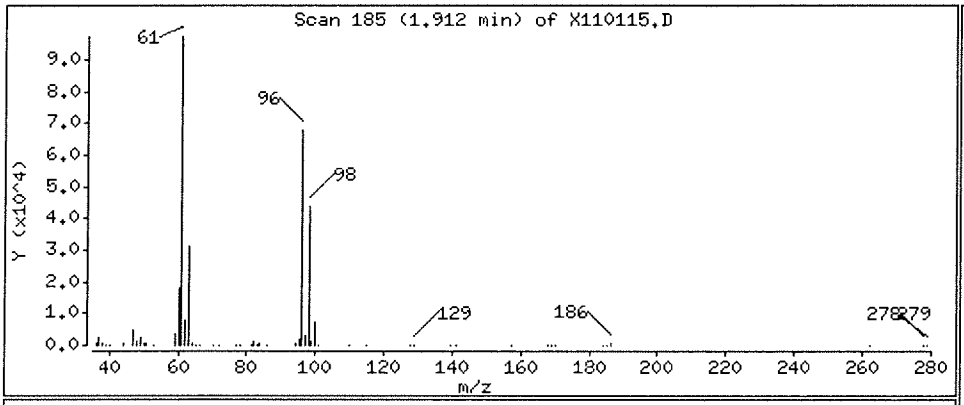
Client ID: HS19101523-07 Instrument: voa6.i

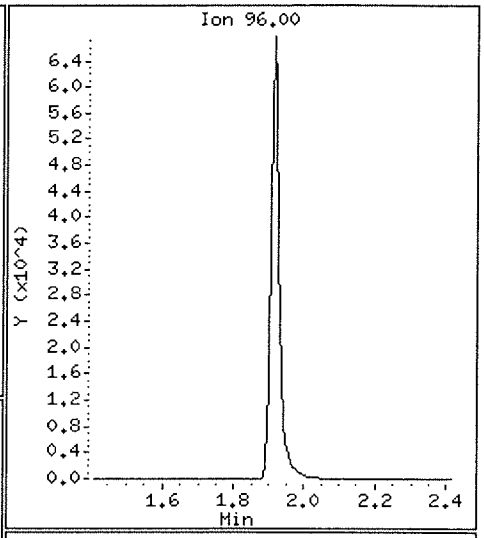
Sample Info: HS19101523-07;HS19101523-07;;;

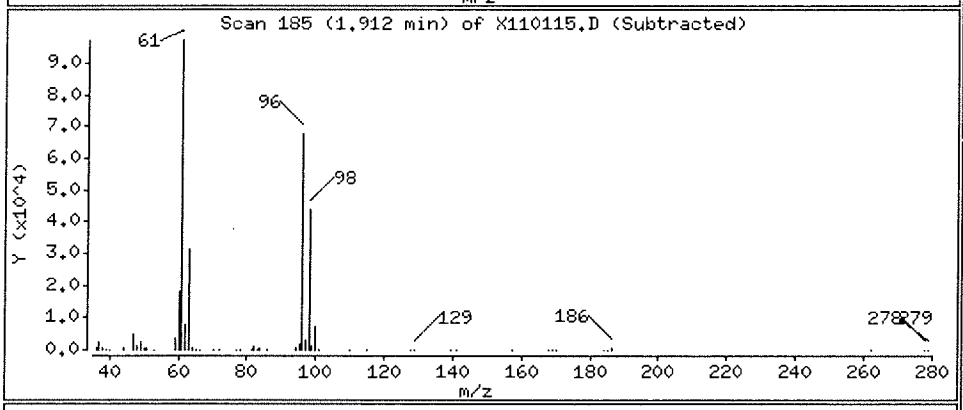
Purge Volume: 5.0 Operator: PC

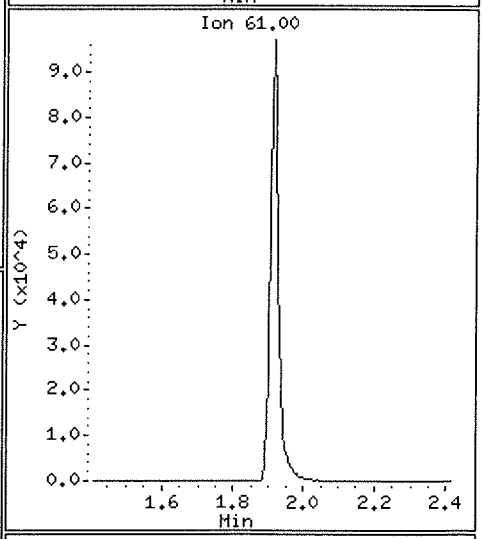
Column phase: DB624 Column diameter: 0.18

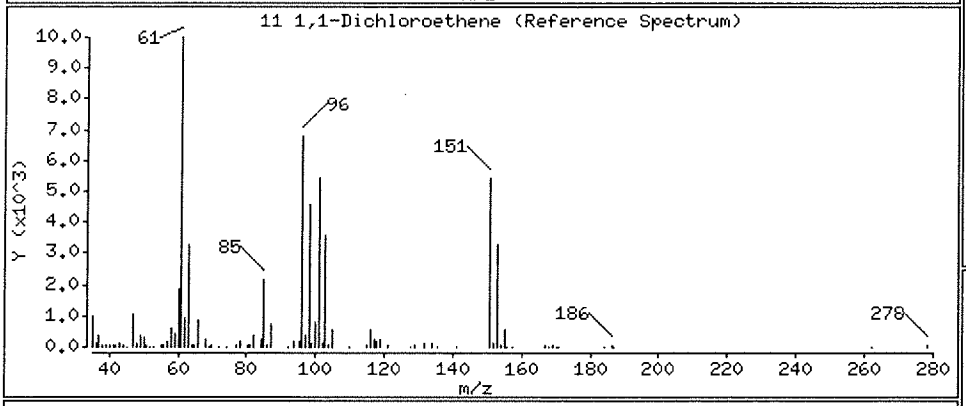
11 1,1-Dichloroethene Concentration: 638.16 ug/l

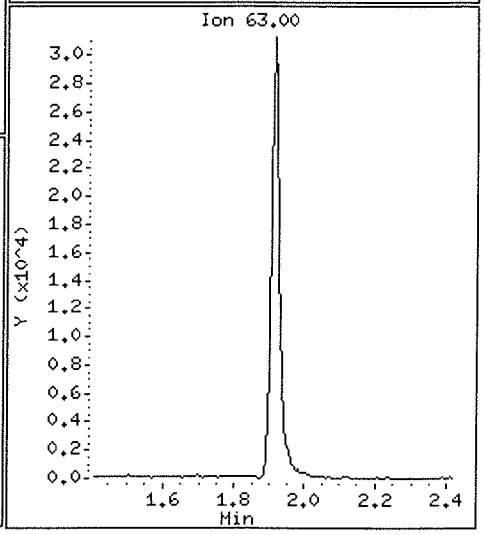


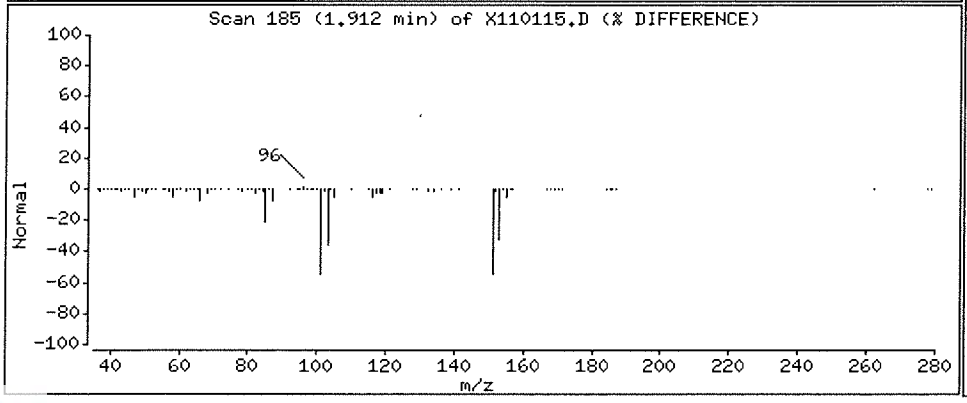












Data File: \\nahstws005\Target\chem\voa6.i\X191101.b\X110115.D

Date : 01-NOV-2019 16:21

Client ID: HS19101523-07

Instrument: voa6.i

Sample Info: HS19101523-07;HS19101523-07;;;

Purge Volume: 5.0

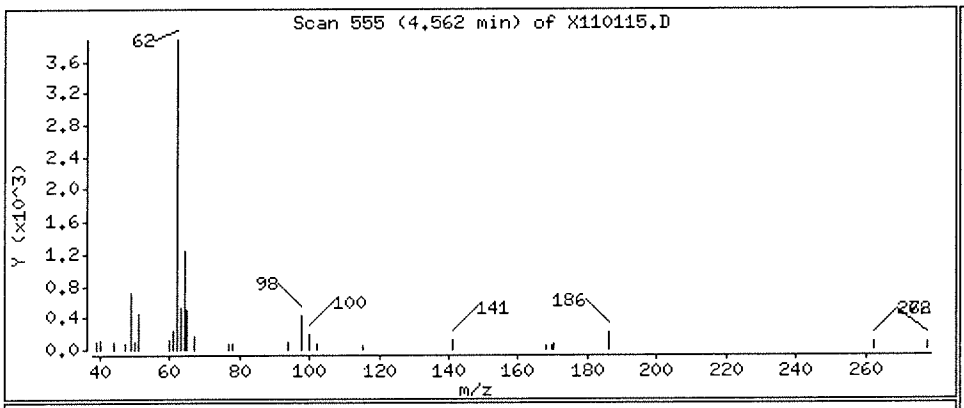
Operator: PC

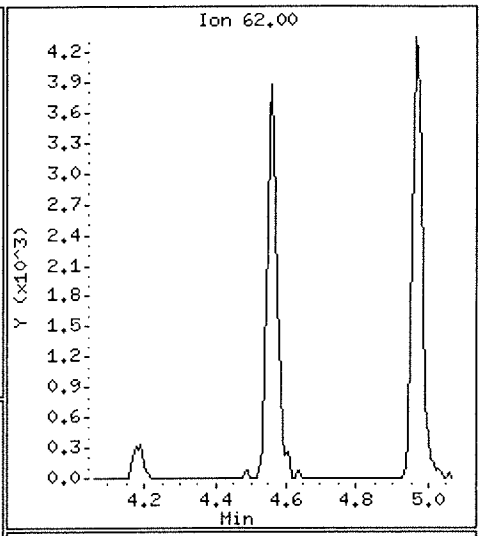
Column phase: DB624

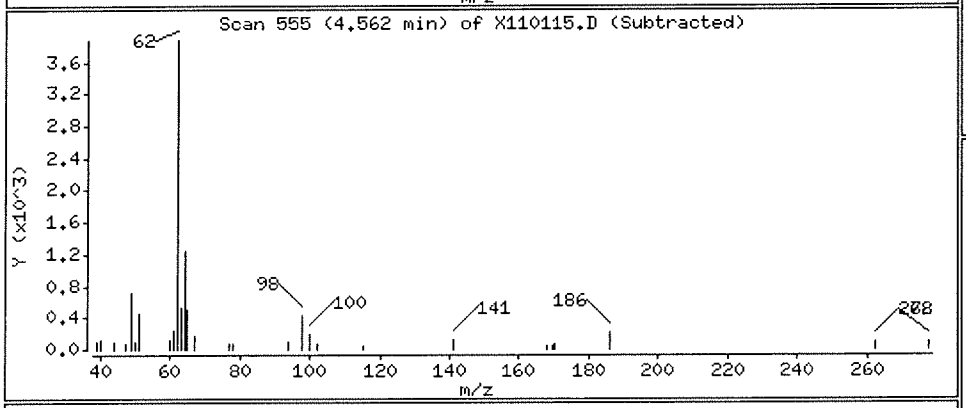
Column diameter: 0.18

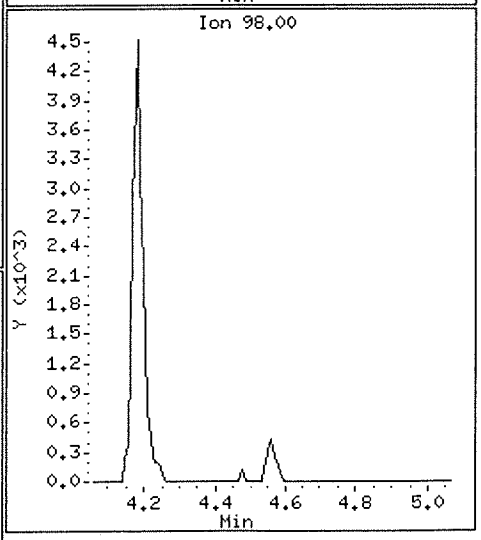
33 1,2-Dichloroethane

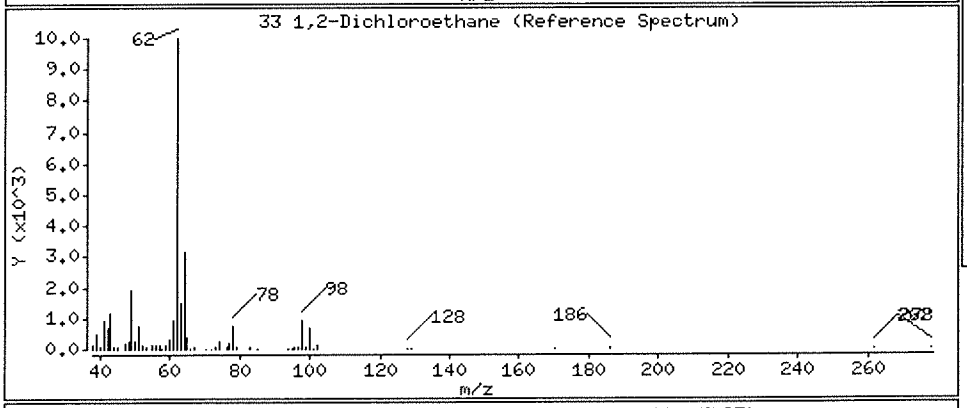
Concentration: 28.68 ug/l

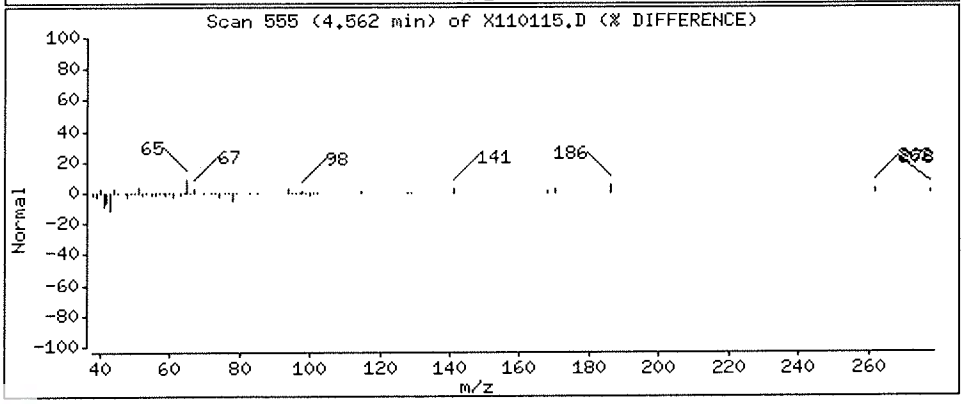












Data File: \\nahstws005\Target\chem\voa6.i\X191101.b\X110116.D Page 1
Report Date: 20-Nov-2019 14:41

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X191101.b\X110116.D
Lab Smp Id: HS19101523-07 Client Smp ID: HS19101523-07
Inj Date : 01-NOV-2019 16:45
Operator : PC Inst ID: voa6.i
Smp Info : HS19101523-07;HS19101523-07;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X191101.b\8260W.m
Meth Date : 20-Nov-2019 14:41 voa6.i Quant Type: ISTD
Cal Date : 31-OCT-2019 13:56 Cal File: X103108.D
Als bottle: 16
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBIHOUSTONDOD.sub
Target Version: 4.14

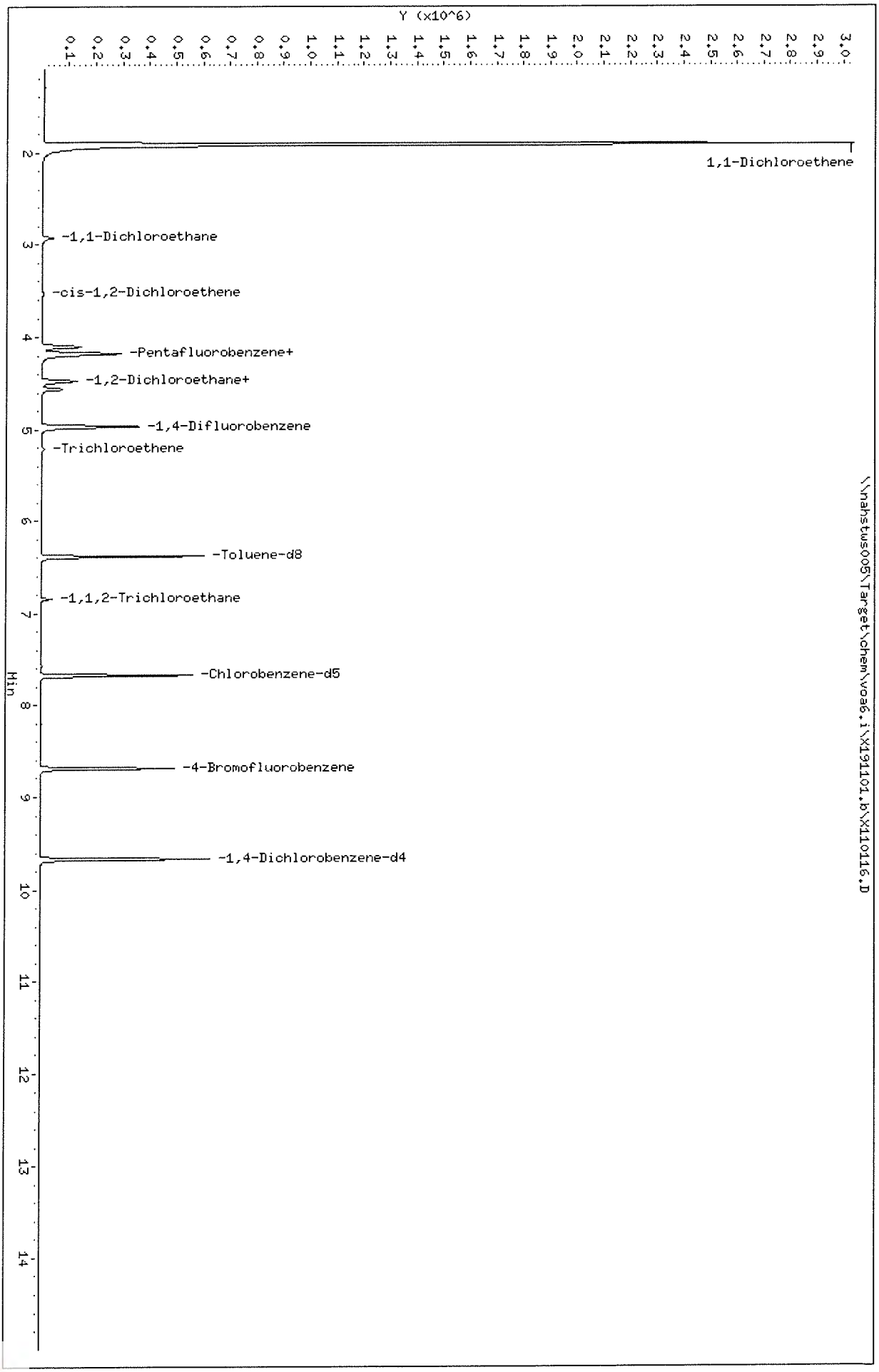
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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)	277213	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	329565	50.0000	
* 47 Chlorobenzene-d5	117	7.670	7.670	(1.000)	292806	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	169779	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	104368	44.6528	44.65
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	138131	50.2086	50.20
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	101118	45.8121	45.81
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	369256	50.7572	50.75
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	8466	6.36272	6.36
22 1,1-Dichloroethane	63	2.921	2.921	(0.699)	40537	13.0626	13.06
11 1,1-Dichloroethene	96	1.911	1.911	(0.457)	1178625	668.730	668.72(A)
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	72485	27.1287	27.12
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	3873	1.74889	1.74(a)
38 Trichloroethene	130	5.206	5.206	(1.048)	3794	1.54288	1.54(a)

QC Flag Legend

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



Data File: \\nahstws005\Target\chem\voa6.i\X191101.b\X110116.D
Date : 01-NOV-2019 16:45
Client ID: HS19101523-07
Sample Info: HS191101523-07;HS191101523-07;;;
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\nahstws005\Target\chem\voa6.i\X191101.b\X110116.D

Date : 01-NOV-2019 16:45

Client ID: HS19101523-07

Instrument: voa6.i

Sample Info: HS19101523-07;HS19101523-07;;;

Purge Volume: 5.0

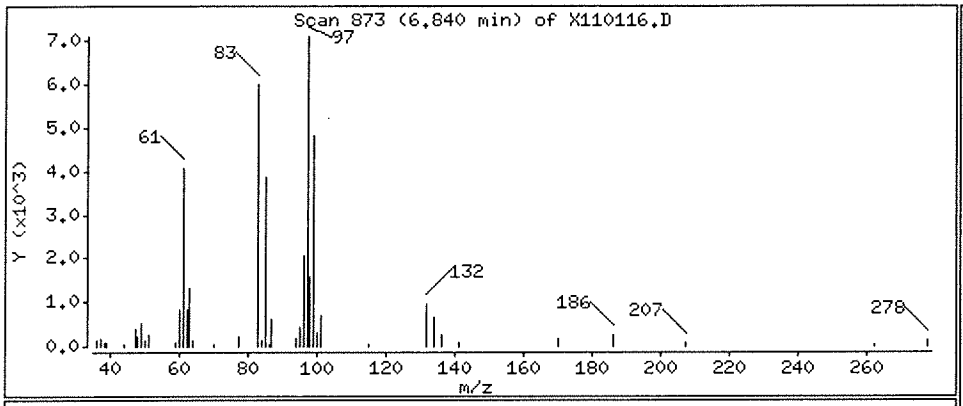
Operator: PC

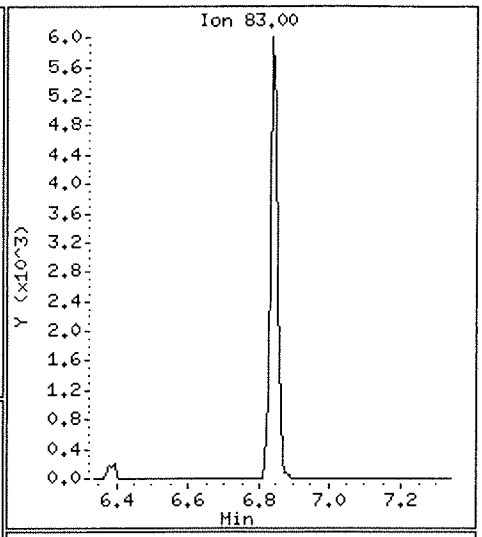
Column phase: DB624

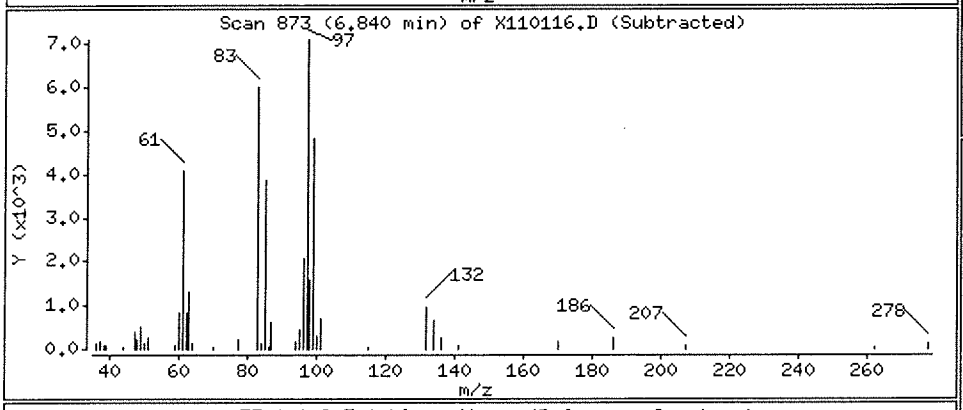
Column diameter: 0.18

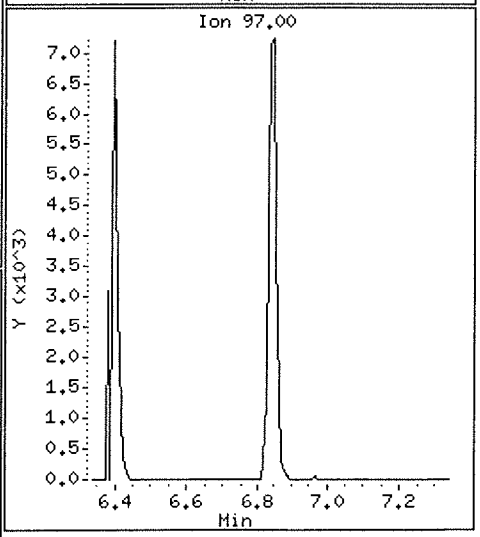
53 1,1,2-Trichloroethane

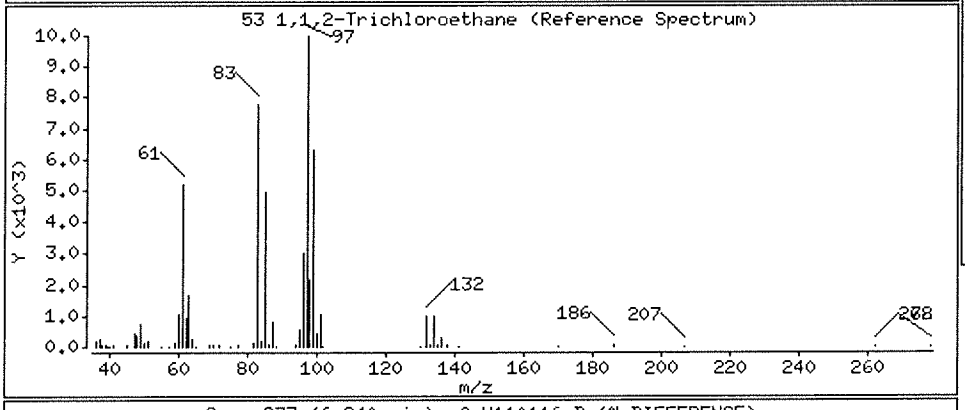
Concentration: 6.36 ug/l

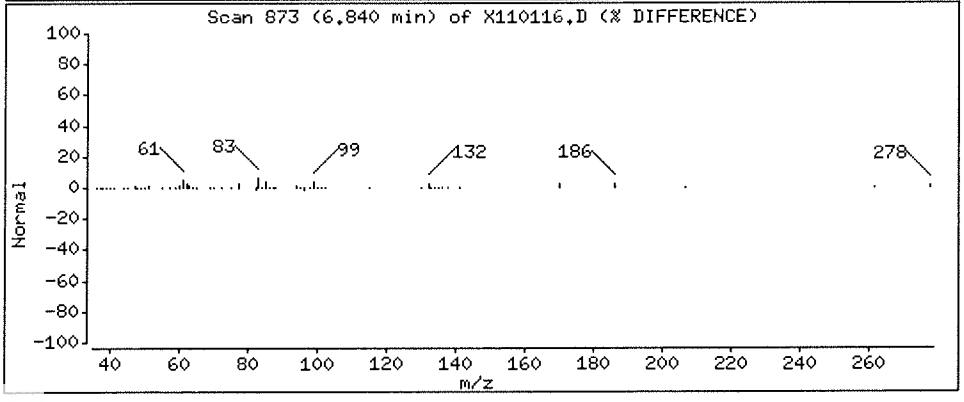












Data File: \\nahstws005\Target\chem\voa6.i\X191101.b\X110116.D Page 4

Date : 01-NOV-2019 16:45

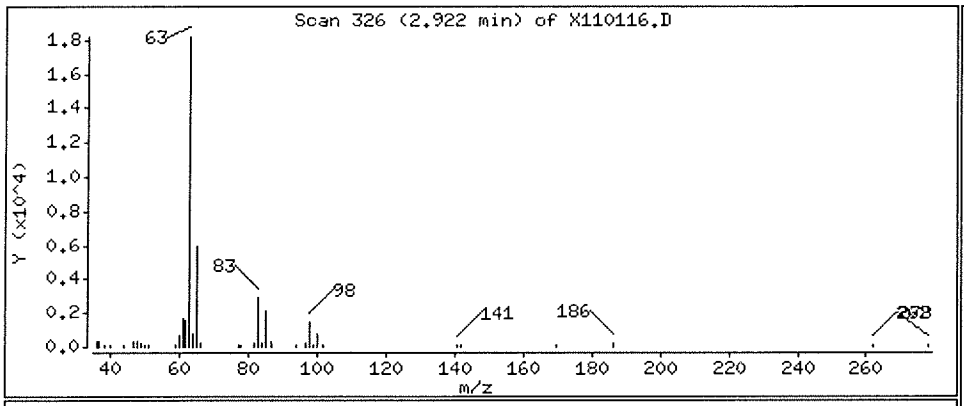
Client ID: HS19101523-07 Instrument: voa6.i

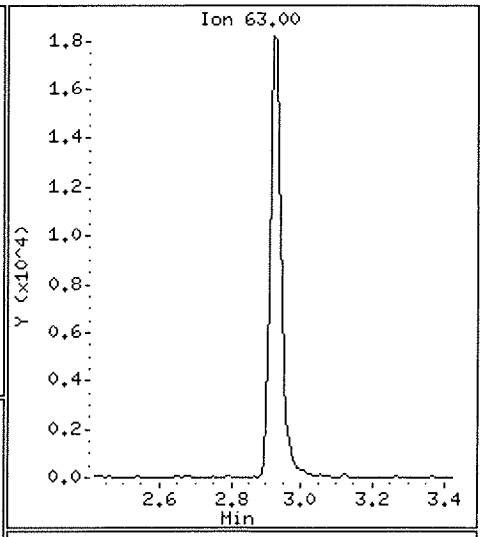
Sample Info: HS19101523-07;HS19101523-07;;;

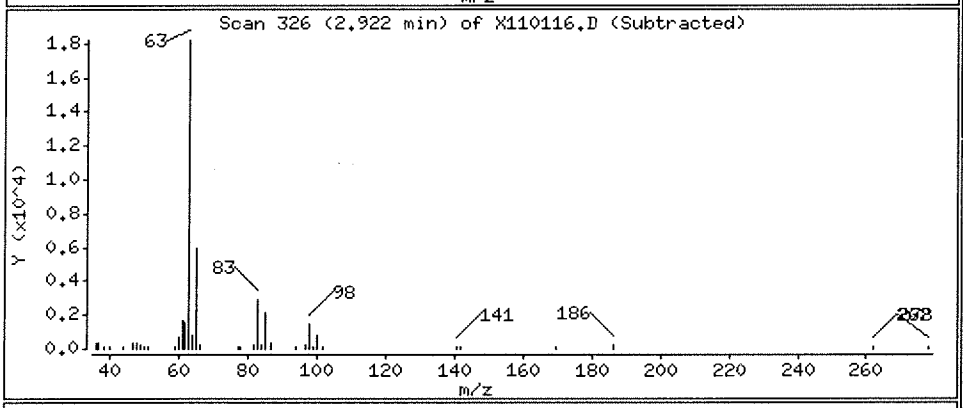
Purge Volume: 5.0 Operator: PC

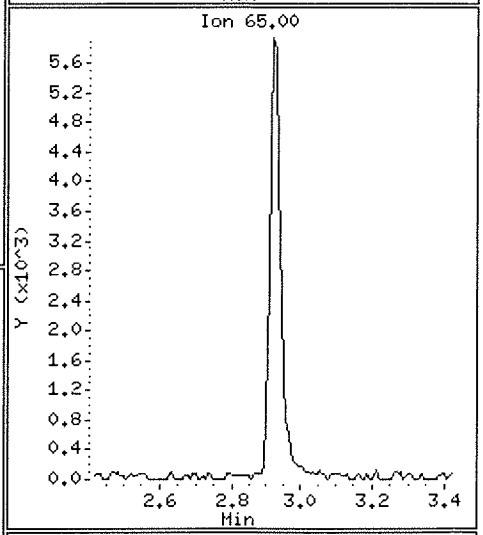
Column phase: DB624 Column diameter: 0.18

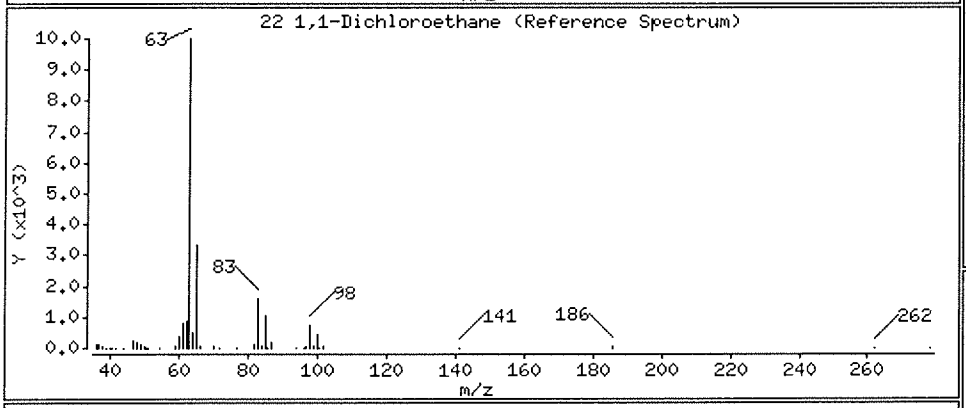
22 1,1-Dichloroethane Concentration: 13.06 ug/l

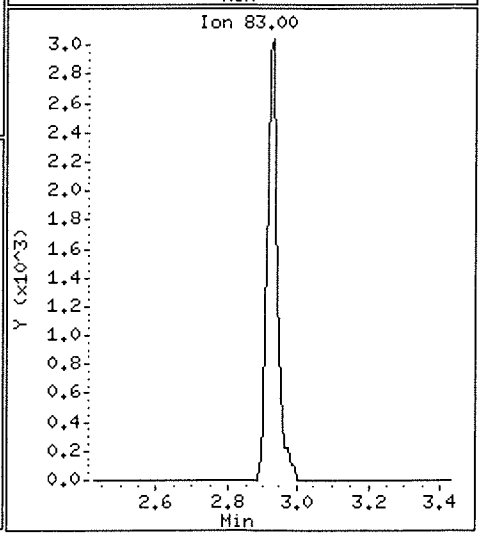


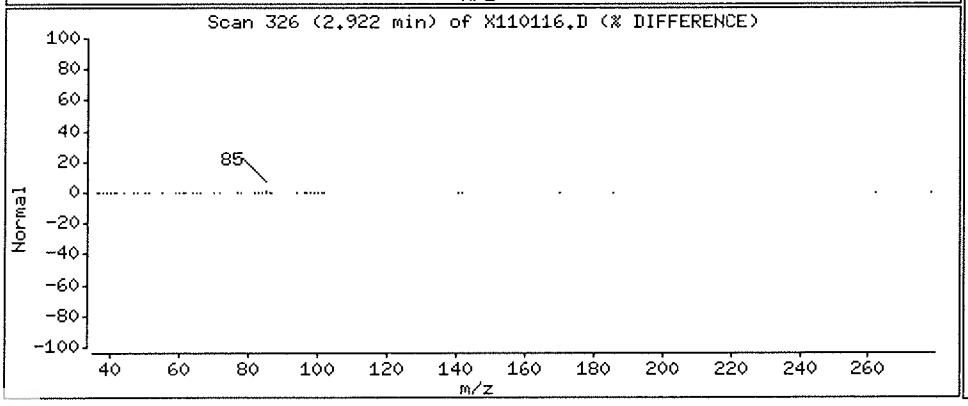












Data File: \\nahstws005\Target\chem\voa6.i\X191101.b\X110116.D Page 5

Date : 01-NOV-2019 16:45

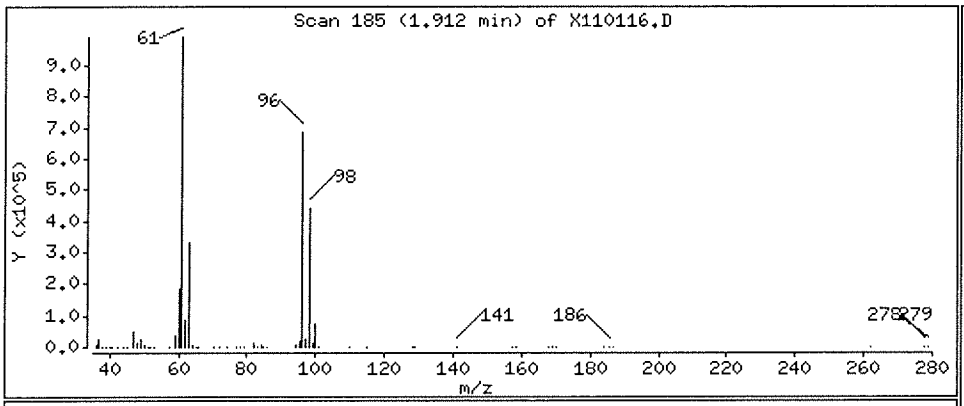
Client ID: HS19101523-07 Instrument: voa6.i

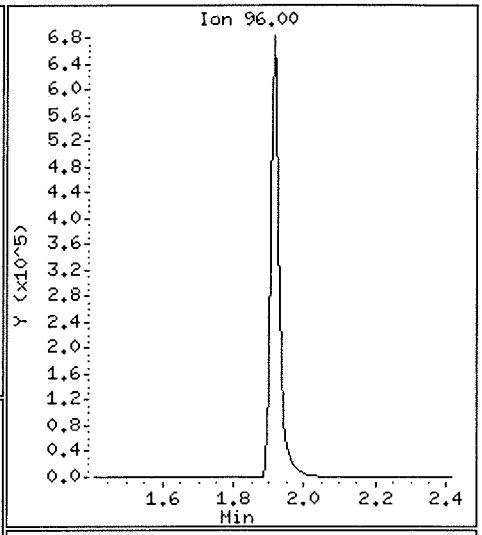
Sample Info: HS19101523-07;HS19101523-07;;;

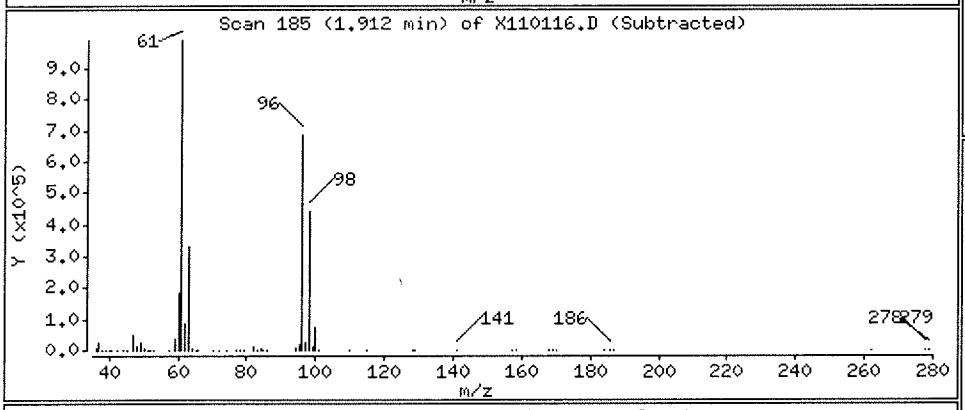
Purge Volume: 5.0 Operator: PC

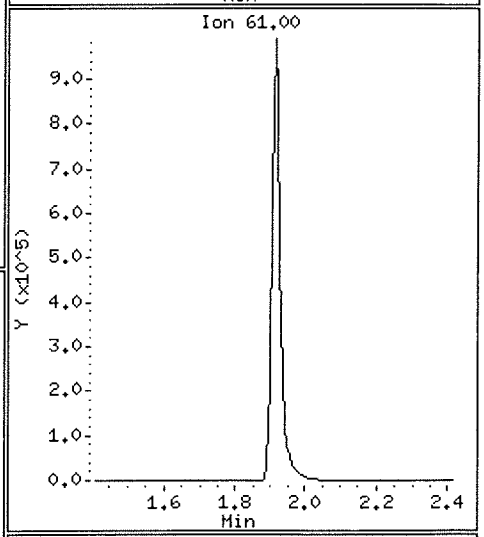
Column phase: DB624 Column diameter: 0.18

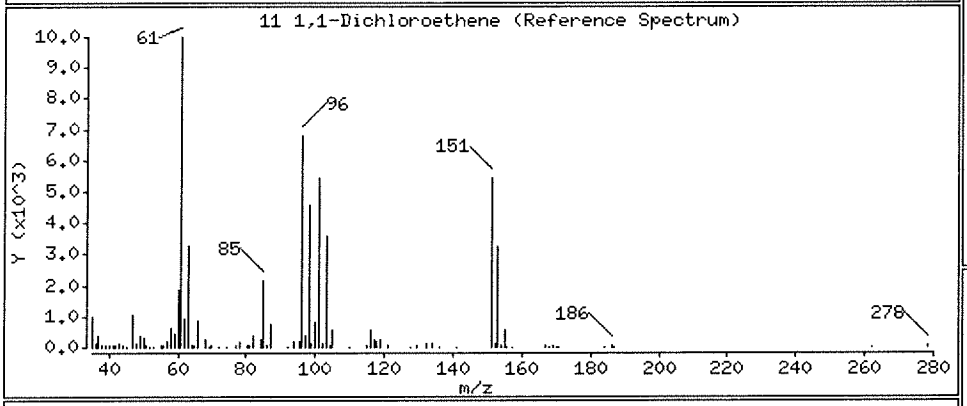
11 1,1-Dichloroethene Concentration: 668.72 ug/l

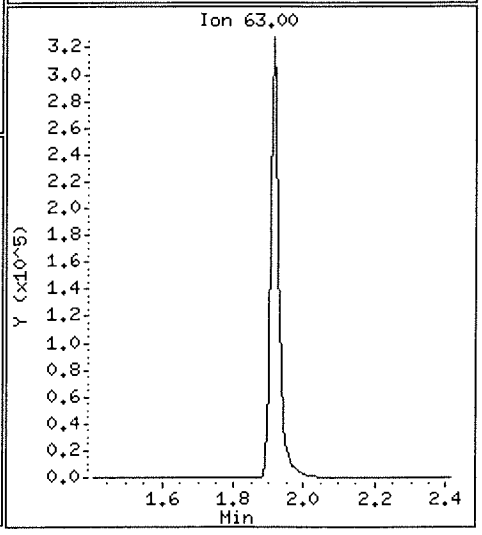


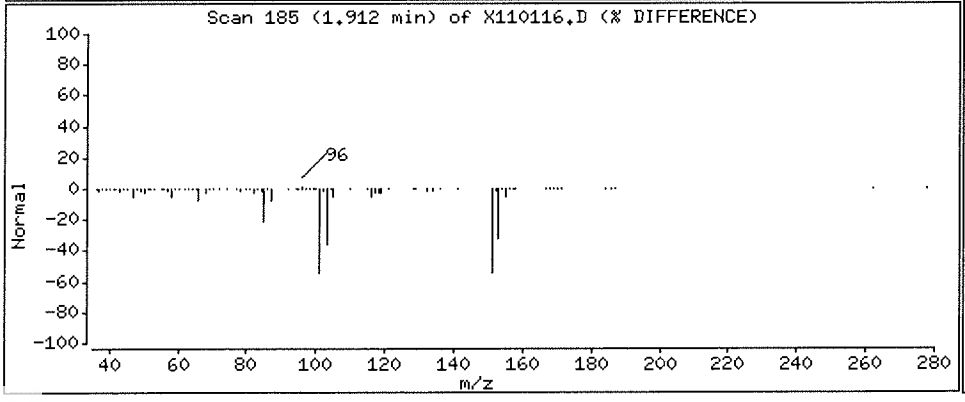












Data File: \\nahstws005\Target\chem\voa6.i\X191101.b\X110116.D Page 6

Date : 01-NOV-2019 16:45

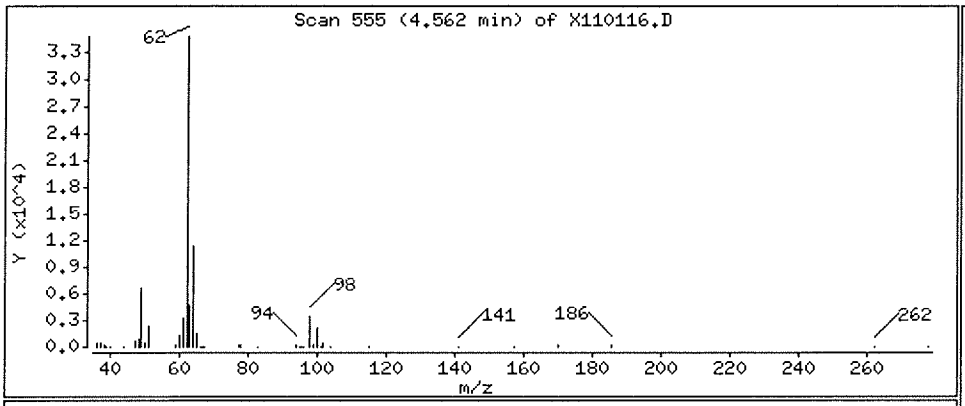
Client ID: HS19101523-07 Instrument: voa6.i

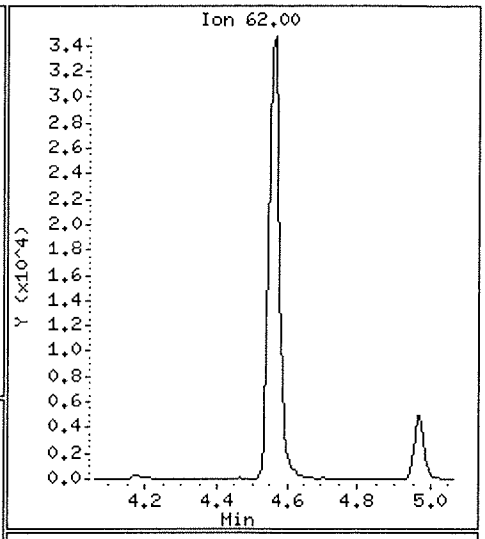
Sample Info: HS19101523-07;HS19101523-07;;;

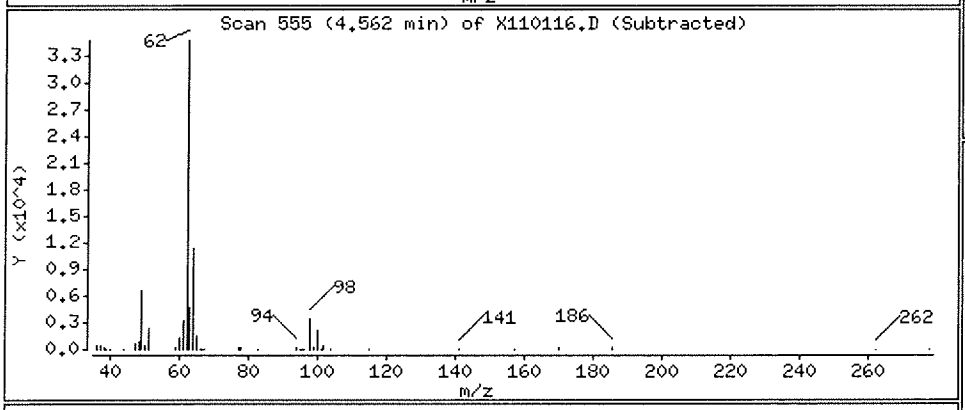
Purge Volume: 5.0 Operator: PC

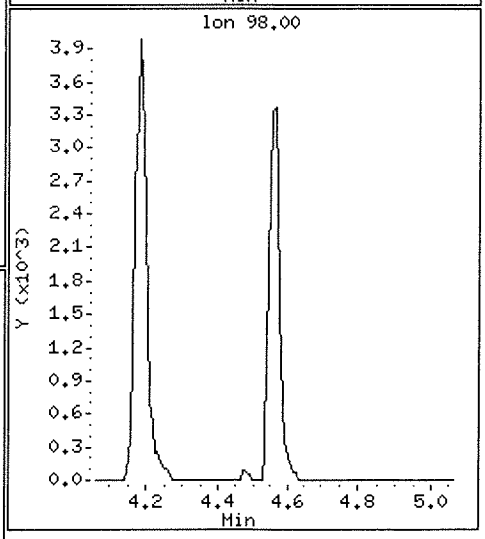
Column phase: DB624 Column diameter: 0.18

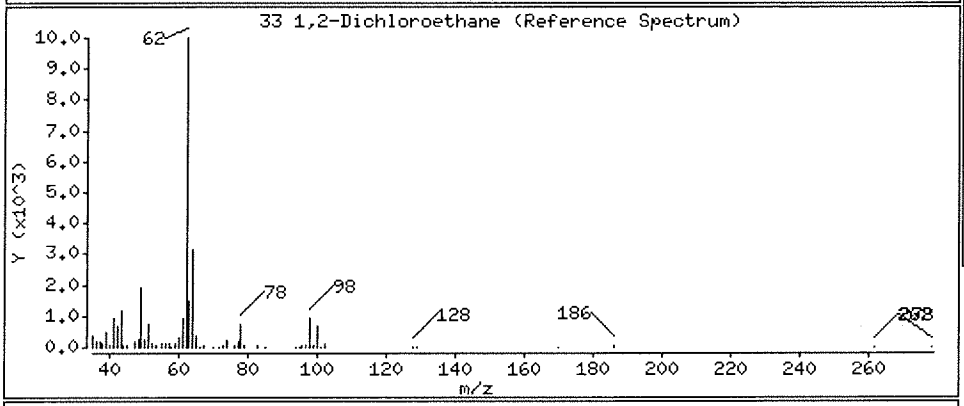
33 1,2-Dichloroethane Concentration: 27.12 ug/l

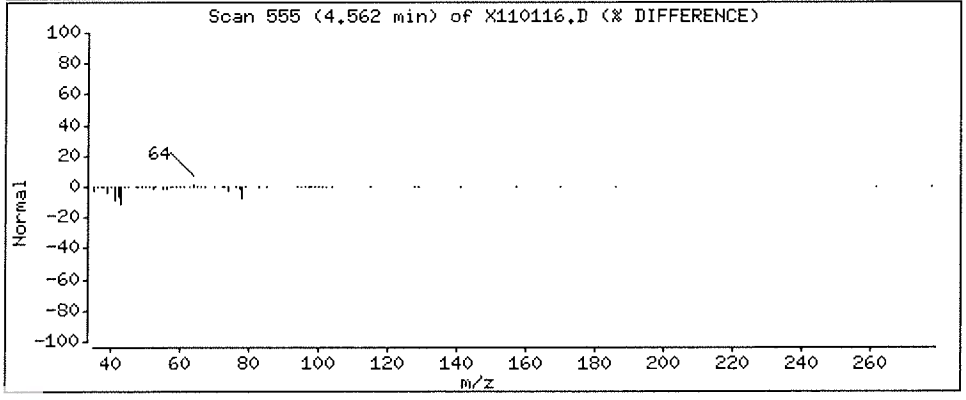












Data File: \\nahstws005\Target\chem\voa6.i\X191101.b\X110116.D

Date : 01-NOV-2019 16:45

Client ID: HS19101523-07

Instrument: voa6.i

Sample Info: HS19101523-07;HS19101523-07;;;

Purge Volume: 5.0

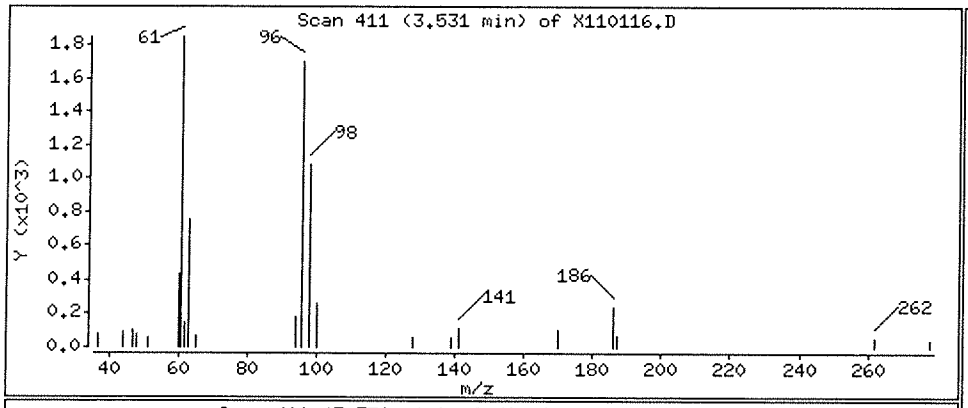
Operator: PC

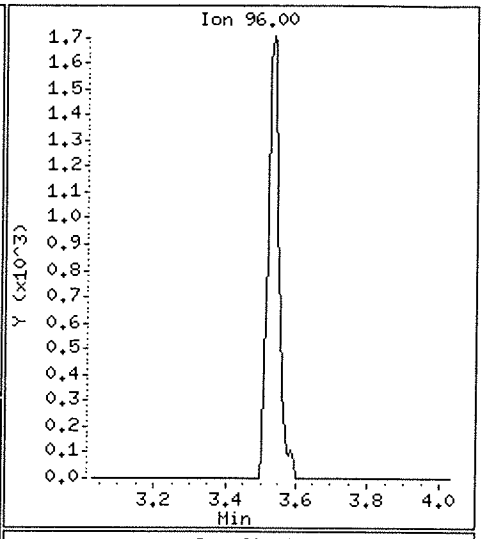
Column phase: DB624

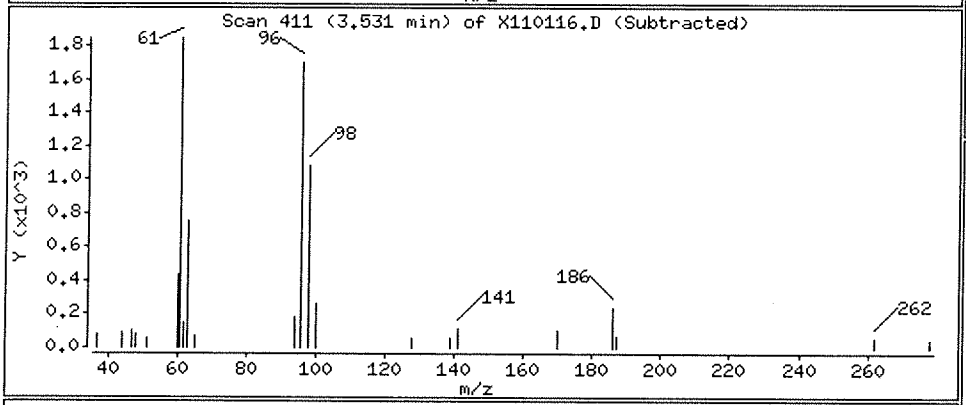
Column diameter: 0.18

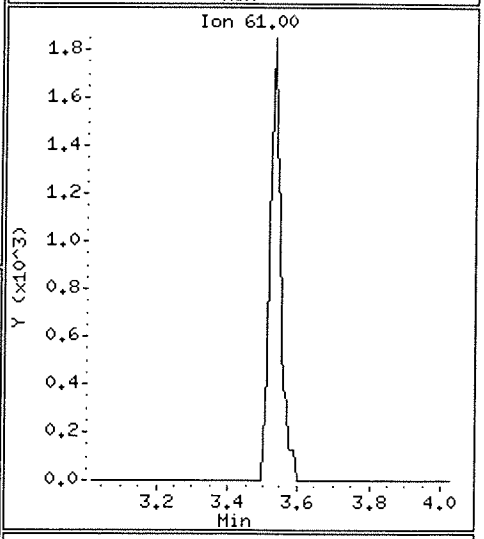
27 cis-1,2-Dichloroethene

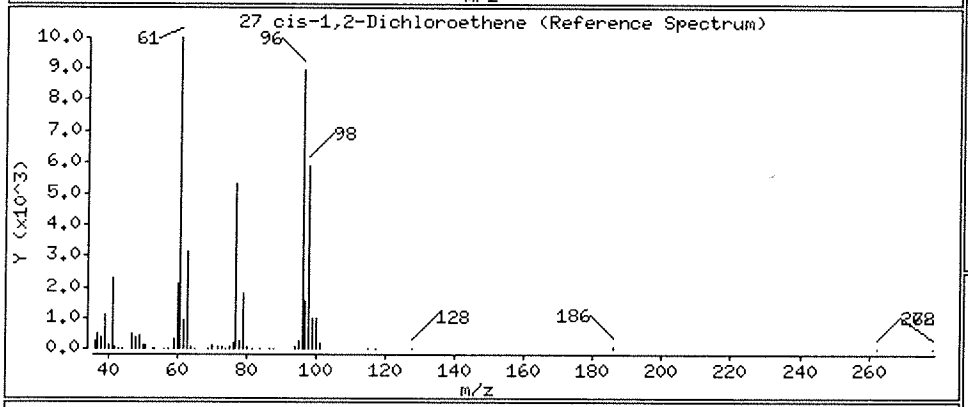
Concentration: 1.74 ug/l

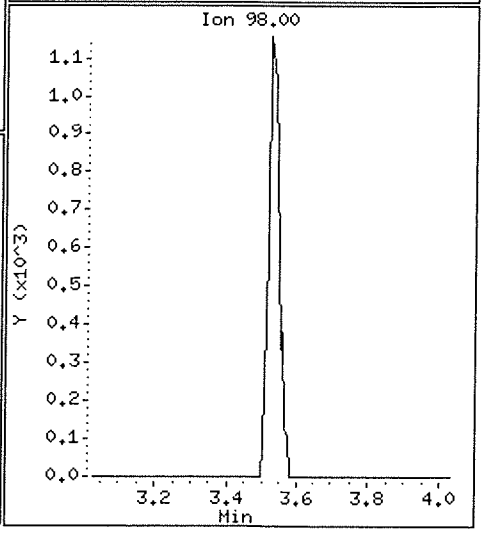


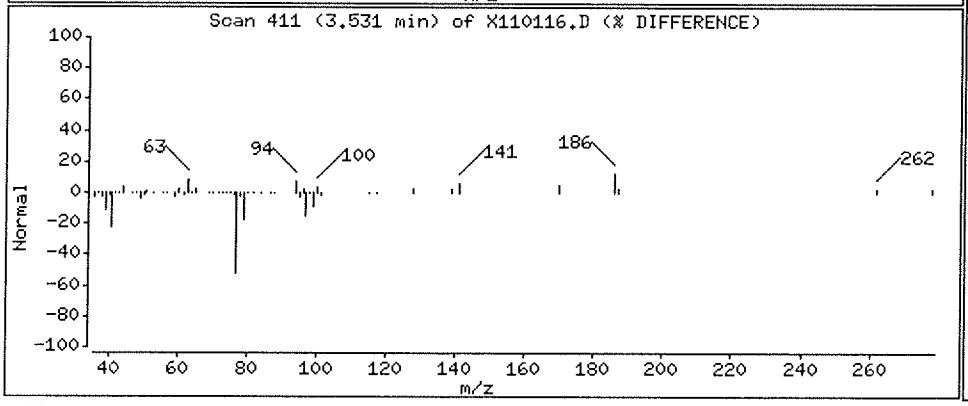












Data File: \\nahstws005\Target\chem\voa6.i\X191101.b\X110116.D

Date : 01-NOV-2019 16:45

Client ID: HS19101523-07

Instrument: voa6.i

Sample Info: HS19101523-07;HS19101523-07;;;

Purge Volume: 5.0

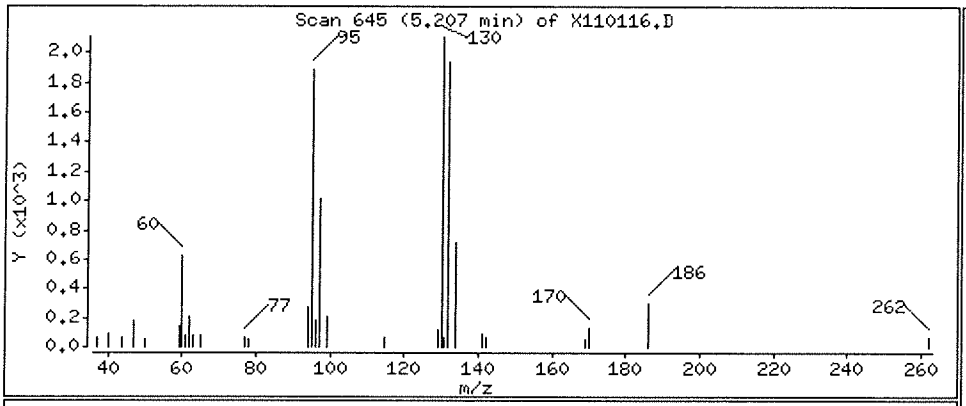
Operator: PC

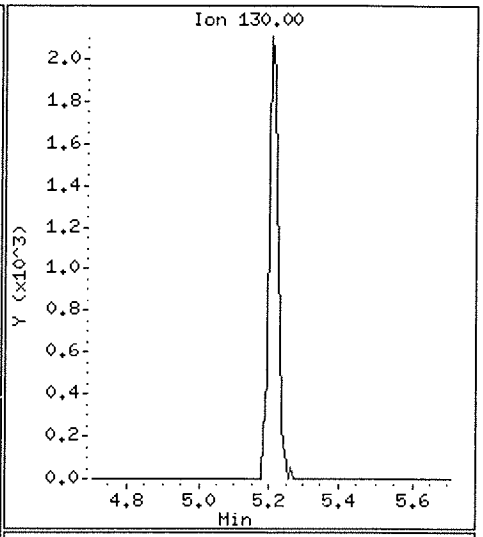
Column phase: DB624

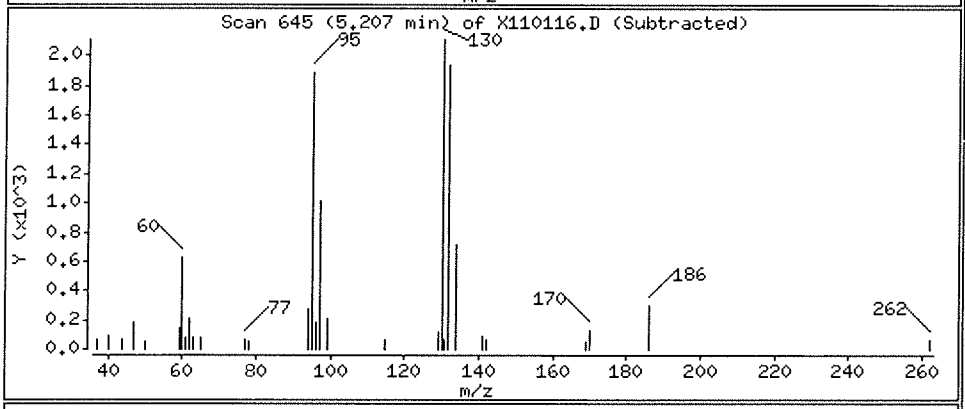
Column diameter: 0.18

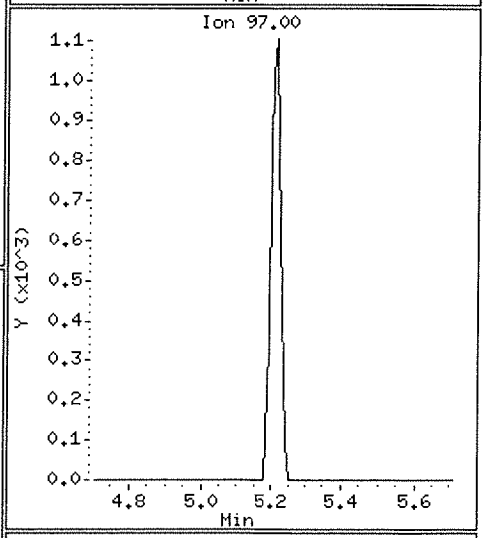
38 Trichloroethene

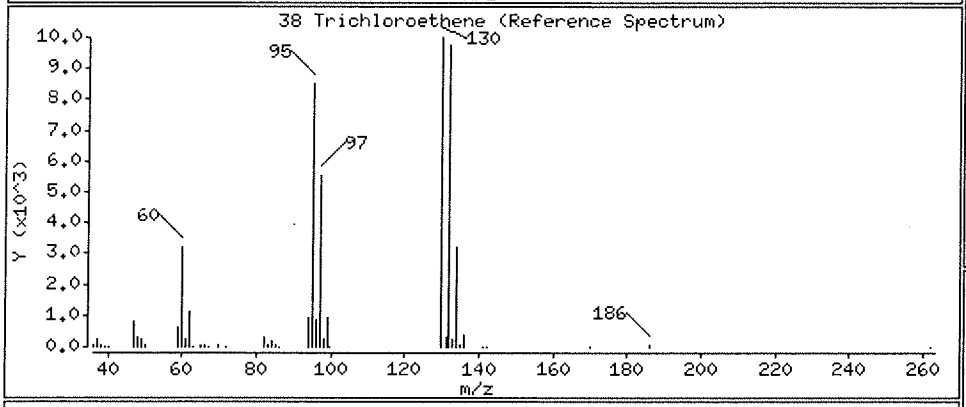
Concentration: 1.54 ug/l

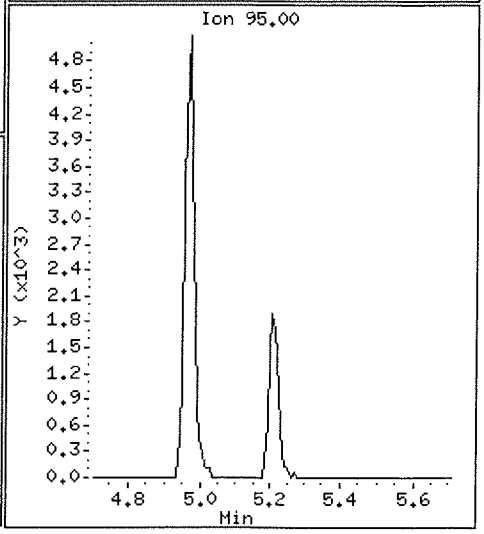


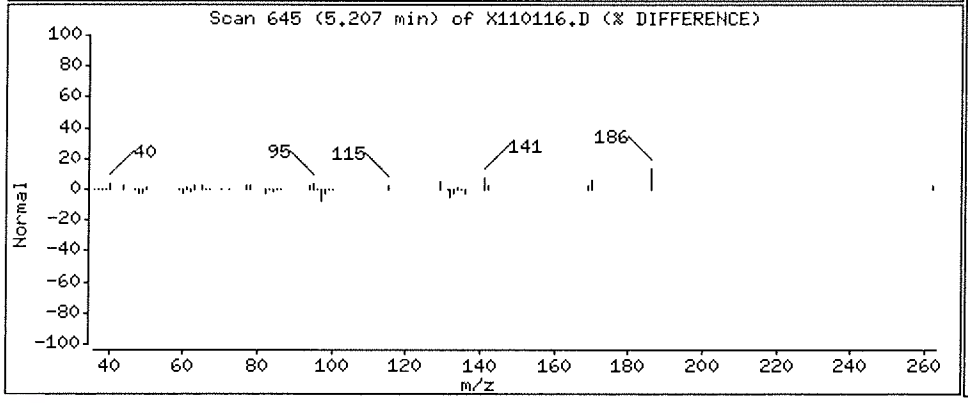












Data File: \\nahstws005\Target\chem\voa6.i\X191101.b\X110118.D Page 1
Report Date: 20-Nov-2019 14:02

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X191101.b\X110118.D
Lab Smp Id: HS19101523-07MS Client Smp ID: HS19101523-07MS
Inj Date : 01-NOV-2019 17:34
Operator : PC Inst ID: voa6.i
Smp Info : HS19101523-07MS;HS19101523-07MS;3;;MS
Misc Info : HS18090001;WATER;0;10;
Comment   :
Method   : \\nahstws005\Target\chem\voa6.i\X191101.b\8260W.m
Meth Date : 20-Nov-2019 14:02 voa6.i Quant Type: ISTD
Cal Date : 31-OCT-2019 13:56 Cal File: X103108.D
Als bottle: 18 QC Sample: MS
Dil Factor: 10.00000
Integrator: HP RTE Compound Sublist: CBIHOUSTONDOD.sub
Target Version: 4.14

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

Name	Value	Description
DF	10.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

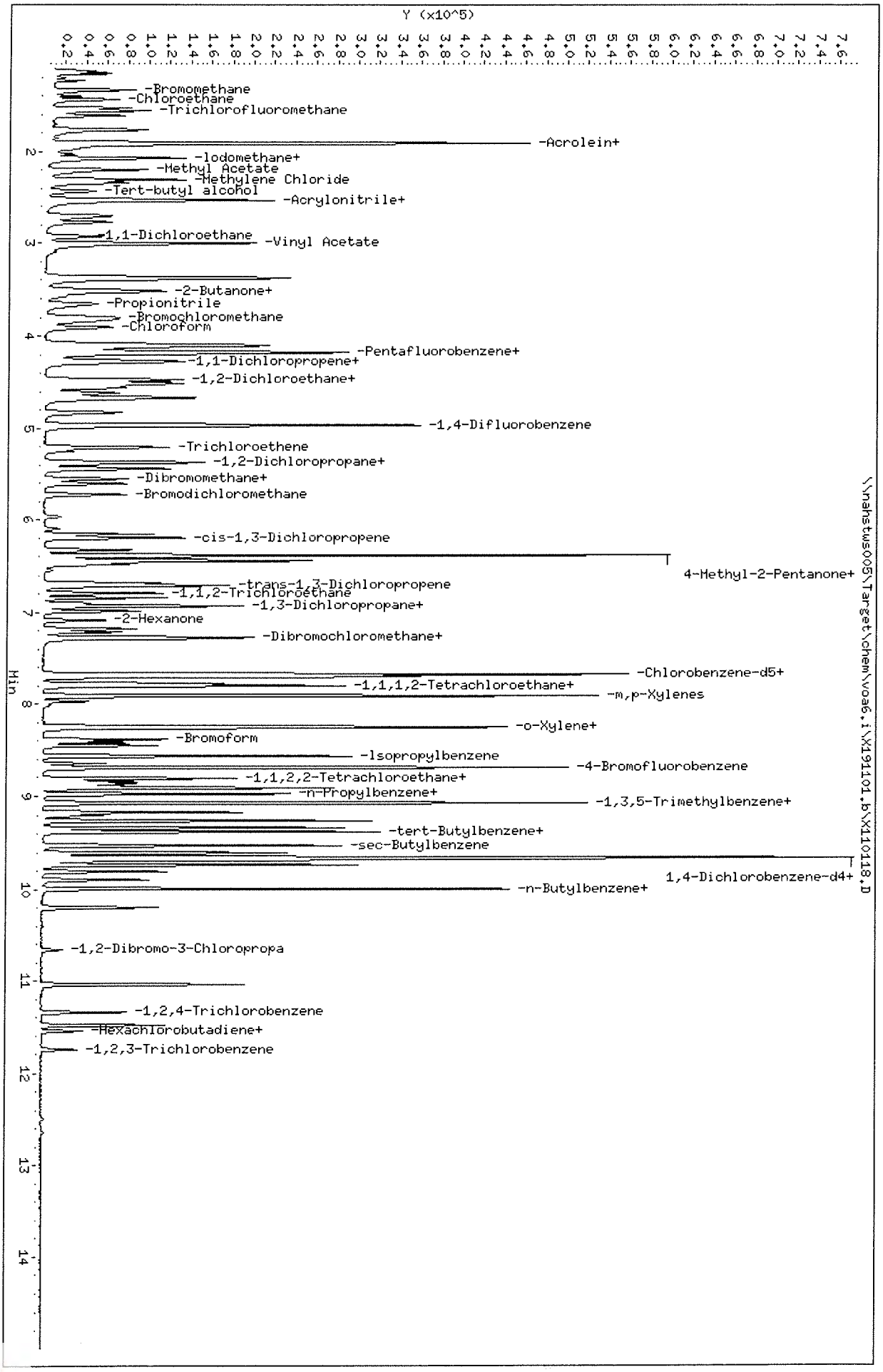
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	270472	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	322705	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	283230	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.669	(1.000)	165445	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	103589	45.4156	45.41
$ 69 4-Bromofluorobenzene	95	8.688	8.695	(1.133)	132610	49.8269	49.82
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	100252	46.5438	46.54
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	360092	51.1710	51.17
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	41669	18.0610	180.60
31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	60950	17.9814	179.81
68 1,1,2,2-Tetrachloroethane	83	8.845	8.838	(0.915)	33257	18.1209	181.20
138 Freon TF	101	1.919	1.919	(0.459)	33439	18.6875	186.87
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	24744	19.2254	192.25
22 1,1-Dichloroethane	63	2.921	2.921	(0.699)	55396	18.2956	182.95
11 1,1-Dichloroethene	96	1.911	1.911	(0.457)	141744	82.4273	824.27
32 1,1-Dichloropropene	75	4.282	4.282	(0.862)	43796	18.2194	182.19
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.216)	10523	18.8596	188.59
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.918)	30435	18.5017	185.01(M)
90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	24797	16.6090	166.08
79 1,2,4-Trimethylbenzene	105	9.382	9.382	(0.971)	149568	18.8733	188.73
89 1,2-Dibromo-3-Chloropropane	155	10.657	10.657	(1.103)	4667	17.6003	176.00
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	35159	18.4750	184.75
88 1,2-Dichlorobenzene	146	9.991	9.999	(1.034)	80911	17.6222	176.22

Data File: \\nahstws005\Target\chem\voa6.i\X191101.b\X110118.D Page 2
Report Date: 20-Nov-2019 14:02

	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)	51159	19.5542	195.54
42	1,2-Dichloropropane	63	5.436	5.443	(1.094)	26954	17.1470	171.46
75	1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	147197	19.1667	191.66
83	1,3-Dichlorobenzene	146	9.605	9.605	(0.994)	91210	18.0833	180.83
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	47898	18.1408	181.40
84	1,4-Dichlorobenzene	146	9.683	9.683	(1.002)	89204	17.5284	175.28
26	2,2-Dichloropropane	77	3.509	3.509	(0.839)	54474	16.7442	167.44
24	2-Butanone	43	3.573	3.573	(0.854)	16307	29.5290	295.28
76	2-Chlorotoluene	91	8.974	8.974	(0.929)	110225	18.5368	185.36
52	2-Hexanone	43	7.083	7.083	(0.923)	28687	34.7853	347.85
77	4-Chlorotoluene	91	9.074	9.074	(0.939)	129994	18.5335	185.33
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	156300	19.0046	190.04
45	4-Methyl-2-Pentanone	43	6.324	6.324	(0.824)	39882	34.1978	341.97
10	Acetone	43	1.969	1.976	(0.471)	13901	25.1741	251.74
37	Benzene	78	4.512	4.512	(0.908)	121309	17.3523	173.52
74	Bromobenzene	156	8.809	8.809	(0.912)	55363	18.1784	181.78
29	Bromochloromethane	128	3.795	3.795	(0.908)	23213	16.6405	166.40
39	Bromodichloromethane	83	5.729	5.729	(1.153)	45259	17.7136	177.13
66	Bromoform	173	8.415	8.415	(1.097)	32596	17.8432	178.43
6	Bromomethane	94	1.338	1.338	(0.320)	41576	19.5437	195.43
19	Carbon Disulfide	76	2.069	2.069	(0.495)	167655	33.6436	336.43
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	58153	18.4632	184.63
59	Chlorobenzene	112	7.699	7.699	(1.004)	102748	18.6236	186.23
7	Chloroethane	64	1.403	1.403	(0.336)	18611	17.3579	173.57
28	Chloroform	83	3.910	3.910	(0.935)	60822	16.9897	169.89
3	Chloromethane	50	1.073	1.073	(0.257)	31406	17.5373	175.37
27	cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	38320	17.7351	177.35
46	cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	52244	17.6521	176.52
55	Dibromochloromethane	129	7.176	7.176	(0.936)	41730	17.7866	177.86
44	Dibromomethane	93	5.557	5.557	(1.118)	21994	17.6475	176.47
2	Dichlorodifluoromethane	85	0.973	0.973	(0.233)	37682	18.4568	184.56
61	Ethylbenzene	106	7.799	7.799	(1.017)	54496	19.0446	190.44
91	Hexachlorobutadiene	225	11.481	11.488	(1.188)	23273	18.0337	180.33
67	Isopropylbenzene	105	8.566	8.566	(1.117)	167529	19.2584	192.58
62	m,p-Xylenes	106	7.907	7.907	(1.031)	132951	38.3291	383.29
17	Methylene Chloride	84	2.305	2.305	(0.551)	31846	16.9609	169.60
87	n-Butylbenzene	91	9.998	9.999	(1.035)	114958	19.5970	195.97
73	n-Propylbenzene	91	8.917	8.917	(0.923)	178002	18.8902	188.90
92	Naphthalene	128	11.546	11.546	(1.195)	27894	18.5507	185.50
63	o-Xylene	106	8.244	8.244	(1.075)	63936	18.7186	187.18
81	sec-Butylbenzene	105	9.526	9.526	(0.986)	163776	19.4988	194.98
64	Styrene	104	8.258	8.258	(1.077)	111580	18.8838	188.83
78	tert-Butylbenzene	119	9.339	9.340	(0.967)	127964	19.2252	192.25
56	Tetrachloroethene	164	6.933	6.933	(0.904)	42963	20.0226	200.22
50	Toluene	91	6.446	6.446	(0.840)	145483	18.8231	188.23
20	trans-1,2-Dichloroethene	96	2.527	2.527	(0.604)	32791	18.0480	180.47
51	trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	47690	17.2602	172.60
38	Trichloroethene	130	5.206	5.206	(1.048)	44715	18.5705	185.70
8	Trichlorofluoromethane	101	1.560	1.560	(0.373)	66356	18.3822	183.82
5	Vinyl Chloride	62	1.138	1.138	(0.272)	31341	18.4735	184.73

QC Flag Legend

M - Compound response manually integrated.



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Sample Info: HS191015523-07MS;HS191015523-07MS;3;;MS
Purge Volume: 5.0
Column phase: DB624

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

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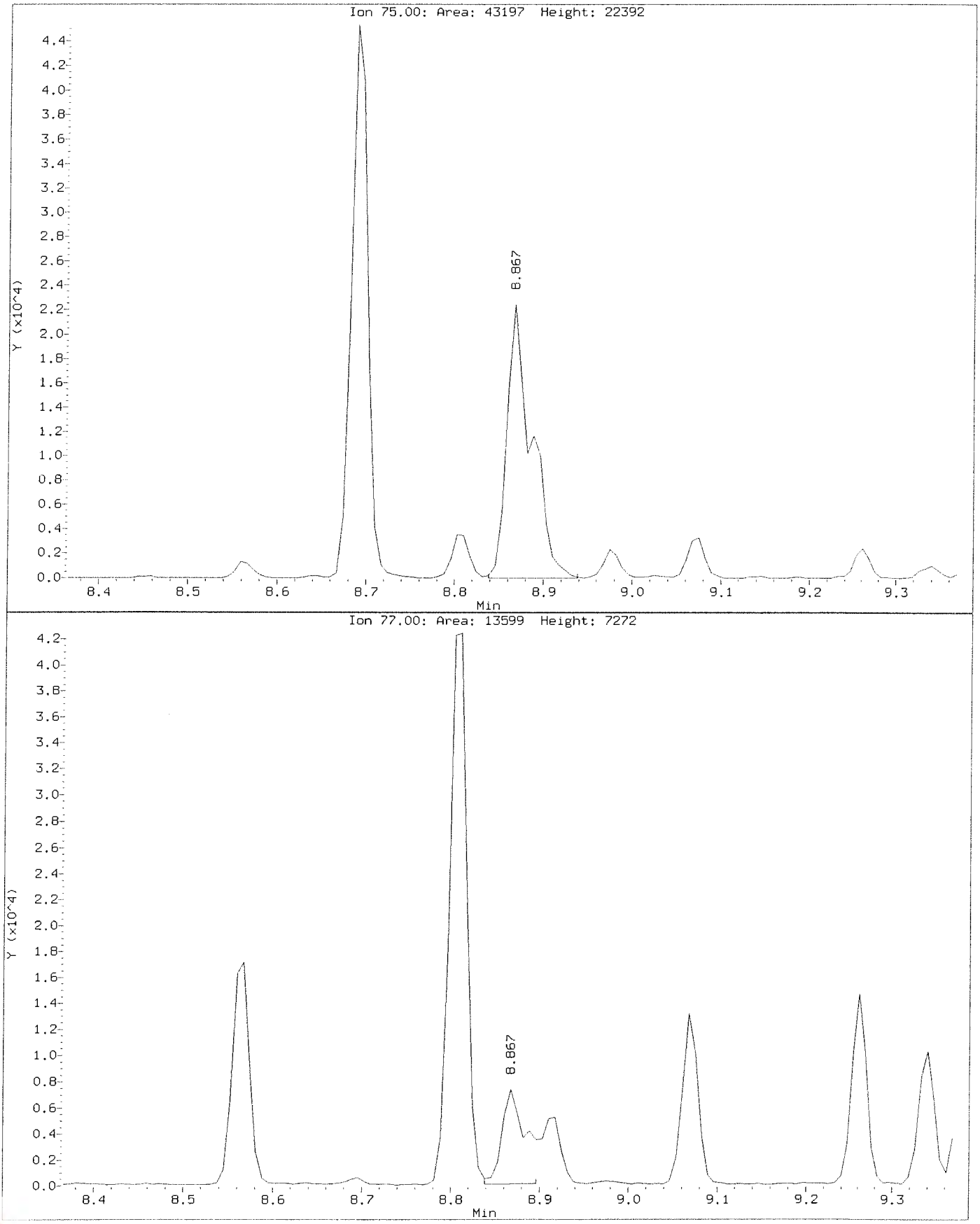
Injection Date: 01-NOV-2019 17:34
Instrument: voa6.i
Client Sample ID: HS19101523-07MS

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



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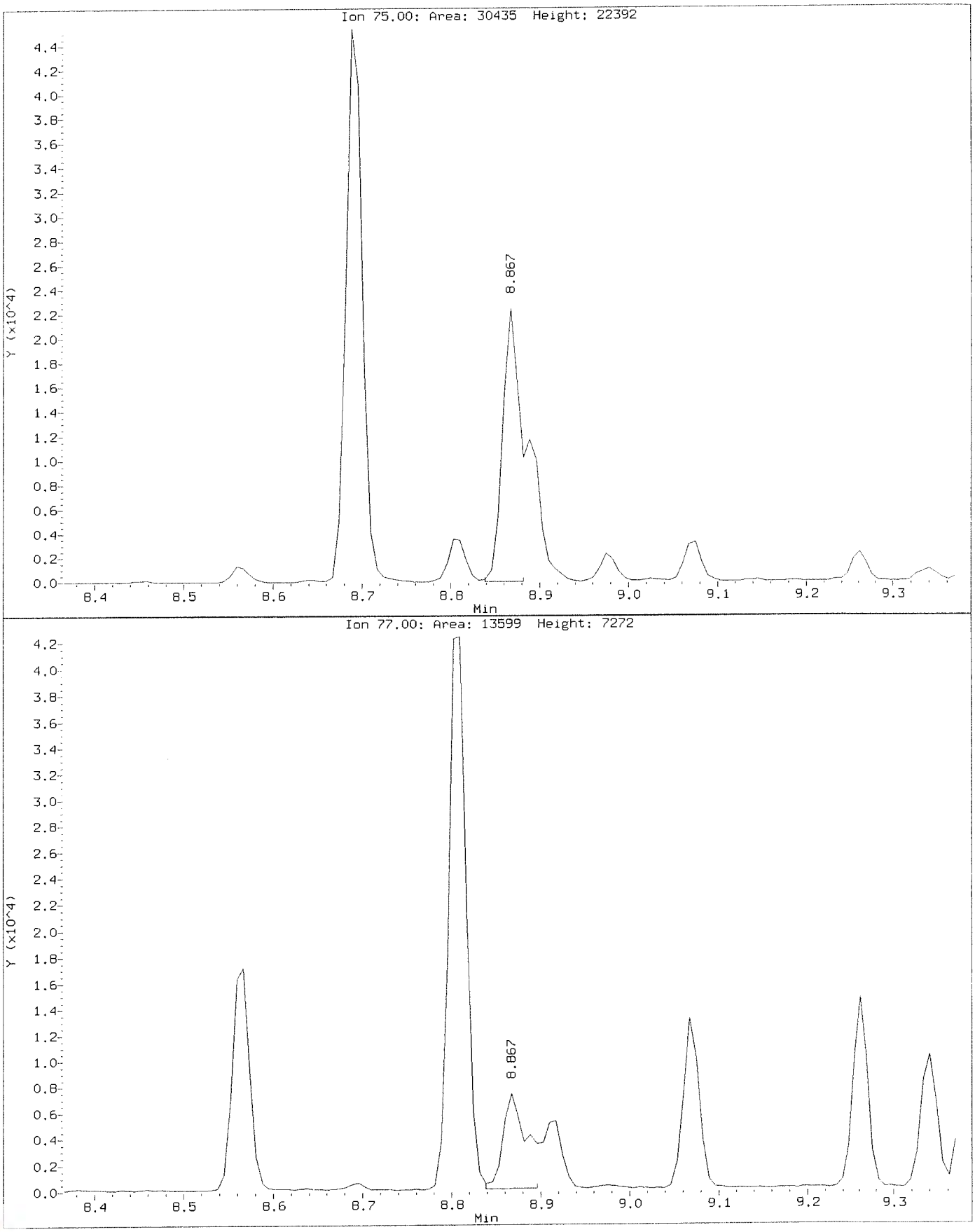
Injection Date: 01-NOV-2019 17:34
Instrument: voa6.i
Client Sample ID: HS19101523-07MS

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



Data File: \\nahstws005\Target\chem\voa6.i\X191101.b\X110119.D Page 1
Report Date: 20-Nov-2019 14:02

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X191101.b\X110119.D
Lab Smp Id: HS19101523-07MSD Client Smp ID: HS19101523-07MSD
Inj Date : 01-NOV-2019 17:58
Operator : PC Inst ID: voa6.i
Smp Info : HS19101523-07MSD;HS19101523-07MSD;3;;MSD
Misc Info : HS18090001;WATER;0;10;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X191101.b\8260W.m
Meth Date : 20-Nov-2019 14:02 voa6.i Quant Type: ISTD
Cal Date : 31-OCT-2019 13:56 Cal File: X103108.D
Als bottle: 18 QC Sample: MSD
Dil Factor: 10.00000
Integrator: HP RTE Compound Sublist: CBIHOUSTONDOD.sub
Target Version: 4.14

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

Name	Value	Description
DF	10.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

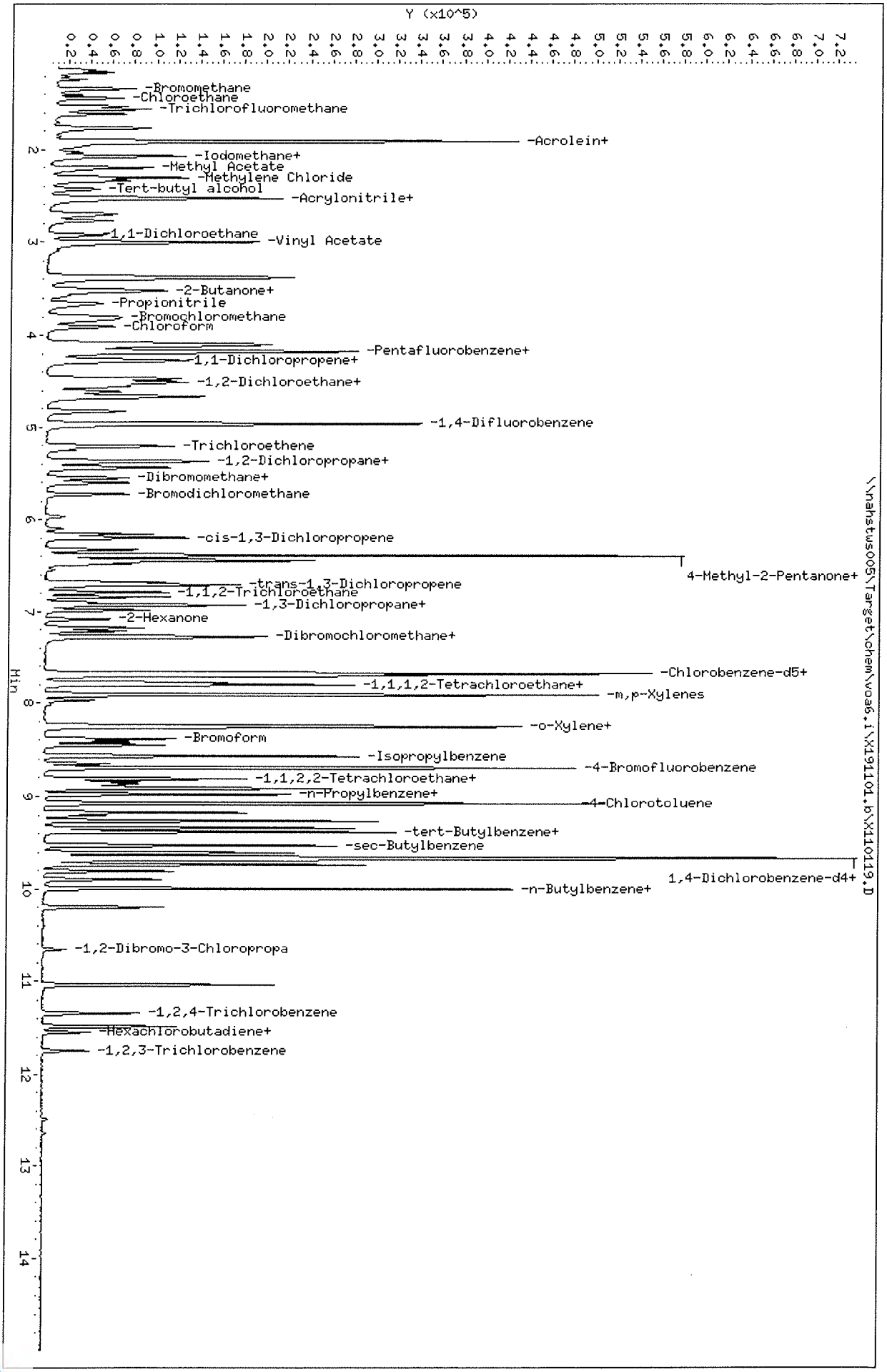
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	266313	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	315266	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	277291	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	157766	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	99842	44.4668	44.46
$ 69 4-Bromofluorobenzene	95	8.688	8.695	(1.133)	130850	50.2234	50.22
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	98034	46.2282	46.22
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	350952	50.9403	50.94
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	40427	17.8979	178.97
31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	57910	17.3514	173.51
68 1,1,2,2-Tetrachloroethane	83	8.838	8.838	(0.914)	32798	18.7588	187.58
138 Freon TF	101	1.912	1.919	(0.457)	31724	18.0059	180.05
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	24177	19.1872	191.87
22 1,1-Dichloroethane	63	2.922	2.921	(0.699)	52470	17.5999	175.99
11 1,1-Dichloroethene	96	1.912	1.911	(0.457)	130860	77.2864	772.86
32 1,1-Dichloropropene	75	4.283	4.282	(0.862)	42120	17.9357	179.35
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.215)	12059	22.8192	228.19
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.917)	29707	18.9643	189.64(M)
90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	27016	18.9760	189.76
79 1,2,4-Trimethylbenzene	105	9.383	9.382	(0.970)	144891	19.1730	191.73
89 1,2-Dibromo-3-Chloropropane	155	10.658	10.657	(1.102)	4832	19.0174	190.17
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	34463	18.4972	184.97
88 1,2-Dichlorobenzene	146	9.991	9.999	(1.033)	79441	18.1442	181.44

Data File: \\nahstws005\Target\chem\voa6.i\X191101.b\X110119.D Page 2
Report Date: 20-Nov-2019 14:02

	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)	50351	19.6994	196.99
42	1,2-Dichloropropane	63	5.436	5.443	(1.094)	25526	16.6217	166.21
75	1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	141592	19.3343	193.34
83	1,3-Dichlorobenzene	146	9.605	9.605	(0.993)	87398	18.1709	181.70
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	47283	18.2914	182.91
84	1,4-Dichlorobenzene	146	9.683	9.683	(1.001)	88562	18.2493	182.49
26	2,2-Dichloropropane	77	3.509	3.509	(0.839)	52105	16.2661	162.66
24	2-Butanone	43	3.581	3.573	(0.856)	16486	30.3319	303.31
76	2-Chlorotoluene	91	8.974	8.974	(0.928)	106552	18.7913	187.91
52	2-Hexanone	43	7.083	7.083	(0.923)	27239	33.7369	337.36
77	4-Chlorotoluene	91	9.075	9.074	(0.939)	125164	18.7135	187.13
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	152453	19.4391	194.39
45	4-Methyl-2-Pentanone	43	6.324	6.324	(0.824)	38809	33.9905	339.90
10	Acetone	43	1.969	1.976	(0.471)	13951	25.6595	256.59
37	Benzene	78	4.512	4.512	(0.908)	118236	17.3111	173.11
74	Bromobenzene	156	8.810	8.809	(0.911)	53538	18.4348	184.34
29	Bromochloromethane	128	3.795	3.795	(0.908)	22684	16.5152	165.15
39	Bromodichloromethane	83	5.729	5.729	(1.153)	44106	17.6697	176.69
66	Bromoform	173	8.416	8.415	(1.097)	31925	17.8502	178.50
6	Bromomethane	94	1.339	1.338	(0.320)	37936	18.0009	180.00
19	Carbon Disulfide	76	2.069	2.069	(0.495)	157211	32.0405	320.40
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	54439	17.6918	176.91
59	Chlorobenzene	112	7.699	7.699	(1.004)	99166	18.3593	183.59
7	Chloroethane	64	1.403	1.403	(0.336)	17253	16.3426	163.42
28	Chloroform	83	3.910	3.910	(0.935)	58247	16.5245	165.24
3	Chloromethane	50	1.073	1.073	(0.257)	29350	16.6421	166.42
27	cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	37325	17.5443	175.44
46	cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	50422	17.4384	174.38
55	Dibromochloromethane	129	7.176	7.176	(0.936)	40723	17.7291	177.29
44	Dibromomethane	93	5.550	5.557	(1.117)	21914	17.9982	179.98
2	Dichlorodifluoromethane	85	0.973	0.973	(0.233)	35861	17.8799	178.79
61	Ethylbenzene	106	7.800	7.799	(1.017)	52193	18.6304	186.30
91	Hexachlorobutadiene	225	11.489	11.488	(1.188)	24636	20.0190	200.19
67	Isopropylbenzene	105	8.566	8.566	(1.117)	160560	18.8526	188.52
62	m,p-Xylenes	106	7.907	7.907	(1.031)	126304	37.1927	371.92
17	Methylene Chloride	84	2.306	2.305	(0.551)	30559	16.5295	165.29
87	n-Butylbenzene	91	9.999	9.999	(1.034)	110861	19.8185	198.18
73	n-Propylbenzene	91	8.917	8.917	(0.922)	172777	19.2282	192.28
92	Naphthalene	128	11.546	11.546	(1.194)	30774	21.5907	215.90
63	o-Xylene	106	8.244	8.244	(1.075)	61307	18.3334	183.33
81	sec-Butylbenzene	105	9.526	9.526	(0.985)	159473	19.9106	199.10
64	Styrene	104	8.258	8.258	(1.077)	105730	18.2770	182.76
78	tert-Butylbenzene	119	9.340	9.340	(0.966)	123320	19.4293	194.29
56	Tetrachloroethene	164	6.933	6.933	(0.904)	40634	19.3428	193.42
50	Toluene	91	6.446	6.446	(0.840)	139611	18.4502	184.50
20	trans-1,2-Dichloroethene	96	2.528	2.527	(0.604)	31802	17.7770	177.77
51	trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	47011	17.4159	174.15
38	Trichloroethene	130	5.207	5.206	(1.048)	43038	18.2957	182.95
8	Trichlorofluoromethane	101	1.561	1.560	(0.373)	62068	17.4628	174.62
5	Vinyl Chloride	62	1.138	1.138	(0.272)	29192	17.4755	174.75

QC Flag Legend

M - Compound response manually integrated.



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Purge Volume: 5.0
Column phase: DB624

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

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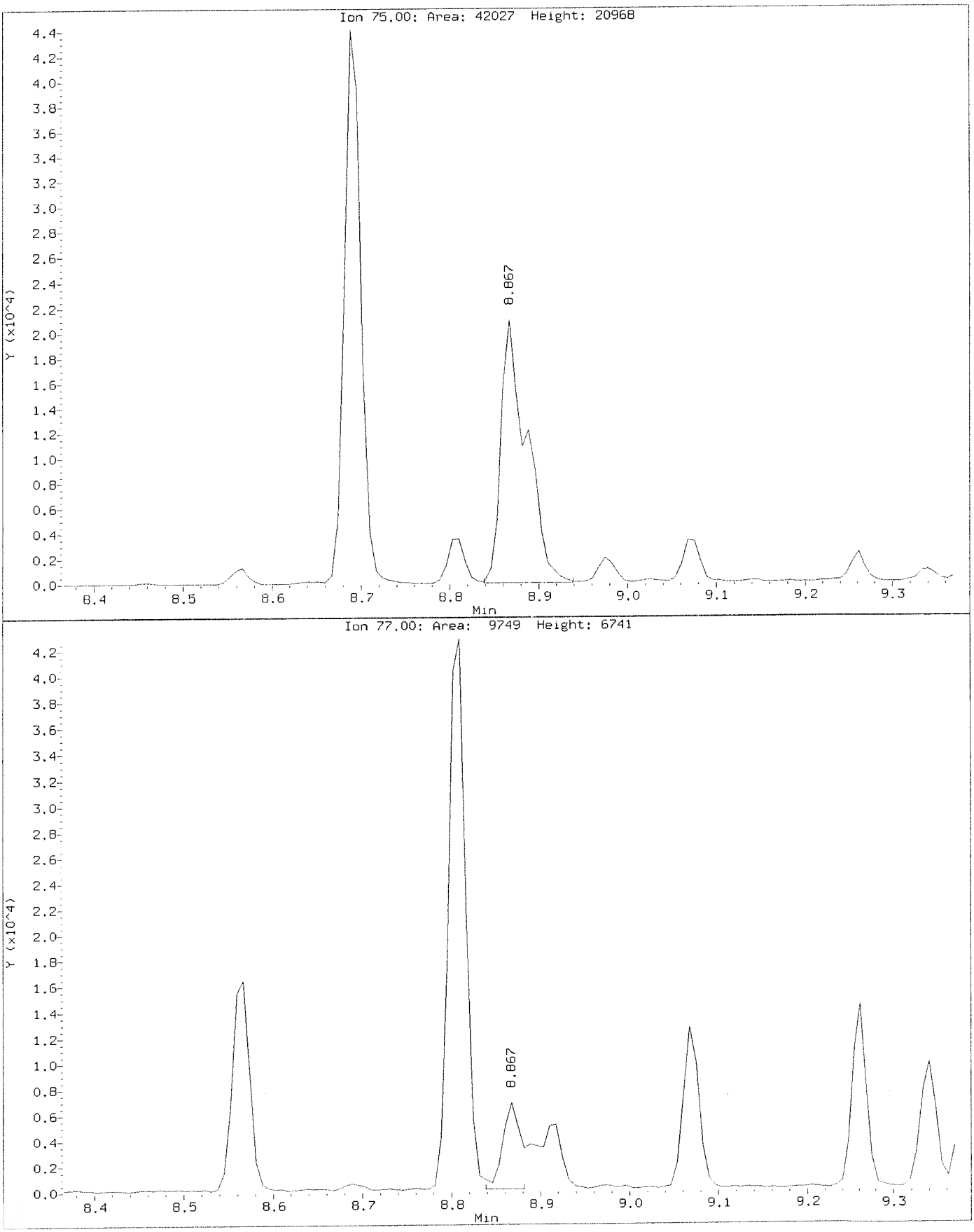
Injection Date: 01-NOV-2019 17:58
Instrument: voa6.i
Client Sample ID: HS19101523-07MSD

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



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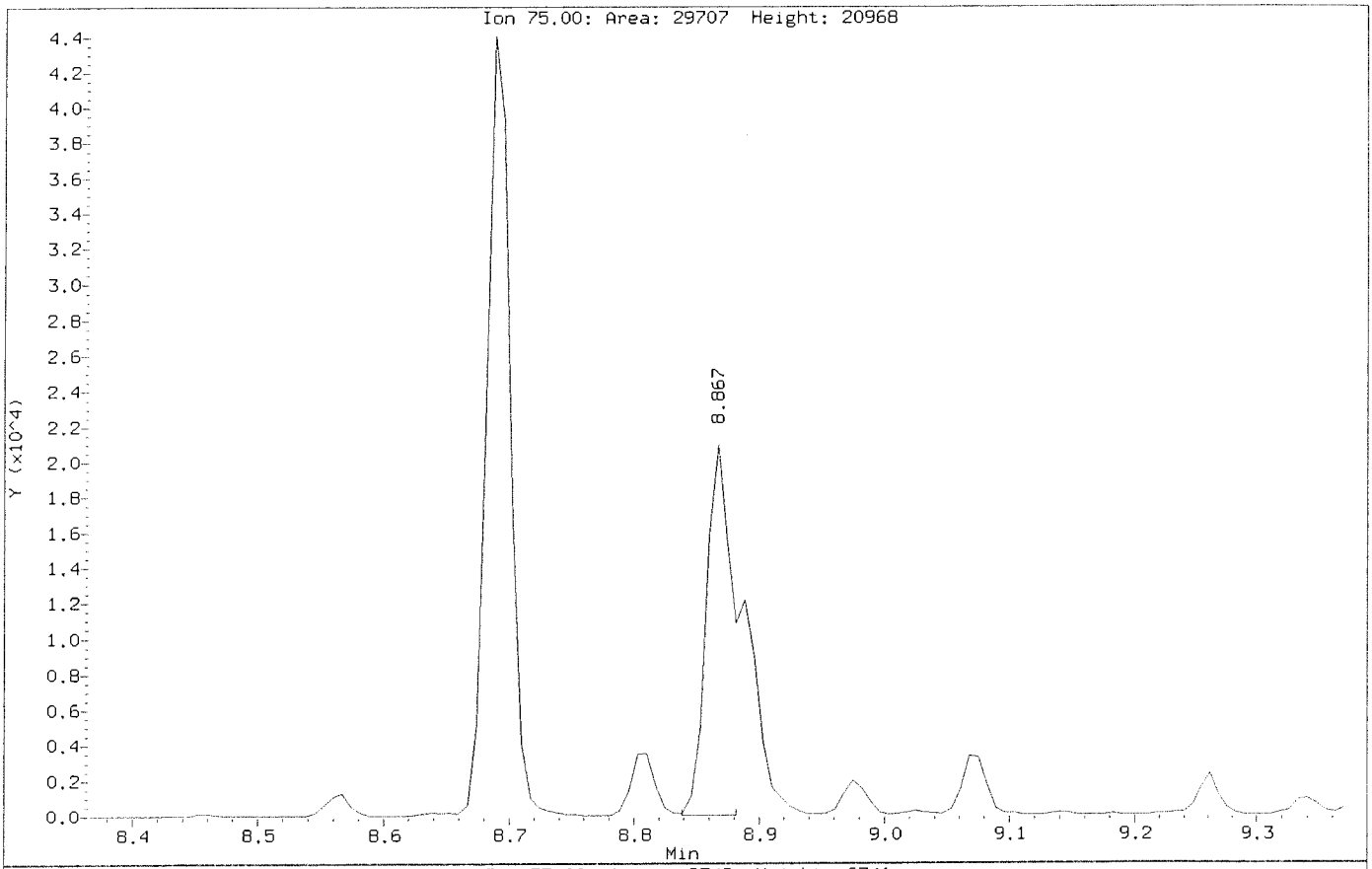
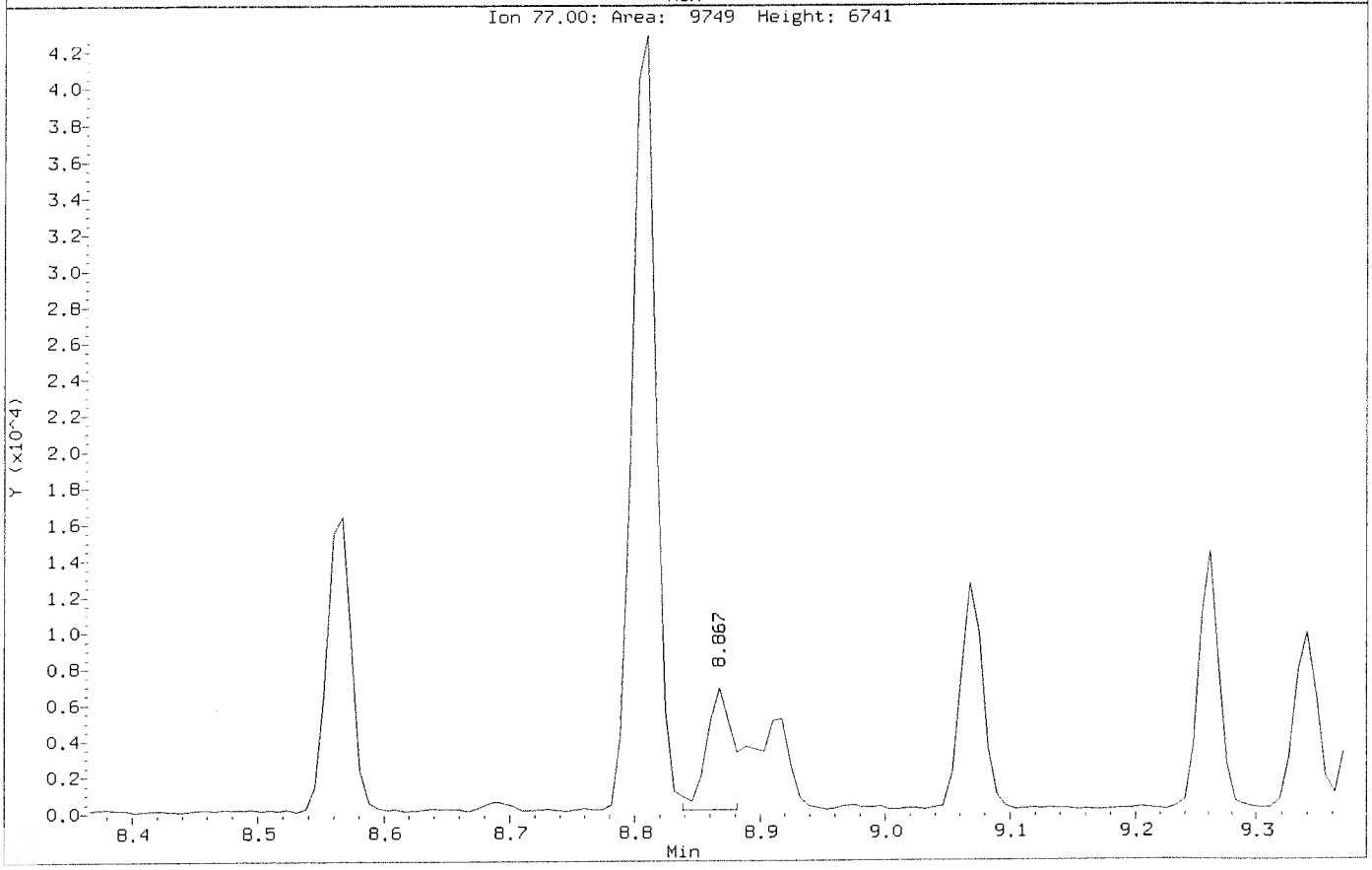
Injection Date: 01-NOV-2019 17:58
Instrument: voa6.i
Client Sample ID: HS19101523-07MSD

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





Data File: \\nahstws005\Target\chem\voa6.i\X191101.b\X110130.D Page 1
Report Date: 20-Nov-2019 14:02

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X191101.b\X110130.D
Lab Smp Id: CCV-END Client Smp ID: CCV-END
Inj Date : 01-NOV-2019 22:22
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\X191101.b\8260W.m
Meth Date : 20-Nov-2019 14:02 voa6.i Quant Type: ISTD
Cal Date : 31-OCT-2019 13:56 Cal File: X103108.D
Als bottle: 29 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

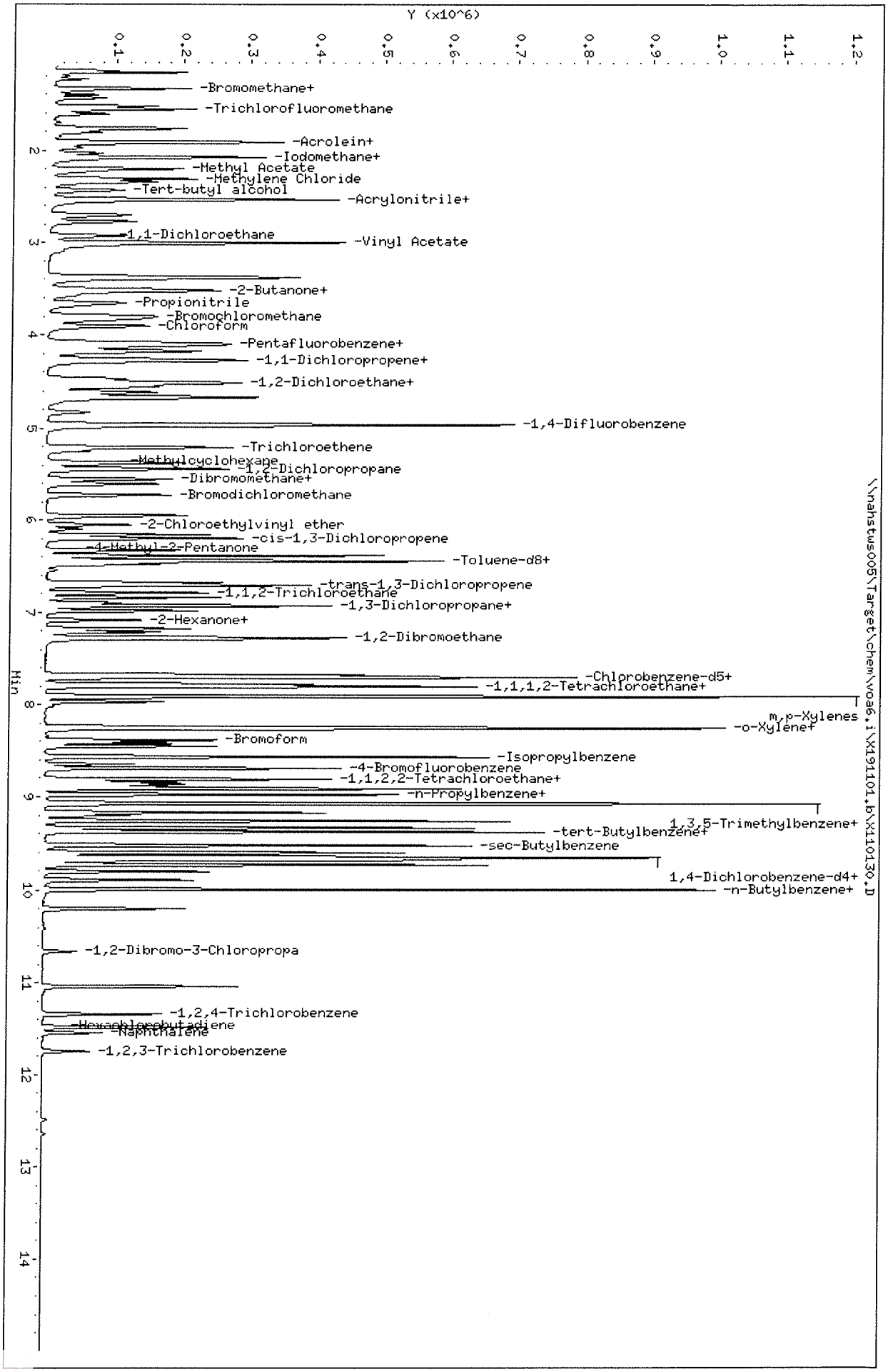
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	207123	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	260667	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	238112	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	136852	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	90086	50.0000	51.50
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	117335	50.0000	52.47
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	86093	50.0000	52.13
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	296109	50.0000	50.05
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	97851	50.0000	50.44
31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	136574	50.0000	52.61
68 1,1,2,2-Tetrachloroethane	83	8.838	8.838	(0.914)	76092	50.0000	51.05
138 Freon TF	101	1.919	1.919	(0.459)	71214	50.0000	51.97
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	55809	50.0000	51.57
22 1,1-Dichloroethane	63	2.921	2.921	(0.699)	119074	50.0000	51.35
11 1,1-Dichloroethene	96	1.911	1.911	(0.457)	67735	50.0000	51.43
32 1,1-Dichloropropene	75	4.282	4.282	(0.862)	98895	50.0000	50.93
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.215)	21534	50.0000	46.99
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.917)	70400	50.0000	53.73(M)
90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	53133	50.0000	43.02
79 1,2,4-Trimethylbenzene	105	9.382	9.382	(0.970)	336765	50.0000	51.37
89 1,2-Dibromo-3-Chloropropane	155	10.657	10.657	(1.102)	10934	50.0000	47.88
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	83763	50.0000	52.35
88 1,2-Dichlorobenzene	146	9.999	9.999	(1.034)	185463	50.0000	48.83

Data File: \\nahstws005\Target\chem\voa6.i\X191101.b\X110130.D Page 2
Report Date: 20-Nov-2019 14:02

	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)	109316	50.0000	51.72
42	1,2-Dichloropropane	63	5.443	5.443	(1.095)	59898	50.0000	47.17
75	1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	325331	50.0000	51.21
83	1,3-Dichlorobenzene	146	9.605	9.605	(0.993)	207064	50.0000	49.62
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	111128	50.0000	50.06
84	1,4-Dichlorobenzene	146	9.683	9.683	(1.001)	208292	50.0000	49.48
26	2,2-Dichloropropane	77	3.509	3.509	(0.839)	116757	50.0000	46.86
24	2-Butanone	43	3.573	3.573	(0.854)	39161	100.000	93.60
76	2-Chlorotoluene	91	8.974	8.974	(0.928)	249593	50.0000	50.74
52	2-Hexanone	43	7.083	7.083	(0.923)	65454	100.000	94.40
77	4-Chlorotoluene	91	9.074	9.074	(0.939)	289566	50.0000	49.90
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	344756	50.0000	50.67
45	4-Methyl-2-Pentanone	43	6.324	6.324	(0.824)	94645	100.000	96.53
10	Acetone	43	1.976	1.976	(0.473)	36111	100.000	85.43
37	Benzene	78	4.512	4.512	(0.908)	281410	50.0000	50.43
74	Bromobenzene	156	8.809	8.809	(0.911)	128393	50.0000	50.96
29	Bromochloromethane	128	3.795	3.795	(0.908)	54176	50.0000	50.71
39	Bromodichloromethane	83	5.729	5.729	(1.153)	107606	50.0000	52.13
66	Bromoform	173	8.415	8.415	(1.097)	77844	50.0000	50.68
6	Bromomethane	94	1.338	1.338	(0.320)	95166	50.0000	61.40
19	Carbon Disulfide	76	2.069	2.069	(0.495)	398885	100.000	104.52
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	127371	50.0000	50.06
59	Chlorobenzene	112	7.699	7.699	(1.004)	236904	50.0000	51.07
7	Chloroethane	64	1.403	1.403	(0.336)	42765	50.0000	52.08
28	Chloroform	83	3.910	3.910	(0.935)	142398	50.0000	51.94
3	Chloromethane	50	1.073	1.073	(0.257)	74184	50.0000	54.22
27	cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	89507	50.0000	54.09
46	cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	119415	50.0000	49.95
55	Dibromochloromethane	129	7.176	7.176	(0.936)	99990	50.0000	50.69
44	Dibromomethane	93	5.557	5.557	(1.118)	52447	50.0000	52.09
2	Dichlorodifluoromethane	85	0.973	0.973	(0.233)	83188	50.0000	50.91
61	Ethylbenzene	106	7.799	7.799	(1.017)	123262	50.0000	51.23
91	Hexachlorobutadiene	225	11.488	11.488	(1.188)	49652	50.0000	46.51
67	Isopropylbenzene	105	8.566	8.566	(1.117)	375609	50.0000	51.35
62	m,p-Xylenes	106	7.907	7.907	(1.031)	298689	100.000	102.42
17	Methylene Chloride	84	2.305	2.305	(0.551)	75528	50.0000	52.54
87	n-Butylbenzene	91	9.999	9.999	(1.034)	250025	50.0000	51.52
73	n-Propylbenzene	91	8.917	8.917	(0.922)	398548	50.0000	51.13
92	Naphthalene	128	11.546	11.546	(1.194)	59550	50.0000	48.32
63	o-Xylene	106	8.244	8.244	(1.075)	145130	50.0000	50.54
81	sec-Butylbenzene	105	9.526	9.526	(0.985)	361750	50.0000	52.06
64	Styrene	104	8.258	8.258	(1.077)	252079	50.0000	50.74
78	tert-Butylbenzene	119	9.340	9.340	(0.966)	281414	50.0000	51.11
56	Tetrachloroethene	164	6.933	6.933	(0.904)	92196	50.0000	51.10
50	Toluene	91	6.446	6.446	(0.840)	334285	50.0000	51.44
20	trans-1,2-Dichloroethene	96	2.527	2.527	(0.604)	75439	50.0000	54.22
51	trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	114156	50.0000	51.14
38	Trichloroethene	130	5.206	5.206	(1.048)	101513	50.0000	52.19
8	Trichlorofluoromethane	101	1.560	1.560	(0.373)	146109	50.0000	52.85
5	Vinyl Chloride	62	1.138	1.138	(0.272)	68357	50.0000	52.61

QC Flag Legend

M - Compound response manually integrated.



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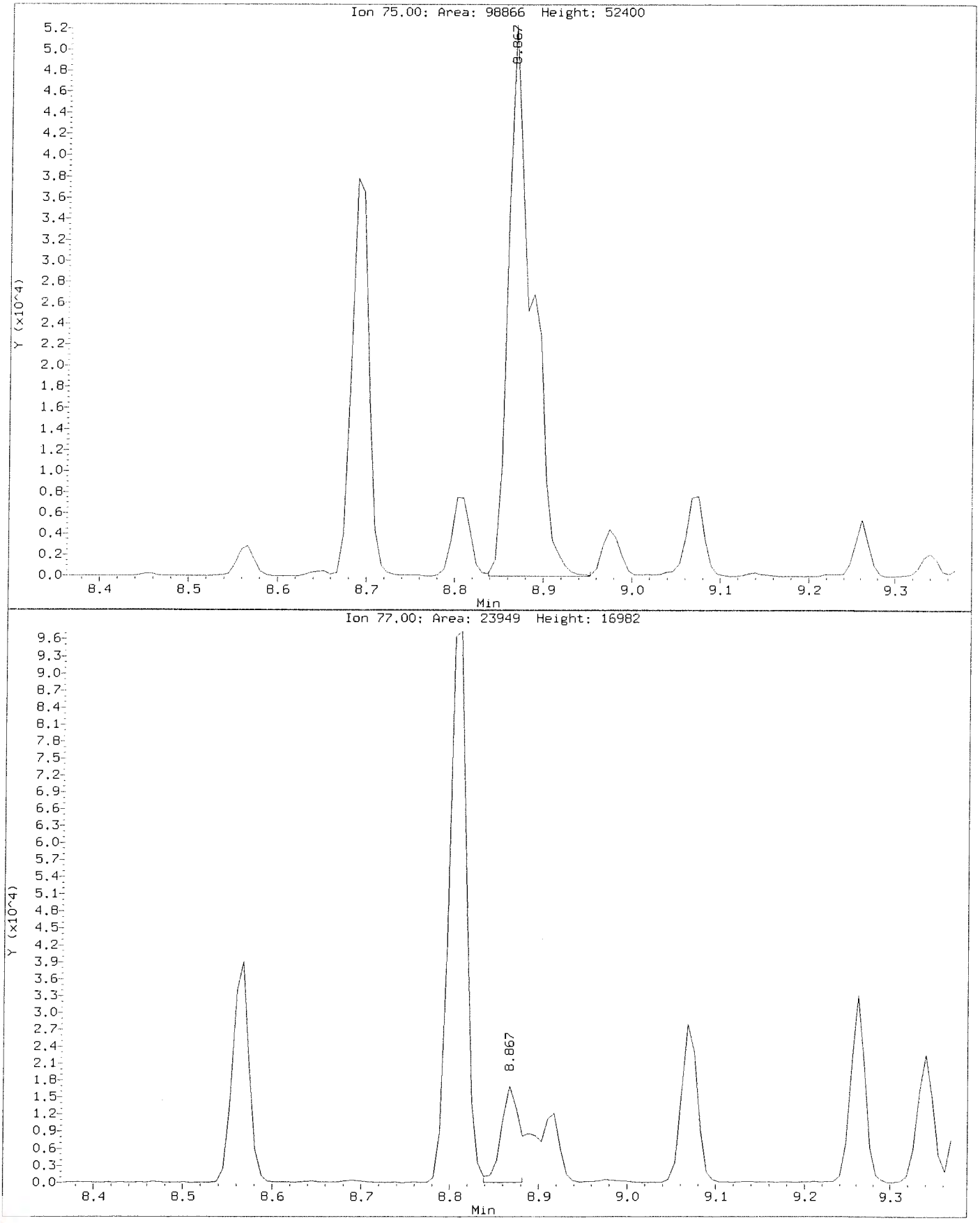
Date : 01-NOV-2019 22:22
Client ID: CCV-END
Sample Info: CCV-END;CCV-END;2;;
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\nahstws005\Target\chem\voa6.i\X191101.b\BEFORE2\X110130.D
Injection Date: 01-NOV-2019 22:22
Instrument: voa6.i
Client Sample ID: CCV-END

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



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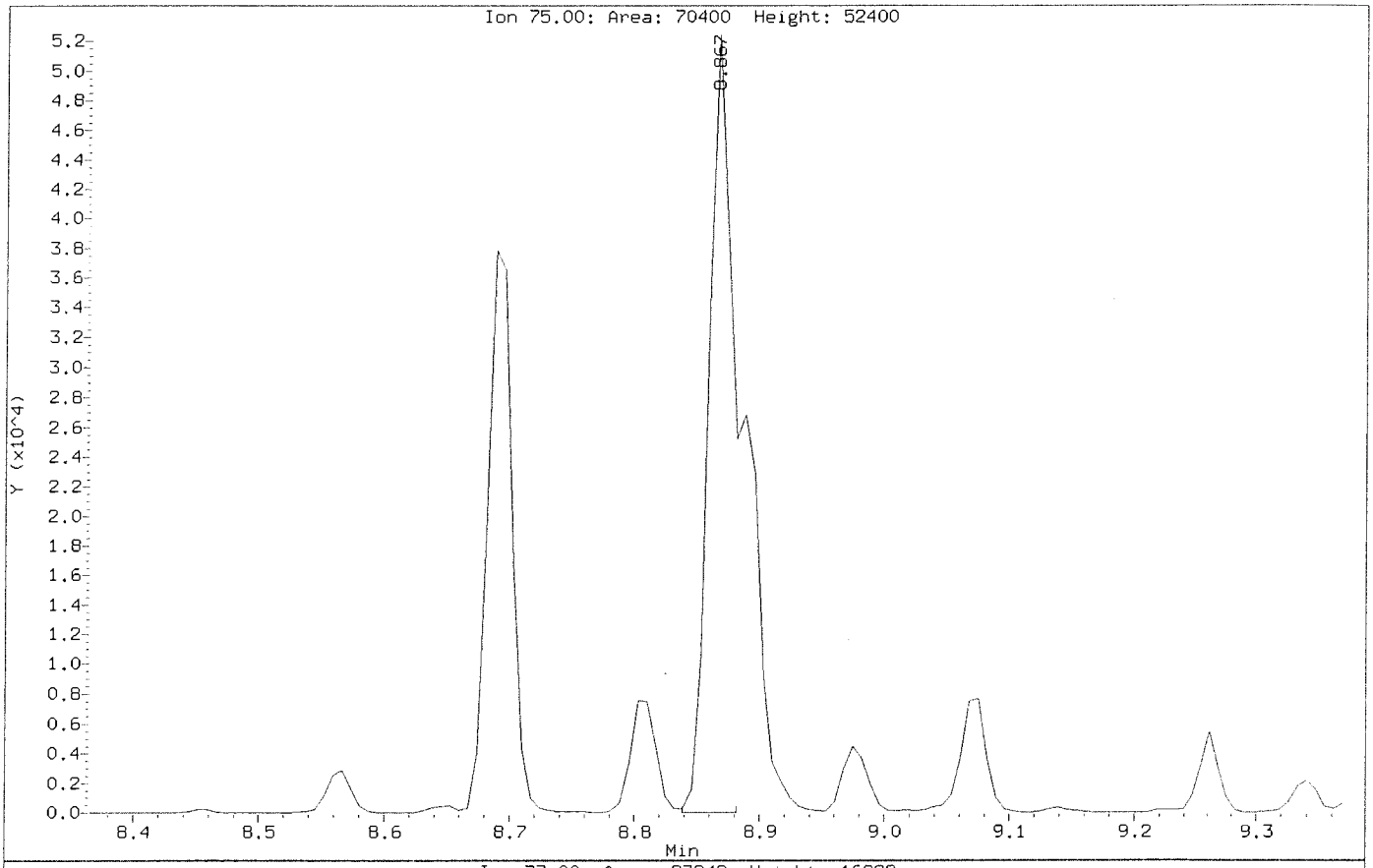
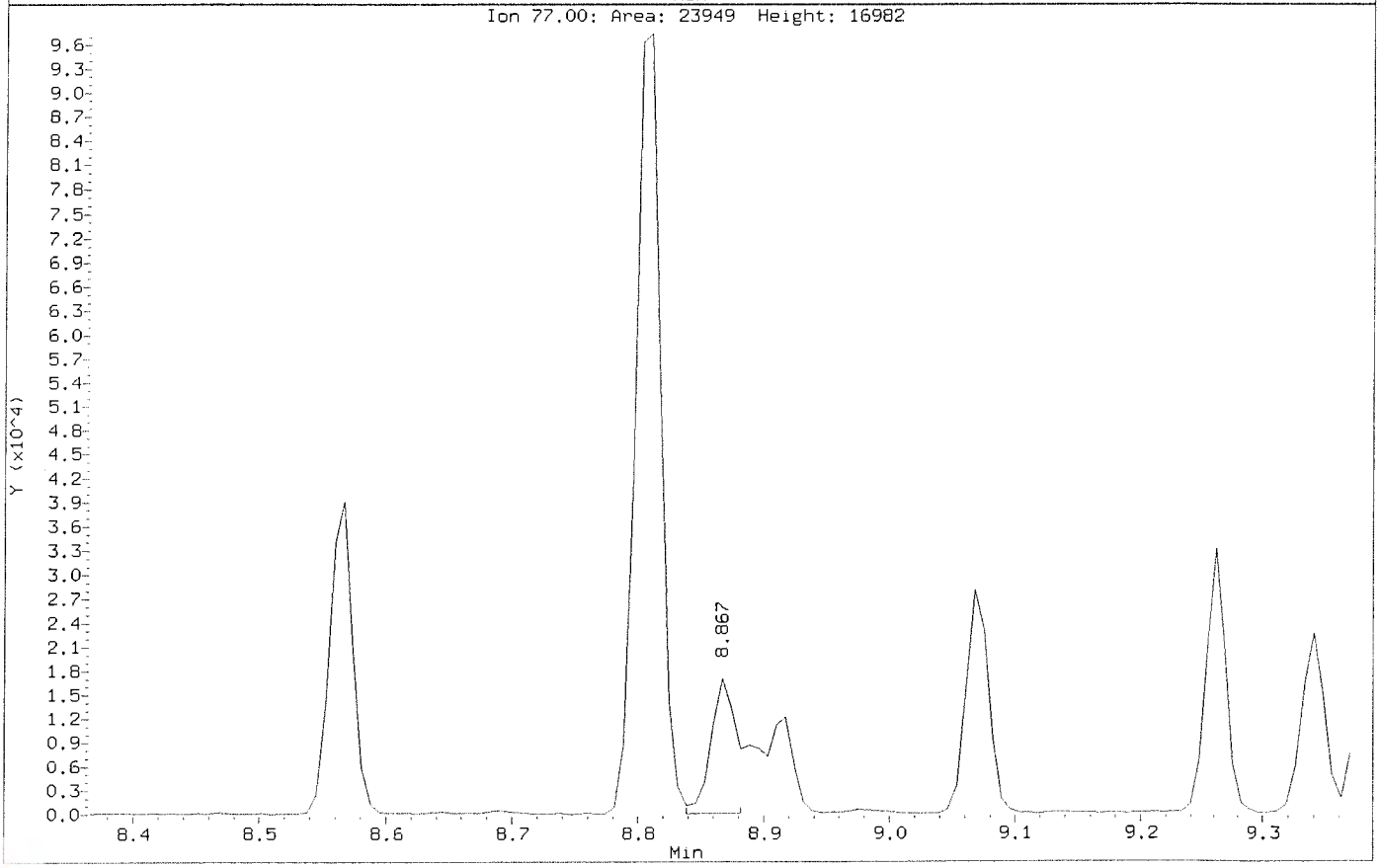
Injection Date: 01-NOV-2019 22:22
Instrument: voa6.i
Client Sample ID: CCV-END

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





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WorkOrder: HS19101706

Longhorn Army Ammunition Plant

Aptim Environmental & Infrastucture, Inc.

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

21-Nov-2019

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ALS Group USA, Corp
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HS19101706 WC Raw Data

HS19101706 Longhorn Army Ammunition Plant
Final

ALS WO# HS19101706

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November 20, 2019

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

Work Order: **HS19101706**

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

Dear Susan,

ALS Environmental received 8 sample(s) on Oct 29, 2019 for the analysis presented in the following report.

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

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

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

Sincerely,

Generated By: DAYNA.FISHER
RJ Modashia
Project Manager

ALS Houston, US Date: 20-Nov-19

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
Work Order: HS19101706

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS19101706-01	67WW12-191028	Groundwater		28-Oct-2019 08:50	29-Oct-2019 08:45	☐
HS19101706-02	67WW07-191028	Groundwater		28-Oct-2019 09:40	29-Oct-2019 08:45	☐
HS19101706-03	67WW10-191028	Groundwater		28-Oct-2019 10:25	29-Oct-2019 08:45	☐
HS19101706-04	67WW09A-191028	Groundwater		28-Oct-2019 11:15	29-Oct-2019 08:45	☐
HS19101706-05	67WW13-191028	Groundwater		28-Oct-2019 12:05	29-Oct-2019 08:45	☐
HS19101706-06	67WW08-191028	Groundwater		28-Oct-2019 13:00	29-Oct-2019 08:45	☐
HS19101706-07	67WW08-191028-FD	Groundwater		28-Oct-2019 13:00	29-Oct-2019 08:45	☐
HS19101706-08	Trip Blank	Groundwater	ALS-012519-54	28-Oct-2019 00:00	29-Oct-2019 08:45	☐

ALS Houston, US Date: 20-Nov-19

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
Work Order: HS19101706

CASE NARRATIVE

Work Order Comments

• The analysis for Methane, Methene, Ethane and CO2 by RSK175 was subcontracted to ALS Simi Valley, CA. Final report attached.

Work Order Comments

• The analysis for TOC was subcontracted to ALS Environmental in Kelso, WA. Final Report attached.

GCMS Volatiles by Method SW8260

Batch ID: R349684

Sample ID: CCV

• 1,2,3_Trichlorobenzene and Naphthalene exceeded %D limits for CCV. Samples are ND for these compounds.

Sample ID: HS19101523-07MSD

• MSD is for an unrelated sample

WetChemistry by Method SW9056

Batch ID: R349509

Sample ID: 67WW08-191028 (HS19101706-06)

• The reporting limit is elevated due to dilution for high concentrations of non-target analytes. (Nitrogen, Nitrate (As N))

Sample ID: 67WW08-191028-FD (HS19101706-07)

• The reporting limit is elevated due to dilution for high concentrations of non-target analytes. (Nitrogen, Nitrate (As N))

Sample ID: 67WW13-191028 (HS19101706-05)

• The reporting limit is elevated due to dilution for high concentrations of non-target analytes. (Nitrogen, Nitrate (As N))

ALS Houston, US Date: 20-Nov-19

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
Sample ID: 67WW12-191028
Collection Date: 28-Oct-2019 08:50

ANALYTICAL REPORT
WorkOrder:HS19101706
Lab ID:HS19101706-01
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	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 19:10
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 19:10
1,1,2,2-Tetrachloroethane	0.50	U	0.50	0.50	1.0	UG/L	1	01-Nov-2019 19:10
1,1,2-Trichlor-1,2,2-trifluoroethane	0.50	U	0.50	0.50	1.0	UG/L	1	01-Nov-2019 19:10
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 19:10
1,1-Dichloroethane	**0.51**	J	**0.20**	**0.50**	**1.0**	**UG/L**	1	01-Nov-2019 19:10
1,1-Dichloroethene	**17**		**0.20**	**0.50**	**1.0**	**UG/L**	1	01-Nov-2019 19:10
1,1-Dichloropropene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 19:10
1,2,3-Trichlorobenzene	0.50	U	0.40	0.50	1.0	UG/L	1	01-Nov-2019 19:10
1,2,3-Trichloropropane	0.50	U	0.50	0.50	1.0	UG/L	1	01-Nov-2019 19:10
1,2,4-Trichlorobenzene	0.50	U	0.50	0.50	1.0	UG/L	1	01-Nov-2019 19:10
1,2,4-Trimethylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 19:10
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 19:10
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 19:10
1,2-Dichlorobenzene	0.50	U	0.50	0.50	1.0	UG/L	1	01-Nov-2019 19:10
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 19:10
1,2-Dichloropropane	0.50	U	0.50	0.50	1.0	UG/L	1	01-Nov-2019 19:10
1,3,5-Trimethylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 19:10
1,3-Dichlorobenzene	0.50	U	0.40	0.50	1.0	UG/L	1	01-Nov-2019 19:10
1,3-Dichloropropane	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 19:10
1,4-Dichlorobenzene	0.50	U	0.40	0.50	1.0	UG/L	1	01-Nov-2019 19:10
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 19:10
2-Butanone	1.0	U	0.50	1.0	2.0	UG/L	1	01-Nov-2019 19:10
2-Chlorotoluene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 19:10
2-Hexanone	1.0	U	1.0	1.0	2.0	UG/L	1	01-Nov-2019 19:10
4-Chlorotoluene	0.50	U	0.40	0.50	1.0	UG/L	1	01-Nov-2019 19:10
4-Isopropyltoluene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 19:10
4-Methyl-2-pentanone	1.0	U	0.70	1.0	2.0	UG/L	1	01-Nov-2019 19:10
Acetone	1.0	U	0.40	1.0	2.0	UG/L	1	01-Nov-2019 19:10
Benzene	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 19:10
Bromobenzene	0.50	U	0.40	0.50	1.0	UG/L	1	01-Nov-2019 19:10
Bromochloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 19:10
Bromodichloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 19:10
Bromoform	0.50	U	0.40	0.50	1.0	UG/L	1	01-Nov-2019 19:10
Bromomethane	0.50	U	0.40	0.50	1.0	UG/L	1	01-Nov-2019 19:10
Carbon disulfide	1.0	U	0.60	1.0	2.0	UG/L	1	01-Nov-2019 19:10
Carbon tetrachloride	0.50	U	0.50	0.50	1.0	UG/L	1	01-Nov-2019 19:10
Chlorobenzene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 19:10
Chloroethane	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 19:10

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

ALS Houston, US Date: 20-Nov-19

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
Sample ID: 67WW12-191028
Collection Date: 28-Oct-2019 08:50

ANALYTICAL REPORT
WorkOrder:HS19101706
Lab ID:HS19101706-01
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	01-Nov-2019 19:10
Chloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 19:10
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 19:10
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	UG/L	1	01-Nov-2019 19:10
Dibromochloromethane	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 19:10
Dibromomethane	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 19:10
Dichlorodifluoromethane	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 19:10
Ethylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 19:10
Hexachlorobutadiene	0.50	U	1.0	0.50	1.0	UG/L	1	01-Nov-2019 19:10
Isopropylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 19:10
m,p-Xylene	1.0	U	0.50	1.0	2.0	UG/L	1	01-Nov-2019 19:10
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	01-Nov-2019 19:10
n-Butylbenzene	0.50	U	0.40	0.50	1.0	UG/L	1	01-Nov-2019 19:10
n-Propylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 19:10
Naphthalene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 19:10
o-Xylene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 19:10
sec-Butylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 19:10
Styrene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 19:10
tert-Butylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 19:10
Tetrachloroethene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 19:10
Toluene	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 19:10
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 19:10
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 19:10
Trichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 19:10
Trichlorofluoromethane	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 19:10
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 19:10
Surr: 1,2-Dichloroethane-d4	*89.6*			**0**	*81-118*	*%REC*	*1*	*01-Nov-2019 19:10*
Surr: 4-Bromofluorobenzene	*102*			**0**	*85-114*	*%REC*	*1*	*01-Nov-2019 19:10*
Surr: Dibromofluoromethane	*92.4*			**0**	*80-119*	*%REC*	*1*	*01-Nov-2019 19:10*
Surr: Toluene-d8	*100*			**0**	*89-112*	*%REC*	*1*	*01-Nov-2019 19:10*

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

ALS Houston, US Date: 20-Nov-19

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
Sample ID: 67WW07-191028
Collection Date: 28-Oct-2019 09:40

ANALYTICAL REPORT
WorkOrder:HS19101706
Lab ID:HS19101706-02
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 19:34
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 19:34
1,1,2,2-Tetrachloroethane	0.50	U	0.50	0.50	1.0	UG/L	1	01-Nov-2019 19:34
1,1,2-Trichlor-1,2,2-trifluoroethane	0.50	U	0.50	0.50	1.0	UG/L	1	01-Nov-2019 19:34
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 19:34
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 19:34
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 19:34
1,1-Dichloropropene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 19:34
1,2,3-Trichlorobenzene	0.50	U	0.40	0.50	1.0	UG/L	1	01-Nov-2019 19:34
1,2,3-Trichloropropane	0.50	U	0.50	0.50	1.0	UG/L	1	01-Nov-2019 19:34
1,2,4-Trichlorobenzene	0.50	U	0.50	0.50	1.0	UG/L	1	01-Nov-2019 19:34
1,2,4-Trimethylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 19:34
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 19:34
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 19:34
1,2-Dichlorobenzene	0.50	U	0.50	0.50	1.0	UG/L	1	01-Nov-2019 19:34
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 19:34
1,2-Dichloropropane	0.50	U	0.50	0.50	1.0	UG/L	1	01-Nov-2019 19:34
1,3,5-Trimethylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 19:34
1,3-Dichlorobenzene	0.50	U	0.40	0.50	1.0	UG/L	1	01-Nov-2019 19:34
1,3-Dichloropropane	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 19:34
1,4-Dichlorobenzene	0.50	U	0.40	0.50	1.0	UG/L	1	01-Nov-2019 19:34
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 19:34
2-Butanone	1.0	U	0.50	1.0	2.0	UG/L	1	01-Nov-2019 19:34
2-Chlorotoluene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 19:34
2-Hexanone	1.0	U	1.0	1.0	2.0	UG/L	1	01-Nov-2019 19:34
4-Chlorotoluene	0.50	U	0.40	0.50	1.0	UG/L	1	01-Nov-2019 19:34
4-Isopropyltoluene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 19:34
4-Methyl-2-pentanone	1.0	U	0.70	1.0	2.0	UG/L	1	01-Nov-2019 19:34
Acetone	1.0	U	0.40	1.0	2.0	UG/L	1	01-Nov-2019 19:34
Benzene	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 19:34
Bromobenzene	0.50	U	0.40	0.50	1.0	UG/L	1	01-Nov-2019 19:34
Bromochloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 19:34
Bromodichloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 19:34
Bromoform	0.50	U	0.40	0.50	1.0	UG/L	1	01-Nov-2019 19:34
Bromomethane	0.50	U	0.40	0.50	1.0	UG/L	1	01-Nov-2019 19:34
Carbon disulfide	1.0	U	0.60	1.0	2.0	UG/L	1	01-Nov-2019 19:34
Carbon tetrachloride	0.50	U	0.50	0.50	1.0	UG/L	1	01-Nov-2019 19:34
Chlorobenzene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 19:34
Chloroethane	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 19:34

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

ALS Houston, US Date: 20-Nov-19

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
Sample ID: 67WW07-191028
Collection Date: 28-Oct-2019 09:40

ANALYTICAL REPORT
WorkOrder:HS19101706
Lab ID:HS19101706-02
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	01-Nov-2019 19:34
Chloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 19:34
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 19:34
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	UG/L	1	01-Nov-2019 19:34
Dibromochloromethane	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 19:34
Dibromomethane	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 19:34
Dichlorodifluoromethane	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 19:34
Ethylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 19:34
Hexachlorobutadiene	0.50	U	1.0	0.50	1.0	UG/L	1	01-Nov-2019 19:34
Isopropylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 19:34
m,p-Xylene	1.0	U	0.50	1.0	2.0	UG/L	1	01-Nov-2019 19:34
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	01-Nov-2019 19:34
n-Butylbenzene	0.50	U	0.40	0.50	1.0	UG/L	1	01-Nov-2019 19:34
n-Propylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 19:34
Naphthalene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 19:34
o-Xylene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 19:34
sec-Butylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 19:34
Styrene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 19:34
tert-Butylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 19:34
Tetrachloroethene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 19:34
Toluene	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 19:34
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 19:34
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 19:34
Trichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 19:34
Trichlorofluoromethane	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 19:34
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 19:34
Surr: 1,2-Dichloroethane-d4	*89.6*			**0**	*81-118*	*%REC*	*1*	*01-Nov-2019 19:34*
Surr: 4-Bromofluorobenzene	*103*			**0**	*85-114*	*%REC*	*1*	*01-Nov-2019 19:34*
Surr: Dibromofluoromethane	*93.1*			**0**	*80-119*	*%REC*	*1*	*01-Nov-2019 19:34*
Surr: Toluene-d8	*99.1*			**0**	*89-112*	*%REC*	*1*	*01-Nov-2019 19:34*

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

ALS Houston, US Date: 20-Nov-19

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
Sample ID: 67WW10-191028
Collection Date: 28-Oct-2019 10:25

ANALYTICAL REPORT
WorkOrder:HS19101706
Lab ID:HS19101706-03
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 19:58
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 19:58
1,1,2,2-Tetrachloroethane	0.50	U	0.50	0.50	1.0	UG/L	1	01-Nov-2019 19:58
1,1,2-Trichlor-1,2,2-trifluoroethane	0.50	U	0.50	0.50	1.0	UG/L	1	01-Nov-2019 19:58
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 19:58
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 19:58
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 19:58
1,1-Dichloropropene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 19:58
1,2,3-Trichlorobenzene	0.50	U	0.40	0.50	1.0	UG/L	1	01-Nov-2019 19:58
1,2,3-Trichloropropane	0.50	U	0.50	0.50	1.0	UG/L	1	01-Nov-2019 19:58
1,2,4-Trichlorobenzene	0.50	U	0.50	0.50	1.0	UG/L	1	01-Nov-2019 19:58
1,2,4-Trimethylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 19:58
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 19:58
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 19:58
1,2-Dichlorobenzene	0.50	U	0.50	0.50	1.0	UG/L	1	01-Nov-2019 19:58
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 19:58
1,2-Dichloropropane	0.50	U	0.50	0.50	1.0	UG/L	1	01-Nov-2019 19:58
1,3,5-Trimethylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 19:58
1,3-Dichlorobenzene	0.50	U	0.40	0.50	1.0	UG/L	1	01-Nov-2019 19:58
1,3-Dichloropropane	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 19:58
1,4-Dichlorobenzene	0.50	U	0.40	0.50	1.0	UG/L	1	01-Nov-2019 19:58
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 19:58
2-Butanone	1.0	U	0.50	1.0	2.0	UG/L	1	01-Nov-2019 19:58
2-Chlorotoluene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 19:58
2-Hexanone	1.0	U	1.0	1.0	2.0	UG/L	1	01-Nov-2019 19:58
4-Chlorotoluene	0.50	U	0.40	0.50	1.0	UG/L	1	01-Nov-2019 19:58
4-Isopropyltoluene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 19:58
4-Methyl-2-pentanone	1.0	U	0.70	1.0	2.0	UG/L	1	01-Nov-2019 19:58
Acetone	1.0	U	0.40	1.0	2.0	UG/L	1	01-Nov-2019 19:58
Benzene	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 19:58
Bromobenzene	0.50	U	0.40	0.50	1.0	UG/L	1	01-Nov-2019 19:58
Bromochloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 19:58
Bromodichloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 19:58
Bromoform	0.50	U	0.40	0.50	1.0	UG/L	1	01-Nov-2019 19:58
Bromomethane	0.50	U	0.40	0.50	1.0	UG/L	1	01-Nov-2019 19:58
Carbon disulfide	1.0	U	0.60	1.0	2.0	UG/L	1	01-Nov-2019 19:58
Carbon tetrachloride	0.50	U	0.50	0.50	1.0	UG/L	1	01-Nov-2019 19:58
Chlorobenzene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 19:58
Chloroethane	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 19:58

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

ALS Houston, US Date: 20-Nov-19

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
Sample ID: 67WW10-191028
Collection Date: 28-Oct-2019 10:25

ANALYTICAL REPORT
WorkOrder:HS19101706
Lab ID:HS19101706-03
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	01-Nov-2019 19:58
Chloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 19:58
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 19:58
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	UG/L	1	01-Nov-2019 19:58
Dibromochloromethane	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 19:58
Dibromomethane	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 19:58
Dichlorodifluoromethane	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 19:58
Ethylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 19:58
Hexachlorobutadiene	0.50	U	1.0	0.50	1.0	UG/L	1	01-Nov-2019 19:58
Isopropylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 19:58
m,p-Xylene	1.0	U	0.50	1.0	2.0	UG/L	1	01-Nov-2019 19:58
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	01-Nov-2019 19:58
n-Butylbenzene	0.50	U	0.40	0.50	1.0	UG/L	1	01-Nov-2019 19:58
n-Propylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 19:58
Naphthalene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 19:58
o-Xylene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 19:58
sec-Butylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 19:58
Styrene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 19:58
tert-Butylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 19:58
Tetrachloroethene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 19:58
Toluene	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 19:58
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 19:58
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 19:58
Trichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 19:58
Trichlorofluoromethane	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 19:58
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 19:58
Surr: 1,2-Dichloroethane-d4	*92.2*			**0**	*81-118*	*%REC*	*1*	*01-Nov-2019 19:58*
Surr: 4-Bromofluorobenzene	*99.1*			**0**	*85-114*	*%REC*	*1*	*01-Nov-2019 19:58*
Surr: Dibromofluoromethane	*93.4*			**0**	*80-119*	*%REC*	*1*	*01-Nov-2019 19:58*
Surr: Toluene-d8	*103*			**0**	*89-112*	*%REC*	*1*	*01-Nov-2019 19:58*

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

ALS Houston, US Date: 20-Nov-19

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
Sample ID: 67WW09A-191028
Collection Date: 28-Oct-2019 11:15

ANALYTICAL REPORT
WorkOrder:HS19101706
Lab ID:HS19101706-04
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 20:22
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 20:22
1,1,2,2-Tetrachloroethane	0.50	U	0.50	0.50	1.0	UG/L	1	01-Nov-2019 20:22
1,1,2-Trichlor-1,2,2-trifluoroethane	0.50	U	0.50	0.50	1.0	UG/L	1	01-Nov-2019 20:22
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 20:22
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 20:22
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 20:22
1,1-Dichloropropene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 20:22
1,2,3-Trichlorobenzene	0.50	U	0.40	0.50	1.0	UG/L	1	01-Nov-2019 20:22
1,2,3-Trichloropropane	0.50	U	0.50	0.50	1.0	UG/L	1	01-Nov-2019 20:22
1,2,4-Trichlorobenzene	0.50	U	0.50	0.50	1.0	UG/L	1	01-Nov-2019 20:22
1,2,4-Trimethylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 20:22
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 20:22
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 20:22
1,2-Dichlorobenzene	0.50	U	0.50	0.50	1.0	UG/L	1	01-Nov-2019 20:22
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 20:22
1,2-Dichloropropane	0.50	U	0.50	0.50	1.0	UG/L	1	01-Nov-2019 20:22
1,3,5-Trimethylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 20:22
1,3-Dichlorobenzene	0.50	U	0.40	0.50	1.0	UG/L	1	01-Nov-2019 20:22
1,3-Dichloropropane	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 20:22
1,4-Dichlorobenzene	0.50	U	0.40	0.50	1.0	UG/L	1	01-Nov-2019 20:22
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 20:22
2-Butanone	1.0	U	0.50	1.0	2.0	UG/L	1	01-Nov-2019 20:22
2-Chlorotoluene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 20:22
2-Hexanone	1.0	U	1.0	1.0	2.0	UG/L	1	01-Nov-2019 20:22
4-Chlorotoluene	0.50	U	0.40	0.50	1.0	UG/L	1	01-Nov-2019 20:22
4-Isopropyltoluene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 20:22
4-Methyl-2-pentanone	1.0	U	0.70	1.0	2.0	UG/L	1	01-Nov-2019 20:22
Acetone	1.0	U	0.40	1.0	2.0	UG/L	1	01-Nov-2019 20:22
Benzene	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 20:22
Bromobenzene	0.50	U	0.40	0.50	1.0	UG/L	1	01-Nov-2019 20:22
Bromochloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 20:22
Bromodichloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 20:22
Bromoform	0.50	U	0.40	0.50	1.0	UG/L	1	01-Nov-2019 20:22
Bromomethane	0.50	U	0.40	0.50	1.0	UG/L	1	01-Nov-2019 20:22
Carbon disulfide	1.0	U	0.60	1.0	2.0	UG/L	1	01-Nov-2019 20:22
Carbon tetrachloride	0.50	U	0.50	0.50	1.0	UG/L	1	01-Nov-2019 20:22
Chlorobenzene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 20:22
Chloroethane	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 20:22

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

ALS Houston, US Date: 20-Nov-19

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
Sample ID: 67WW09A-191028
Collection Date: 28-Oct-2019 11:15

ANALYTICAL REPORT
WorkOrder:HS19101706
Lab ID:HS19101706-04
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	01-Nov-2019 20:22
Chloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 20:22
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 20:22
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	UG/L	1	01-Nov-2019 20:22
Dibromochloromethane	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 20:22
Dibromomethane	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 20:22
Dichlorodifluoromethane	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 20:22
Ethylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 20:22
Hexachlorobutadiene	0.50	U	1.0	0.50	1.0	UG/L	1	01-Nov-2019 20:22
Isopropylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 20:22
m,p-Xylene	1.0	U	0.50	1.0	2.0	UG/L	1	01-Nov-2019 20:22
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	01-Nov-2019 20:22
n-Butylbenzene	0.50	U	0.40	0.50	1.0	UG/L	1	01-Nov-2019 20:22
n-Propylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 20:22
Naphthalene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 20:22
o-Xylene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 20:22
sec-Butylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 20:22
Styrene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 20:22
tert-Butylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 20:22
Tetrachloroethene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 20:22
Toluene	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 20:22
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 20:22
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 20:22
Trichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 20:22
Trichlorofluoromethane	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 20:22
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 20:22
Surr: 1,2-Dichloroethane-d4	*89.7*			**0**	*81-118*	*%REC*	*1*	*01-Nov-2019 20:22*
Surr: 4-Bromofluorobenzene	*101*			**0**	*85-114*	*%REC*	*1*	*01-Nov-2019 20:22*
Surr: Dibromofluoromethane	*92.0*			**0**	*80-119*	*%REC*	*1*	*01-Nov-2019 20:22*
Surr: Toluene-d8	*101*			**0**	*89-112*	*%REC*	*1*	*01-Nov-2019 20:22*

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

ALS Houston, US Date: 20-Nov-19

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
Sample ID: 67WW13-191028
Collection Date: 28-Oct-2019 12:05

ANALYTICAL REPORT
WorkOrder:HS19101706
Lab ID:HS19101706-05
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	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 17:09
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 17:09
1,1,2,2-Tetrachloroethane	0.50	U	0.50	0.50	1.0	UG/L	1	01-Nov-2019 17:09
1,1,2-Trichlor-1,2,2-trifluoroethane	0.50	U	0.50	0.50	1.0	UG/L	1	01-Nov-2019 17:09
1,1,2-Trichloroethane	**5.0**		**0.30**	**0.50**	**1.0**	**UG/L**	1	01-Nov-2019 17:09
1,1-Dichloroethane	**31**		**0.20**	**0.50**	**1.0**	**UG/L**	1	01-Nov-2019 17:09
1,1-Dichloroethene	**640**		**2.0**	**5.0**	**10**	**UG/L**	10	01-Nov-2019 18:22
1,1-Dichloropropene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 17:09
1,2,3-Trichlorobenzene	0.50	U	0.40	0.50	1.0	UG/L	1	01-Nov-2019 17:09
1,2,3-Trichloropropane	0.50	U	0.50	0.50	1.0	UG/L	1	01-Nov-2019 17:09
1,2,4-Trichlorobenzene	0.50	U	0.50	0.50	1.0	UG/L	1	01-Nov-2019 17:09
1,2,4-Trimethylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 17:09
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 17:09
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 17:09
1,2-Dichlorobenzene	0.50	U	0.50	0.50	1.0	UG/L	1	01-Nov-2019 17:09
1,2-Dichloroethane	**36**		**0.20**	**0.50**	**1.0**	**UG/L**	1	01-Nov-2019 17:09
1,2-Dichloropropane	0.50	U	0.50	0.50	1.0	UG/L	1	01-Nov-2019 17:09
1,3,5-Trimethylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 17:09
1,3-Dichlorobenzene	0.50	U	0.40	0.50	1.0	UG/L	1	01-Nov-2019 17:09
1,3-Dichloropropane	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 17:09
1,4-Dichlorobenzene	0.50	U	0.40	0.50	1.0	UG/L	1	01-Nov-2019 17:09
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 17:09
2-Butanone	1.0	U	0.50	1.0	2.0	UG/L	1	01-Nov-2019 17:09
2-Chlorotoluene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 17:09
2-Hexanone	1.0	U	1.0	1.0	2.0	UG/L	1	01-Nov-2019 17:09
4-Chlorotoluene	0.50	U	0.40	0.50	1.0	UG/L	1	01-Nov-2019 17:09
4-Isopropyltoluene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 17:09
4-Methyl-2-pentanone	1.0	U	0.70	1.0	2.0	UG/L	1	01-Nov-2019 17:09
Acetone	1.0	U	0.40	1.0	2.0	UG/L	1	01-Nov-2019 17:09
Benzene	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 17:09
Bromobenzene	0.50	U	0.40	0.50	1.0	UG/L	1	01-Nov-2019 17:09
Bromochloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 17:09
Bromodichloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 17:09
Bromoform	0.50	U	0.40	0.50	1.0	UG/L	1	01-Nov-2019 17:09
Bromomethane	0.50	U	0.40	0.50	1.0	UG/L	1	01-Nov-2019 17:09
Carbon disulfide	1.0	U	0.60	1.0	2.0	UG/L	1	01-Nov-2019 17:09
Carbon tetrachloride	0.50	U	0.50	0.50	1.0	UG/L	1	01-Nov-2019 17:09
Chlorobenzene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 17:09
Chloroethane	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 17:09

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

ALS Houston, US Date: 20-Nov-19

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
Sample ID: 67WW13-191028
Collection Date: 28-Oct-2019 12:05

ANALYTICAL REPORT
WorkOrder:HS19101706
Lab ID:HS19101706-05
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
Chloroform	**0.66**	J	**0.20**	**0.50**	**1.0**	**UG/L**	1	01-Nov-2019 17:09
Chloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 17:09
cis-1,2-Dichloroethene	**1.8**		**0.20**	**0.50**	**1.0**	**UG/L**	1	01-Nov-2019 17:09
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	UG/L	1	01-Nov-2019 17:09
Dibromochloromethane	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 17:09
Dibromomethane	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 17:09
Dichlorodifluoromethane	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 17:09
Ethylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 17:09
Hexachlorobutadiene	0.50	U	1.0	0.50	1.0	UG/L	1	01-Nov-2019 17:09
Isopropylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 17:09
m,p-Xylene	1.0	U	0.50	1.0	2.0	UG/L	1	01-Nov-2019 17:09
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	01-Nov-2019 17:09
n-Butylbenzene	0.50	U	0.40	0.50	1.0	UG/L	1	01-Nov-2019 17:09
n-Propylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 17:09
Naphthalene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 17:09
o-Xylene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 17:09
sec-Butylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 17:09
Styrene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 17:09
tert-Butylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 17:09
Tetrachloroethene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 17:09
Toluene	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 17:09
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 17:09
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 17:09
Trichloroethene	**2.6**		**0.20**	**0.50**	**1.0**	**UG/L**	1	01-Nov-2019 17:09
Trichlorofluoromethane	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 17:09
Vinyl chloride	**0.82**	J	**0.20**	**0.50**	**1.0**	**UG/L**	1	01-Nov-2019 17:09
Surr: 1,2-Dichloroethane-d4	*89.6*			**0**	*81-118*	*%REC*	*1*	*01-Nov-2019 17:09*
Surr: 1,2-Dichloroethane-d4	*90.9*			**0**	*81-118*	*%REC*	*10*	*01-Nov-2019 18:22*
Surr: 4-Bromofluorobenzene	*101*			**0**	*85-114*	*%REC*	*1*	*01-Nov-2019 17:09*
Surr: 4-Bromofluorobenzene	*98.6*			**0**	*85-114*	*%REC*	*10*	*01-Nov-2019 18:22*
Surr: Dibromofluoromethane	*91.8*			**0**	*80-119*	*%REC*	*1*	*01-Nov-2019 17:09*
Surr: Dibromofluoromethane	*92.6*			**0**	*80-119*	*%REC*	*10*	*01-Nov-2019 18:22*
Surr: Toluene-d8	*101*			**0**	*89-112*	*%REC*	*1*	*01-Nov-2019 17:09*
Surr: Toluene-d8	*100*			**0**	*89-112*	*%REC*	*10*	*01-Nov-2019 18:22*
ANIONS BY SW9056A		**Method:SW9056**						Analyst: KMU
Chloride	**1,280**		**10.0**	**25.0**	**25.0**	**mg/L**	50	30-Oct-2019 07:23
Nitrogen, Nitrate (As N)	0.200	U	0.0600	0.200	0.200	mg/L	2	30-Oct-2019 11:03
Sulfate	**304**		**1.00**	**2.50**	**2.50**	**mg/L**	5	30-Oct-2019 07:06

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

ALS Houston, US Date: 20-Nov-19

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
Sample ID: 67WW13-191028
Collection Date: 28-Oct-2019 12:05

ANALYTICAL REPORT
WorkOrder:HS19101706
Lab ID:HS19101706-05
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
SUBCONTRACT ANALYSIS - RSK		**Method:NA**						Analyst: SUBCA
Subcontract Analysis	See Attached		0	0		NA	1	14-Nov-2019 09:19
SUBCONTRACT ANALYSIS - TOC ANALYSIS		**Method:NA**						Analyst: SUBK
Subcontract Analysis	See Attached		0	0		NA	1	20-Nov-2019 09:46

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

ALS Houston, US Date: 20-Nov-19

Client: Aptim Environmental & Infrastructure, Inc.
Project: Longhorn Army Ammunition Plant
Sample ID: 67WW08-191028
Collection Date: 28-Oct-2019 13:00

ANALYTICAL REPORT
WorkOrder:HS19101706
Lab ID:HS19101706-06
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
1,1,1,2-Tetrachloroethane	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 15:33
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 15:33
1,1,2,2-Tetrachloroethane	0.50	U	0.50	0.50	1.0	UG/L	1	01-Nov-2019 15:33
1,1,2-Trichlor-1,2,2-trifluoroethane	0.50	U	0.50	0.50	1.0	UG/L	1	01-Nov-2019 15:33
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 15:33
1,1-Dichloroethane	**7.7**		**0.20**	**0.50**	**1.0**	**UG/L**	1	01-Nov-2019 15:33
1,1-Dichloroethene	**63**		**0.20**	**0.50**	**1.0**	**UG/L**	1	01-Nov-2019 15:33
1,1-Dichloropropene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 15:33
1,2,3-Trichlorobenzene	0.50	U	0.40	0.50	1.0	UG/L	1	01-Nov-2019 15:33
1,2,3-Trichloropropane	0.50	U	0.50	0.50	1.0	UG/L	1	01-Nov-2019 15:33
1,2,4-Trichlorobenzene	0.50	U	0.50	0.50	1.0	UG/L	1	01-Nov-2019 15:33
1,2,4-Trimethylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 15:33
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 15:33
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 15:33
1,2-Dichlorobenzene	0.50	U	0.50	0.50	1.0	UG/L	1	01-Nov-2019 15:33
1,2-Dichloroethane	**2.3**		**0.20**	**0.50**	**1.0**	**UG/L**	1	01-Nov-2019 15:33
1,2-Dichloropropane	0.50	U	0.50	0.50	1.0	UG/L	1	01-Nov-2019 15:33
1,3,5-Trimethylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 15:33
1,3-Dichlorobenzene	0.50	U	0.40	0.50	1.0	UG/L	1	01-Nov-2019 15:33
1,3-Dichloropropane	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 15:33
1,4-Dichlorobenzene	0.50	U	0.40	0.50	1.0	UG/L	1	01-Nov-2019 15:33
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 15:33
2-Butanone	1.0	U	0.50	1.0	2.0	UG/L	1	01-Nov-2019 15:33
2-Chlorotoluene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 15:33
2-Hexanone	1.0	U	1.0	1.0	2.0	UG/L	1	01-Nov-2019 15:33
4-Chlorotoluene	0.50	U	0.40	0.50	1.0	UG/L	1	01-Nov-2019 15:33
4-Isopropyltoluene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 15:33
4-Methyl-2-pentanone	1.0	U	0.70	1.0	2.0	UG/L	1	01-Nov-2019 15:33
Acetone	1.0	U	0.40	1.0	2.0	UG/L	1	01-Nov-2019 15:33
Benzene	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 15:33
Bromobenzene	0.50	U	0.40	0.50	1.0	UG/L	1	01-Nov-2019 15:33
Bromochloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 15:33
Bromodichloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 15:33
Bromoform	0.50	U	0.40	0.50	1.0	UG/L	1	01-Nov-2019 15:33
Bromomethane	0.50	U	0.40	0.50	1.0	UG/L	1	01-Nov-2019 15:33
Carbon disulfide	1.0	U	0.60	1.0	2.0	UG/L	1	01-Nov-2019 15:33
Carbon tetrachloride	0.50	U	0.50	0.50	1.0	UG/L	1	01-Nov-2019 15:33
Chlorobenzene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 15:33
Chloroethane	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 15:33

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

ALS Houston, US Date: 20-Nov-19

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
Sample ID: 67WW08-191028
Collection Date: 28-Oct-2019 13:00

ANALYTICAL REPORT
WorkOrder:HS19101706
Lab ID:HS19101706-06
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	01-Nov-2019 15:33
Chloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 15:33
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 15:33
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	UG/L	1	01-Nov-2019 15:33
Dibromochloromethane	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 15:33
Dibromomethane	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 15:33
Dichlorodifluoromethane	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 15:33
Ethylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 15:33
Hexachlorobutadiene	0.50	U	1.0	0.50	1.0	UG/L	1	01-Nov-2019 15:33
Isopropylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 15:33
m,p-Xylene	1.0	U	0.50	1.0	2.0	UG/L	1	01-Nov-2019 15:33
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	01-Nov-2019 15:33
n-Butylbenzene	0.50	U	0.40	0.50	1.0	UG/L	1	01-Nov-2019 15:33
n-Propylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 15:33
Naphthalene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 15:33
o-Xylene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 15:33
sec-Butylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 15:33
Styrene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 15:33
tert-Butylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 15:33
Tetrachloroethene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 15:33
Toluene	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 15:33
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 15:33
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 15:33
Trichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 15:33
Trichlorofluoromethane	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 15:33
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 15:33
Surr: 1,2-Dichloroethane-d4	*89.0*			**0**	*81-118*	*%REC*	*1*	*01-Nov-2019 15:33*
Surr: 4-Bromofluorobenzene	*101*			**0**	*85-114*	*%REC*	*1*	*01-Nov-2019 15:33*
Surr: Dibromofluoromethane	*93.0*			**0**	*80-119*	*%REC*	*1*	*01-Nov-2019 15:33*
Surr: Toluene-d8	*103*			**0**	*89-112*	*%REC*	*1*	*01-Nov-2019 15:33*
ANIONS BY SW9056A		**Method:SW9056**						Analyst: KMU
Chloride	**1,920**		**10.0**	**25.0**	**25.0**	**mg/L**	50	30-Oct-2019 07:56
Nitrogen, Nitrate (As N)	0.200	U	0.0600	0.200	0.200	mg/L	2	30-Oct-2019 11:19
Sulfate	**515**		**10.0**	**25.0**	**25.0**	**mg/L**	50	30-Oct-2019 07:56
SUBCONTRACT ANALYSIS - RSK		**Method:NA**						Analyst: SUBCA
Subcontract Analysis	See Attached		0	0		NA	1	14-Nov-2019 09:19
SUBCONTRACT ANALYSIS - TOC ANALYSIS		**Method:NA**						Analyst: SUBK
Subcontract Analysis	See Attached		0	0		NA	1	20-Nov-2019 09:46

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

ALS Houston, US Date: 20-Nov-19

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
Sample ID: 67WW08-191028-FD
Collection Date: 28-Oct-2019 13:00

ANALYTICAL REPORT
WorkOrder:HS19101706
Lab ID:HS19101706-07
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 15:57
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 15:57
1,1,2,2-Tetrachloroethane	0.50	U	0.50	0.50	1.0	UG/L	1	01-Nov-2019 15:57
1,1,2-Trichlor-1,2,2-trifluoroethane	0.50	U	0.50	0.50	1.0	UG/L	1	01-Nov-2019 15:57
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 15:57
1,1-Dichloroethane	**7.6**		**0.20**	**0.50**	**1.0**	**UG/L**	1	01-Nov-2019 15:57
1,1-Dichloroethene	**65**		**0.20**	**0.50**	**1.0**	**UG/L**	1	01-Nov-2019 15:57
1,1-Dichloropropene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 15:57
1,2,3-Trichlorobenzene	0.50	U	0.40	0.50	1.0	UG/L	1	01-Nov-2019 15:57
1,2,3-Trichloropropane	0.50	U	0.50	0.50	1.0	UG/L	1	01-Nov-2019 15:57
1,2,4-Trichlorobenzene	0.50	U	0.50	0.50	1.0	UG/L	1	01-Nov-2019 15:57
1,2,4-Trimethylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 15:57
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 15:57
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 15:57
1,2-Dichlorobenzene	0.50	U	0.50	0.50	1.0	UG/L	1	01-Nov-2019 15:57
1,2-Dichloroethane	**2.4**		**0.20**	**0.50**	**1.0**	**UG/L**	1	01-Nov-2019 15:57
1,2-Dichloropropane	0.50	U	0.50	0.50	1.0	UG/L	1	01-Nov-2019 15:57
1,3,5-Trimethylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 15:57
1,3-Dichlorobenzene	0.50	U	0.40	0.50	1.0	UG/L	1	01-Nov-2019 15:57
1,3-Dichloropropane	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 15:57
1,4-Dichlorobenzene	0.50	U	0.40	0.50	1.0	UG/L	1	01-Nov-2019 15:57
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 15:57
2-Butanone	1.0	U	0.50	1.0	2.0	UG/L	1	01-Nov-2019 15:57
2-Chlorotoluene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 15:57
2-Hexanone	1.0	U	1.0	1.0	2.0	UG/L	1	01-Nov-2019 15:57
4-Chlorotoluene	0.50	U	0.40	0.50	1.0	UG/L	1	01-Nov-2019 15:57
4-Isopropyltoluene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 15:57
4-Methyl-2-pentanone	1.0	U	0.70	1.0	2.0	UG/L	1	01-Nov-2019 15:57
Acetone	1.0	U	0.40	1.0	2.0	UG/L	1	01-Nov-2019 15:57
Benzene	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 15:57
Bromobenzene	0.50	U	0.40	0.50	1.0	UG/L	1	01-Nov-2019 15:57
Bromochloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 15:57
Bromodichloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 15:57
Bromoform	0.50	U	0.40	0.50	1.0	UG/L	1	01-Nov-2019 15:57
Bromomethane	0.50	U	0.40	0.50	1.0	UG/L	1	01-Nov-2019 15:57
Carbon disulfide	1.0	U	0.60	1.0	2.0	UG/L	1	01-Nov-2019 15:57
Carbon tetrachloride	0.50	U	0.50	0.50	1.0	UG/L	1	01-Nov-2019 15:57
Chlorobenzene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 15:57
Chloroethane	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 15:57

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

ALS Houston, US Date: 20-Nov-19

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
Sample ID: 67WW08-191028-FD
Collection Date: 28-Oct-2019 13:00

ANALYTICAL REPORT
WorkOrder:HS19101706
Lab ID:HS19101706-07
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	01-Nov-2019 15:57
Chloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 15:57
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 15:57
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	UG/L	1	01-Nov-2019 15:57
Dibromochloromethane	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 15:57
Dibromomethane	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 15:57
Dichlorodifluoromethane	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 15:57
Ethylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 15:57
Hexachlorobutadiene	0.50	U	1.0	0.50	1.0	UG/L	1	01-Nov-2019 15:57
Isopropylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 15:57
m,p-Xylene	1.0	U	0.50	1.0	2.0	UG/L	1	01-Nov-2019 15:57
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	01-Nov-2019 15:57
n-Butylbenzene	0.50	U	0.40	0.50	1.0	UG/L	1	01-Nov-2019 15:57
n-Propylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 15:57
Naphthalene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 15:57
o-Xylene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 15:57
sec-Butylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 15:57
Styrene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 15:57
tert-Butylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 15:57
Tetrachloroethene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 15:57
Toluene	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 15:57
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 15:57
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 15:57
Trichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 15:57
Trichlorofluoromethane	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 15:57
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 15:57
Surr: 1,2-Dichloroethane-d4	*91.0*			**0**	*81-118*	*%REC*	*1*	*01-Nov-2019 15:57*
Surr: 4-Bromofluorobenzene	*99.0*			**0**	*85-114*	*%REC*	*1*	*01-Nov-2019 15:57*
Surr: Dibromofluoromethane	*92.5*			**0**	*80-119*	*%REC*	*1*	*01-Nov-2019 15:57*
Surr: Toluene-d8	*102*			**0**	*89-112*	*%REC*	*1*	*01-Nov-2019 15:57*
ANIONS BY SW9056A		**Method:SW9056**						Analyst: KMU
Chloride	**1,890**		**10.0**	**25.0**	**25.0**	**mg/L**	50	30-Oct-2019 08:29
Nitrogen, Nitrate (As N)	0.200	U	0.0600	0.200	0.200	mg/L	2	30-Oct-2019 11:36
Sulfate	**513**		**10.0**	**25.0**	**25.0**	**mg/L**	50	30-Oct-2019 08:29
SUBCONTRACT ANALYSIS - RSK		**Method:NA**						Analyst: SUBCA
Subcontract Analysis	See Attached		0	0		NA	1	14-Nov-2019 09:19
SUBCONTRACT ANALYSIS - TOC ANALYSIS		**Method:NA**						Analyst: SUBK
Subcontract Analysis	See Attached		0	0		NA	1	20-Nov-2019 09:46

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

ALS Houston, US Date: 20-Nov-19

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
Sample ID: Trip Blank
Collection Date: 28-Oct-2019 00:00

ANALYTICAL REPORT
WorkOrder:HS19101706
Lab ID:HS19101706-08
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 18:46
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 18:46
1,1,2,2-Tetrachloroethane	0.50	U	0.50	0.50	1.0	UG/L	1	01-Nov-2019 18:46
1,1,2-Trichlor-1,2,2-trifluoroethane	0.50	U	0.50	0.50	1.0	UG/L	1	01-Nov-2019 18:46
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 18:46
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 18:46
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 18:46
1,1-Dichloropropene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 18:46
1,2,3-Trichlorobenzene	0.50	U	0.40	0.50	1.0	UG/L	1	01-Nov-2019 18:46
1,2,3-Trichloropropane	0.50	U	0.50	0.50	1.0	UG/L	1	01-Nov-2019 18:46
1,2,4-Trichlorobenzene	0.50	U	0.50	0.50	1.0	UG/L	1	01-Nov-2019 18:46
1,2,4-Trimethylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 18:46
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 18:46
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 18:46
1,2-Dichlorobenzene	0.50	U	0.50	0.50	1.0	UG/L	1	01-Nov-2019 18:46
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 18:46
1,2-Dichloropropane	0.50	U	0.50	0.50	1.0	UG/L	1	01-Nov-2019 18:46
1,3,5-Trimethylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 18:46
1,3-Dichlorobenzene	0.50	U	0.40	0.50	1.0	UG/L	1	01-Nov-2019 18:46
1,3-Dichloropropane	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 18:46
1,4-Dichlorobenzene	0.50	U	0.40	0.50	1.0	UG/L	1	01-Nov-2019 18:46
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 18:46
2-Butanone	1.0	U	0.50	1.0	2.0	UG/L	1	01-Nov-2019 18:46
2-Chlorotoluene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 18:46
2-Hexanone	1.0	U	1.0	1.0	2.0	UG/L	1	01-Nov-2019 18:46
4-Chlorotoluene	0.50	U	0.40	0.50	1.0	UG/L	1	01-Nov-2019 18:46
4-Isopropyltoluene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 18:46
4-Methyl-2-pentanone	1.0	U	0.70	1.0	2.0	UG/L	1	01-Nov-2019 18:46
Acetone	1.0	U	0.40	1.0	2.0	UG/L	1	01-Nov-2019 18:46
Benzene	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 18:46
Bromobenzene	0.50	U	0.40	0.50	1.0	UG/L	1	01-Nov-2019 18:46
Bromochloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 18:46
Bromodichloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 18:46
Bromoform	0.50	U	0.40	0.50	1.0	UG/L	1	01-Nov-2019 18:46
Bromomethane	0.50	U	0.40	0.50	1.0	UG/L	1	01-Nov-2019 18:46
Carbon disulfide	1.0	U	0.60	1.0	2.0	UG/L	1	01-Nov-2019 18:46
Carbon tetrachloride	0.50	U	0.50	0.50	1.0	UG/L	1	01-Nov-2019 18:46
Chlorobenzene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 18:46
Chloroethane	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 18:46

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

ALS Houston, US Date: 20-Nov-19

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
Sample ID: Trip Blank
Collection Date: 28-Oct-2019 00:00

ANALYTICAL REPORT
WorkOrder:HS19101706
Lab ID:HS19101706-08
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	01-Nov-2019 18:46
Chloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 18:46
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 18:46
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	UG/L	1	01-Nov-2019 18:46
Dibromochloromethane	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 18:46
Dibromomethane	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 18:46
Dichlorodifluoromethane	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 18:46
Ethylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 18:46
Hexachlorobutadiene	0.50	U	1.0	0.50	1.0	UG/L	1	01-Nov-2019 18:46
Isopropylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 18:46
m,p-Xylene	1.0	U	0.50	1.0	2.0	UG/L	1	01-Nov-2019 18:46
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	01-Nov-2019 18:46
n-Butylbenzene	0.50	U	0.40	0.50	1.0	UG/L	1	01-Nov-2019 18:46
n-Propylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 18:46
Naphthalene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 18:46
o-Xylene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 18:46
sec-Butylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 18:46
Styrene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 18:46
tert-Butylbenzene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 18:46
Tetrachloroethene	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 18:46
Toluene	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 18:46
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 18:46
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 18:46
Trichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 18:46
Trichlorofluoromethane	0.50	U	0.30	0.50	1.0	UG/L	1	01-Nov-2019 18:46
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	01-Nov-2019 18:46
Surr: 1,2-Dichloroethane-d4	*90.0*			**0**	*81-118*	*%REC*	*1*	*01-Nov-2019 18:46*
Surr: 4-Bromofluorobenzene	*99.6*			**0**	*85-114*	*%REC*	*1*	*01-Nov-2019 18:46*
Surr: Dibromofluoromethane	*92.9*			**0**	*80-119*	*%REC*	*1*	*01-Nov-2019 18:46*
Surr: Toluene-d8	*102*			**0**	*89-112*	*%REC*	*1*	*01-Nov-2019 18:46*

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

ALS Houston, US Date: 20-Nov-19

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
WorkOrder: HS19101706

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: R349509 (0)	**Test Name :** ANIONS BY SW9056A				**Matrix:** Groundwater	
HS19101706-05	67WW13-191028	28 Oct 2019 12:05			30 Oct 2019 11:03	2
HS19101706-05	67WW13-191028	28 Oct 2019 12:05			30 Oct 2019 07:23	50
HS19101706-05	67WW13-191028	28 Oct 2019 12:05			30 Oct 2019 07:06	5
HS19101706-06	67WW08-191028	28 Oct 2019 13:00			30 Oct 2019 11:19	2
HS19101706-06	67WW08-191028	28 Oct 2019 13:00			30 Oct 2019 07:56	50
HS19101706-07	67WW08-191028-FD	28 Oct 2019 13:00			30 Oct 2019 11:36	2
HS19101706-07	67WW08-191028-FD	28 Oct 2019 13:00			30 Oct 2019 08:29	50
Batch ID: R349684 (0)	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C				**Matrix:** Groundwater	
HS19101706-01	67WW12-191028	28 Oct 2019 08:50			01 Nov 2019 19:10	1
HS19101706-02	67WW07-191028	28 Oct 2019 09:40			01 Nov 2019 19:34	1
HS19101706-03	67WW10-191028	28 Oct 2019 10:25			01 Nov 2019 19:58	1
HS19101706-04	67WW09A-191028	28 Oct 2019 11:15			01 Nov 2019 20:22	1
HS19101706-05	67WW13-191028	28 Oct 2019 12:05			01 Nov 2019 18:22	10
HS19101706-05	67WW13-191028	28 Oct 2019 12:05			01 Nov 2019 17:09	1
HS19101706-06	67WW08-191028	28 Oct 2019 13:00			01 Nov 2019 15:33	1
HS19101706-07	67WW08-191028-FD	28 Oct 2019 13:00			01 Nov 2019 15:57	1
HS19101706-08	Trip Blank	28 Oct 2019 00:00			01 Nov 2019 18:46	1
Batch ID: R350426 (0)	**Test Name :** SUBCONTRACT ANALYSIS - RSK				**Matrix:** Groundwater	
HS19101706-05	67WW13-191028	28 Oct 2019 12:05			14 Nov 2019 09:19	1
HS19101706-06	67WW08-191028	28 Oct 2019 13:00			14 Nov 2019 09:19	1
HS19101706-07	67WW08-191028-FD	28 Oct 2019 13:00			14 Nov 2019 09:19	1
Batch ID: R350846 (0)	**Test Name :** SUBCONTRACT ANALYSIS - TOC ANALYSIS				**Matrix:** Groundwater	
HS19101706-05	67WW13-191028	28 Oct 2019 12:05			20 Nov 2019 09:46	1
HS19101706-06	67WW08-191028	28 Oct 2019 13:00			20 Nov 2019 09:46	1
HS19101706-07	67WW08-191028-FD	28 Oct 2019 13:00			20 Nov 2019 09:46	1

ALS Houston, US Date: 20-Nov-19

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
WorkOrder: HS19101706

QC BATCH REPORT

Batch ID: R349684 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MBLK Sample ID: **VBLKW-191101** Units: **UG/L** Analysis Date: **01-Nov-2019 13:09**
Client ID: Run ID: **VOA6_349684** SeqNo: **5326938** 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: 20-Nov-19

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
WorkOrder: HS19101706

QC BATCH REPORT

Batch ID: R349684 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MBLK Sample ID: **VBLKW-191101** Units: **UG/L** Analysis Date: **01-Nov-2019 13:09**
Client ID: Run ID: **VOA6_349684** SeqNo: **5326938** 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	*45.85*	*1.0*	*50*	*0*	*91.7*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*50.5*	*1.0*	*50*	*0*	*101*	*85 - 114*				
Surr: Dibromofluoromethane	*47.01*	*1.0*	*50*	*0*	*94.0*	*80 - 119*				

ALS Houston, US Date: 20-Nov-19

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
WorkOrder: HS19101706

QC BATCH REPORT

Batch ID: R349684 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MBLK Sample ID: **VBLKW-191101** Units: **UG/L** Analysis Date: **01-Nov-2019 13:09**
Client ID: Run ID: **VOA6_349684** SeqNo: **5326938** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Surr: Toluene-d8	*50.27*	*1.0*	*50*	*0*	*101*	*89 - 112*				

ALS Houston, US Date: 20-Nov-19

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
WorkOrder: HS19101706

QC BATCH REPORT

Batch ID: R349684 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

LCS Sample ID: **VLCSW-191101** Units: **UG/L** Analysis Date: **01-Nov-2019 12:21**
Client ID: Run ID: **VOA6_349684** SeqNo: **5326937** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	19.12	1.0	20	0	95.6	78 - 124				
1,1,1-Trichloroethane	19.74	1.0	20	0	98.7	74 - 131				
1,1,2,2-Tetrachloroethane	19.99	1.0	20	0	100.0	71 - 121				
1,1,2-Trichlor-1,2,2-trifluoroethane	18.67	1.0	20	0	93.4	70 - 136				
1,1,2-Trichloroethane	20.16	1.0	20	0	101	80 - 119				
1,1-Dichloroethane	19.62	1.0	20	0	98.1	77 - 125				
1,1-Dichloroethene	18.77	1.0	20	0	93.8	71 - 131				
1,1-Dichloropropene	19.18	1.0	20	0	95.9	78 - 125				
1,2,3-Trichlorobenzene	24.92	1.0	20	0	125	69 - 129				
1,2,3-Trichloropropane	20.84	1.0	20	0	104	73 - 122				
1,2,4-Trichlorobenzene	19.31	1.0	20	0	96.5	69 - 130				
1,2,4-Trimethylbenzene	19.05	1.0	20	0	95.2	76 - 124				
1,2-Dibromo-3-chloropropane	21.78	1.0	20	0	109	62 - 128				
1,2-Dibromoethane	20.63	1.0	20	0	103	77 - 121				
1,2-Dichlorobenzene	18.9	1.0	20	0	94.5	80 - 119				
1,2-Dichloroethane	20.19	1.0	20	0	101	73 - 128				
1,2-Dichloropropane	19.59	1.0	20	0	97.9	78 - 122				
1,3,5-Trimethylbenzene	19.14	1.0	20	0	95.7	75 - 124				
1,3-Dichlorobenzene	19.04	1.0	20	0	95.2	80 - 119				
1,3-Dichloropropane	20.21	1.0	20	0	101	80 - 119				
1,4-Dichlorobenzene	18.96	1.0	20	0	94.8	79 - 118				
2,2-Dichloropropane	19	1.0	20	0	95.0	60 - 139				
2-Butanone	39.22	2.0	40	0	98.0	56 - 143				
2-Chlorotoluene	19.34	1.0	20	0	96.7	79 - 122				
2-Hexanone	38.75	2.0	40	0	96.9	57 - 139				
4-Chlorotoluene	19.12	1.0	20	0	95.6	78 - 122				
4-Isopropyltoluene	18.61	1.0	20	0	93.1	77 - 127				
4-Methyl-2-pentanone	38.49	2.0	40	0	96.2	67 - 130				
Acetone	39.01	2.0	40	0	97.5	39 - 160				
Benzene	19.9	1.0	20	0	99.5	79 - 120				
Bromobenzene	19.37	1.0	20	0	96.8	80 - 120				
Bromochloromethane	19.81	1.0	20	0	99.1	78 - 123				
Bromodichloromethane	20.46	1.0	20	0	102	79 - 125				
Bromoform	20.4	1.0	20	0	102	66 - 130				

ALS Houston, US Date: 20-Nov-19

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
WorkOrder: HS19101706

QC BATCH REPORT

Batch ID: R349684 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

LCS Sample ID: **VLCSW-191101** Units: **UG/L** Analysis Date: **01-Nov-2019 12:21**
Client ID: Run ID: **VOA6_349684** SeqNo: **5326937** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromomethane	21.38	1.0	20	0	107	53 - 141				
Carbon disulfide	39.25	2.0	40	0	98.1	64 - 133				
Carbon tetrachloride	18.82	1.0	20	0	94.1	72 - 136				
Chlorobenzene	19.99	1.0	20	0	100.0	82 - 118				
Chloroethane	20	1.0	20	0	100.0	60 - 138				
Chloroform	20.48	1.0	20	0	102	79 - 124				
Chloromethane	20.06	1.0	20	0	100	50 - 139				
cis-1,2-Dichloroethene	20.6	1.0	20	0	103	78 - 123				
cis-1,3-Dichloropropene	20	1.0	20	0	100	75 - 124				
Dibromochloromethane	19.62	1.0	20	0	98.1	74 - 126				
Dibromomethane	20.68	1.0	20	0	103	79 - 123				
Dichlorodifluoromethane	19.51	1.0	20	0	97.6	32 - 152				
Ethylbenzene	19.24	1.0	20	0	96.2	79 - 121				
Hexachlorobutadiene	18.84	1.0	20	0	94.2	66 - 134				
Isopropylbenzene	19.18	1.0	20	0	95.9	72 - 131				
m,p-Xylene	38.85	2.0	40	0	97.1	80 - 121				
Methylene chloride	20.07	2.0	20	0	100	74 - 124				
Naphthalene	22.71	1.0	20	0	114	61 - 128				
n-Butylbenzene	18.91	1.0	20	0	94.5	75 - 128				
n-Propylbenzene	18.77	1.0	20	0	93.8	76 - 126				
o-Xylene	19.52	1.0	20	0	97.6	78 - 122				
sec-Butylbenzene	18.74	1.0	20	0	93.7	77 - 126				
Styrene	20.22	1.0	20	0	101	78 - 123				
tert-Butylbenzene	18.68	1.0	20	0	93.4	78 - 124				
Tetrachloroethene	19.44	1.0	20	0	97.2	74 - 129				
Toluene	19.79	1.0	20	0	99.0	80 - 121				
trans-1,2-Dichloroethene	20.43	1.0	20	0	102	75 - 124				
trans-1,3-Dichloropropene	20.1	1.0	20	0	101	73 - 127				
Trichloroethene	19.82	1.0	20	0	99.1	79 - 123				
Trichlorofluoromethane	18.76	1.0	20	0	93.8	65 - 141				
Vinyl chloride	19.77	1.0	20	0	98.8	58 - 137				
Surr: 1,2-Dichloroethane-d4	*52.48*	*1.0*	*50*	*0*	*105*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*52.34*	*1.0*	*50*	*0*	*105*	*85 - 114*				
Surr: Dibromofluoromethane	*51.14*	*1.0*	*50*	*0*	*102*	*80 - 119*				

ALS Houston, US Date: 20-Nov-19

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
WorkOrder: HS19101706

QC BATCH REPORT

Batch ID: R349684 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

LCS Sample ID: **VLCSW-191101** Units: **UG/L** Analysis Date: **01-Nov-2019 12:21**
Client ID: Run ID: **VOA6_349684** SeqNo: **5326937** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Surr: Toluene-d8	*49.4*	*1.0*	*50*	*0*	*98.8*	*89 - 112*				

ALS Houston, US Date: 20-Nov-19

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
WorkOrder: HS19101706

QC BATCH REPORT

Batch ID: R349684 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS19101523-07MS** Units: **UG/L** Analysis Date: **01-Nov-2019 17:34**
Client ID: Run ID: **VOA6_349684** SeqNo: **5326949** PrepDate: DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	180.6	10	200	0	90.3	78 - 124				
1,1,1-Trichloroethane	179.8	10	200	0	89.9	74 - 131				
1,1,2,2-Tetrachloroethane	181.2	10	200	0	90.6	71 - 121				
1,1,2-Trichlor-1,2,2-trifluoroethane	186.9	10	200	0	93.4	70 - 136				
1,1,2-Trichloroethane	192.3	10	200	6.665	92.8	80 - 119				
1,1-Dichloroethane	183	10	200	13.66	84.6	77 - 125				
1,1-Dichloroethene	824.3	10	200	638.2	93.1	71 - 131				
1,1-Dichloropropene	182.2	10	200	0	91.1	78 - 125				
1,2,3-Trichlorobenzene	188.6	10	200	0	94.3	69 - 129				
1,2,3-Trichloropropane	185	10	200	0	92.5	73 - 122				
1,2,4-Trichlorobenzene	166.1	10	200	0	83.0	69 - 130				
1,2,4-Trimethylbenzene	188.7	10	200	0	94.4	76 - 124				
1,2-Dibromo-3-chloropropane	176	10	200	0	88.0	62 - 128				
1,2-Dibromoethane	184.8	10	200	0	92.4	77 - 121				
1,2-Dichlorobenzene	176.2	10	200	0	88.1	80 - 119				
1,2-Dichloroethane	195.5	10	200	28.68	83.4	73 - 128				
1,2-Dichloropropane	171.5	10	200	0	85.7	78 - 122				
1,3,5-Trimethylbenzene	191.7	10	200	0	95.8	75 - 124				
1,3-Dichlorobenzene	180.8	10	200	0	90.4	80 - 119				
1,3-Dichloropropane	181.4	10	200	0	90.7	80 - 119				
1,4-Dichlorobenzene	175.3	10	200	0	87.6	79 - 118				
2,2-Dichloropropane	167.4	10	200	0	83.7	60 - 139				
2-Butanone	295.3	20	400	0	73.8	56 - 143				
2-Chlorotoluene	185.4	10	200	0	92.7	79 - 122				
2-Hexanone	347.9	20	400	0	87.0	57 - 139				
4-Chlorotoluene	185.3	10	200	0	92.7	78 - 122				
4-Isopropyltoluene	190	10	200	0	95.0	77 - 127				
4-Methyl-2-pentanone	342	20	400	0	85.5	67 - 130				
Acetone	251.7	20	400	0	62.9	39 - 160				
Benzene	173.5	10	200	0	86.8	79 - 120				
Bromobenzene	181.8	10	200	0	90.9	80 - 120				
Bromochloromethane	166.4	10	200	0	83.2	78 - 123				
Bromodichloromethane	177.1	10	200	0	88.6	79 - 125				
Bromoform	178.4	10	200	0	89.2	66 - 130				

ALS Houston, US Date: 20-Nov-19

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
WorkOrder: HS19101706

QC BATCH REPORT

Batch ID: R349684 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS19101523-07MS** Units: **UG/L** Analysis Date: **01-Nov-2019 17:34**
Client ID: Run ID: **VOA6_349684** SeqNo: **5326949** PrepDate: DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromomethane	195.4	10	200	0	97.7	53 - 141				
Carbon disulfide	336.4	20	400	0	84.1	64 - 133				
Carbon tetrachloride	184.6	10	200	0	92.3	72 - 136				
Chlorobenzene	186.2	10	200	0	93.1	82 - 118				
Chloroethane	173.6	10	200	0	86.8	60 - 138				
Chloroform	169.9	10	200	0	84.9	79 - 124				
Chloromethane	175.4	10	200	0	87.7	50 - 139				
cis-1,2-Dichloroethene	177.4	10	200	0	88.7	78 - 123				
cis-1,3-Dichloropropene	176.5	10	200	0	88.3	75 - 124				
Dibromochloromethane	177.9	10	200	0	88.9	74 - 126				
Dibromomethane	176.5	10	200	0	88.2	79 - 123				
Dichlorodifluoromethane	184.6	10	200	0	92.3	32 - 152				
Ethylbenzene	190.4	10	200	0	95.2	79 - 121				
Hexachlorobutadiene	180.3	10	200	0	90.2	66 - 134				
Isopropylbenzene	192.6	10	200	0	96.3	72 - 131				
m,p-Xylene	383.3	20	400	0	95.8	80 - 121				
Methylene chloride	169.6	20	200	0	84.8	74 - 124				
Naphthalene	185.5	10	200	0	92.8	61 - 128				
n-Butylbenzene	196	10	200	0	98.0	75 - 128				
n-Propylbenzene	188.9	10	200	0	94.5	76 - 126				
o-Xylene	187.2	10	200	0	93.6	78 - 122				
sec-Butylbenzene	195	10	200	0	97.5	77 - 126				
Styrene	188.8	10	200	0	94.4	78 - 123				
tert-Butylbenzene	192.3	10	200	0	96.1	78 - 124				
Tetrachloroethene	200.2	10	200	0	100	74 - 129				
Toluene	188.2	10	200	0	94.1	80 - 121				
trans-1,2-Dichloroethene	180.5	10	200	0	90.2	75 - 124				
trans-1,3-Dichloropropene	172.6	10	200	0	86.3	73 - 127				
Trichloroethene	185.7	10	200	0	92.9	79 - 123				
Trichlorofluoromethane	183.8	10	200	0	91.9	65 - 141				
Vinyl chloride	184.7	10	200	0	92.4	58 - 137				
Surr: 1,2-Dichloroethane-d4	*454.2*	*10*	*500*	*0*	*90.8*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*498.3*	*10*	*500*	*0*	*99.7*	*85 - 114*				
Surr: Dibromofluoromethane	*465.4*	*10*	*500*	*0*	*93.1*	*80 - 119*				

ALS Houston, US Date: 20-Nov-19

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
WorkOrder: HS19101706

QC BATCH REPORT

Batch ID: R349684 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS19101523-07MS** Units: **UG/L** Analysis Date: **01-Nov-2019 17:34**
Client ID: Run ID: **VOA6_349684** SeqNo: **5326949** PrepDate: DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Surr: Toluene-d8	*511.7*	*10*	*500*	*0*	*102*	*89 - 112*				

ALS Houston, US Date: 20-Nov-19

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
WorkOrder: HS19101706

QC BATCH REPORT

Batch ID: R349684 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS19101523-07MSD** Units: **UG/L** Analysis Date: **01-Nov-2019 17:58**
Client ID: Run ID: **VOA6_349684** SeqNo: **5326950** PrepDate: DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	179	10	200	0	89.5	78 - 124	180.6	0.907	20	
1,1,1-Trichloroethane	173.5	10	200	0	86.8	74 - 131	179.8	3.57	20	
1,1,2,2-Tetrachloroethane	187.6	10	200	0	93.8	71 - 121	181.2	3.46	20	
1,1,2-Trichlor-1,2,2-trifluoroethane	180.1	10	200	0	90.0	70 - 136	186.9	3.71	20	
1,1,2-Trichloroethane	191.9	10	200	6.665	92.6	80 - 119	192.3	0.199	20	
1,1-Dichloroethane	176	10	200	13.66	81.2	77 - 125	183	3.88	20	
1,1-Dichloroethene	772.9	10	200	638.2	67.3	71 - 131	824.3	6.44	20	S
1,1-Dichloropropene	179.4	10	200	0	89.7	78 - 125	182.2	1.57	20	
1,2,3-Trichlorobenzene	228.2	10	200	0	114	69 - 129	188.6	19	20	
1,2,3-Trichloropropane	189.6	10	200	0	94.8	73 - 122	185	2.47	20	
1,2,4-Trichlorobenzene	189.8	10	200	0	94.9	69 - 130	166.1	13.3	20	
1,2,4-Trimethylbenzene	191.7	10	200	0	95.9	76 - 124	188.7	1.58	20	
1,2-Dibromo-3-chloropropane	190.2	10	200	0	95.1	62 - 128	176	7.74	20	
1,2-Dibromoethane	185	10	200	0	92.5	77 - 121	184.8	0.12	20	
1,2-Dichlorobenzene	181.4	10	200	0	90.7	80 - 119	176.2	2.92	20	
1,2-Dichloroethane	197	10	200	28.68	84.2	73 - 128	195.5	0.74	20	
1,2-Dichloropropane	166.2	10	200	0	83.1	78 - 122	171.5	3.11	20	
1,3,5-Trimethylbenzene	193.3	10	200	0	96.7	75 - 124	191.7	0.87	20	
1,3-Dichlorobenzene	181.7	10	200	0	90.9	80 - 119	180.8	0.483	20	
1,3-Dichloropropane	182.9	10	200	0	91.5	80 - 119	181.4	0.827	20	
1,4-Dichlorobenzene	182.5	10	200	0	91.2	79 - 118	175.3	4.03	20	
2,2-Dichloropropane	162.7	10	200	0	81.3	60 - 139	167.4	2.9	20	
2-Butanone	303.3	20	400	0	75.8	56 - 143	295.3	2.68	20	
2-Chlorotoluene	187.9	10	200	0	94.0	79 - 122	185.4	1.36	20	
2-Hexanone	337.4	20	400	0	84.3	57 - 139	347.9	3.06	20	
4-Chlorotoluene	187.1	10	200	0	93.6	78 - 122	185.3	0.966	20	
4-Isopropyltoluene	194.4	10	200	0	97.2	77 - 127	190	2.26	20	
4-Methyl-2-pentanone	339.9	20	400	0	85.0	67 - 130	342	0.608	20	
Acetone	256.6	20	400	0	64.1	39 - 160	251.7	1.91	20	
Benzene	173.1	10	200	0	86.6	79 - 120	173.5	0.238	20	
Bromobenzene	184.3	10	200	0	92.2	80 - 120	181.8	1.4	20	
Bromochloromethane	165.2	10	200	0	82.6	78 - 123	166.4	0.756	20	
Bromodichloromethane	176.7	10	200	0	88.3	79 - 125	177.1	0.248	20	
Bromoform	178.5	10	200	0	89.3	66 - 130	178.4	0.0392	20	

ALS Houston, US Date: 20-Nov-19

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
WorkOrder: HS19101706

QC BATCH REPORT

Batch ID: R349684 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS19101523-07MSD** Units: **UG/L** Analysis Date: **01-Nov-2019 17:58**
Client ID: Run ID: **VOA6_349684** SeqNo: **5326950** PrepDate: DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Bromomethane	180	10	200	0	90.0	53 - 141	195.4	8.22	20	
Carbon disulfide	320.4	20	400	0	80.1	64 - 133	336.4	4.88	20	
Carbon tetrachloride	176.9	10	200	0	88.5	72 - 136	184.6	4.27	20	
Chlorobenzene	183.6	10	200	0	91.8	82 - 118	186.2	1.43	20	
Chloroethane	163.4	10	200	0	81.7	60 - 138	173.6	6.03	20	
Chloroform	165.2	10	200	0	82.6	79 - 124	169.9	2.78	20	
Chloromethane	166.4	10	200	0	83.2	50 - 139	175.4	5.24	20	
cis-1,2-Dichloroethene	175.4	10	200	0	87.7	78 - 123	177.4	1.08	20	
cis-1,3-Dichloropropene	174.4	10	200	0	87.2	75 - 124	176.5	1.22	20	
Dibromochloromethane	177.3	10	200	0	88.6	74 - 126	177.9	0.324	20	
Dibromomethane	180	10	200	0	90.0	79 - 123	176.5	1.97	20	
Dichlorodifluoromethane	178.8	10	200	0	89.4	32 - 152	184.6	3.18	20	
Ethylbenzene	186.3	10	200	0	93.2	79 - 121	190.4	2.2	20	
Hexachlorobutadiene	200.2	10	200	0	100	66 - 134	180.3	10.4	20	
Isopropylbenzene	188.5	10	200	0	94.3	72 - 131	192.6	2.13	20	
m,p-Xylene	371.9	20	400	0	93.0	80 - 121	383.3	3.01	20	
Methylene chloride	165.3	20	200	0	82.6	74 - 124	169.6	2.58	20	
Naphthalene	215.9	10	200	0	108	61 - 128	185.5	15.1	20	
n-Butylbenzene	198.2	10	200	0	99.1	75 - 128	196	1.12	20	
n-Propylbenzene	192.3	10	200	0	96.1	76 - 126	188.9	1.77	20	
o-Xylene	183.3	10	200	0	91.7	78 - 122	187.2	2.08	20	
sec-Butylbenzene	199.1	10	200	0	99.6	77 - 126	195	2.09	20	
Styrene	182.8	10	200	0	91.4	78 - 123	188.8	3.27	20	
tert-Butylbenzene	194.3	10	200	0	97.1	78 - 124	192.3	1.06	20	
Tetrachloroethene	193.4	10	200	0	96.7	74 - 129	200.2	3.45	20	
Toluene	184.5	10	200	0	92.3	80 - 121	188.2	2	20	
trans-1,2-Dichloroethene	177.8	10	200	0	88.9	75 - 124	180.5	1.51	20	
trans-1,3-Dichloropropene	174.2	10	200	0	87.1	73 - 127	172.6	0.898	20	
Trichloroethene	183	10	200	0	91.5	79 - 123	185.7	1.49	20	
Trichlorofluoromethane	174.6	10	200	0	87.3	65 - 141	183.8	5.13	20	
Vinyl chloride	174.8	10	200	0	87.4	58 - 137	184.7	5.55	20	
Surr: 1,2-Dichloroethane-d4	*444.7*	*10*	*500*	*0*	*88.9*	*81 - 118*	*454.2*	*2.11*	*20*	
Surr: 4-Bromofluorobenzene	*502.2*	*10*	*500*	*0*	*100*	*85 - 114*	*498.3*	*0.793*	*20*	
Surr: Dibromofluoromethane	*462.3*	*10*	*500*	*0*	*92.5*	*80 - 119*	*465.4*	*0.68*	*20*	

ALS Houston, US Date: 20-Nov-19

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
WorkOrder: HS19101706

QC BATCH REPORT

Batch ID: R349684 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS19101523-07MSD** Units: **UG/L** Analysis Date: **01-Nov-2019 17:58**
Client ID: Run ID: **VOA6_349684** SeqNo: **5326950** PrepDate: DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Surr: Toluene-d8	*509.4*	*10*	*500*	*0*	*102*	*89 - 112*	*511.7*	*0.452*	*20*	

The following samples were analyzed in this batch:

HS19101706-01	HS19101706-02	HS19101706-03	HS19101706-04
HS19101706-05	HS19101706-06	HS19101706-07	HS19101706-08

ALS Houston, US Date: 20-Nov-19

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
WorkOrder: HS19101706

QC BATCH REPORT

Batch ID: R349509 (0) **Instrument: ICS-Integrion** **Method: ANIONS BY SW9056A**

MBLK Sample ID: **WBLKW2-102919** Units: **mg/L** Analysis Date: **30-Oct-2019 06:16**
Client ID: Run ID: **ICS-Integrion_349509** SeqNo: **5322770** 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: **WLCSW2-102919** Units: **mg/L** Analysis Date: **30-Oct-2019 06:33**
Client ID: Run ID: **ICS-Integrion_349509** SeqNo: **5322771** 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				
Nitrogen, Nitrate (As N)	3.937	0.100	4	0	98.4	80 - 120				
Sulfate	19.53	0.500	20	0	97.7	80 - 120				

LCSD Sample ID: **WLCSDW2-102919** Units: **mg/L** Analysis Date: **30-Oct-2019 06:50**
Client ID: Run ID: **ICS-Integrion_349509** SeqNo: **5322772** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	19.46	0.500	20	0	97.3	80 - 120	19.8	1.72	20	
Nitrogen, Nitrate (As N)	3.909	0.100	4	0	97.7	80 - 120	3.937	0.721	20	
Sulfate	19.29	0.500	20	0	96.4	80 - 120	19.53	1.26	20	

MS Sample ID: **HS19101109-13MS** Units: **mg/L** Analysis Date: **30-Oct-2019 16:35**
Client ID: Run ID: **ICS-Integrion_349509** SeqNo: **5322790** PrepDate: DF: **20**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	610.1	10.0	200	423.8	93.2	80 - 120				
Nitrogen, Nitrate (As N)	42.67	2.00	40	2.77	99.7	80 - 120				
Sulfate	1016	10.0	200	847.9	84.1	80 - 120				O

ALS Houston, US Date: 20-Nov-19

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
WorkOrder: HS19101706

QC BATCH REPORT

Batch ID: R349509 (0) **Instrument: ICS-Integrion** **Method: ANIONS BY SW9056A**

MSD Sample ID: **HS19101109-13MSD** Units: **mg/L** Analysis Date: **30-Oct-2019 16:51**
Client ID: Run ID: **ICS-Integrion_349509** SeqNo: **5322791** PrepDate: DF: **20**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	612.7	10.0	200	423.8	94.4	80 - 120	610.1	0.425	20	
Nitrogen, Nitrate (As N)	42.76	2.00	40	2.77	100.0	80 - 120	42.67	0.225	20	
Sulfate	1025	10.0	200	847.9	88.7	80 - 120	1016	0.899	20	O

The following samples were analyzed in this batch: HS19101706-05 HS19101706-06 HS19101706-07

ALS Houston, US Date: 20-Nov-19

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant
WorkOrder: **HS19101706**

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: 20-Nov-19

Sample Receipt Checklist

Client Name: CBI-Houston
Work Order: HS19101706
Date/Time Received: **29-Oct-2019 08:45**
Received by: **PMG**

Checklist completed by: *Paresh M. Giga* eSignature 29-Oct-2019 Date
Reviewed by: *RJ Modashia* eSignature 29-Oct-2019 Date

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

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
VOA/TX1005/TX1006 Solids in hermetically sealed vials?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	1 Page(s)
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	COC IDs:None
Samplers name present on COC?	Yes ☐	No ☑	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	

Temperature(s)/Thermometer(s):	2.8c U/C	IR25
Cooler(s)/Kit(s):	43665	
Date/Time sample(s) sent to storage:	10/29/19 14:10	

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: LHAAP67-OCT2019-ALSHT-1910-

TURNAROUND TIME: normal

RUSH:

Page 1 of

PROJECT/CLIENT INFO

Facility Name	Loughorn AAP
Project Number	501032
	LHAAP-67
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

Fedinvoices @aptim.com

Susan.Huang@aptim.com

Susan Huang

4005 Port Chicago Hwy

Concord

State CA

94520

Country USA

SAMPLE DETAILS

ANALYSIS REQUESTED

Sample ID	Location	Start Depth	End Depth	Depth Unit	Field Matrix	Date	Time (24hr)	# Of Cont.	ANALYSIS	VOCs in Water by 8260B (3x40 ml VOA, HCL)	Carbon Dioxide in Water by RSK175 (3x40 ml VOA, Ice)	Anions by SW9056 (see required anions below) (2x250 ml HPDE, Ice)	Dissolved Gases (methane, ethane, and ethene) by RSK-175 (3x40 ml VOA, HCL)	TOC by (SM5310C) (2x40 ml VOA, HsSO4)
67WW12-191028	LHAAP67				WG	10/28/19	0850	3		X				
67WW07-191028	LHAAP67				WG	10/28/19	0940	3		X				
67WW10-191028	LHAAP67				WG	10/28/19	1025	3		X				
67WW09A-191028	LHAAP67				WG	10/28/19	1115	3		X				
67WW13-191028	LHAAP67				WG	10/28/19	1205	12		X	X	X	X	X
67WW08-191028	LHAAP67				WG	10/28/19	1300	12		X	X	X	X	X
67WW08-191028-FD	LHAAP67				WG	10/28/19	1300	12		X	X	X	X	X
TRIP BLANK	LHAAP67				W	10/28/19		2		X				

HS19101706

Aptim Environmental & Infrastucture, Inc.

Longhorn Army Ammunition Plant

ADDITIONAL COMMENTS/SPECIAL INSTRUCTIONS

Anions (chloride/nitrate/sufate) by SW9056

U/C IR-25 43665

2.8 C/F-0

RELINQUISHED BY/AFFILIATION	DATE/TIME	ACCEPTED BY/AFFILIATION	DATE/TIME
Santi Bussyer / BHATE	10/28/19 1400	PG	10/29/19 8:45

APTIM
SCOTT BEESINGER
1203-B EAST GRAND AVE.
PMB202
MARSHALL, TX 75670
9039306193

ALS LABORATORY GROUP
CLIENT SERVICES
10450 STANCLIFF ROAD
SUITE 210
HOUSTON, TX 77099
2815305656

FEDEX TRACKING NUMBER: 125102909287

TRK# 0221 1251 0290 9287
10:30A
PRIORITY OVERNIGHT
AB SGRA
77099
TX-US
IAH

5249629 28Oct 23:00 ACWHU 564C3/2A3C/F287

ALS
10450 Stancliff Rd., Suite 210
Houston, Texas 77099
Tel. +1 281 530 5656
Fax. +1 281 530 5887
43665

CUSTODY SEAL
Date: 10/28/19 Time: 1400
Name: Scott Beesinger
Company: BHAL
Seal Broken By:
Date:

00983802

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November 20, 2019 **Analytical Report for Service Request No:** K1910160

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

RE: HS19101706

Dear RJ,

Enclosed are the results of the sample(s) submitted to our laboratory October 30, 2019
For your reference, these analyses have been assigned our service request number **K1910160.**

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

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Acronyms

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

Inorganic Data Qualifiers

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

Metals Data Qualifiers

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

Organic Data Qualifiers

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

Additional Petroleum Hydrocarbon Specific Qualifiers

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

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

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

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

Case Narrative

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ALS Environmental

Client: ALS Environmental - US
Project: HS19101706
Sample Matrix: Water

Service Request: K1910160
Date Received: 10/30/2019

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:

Three water samples were received for analysis at ALS Environmental on 10/30/2019. 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, 11/15/2019: The matrix spike recovery of Total Organic Carbon for sample 67WW08-191028-FD was outside control criteria. Recovery in the Laboratory Control Sample (LCS) was acceptable, which indicated the analytical batch was in control. The matrix spike outlier suggested a potential low bias in this matrix. No further corrective action was appropriate.

Approved by Noe D. Davis Date 11/20/2019

Chain of Custody

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K1910160

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Houston, TX 77099
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Subcontract Chain of Custody

SAMPLING STATE: **Texas** **COC ID:** **12511**

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: HS19101706
TSR: Sonia West

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS19101706-05**	**67WW13-191028**	**Groundwater**	**28 Oct 2019 12:05**
	TOC Analysis with DOD Level IV/EQuIS APTIM EDD			06 Nov 2019
2.	**HS19101706-06**	**67WW08-191028**	**Groundwater**	**28 Oct 2019 13:00**
	TOC Analysis with DOD Level IV/EQuIS APTIM EDD			06 Nov 2019
3.	**HS19101706-07**	**67WW08-191028-FD**	**Groundwater**	**28 Oct 2019 13:00**
	TOC Analysis with DOD Level IV/EQuIS APTIM EDD			06 Nov 2019

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

QC Level: DOD IV (DoD Data Package)

Relinquished By: NM Date/Time: 10/29/19 18:00

Received By: NRedersen Date/Time: 10/30/19 0945

Cooler ID(s): Temperature(s):

RIGHT SOLUTIONS | RIGHT PARTNER

PC KL

Cooler Receipt and Preservation Form

Client AB Houston Service Request K19 10160

Received: 10/30/19 Opened: 10/30/19 By: MP Unloaded: 10/30/19 By: MP

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? 1 front
   If present, were custody seals intact? (Y) N If present, were they signed and dated? (Y) N

Raw Cooler Temp	Corrected Cooler Temp	Raw Temp Blank	Corrected Temp Blank	Corr. Factor	Thermometer ID	Cooler/COC ID NA	Tracking Number NA	Filed
-0.4	-0.5	0.1	0.0	-0.1	394	12511	1251 0291 1390	

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: Received 6 Blanks Have Vials ~~Not on COC~~ MP 1930/19

General Chemistry

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ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	K1910160
Project:	HS19101706	**Date Collected:**	10/28/19
Sample Matrix:	Water	**Date Received:**	10/30/19
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
67WW13-191028	K1910160-001	**1.69**	0.50	0.20	0.07	1	11/15/19 16:36	
67WW08-191028	K1910160-002	**1.38**	0.50	0.20	0.07	1	11/15/19 17:04	
67WW08-191028-FD	K1910160-003	**1.23**	0.50	0.20	0.07	1	11/15/19 17:32	
Method Blank	K1910160-MB	ND U	0.50	0.20	0.07	1	11/15/19 14:41	

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	K1910160
Project	HS19101706	**Date Collected:**	10/28/19
Sample Matrix:	Water	**Date Received:**	10/30/19
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
67WW13-191028	K1910160-001DUP	0.50	0.20	0.07	1.69	1.57	1.63	7	10	11/15/19
67WW08-191028	K1910160-002DUP	0.50	0.20	0.07	1.38	1.32	1.35	5	10	11/15/19
67WW08-191028-FD	K1910160-003DUP	0.50	0.20	0.07	1.23	1.20	1.22	2	10	11/15/19

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:**	K1910160
Project:	HS19101706	**Date Collected:**	10/28/19
Sample Matrix:	Water	**Date Received:**	10/30/19
		Date Analyzed:	11/15/19
		Date Extracted:	NA

Matrix Spike Summary
Carbon, Total Organic

Sample Name:	67WW08-191028-FD	**Units:**	mg/L
Lab Code:	K1910160-003	**Basis:**	NA
Analysis Method:	SM 5310 C		
Prep Method:	None		

Matrix Spike
K1910160-003MS

Analyte Name	Sample Result	Result	Spike Amount	% Rec	% Rec Limits
Carbon, Total Organic	1.23	21.5	25.0	81 *	83-117

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

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

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

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	K1910160
Project:	HS19101706	**Date Analyzed:**	11/15/19
Sample Matrix:	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:	660112

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1910160-LCS	25.3	25.0	101	83-117

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US **Service Request:** K1910160
Project: HS19101706

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	660112	KQ1916988-01	11/15/19 14:11	25.0	24.5	98	90-110
CCV2	660112	KQ1916988-02	11/15/19 18:14	25.0	24.7	99	90-110
CCV3	660112	KQ1916988-03	11/15/19 23:25	25.0	24.3	97	90-110
CCV4	660112	KQ1916988-04	11/16/19 04:08	25.0	24.6	99	90-110

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US **Service Request:**K1910160
Project: HS19101706

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	660112	KQ1916988-05	11/15/19 14:26	0.50	0.20	0.07	ND	U
CCB2	660112	KQ1916988-06	11/15/19 18:29	0.50	0.20	0.07	ND	U
CCB3	660112	KQ1916988-07	11/15/19 23:39	0.50	0.20	0.07	ND	U
CCB4	660112	KQ1916988-08	11/16/19 04:23	0.50	0.20	0.07	ND	U

Raw Data

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General Chemistry

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Work Request # Original (K1901695, 160, 169, 187, 278, 332, 415, 473, 545, 547, 731, 473, 483, 561, 572, 576, 599, 254, 299, 760, 765)

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

Date Analyzed: 11/15/19

Analyst: BCP / BCP for HLM

Analysis: TOC/DOC

Run # TOC: 660112, 660117, 660114, 660115

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: K1901160-3MS reports a low %Recovery due to suspected matrix interference.
K1901187-3/3d, 278-2/2d, 473-5/5d, 561-2/2d, 254-3/3d, 254-7/7d report a high %RSD. However, these samples are less than 5x the MRL.

Final Approved by: _____ Date: 11/19/19

DQREPORT

Analytical Results Summary

Instrument Name: K-TOC-03 **Analyst:** BDITZLER **Analysis Lot:** 660112 **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
K1910095-017	Carbon, Total Organic	N/A		Water	4.92 mg/L	10 mL	246 mg/L	50	4	25			11/15/19 15:25:00	N	II
K1910095-018	Carbon, Total Organic	N/A		Water	5.97 mg/L	10 mL	298 mg/L	50	4	25			11/15/19 15:53:00	N	II
K1910160-001	Carbon, Total Organic	N/A		Water	1.69 mg/L	10 mL	1.69 mg/L	1	0.07	0.50			11/15/19 16:36:00	N	IV
K1910160-002	Carbon, Total Organic	N/A		Water	1.38 mg/L	10 mL	1.38 mg/L	1	0.07	0.50			11/15/19 17:04:00	N	IV
K1910160-003	Carbon, Total Organic	N/A		Water	1.23 mg/L	10 mL	1.23 mg/L	1	0.07	0.50			11/15/19 17:32:00	N	IV
K1910169-001	Carbon, Total Organic	N/A		Ground Water	1.77 mg/L	10 mL	1.77 mg/L	1	0.07	0.50			11/15/19 18:44:00	N	II
K1910169-002	Carbon, Total Organic	N/A		Ground Water	3.51 mg/L	10 mL	3.51 mg/L	1	0.07	0.50			11/15/19 19:12:00	N	II
K1910169-003	Carbon, Total Organic	N/A		Ground Water	3.55 mg/L	10 mL	3.55 mg/L	1	0.07	0.50			11/15/19 19:40:00	N	II
K1910187-001	Carbon, Total Organic	N/A		Water	2.41 mg/L	10 mL	2.41 mg/L	1	0.07	0.50			11/15/19 20:08:00	N	I
K1910187-002	Carbon, Total Organic	N/A		Water	0.51 mg/L	10 mL	0.51 mg/L	1	0.07	0.50			11/15/19 20:36:00	N	I
K1910187-003	Carbon, Total Organic	N/A		Water	0.51 mg/L	10 mL	0.51 mg/L	1	0.07	0.50			11/15/19 21:04:00	N	I
K1910278-001	Carbon, Total Organic	N/A		Ground Water	3.33 mg/L	10 mL	3.33 mg/L	1	0.07	0.50			11/15/19 22:57:00	N	II
K1910278-002	Carbon, Total Organic	N/A		Ground Water	0.34 mg/L	10 mL	0.34 mg/L J	1	0.07	0.50			11/16/19 00:23:00	N	II
K1910332-001	Carbon, Total Organic	N/A		Drinking Water	0.37 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			11/15/19 21:32:00	N	
K1910415-001	Carbon, Total Organic	N/A		Ocean Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			11/15/19 22:00:00	N	
K1910473-001	Carbon, Total Organic	N/A		Ground Water	6.20 mg/L	10 mL	6.20 mg/L	1	0.07	0.50			11/16/19 00:51:00	N	II
K1910473-002	Carbon, Total Organic	N/A		Ground Water	6.32 mg/L	10 mL	6.32 mg/L	1	0.07	0.50			11/16/19 01:19:00	N	II
K1910473-003	Carbon, Total Organic	N/A		Ground Water	0.34 mg/L	10 mL	0.34 mg/L J	1	0.07	0.50			11/16/19 01:48:00	N	II
K1910545-001	Carbon, Total Organic	N/A		Water	1.83 mg/L	10 mL	1.83 mg/L	1	0.07	0.50			11/15/19 22:28:00	N	II
KQ1916988-01	Carbon, Total Organic	CCV		Water	24.50 mg/L	10 mL	24.5 mg/L	1					11/15/19 14:11:00	N	II
KQ1916988-02	Carbon, Total Organic	CCV		Water	24.74 mg/L	10 mL	24.7 mg/L	1					11/15/19 18:14:00	N	II
KQ1916988-03	Carbon, Total Organic	CCV		Water	24.27 mg/L	10 mL	24.3 mg/L	1					11/15/19 23:25:00	N	II
KQ1916988-04	Carbon, Total Organic	CCV		Water	24.63 mg/L	10 mL	24.6 mg/L	1					11/16/19 04:08:00	N	II
KQ1916988-05	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			11/15/19 14:26:00	N	II
KQ1916988-06	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			11/15/19 18:29:00	N	II
KQ1916988-07	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			11/15/19 23:39:00	N	II
KQ1916988-08	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			11/16/19 04:23:00	N	II
KQ1916988-09	Carbon, Total Organic	MB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			11/15/19 14:41:00	N	II
KQ1916988-10	Carbon, Total Organic	LCS		Water	25.27 mg/L	10 mL	25.3 mg/L	1	0.07	0.50	101		11/15/19 14:56:00	N	II
KQ1916988-11	Carbon, Total Organic	MS	K1910160-003	Water	21.53 mg/L	10 mL	21.5 mg/L	1	0.07	0.50	81*		11/15/19 18:00:00	N	IV
KQ1916988-12	Carbon, Total Organic	DUP	K1910095-017	Water	4.97 mg/L	10 mL	249 mg/L	50	4	25		1	11/15/19 15:25:00	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:** 660112 **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
KQ1916988-13	Carbon, Total Organic	DUP	K1910095-018	Water	6.04 mg/L	10 mL	302 mg/L	50	4	25		1	11/15/19 15:53:00	N	II
KQ1916988-15	Carbon, Total Organic	DUP	K1910160-002	Water	1.32 mg/L	10 mL	1.32 mg/L	1	0.07	0.50		5	11/15/19 17:04:00	N	IV
KQ1916988-16	Carbon, Total Organic	DUP	K1910160-001	Water	1.57 mg/L	10 mL	1.57 mg/L	1	0.07	0.50		7	11/15/19 16:36:00	N	IV
KQ1916988-17	Carbon, Total Organic	DUP	K1910160-003	Water	1.20 mg/L	10 mL	1.20 mg/L	1	0.07	0.50		2	11/15/19 17:32:00	N	IV
KQ1916988-18	Carbon, Total Organic	DUP	K1910169-001	Ground Water	1.78 mg/L	10 mL	1.78 mg/L	1	0.07	0.50		<1	11/15/19 18:44:00	N	II
KQ1916988-19	Carbon, Total Organic	DUP	K1910169-002	Ground Water	3.57 mg/L	10 mL	3.57 mg/L	1	0.07	0.50		2	11/15/19 19:12:00	N	II
KQ1916988-20	Carbon, Total Organic	DUP	K1910169-003	Ground Water	3.50 mg/L	10 mL	3.50 mg/L	1	0.07	0.50		2	11/15/19 19:40:00	N	II
KQ1916988-21	Carbon, Total Organic	DUP	K1910187-001	Water	2.39 mg/L	10 mL	2.39 mg/L	1	0.07	0.50		<1	11/15/19 20:08:00	N	I
KQ1916988-22	Carbon, Total Organic	DUP	K1910187-002	Water	0.50 mg/L	10 mL	0.50 mg/L	1	0.07	0.50		2	11/15/19 20:36:00	N	I
KQ1916988-23	Carbon, Total Organic	DUP	K1910187-003	Water	0.57 mg/L	10 mL	0.57 mg/L	1	0.07	0.50		11*	11/15/19 21:04:00	N	I
KQ1916988-24	Carbon, Total Organic	DUP	K1910278-001	Ground Water	3.20 mg/L	10 mL	3.20 mg/L	1	0.07	0.50		4	11/15/19 22:57:00	N	II
KQ1916988-25	Carbon, Total Organic	DUP	K1910278-002	Ground Water	0.24 mg/L	10 mL	0.24 mg/L J	1	0.07	0.50		37*	11/16/19 00:23:00	N	II
KQ1916988-26	Carbon, Total Organic	DUP	K1910332-001	Drinking Water	0.42 mg/L	10 mL	0.42 mg/L J	1	0.07	0.50		NC	11/15/19 21:32:00	N	I
KQ1916988-28	Carbon, Total Organic	DUP	K1910473-001	Ground Water	6.24 mg/L	10 mL	6.24 mg/L	1	0.07	0.50		<1	11/16/19 00:51:00	N	II
KQ1916988-29	Carbon, Total Organic	DUP	K1910473-002	Ground Water	6.33 mg/L	10 mL	6.33 mg/L	1	0.07	0.50		<1	11/16/19 01:19:00	N	II
KQ1916988-30	Carbon, Total Organic	DUP	K1910473-003	Ground Water	0.37 mg/L	10 mL	0.37 mg/L J	1	0.07	0.50		7	11/16/19 01:48:00	N	II
KQ1916988-31	Carbon, Total Organic	DUP	K1910545-001	Water	1.88 mg/L	10 mL	1.88 mg/L	1	0.07	0.50		3	11/15/19 22:28:00	N	II
KQ1916988-32	Carbon, Total Organic	DUP	K1910415-001	Ocean Water	0.02 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50		NC	11/15/19 22:00:00	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:** 660113 **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
K1910147-001	Carbon, Total Organic	N/A		Water	2.61 mg/L	10 mL	2.61 mg/L	1	0.07	0.50			11/16/19 12:53:00	N	IV
K1910331-001	Carbon, Total Organic	N/A		Water	8.66 mg/L	10 mL	866 mg/L	100	7	50			11/16/19 05:34:00	N	II
K1910331-002	Carbon, Total Organic	N/A		Water	9.22 mg/L	10 mL	922 mg/L	100	7	50			11/16/19 06:02:00	N	II
K1910331-003	Carbon, Total Organic	N/A		Water	7.00 mg/L	10 mL	700 mg/L	100	7	50			11/16/19 06:30:00	N	II
K1910473-004	Carbon, Total Organic	N/A		Ground Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			11/16/19 02:16:00	N	II
K1910473-005	Carbon, Total Organic	N/A		Ground Water	0.74 mg/L	10 mL	0.74 mg/L	1	0.07	0.50			11/16/19 02:44:00	N	II
K1910473-006	Carbon, Total Organic	N/A		Ground Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			11/16/19 03:12:00	N	II
K1910483-001	Carbon, Total Organic	N/A		Water	3.41 mg/L	10 mL	3.41 mg/L	1	0.07	0.50			11/16/19 03:40:00	N	II
K1910483-003	Carbon, Total Organic	N/A		Water	2.42 mg/L	10 mL	2.42 mg/L	1	0.07	0.50			11/16/19 04:38:00	N	II
K1910561-001	Carbon, Total Organic	N/A		Surface Water	12.22 mg/L	10 mL	122 mg/L	10	0.7	5.0			11/16/19 06:58:00	N	II
K1910561-002	Carbon, Total Organic	N/A		Surface Water	1.49 mg/L	10 mL	1.49 mg/L	1	0.07	0.50			11/16/19 07:26:00	N	II
K1910561-003	Carbon, Total Organic	N/A		Surface Water	4.36 mg/L	10 mL	8.7 mg/L	2	0.2	1.0			11/16/19 07:54:00	N	II
K1910572-001	Carbon, Total Organic	N/A		Surface Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			11/16/19 08:22:00	N	II
K1910572-002	Carbon, Total Organic	N/A		Surface Water	0.01 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			11/16/19 10:05:00	N	II
K1910572-003	Carbon, Total Organic	N/A		Surface Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			11/16/19 10:33:00	N	II
K1910572-004	Carbon, Total Organic	N/A		Surface Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			11/16/19 11:01:00	N	II
K1910572-005	Carbon, Total Organic	N/A		Surface Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			11/16/19 11:29:00	N	II
K1910572-006	Carbon, Total Organic	N/A		Surface Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			11/16/19 11:57:00	N	II
K1910572-008	Carbon, Total Organic	N/A		Surface Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			11/16/19 12:25:00	N	II
K1910576-001	Carbon, Total Organic	N/A		Water	20.04 mg/L	10 mL	20.0 mg/L	1	0.07	0.50			11/16/19 05:06:00	N	IV
KQ1916989-01	Carbon, Total Organic	CCV		Ground Water	24.27 mg/L	10 mL	24.3 mg/L	1					11/15/19 23:25:00	N	II
KQ1916989-02	Carbon, Total Organic	CCV		Ground Water	24.63 mg/L	10 mL	24.6 mg/L	1					11/16/19 04:08:00	N	II
KQ1916989-03	Carbon, Total Organic	CCV		Ground Water	24.21 mg/L	10 mL	24.2 mg/L	1					11/16/19 09:05:00	N	II
KQ1916989-04	Carbon, Total Organic	CCV		Ground Water	23.71 mg/L	10 mL	23.7 mg/L	1					11/16/19 13:50:00	N	II
KQ1916989-05	Carbon, Total Organic	CCB		Ground Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			11/15/19 23:39:00	N	II
KQ1916989-06	Carbon, Total Organic	CCB		Ground Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			11/16/19 04:23:00	N	II

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

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Results Summary

11/19/19

Analytical Results Summary

Instrument Name: K-TOC-03 **Analyst:** BDITZLER **Analysis Lot:** 660113 **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
KQ1916989-07	Carbon, Total Organic	CCB		Ground Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			11/16/19 09:19:00	N	II
KQ1916989-08	Carbon, Total Organic	CCB		Ground Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			11/16/19 14:04:00	N	II
KQ1916989-09	Carbon, Total Organic	MB		Ground Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			11/15/19 23:54:00	N	II
KQ1916989-10	Carbon, Total Organic	LCS		Ground Water	24.76 mg/L	10 mL	24.8 mg/L	1	0.07	0.50	99		11/16/19 00:09:00	N	II
KQ1916989-11	Carbon, Total Organic	MS	K1910572-001	Surface Water	25.02 mg/L	10 mL	25.0 mg/L	1	0.07	0.50	100		11/16/19 08:50:00	N	II
KQ1916989-12	Carbon, Total Organic	DUP	K1910147-001	Water	2.59 mg/L	10 mL	2.59 mg/L	1	0.07	0.50		<1	11/16/19 12:53:00	N	IV
KQ1916989-13	Carbon, Total Organic	DUP	K1910331-001	Water	8.72 mg/L	10 mL	872 mg/L	100	7	50		<1	11/16/19 05:34:00	N	II
KQ1916989-14	Carbon, Total Organic	DUP	K1910331-002	Water	9.19 mg/L	10 mL	919 mg/L	100	7	50		<1	11/16/19 06:02:00	N	II
KQ1916989-15	Carbon, Total Organic	DUP	K1910473-004	Ground Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50		NC	11/16/19 02:16:00	N	II
KQ1916989-16	Carbon, Total Organic	DUP	K1910473-005	Ground Water	0.62 mg/L	10 mL	0.62 mg/L	1	0.07	0.50		18*	11/16/19 02:44:00	N	II
KQ1916989-17	Carbon, Total Organic	DUP	K1910473-006	Ground Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50		NC	11/16/19 03:12:00	N	II
KQ1916989-18	Carbon, Total Organic	DUP	K1910483-003	Water	2.37 mg/L	10 mL	2.37 mg/L	1	0.07	0.50		2	11/16/19 04:38:00	N	II
KQ1916989-19	Carbon, Total Organic	DUP	K1910483-001	Water	3.31 mg/L	10 mL	3.31 mg/L	1	0.07	0.50		3	11/16/19 03:40:00	N	II
KQ1916989-20	Carbon, Total Organic	DUP	K1910331-003	Water	6.84 mg/L	10 mL	684 mg/L	100	7	50		2	11/16/19 06:30:00	N	II
KQ1916989-21	Carbon, Total Organic	DUP	K1910561-001	Surface Water	12.17 mg/L	10 mL	122 mg/L	10	0.7	5.0		<1	11/16/19 06:58:00	N	II
KQ1916989-22	Carbon, Total Organic	DUP	K1910561-002	Surface Water	1.28 mg/L	10 mL	1.28 mg/L	1	0.07	0.50		15*	11/16/19 07:26:00	N	II
KQ1916989-23	Carbon, Total Organic	DUP	K1910561-003	Surface Water	4.18 mg/L	10 mL	8.4 mg/L	2	0.2	1.0		4	11/16/19 07:54:00	N	II
KQ1916989-24	Carbon, Total Organic	DUP	K1910572-002	Surface Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50		NC	11/16/19 10:05:00	N	II
KQ1916989-25	Carbon, Total Organic	DUP	K1910572-003	Surface Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50		NC	11/16/19 10:33:00	N	II
KQ1916989-26	Carbon, Total Organic	DUP	K1910572-004	Surface Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50		NC	11/16/19 11:01:00	N	II
KQ1916989-27	Carbon, Total Organic	DUP	K1910572-005	Surface Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50		NC	11/16/19 11:29:00	N	II
KQ1916989-28	Carbon, Total Organic	DUP	K1910572-006	Surface Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50		NC	11/16/19 11:57:00	N	II
KQ1916989-29	Carbon, Total Organic	DUP	K1910572-008	Surface Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50		NC	11/16/19 12:25:00	N	II
KQ1916989-30	Carbon, Total Organic	DUP	K1910572-001	Surface Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50		NC	11/16/19 08:22:00	N	II
KQ1916989-31	Carbon, Total Organic	DUP	K1910576-001	Water	19.96 mg/L	10 mL	20.0 mg/L	1	0.07	0.50		<1	11/16/19 05:06:00	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:** 660114 **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
K1910147-002	Carbon, Total Organic	N/A		Water	2.64 mg/L	10 mL	2.64 mg/L	1	0.07	0.50			11/16/19 13:22:00	N	IV
K1910147-006	Carbon, Total Organic	N/A		Water	3.06 mg/L	10 mL	3.06 mg/L	1	0.07	0.50			11/16/19 14:19:00	N	IV
K1910147-007	Carbon, Total Organic	N/A		Water	4.59 mg/L	10 mL	4.59 mg/L	1	0.07	0.50			11/16/19 14:47:00	N	IV
K1910199-001	Carbon, Total Organic	N/A		Water	1.80 mg/L	10 mL	1.80 mg/L	1	0.07	0.50			11/16/19 15:15:00	N	IV
K1910199-002	Carbon, Total Organic	N/A		Water	1.52 mg/L	10 mL	1.52 mg/L	1	0.07	0.50			11/16/19 15:43:00	N	IV
K1910199-003	Carbon, Total Organic	N/A		Water	1.23 mg/L	10 mL	1.23 mg/L	1	0.07	0.50			11/16/19 16:12:00	N	IV
K1910199-004	Carbon, Total Organic	N/A		Water	1.40 mg/L	10 mL	1.40 mg/L	1	0.07	0.50			11/16/19 16:40:00	N	IV
K1910199-007	Carbon, Total Organic	N/A		Water	1.93 mg/L	10 mL	1.93 mg/L	1	0.07	0.50			11/16/19 17:08:00	N	IV
K1910199-008	Carbon, Total Organic	N/A		Water	1.89 mg/L	10 mL	1.89 mg/L	1	0.07	0.50			11/16/19 17:36:00	N	IV
K1910199-010	Carbon, Total Organic	N/A		Water	1.51 mg/L	10 mL	1.51 mg/L	1	0.07	0.50			11/16/19 18:04:00	N	IV
K1910254-002	Carbon, Total Organic	N/A		Water	1.73 mg/L	10 mL	1.73 mg/L	1	0.07	0.50			11/16/19 19:46:00	N	IV
K1910254-003	Carbon, Total Organic	N/A		Water	0.99 mg/L	10 mL	0.99 mg/L	1	0.07	0.50			11/16/19 20:14:00	N	IV
K1910254-004	Carbon, Total Organic	N/A		Water	2.33 mg/L	10 mL	2.33 mg/L	1	0.07	0.50			11/16/19 20:42:00	Y	IV
K1910254-005	Carbon, Total Organic	N/A		Water	1.15 mg/L	10 mL	1.15 mg/L	1	0.07	0.50			11/16/19 21:39:00	N	IV
K1910254-006	Carbon, Total Organic	N/A		Water	28.09 mg/L	10 mL	28.1 mg/L	1	0.07	0.50			11/16/19 22:08:00	N	IV
K1910254-007	Carbon, Total Organic	N/A		Water	2.13 mg/L	10 mL	2.13 mg/L	1	0.07	0.50			11/16/19 22:36:00	N	IV
KQ1916990-01	Carbon, Total Organic	CCV		Water	24.21 mg/L	10 mL	24.2149 mg/L	1					11/16/19 09:05:00	N	IV
KQ1916990-02	Carbon, Total Organic	CCV		Water	23.71 mg/L	10 mL	23.7056 mg/L	1					11/16/19 13:50:00	N	IV
KQ1916990-03	Carbon, Total Organic	CCV		Water	23.93 mg/L	10 mL	23.9330 mg/L	1					11/16/19 18:47:00	N	IV
KQ1916990-04	Carbon, Total Organic	CCV		Water	23.87 mg/L	10 mL	23.8729 mg/L	1					11/16/19 23:04:00	N	IV
KQ1916990-05	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			11/16/19 09:19:00	N	IV
KQ1916990-06	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			11/16/19 14:04:00	N	IV
KQ1916990-07	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			11/16/19 19:02:00	N	IV
KQ1916990-08	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			11/16/19 23:18:00	N	IV
KQ1916990-09	Carbon, Total Organic	MB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			11/16/19 09:34:00	N	IV
KQ1916990-10	Carbon, Total Organic	LCS		Water	24.43 mg/L	10 mL	24.4 mg/L	1	0.07	0.50			11/16/19 09:49:00	N	IV
KQ1916990-11	Carbon, Total Organic	DUP	K1910147-002	Water	2.62 mg/L	10 mL	2.62 mg/L	1	0.07	0.50		<1	11/16/19 13:22:00	N	IV
KQ1916990-12	Carbon, Total Organic	DUP	K1910147-006	Water	2.99 mg/L	10 mL	2.99 mg/L	1	0.07	0.50		2	11/16/19 14:19:00	N	IV
KQ1916990-13	Carbon, Total Organic	DUP	K1910147-007	Water	4.39 mg/L	10 mL	4.39 mg/L	1	0.07	0.50		5	11/16/19 14:47:00	N	IV
KQ1916990-14	Carbon, Total Organic	DUP	K1910199-002	Water	1.53 mg/L	10 mL	1.53 mg/L	1	0.07	0.50		<1	11/16/19 15:43:00	N	IV
KQ1916990-15	Carbon, Total Organic	DUP	K1910199-003	Water	1.24 mg/L	10 mL	1.24 mg/L	1	0.07	0.50		1	11/16/19 16:12:00	N	IV
KQ1916990-16	Carbon, Total Organic	DUP	K1910199-004	Water	1.38 mg/L	10 mL	1.38 mg/L	1	0.07	0.50		1	11/16/19 16:40:00	N	IV
KQ1916990-17	Carbon, Total Organic	DUP	K1910199-007	Water	1.86 mg/L	10 mL	1.86 mg/L	1	0.07	0.50		4	11/16/19 17:08:00	N	IV
KQ1916990-18	Carbon, Total Organic	DUP	K1910199-008	Water	1.89 mg/L	10 mL	1.89 mg/L	1	0.07	0.50		<1	11/16/19 17:36:00	N	IV
KQ1916990-19	Carbon, Total Organic	DUP	K1910199-001	Water	1.83 mg/L	10 mL	1.83 mg/L	1	0.07	0.50		2	11/16/19 15:15:00	N	IV
KQ1916990-20	Carbon, Total Organic	DUP	K1910199-010	Water	1.59 mg/L	10 mL	1.59 mg/L	1	0.07	0.50		5	11/16/19 18:04:00	N	IV

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

11/19/19

Analytical Results Summary

Instrument Name: K-TOC-03 **Analyst:** BDITZLER **Analysis Lot:** 660114 **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
KQ1916990-22	Carbon, Total Organic	DUP	K1910254-002	Water	1.59 mg/L	10 mL	1.59 mg/L	1	0.07	0.50		8	11/16/19 19:46:00	N	IV
KQ1916990-23	Carbon, Total Organic	DUP	K1910254-003	Water	1.11 mg/L	10 mL	1.11 mg/L	1	0.07	0.50		11*	11/16/19 20:14:00	N	IV
KQ1916990-24	Carbon, Total Organic	DUP	K1910254-004	Water	2.30 mg/L	10 mL	2.30 mg/L	1	0.07	0.50		1	11/16/19 20:42:00	N	IV
KQ1916990-25	Carbon, Total Organic	DUP	K1910254-005	Water	1.11 mg/L	10 mL	1.11 mg/L	1	0.07	0.50		3	11/16/19 21:39:00	N	IV
KQ1916990-26	Carbon, Total Organic	DUP	K1910254-006	Water	28.17 mg/L	10 mL	28.2 mg/L	1	0.07	0.50		<1	11/16/19 22:08:00	N	IV
KQ1916990-27	Carbon, Total Organic	DUP	K1910254-007	Water	1.84 mg/L	10 mL	1.84 mg/L	1	0.07	0.50		14*	11/16/19 22:36:00	N	IV
KQ1916990-28	Carbon, Total Organic	MS	K1910254-004	Water	27.79 mg/L	10 mL	27.8 mg/L	1	0.07	0.50			11/16/19 21:10:00	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:** 660115 **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
K1910254-008	Carbon, Total Organic	N/A		Water	1.45 mg/L	10 mL	1.45 mg/L	1	0.07	0.50			11/16/19 23:33:00	N	IV
K1910299-001	Carbon, Total Organic	N/A		Water	7.30 mg/L	10 mL	7.30 mg/L	1	0.07	0.50			11/17/19 00:01:00	N	IV
K1910760-001	Carbon, Total Organic	N/A		Water	1.23 mg/L	10 mL	1.23 mg/L	1	0.07	0.50			11/17/19 02:22:00	N	IV
K1910765-001	Carbon, Total Organic	N/A		Ground Water	9.06 mg/L	10 mL	9.06 mg/L	1	0.07	0.50			11/17/19 00:29:00	N	IV
K1910765-002	Carbon, Total Organic	N/A		Ground Water	13.64 mg/L	10 mL	13.6 mg/L	1	0.07	0.50			11/17/19 00:58:00	N	IV
K1910765-003	Carbon, Total Organic	N/A		Ground Water	22.60 mg/L	10 mL	22.6 mg/L	1	0.07	0.50			11/17/19 01:26:00	N	IV
K1910765-004	Carbon, Total Organic	N/A		Ground Water	10.31 mg/L	10 mL	10.3 mg/L	1	0.07	0.50			11/17/19 01:54:00	N	IV
KQ1916991-01	Carbon, Total Organic	CCV		Water	23.87 mg/L	10 mL	23.9 mg/L	1					11/16/19 23:04:00	N	IV
KQ1916991-02	Carbon, Total Organic	CCV		Water	23.67 mg/L	10 mL	23.7 mg/L	1					11/17/19 03:33:00	N	IV
KQ1916991-03	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			11/16/19 23:18:00	N	IV
KQ1916991-04	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			11/17/19 03:48:00	N	IV
KQ1916991-05	Carbon, Total Organic	MB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			11/16/19 19:16:00	N	IV
KQ1916991-06	Carbon, Total Organic	LCS		Water	24.59 mg/L	10 mL	24.6 mg/L	1	0.07	0.50	98		11/16/19 19:31:00	N	IV
KQ1916991-07	Carbon, Total Organic	MS	K1910760-001	Water	25.85 mg/L	10 mL	25.8 mg/L	1	0.07	0.50	98		11/17/19 02:50:00	N	IV
KQ1916991-08	Carbon, Total Organic	DUP	K1910254-008	Water	1.42 mg/L	10 mL	1.42 mg/L	1	0.07	0.50		2	11/16/19 23:33:00	N	IV
KQ1916991-09	Carbon, Total Organic	DUP	K1910299-001	Water	7.01 mg/L	10 mL	7.01 mg/L	1	0.07	0.50		4	11/17/19 00:01:00	N	IV
KQ1916991-10	Carbon, Total Organic	DUP	K1910760-001	Water	1.12 mg/L	10 mL	1.12 mg/L	1	0.07	0.50		10	11/17/19 02:22:00	N	IV
KQ1916991-11	Carbon, Total Organic	DUP	K1910765-002	Ground Water	13.45 mg/L	10 mL	13.4 mg/L	1	0.07	0.50		1	11/17/19 00:58:00	N	IV
KQ1916991-12	Carbon, Total Organic	DUP	K1910765-001	Ground Water	8.90 mg/L	10 mL	8.90 mg/L	1	0.07	0.50		2	11/17/19 00:29:00	N	IV
KQ1916991-13	Carbon, Total Organic	DUP	K1910765-003	Ground Water	22.72 mg/L	10 mL	22.7 mg/L	1	0.07	0.50		<1	11/17/19 01:26:00	N	IV
KQ1916991-14	Carbon, Total Organic	DUP	K1910765-004	Ground Water	9.87 mg/L	10 mL	9.87 mg/L	1	0.07	0.50		4	11/17/19 01:54:00	N	IV

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

TOC660112
660113
660114
660115

Schedule: 11152019

Version: 15
Instrument: Fusion1
Last Saved by: Fusion1 (Fusion1)
Last Saved on: 2019/11/16 10:07 - Saturday

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	K1910095-017.08 50x	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
4	Sample	K1910095-018.08 50x	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
5	Sample	K1910157-001.02 25x	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
6	Sample	K1910160-001.02	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
7	Sample	K1910160-002.02	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
8	Sample	K1910160-003.01	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
9	Sample	K1910160-003.01 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
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
10	Sample	K1910169-001.08	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
11	Sample	K1910169-002.08	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
12	Sample	K1910169-003.08	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
13	Sample	K1910187-001.03	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
14	Sample	K1910187-002.03	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
15	Sample	K1910187-003.03	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
16	Sample	K1910332-001.01	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
17	Sample	K1910415-001.01	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
18	Sample	K1910545-001.01	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
19	Sample	K1910278-001.08	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	K1910278-002.08	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
22	Sample	K1910473-001.13	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
23	Sample	K1910473-002.12	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
24	Sample	K1910473-003.12	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
25	Sample	K1910473-004.12	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
26	Sample	K1910473-005.12	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
27	Sample	K1910473-006.12	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
28	Sample	K1910483-001.01	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
29	Sample	K1910483-003.01	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
30	Sample	K1910576-001.01	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
31	Sample	K1910331-001.01 100x	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
32	Sample	K1910331-002.01 100x	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
33	Sample	K1910331-003.01 100x	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
34	Sample	K1910561-001.15 10x	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
35	Sample	K1910561-002.15	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
36	Sample	K1910561-003.14 2x	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
37	Sample	K1910572-001.16	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
38	Sample	K1910572-001.16 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

11/19/19

Schedule: 11152019

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	K1910572-002.16	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
41	Sample	K1910572-003.15	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
42	Sample	K1910572-004.15	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
43	Sample	K1910572-005.15	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
44	Sample	K1910572-006.16	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
45	Sample	K1910572-008.15	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
46	Sample	K1910147-001.05	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
47	Sample	K1910147-002.05	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
48	Sample	K1910147-006.04	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
49	Sample	K1910147-007.04	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
50	Sample	K1910199-001.04	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
51	Sample	K1910199-002.04	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
52	Sample	K1910199-003.04	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
53	Sample	K1910199-004.04	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
54	Sample	K1910199-007.04	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
55	Sample	K1910199-008.04	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
56	Sample	K1910199-010.04	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
57	Sample	K1910254-001.04	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
58	Sample	MB4	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
59	Sample	K1910254-002.04	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
60	Sample	K1910254-003.04	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
61	Sample	K1910254-004.04	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
62	Sample	K1910254-004.04 ms	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
63	Sample	rb	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
64	Sample	K1910254-005.04	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
65	Sample	K1910254-006.04	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
66	Sample	K1910254-007.04	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
67	Sample	K1910254-008.04	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
68	Sample	K1910299-001.03	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
69	Sample	K1910765-001.01	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
70	Sample	K1910765-002.01	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
71	Sample	K1910765-003.01	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
72	Sample	K1910765-004.01	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
73	Sample	K1910760-001.01	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
74	Sample	K1910760-001.01 ms	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
75	Sample	RB	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 - 11152019
Friday, November 15, 2019 12:08 PM

(View - Reps, Unused Reps, Meta-Data, Signature, History)
Printed on 2019/11/19 09:11 - Tuesday

Report Summary Information

Company Location:	Gen Chem Lab		
Schedule Name:	11152019	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) (v4) Fusion1 (Fusion1) (v6) Fusion1 (Fusion1) (v7) Fusion1 (Fusion1) (v8) Fusion1 (Fusion1) (v10) Fusion1 (Fusion1) (v11) Fusion1 (Fusion1) (v13) Fusion1 (Fusion1) (v14) Fusion1 (Fusion1) (v15)		
Comment:			

Report Results

11/19/19

Sample Type: Clean — From Schedule Version 4

	Pos	Analysis Type	Sample ID	Start Time
◈	(clean)		Clean	2019/11/15 12:08

Rep #	Base Analysis Type	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	IC Clean	12.76	16.22	3.46	49.69	05:27
2	TC Clean	5.39	8.81	3.42	49.82	07:17
3	TC Clean	1.94	5.58	3.64	49.82	07:04
4	TC Clean	1.93	5.53	3.60	49.84	07:02

Sample Type: Clean — From Schedule Version 6

	Pos	Analysis Type	Sample ID	Start Time
◈	(clean)		Clean	2019/11/15 12:40

Rep #	Base Analysis Type	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	IC Clean	0.80	4.46	3.66	49.66	05:16

2	TC Clean	4.24	7.86	3.62	50.13	04:06
3	TC Clean	1.75	5.37	3.62	50.25	03:46
4	TC Clean	1.62	5.16	3.54	50.24	03:48

Sample Type: Clean From Schedule Version 6

	Pos	Analysis Type	Sample ID	Start Time
◆	(clean)		Clean	2019/11/15 13:02

Rep #	Base Analysis Type	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	IC Clean	0.95	4.19	3.25	49.74	05:11
2	TC Clean	4.91	8.40	3.49	50.60	04:00
3	TC Clean	2.28	5.87	3.59	50.40	03:47
4	TC Clean	1.86	5.44	3.58	50.34	03:44

Sample Type: Blank (Creating v1320) From Schedule Version 7

	Pos	Analysis Type	Sample ID	Start Time
◆	(blank)		Reagent/Acid Blank	2019/11/15 13:23

Rep #	Base Analysis Type	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	IC Clean	7.01	10.68	3.68	49.53	05:10
2	TC Clean	3.98	7.63	3.65	50.07	03:58
3	TC Clean	1.76	5.38	3.62	50.26	03:47
4	TC Clean	1.43	5.09	3.66	50.10	03:52
5	Reagent Blank	6.99	10.63	3.64	50.08	05:07
6	Acid Blank	1.76	5.53	3.77	49.64	05:30

Sample Type: Sample From Schedule Version 8

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	D	TOC	RB	0.4469 ppm	0.0000 ppm	0.0000%	2019/11/15 13:57

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.4469	4.4691	12.02	15.81	3.79	50.10	10:30

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 8.9824 (IC) (v1320)	CAS_salt_010711 (v4)	CAS_salt_010711 (v30)

Sample Type: Check Standard --> CCV 25 ppm — From Schedule Version 8

	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)	24.5004 ppm (PASS)	0.0000 ppm	0%	2019/11/15 14:11

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	24.5004	245.0044	175.77	179.74	3.97	50.15	10:31

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v30)	50 ppmC

Sample Type: Check Standard --> CCB — From Schedule Version 8

	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%	2019/11/15 14:26

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.0000	0.0000	8.77	12.50	3.73	50.15	10:33

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v30)	0 ppmC

Sample Type: Sample — From Schedule Version 10

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	1	TOC	MB1	0.0000 ppm	0.0000 ppm	0.0000%	2019/11/15 14:41

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	8.28	11.96	3.68	50.14	10:31

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 8.9824 (IC) (v1320)	CAS_salt_010711 (v4)	CAS_salt_010711 (v30)

Sample Type: Check Standard --> LCS — From Schedule Version 11

	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)	25.2718 ppm (PASS)	0.0000 ppm	0%	2019/11/15 14:56

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
C	TOC	25.0 ppm	1	25.2718	252.7180	181.01	184.83	3.83	50.15	10:29

Completion State	Success Action	Method	Calibration	STD Conc - Pos C
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v30)	25 ppmC

Sample Type: Sample From Schedule Version 11

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	2	TOC	ICS	0.2494 ppm	0.0000 ppm	0.0000%	2019/11/15 15:10

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.2494	2.4936	10.68	14.48	3.81	50.15	10:34

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 8.9824 (IC) (v1320)	CAS_salt_010711 (v4)	CAS_salt_010711 (v30)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	3	TOC	K1910095-017.08 50x	4.9489 ppm	0.0367 ppm	0.7400%	2019/11/15 15:25

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	4.9229	49.2294	42.40	46.05	3.65	50.14	10:27
2	TOC	4.9748	49.7480	42.75	46.46	3.71	50.16	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 8.9824 (IC) (v1320)	CAS_salt_010711 (v4)	CAS_salt_010711 (v30)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	4	TOC	K1910095-018.08 50x	6.0030 ppm	0.0514 ppm	0.8600%	2019/11/15 15:53

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	5.9667	59.6670	49.48	53.06	3.57	50.17	10:29
2	TOC	6.0393	60.3933	49.98	53.65	3.67	50.17	10:24

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 8.9824 (IC) (v1320)	CAS_salt_010711 (v4)	CAS_salt_010711 (v30)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	5	TOC	K1910157-001.02 25x	4.0567 ppm	0.0000 ppm	0.0000%	2019/11/15 16:21

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	4.0567	40.5670	36.52	40.26	3.74	50.21	10:32

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 8.9824 (IC) (v1320)	CAS_salt_010711 (v4)	CAS_salt_010711 (v30)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	6	TOC	K1910160-001.02	1.6341 ppm	0.0855 ppm	5.2300%	2019/11/15 16:36

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.6946	16.9457	20.48	23.99	3.50	50.21	10:28
2	TOC	1.5736	15.7362	19.66	23.40	3.74	50.22	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 8.9824 (IC) (v1320)	CAS_salt_010711 (v4)	CAS_salt_010711 (v30)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	7	TOC	K1910160-002.02	1.3500 ppm	0.0433 ppm	3.2100%	2019/11/15 17:04

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.3806	13.8063	18.35	22.02	3.67	50.22	10:27
2	TOC	1.3193	13.1934	17.94	21.58	3.64	50.22	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 8.9824 (IC) (v1320)	CAS_salt_010711 (v4)	CAS_salt_010711 (v30)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	8	TOC	K1910160-003.01	1.2163 ppm	0.0172 ppm	1.4100%	2019/11/15 17:32

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.2284	12.2845	17.32	20.91	3.59	50.23	10:31
2	TOC	1.2041	12.0414	17.16	20.75	3.59	50.25	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 8.9824 (IC) (v1320)	CAS_salt_010711 (v4)	CAS_salt_010711 (v30)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	9	TOC	K1910160-003.01 ms	21.5289 ppm	0.0000 ppm	0.0000%	2019/11/15 18:00

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	21.5289	215.2886	155.12	158.72	3.60	50.22	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 8.9824 (IC) (v1320)	CAS_salt_010711 (v4)	CAS_salt_010711 (v30)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 11

	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)	24.7429 ppm (PASS)	0.0000 ppm	0%	2019/11/15 18:14

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	24.7429	247.4293	177.42	181.03	3.61	50.24	10:31

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v30)	50 ppmC

Sample Type: Check Standard --> CCB From Schedule Version 11

	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%	2019/11/15 18:29

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.0000	0.0000	7.97	11.50	3.53	50.27	10:31

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v30)	0 ppmC

Sample Type: Sample From Schedule Version 11

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	10	TOC	K1910169-001.08	1.7747 ppm	0.0073 ppm	0.4100%	2019/11/15 18:44

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.7696	17.6955	20.99	24.65	3.66	50.27	10:25
2	TOC	1.7799	17.7987	21.06	24.79	3.73	50.24	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 8.9824 (IC) (v1320)	CAS_salt_010711 (v4)	CAS_salt_010711 (v30)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	11	TOC	K1910169-002.08	3.5395 ppm	0.0386 ppm	1.0900%	2019/11/15 19:12

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	3.5122	35.1220	32.82	36.70	3.88	50.26	10:26
2	TOC	3.5669	35.6686	33.19	36.76	3.56	50.26	10:30

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 8.9824 (IC) (v1320)	CAS_salt_010711 (v4)	CAS_salt_010711 (v30)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	12	TOC	K1910169-003.08	3.5263 ppm	0.0377 ppm	1.0700%	2019/11/15 19:40

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	3.5530	35.5301	33.10	36.72	3.62	50.26	10:27
2	TOC	3.4997	34.9968	32.74	36.33	3.59	50.26	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 8.9824 (IC) (v1320)	CAS_salt_010711 (v4)	CAS_salt_010711 (v30)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	13	TOC	K1910187-001.03	2.3984 ppm	0.0130 ppm	0.5400%	2019/11/15 20:08

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.4076	24.0760	25.32	29.11	3.78	50.30	10:30
2	TOC	2.3892	23.8918	25.20	28.77	3.57	50.28	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 8.9824 (IC) (v1320)	CAS_salt_010711 (v4)	CAS_salt_010711 (v30)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	14	TOC	K1910187-002.03	0.5055 ppm	0.0070 ppm	1.3800%	2019/11/15 20:36

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.5104	5.1041	12.45	16.08	3.63	50.26	10:28
2	TOC	0.5005	5.0054	12.38	16.05	3.67	50.27	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 8.9824 (IC) (v1320)	CAS_salt_010711 (v4)	CAS_salt_010711 (v30)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	15	TOC	K1910187-003.03	0.5422 ppm	0.0431 ppm	7.9500%	2019/11/15 21:04

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.5117	5.1173	12.46	16.08	3.62	50.26	10:31
2	TOC	0.5727	5.7273	12.87	16.45	3.58	50.26	10:24

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 8.9824 (IC) (v1320)	CAS_salt_010711 (v4)	CAS_salt_010711 (v30)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	16	TOC	K1910332-001.01	0.3940 ppm	0.0384 ppm	9.7600%	2019/11/15 21:32

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.3668	3.6677	11.47	15.05	3.58	50.27	10:27
2	TOC	0.4211	4.2113	11.84	15.41	3.57	50.27	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 8.9824 (IC) (v1320)	CAS_salt_010711 (v4)	CAS_salt_010711 (v30)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	17	TOC	K1910415-001.01	0.0098 ppm	0.0106 ppm	108.2500%	2019/11/15 22:00

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0023	0.0230	9.00	12.60	3.60	50.25	10:27
2	TOC	0.0173	0.1733	9.10	12.69	3.59	50.29	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 8.9824 (IC) (v1320)	CAS_salt_010711 (v4)	CAS_salt_010711 (v30)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	18	TOC	K1910545-001.01	1.8523 ppm	0.0385 ppm	2.0800%	2019/11/15 22:28

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.8251	18.2509	21.37	25.07	3.69	50.27	10:32
2	TOC	1.8796	18.7960	21.74	25.24	3.50	50.25	10:30

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 8.9824 (IC) (v1320)	CAS_salt_010711 (v4)	CAS_salt_010711 (v30)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	19	TOC	K1910278-001.08	3.2661 ppm	0.0957 ppm	2.9300%	2019/11/15 22:57

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	3.3338	33.3380	31.61	35.17	3.56	50.28	10:26
2	TOC	3.1984	31.9841	30.69	34.18	3.49	50.25	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 8.9824 (IC) (v1320)	CAS_salt_010711 (v4)	CAS_salt_010711 (v30)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 11

	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)	24.2686 ppm (PASS)	0.0000 ppm	0%	2019/11/15 23:25

Pos	Base Analysis	ID	Rep	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run

	Type		#							Time
B	TOC	25 ppm	1	24.2686	242.6855	174.20	177.87	3.67	50.24	10:32

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v30)	50 ppmC

Sample Type: Check Standard --> CCB From Schedule Version 11

	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%	2019/11/15 23:39

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.0000	0.0000	6.87	10.59	3.72	50.23	10:32

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v30)	0 ppmC

Sample Type: Sample From Schedule Version 11

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	20	TOC	MB2	0.0000 ppm	0.0000 ppm	0.0000%	2019/11/15 23:54

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	6.26	9.99	3.73	50.23	10:30

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 8.9824 (IC) (v1320)	CAS_salt_010711 (v4)	CAS_salt_010711 (v30)

Sample Type: Check Standard --> LCS From Schedule Version 11

	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)	24.7580 ppm (PASS)	0.0000 ppm	0%	2019/11/16 00:09

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
C	TOC	25.0 ppm	1	24.7580	247.5795	177.52	181.15	3.63	50.25	10:34

Completion State	Success Action	Method	Calibration	STD Conc - Pos C
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v30)	25 ppmC

Sample Type: Sample From Schedule Version 11

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	21	TOC	K1910278-002.08	0.2897 ppm	0.0752 ppm	25.9600%	2019/11/16 00:23

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.3429	3.4291	11.31	14.96	3.65	50.23	10:29
2	TOC	0.2365	2.3654	10.59	14.37	3.78	50.25	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 8.9824 (IC) (v1320)	CAS_salt_010711 (v4)	CAS_salt_010711 (v30)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	22	TOC	K1910473-001.13	6.2195 ppm	0.0283 ppm	0.4600%	2019/11/16 00:51

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	6.1995	61.9947	51.06	54.70	3.64	50.20	10:28
2	TOC	6.2395	62.3954	51.34	55.03	3.69	50.22	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 8.9824 (IC) (v1320)	CAS_salt_010711 (v4)	CAS_salt_010711 (v30)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	23	TOC	K1910473-002.12	6.3251 ppm	0.0117 ppm	0.1800%	2019/11/16 01:19

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	6.3169	63.1688	51.86	55.39	3.52	50.22	10:27
2	TOC	6.3334	63.3338	51.97	55.71	3.74	50.27	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 8.9824 (IC) (v1320)	CAS_salt_010711 (v4)	CAS_salt_010711 (v30)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	24	TOC	K1910473-003.12	0.3568 ppm	0.0176 ppm	4.9300%	2019/11/16 01:48

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.3444	3.4438	11.32	15.12	3.80	50.20	10:28
2	TOC	0.3693	3.6928	11.49	15.22	3.74	50.22	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 8.9824 (IC) (v1320)	CAS_salt_010711 (v4)	CAS_salt_010711 (v30)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	25	TOC	K1910473-004.12	0.0000 ppm	0.0000 ppm	0.0000%	2019/11/16 02:16

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time

1	TOC	0.0000	0.0000	7.93	11.60	3.67	50.20	10:28
2	TOC	0.0000	0.0000	7.22	10.80	3.58	50.21	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 8.9824 (IC) (v1320)	CAS_salt_010711 (v4)	CAS_salt_010711 (v30)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	26	TOC	K1910473-005.12	0.6764 ppm	0.0841 ppm	12.4300%	2019/11/16 02:44

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.7358	7.3581	13.98	17.62	3.64	50.18	10:30
2	TOC	0.6169	6.1692	13.17	16.93	3.76	50.18	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 8.9824 (IC) (v1320)	CAS_salt_010711 (v4)	CAS_salt_010711 (v30)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	27	TOC	K1910473-006.12	0.0000 ppm	0.0000 ppm	0.0000%	2019/11/16 03:12

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	6.73	10.39	3.66	50.20	10:31
2	TOC	0.0000	0.0000	6.66	10.44	3.78	50.19	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 8.9824 (IC) (v1320)	CAS_salt_010711 (v4)	CAS_salt_010711 (v30)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	28	TOC	K1910483-001.01	3.3577 ppm	0.0669 ppm	1.9900%	2019/11/16 03:40

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	3.4050	34.0495	32.10	35.66	3.56	50.21	10:31
2	TOC	3.3104	33.1037	31.45	35.28	3.83	50.22	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 8.9824 (IC) (v1320)	CAS_salt_010711 (v4)	CAS_salt_010711 (v30)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 11

	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)	24.6323 ppm (PASS)	0.0000 ppm	0%	2019/11/16 04:08

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	24.6323	246.3229	176.66	180.34	3.68	50.21	10:30

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v30)	50 ppmC

Sample Type: Check Standard --> CCB From Schedule Version 11

	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%	2019/11/16 04:23

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.0000	0.0000	6.45	10.17	3.71	50.24	10:30

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v30)	0 ppmC

Sample Type: Sample From Schedule Version 11

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	29	TOC	K1910483-003.01	2.3901 ppm	0.0355 ppm	1.4900%	2019/11/16 04:38

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.4153	24.1526	25.38	28.86	3.48	50.20	10:28
2	TOC	2.3650	23.6502	25.04	28.74	3.70	50.23	10:24

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 8.9824 (IC) (v1320)	CAS_salt_010711 (v4)	CAS_salt_010711 (v30)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	30	TOC	K1910576-001.01	20.0038 ppm	0.0575 ppm	0.2900%	2019/11/16 05:06

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	20.0445	200.4446	145.04	148.74	3.70	50.22	10:30
2	TOC	19.9631	199.6314	144.49	148.32	3.83	50.23	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 8.9824 (IC) (v1320)	CAS_salt_010711 (v4)	CAS_salt_010711 (v30)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	31	TOC	K1910331-001.01 100x	8.6865 ppm	0.0435 ppm	0.5000%	2019/11/16 05:34

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	8.6557	86.5574	67.74	71.55	3.81	50.23	10:27

2	TOC	8.7173	87.1732	68.16	71.92	3.77	50.20	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 8.9824 (IC) (v1320)	CAS_salt_010711 (v4)	CAS_salt_010711 (v30)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	32	TOC	K1910331-002.01 100x	9.2041 ppm	0.0188 ppm	0.2000%	2019/11/16 06:02

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	9.2173	92.1732	71.55	75.19	3.64	50.19	10:28
2	TOC	9.1908	91.9080	71.37	75.00	3.63	50.18	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 8.9824 (IC) (v1320)	CAS_salt_010711 (v4)	CAS_salt_010711 (v30)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	33	TOC	K1910331-003.01 100x	6.9189 ppm	0.1166 ppm	1.6800%	2019/11/16 06:30

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	7.0013	70.0133	56.51	60.25	3.74	50.23	10:26
2	TOC	6.8365	68.3648	55.39	59.06	3.67	50.22	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 8.9824 (IC) (v1320)	CAS_salt_010711 (v4)	CAS_salt_010711 (v30)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	34	TOC	K1910561-001.15 10x	12.1977 ppm	0.0334 ppm	0.2700%	2019/11/16 06:58

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	12.2213	122.2132	91.94	95.61	3.67	50.22	10:30
2	TOC	12.1740	121.7403	91.62	95.40	3.78	50.21	10:24

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 8.9824 (IC) (v1320)	CAS_salt_010711 (v4)	CAS_salt_010711 (v30)

Sample Type: Sample From Schedule Version 13

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	35	TOC	K1910561-002.15	1.3849 ppm	0.1446 ppm	10.4400%	2019/11/16 07:26

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.4871	14.8714	19.08	22.85	3.78	50.22	10:26
2	TOC	1.2827	12.8266	17.69	21.42	3.73	50.23	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 8.9824 (IC)	CAS_salt_010711	CAS_salt_010711

(v1320) (v4) (v30)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	36	TOC	K1910561-003.14 2x	4.2701 ppm	0.1282 ppm	3.0000%	2019/11/16 07:54

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	4.3608	43.6077	38.58	42.30	3.72	50.20	10:28
2	TOC	4.1794	41.7942	37.35	40.99	3.63	50.21	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 8.9824 (IC) (v1320)	CAS_salt_010711 (v4)	CAS_salt_010711 (v30)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	37	TOC	K1910572-001.16	0.0000 ppm	0.0000 ppm	0.0000%	2019/11/16 08:22

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	7.22	10.80	3.57	50.25	10:28
2	TOC	0.0000	0.0000	6.60	10.17	3.57	50.28	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 8.9824 (IC) (v1320)	CAS_salt_010711 (v4)	CAS_salt_010711 (v30)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	38	TOC	K1910572-001.16 ms	25.0218 ppm	0.0000 ppm	0.0000%	2019/11/16 08:50

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	25.0218	250.2182	178.83	182.43	3.60	50.26	10:32

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 8.9824 (IC) (v1320)	CAS_salt_010711 (v4)	CAS_salt_010711 (v30)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 13

	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)	24.2149 ppm (PASS)	0.0000 ppm	0%	2019/11/16 09:05

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	24.2149	242.1493	173.83	177.36	3.53	50.24	10:31

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v30)	50 ppmC

Sample Type: Check Standard --> CCB From Schedule Version 13

	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%	2019/11/16 09:19

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	10.33	3.71	50.28	10:31

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v30)	0 ppmC

Sample Type: Sample From Schedule Version 13

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	39	TOC	MB3	0.0000 ppm	0.0000 ppm	0.0000%	2019/11/16 09:34

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	6.12	9.77	3.65	50.22	10:30

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 8.9824 (IC) (v1320)	CAS_salt_010711 (v4)	CAS_salt_010711 (v30)

Sample Type: Check Standard --> LCS From Schedule Version 13

	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)	24.4262 ppm (PASS)	0.0000 ppm	0%	2019/11/16 09:49

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
C	TOC	25.0 ppm	1	24.4262	244.2619	175.27	178.87	3.61	50.21	10:33

Completion State	Success Action	Method	Calibration	STD Conc - Pos C
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v30)	25 ppmC

Sample Type: Sample From Schedule Version 14

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	40	TOC	K1910572-002.16	0.0031 ppm	0.0044 ppm	141.4200%	2019/11/16 10:05

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time

1	TOC	0.0063	0.0628	9.02	12.56	3.53	50.19	10:26
2	TOC	0.0000	0.0000	8.21	11.78	3.57	50.21	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 8.9824 (IC) (v1320)	CAS_salt_010711 (v4)	CAS_salt_010711 (v30)

Sample Type: Sample

From Schedule Version 15

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	41	TOC	K1910572-003.15	0.0000 ppm	0.0000 ppm	0.0000%	2019/11/16 10:33

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	7.12	10.60	3.48	50.21	10:27
2	TOC	0.0000	0.0000	7.16	10.64	3.49	50.21	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 8.9824 (IC) (v1320)	CAS_salt_010711 (v4)	CAS_salt_010711 (v30)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	42	TOC	K1910572-004.15	0.0000 ppm	0.0000 ppm	0.0000%	2019/11/16 11:01

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	6.62	10.19	3.57	50.23	10:28
2	TOC	0.0000	0.0000	6.68	10.42	3.74	50.24	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 8.9824 (IC) (v1320)	CAS_salt_010711 (v4)	CAS_salt_010711 (v30)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	43	TOC	K1910572-005.15	0.0000 ppm	0.0000 ppm	0.0000%	2019/11/16 11:29

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	6.56	10.22	3.66	50.27	10:29
2	TOC	0.0000	0.0000	6.90	10.35	3.45	50.27	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 8.9824 (IC) (v1320)	CAS_salt_010711 (v4)	CAS_salt_010711 (v30)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	44	TOC	K1910572-006.16	0.0000 ppm	0.0000 ppm	0.0000%	2019/11/16 11:57

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	8.22	11.93	3.70	50.25	10:30
2	TOC	0.0000	0.0000	8.40	12.04	3.64	50.25	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 8.9824 (IC) (v1320)	CAS_salt_010711 (v4)	CAS_salt_010711 (v30)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	45	TOC	K1910572-008.15	0.0000 ppm	0.0000 ppm	0.0000%	2019/11/16 12:25

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	8.44	11.97	3.53	50.25	10:27
2	TOC	0.0000	0.0000	8.27	11.78	3.51	50.25	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 8.9824 (IC) (v1320)	CAS_salt_010711 (v4)	CAS_salt_010711 (v30)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	46	TOC	K1910147-001.05	2.6001 ppm	0.0141 ppm	0.5400%	2019/11/16 12:53

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.6100	26.1001	26.70	30.36	3.66	50.25	10:31
2	TOC	2.5901	25.9013	26.56	30.27	3.71	50.25	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 8.9824 (IC) (v1320)	CAS_salt_010711 (v4)	CAS_salt_010711 (v30)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	47	TOC	K1910147-002.05	2.6326 ppm	0.0141 ppm	0.5300%	2019/11/16 13:22

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.6426	26.4257	26.92	30.45	3.53	50.24	10:30
2	TOC	2.6227	26.2268	26.78	30.30	3.52	50.28	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 8.9824 (IC) (v1320)	CAS_salt_010711 (v4)	CAS_salt_010711 (v30)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 15

	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)	23.7056 ppm (PASS)	0.0000 ppm	0%	2019/11/16 13:50

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	23.7056	237.0564	170.38	173.90	3.53	50.25	10:32

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria	Do Nothing	CAS_salt_010711	CAS_salt_010711	50 ppmC

met.	(v4)	(v30)

Sample Type: Check Standard --> CCB From Schedule Version 15

	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%	2019/11/16 14:04

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.0000	0.0000	6.11	9.76	3.65	50.27	10:35

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v30)	0 ppmC

Sample Type: Sample From Schedule Version 15

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	48	TOC	K1910147-006.04	3.0222 ppm	0.0485 ppm	1.6100%	2019/11/16 14:19

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	3.0565	30.5654	29.73	33.30	3.57	50.30	10:30
2	TOC	2.9879	29.8789	29.26	32.89	3.63	50.27	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 8.9824 (IC) (v1320)	CAS_salt_010711 (v4)	CAS_salt_010711 (v30)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	49	TOC	K1910147-007.04	4.4869 ppm	0.1435 ppm	3.2000%	2019/11/16 14:47

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	4.5884	45.8838	40.13	43.86	3.74	50.25	10:26
2	TOC	4.3854	43.8537	38.75	42.61	3.86	50.27	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 8.9824 (IC) (v1320)	CAS_salt_010711 (v4)	CAS_salt_010711 (v30)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	50	TOC	K1910199-001.04	1.8117 ppm	0.0221 ppm	1.2200%	2019/11/16 15:15

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.7961	17.9607	21.17	24.95	3.77	50.27	10:26
2	TOC	1.8273	18.2730	21.39	25.08	3.70	50.32	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 8.9824 (IC) (v1320)	CAS_salt_010711 (v4)	CAS_salt_010711 (v30)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	51	TOC	K1910199-002.04	1.5258 ppm	0.0105 ppm	0.6900%	2019/11/16 15:43

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.5184	15.1837	19.29	22.78	3.49	50.25	10:29
2	TOC	1.5333	15.3325	19.39	22.89	3.50	50.24	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 8.9824 (IC) (v1320)	CAS_salt_010711 (v4)	CAS_salt_010711 (v30)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	52	TOC	K1910199-003.04	1.2318 ppm	0.0092 ppm	0.7400%	2019/11/16 16:12

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.2254	12.2535	17.30	20.69	3.39	50.26	10:27
2	TOC	1.2383	12.3832	17.39	20.92	3.53	50.29	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 8.9824 (IC) (v1320)	CAS_salt_010711 (v4)	CAS_salt_010711 (v30)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	53	TOC	K1910199-004.04	1.3880 ppm	0.0127 ppm	0.9200%	2019/11/16 16:40

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.3970	13.9698	18.46	22.10	3.63	50.25	10:25
2	TOC	1.3790	13.7901	18.34	21.88	3.54	50.24	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 8.9824 (IC) (v1320)	CAS_salt_010711 (v4)	CAS_salt_010711 (v30)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	54	TOC	K1910199-007.04	1.8976 ppm	0.0515 ppm	2.7100%	2019/11/16 17:08

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.9340	19.3396	22.11	25.67	3.56	50.25	10:30
2	TOC	1.8612	18.6119	21.62	25.11	3.50	50.22	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 8.9824 (IC) (v1320)	CAS_salt_010711 (v4)	CAS_salt_010711 (v30)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	55	TOC	K1910199-008.04	1.8928 ppm	0.0022 ppm	0.1200%	2019/11/16 17:36

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.8943	18.9433	21.84	25.41	3.57	50.24	10:28
2	TOC	1.8912	18.9124	21.82	25.38	3.56	50.23	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 8.9824 (IC) (v1320)	CAS_salt_010711 (v4)	CAS_salt_010711 (v30)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	56	TOC	K1910199-010.04	1.5466 ppm	0.0566 ppm	3.6600%	2019/11/16 18:04

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.5066	15.0659	19.21	22.81	3.60	50.25	10:29
2	TOC	1.5866	15.8658	19.75	23.11	3.36	50.25	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 8.9824 (IC) (v1320)	CAS_salt_010711 (v4)	CAS_salt_010711 (v30)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	57	TOC	K1910254-001.04	2.0643 ppm	0.0000 ppm	0.0000%	2019/11/16 18:32

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.0643	20.6434	22.99	26.69	3.70	50.28	10:34

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 8.9824 (IC) (v1320)	CAS_salt_010711 (v4)	CAS_salt_010711 (v30)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 15

	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)	23.9330 ppm (PASS)	0.0000 ppm	0%	2019/11/16 18:47

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	23.9330	239.3296	171.92	175.42	3.50	50.25	10:32

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v30)	50 ppmC

Sample Type: Check Standard --> CCB From Schedule Version 15

	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	0.0000 ppm	0%	2019/11/16 19:02

							(PASS)			

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.0000	0.0000	5.78	9.45	3.66	50.24	10:34

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v30)	0 ppmC

Sample Type: Sample From Schedule Version 15

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	58	TOC	MB4	0.0000 ppm	0.0000 ppm	0.0000%	2019/11/16 19:16

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	5.29	8.80	3.51	50.26	10:33

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 8.9824 (IC) (v1320)	CAS_salt_010711 (v4)	CAS_salt_010711 (v30)

Sample Type: Check Standard --> LCS From Schedule Version 15

	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)	24.5930 ppm (PASS)	0.0000 ppm	0%	2019/11/16 19:31

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
C	TOC	25.0 ppm	1	24.5930	245.9295	176.40	179.86	3.46	50.26	10:31

Completion State	Success Action	Method	Calibration	STD Conc - Pos C
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v30)	25 ppmC

Sample Type: Sample From Schedule Version 15

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	59	TOC	K1910254-002.04	1.6585 ppm	0.0964 ppm	5.8100%	2019/11/16 19:46

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.7267	17.2668	20.70	24.27	3.57	50.28	10:30
2	TOC	1.5904	15.9041	19.78	23.42	3.64	50.25	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 8.9824 (IC)	CAS_salt_010711	CAS_salt_010711

(v1320) (v4) (v30)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	60	TOC	K1910254-003.04	1.0469 ppm	0.0839 ppm	8.0100%	2019/11/16 20:14

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.9876	9.8758	15.69	19.40	3.72	50.25	10:29
2	TOC	1.1062	11.0617	16.49	20.11	3.61	50.24	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 8.9824 (IC) (v1320)	CAS_salt_010711 (v4)	CAS_salt_010711 (v30)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	61	TOC	K1910254-004.04	2.3140 ppm	0.0238 ppm	1.0300%	2019/11/16 20:42

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.3308	23.3084	24.80	28.50	3.69	50.24	10:30
2	TOC	2.2973	22.9725	24.58	27.88	3.30	50.26	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 8.9824 (IC) (v1320)	CAS_salt_010711 (v4)	CAS_salt_010711 (v30)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	62	TOC	K1910254-004.04 ms	27.7911 ppm	0.0000 ppm	0.0000%	2019/11/16 21:10

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	27.7911	277.9114	197.63	201.14	3.51	50.25	10:34

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 8.9824 (IC) (v1320)	CAS_salt_010711 (v4)	CAS_salt_010711 (v30)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	63	TOC	rb	0.0000 ppm	0.0000 ppm	0.0000%	2019/11/16 21:25

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	5.64	9.30	3.66	50.26	10:30

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 8.9824 (IC) (v1320)	CAS_salt_010711 (v4)	CAS_salt_010711 (v30)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	64	TOC	K1910254-005.04	1.1292 ppm	0.0235 ppm	2.0800%	2019/11/16 21:39

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.1458	11.4580	16.76	20.42	3.66	50.25	10:26
2	TOC	1.1125	11.1251	16.53	20.33	3.79	50.24	10:27

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	65	TOC	K1910254-006.04	28.1311 ppm	0.0561 ppm	0.2000%	2019/11/16 22:08

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	28.0914	280.9138	199.67	203.23	3.56	50.25	10:25
2	TOC	28.1708	281.7079	200.20	204.08	3.88	50.24	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 8.9824 (IC) (v1320)	CAS_salt_010711 (v4)	CAS_salt_010711 (v30)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	66	TOC	K1910254-007.04	1.9818 ppm	0.2031 ppm	10.2500%	2019/11/16 22:36

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.1255	21.2548	23.41	27.00	3.59	50.28	10:27
2	TOC	1.8382	18.3820	21.46	24.95	3.49	50.25	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 8.9824 (IC) (v1320)	CAS_salt_010711 (v4)	CAS_salt_010711 (v30)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 15

	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)	23.8729 ppm (PASS)	0.0000 ppm	0%	2019/11/16 23:04

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	23.8729	238.7285	171.51	175.00	3.49	50.24	10:33

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v30)	50 ppmC

Sample Type: Check Standard --> CCB From Schedule Version 15

	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%	2019/11/16 23:18

Pos	Base Analysis	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time

	Type									
D	TOC	0 ppm	1	0.0000	0.0000	6.38	9.91	3.53	50.26	10:30

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v30)	0 ppmC

Sample Type: Sample From Schedule Version 15

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	67	TOC	K1910254-008.04	1.4375 ppm	0.0190 ppm	1.3200%	2019/11/16 23:33

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.4509	14.5090	18.83	22.51	3.68	50.25	10:28
2	TOC	1.4241	14.2409	18.65	22.21	3.56	50.31	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 8.9824 (IC) (v1320)	CAS_salt_010711 (v4)	CAS_salt_010711 (v30)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	68	TOC	K1910299-001.03	7.1545 ppm	0.2045 ppm	2.8600%	2019/11/17 00:01

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	7.2991	72.9907	58.53	62.07	3.54	50.24	10:30
2	TOC	7.0099	70.0988	56.57	60.19	3.63	50.26	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 8.9824 (IC) (v1320)	CAS_salt_010711 (v4)	CAS_salt_010711 (v30)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	69	TOC	K1910765-001.01	8.9810 ppm	0.1088 ppm	1.2100%	2019/11/17 00:29

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	9.0579	90.5792	70.47	73.94	3.47	50.27	10:31
2	TOC	8.9041	89.0412	69.42	73.00	3.58	50.23	10:32

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 8.9824 (IC) (v1320)	CAS_salt_010711 (v4)	CAS_salt_010711 (v30)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	70	TOC	K1910765-002.01	13.5412 ppm	0.1337 ppm	0.9900%	2019/11/17 00:58

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	13.6357	136.3574	101.54	105.14	3.60	50.23	10:28
2	TOC	13.4467	134.4673	100.26	104.04	3.78	50.25	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 8.9824 (IC) (v1320)	CAS_salt_010711 (v4)	CAS_salt_010711 (v30)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	71	TOC	K1910765-003.01	22.6620 ppm	0.0885 ppm	0.3900%	2019/11/17 01:26

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	22.5994	225.9944	162.39	166.08	3.69	50.23	10:26
2	TOC	22.7247	227.2466	163.24	166.80	3.56	50.12	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 8.9824 (IC) (v1320)	CAS_salt_010711 (v4)	CAS_salt_010711 (v30)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	72	TOC	K1910765-004.01	10.0901 ppm	0.3055 ppm	3.0300%	2019/11/17 01:54

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	10.3062	103.0616	78.94	82.74	3.80	50.11	10:30
2	TOC	9.8741	98.7407	76.01	79.77	3.76	50.16	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 8.9824 (IC) (v1320)	CAS_salt_010711 (v4)	CAS_salt_010711 (v30)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	73	TOC	K1910760-001.01	1.1733 ppm	0.0796 ppm	6.7800%	2019/11/17 02:22

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.2296	12.2963	17.33	20.90	3.57	50.08	10:28
2	TOC	1.1171	11.1707	16.57	20.17	3.61	50.20	10:24

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 8.9824 (IC) (v1320)	CAS_salt_010711 (v4)	CAS_salt_010711 (v30)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	74	TOC	K1910760-001.01 ms	25.8462 ppm	0.0000 ppm	0.0000%	2019/11/17 02:50

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	25.8462	258.4622	184.42	187.91	3.49	50.11	10:34

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 8.9824 (IC) (v1320)	CAS_salt_010711 (v4)	CAS_salt_010711 (v30)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	75	TOC	RB	0.0000 ppm	0.0000 ppm	0.0000%	2019/11/17 03:05

Rep	Base			Adjusted		Baseline	Pressure	Run

#	Analysis Type	ppm	µg	(Abs)	NDIR (Abs)	(Abs)	(psig)	Time
1	TOC	0.0000	0.0000	6.30	9.69	3.39	50.09	10:28
2	TOC	0.0000	0.0000	5.64	9.26	3.62	50.11	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 8.9824 (IC) (v1320)	CAS_salt_010711 (v4)	CAS_salt_010711 (v30)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 15

	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)	23.6725 ppm (PASS)	0.0000 ppm	0%	2019/11/17 03:33

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	23.6725	236.7250	170.15	173.77	3.62	50.15	10:35

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v30)	50 ppmC

Sample Type: Check Standard --> CCB From Schedule Version 15

	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%	2019/11/17 03:48

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.0000	0.0000	5.73	9.31	3.58	50.18	10:30

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v30)	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
v1319	0.9217	1.0210	0.0000	0.0000	0.0000	2019/11/13 13:58	Fusion1 (Fusion1)
v1320	2.3307	1.7570	0.0000	0.0000	0.0000	2019/11/15 13:57	Fusion1 (Fusion1)

Calibrations

Name: CAS_salt_010711 (TOC)

Version:	v30	Calibration curve formula:	TOC: y = 6.788x + 9.463
Ver Creation:	2019/03/05 17:42	r^2 value:	TOC: r^2 = 0.99963
Comment:			
Operator:	Fusion1 (Fusion1)		
Basic Analysis Type	TOC		

Basic Analysis Type: TOC

Sample ID	Y Raw Value	X Expected	Message	End Time
DI Water	7.8970	0.0000		2019/03/05 16:15
0.500 ppm	11.5280	0.5000		2019/03/05 16:29
1.0 ppm	14.9760	1.0000		2019/03/05 16:44
5.0 ppm	43.6500	5.0000		2019/03/05 16:58
10 ppm	79.6020	10.0000		2019/03/05 17:12
25 ppm	183.3580	25.0000		2019/03/05 17:26
50 ppm	346.3230	50.0000		2019/03/05 17:40

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	2019/11/17 04:03

StarLIMS Run: 660112, 660113, 660114, 660115

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: 3/6/19

ICAL ID: 11-GEN-05-76H

ICS ID: 11-GEN-05-78M

ICS TV: 25.0 ppm ICS % R < 1

Spike ID: 11-GEN-05-82C 0.05 ml of 5000 ppm stock ---> 10.0 ml = 25.0 ppm x dilution factor

Sodium Persulfate: 11-GEN-05-83A

21 % H3PO4: 11-GEN-05-82G

Equipment ID: K-TOC-03

PIPETTE ID: 124276B, 129001F, N11314F, Marge

FILTER ID: 16967789

Analyzed By: BK	Date Analyzed: 11/15/19
Reviewed By:	Date Reviewed: 11/19/19

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www.alsglobal.com

LABORATORY REPORT

November 13, 2019

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

RE: HS19101706

Dear RJ:

Enclosed are the results of the samples submitted to our laboratory on October 31, 2019. For your reference, these analyses have been assigned our service request number P1906621.

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 3:07 pm, Nov 13, 2019

Hayden Akers
Project Manager

2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T: +1 805 526 7161
www.alsglobal.com

Client: ALS Laboratory Group
Project: HS19101706

Service Request No: P1906621

CASE NARRATIVE

The samples were received intact under chain of custody on October 31, 2019 and were stored in accordance with the analytical method requirements. Please refer to the sample acceptance check form for additional information. The results reported herein are applicable only to the condition of the samples at the time of sample receipt.

Carbon Dioxide Analysis

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

Methane, Ethene and Ethane Analysis

The samples were analyzed for methane, ethene, and ethane using a gas chromatograph equipped with a flame ionization detector (FID). A known amount of liquid was displaced by injecting 8.0 milliliters of helium creating a headspace in the sample vial. Each sample vial was agitated using a sonic disrupter for fifteen minutes and then allowed to equilibrate for at least two hours. A volume of the headspace was withdrawn using a gas-tight syringe and analyzed using a manual injection technique. The amount of dissolved gases (methane, ethene and ethane) in the original sample was calculated using Henry's Law. This method was performed with guidance from RSK 175. This method is included on the laboratory's NELAP and DoD-ELAP scope of accreditation. Any analytes flagged with an X are not included on the laboratory's NELAP or DoD-ELAP accreditation.

Manual integrations were performed on the following sample(s) and analyte(s). Refer to the raw data for additional information.

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www.alsglobal.com

Sample Identification(s)	Analyte(s)
P1906621-002	Methane

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

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

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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	1521096
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	4068-006
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: HS19101706

Service Request: P1906621

Date Received: 10/31/2019
Time Received: 09:45

Client Sample ID	Lab Code	Matrix	Date Collected	Time Collected	RSK 175 - CO2	RSK 175 - Gases
67WW13-191028	P1906621-001	Water	10/28/2019	12:05	X	X
67WW08-191028	P1906621-002	Water	10/28/2019	13:00	X	X
67WW08-191028-FD	P1906621-003	Water	10/28/2019	13:00	X	X

P1910621

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

Subcontract Chain of Custody

SAMPLING STATE: **Texas** **COC ID:** **12510**

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:	HS19101706
TSR:	Sonia West

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS19101706-05**	**67WW13-191028**	**Groundwater**	**28 Oct 2019 12:05**
	MEE + CO2. DOD IV. Equis EDD. EQuIS 5.0 - Longhorn			06 Nov 2019
2.	**HS19101706-06**	**67WW08-191028**	**Groundwater**	**28 Oct 2019 13:00**
	MEE + CO2. DOD IV. Equis EDD. EQuIS 5.0 - Longhorn			06 Nov 2019
3.	**HS19101706-07**	**67WW08-191028-FD**	**Groundwater**	**28 Oct 2019 13:00**
	MEE + CO2. DOD IV. Equis EDD. EQuIS 5.0 - Longhorn			06 Nov 2019

Comments: Please analyze for the analysis listed above.
Send report to the emails shown above.
3 Vials neat/3 vials HCL

QC Level: DOD IV (DoD Data Package)

Relinquished By: _____ Date/Time: 10/30/19 1800.

Received By: _____ Date/Time: 10-31-19

Cooler ID(s): _____ Temperature(s): 1° cor

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Environmental
Sample Acceptance Check Form

Client: ALS Laboratory Group Work order: P1906621
Project: HS19101706
Sample(s) received on: 10/31/19 Date opened: 10/31/19 by: ADAVID

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

		Yes	No	N/A
1	Were **sample containers** properly marked with client sample ID?	☒	☐	☐
2	Did **sample containers** arrive in good condition?	☒	☐	☐
3	Were **chain-of-custody** papers used and filled out?	☒	☐	☐
4	Did **sample container labels** and/or tags agree with custody papers?	☒	☐	☐
5	Was **sample volume** received adequate for analysis?	☒	☐	☐
6	Are samples within specified holding times?	☒	☐	☐
7	Was proper **temperature** (thermal preservation) of cooler at receipt adhered to?	☒	☐	☐
	Cooler Temperature: ° C Blank Temperature: 1° C 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
P1906621-001.01	40mL VOA NP		7		A	WH/LD 11/5/19
P1906621-001.02	40mL VOA NP				A	
P1906621-001.03	40mL VOA NP				A	
P1906621-001.04	40ml VOA HCL		1		A	WH/LD 11/4/19
P1906621-001.05	40ml VOA HCL				A	
P1906621-001.06	40ml VOA HCL				A	
P1906621-002.01	40mL VOA NP		7		A	WH/LD 11/5/19
P1906621-002.02	40mL VOA NP				A	
P1906621-002.03	40mL VOA NP				A	
P1906621-002.04	40ml VOA HCL		1		A	WH/LD 11/4/19
P1906621-002.05	40ml VOA HCL				A	
P1906621-002.06	40ml VOA HCL				A	
P1906621-003.01	40mL VOA NP		7		A	WH/LD 11/5/19
P1906621-003.02	40mL VOA NP				A	
P1906621-003.03	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: P1906621

Project: HS19101706

Sample(s) received on: 10/31/19 Date opened: 10/31/19 by: ADAVID

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P1906621-003.04	40ml VOA HCL		1		A	WH/LD 11/4/19
P1906621-003.05	40ml VOA HCL				A	
P1906621-003.06	40ml VOA HCL				A	

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

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

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **ALS Laboratory Group**
Client Project ID: **HS19101706** ALS Project ID: P1906621

Carbon Dioxide

Test Code: RSK 175
Instrument ID: HP5890A/GC10/TCD
Analyst: Li Donghao/Wade Henton
Matrix: Water
Test Notes:

Date(s) Collected: 10/28/19
Date Received: 10/31/19
Date Analyzed: 11/5/19

Client Sample ID	ALS Sample ID	Injection Volume ml(s)	Result µg/L	LOQ µg/L	LOD µg/L	MDL µg/L	Data Qualifier
67WW13-191028	P1906621-001	0.10	**140,000**	1,000	860	370	
67WW08-191028	P1906621-002	0.10	**130,000**	1,000	860	370	
67WW08-191028-FD	P1906621-003	0.10	**110,000**	1,000	860	370	
Method Control Sample	P191105-MB	0.10	860	1,000	860	370	**U**

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

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **ALS Laboratory Group**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P1906621
Client Project ID: **HS19101706** ALS Sample ID: P191105-DLCS

Test Code: RSK 175 Date Collected: NA
Instrument ID: HP5890A/GC10/TCD Date Received: NA
Analyst: Li Donghao/Wade Henton Date Analyzed: 11/05/19
Matrix: Water Volume(s) Analyzed: NA ml(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS ug/L	Result[1] LCS ug/L	Result[1] DLCS ug/L	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
124-38-9	Carbon Dioxide	22,900	19,400	18,900	**85**	**83**	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: **67WW13-191028**
Client Project ID: **HS19101706**

ALS Project ID: P1906621
ALS Sample ID: P1906621-001

Test Code: RSK 175
Instrument ID: HP5890A/GC10/FID
Analyst: Li Donghao/Wade Henton
Matrix: Water
Test Notes:

Date Collected: 10/28/19
Date Received: 10/31/19
Date Analyzed: 11/04/19
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: **67WW08-191028**
Client Project ID: **HS19101706**

ALS Project ID: P1906621
ALS Sample ID: P1906621-002

Test Code: RSK 175
Instrument ID: HP5890A/GC10/FID
Analyst: Li Donghao/Wade Henton
Matrix: Water
Test Notes:

Date Collected: 10/28/19
Date Received: 10/31/19
Date Analyzed: 11/04/19
Volume(s) Analyzed: 0.10 ml(s)

CAS #	Compound	Result µg/L	LOQ µg/L	LOD µg/L	MDL µg/L	Data Qualifier
74-82-8	Methane	**2.5**	1.3	1.0	0.51	
74-85-1	Ethene	0.55	1.0	0.55	0.24	**U**
74-84-0	Ethane	0.47	0.60	0.47	0.16	**U**

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

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **ALS Laboratory Group**
Client Sample ID: **67WW08-191028-FD**
Client Project ID: **HS19101706**

ALS Project ID: P1906621
ALS Sample ID: P1906621-003

Test Code: RSK 175
Instrument ID: HP5890A/GC10/FID
Analyst: Li Donghao/Wade Henton
Matrix: Water
Test Notes:

Date Collected: 10/28/19
Date Received: 10/31/19
Date Analyzed: 11/04/19
Volume(s) Analyzed: 0.10 ml(s)

CAS #	Compound	Result µg/L	LOQ µg/L	LOD µg/L	MDL µg/L	Data Qualifier
74-82-8	Methane	**2.1**	1.3	1.0	0.51	
74-85-1	Ethene	0.55	1.0	0.55	0.24	**U**
74-84-0	Ethane	0.47	0.60	0.47	0.16	**U**

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

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **ALS Laboratory Group**
Client Sample ID: **Method Control Sample**
Client Project ID: **HS19101706**

ALS Project ID: P1906621
ALS Sample ID: P191104-MB

Test Code: RSK 175
Instrument ID: HP5890A/GC10/FID
Analyst: Li Donghao/Wade Henton
Matrix: Water
Test Notes:

Date Collected: NA
Date Received: NA
Date Analyzed: 11/04/19
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: **HS19101706**

ALS Project ID: P1906621
ALS Sample ID: P191104-LCS
P191104-DLCS

Test Code: RSK 175
Instrument ID: HP5890A/GC10/FID
Analyst: Li Donghao/Wade Henton
Matrix: Water
Test Notes:

Date Collected: NA
Date Received: NA
Date Analyzed: 11/04/19
Volume(s) Analyzed: 0.10 ml(s)

CAS #	Compound	Spike Amount LCS / DLCS µg/L	Result[1] LCS µg/L	Result[1] DLCS µg/L	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
74-82-8	Methane	2.52	2.39	2.51	**95**	**100**	73-125	5	26	
74-85-1	Ethene	4.40	4.98	5.13	**113**	**117**	72-133	3	11	
74-84-0	Ethane	4.72	4.77	4.99	**101**	**106**	74-131	5	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 : J:\GC10\DATA\RSK_TCD\2019_11\05\
Data File : 11051912.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 05-Nov-2019, 15:04:11
Operator : WH/LD
Sample : P1906621-001 0.1ml
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Nov 05 14:36:05 2019
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 :

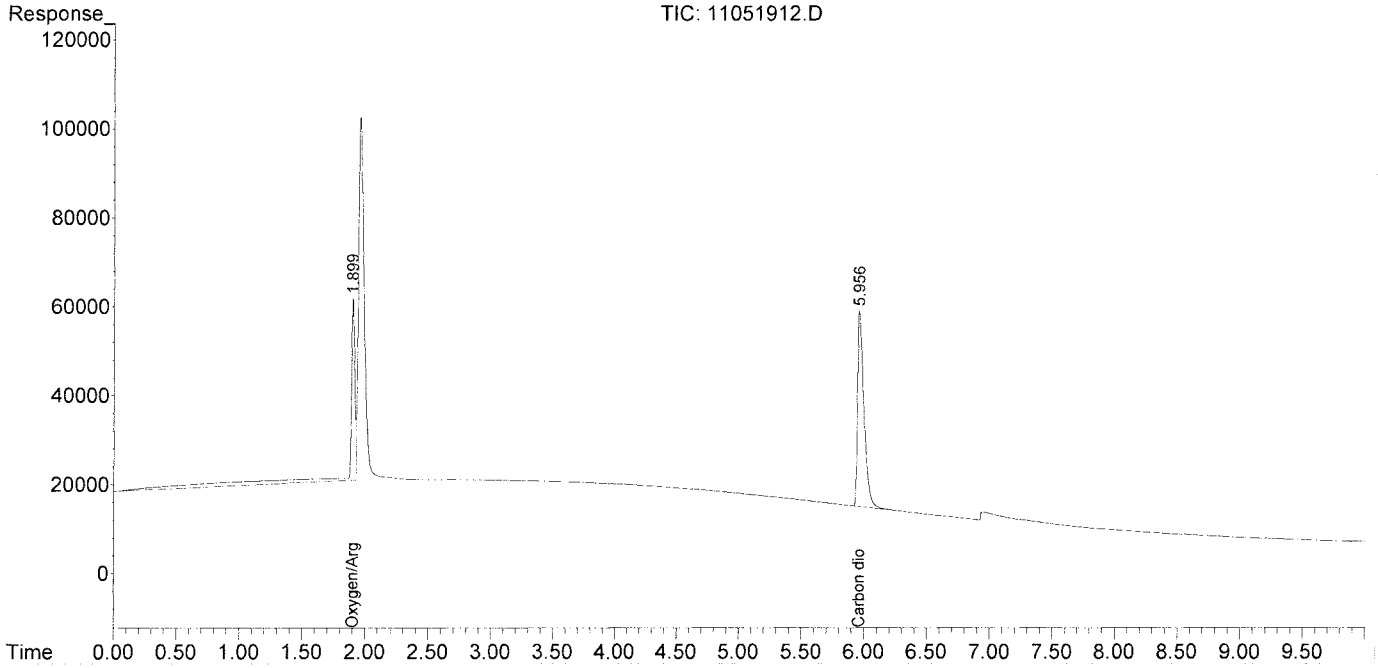
	Compound	R.T.	Response	Conc	Units
Target Compounds					
1)	Oxygen/Argon	1.899	1398325	0.294	ppm
2)	Carbon monoxide	1.899	1398325	N.D.	ppm
3)	Methane (TCD)	0.000	0	N.D.	ppm
4)	Carbon dioxide	5.957	1559575	6644.145	ppm
6)	Methane (FID)	0.000	0	N.D.	ppm
7)	Ethylene	0.000	0	N.D.	ppm
8)	Ethane	0.000	0	N.D.	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

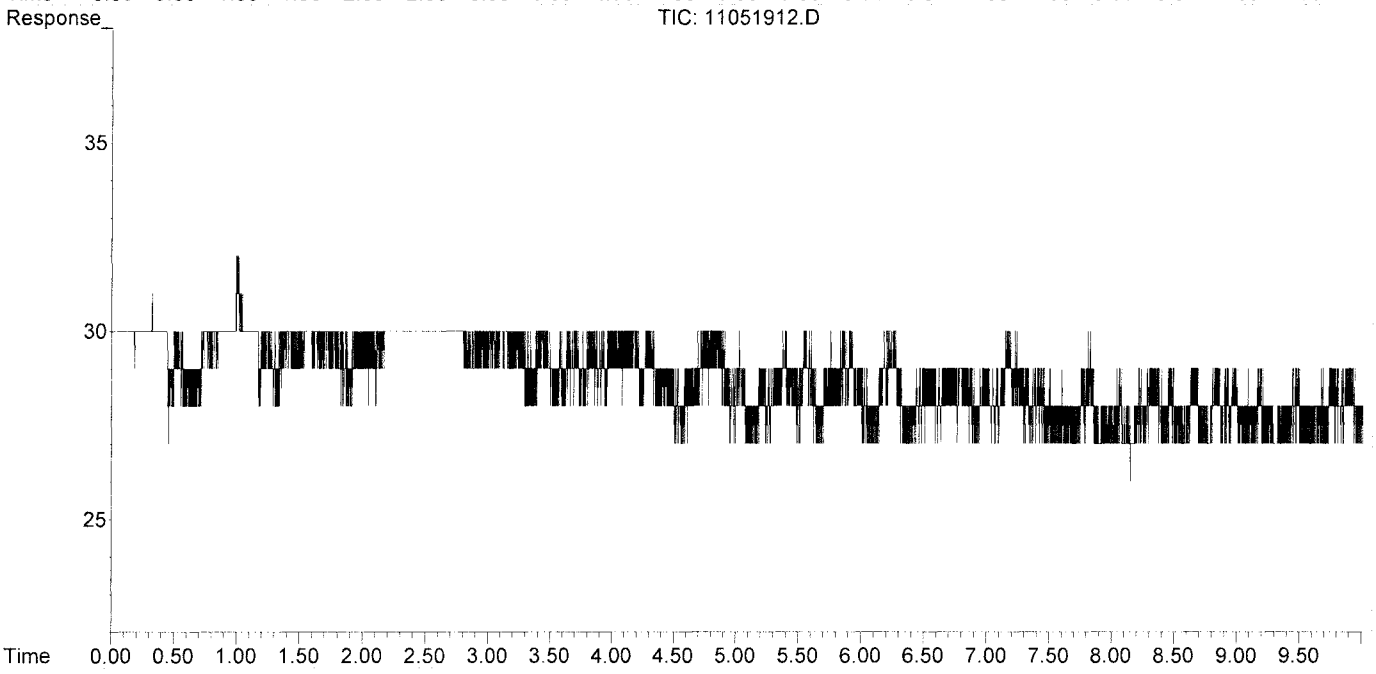
(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : J:\GC10\DATA\RSK_TCD\2019_11\05\
Data File : 11051912.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 05-Nov-2019, 15:04:11
Operator : WH/LD
Sample : P1906621-001 0.1ml
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Nov 05 14:36:05 2019
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 :





Quantitation Report (QT Reviewed)

Data Path : J:\GC10\DATA\RSK_TCD\2019_11\05\
Data File : 11051913.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 05-Nov-2019, 15:19:22
Operator : WH/LD
Sample : P1906621-002 0.1ml
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Nov 05 14:36:18 2019
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 :

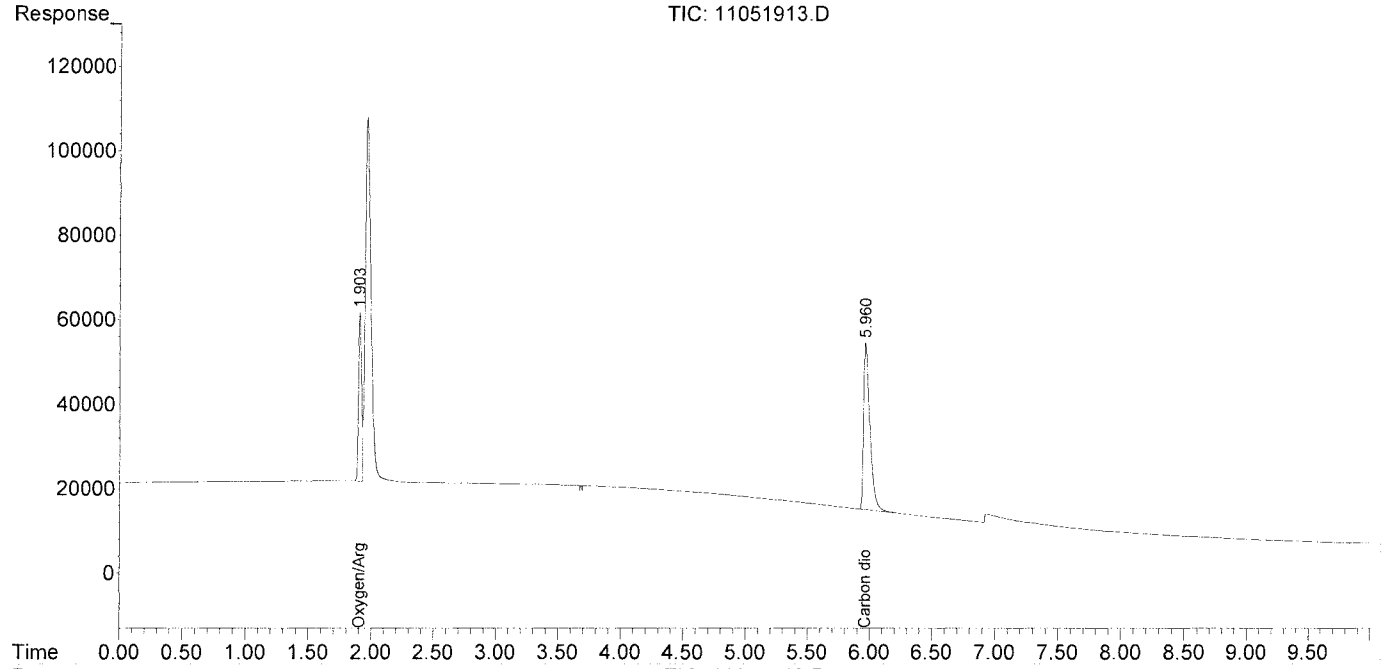
	Compound	R.T.	Response	Conc	Units
Target Compounds					
1)	Oxygen/Argon	1.904	663766	0.139	ppm
2)	Carbon monoxide	1.904	663766	N.D.	ppm
3)	Methane (TCD)	0.000	0	N.D.	ppm
4)	Carbon dioxide	5.960	1386737	5907.818	ppm
6)	Methane (FID)	0.000	0	N.D.	ppm
7)	Ethylene	0.000	0	N.D.	ppm
8)	Ethane	0.000	0	N.D.	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

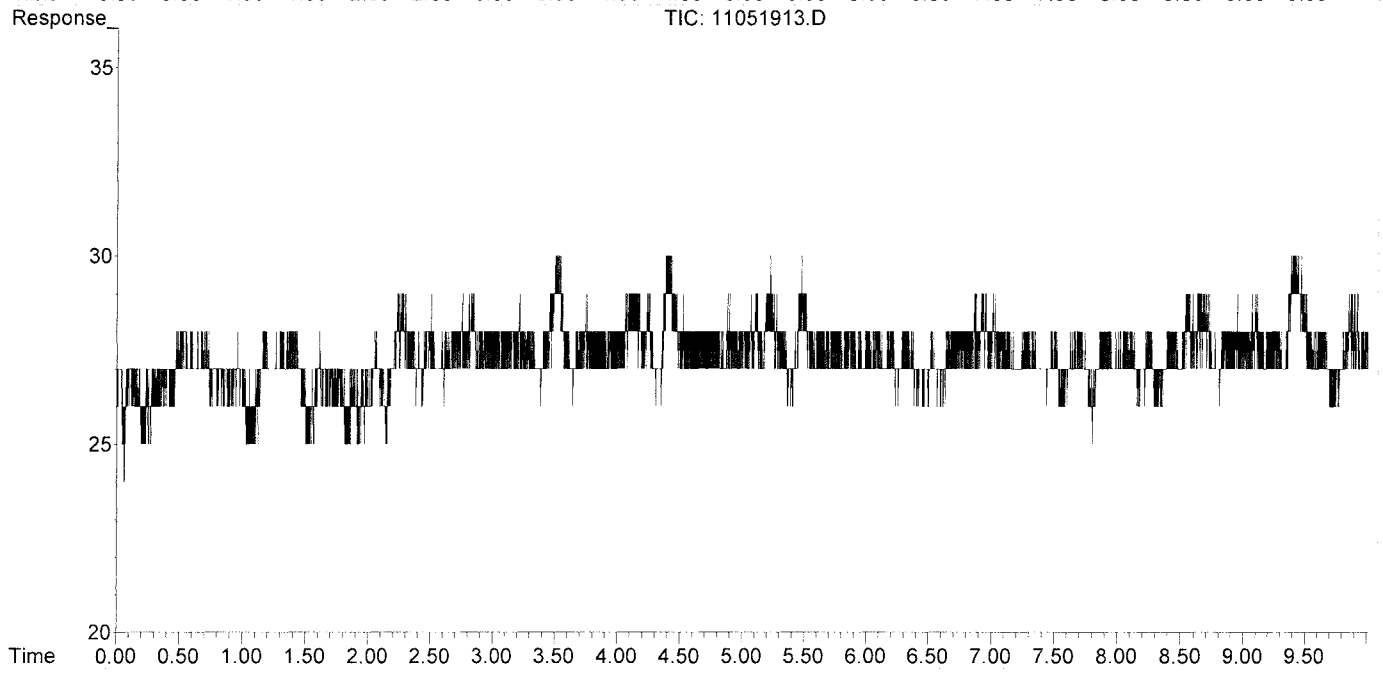
(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : J:\GC10\DATA\RSK_TCD\2019_11\05\
Data File : 11051913.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 05-Nov-2019, 15:19:22
Operator : WH/LD
Sample : P1906621-002 0.1ml
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Nov 05 14:36:18 2019
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 : J:\GC10\DATA\RSK_TCD\2019_11\05\
Data File : 11051914.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 05-Nov-2019, 15:33:35
Operator : WH/LD
Sample : P1906621-003 0.1ml
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Nov 05 14:51:22 2019
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 :

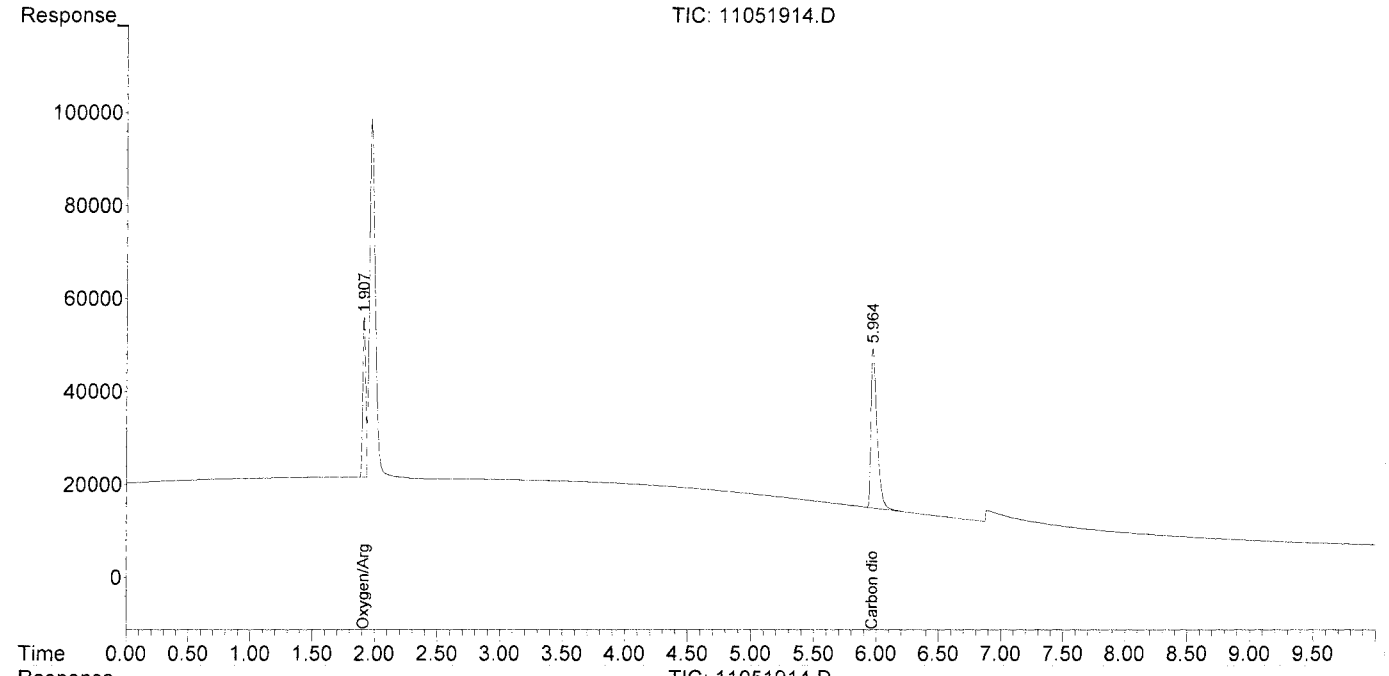
	Compound	R.T.	Response	Conc	Units
Target Compounds					
1)	Oxygen/Argon	1.909f	578267	0.121	ppm
2)	Carbon monoxide	1.909f	578267	N.D.	ppm
3)	Methane (TCD)	0.000	0	N.D.	ppm
4)	Carbon dioxide	5.965	1160984	4946.059	ppm
6)	Methane (FID)	0.000	0	N.D.	ppm
7)	Ethylene	0.000	0	N.D.	ppm
8)	Ethane	0.000	0	N.D.	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

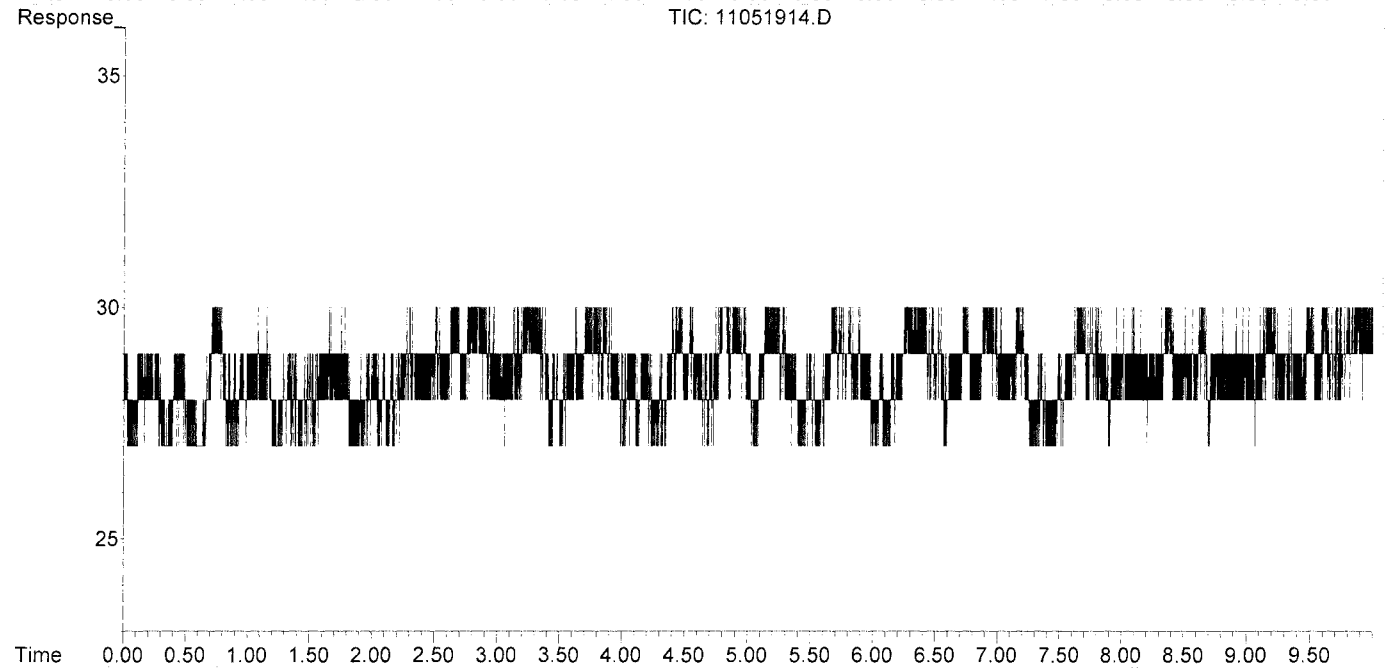
(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : J:\GC10\DATA\RSK_TCD\2019_11\05\
Data File : 11051914.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 05-Nov-2019, 15:33:35
Operator : WH/LD
Sample : P1906621-003 0.1ml
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Nov 05 14:51:22 2019
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 : J:\GC10\DATA\RSK_TCD\2019_11\05\
Data File : 11051903.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 05-Nov-2019, 12:26:56
Operator : WH/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: Nov 05 11:44:46 2019
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 :

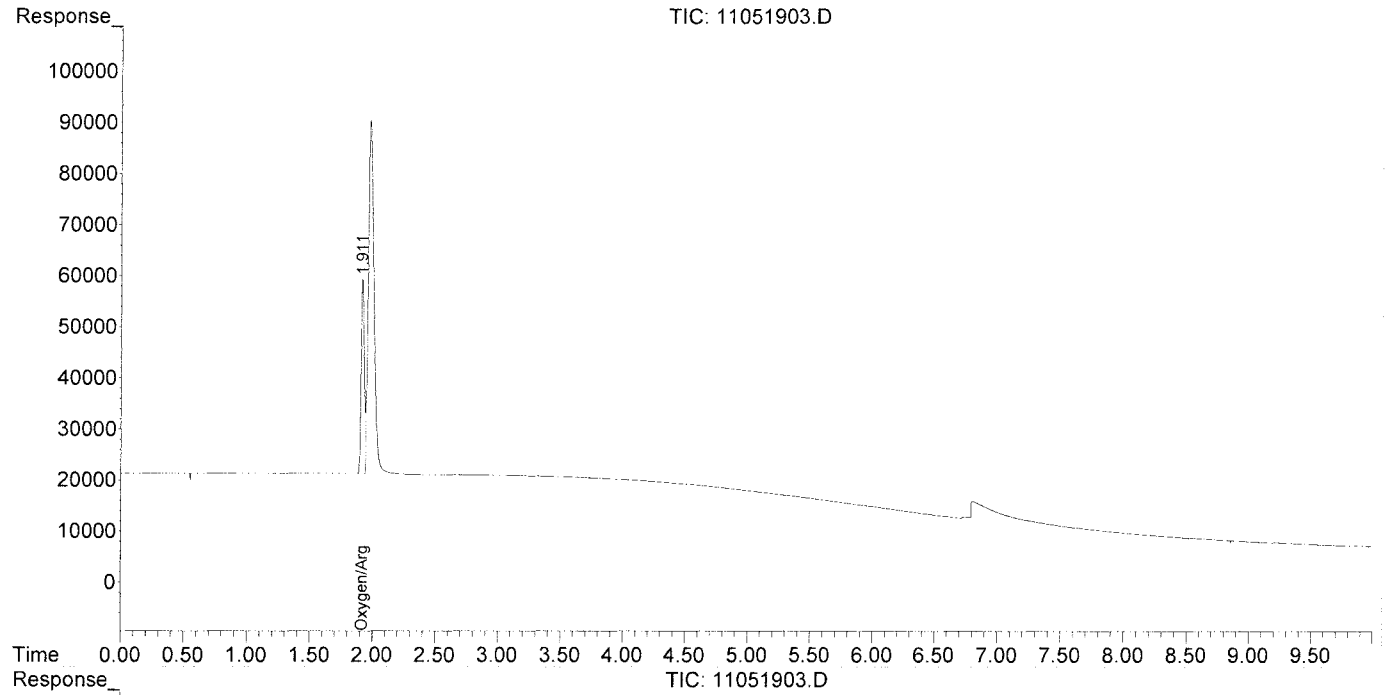
	Compound	R.T.	Response	Conc	Units
Target Compounds					
1)	Oxygen/Argon	1.912f	660237	0.139	ppm
2)	Carbon monoxide	1.912f	660237	N.D.	ppm
3)	Methane (TCD)	0.000	0	N.D.	ppm
4)	Carbon dioxide	0.000	0	N.D.	ppm
6)	Methane (FID)	0.000	0	N.D.	ppm
7)	Ethylene	0.000	0	N.D.	ppm
8)	Ethane	0.000	0	N.D.	ppm
9)	Propylene	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

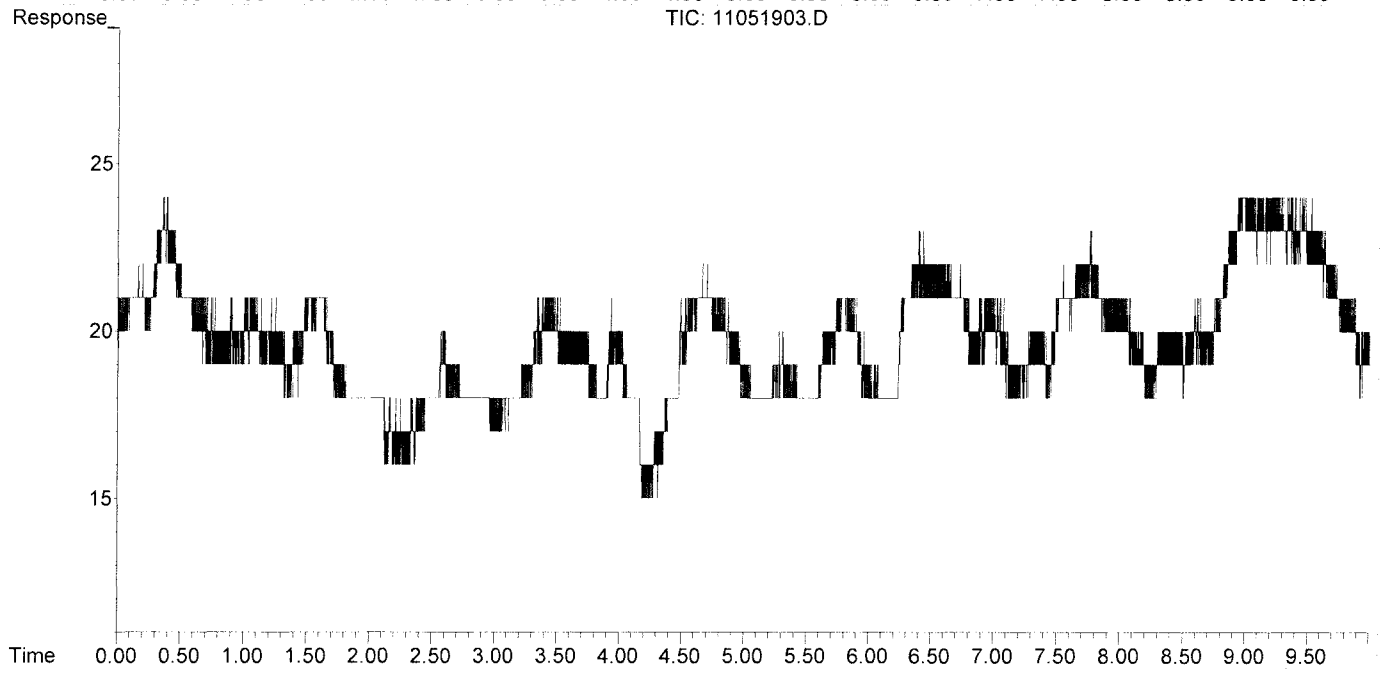
(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : J:\GC10\DATA\RSK_TCD\2019_11\05\
Data File : 11051903.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 05-Nov-2019, 12:26:56
Operator : WH/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: Nov 05 11:44:46 2019
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 : J:\GC10\DATA\RSK_TCD\2019_11\05\
Data File : 11051905.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 05-Nov-2019, 12:54:24
Operator : WH/LD
Sample : LCS S32-08141901
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Nov 05 12:32:04 2019
Quant Method : I:\GC10\METHODS\RS082817_CO2.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Tue Nov 05 12:31:56 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

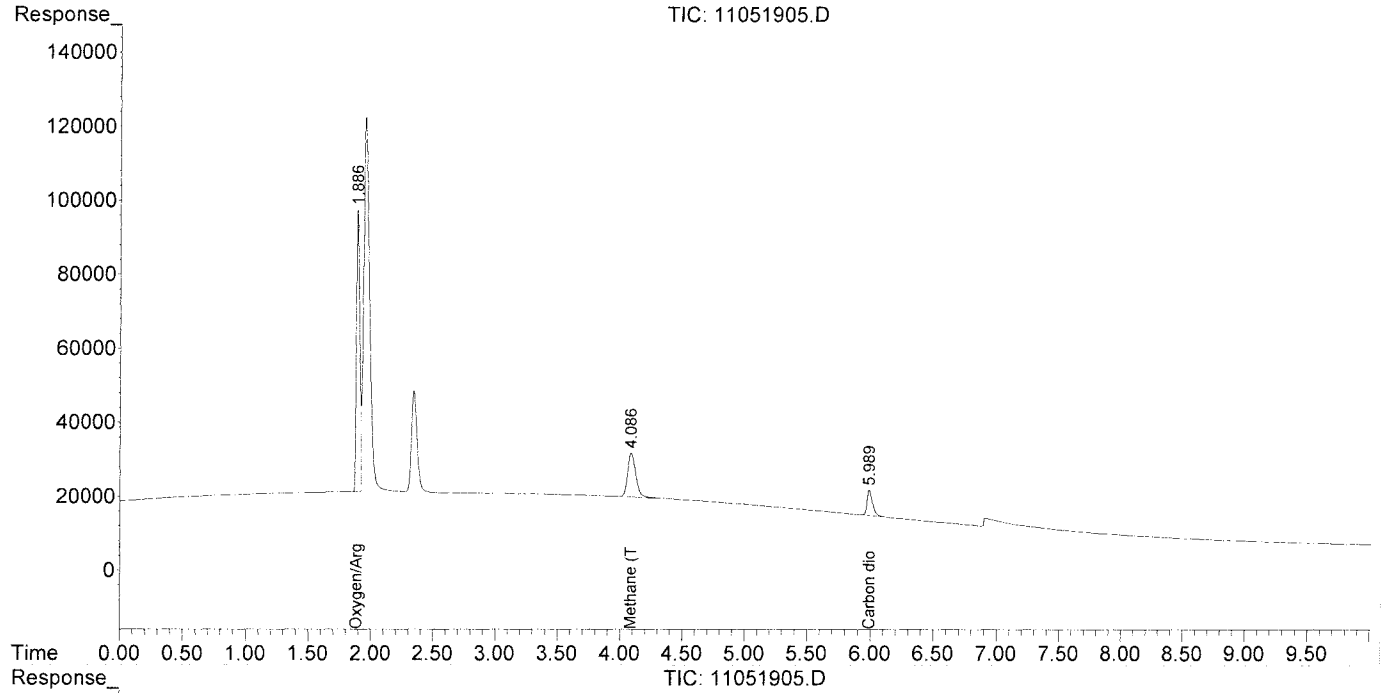
	Compound	R.T.	Response	Conc	Units	
Target Compounds						
1)	Oxygen/Argon	1.886	1363137	0.286	ppm	
2)	Carbon monoxide	1.886	1363137	N.D.	ppm	
3)	Methane (TCD)	4.087f	545436	57673.188	ppm	
4)	Carbon dioxide	5.989	208331	887.537	ppm	m
6)	Methane (FID)	0.000	0	N.D.	ppm	
7)	Ethylene	0.000	0	N.D.	ppm	
8)	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	

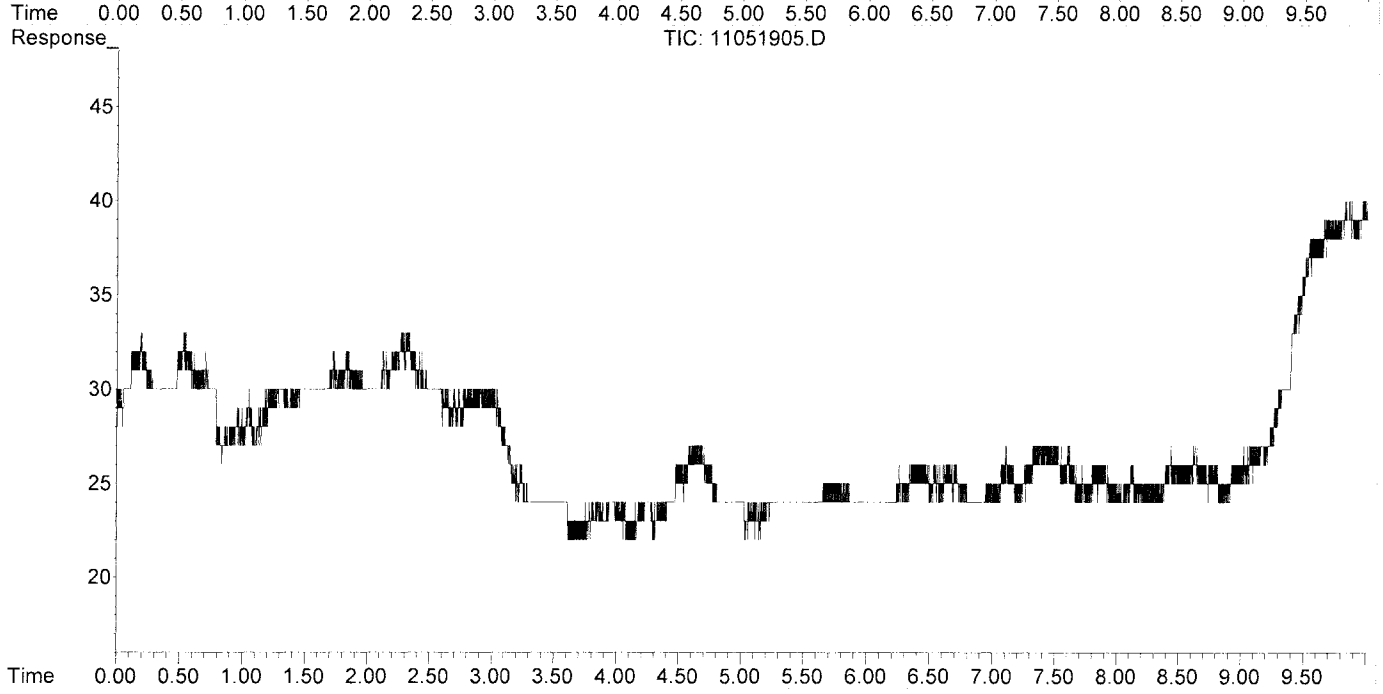
(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : J:\GC10\DATA\RSK_TCD\2019_11\05\
Data File : 11051905.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 05-Nov-2019, 12:54:24
Operator : WH/LD
Sample : LCS S32-08141901
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Nov 05 12:32:04 2019
Quant Method : I:\GC10\METHODS\RS082817_CO2.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Tue Nov 05 12:31:56 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

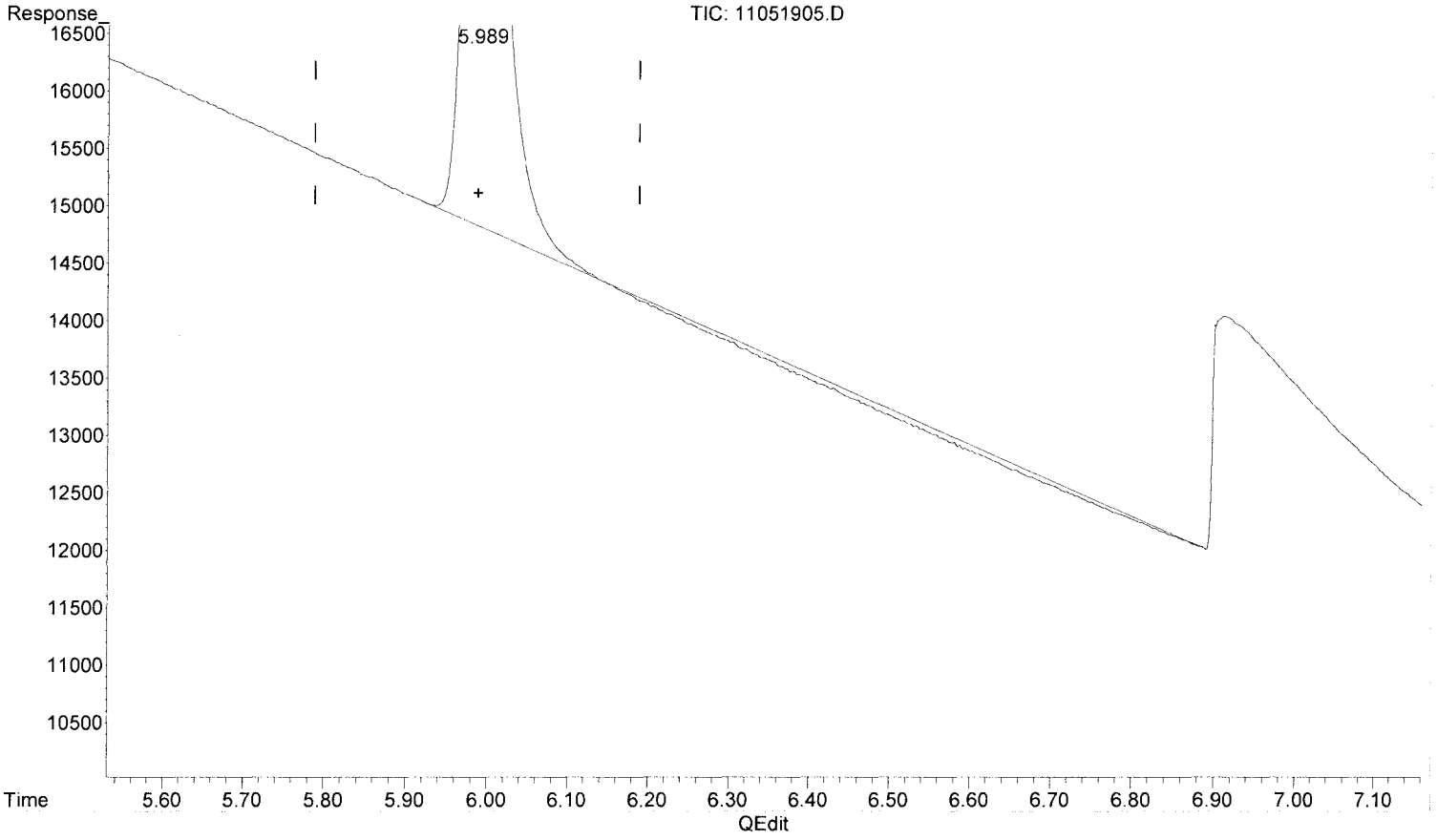




Data Path : J:\GC10\DATA\RSK_TCD\2019_11\05\
Data File : 11051905.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 05-Nov-2019, 12:54:24
Operator : WH/LD
Sample : LCS S32-08141901
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Nov 05 12:32:04 2019
Quant Method : I:\GC10\METHODS\RS082817_CO2.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Tue Nov 05 12:31:56 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



(4) Carbon dioxide

5.990min 816.631 ppm

response 191687

(+) = Expected Retention Time

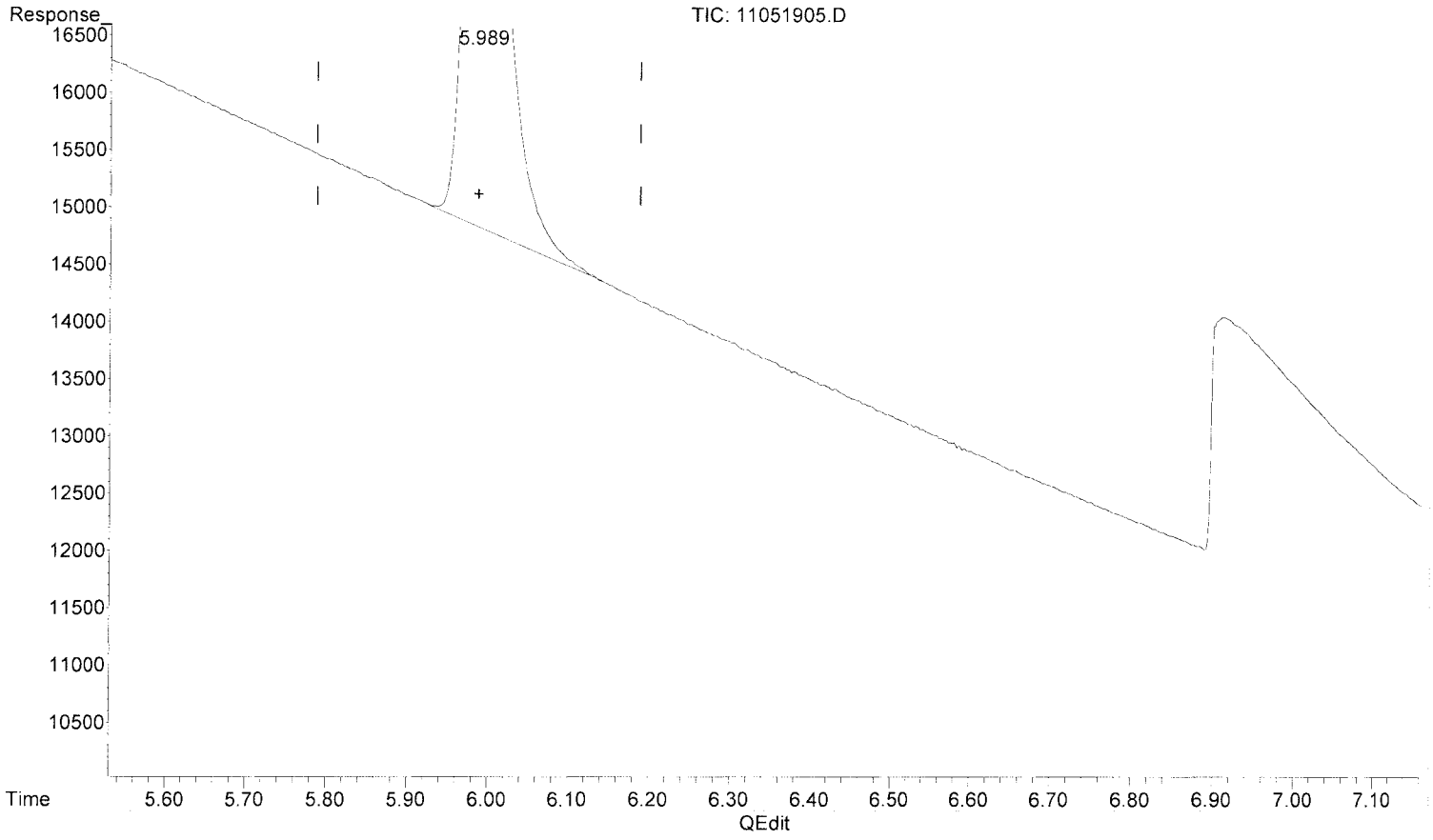
Quantitation Report (Qedit)

Data Path : J:\GC10\DATA\RSK_TCD\2019_11\05\
Data File : 11051905.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 05-Nov-2019, 12:54:24
Operator : WH/LD
Sample : LCS S32-08141901
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Nov 05 12:32:04 2019
Quant Method : I:\GC10\METHODS\RS082817_CO2.M
Quant Title : RSK175, VOA-DISGAS, VOA-TO3C1C6
QLast Update : Tue Nov 05 12:31:56 2019
Response via : Initial Calibration
Integrator: ChemStation

LD
BL c
11/06

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



(4) Carbon dioxide

5.989min 887.537 ppm m

response 208331

LD 11/6/19 PM 11/6/19

(+) = Expected Retention Time

RS082817_CO2.M Wed Nov 06 09:47:43 2019 Page: 1

Data Path : J:\GC10\DATA\RSK_TCD\2019_11\05\
Data File : 11051906.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 05-Nov-2019, 13:10:27
Operator : WH/LD
Sample : LCSD S32-08141901
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Nov 06 09:47:56 2019
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 :

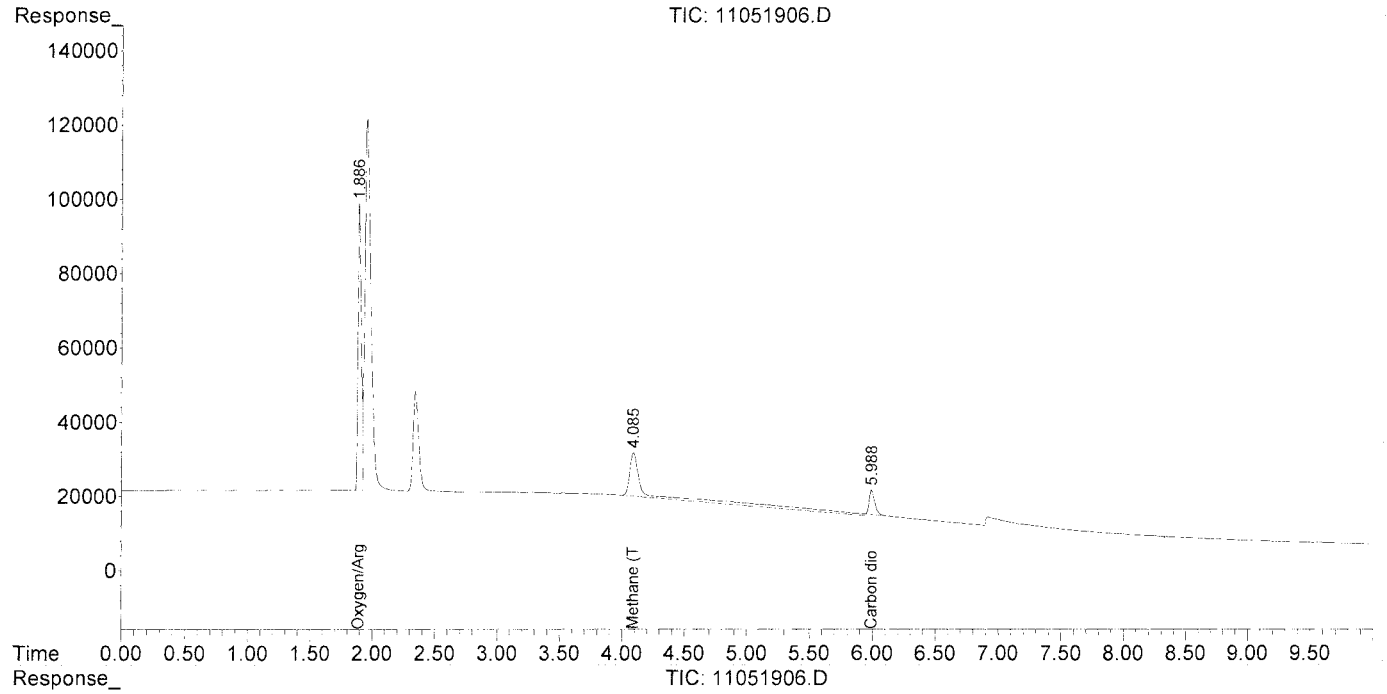
	Compound	R.T.	Response	Conc	Units	
Target Compounds						
1)	Oxygen/Argon	1.887	1378900	0.290	ppm	
2)	Carbon monoxide	1.887	1378900	N.D.	ppm	
3)	Methane (TCD)	4.086f	1152306	121842.306	ppm	
4)	Carbon dioxide	5.988	203453	866.754	ppm	m
6)	Methane (FID)	0.000	0	N.D.	ppm	
7)	Ethylene	0.000	0	N.D.	ppm	
8)	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	

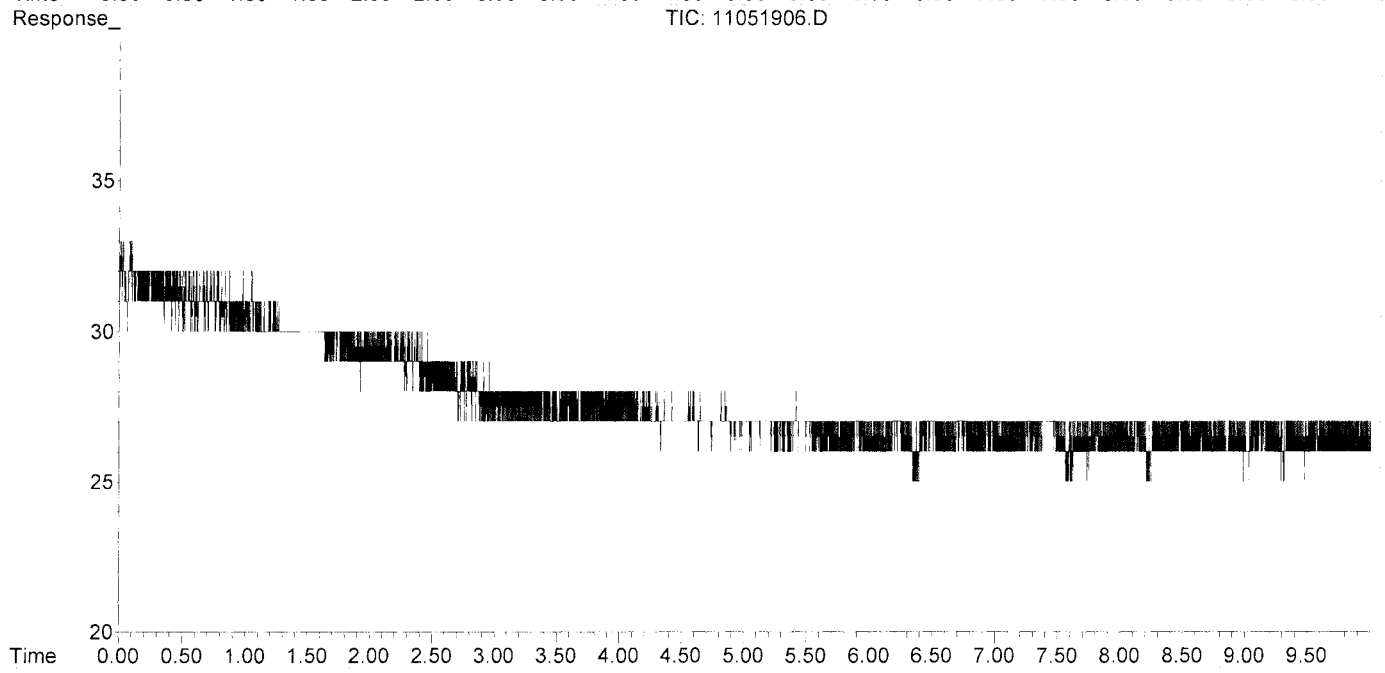
(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : J:\GC10\DATA\RSK_TCD\2019_11\05\
Data File : 11051906.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 05-Nov-2019, 13:10:27
Operator : WH/LD
Sample : LCSD S32-08141901
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Nov 06 09:47:56 2019
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 :

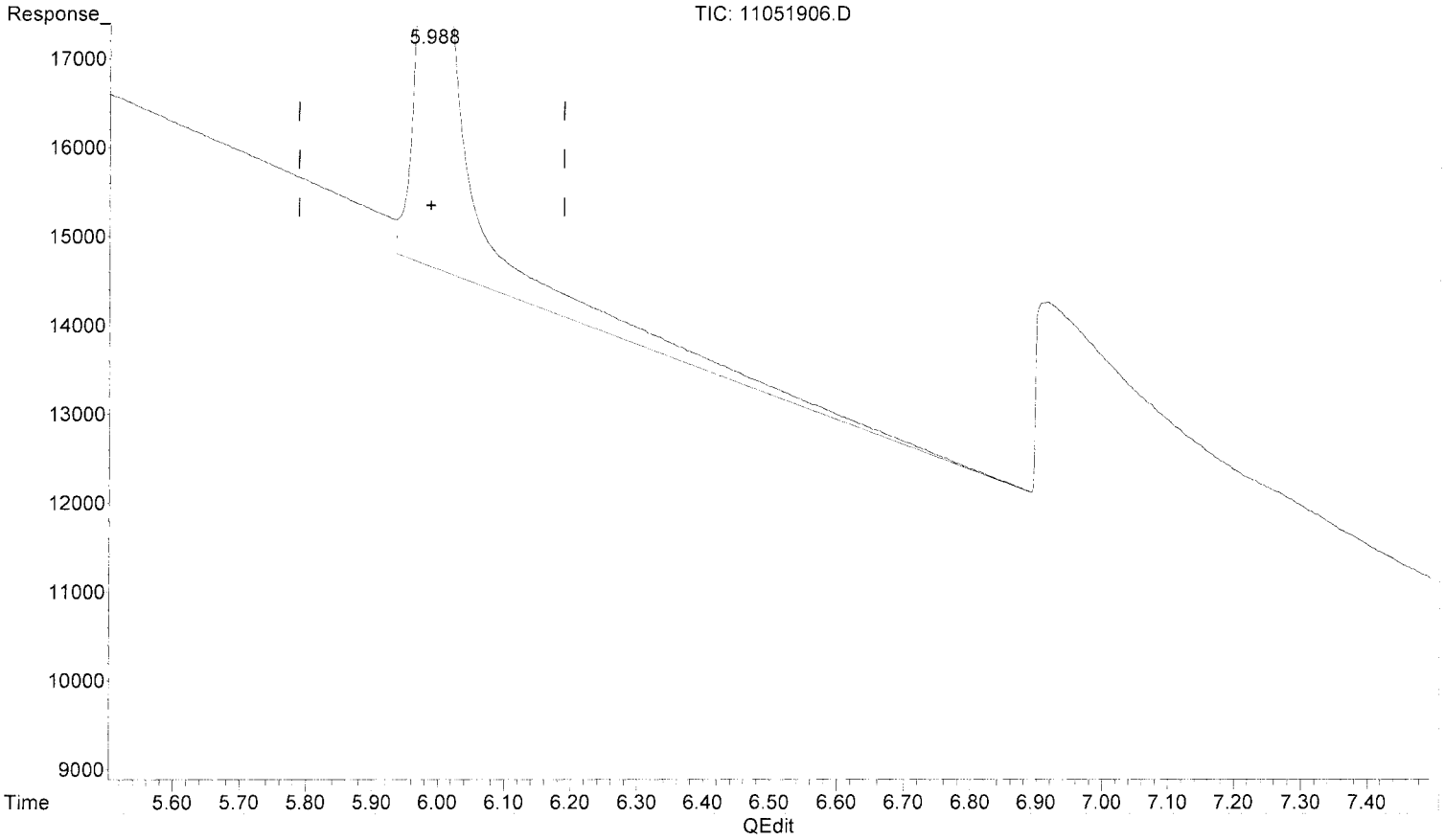




Data Path : J:\GC10\DATA\RSK_TCD\2019_11\05\
Data File : 11051906.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 05-Nov-2019, 13:10:27
Operator : WH/LD
Sample : LCSD S32-08141901
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Nov 06 09:47:56 2019
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 :



(4) Carbon dioxide

5.988min 1253.332 ppm

response 294194

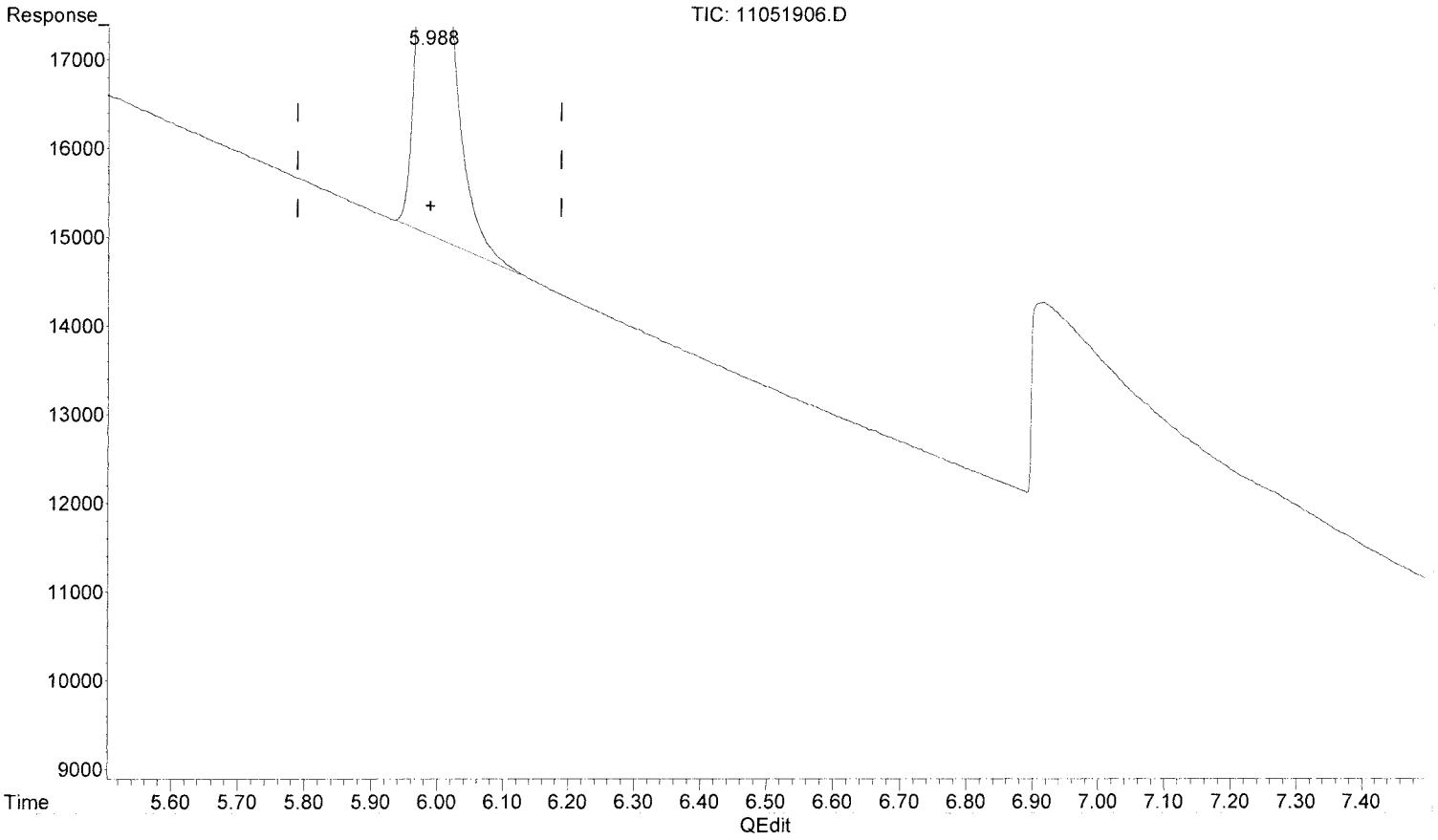
(+) = Expected Retention Time

Data Path : J:\GC10\DATA\RSK_TCD\2019_11\05\
Data File : 11051906.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 05-Nov-2019, 13:10:27
Operator : WH/LD
Sample : LCSD S32-08141901
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Nov 06 09:47:56 2019
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

CP
BLC
11/06

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



(4) Carbon dioxide

5.988min 866.754 ppm m

response 203453

11/6/19

11/6/19

(+) = Expected Retention Time

RS082817_CO2.M Wed Nov 06 09:48:24 2019 Page: 1

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

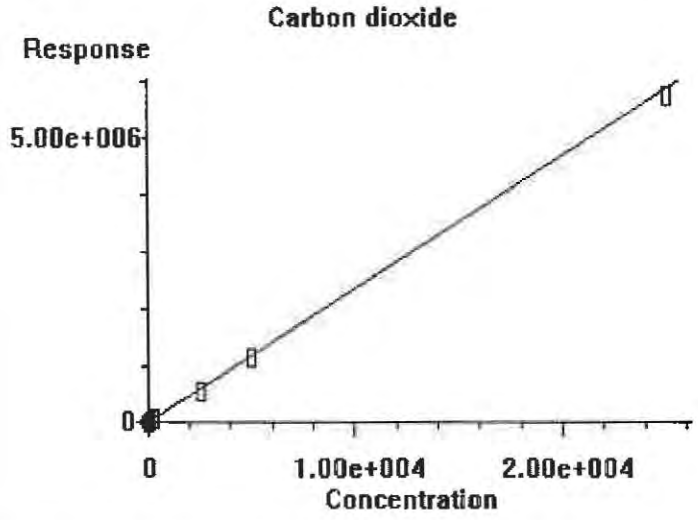
Search by: Ret Time | Name | Index — Find Compound

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

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

Quantitation Report (QT Reviewed)

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 :

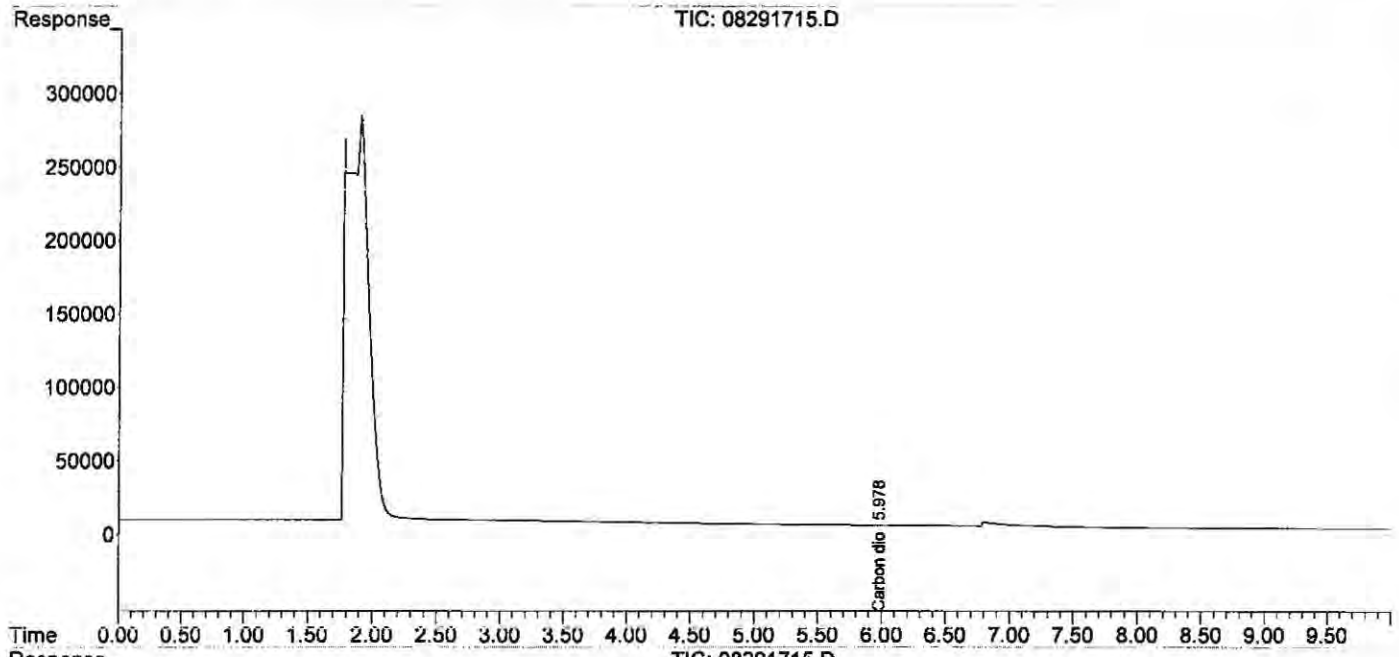
	Compound	R.T.	Response	Conc	Units	
Target Compounds						
1)	Oxygen/Argon	0.000	0	N.D.	ppm	d
2)	Carbon monoxide	1.776	277465	N.D.	ppm	
3)	Methane (TCD)	0.000	0	N.D.	ppm	
4)	Carbon dioxide	5.978	6794	27.870	ppm	m
6)	Methane (FID)	0.000	0	N.D.	ppm	d
7)	Ethylene	0.000	0	N.D.	ppm	
8)	Ethane	0.000	0	N.D.	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	

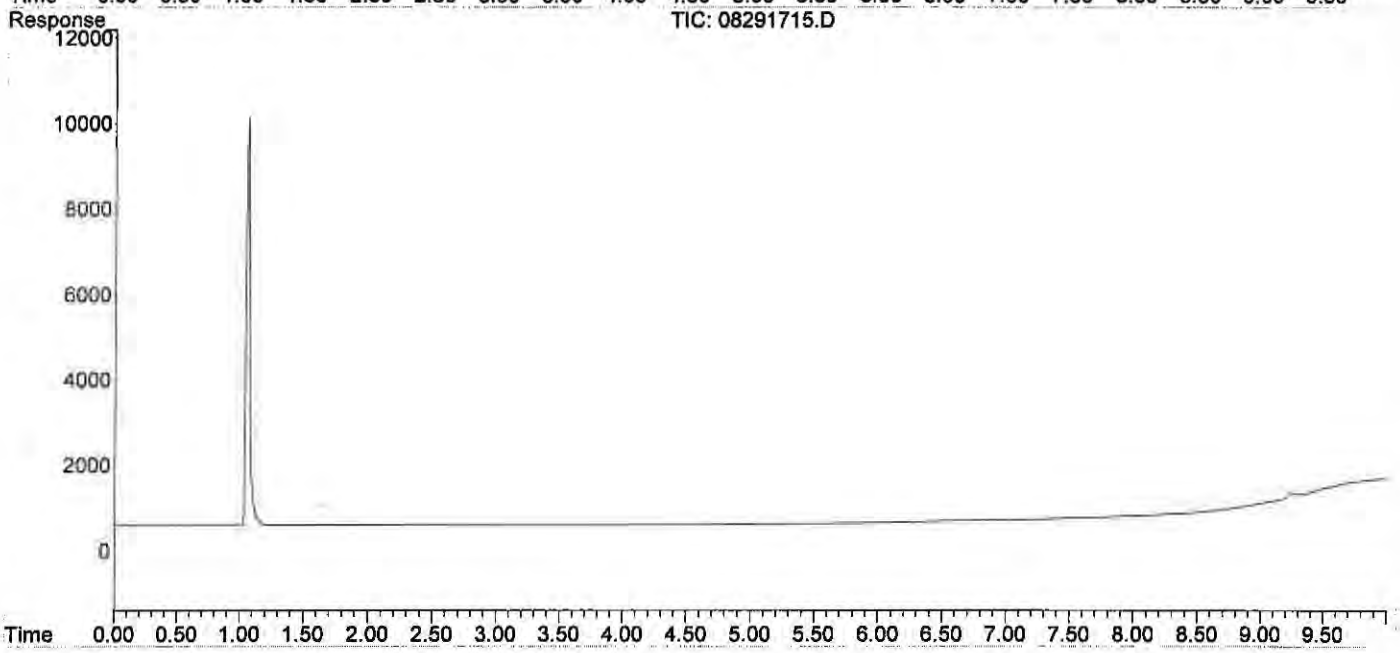
(f)=RT Delta > 1/2 Window (m)=manual int.

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 :

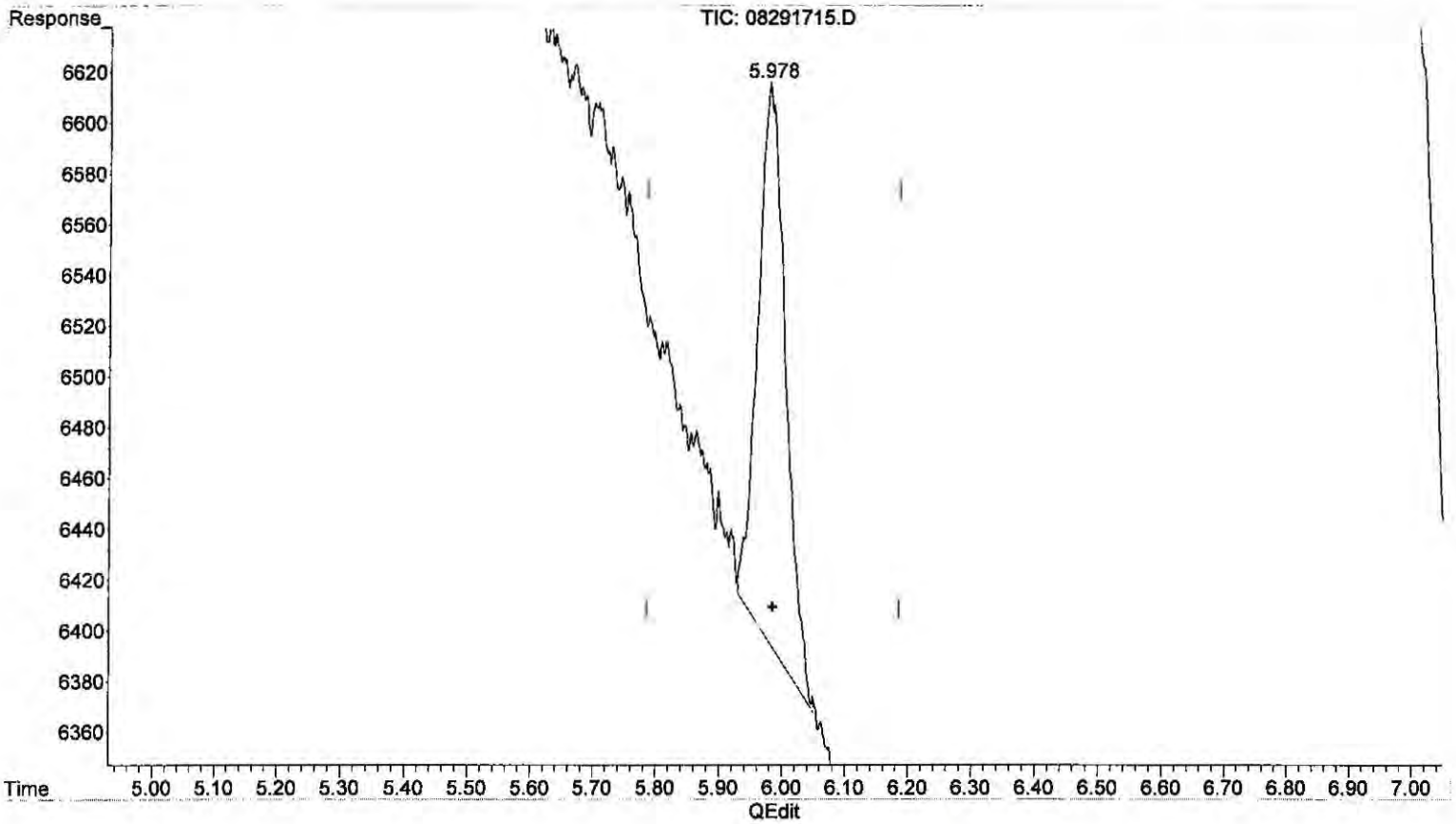




Data Path : J:\GC10\DATA\RSK_FID\2017_08\29\
Data File : 08291715.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 29-Aug-2017, 14:07
Operator : MC
Sample : 25ppm s32-08291701 0.25ml
Misc :
ALS Vial : 1 Sample Multiplier: 1

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

Quantitation Report (QT Reviewed)

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 :

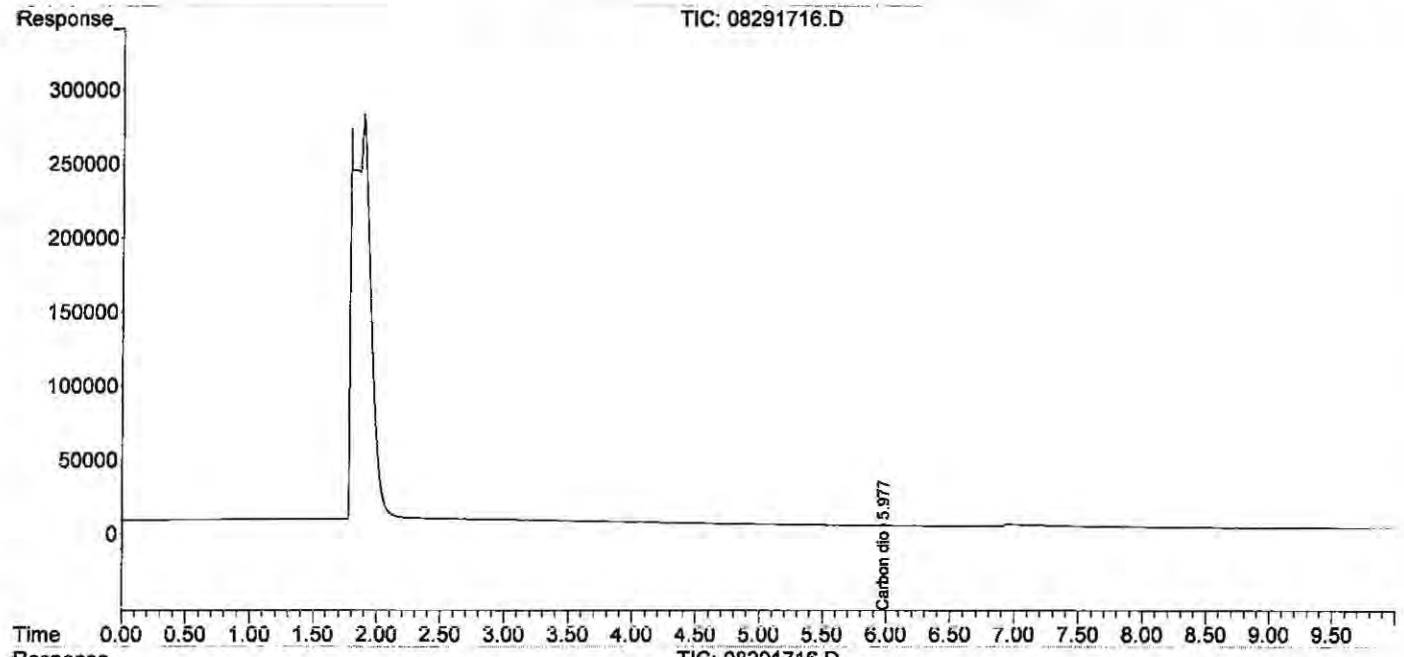
	Compound	R.T.	Response	Conc	Units	
Target Compounds						
1)	Oxygen/Argon	1.790	-598962	N.D.	ppm	
2)	Carbon monoxide	0.000	0	N.D.	ppm	d
3)	Methane (TCD)	0.000	0	N.D.	ppm	
4)	Carbon dioxide	5.978	21932	87.858	ppm	
6)	Methane (FID)	0.000	0	N.D.	ppm	d
7)	Ethylene	0.000	0	N.D.	ppm	
8)	Ethane	0.000	0	N.D.	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	

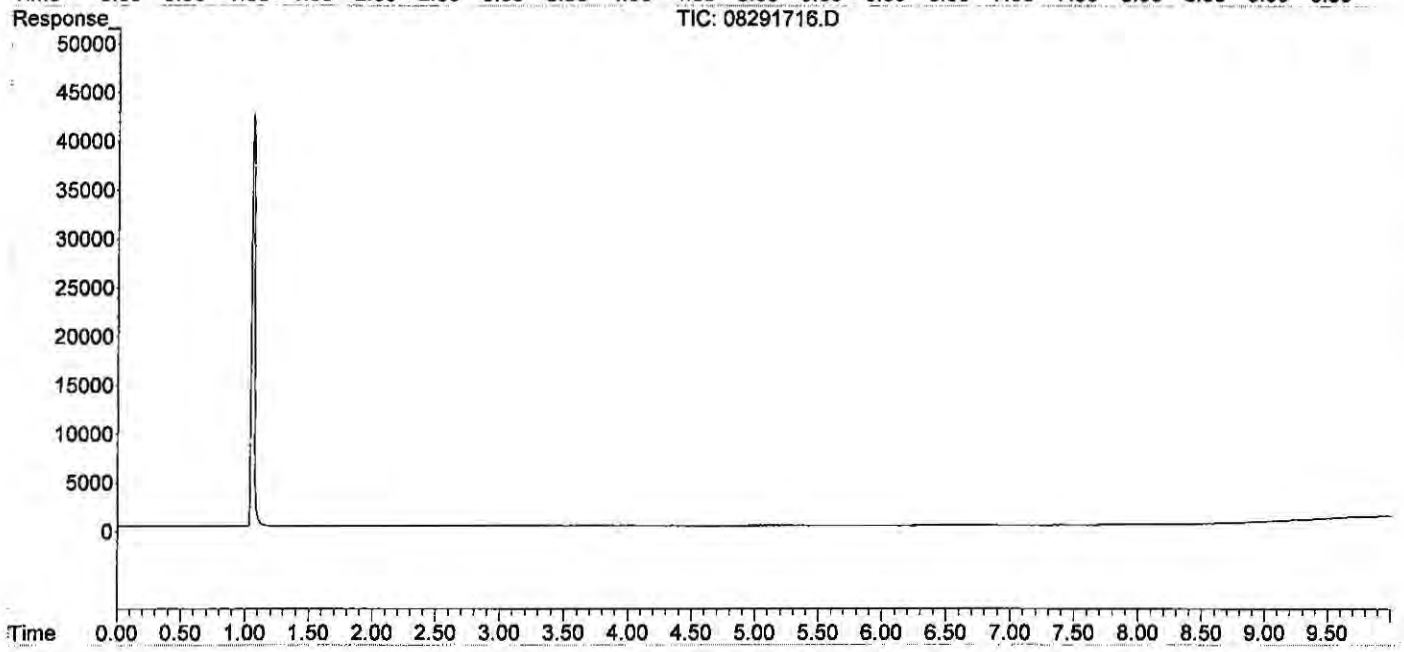
(f)=RT Delta > 1/2 Window (m)=manual int.

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 :

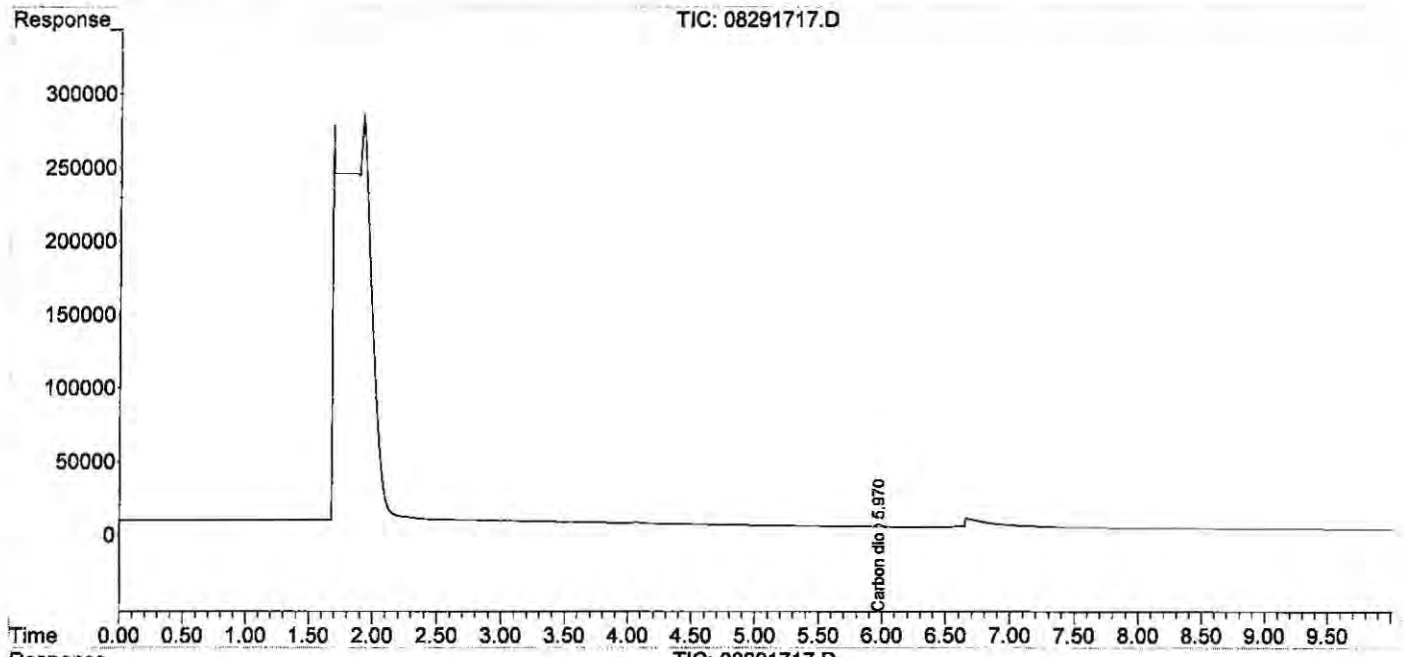
	Compound	R.T.	Response	Conc	Units	
Target Compounds						
1)	Oxygen/Argon	1.920f	-30716454	N.D.	ppm	
2)	Carbon monoxide	0.000	0	N.D.	ppm	d
3)	Methane (TCD)	0.000	0	N.D.	ppm	d
4)	Carbon dioxide	5.970	58461	240.204	ppm	m
6)	Methane (FID)	0.000	0	N.D.	ppm	d
7)	Ethylene	0.000	0	N.D.	ppm	
8)	Ethane	0.000	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	

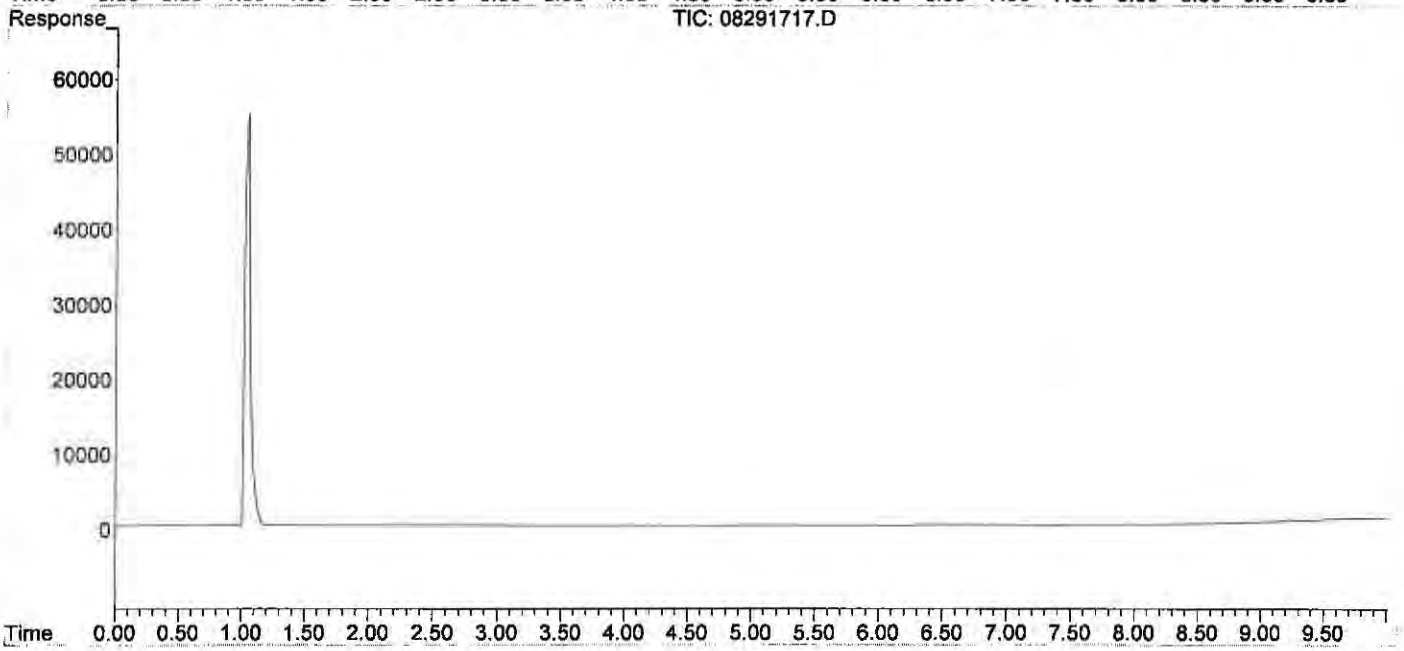
(f)=RT Delta > 1/2 Window (m)=manual int.

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 :



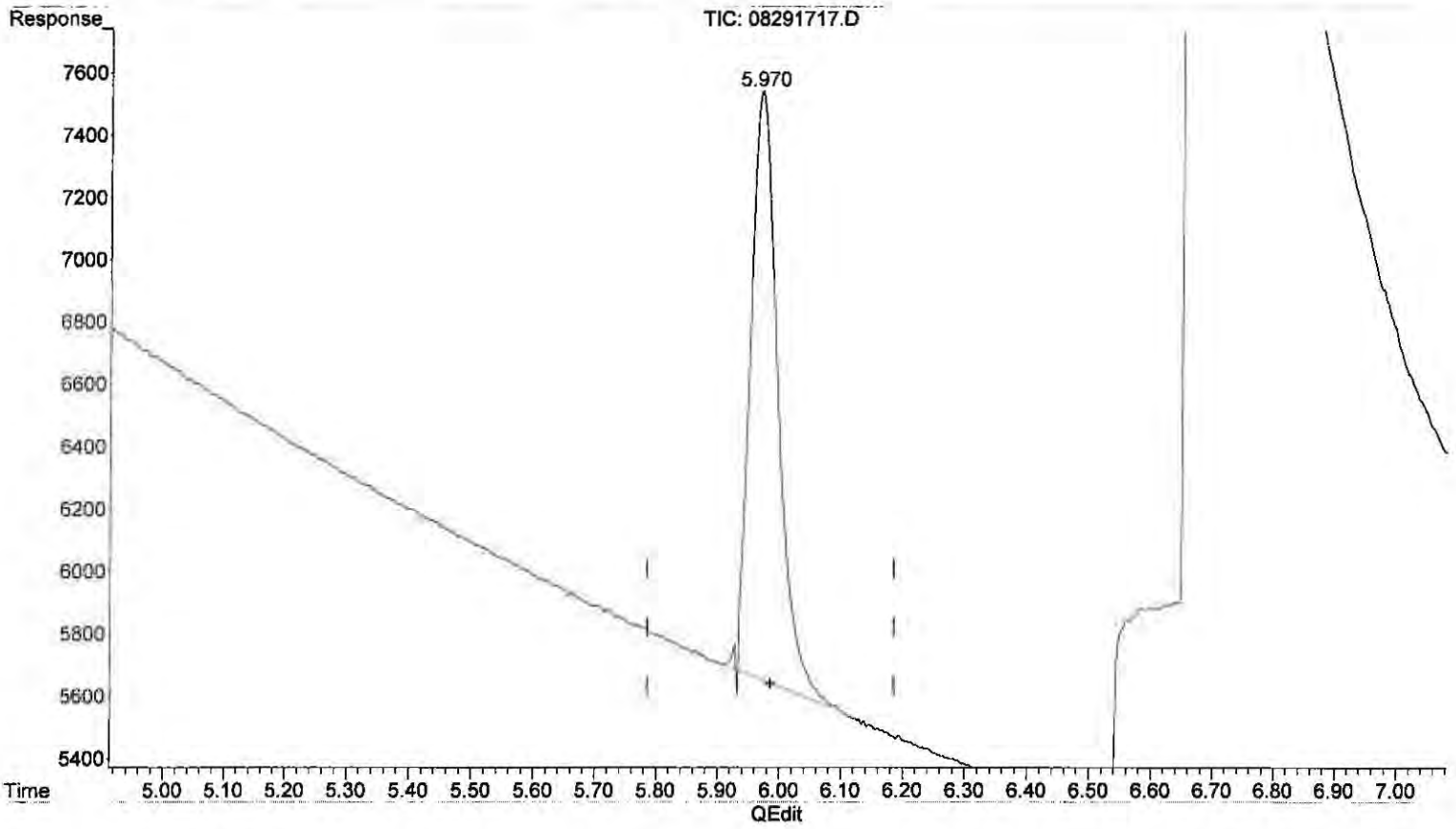


Quantitation Report (Qedit)

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

RS082817_CO2.M Wed Aug 30 13:19:20 2017 Page: 1

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 :

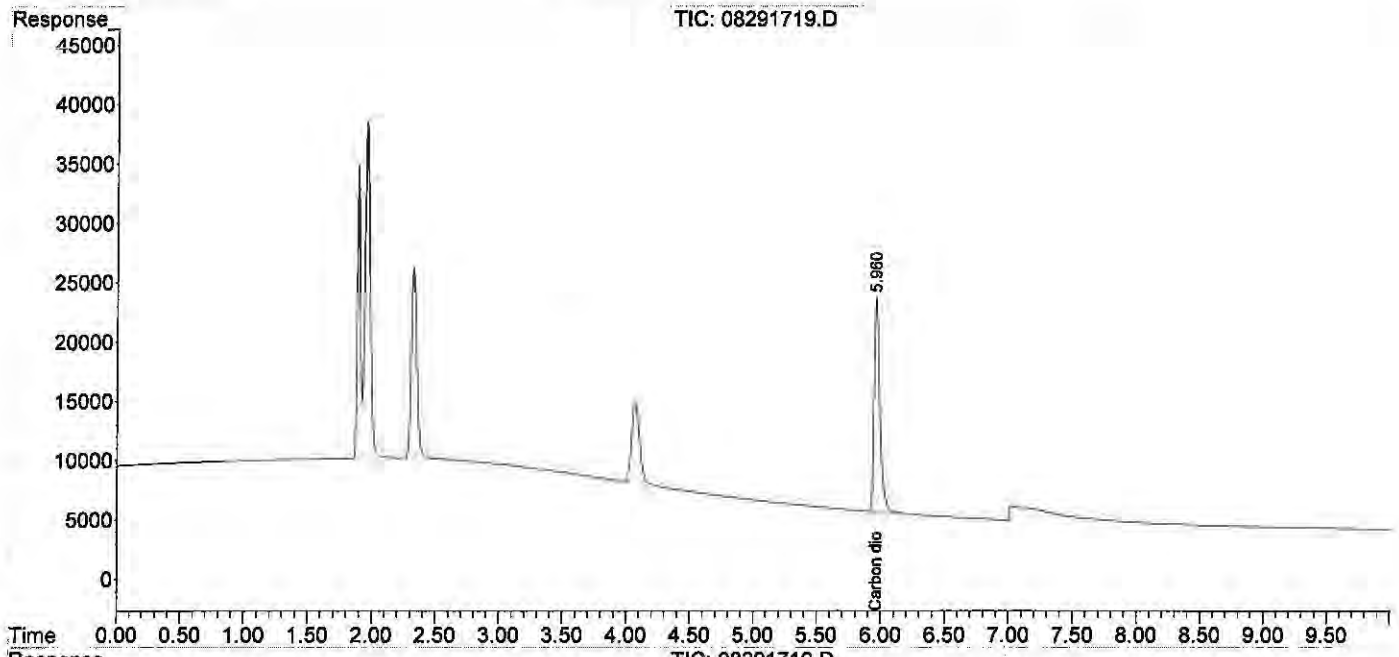
	Compound	R.T.	Response	Conc	Units	
Target Compounds						
1)	Oxygen/Argon	0.000	0	N.D.	ppm	d
2)	Carbon monoxide	1.891	425113	N.D.	ppm	
3)	Methane (TCD)	0.000	0	N.D.	ppm	d
4)	Carbon dioxide	5.962	568043	2369.673	ppm	
6)	Methane (FID)	0.000	0	N.D.	ppm	d
7)	Ethylene	0.000	0	N.D.	ppm	
8)	Ethane	0.000	0	N.D.	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	

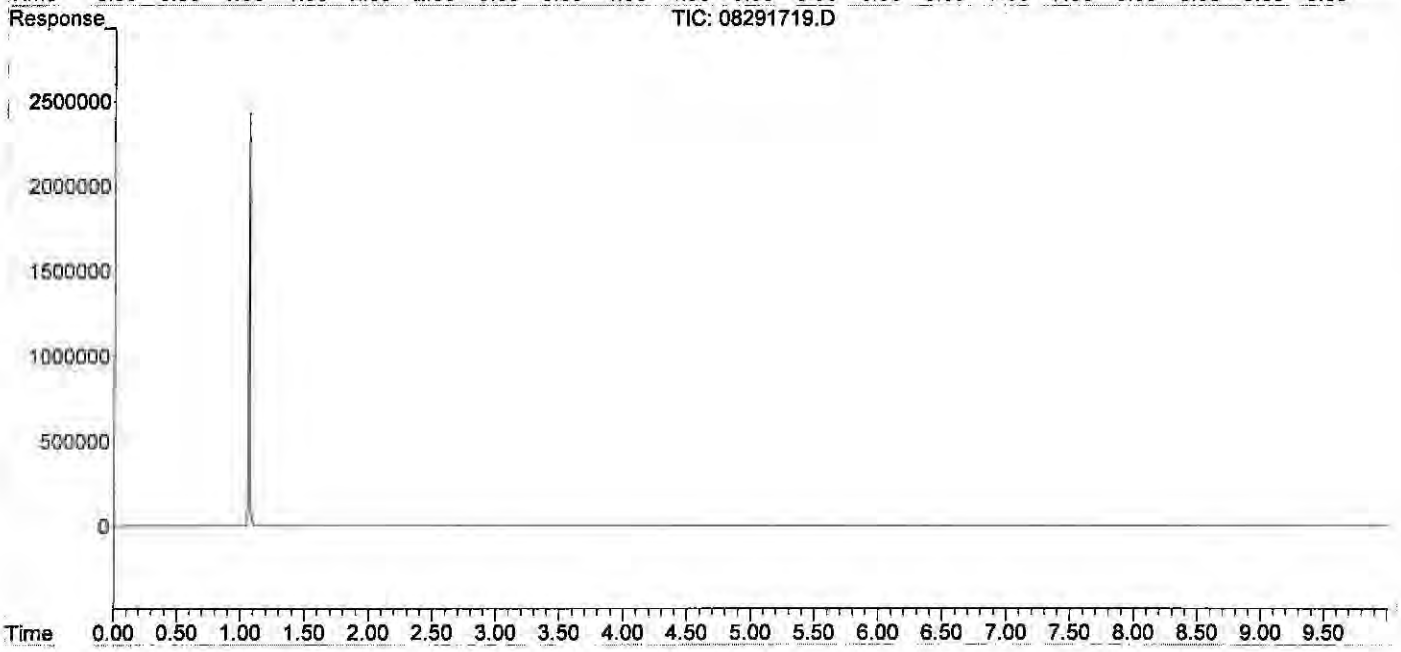
(f)=RT Delta > 1/2 Window (m)=manual int.

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	

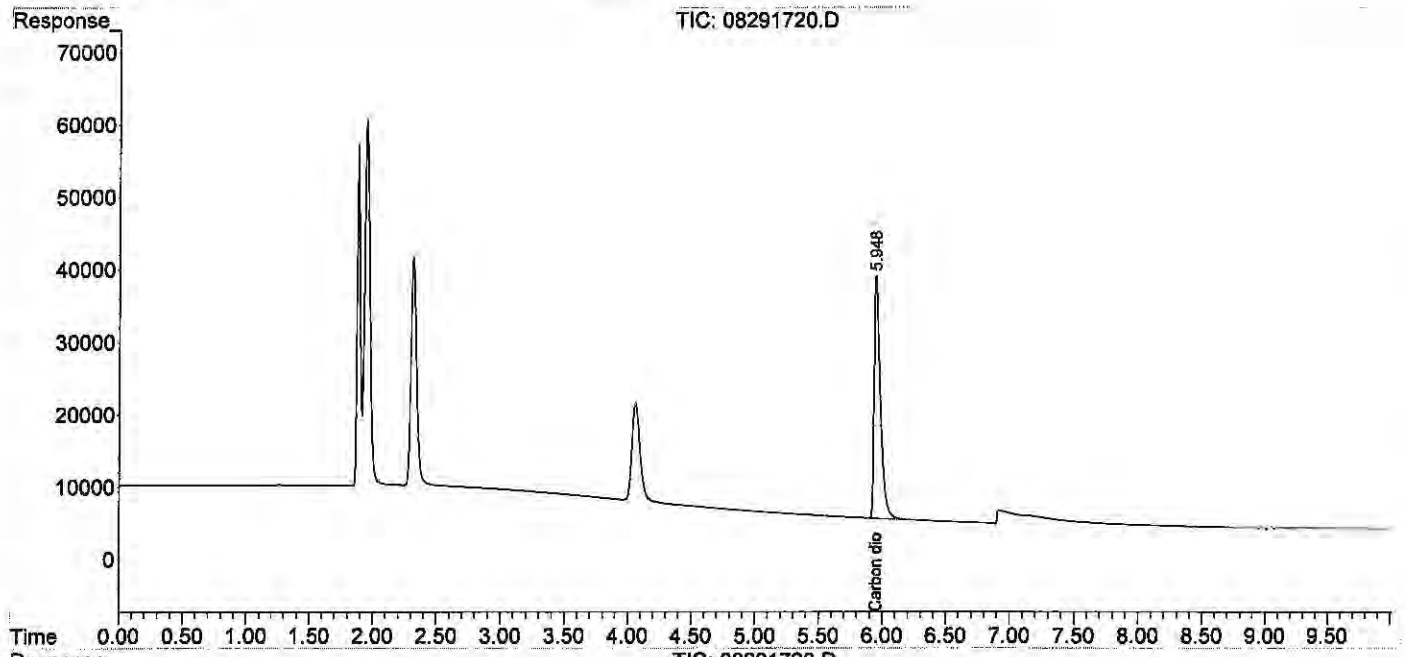
(f)=RT Delta > 1/2 Window (m)=manual int.

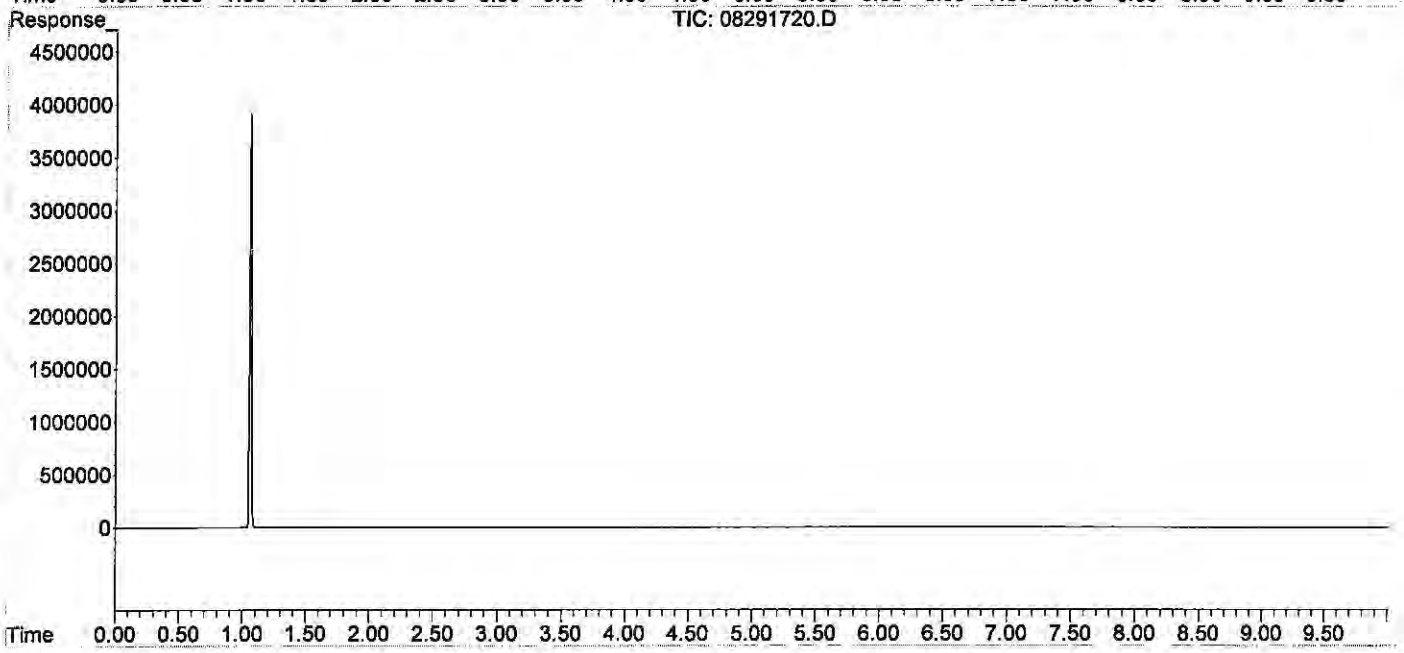
Quantitation Report (QT Reviewed)

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 :

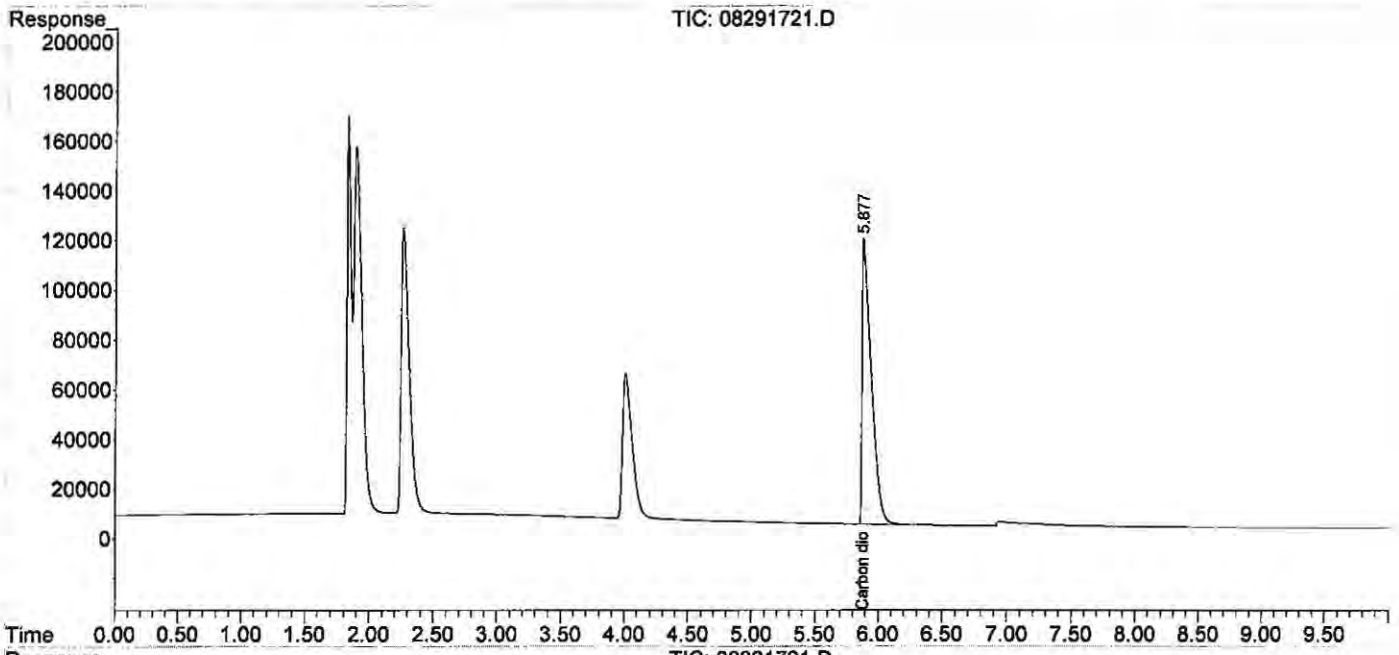
	Compound	R.T.	Response	Conc	Units	
Target Compounds						
1)	Oxygen/Argon	0.000	0	N.D.	ppm	d
2)	Carbon monoxide	1.827	3325463	N.D.	ppm	
3)	Methane (TCD)	0.000	0	N.D.	ppm	d
4)	Carbon dioxide	5.879f	5744295	24443.288	ppm	
6)	Methane (FID)	0.000	0	N.D.	ppm	d
7)	Ethylene	0.000	0	N.D.	ppm	
8)	Ethane	0.000	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	

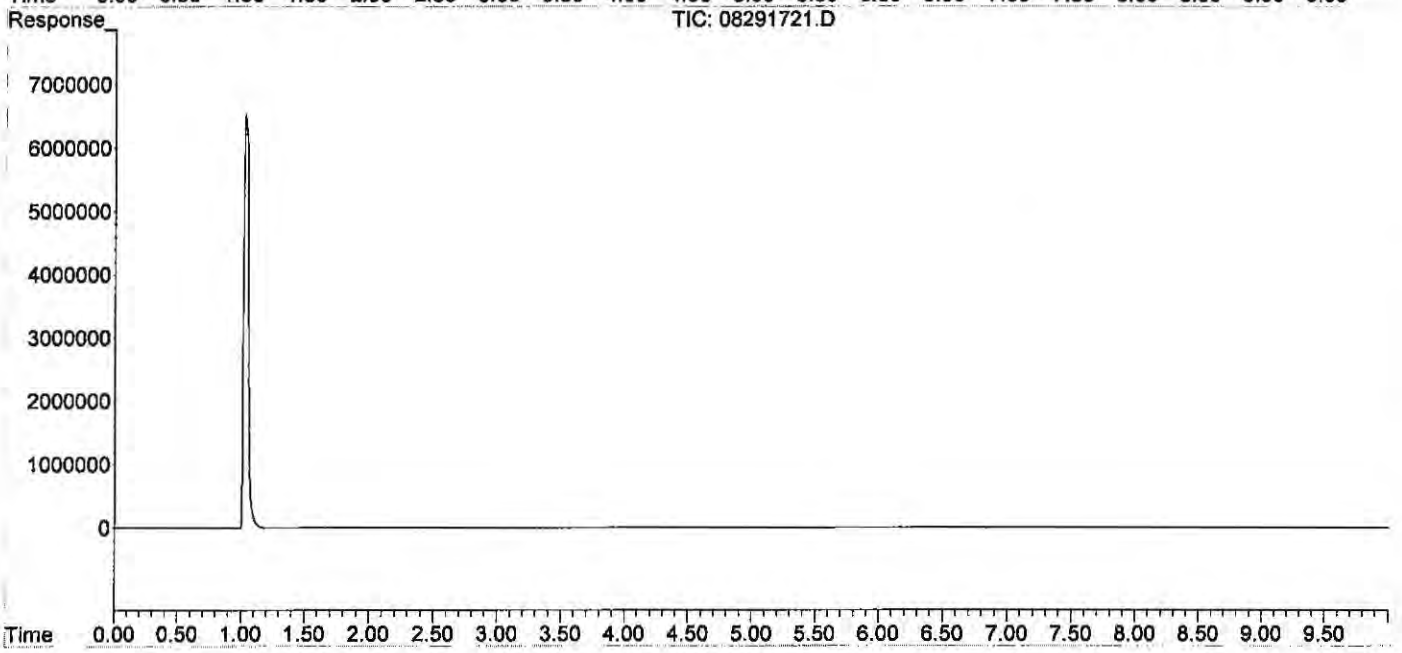
(f)=RT Delta > 1/2 Window (m)=manual int.

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

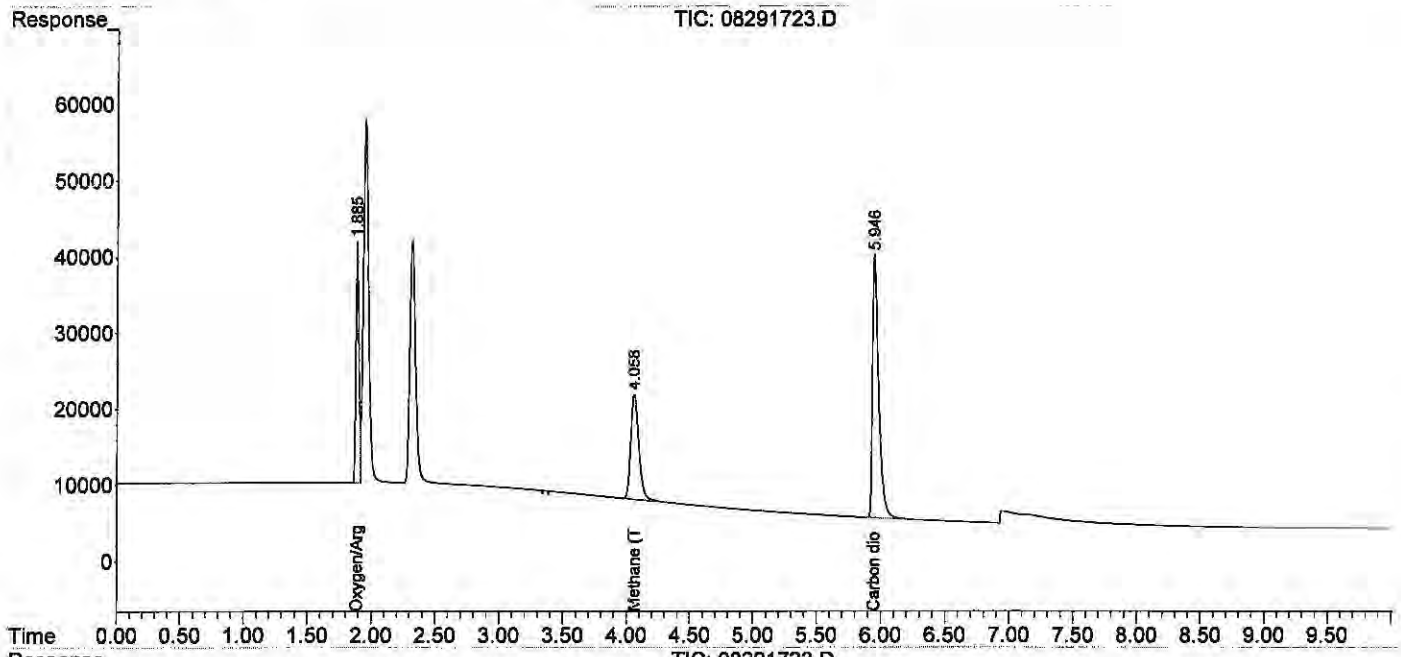
(f)=RT Delta > 1/2 Window (m)=manual int.

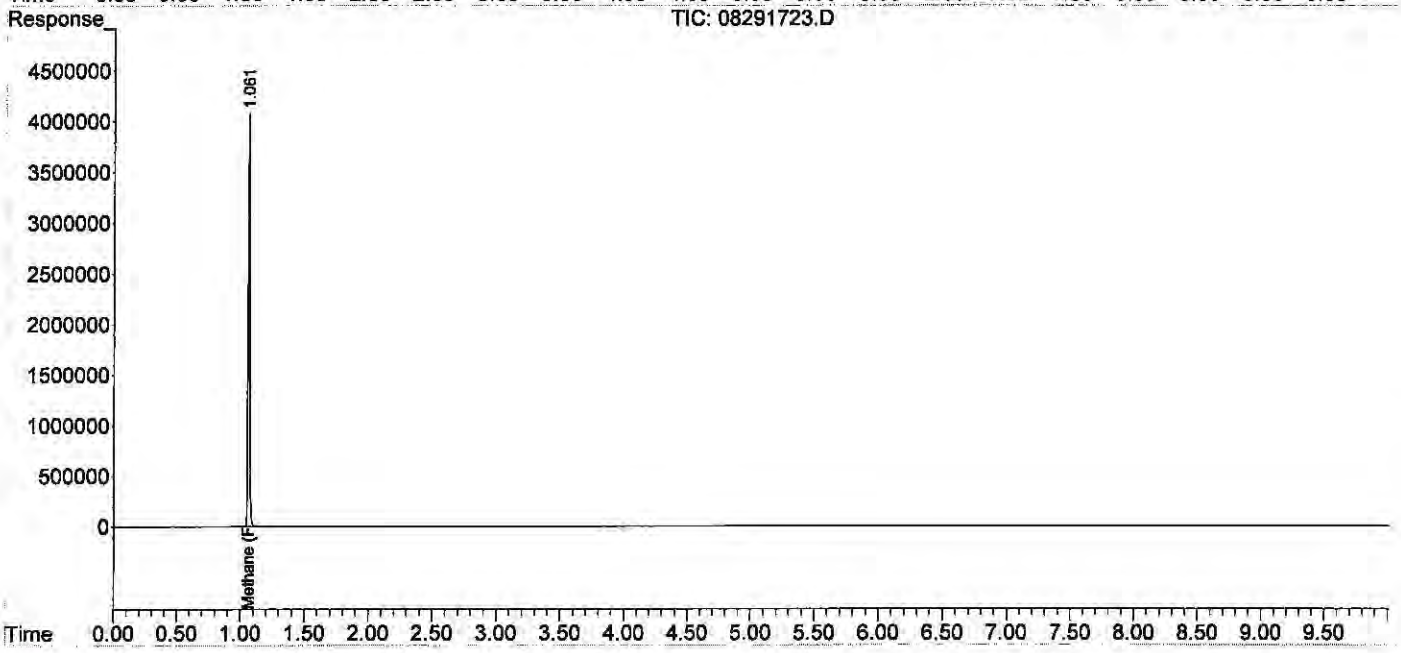
W 9/4/17

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 :





ALS Environmental

Method : RSK175 Headspace Method for Dissolved Hydrocarbon in Water by FID/TCD
Client : ALS Laboratory Group
Service Request: P1906621
Sample Vol. (ml) : 32.00 ml
Analyst : WH/LD
Date Analysis : 11/05/19
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 S32-10291901	0.100	4872.757
ACTUAL		5000.00
%Difference		2.5%
MCS 0.1ml	0.100	0.000
RB 0.1ml	0.100	0.000
LCS S32-08141901	0.100	887.537
LCSD S32-08141901	0.100	866.754
P1906621-001 0.1ml	0.100	6644.145
P1906621-002 0.1ml	0.100	5907.818
P1906621-003 0.1ml	0.100	4946.059

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 S32-08141901	8875.370
LCSD S32-08141901	8667.540
P1906621-001 0.1ml	66441.450
P1906621-002 0.1ml	59078.180
P1906621-003 0.1ml	49460.590

LD
11/06

STD S32-10291901	5140.362
ACTUAL	5000.00
%Difference	2.8%

Quantitation Report (QT Reviewed)

Data Path : J:\GC10\DATA\RSK_TCD\2019_11\05\
Data File : 11051901.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 05-Nov-2019, 11:25:46
Operator : WH/LD
Sample : STD S32-10291901
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Nov 05 10:44:05 2019
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
11/06

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

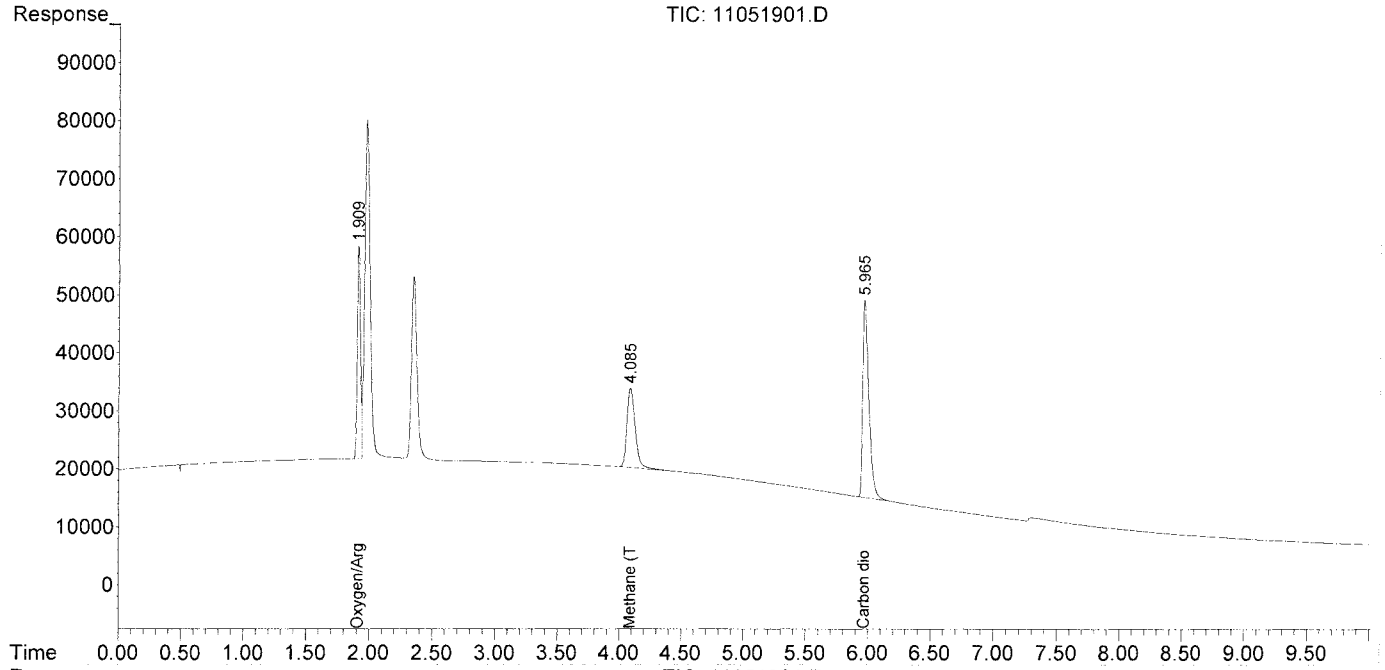
	Compound	R.T.	Response	Conc	Units	
Target Compounds						
1)	Oxygen/Argon	1.910f	629274	0.132	ppm	
2)	Carbon monoxide	1.910f	629274	N.D.	ppm	
3)	Methane (TCD)	4.085f	629818	66595.597	ppm	
4)	Carbon dioxide	5.965	1143778	4872.757	ppm	m
6)	Methane (FID)	0.000	0	N.D.	ppm	
7)	Ethylene	0.000	0	N.D.	ppm	
8)	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	

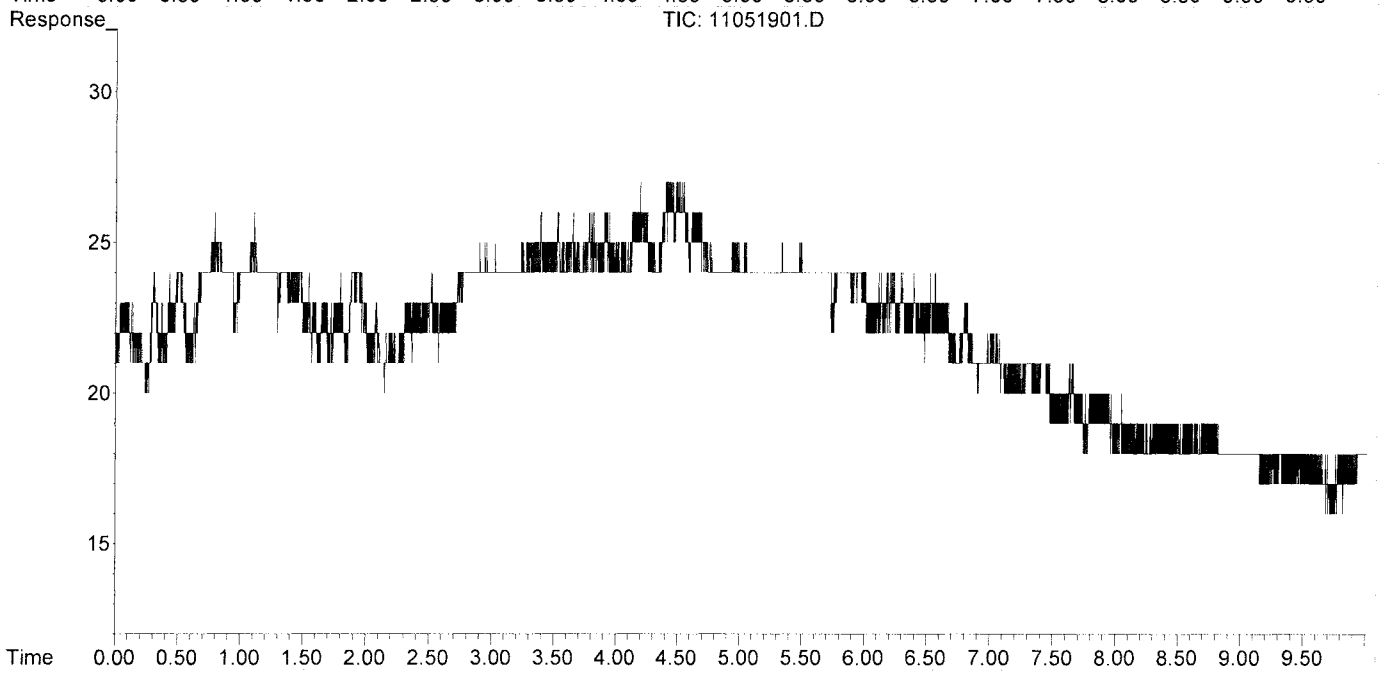
(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : J:\GC10\DATA\RSK_TCD\2019_11\05\
Data File : 11051901.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 05-Nov-2019, 11:25:46
Operator : WH/LD
Sample : STD S32-10291901
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Nov 05 10:44:05 2019
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 :



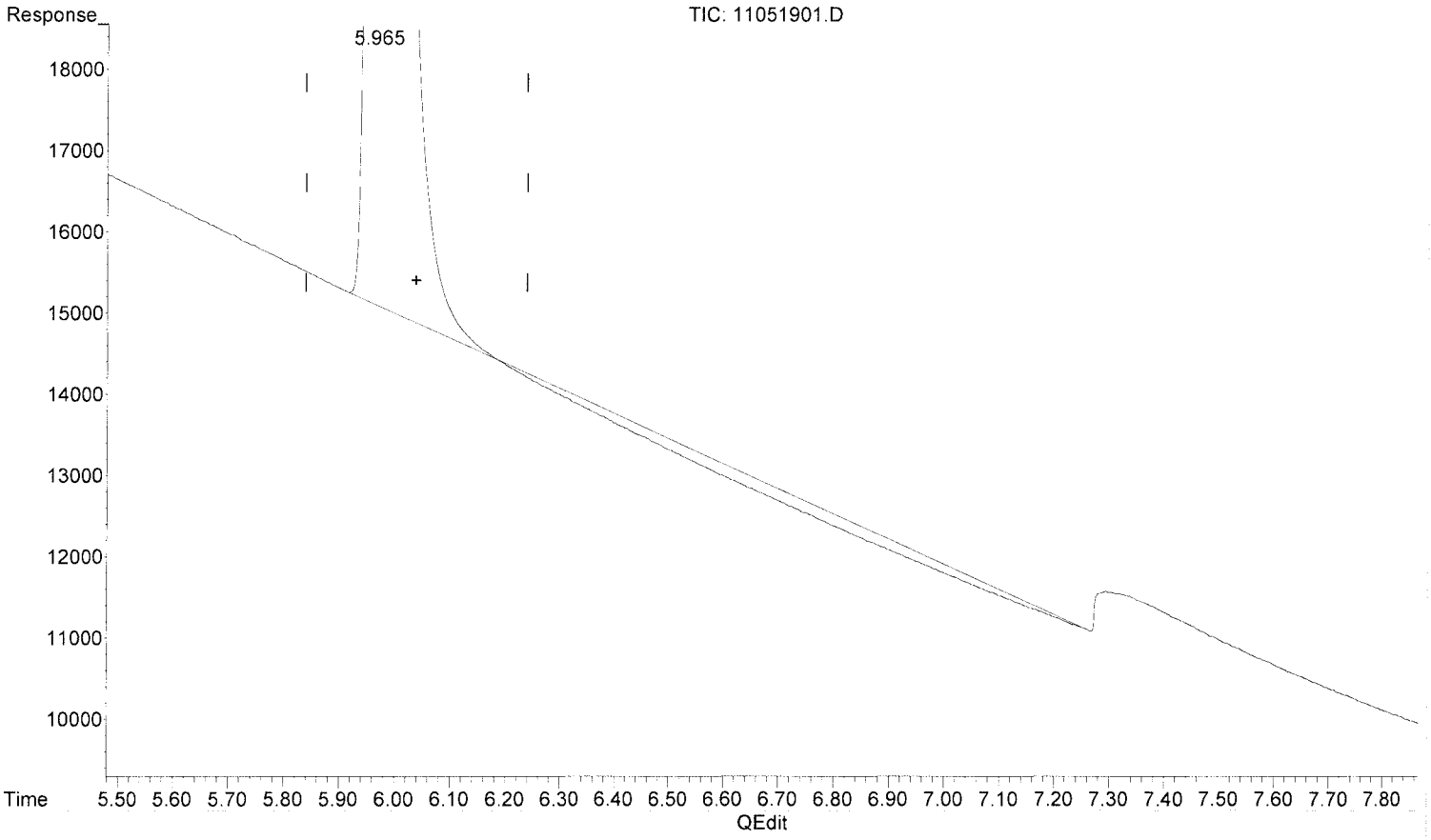


00983914

Data Path : J:\GC10\DATA\RSK_TCD\2019_11\05\
Data File : 11051901.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 05-Nov-2019, 11:25:46
Operator : WH/LD
Sample : STD S32-10291901
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Nov 05 10:44:05 2019
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 :



(4) Carbon dioxide

5.965min 4585.464 ppm

response 1076342

(+) = Expected Retention Time

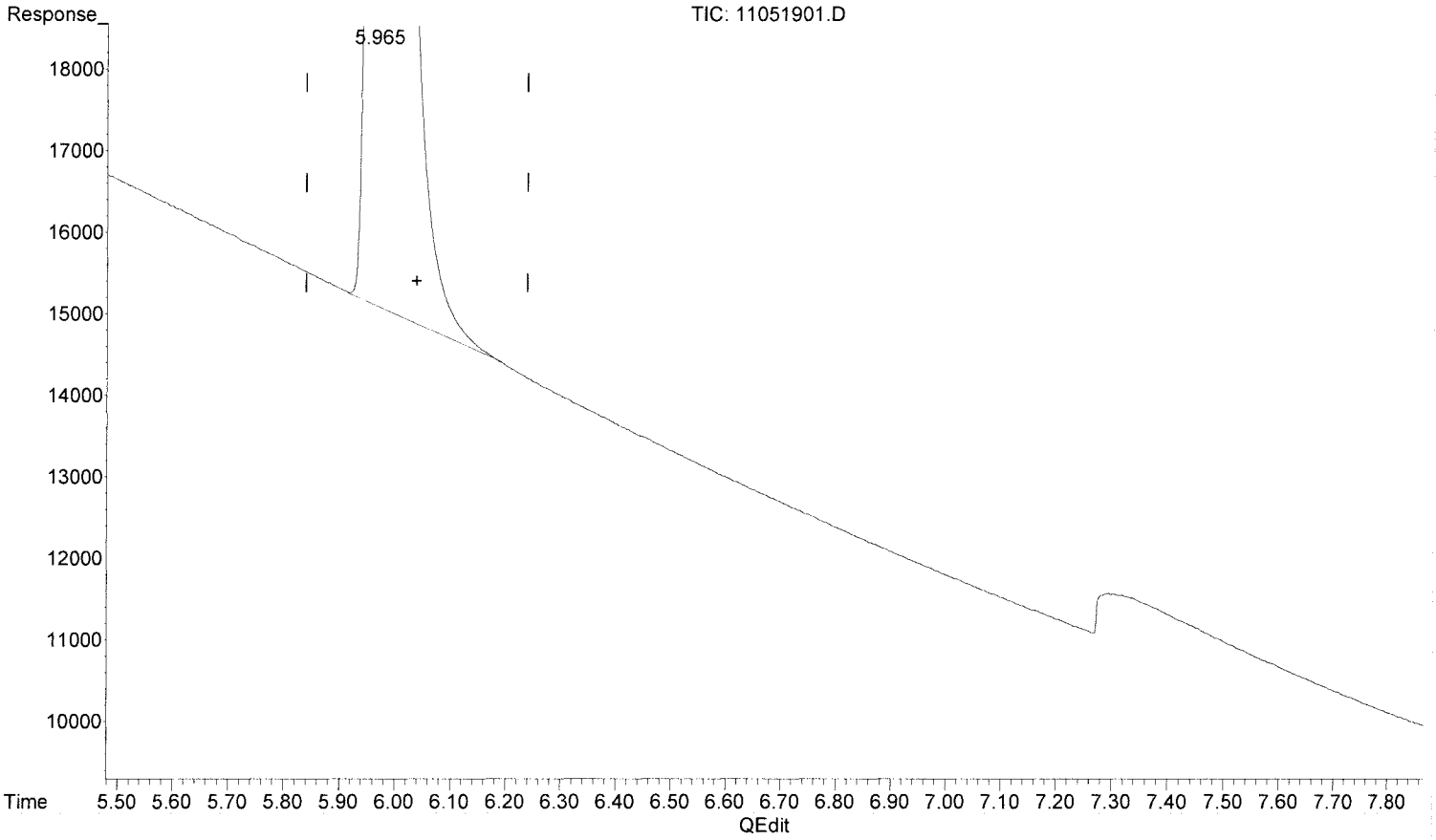
00983915

Data Path : J:\GC10\DATA\RSK_TCD\2019_11\05\
Data File : 11051901.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 05-Nov-2019, 11:25:46
Operator : WH/LD
Sample : STD S32-10291901
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Nov 05 10:44:05 2019
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
BLC
11/06

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



(4) Carbon dioxide

5.965min 4872.757 ppm m

response 1143778

11/6/19 MK 11/6/19

(+) = Expected Retention Time

Quantitation Report (QT Reviewed)

Data Path : J:\GC10\DATA\RSK_TCD\2019_11\05\
Data File : 11051915.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 05-Nov-2019, 15:46:40
Operator : WH/LD
Sample : STD S32-10291901
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Nov 05 14:58:38 2019
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 :

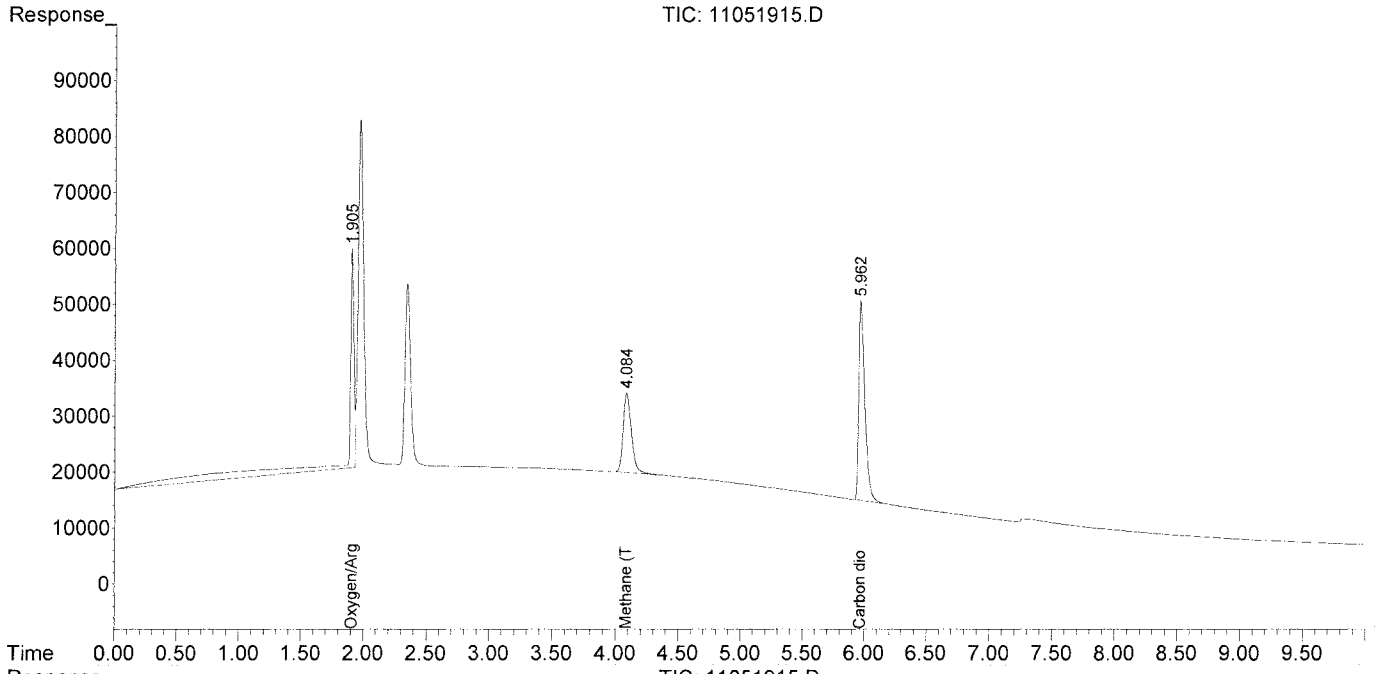
	Compound	R.T.	Response	Conc	Units	
Target Compounds						
1)	Oxygen/Argon	1.905f	1644310	0.345	ppm	
2)	Carbon monoxide	1.905f	1644310	N.D.	ppm	
3)	Methane (TCD)	4.084f	653335	69082.268	ppm	
4)	Carbon dioxide	5.962	1206593	5140.362	ppm	m
6)	Methane (FID)	0.000	0	N.D.	ppm	
7)	Ethylene	0.000	0	N.D.	ppm	
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	

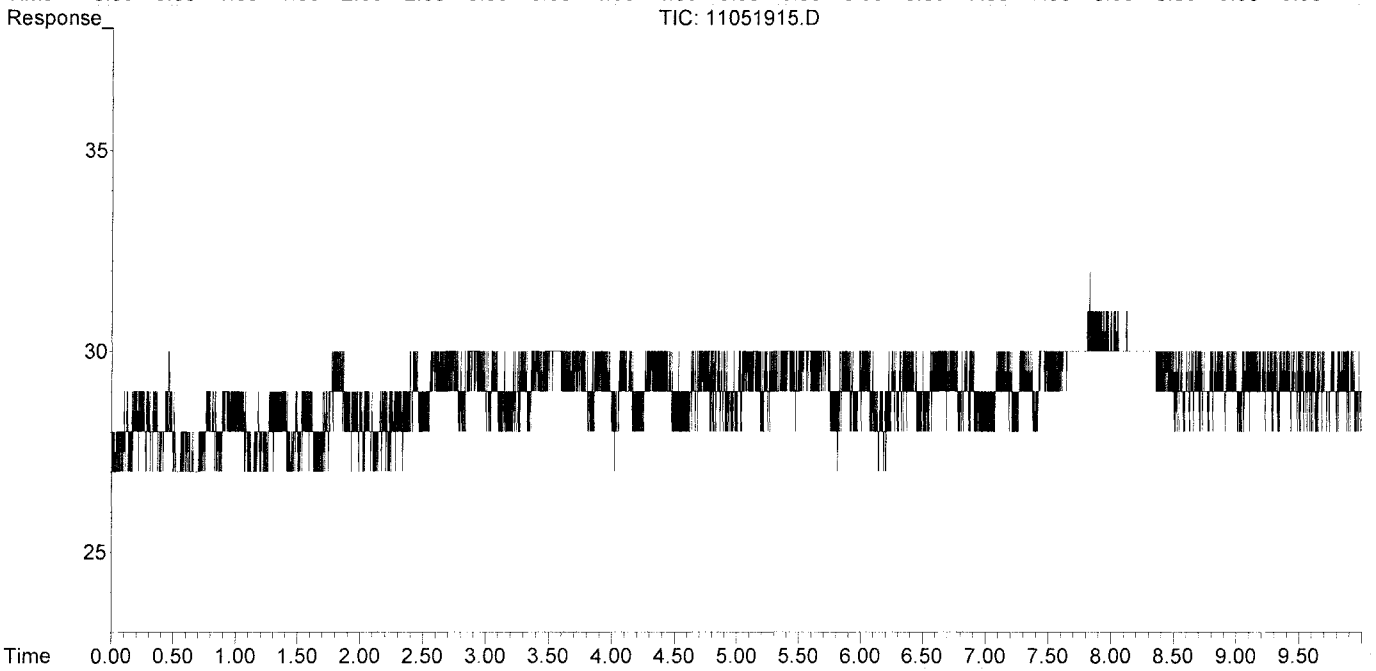
(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : J:\GC10\DATA\RSK_TCD\2019_11\05\
Data File : 11051915.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 05-Nov-2019, 15:46:40
Operator : WH/LD
Sample : STD S32-10291901
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Nov 05 14:58:38 2019
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 :

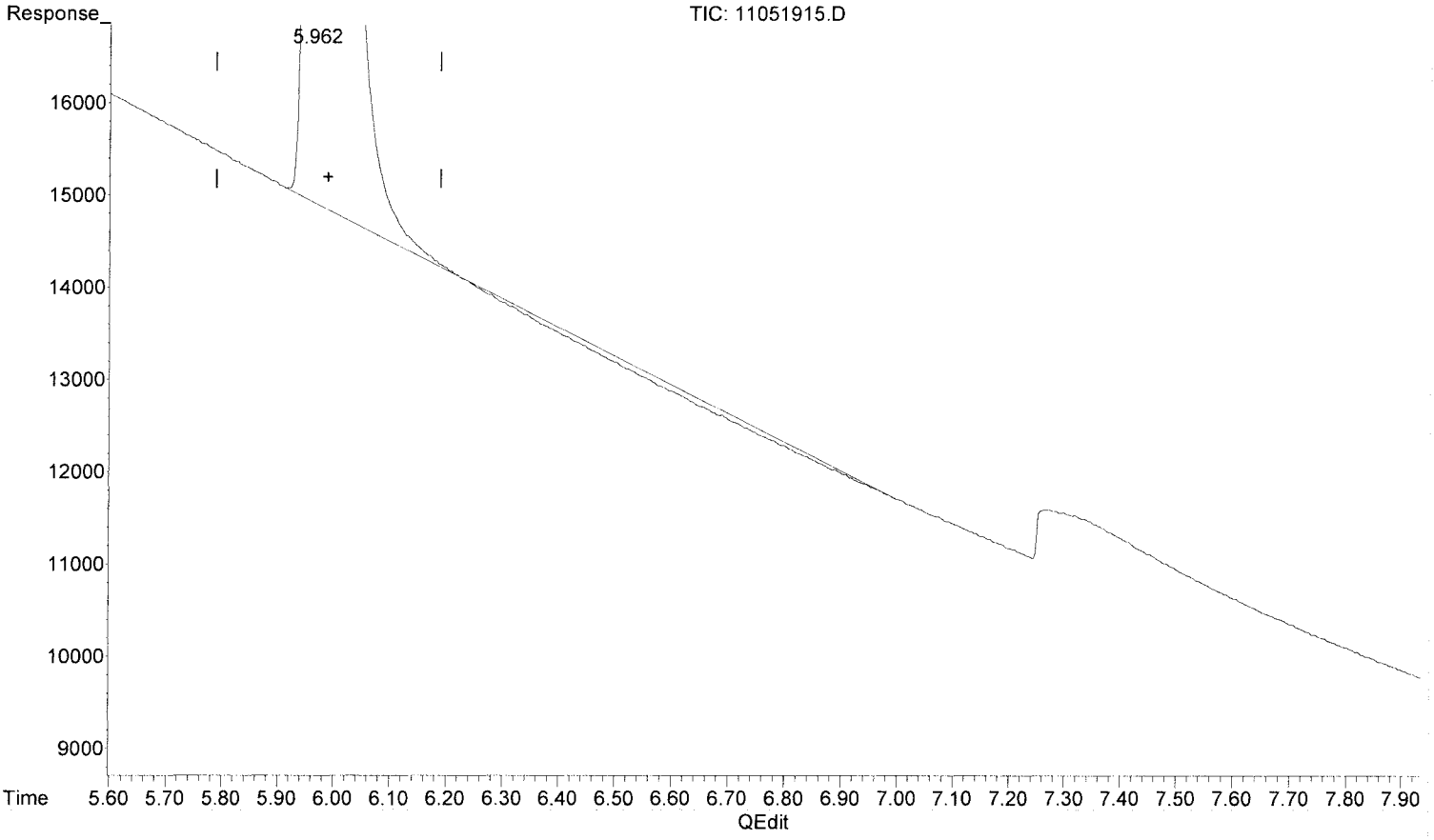




Data Path : J:\GC10\DATA\RSK_TCD\2019_11\05\
Data File : 11051915.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 05-Nov-2019, 15:46:40
Operator : WH/LD
Sample : STD S32-10291901
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Nov 05 14:58:38 2019
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 :



(4) Carbon dioxide

5.964min 5063.819 ppm

response 1188626

(+) = Expected Retention Time

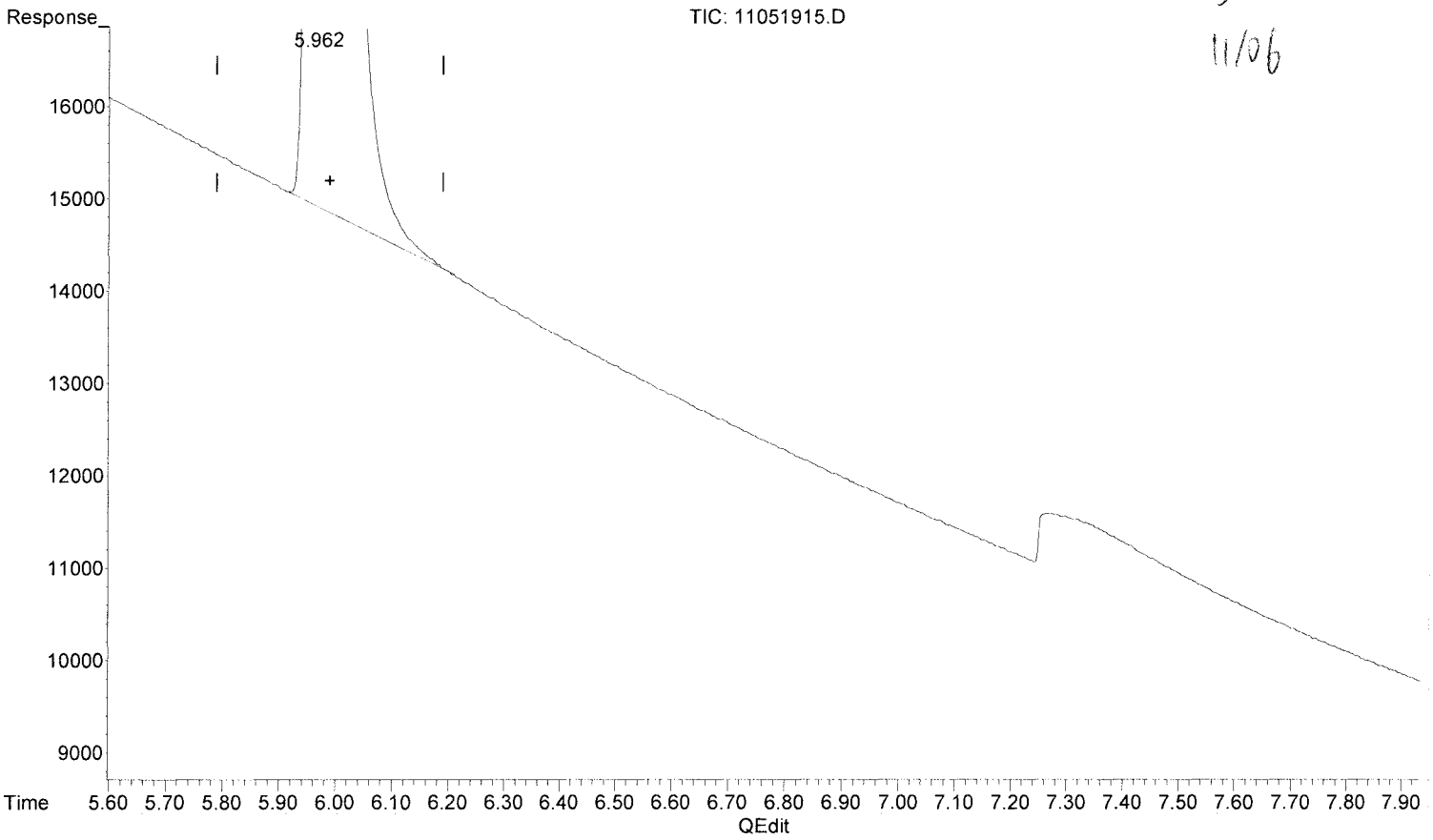
00983919

Data Path : J:\GC10\DATA\RSK_TCD\2019_11\05\
Data File : 11051915.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 05-Nov-2019, 15:46:40
Operator : WH/LD
Sample : STD S32-10291901
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Nov 05 14:58:38 2019
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 :

LD
BLC
11/06



(4) Carbon dioxide

5.962min 5140.362 ppm m

response 1206593

11/6/19 11/6/19

(+) = Expected Retention Time

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\2019_11\05\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Acquisition Method	Comments
1	05-Nov-19, 11:25:46	11051901.D	STD S32-10291901		WH/LD	RSKBOTH.M	
2	05-Nov-19, 11:42:07	11051902.D	RB 0.1ml		WH/LD	RSKBOTH.M	
3	05-Nov-19, 12:26:56	11051903.D	MCS 0.1ml		WH/LD	RSKBOTH.M	
4	05-Nov-19, 12:40:52	11051904.D	xxxxLCS S32-08141901		WH/LD	RSKBOTH.M	
5	05-Nov-19, 12:54:24	11051905.D	LCS S32-08141901		WH/LD	RSKBOTH.M	
6	05-Nov-19, 13:10:27	11051906.D	LCSD S32-08141901		WH/LD	RSKBOTH.M	
7	05-Nov-19, 13:24:01	11051907.D	LCS S32-08141901		WH/LD	RSKBOTH.M	
8	05-Nov-19, 13:39:36	11051908.D	IDP-1		WH/LD	RSKBOTH.M	
9	05-Nov-19, 14:18:14	11051909.D	IDP-2		WH/LD	RSKBOTH.M	
10	05-Nov-19, 14:33:10	11051910.D	IDP-3		WH/LD	RSKBOTH.M	
11	05-Nov-19, 14:50:52	11051911.D	IDP-4		WH/LD	RSKBOTH.M	
12	05-Nov-19, 15:04:11	11051912.D	P1906621-001 0.1ml		WH/LD	RSKBOTH.M	
13	05-Nov-19, 15:19:22	11051913.D	P1906621-002 0.1ml		WH/LD	RSKBOTH.M	
14	05-Nov-19, 15:33:35	11051914.D	P1906621-003 0.1ml		WH/LD	RSKBOTH.M	
15	05-Nov-19, 15:46:40	11051915.D	STD S32-10291901		WH/LD	RSKBOTH.M	

Data Path : J:\GC10\DATA\RSK_FID\2019_11\04\
Data File : 11041908.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 04-Nov-2019, 16:19:13
Operator : WH/LD
Sample : P1906621-001 0.1ml
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Nov 04 15:25:29 2019
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 :

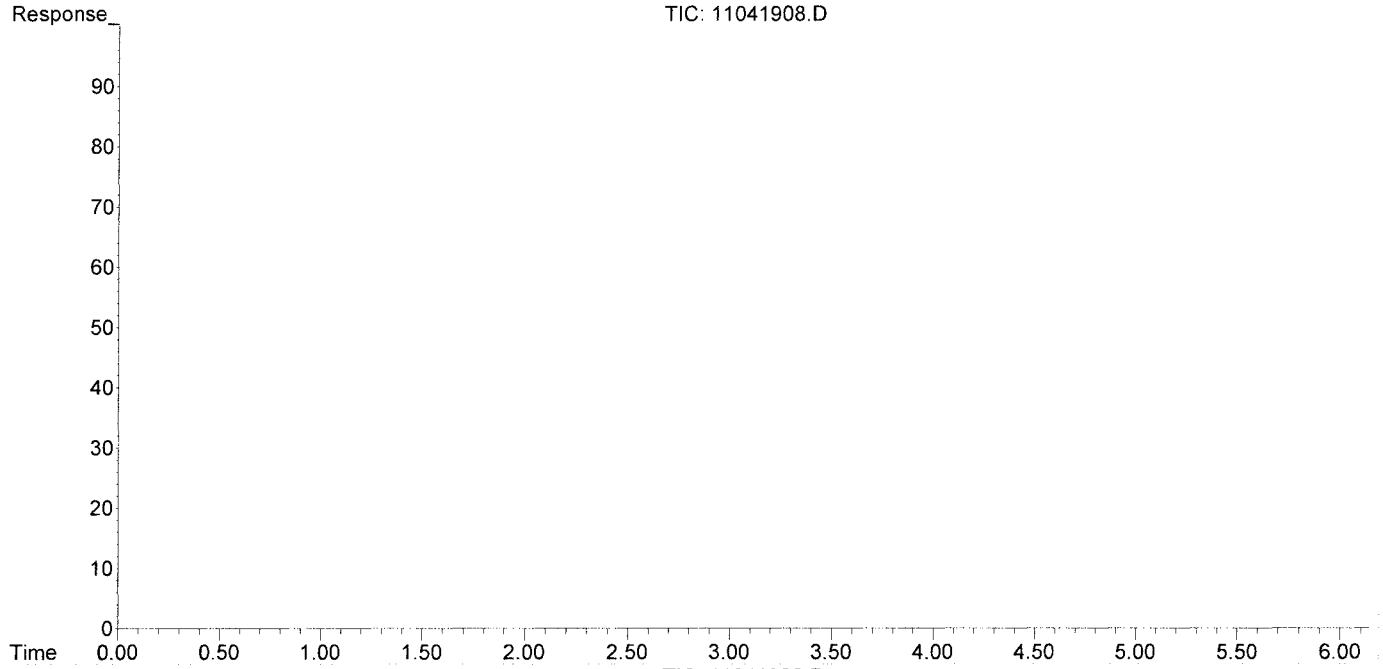
	Compound	R.T.	Response	Conc	Units
Target Compounds					
1)	Oxygen/Argon	0.000	0	N.D.	ppm
2)	Carbon monoxide	0.000	0	N.D.	ppm
3)	Methane (TCD)	0.000	0	N.D.	ppm
4)	Carbon dioxide	0.000	0	N.D.	ppm
6)	Methane (FID)	1.116	1769	0.195	ppm
7)	Ethylene	0.000	0	N.D.	ppm
8)	Ethane	0.000	0	N.D.	ppm
9)	Propylene	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

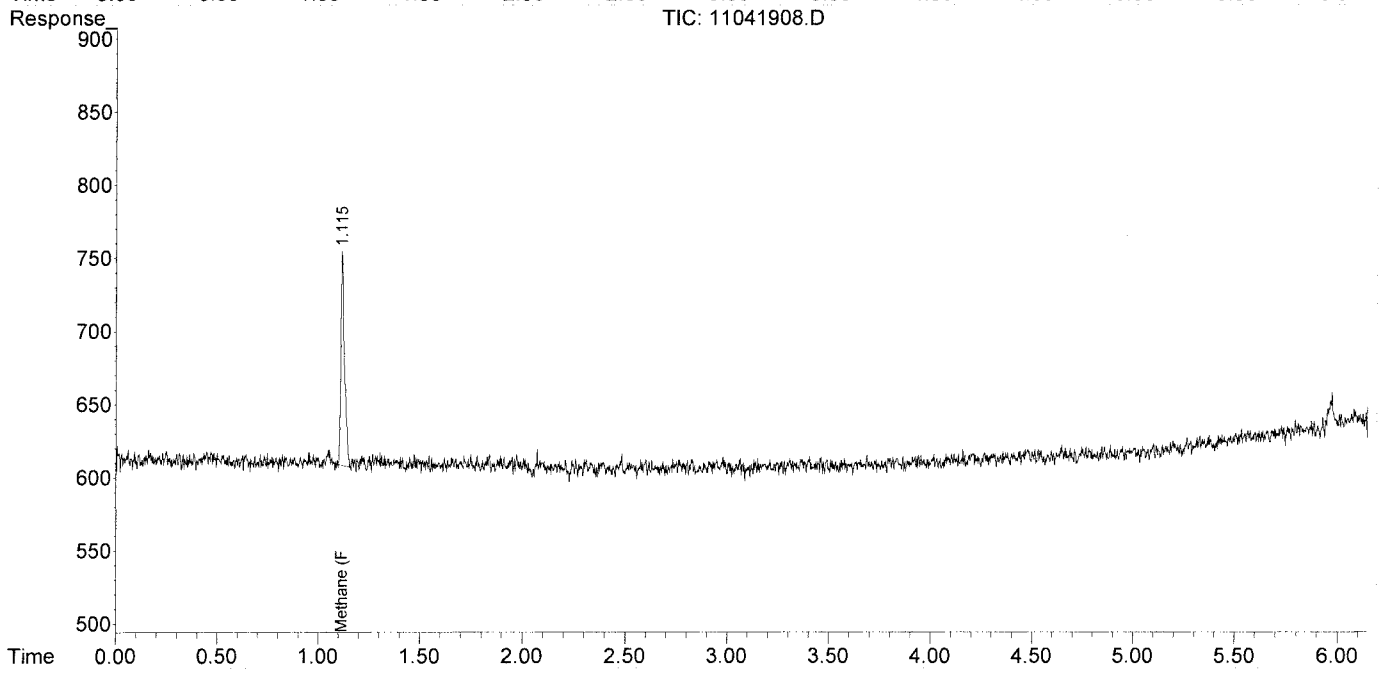
(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : J:\GC10\DATA\RSK_FID\2019_11\04\
Data File : 11041908.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 04-Nov-2019, 16:19:13
Operator : WH/LD
Sample : P1906621-001 0.1ml
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Nov 04 15:25:29 2019
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 :





00983924

Data Path : J:\GC10\DATA\RSK_FID\2019_11\04\
Data File : 11041909.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 04-Nov-2019, 16:27:01
Operator : WH/LD
Sample : P1906621-002 0.1ml
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Nov 05 07:47:54 2019
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)	1.114	11900	1.312	ppm	m
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	

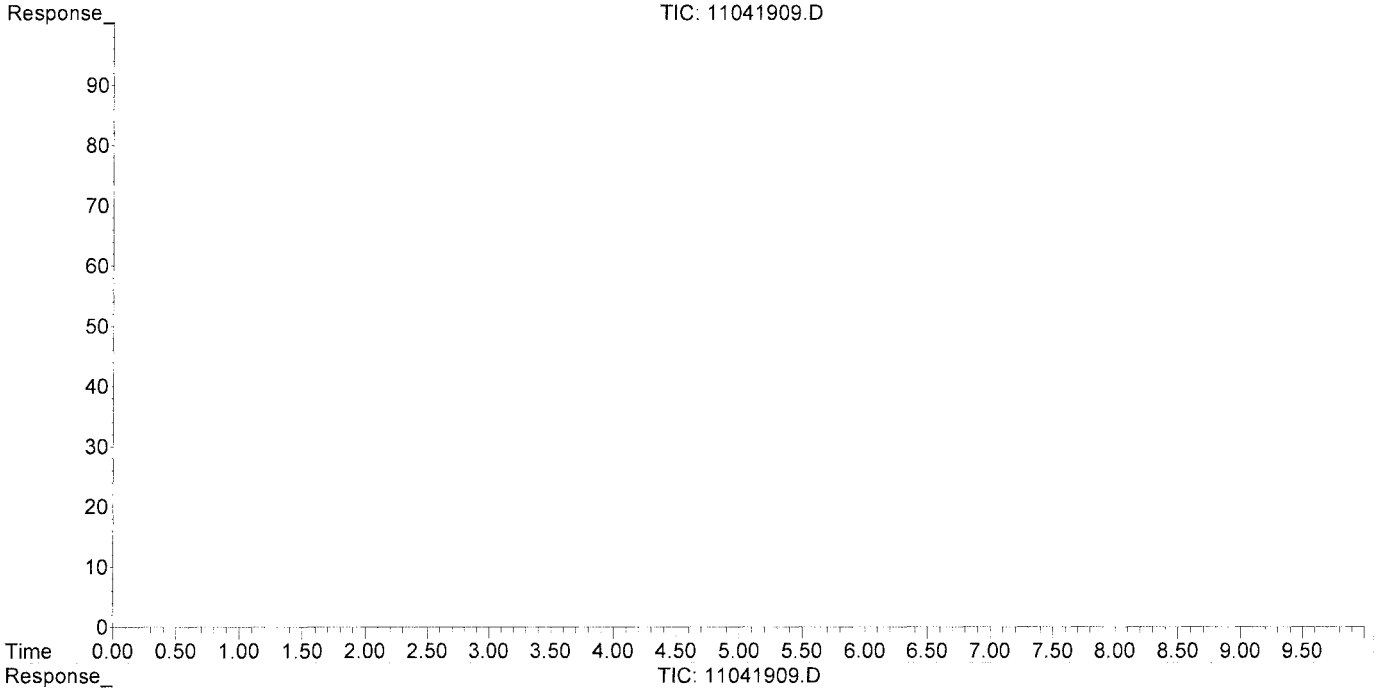
(f)=RT Delta > 1/2 Window (m)=manual int.

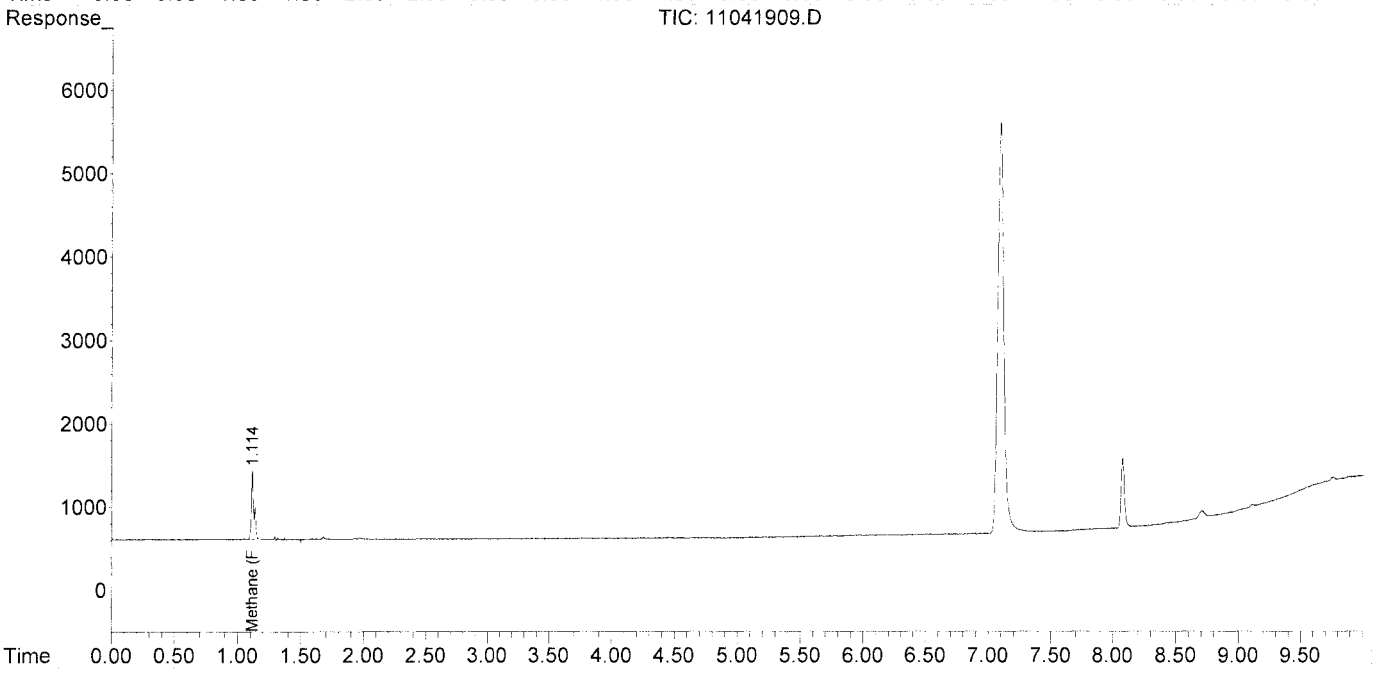
00983925

Data Path : J:\GC10\DATA\RSK_FID\2019_11\04\
Data File : 11041909.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 04-Nov-2019, 16:27:01
Operator : WH/LD
Sample : P1906621-002 0.1ml
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Nov 05 07:47:54 2019
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 :



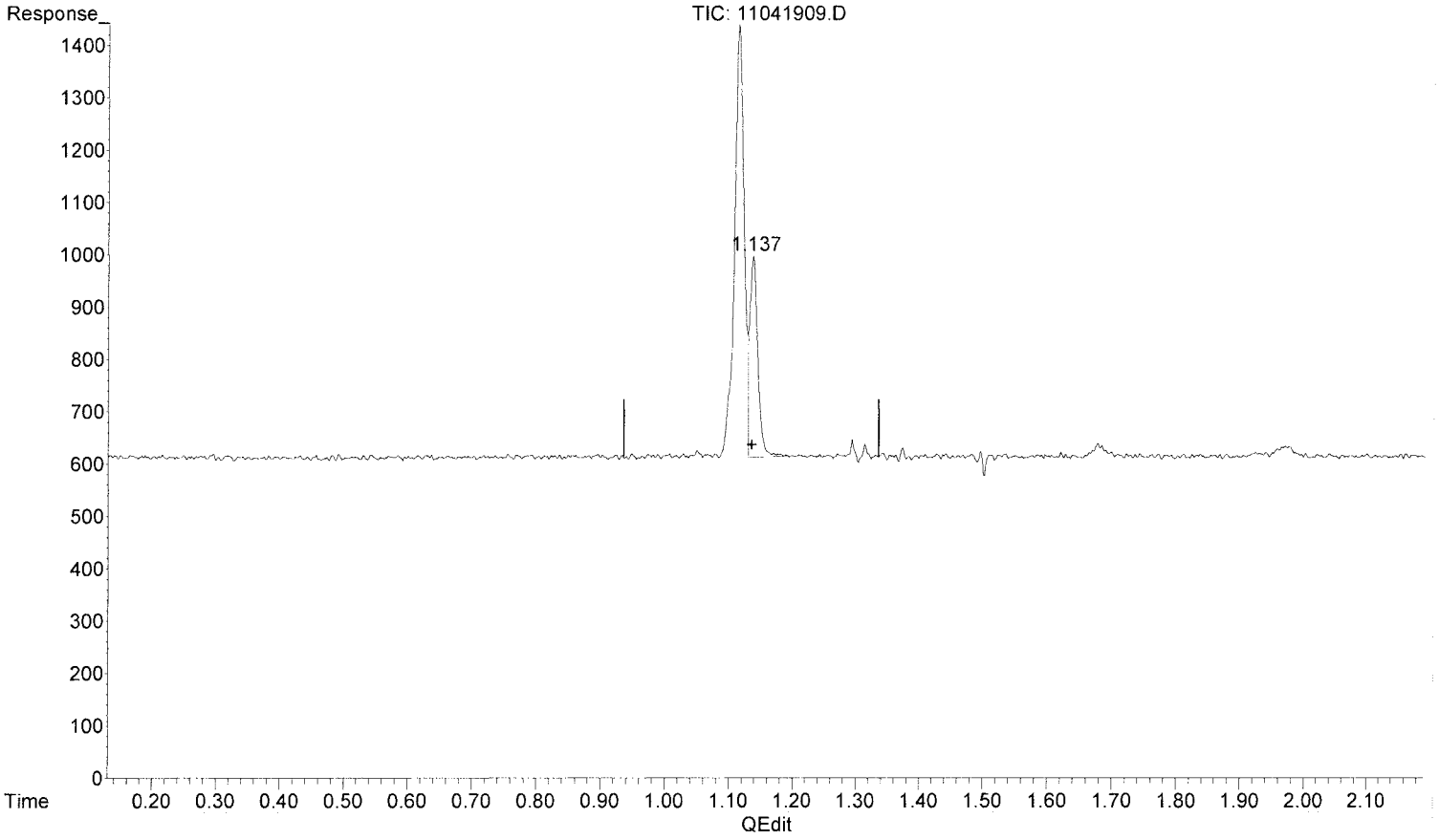


00983926

Data Path : J:\GC10\DATA\RSK_FID\2019_11\04\
Data File : 11041909.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 04-Nov-2019, 16:27:01
Operator : WH/LD
Sample : P1906621-002 0.1ml
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Nov 05 07:47:54 2019
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 :



(6) Methane (FID)

1.137min 0.374 ppm

response 3392

(+) = Expected Retention Time

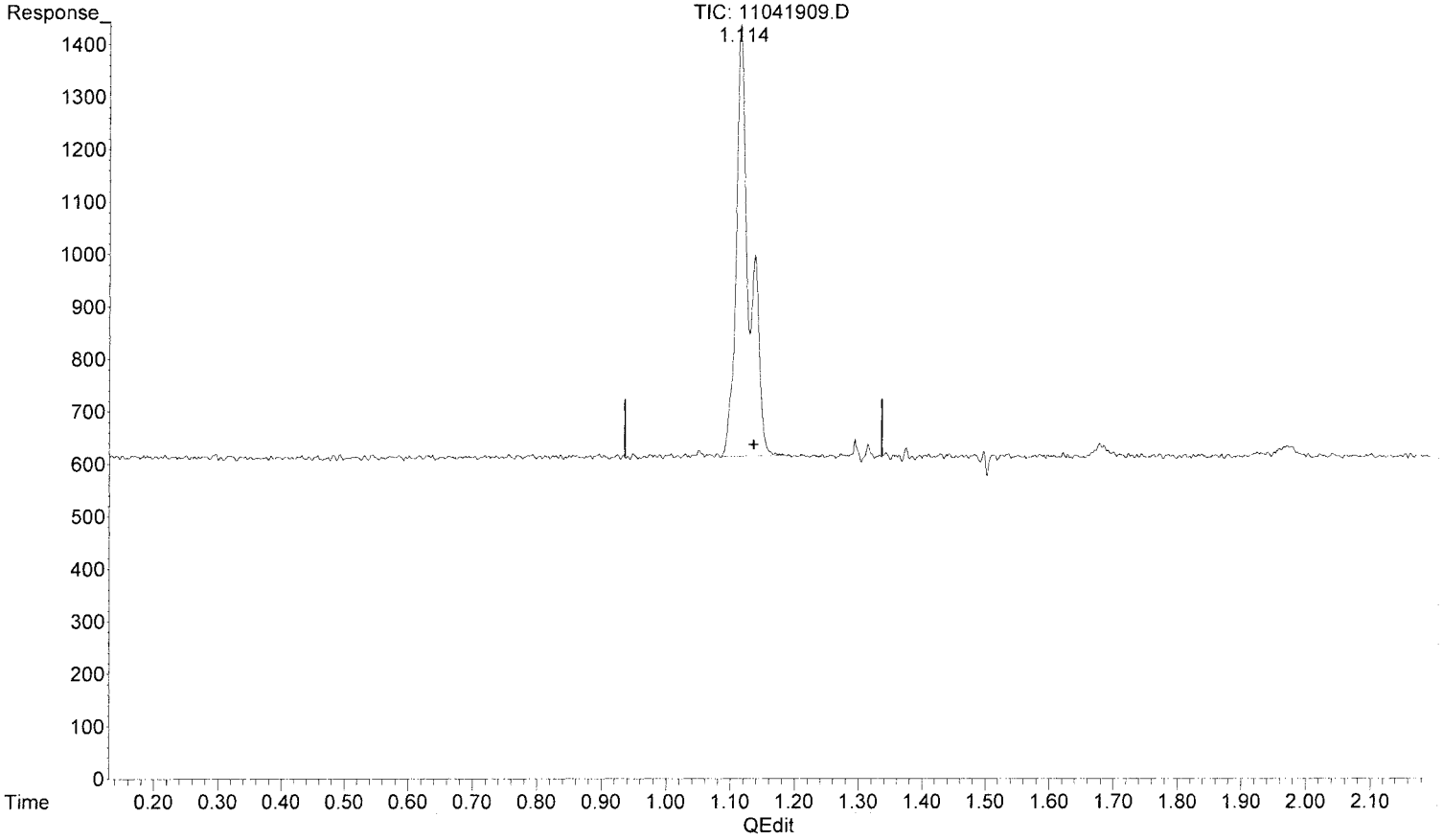
Quantitation Report (Qedit)

Data Path : J:\GC10\DATA\RSK_FID\2019_11\04\
Data File : 11041909.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 04-Nov-2019, 16:27:01
Operator : WH/LD
Sample : P1906621-002 0.1ml
Misc :
ALS Vial : 1 Sample Multiplier: 1

LD
SP
11/05

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Nov 05 07:47:54 2019
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 #1 Info :
Signal #2 Phase:
Signal #2 Info :



(6) Methane (FID)

1.114min 1.312 ppm m

response 11900

WK 11/5 LD SP

MK 11/5/19

(+) = Expected Retention Time

RS091217_R.M Tue Nov 05 07:48:22 2019 Page: 1

00983928

Data Path : J:\GC10\DATA\RSK_FID\2019_11\04\
Data File : 11041910.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 04-Nov-2019, 16:53:01
Operator : WH/LD
Sample : P1906621-003 0.1ml
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Nov 05 07:48:34 2019
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 :

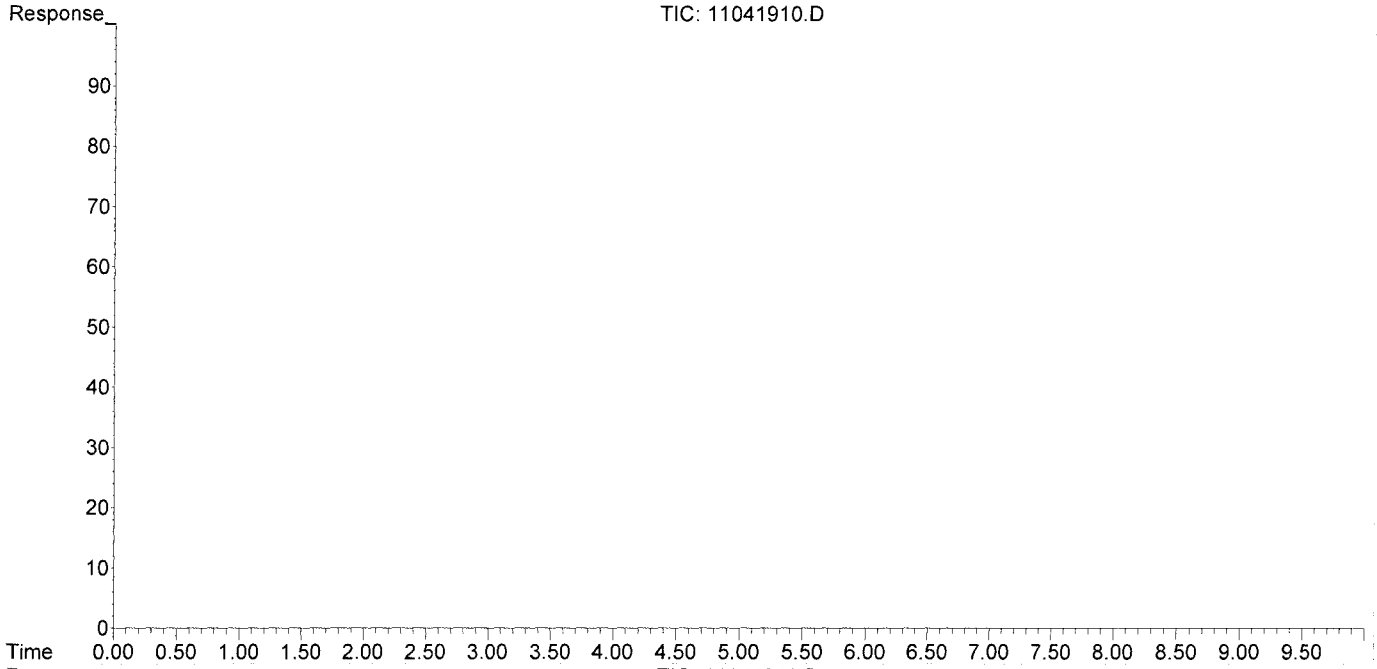
	Compound	R.T.	Response	Conc	Units
Target Compounds					
1)	Oxygen/Argon	0.000	0	N.D.	ppm
2)	Carbon monoxide	0.000	0	N.D.	ppm
3)	Methane (TCD)	0.000	0	N.D.	ppm
4)	Carbon dioxide	0.000	0	N.D.	ppm
6)	Methane (FID)	1.134	9809	1.081	ppm
7)	Ethylene	0.000	0	N.D.	ppm
8)	Ethane	0.000	0	N.D.	ppm
9)	Propylene	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

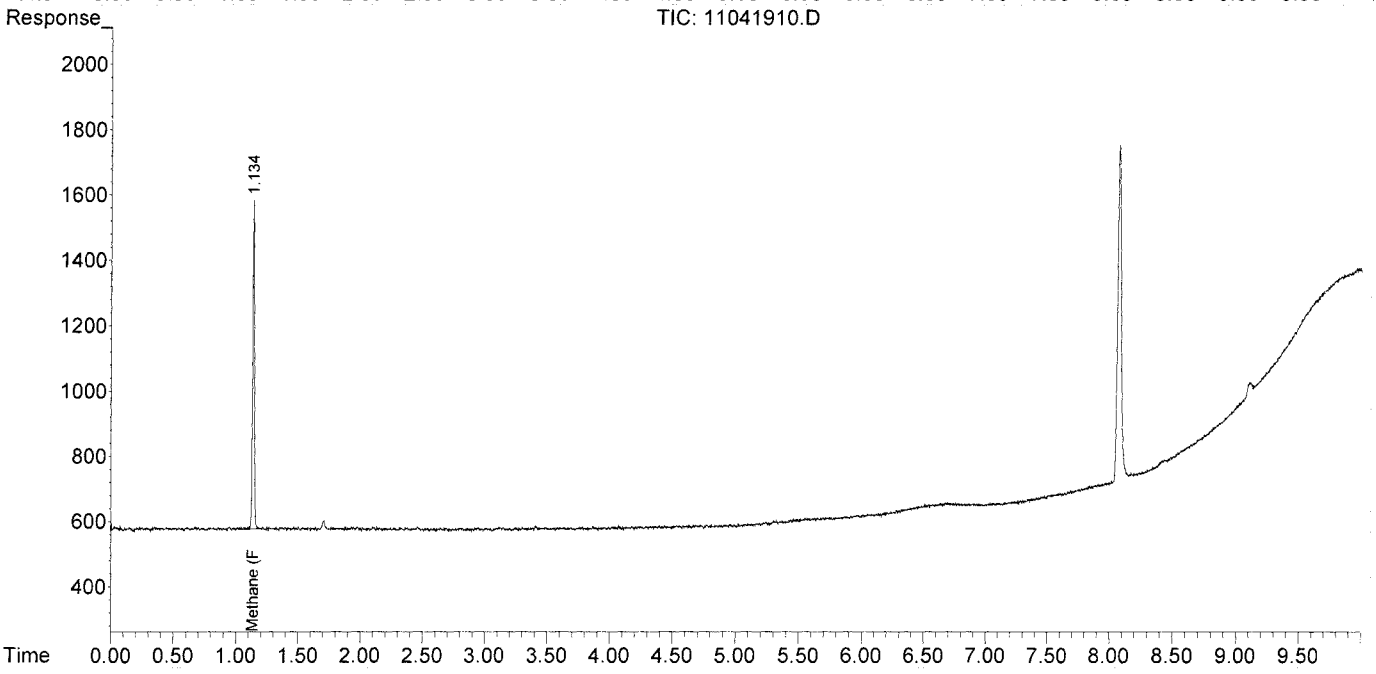
(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : J:\GC10\DATA\RSK_FID\2019_11\04\
Data File : 11041910.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 04-Nov-2019, 16:53:01
Operator : WH/LD
Sample : P1906621-003 0.1ml
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Nov 05 07:48:34 2019
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 :





00983930

Data Path : J:\GC10\DATA\RSK_FID\2019_11\04\
Data File : 11041903.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 04-Nov-2019, 15:05:02
Operator : WH/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: Nov 04 14:18:07 2019
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)	1.125	1184	0.131	ppm	m
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	

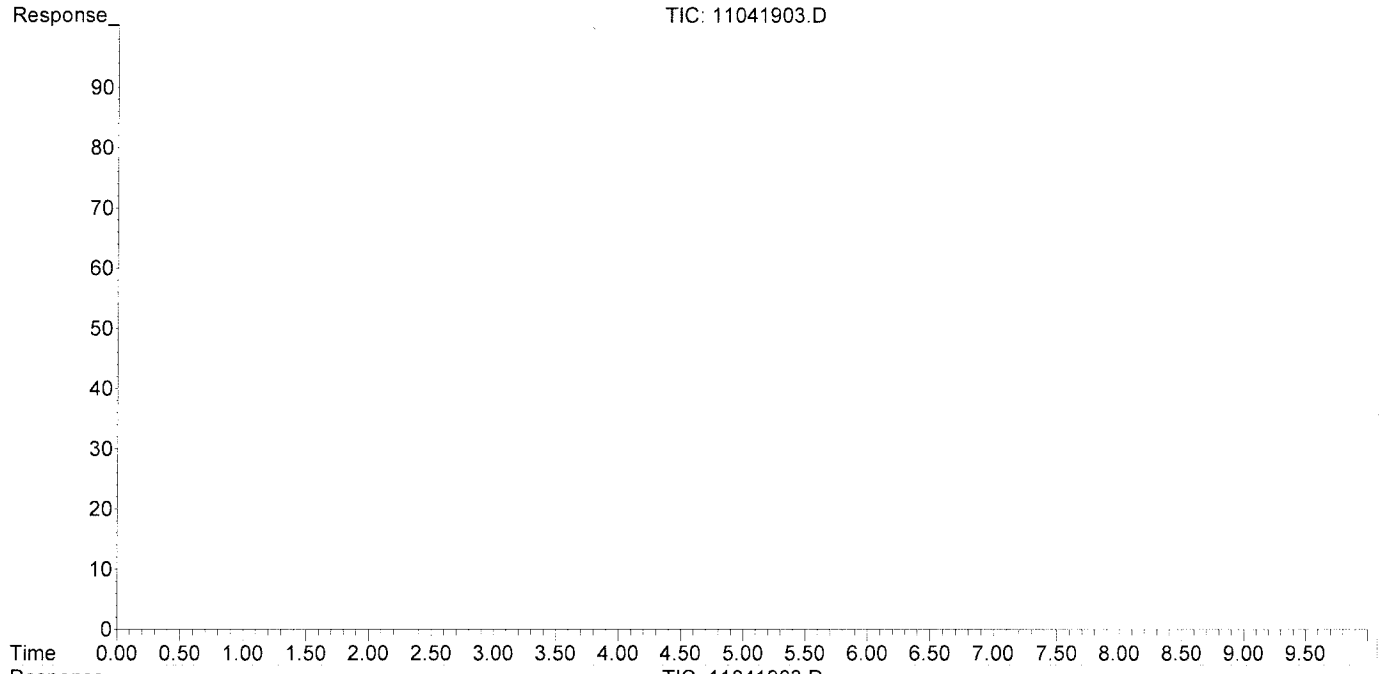
(f)=RT Delta > 1/2 Window (m)=manual int.

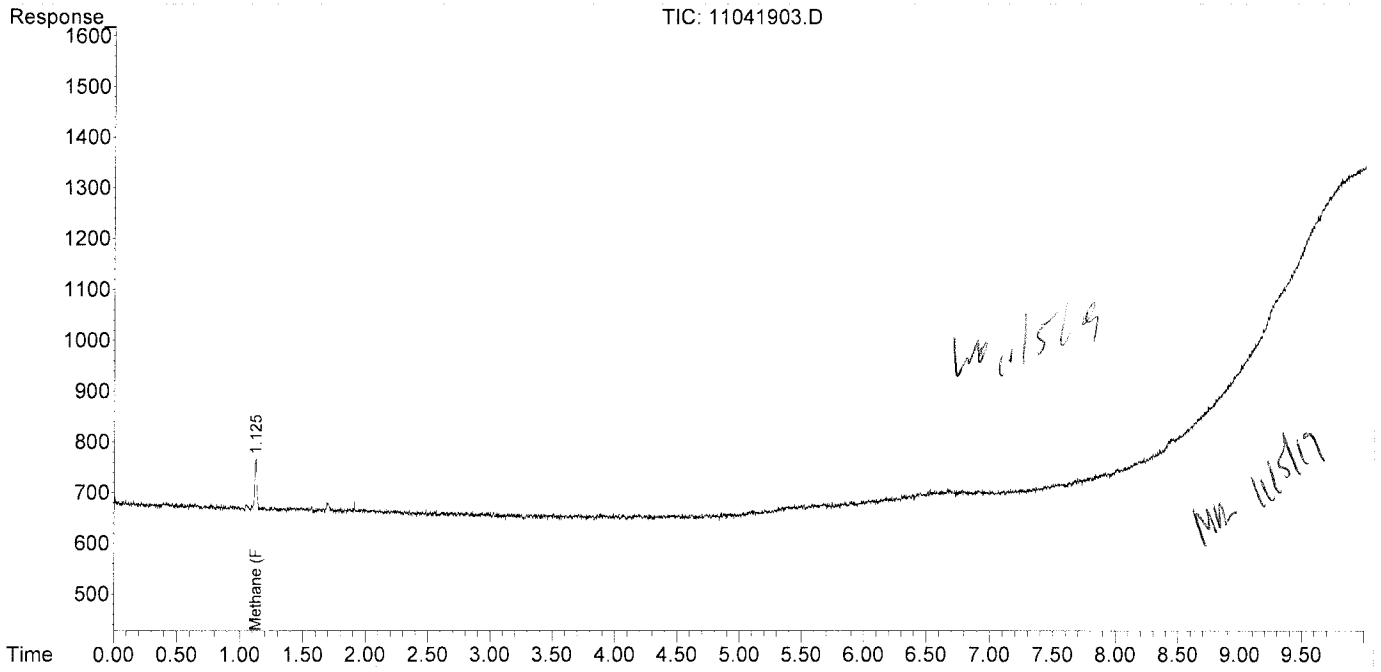
Data Path : J:\GC10\DATA\RSK_FID\2019_11\04\
Data File : 11041903.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 04-Nov-2019, 15:05:02
Operator : WH/LD
Sample : MCS 0.1ml
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Nov 04 14:18:07 2019
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

MP
LD
11/05
no previous

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





MP 11/5/19

Data Path : J:\GC10\DATA\RSK_FID\2019_11\04\
Data File : 11041907.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 04-Nov-2019, 16:04:15
Operator : WH/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: Nov 04 15:16:41 2019
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 :

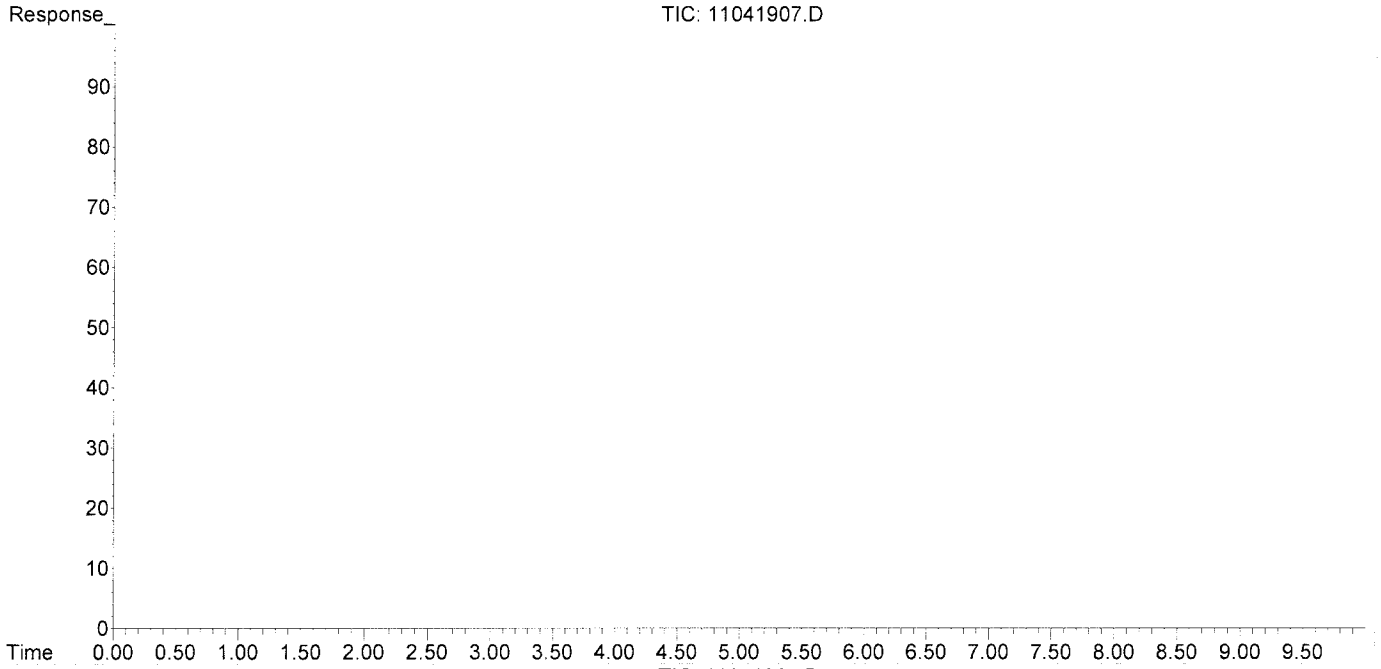
	Compound	R.T.	Response	Conc	Units
Target Compounds					
1)	Oxygen/Argon	0.000	0	N.D.	ppm
2)	Carbon monoxide	0.000	0	N.D.	ppm
3)	Methane (TCD)	0.000	0	N.D.	ppm
4)	Carbon dioxide	0.000	0	N.D.	ppm
6)	Methane (FID)	1.112	12578	1.387	ppm
7)	Ethylene	1.680	18779	1.122	ppm
8)	Ethane	1.947	21506	1.269	ppm
9)	Propylene	4.337	25842	1.103	ppm
10)	Propane	4.460	32427	1.303	ppm
11)	Isobutylene	0.000	0	N.D.	ppm
12)	Isobutane	6.665	42212	1.586	ppm
13)	n-Butane	6.665	42212	1.586	ppm

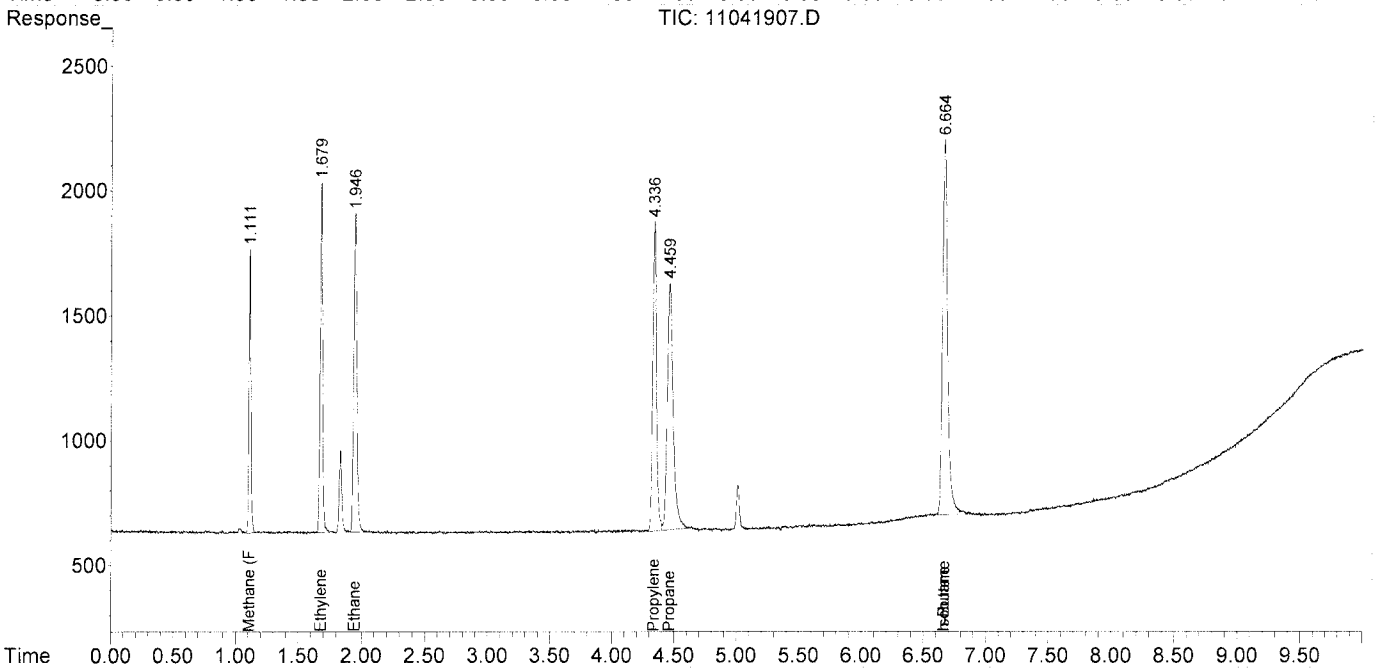
(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : J:\GC10\DATA\RSK_FID\2019_11\04\
Data File : 11041907.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 04-Nov-2019, 16:04:15
Operator : WH/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: Nov 04 15:16:41 2019
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 :





Quantitation Report (QT Reviewed)

Data Path : J:\GC10\DATA\RSK_FID\2019_11\04\
Data File : 11041911.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 04-Nov-2019, 17:05:44
Operator : WH/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: Nov 05 07:48:52 2019
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 :

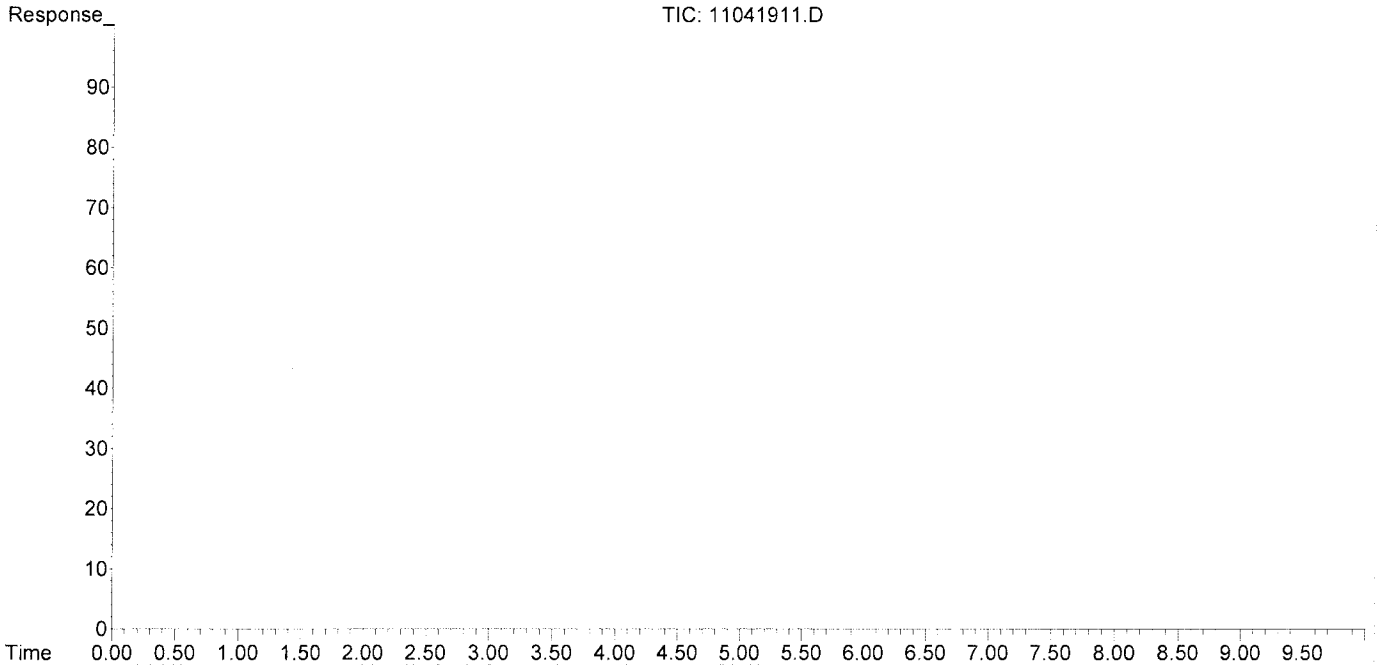
	Compound	R.T.	Response	Conc	Units
Target Compounds					
1)	Oxygen/Argon	0.000	0	N.D.	ppm
2)	Carbon monoxide	0.000	0	N.D.	ppm
3)	Methane (TCD)	0.000	0	N.D.	ppm
4)	Carbon dioxide	0.000	0	N.D.	ppm
6)	Methane (FID)	1.132	13142	1.449	ppm
7)	Ethylene	1.695	19321	1.155	ppm
8)	Ethane	1.960	22478	1.326	ppm
9)	Propylene	4.337	25114	1.072	ppm
10)	Propane	4.458	33390	1.342	ppm
11)	Isobutylene	0.000	0	N.D.	ppm
12)	Isobutane	6.665	41000	1.540	ppm
13)	n-Butane	6.665	41000	1.540	ppm

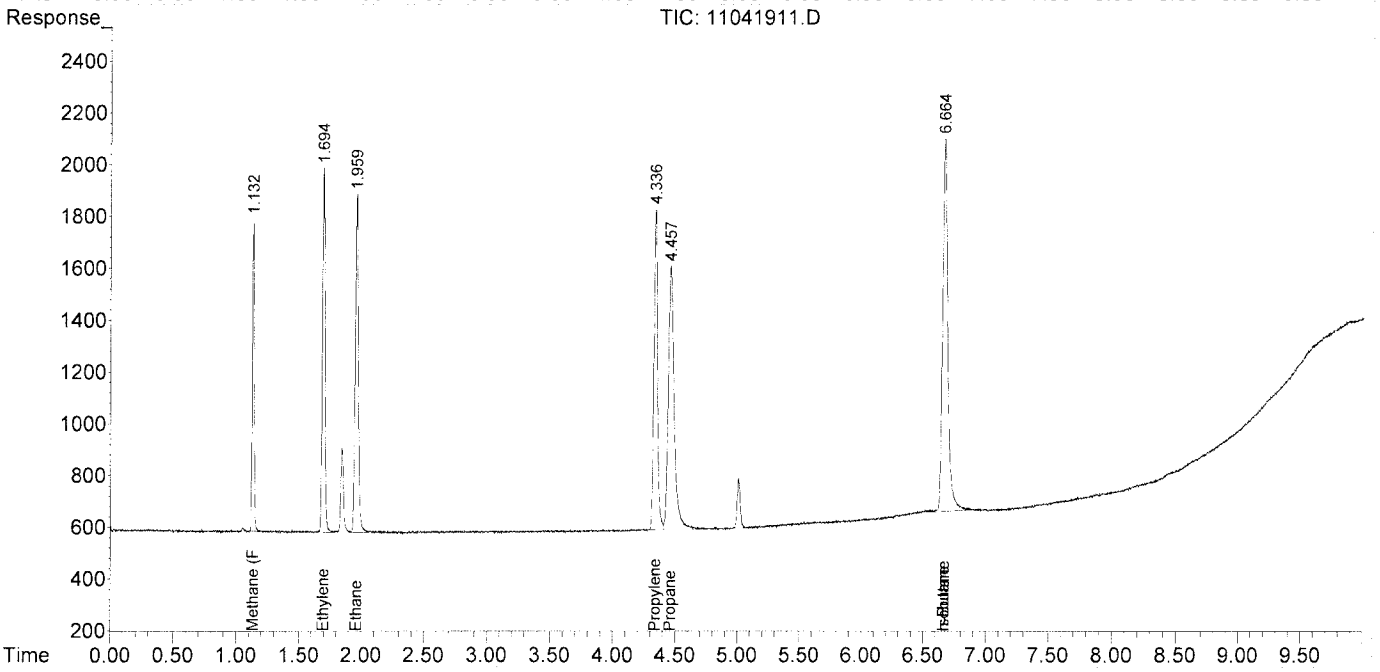
(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : J:\GC10\DATA\RSK_FID\2019_11\04\
Data File : 11041911.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 04-Nov-2019, 17:05:44
Operator : WH/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: Nov 05 07:48:52 2019
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

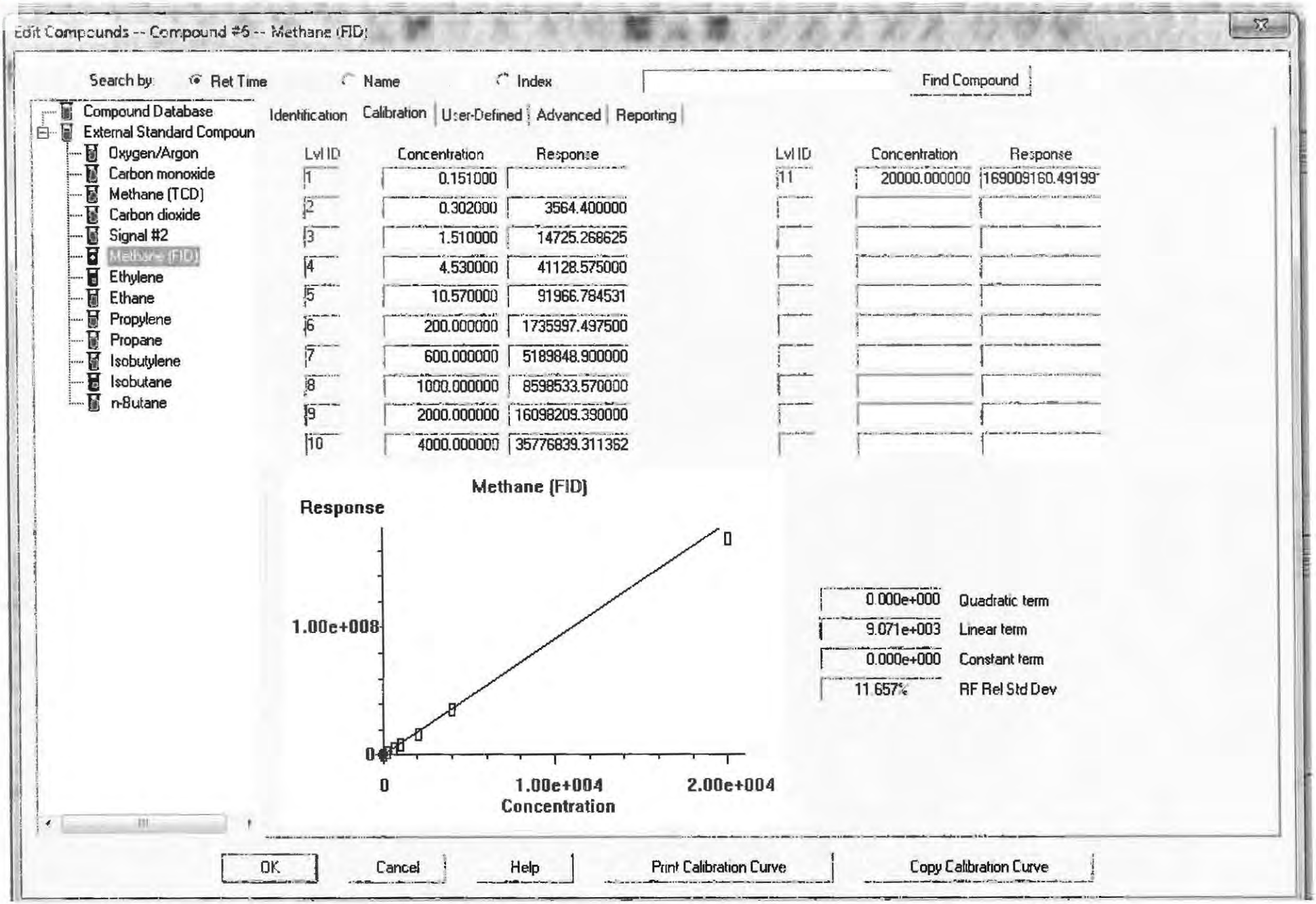
	Compound	1	2	3	4	5	6	Avg		%RSD
1)	Oxygen/Argon	3.739		1.014			0.001	0.793	E6	189.17
2)	Carbon monoxide	3.739		1.014			0.001	0.594	E6	221.92
3)	Methane (TCD)						2.161	0.951	E2	106.37
4)	Carbon dioxide	2.365	2.569	2.558	2.361	2.459	2.314	2.438	E2	4.44

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
Lvl ID Concentration Response
11 20000.000000 169009160.49199
Methane (FID)
Response
1.00e+008
0
0
1.00e+004
2.00e+004
Concentration
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

00983937

Edit Compounds -- Compound #7 -- Ethylene

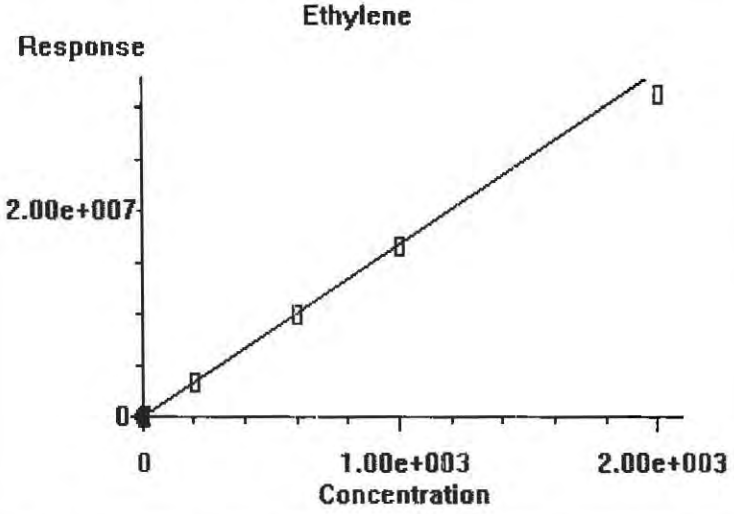
Search by: Ret Time | Name | Index | Find Compound

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

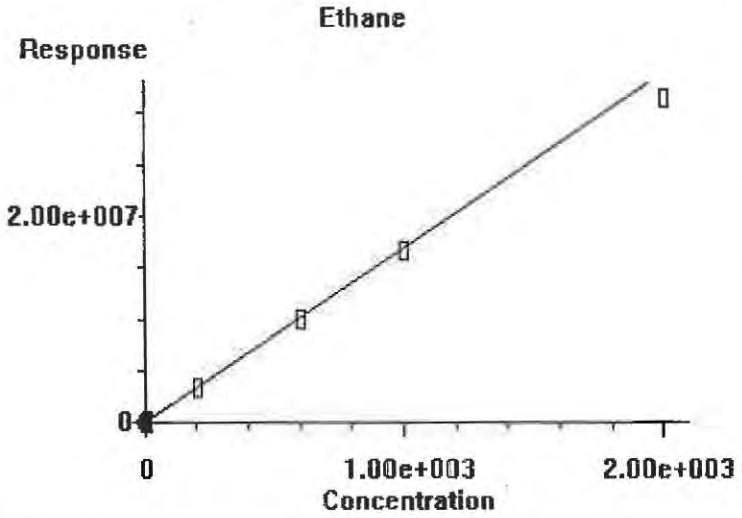
Search by: Ret Time | Name | Index — Find Compound

- 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

00983939

Edit Compounds -- Compound #9 -- Propylene

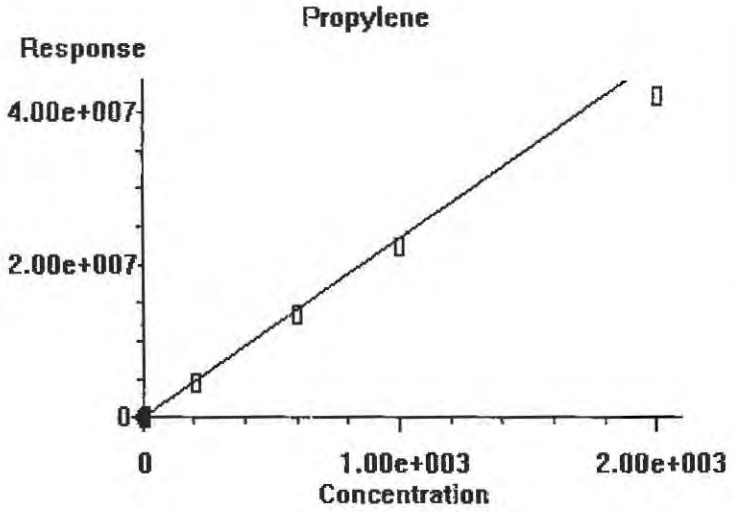
Search by: Ret Time | Name | Index | Find Compound

- 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

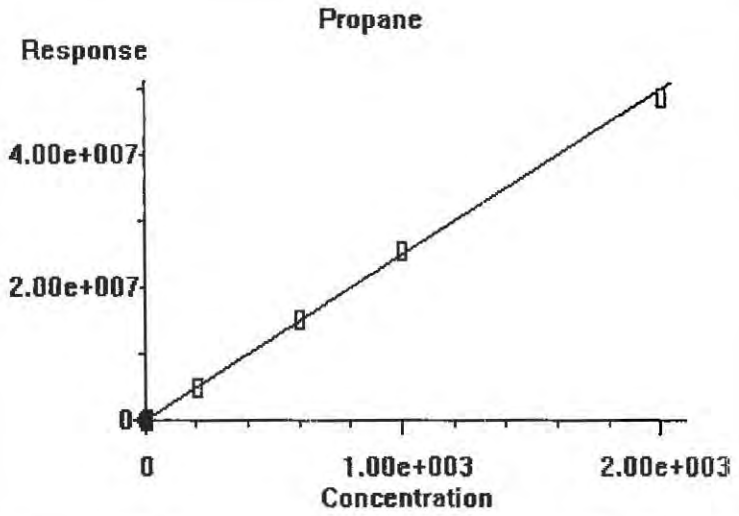
Search by: Ret Time | Name | Index — Find Compound

- 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

00983941

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	

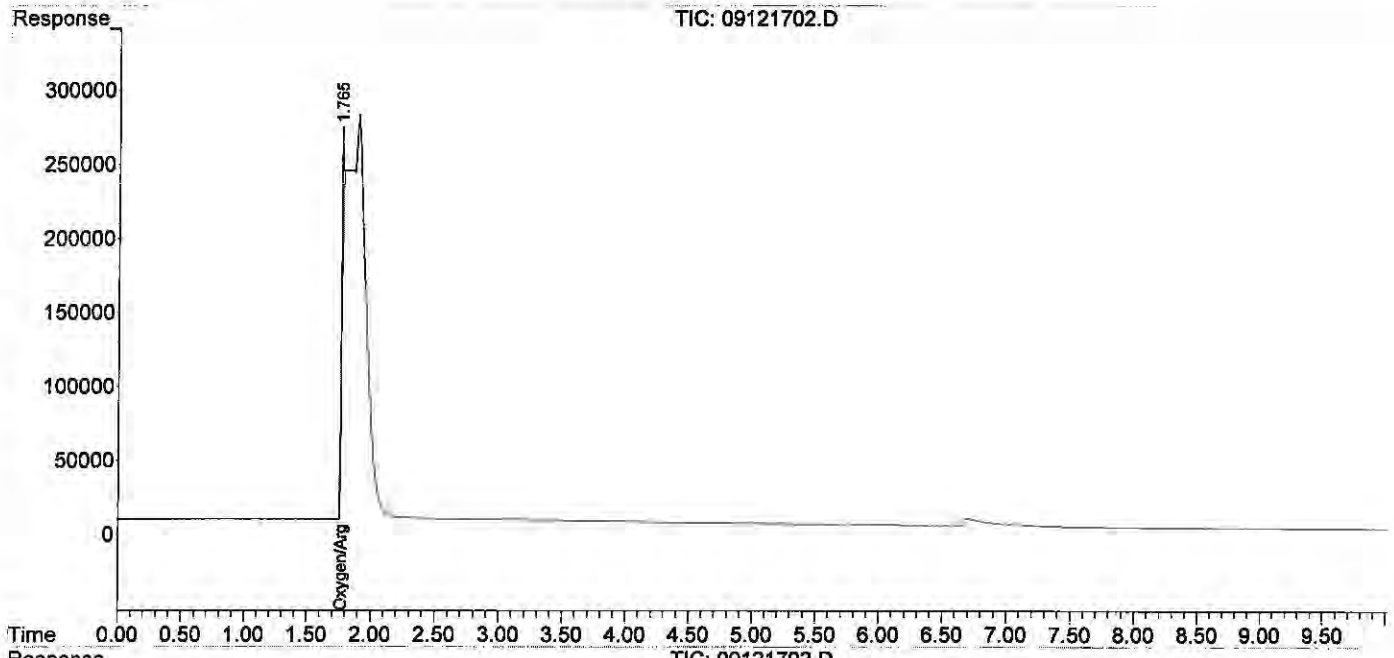
(f)=RT Delta > 1/2 Window (m)=manual int.

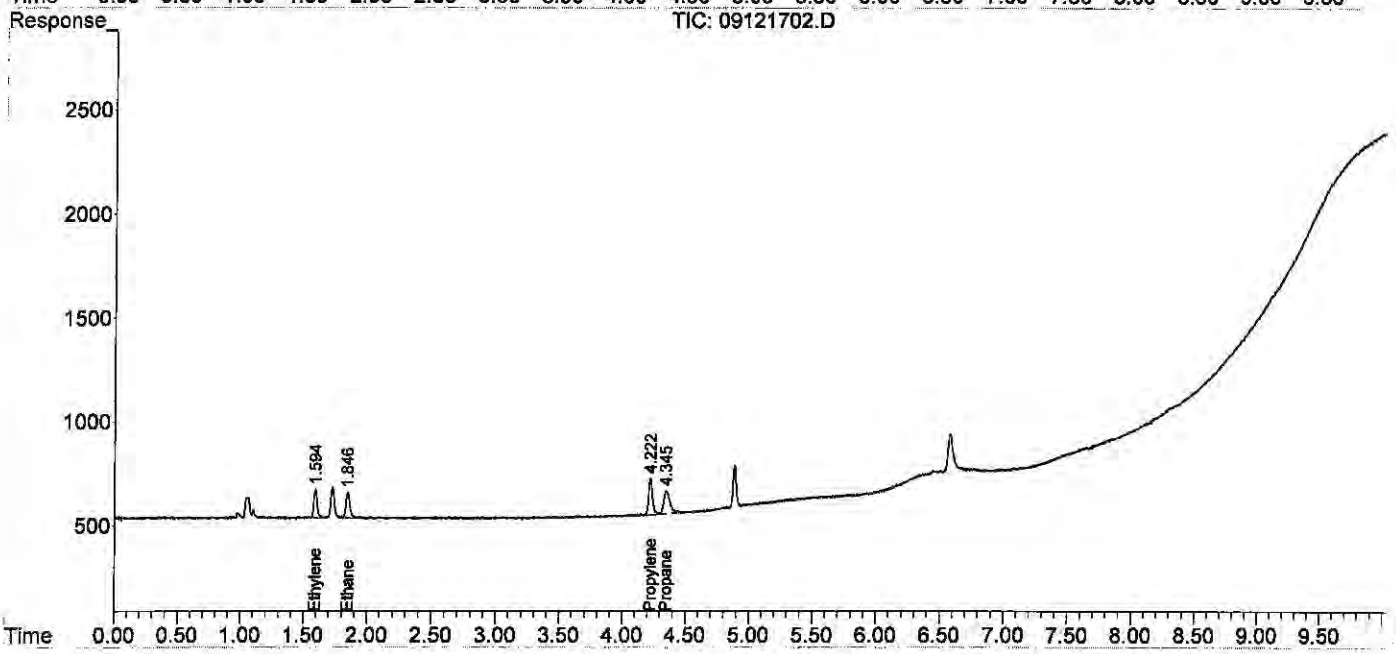
9/13/17

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	

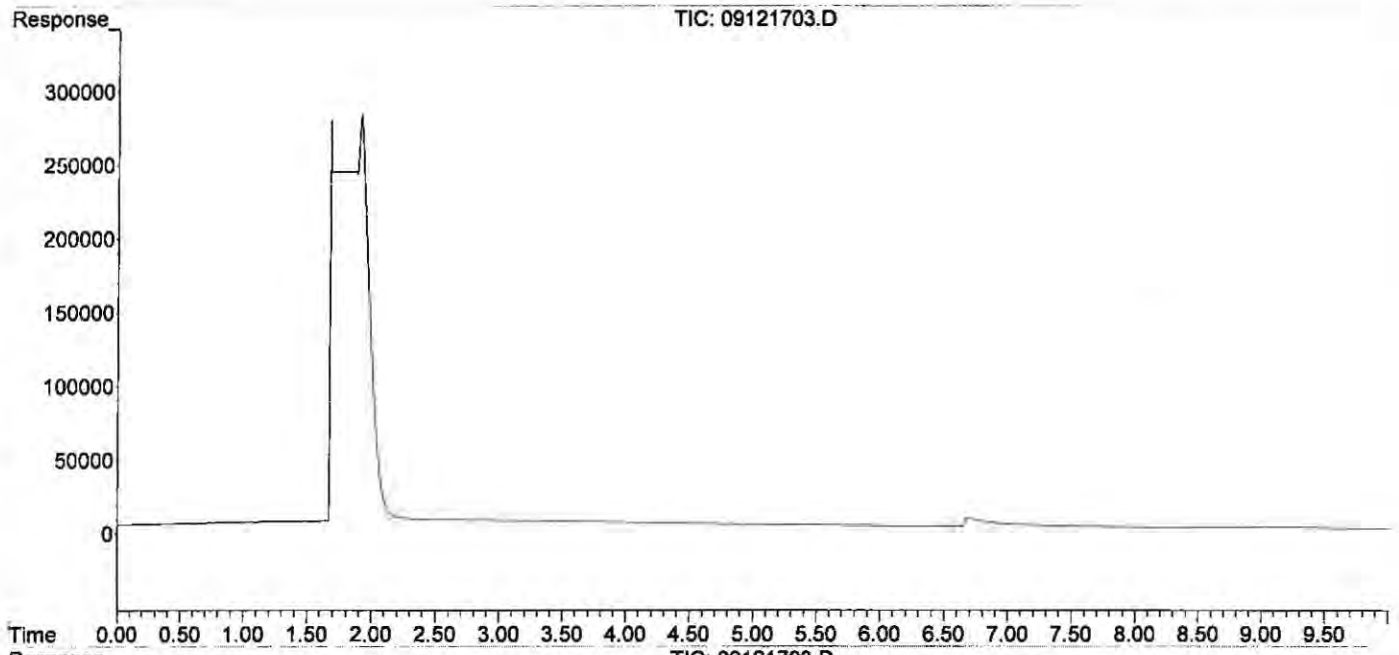
(f)=RT Delta > 1/2 Window (m)=manual int.

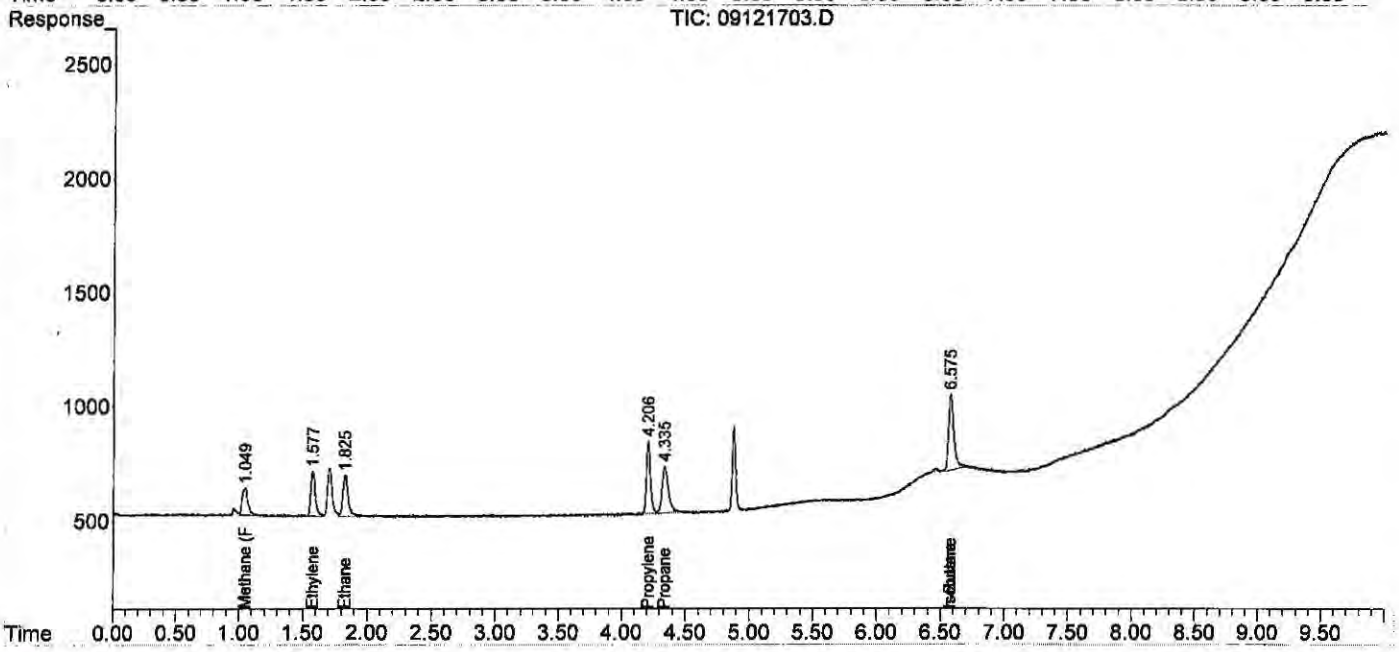
Quantitation Report (QT Reviewed)

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 :



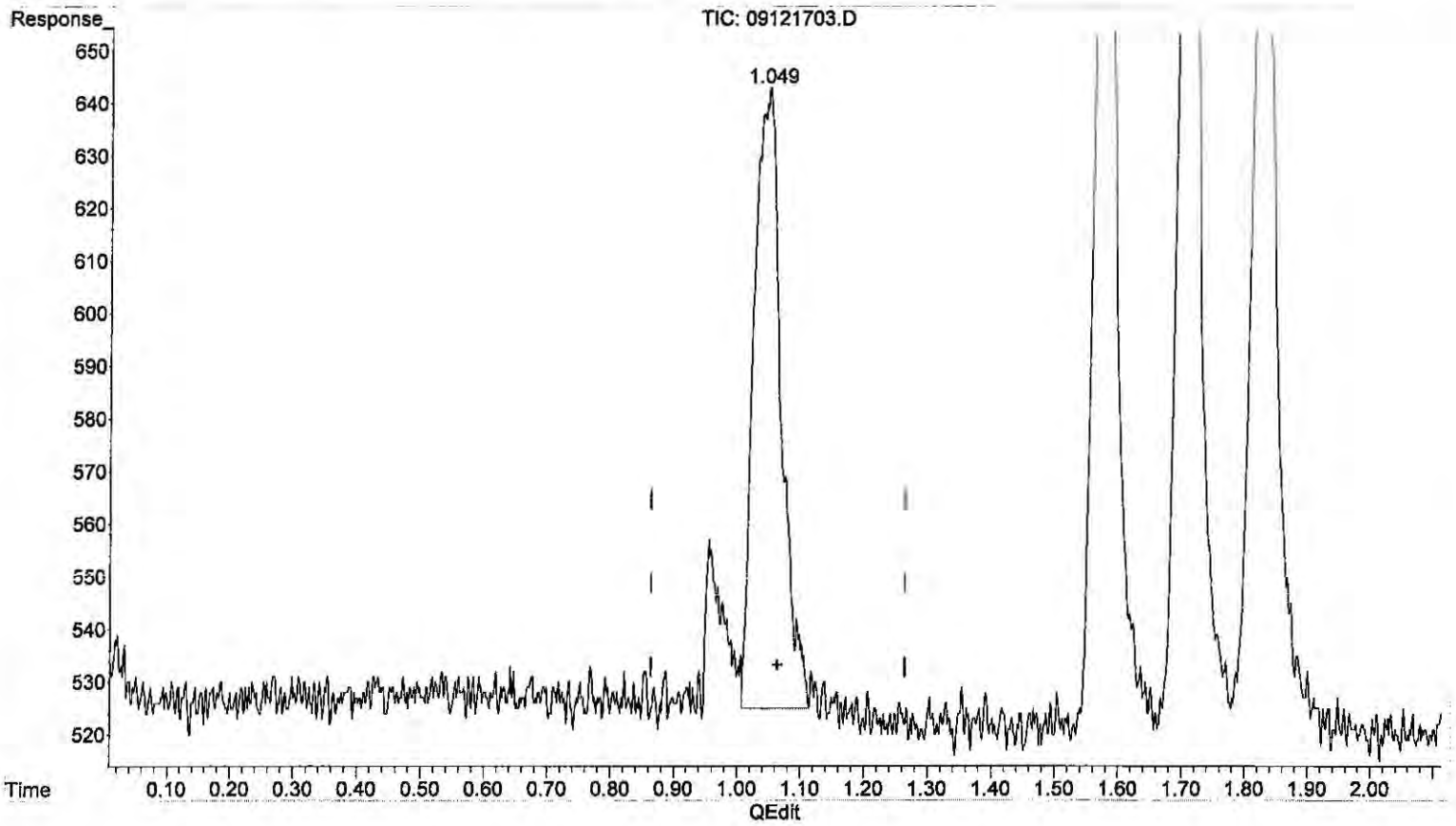


Quantitation Report (Qedit)

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 #1 Info :
Signal #2 Phase:
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 :

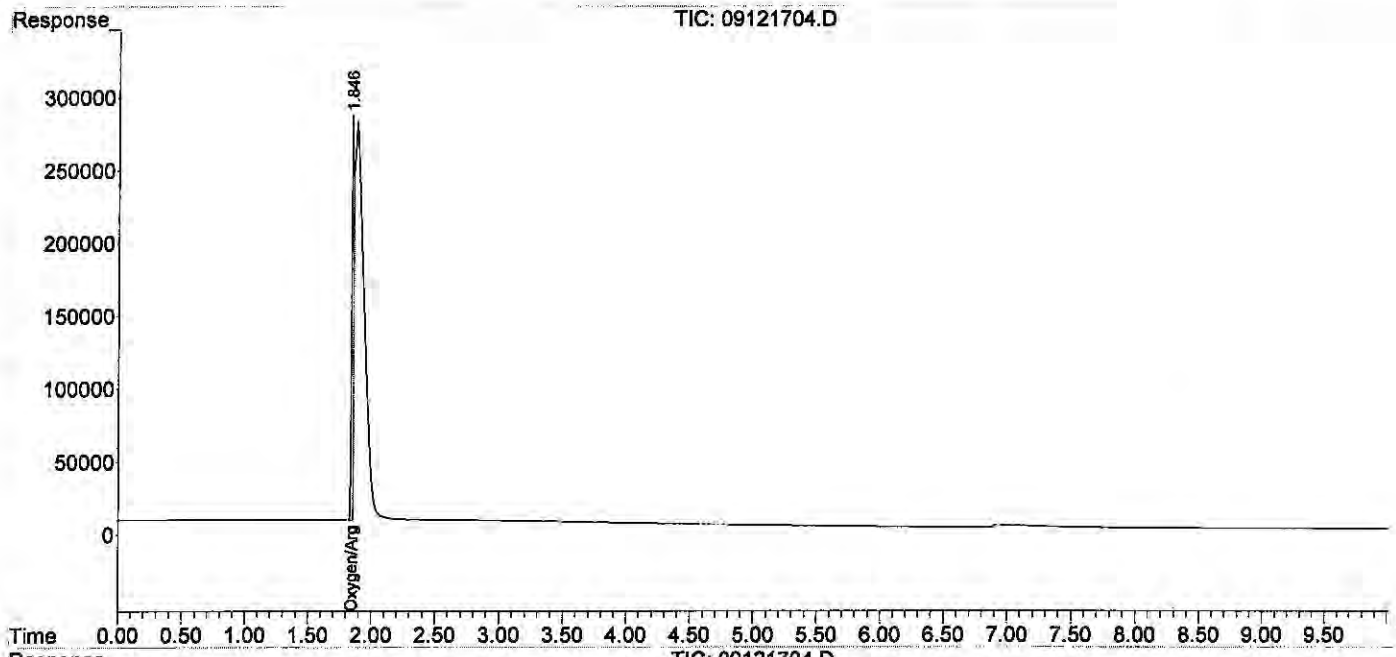
	Compound	R.T.	Response	Conc	Units
Target Compounds					
1)	Oxygen/Argon	1.847	2536230	1.056	ppm
2)	Carbon monoxide	1.847	2536230	N.D.	ppm
3)	Methane (TCD)	0.000	0	N.D.	ppm
4)	Carbon dioxide	0.000	0	N.D.	ppm
6)	Methane (FID)	1.064	14725	1.613	ppm
7)	Ethylene	1.598	26885	1.582	ppm
8)	Ethane	1.851	26944	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

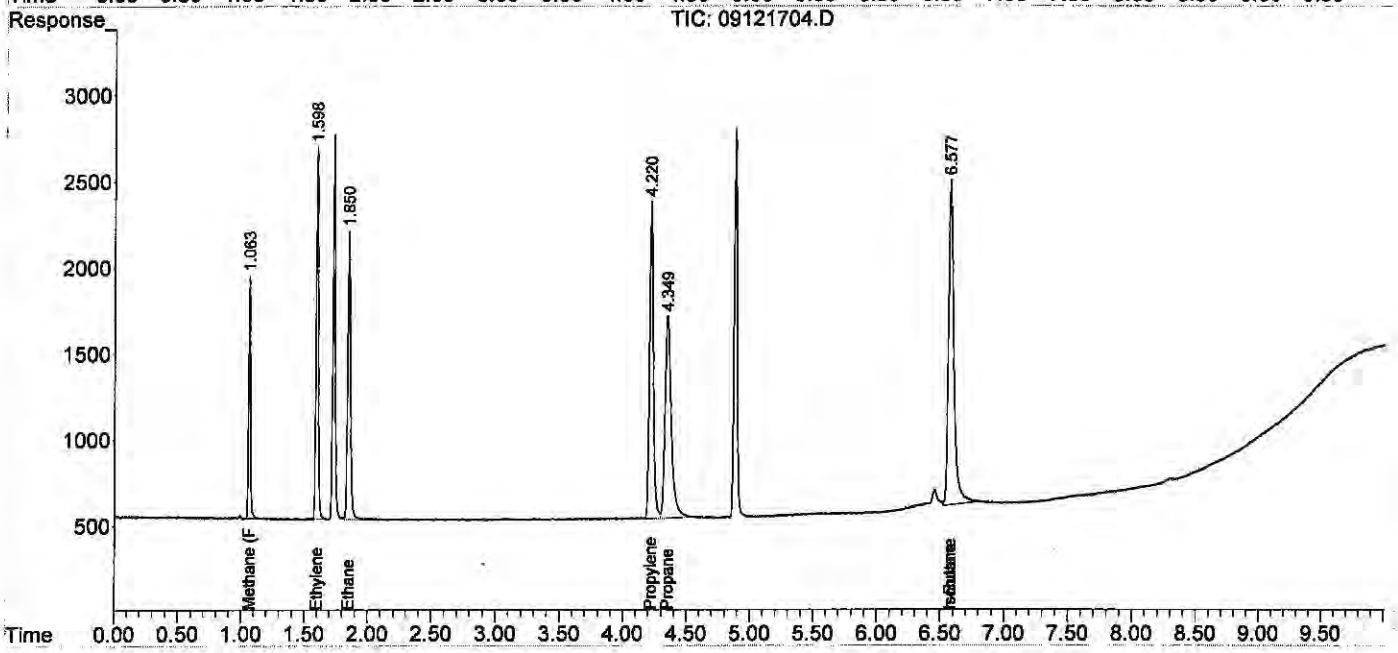
(f)=RT Delta > 1/2 Window (m)=manual int.

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 :

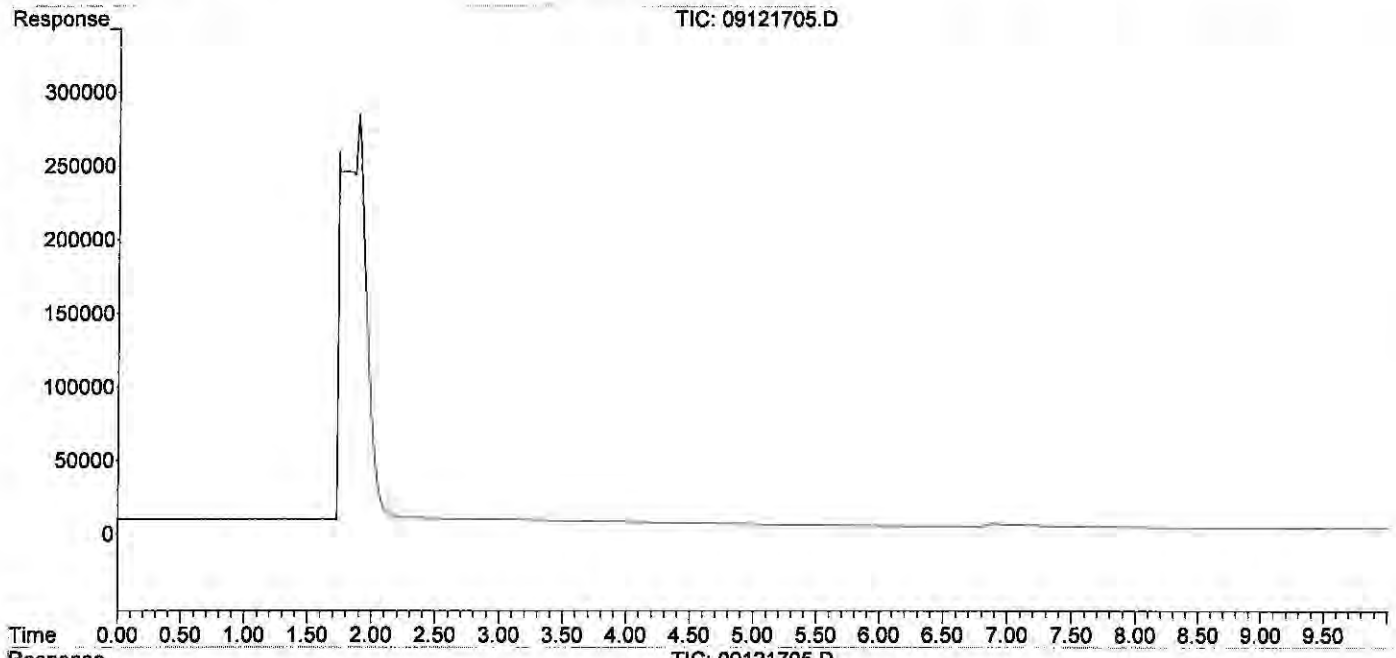
	Compound	R.T.	Response	Conc	Units
Target Compounds					
1)	Oxygen/Argon	1.738	-331216	N.D.	ppm
2)	Carbon monoxide	1.738	-331216	0.019	ppm
3)	Methane (TCD)	0.000	0	N.D.	ppm
4)	Carbon dioxide	0.000	0	N.D.	ppm
6)	Methane (FID)	1.052	41129	4.522	ppm
7)	Ethylene	1.586	77903	4.637	ppm
8)	Ethane	1.838	78354	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

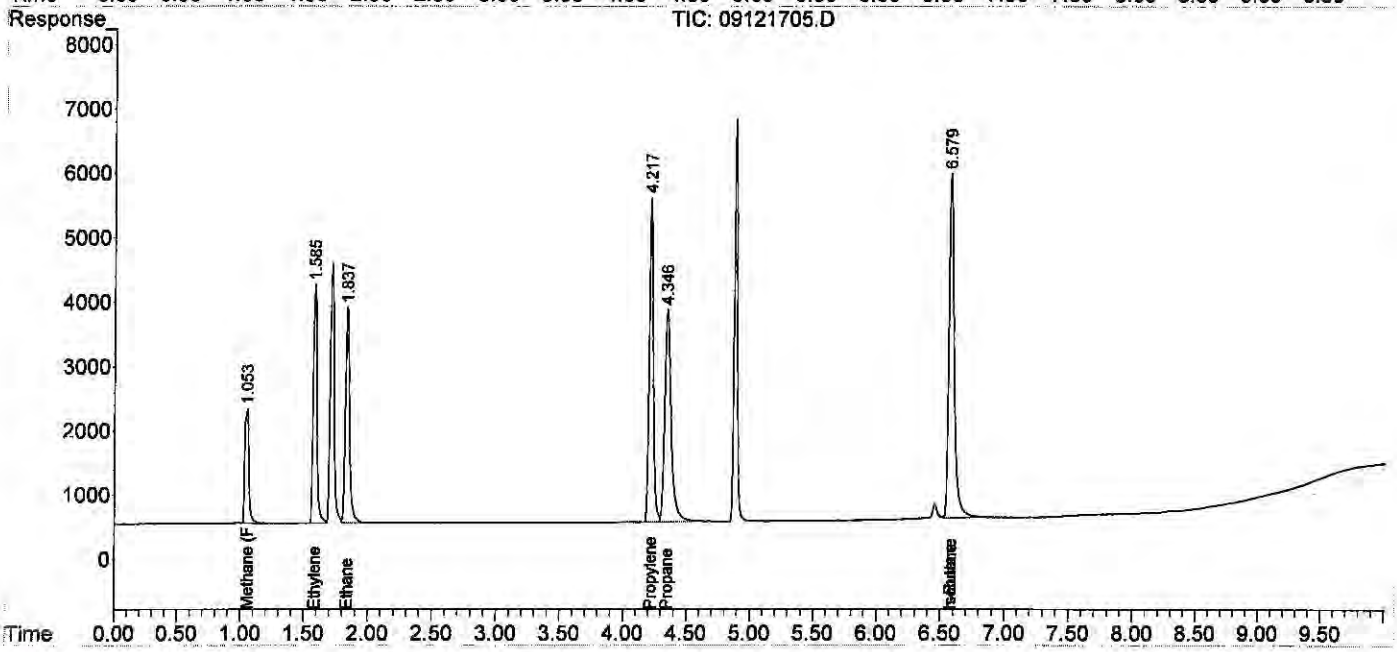
(f)=RT Delta > 1/2 Window (m)=manual int.

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

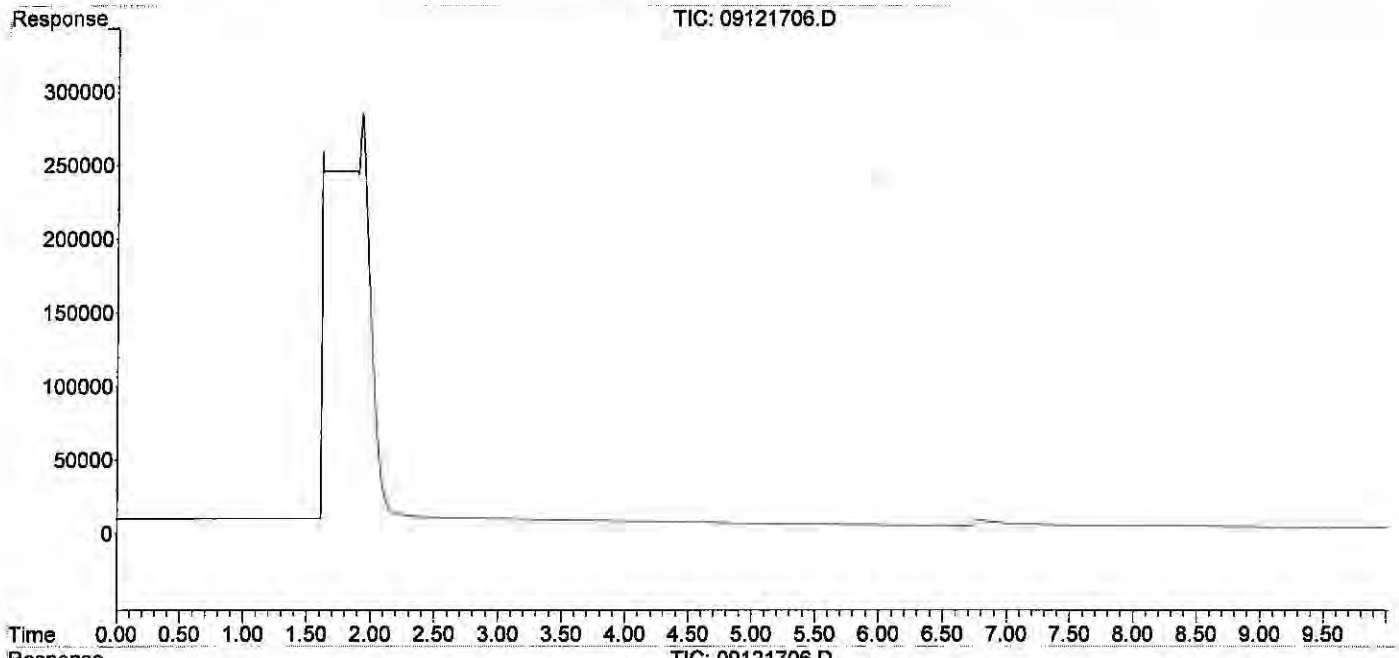
(f)=RT Delta > 1/2 Window (m)=manual int.

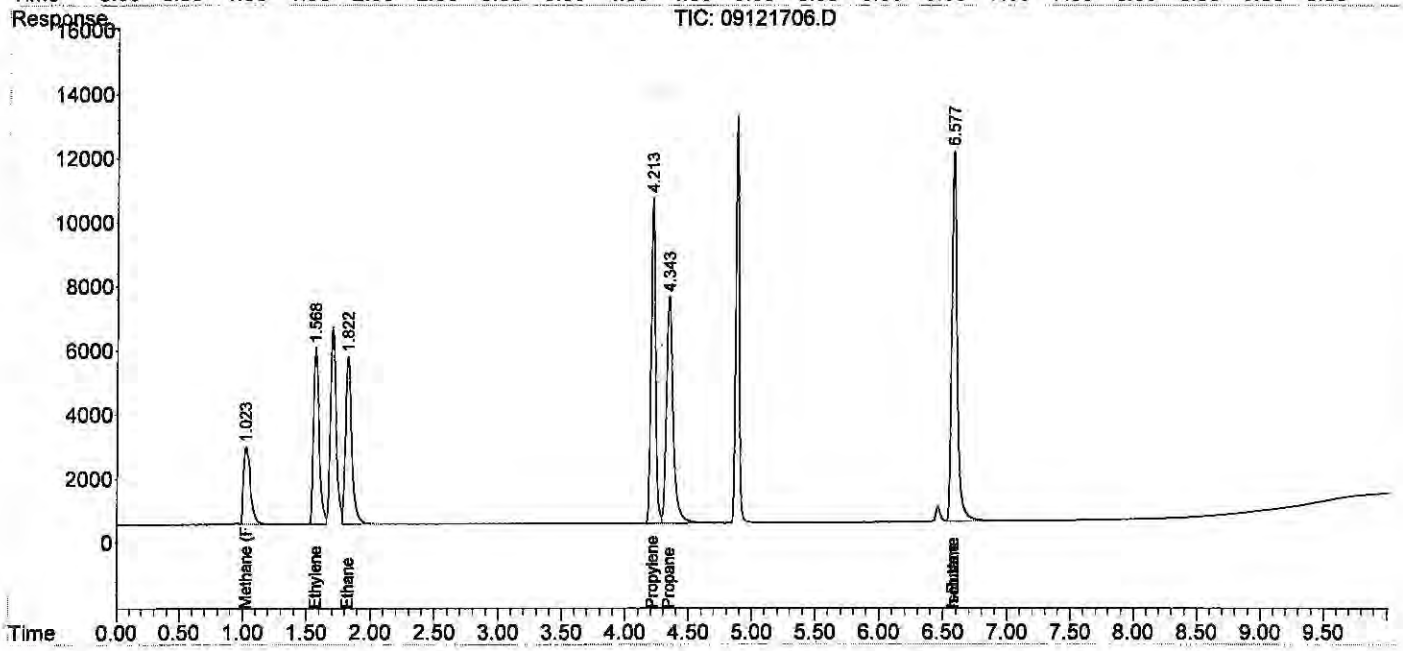
Quantitation Report (QT Reviewed)

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

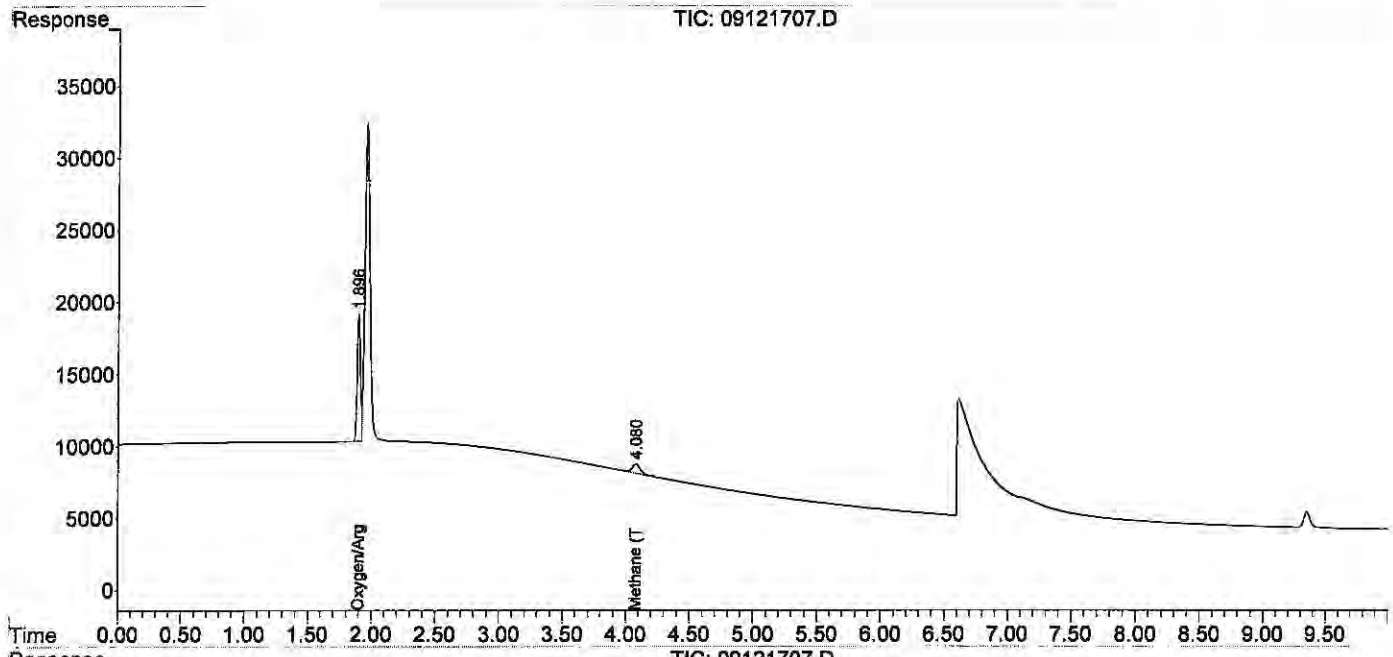
(f)=RT Delta > 1/2 Window (m)=manual int.

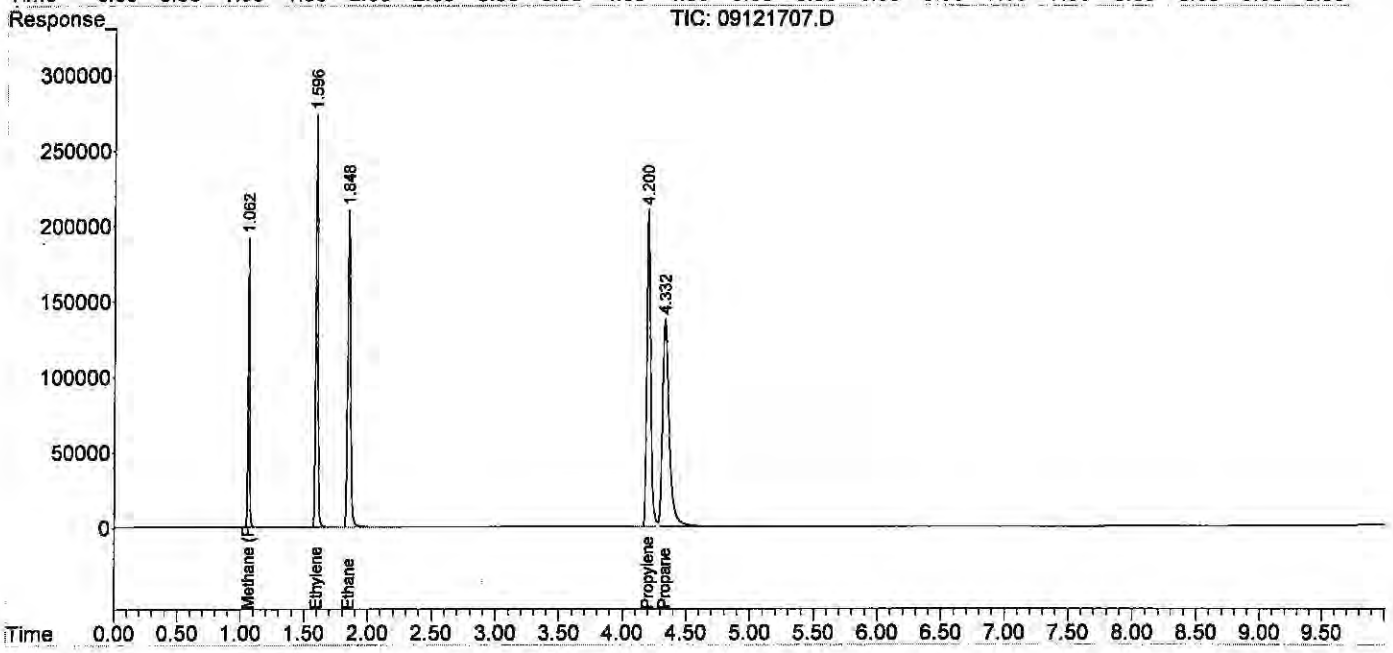
Quantitation Report (QT Reviewed)

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 :





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

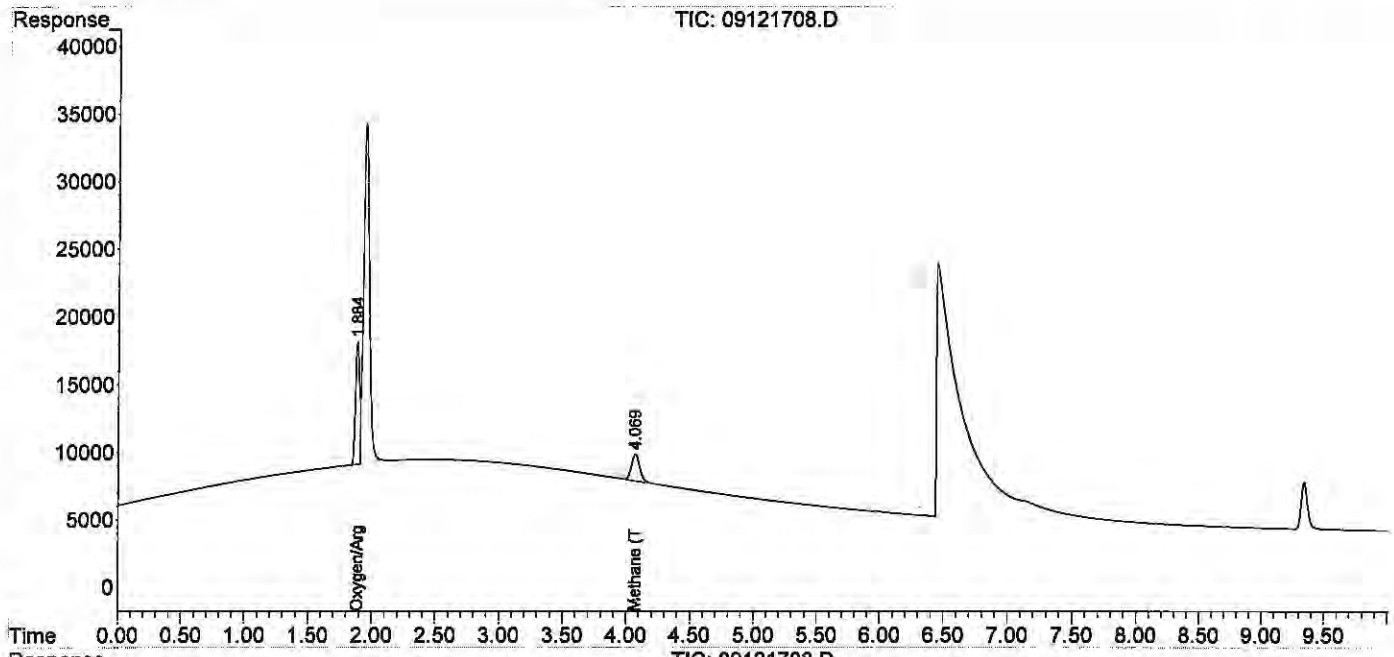
(f)=RT Delta > 1/2 Window (m)=manual int.

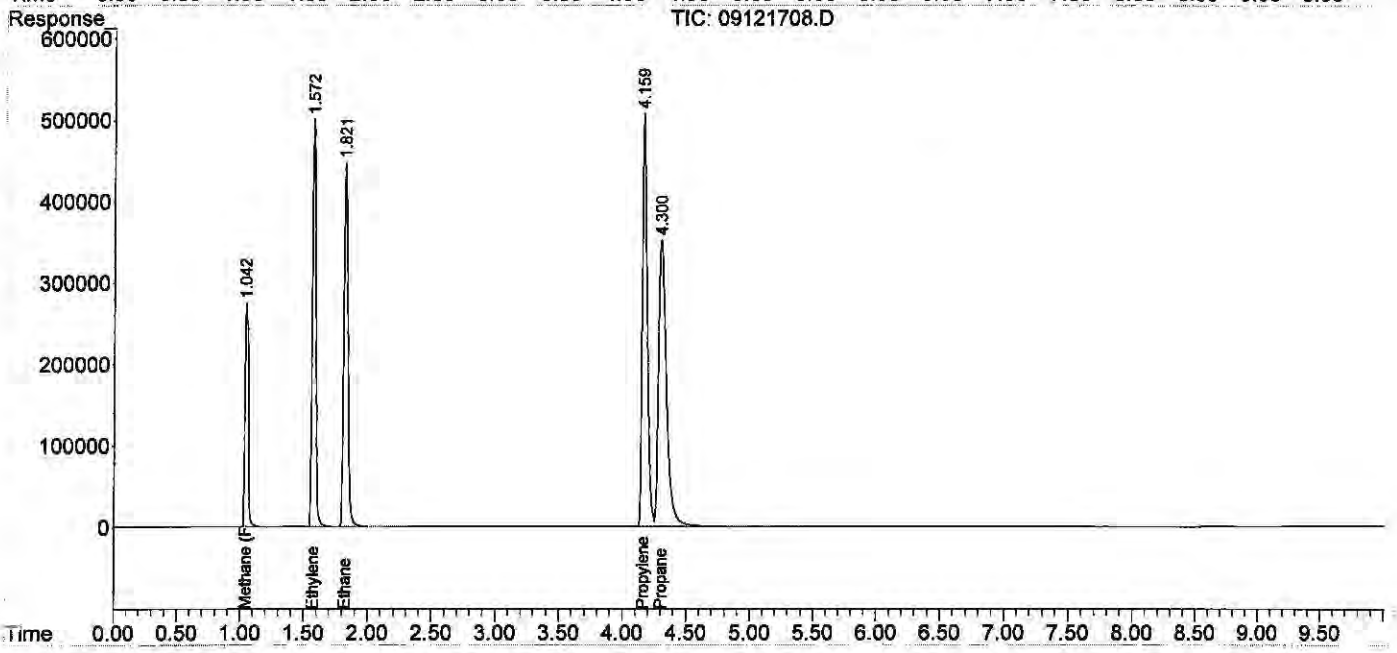
Quantitation Report (QT Reviewed)

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 :

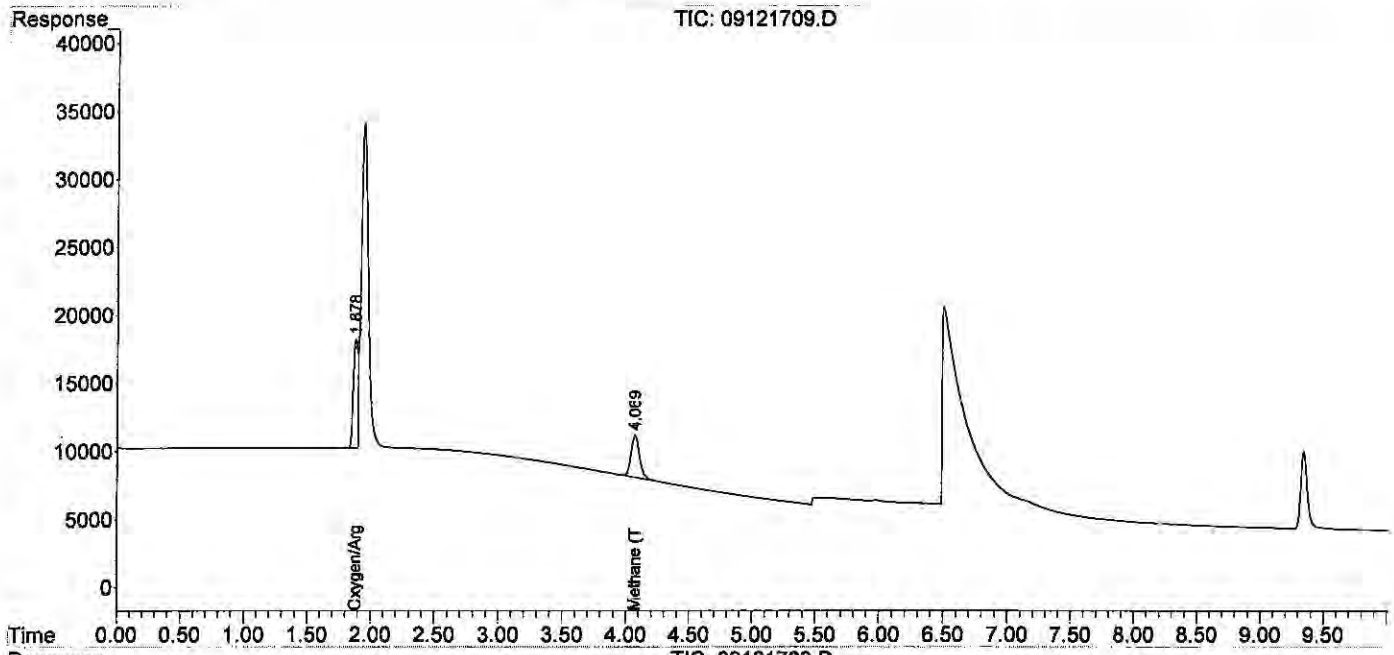
	Compound	R.T.	Response	Conc	Units
Target Compounds					
1)	Oxygen/Argon	1.879	192611	0.162	ppm
2)	Carbon monoxide	1.879	192611	N.D.	ppm
3)	Methane (TCD)	4.070f	145492	1244.729	ppm
4)	Carbon dioxide	0.000	0	N.D.	ppm
6)	Methane (FID)	1.039	8598534	945.644	ppm
7)	Ethylene	1.576	16608504	981.887	ppm
8)	Ethane	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

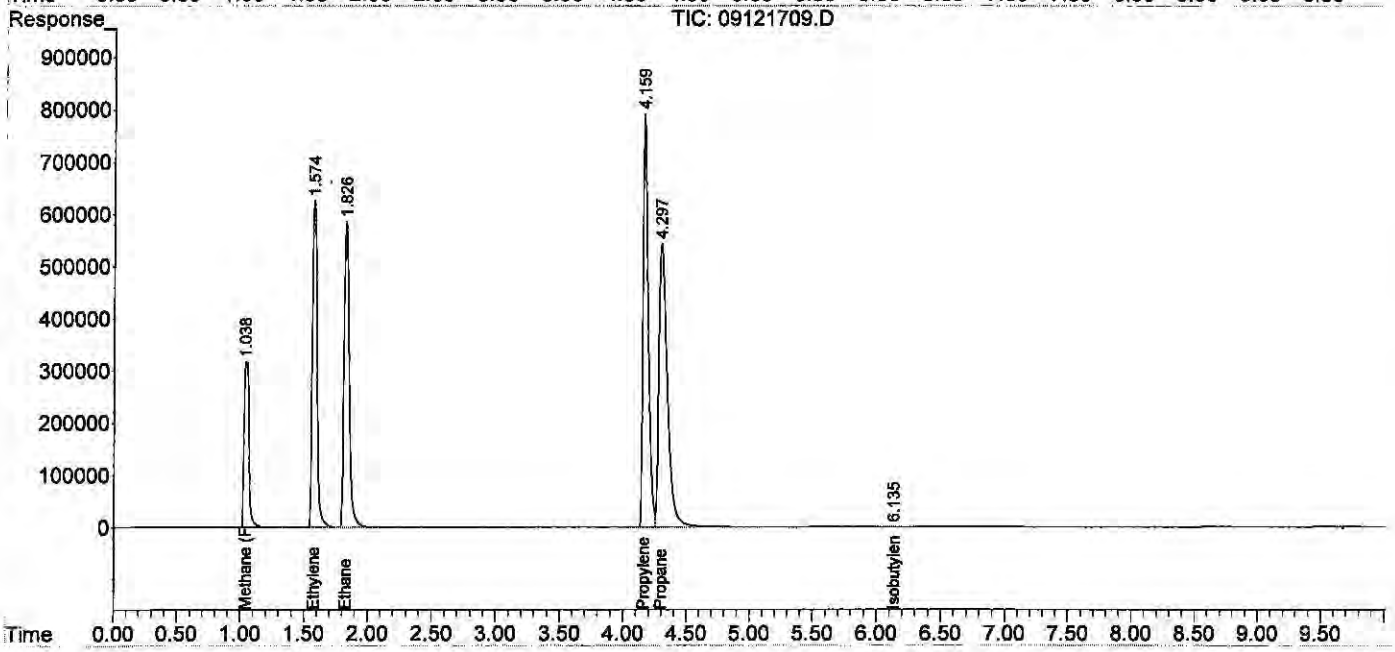
(f)=RT Delta > 1/2 Window (m)=manual int.

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 #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 :

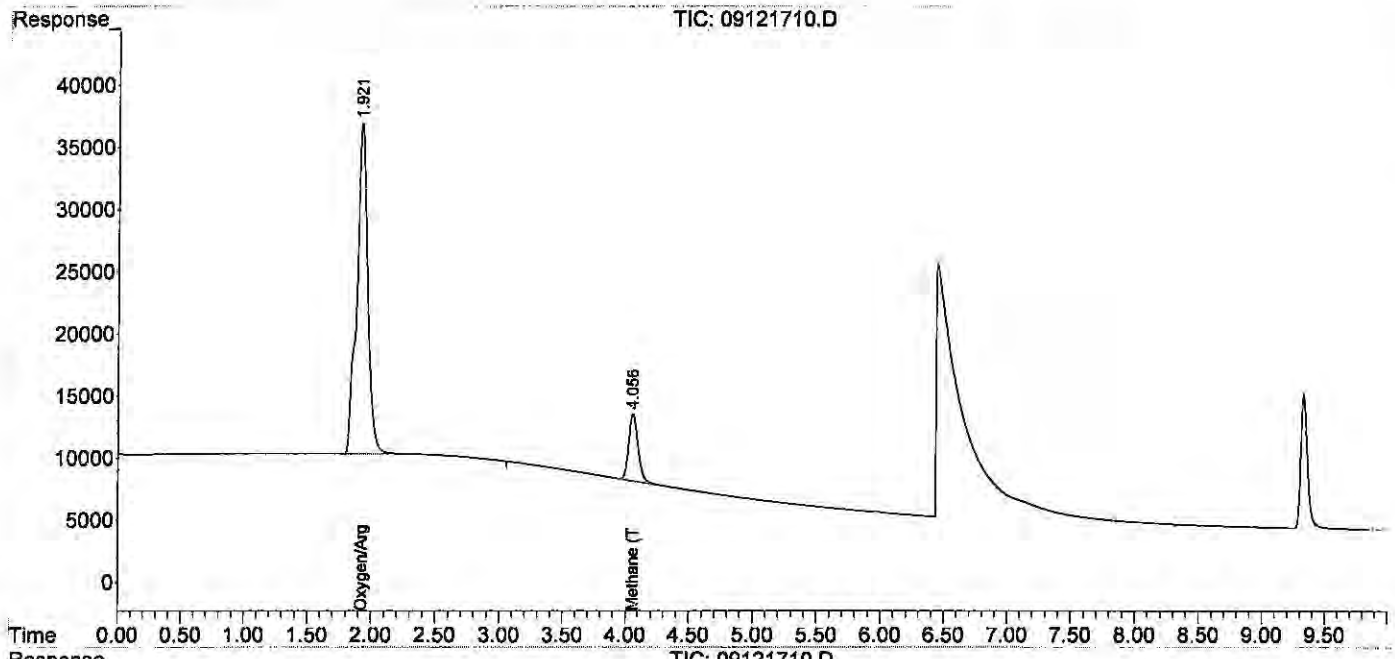
	Compound	R.T.	Response	Conc	Units	
Target Compounds						
1)	Oxygen/Argon	1.922f	1578147	1.659	ppm	
2)	Carbon monoxide	1.922f	1578147	N.D.	ppm	
3)	Methane (TCD)	4.057f	281651	3526.607	ppm	
4)	Carbon dioxide	0.000	0	N.D.	ppm	
6)	Methane (FID)	1.016	16098209	1763.622	ppm	
7)	Ethylene	1.552	31192444	1848.268	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	

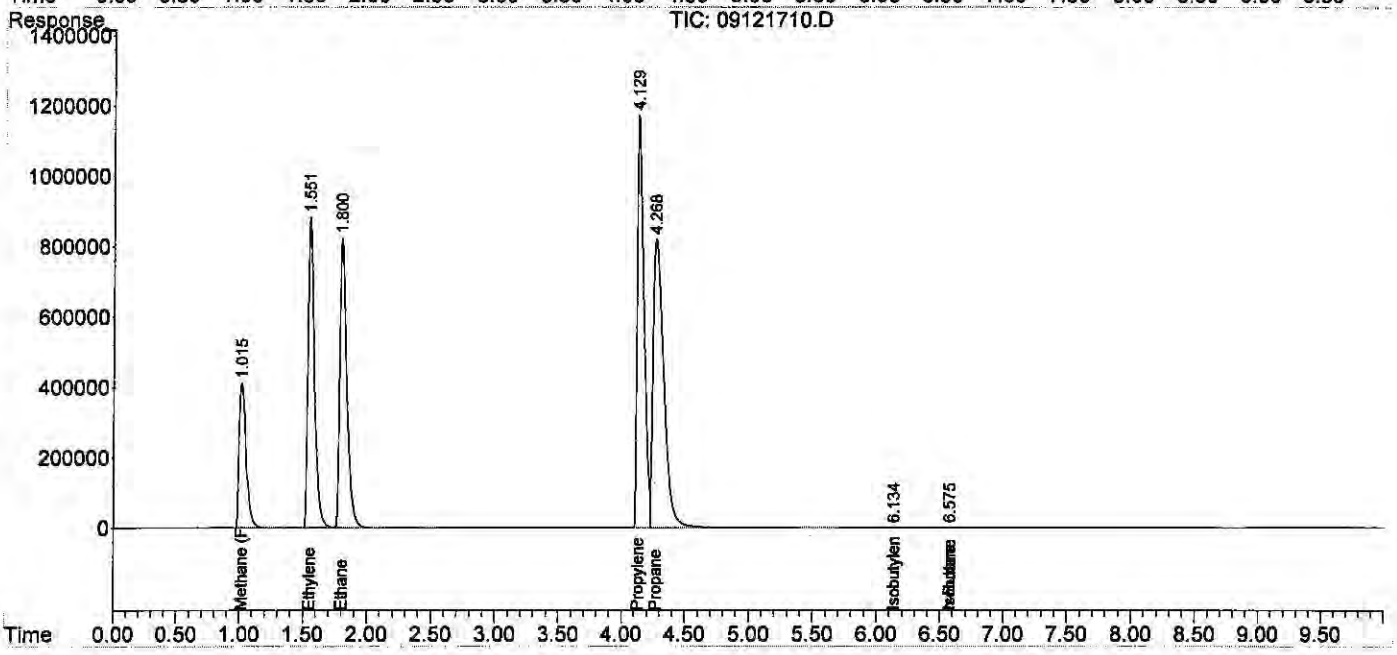
(f)=RT Delta > 1/2 Window (m)=manual int.

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 :



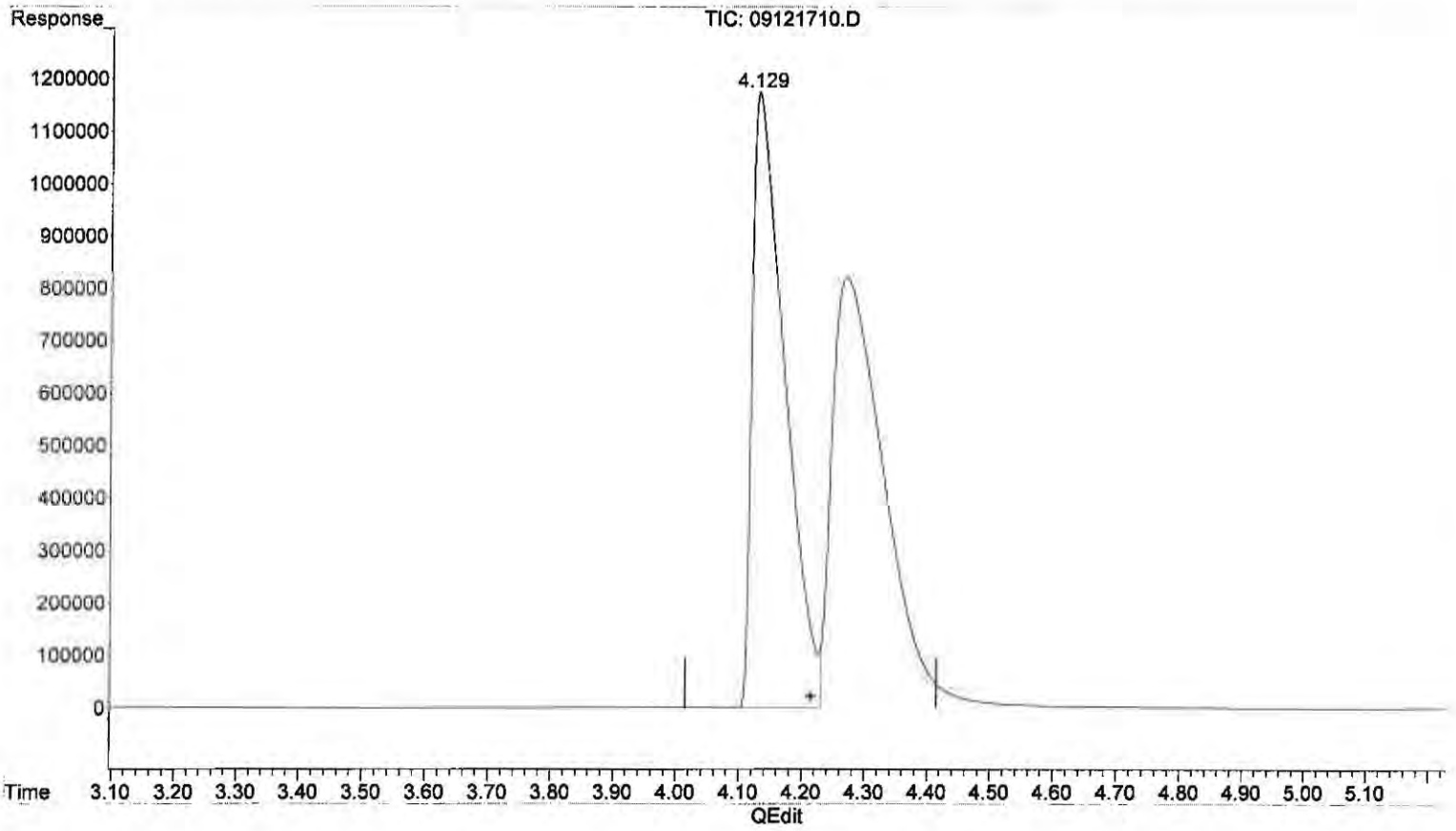


Quantitation Report (Qedit)

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

RS091217_R.M Wed Sep 13 15:08:03 2017 Page: 1

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	

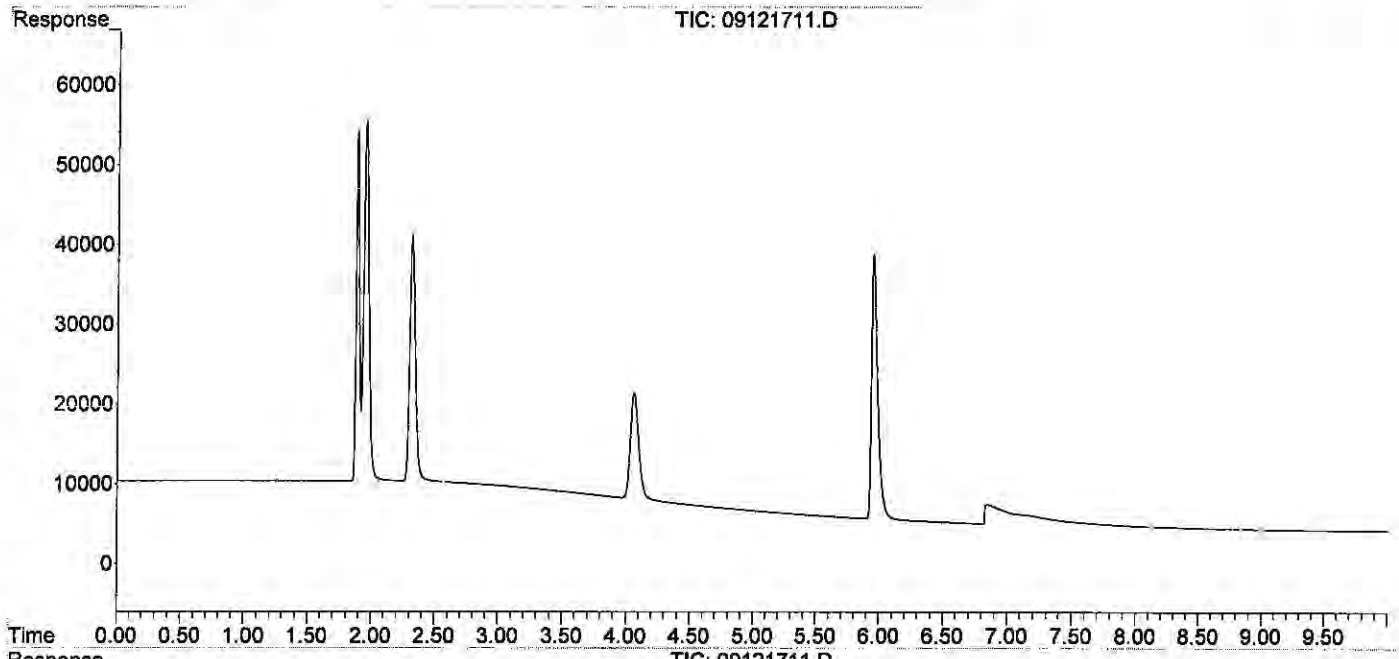
(f)=RT Delta > 1/2 Window (m)=manual int.

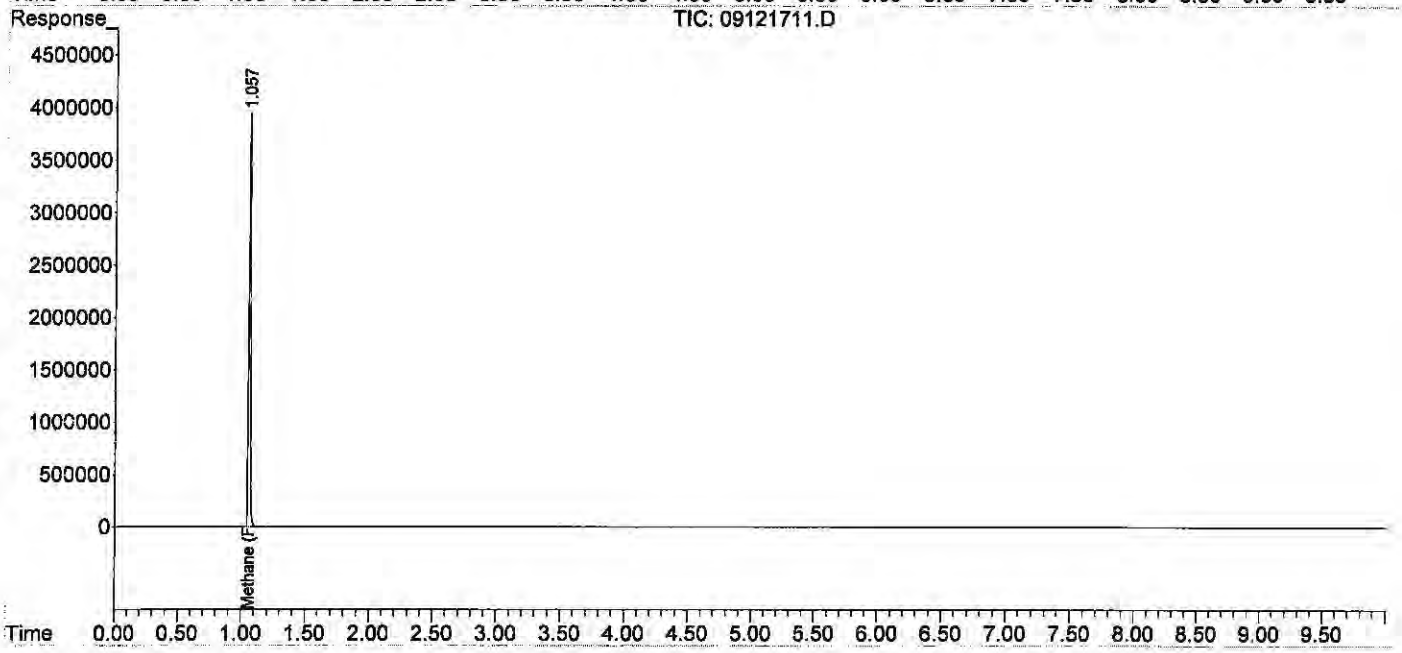
Quantitation Report (QT Reviewed)

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 #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	

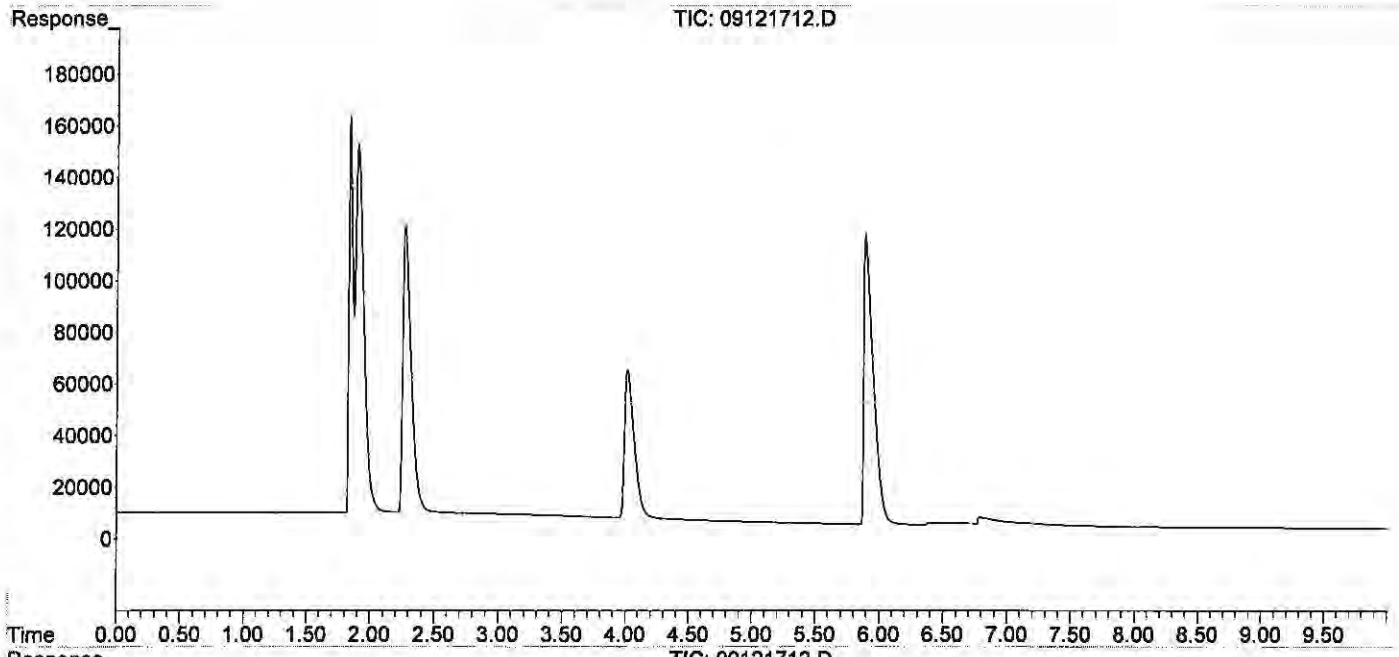
(f)=RT Delta > 1/2 Window (m)=manual int.

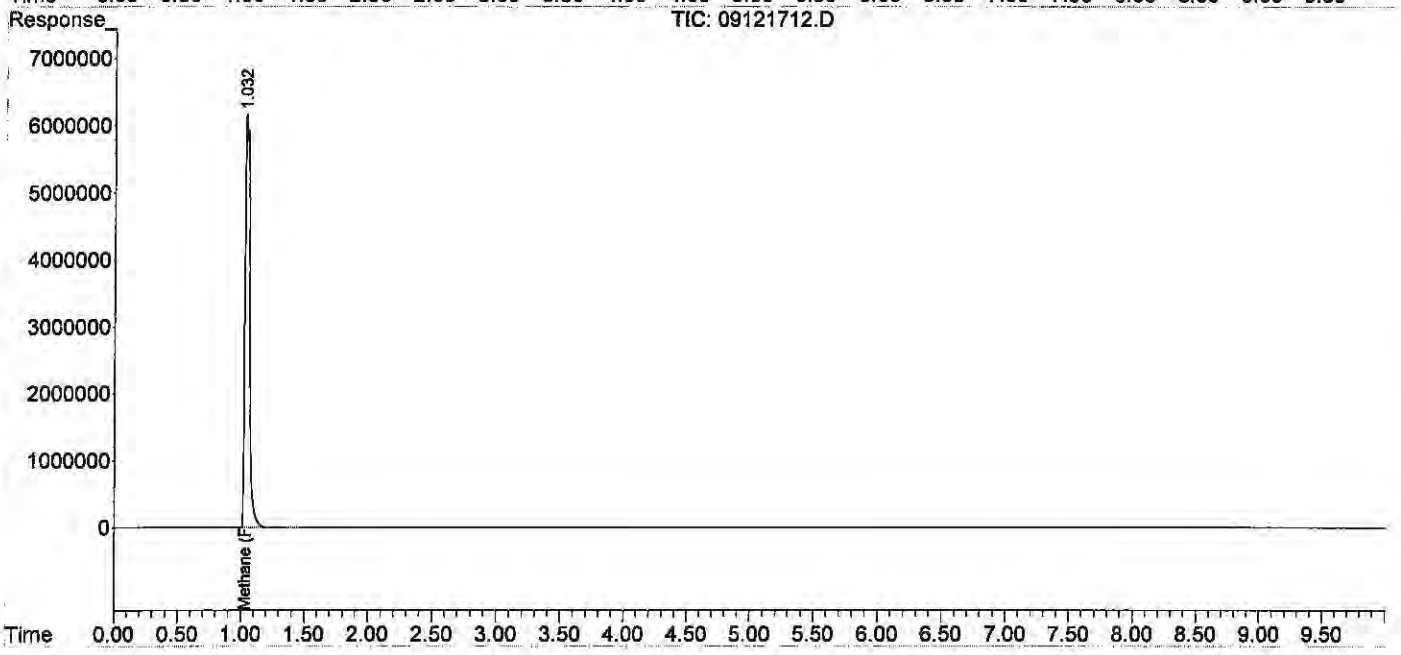
Quantitation Report (QT Reviewed)

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 :





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	acked %D
4)	Carbon dioxide	0.000	0	N.D.	ppm	
6)	Methane (FID)	1.063	13748	1.516	ppm	~~1510~~ 1.50 101.1
7)	Ethylene	1.598	24153	1.443	ppm	~~1490~~ 1.50 96.2
8)	Ethane	1.850	24488	1.445	ppm	~~1500~~ 1.50 96.3
9)	Propylene	4.221	36004	1.537	ppm	~~1490~~ 1.50 102.5
10)	Propane	4.350	37738	1.517	ppm	~~1511~~ 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	

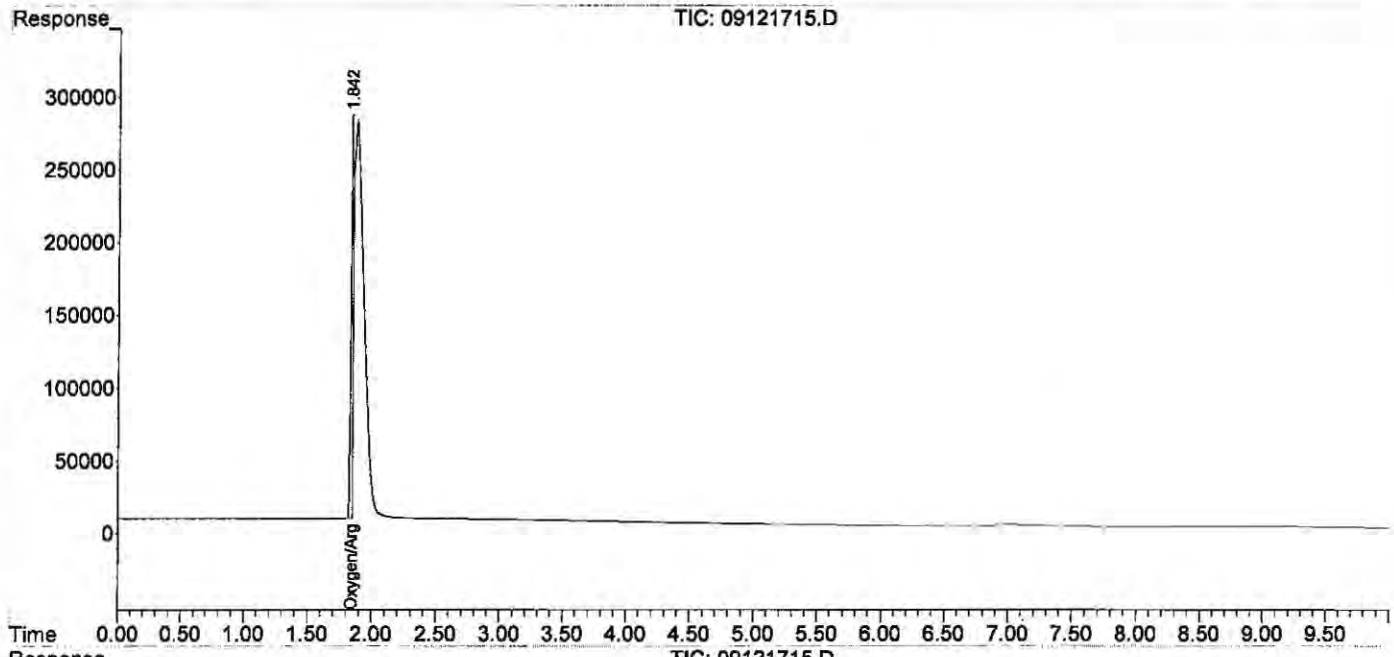
(f)=RT Delta > 1/2 Window (m)=manual int.

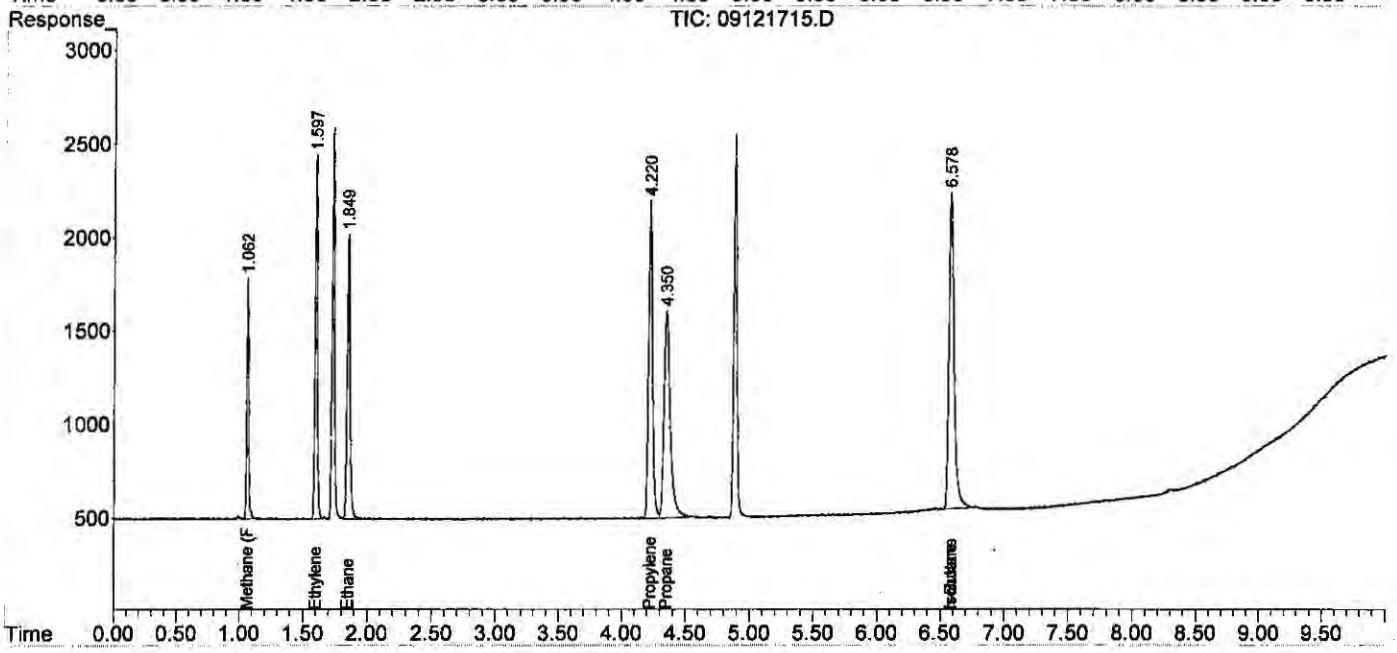
9/14/2017

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 :





ALS Environmental

Method : RSK175 Headspace Method for Dissolved Hydrocarbon in Water by FID/TCD
Client : ALS Laboratory Group
Service Request: P1906621
Sample Vol. (ml) : 32.00 ml
Analyst : WH/LD
Date Analysis : 11/04/19
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	Propylene	Propane	Carbon Dioxide
STD S32-05221901	0.100	101.767	108.218	107.280	113.993	107.355	0.000
ACTUAL		101.50	100.90	101.40	102.20	101.30	5000.00
%Difference		0.3%	7.3%	5.8%	11.5%	6.0%	100.0%
MCS 0.1ml	0.100	0.131	0.000	0.000	0.000	0.000	0.000
RB 0.1ml	0.100	0.000	0.000	0.000	0.000	0.000	0.000
LCS FID 0.1ml	0.100	1.387	1.122	1.269	1.103	1.303	0.000
LCSD FID 0.1ml	0.100	1.449	1.155	1.326	1.072	1.342	0.000
P1906621-001 0.1ml	0.100	0.195	0.000	0.000	0.000	0.000	0.000
P1906621-002 0.1ml	0.100	1.312	0.000	0.000	0.000	0.000	0.000
P1906621-003 0.1ml	0.100	1.081	0.000	0.000	0.000	0.000	0.000

FINAL HEAD SPACE RESULT (ppm)

	Methane	Ethylene	Ethane	Propylene	Propane	Carbon Dioxide
WWt.	16.04	28.05	30.07	42.09	44.10	44.10
HENRY'S CONSTANT	3.76E+04	1.02E+04	2.63E+04	6.00E+03	7.06E+04	1.42E+03
RL	1.30	1.00	0.60	1.00	1.00	100.00
MCS 0.1ml	1.310	0.000	0.000	0.000	0.000	0.000
LCS FID 0.1ml	13.870	11.220	12.690	11.030	13.030	0.000
LCSD FID 0.1ml	14.490	11.550	13.260	10.720	13.420	0.000
P1906621-001 0.1ml	1.950	0.000	0.000	0.000	0.000	0.000
P1906621-002 0.1ml	13.120	0.000	0.000	0.000	0.000	0.000
P1906621-003 0.1ml	10.810	0.000	0.000	0.000	0.000	0.000

LD
11/05

STD S32-05221901	96.958	103.256	102.774	108.478	105.327	0.000
ACTUAL	101.50	100.90	101.40	102.20	101.30	5000.00
%Difference	4.5%	2.3%	1.4%	6.1%	4.0%	100.0%

Quantitation Report (QT Reviewed)

Data Path : J:\GC10\DATA\RSK_FID\2019_11\04\
Data File : 11041901.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 04-Nov-2019, 14:37:18
Operator : WH/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: Nov 04 13:47:30 2019
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
11/05

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

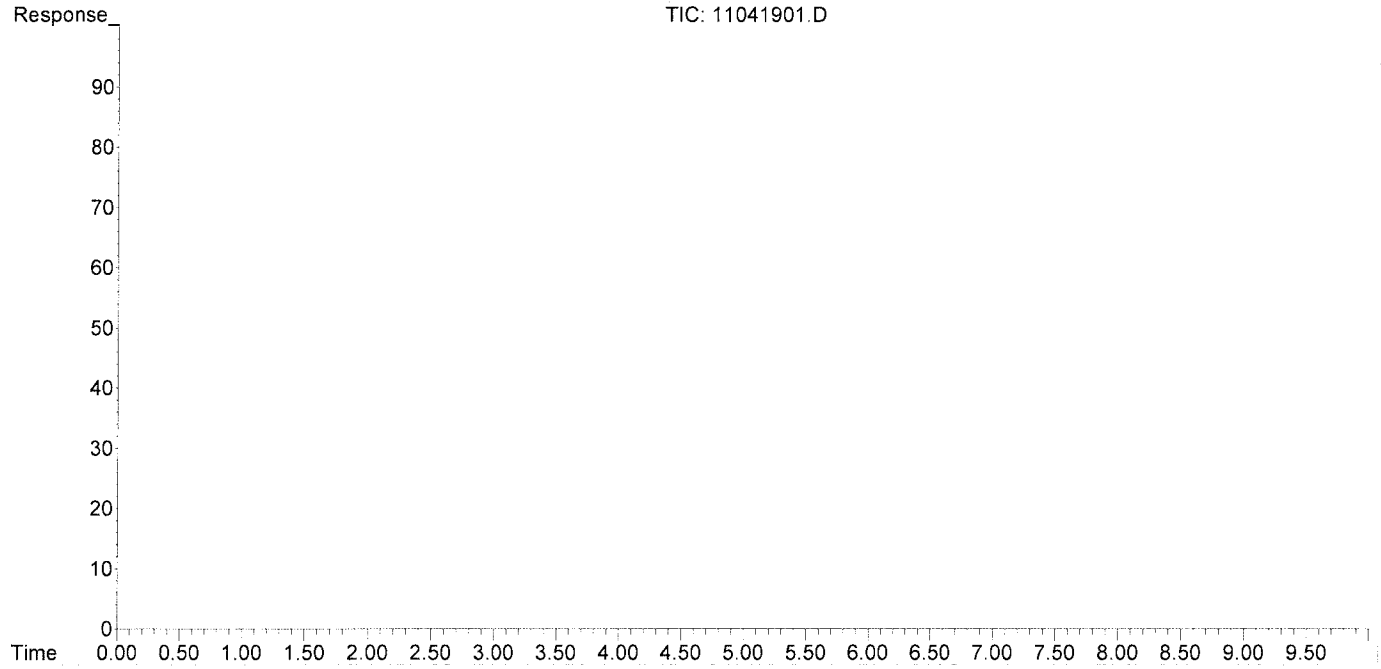
	Compound	R.T.	Response	Conc	Units
Target Compounds					
1)	Oxygen/Argon	0.000	0	N.D.	ppm
2)	Carbon monoxide	0.000	0	N.D.	ppm
3)	Methane (TCD)	0.000	0	N.D.	ppm
4)	Carbon dioxide	0.000	0	N.D.	ppm
6)	Methane (FID)	1.135	923091	101.767	ppm
7)	Ethylene	1.708	1810957	108.218	ppm
8)	Ethane	1.974	1818422	107.280	ppm
9)	Propylene	4.333	2671022	113.993	ppm
10)	Propane	4.333	2671022	107.355	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

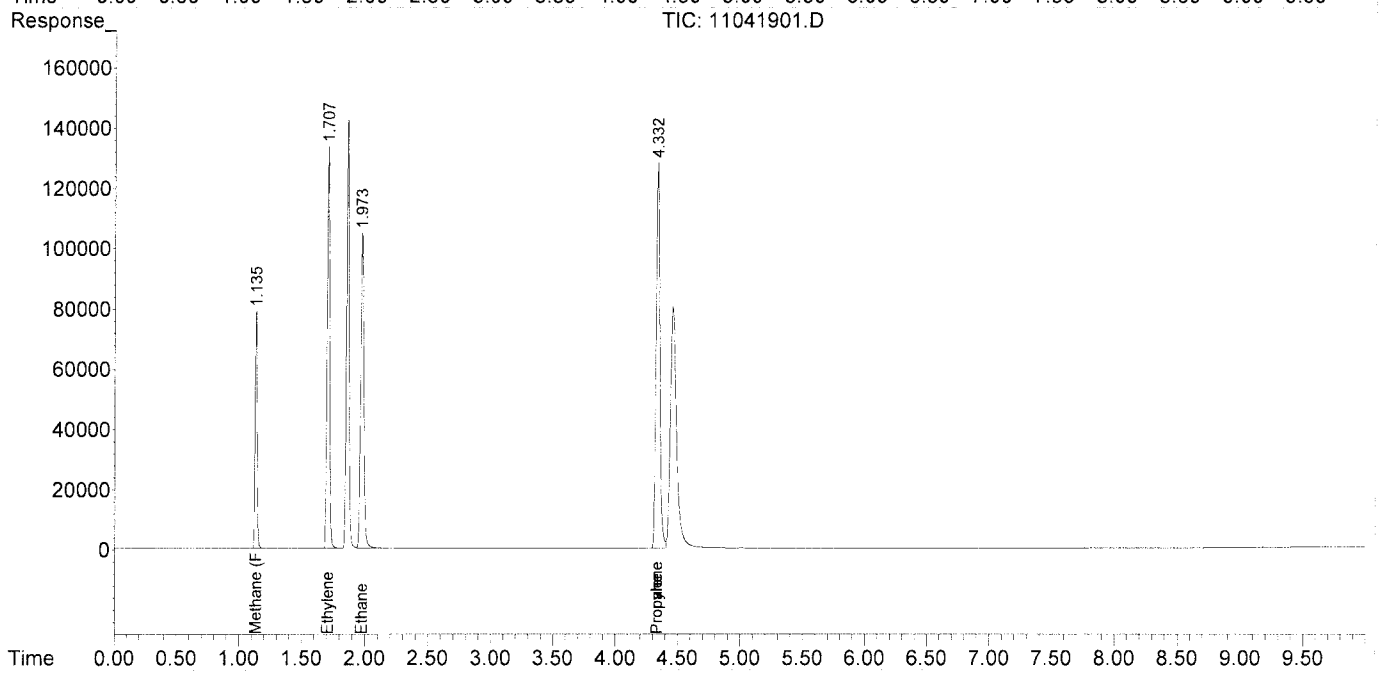
(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : J:\GC10\DATA\RSK_FID\2019_11\04\
Data File : 11041901.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 04-Nov-2019, 14:37:18
Operator : WH/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: Nov 04 13:47:30 2019
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 :





Quantitation Report (QT Reviewed)

Data Path : J:\GC10\DATA\RSK_FID\2019_11\04\
Data File : 11041916.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 04-Nov-2019, 18:18:08
Operator : WH/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: Nov 04 17:31:45 2019
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 :

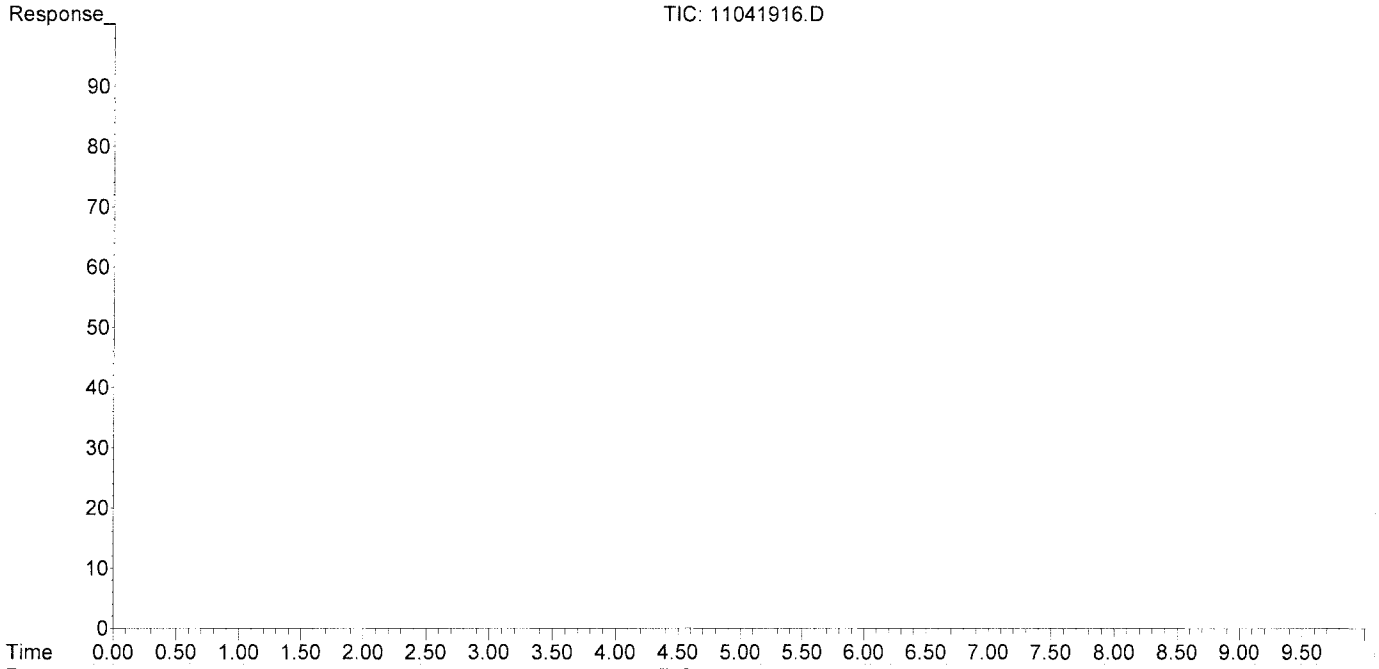
	Compound	R.T.	Response	Conc	Units
Target Compounds					
1)	Oxygen/Argon	0.000	0	N.D.	ppm
2)	Carbon monoxide	0.000	0	N.D.	ppm
3)	Methane (TCD)	0.000	0	N.D.	ppm
4)	Carbon dioxide	0.000	0	N.D.	ppm
6)	Methane (FID)	1.135	879469	96.958	ppm
7)	Ethylene	1.709	1727915	103.256	ppm
8)	Ethane	1.976	1742039	102.774	ppm
9)	Propylene	4.336	2541795	108.478	ppm
10)	Propane	4.459	2620557	105.327	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

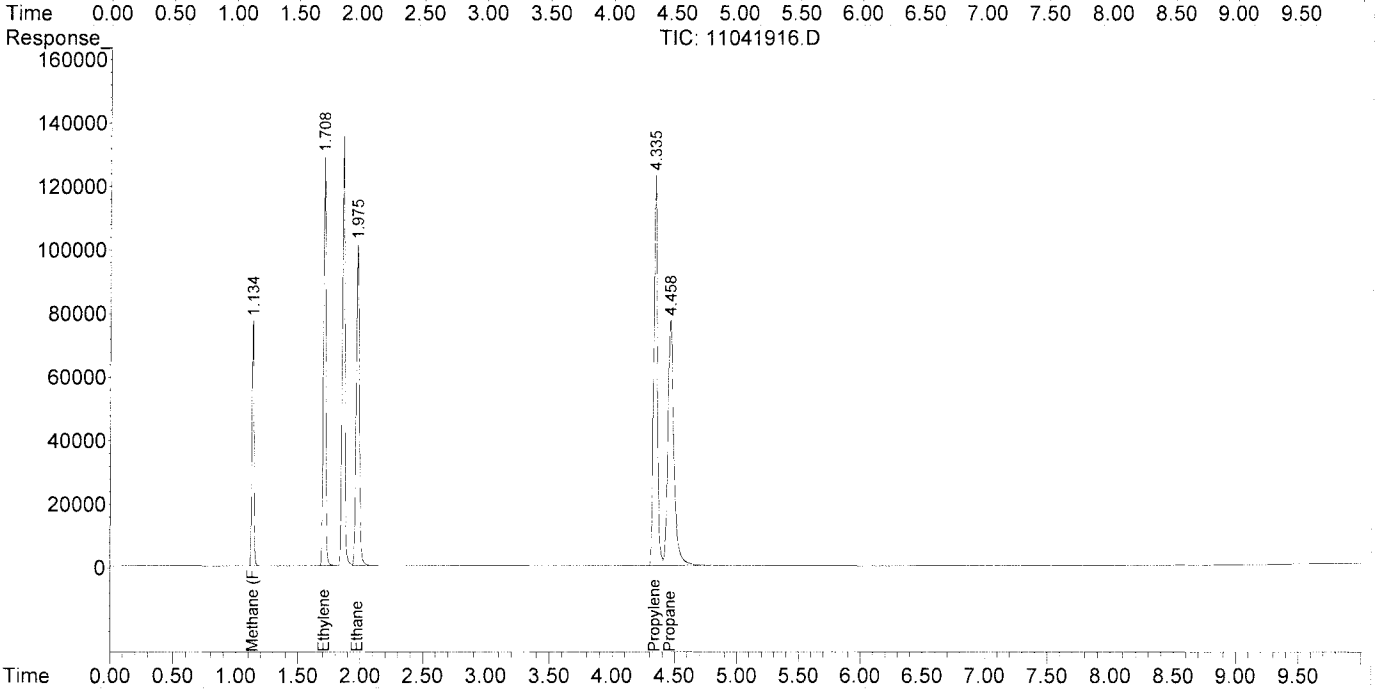
(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : J:\GC10\DATA\RSK_FID\2019_11\04\
Data File : 11041916.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 04-Nov-2019, 18:18:08
Operator : WH/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: Nov 04 17:31:45 2019
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\2019_11\04\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Acquisition Method	Comments
1	04-Nov-19, 14:37:18	11041901.D	STD S32-05221901		WH/LD	RSKBOTH.M	pass
2	04-Nov-19, 14:51:06	11041902.D	RB 0.1ml		WH/LD	RSKBOTH.M	pass
3	04-Nov-19, 15:05:02	11041903.D	MCS 0.1ml		WH/LD	RSKBOTH.M	pass
4	04-Nov-19, 15:19:32	11041904.D	xxLCS FID 0.1ml		WH/LD	RSKBOTH.M	
5	04-Nov-19, 15:38:16	11041905.D	xxxLCSD FID 0.1ml		WH/LD	RSKBOTH.M	
6	04-Nov-19, 15:51:18	11041906.D	xxxLCSD FID 0.1ml		WH/LD	RSKBOTH.M	
7	04-Nov-19, 16:04:15	11041907.D	LCS FID 0.1ml		WH/LD	RSKBOTH.M	pass
8	04-Nov-19, 16:19:13	11041908.D	P1906621-001 0.1ml		WH/LD	RSKBOTH.M	
9	04-Nov-19, 16:27:01	11041909.D	P1906621-002 0.1ml		WH/LD	RSKBOTH.M	
10	04-Nov-19, 16:53:01	11041910.D	P1906621-003 0.1ml		WH/LD	RSKBOTH.M	
11	04-Nov-19, 17:05:44	11041911.D	LCSD FID 0.1ml		WH/LD	RSKBOTH.M	pass
12	04-Nov-19, 17:24:48	11041912.D	K1910019-001 0.1ml		WH/LD	RSKBOTH.M	
13	04-Nov-19, 17:37:57	11041913.D	K1910019-002 0.1ml		WH/LD	RSKBOTH.M	
14	04-Nov-19, 17:48:04	11041914.D	K1910019-003 0.1ml		WH/LD	RSKBOTH.M	
15	04-Nov-19, 18:01:02	11041915.D	K1910019-004 0.1ml		WH/LD	RSKBOTH.M	
16	04-Nov-19, 18:18:08	11041916.D	STD S32-05221901		WH/LD	RSKBOTH.M	pass

HS19101706 8260 Raw Data

ALS WO# HS19101706

MSVOA06 -Logbook

Batch: 38023
Date: 10-31-2019
Method: 8260
Comments:

Analyst: Devak Giga
Reviewer:
Laboratory: Houston

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
1	BFB	TUNE	10-31-2019 10:45 am	1.00	0.00 mL	0.00 mL	X103101.D	Liquid	Y	NA
	Auto find/purged									
2	VSTD000.25	ICAL1	10-31-2019 11:08 am	1.00	5.00 mL	0.00 mL	X103102.D	Liquid	Y	NA
3	VSTD000.5	ICAL2	10-31-2019 11:56 am	1.00	5.00 mL	0.00 mL	X103103.D	Liquid	Y	NA
4	VSTD001	ICAL3	10-31-2019 12:20 pm	1.00	5.00 mL	0.00 mL	X103104.D	Liquid	Y	NA
5	VSTD002	ICAL4	10-31-2019 12:44 pm	1.00	5.00 mL	0.00 mL	X103105.D	Liquid	Y	NA
6	VSTD005	ICAL5	10-31-2019 01:08 pm	1.00	5.00 mL	0.00 mL	X103106.D	Liquid	Y	NA
7	VSTD020	ICAL6	10-31-2019 01:32 pm	1.00	5.00 mL	0.00 mL	X103107.D	Liquid	Y	NA
8	VSTD050	ICAL7	10-31-2019 01:56 pm	1.00	5.00 mL	0.00 mL	X103108.D	Liquid	Y	NA
9	VSTD100	ICAL8	10-31-2019 02:20 pm	1.00	5.00 mL	0.00 mL	X103109.D	Liquid	Y	NA
10	VSTD150	ICAL9	10-31-2019 02:44 pm	1.00	5.00 mL	0.00 mL	X103110.D	Liquid	Y	NA
11	VSTD200	ICAL	10-31-2019 03:08 pm	1.00	5.00 mL	0.00 mL	X103111.D	Liquid	Y	NA
12	BLANK	SAMP	10-31-2019 03:32 pm	1.00	5.00 mL	0.00 mL	X103112.D	Liquid	Y	NA
13	BLANK	SAMP	10-31-2019 03:56 pm	1.00	5.00 mL	0.00 mL	X103113.D	Liquid	Y	NA
14	ICV	ICV	10-31-2019 04:20 pm	1.00	5.00 mL	0.00 mL	X103114.D	Liquid	Y	NA
	10 uL cal std/50 mL DI									
15	BLANK	SAMP	10-31-2019 04:44 pm	1.00	5.00 mL	0.00 mL	X103115.D	Liquid	Y	NA
	Cleanup blk									
16	VLCSW-191031	LCS	10-31-2019 05:08 pm	1.00	5.00 mL	0.00 mL	X103116.D	Liquid	Y	NA
	4 uL LCS std/50 mL DI									
17	BLK	SAMP	10-31-2019 05:32 pm	1.00	5.00 mL	0.00 mL	X103117.D	Liquid	Y	NA
	Cleanup blk									
18	BLK	SAMP	10-31-2019 05:56 pm	1.00	5.00 mL	0.00 mL	X103118.D	Liquid	Y	NA
	Cleanup blk									
19	VBLKW-191031	MBLK	10-31-2019 06:20 pm	1.00	5.00 mL	0.00 mL	X103119.D	Liquid	Y	<2
20	HS19101506-01	SAMP	10-31-2019 06:44 pm	1.00	5.00 mL	0.00 mL	X103120.D	Liquid	Y	<2
21	HS19101523-05	SAMP	10-31-2019 07:08 pm	1.00	5.00 mL	0.00 mL	X103121.D	Liquid	Y	<2
22	HS19101523-01	SAMP	10-31-2019 07:32 pm	1.00	5.00 mL	0.00 mL	X103122.D	Liquid	Y	<2
23	HS19101523-02	SAMP	10-31-2019 07:56 pm	1.00	5.00 mL	0.00 mL	X103123.D	Liquid	Y	<2
24	HS19101523-03	SAMP	10-31-2019 08:20 pm	1.00	5.00 mL	0.00 mL	X103124.D	Liquid	Y	<2
25	HS19101523-04	SAMP	10-31-2019 08:44 pm	1.00	5.00 mL	0.00 mL	X103125.D	Liquid	Y	<2
26	HS19101523-06	SAMP	10-31-2019 09:08 pm	1.00	5.00 mL	0.00 mL	X103126.D	Liquid	Y	<2
27	HS19101523-05MS	MS	10-31-2019 09:32 pm	1.00	5.00 mL	0.00 mL	X103127.D	Liquid	Y	NA
	3.2 uL cal std/40 mL sample									
28	HS19101523-05MSD	MSD	10-31-2019 09:56 pm	1.00	5.00 mL	0.00 mL	X103128.D	Liquid	Y	NA
	3.2 uL cal std/40 mL sample									
29	CCV-END	CCV	10-31-2019 10:20 pm	1.00	5.00 mL	0.00 mL	X103129.D	Liquid	Y	NA
	10 uL cal std/50 mL DI									

MSVOA06 -Logbook

Chemical	Value
SURR SPK ID	30502-94-03
IS ID	30502-94-04
ICV STD ID	31106-01-01
LCS/MS ID	31106-01-01
CAL STD ID	31106-01-05
BFB ID	30502-94-03
pH Paper	634-64-11

FORM 3
WATER VOLATILE METHOD SPIKE RECOVERY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS19101706

Matrix Spike - Sample No.: ICV

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE AMOUNT ()	% REC #	QC. LIMITS REC.
cis-1,3-Dichloropropene	50.00	48.79	98	80-120
trans-1,3-Dichloroprope	50.00	49.18	98	80-120
1,3-Dichlorobenzene	50.00	46.53	93	80-120
2,2-Dichloropropane	50.00	46.58	93	80-120
1,1-Dichloropropene	50.00	47.08	94	80-120
Dibromomethane	50.00	49.60	99	80-120
1,2-Dibromoethane	50.00	48.80	98	80-120
trans-1,2-Dichloroethen	50.00	49.34	99	80-120
1,1,1,2-Tetrachloroetha	50.00	47.74	95	80-120
1,1,1-Trichloroethane	50.00	47.56	95	80-120
1,1,2,2-Tetrachloroetha	50.00	49.12	98	80-120
Toluene	50.00	48.40	97	80-120
1,1,2-Trichloroethane	50.00	48.68	97	80-120
1,1-Dichloroethane	50.00	47.42	95	80-120
1,1-Dichloroethene	50.00	47.03	94	80-120
Trichlorofluoromethane	50.00	47.11	94	80-120
1,2,3-Trichlorobenzene	50.00	56.71	113	80-120
Tetrachloroethene	50.00	47.82	96	80-120
1,2,4-Trichlorobenzene	50.00	47.70	95	80-120
1,2,4-Trimethylbenzene	50.00	46.83	94	80-120
tert-Butylbenzene	50.00	45.47	91	80-120
Trichloroethene	50.00	48.99	98	80-120
1,2-Dichlorobenzene	50.00	46.46	93	80-120
1,2-Dichloroethane	50.00	48.02	96	80-120
1,2-Dichloropropane	50.00	46.10	92	80-120
1,3,5-Trimethylbenzene	50.00	47.34	95	80-120
1,3-Dichloropropane	50.00	47.94	96	80-120
1,4-Dichlorobenzene	50.00	45.70	91	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: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS19101706

Matrix Spike - Sample No.: ICV

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE AMOUNT ()	% REC #	QC. LIMITS REC.
2-Butanone	100.00	92.87	93	80-120
2-Chlorotoluene	50.00	46.39	93	80-120
2-Hexanone	100.00	92.86	93	80-120
4-Chlorotoluene	50.00	47.10	94	80-120
Styrene	50.00	48.55	97	80-120
4-Methyl-2-Pentanone	100.00	90.79	91	80-120
Acetone	100.00	94.86	95	80-120
Benzene	50.00	48.59	97	80-120
Bromobenzene	50.00	47.70	95	80-120
Bromochloromethane	50.00	46.18	92	80-120
Bromodichloromethane	50.00	48.66	97	80-120
Bromoform	50.00	49.37	99	80-120
Bromomethane	50.00	46.72	93	80-120
Carbon Disulfide	100.00	96.98	97	80-120
Carbon Tetrachloride	50.00	46.02	92	80-120
Chlorobenzene	50.00	48.58	97	80-120
Chloroethane	50.00	46.26	92	80-120
Chloroform	50.00	48.21	96	80-120
Chloromethane	50.00	47.48	95	80-120
cis-1,2-Dichloroethene	50.00	48.85	98	80-120
Dibromochloromethane	50.00	48.48	97	80-120
Dichlorodifluoromethane	50.00	45.46	91	80-120
Ethylbenzene	50.00	47.99	96	80-120
Hexachlorobutadiene	50.00	48.58	97	80-120
Isopropylbenzene	50.00	46.44	93	80-120
m,p-Xylenes	100.00	95.87	96	80-120
Methylene Chloride	50.00	47.32	95	80-120
n-Butylbenzene	50.00	47.70	95	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: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS19101706

Matrix Spike - Sample No.: ICV

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE AMOUNT ()	% REC #	QC. LIMITS REC.
n-Propylbenzene	50.00	46.28	92	80-120
Naphthalene	50.00	55.72	111	80-120
o-Xylene	50.00	47.31	95	80-120
sec-Butylbenzene	50.00	46.00	92	80-120
Vinyl Chloride	50.00	48.00	96	80-120
1,2,3-Trichloropropane	50.00	50.36	101	80-120
p-Isopropyltoluene	50.00	46.21	92	80-120
1,2-Dibromo-3-Chloropro	50.00	48.69	97	80-120
Freon TF	50.00	46.08	92	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: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS19101706

Lab File ID: X103101 BFB Injection Date: 10/31/19

Instrument ID: VOA6 BFB Injection Time: 1045

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	15.3
75	30.0 - 60.0% of mass 95	46.7
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	7.8
173	Less than 2.0% of mass 174	0.3 (0.4)1
174	Greater than 50.0% of mass 95	77.1
175	5.0 - 9.0% of mass 174	6.5 (8.5)1
176	95.0 - 101.0% of mass 174	76.0 (98.5)1
177	5.0 - 9.0% of mass 176	5.7 (7.5)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	X103102	10/31/19	1108
02	VSTD000.5	VSTD000.5	X103103	10/31/19	1156
03	VSTD001	VSTD001	X103104	10/31/19	1220
04	VSTD002	VSTD002	X103105	10/31/19	1244
05	VSTD005	VSTD005	X103106	10/31/19	1308
06	VSTD020	VSTD020	X103107	10/31/19	1332
07	VSTD050	VSTD050	X103108	10/31/19	1356
08	VSTD100	VSTD100	X103109	10/31/19	1420
09	VSTD150	VSTD150	X103110	10/31/19	1444
10	VSTD200	VSTD200	X103111	10/31/19	1508
11	ICV	ICV	X103114	10/31/19	1620
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

FORM V VOA

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS19101706

Instrument ID: VOA6 Calibration Date(s): 10/31/19 10/31/19

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1108 1508

LAB FILE ID: RF0.25: X103102 RF0.5: X103103 RF1: X103104
RF2: X103105 RF5: X103106 RF20: X103107

COMPOUND	RF0.25	RF0.5	RF1	RF2	RF5	RF20
cis-1,3-Dichloropropene		0.394	0.502	0.445	0.458	0.463
trans-1,3-Dichloropropene		0.364	0.450	0.402	0.450	0.432
1,3-Dichlorobenzene		1.563	1.815	1.450	1.538	1.497
2,2-Dichloropropane		0.638	0.765	0.640	0.542	0.567
1,1-Dichloropropene		0.336	0.436	0.358	0.368	0.367
Dibromomethane		0.141	0.226	0.185	0.196	0.200
1,2-Dibromoethane		0.307	0.366	0.318	0.364	0.344
trans-1,2-Dichloroethene		0.282	0.345	0.321	0.340	0.347
1,1,1,2-Tetrachloroethane		0.401	0.481	0.395	0.406	0.402
1,1,1-Trichloroethane		0.502	0.669	0.616	0.639	0.634
1,1,2,2-Tetrachloroethane		1126	2699	3659	9716	34270
Toluene		1.219	1.638	1.367	1.362	1.376
1,1,2-Trichloroethane		0.203	0.251	0.232	0.234	0.237
1,1-Dichloroethane		0.534	0.640	0.555	0.575	0.549
1,1-Dichloroethene		0.330	0.343	0.297	0.307	0.312
Trichlorofluoromethane		0.556	0.724	0.645	0.648	0.667
1,2,3-Trichlorobenzene		339	789	1216	3318	10723
Tetrachloroethene		0.320	0.398	0.408	0.384	0.392
1,2,4-Trichlorobenzene		0.486	0.545	0.434	0.432	0.422
1,2,4-Trimethylbenzene		2.185	2.693	2.347	2.427	2.419
tert-Butylbenzene		1.916	2.258	2.011	1.966	2.016
Trichloroethene		0.282	0.434	0.351	0.372	0.385
1,2-Dichlorobenzene		1.392	1.685	1.352	1.439	1.375
1,2-Dichloroethane		0.358	0.464	0.401	0.415	0.395
1,2-Dichloropropane		0.242	0.315	0.243	0.245	0.232
1,3,5-Trimethylbenzene		2.054	2.641	2.279	2.322	2.375
1,3-Dichloropropane		0.429	0.532	0.465	0.495	0.478
1,4-Dichlorobenzene		1.675	1.756	1.478	1.538	1.495
2-Butanone		443	1053	1970	4838	18102
2-Chlorotoluene		1.709	2.024	1.738	1.792	1.808
2-Hexanone		0.164	0.192	0.140	0.142	0.138
4-Chlorotoluene		2.001	2.497	2.068	2.103	2.149
Styrene		0.960	1.202	0.986	1.090	1.066
4-Methyl-2-Pentanone		0.210	0.260	0.205	0.208	0.198
Acetone		887	1614	2316	4757	18452
Benzene		4298	9561	15908	34511	123672
Bromobenzene		0.909	1.072	0.867	0.924	0.914
Bromochloromethane		0.258	0.306	0.282	0.258	0.254
Bromodichloromethane		0.340	0.424	0.361	0.399	0.398
Bromoform		0.300	0.378	0.274	0.312	0.335
Bromomethane		1092	2521	3954	11332	39382
Carbon Disulfide		0.859	0.988	0.884	0.897	0.921
Carbon Tetrachloride		0.476	0.532	0.489	0.462	0.464
Chlorobenzene		0.892	1.156	0.948	1.003	0.983

FORM VI VOA

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS1910170

Instrument ID: VOA6 Calibration Date(s): 10/31/19 10/31/19

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1108 1508

LAB FILE ID: RF0.25: X103102 RF0.5: X103103 RF1: X103104
RF2: X103105 RF5: X103106 RF20: X103107

COMPOUND	RF0.25	RF0.5	RF1	RF2	RF5	RF20
Chloroethane		0.191	0.247	0.192	0.190	0.196
Chloroform		0.607	0.723	0.647	0.667	0.668
Chloromethane		898	1666	2728	7622	28930
cis-1,2-Dichloroethene		0.324	0.431	0.392	0.406	0.410
Dibromochloromethane		0.377	0.505	0.377	0.412	0.408
Dichlorodifluoromethane		648	1752	3109	8109	33571
Ethylbenzene		0.458	0.606	0.485	0.519	0.507
Hexachlorobutadiene		0.330	0.453	0.416	0.387	0.382
Isopropylbenzene		1.405	1.769	1.487	1.541	1.564
m,p-Xylenes		0.549	0.730	0.601	0.624	0.620
Methylene Chloride		1124	2365	3610	8754	31523
n-Butylbenzene		1.565	1.954	1.714	1.701	1.824
n-Propylbenzene		2.520	3.319	2.756	2.778	2.856
Naphthalene		1150	2424	3529	8419	28087
o-Xylene		0.541	0.733	0.602	0.615	0.609
sec-Butylbenzene		2.284	2.806	2.413	2.474	2.577
Vinyl Chloride		0.256	0.353	0.294	0.301	0.322
1,2,3-Trichloropropane		1011	2361	3184	8399	30610
p-Isopropyltoluene		2.413	2.792	2.355	2.384	2.509
1,2-Dibromo-3-Chloropropane		156	367	503	1446	4750
Freon TF		0.284	0.350	0.309	0.323	0.344
4-Bromofluorobenzene		2046	3396	5980	13391	49568
Dibromofluoromethane		1147	1737	3779	8982	36041
Toluene-d8		1.523	1.176	1.308	1.228	1.208
1,2-Dichloroethane-d4		1387	2280	4578	9297	37631

FORM VI VOA

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS1910170

Instrument ID: VOA6 Calibration Date(s): 10/31/19 10/31/19

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1108 1508

LAB FILE ID: RF50: X103108 RF100: X103109 RF150: X103110
RF200: X103111

COMPOUND	RF50	RF100	RF150	RF200
cis-1,3-Dichloropropene	0.456	0.465	0.474	0.470
trans-1,3-Dichloropropene	0.428	0.434	0.447	0.446
1,3-Dichlorobenzene	1.445	1.468	1.484	1.459
2,2-Dichloropropane	0.555	0.570	0.566	0.570
1,1-Dichloropropene	0.357	0.374	0.380	0.376
Dibromomethane	0.196	0.196	0.199	0.199
1,2-Dibromoethane	0.333	0.329	0.333	0.329
trans-1,2-Dichloroethene	0.339	0.349	0.348	0.351
1,1,1,2-Tetrachloroethane	0.391	0.398	0.396	0.394
1,1,1-Trichloroethane	0.620	0.649	0.649	0.662
1,1,2,2-Tetrachloroethane	78949	149496	215145	280469
Toluene	1.333	1.348	1.330	1.307
1,1,2-Trichloroethane	0.227	0.221	0.222	0.218
1,1-Dichloroethane	0.530	0.553	0.549	0.553
1,1-Dichloroethene	0.305	0.322	0.322	0.323
Trichlorofluoromethane	0.660	0.697	0.699	0.709
1,2,3-Trichlorobenzene	25234	48520	76003	112477
Tetrachloroethene	0.375	0.383	0.379	0.371
1,2,4-Trichlorobenzene	0.409	0.411	0.441	0.481
1,2,4-Trimethylbenzene	2.356	2.400	2.392	2.336
tert-Butylbenzene	1.954	2.015	2.008	1.960
Trichloroethene	0.372	0.387	0.387	0.387
1,2-Dichlorobenzene	1.309	1.306	1.318	1.312
1,2-Dichloroethane	0.395	0.400	0.411	0.410
1,2-Dichloropropane	0.224	0.230	0.232	0.229
1,3,5-Trimethylbenzene	2.279	2.337	2.333	2.269
1,3-Dichloropropane	0.455	0.450	0.448	0.443
1,4-Dichlorobenzene	1.456	1.474	1.497	1.471
2-Butanone	44815	85336	122056	154601
2-Chlorotoluene	1.743	1.795	1.805	1.761
2-Hexanone	0.136	0.132	0.133	0.134
4-Chlorotoluene	2.058	2.098	2.082	2.021
Styrene	1.044	1.041	1.011	0.988
4-Methyl-2-Pentanone	0.195	0.189	0.193	0.194
Acetone	43941	85856	120957	159199
Benzene	279169	554628	792393	1022532
Bromobenzene	0.886	0.899	0.911	0.900
Bromochloromethane	0.236	0.246	0.245	0.236
Bromodichloromethane	0.394	0.408	0.420	0.417
Bromoform	0.322	0.322	0.330	0.330
Bromomethane	87503	153089		
Carbon Disulfide	0.905	0.950	0.939	0.948
Carbon Tetrachloride	0.469	0.492	0.505	0.504
Chlorobenzene	0.940	0.961	0.952	0.930

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS1910170

Instrument ID: VOA6 Calibration Date(s): 10/31/19 10/31/19

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1108 1508

LAB FILE ID: RF50: X103108 RF100: X103109 RF150: X103110
RF200: X103111

COMPOUND	RF50	RF100	RF150	RF200
Chloroethane	0.187	0.196	0.195	0.190
Chloroform	0.648	0.659	0.660	0.675
Chloromethane	70697	143471	201305	251570
cis-1,2-Dichloroethene	0.397	0.412	0.408	0.414
Dibromochloromethane	0.405	0.415	0.416	0.412
Dichlorodifluoromethane	80612	166586	241181	312332
Ethylbenzene	0.486	0.505	0.495	0.486
Hexachlorobutadiene	0.371	0.376	0.395	0.400
Isopropylbenzene	1.500	1.548	1.524	1.482
m,p-Xylenes	0.600	0.606	0.598	0.581
Methylene Chloride	75516	144719	206835	270371
n-Butylbenzene	1.770	1.828	1.827	1.771
n-Propylbenzene	2.777	2.890	2.909	2.825
Naphthalene	67956	130449	199967	291018
o-Xylene	0.588	0.592	0.581	0.564
sec-Butylbenzene	2.505	2.612	2.620	2.554
Vinyl Chloride	0.308	0.327	0.327	0.332
1,2,3-Trichloropropane	71038	133696	190196	241481
p-Isopropyltoluene	2.425	2.495	2.520	2.476
1,2-Dibromo-3-Chloropropane	11810	22324	32705	45236
Freon TF	0.322	0.350	0.344	0.351
4-Bromofluorobenzene	114681	230071	330489	423412
Dibromofluoromethane	82728	169612	240546	311402
Toluene-d8	1.150	1.211	1.193	1.182
1,2-Dichloroethane-d4	88103	177646	255632	330151

FORM VI VOA

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS1910170

Instrument ID: VOA6 Calibration Date(s): 10/31/19 10/31/19

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1108 1508

COMPOUND	CURVE	COEFFICENTS A0	A1	A2	%RSD OR R^2	MAX %RSD OR R^2
cis-1,3-Dichloropropene	AVRG		0.45856989		6.334	15.000
trans-1,3-Dichloropropene	AVRG		0.42810028		6.686	15.000
1,3-Dichlorobenzene	AVRG		1.52433690		7.623	15.000
2,2-Dichloropropane	AVRG		0.60141341		11.720	15.000
1,1-Dichloropropene	AVRG		0.37244617		7.264	15.000
Dibromomethane	AVRG		0.19310160		11.587	15.000
1,2-Dibromoethane	AVRG		0.33595600		5.784	15.000
trans-1,2-Dichloroethene	AVRG		0.33587175		6.524	15.000
1,1,1,2-Tetrachloroethane	AVRG		0.40728922		6.920	15.000
1,1,1-Trichloroethane	AVRG		0.62660928		7.977	15.000
1,1,2,2-Tetrachloroethane	LINR	-1.06e-002	1.85567773		0.9999263	0.9900000
Toluene	AVRG		1.36443130		8.261	15.000
1,1,2-Trichloroethane	AVRG		0.22720880		5.950	15.000
1,1-Dichloroethane	AVRG		0.55973145		5.836	15.000
1,1-Dichloroethene	AVRG		0.31789341		4.475	15.000
Trichlorofluoromethane	AVRG		0.66731484		7.520	15.000
1,2,3-Trichlorobenzene	2ORDR	-2.55e-002	6.46537152	-2.0975653	0.9996923	0.9900000
Tetrachloroethene	AVRG		0.37879564		6.543	15.000
1,2,4-Trichlorobenzene	AVRG		0.45120351		9.878	15.000
1,2,4-Trimethylbenzene	AVRG		2.39501000		5.559	15.000
tert-Butylbenzene	AVRG		2.01155844		4.906	15.000
Trichloroethene	AVRG		0.37307409		10.841	15.000
1,2-Dichlorobenzene	AVRG		1.38759928		8.690	15.000
1,2-Dichloroethane	AVRG		0.40536598		6.857	15.000
1,2-Dichloropropane	AVRG		0.24355653		11.351	15.000
1,3,5-Trimethylbenzene	AVRG		2.32095590		6.520	15.000
1,3-Dichloropropane	AVRG		0.46611380		6.786	15.000
1,4-Dichlorobenzene	AVRG		1.53800306		6.844	15.000
2-Butanone	LINR	-9.39e-003	9.95127446		0.9999734	0.9900000
2-Chlorotoluene	AVRG		1.79705975		5.102	15.000
2-Hexanone	AVRG		0.14558619		13.598	15.000
4-Chlorotoluene	AVRG		2.11973712		6.994	15.000
Styrene	AVRG		1.04310443		6.964	15.000
4-Methyl-2-Pentanone	AVRG		0.20587784		10.565	15.000
Acetone	LINR	-3.6e-004	9.80325625		0.9996338	0.9900000
Benzene	LINR	-6.38e-003	0.94018283		0.9998857	0.9900000
Bromobenzene	AVRG		0.92040881		6.424	15.000
Bromochloromethane	AVRG		0.25787705		8.841	15.000
Bromodichloromethane	AVRG		0.39587864		7.081	15.000
Bromoform	AVRG		0.32249483		8.752	15.000
Bromomethane	LINR	-3.01e-002	2.73849150		0.9970687	0.9900000
Carbon Disulfide	AVRG		0.92121612		4.277	15.000
Carbon Tetrachloride	AVRG		0.48801212		4.725	15.000
Chlorobenzene	AVRG		0.97395716		7.722	15.000

FORM VI VOA

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS1910170

Instrument ID: VOA6 Calibration Date(s): 10/31/19 10/31/19

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1108 1508

COMPOUND	CURVE	COEFFICENTS A0	A1	A2	%RSD OR R^2	MAX %RSD OR R^2
Chloroethane	AVRG		0.19820754		9.410	15.000
Chloroform	AVRG		0.66179335		4.606	15.000
Chloromethane	LINR	-1.22e-003	3.03114225		0.9996110	0.9900000
cis-1,2-Dichloroethene	AVRG		0.39942970		7.607	15.000
Dibromochloromethane	AVRG		0.41417828		9.025	15.000
Dichlorodifluoromethane	LINR	2.432e-002	2.47498629		0.9995504	0.9900000
Ethylbenzene	AVRG		0.50515329		8.236	15.000
Hexachlorobutadiene	AVRG		0.39001718		8.598	15.000
Isopropylbenzene	AVRG		1.53568222		6.462	15.000
m,p-Xylenes	AVRG		0.61234124		8.051	15.000
Methylene Chloride	LINR	-1.26e-004	2.88208931		0.9997434	0.9900000
n-Butylbenzene	AVRG		1.77282287		6.087	15.000
n-Propylbenzene	AVRG		2.84776750		7.392	15.000
Naphthalene	2ORDR	-2.51e-002	2.39456353	-0.2663482	0.9997523	0.9900000
o-Xylene	AVRG		0.60297897		8.914	15.000
sec-Butylbenzene	AVRG		2.53839176		5.765	15.000
Vinyl Chloride	AVRG		0.31362559		8.872	15.000
1,2,3-Trichloropropane	LINR	-2.22e-002	2.13207398		0.9996332	0.9900000
p-Isopropyltoluene	AVRG		2.48551941		5.171	15.000
1,2-Dibromo-3-Chloropropane	LINR	2.147e-002	11.7174015		0.9980553	0.9900000
Freon TF	AVRG		0.33078879		6.986	15.000
4-Bromofluorobenzene	LINR	-1.22e-002	2.15439466		0.9997566	0.9900000
Dibromofluoromethane	LINR	9.795e-003	2.48500674		0.9997419	0.9900000
Toluene-d8	AVRG		1.24228173		9.204	15.000
1,2-Dichloroethane-d4	LINR	9.88e-003	2.34581527		0.9997546	0.9900000

FORM VI VOA

Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\X103101.D

Date : 31-OCT-2019 10:45

Client ID: BFB

Instrument: voa6.i

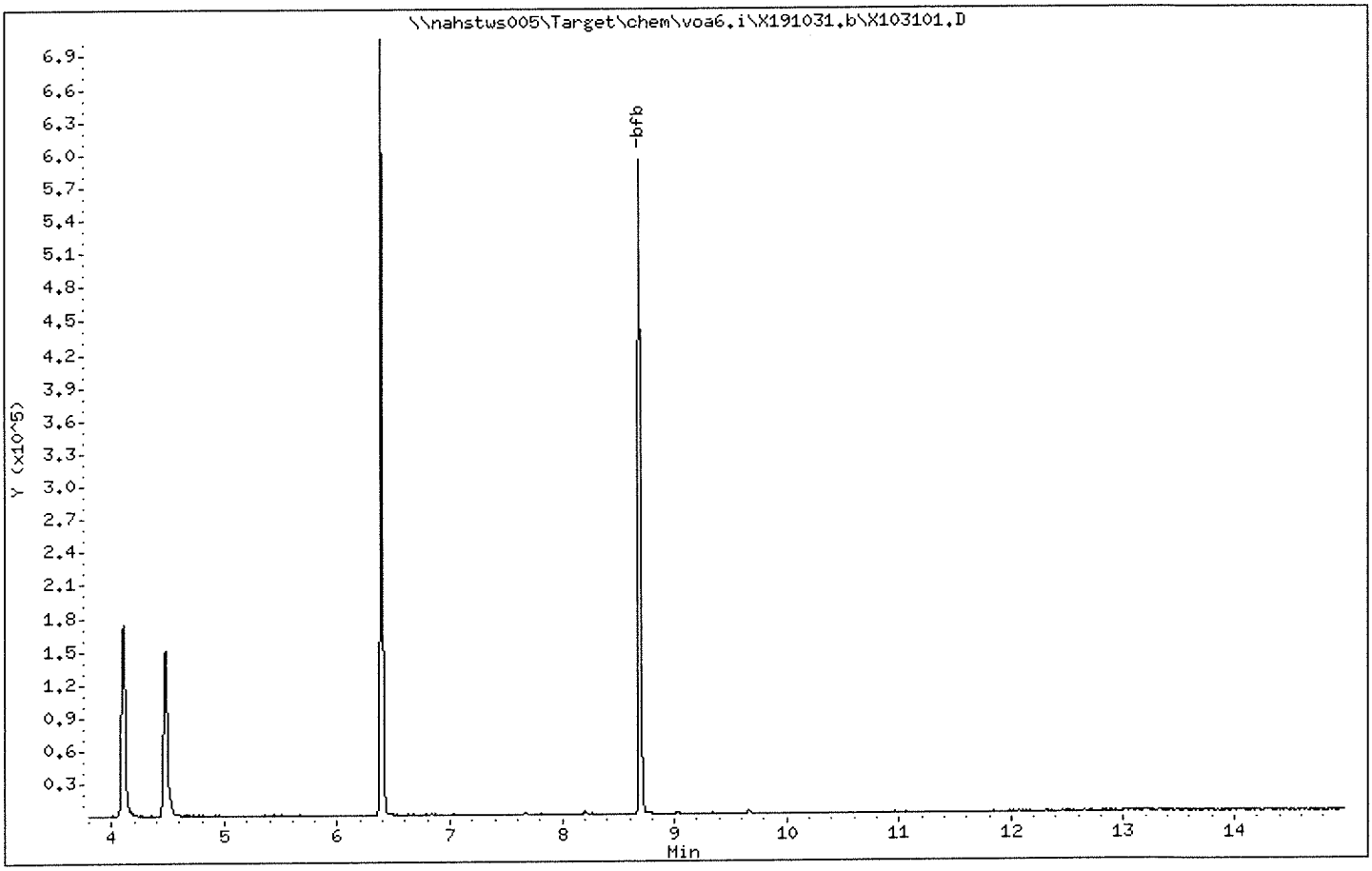
Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0

Operator: PC

Column phase: DB624

Column diameter: 0.25



Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\X103101.D

Date : 31-OCT-2019 10:45

Client ID: BFB

Instrument: voa6.i

Sample Info: BFB;BFB;3;;BFB

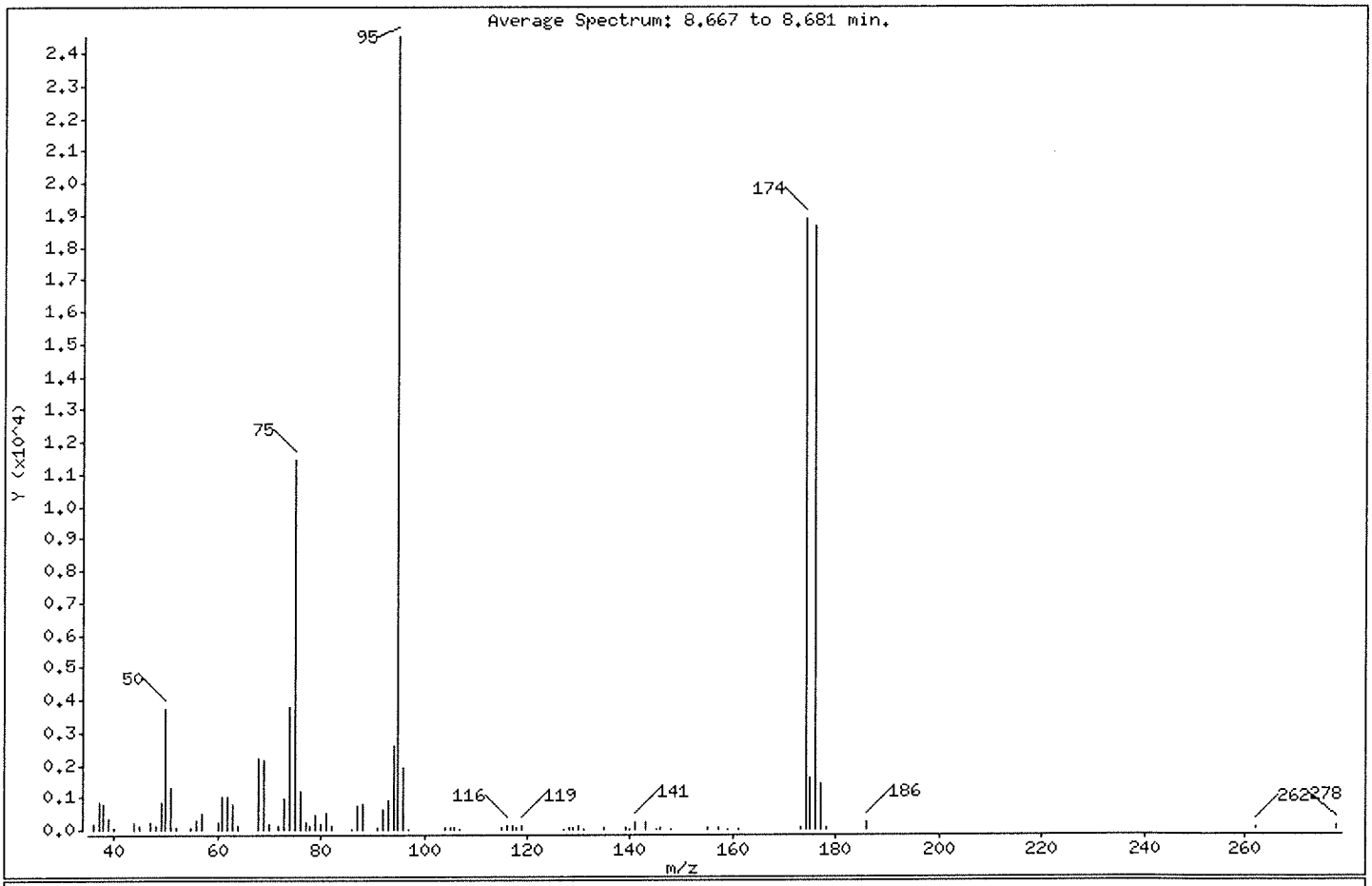
Volume Injected (uL): 2.0

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	15.26
75	30.00 - 60.00% of mass 95	46.74
96	5.00 - 9.00% of mass 95	7.82
173	Less than 2.00% of mass 174	0.27 (0.35)
174	Greater than 50.00% of mass 95	77.15
175	5.00 - 9.00% of mass 174	6.54 (8.47)
176	95.00 - 101.00% of mass 174	75.98 (98.48)
177	5.00 - 9.00% of mass 176	5.74 (7.55)

Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\X103101.D Page 3

Date : 31-OCT-2019 10:45

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: X103101.D
Spectrum: Average Spectrum: 8.667 to 8.681 min.
Location of Maximum: 95.00
Number of points: 80

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	175	68.00	2200	95.00	24512	143.00	198
37.00	849	69.00	2137	96.00	1917	145.00	23
38.00	767	70.00	142	97.00	20	146.00	46
39.00	345	72.00	110	104.00	69	148.00	26
40.00	43	73.00	972	105.00	32	155.00	49
44.00	202	74.00	3770	106.00	58	157.00	36
45.00	127	75.00	11458	107.00	24	159.00	25
47.00	198	76.00	1157	115.00	69	161.00	23
48.00	134	77.00	239	116.00	87	173.00	67
49.00	873	78.00	119	117.00	122	174.00	18904
50.00	3741	79.00	465	118.00	52	175.00	1602
51.00	1282	80.00	144	119.00	125	176.00	18624
52.00	53	81.00	505	127.00	18	177.00	1406
55.00	77	82.00	92	128.00	82	178.00	33
56.00	283	86.00	18	129.00	80	186.00	225
57.00	532	87.00	712	130.00	93	262.00	38
60.00	228	88.00	805	131.00	22	278.00	140
61.00	987	91.00	74	135.00	35		
62.00	1014	92.00	617	139.00	35		
63.00	782	93.00	878	140.00	22		
64.00	99	94.00	2584	141.00	236		

Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\X103102.D Page 1
Report Date: 19-Nov-2019 17:39

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X191031.b\X103102.D
Lab Smp Id: VSTD000.25 Client Smp ID: VSTD000.25
Inj Date : 31-OCT-2019 11:08
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\X191031.b\8260W.m
Meth Date : 19-Nov-2019 17:37 voa6.i Quant Type: ISTD
Cal Date : 31-OCT-2019 11:08 Cal File: X103102.D
Als bottle: 2 Calibration Sample, Level: 1
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)	ON-COL (ug/l)
*	1 Pentafluorobenzene	168	4.182	4.182	(1.000)	249352	50.0000	
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	305717	50.0000	
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	276345	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	161037	50.0000	
$	35 1,2-Dichloroethane-d4	65	4.483	4.476	(1.072)	1045	0.25000	0.98(Ta)
$	69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	3827	0.25000	0.88(a)
$	30 Dibromofluoromethane	113	4.103	4.104	(0.981)	893	0.25000	0.93(a)
$	48 Toluene-d8	98	6.388	6.389	(0.833)	4092	0.25000	0.59(Ta)
	60 1,1,1,2-Tetrachloroethane	131	7.771	7.778	(1.013)	555	0.25000	0.24(aM)
	31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	636	0.25000	0.20(a)
	68 1,1,2,2-Tetrachloroethane	83	8.845	8.845	(0.915)	385	0.25000	(aM)
	138 Freon TF	101	1.911	1.912	(0.457)	303	0.25000	0.18(aM)
	53 1,1,2-Trichloroethane	83	6.847	6.840	(0.893)	262	0.25000	0.20(aM)
	22 1,1-Dichloroethane	63	2.921	2.922	(0.699)	663	0.25000	0.23(aM)
	11 1,1-Dichloroethene	96	1.911	1.912	(0.457)	269	0.25000	0.16(aM)
	32 1,1-Dichloropropene	75	4.290	4.283	(0.863)	483	0.25000	0.21(aM)
	93 1,2,3-Trichlorobenzene	180	11.739	11.746	(1.214)	76	0.25000	(aM)
	71 1,2,3-Trichloropropane	75	8.867	8.867	(0.917)	438	0.25000	(aM)
	90 1,2,4-Trichlorobenzene	180	11.345	11.338	(1.173)	218	0.25000	0.15(aM)
	79 1,2,4-Trimethylbenzene	105	9.382	9.383	(0.970)	1565	0.25000	0.20(a)
	57 1,2-Dibromoethane	107	7.269	7.262	(0.948)	409	0.25000	0.22(aM)
	88 1,2-Dichlorobenzene	146	9.998	9.999	(1.034)	1030	0.25000	0.23(a)
	33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	531	0.25000	0.21(aM)

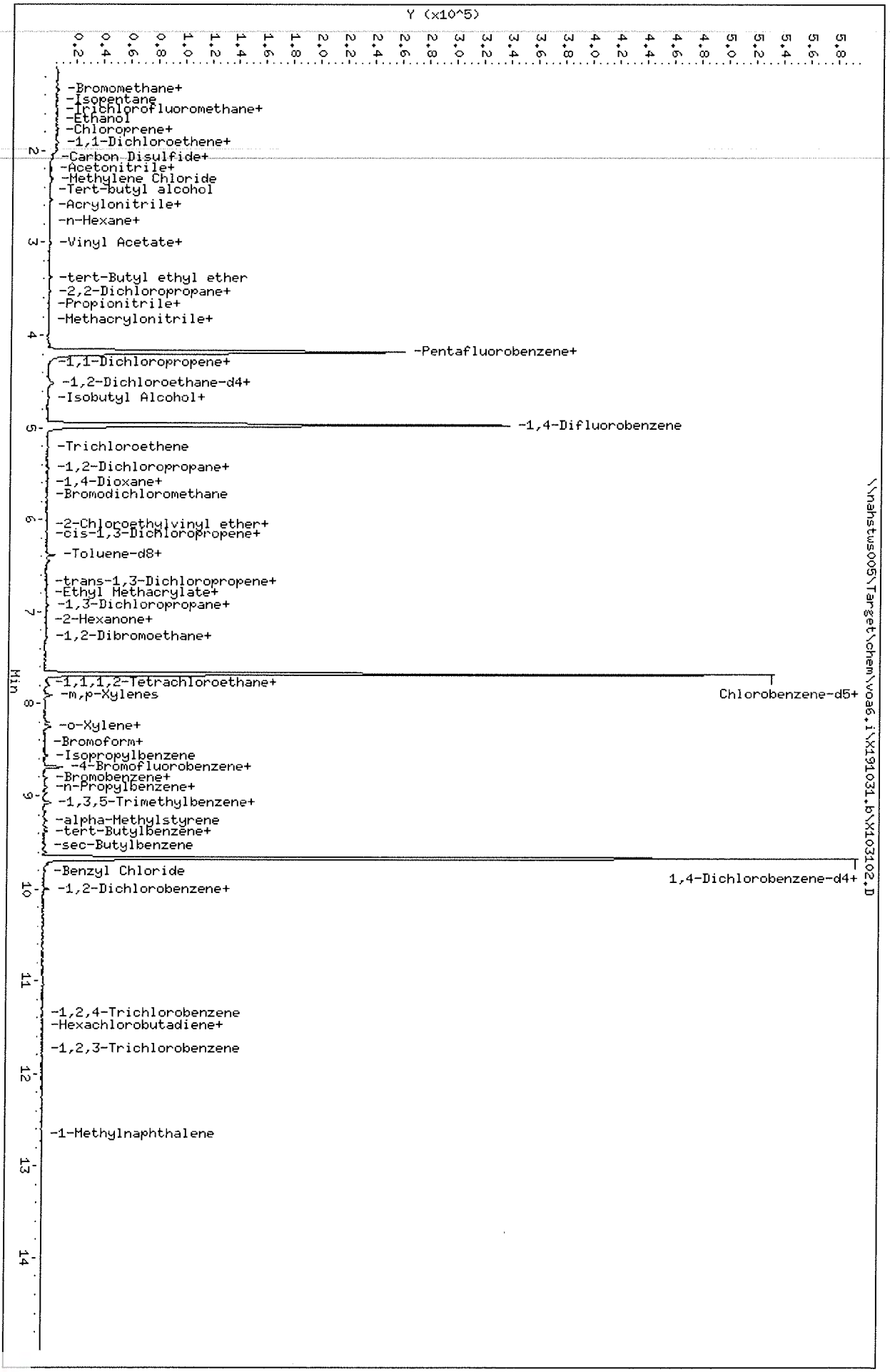
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
42 1,2-Dichloropropane	63	5.436	5.436	(1.094)	363	0.25000	0.24 (aM)
75 1,3,5-Trimethylbenzene	105	9.067	9.075	(0.938)	1373	0.25000	0.18 (a)
83 1,3-Dichlorobenzene	146	9.612	9.612	(0.994)	901	0.25000	0.18 (a)
54 1,3-Dichloropropane	76	6.983	6.983	(0.910)	646	0.25000	0.25 (aM)
84 1,4-Dichlorobenzene	146	9.683	9.684	(1.001)	1137	0.25000	0.22 (a)
26 2,2-Dichloropropane	77	3.509	3.516	(0.839)	828	0.25000	0.27 (aM)
24 2-Butanone	43	3.602	3.573	(0.861)	220	0.50000	(aM)
76 2-Chlorotoluene	91	8.981	8.982	(0.929)	1180	0.25000	0.20 (aM)
52 2-Hexanone	43	7.090	7.090	(0.924)	312	0.50000	0.38 (aM)
77 4-Chlorotoluene	91	9.074	9.075	(0.939)	1406	0.25000	0.20 (aM)
82 p-Isopropyltoluene	119	9.655	9.655	(0.999)	1208	0.25000	0.15 (aM)
45 4-Methyl-2-Pentanone	43	6.324	6.331	(0.824)	481	0.50000	0.42 (aM)
10 Acetone	43	1.976	1.976	(0.473)	655	0.50000	1.26 (aM)
37 Benzene	78	4.519	4.512	(0.909)	3152	0.25000	0.16 (aM)
74 Bromobenzene	156	8.809	8.810	(0.911)	638	0.25000	0.21 (a)
29 Bromochloromethane	128	3.788	3.795	(0.906)	295	0.25000	0.22 (aM)
39 Bromodichloromethane	83	5.729	5.730	(1.153)	477	0.25000	0.19 (aM)
66 Bromoform	173	8.415	8.416	(1.097)	339	0.25000	0.19 (aM)
6 Bromomethane	94	1.338	1.331	(0.320)	550	0.25000	(aM)
19 Carbon Disulfide	76	2.069	2.069	(0.495)	2027	0.50000	0.44 (a)
34 Carbon Tetrachloride	117	4.239	4.268	(0.853)	1048	0.25000	0.35 (aM)
59 Chlorobenzene	112	7.699	7.699	(1.004)	1360	0.25000	0.25 (aM)
7 Chloroethane	64	1.410	1.396	(0.337)	350	0.25000	0.35 (aM)
28 Chloroform	83	3.917	3.910	(0.937)	771	0.25000	0.23 (aM)
3 Chloromethane	50	1.073	1.074	(0.257)	486	0.25000	0.23 (aM)
27 cis-1,2-Dichloroethene	96	3.530	3.523	(0.844)	436	0.25000	0.21 (aM)
46 cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	571	0.25000	0.20 (aM)
55 Dibromochloromethane	129	7.176	7.176	(0.936)	436	0.25000	0.19 (aM)
44 Dibromomethane	93	5.557	5.558	(1.118)	254	0.25000	0.21 (aM)
2 Dichlorodifluoromethane	85	0.973	0.966	(0.233)	397	0.25000	1.41 (aM)
61 Ethylbenzene	106	7.807	7.807	(1.018)	548	0.25000	0.19 (aM)
91 Hexachlorobutadiene	225	11.481	11.481	(1.187)	144	0.25000	0.11 (aM)
67 Isopropylbenzene	105	8.566	8.566	(1.117)	1547	0.25000	0.18 (aM)
62 m,p-Xylenes	106	7.907	7.907	(1.031)	1517	0.50000	0.44 (a)
17 Methylene Chloride	84	2.305	2.306	(0.551)	1014	0.25000	0.57 (aM)
87 n-Butylbenzene	91	9.998	9.999	(1.034)	1013	0.25000	0.17 (aM)
73 n-Propylbenzene	91	8.917	8.917	(0.922)	1705	0.25000	0.18 (a)
92 Naphthalene	128	11.546	11.546	(1.194)	425	0.25000	(aM)
63 o-Xylene	106	8.244	8.244	(1.075)	705	0.25000	0.21 (a)
81 sec-Butylbenzene	105	9.526	9.526	(0.985)	1494	0.25000	0.18 (aM)
64 Styrene	104	8.265	8.265	(1.078)	1251	0.25000	0.21 (a)
78 tert-Butylbenzene	119	9.339	9.340	(0.966)	1152	0.25000	0.17 (Ta)
56 Tetrachloroethene	164	6.933	6.933	(0.904)	486	0.25000	0.23 (aM)
50 Toluene	91	6.453	6.446	(0.841)	1807	0.25000	0.23 (a)
20 trans-1,2-Dichloroethene	96	2.527	2.528	(0.604)	299	0.25000	0.17 (aM)
51 trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	511	0.25000	0.19 (aM)
38 Trichloroethene	130	5.214	5.207	(1.049)	463	0.25000	0.20 (aM)
8 Trichlorofluoromethane	101	1.560	1.553	(0.373)	606	0.25000	0.18 (aM)
5 Vinyl Chloride	62	1.138	1.138	(0.272)	423	0.25000	0.27 (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\X191031.b\X103102.D
Date : 31-OCT-2019 11:08
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\X191031.b\X103103.D Page 1
Report Date: 19-Nov-2019 17:39

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X191031.b\X103103.D
Lab Smp Id: VSTD000.5 Client Smp ID: VSTD000.5
Inj Date : 31-OCT-2019 11:56
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\X191031.b\8260W.m
Meth Date : 19-Nov-2019 17:37 voa6.i Quant Type: ISTD
Cal Date : 31-OCT-2019 11:56 Cal File: X103103.D
Als bottle: 4 Calibration Sample, Level: 2
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

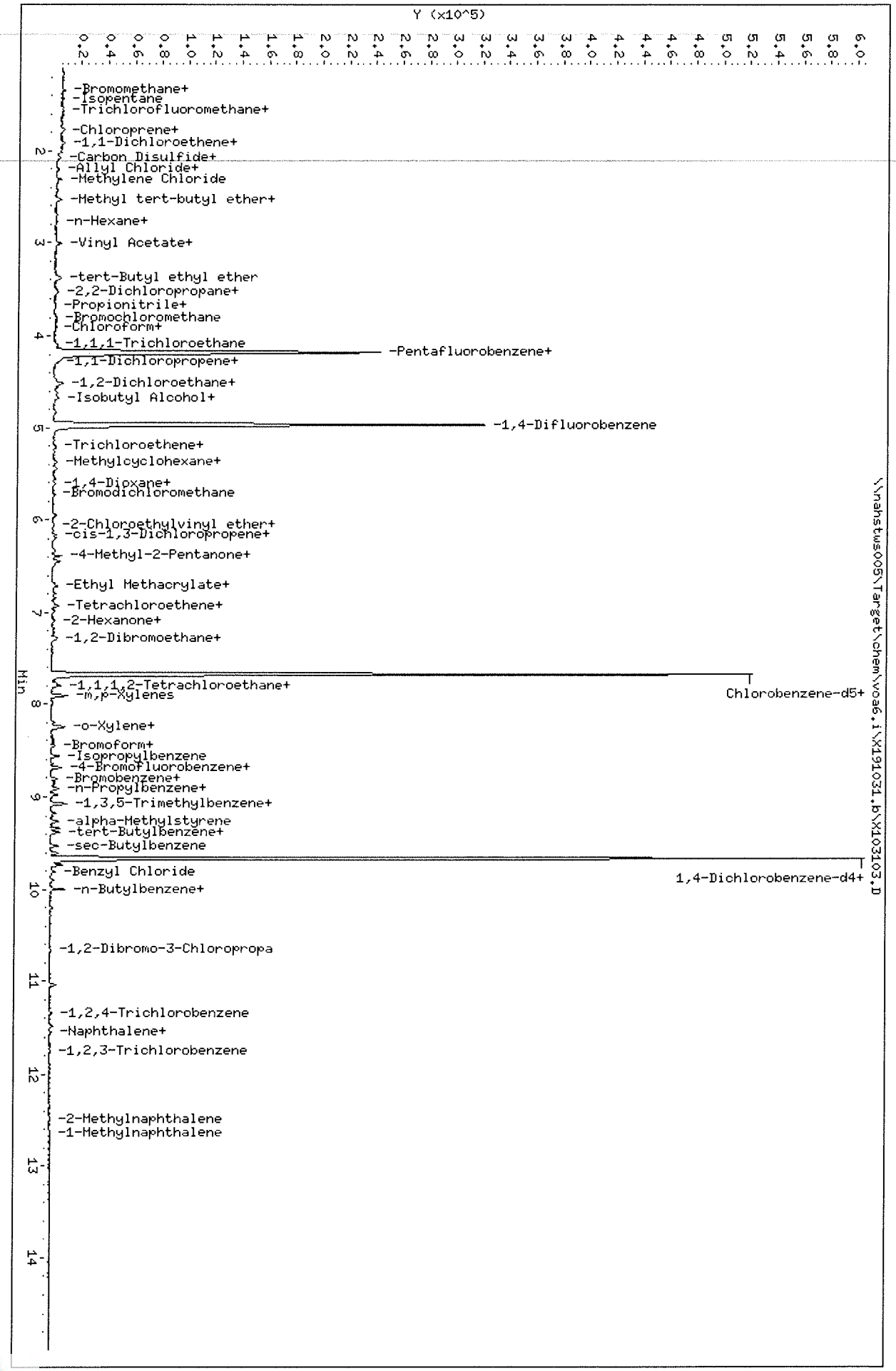
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	231199	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	293122	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	268166	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	158550	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.469	4.476	(1.069)	1387	0.50000	1.19(Ta)
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	2046	0.50000	0.21(a)
$ 30 Dibromofluoromethane	113	4.103	4.104	(0.981)	1147	0.50000	1.10(a)
$ 48 Toluene-d8	98	6.388	6.389	(0.833)	4085	0.50000	0.61(Ta)
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	1075	0.50000	0.49(a)
31 1,1,1-Trichloroethane	97	4.082	4.089	(0.976)	1160	0.50000	0.40(a)
68 1,1,2,2-Tetrachloroethane	83	8.845	8.845	(0.915)	1126	0.50000	0.12(aM)
138 Freon TF	101	1.911	1.912	(0.457)	657	0.50000	0.42(aM)
53 1,1,2-Trichloroethane	83	6.833	6.840	(0.891)	544	0.50000	0.44(aM)
22 1,1-Dichloroethane	63	2.936	2.922	(0.702)	1234	0.50000	0.47(aM)
11 1,1-Dichloroethene	96	1.911	1.912	(0.457)	764	0.50000	0.51(aM)
32 1,1-Dichloropropene	75	4.282	4.283	(0.862)	986	0.50000	0.45(aM)
93 1,2,3-Trichlorobenzene	180	11.754	11.746	(1.216)	339	0.50000	(aM)
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.917)	1011	0.50000	(aM)
90 1,2,4-Trichlorobenzene	180	11.345	11.338	(1.173)	770	0.50000	0.53(aM)
79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.970)	3464	0.50000	0.45(a)
89 1,2-Dibromo-3-Chloropropane	155	10.658	10.658	(1.102)	156	0.50000	1.65(aM)
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	824	0.50000	0.45(a)
88 1,2-Dichlorobenzene	146	9.999	9.999	(1.034)	2207	0.50000	0.50(a)

Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\X103103.D Page 2
Report Date: 19-Nov-2019 17:39

	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	4.555	4.562	(0.916)	1048	0.50000	0.44 (aM)
42	1,2-Dichloropropane	63	5.443	5.436	(1.095)	709	0.50000	0.49 (aM)
75	1,3,5-Trimethylbenzene	105	9.067	9.075	(0.938)	3256	0.50000	0.44 (a)
83	1,3-Dichlorobenzene	146	9.605	9.612	(0.993)	2478	0.50000	0.51 (a)
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	1150	0.50000	0.46 (aM)
84	1,4-Dichlorobenzene	146	9.683	9.684	(1.001)	2656	0.50000	0.54 (a)
26	2,2-Dichloropropane	77	3.523	3.516	(0.842)	1474	0.50000	0.53 (aM)
24	2-Butanone	43	3.588	3.573	(0.858)	443	1.00000	0.48 (aM)
76	2-Chlorotoluene	91	8.974	8.982	(0.928)	2709	0.50000	0.47 (a)
52	2-Hexanone	43	7.090	7.090	(0.924)	880	1.00000	1.12 (Ta)
77	4-Chlorotoluene	91	9.075	9.075	(0.939)	3173	0.50000	0.47 (a)
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	3826	0.50000	0.48 (a)
45	4-Methyl-2-Pentanone	43	6.331	6.331	(0.825)	1125	1.00000	1.01 (aM)
10	Acetone	43	1.976	1.976	(0.473)	887	1.00000	1.86 (aM)
37	Benzene	78	4.512	4.512	(0.908)	4298	0.50000	0.37 (aM)
74	Bromobenzene	156	8.810	8.810	(0.911)	1442	0.50000	0.49 (a)
29	Bromochloromethane	128	3.803	3.795	(0.909)	597	0.50000	0.50 (aM)
39	Bromodichloromethane	83	5.722	5.730	(1.151)	998	0.50000	0.43 (aM)
66	Bromoform	173	8.416	8.416	(1.097)	805	0.50000	0.46 (aM)
6	Bromomethane	94	1.338	1.331	(0.320)	1092	0.50000	(a)
19	Carbon Disulfide	76	2.069	2.069	(0.495)	3971	1.00000	0.93 (aM)
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	1394	0.50000	0.48 (aM)
59	Chlorobenzene	112	7.699	7.699	(1.004)	2393	0.50000	0.45 (a)
7	Chloroethane	64	1.403	1.396	(0.336)	442	0.50000	0.48 (aM)
28	Chloroform	83	3.917	3.910	(0.937)	1403	0.50000	0.45 (a)
3	Chloromethane	50	1.073	1.074	(0.257)	898	0.50000	0.52 (aM)
27	cis-1,2-Dichloroethene	96	3.530	3.523	(0.844)	749	0.50000	0.40 (aM)
46	cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	1154	0.50000	0.42 (aM)
55	Dibromochloromethane	129	7.176	7.176	(0.936)	1012	0.50000	0.45 (a)
44	Dibromomethane	93	5.557	5.558	(1.118)	413	0.50000	0.36 (aM)
2	Dichlorodifluoromethane	85	0.973	0.966	(0.233)	648	0.50000	1.56 (aM)
61	Ethylbenzene	106	7.800	7.807	(1.017)	1227	0.50000	0.45 (aM)
91	Hexachlorobutadiene	225	11.488	11.481	(1.188)	523	0.50000	0.42 (aM)
67	Isopropylbenzene	105	8.566	8.566	(1.117)	3769	0.50000	0.45 (a)
62	m,p-Xylenes	106	7.907	7.907	(1.031)	2945	1.00000	0.89 (a)
17	Methylene Chloride	84	2.305	2.306	(0.551)	1124	0.50000	0.69 (a)
87	n-Butylbenzene	91	9.999	9.999	(1.034)	2482	0.50000	0.44 (a)
73	n-Propylbenzene	91	8.917	8.917	(0.922)	3995	0.50000	0.44 (a)
92	Naphthalene	128	11.546	11.546	(1.194)	1150	0.50000	(a)
63	o-Xylene	106	8.244	8.244	(1.075)	1452	0.50000	0.44 (a)
81	sec-Butylbenzene	105	9.526	9.526	(0.985)	3621	0.50000	0.44 (a)
64	Styrene	104	8.265	8.265	(1.078)	2574	0.50000	0.46 (a)
78	tert-Butylbenzene	119	9.340	9.340	(0.966)	3038	0.50000	0.47 (a)
56	Tetrachloroethene	164	6.933	6.933	(0.904)	859	0.50000	0.42 (a)
50	Toluene	91	6.446	6.446	(0.840)	3269	0.50000	0.44 (a)
20	trans-1,2-Dichloroethene	96	2.528	2.528	(0.604)	653	0.50000	0.42 (aM)
51	trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	1066	0.50000	0.42 (a)
38	Trichloroethene	130	5.199	5.207	(1.046)	828	0.50000	0.37 (aM)
8	Trichlorofluoromethane	101	1.561	1.553	(0.373)	1286	0.50000	0.41 (a)
5	Vinyl Chloride	62	1.145	1.138	(0.274)	593	0.50000	0.40 (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.



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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

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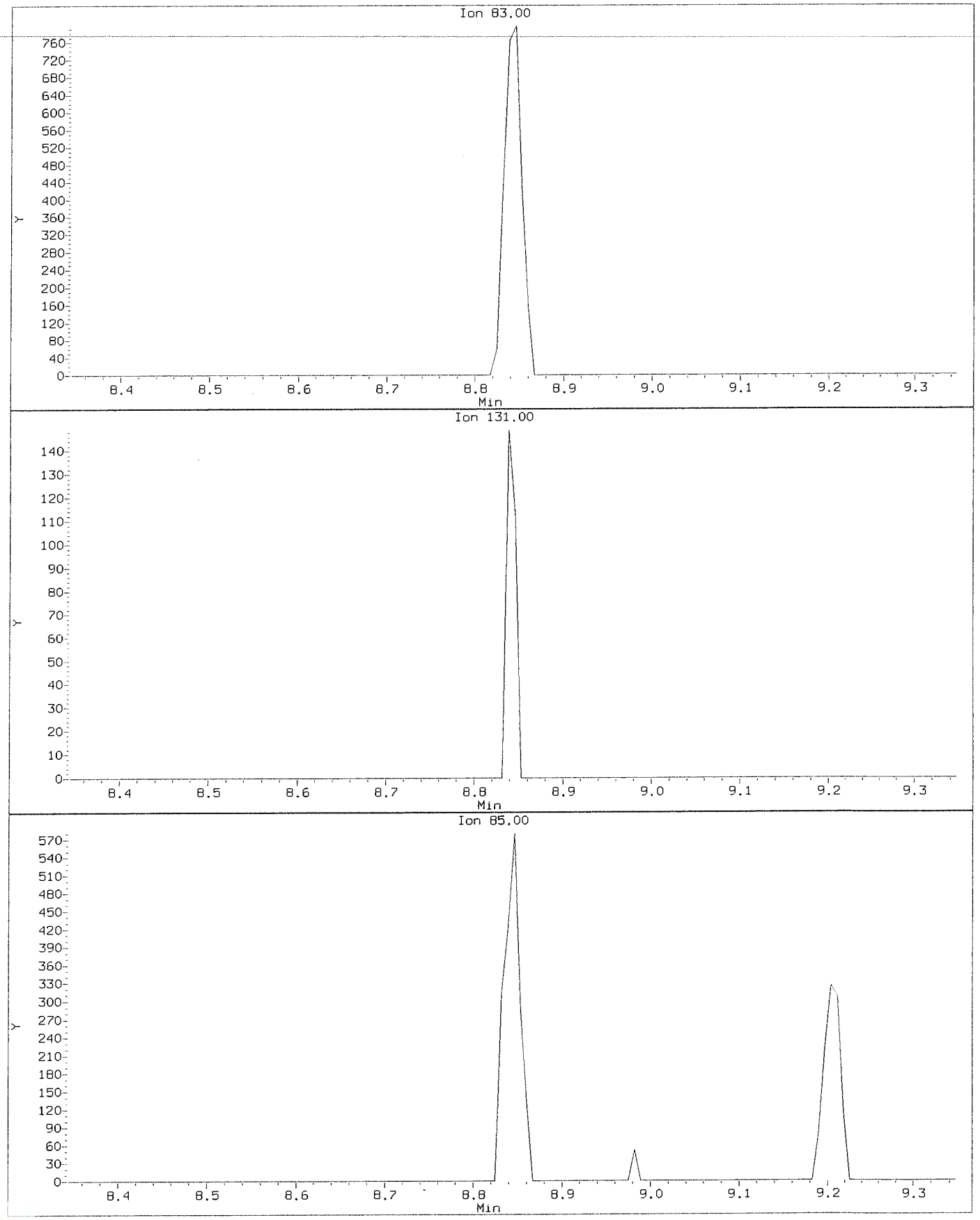
Injection Date: 31-OCT-2019 11:56
Instrument: voa6.i
Client Sample ID: VSTD000.5

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



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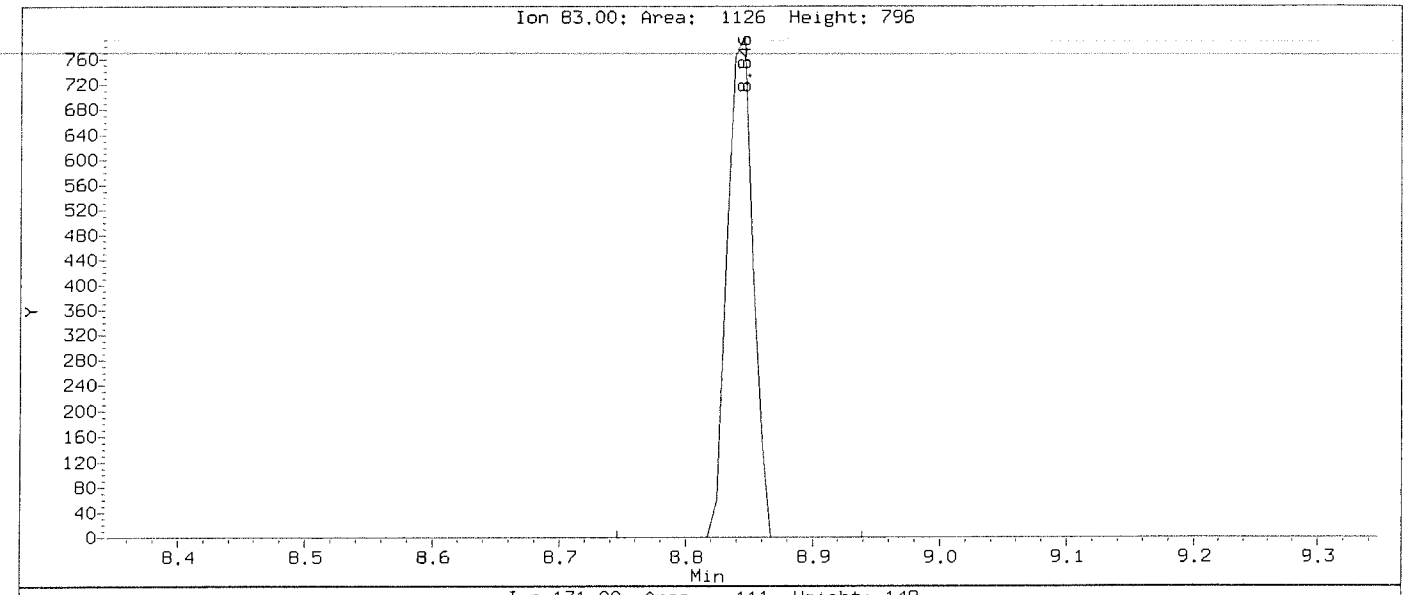
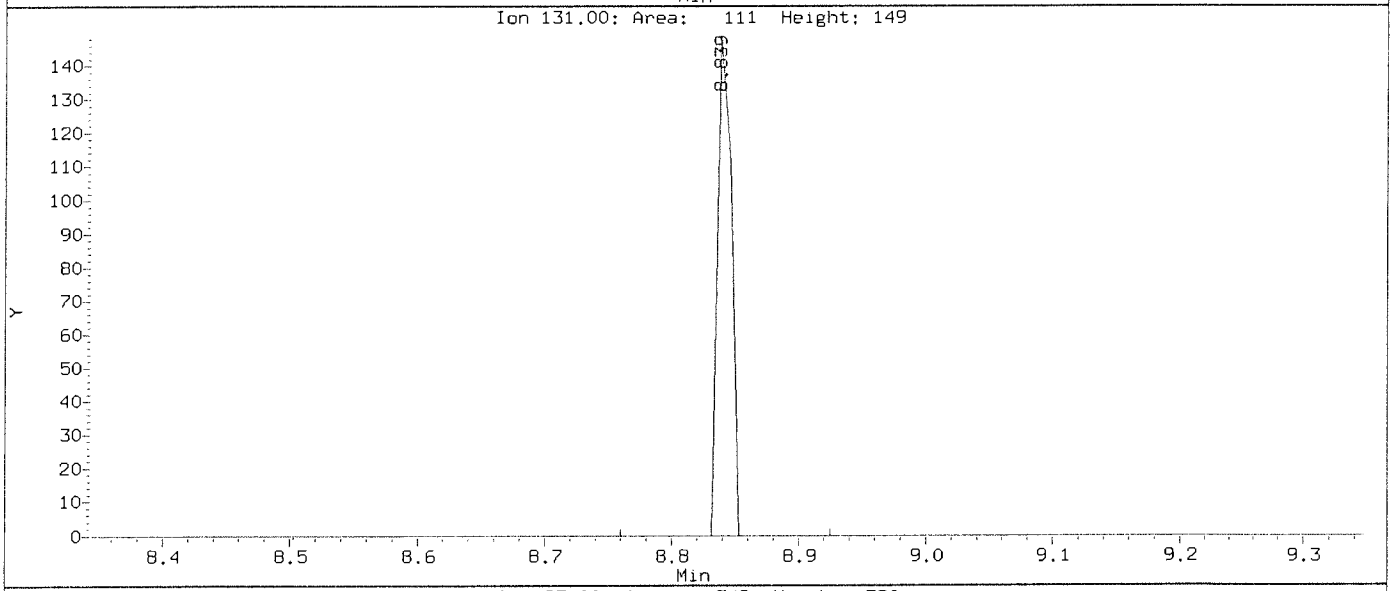
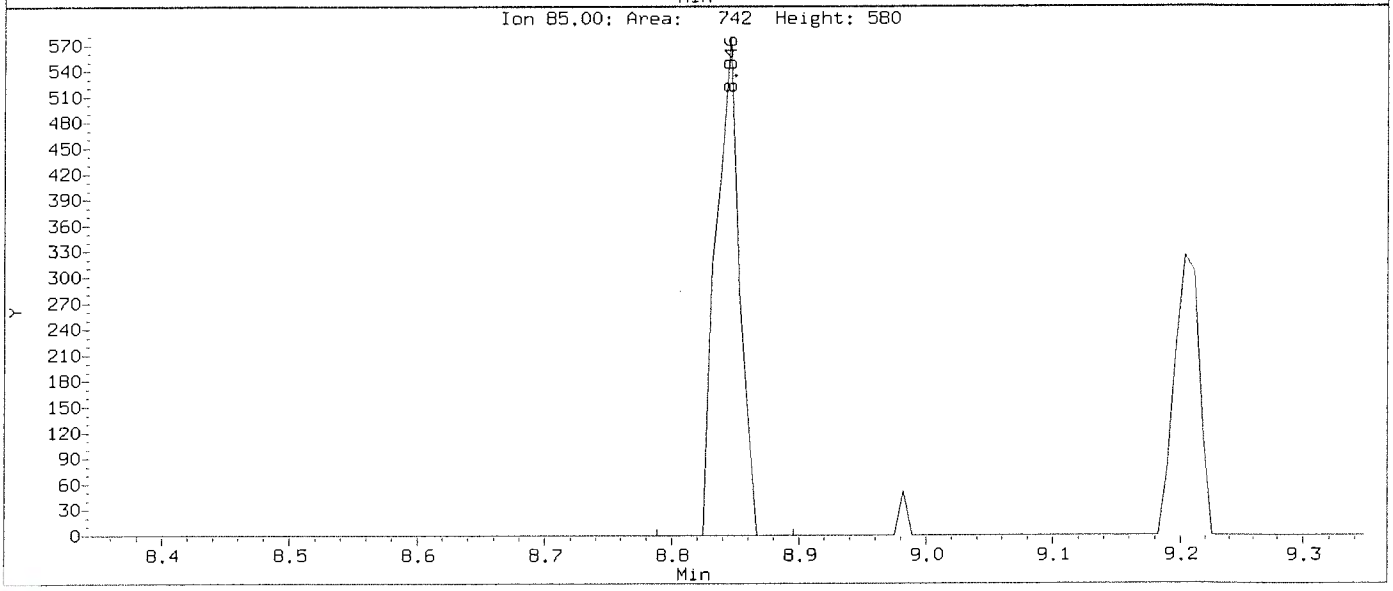
Compound: 1,1,2,2-Tetrachloroethane
CAS Number: 79-34-5







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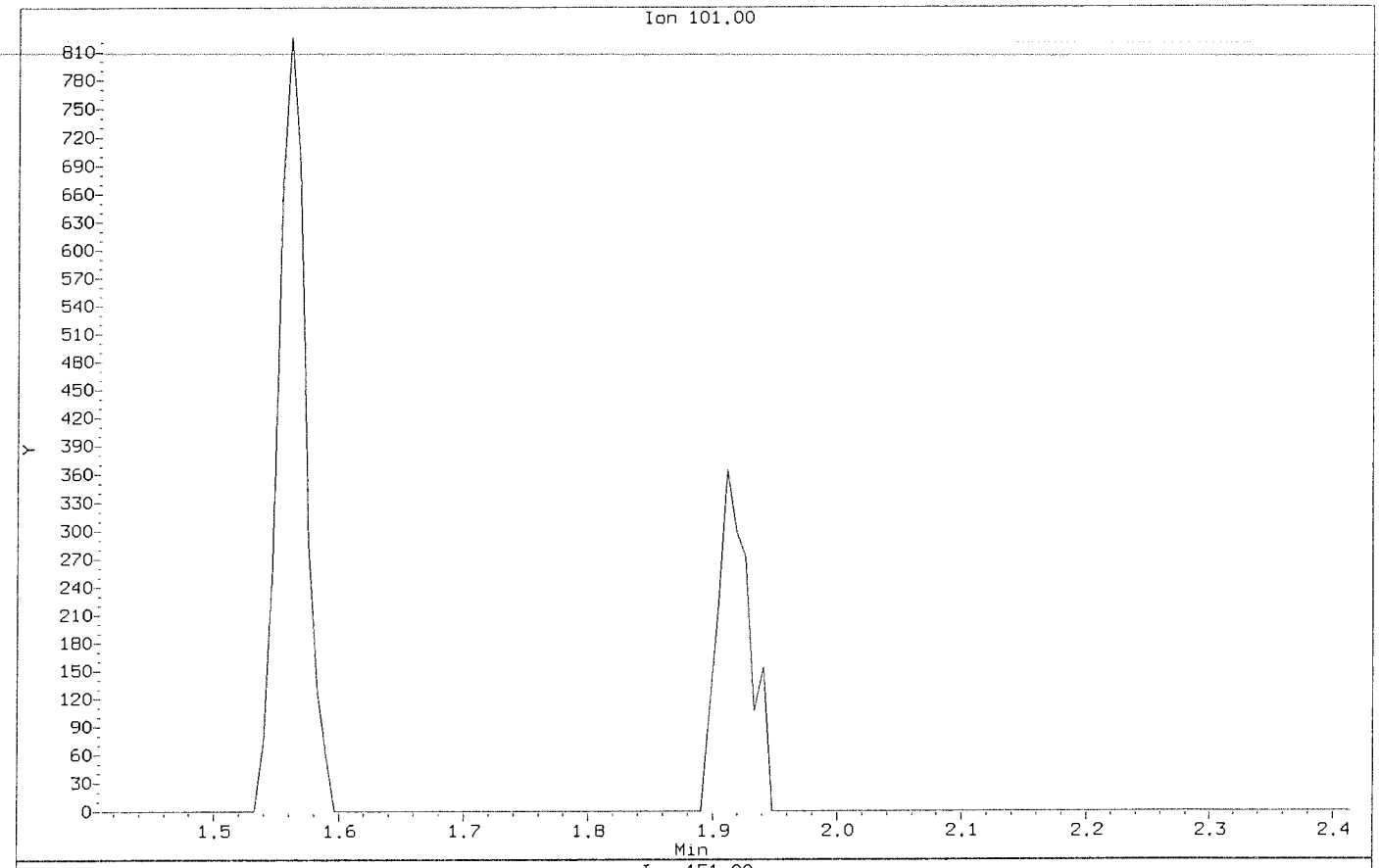
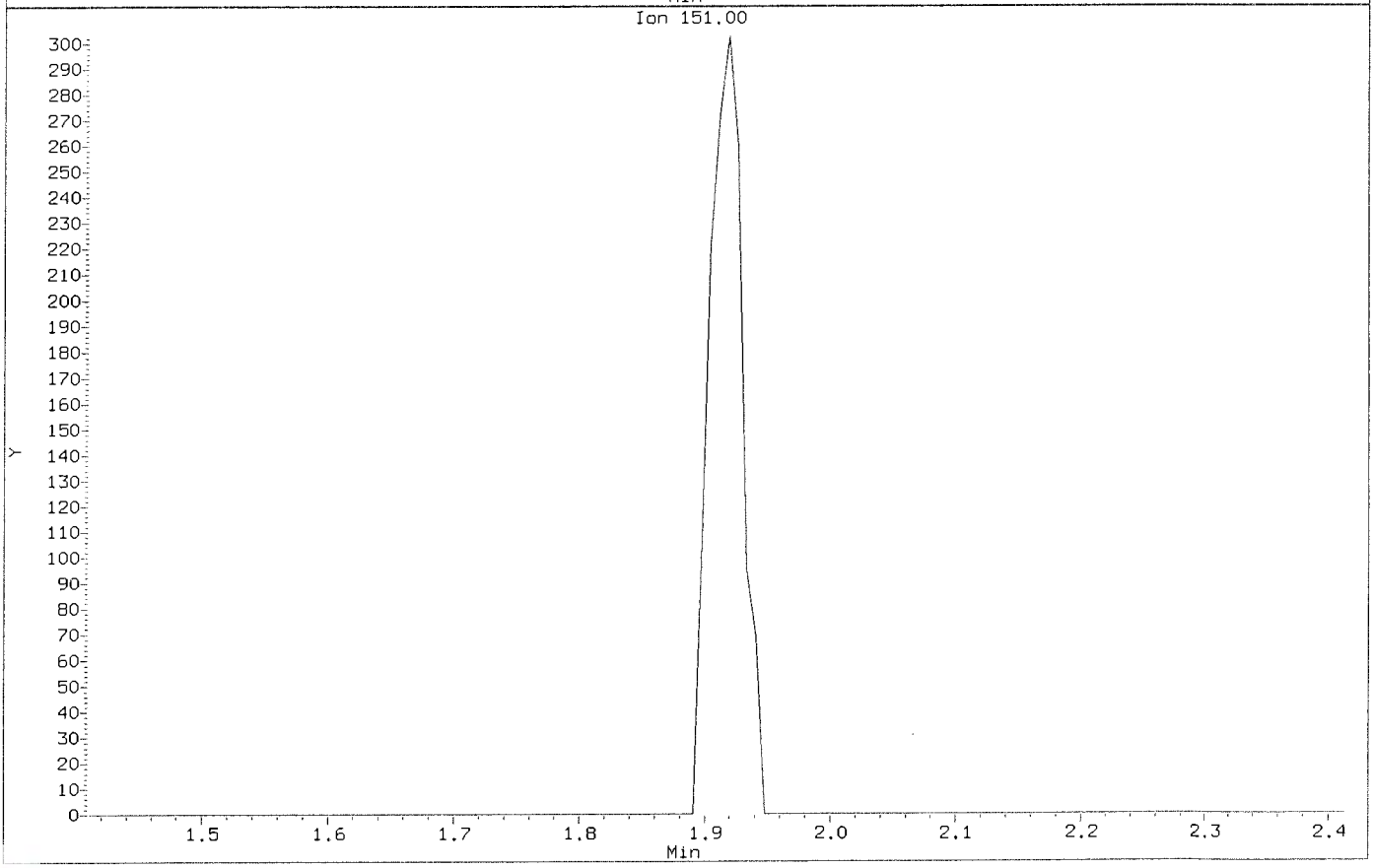
Client Sample ID: VSTD000.5

Compound: Freon TF
CAS Number: 76-13-1





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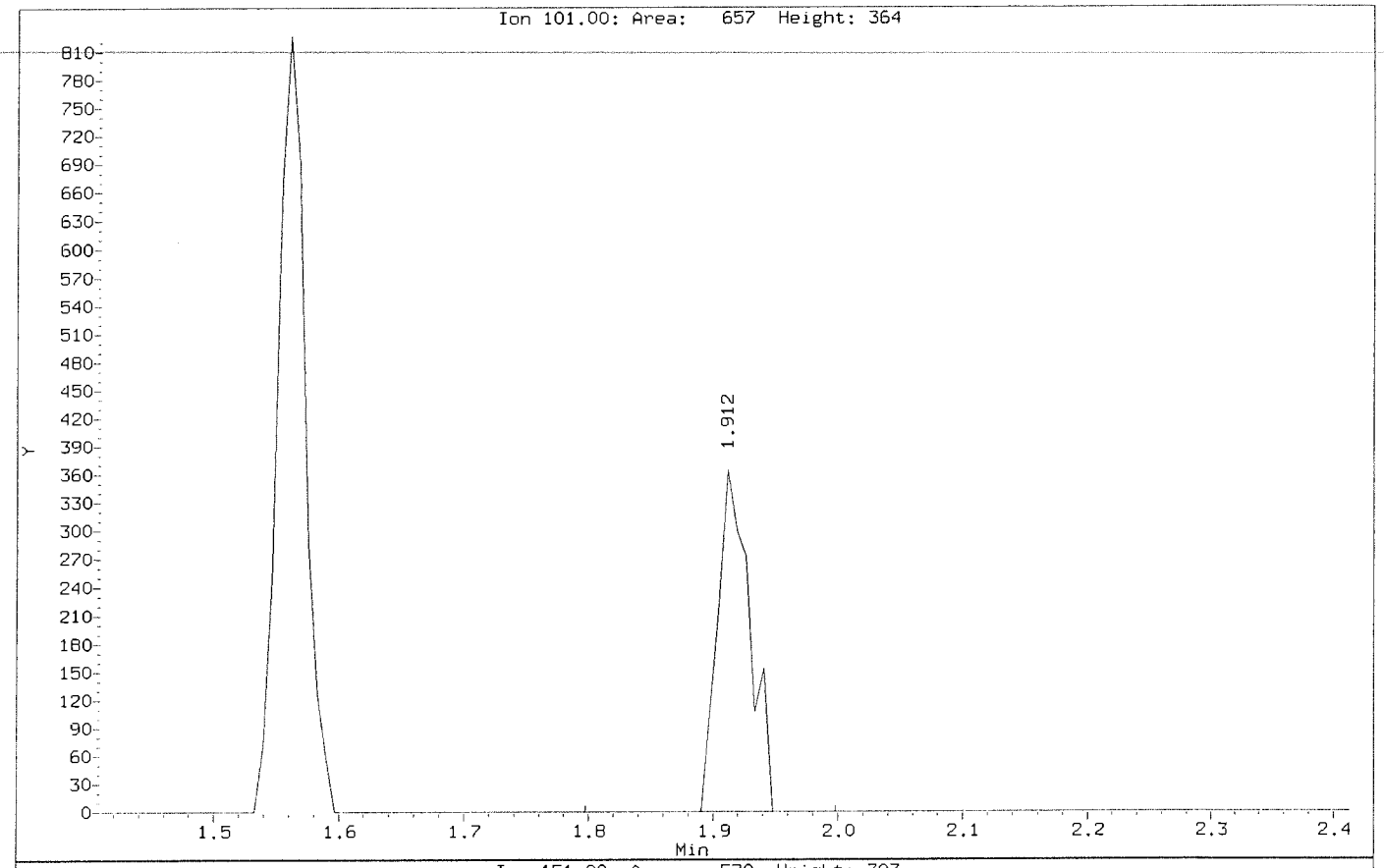
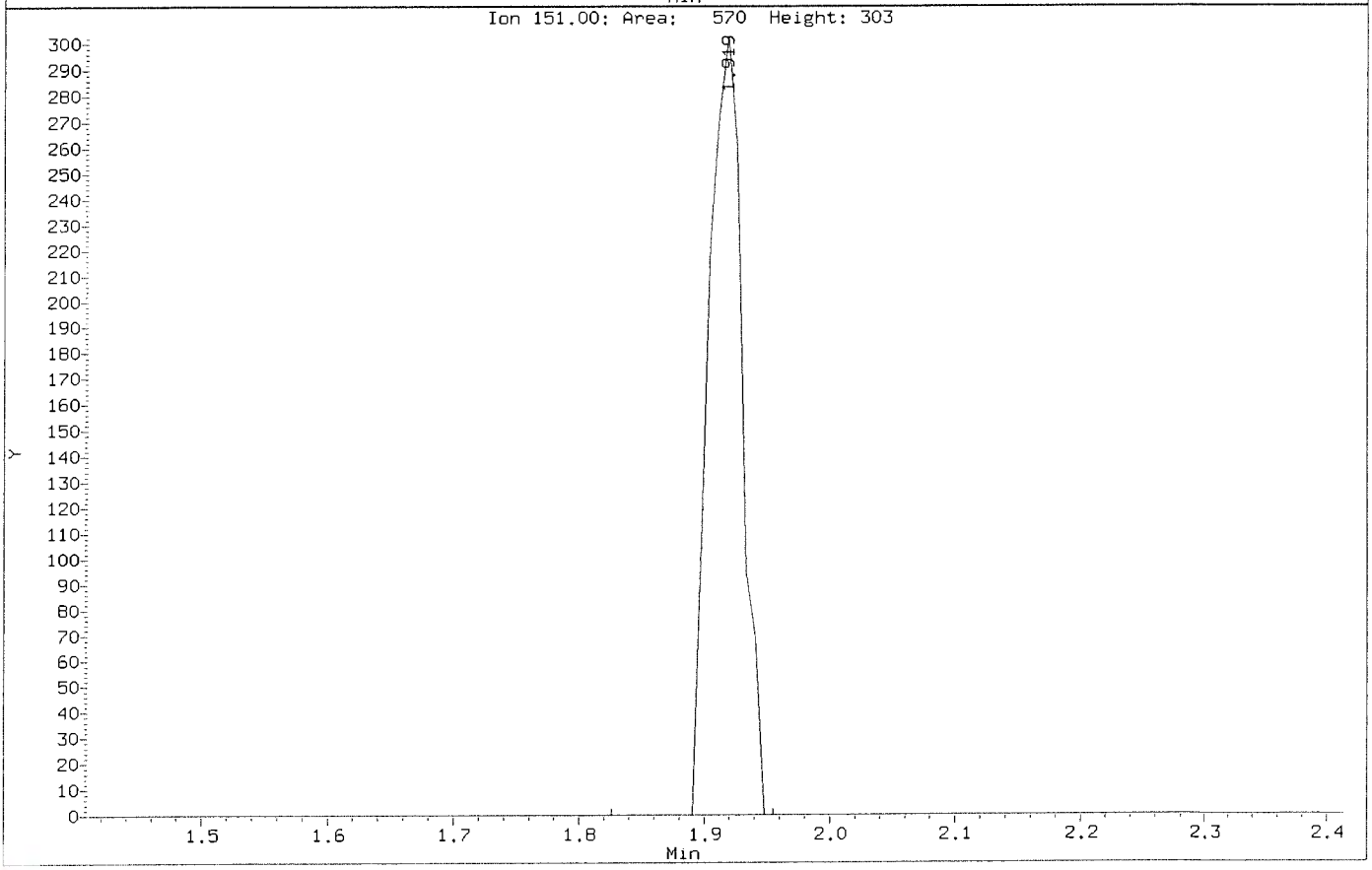
Compound: Freon TF
CAS Number: 76-13-1





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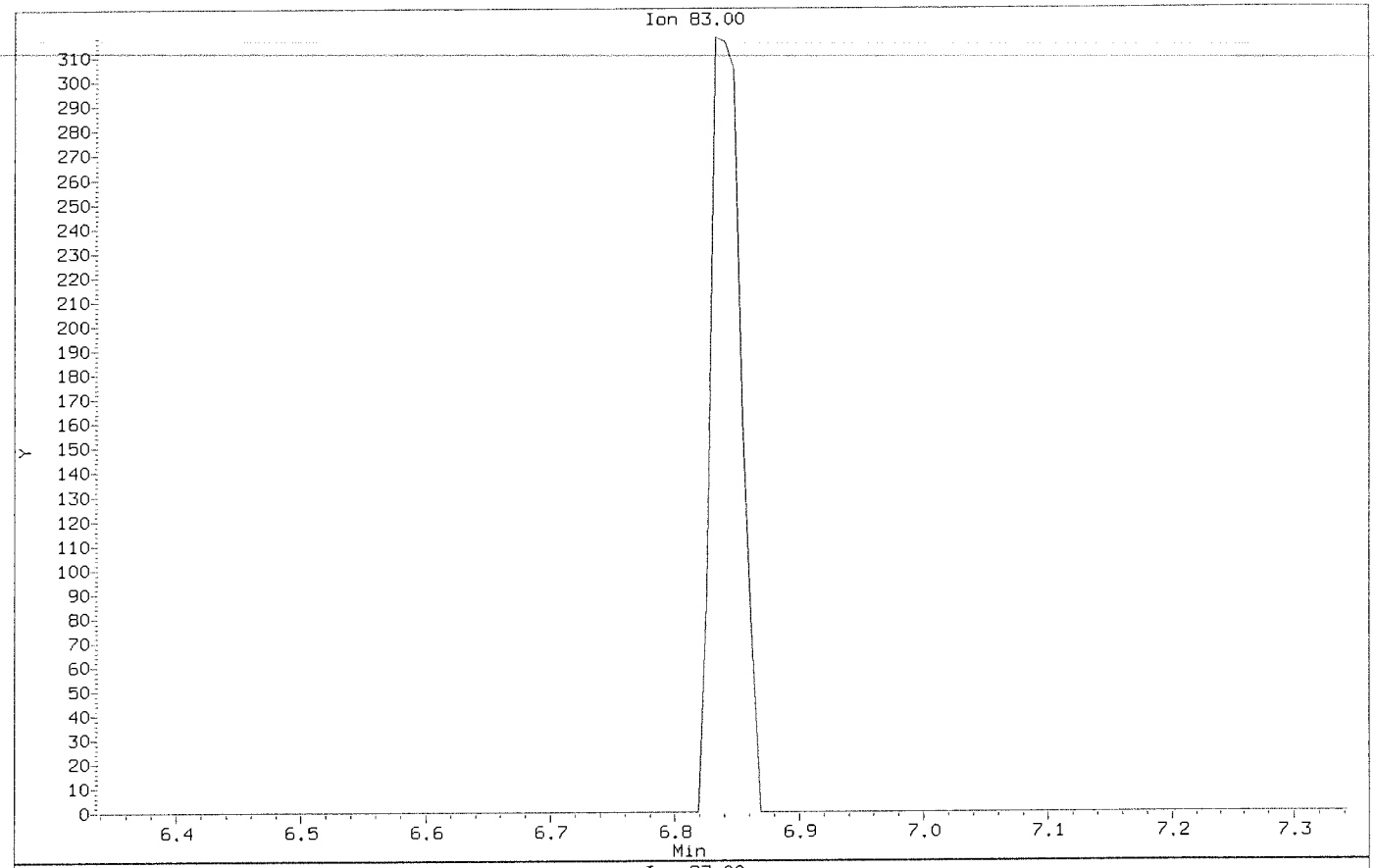
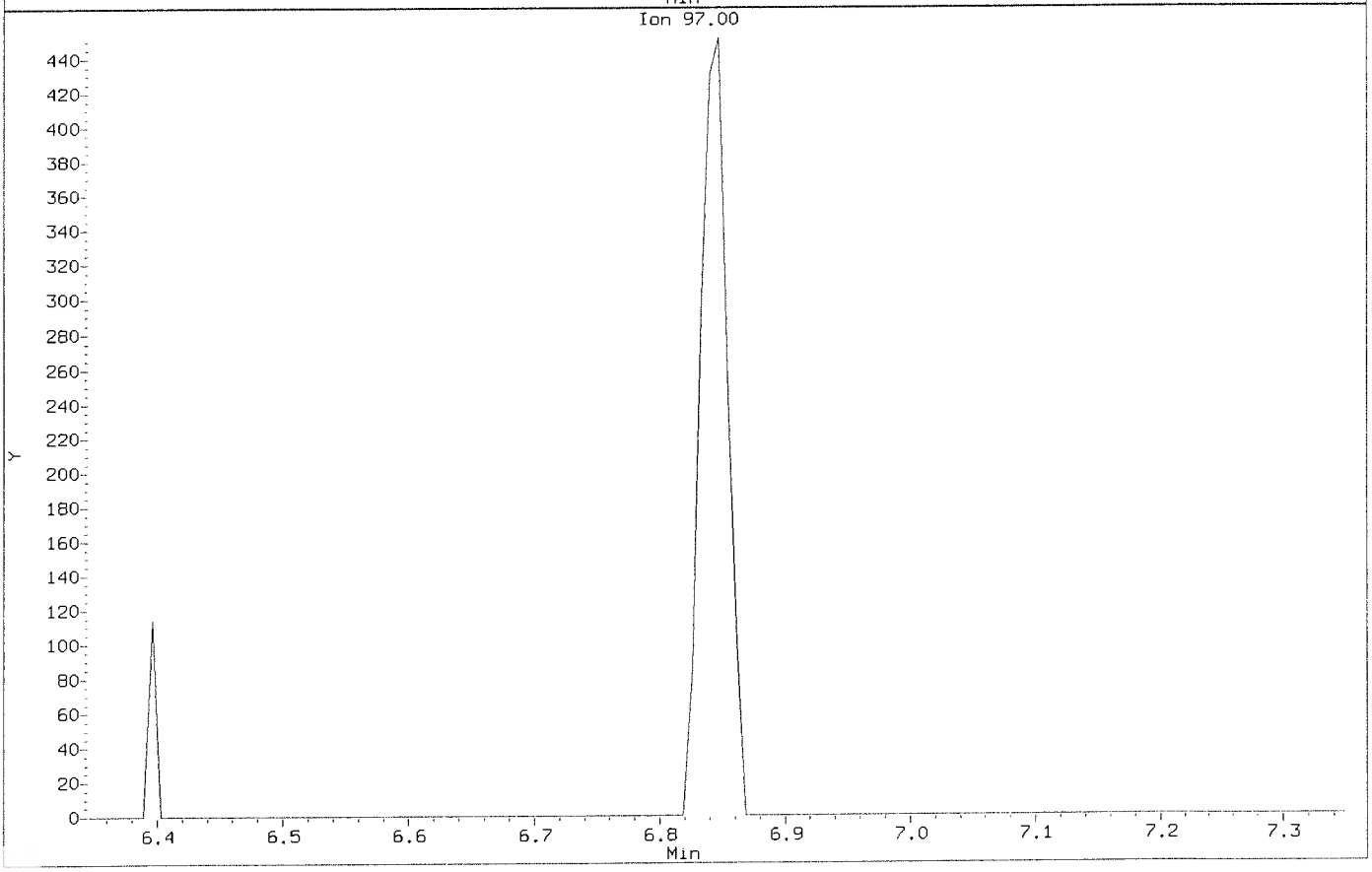
Compound: 1,1,2-Trichloroethane
CAS Number: 79-00-5





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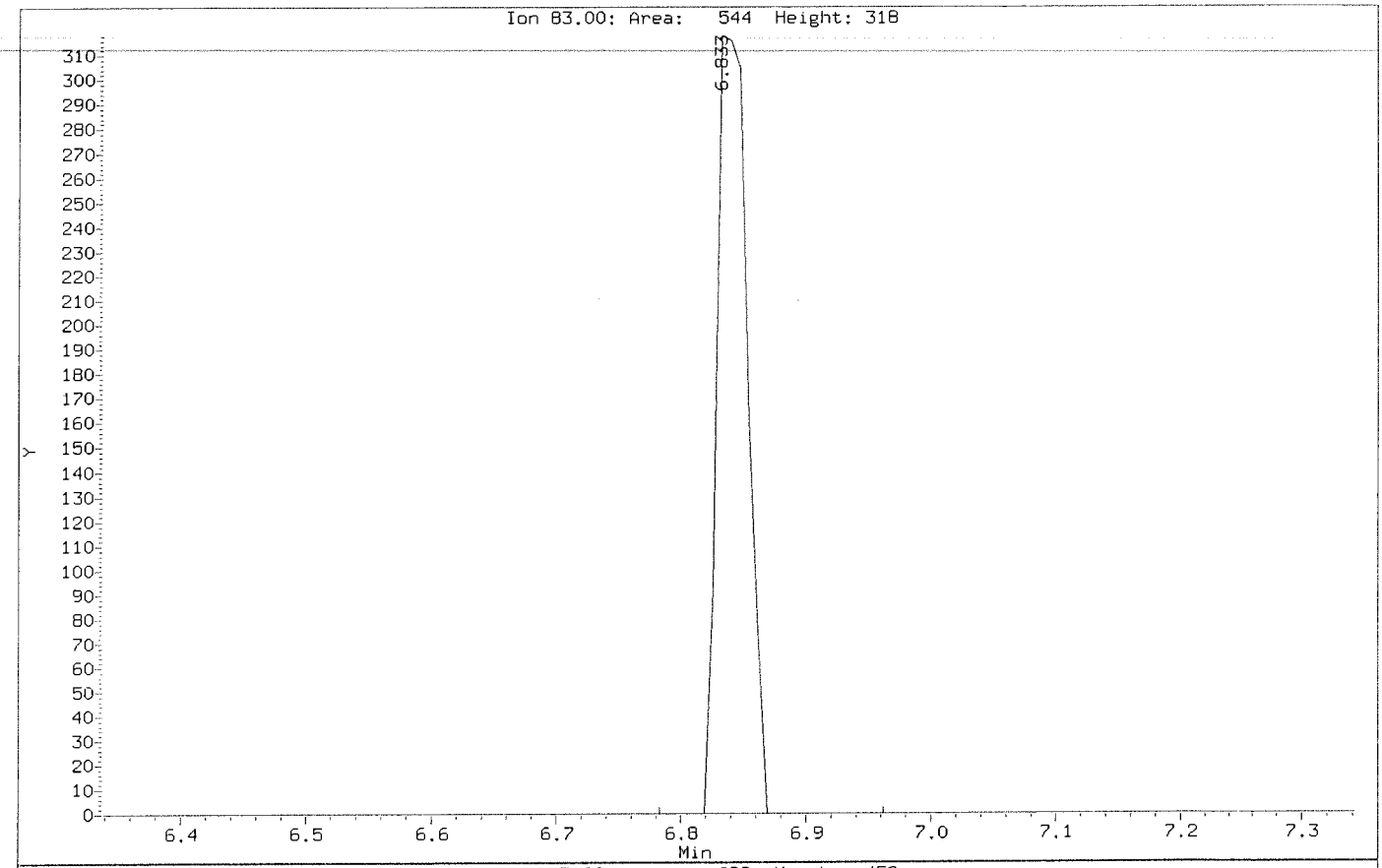
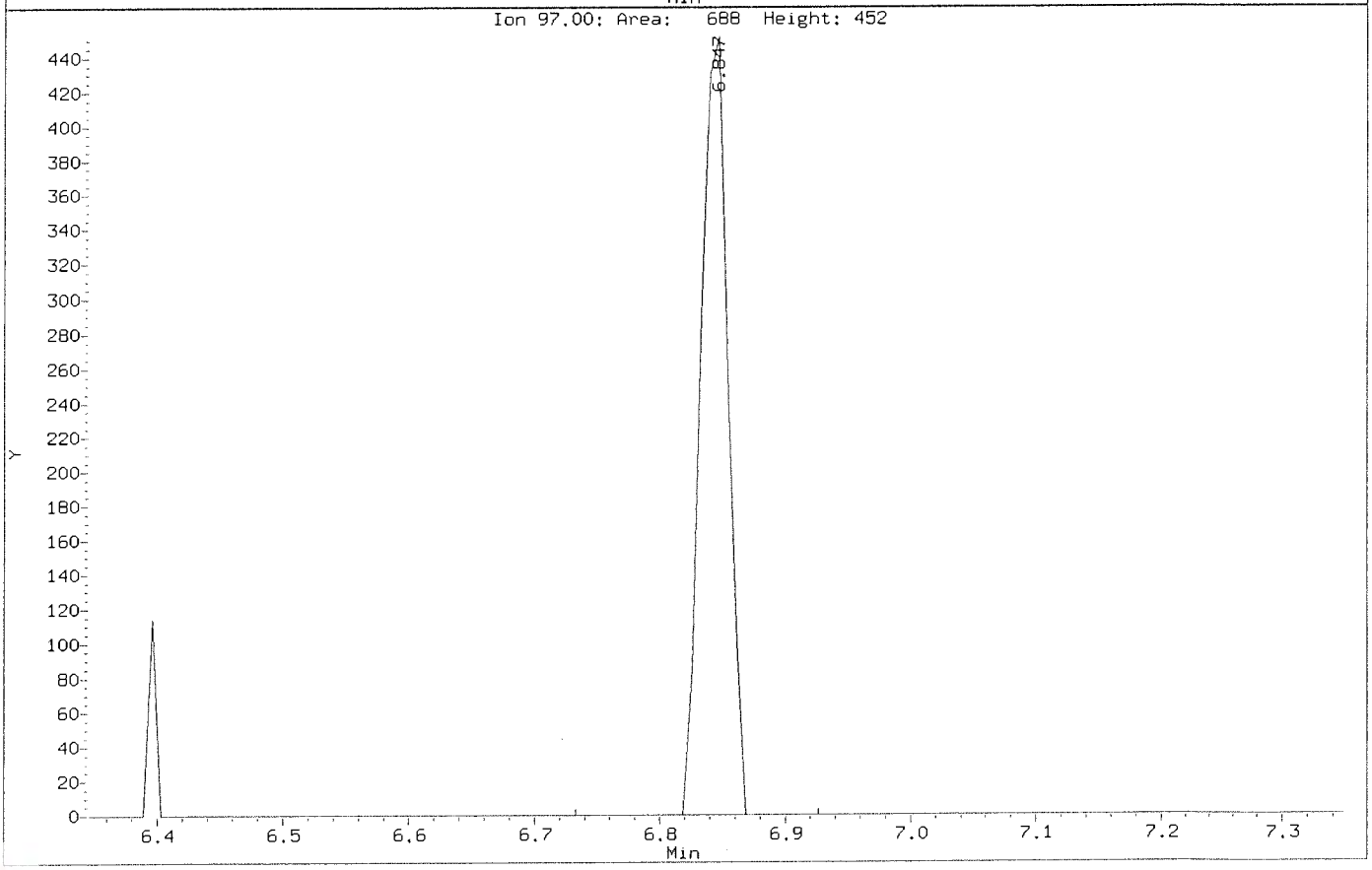
Compound: 1,1,2-Trichloroethane
CAS Number: 79-00-5





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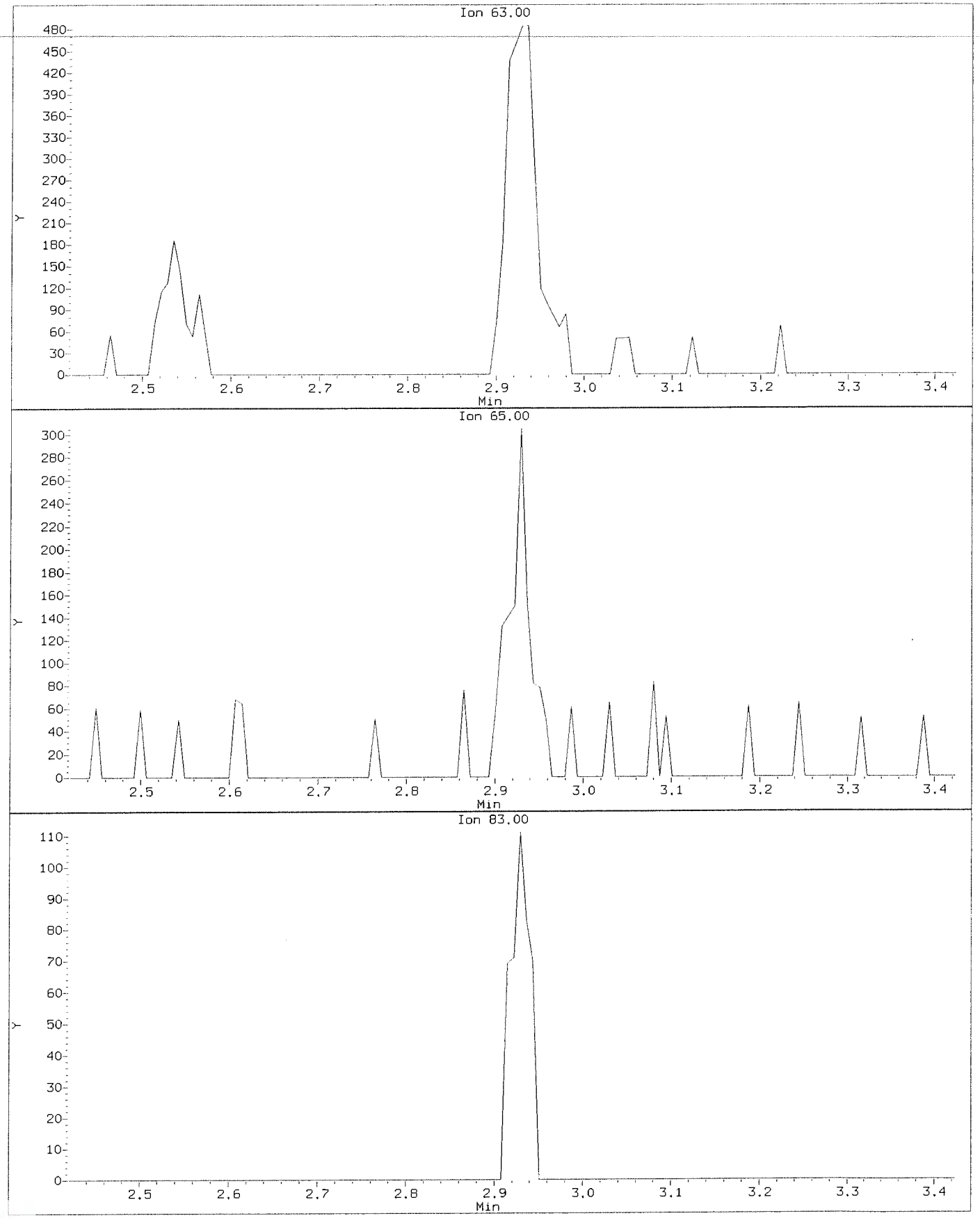
Injection Date: 31-OCT-2019 11:56
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: 1,1-Dichloroethane
CAS Number: 75-34-3



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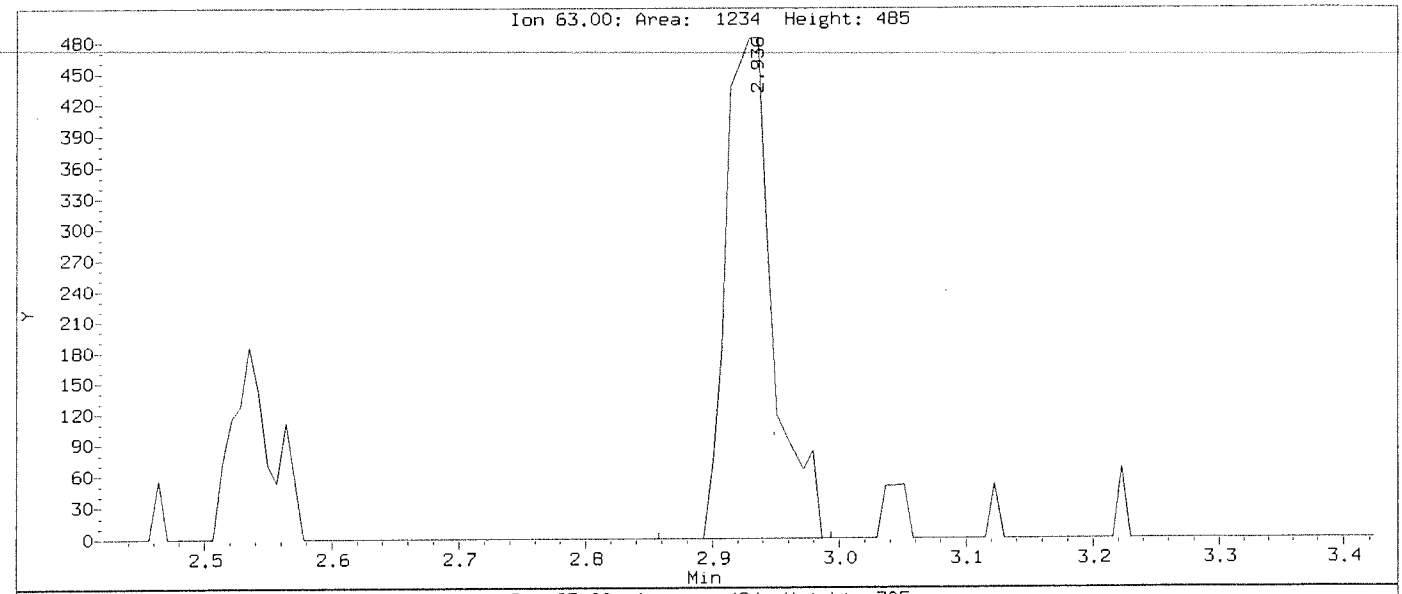
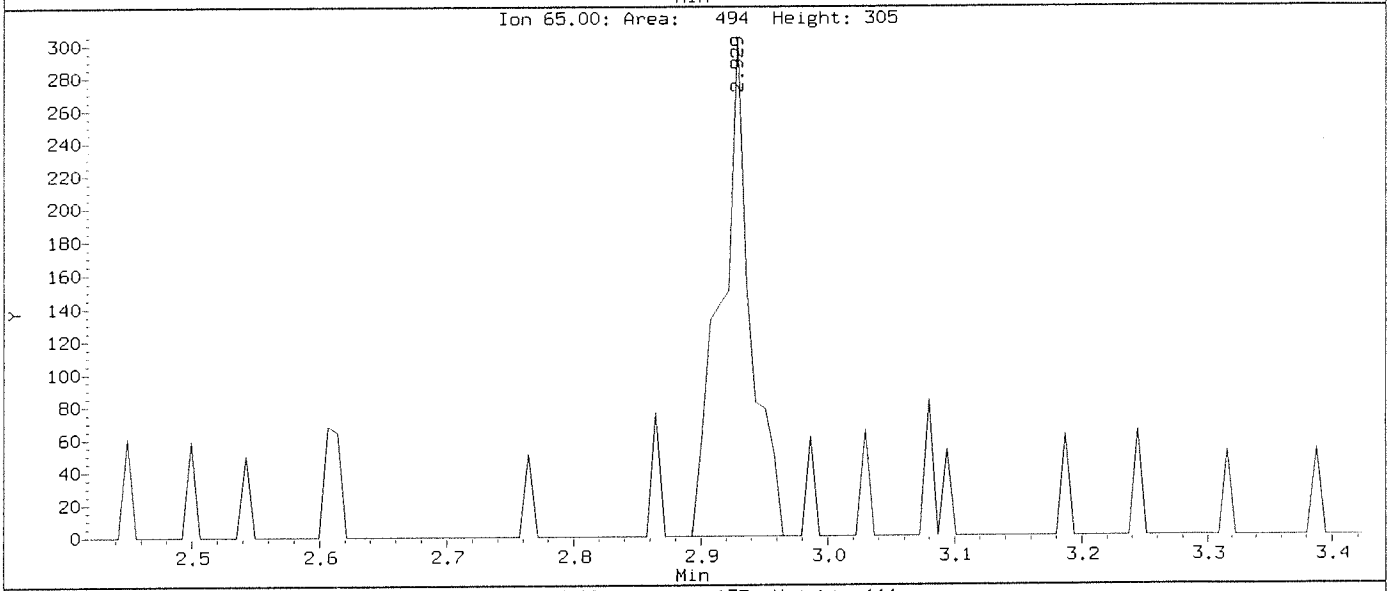
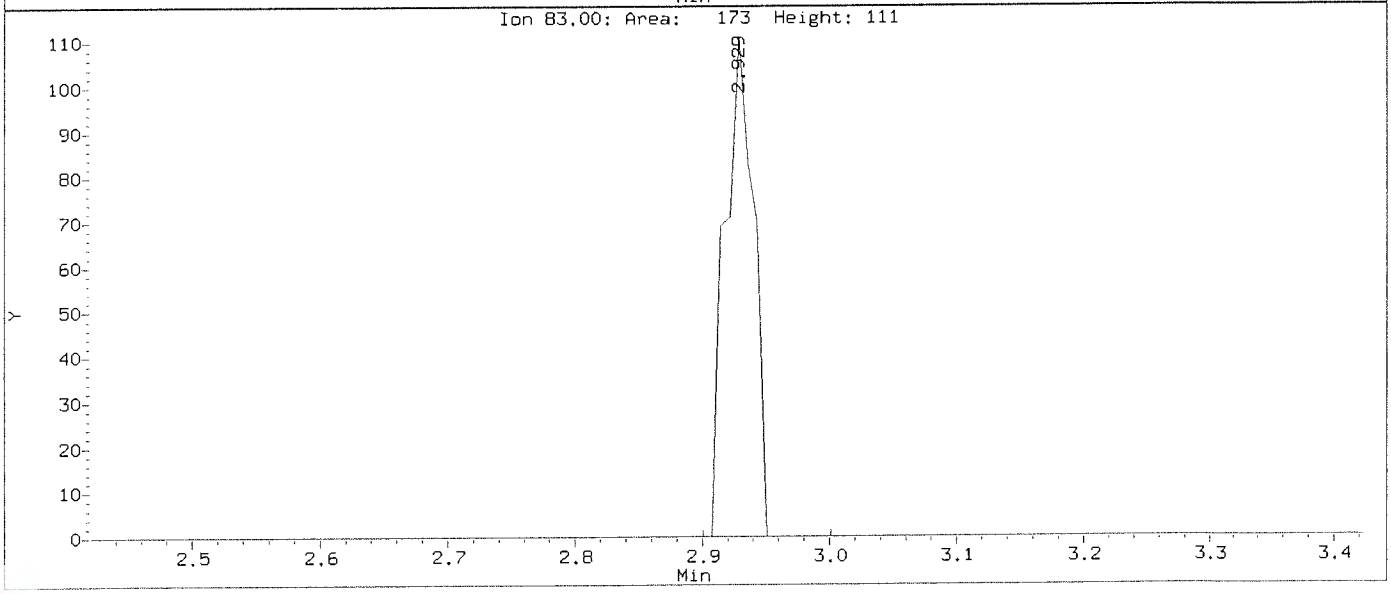
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: 1,1-Dichloroethane
CAS Number: 75-34-3







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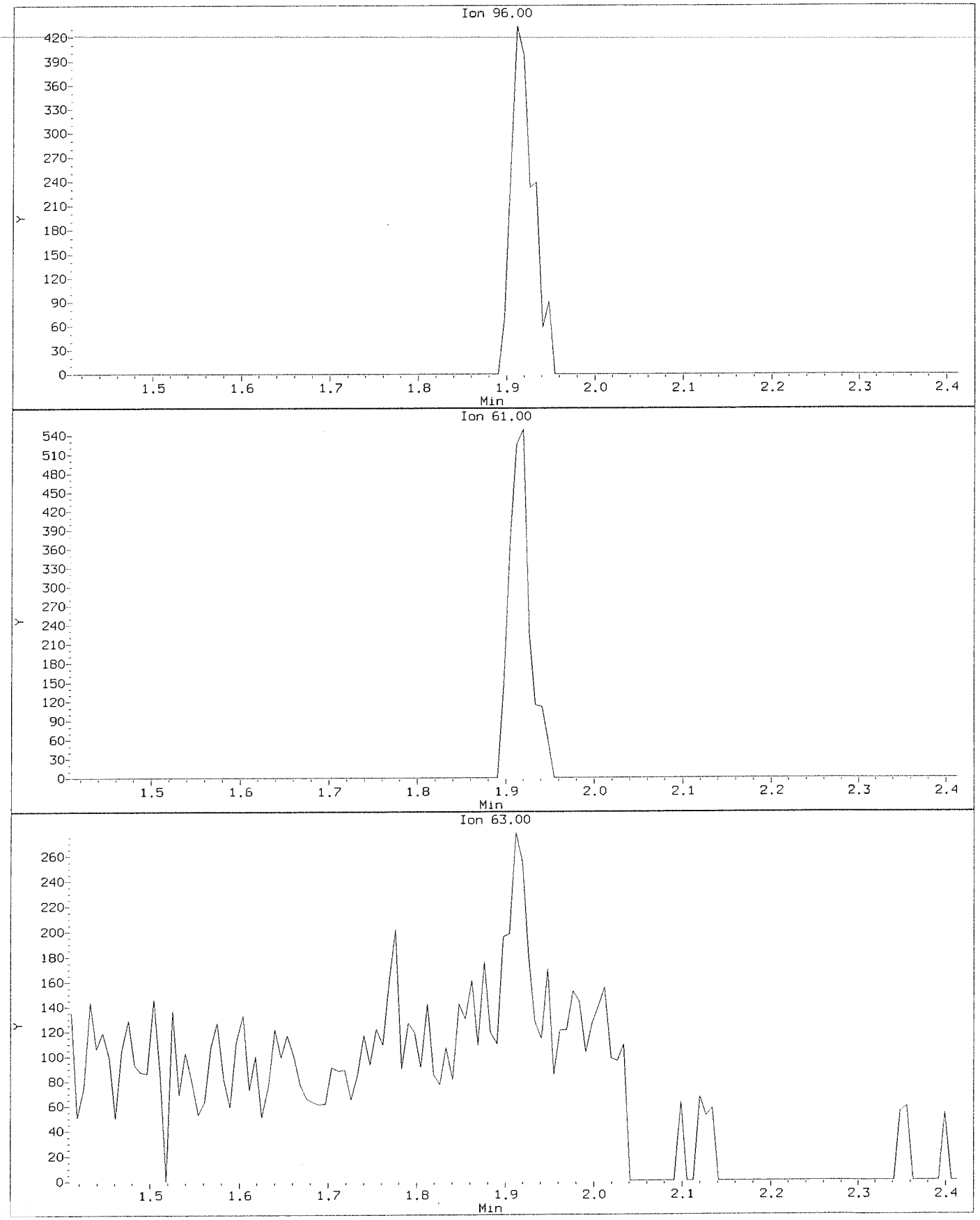
Injection Date: 31-OCT-2019 11:56
Instrument: voa6.i
Client Sample ID: VSTD000.5

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



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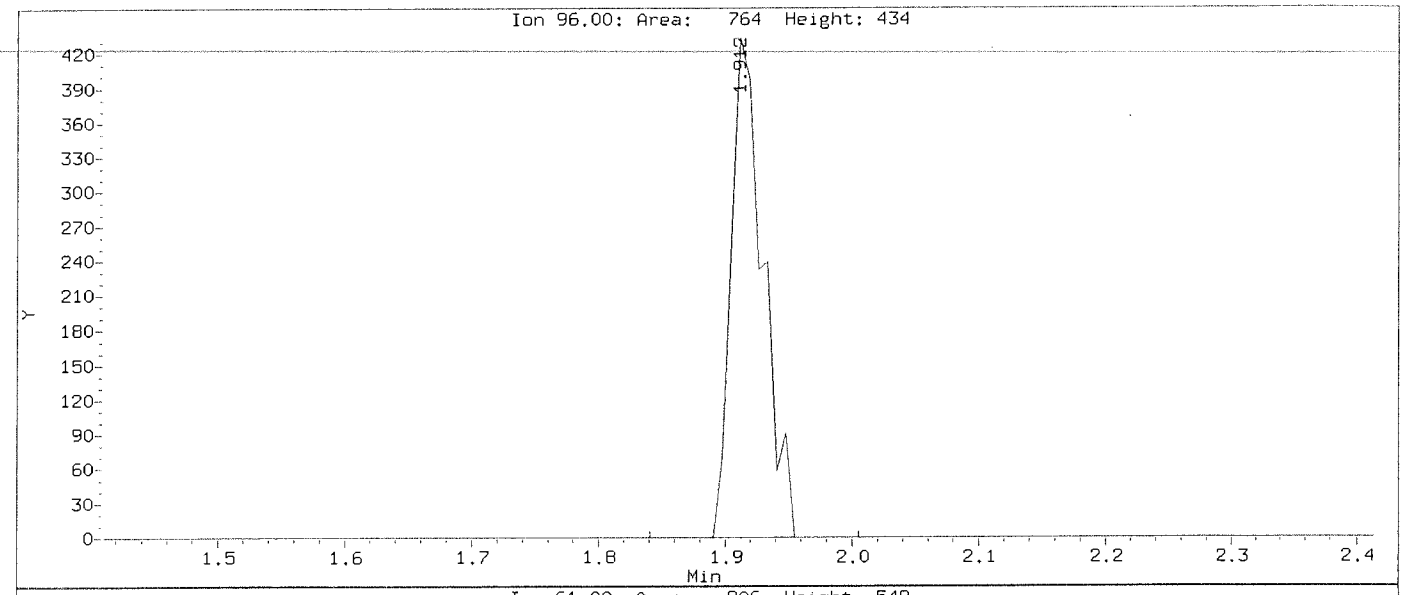
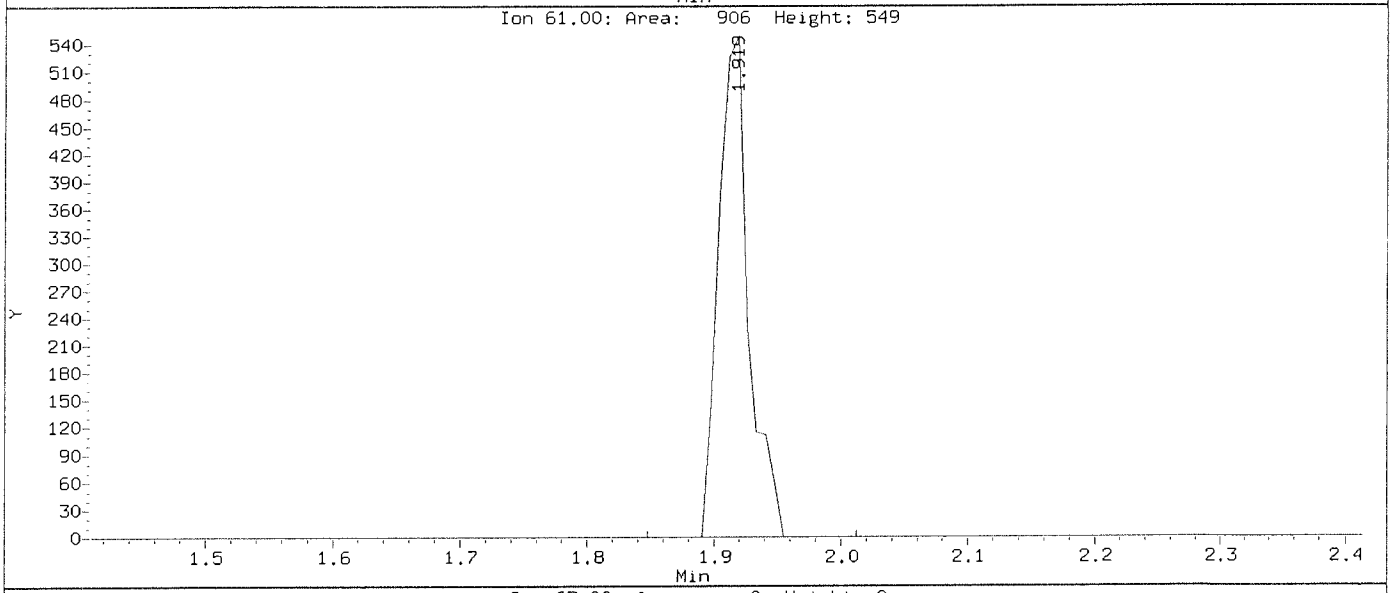
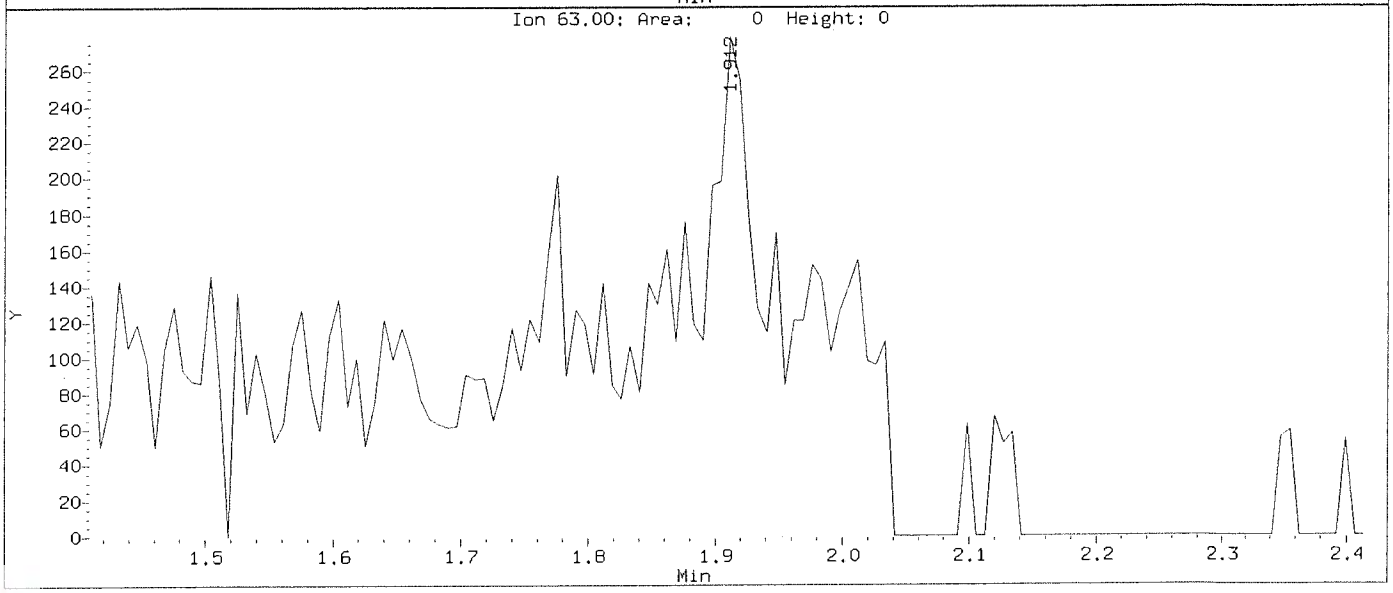
Client Sample ID: VSTD000.5

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







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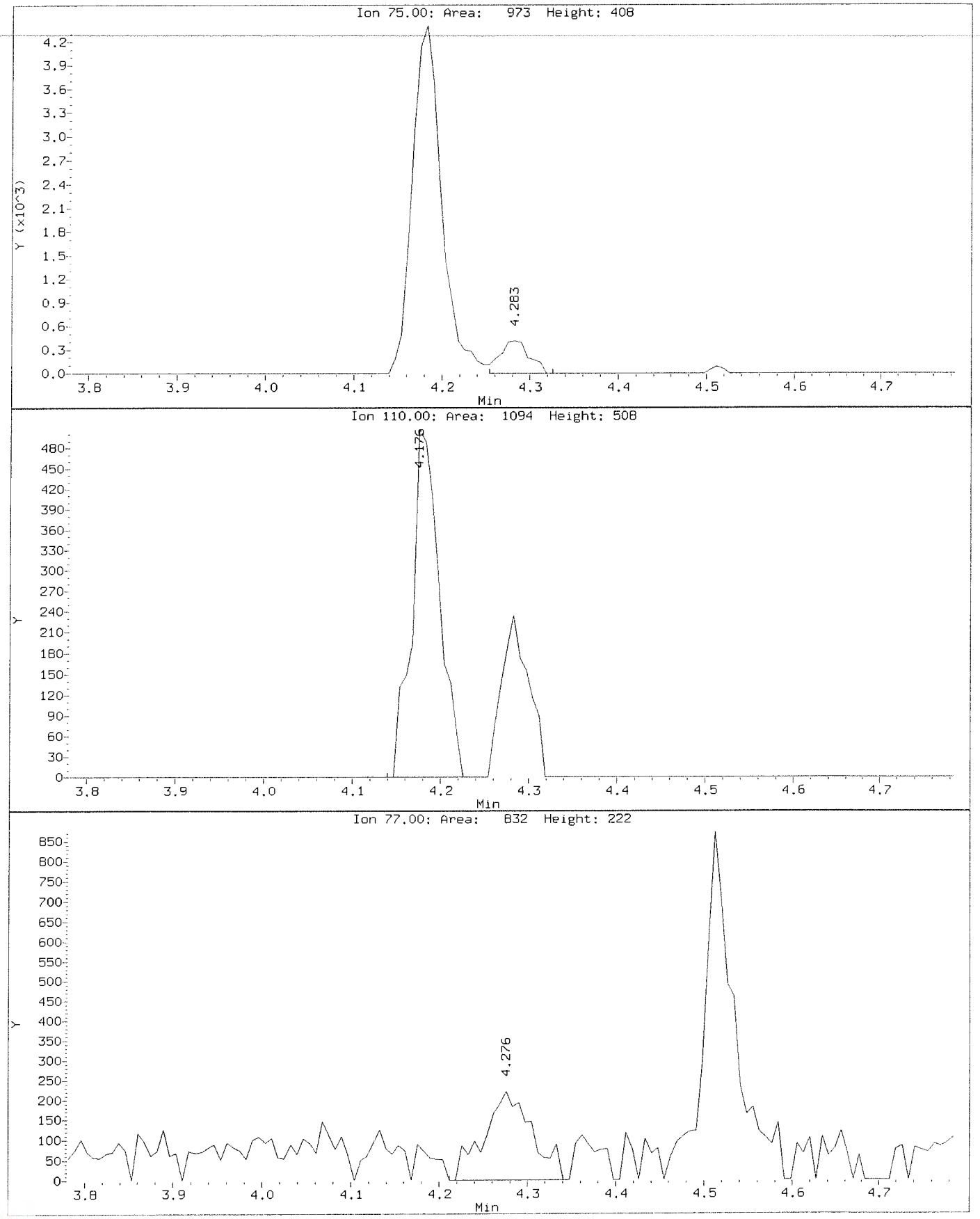
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: 1,1-Dichloropropene
CAS Number: 563-58-6



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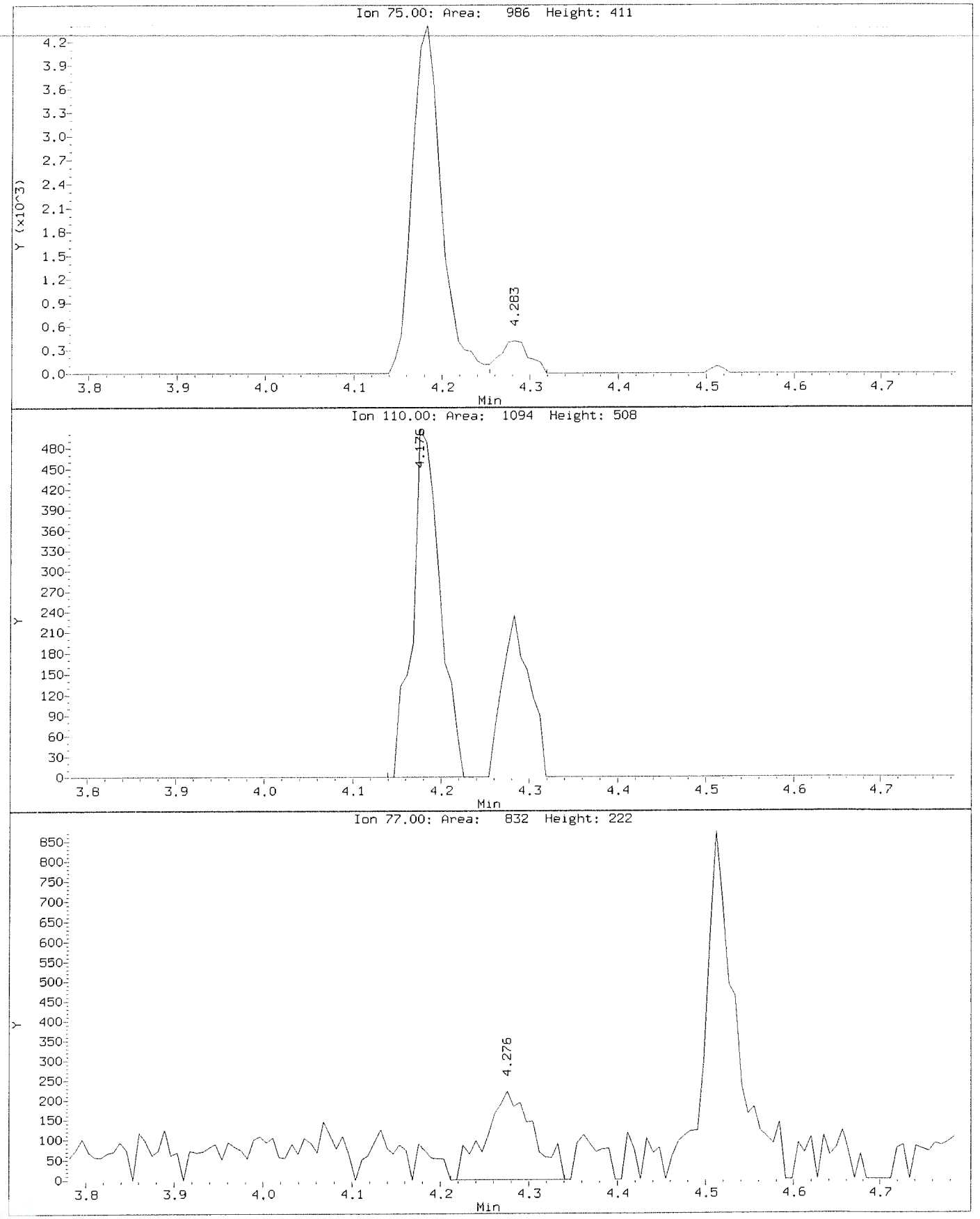
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: 1,1-Dichloropropene
CAS Number: 563-58-6



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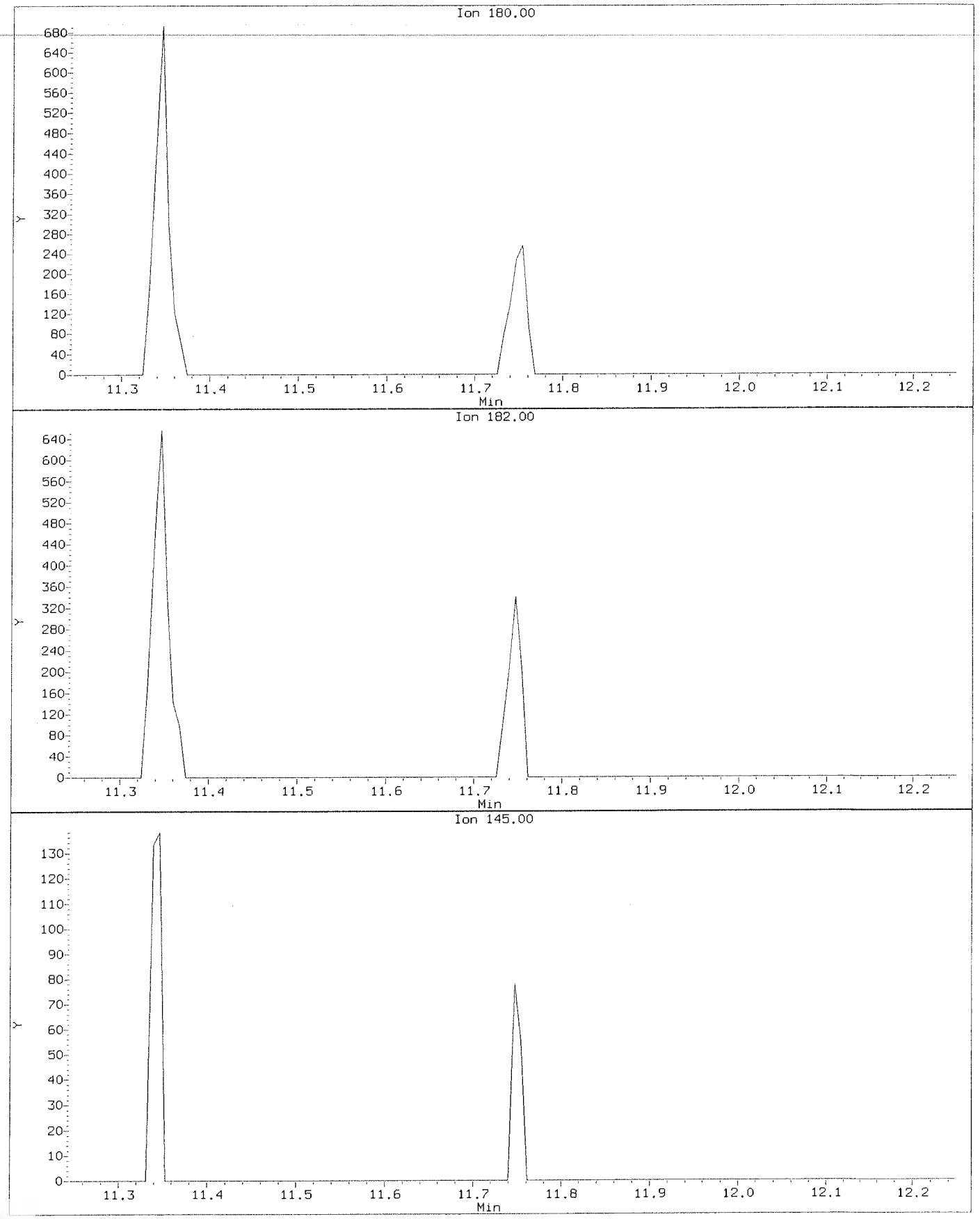
Injection Date: 31-OCT-2019 11:56
Instrument: voa6.i
Client Sample ID: VSTD000.5

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



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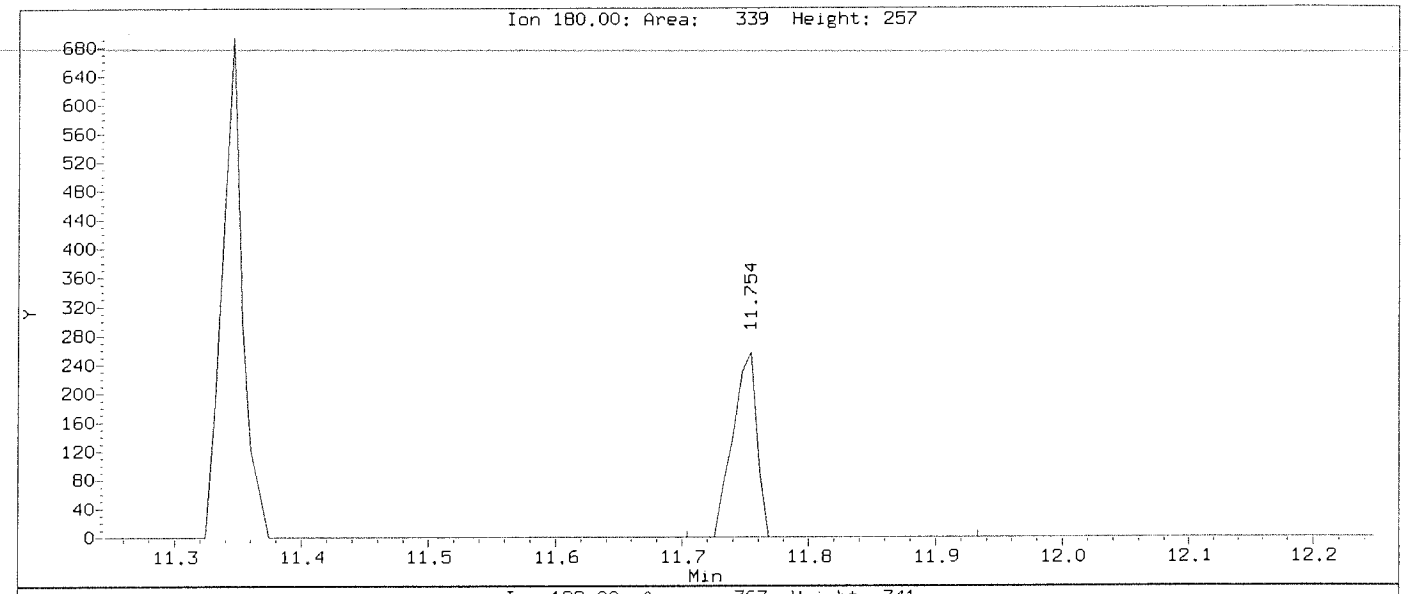
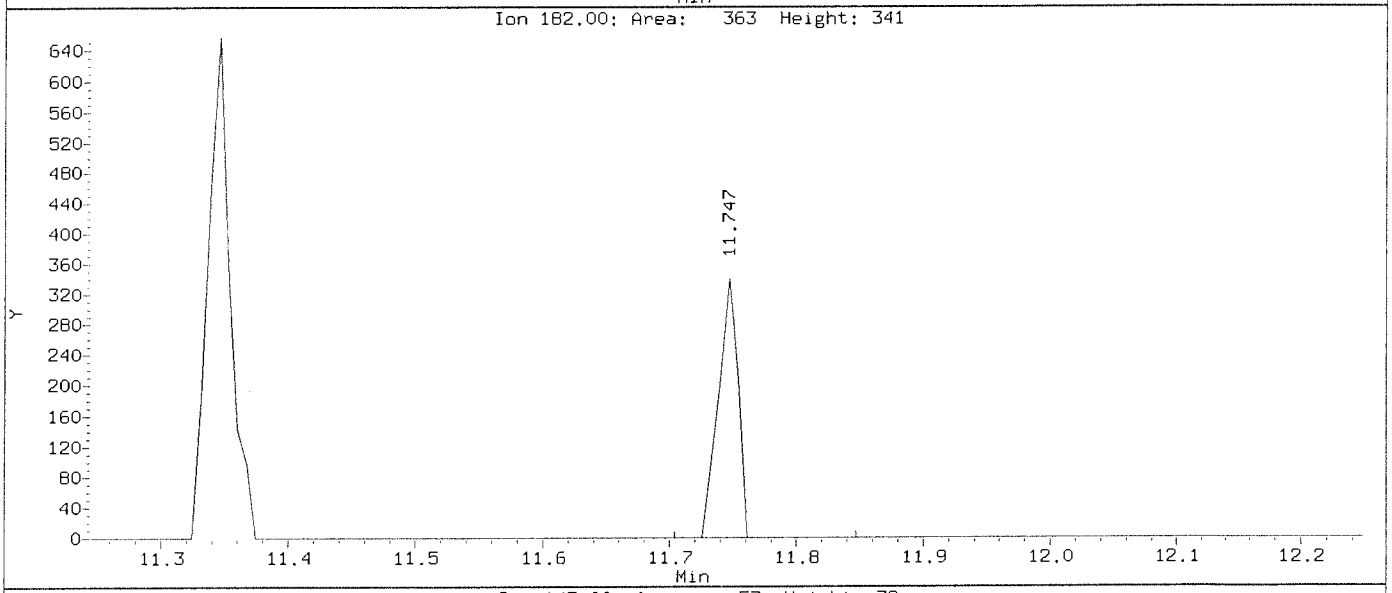
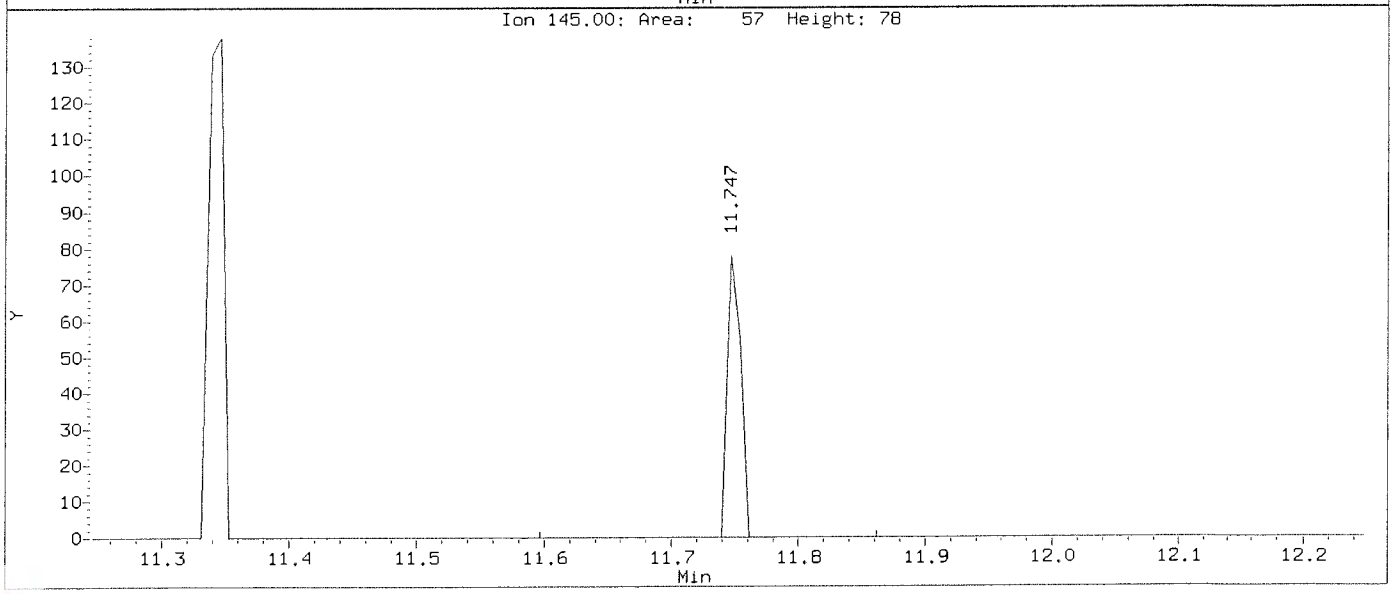
Client Sample ID: VSTD000.5

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

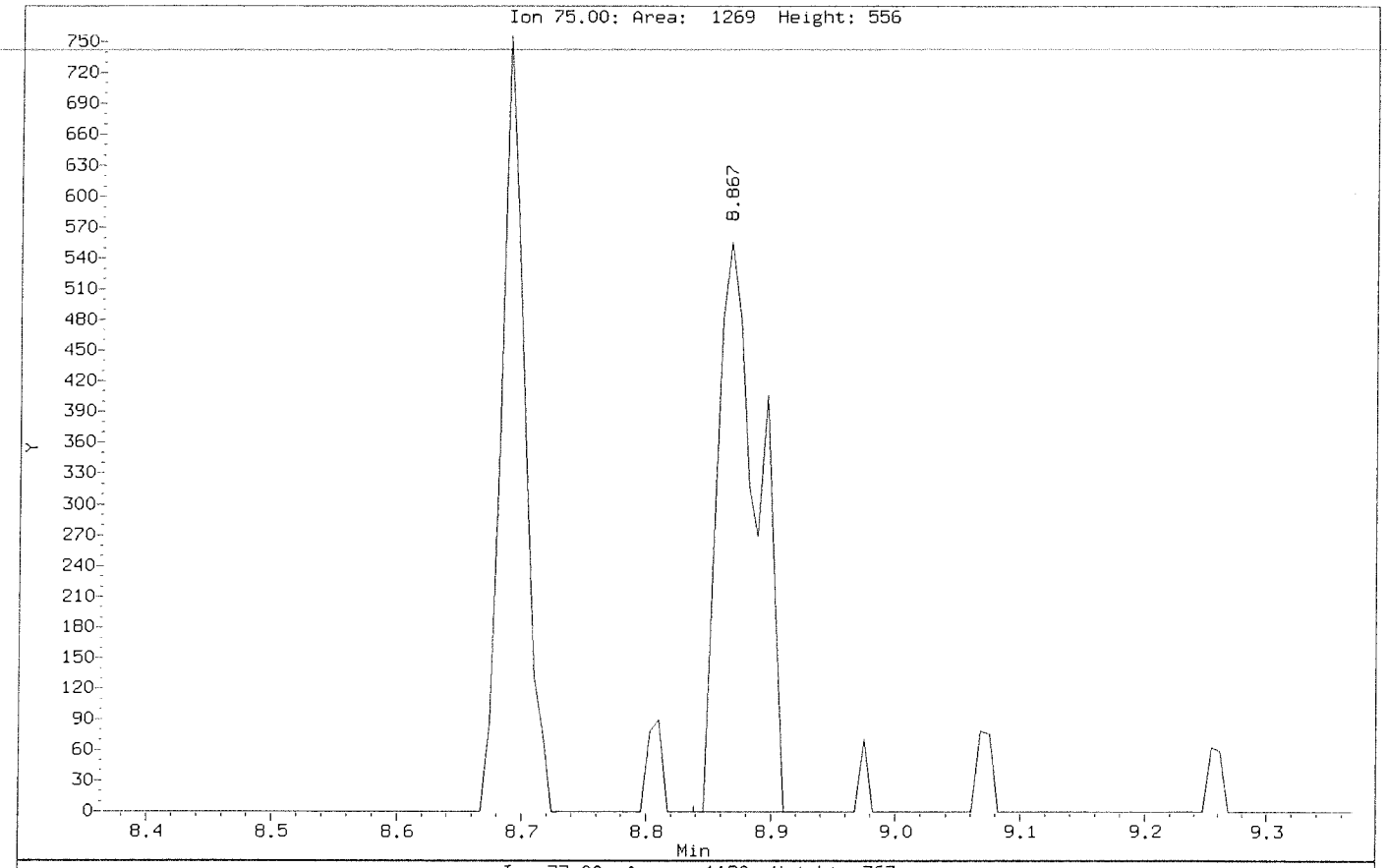


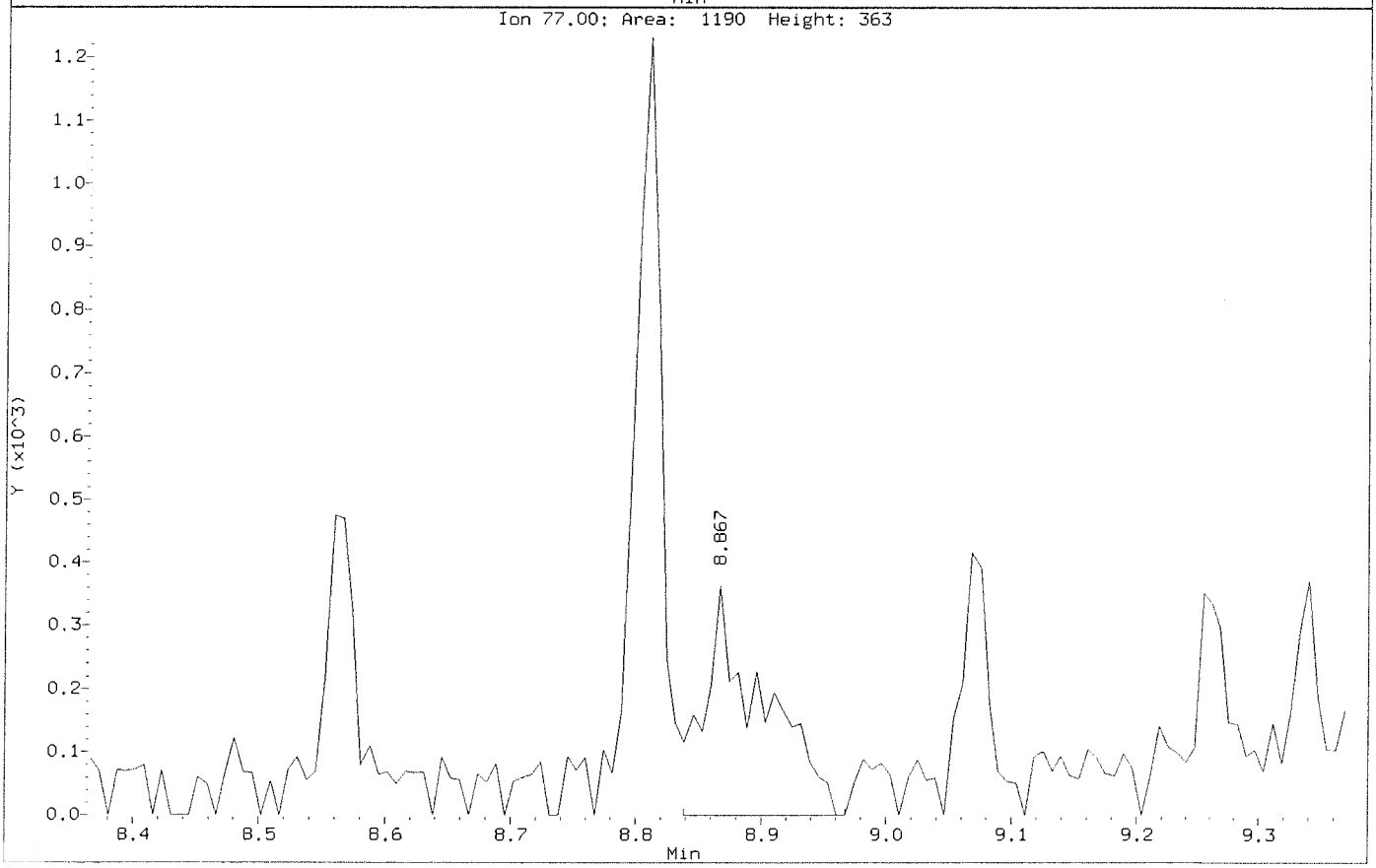




Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\BEFORE2\X103103.D
Injection Date: 31-OCT-2019 11:56
Instrument: voa6.i
Client Sample ID: VSTD000.5

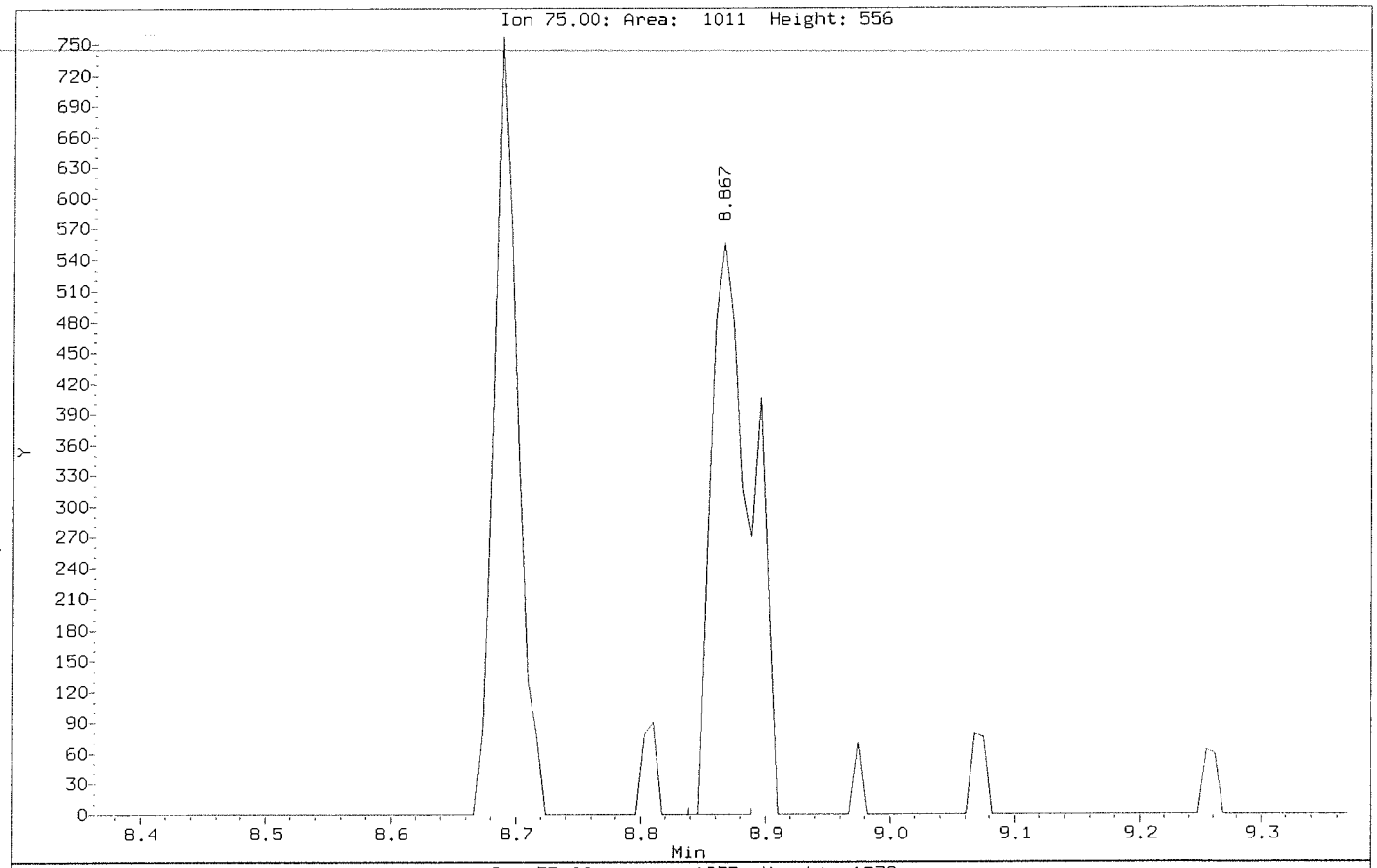
Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4

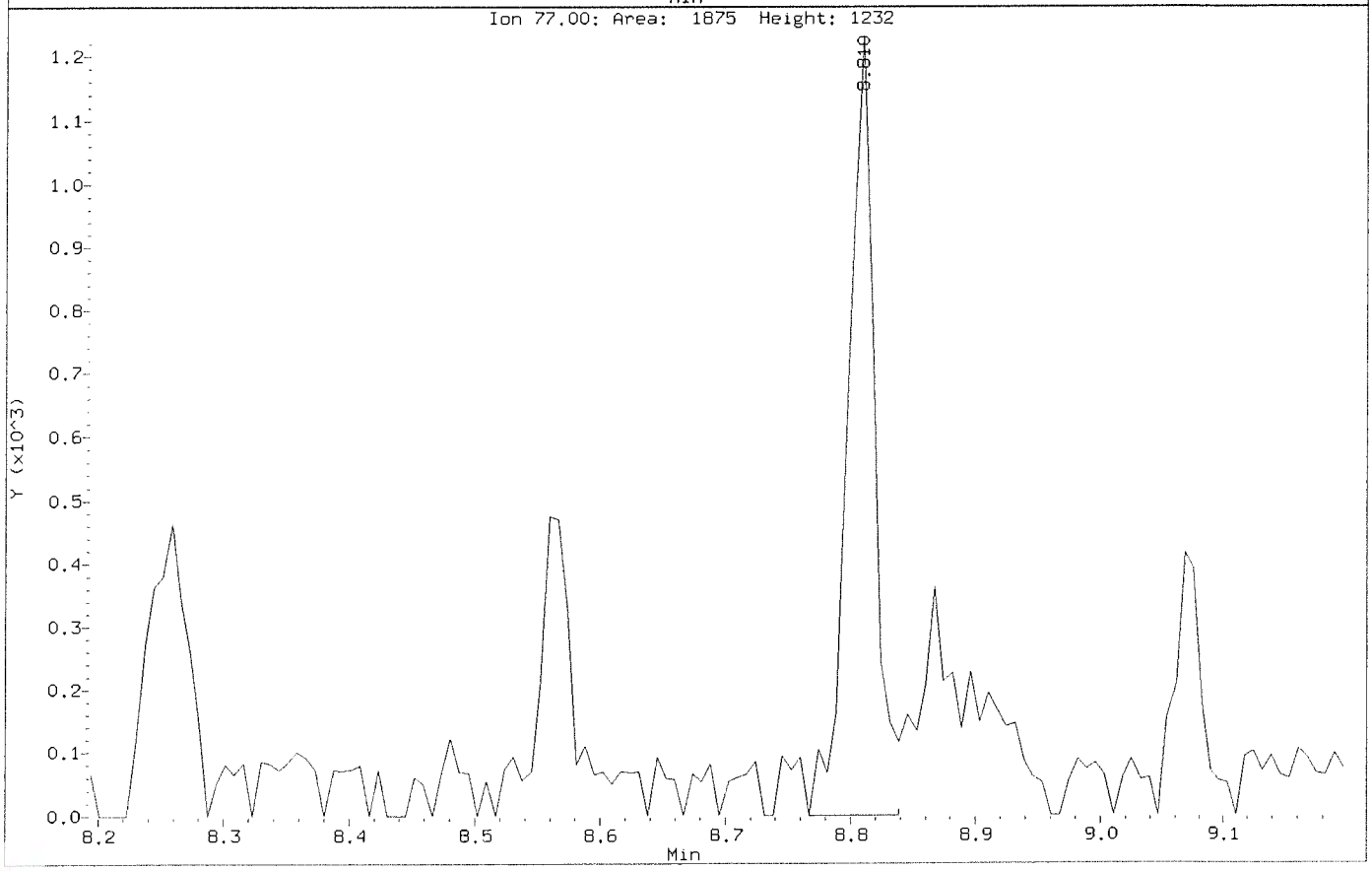




Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\X103103.D
Injection Date: 31-OCT-2019 11:56
Instrument: voa6.i
Client Sample ID: VSTD000.5

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





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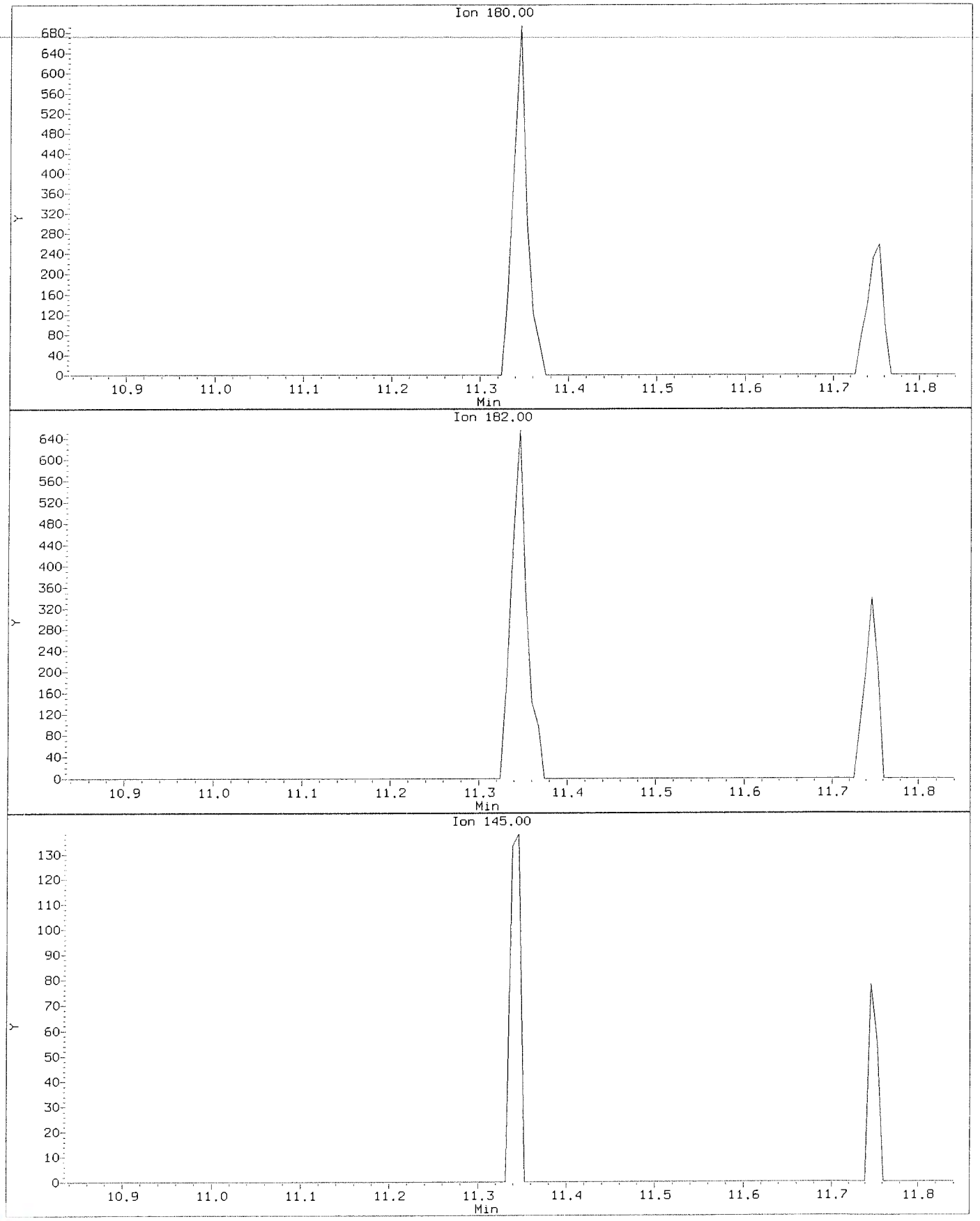
Injection Date: 31-OCT-2019 11:56
Instrument: voa6.i
Client Sample ID: VSTD000.5

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



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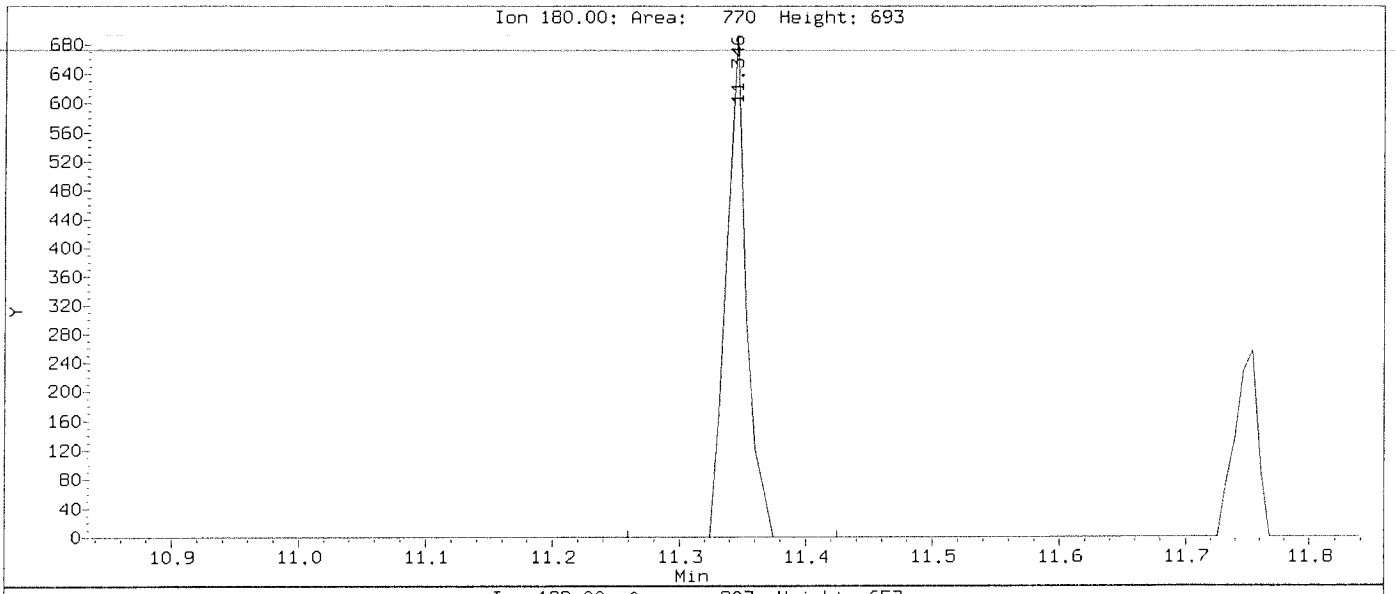
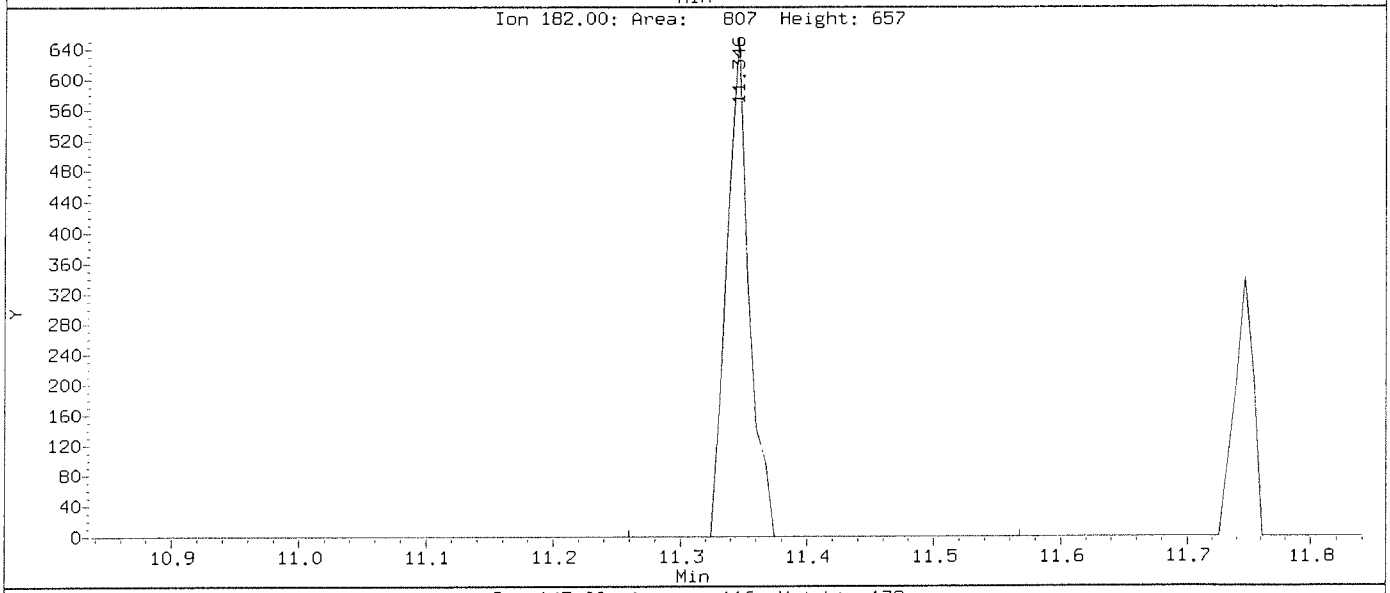
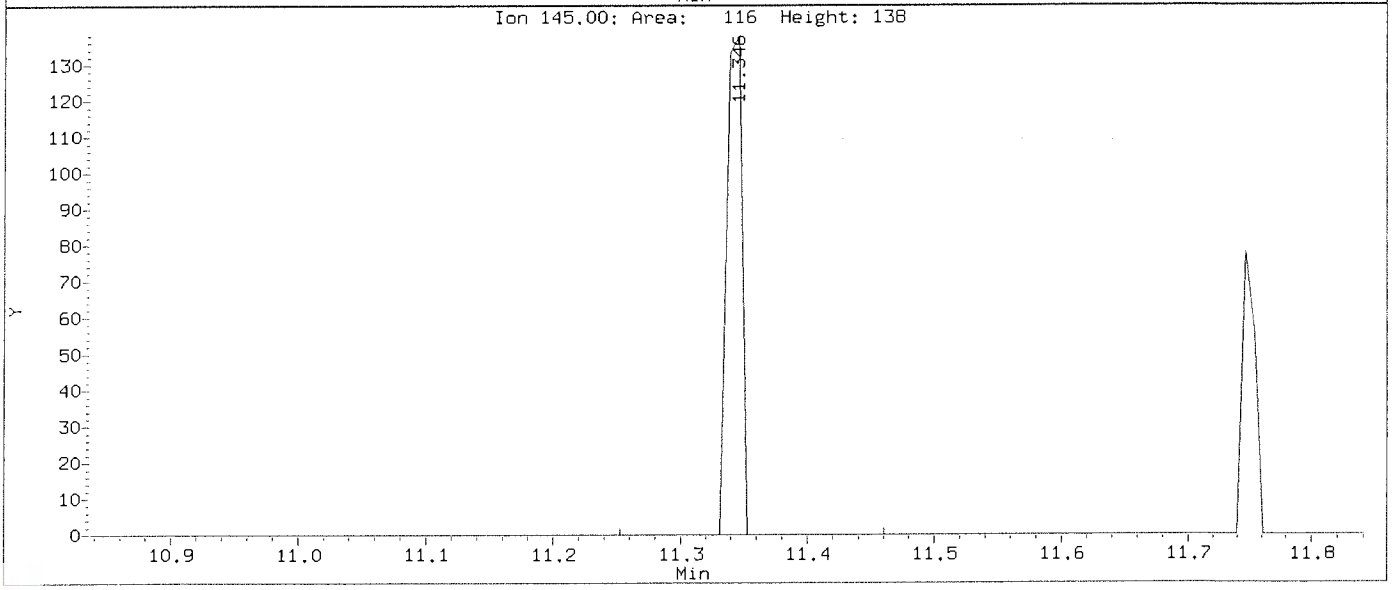
Injection Date: 31-OCT-2019 11:56
Instrument: voa6.i
Client Sample ID: VSTD000.5

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







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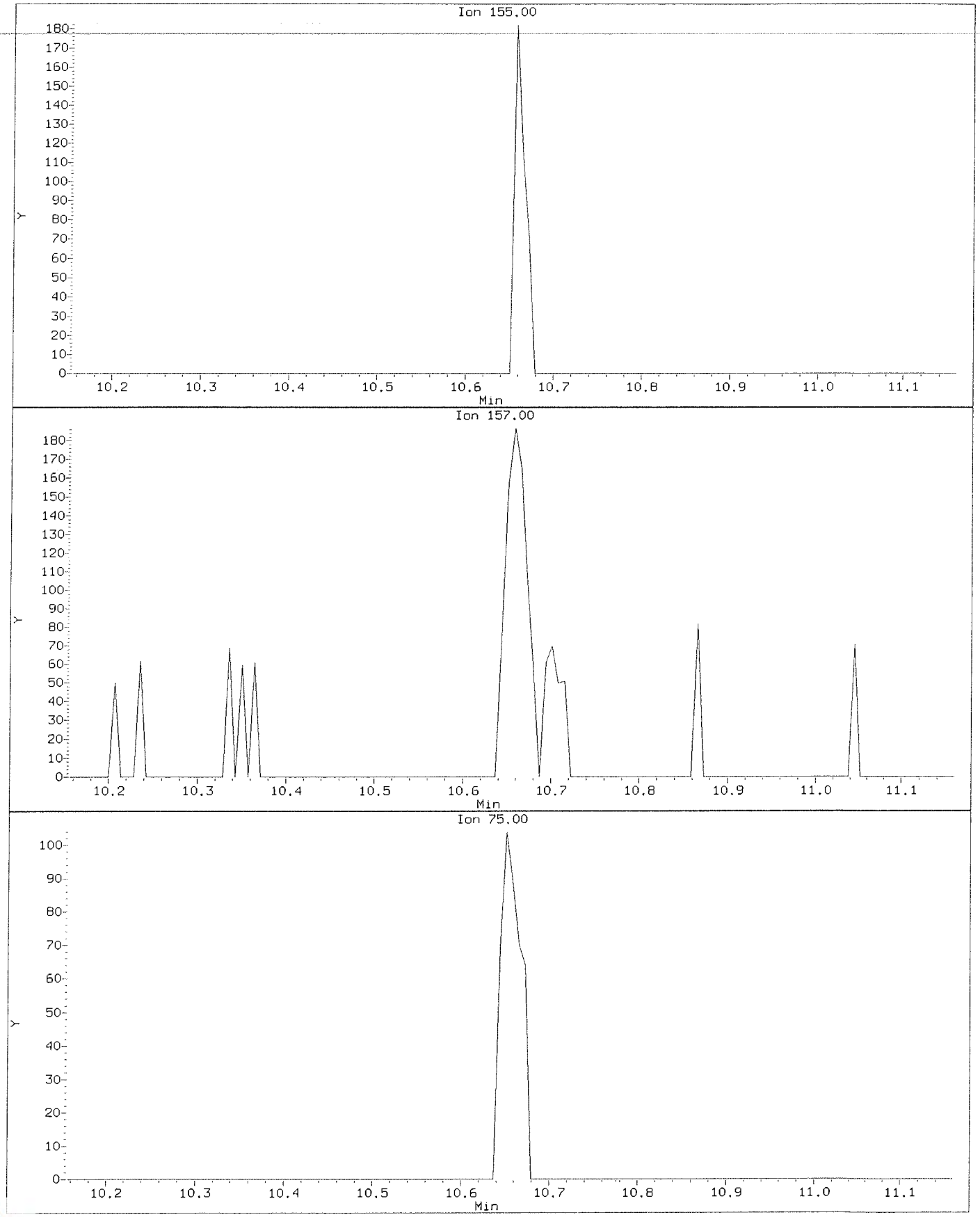
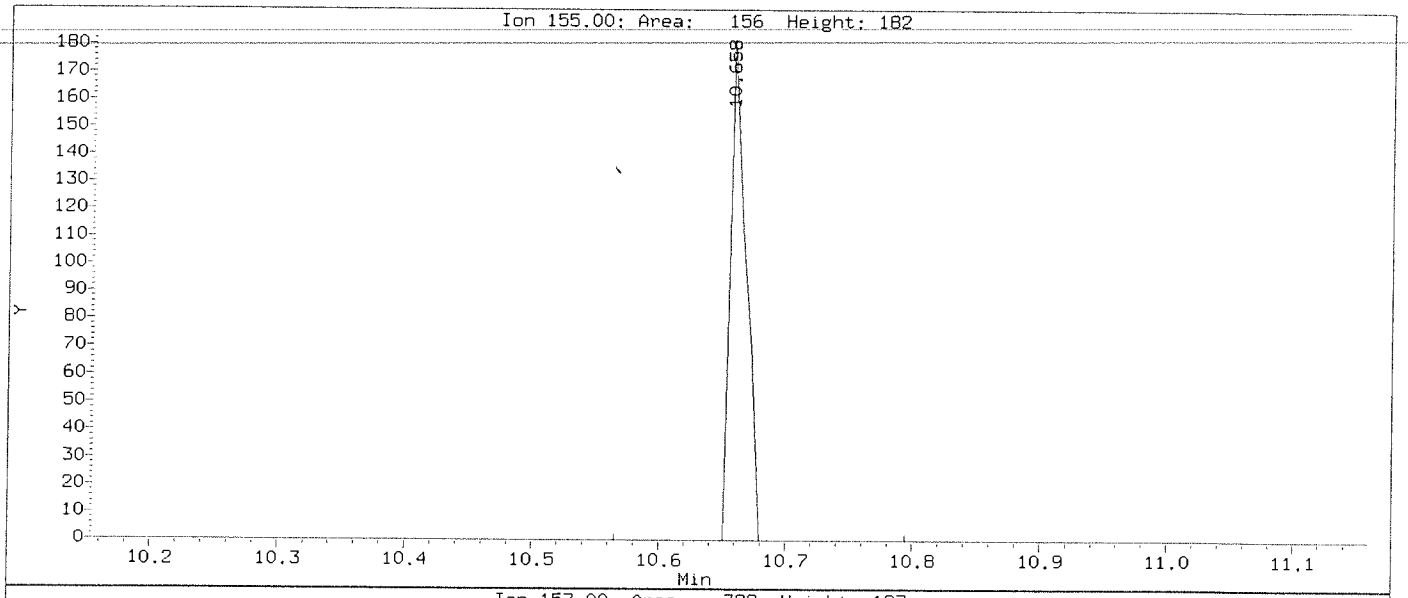
Injection Date: 31-OCT-2019 11:56
Instrument: voa6.i
Client Sample ID: VSTD000.5

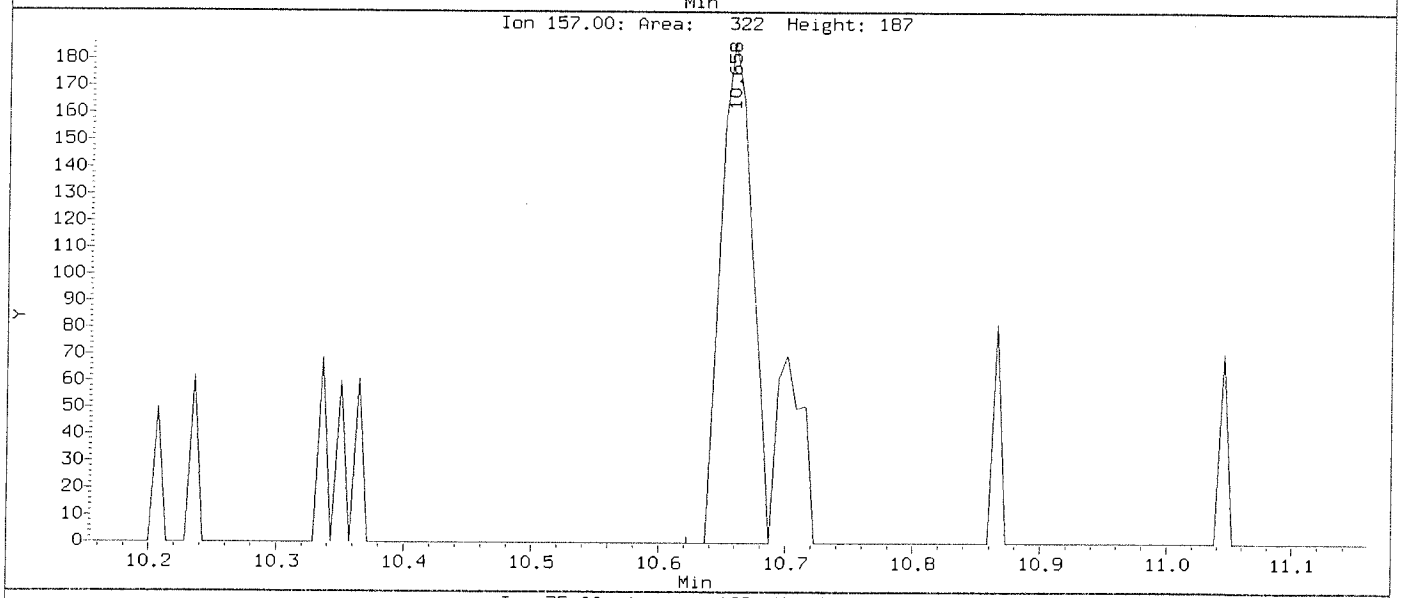
Compound: 1,2-Dibromo-3-Chloropropane
CAS Number: 96-12-8

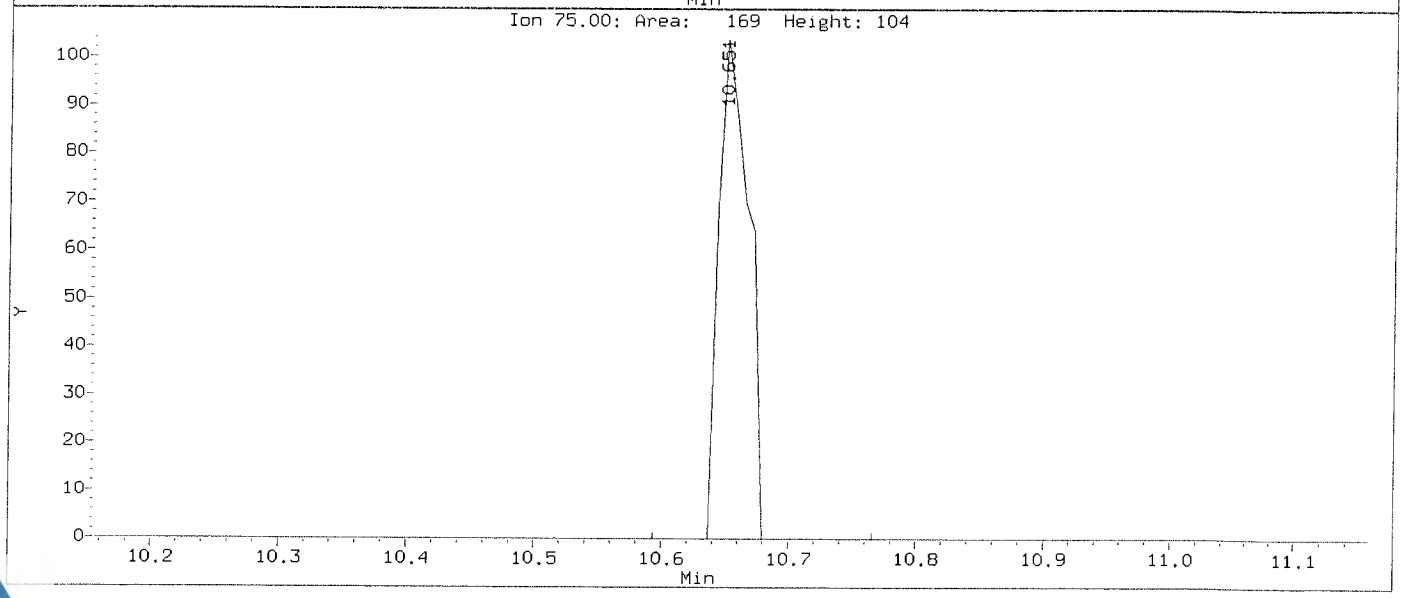


Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\X103103.D
Injection Date: 31-OCT-2019 11:56
Instrument: voa6.i
Client Sample ID: VSTD000.5

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

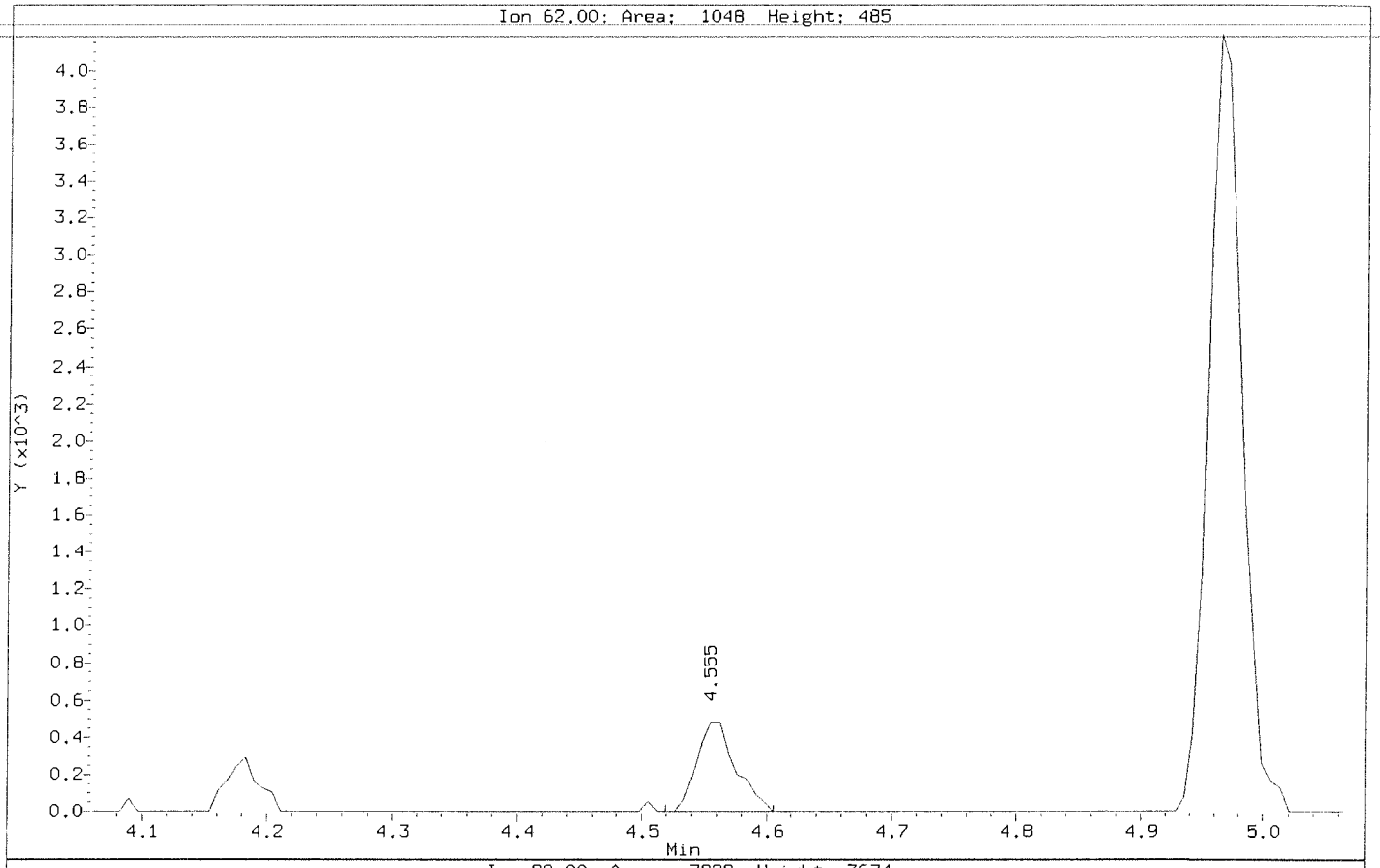


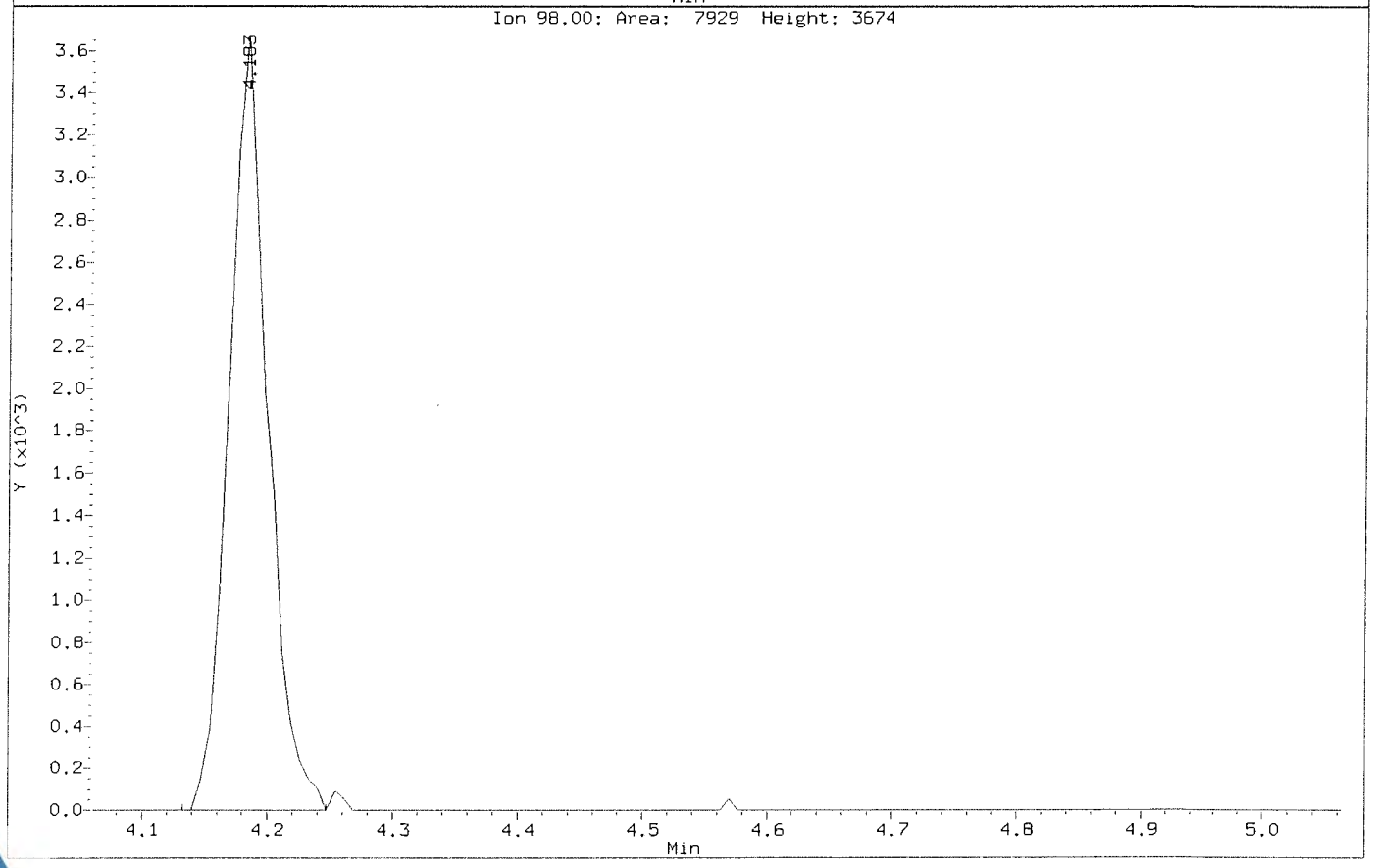




Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\BEFORE2\X103103.D
Injection Date: 31-OCT-2019 11:56
Instrument: voa6.i
Client Sample ID: VSTD000.5

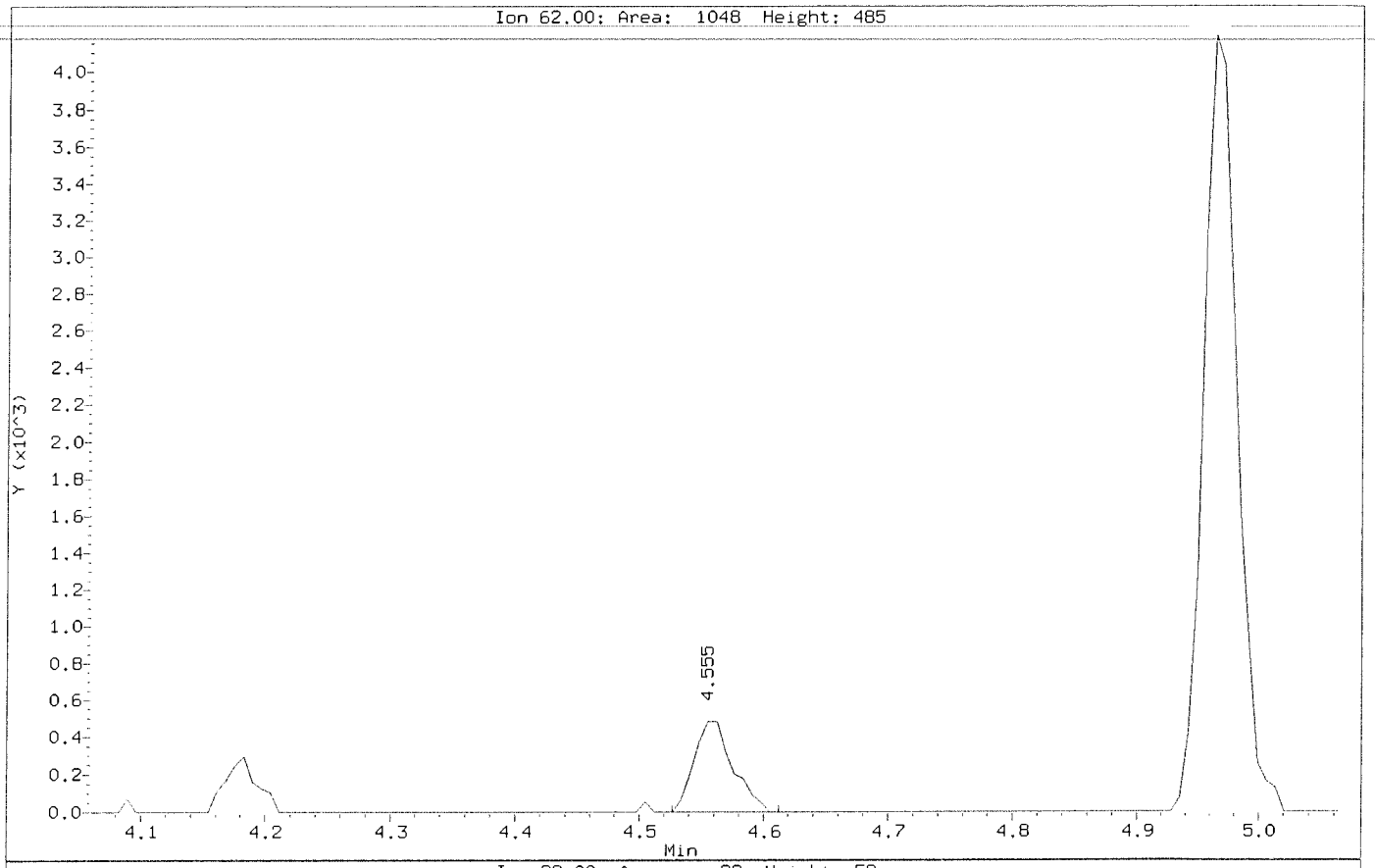
Compound: 1,2-Dichloroethane
CAS Number: 107-06-2

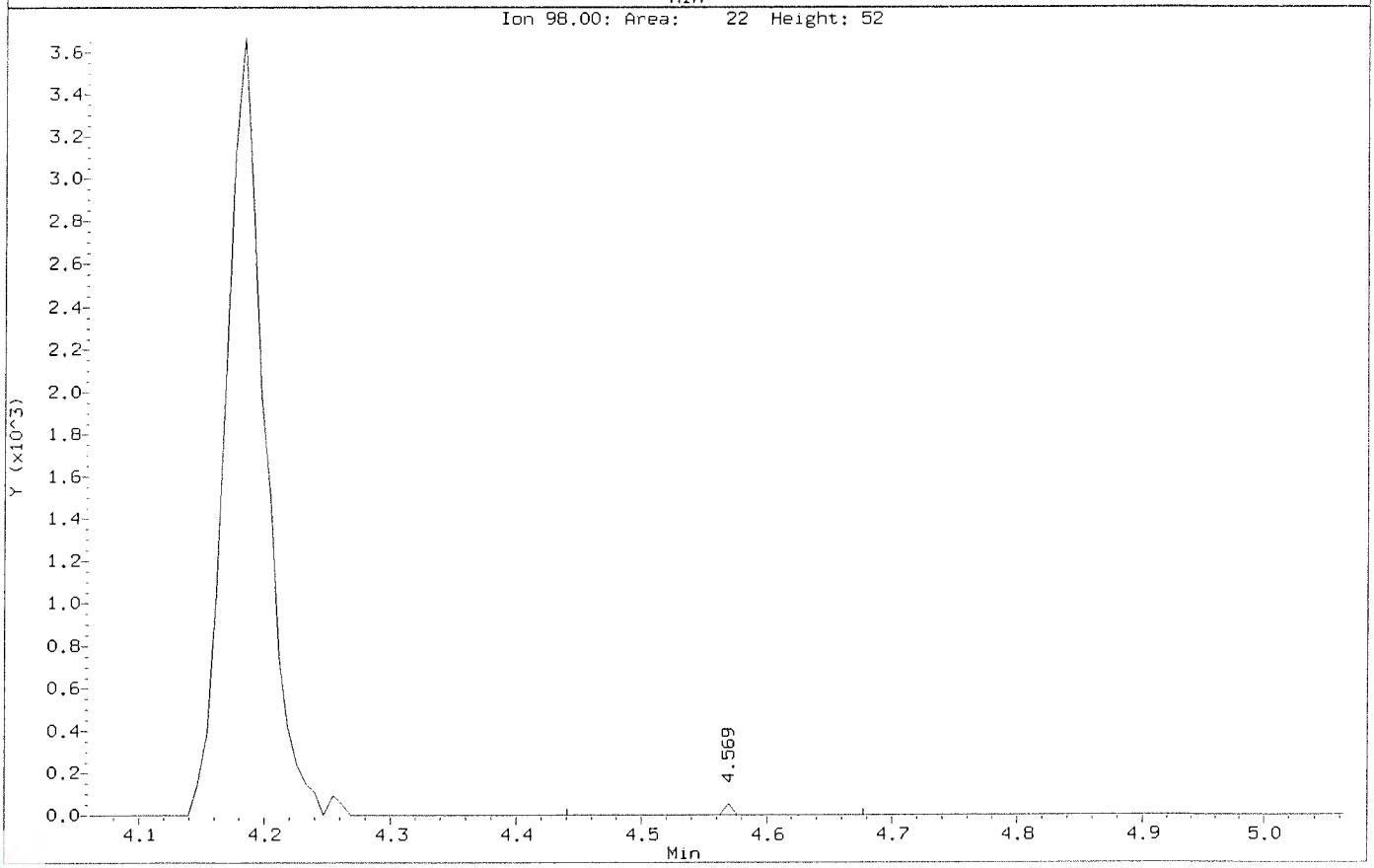




Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\X103103.D
Injection Date: 31-OCT-2019 11:56
Instrument: voa6.i
Client Sample ID: VSTD000.5

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





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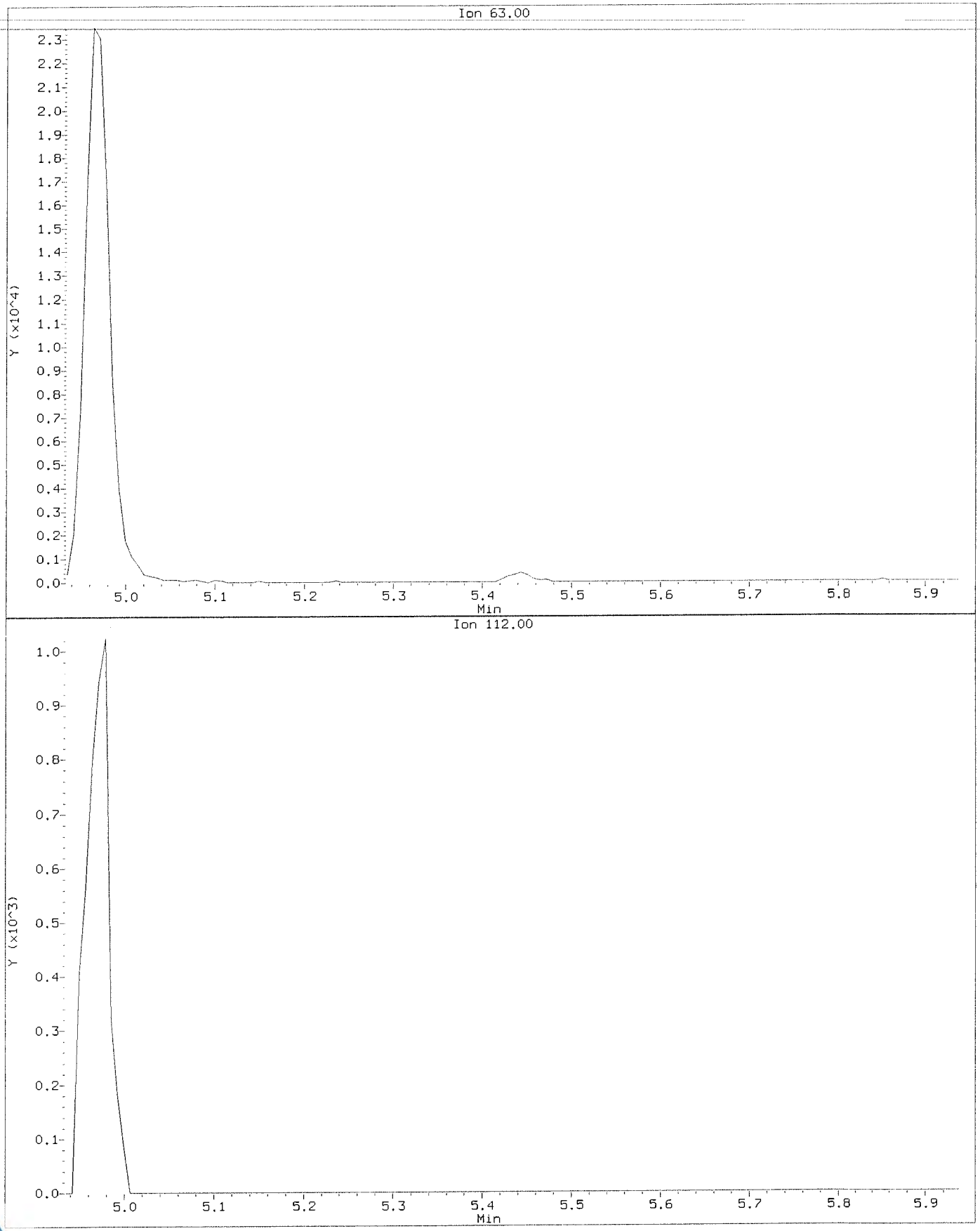
Injection Date: 31-OCT-2019 11:56
Instrument: voa6.i
Client Sample ID: VSTD000.5

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



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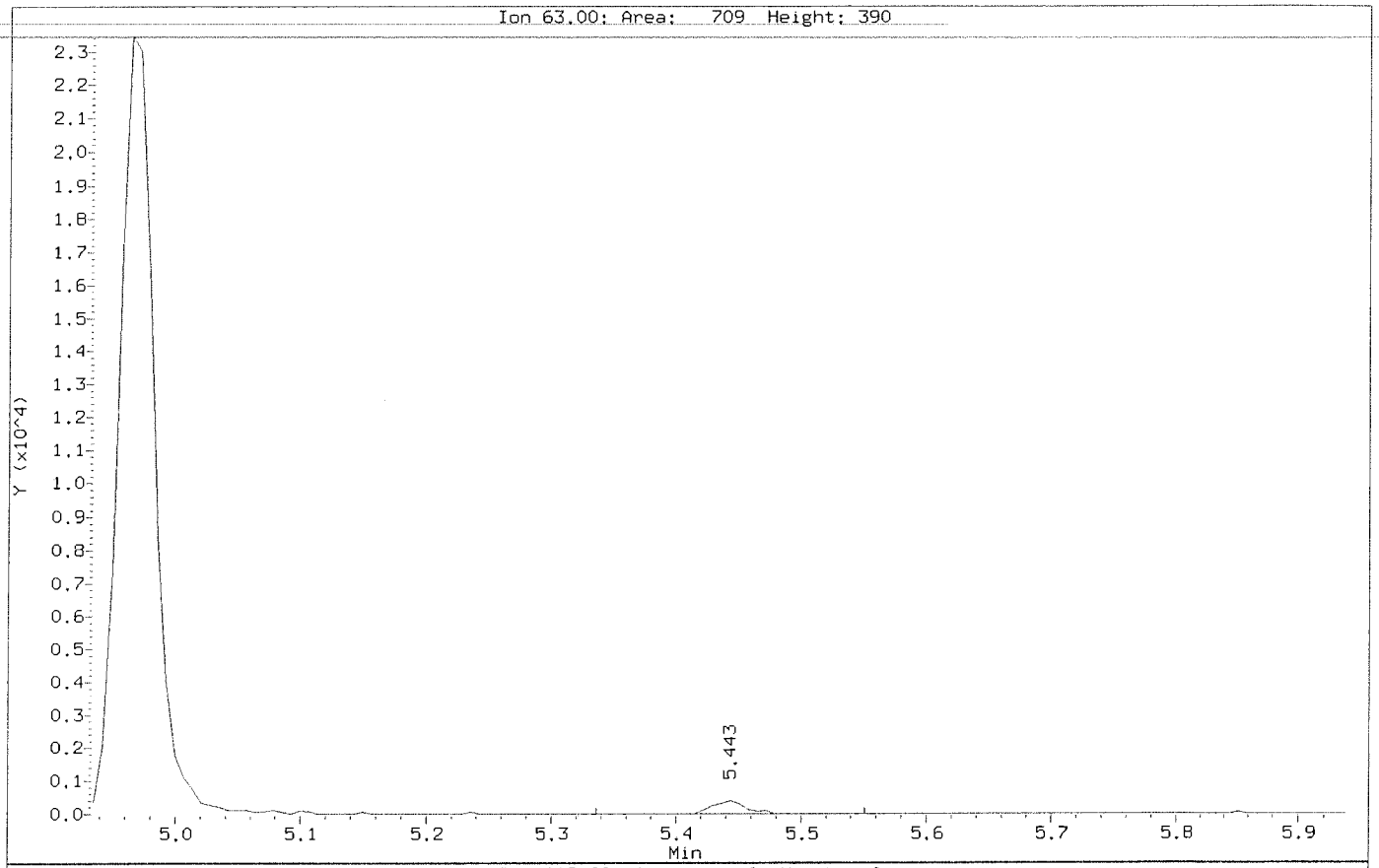
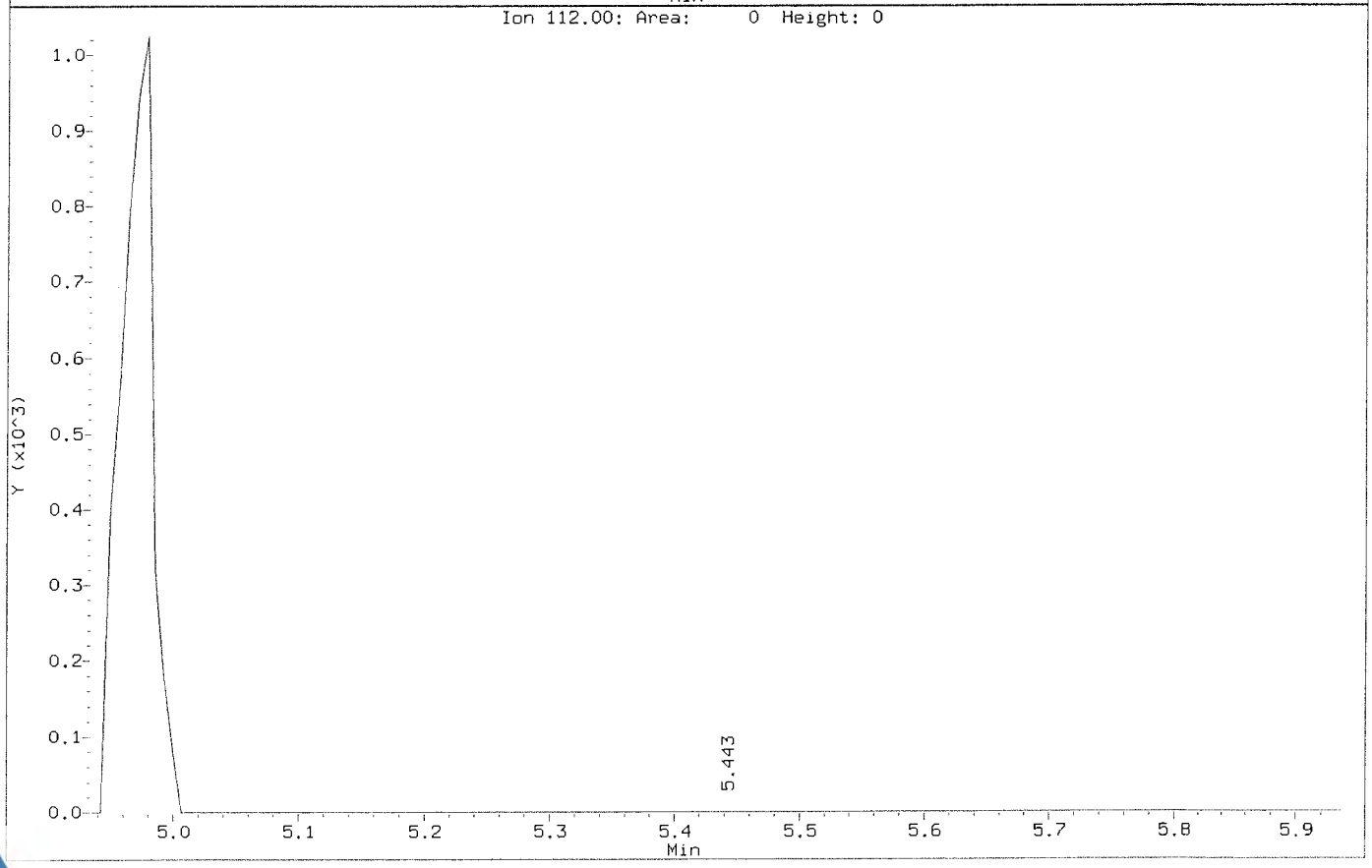
Injection Date: 31-OCT-2019 11:56
Instrument: voa6.i
Client Sample ID: VSTD000.5

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





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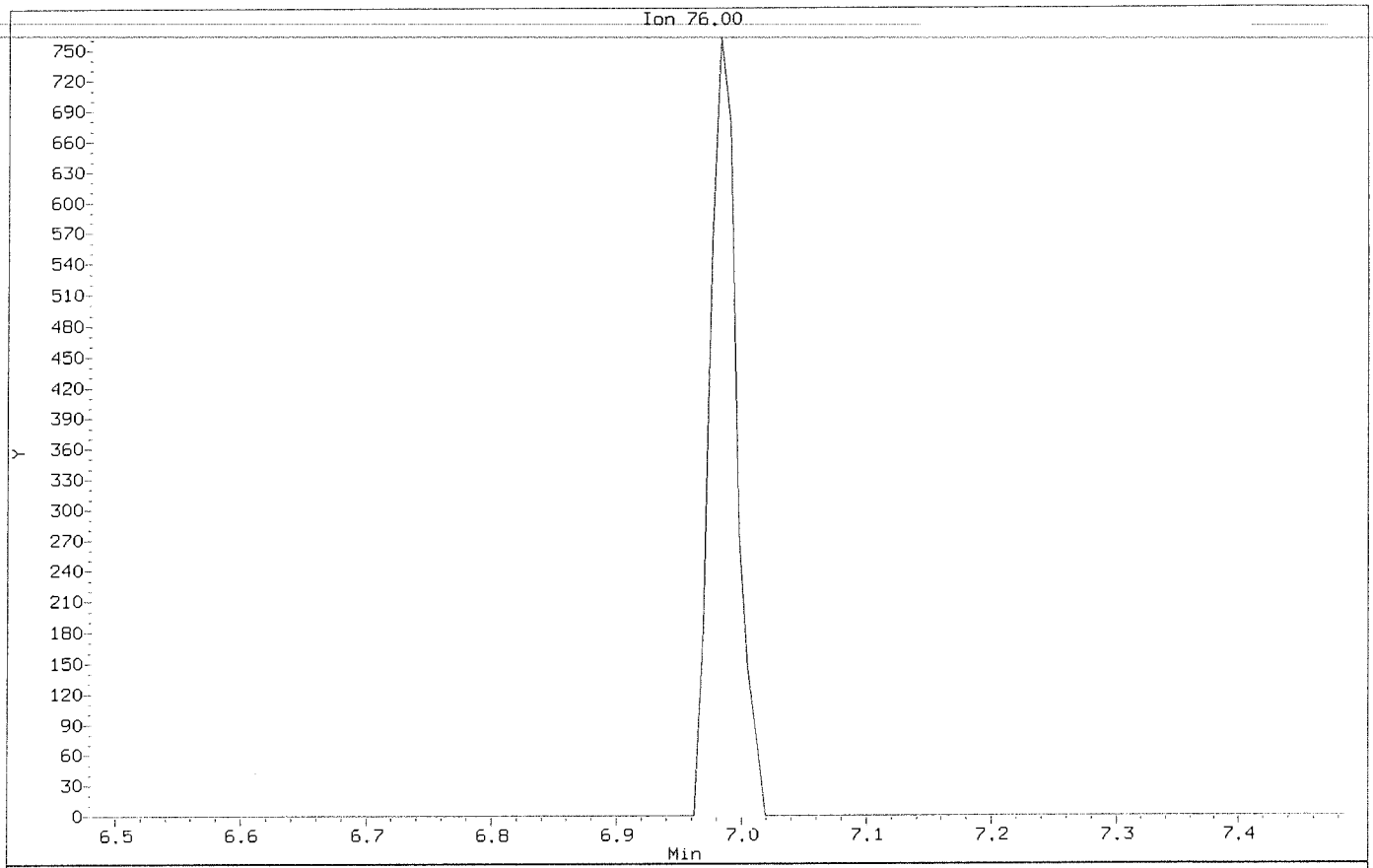
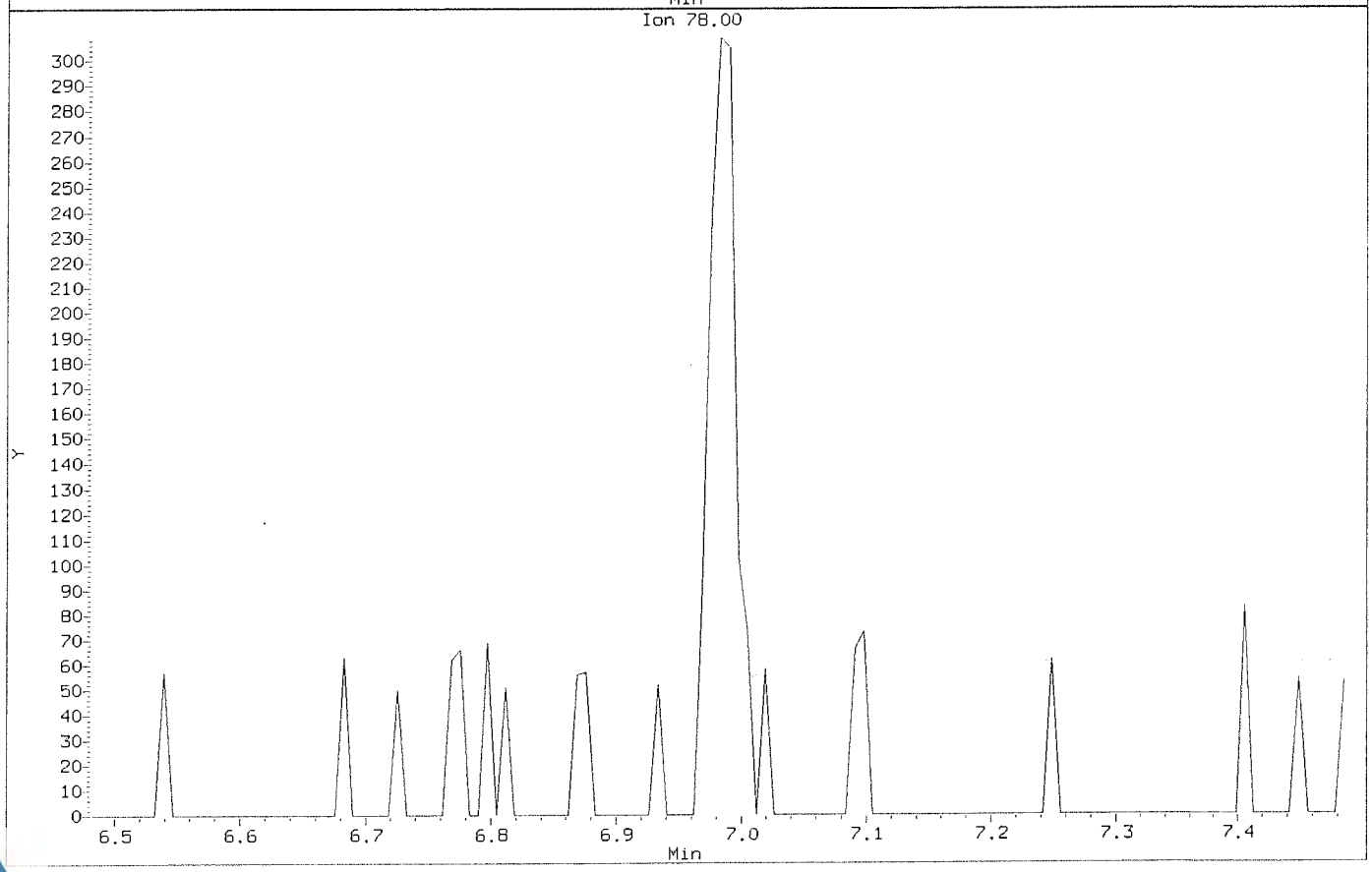
Injection Date: 31-OCT-2019 11:56
Instrument: voa6.i
Client Sample ID: VSTD000.5

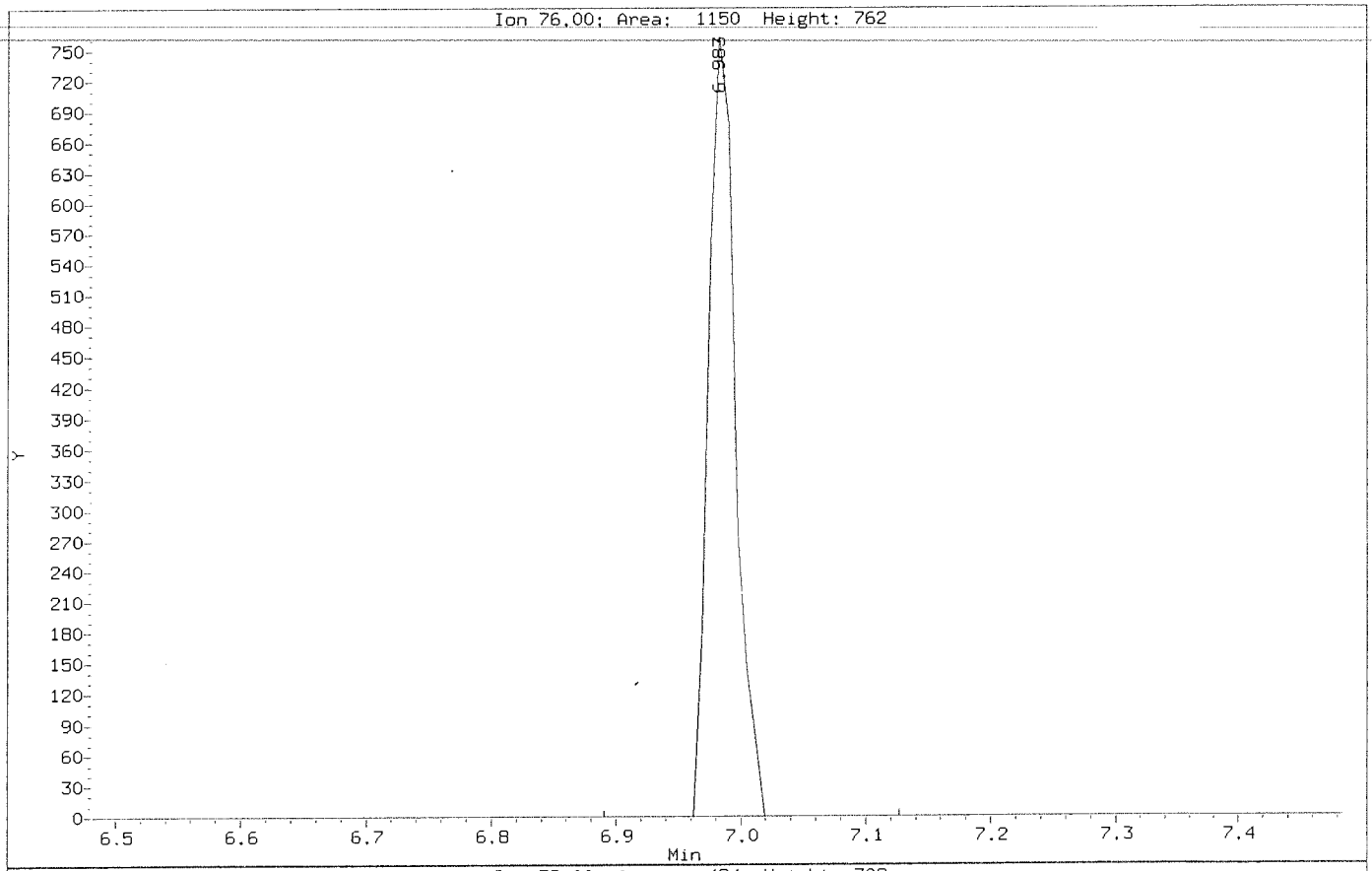
Compound: 1,3-Dichloropropane
CAS Number: 142-28-9

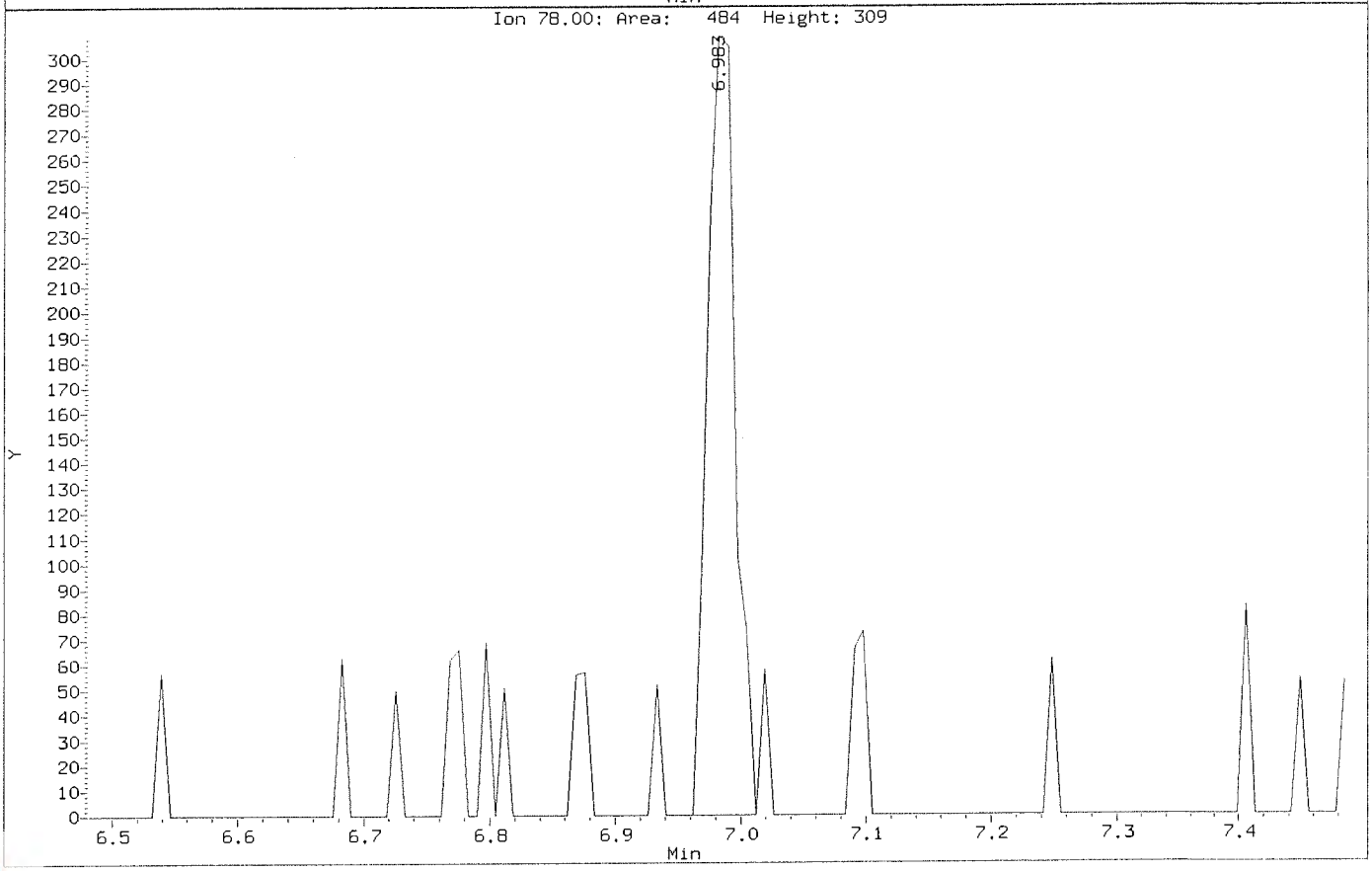




Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\X103103.D
Injection Date: 31-OCT-2019 11:56
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: 1,3-Dichloropropane
CAS Number: 142-28-9





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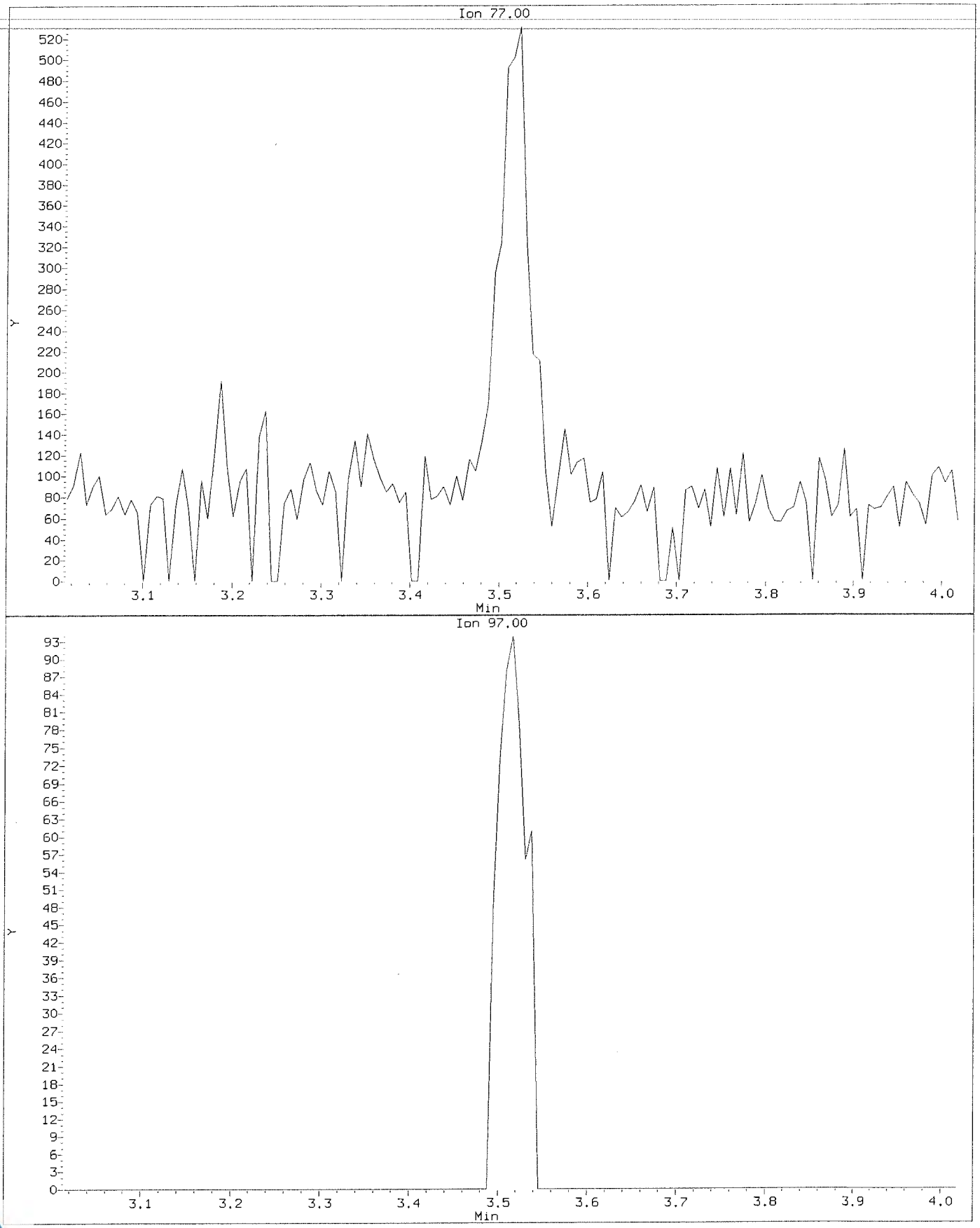
Injection Date: 31-OCT-2019 11:56
Instrument: voa6.i
Client Sample ID: VSTD000.5

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



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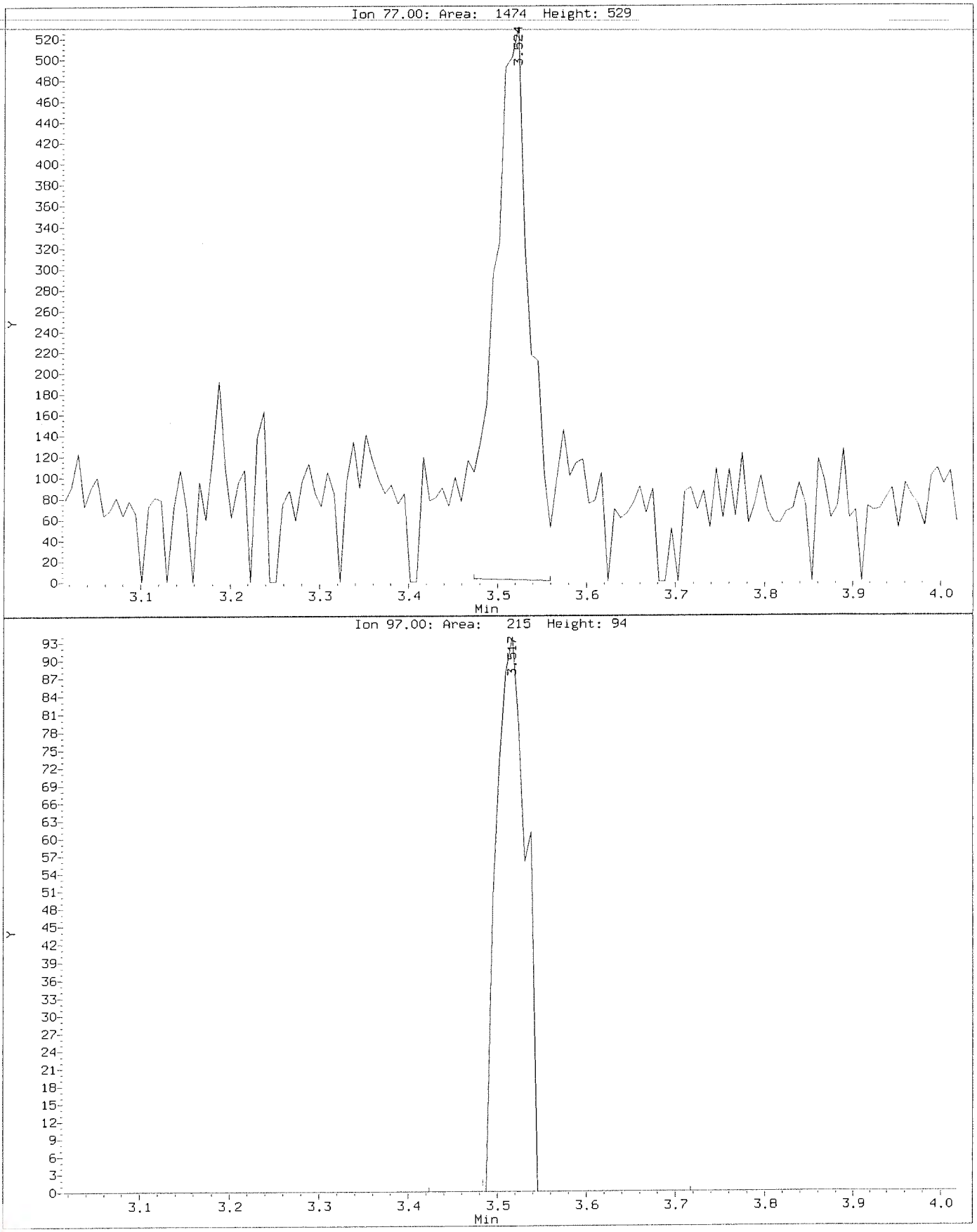
Injection Date: 31-OCT-2019 11:56
Instrument: voa6.i
Client Sample ID: VSTD000.5

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



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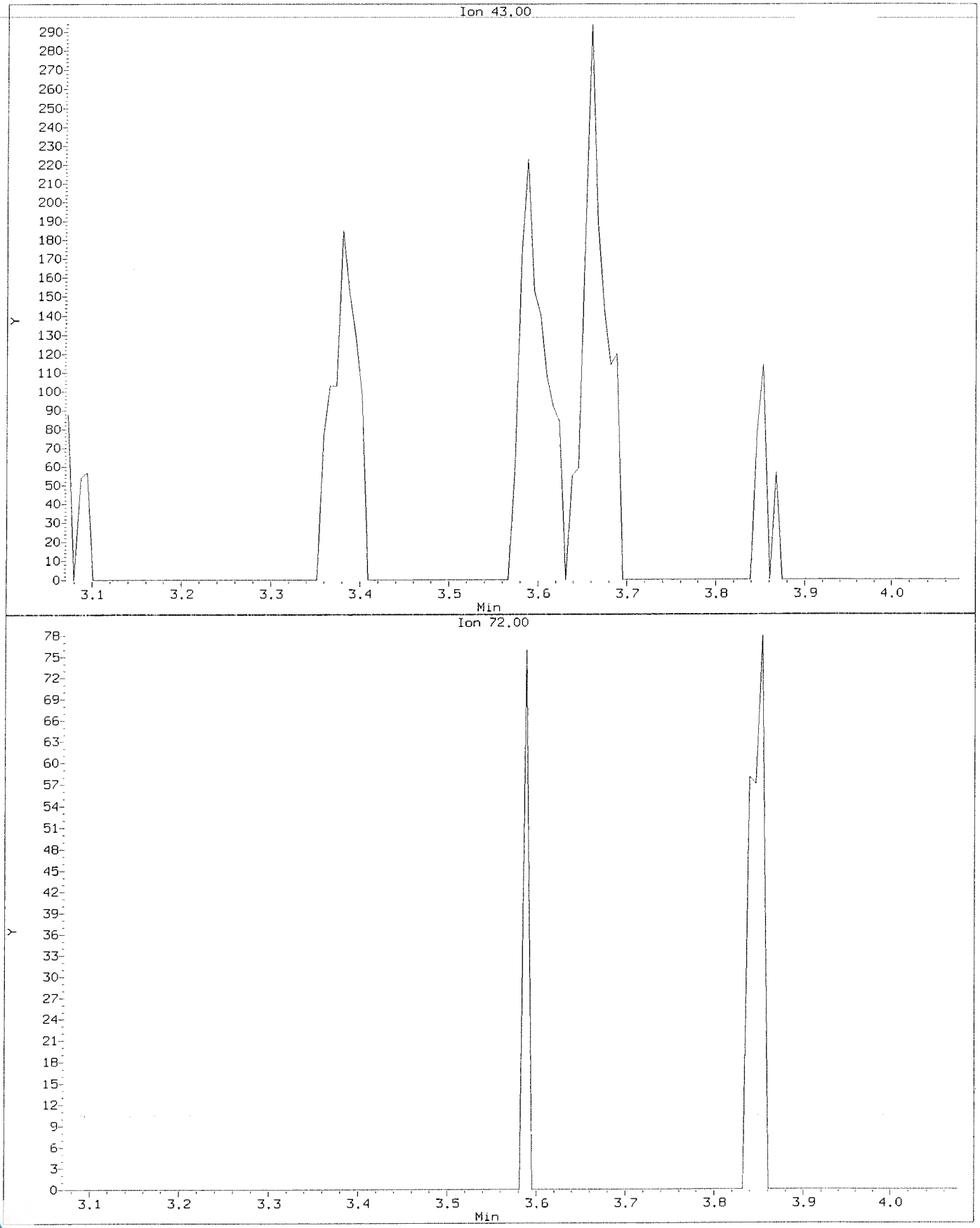
Injection Date: 31-OCT-2019 11:56
Instrument: voa6.i
Client Sample ID: VSTD000.5

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



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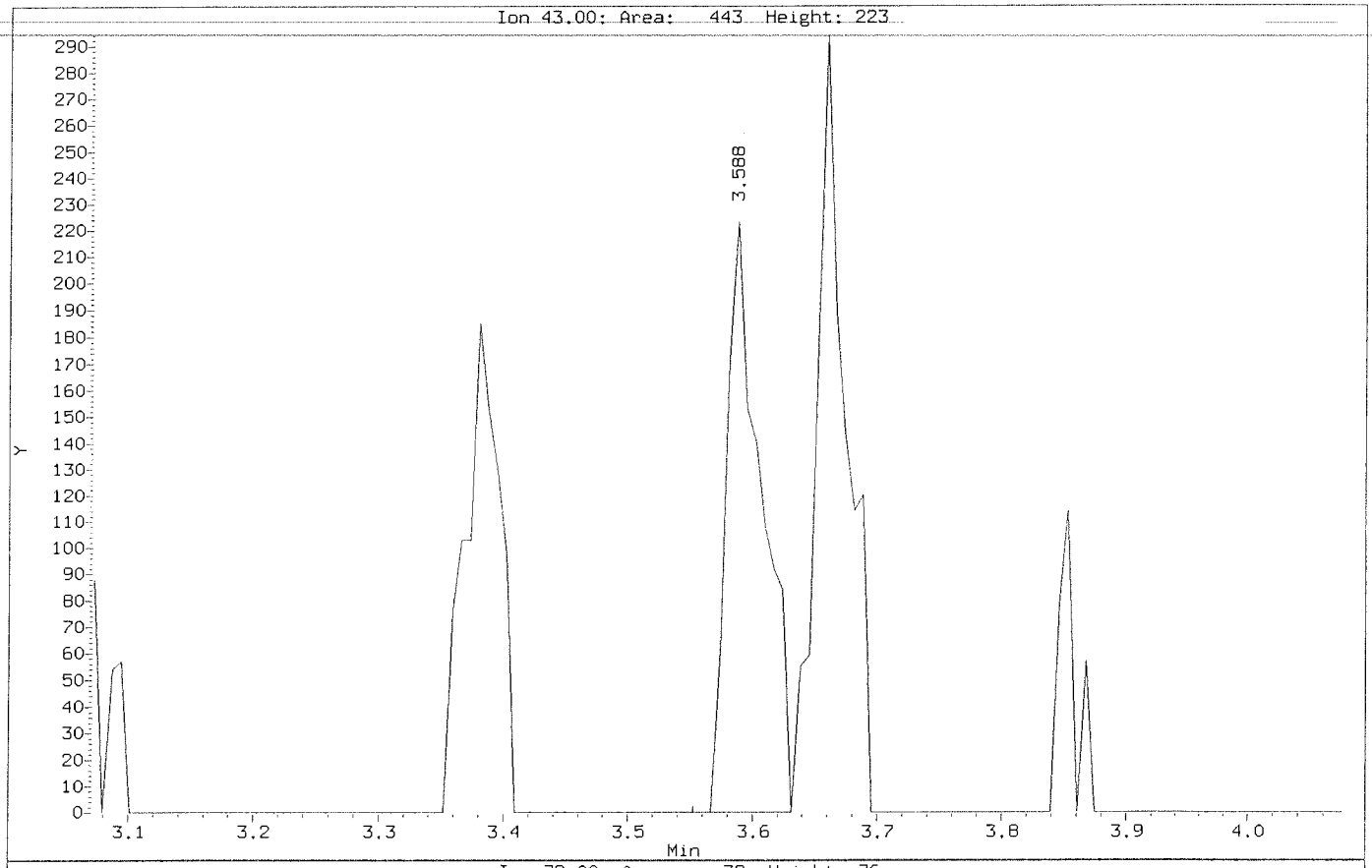
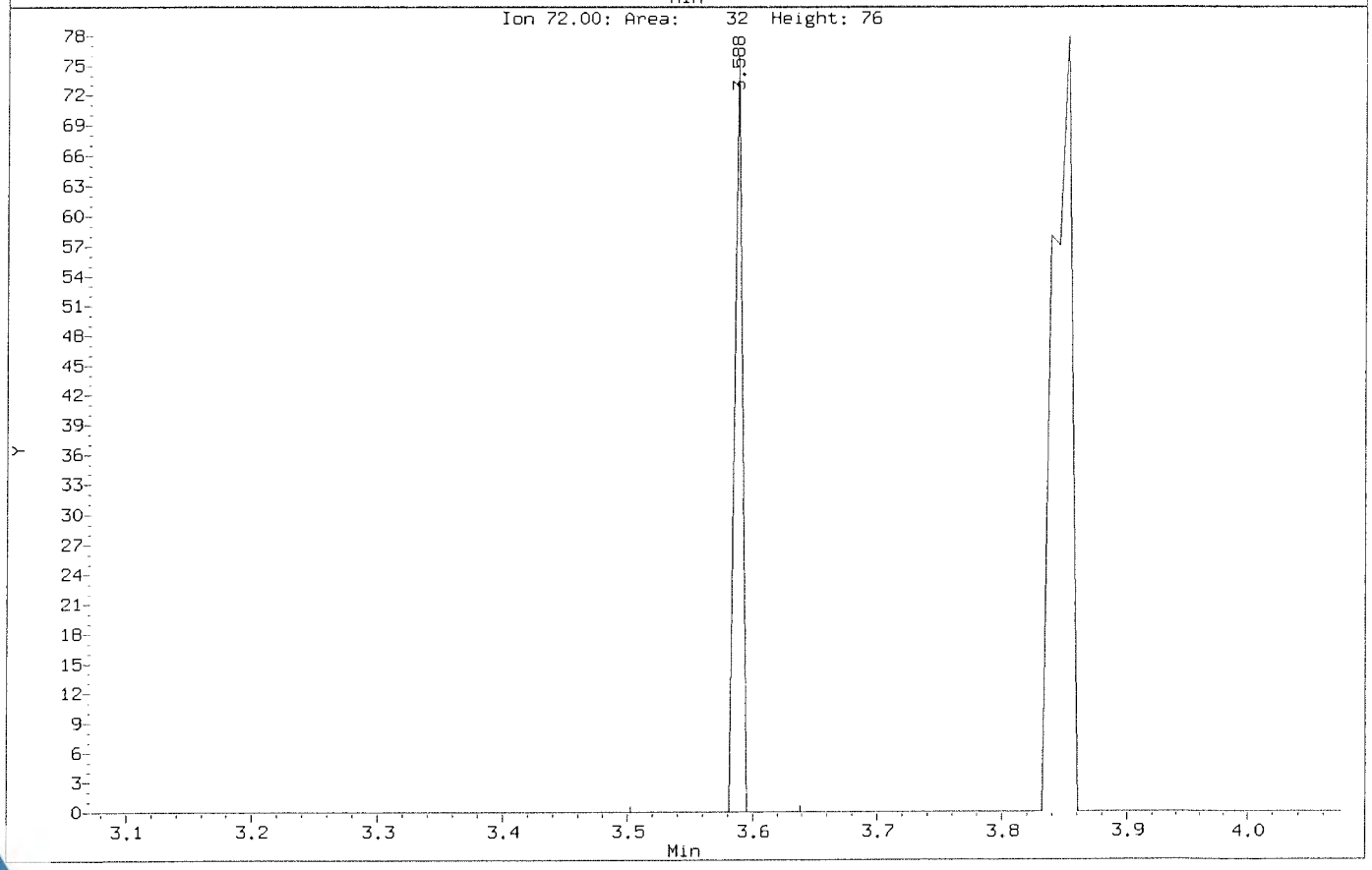
Injection Date: 31-OCT-2019 11:56
Instrument: voa6.i
Client Sample ID: VSTD000.5

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





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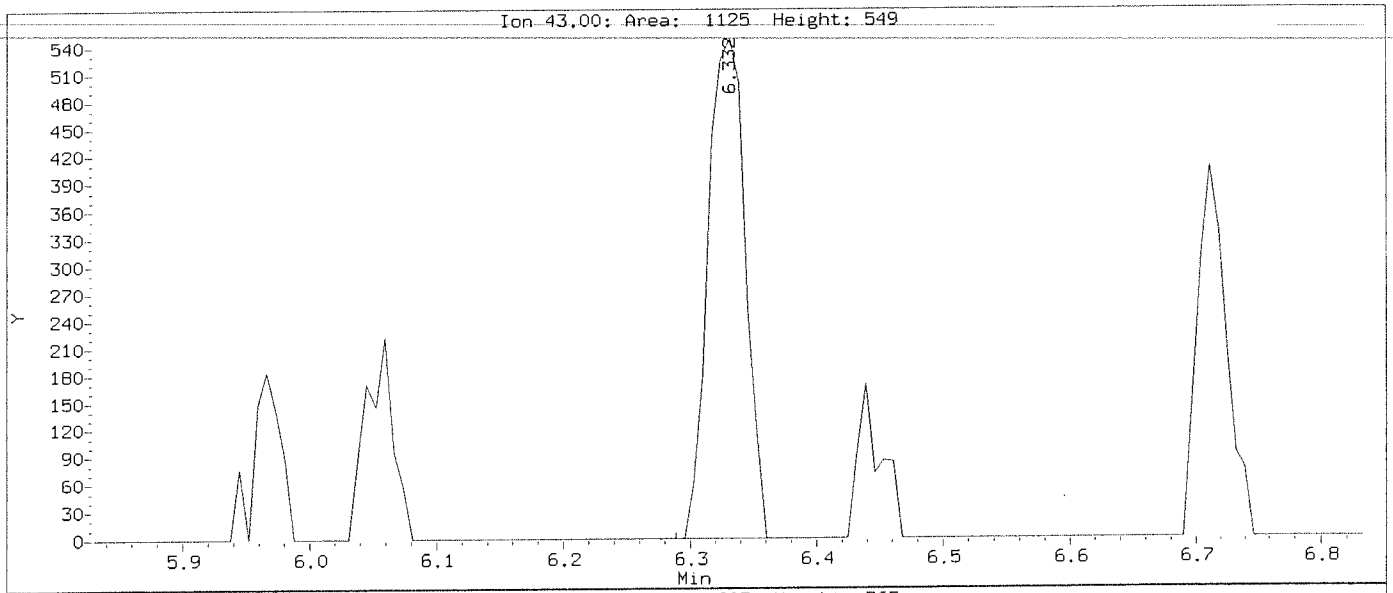
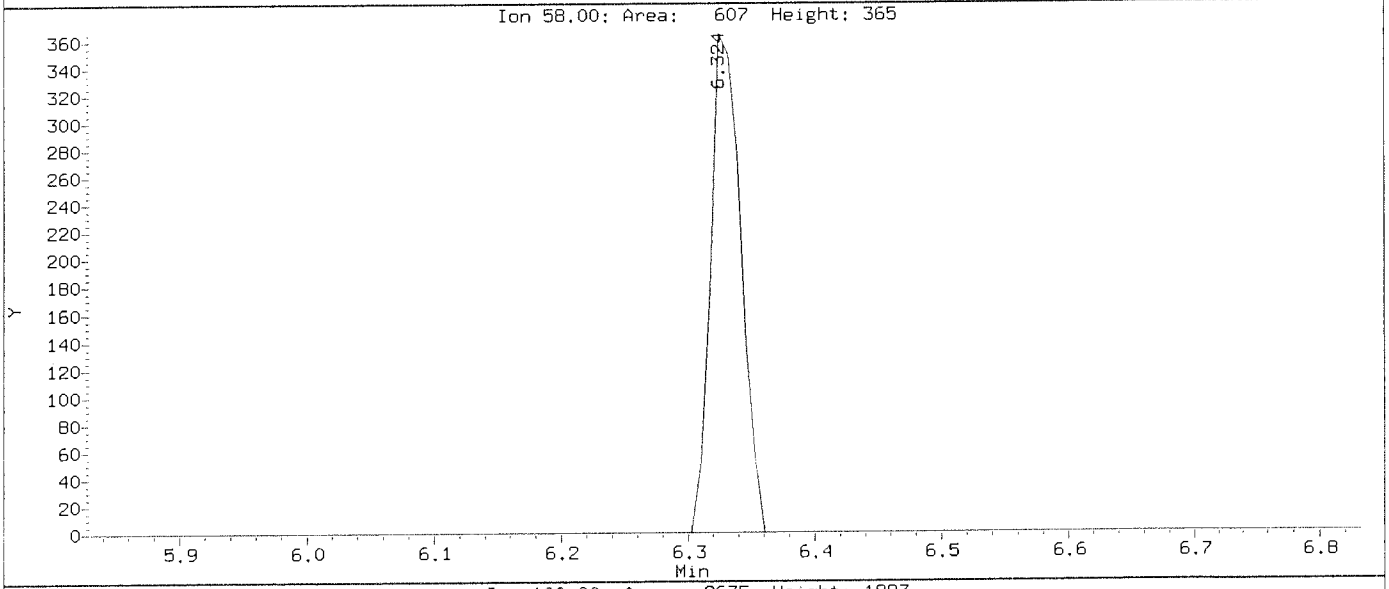
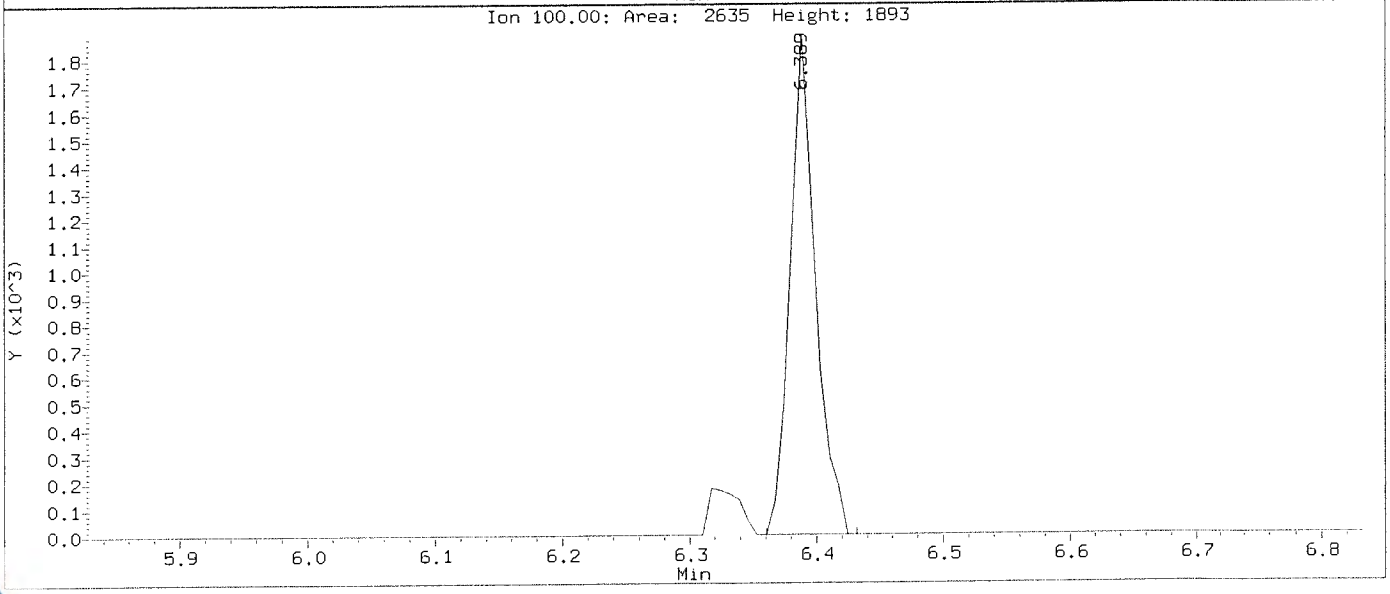
Injection Date: 31-OCT-2019 11:56
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: 4-Methyl-2-Pentanone
CAS Number: 108-10-1

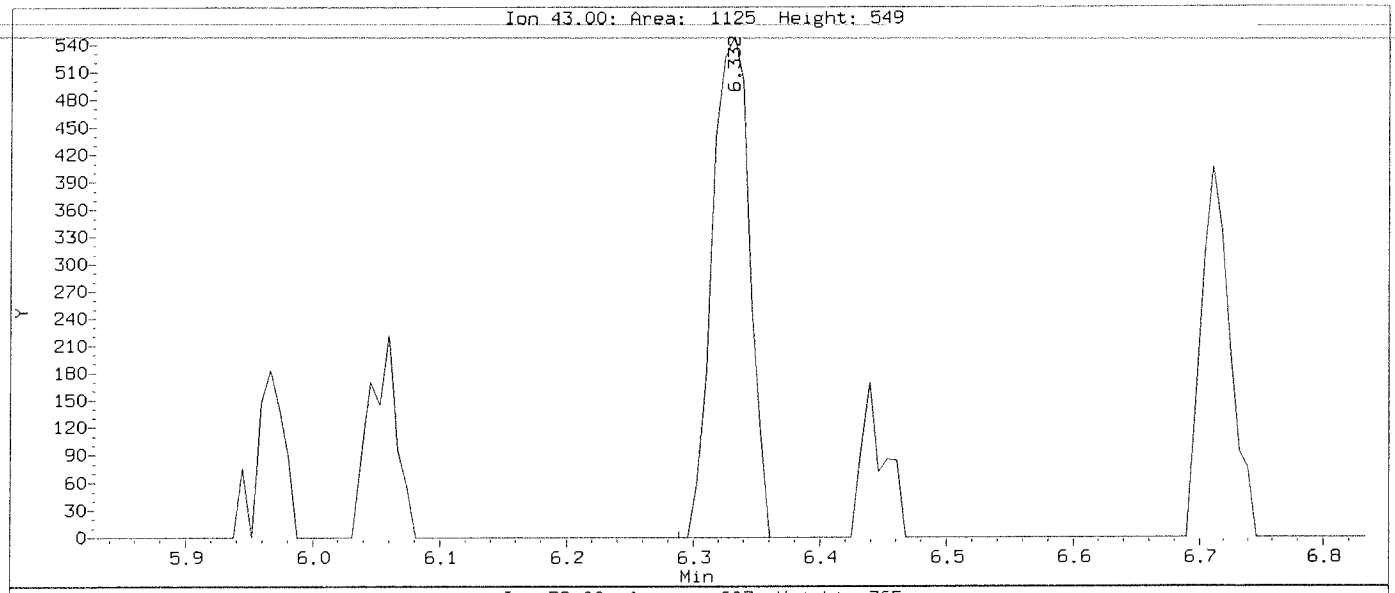


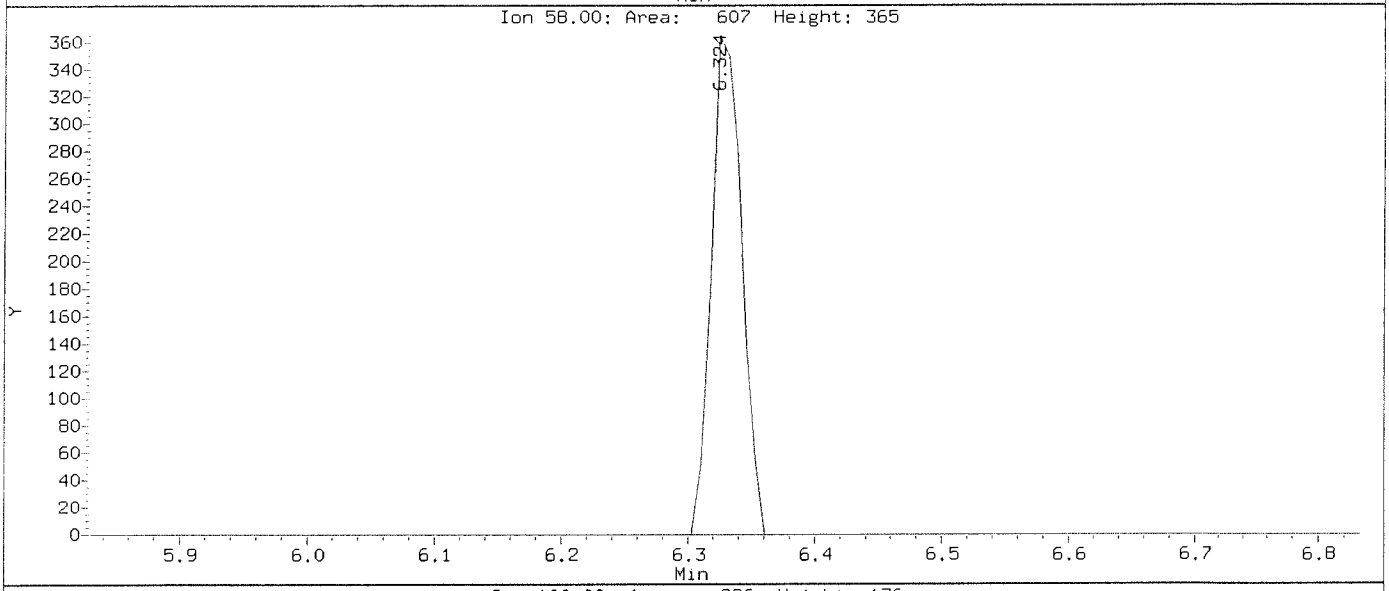


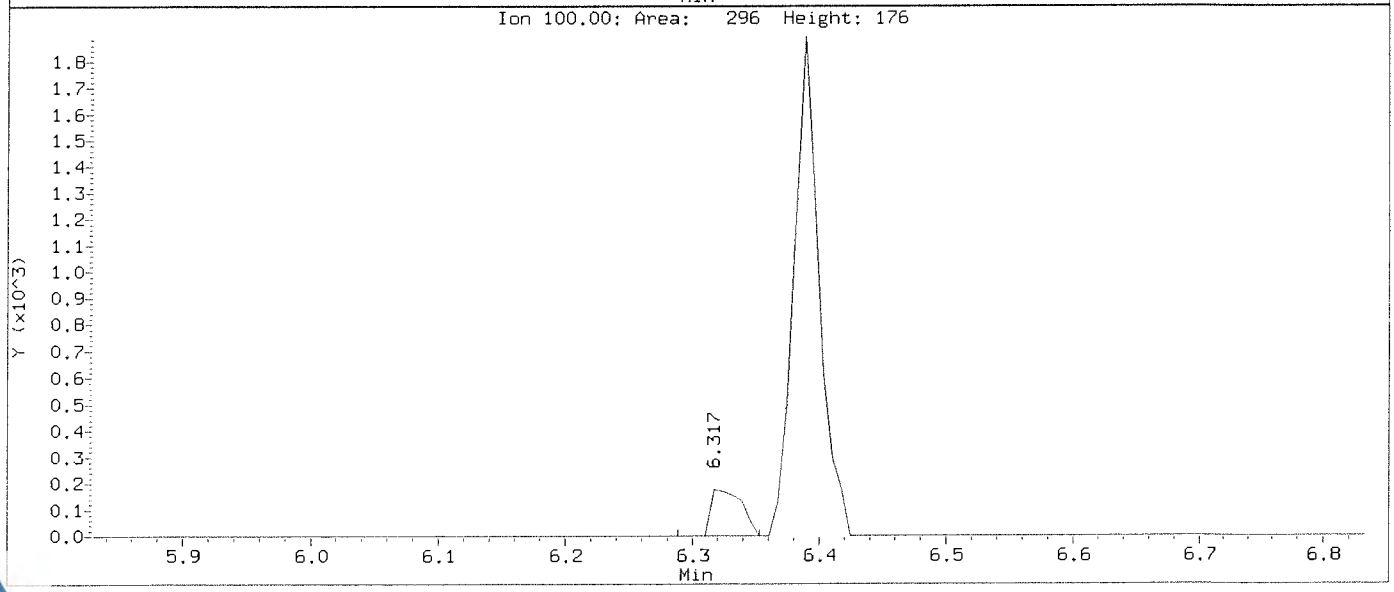


Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\X103103.D
Injection Date: 31-OCT-2019 11:56
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: 4-Methyl-2-Pentanone
CAS Number: 108-10-1

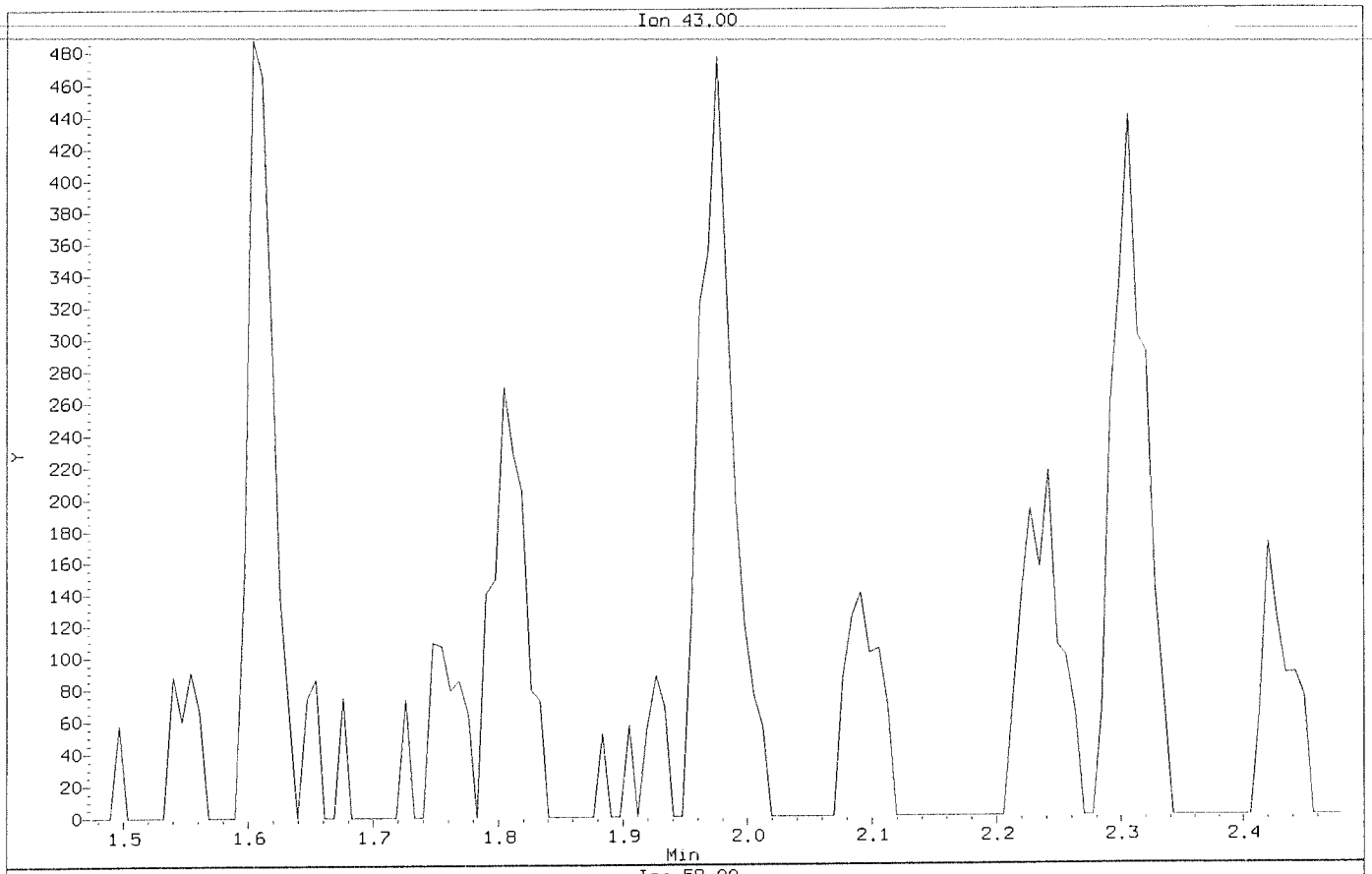


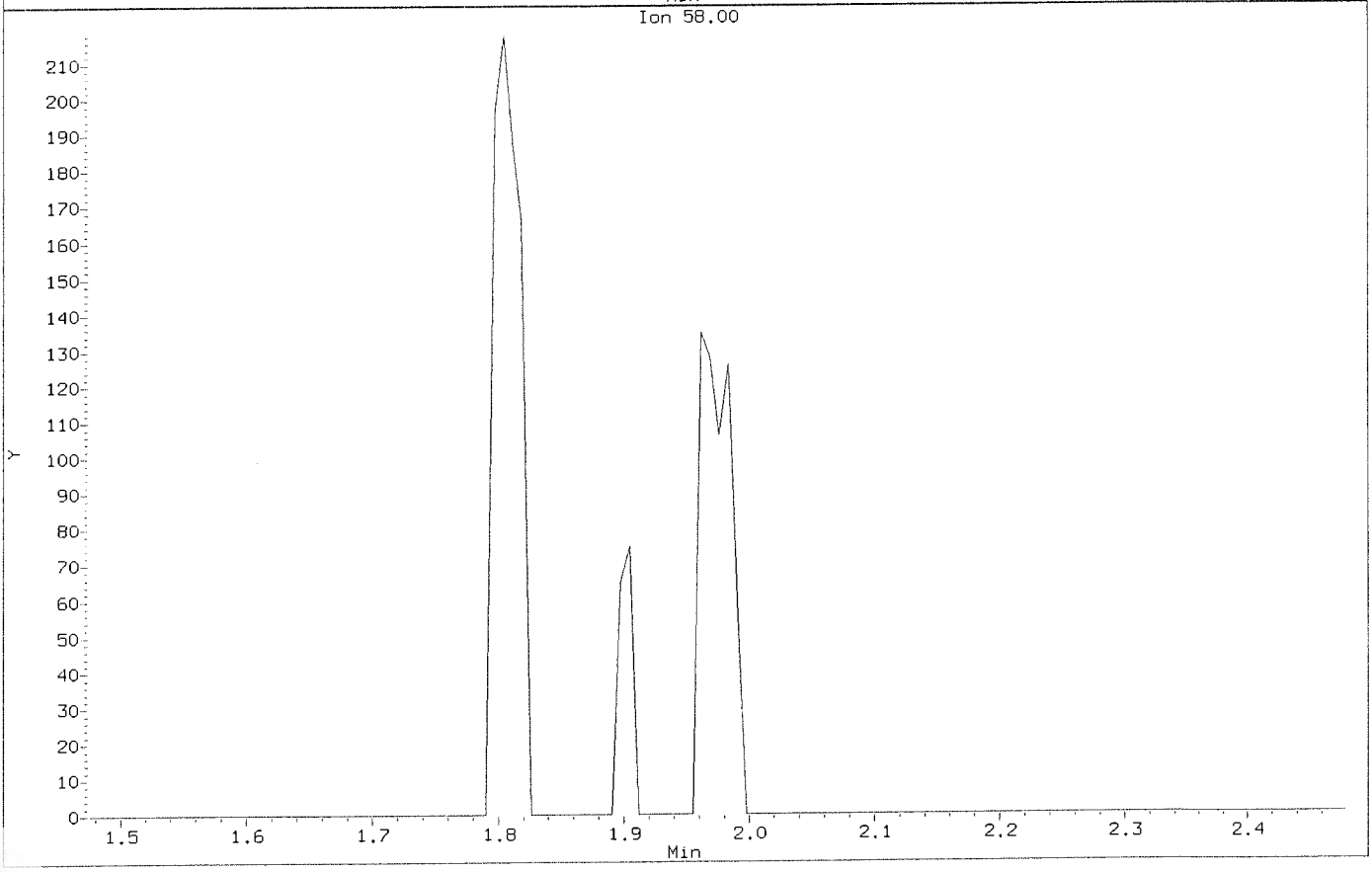




Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\BEFORE2\X103103.D
Injection Date: 31-OCT-2019 11:56
Instrument: voa6.i
Client Sample ID: VSTD000.5

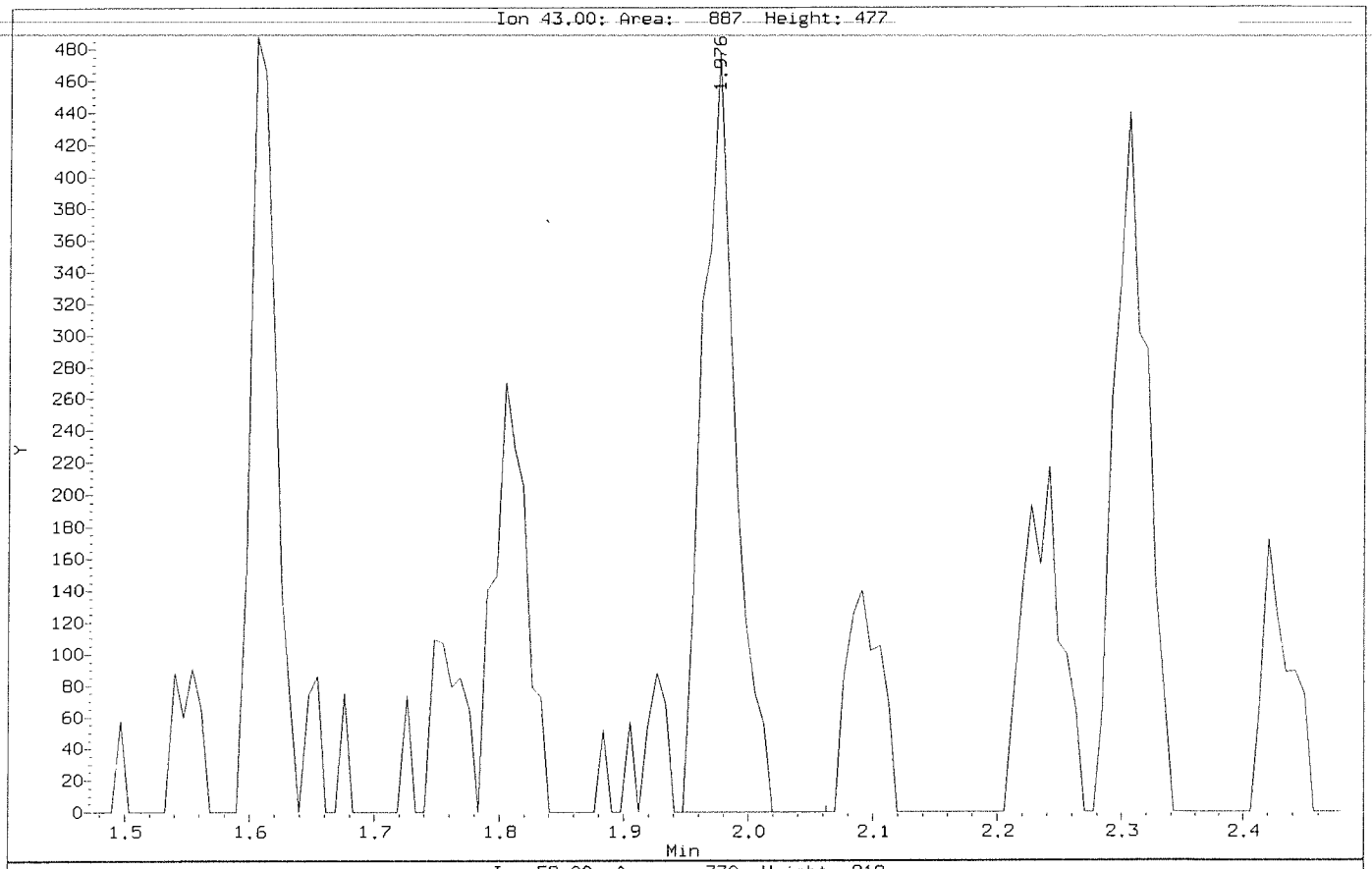
Compound: Acetone
CAS Number: 67-64-1

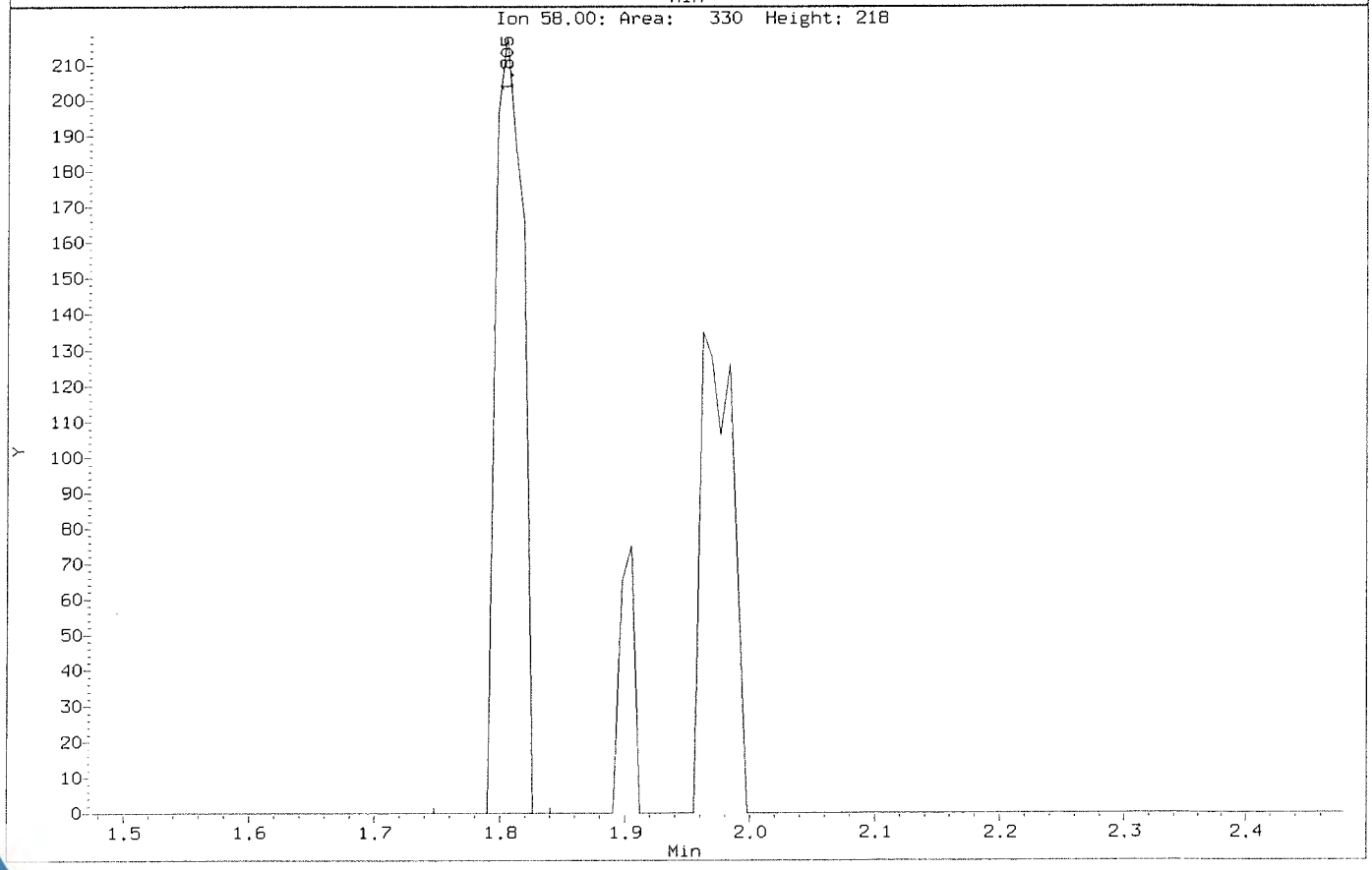




Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\X103103.D
Injection Date: 31-OCT-2019 11:56
Instrument: voa6.i
Client Sample ID: VSTD000.5

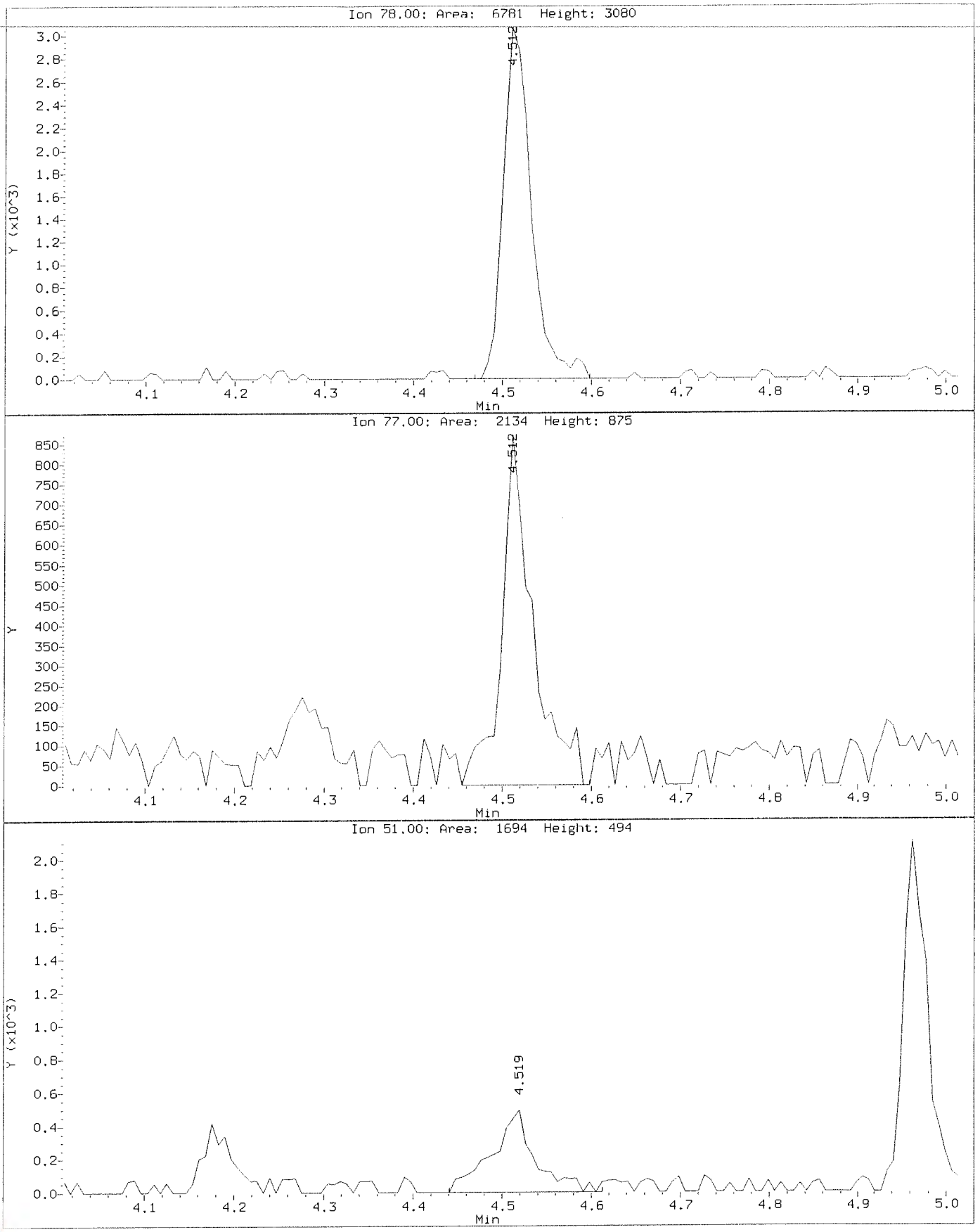
Compound: Acetone
CAS Number: 67-64-1





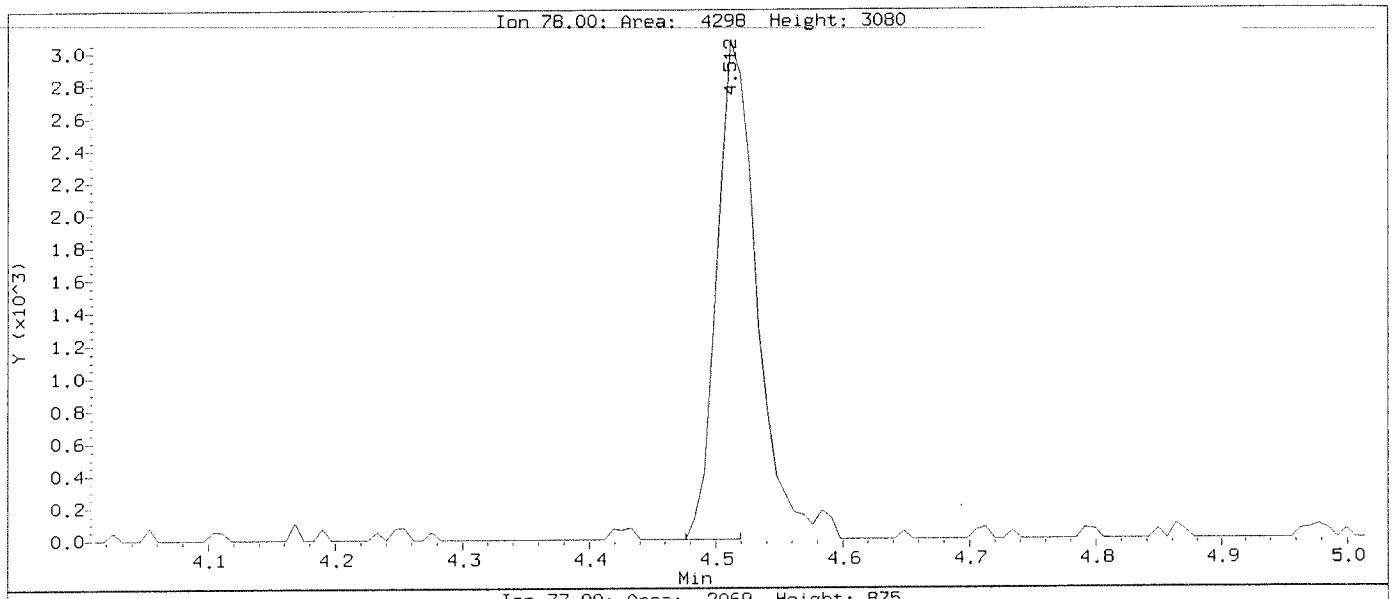
Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\BEFORE2\X103103.D
Injection Date: 31-OCT-2019 11:56
Instrument: voa6.i
Client Sample ID: VSTD000.5

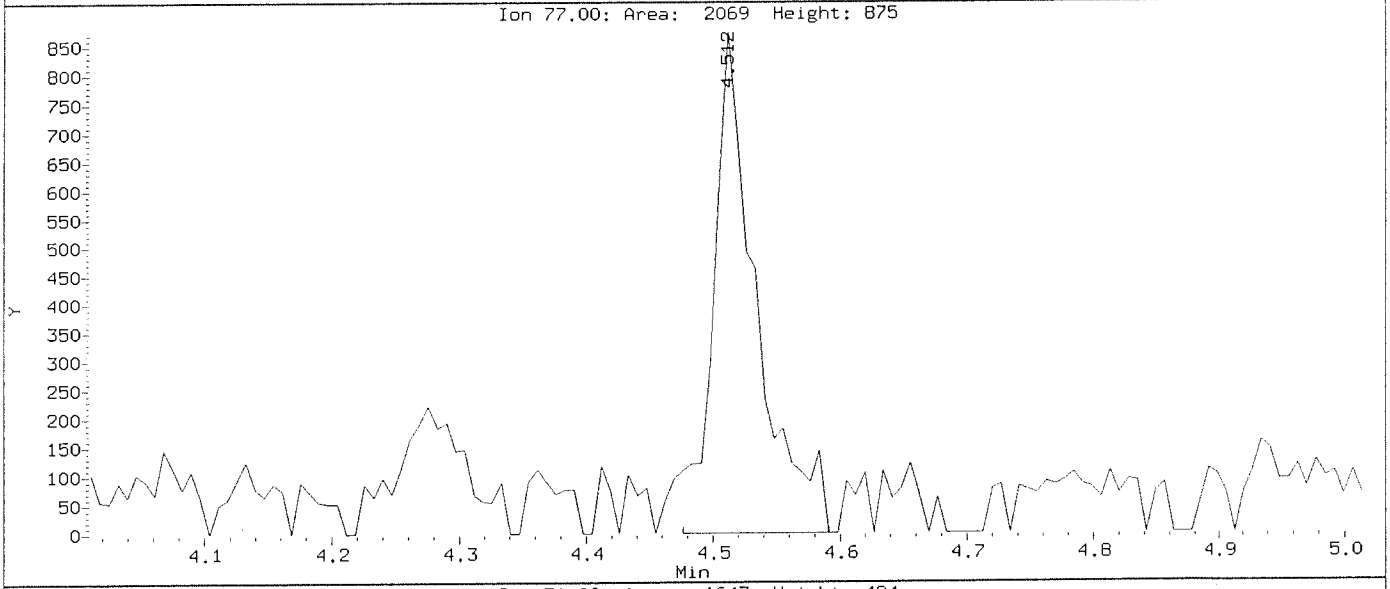
Compound: Benzene
CAS Number: 71-43-2

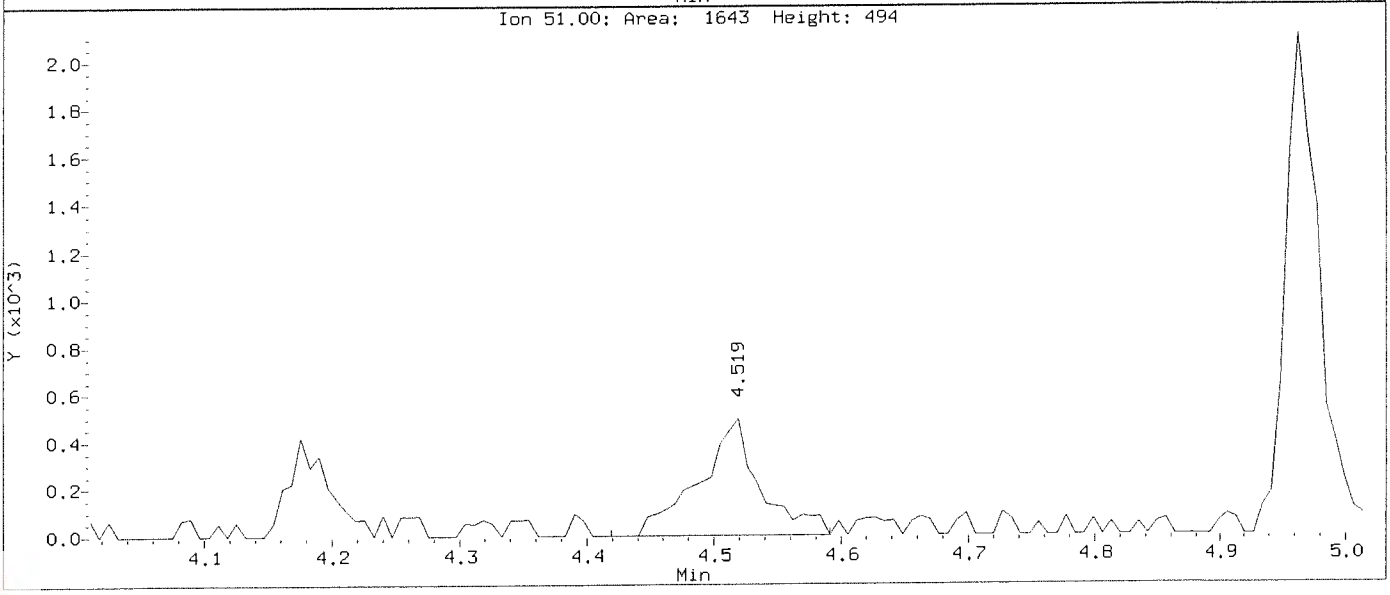


Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\X103103.D
Injection Date: 31-OCT-2019 11:56
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Benzene
CAS Number: 71-43-2

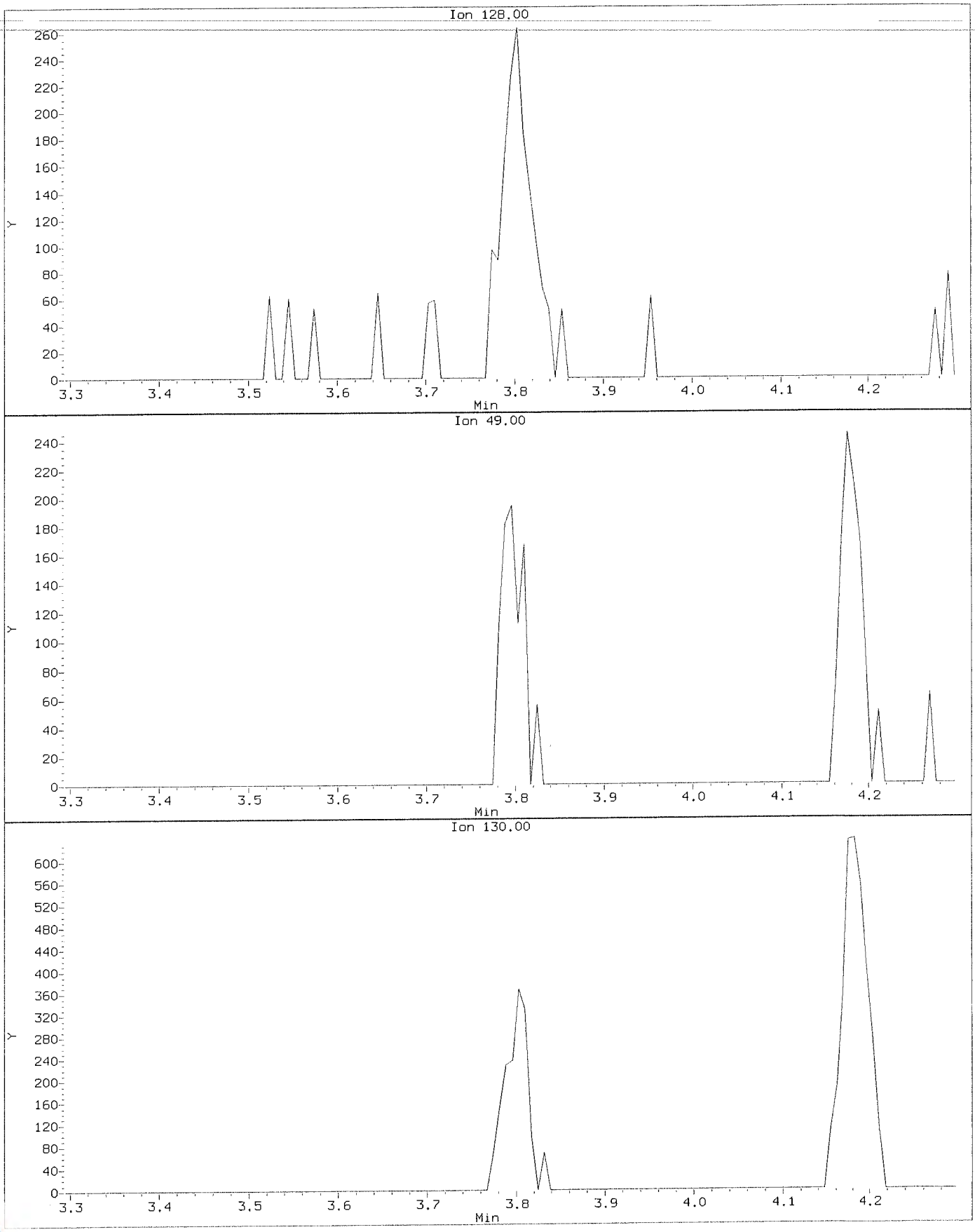






Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\BEFORE2\X103103.D
Injection Date: 31-OCT-2019 11:56
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Bromochloromethane
CAS Number: 74-97-5



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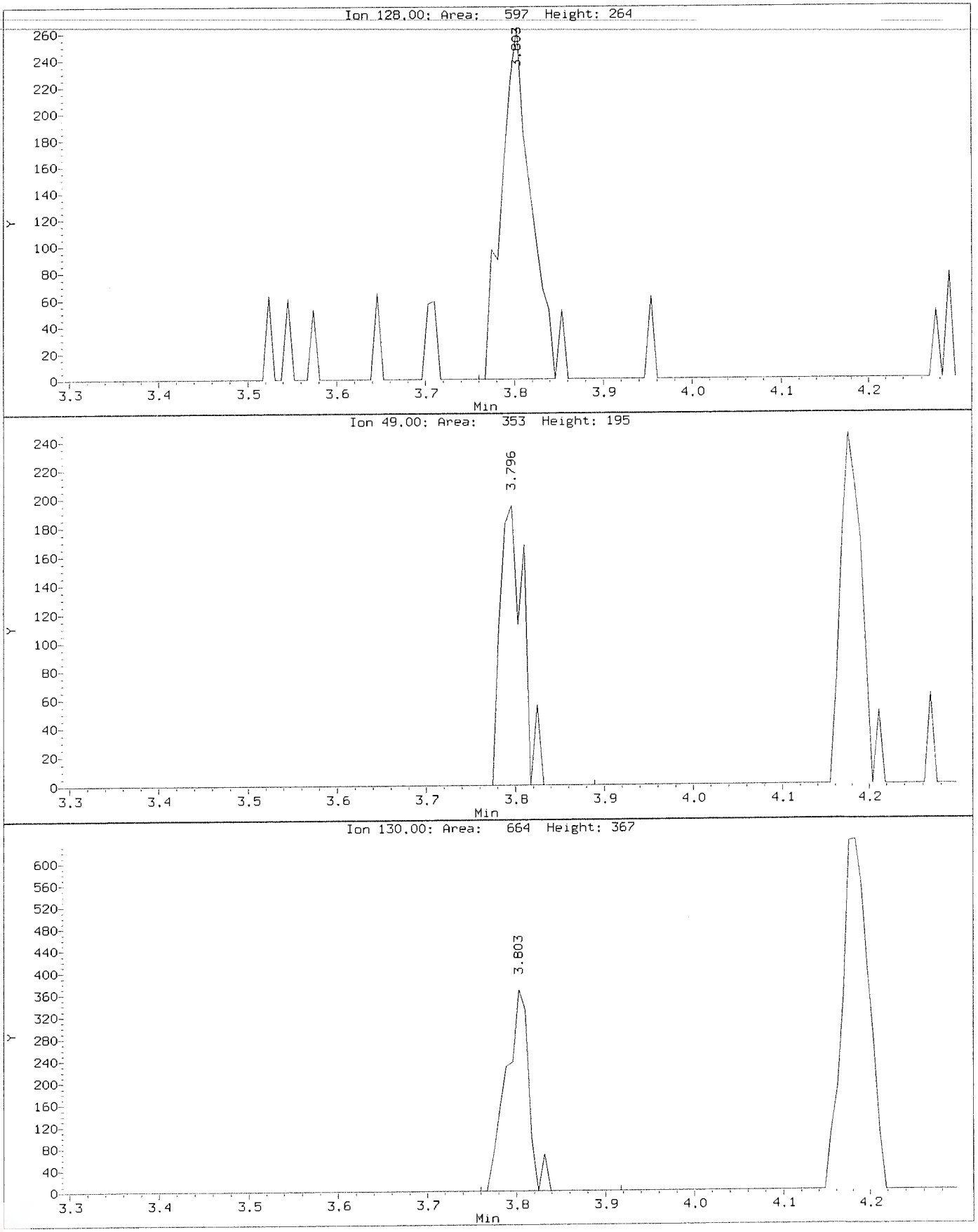
Injection Date: 31-OCT-2019 11:56
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Bromochloromethane
CAS Number: 74-97-5



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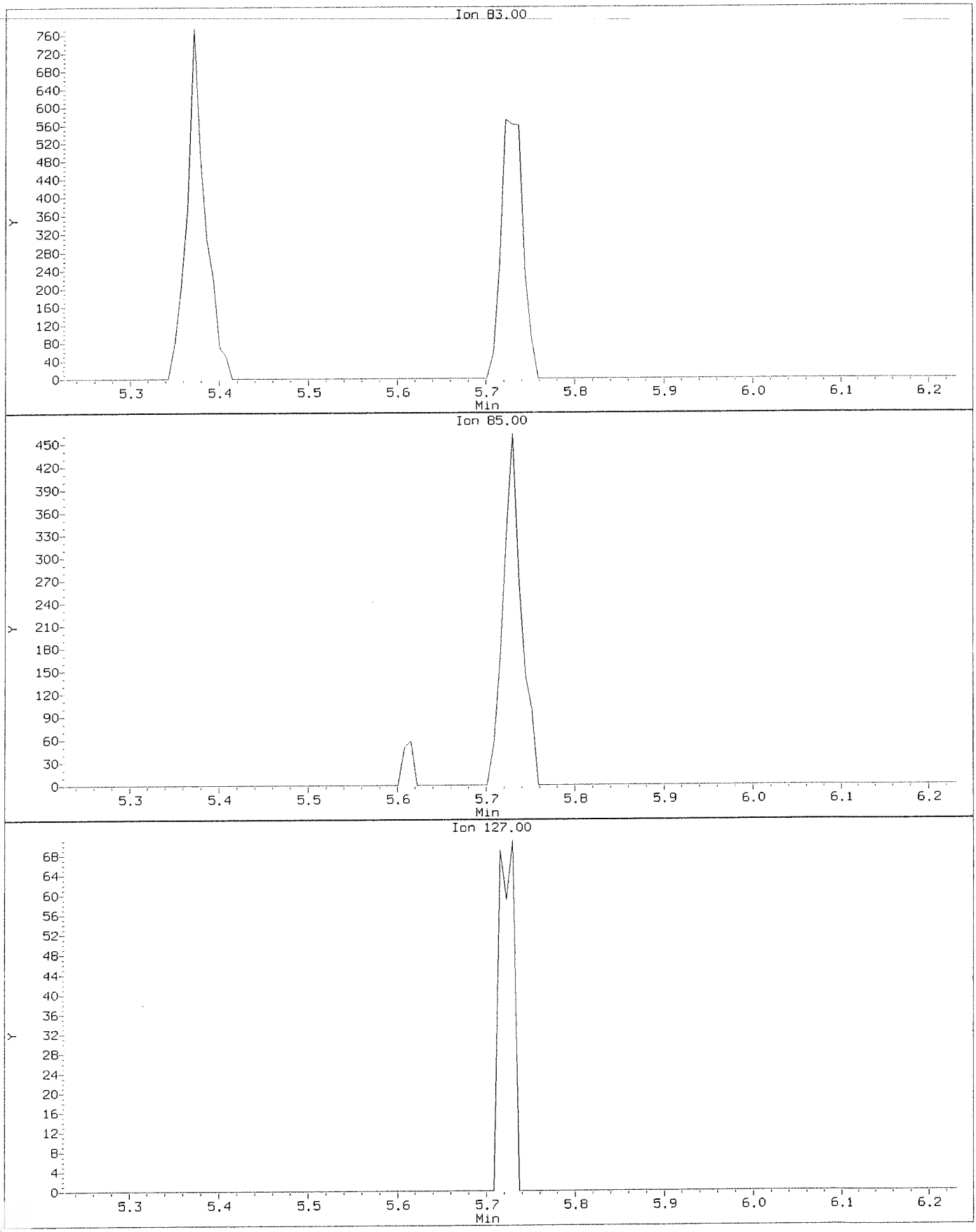
Injection Date: 31-OCT-2019 11:56
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Bromodichloromethane
CAS Number: 75-27-4



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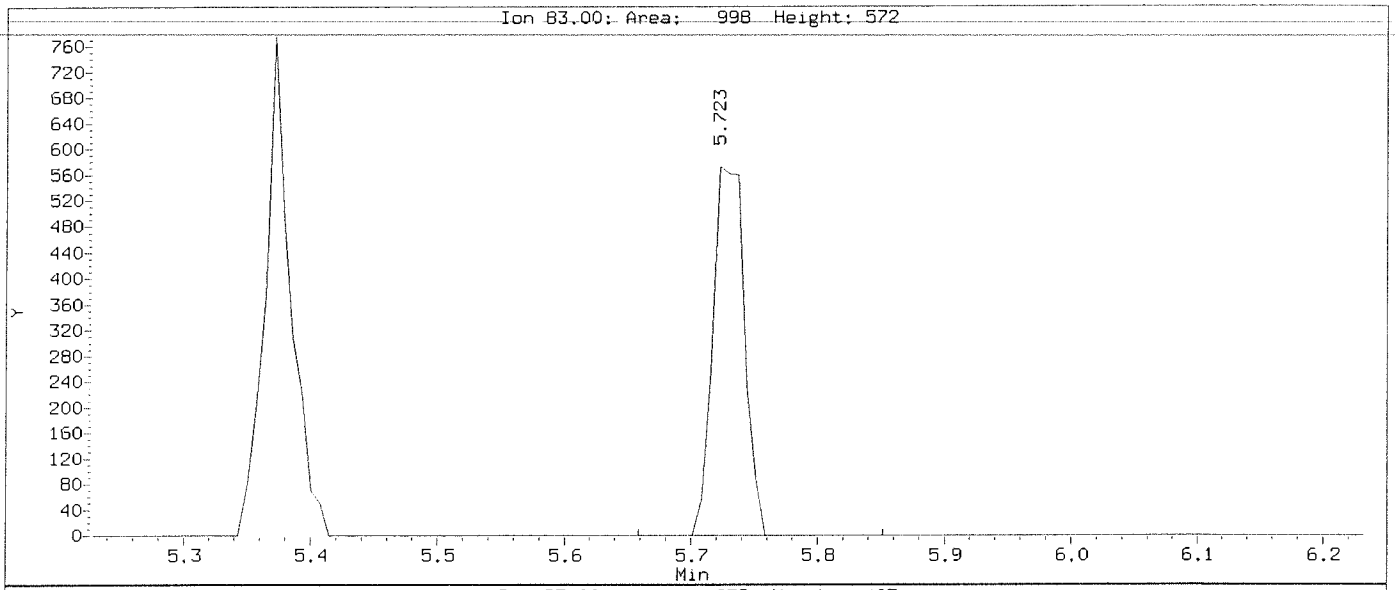
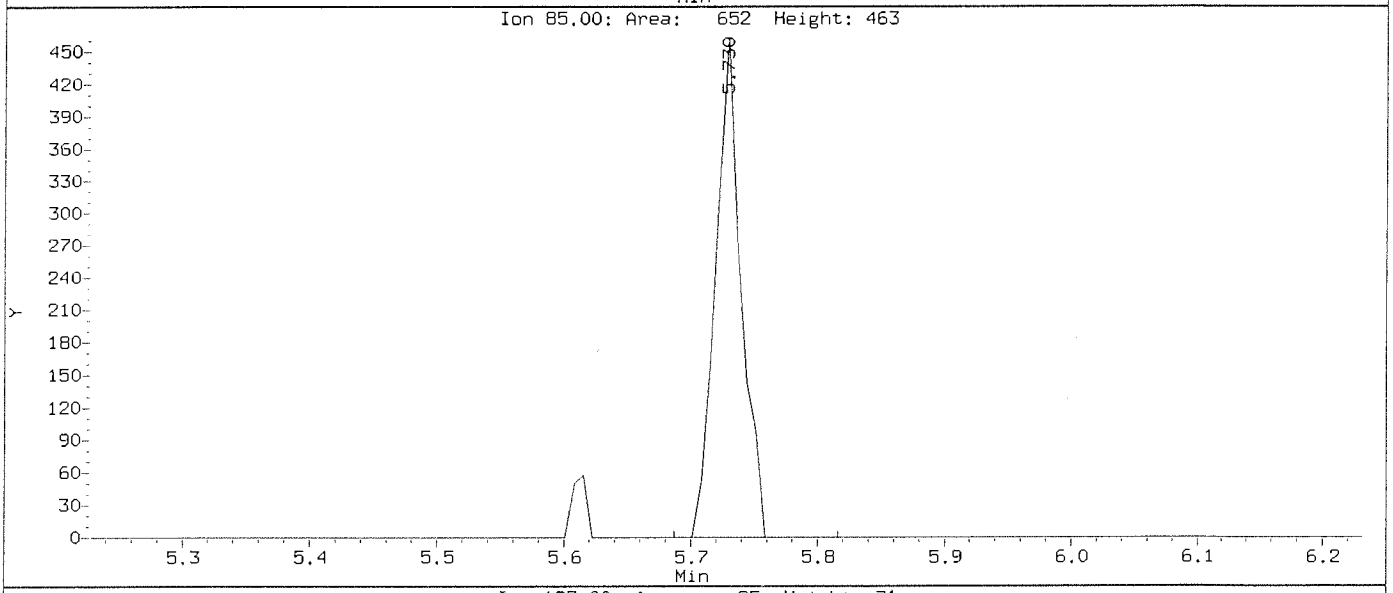
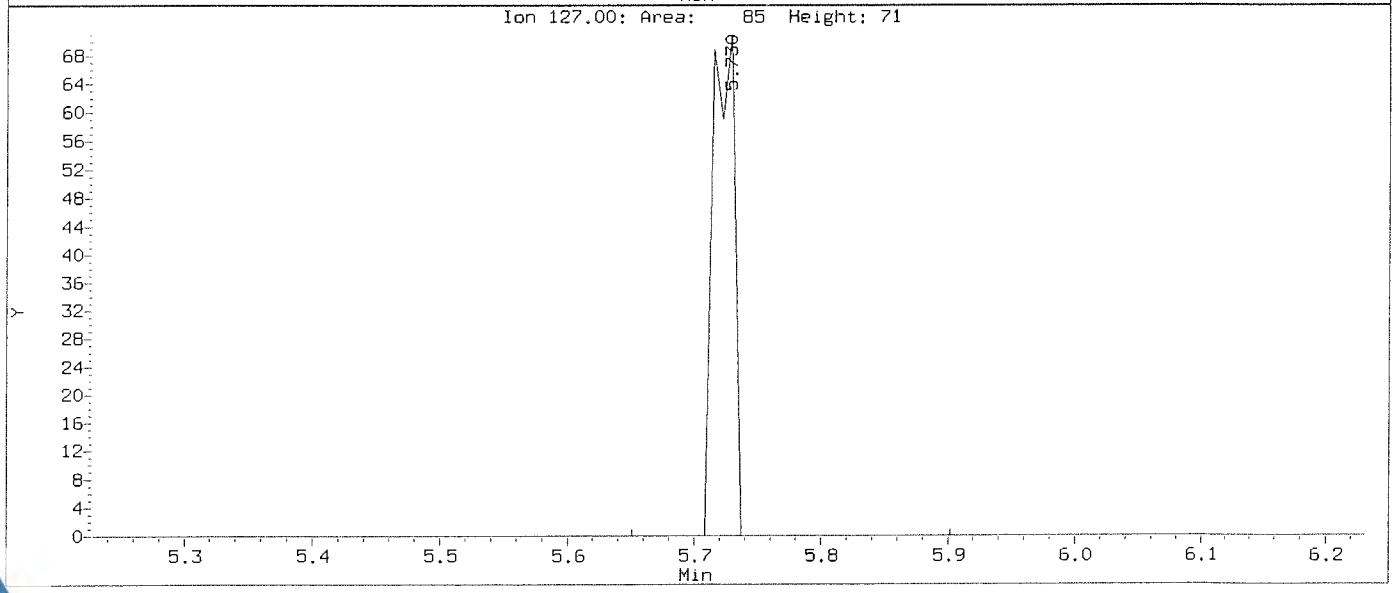
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Bromodichloromethane
CAS Number: 75-27-4







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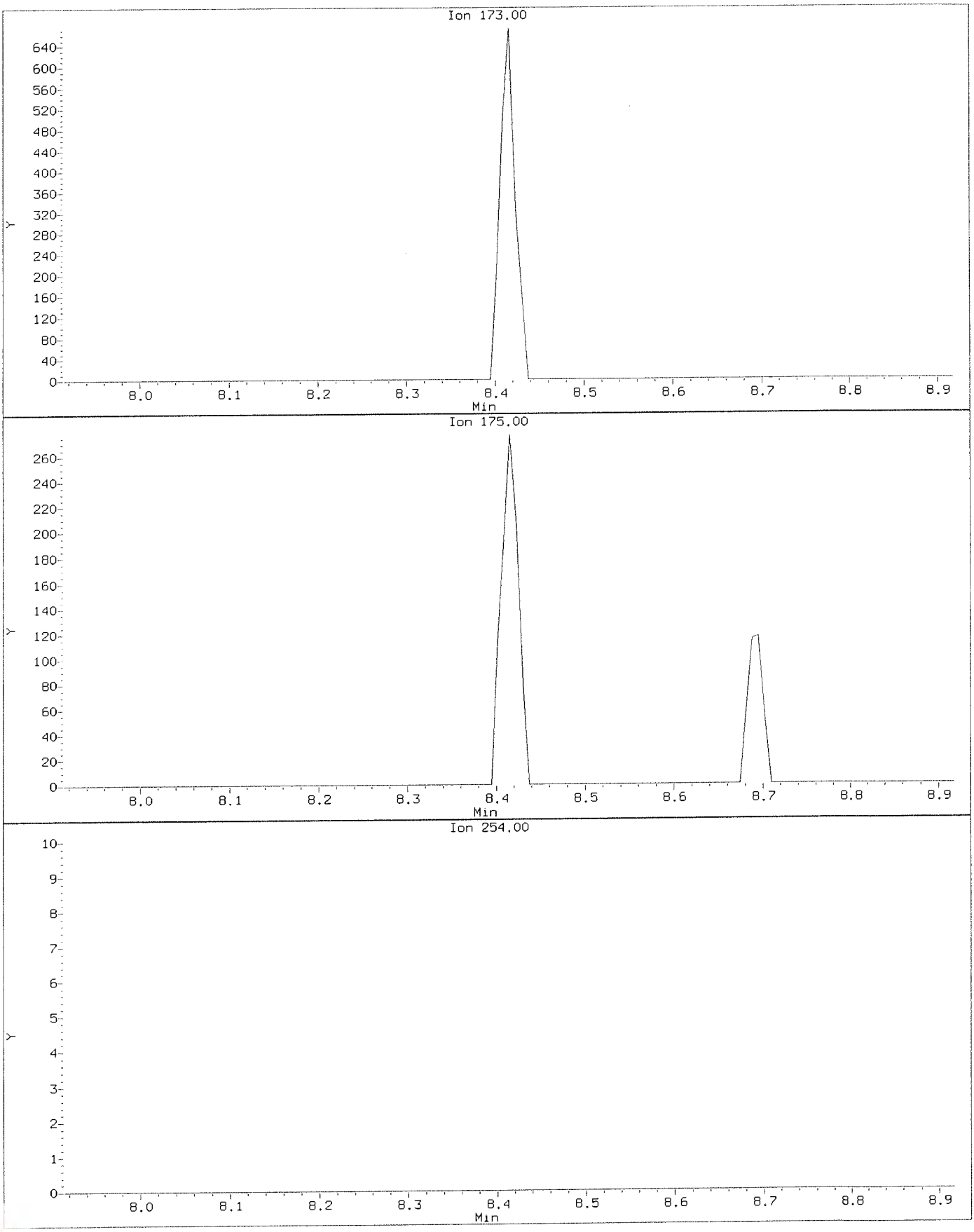
Injection Date: 31-OCT-2019 11:56
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Bromoform
CAS Number: 75-25-2



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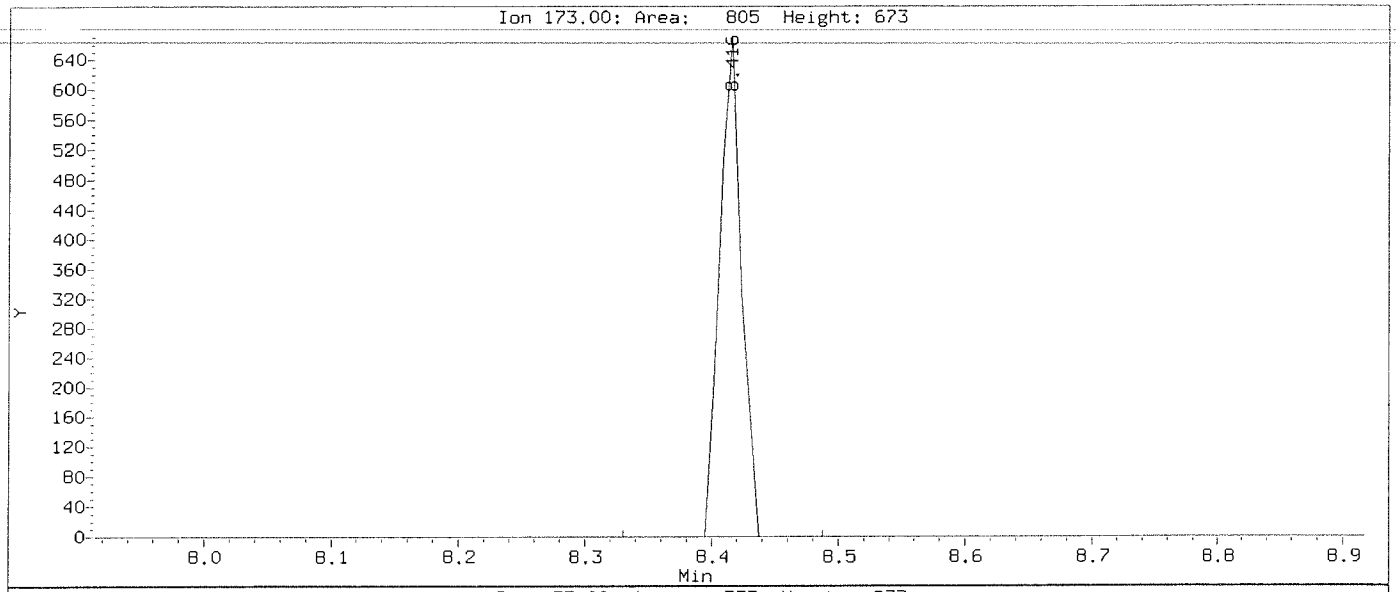
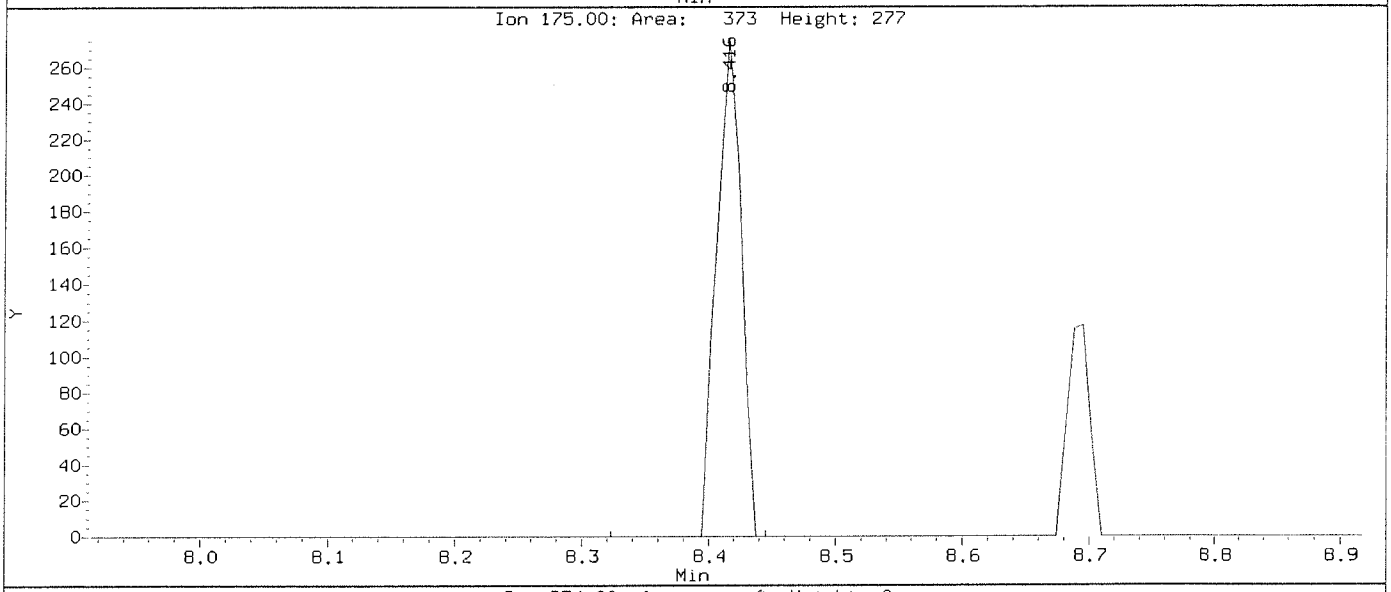
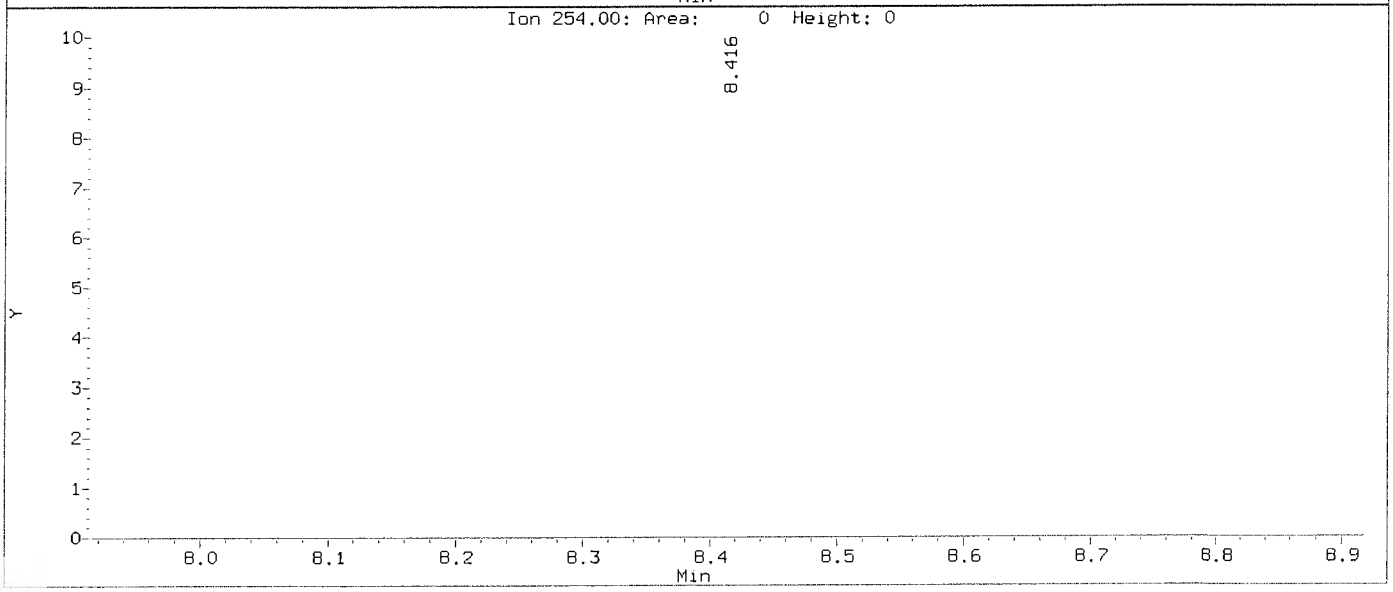
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Bromoform
CAS Number: 75-25-2

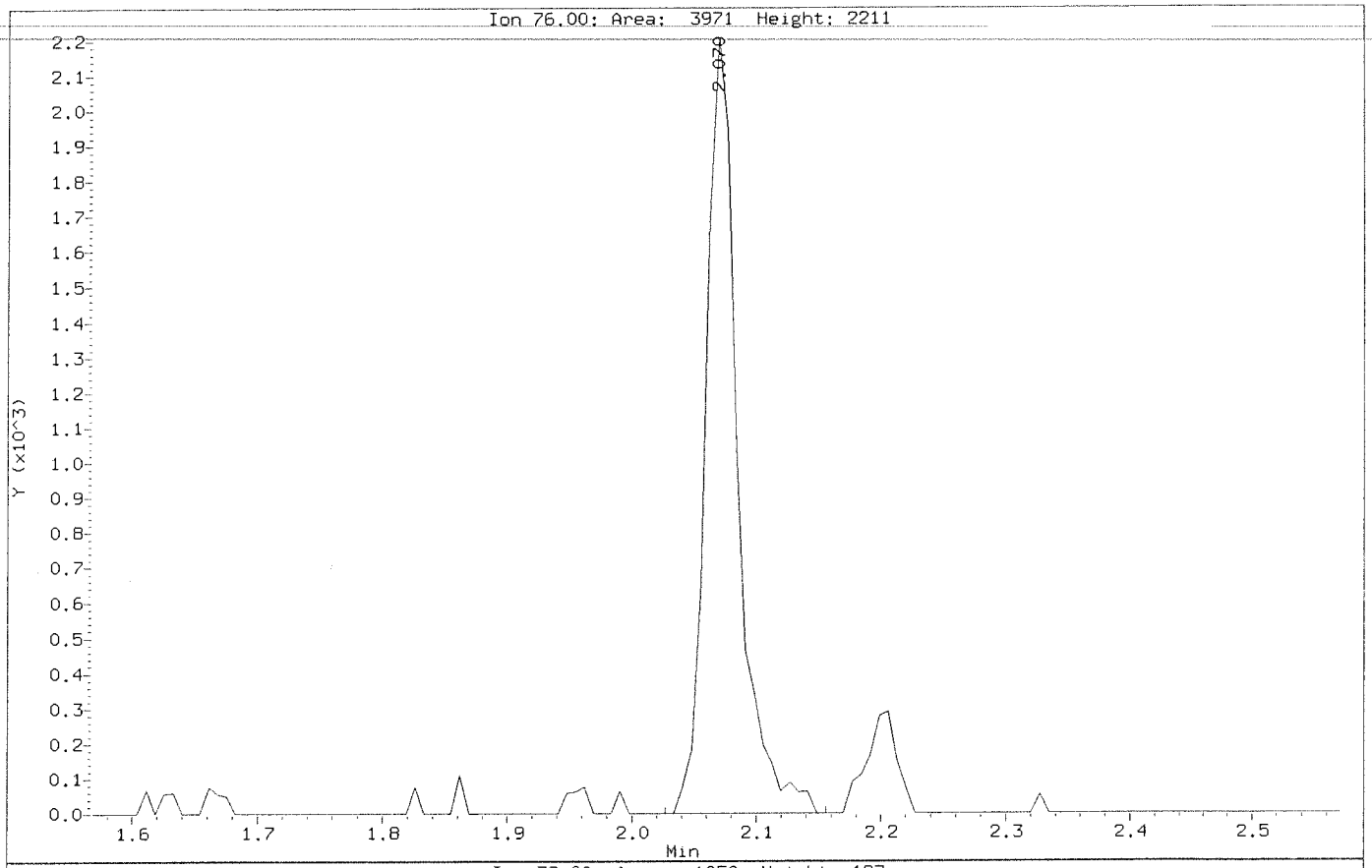


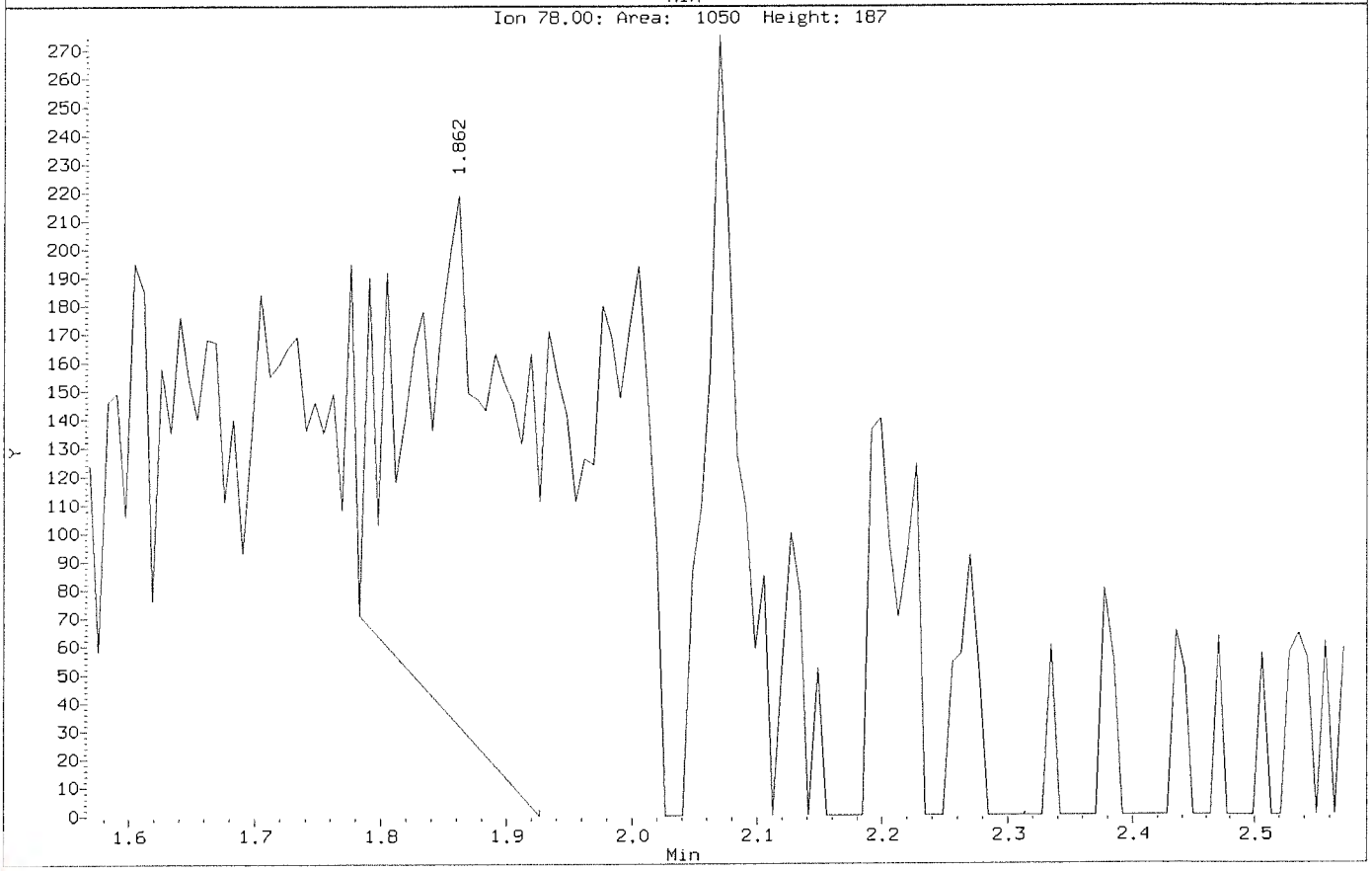




Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\BEFORE2\X103103.D
Injection Date: 31-OCT-2019 11:56
Instrument: voa6.i
Client Sample ID: VSTD000.5

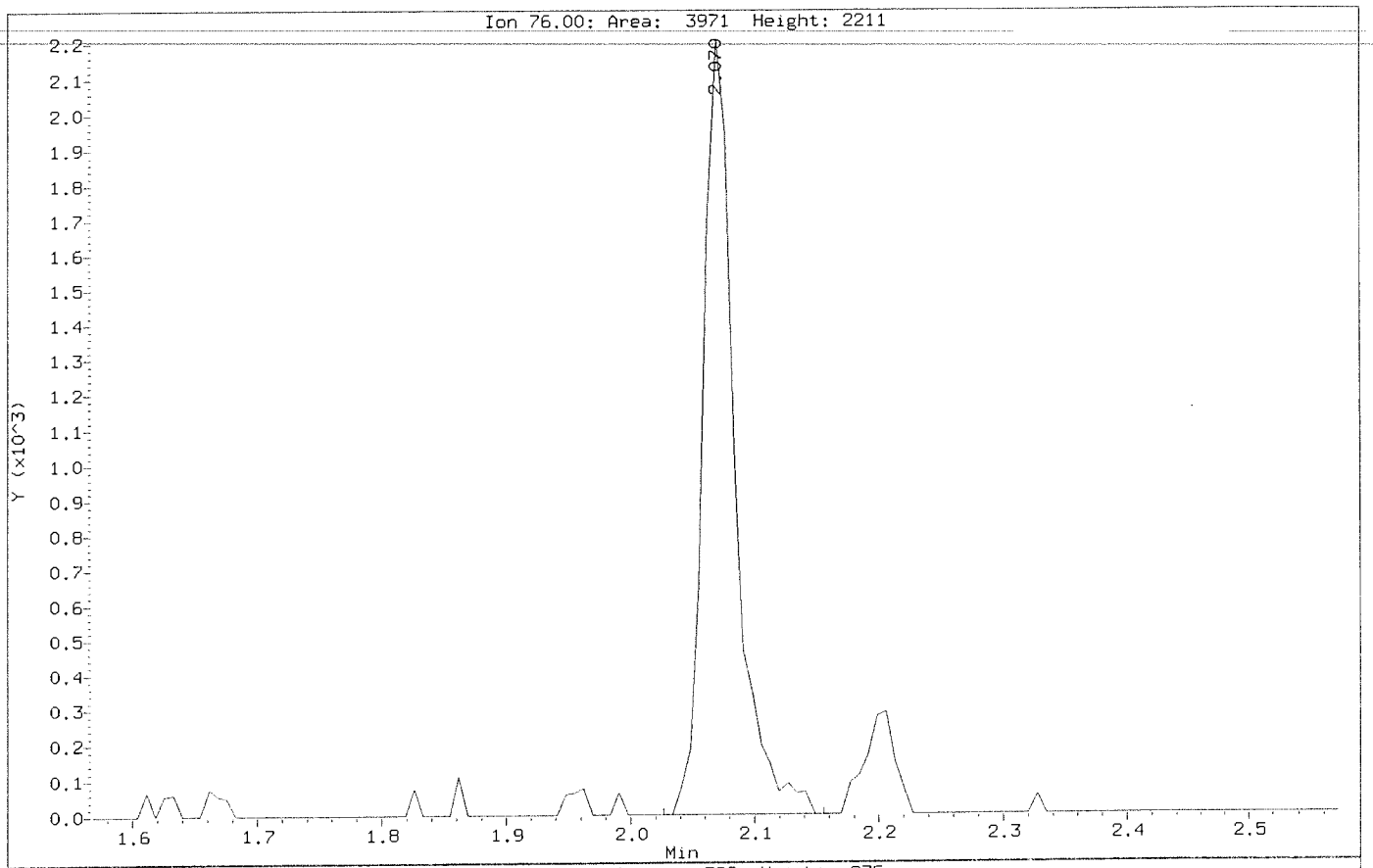
Compound: Carbon Disulfide
CAS Number: 75-15-0

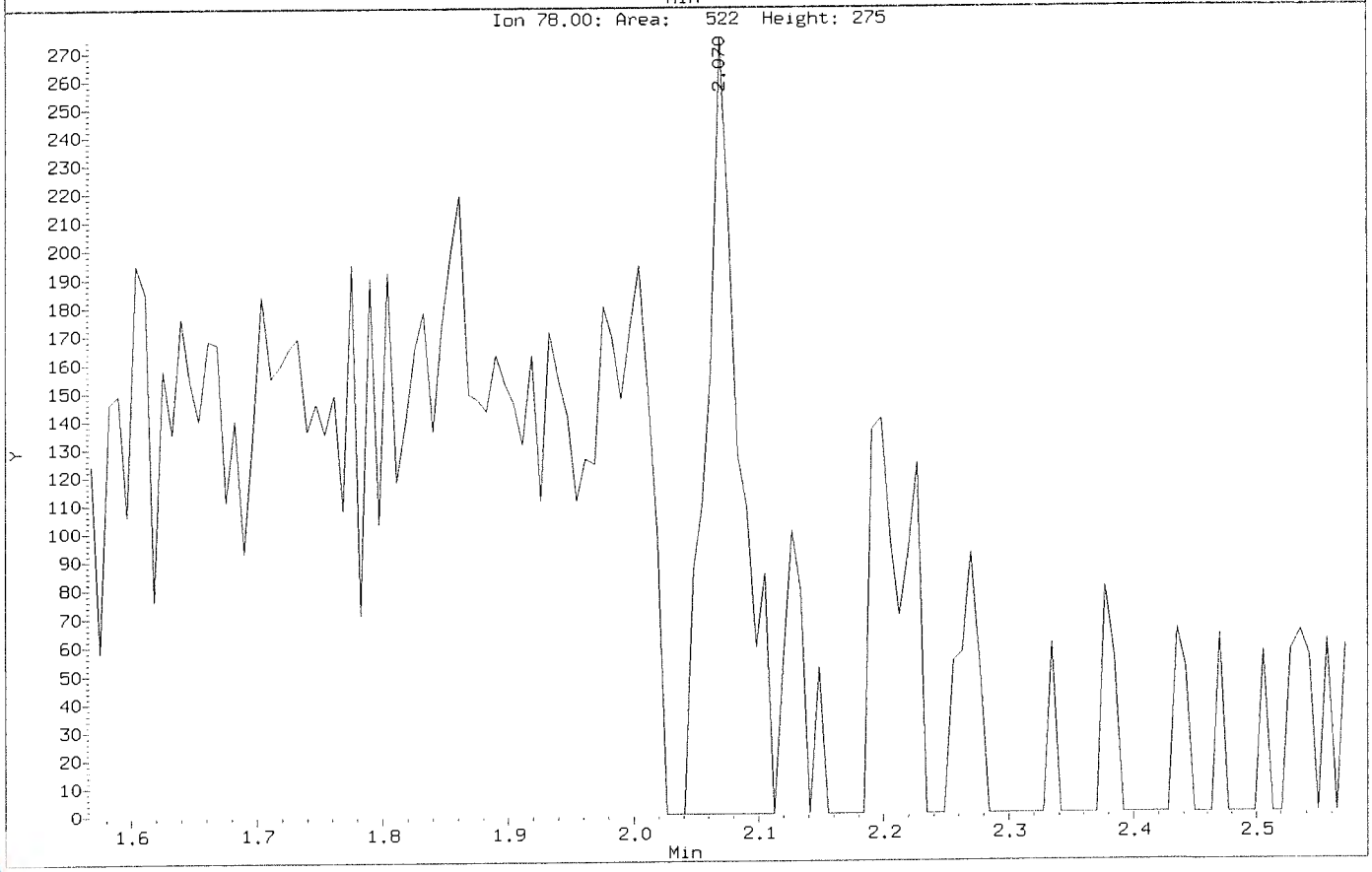




Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\X103103.D
Injection Date: 31-OCT-2019 11:56
Instrument: voa6.i
Client Sample ID: VSTD000.5

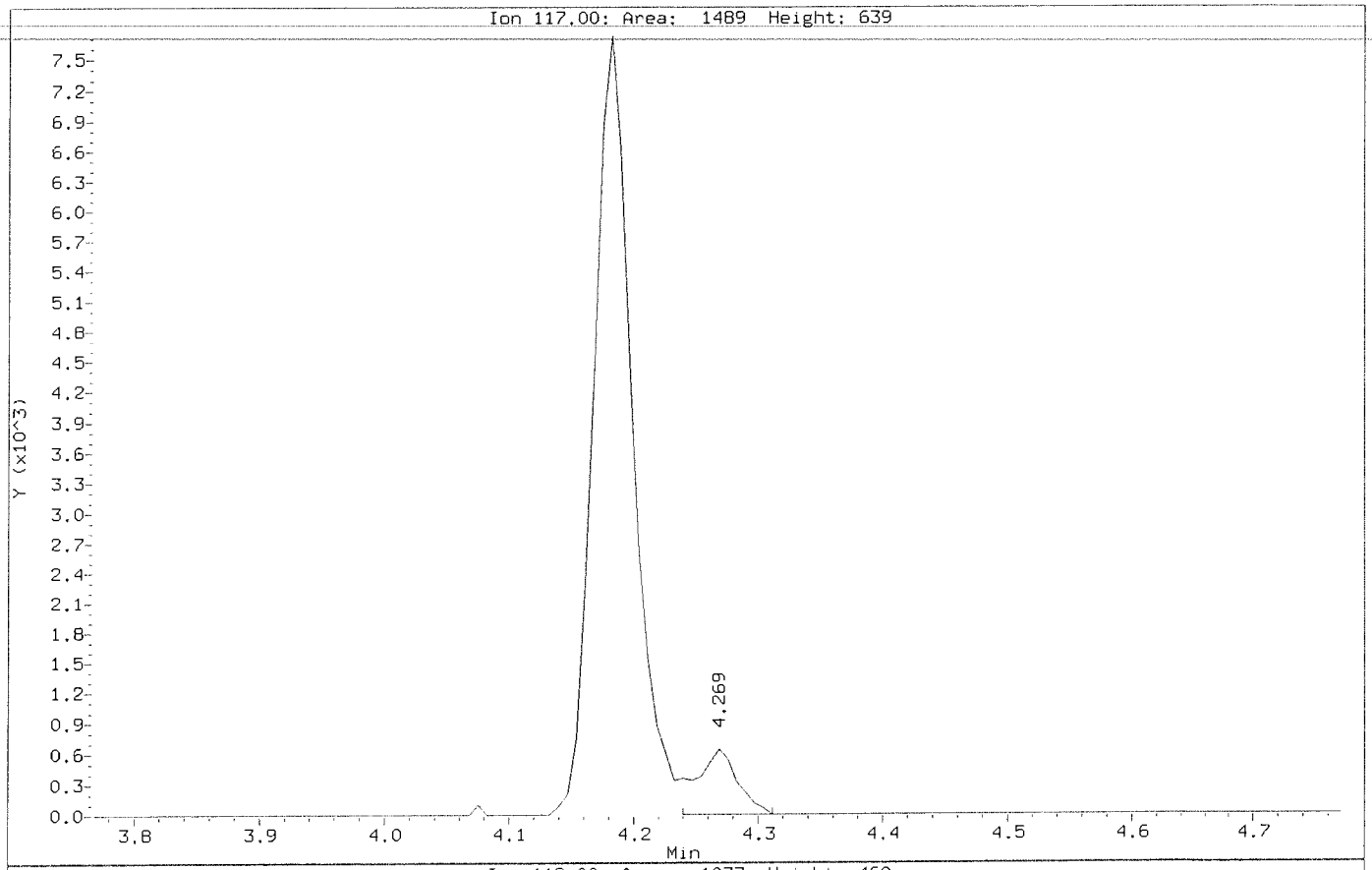
Compound: Carbon Disulfide
CAS Number: 75-15-0

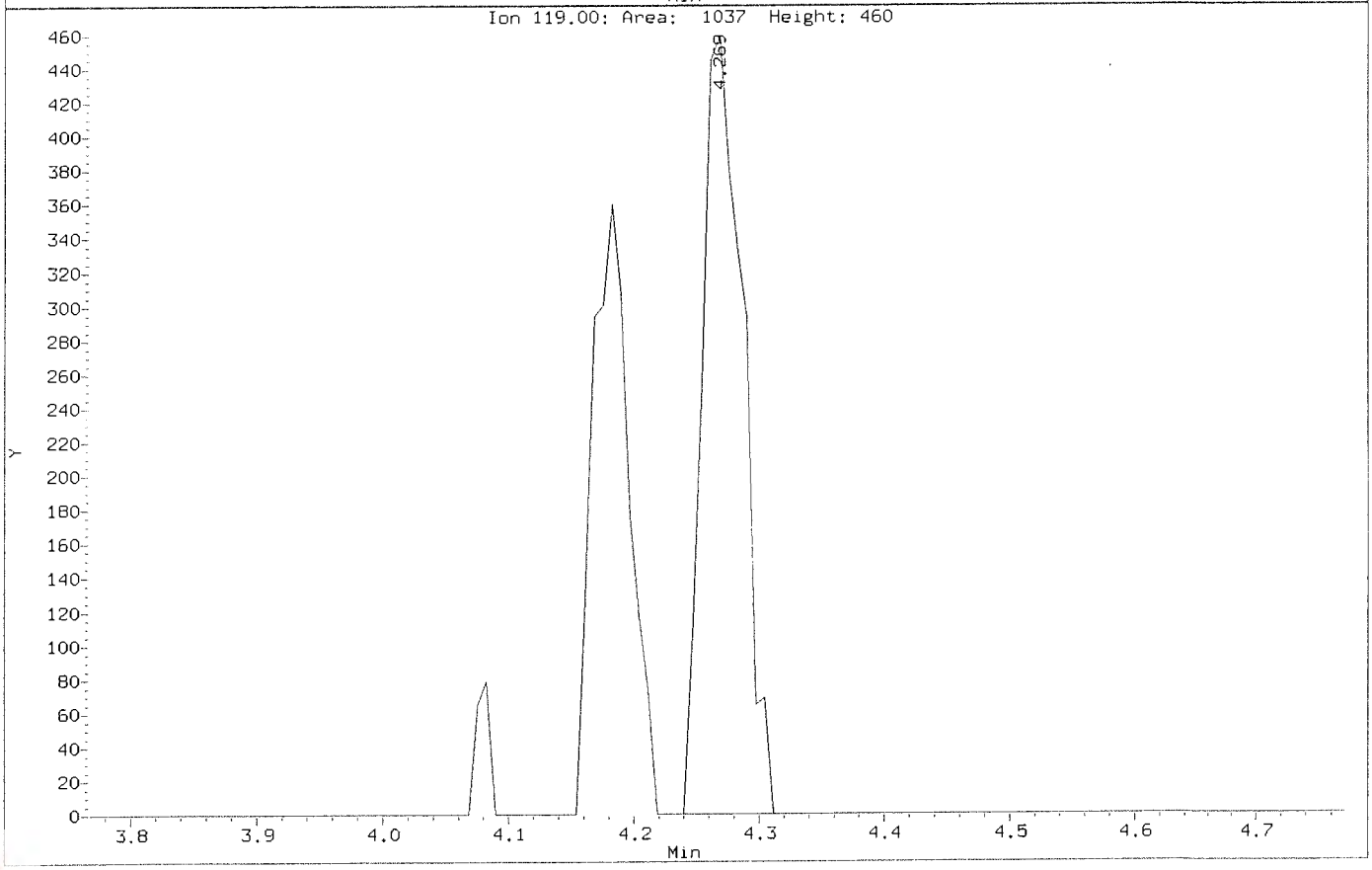




Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\BEFORE2\X103103.D
Injection Date: 31-OCT-2019 11:56
Instrument: voa6.i
Client Sample ID: VSTD000.5

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





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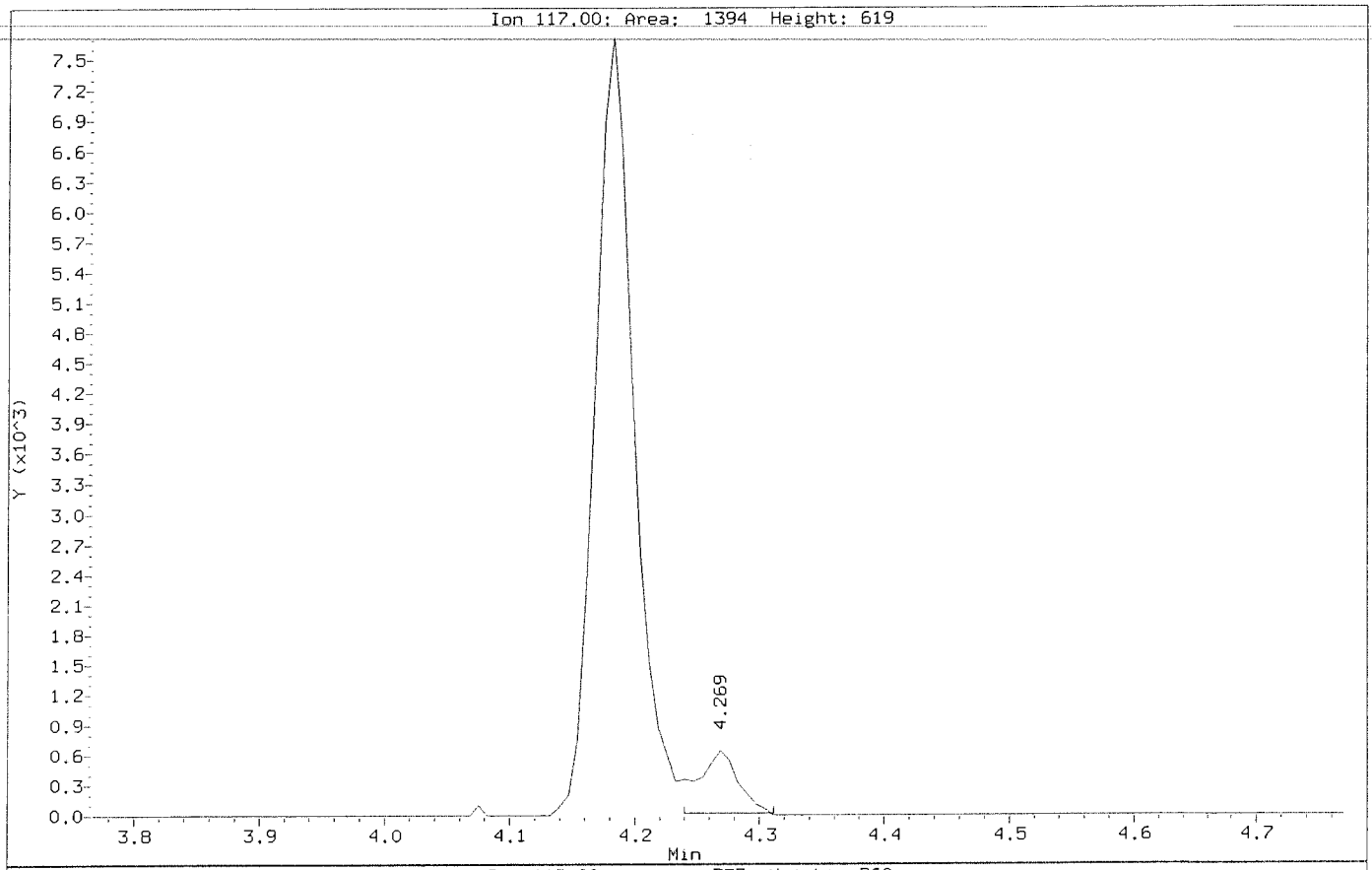
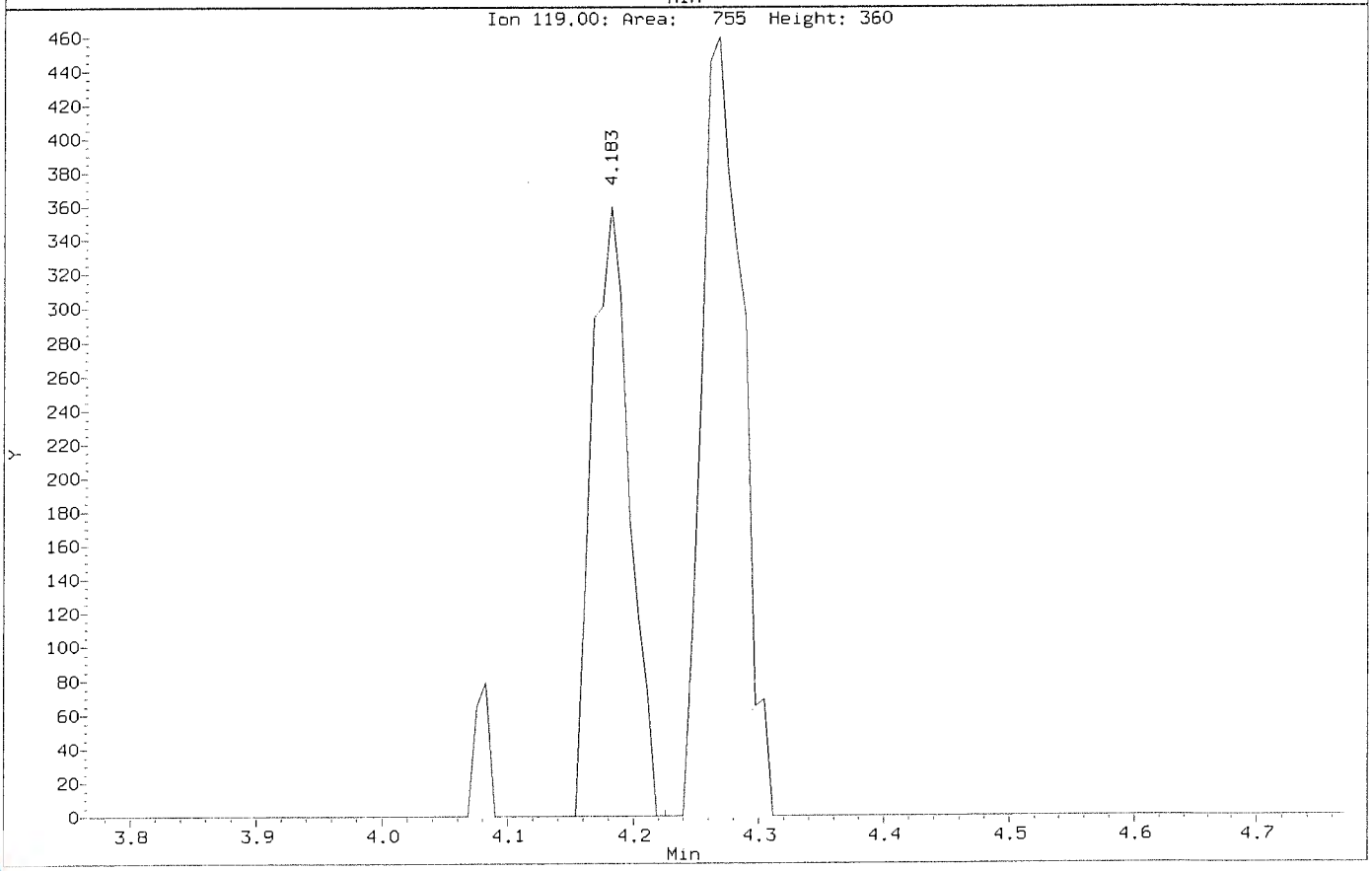
Injection Date: 31-OCT-2019 11:56
Instrument: voa6.i
Client Sample ID: VSTD000.5

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





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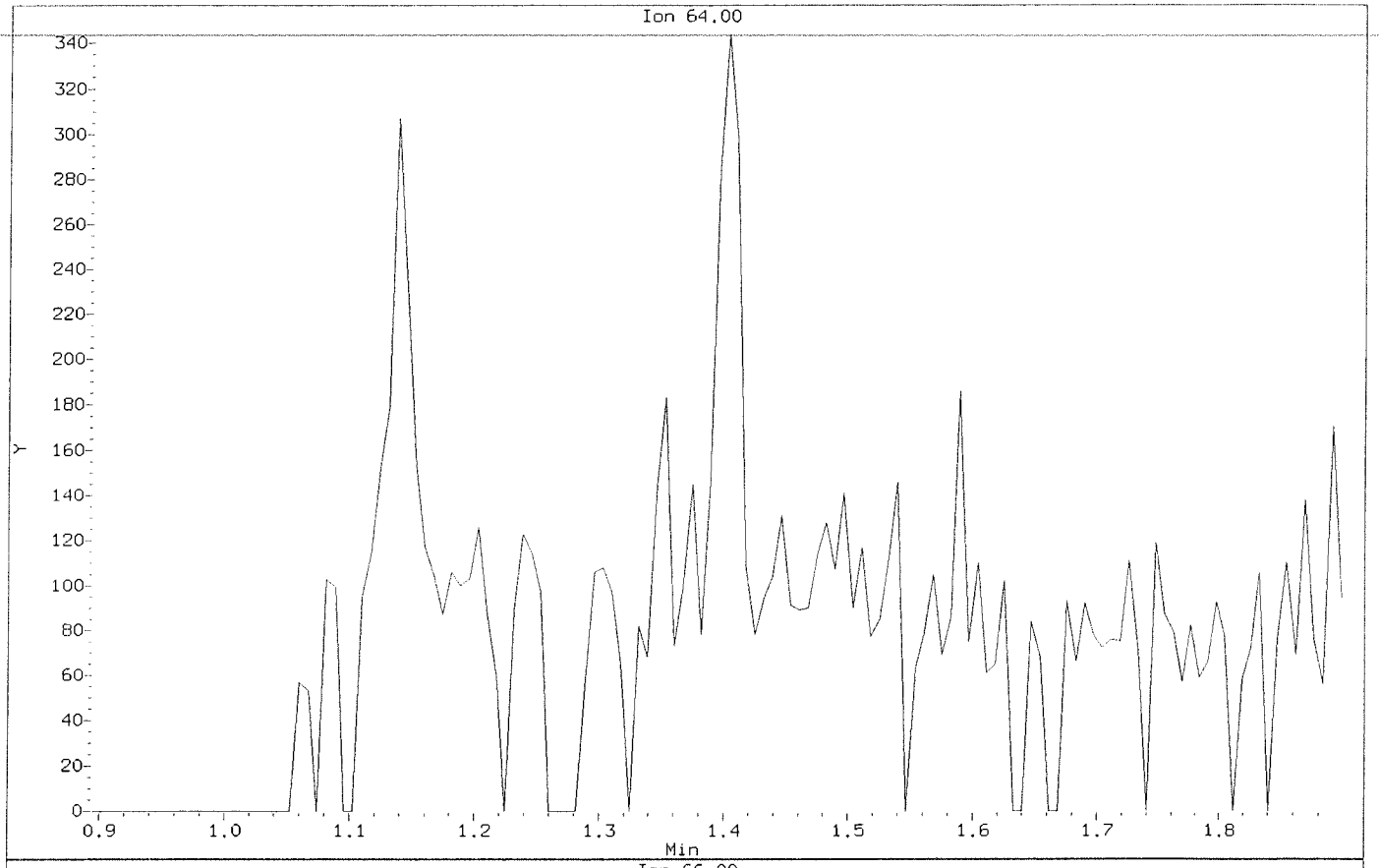
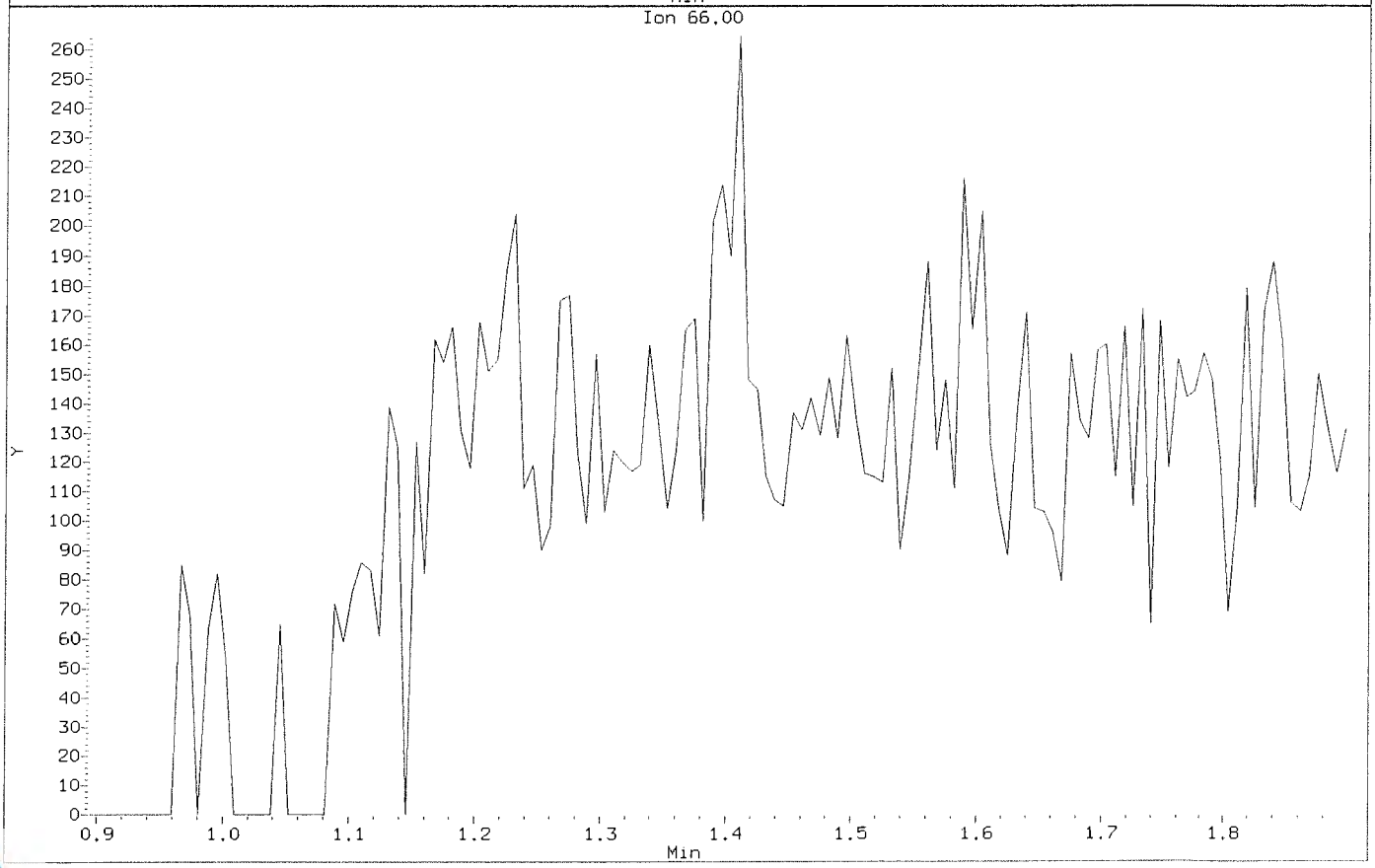
Injection Date: 31-OCT-2019 11:56
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Chloroethane
CAS Number: 75-00-3





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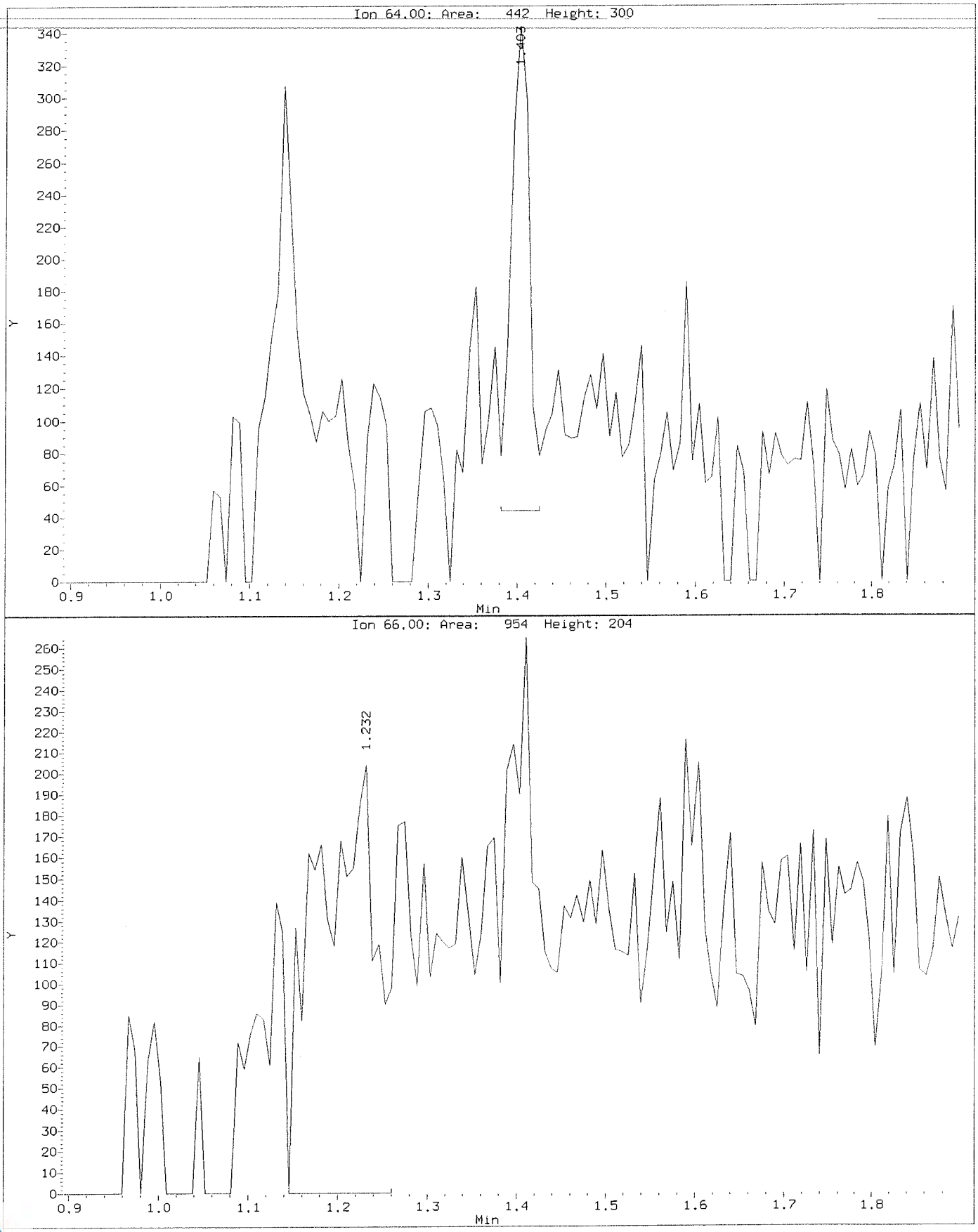
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Chloroethane
CAS Number: 75-00-3



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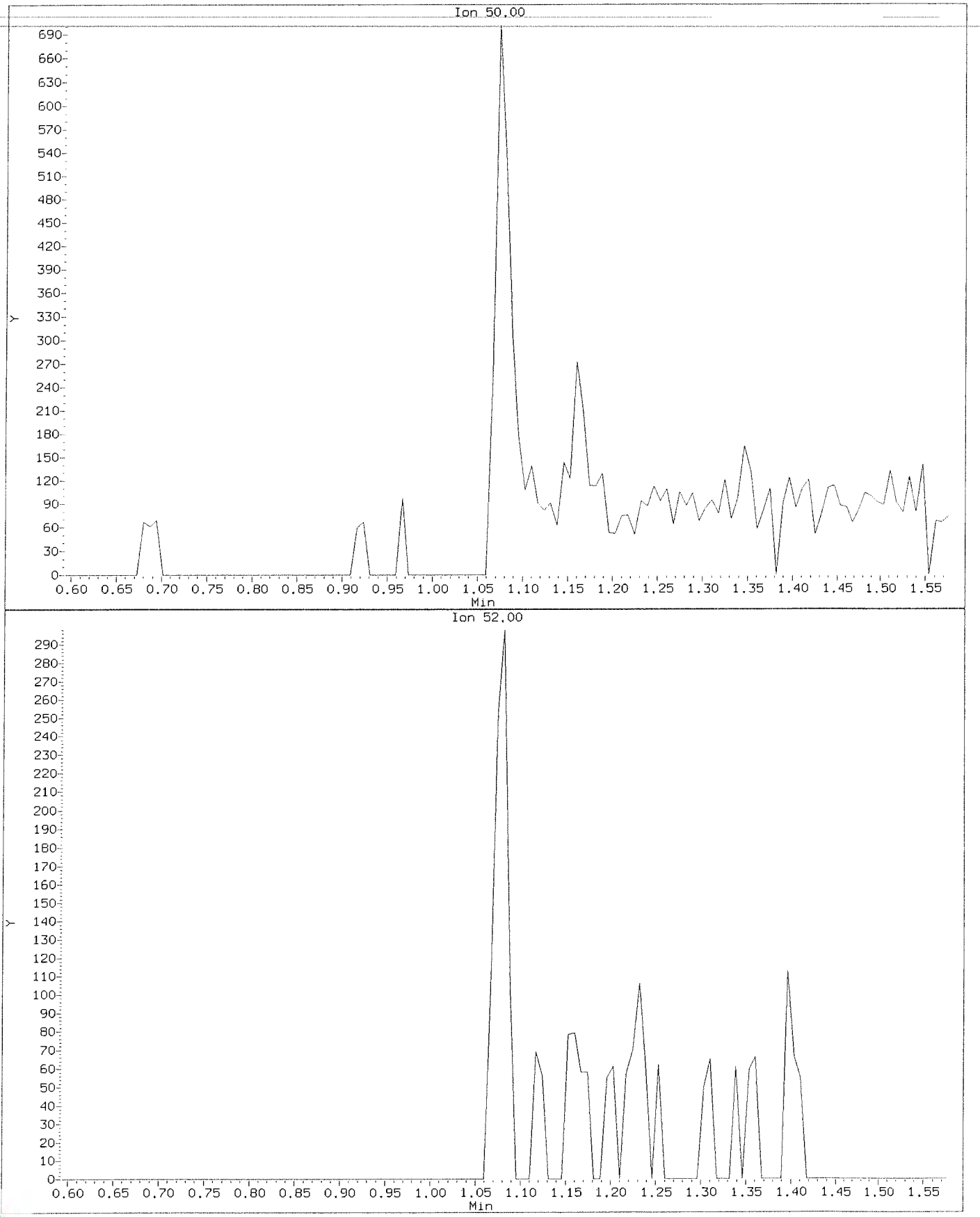
Injection Date: 31-OCT-2019 11:56
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Chloromethane
CAS Number: 74-87-3



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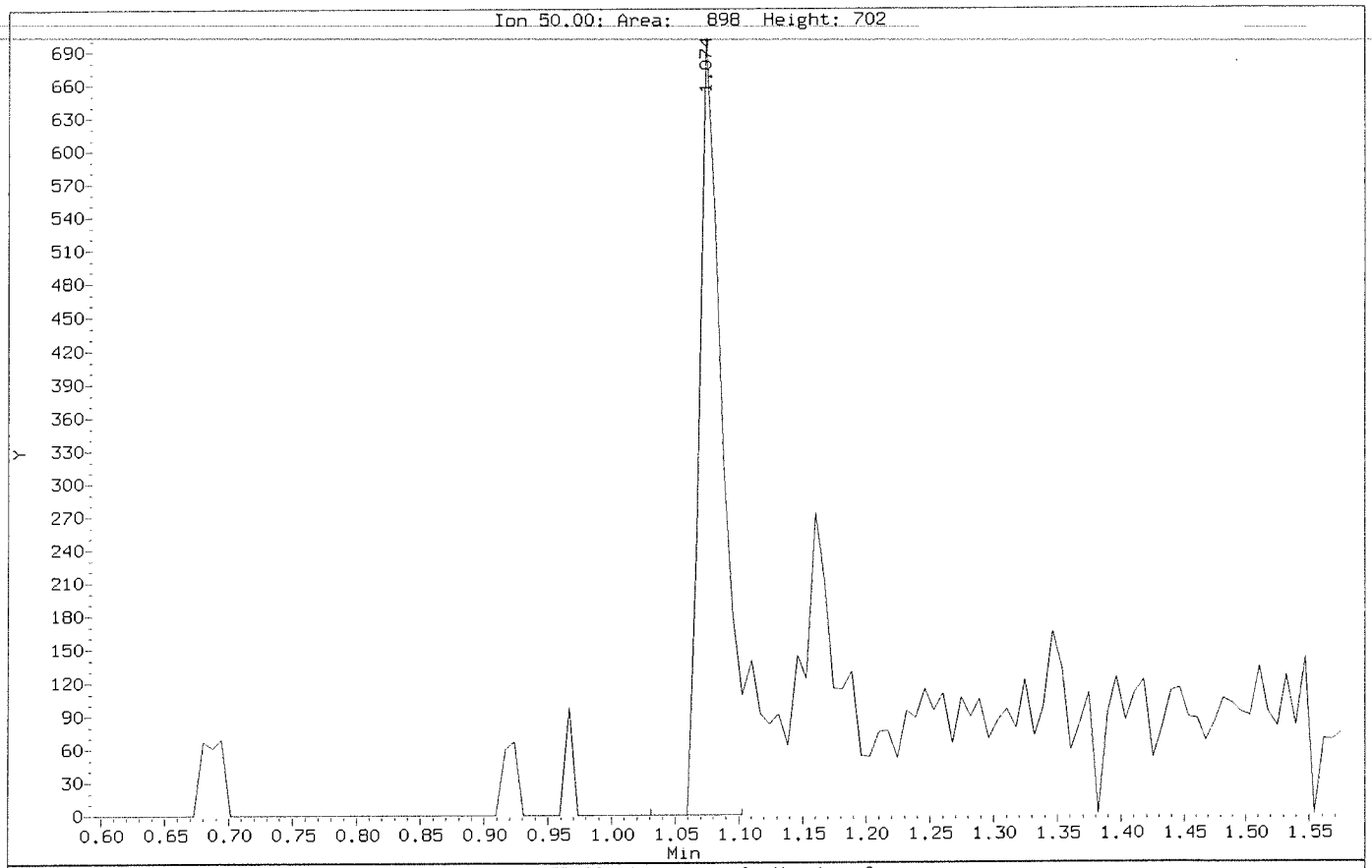
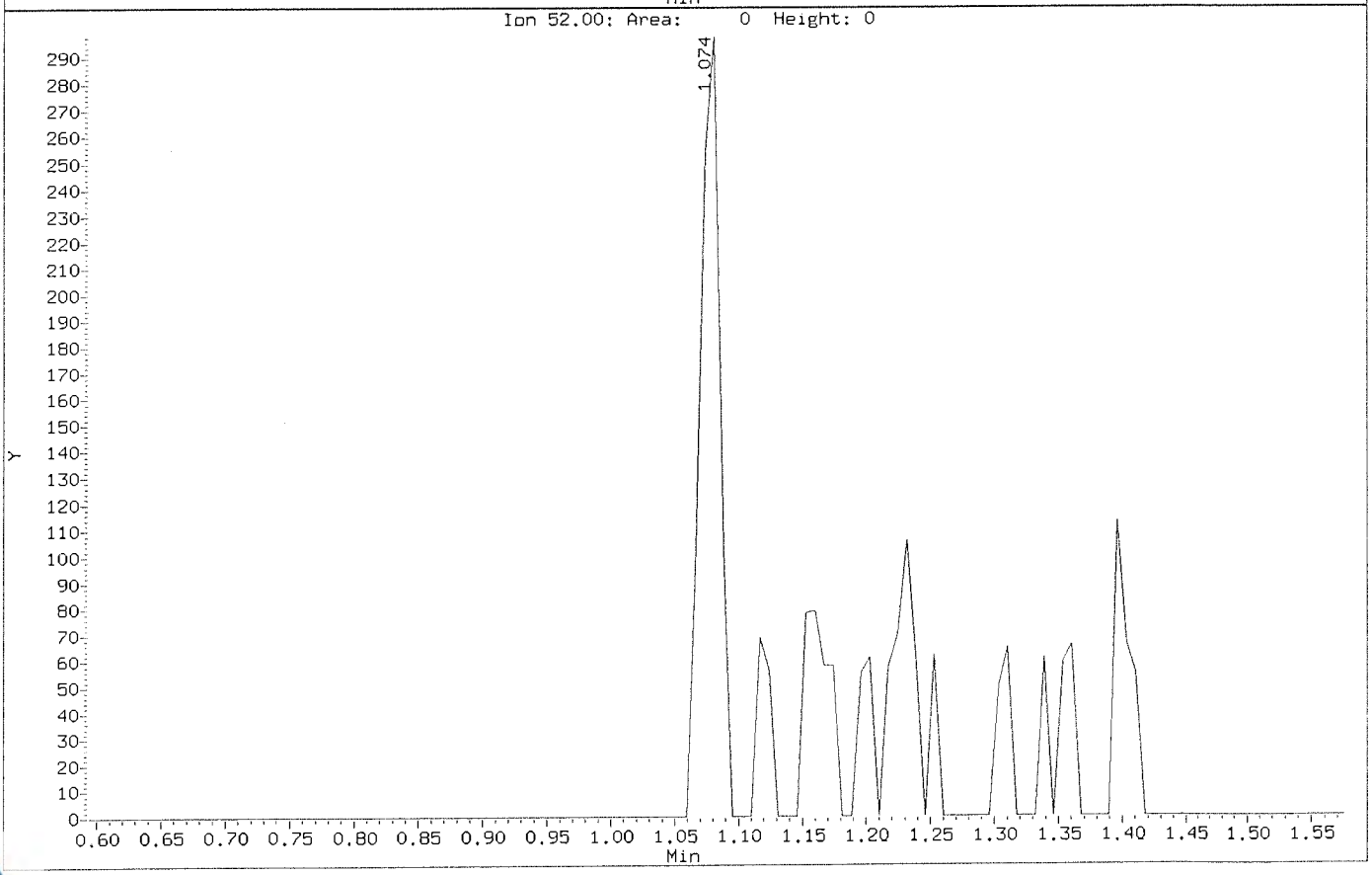
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Chloromethane
CAS Number: 74-87-3





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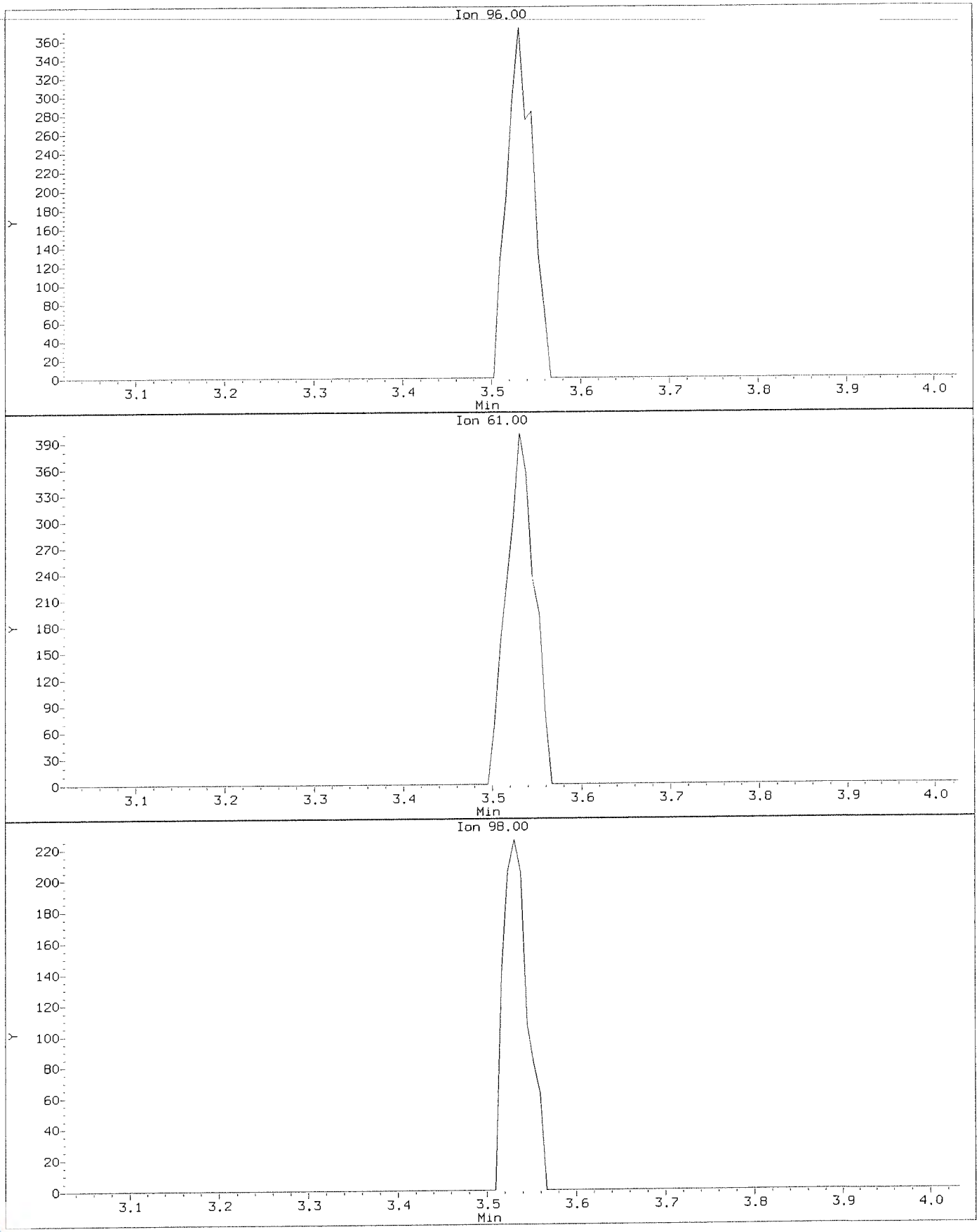
Injection Date: 31-OCT-2019 11:56
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: cis-1,2-Dichloroethene
CAS Number: 156-59-2



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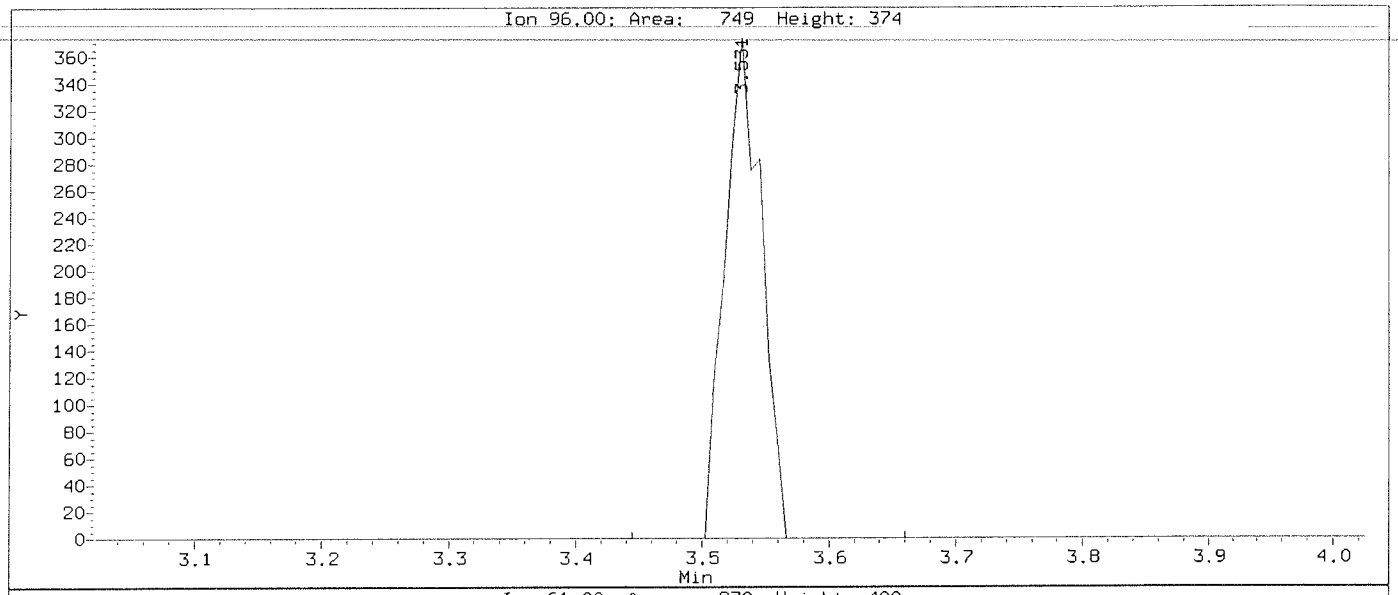
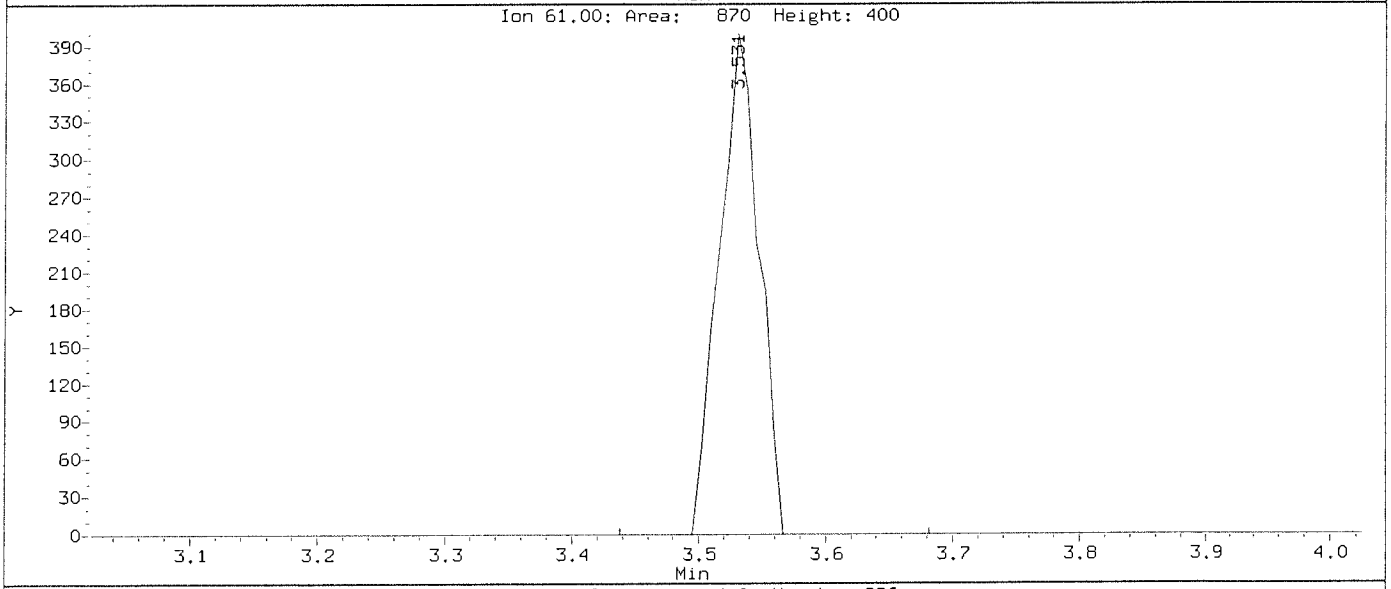
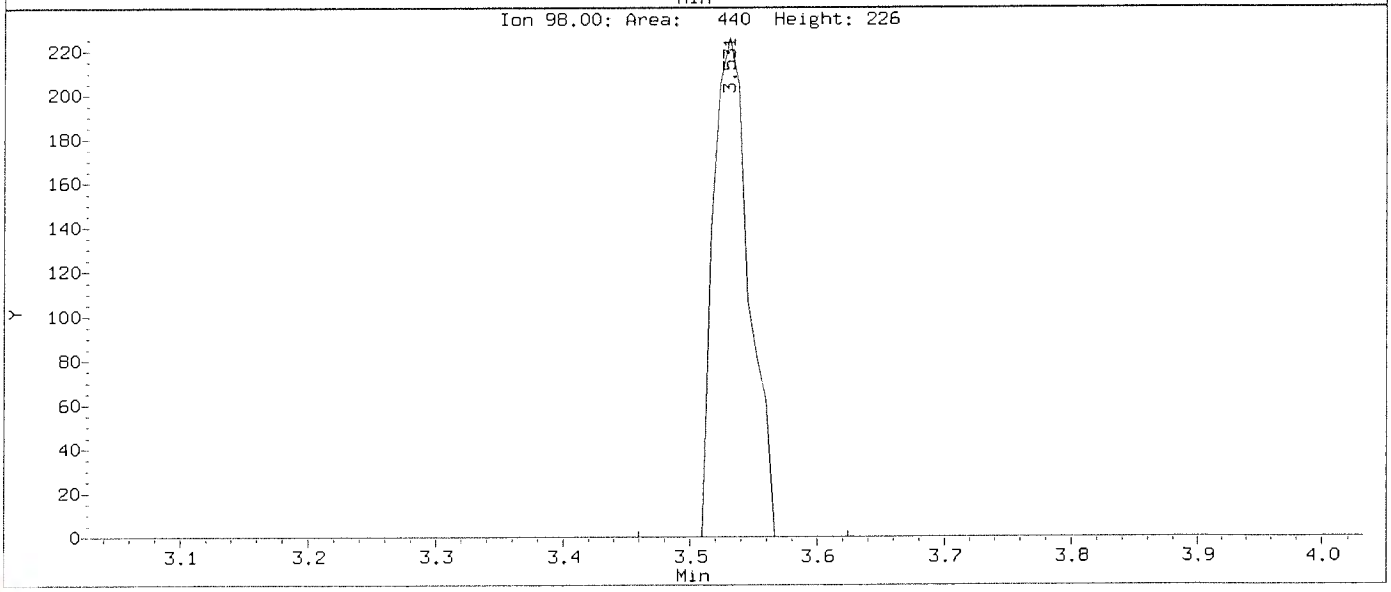
Injection Date: 31-OCT-2019 11:56
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: cis-1,2-Dichloroethene
CAS Number: 156-59-2







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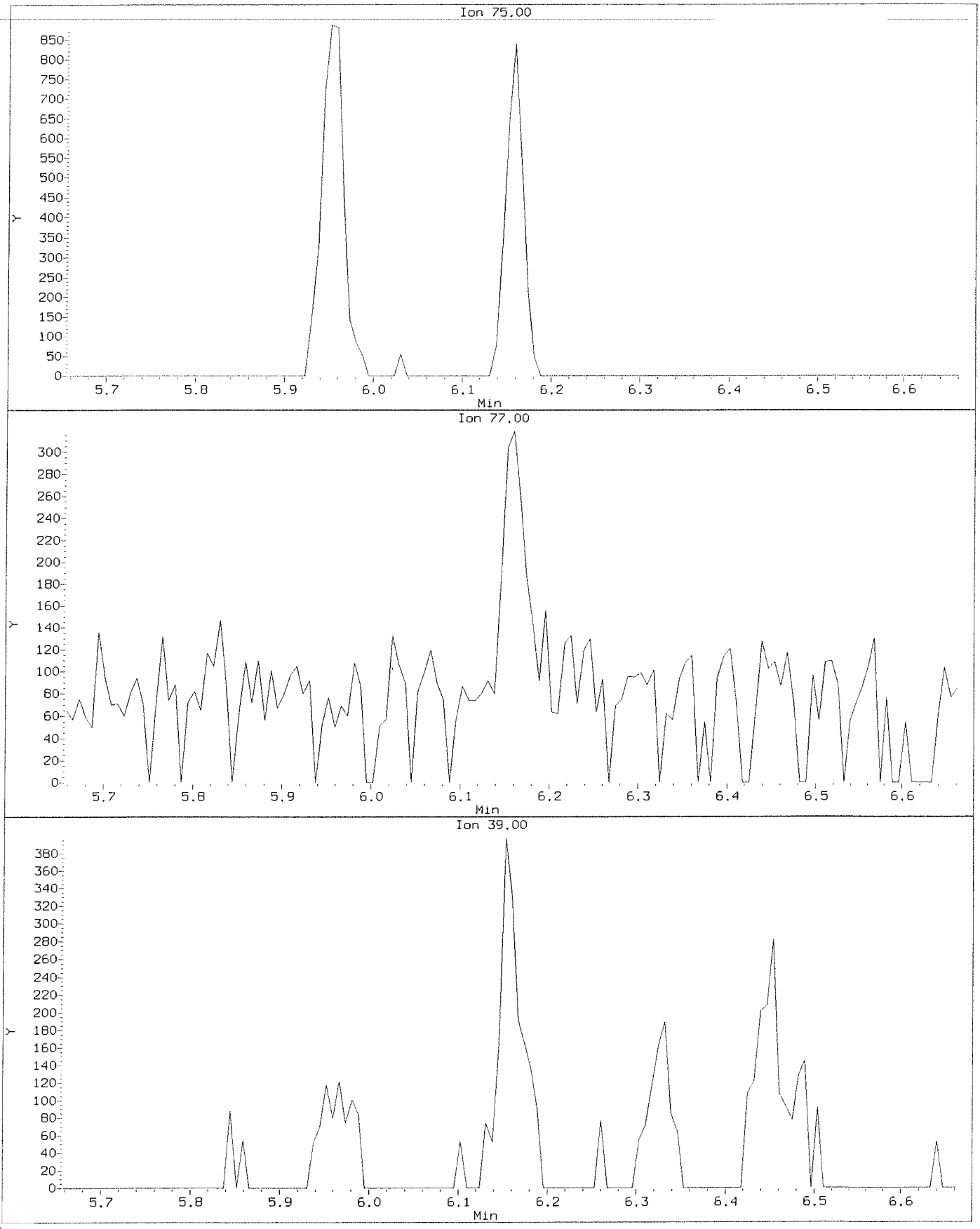
Injection Date: 31-OCT-2019 11:56
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: cis-1,3-Dichloropropene
CAS Number: 10061-01-5



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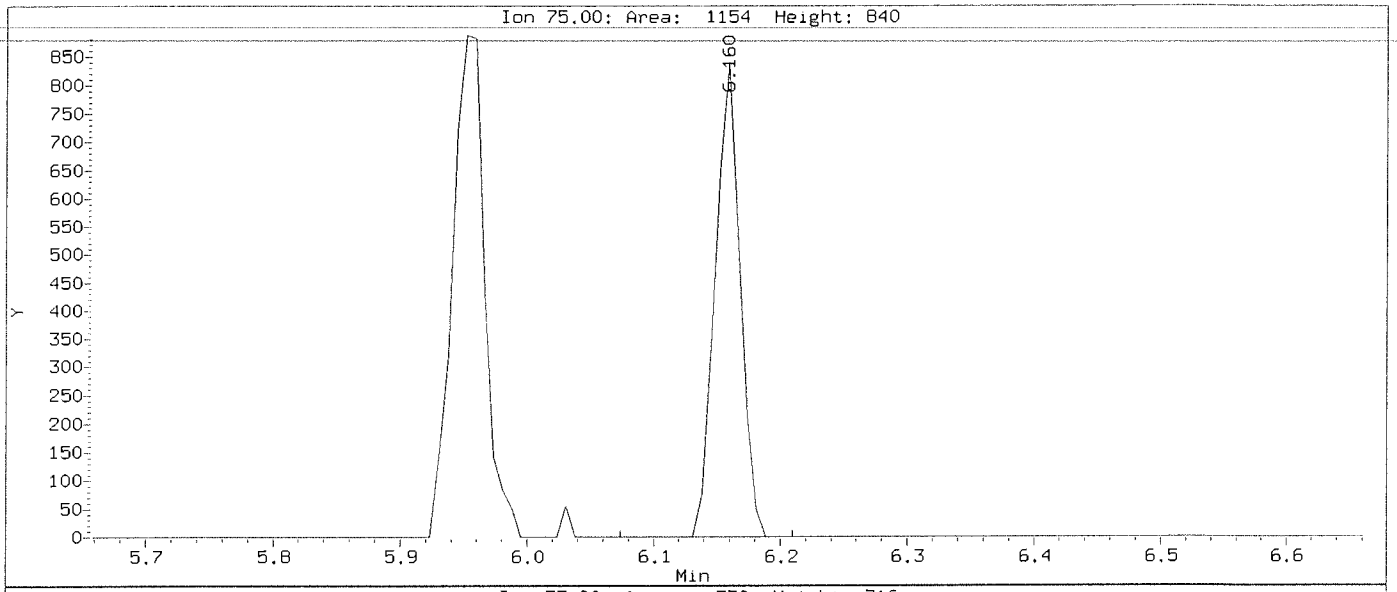
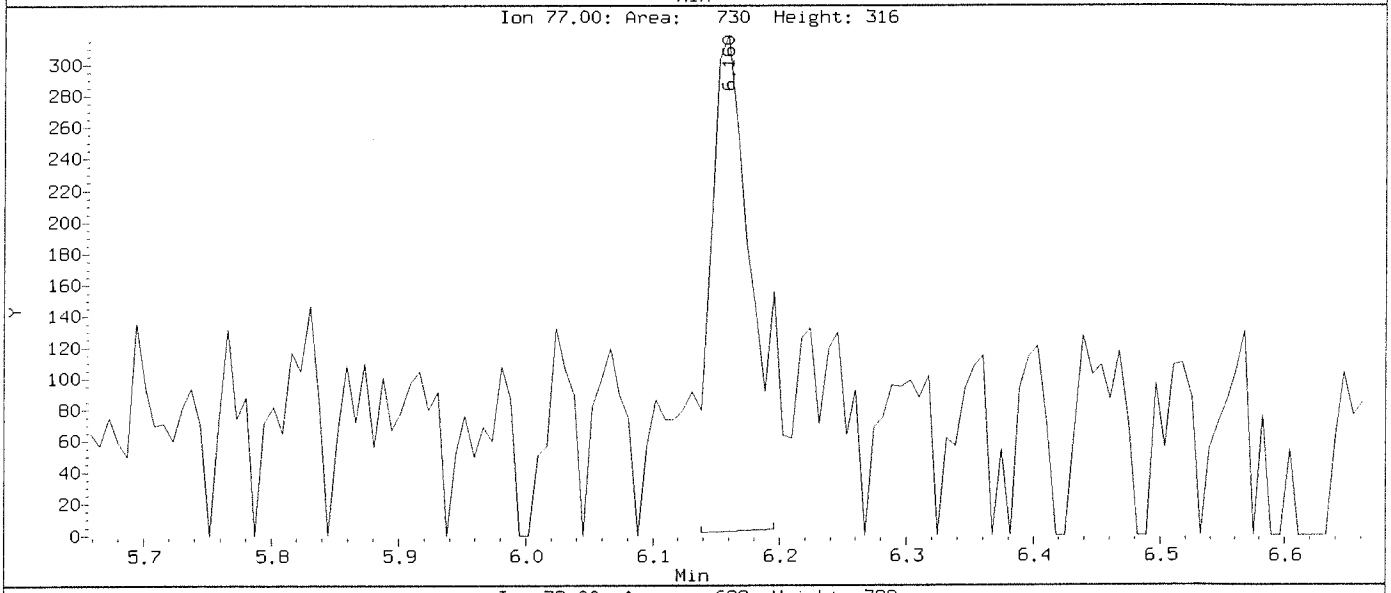
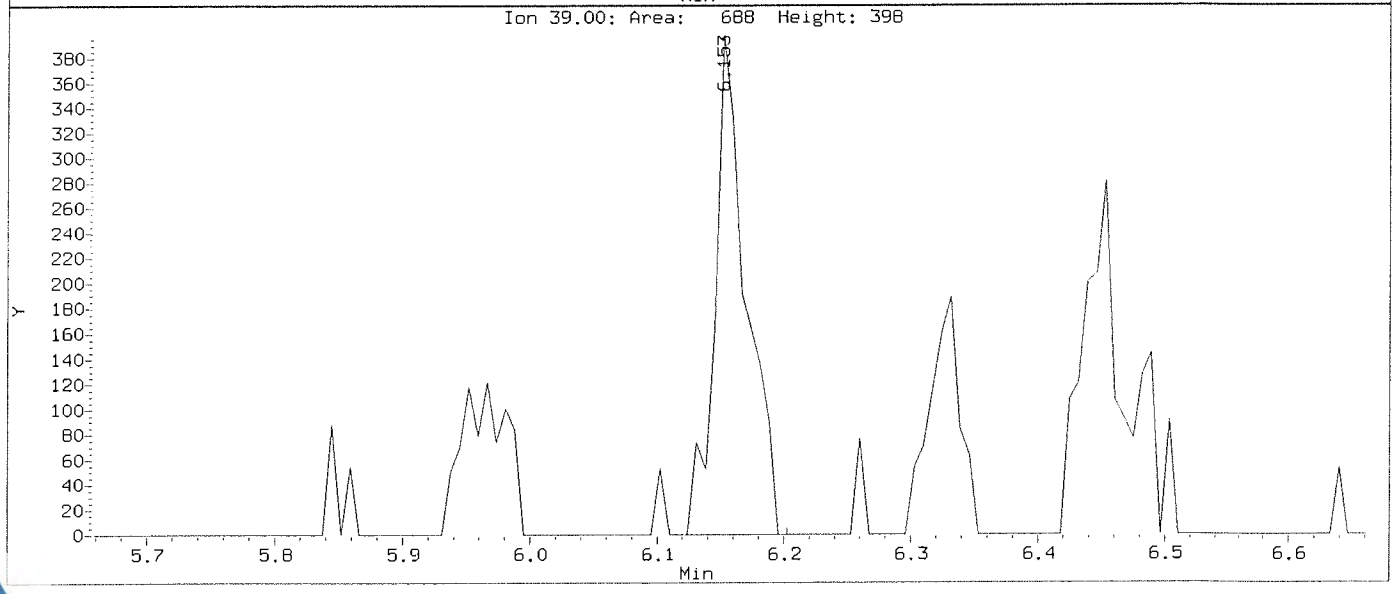
Injection Date: 31-OCT-2019 11:56
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: cis-1,3-Dichloropropene
CAS Number: 10061-01-5

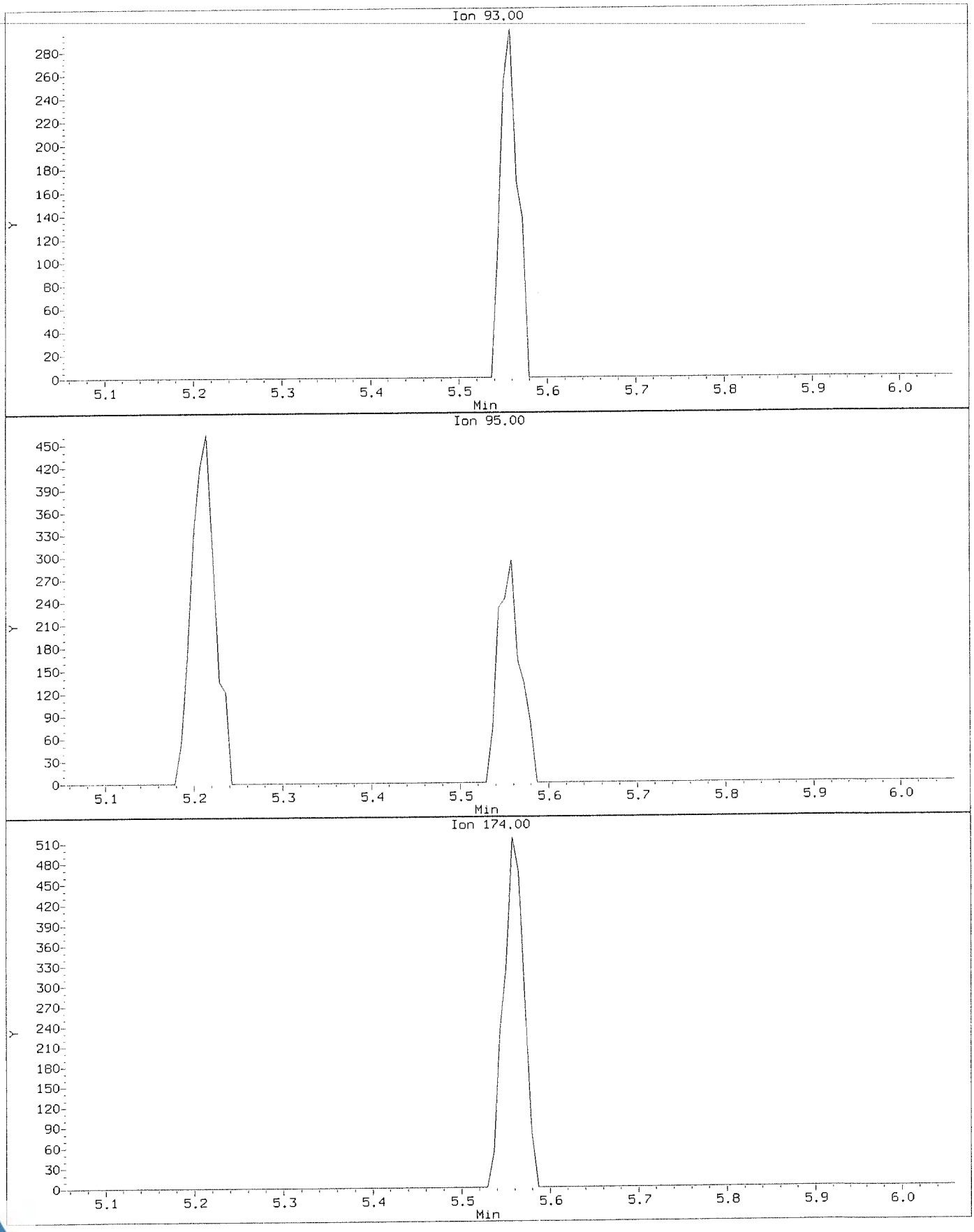






Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\BEFORE2\X103103.D
Injection Date: 31-OCT-2019 11:56
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Dibromomethane
CAS Number: 74-95-3



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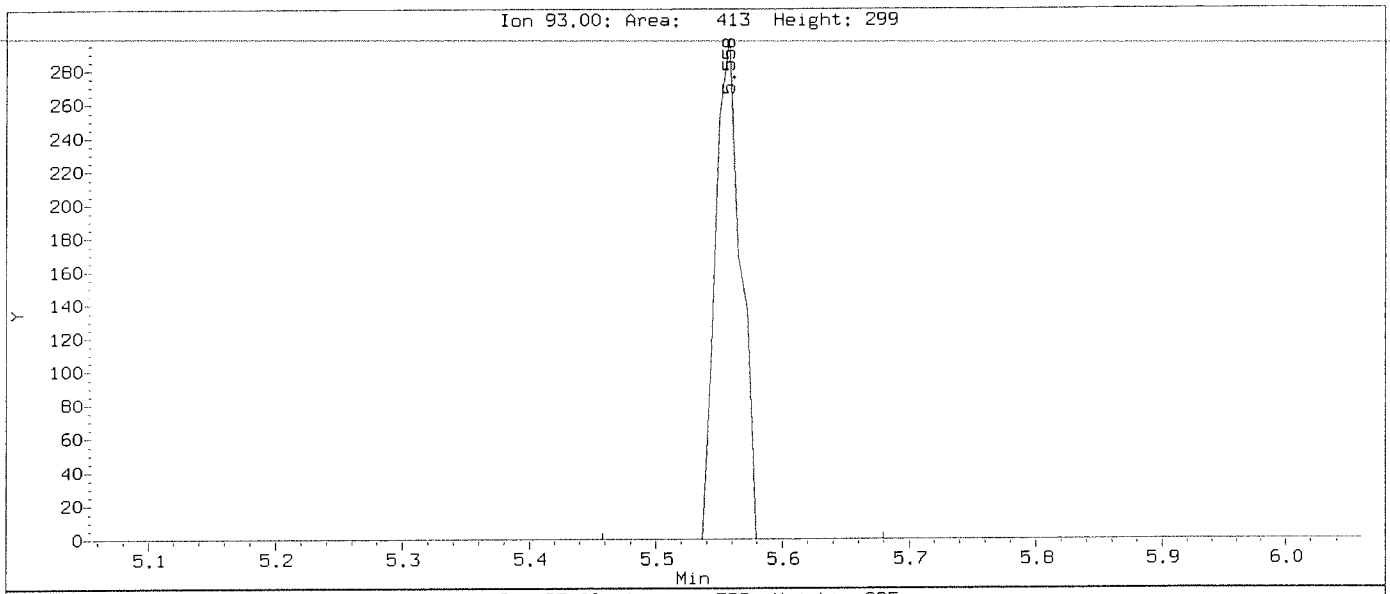
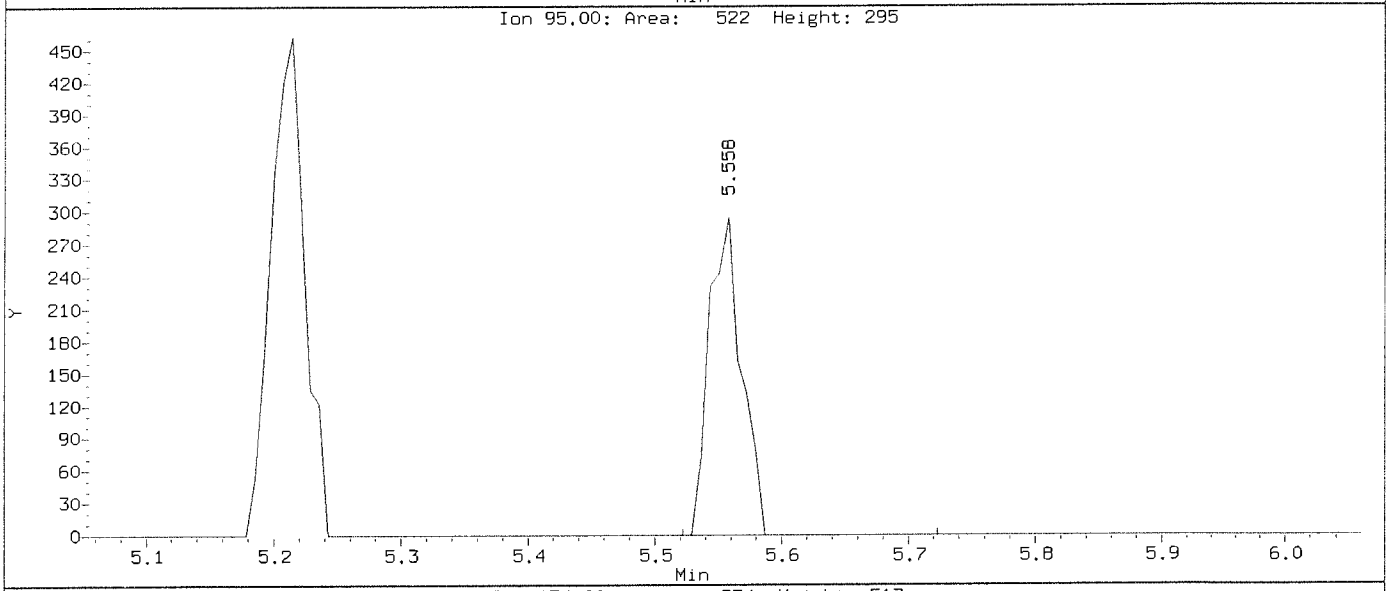
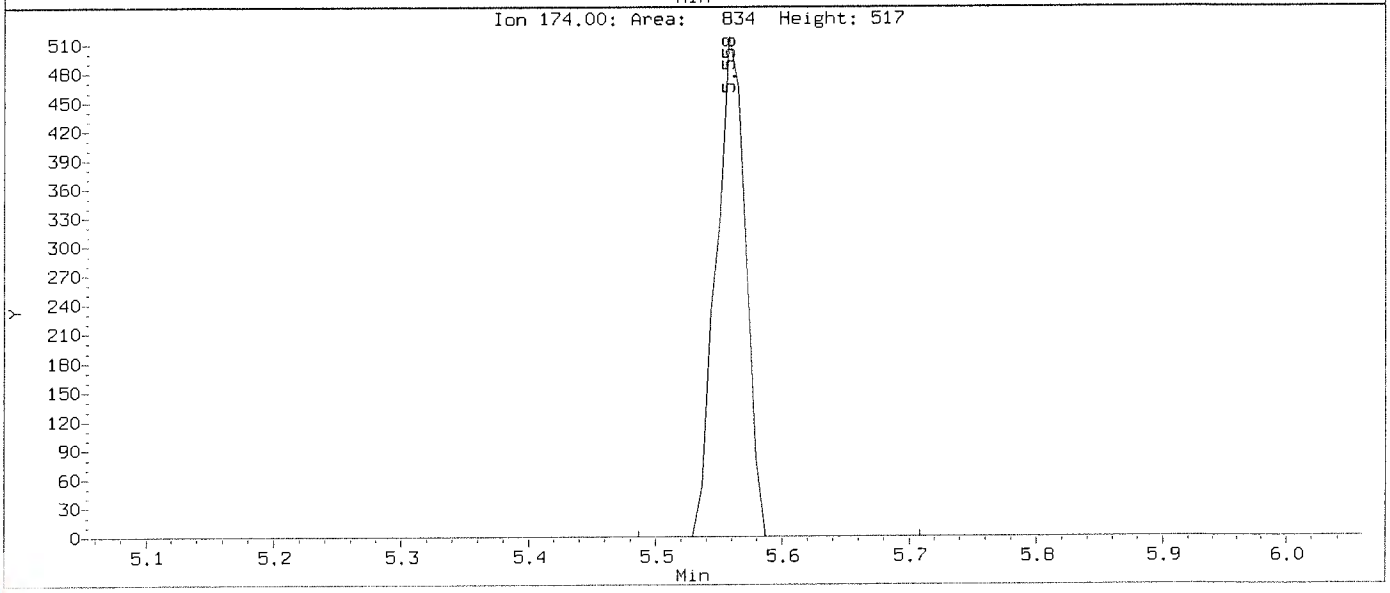
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Dibromomethane
CAS Number: 74-95-3







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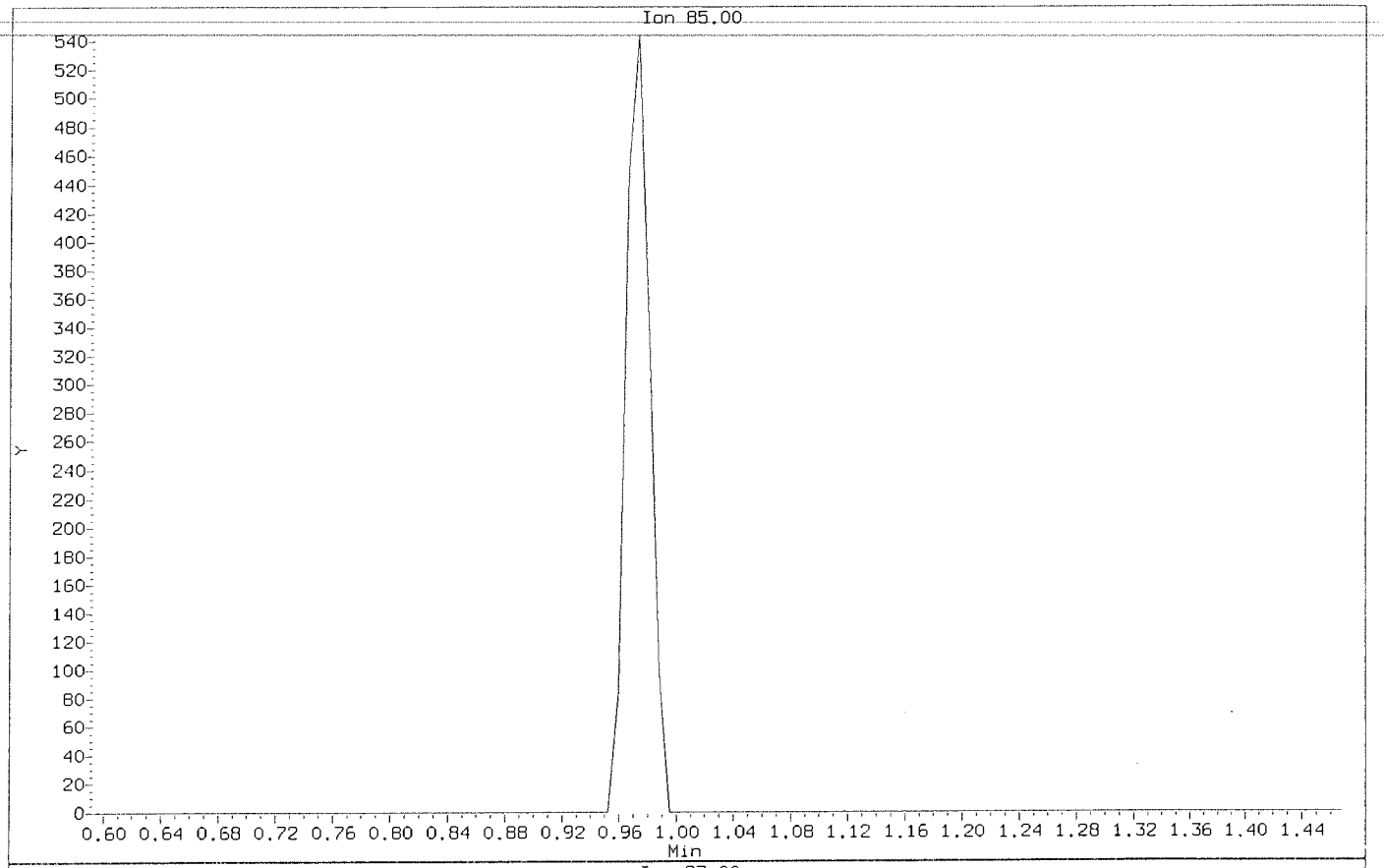
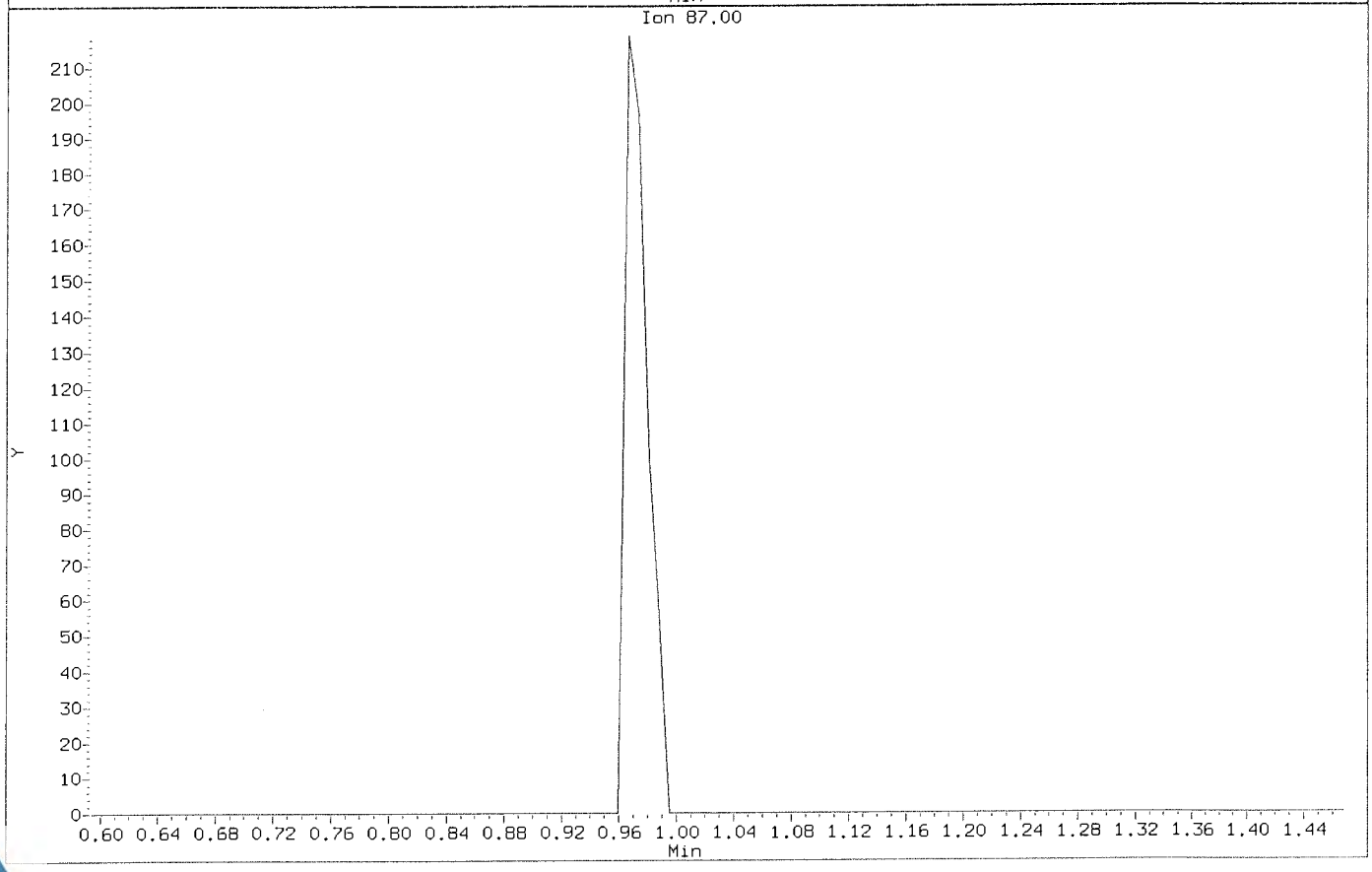
Injection Date: 31-OCT-2019 11:56
Instrument: voa6.i
Client Sample ID: VSTD000.5

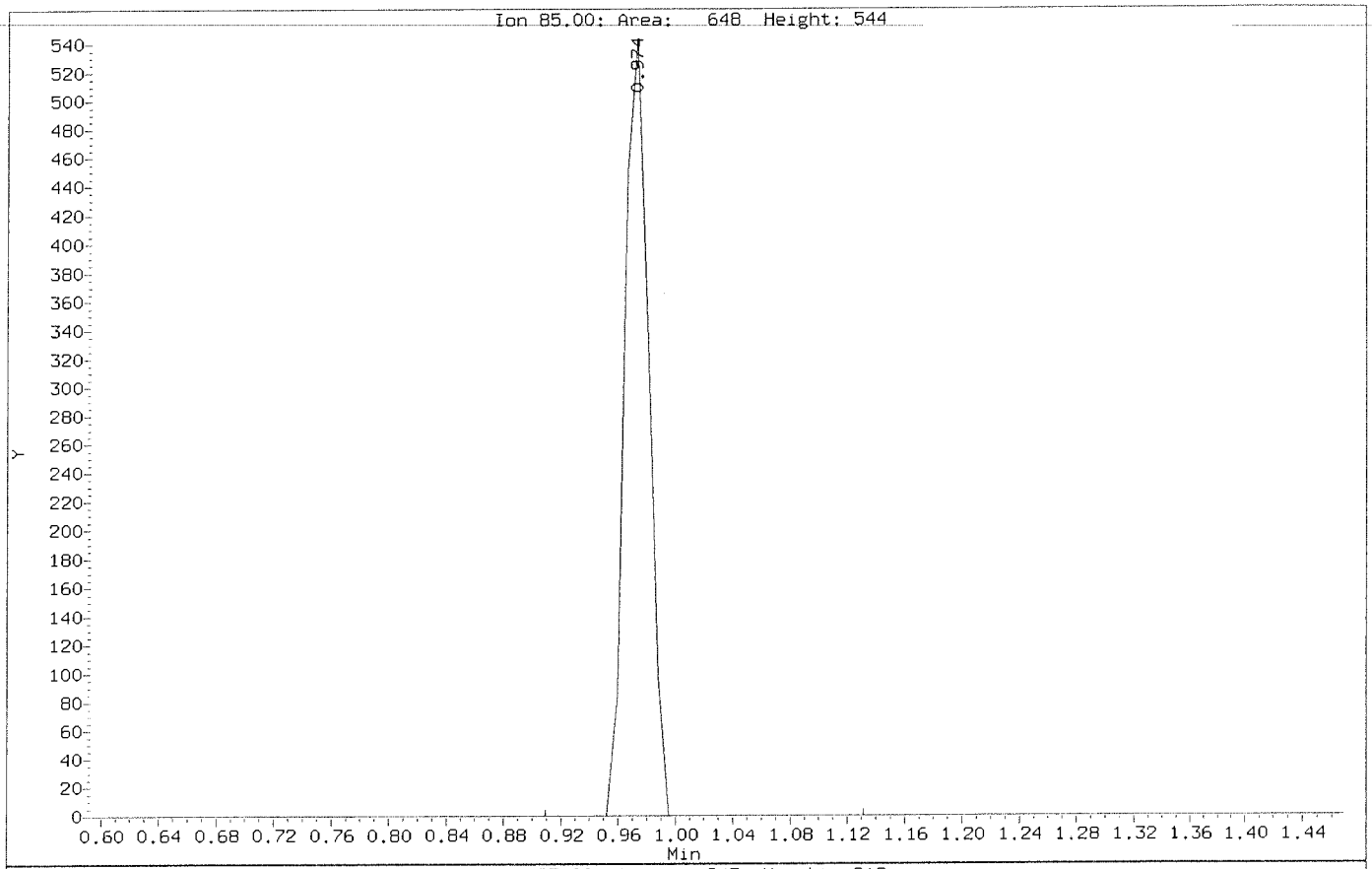
Compound: Dichlorodifluoromethane
CAS Number: 75-71-8

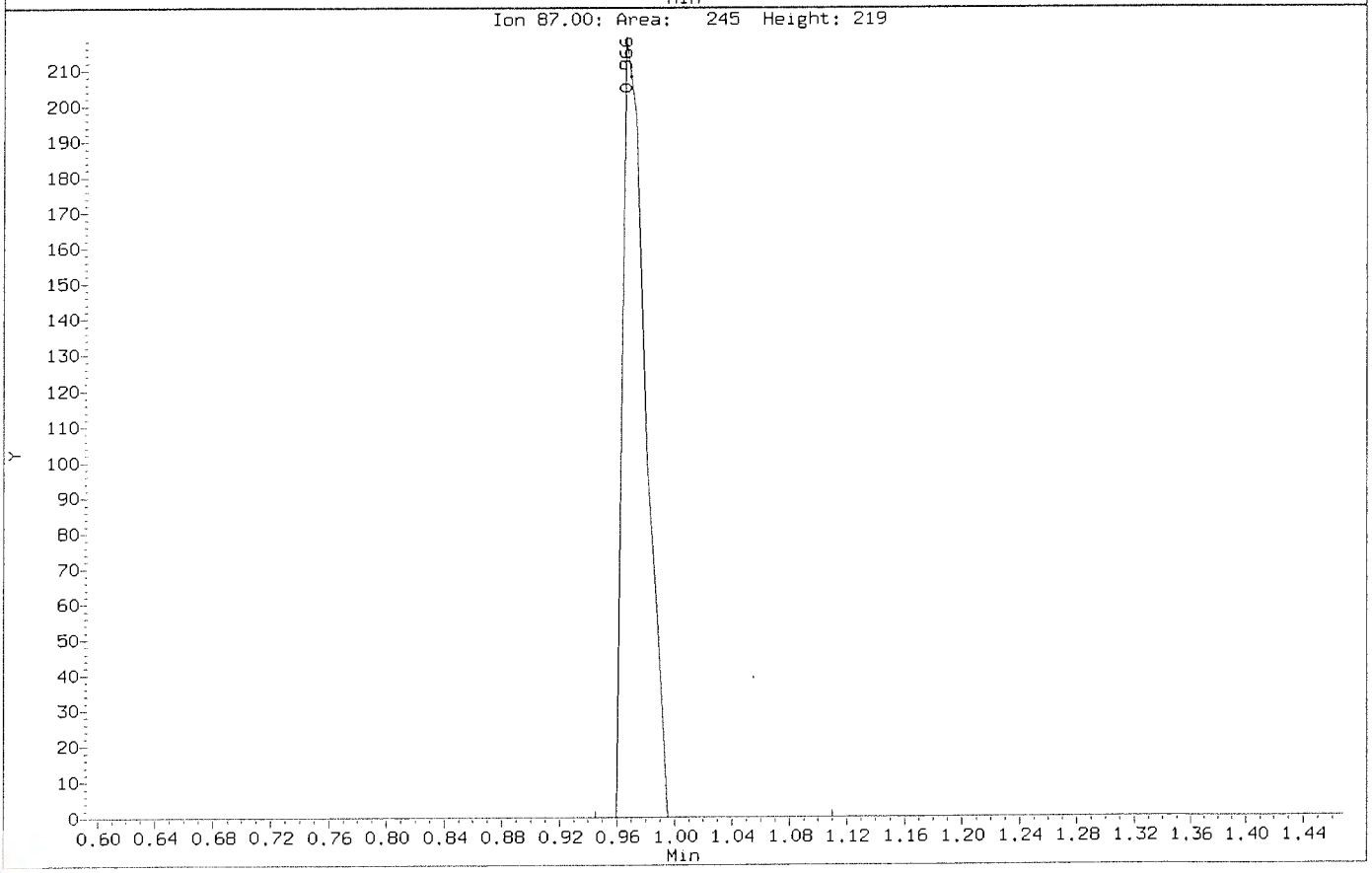




Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\X103103.D
Injection Date: 31-OCT-2019 11:56
Instrument: voa6.i
Client Sample ID: VSTD000.5

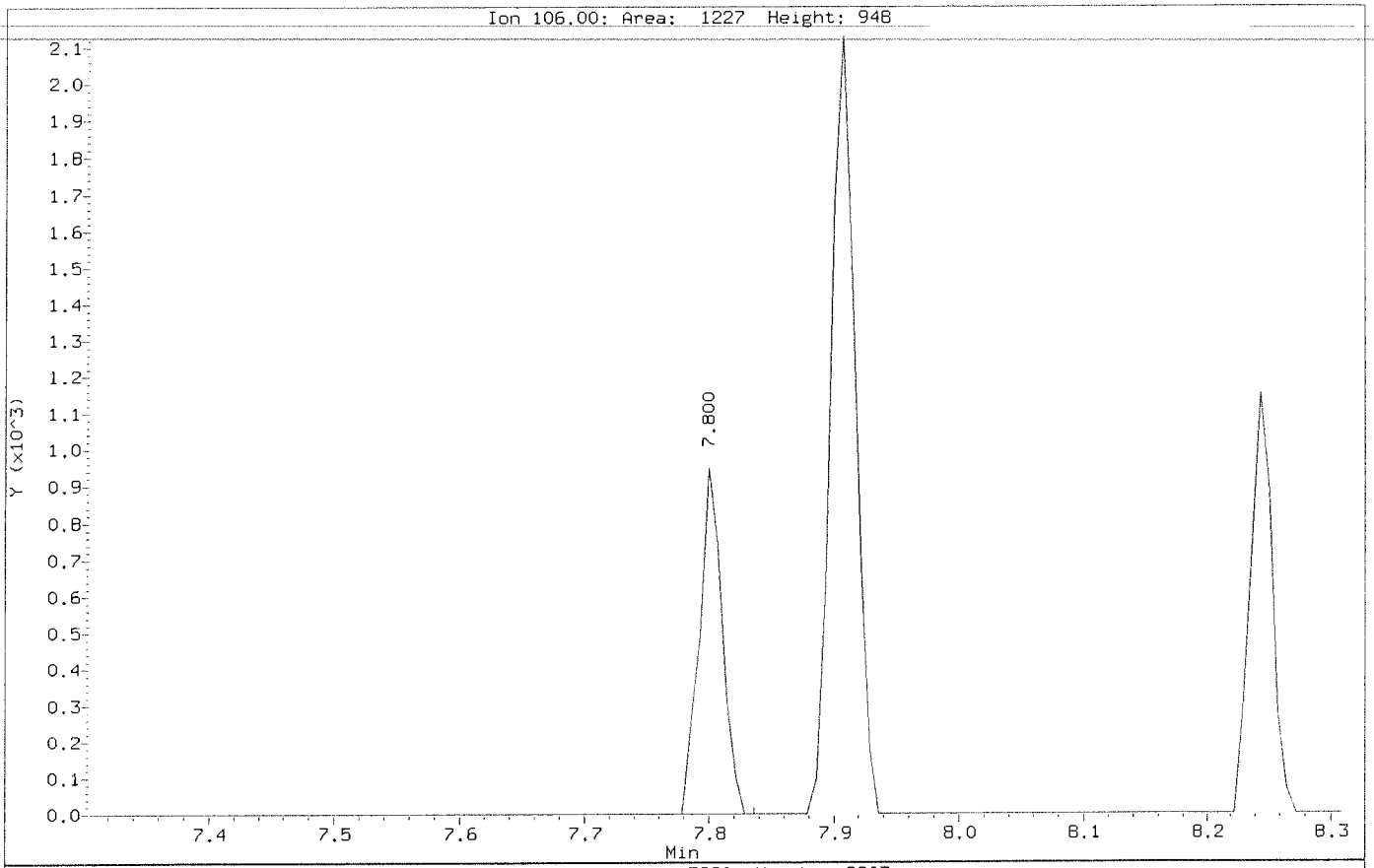
Compound: Dichlorodifluoromethane
CAS Number: 75-71-8

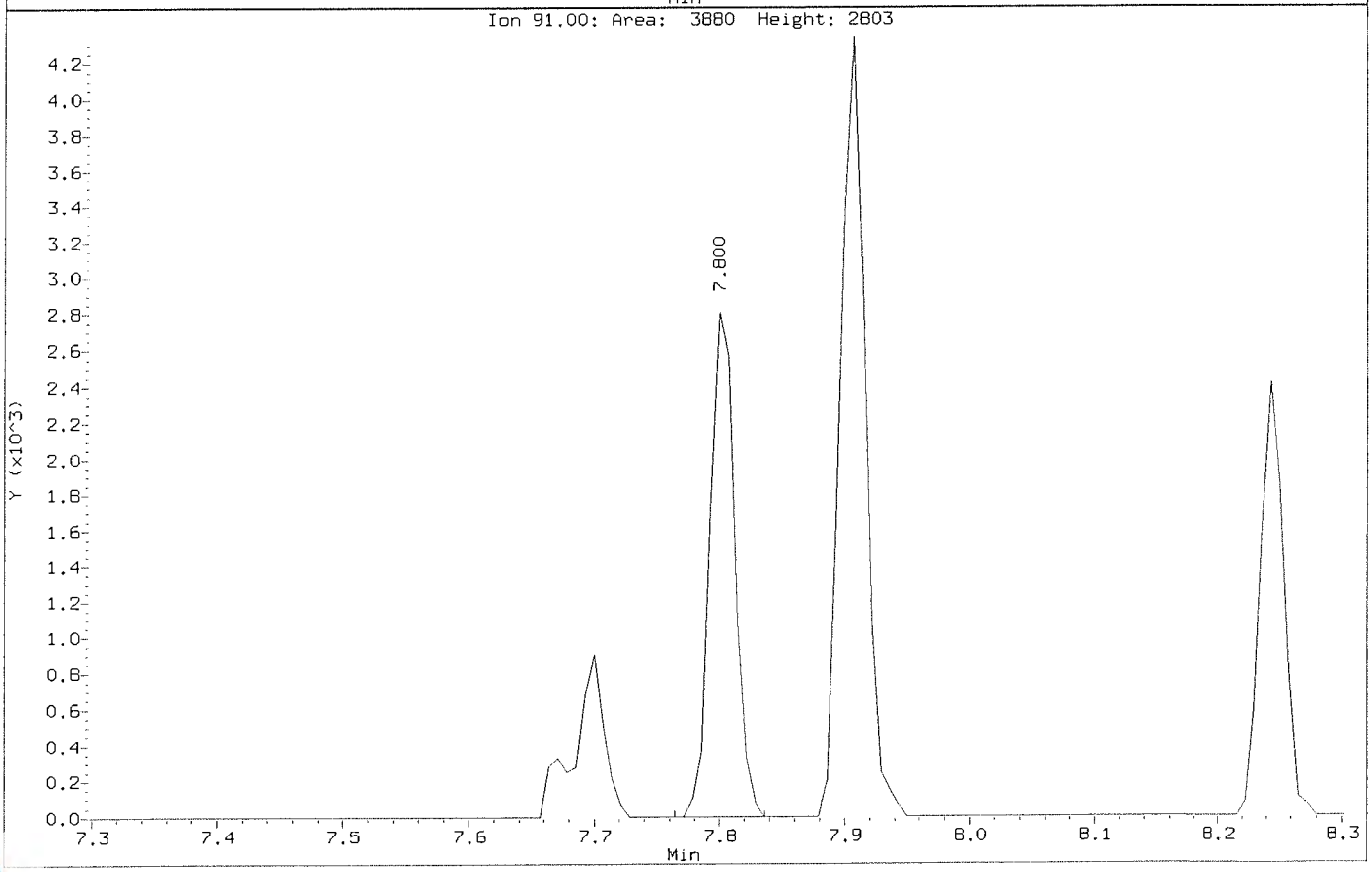




Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\BEFORE2\X103103.D
Injection Date: 31-OCT-2019 11:56
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Ethylbenzene
CAS Number: 100-41-4





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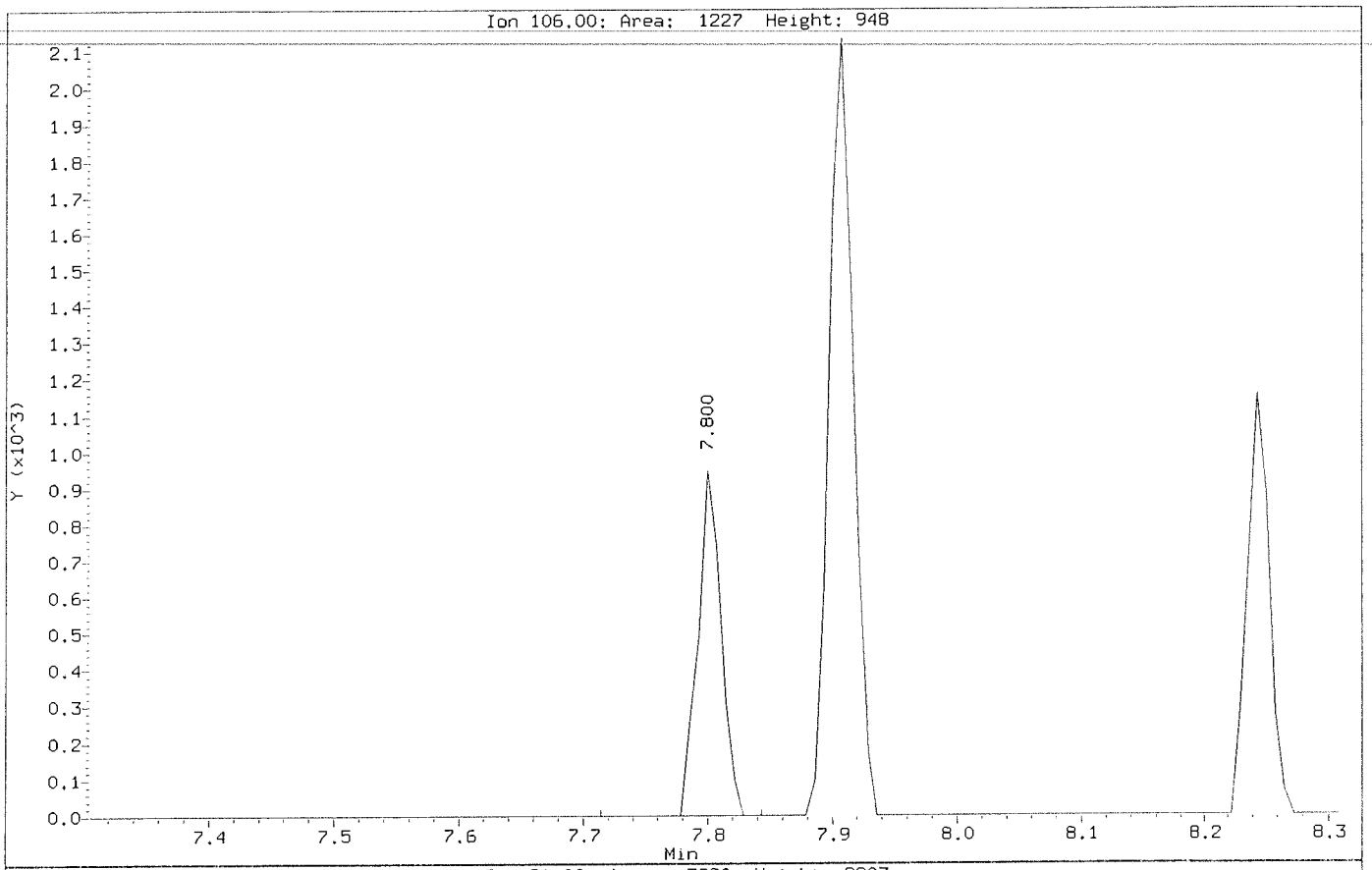
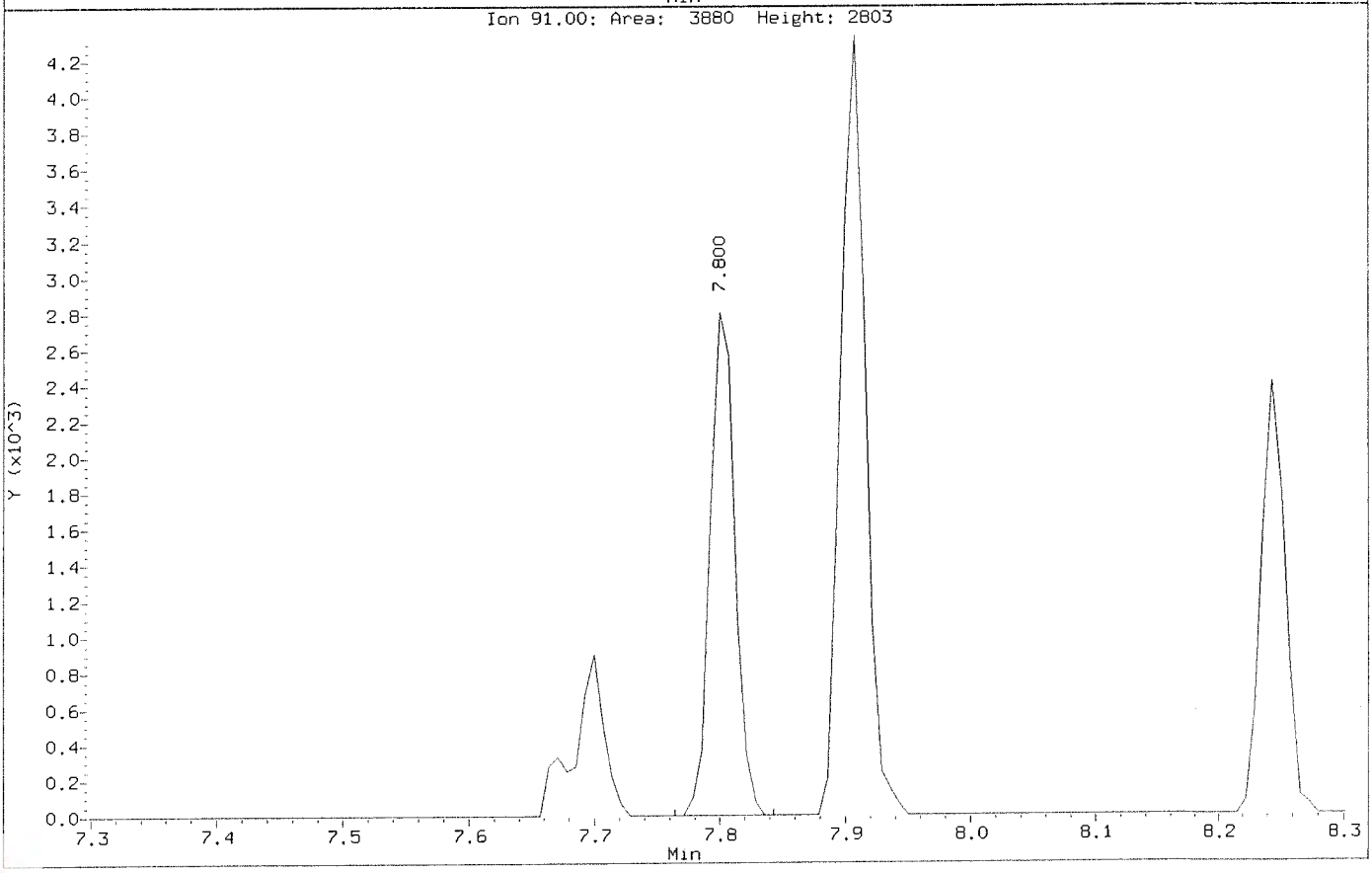
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Ethylbenzene
CAS Number: 100-41-4





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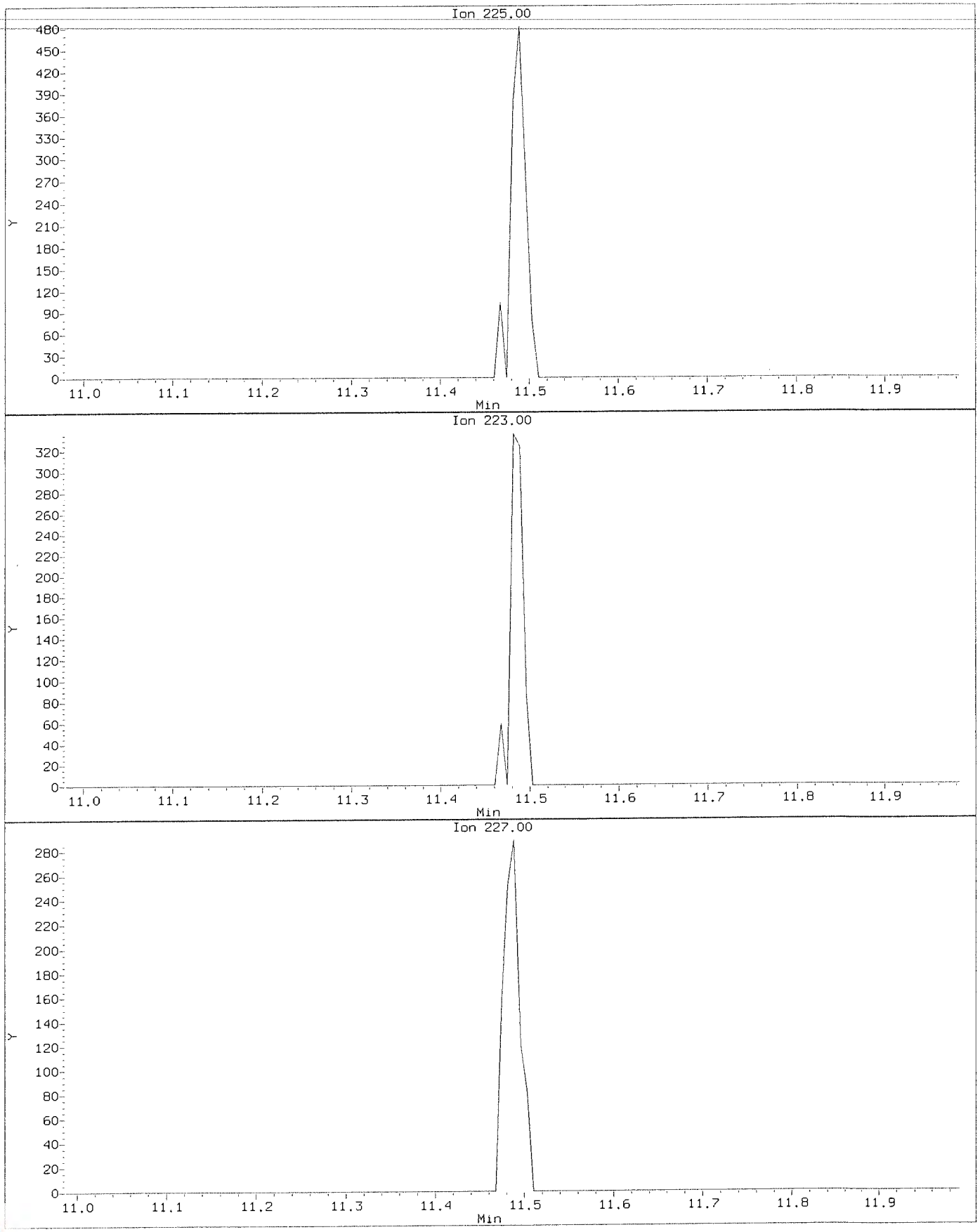
Injection Date: 31-OCT-2019 11:56
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Hexachlorobutadiene
CAS Number: 87-68-3



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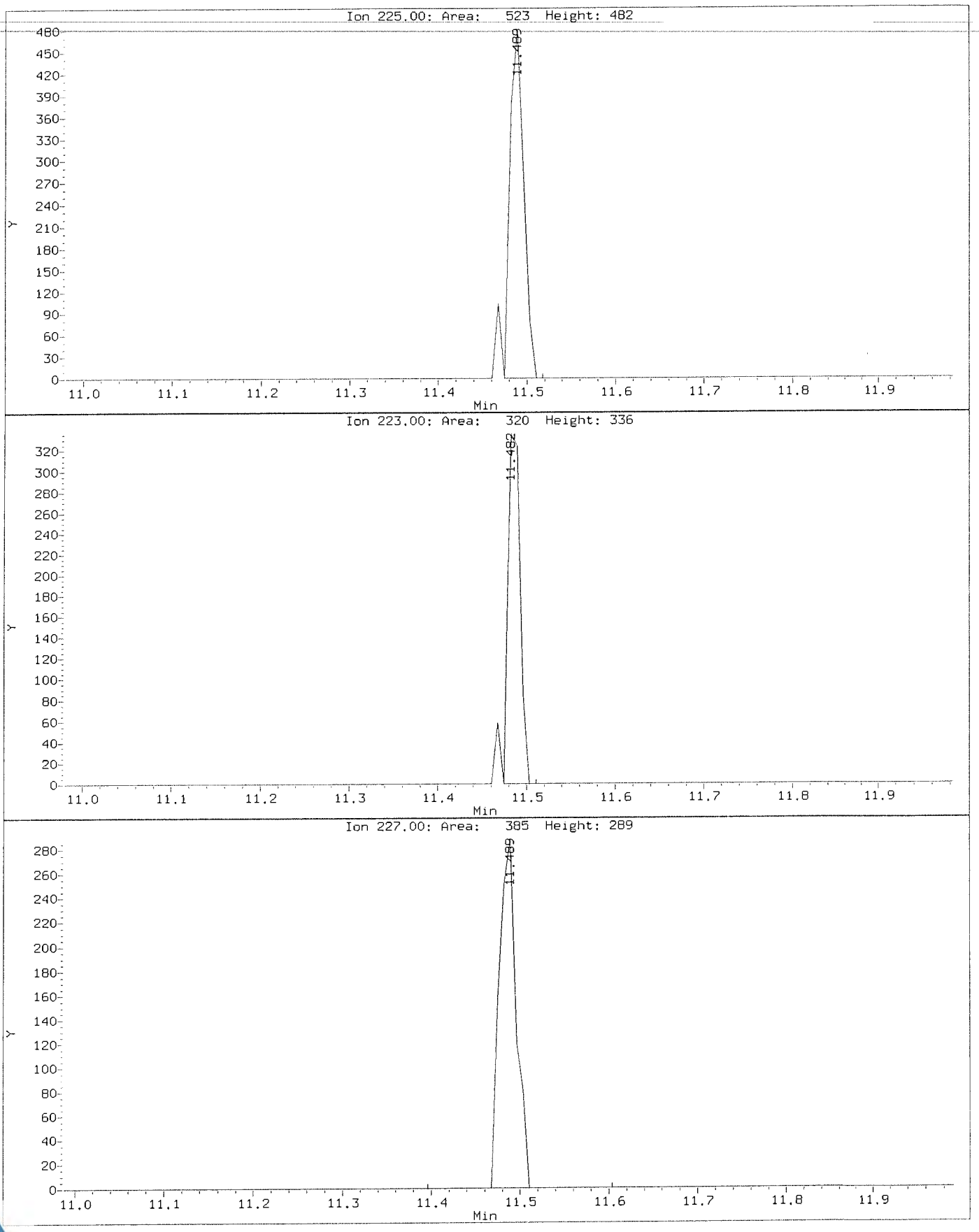
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Hexachlorobutadiene
CAS Number: 87-68-3



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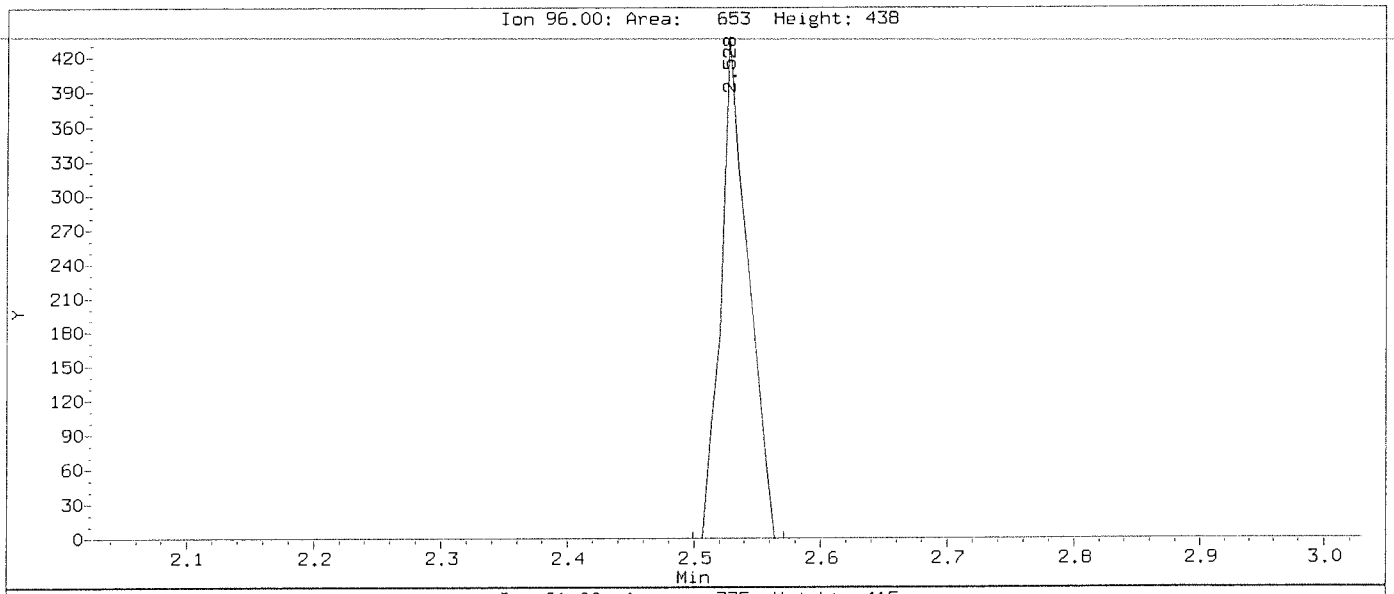
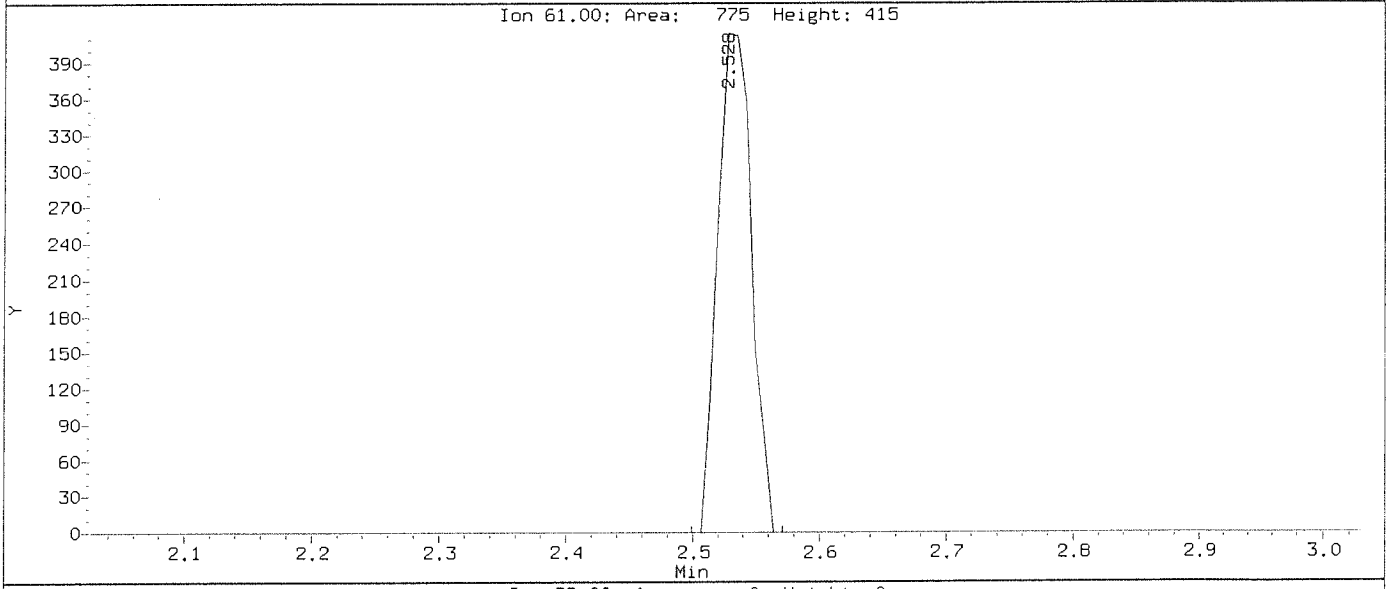
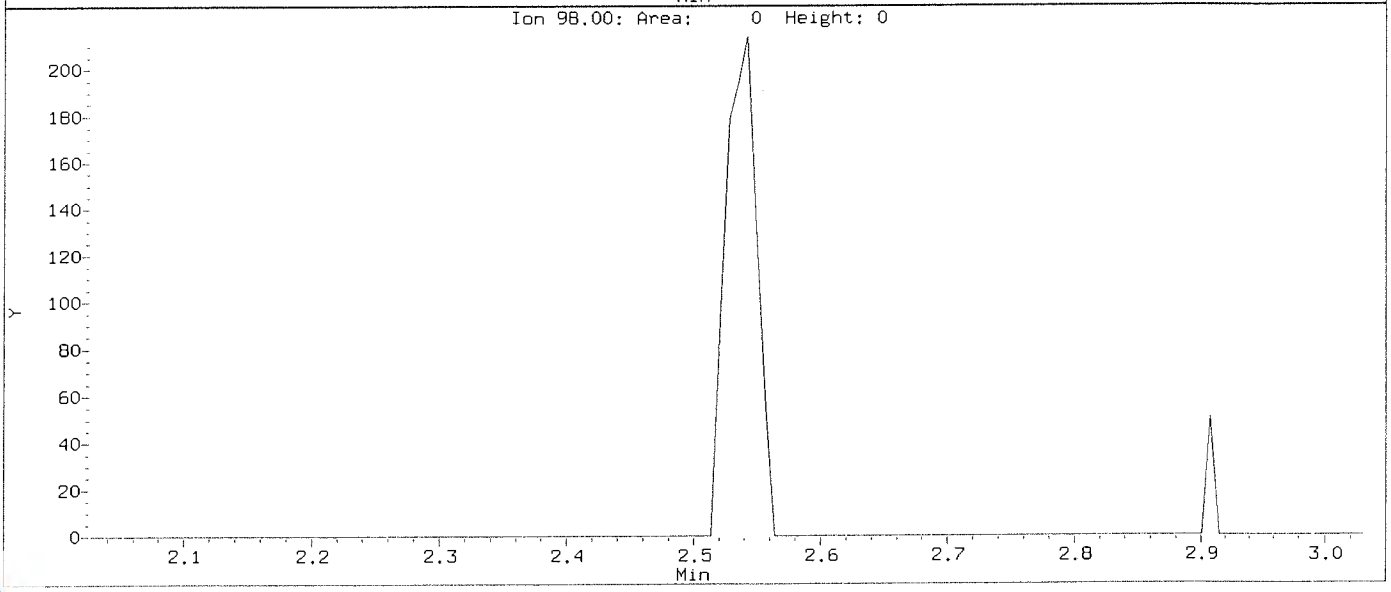
Injection Date: 31-OCT-2019 11:56
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: trans-1,2-Dichloroethene
CAS Number: 156-60-5







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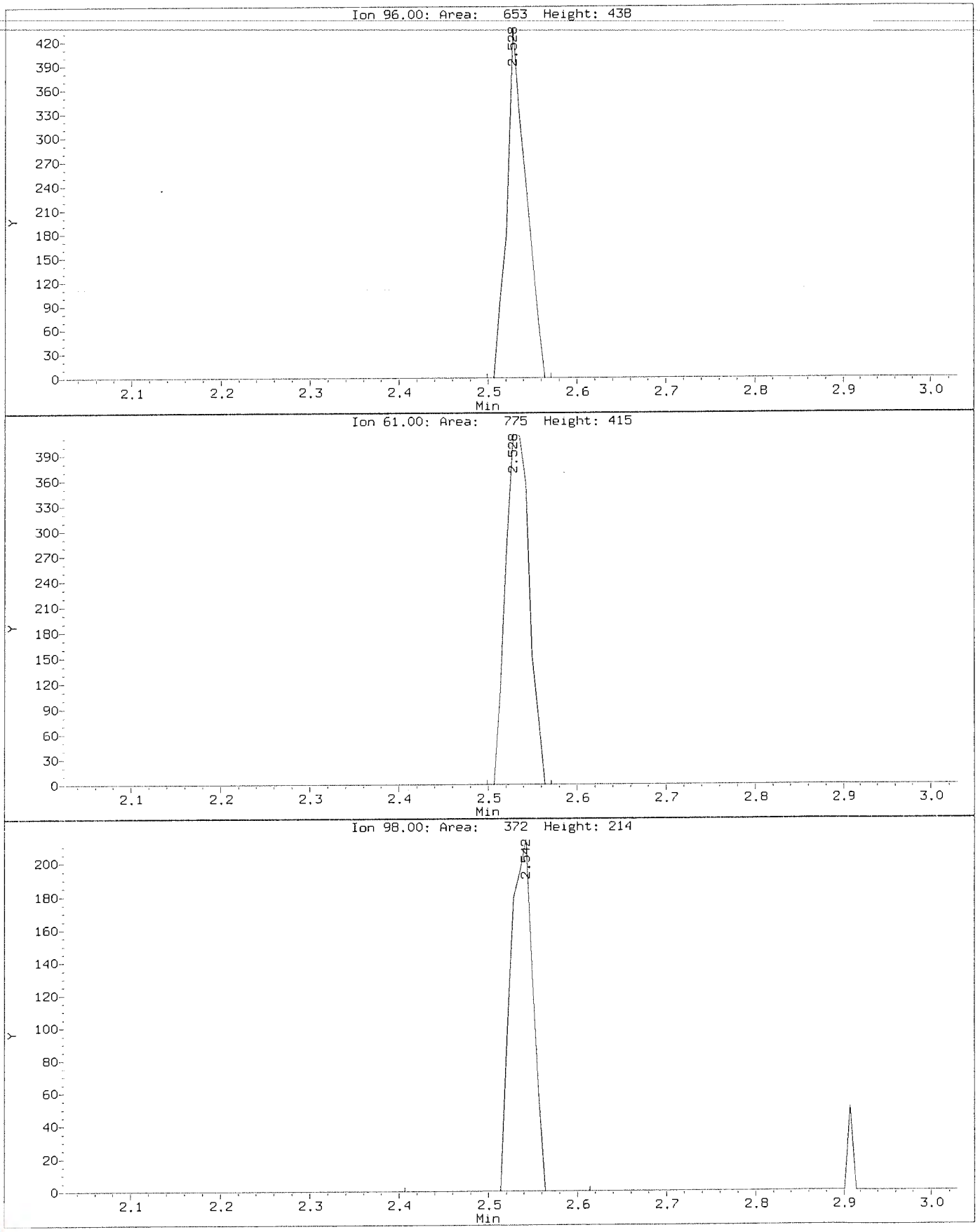
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: trans-1,2-Dichloroethene
CAS Number: 156-60-5



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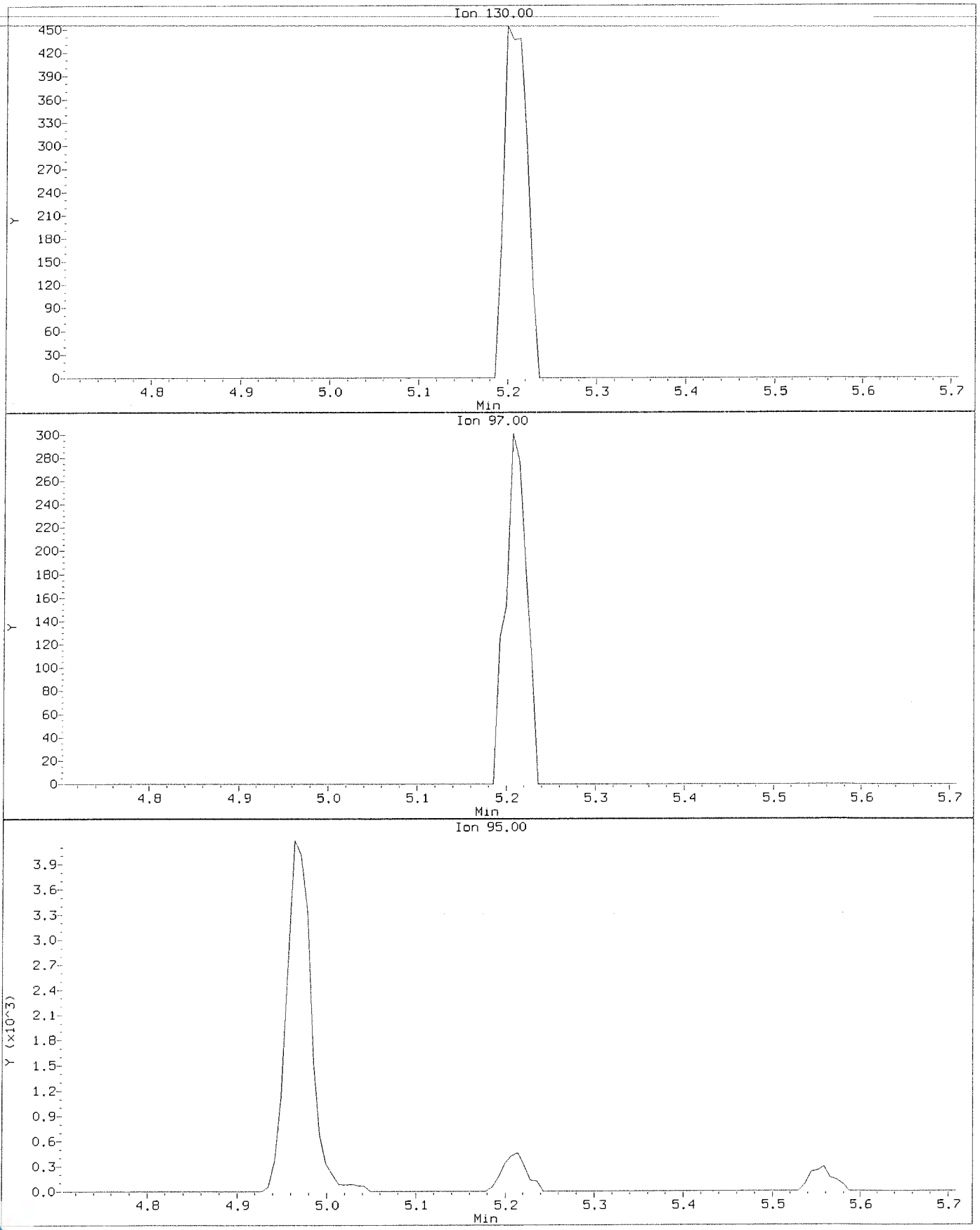
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Trichloroethene
CAS Number: 79-01-6



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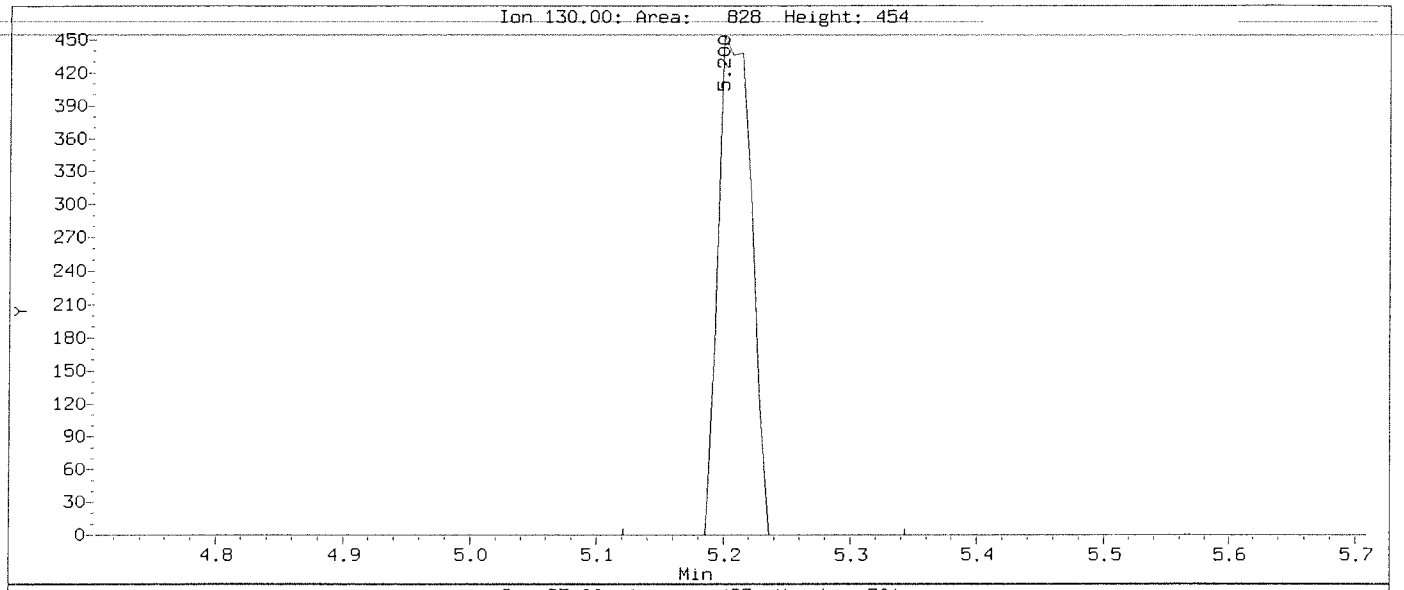
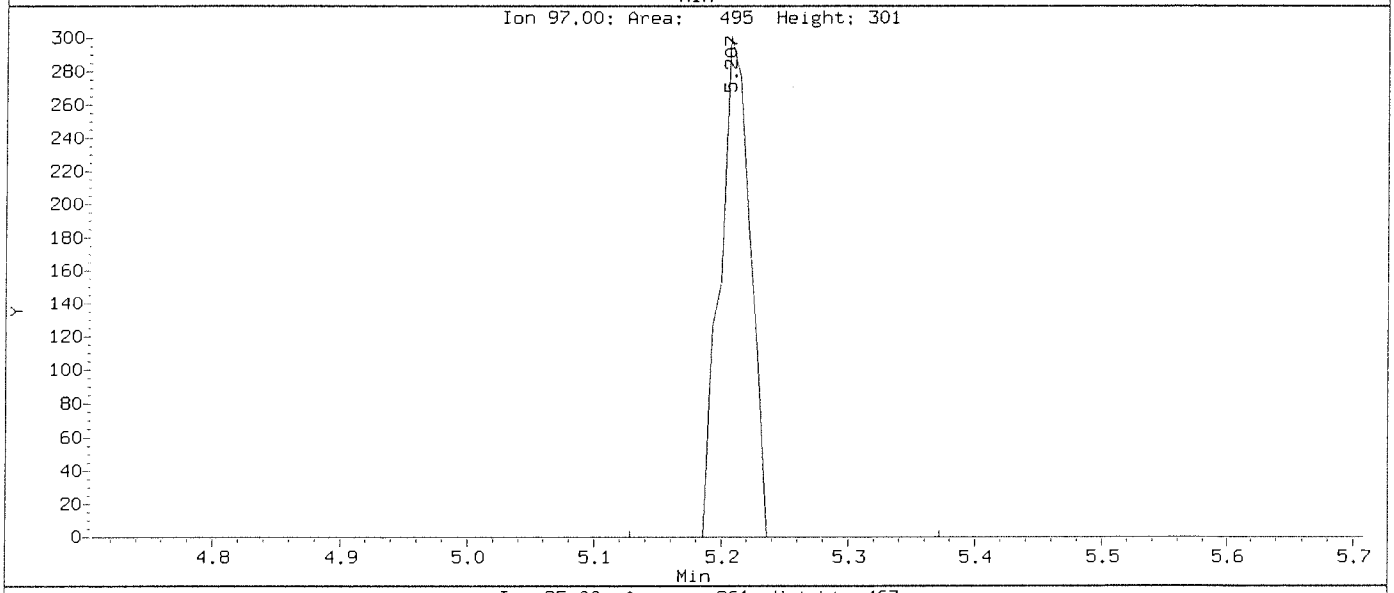
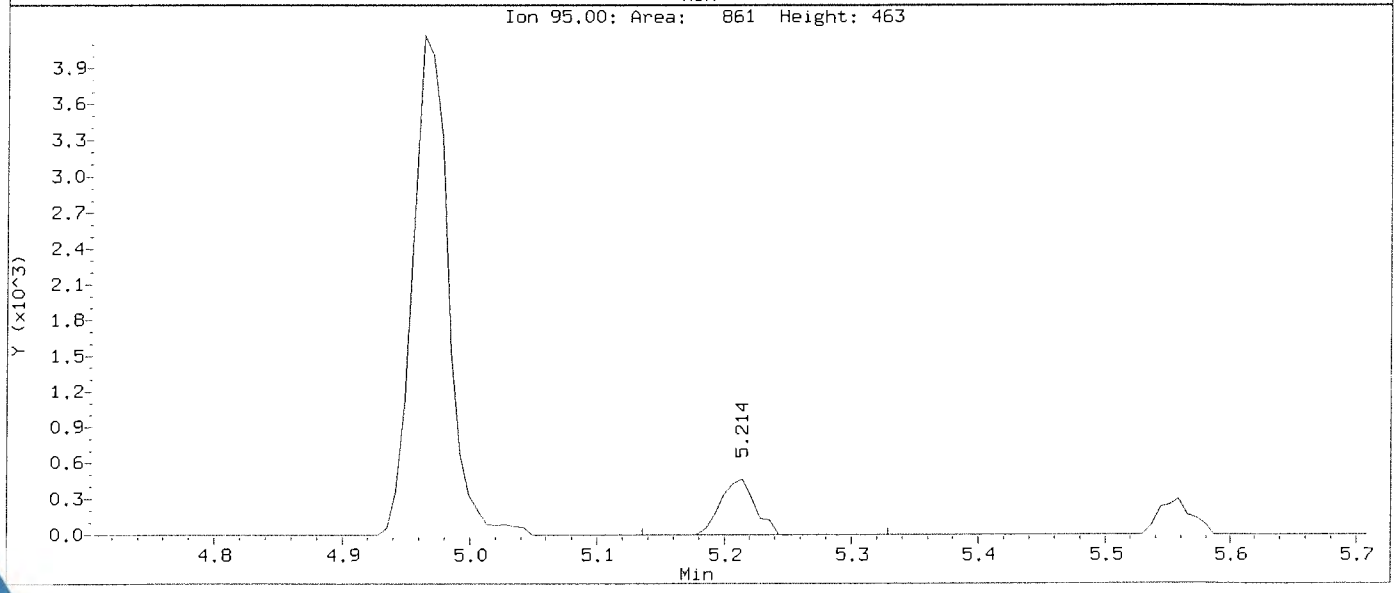
Client Sample ID: VSTD000.5

Compound: Trichloroethene
CAS Number: 79-01-6







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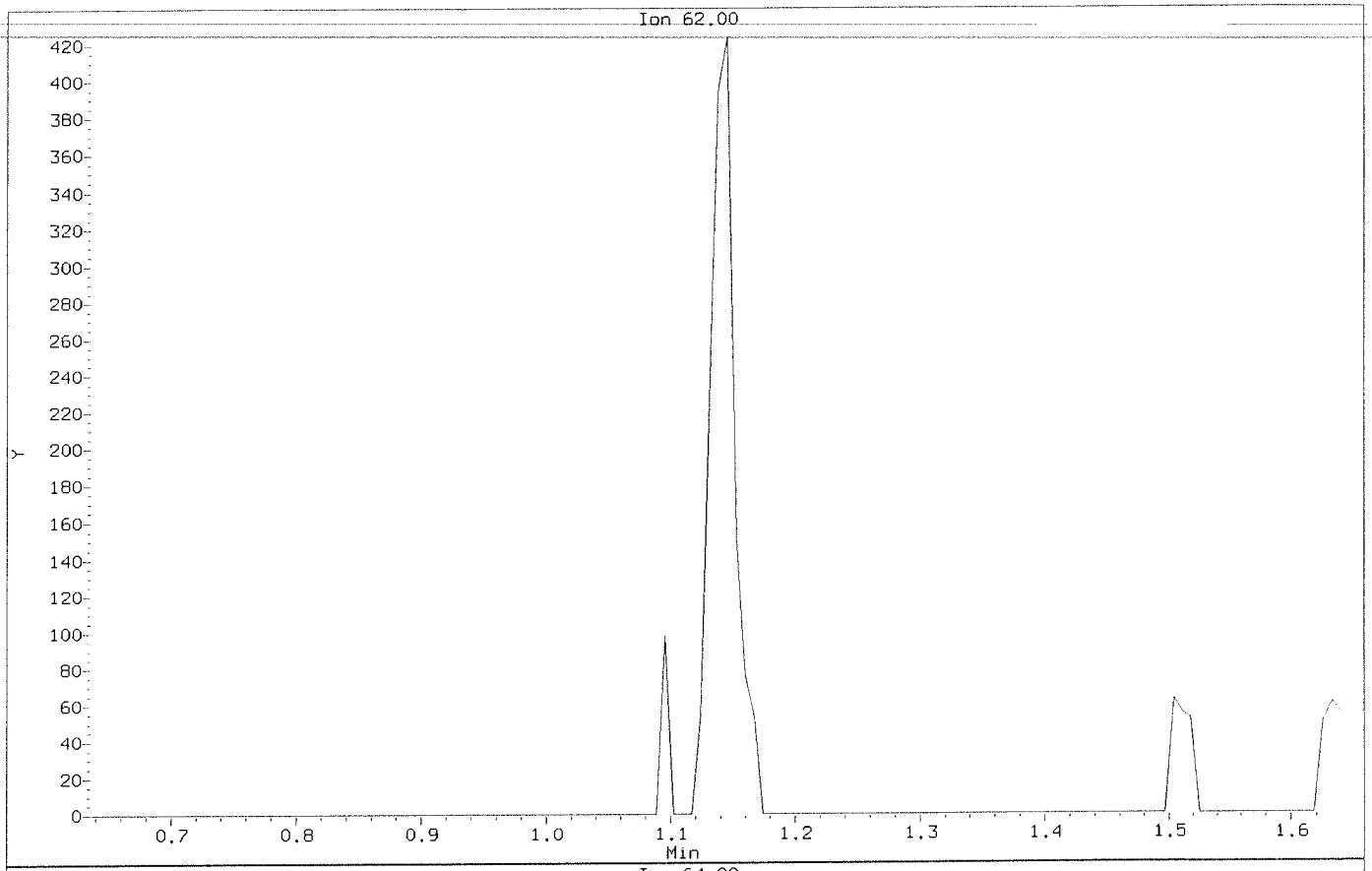
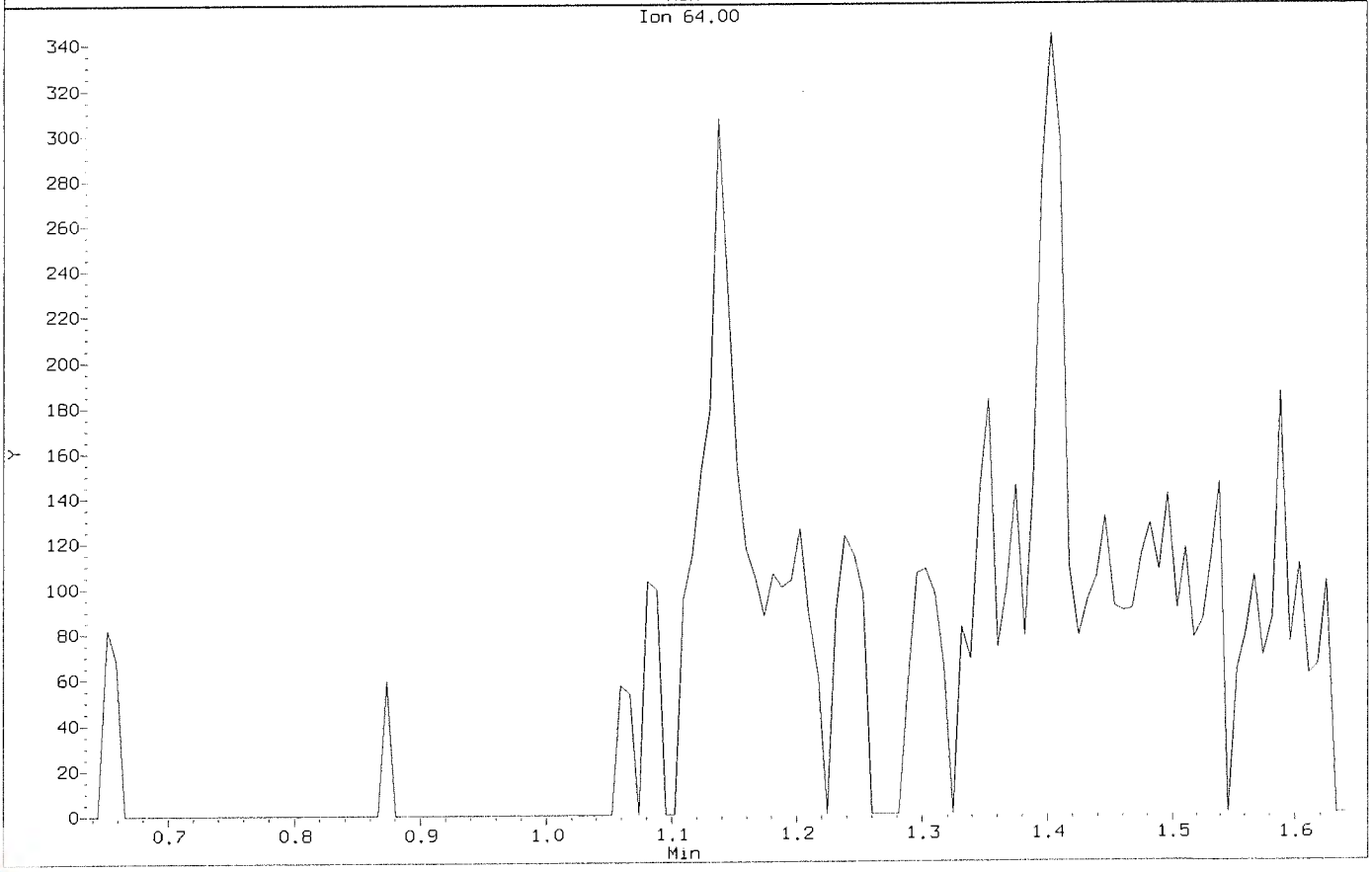
Injection Date: 31-OCT-2019 11:56
Instrument: voa6.i
Client Sample ID: VSTD000.5

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





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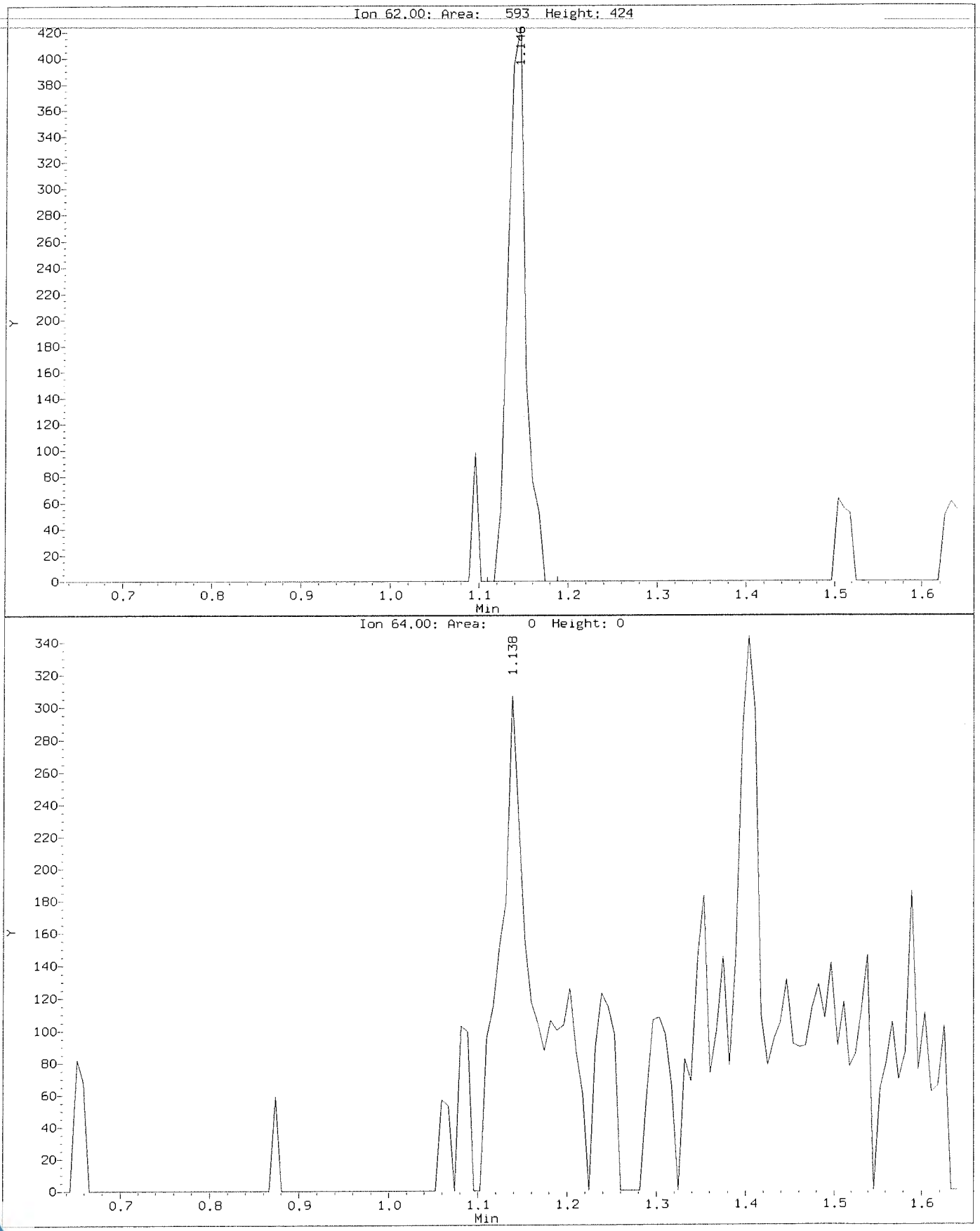
Instrument: voa6.i
Client Sample ID: VSTD000.5

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



Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\X103104.D Page 1
Report Date: 19-Nov-2019 17:39

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X191031.b\X103104.D
Lab Smp Id: VSTD001 Client Smp ID: VSTD001
Inj Date : 31-OCT-2019 12:20
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\X191031.b\8260W.m
Meth Date : 19-Nov-2019 17:37 voa6.i Quant Type: ISTD
Cal Date : 31-OCT-2019 12:20 Cal File: X103104.D
Als bottle: 5 Calibration Sample, Level: 3
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

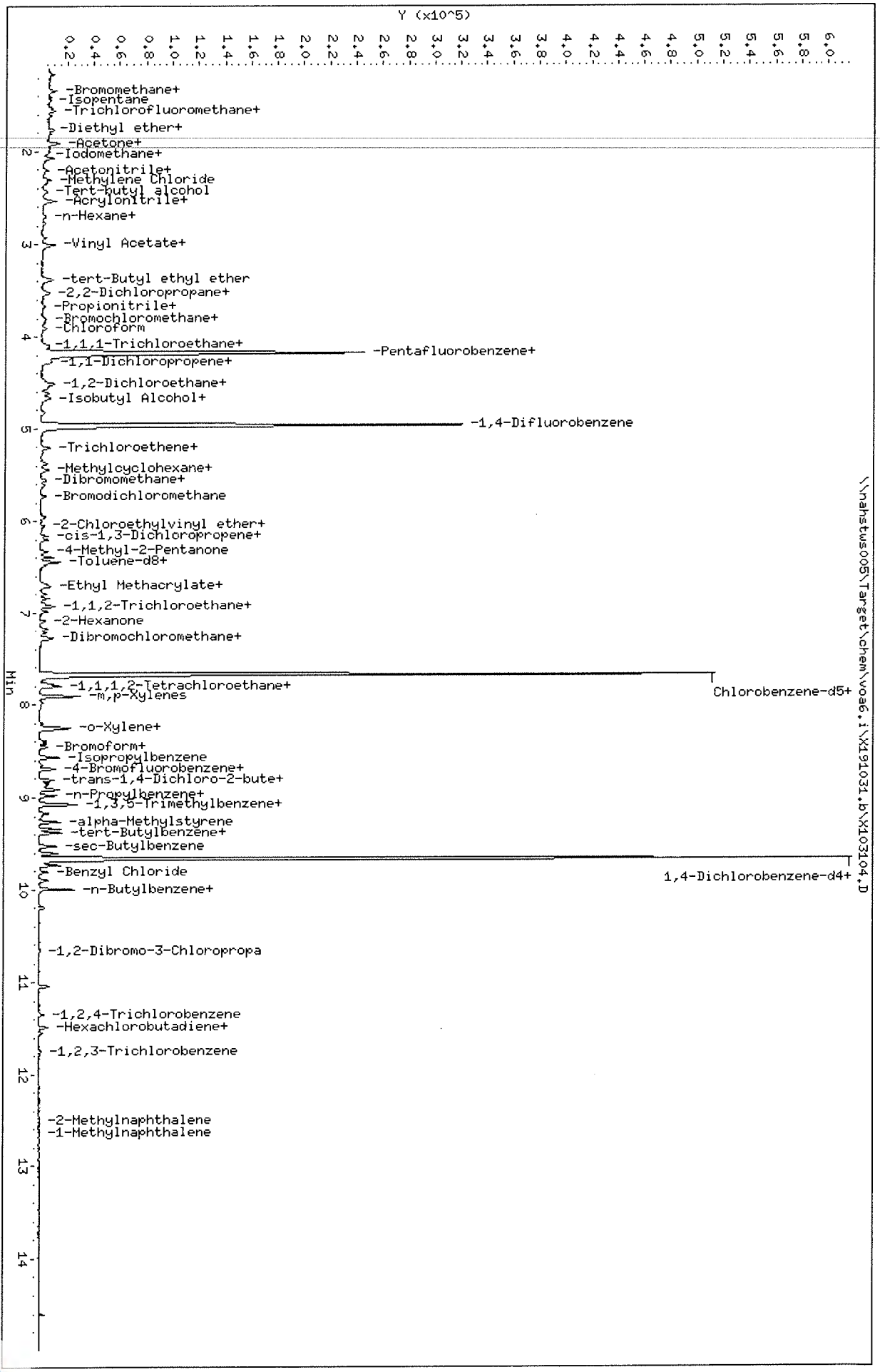
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	232124	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	286946	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	261334	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.669	(1.000)	155568	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	2280	1.00000	1.64(Ta)
$ 69 4-Bromofluorobenzene	95	8.688	8.695	(1.133)	3396	1.00000	0.79(a)
$ 30 Dibromofluoromethane	113	4.103	4.104	(0.981)	1737	1.00000	1.41(a)
$ 48 Toluene-d8	98	6.389	6.389	(0.833)	6145	1.00000	0.94(a)
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	2516	1.00000	1.18(a)
31 1,1,1-Trichloroethane	97	4.082	4.089	(0.976)	3106	1.00000	1.06(a)
68 1,1,2,2-Tetrachloroethane	83	8.845	8.845	(0.915)	2699	1.00000	1.07(aM)
138 Freon TF	101	1.912	1.912	(0.457)	1626	1.00000	1.05(a)
53 1,1,2-Trichloroethane	83	6.847	6.840	(0.893)	1310	1.00000	1.10(a)
22 1,1-Dichloroethane	63	2.922	2.922	(0.699)	2969	1.00000	1.14(Ta)
11 1,1-Dichloroethene	96	1.912	1.912	(0.457)	1593	1.00000	1.07(a)
32 1,1-Dichloropropene	75	4.283	4.283	(0.862)	2501	1.00000	1.17(aM)
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.216)	789	1.00000	0.35(aM)
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.918)	2361	1.00000	0.50(aM)
90 1,2,4-Trichlorobenzene	180	11.345	11.338	(1.174)	1696	1.00000	1.20(aM)
79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.971)	8378	1.00000	1.12(a)
89 1,2-Dibromo-3-Chloropropane	155	10.665	10.658	(1.104)	367	1.00000	2.45(aM)
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	1913	1.00000	1.08(a)
88 1,2-Dichlorobenzene	146	9.999	9.999	(1.035)	5244	1.00000	1.21(a)

Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\X103104.D Page 2
Report Date: 19-Nov-2019 17:39

	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)	2666	1.00000	1.14 (aM)
42	1,2-Dichloropropane	63	5.436	5.436	(1.094)	1807	1.00000	1.29 (aM)
75	1,3,5-Trimethylbenzene	105	9.067	9.075	(0.938)	8216	1.00000	1.13 (a)
83	1,3-Dichlorobenzene	146	9.605	9.612	(0.994)	5648	1.00000	1.19 (a)
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	2783	1.00000	1.14 (a)
84	1,4-Dichlorobenzene	146	9.683	9.684	(1.002)	5464	1.00000	1.14 (a)
26	2,2-Dichloropropane	77	3.509	3.516	(0.839)	3552	1.00000	1.27 (a)
24	2-Butanone	43	3.581	3.573	(0.856)	1053	2.00000	1.78 (aM)
76	2-Chlorotoluene	91	8.974	8.982	(0.929)	6297	1.00000	1.12 (a)
52	2-Hexanone	43	7.090	7.090	(0.924)	2003	2.00000	2.63 (a)
77	4-Chlorotoluene	91	9.075	9.075	(0.939)	7770	1.00000	1.17 (a)
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	8687	1.00000	1.12 (a)
45	4-Methyl-2-Pentanone	43	6.324	6.331	(0.824)	2724	2.00000	2.53 (a)
10	Acetone	43	1.976	1.976	(0.473)	1614	2.00000	3.39 (a)
37	Benzene	78	4.519	4.512	(0.909)	9561	1.00000	1.24 (aM)
74	Bromobenzene	156	8.810	8.810	(0.912)	3334	1.00000	1.16 (a)
29	Bromochloromethane	128	3.803	3.795	(0.909)	1419	1.00000	1.18 (a)
39	Bromodichloromethane	83	5.730	5.730	(1.153)	2435	1.00000	1.07 (aM)
66	Bromoform	173	8.416	8.416	(1.097)	1977	1.00000	1.17 (Ta)
6	Bromomethane	94	1.339	1.331	(0.320)	2521	1.00000	(aM)
19	Carbon Disulfide	76	2.069	2.069	(0.495)	9171	2.00000	2.14 (a)
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	3051	1.00000	1.08 (aM)
59	Chlorobenzene	112	7.692	7.699	(1.003)	6044	1.00000	1.18 (a)
7	Chloroethane	64	1.403	1.396	(0.336)	1148	1.00000	1.24 (aM)
28	Chloroform	83	3.910	3.910	(0.935)	3357	1.00000	1.09 (a)
3	Chloromethane	50	1.074	1.074	(0.257)	1666	1.00000	1.02 (aM)
27	cis-1,2-Dichloroethene	96	3.530	3.523	(0.844)	2003	1.00000	1.08 (a)
46	cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	2884	1.00000	1.09 (a)
55	Dibromochloromethane	129	7.184	7.176	(0.937)	2641	1.00000	1.21 (a)
44	Dibromomethane	93	5.558	5.558	(1.118)	1295	1.00000	1.16 (a)
2	Dichlorodifluoromethane	85	0.973	0.966	(0.233)	1752	1.00000	2.15 (aM)
61	Ethylbenzene	106	7.800	7.807	(1.017)	3167	1.00000	1.19 (aM)
91	Hexachlorobutadiene	225	11.489	11.481	(1.189)	1409	1.00000	1.16 (a)
67	Isopropylbenzene	105	8.566	8.566	(1.117)	9244	1.00000	1.15 (a)
62	m,p-Xylenes	106	7.907	7.907	(1.031)	7628	2.00000	2.38 (a)
17	Methylene Chloride	84	2.306	2.306	(0.551)	2365	1.00000	1.46 (a)
87	n-Butylbenzene	91	9.999	9.999	(1.035)	6081	1.00000	1.10 (a)
73	n-Propylbenzene	91	8.917	8.917	(0.923)	10328	1.00000	1.16 (a)
92	Naphthalene	128	11.546	11.546	(1.195)	2424	1.00000	0.60 (a)
63	o-Xylene	106	8.244	8.244	(1.075)	3830	1.00000	1.21 (a)
81	sec-Butylbenzene	105	9.526	9.526	(0.986)	8732	1.00000	1.10 (a)
64	Styrene	104	8.258	8.265	(1.077)	6283	1.00000	1.15 (a)
78	tert-Butylbenzene	119	9.340	9.340	(0.967)	7025	1.00000	1.12 (a)
56	Tetrachloroethene	164	6.933	6.933	(0.904)	2079	1.00000	1.05 (a)
50	Toluene	91	6.453	6.446	(0.841)	8559	1.00000	1.20 (a)
20	trans-1,2-Dichloroethene	96	2.535	2.528	(0.606)	1603	1.00000	1.02 (a)
51	trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	2585	1.00000	1.05 (a)
38	Trichloroethene	130	5.207	5.207	(1.048)	2489	1.00000	1.16 (a)
8	Trichlorofluoromethane	101	1.561	1.553	(0.373)	3363	1.00000	1.08 (a)
5	Vinyl Chloride	62	1.138	1.138	(0.272)	1640	1.00000	1.12 (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.



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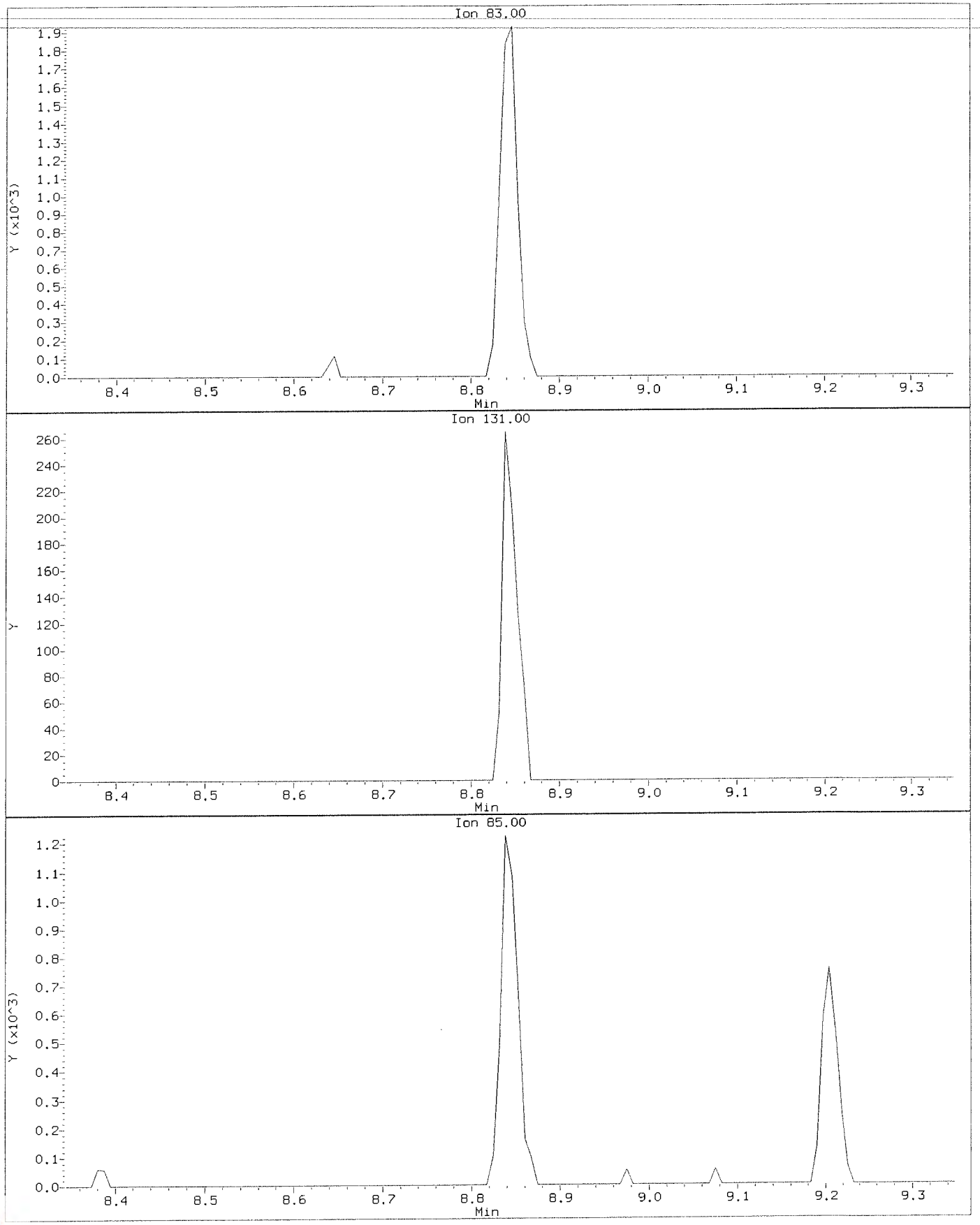
Date : 31-OCT-2019 12:20
Client ID: VSTD001
Sample Info: VSTD001;VSTD001;1;3;
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\BEFORE2\X103104.D
Injection Date: 31-OCT-2019 12:20
Instrument: voa6.i
Client Sample ID: VSTD001

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



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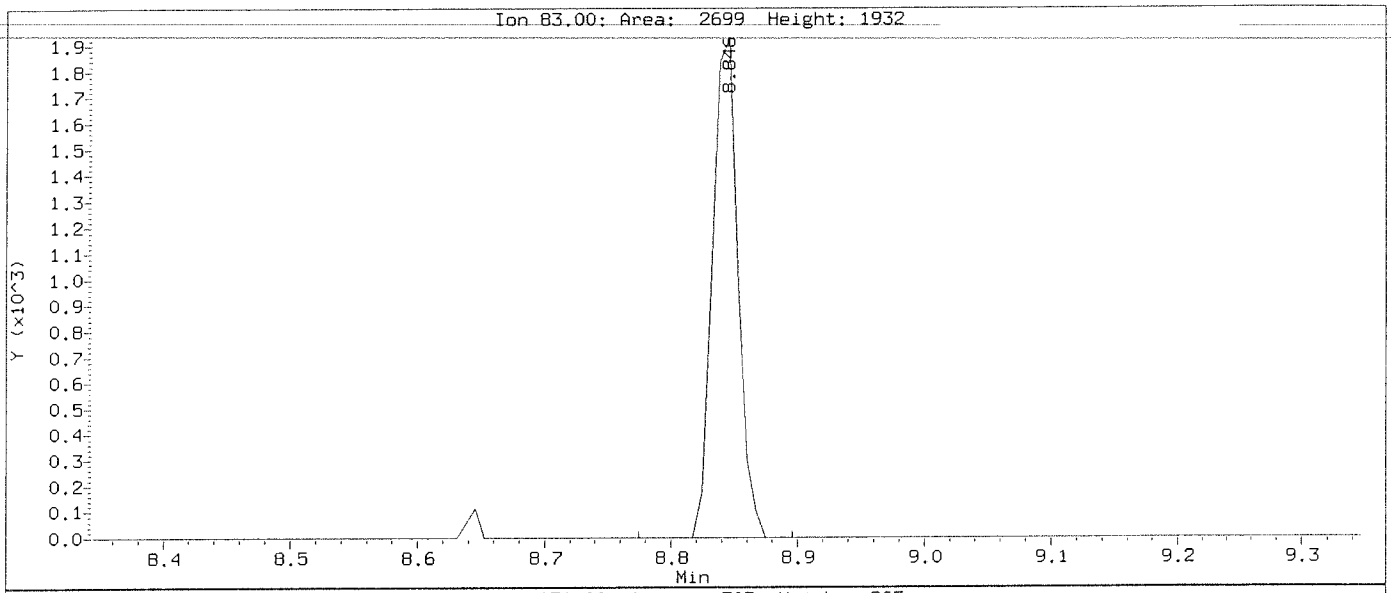
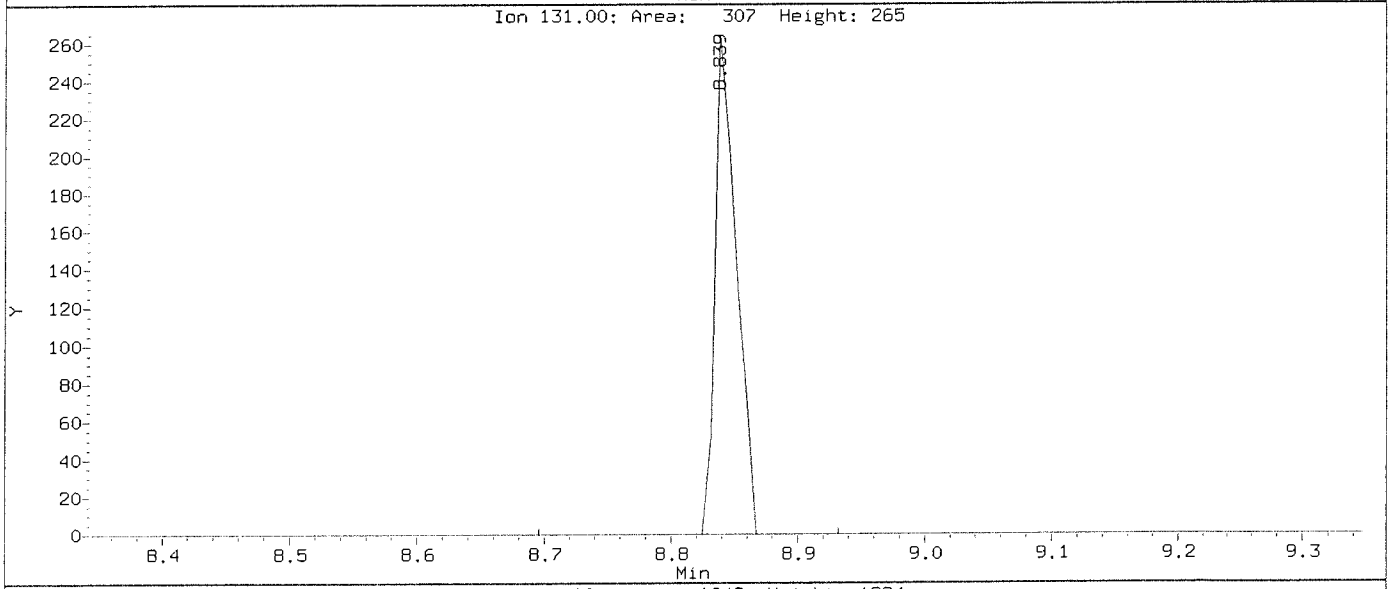
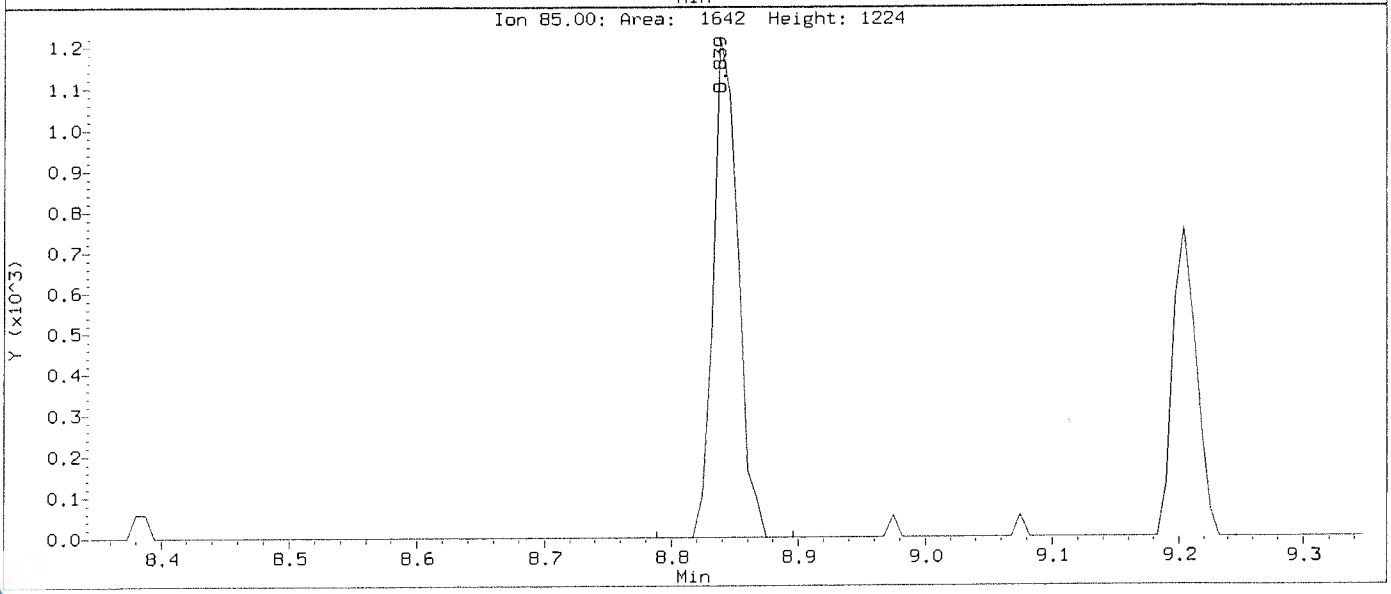
Injection Date: 31-OCT-2019 12:20
Instrument: voa6.i
Client Sample ID: VSTD001

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







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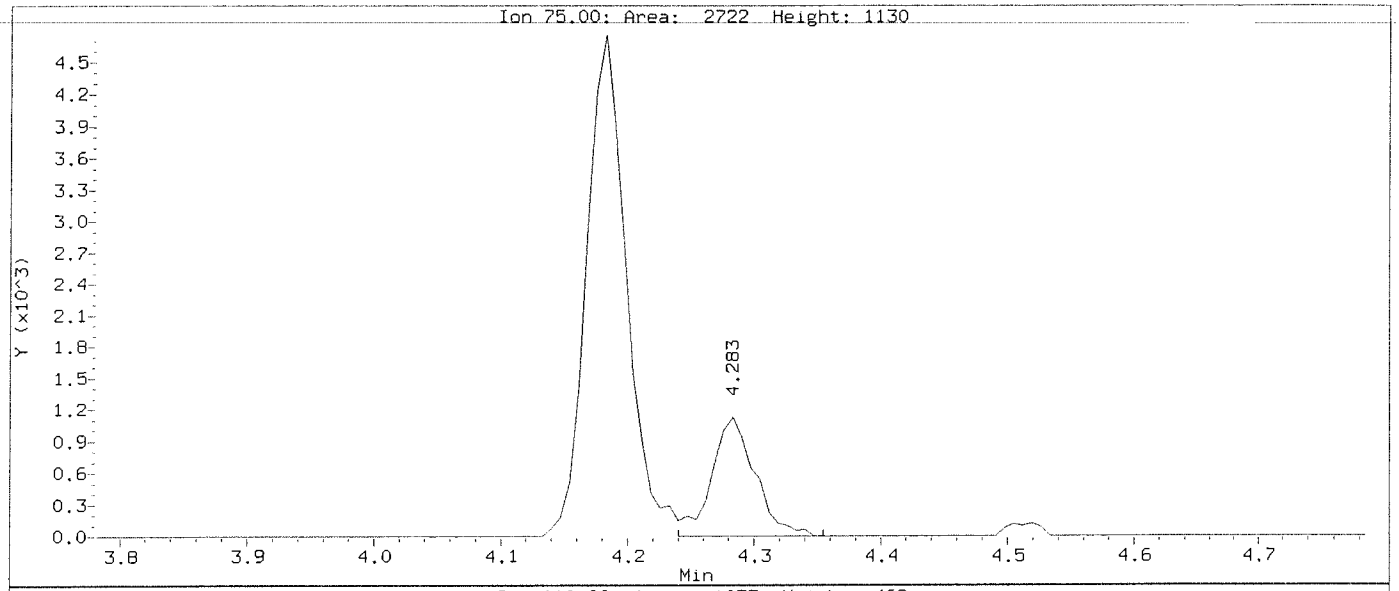
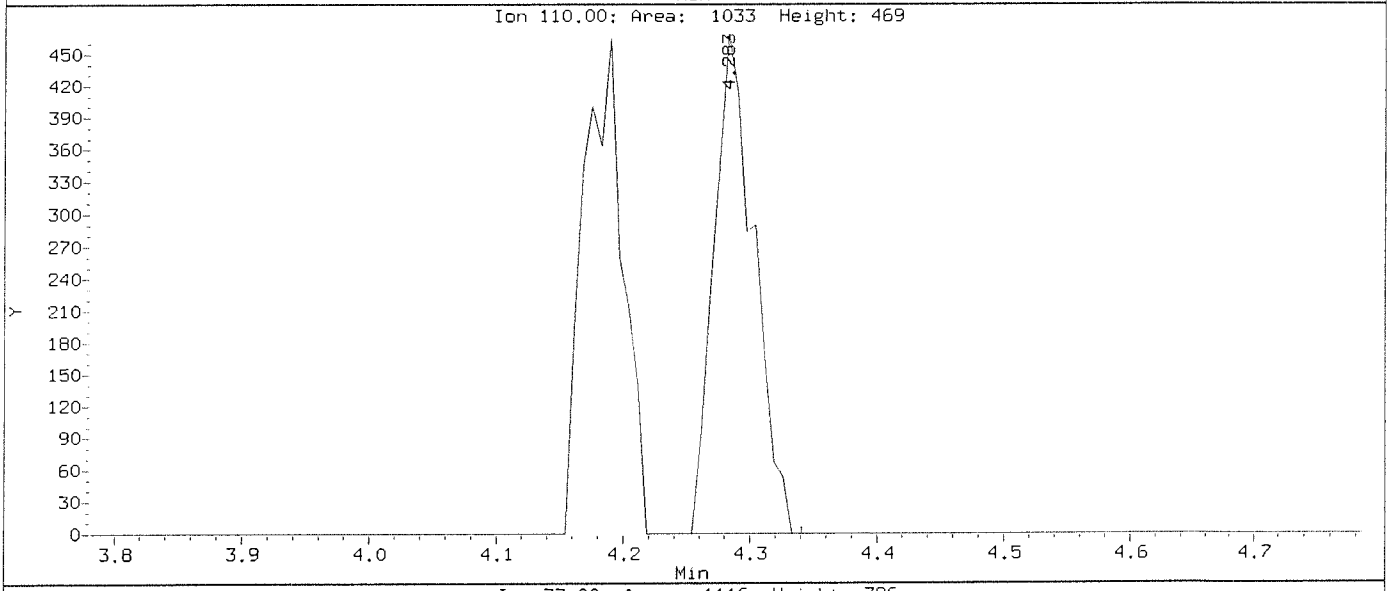
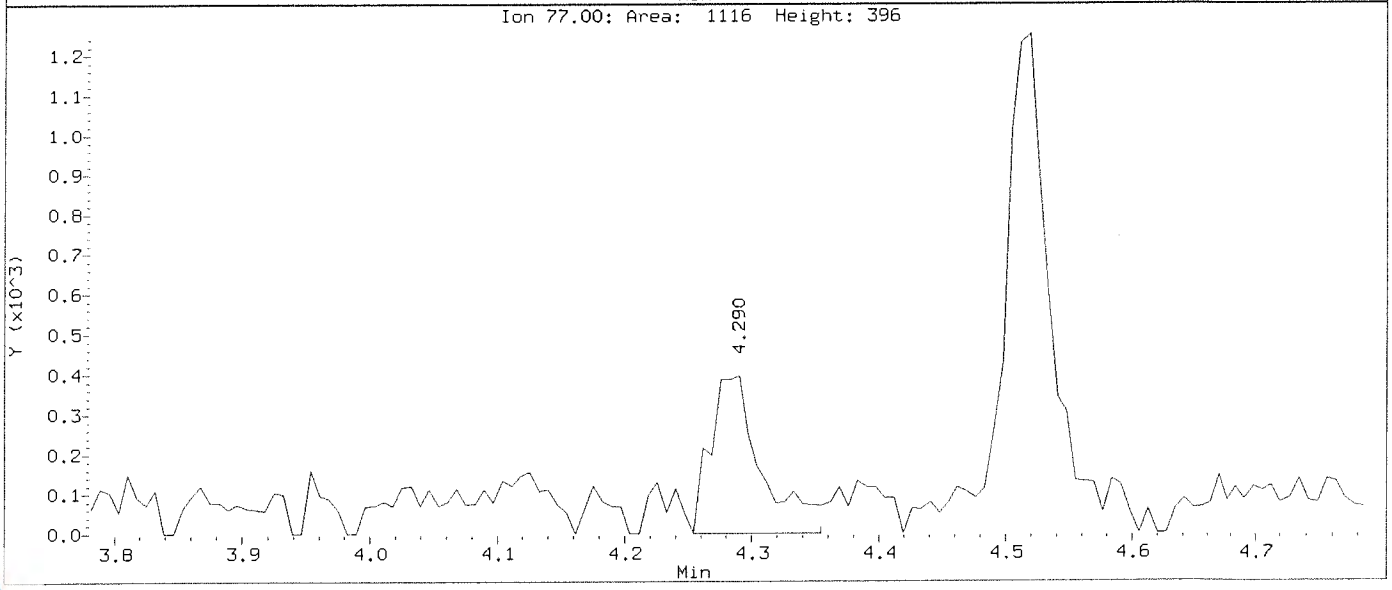
Injection Date: 31-OCT-2019 12:20
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: 1,1-Dichloropropene
CAS Number: 563-58-6

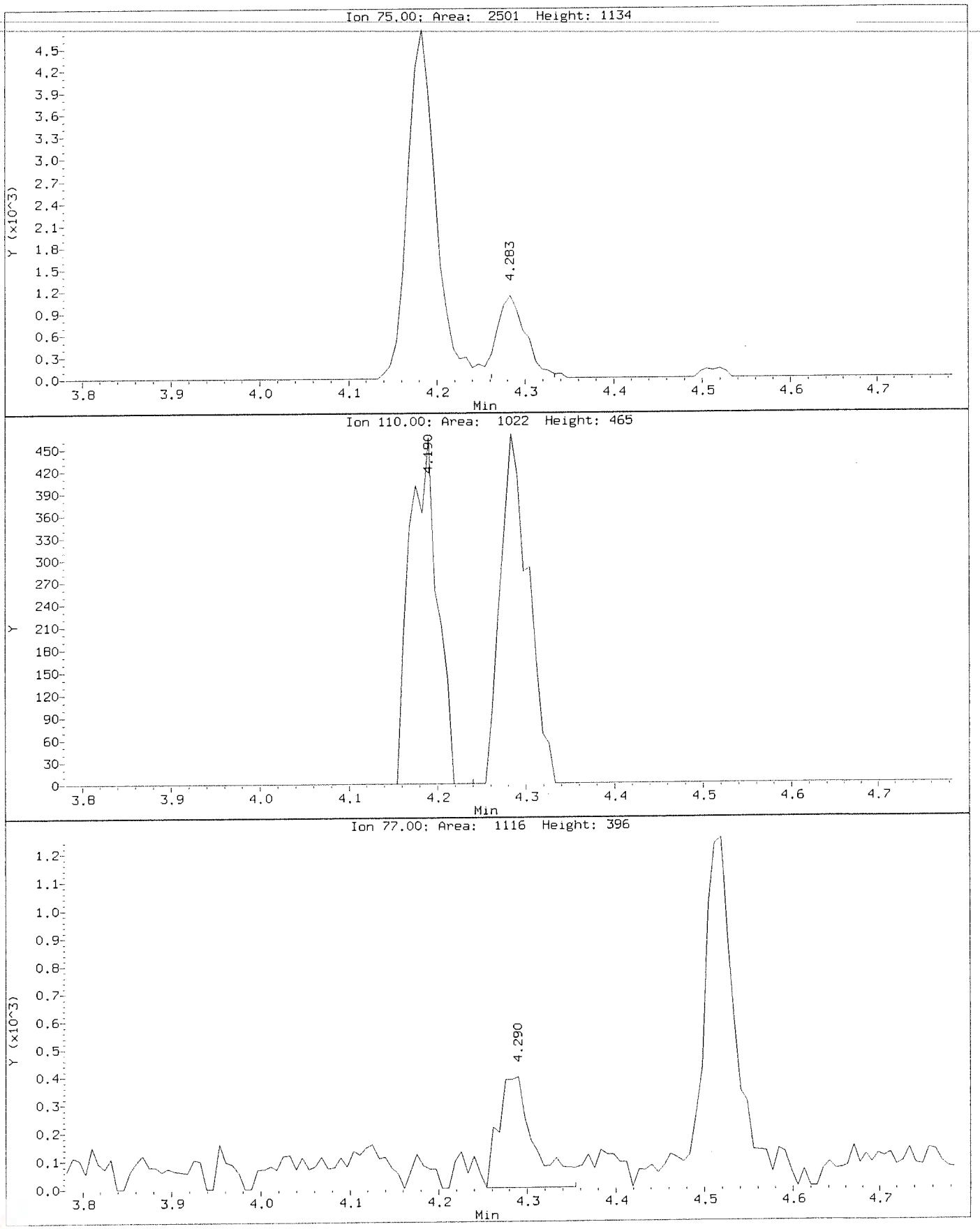






Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\X103104.D
Injection Date: 31-OCT-2019 12:20
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: 1,1-Dichloropropene
CAS Number: 563-58-6



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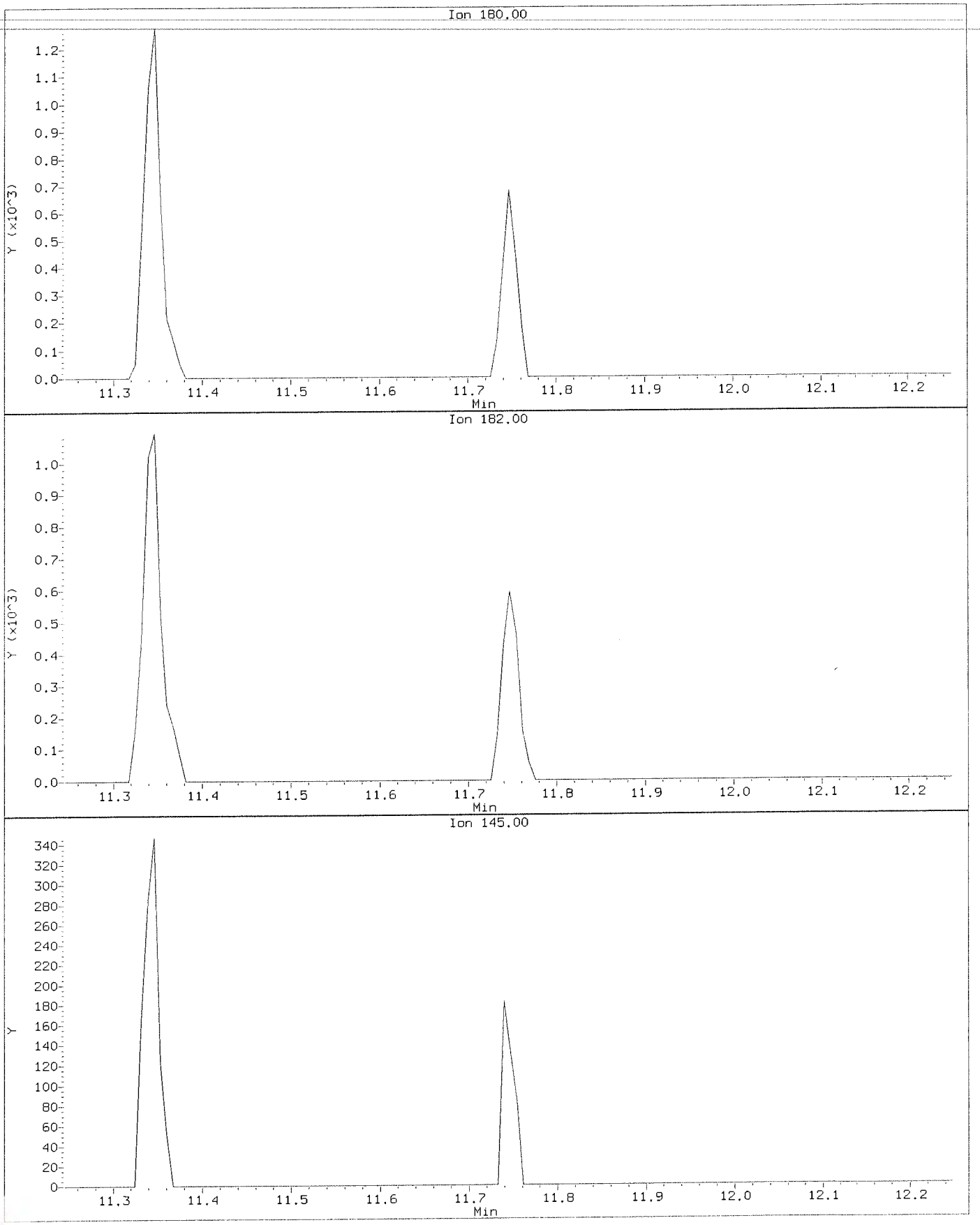
Injection Date: 31-OCT-2019 12:20
Instrument: voa6.i
Client Sample ID: VSTD001

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



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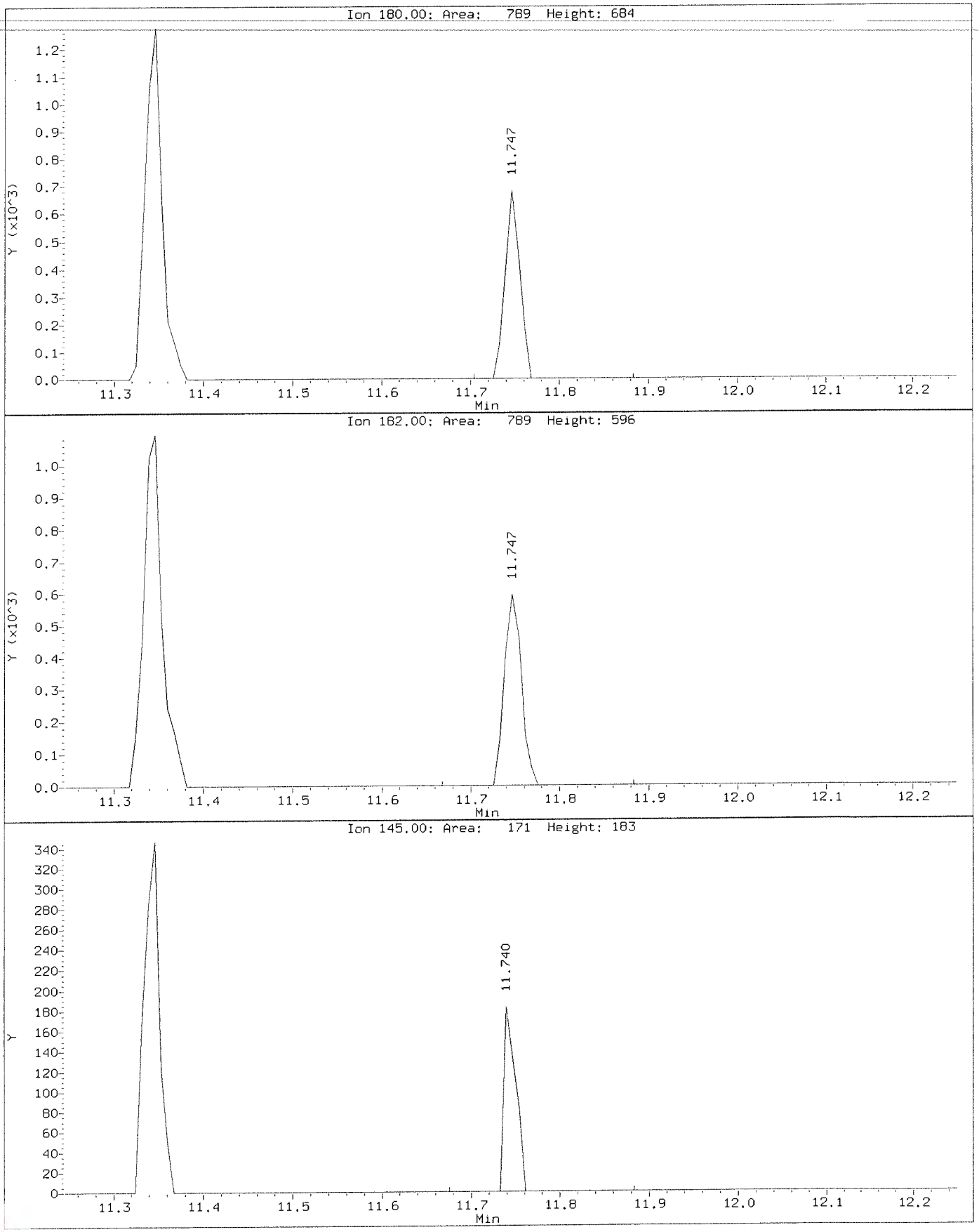
Injection Date: 31-OCT-2019 12:20
Instrument: voa6.i
Client Sample ID: VSTD001

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



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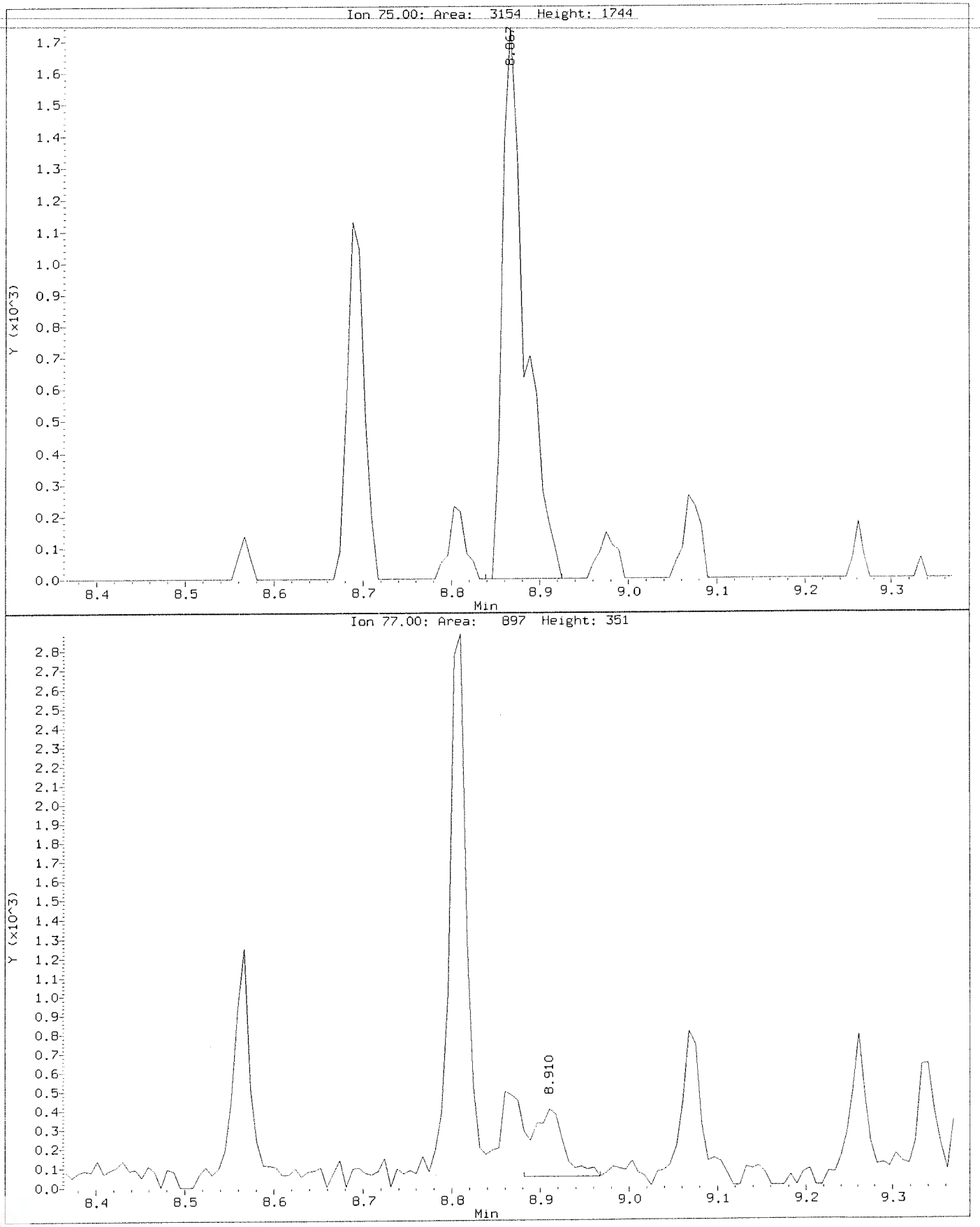
Injection Date: 31-OCT-2019 12:20
Instrument: voa6.i
Client Sample ID: VSTD001

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



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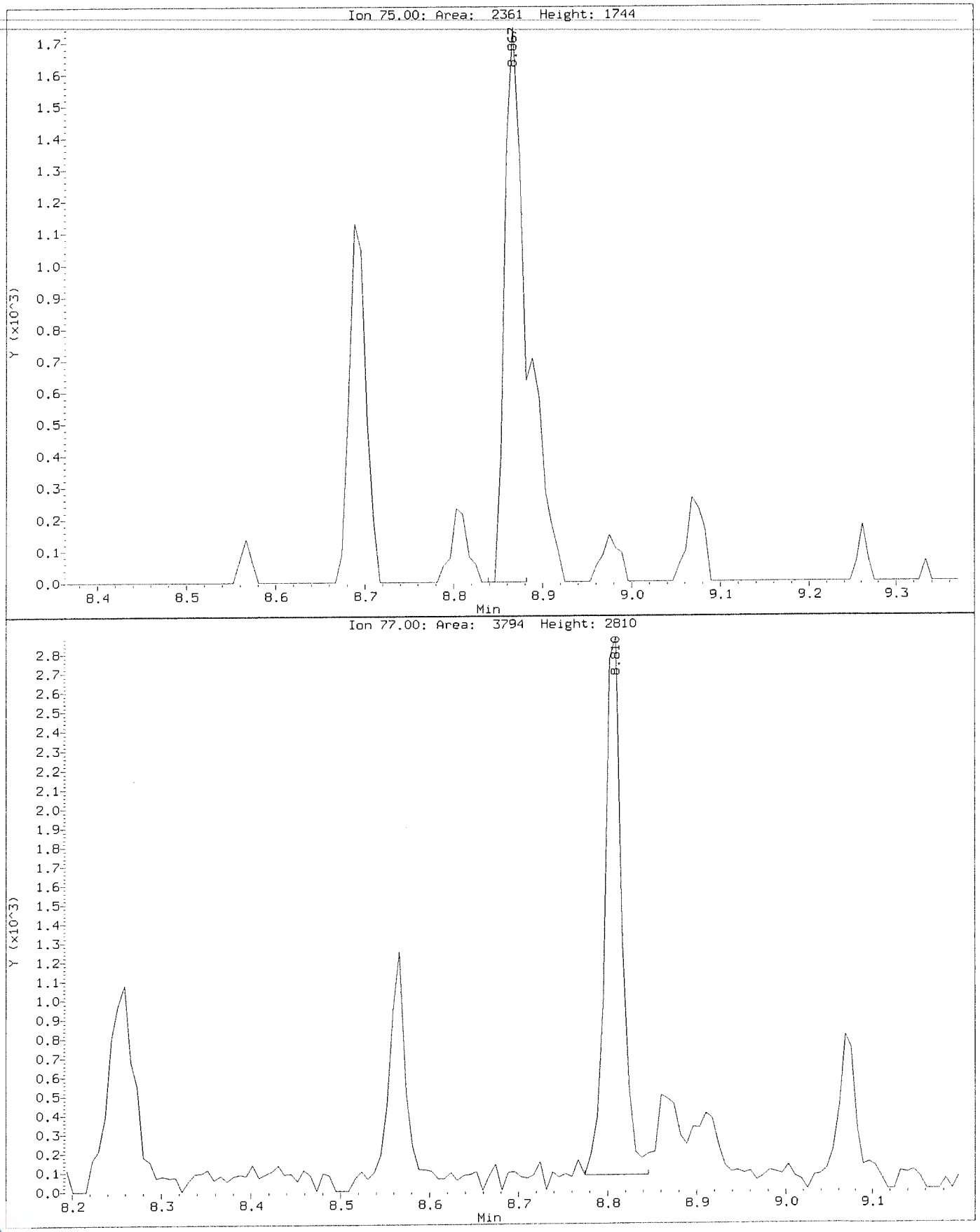
Injection Date: 31-OCT-2019 12:20
Instrument: voa6.i
Client Sample ID: VSTD001

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



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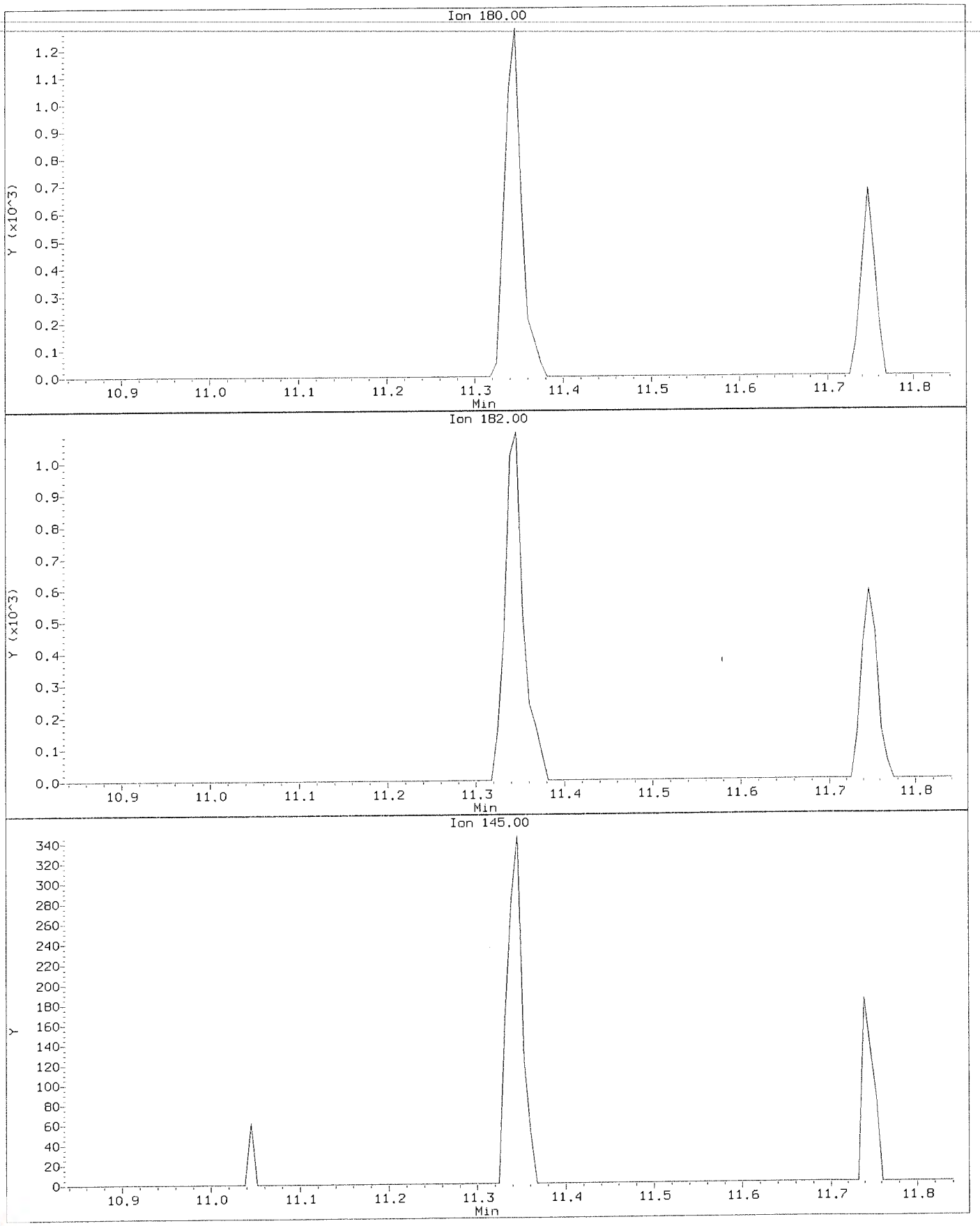
Injection Date: 31-OCT-2019 12:20
Instrument: voa6.i
Client Sample ID: VSTD001

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



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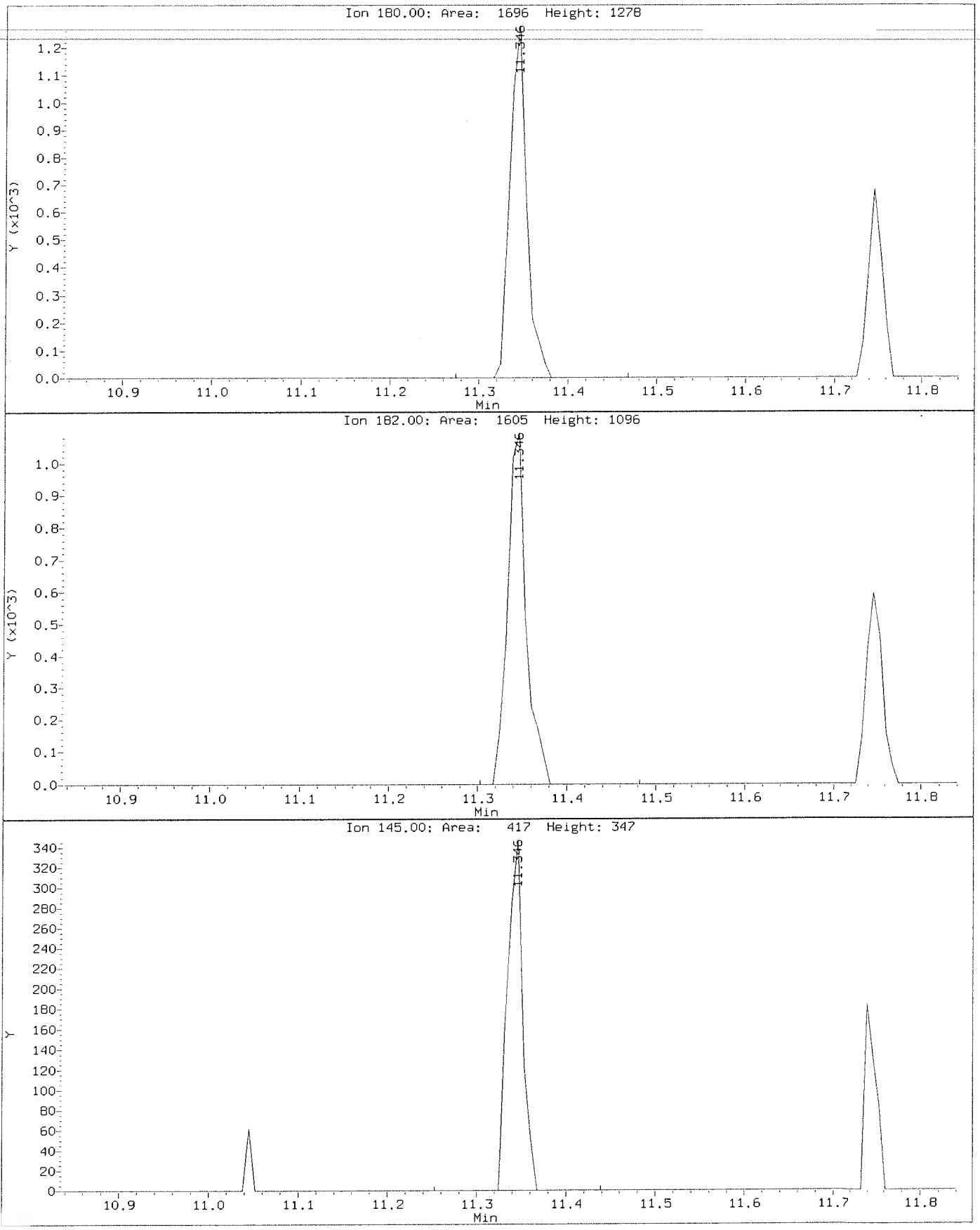
Injection Date: 31-OCT-2019 12:20
Instrument: voa6.i
Client Sample ID: VSTD001

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



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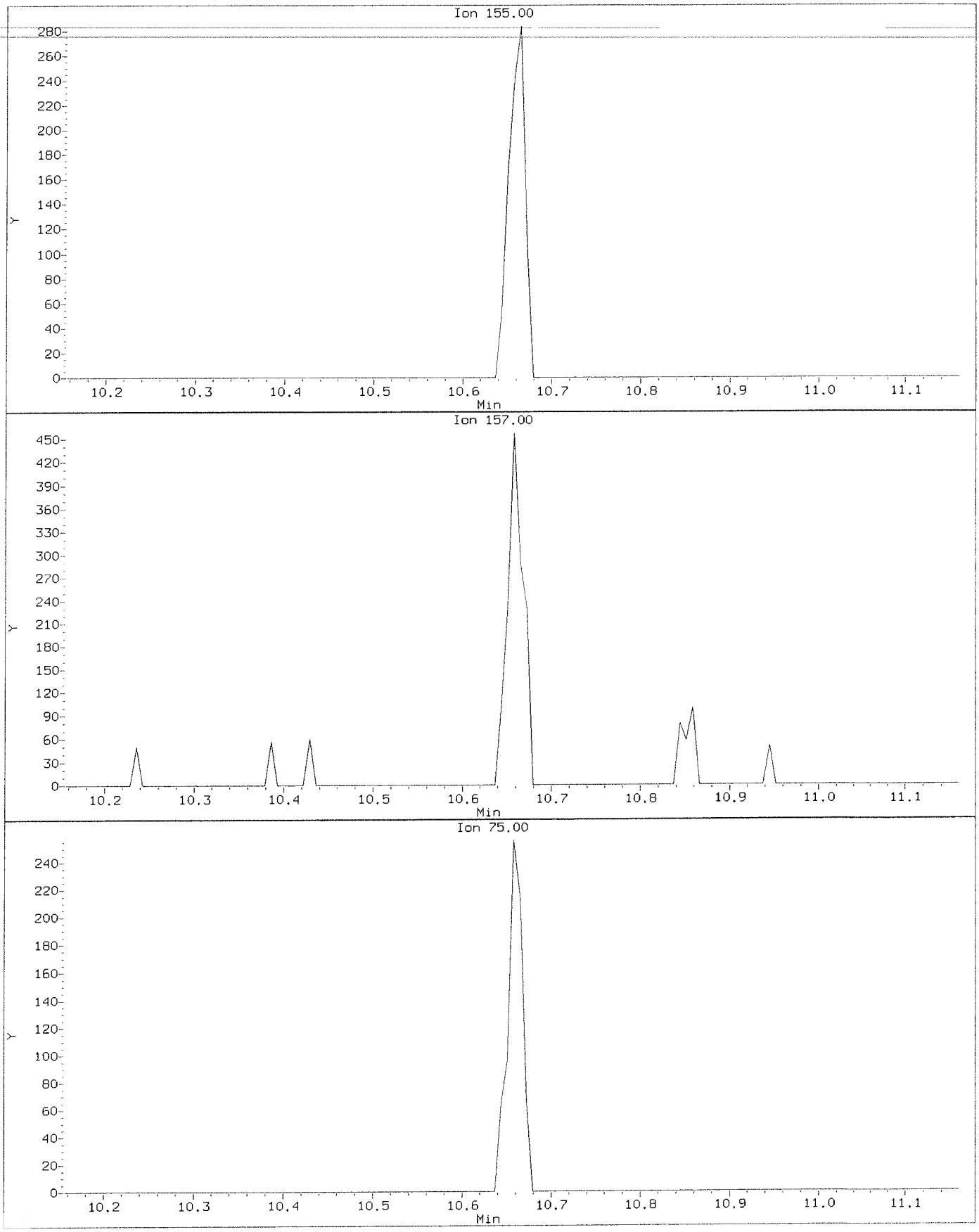
Injection Date: 31-OCT-2019 12:20
Instrument: voa6.i
Client Sample ID: VSTD001

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



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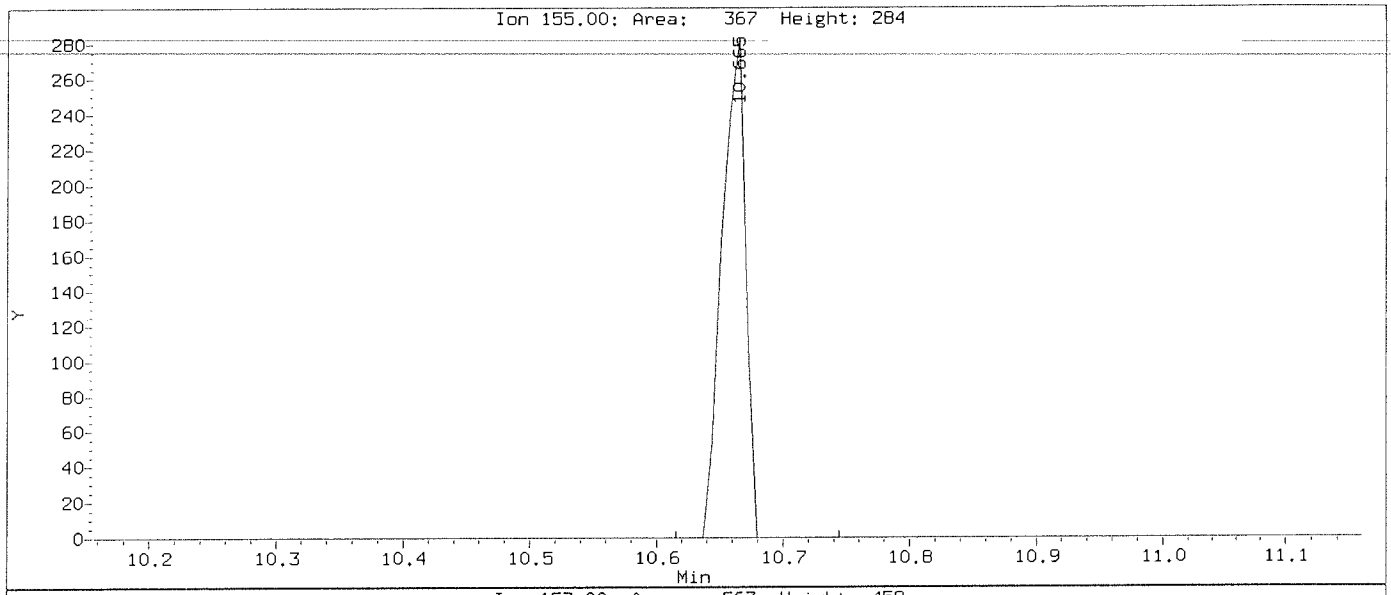
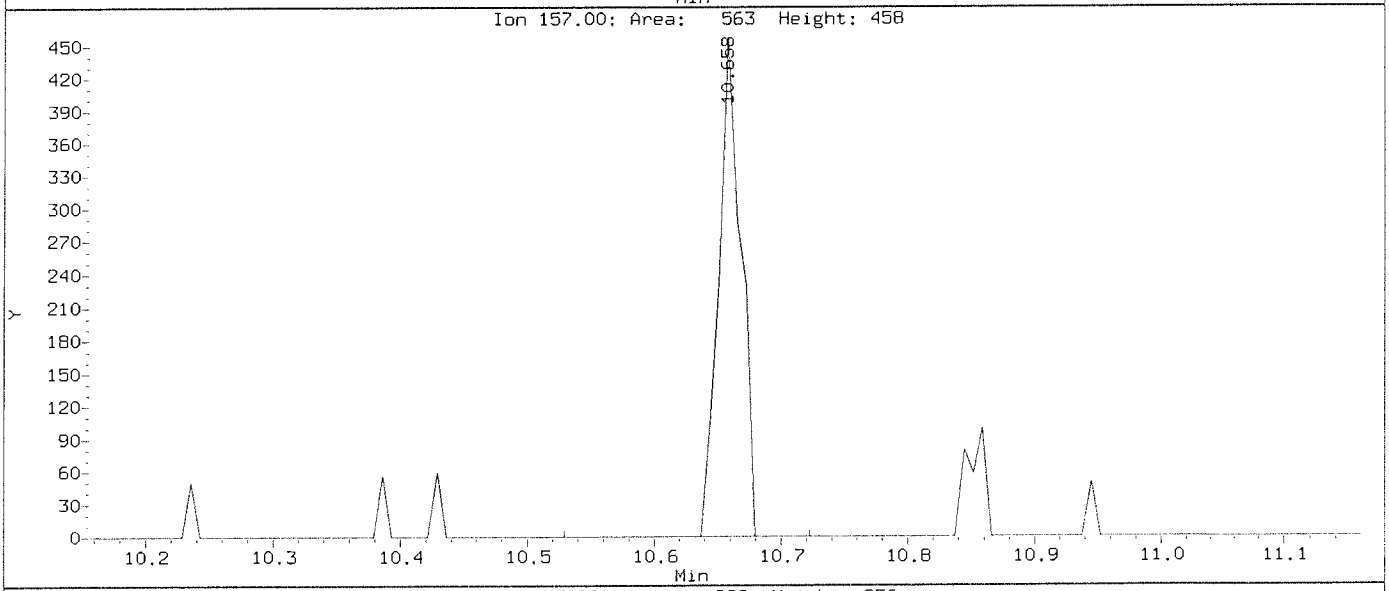
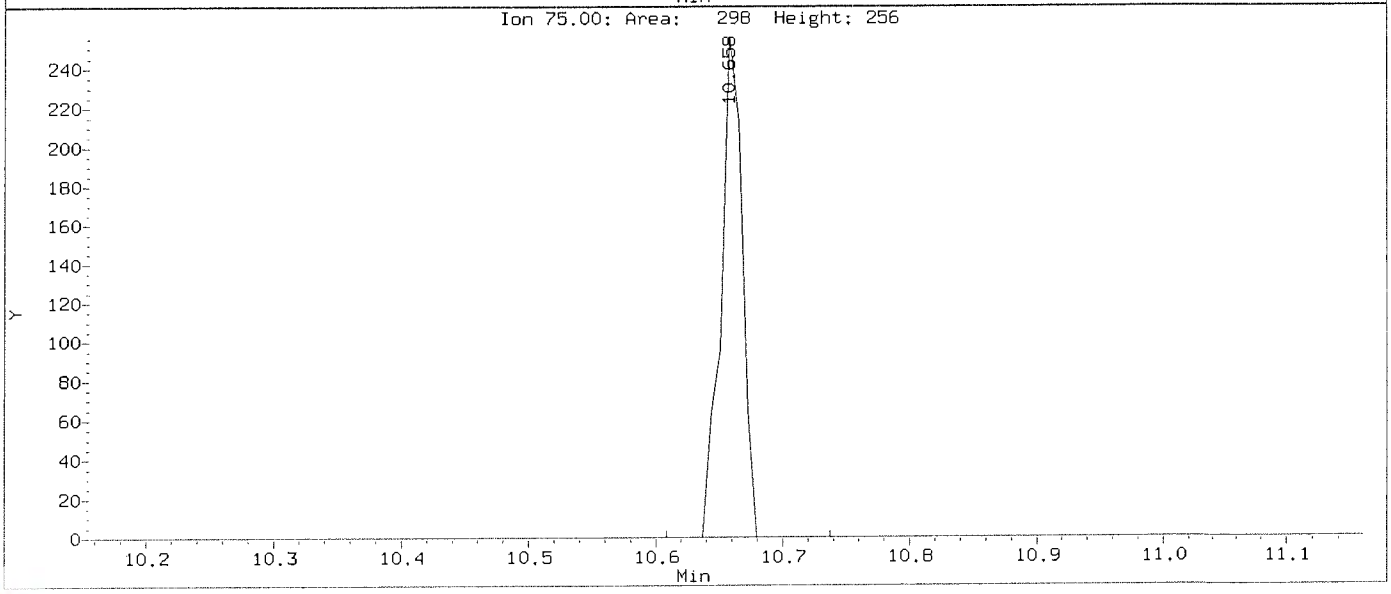
Injection Date: 31-OCT-2019 12:20
Instrument: voa6.i
Client Sample ID: VSTD001

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







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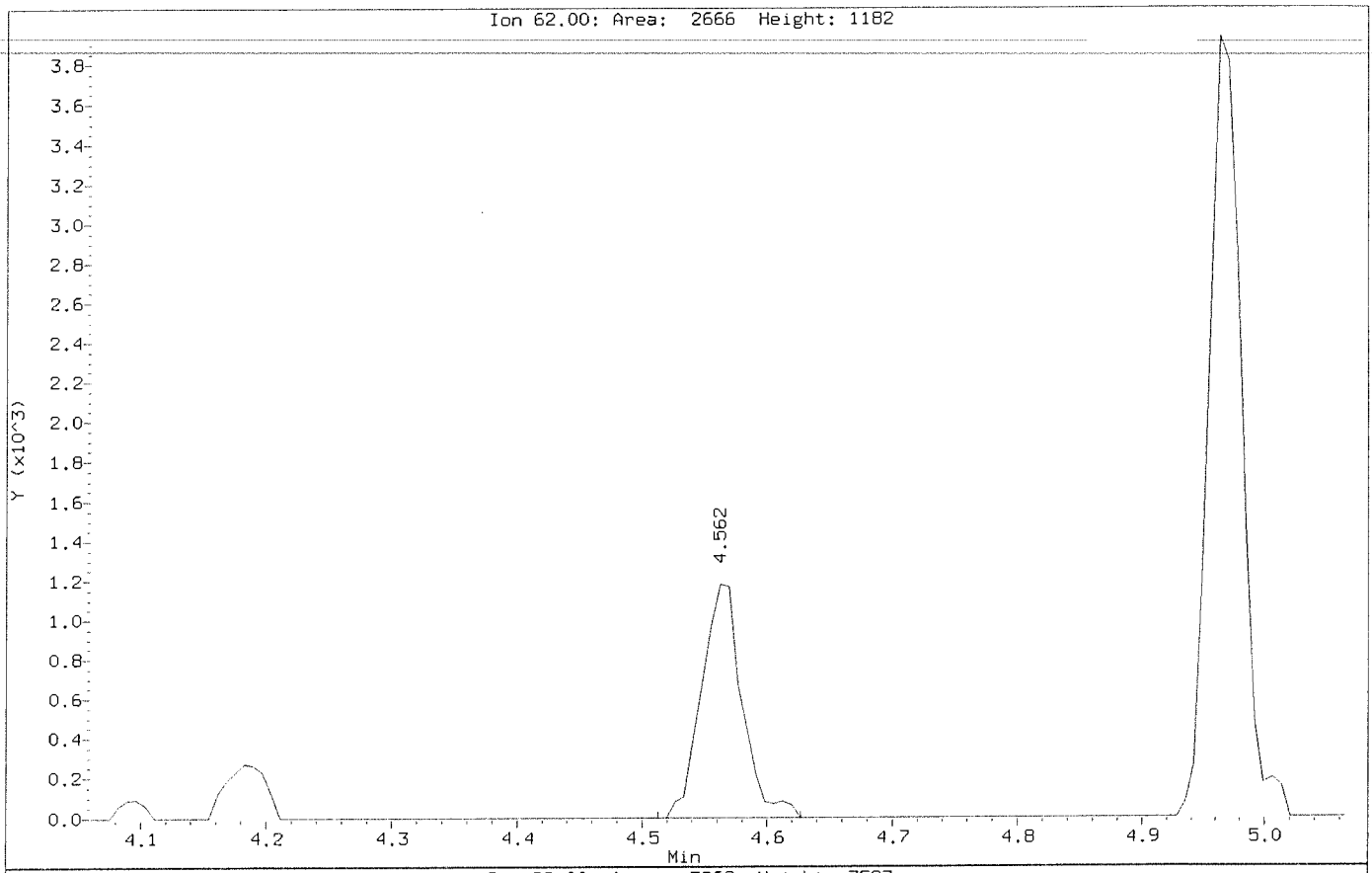
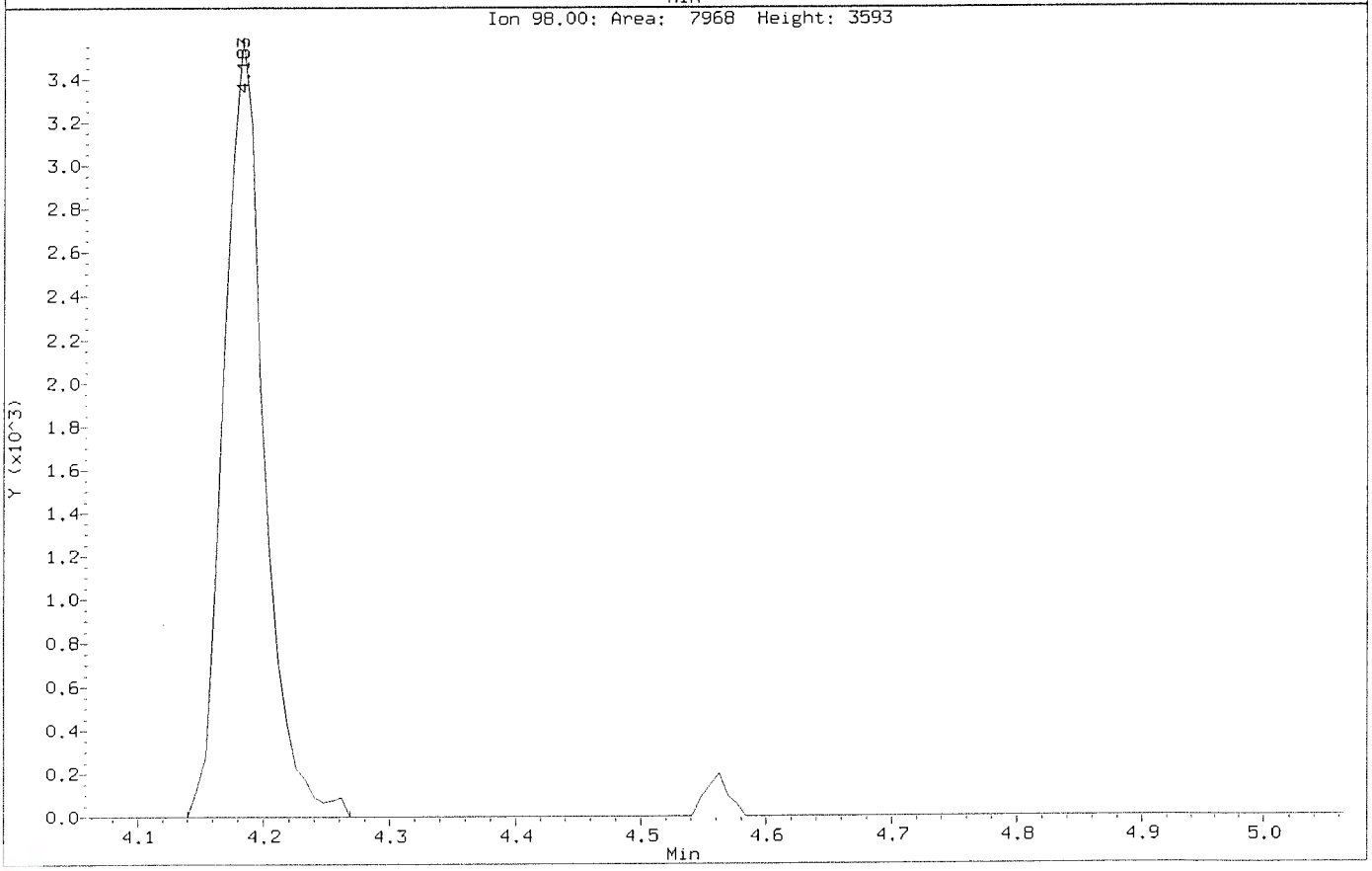
Injection Date: 31-OCT-2019 12:20
Instrument: voa6.i
Client Sample ID: VSTD001

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





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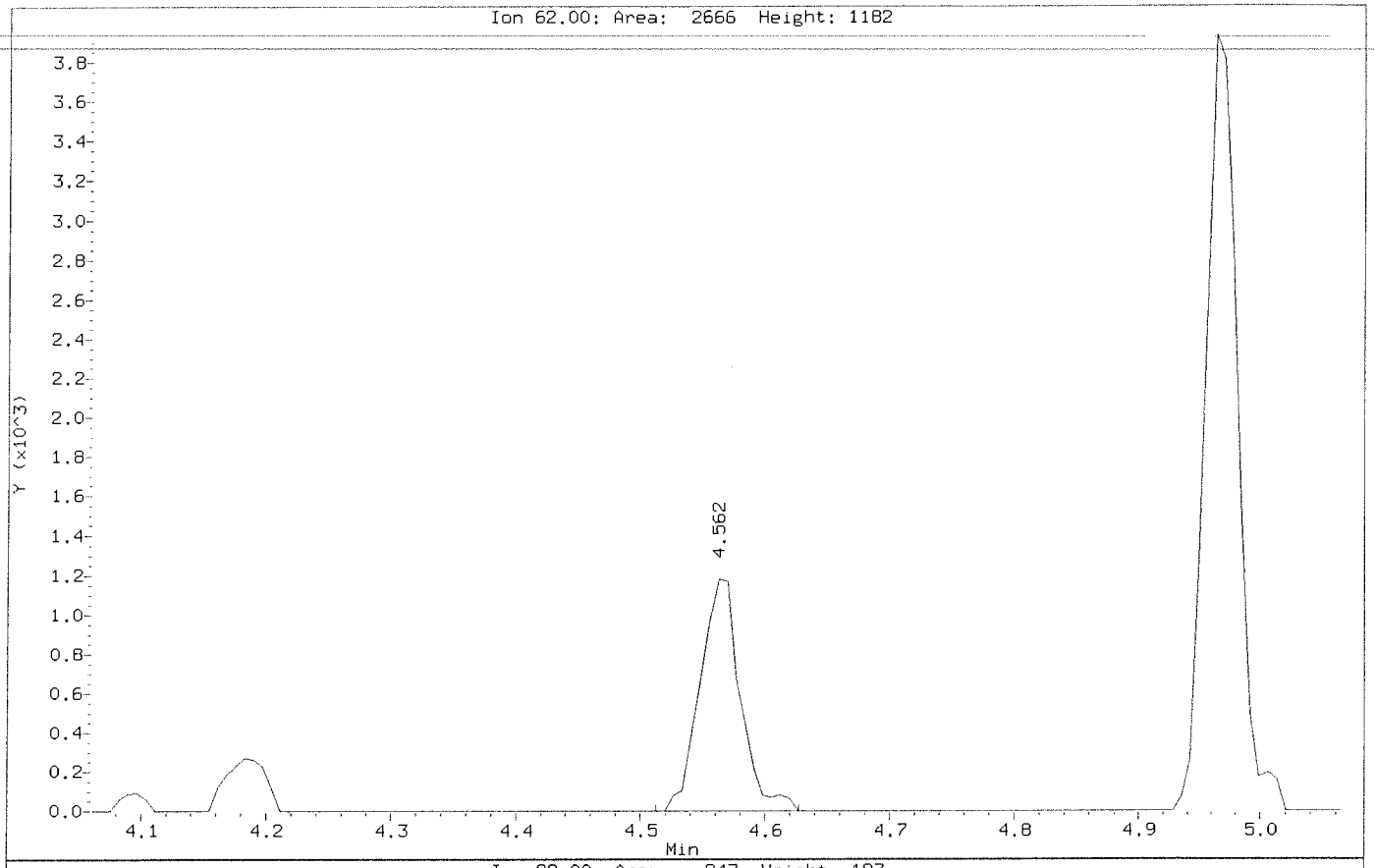
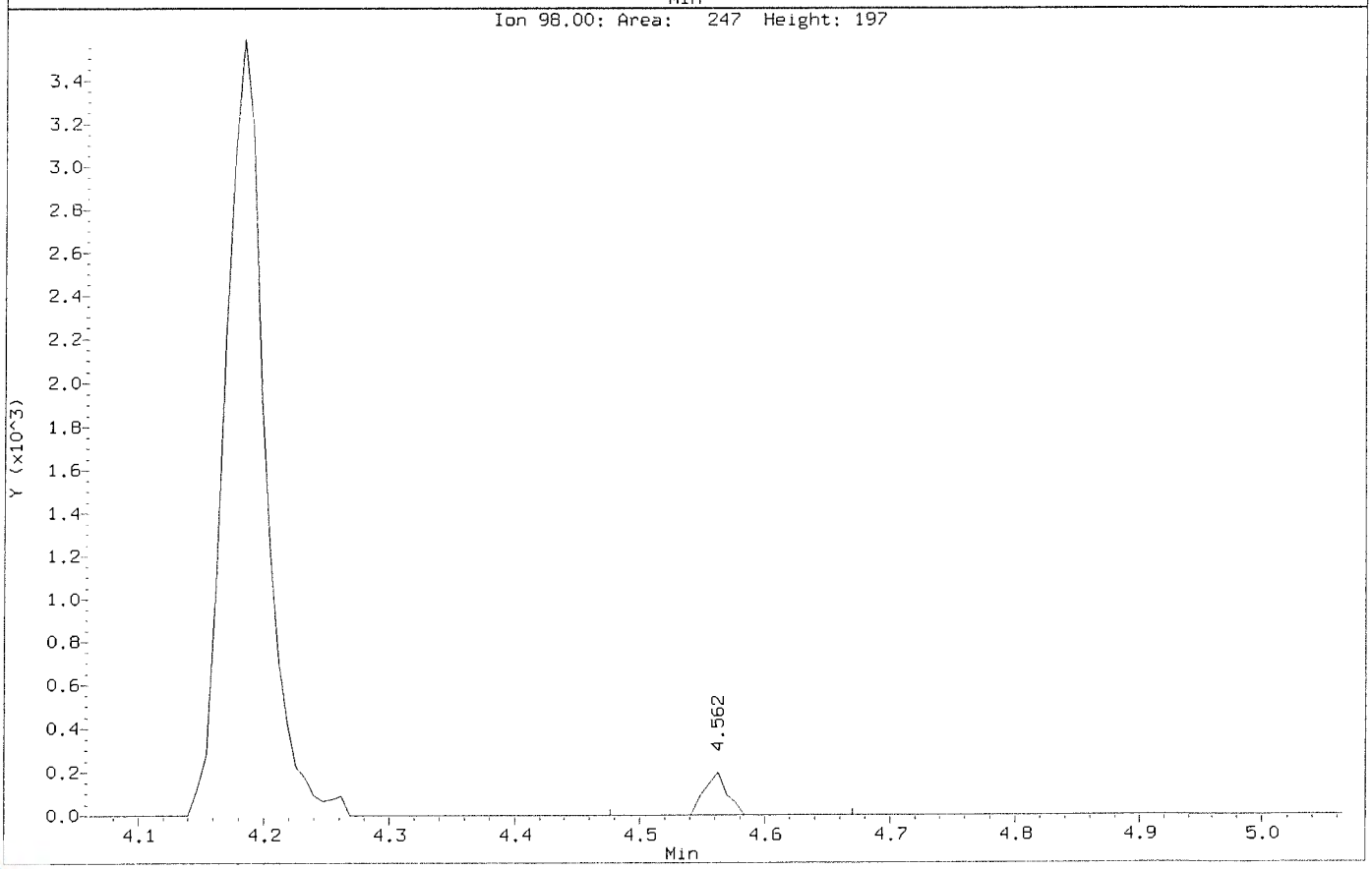
Injection Date: 31-OCT-2019 12:20
Instrument: voa6.i
Client Sample ID: VSTD001

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





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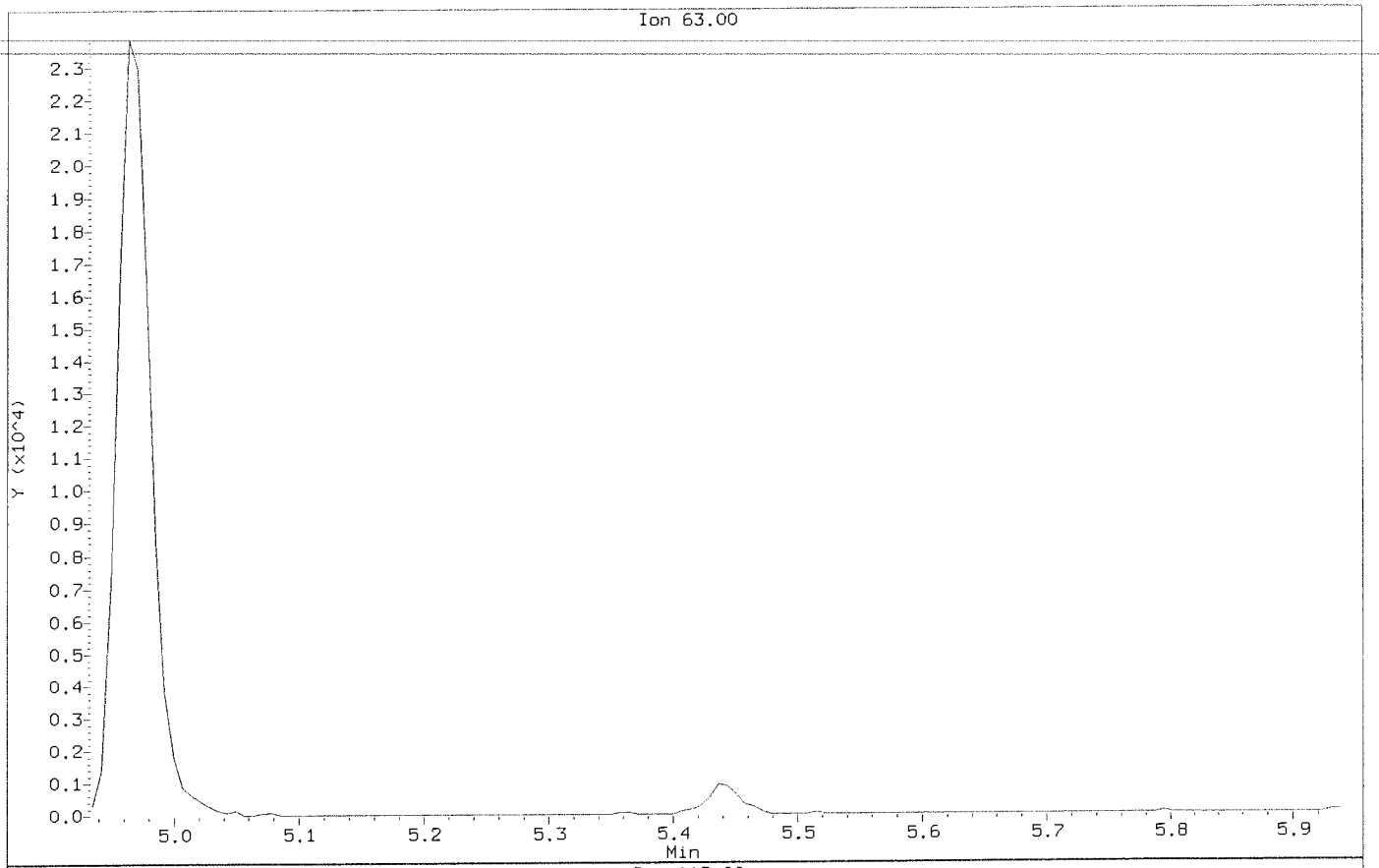
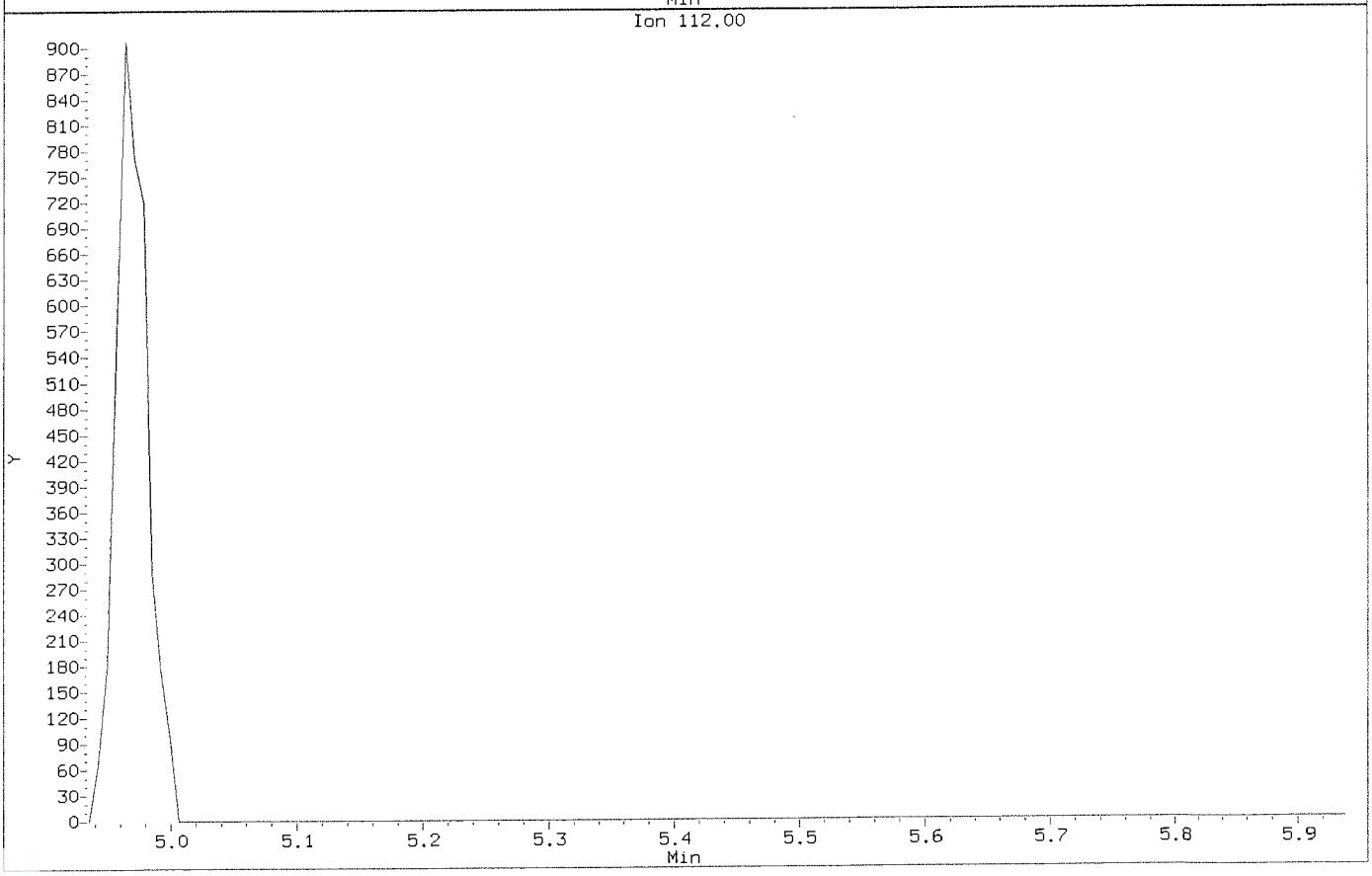
Injection Date: 31-OCT-2019 12:20
Instrument: voa6.i
Client Sample ID: VSTD001

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





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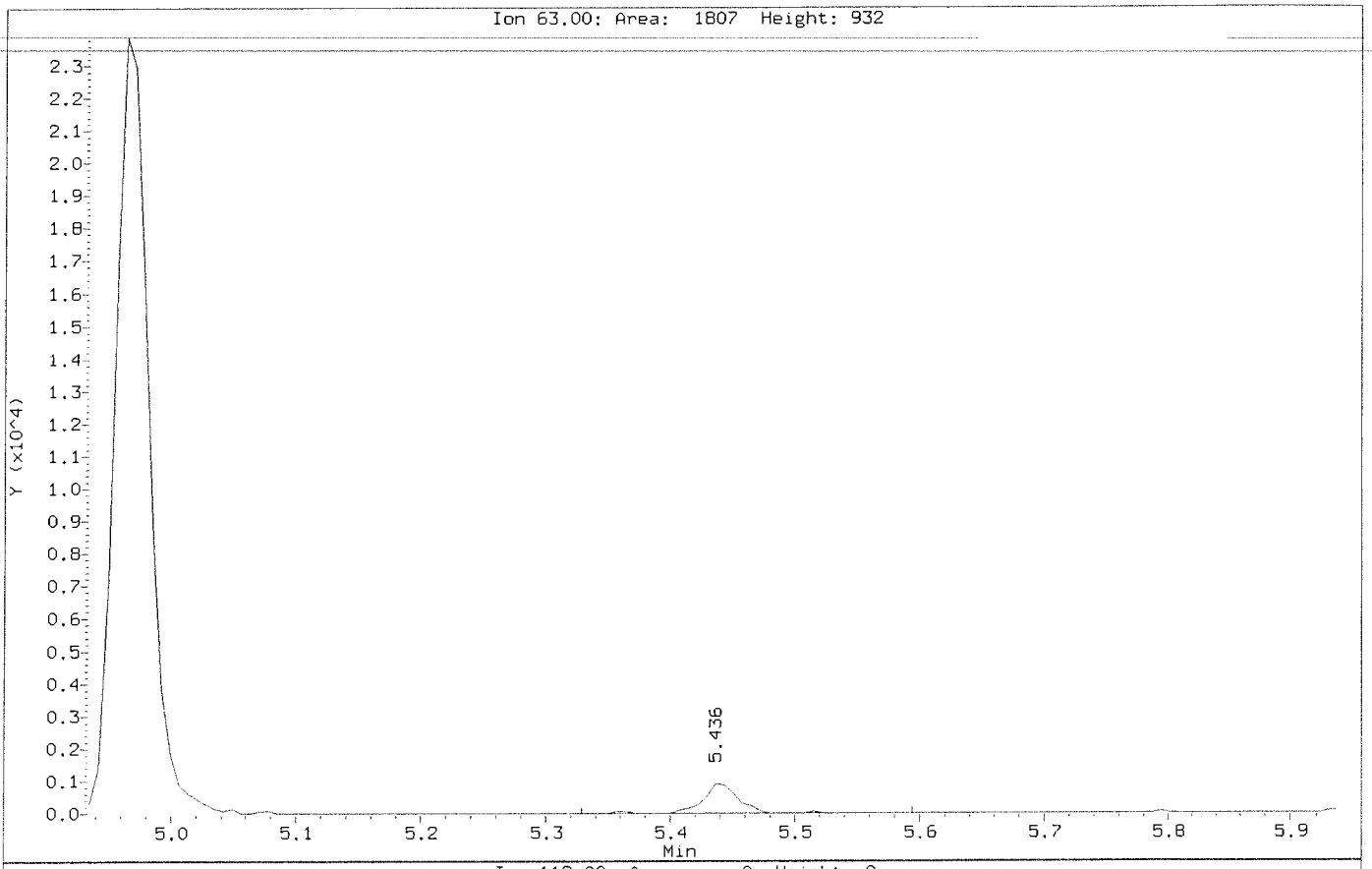
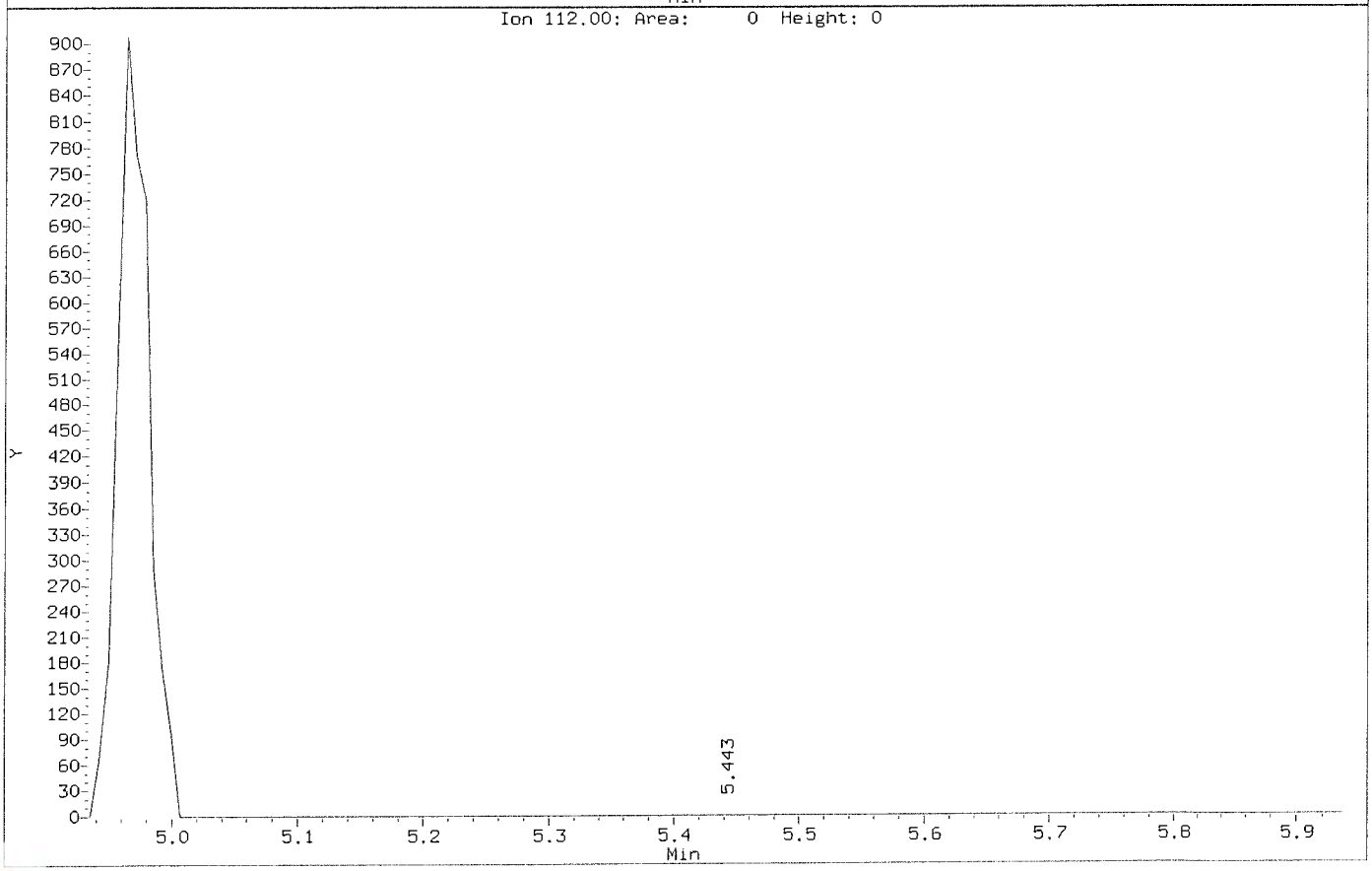
Injection Date: 31-OCT-2019 12:20
Instrument: voa6.i
Client Sample ID: VSTD001

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





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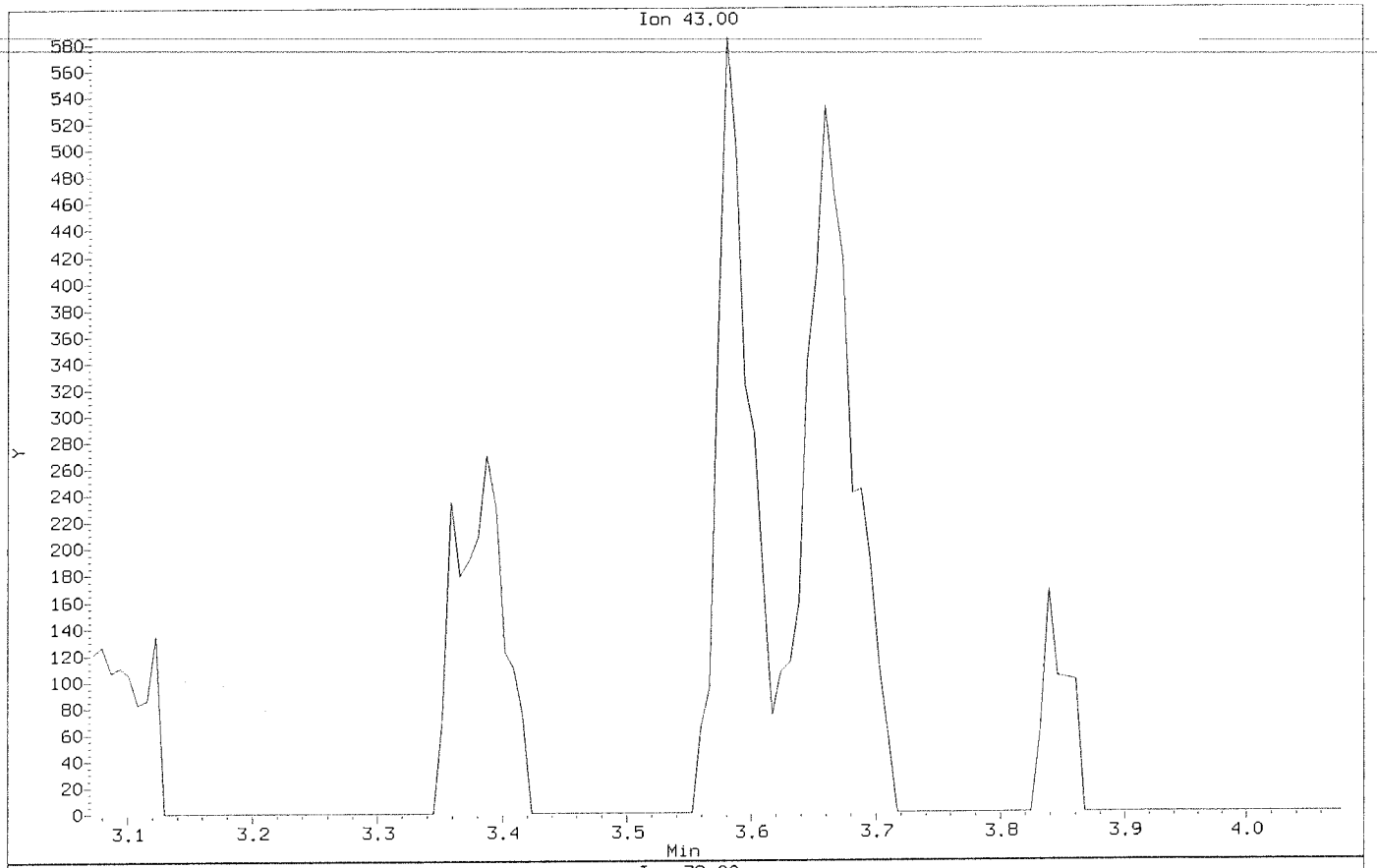
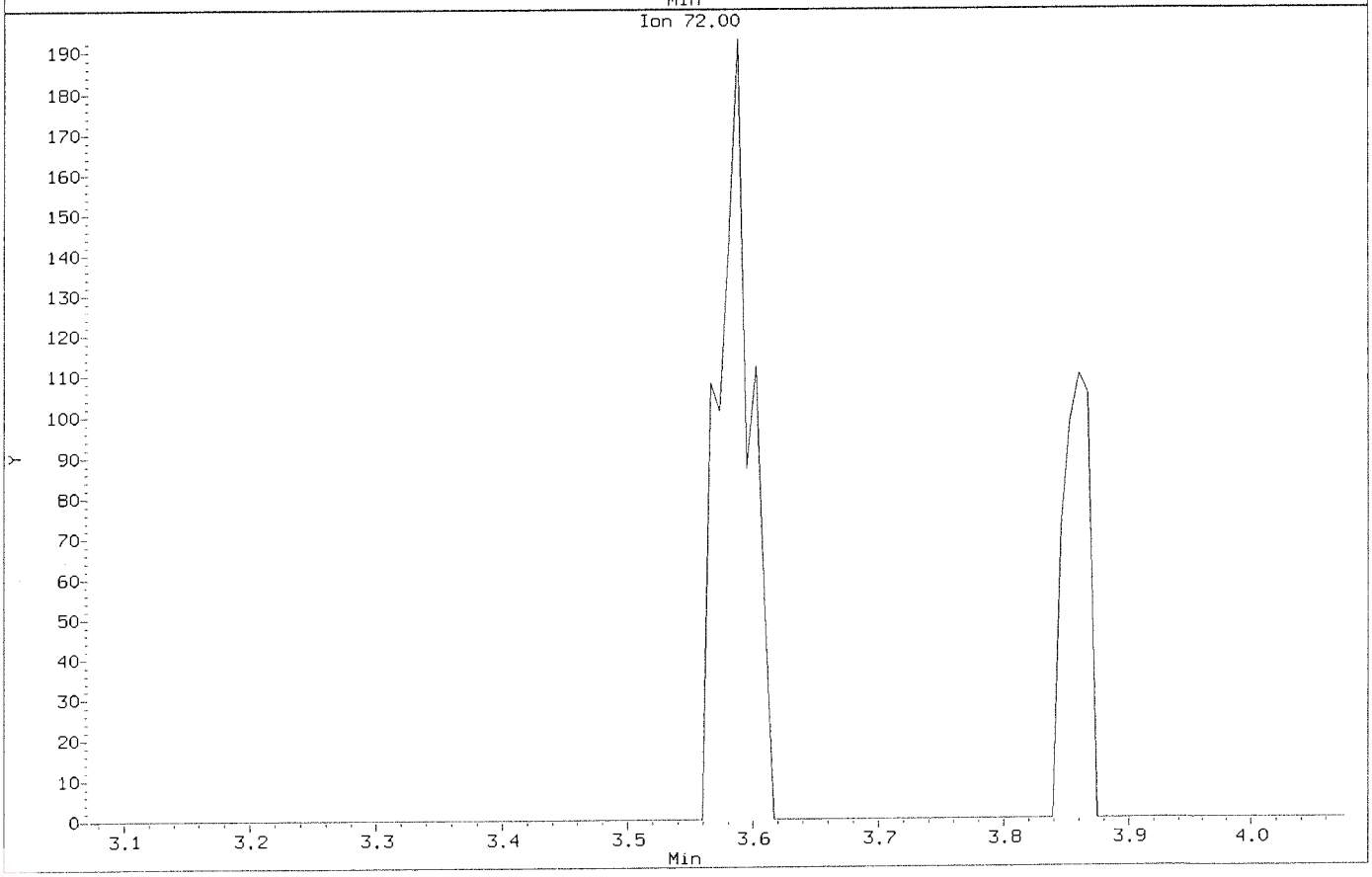
Injection Date: 31-OCT-2019 12:20
Instrument: voa6.i
Client Sample ID: VSTD001

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





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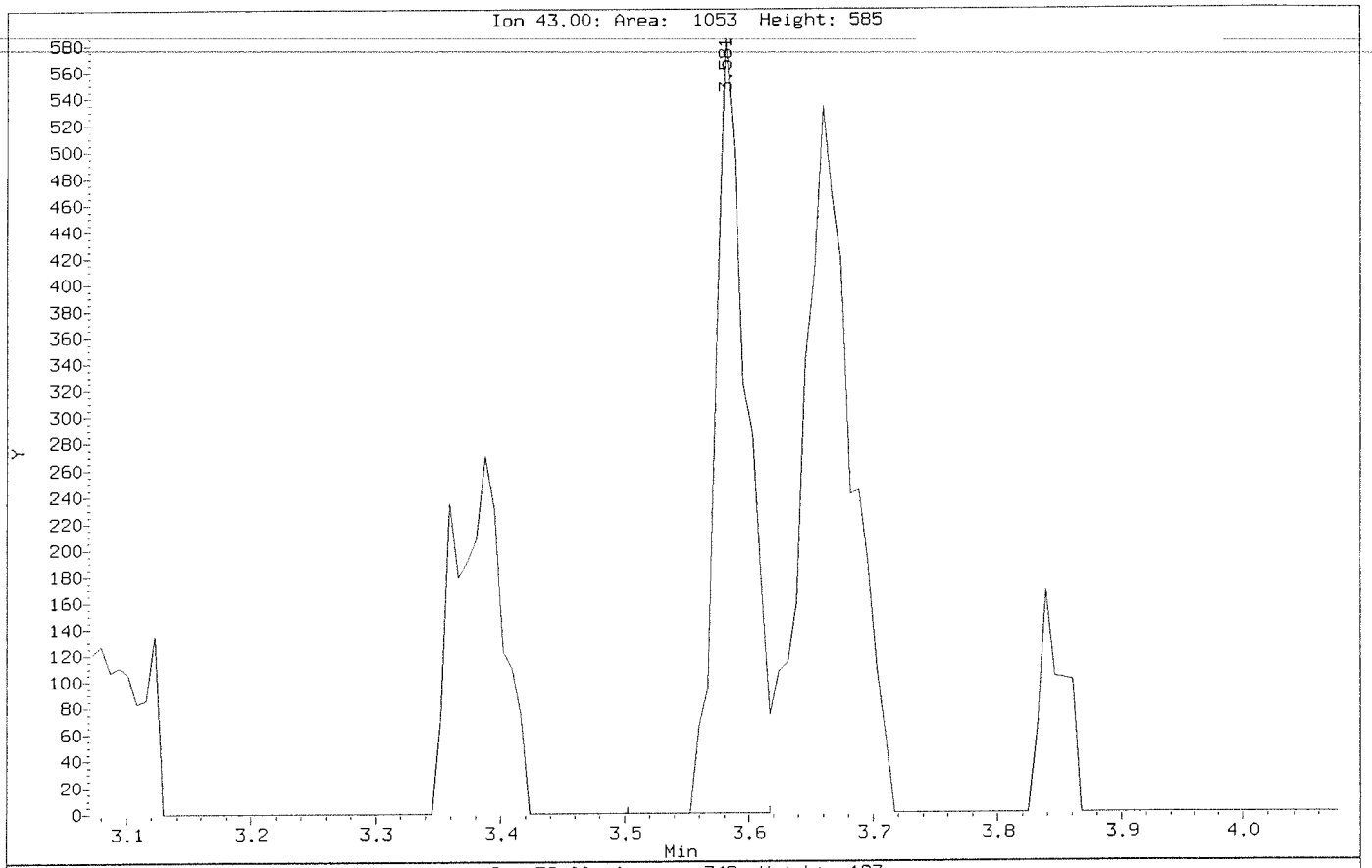
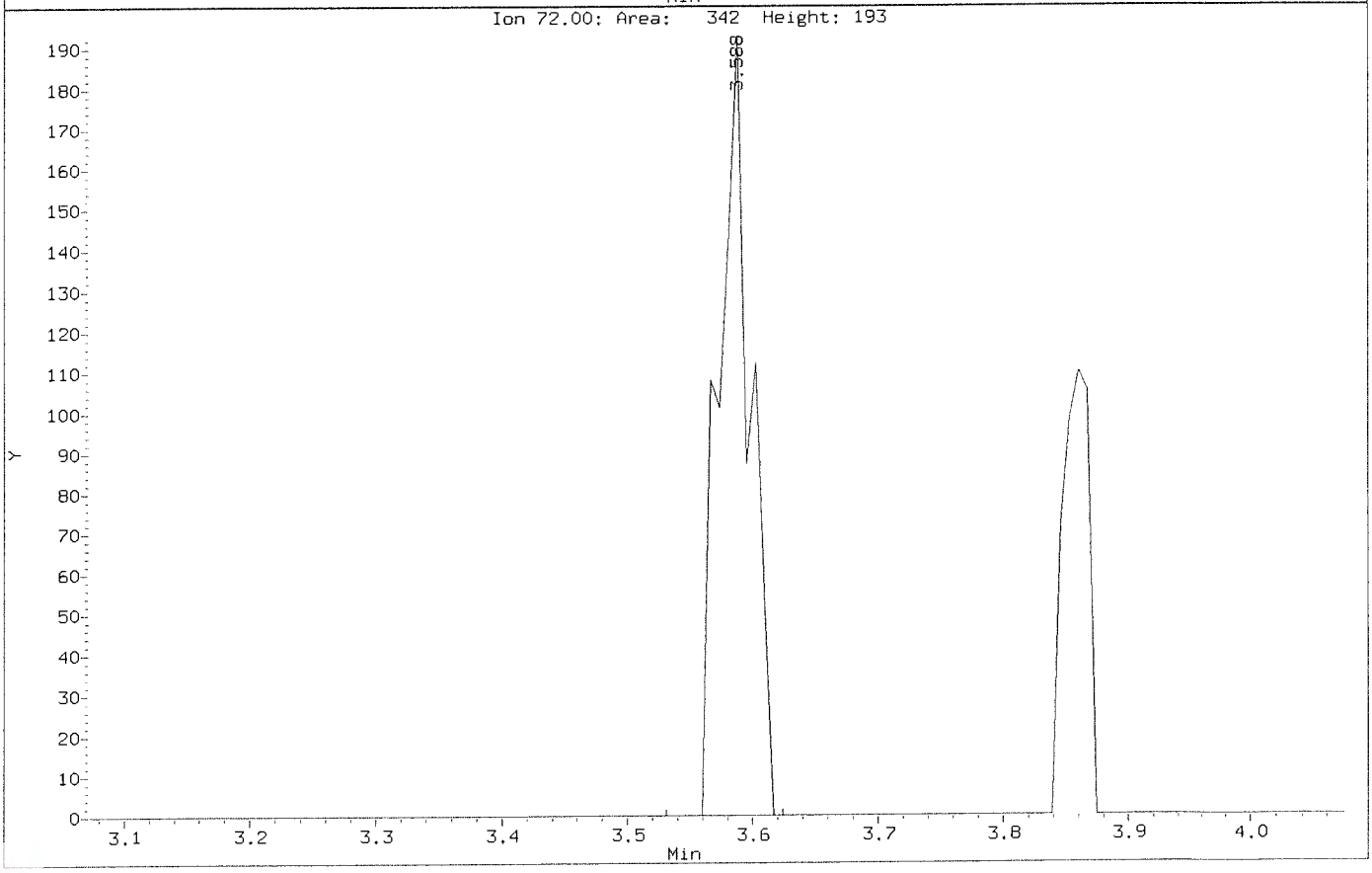
Injection Date: 31-OCT-2019 12:20
Instrument: voa6.i
Client Sample ID: VSTD001

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





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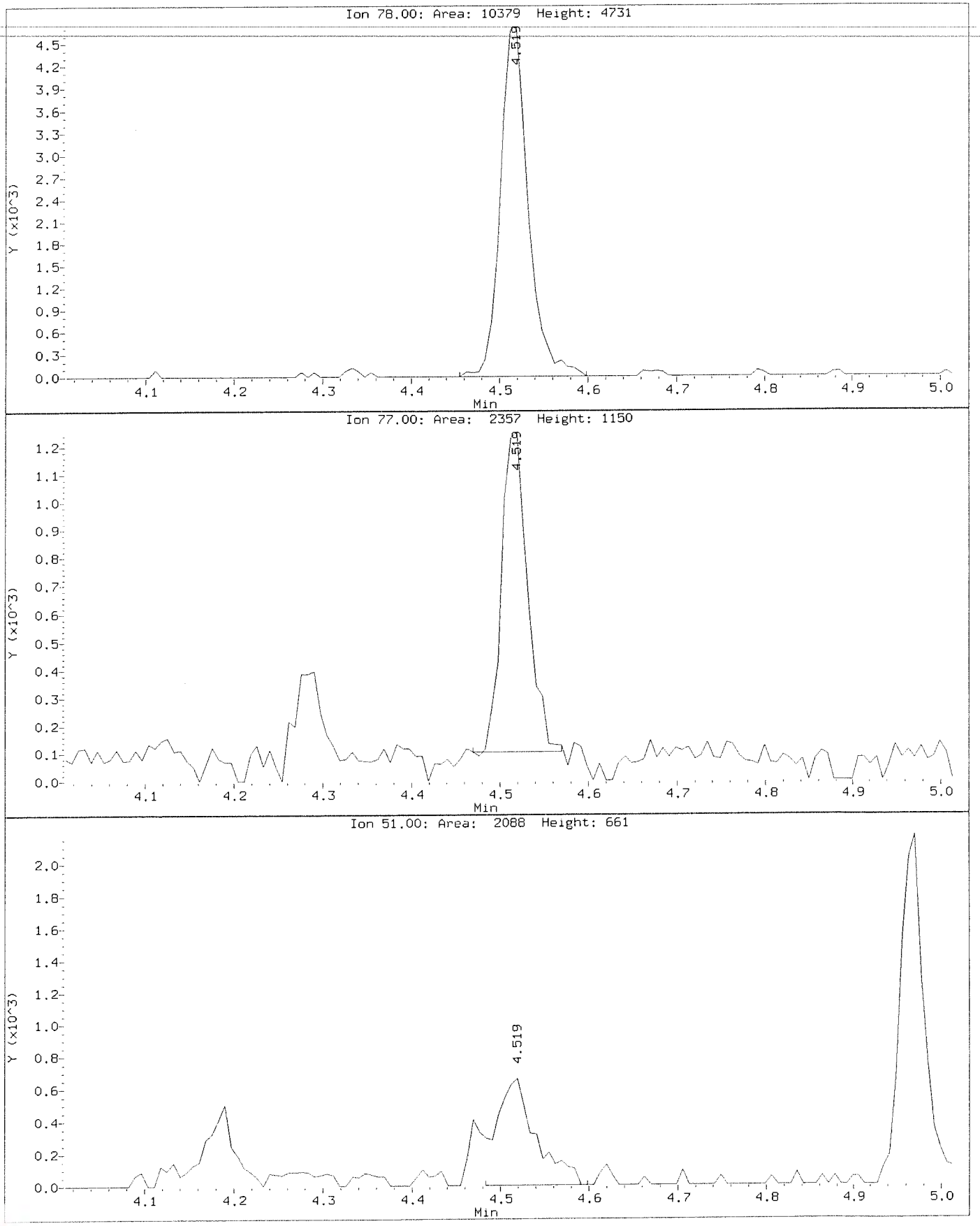
Injection Date: 31-OCT-2019 12:20
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: Benzene
CAS Number: 71-43-2



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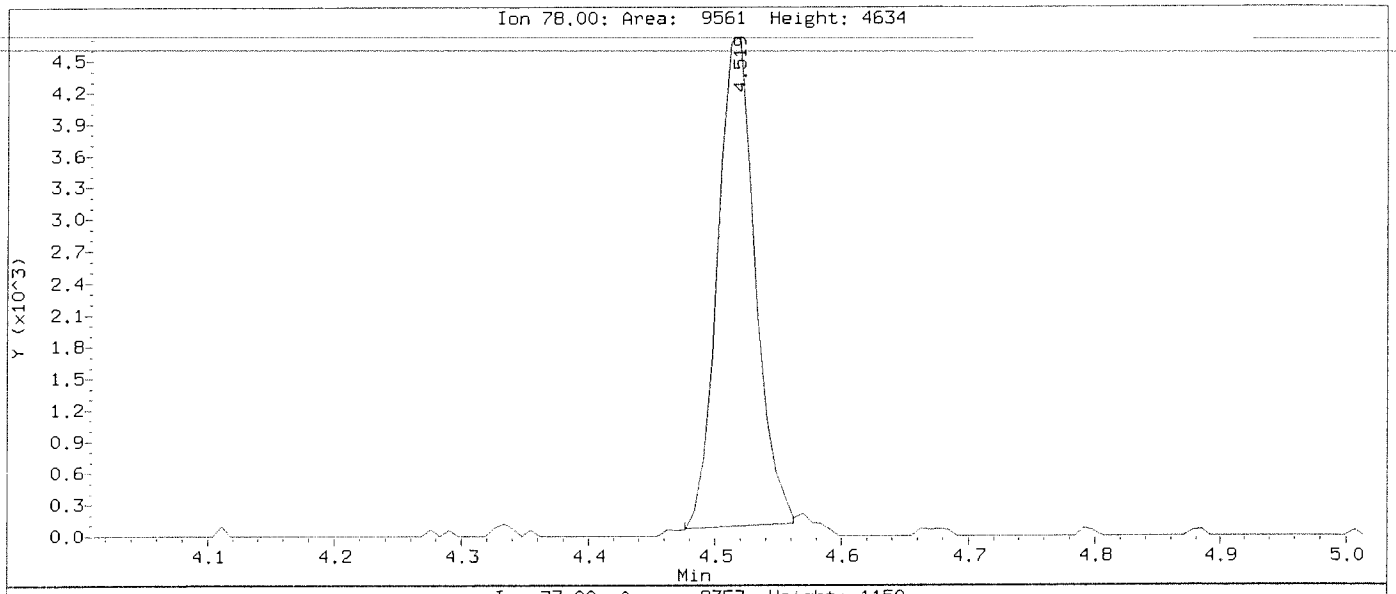
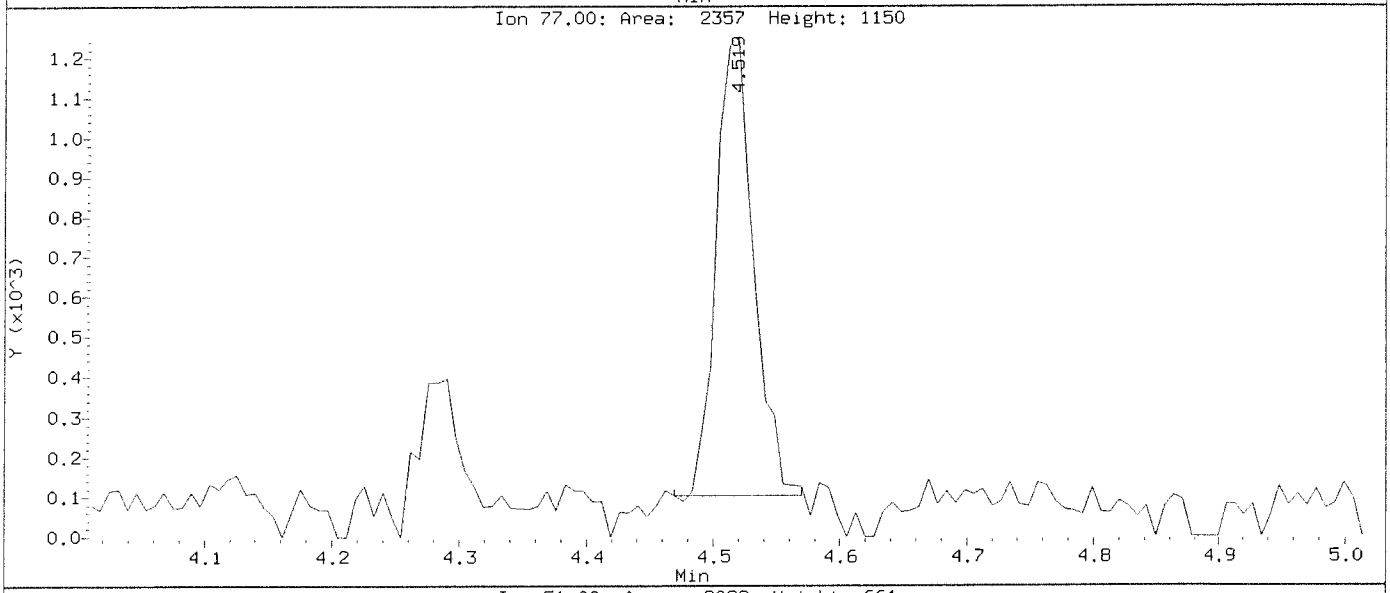
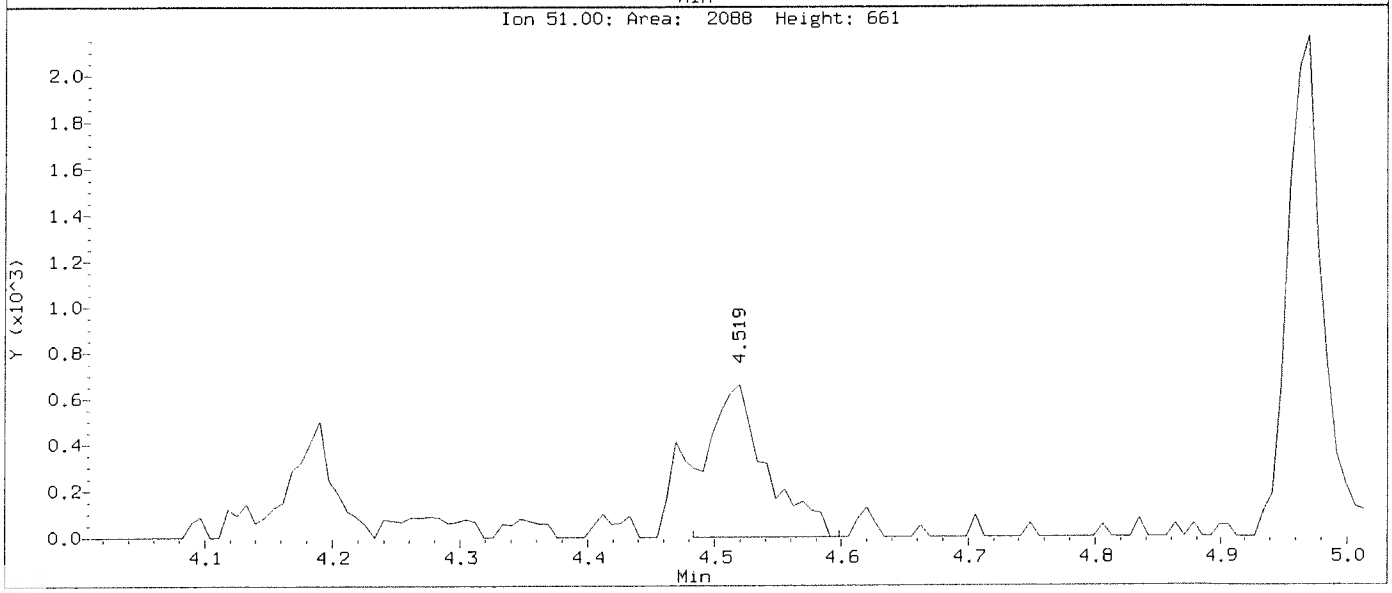
Client Sample ID: VSTD001

Compound: Benzene
CAS Number: 71-43-2







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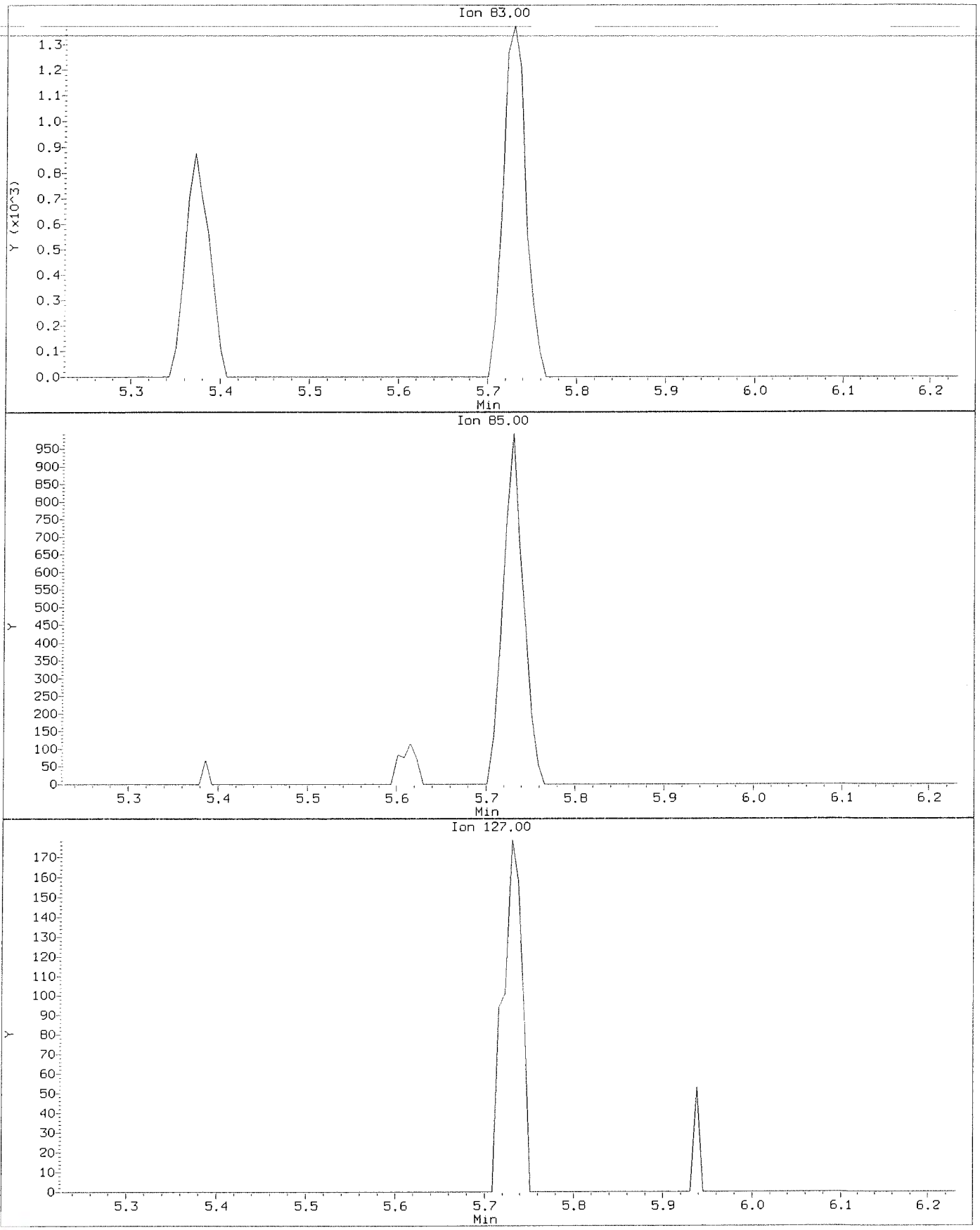
Injection Date: 31-OCT-2019 12:20
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: Bromodichloromethane
CAS Number: 75-27-4



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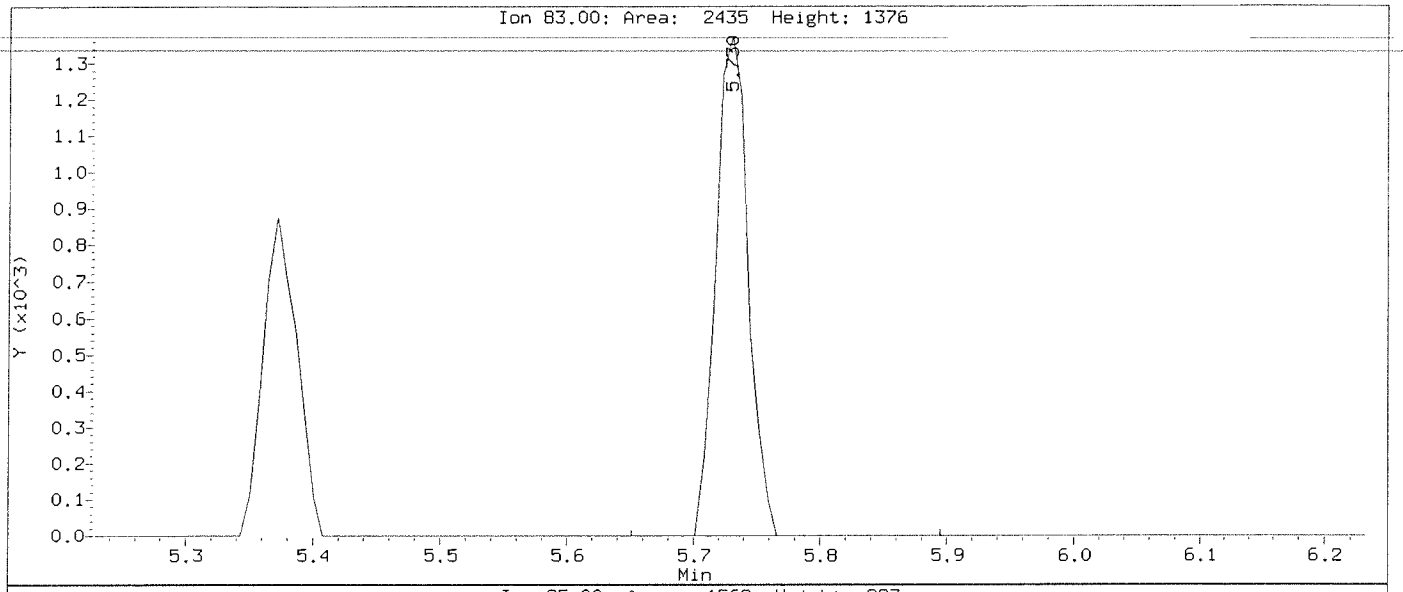
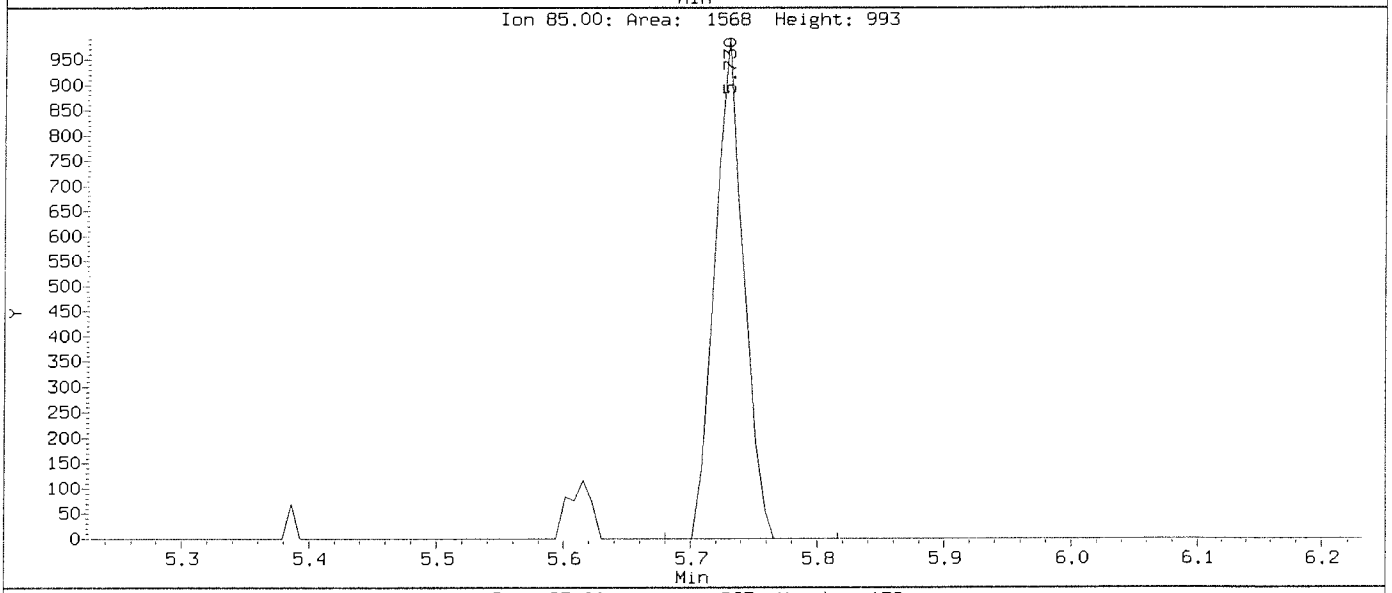
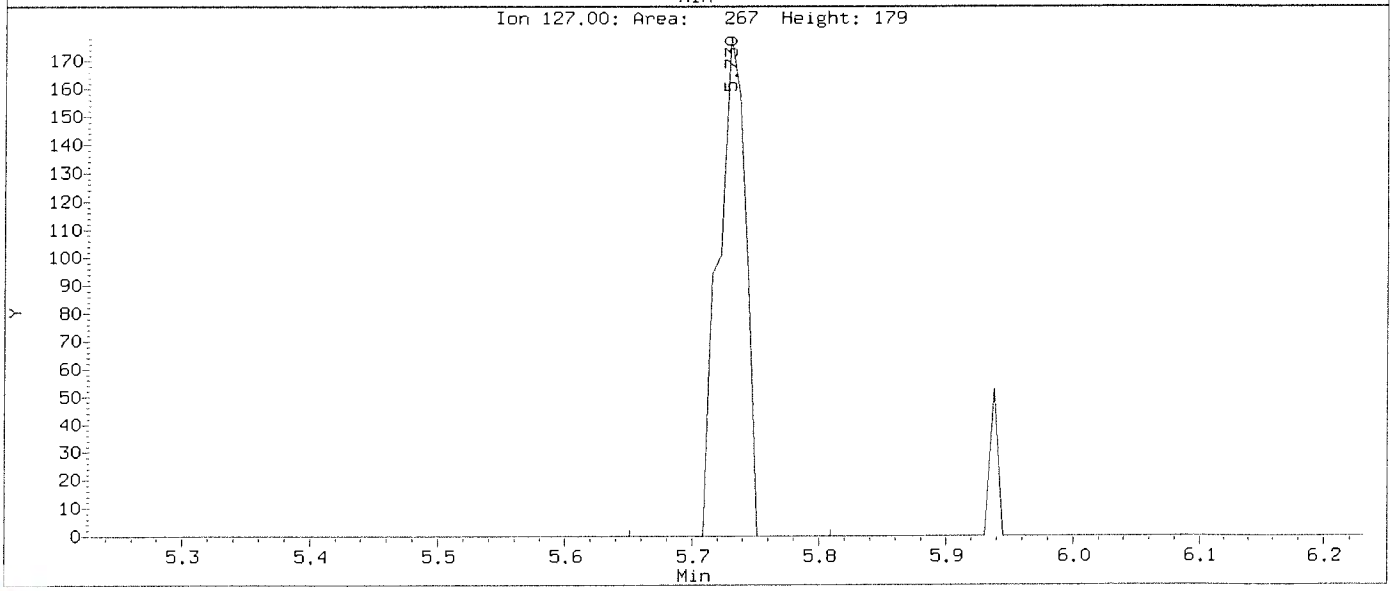
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: Bromodichloromethane
CAS Number: 75-27-4







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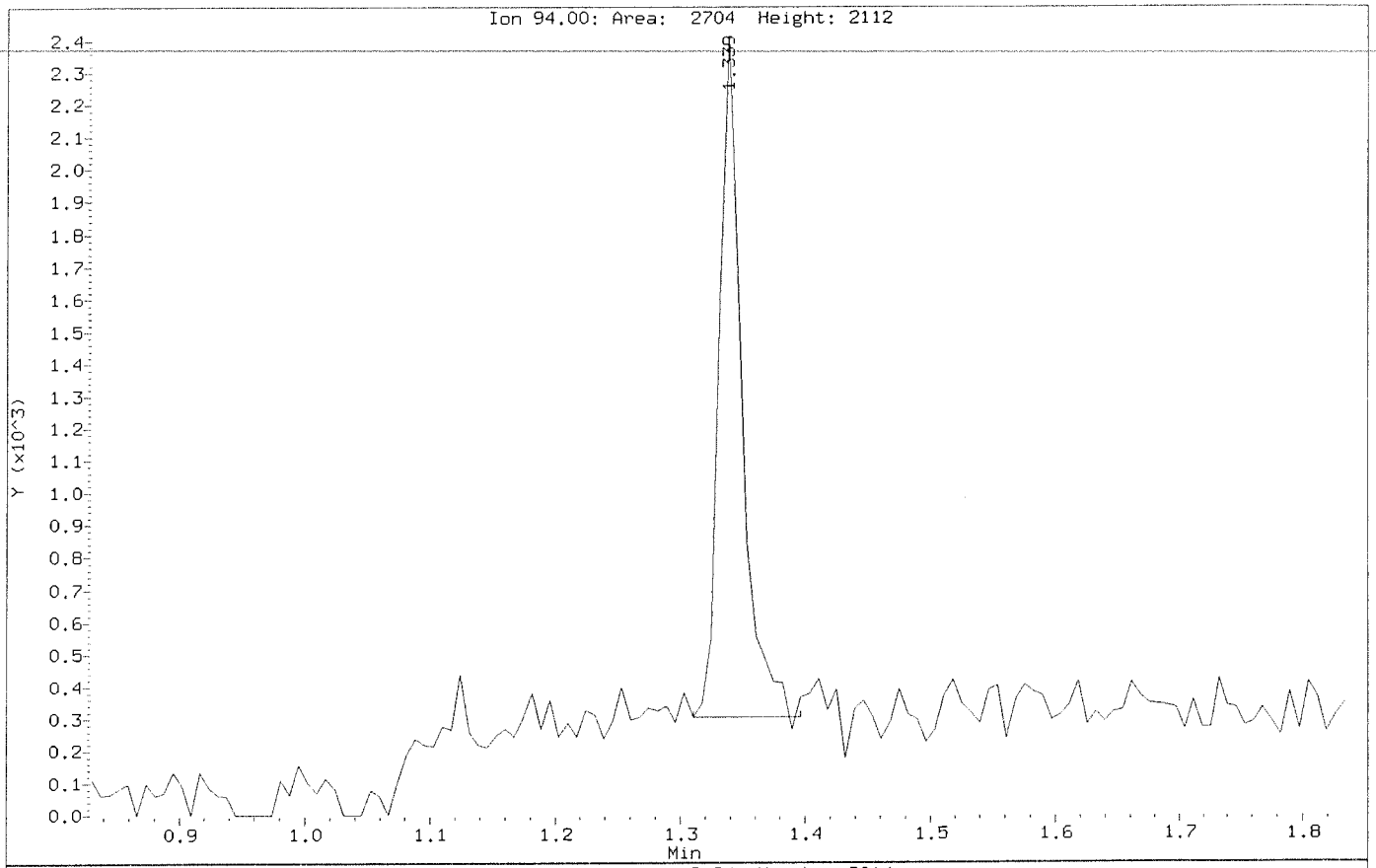
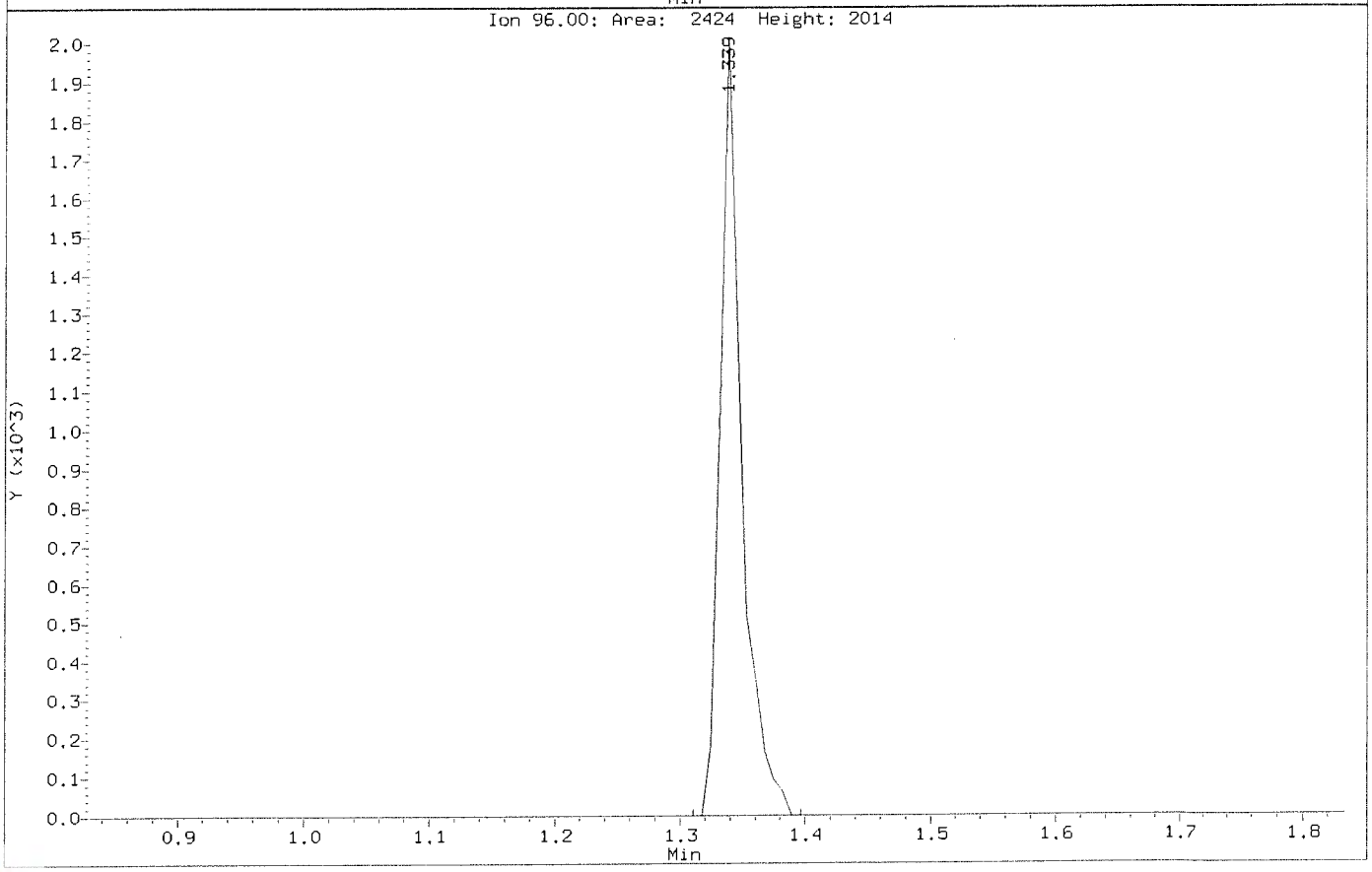
Injection Date: 31-OCT-2019 12:20
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: Bromomethane
CAS Number: 74-83-9





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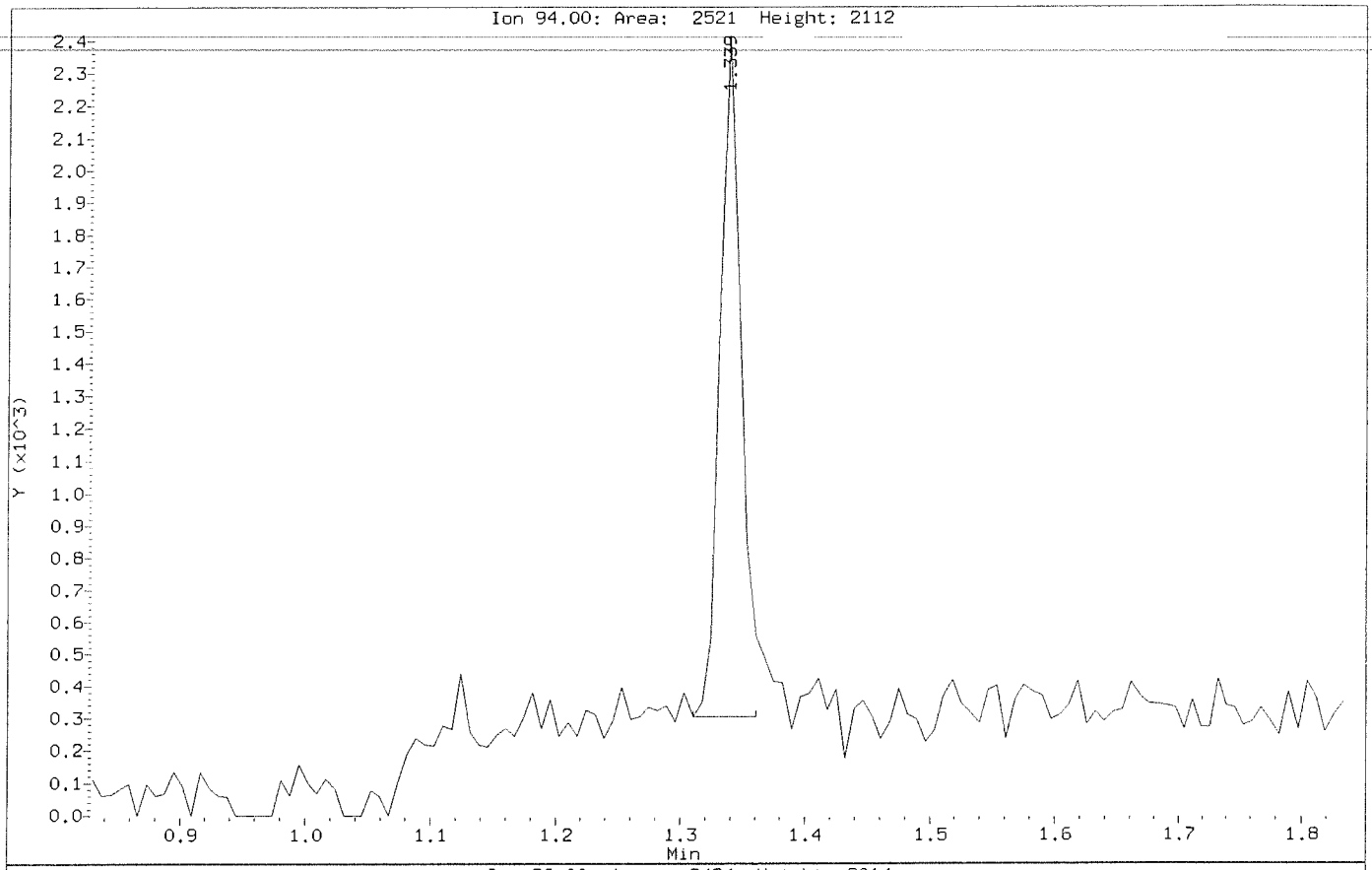
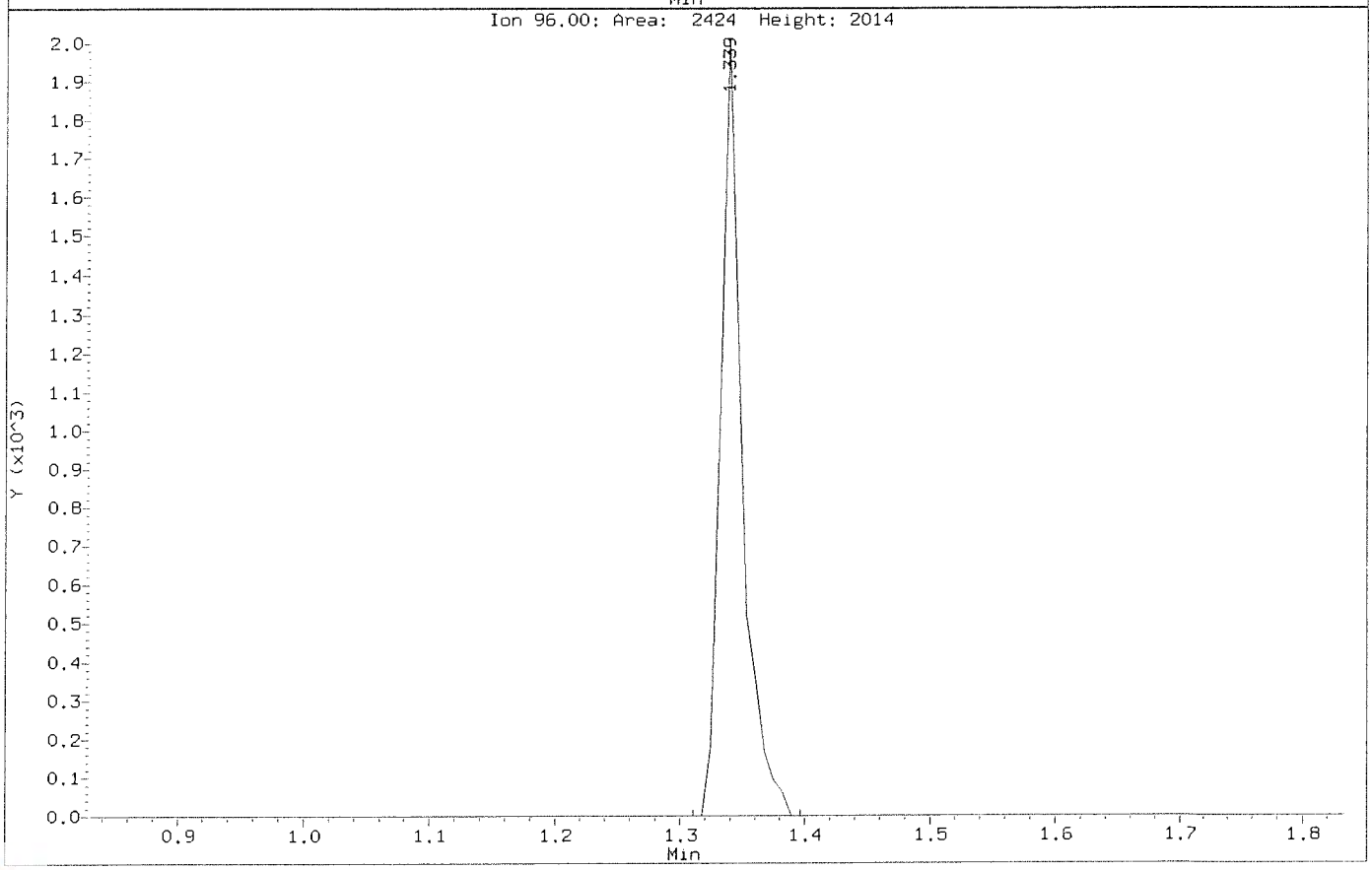
Instrument: voa6.i
Client Sample ID: VSTD001

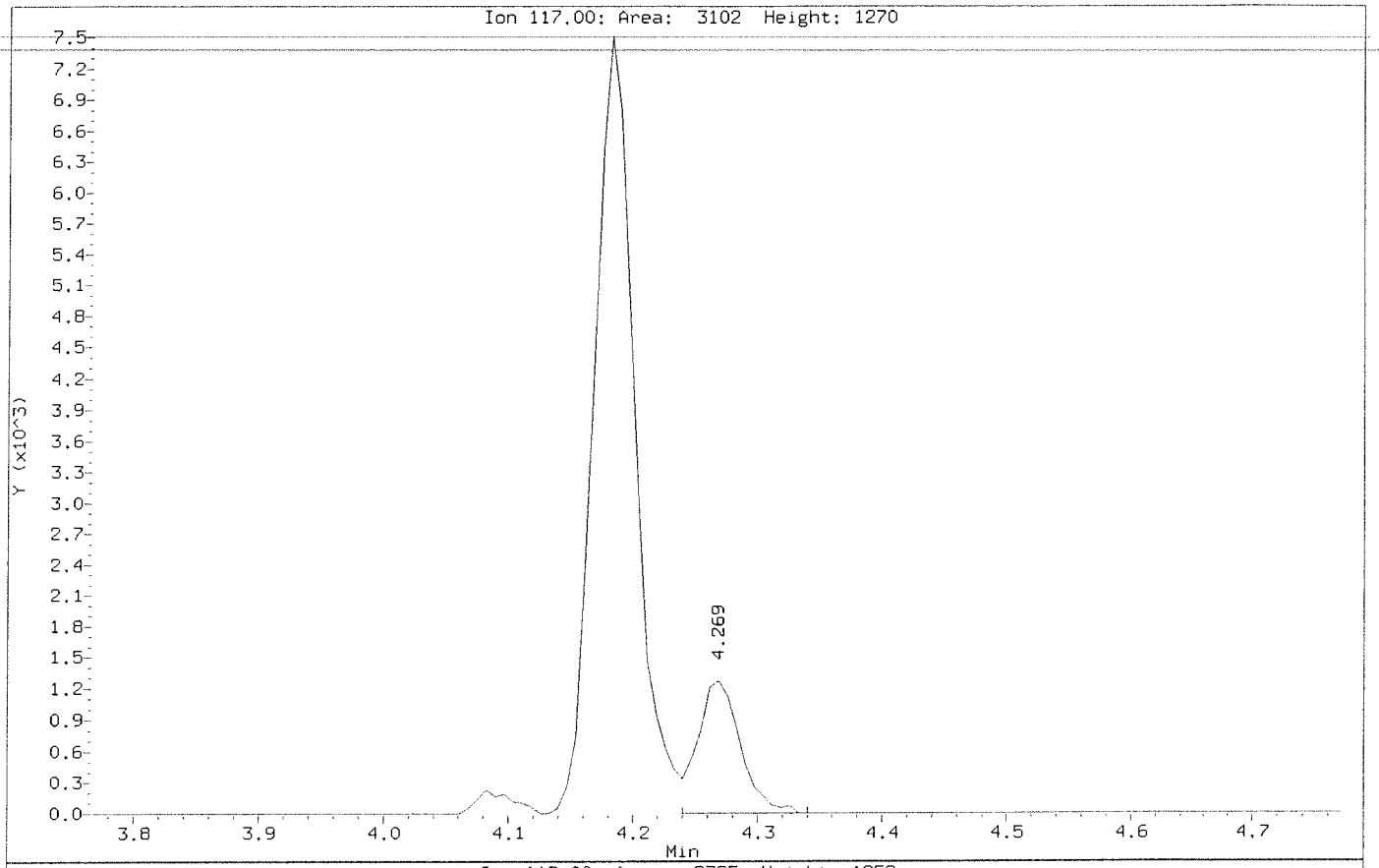
Compound: Bromomethane
CAS Number: 74-83-9

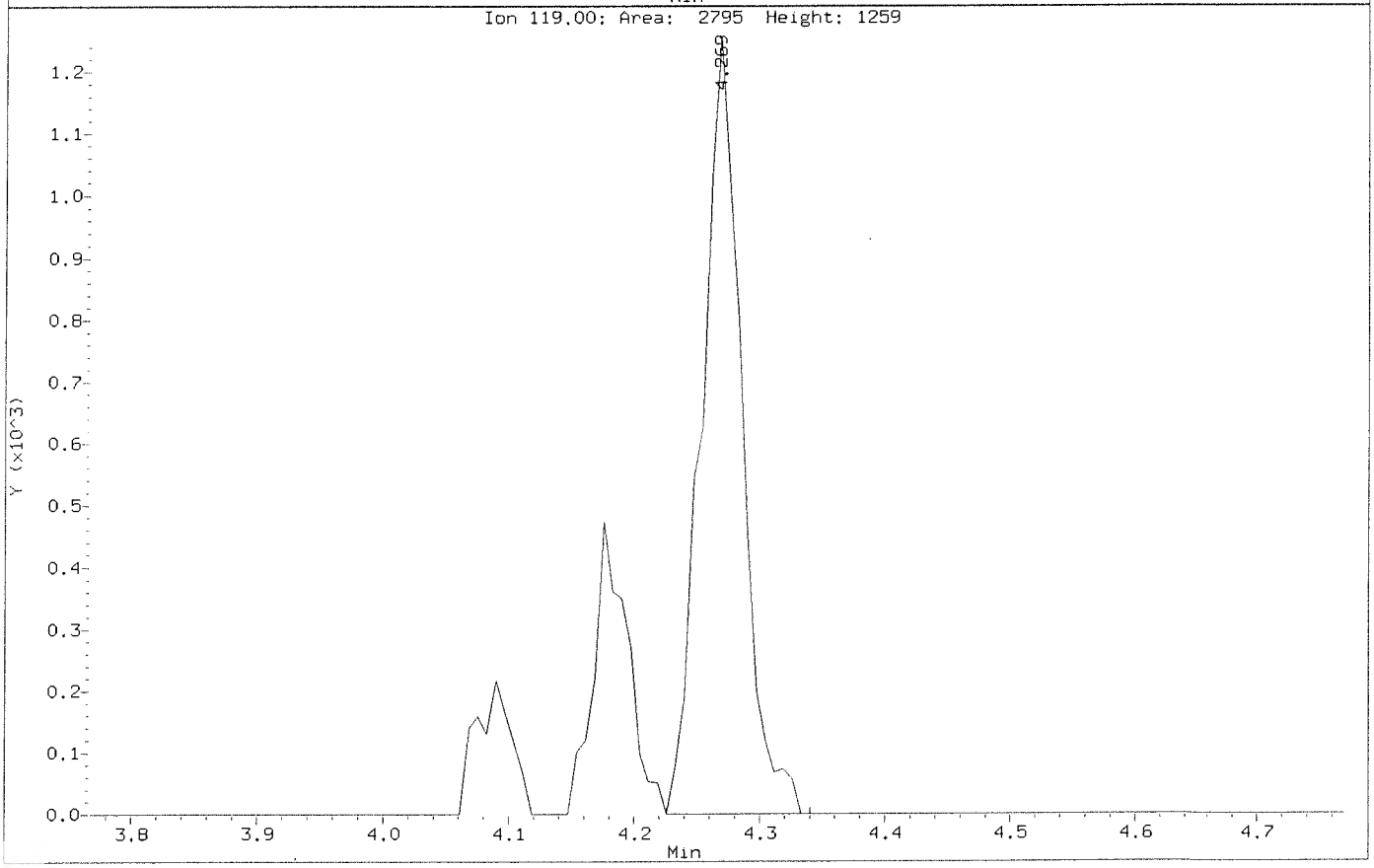




Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\BEFORE2\X103104.D
Injection Date: 31-OCT-2019 12:20
Instrument: voa6.i
Client Sample ID: VSTD001

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





Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\X103104.D
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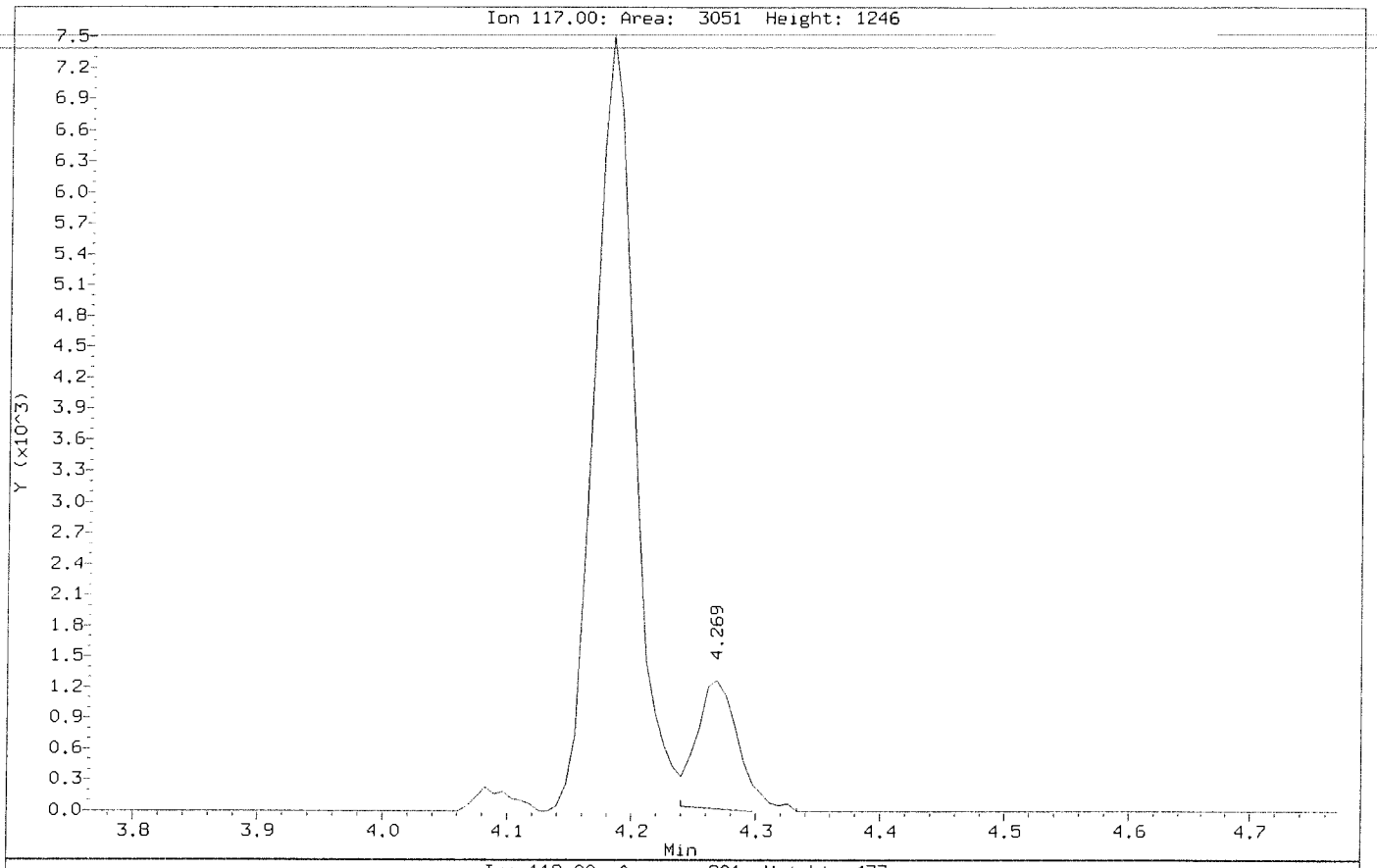
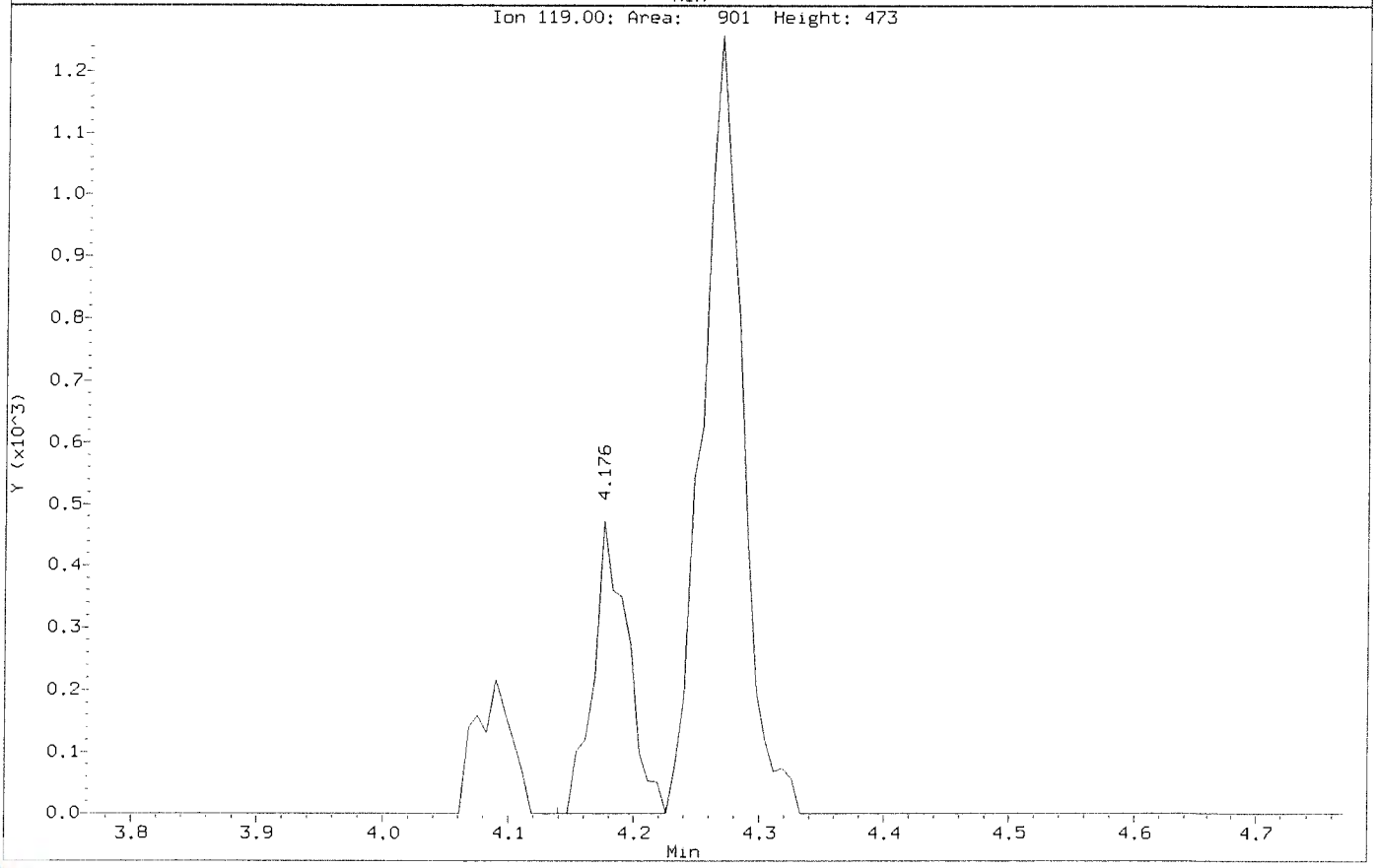
Instrument: voa6.i
Client Sample ID: VSTD001

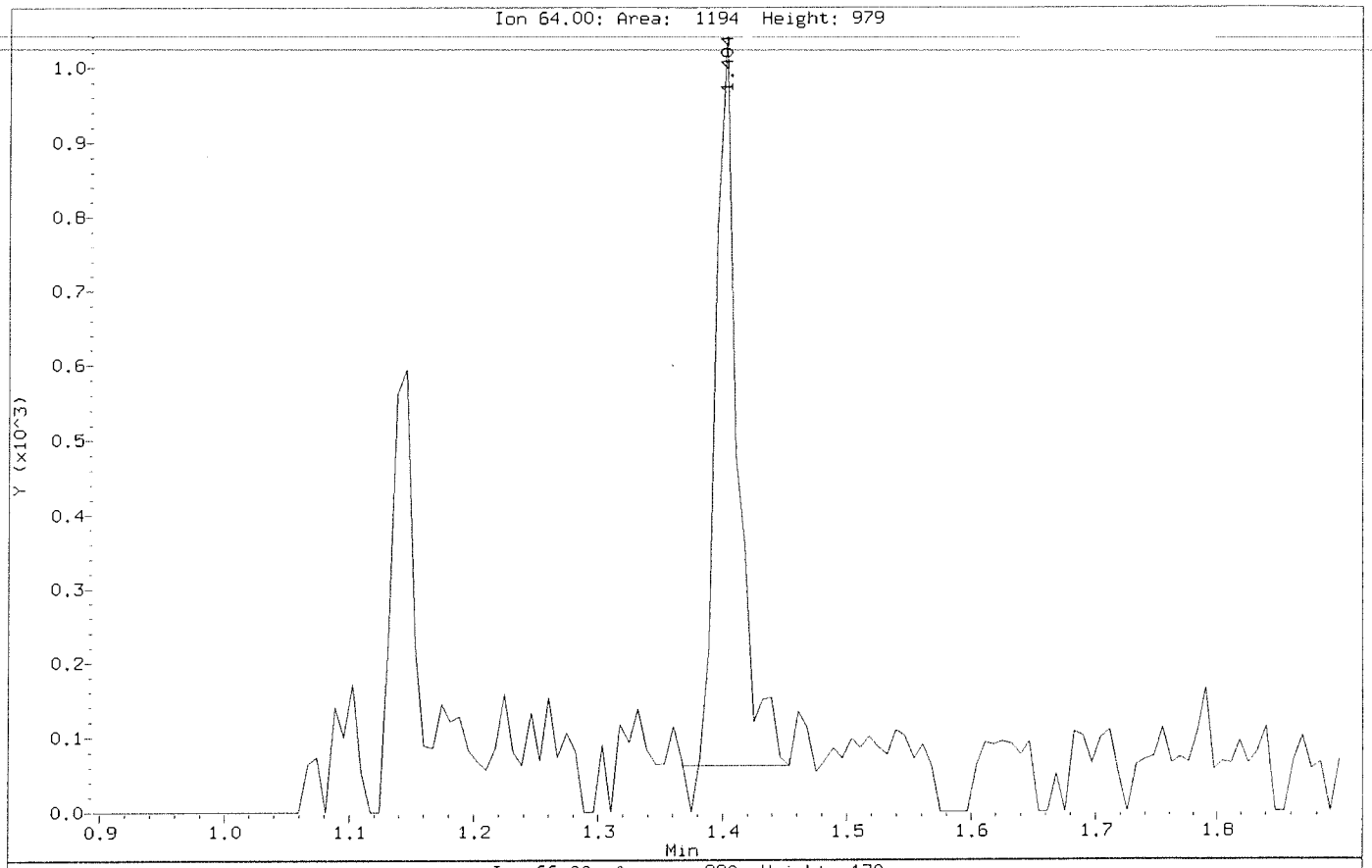
Compound: Carbon Tetrachloride
CAS Number: 56-23-5

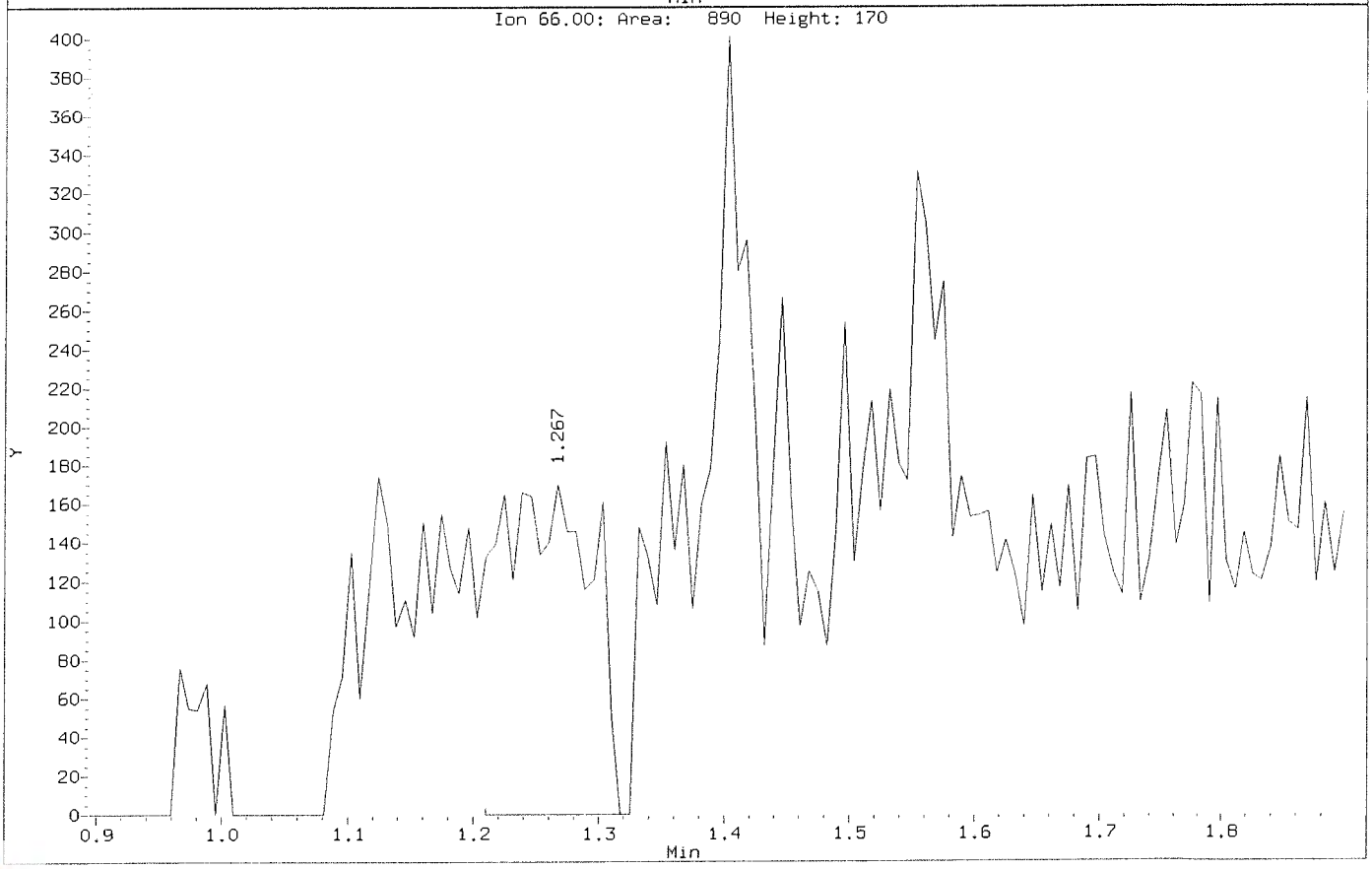




Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\BEFORE2\X103104.D
Injection Date: 31-OCT-2019 12:20
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: Chloroethane
CAS Number: 75-00-3





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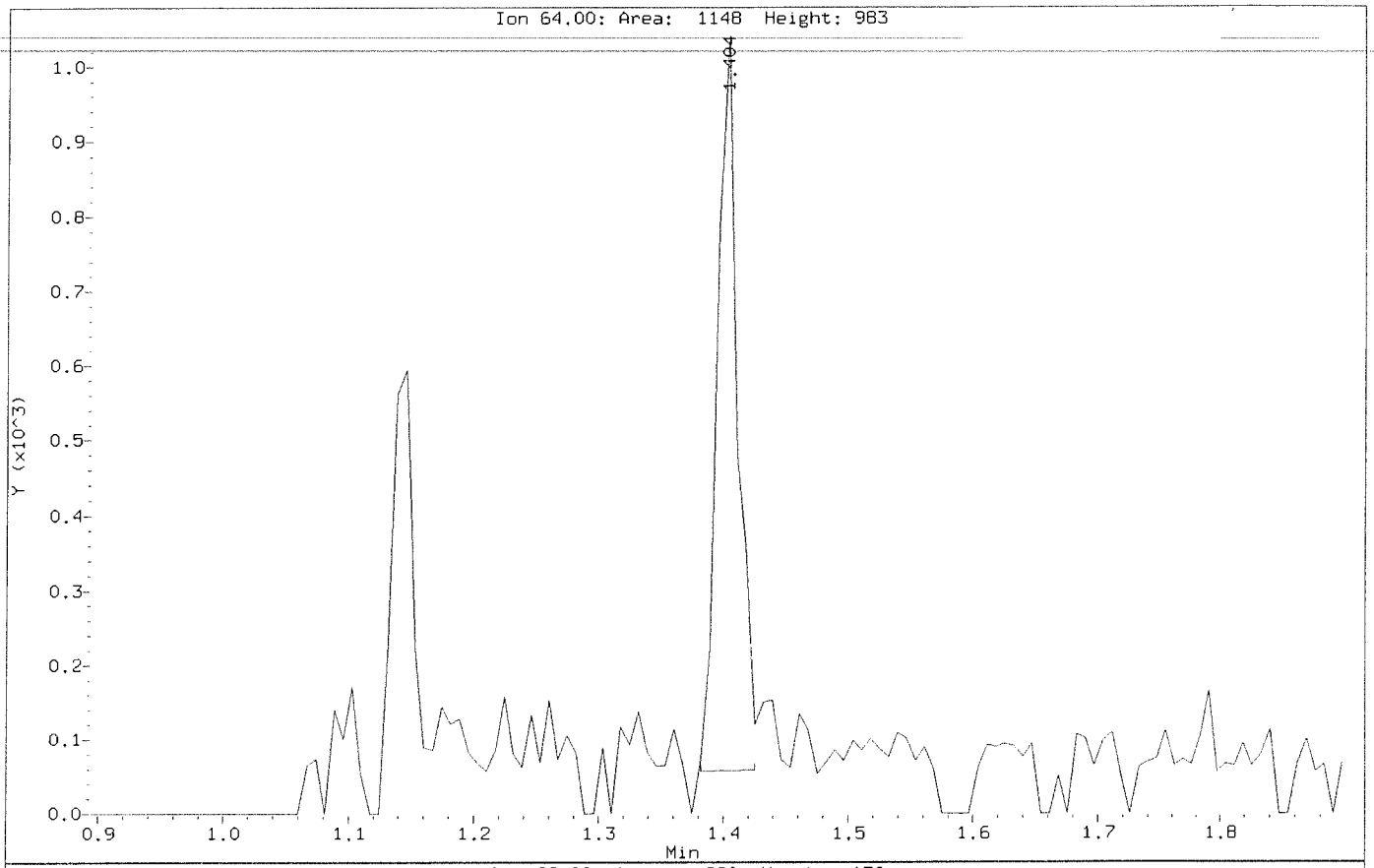
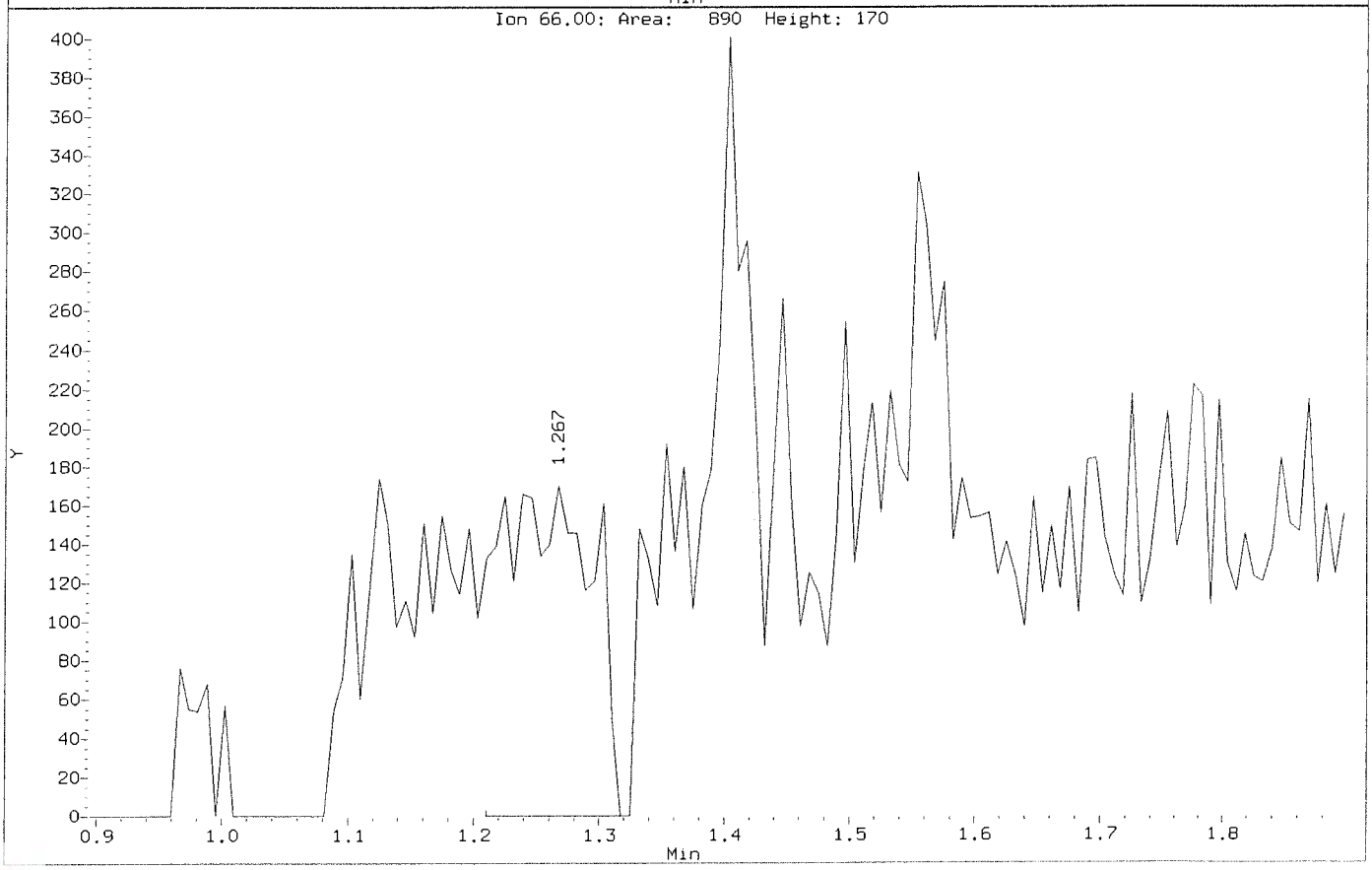
Injection Date: 31-OCT-2019 12:20
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: Chloroethane
CAS Number: 75-00-3





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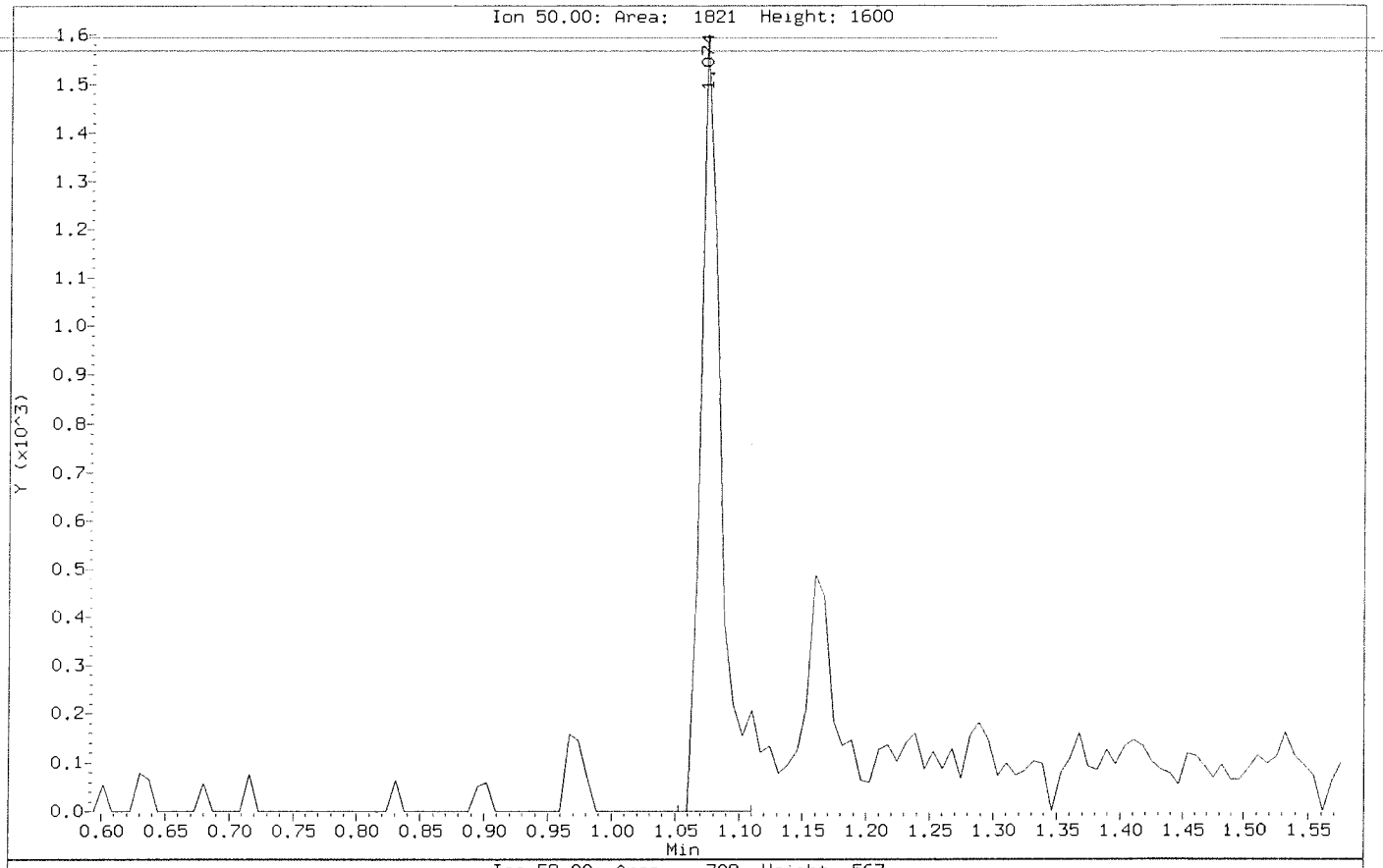
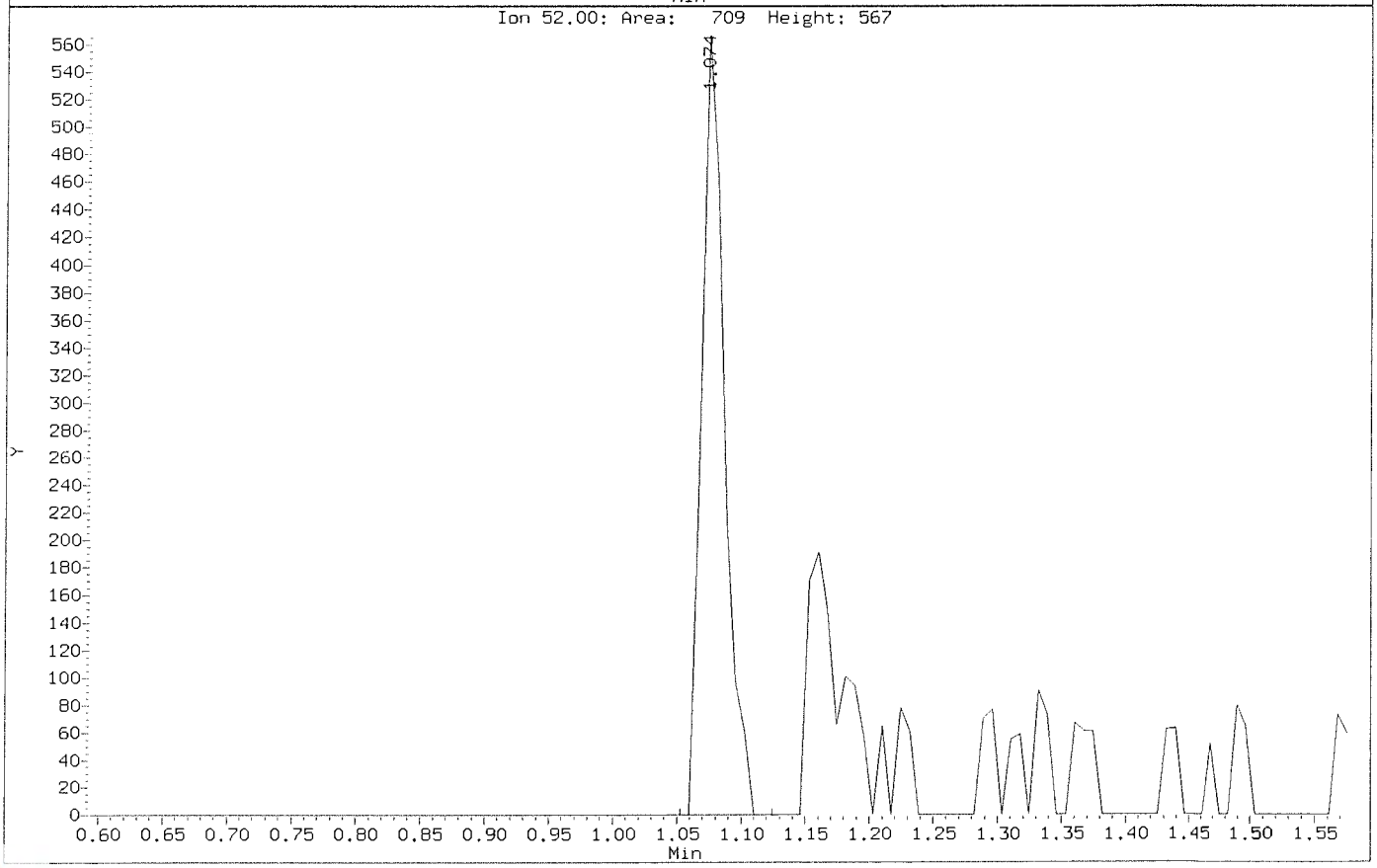
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: Chloromethane
CAS Number: 74-87-3





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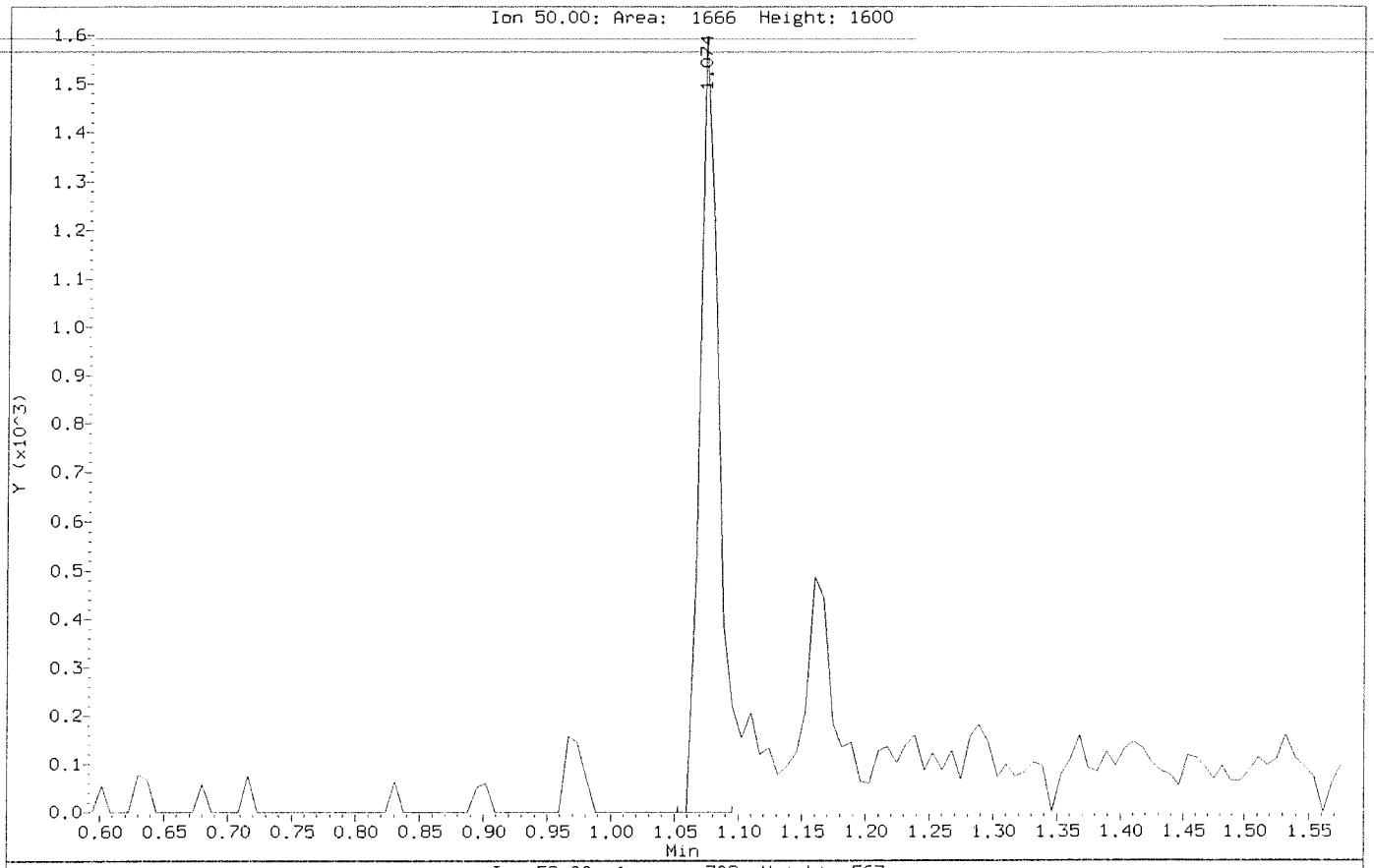
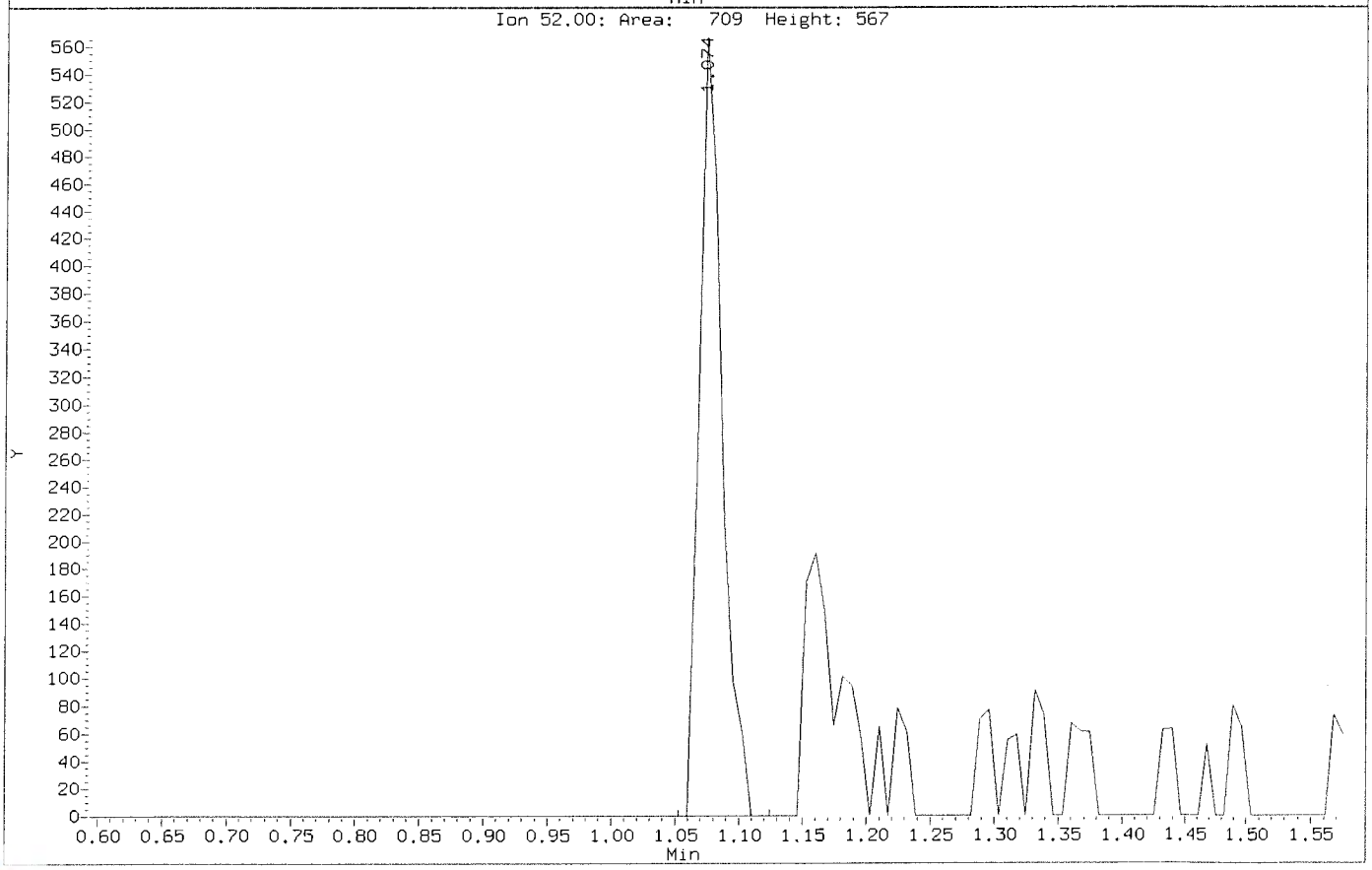
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: Chloromethane
CAS Number: 74-87-3





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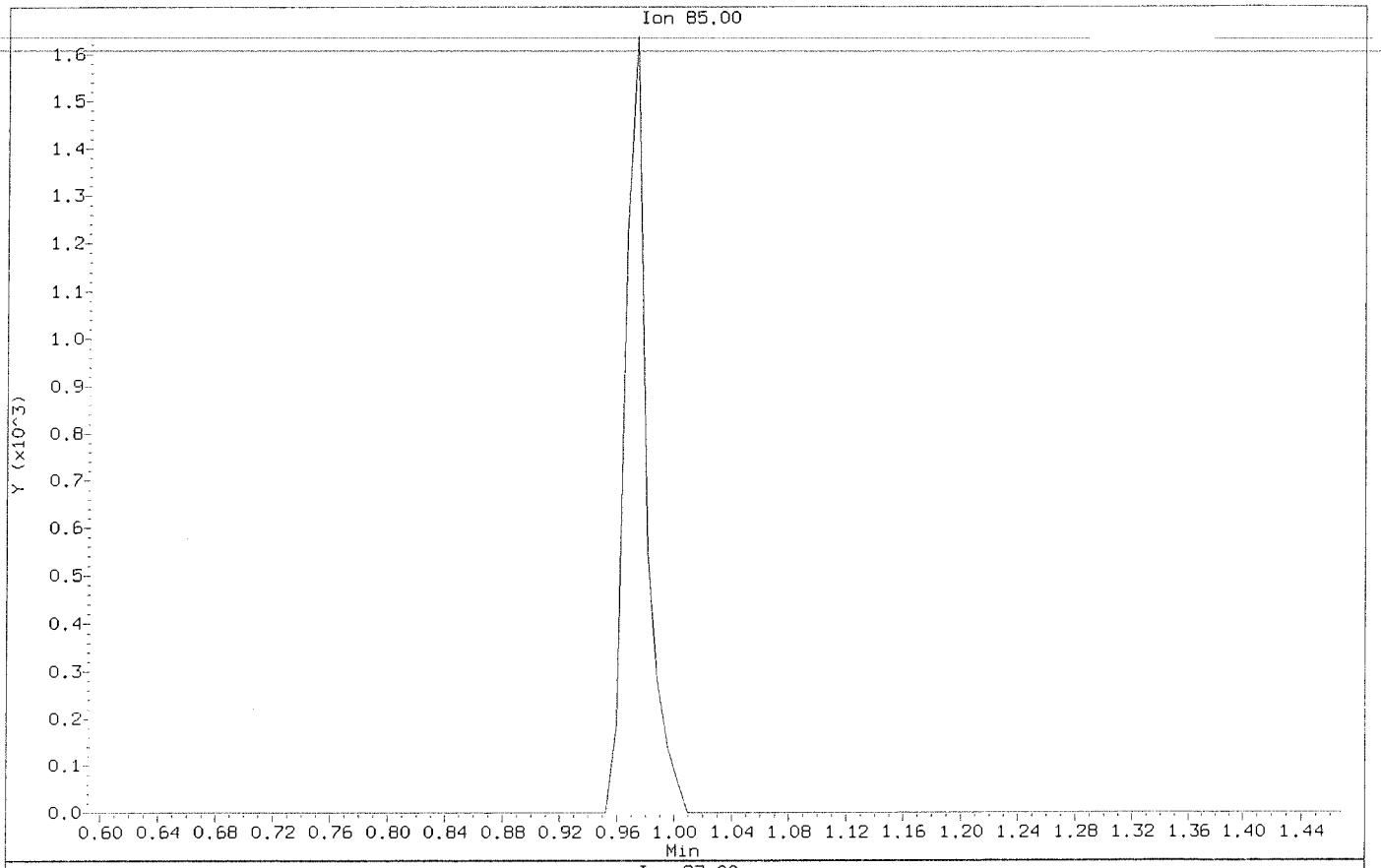
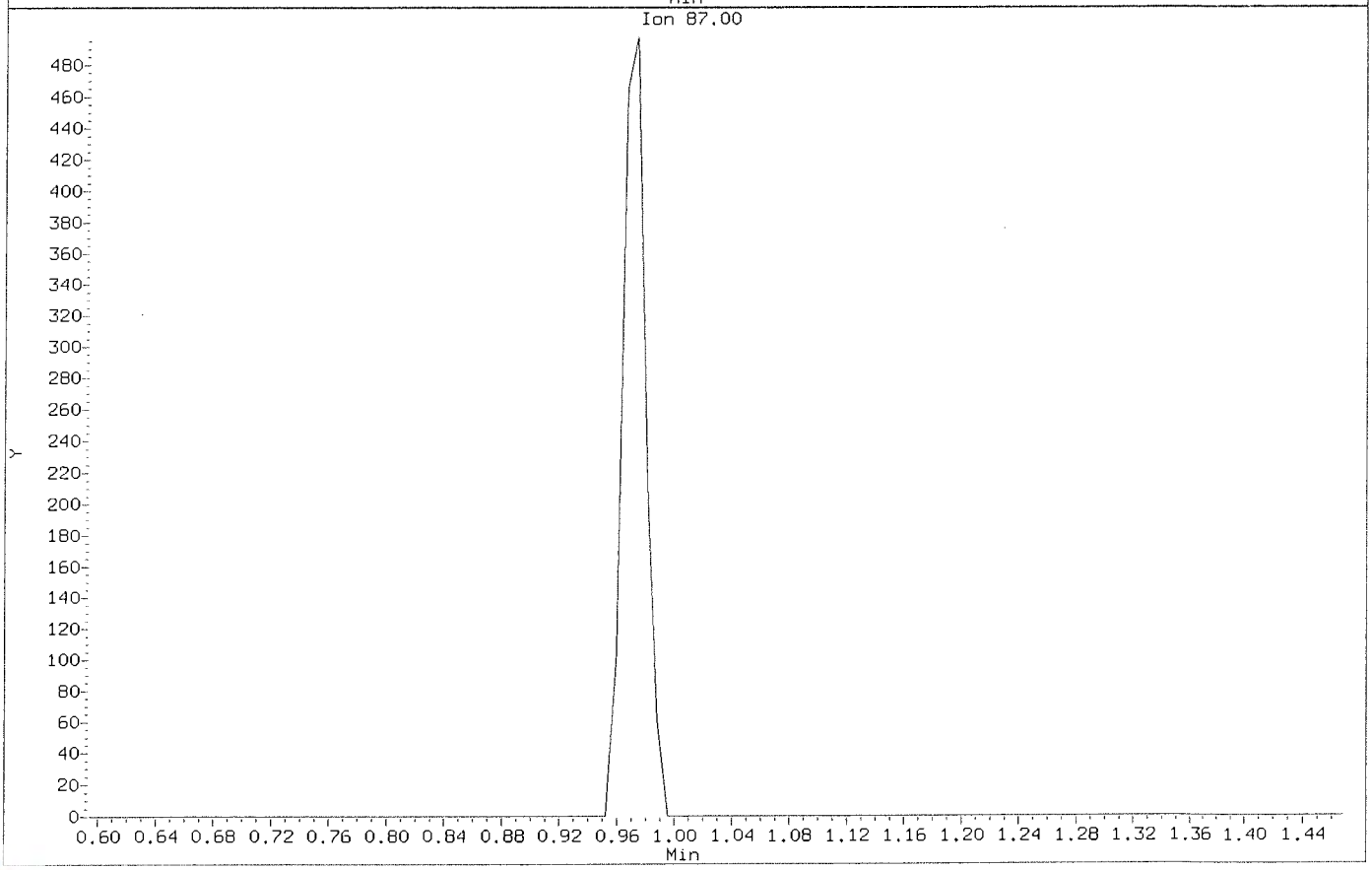
Injection Date: 31-OCT-2019 12:20
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: Dichlorodifluoromethane
CAS Number: 75-71-8





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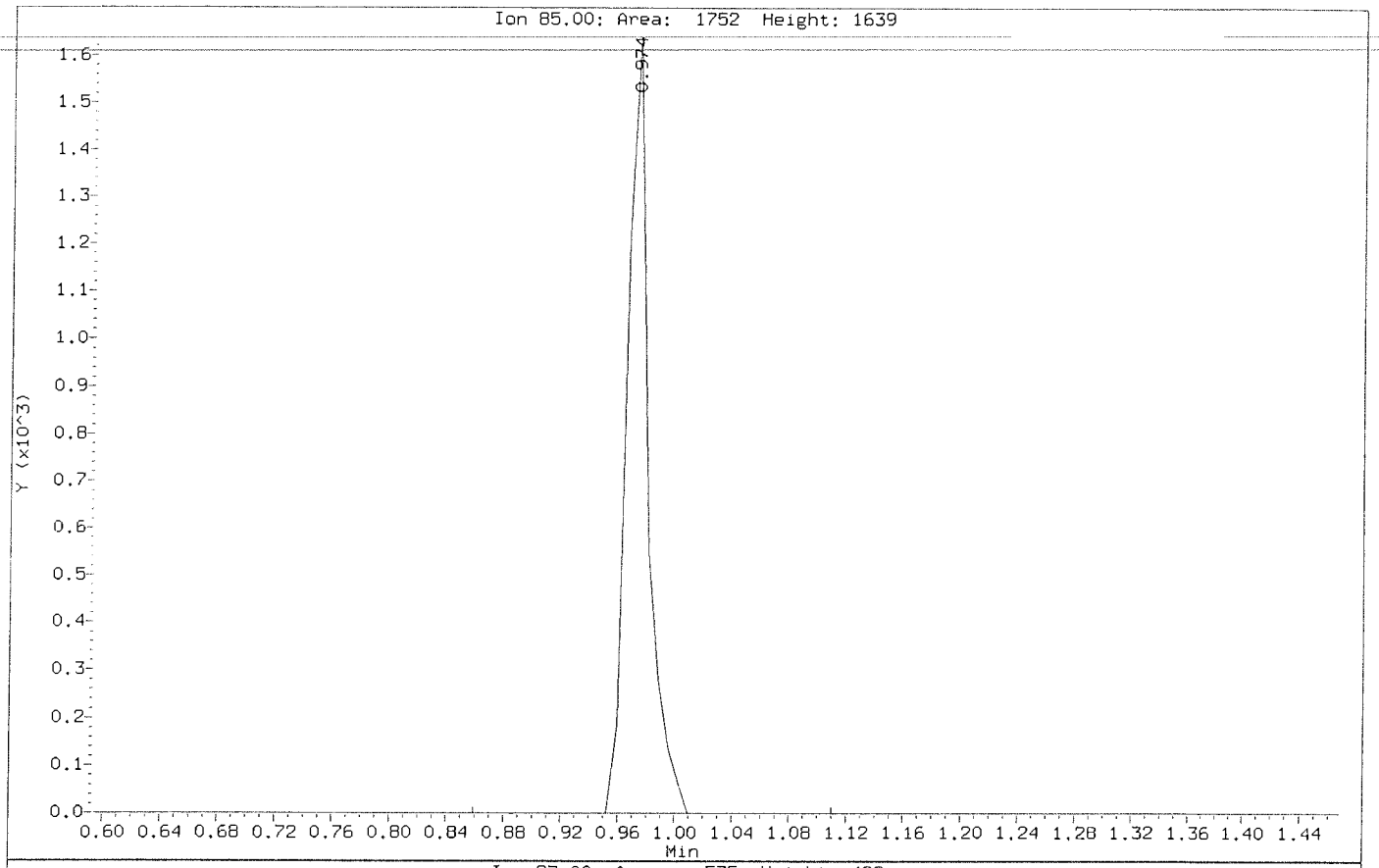
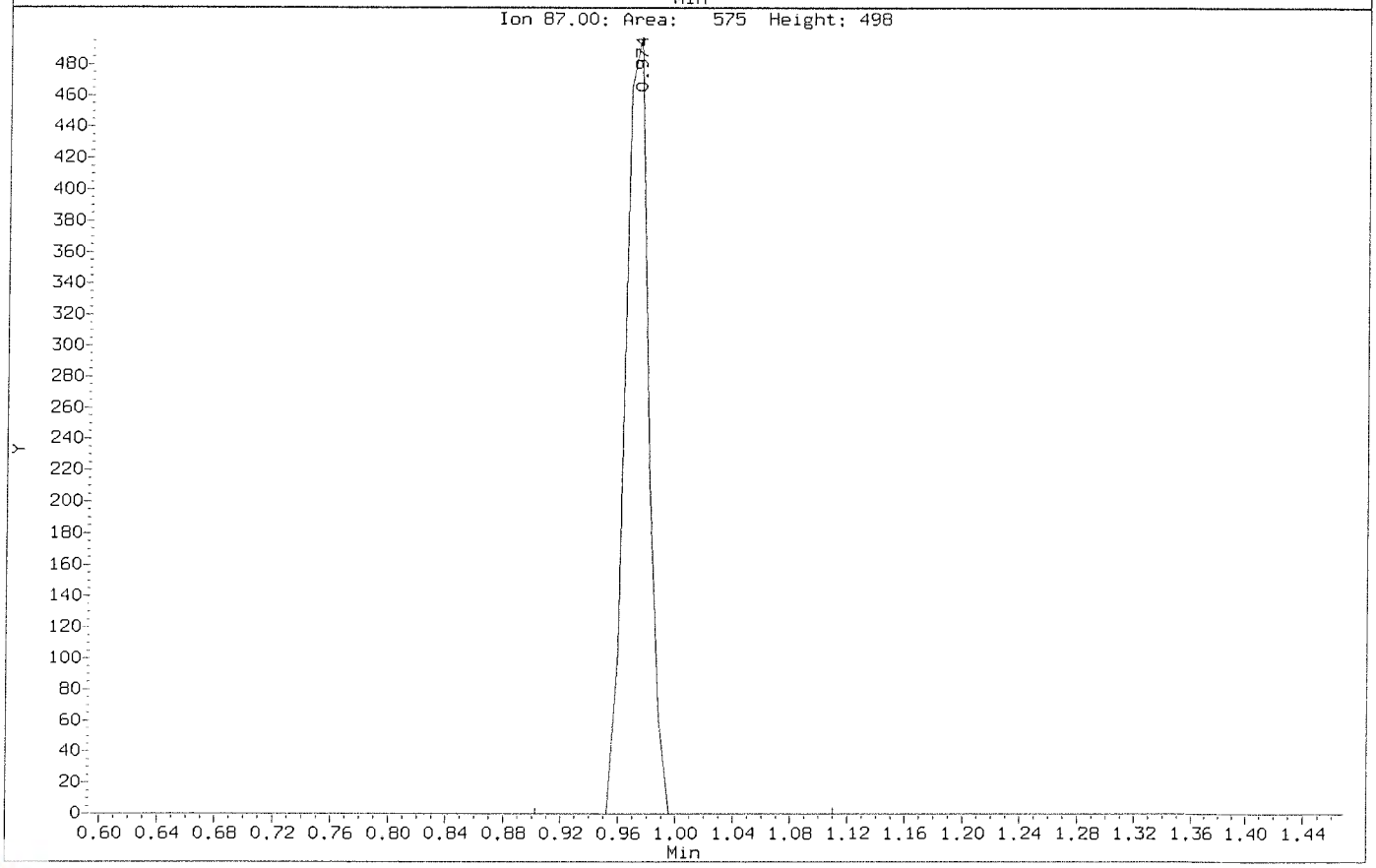
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: Dichlorodifluoromethane
CAS Number: 75-71-8





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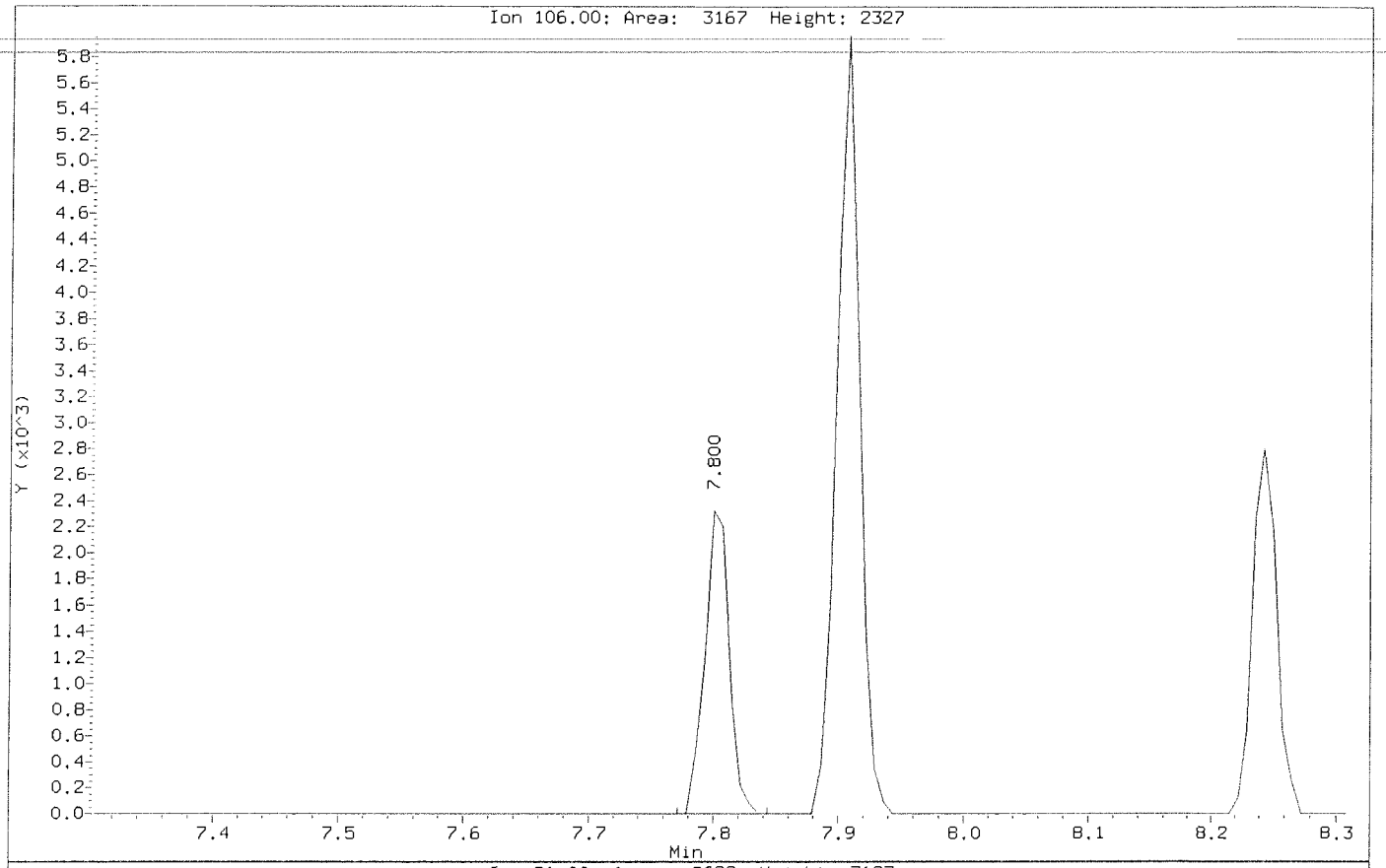
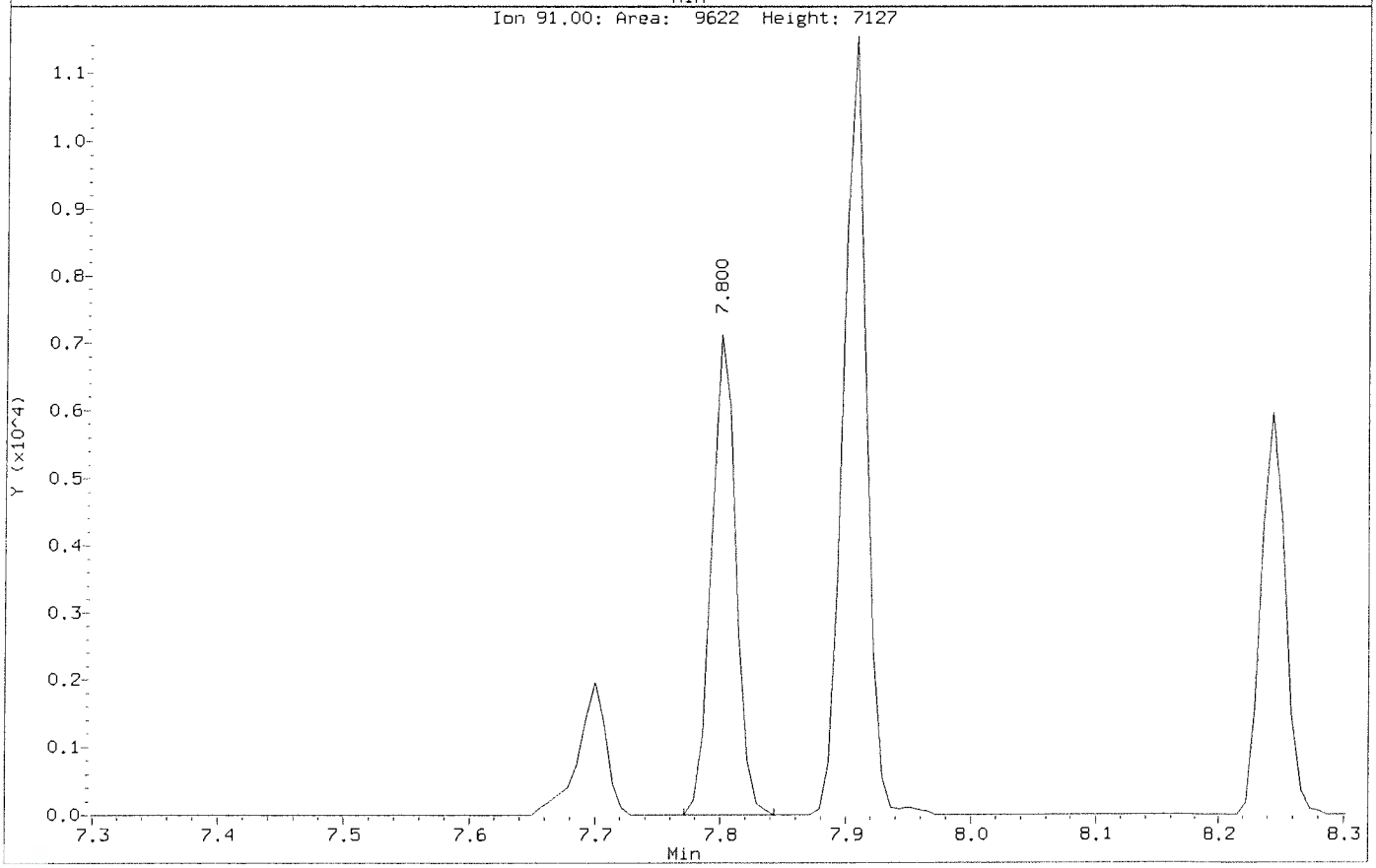
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: Ethylbenzene
CAS Number: 100-41-4





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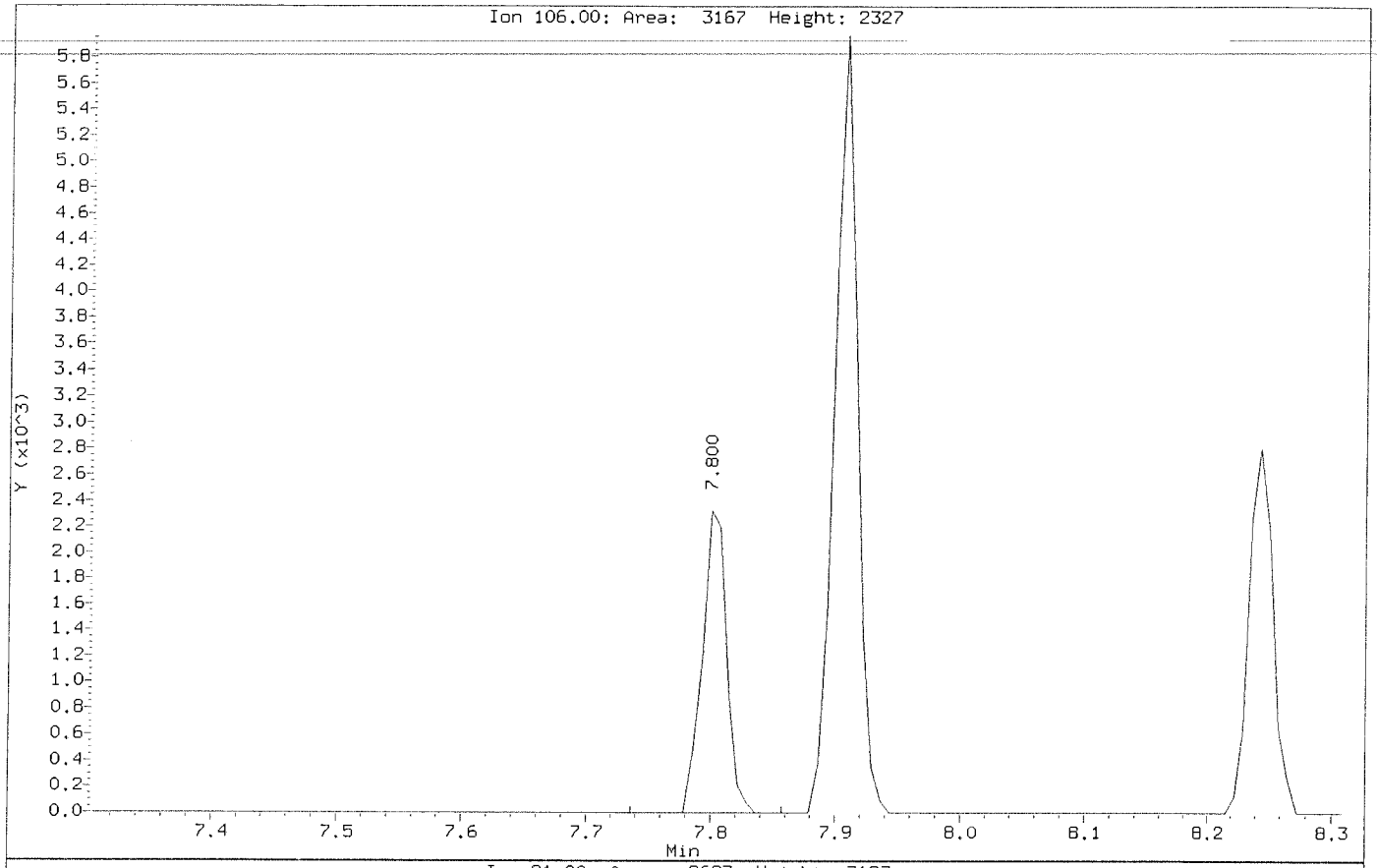
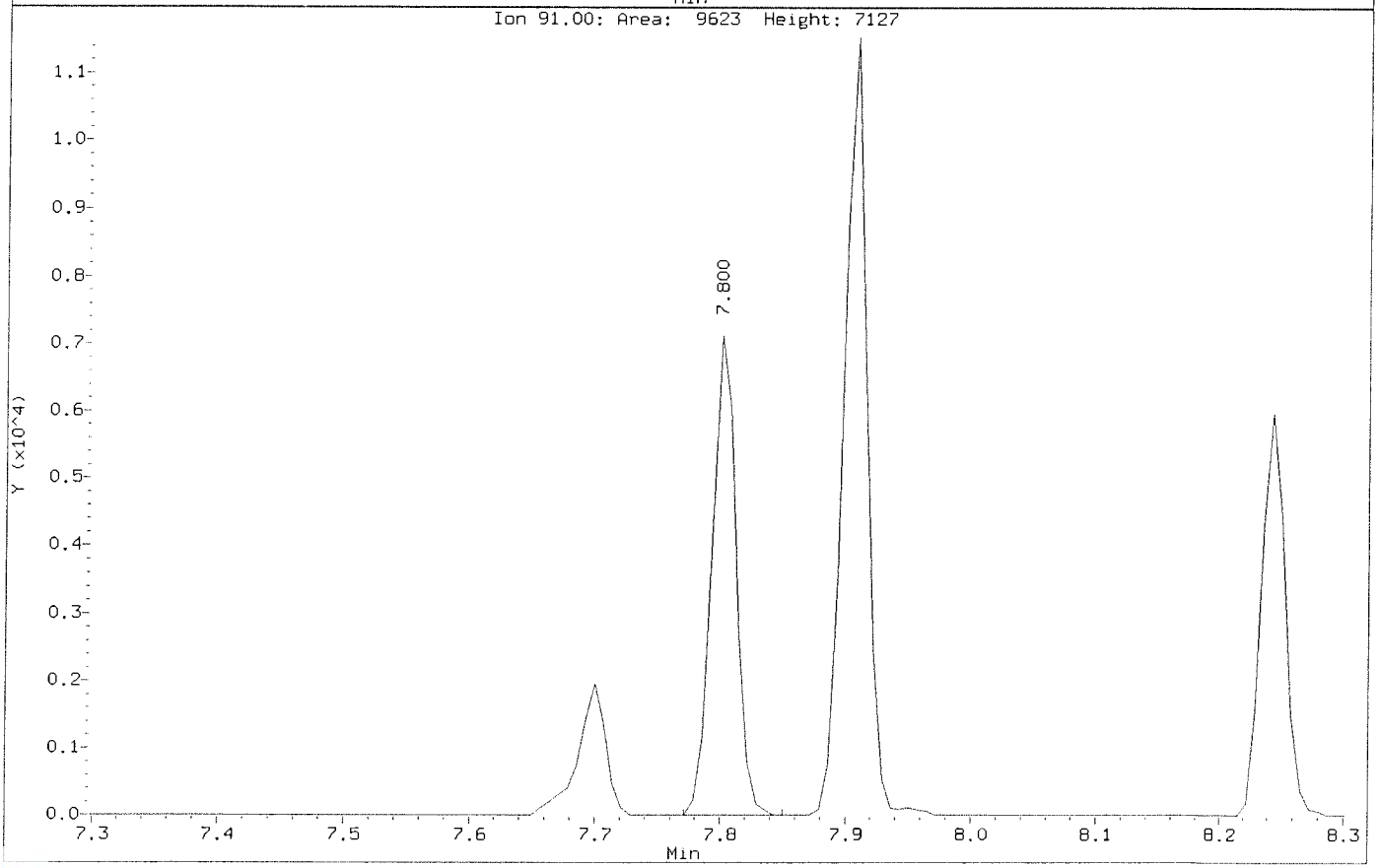
Instrument: voa6.1
Client Sample ID: VSTD001

Compound: Ethylbenzene
CAS Number: 100-41-4





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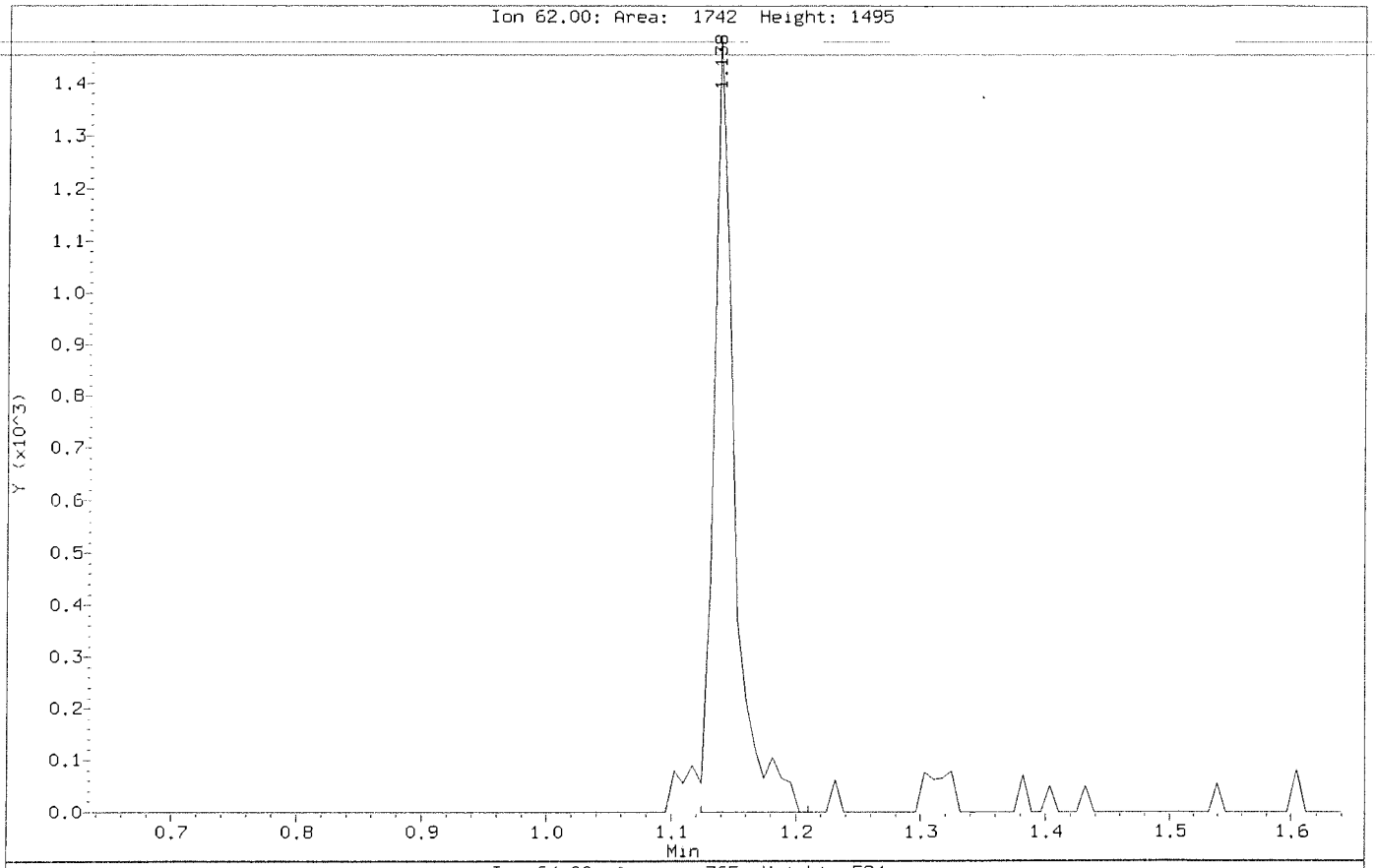
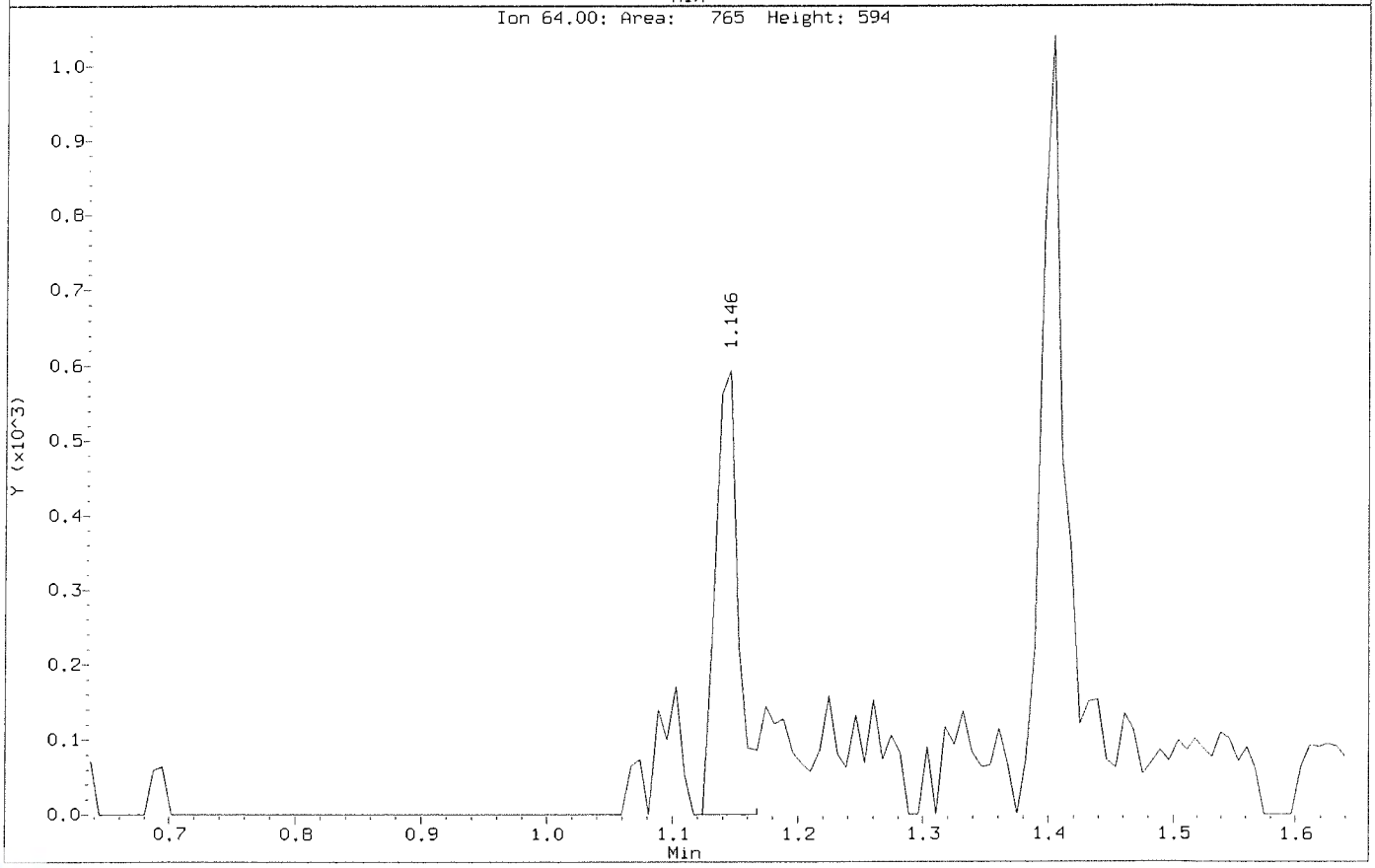
Injection Date: 31-OCT-2019 12:20
Instrument: voa6.i
Client Sample ID: VSTD001

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





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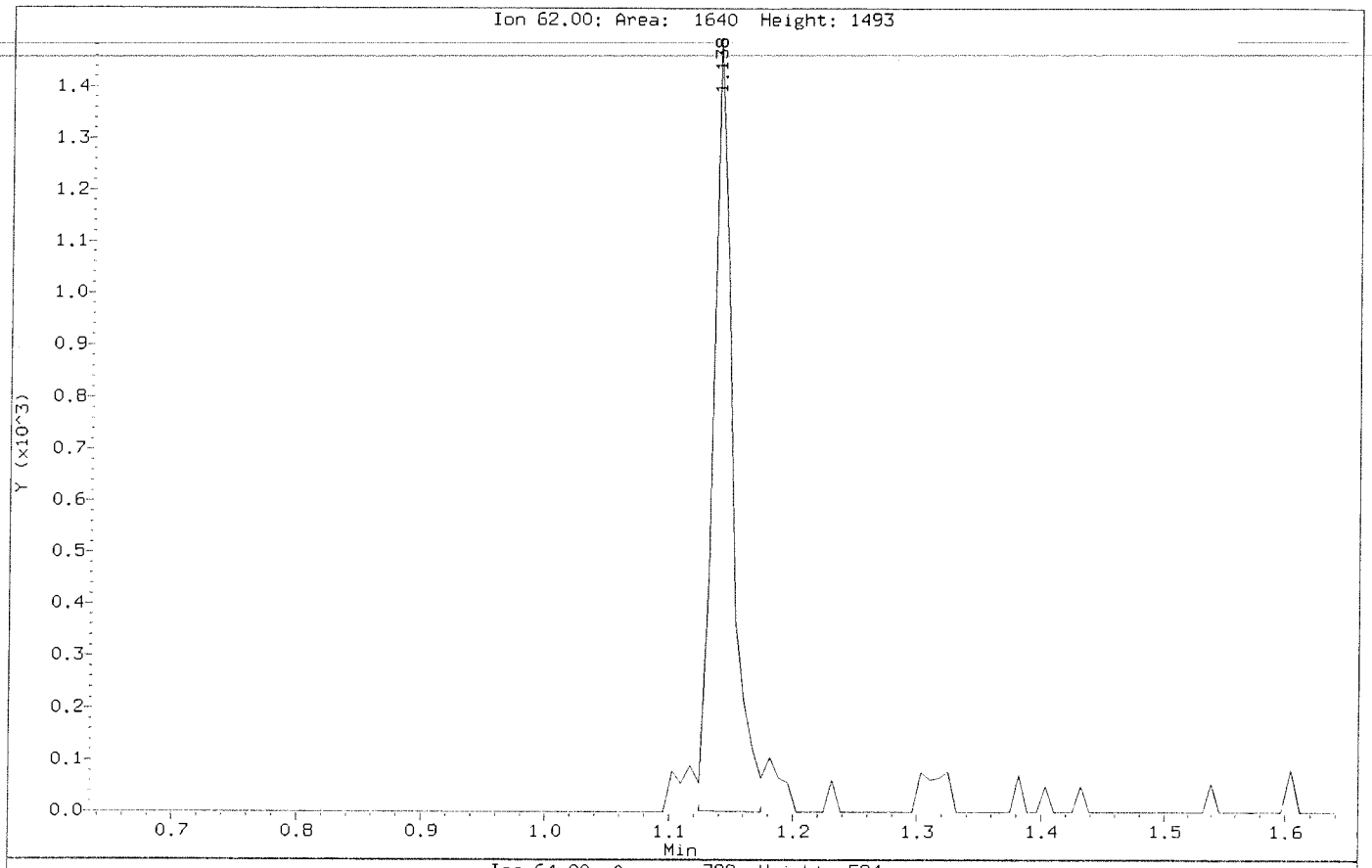
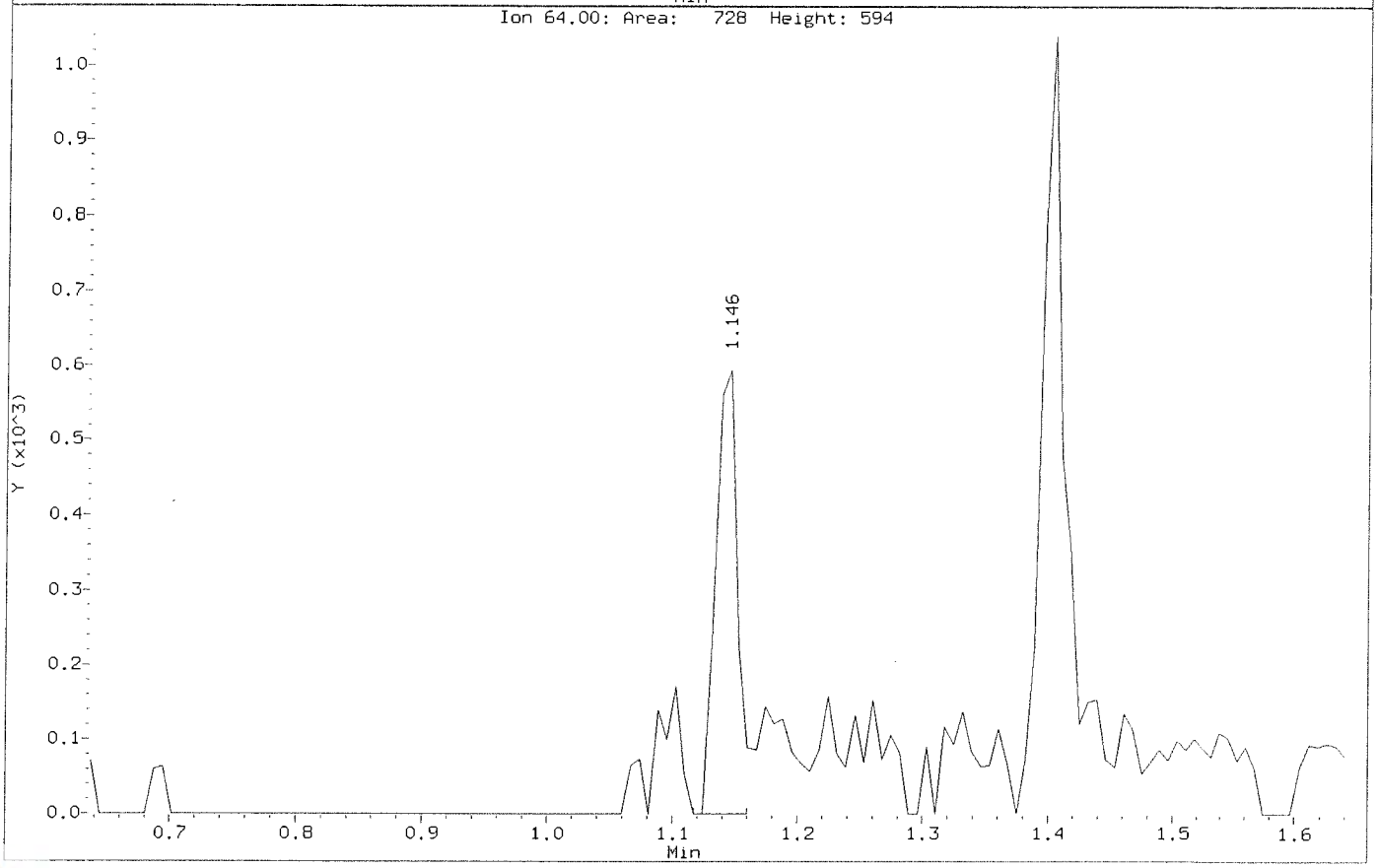
Injection Date: 31-OCT-2019 12:20
Instrument: voa6.i
Client Sample ID: VSTD001

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





Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\X103105.D Page 1
Report Date: 19-Nov-2019 17:39

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X191031.b\X103105.D
Lab Smp Id: VSTD002 Client Smp ID: VSTD002
Inj Date : 31-OCT-2019 12:44
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\X191031.b\8260W.m
Meth Date : 19-Nov-2019 17:37 voa6.i Quant Type: ISTD
Cal Date : 31-OCT-2019 12:44 Cal File: X103105.D
Als bottle: 6 Calibration Sample, Level: 4
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

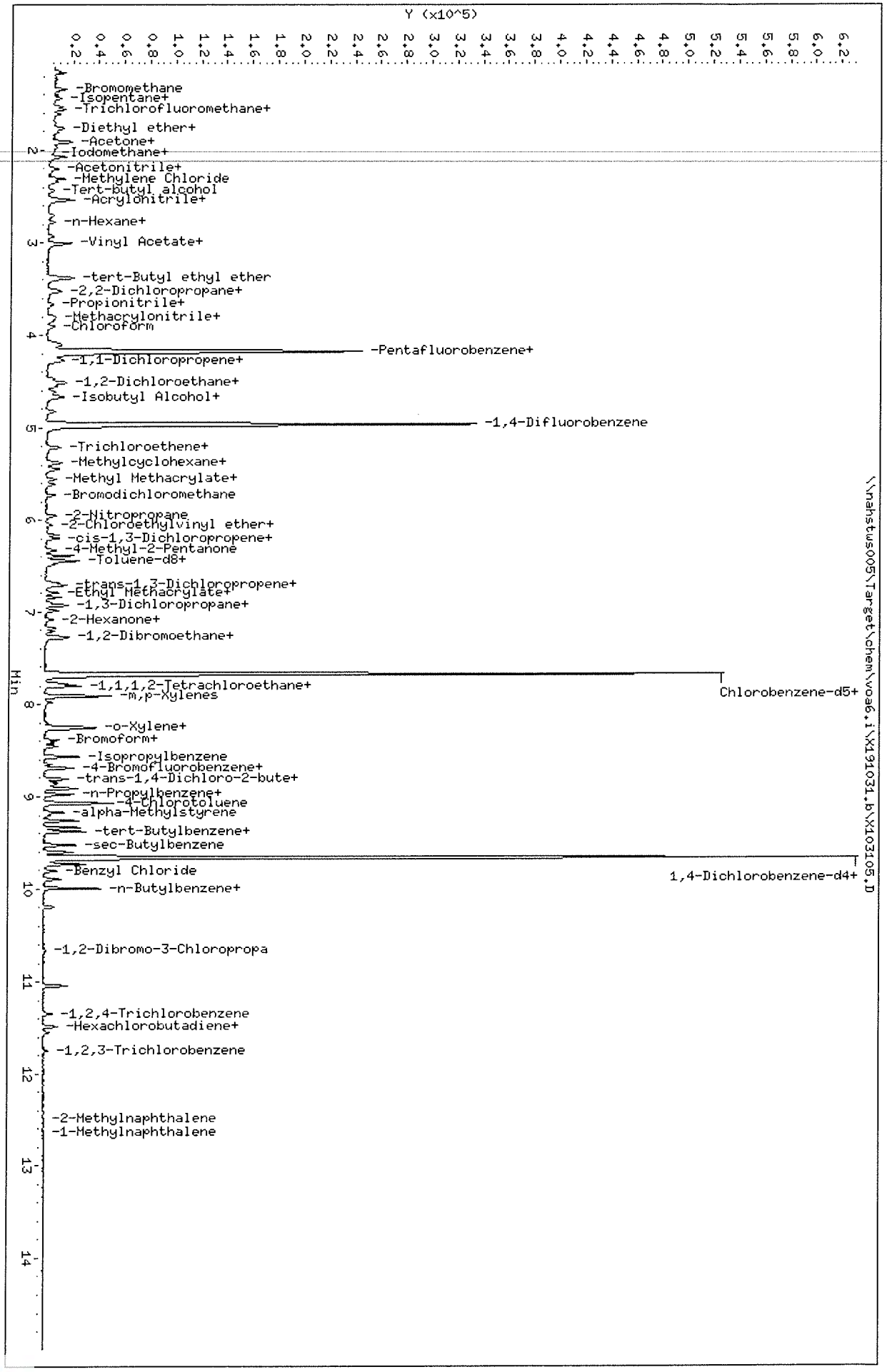
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	232544	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	291291	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	268147	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.669	(1.000)	156688	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	4578	2.00000	2.80(a)
$ 69 4-Bromofluorobenzene	95	8.688	8.695	(1.133)	5980	2.00000	1.79(a)
$ 30 Dibromofluoromethane	113	4.103	4.104	(0.981)	3779	2.00000	2.50(a)
$ 48 Toluene-d8	98	6.388	6.389	(0.833)	14029	2.00000	2.10(a)
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	4234	2.00000	1.93(a)
31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	5726	2.00000	1.96(a)
68 1,1,2,2-Tetrachloroethane	83	8.845	8.845	(0.915)	3659	2.00000	1.63(aM)
138 Freon TF	101	1.912	1.912	(0.457)	2873	2.00000	1.86(a)
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	2488	2.00000	2.04(a)
22 1,1-Dichloroethane	63	2.921	2.922	(0.699)	5166	2.00000	1.98(a)
11 1,1-Dichloroethene	96	1.912	1.912	(0.457)	2764	2.00000	1.86(a)
32 1,1-Dichloropropene	75	4.282	4.283	(0.862)	4178	2.00000	1.92(aM)
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.216)	1216	2.00000	1.22(aM)
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.918)	3184	2.00000	1.05(aM)
90 1,2,4-Trichlorobenzene	180	11.345	11.338	(1.174)	2720	2.00000	1.92(a)
79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.971)	14709	2.00000	1.95(a)
89 1,2-Dibromo-3-Chloropropane	155	10.658	10.658	(1.103)	503	2.00000	2.95(aM)
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	3407	2.00000	1.89(a)
88 1,2-Dichlorobenzene	146	9.991	9.999	(1.034)	8473	2.00000	1.94(a)

Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\X103105.D Page 2
Report Date: 19-Nov-2019 17:39

	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	4.555	4.562	(0.916)	4672	2.00000	1.97(aM)
42	1,2-Dichloropropane	63	5.443	5.436	(1.095)	2831	2.00000	1.99(aM)
75	1,3,5-Trimethylbenzene	105	9.067	9.075	(0.938)	14285	2.00000	1.96(a)
83	1,3-Dichlorobenzene	146	9.605	9.612	(0.994)	9089	2.00000	1.90(a)
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	4989	2.00000	1.99(a)
84	1,4-Dichlorobenzene	146	9.683	9.684	(1.002)	9267	2.00000	1.92(a)
26	2,2-Dichloropropane	77	3.516	3.516	(0.841)	5957	2.00000	2.12(a)
24	2-Butanone	43	3.588	3.573	(0.858)	1970	4.00000	3.74(aM)
76	2-Chlorotoluene	91	8.974	8.982	(0.929)	10891	2.00000	1.93(a)
52	2-Hexanone	43	7.090	7.090	(0.924)	3012	4.00000	3.85(a)
77	4-Chlorotoluene	91	9.075	9.075	(0.939)	12961	2.00000	1.95(a)
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	14762	2.00000	1.89(a)
45	4-Methyl-2-Pentanone	43	6.324	6.331	(0.824)	4391	4.00000	3.97(a)
10	Acetone	43	1.976	1.976	(0.473)	2316	4.00000	4.86(a)
37	Benzene	78	4.512	4.512	(0.908)	15908	2.00000	2.24(a)
74	Bromobenzene	156	8.810	8.810	(0.912)	5436	2.00000	1.88(a)
29	Bromochloromethane	128	3.803	3.795	(0.909)	2624	2.00000	2.18(a)
39	Bromodichloromethane	83	5.722	5.730	(1.151)	4209	2.00000	1.82(aM)
66	Bromoform	173	8.416	8.416	(1.097)	2935	2.00000	1.69(Ta)
6	Bromomethane	94	1.338	1.331	(0.320)	3954	2.00000	0.82(a)
19	Carbon Disulfide	76	2.069	2.069	(0.495)	16437	4.00000	3.83(a)
34	Carbon Tetrachloride	117	4.261	4.268	(0.857)	5693	2.00000	2.00(aM)
59	Chlorobenzene	112	7.692	7.699	(1.003)	10166	2.00000	1.94(a)
7	Chloroethane	64	1.403	1.396	(0.336)	1786	2.00000	1.93(aM)
28	Chloroform	83	3.910	3.910	(0.935)	6020	2.00000	1.95(a)
3	Chloromethane	50	1.073	1.074	(0.257)	2728	2.00000	1.71(a)
27	cis-1,2-Dichloroethene	96	3.530	3.523	(0.844)	3645	2.00000	1.96(a)
46	cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	5187	2.00000	1.94(a)
55	Dibromochloromethane	129	7.176	7.176	(0.936)	4043	2.00000	1.82(a)
44	Dibromomethane	93	5.557	5.558	(1.118)	2153	2.00000	1.91(a)
2	Dichlorodifluoromethane	85	0.973	0.966	(0.233)	3109	2.00000	2.87(a)
61	Ethylbenzene	106	7.800	7.807	(1.017)	5202	2.00000	1.92(aM)
91	Hexachlorobutadiene	225	11.481	11.481	(1.188)	2608	2.00000	2.13(a)
67	Isopropylbenzene	105	8.566	8.566	(1.117)	15953	2.00000	1.93(a)
62	m,p-Xylenes	106	7.907	7.907	(1.031)	12901	4.00000	3.92(a)
17	Methylene Chloride	84	2.305	2.306	(0.551)	3610	2.00000	2.23(a)
87	n-Butylbenzene	91	9.999	9.999	(1.035)	10745	2.00000	1.93(a)
73	n-Propylbenzene	91	8.917	8.917	(0.923)	17276	2.00000	1.93(a)
92	Naphthalene	128	11.546	11.546	(1.195)	3529	2.00000	1.43(a)
63	o-Xylene	106	8.244	8.244	(1.075)	6463	2.00000	1.99(a)
81	sec-Butylbenzene	105	9.526	9.526	(0.986)	15125	2.00000	1.90(a)
64	Styrene	104	8.258	8.265	(1.077)	10578	2.00000	1.89(a)
78	tert-Butylbenzene	119	9.340	9.340	(0.967)	12603	2.00000	1.99(a)
56	Tetrachloroethene	164	6.926	6.933	(0.903)	4373	2.00000	2.15(a)
50	Toluene	91	6.446	6.446	(0.840)	14662	2.00000	2.00(a)
20	trans-1,2-Dichloroethene	96	2.535	2.528	(0.606)	2990	2.00000	1.91(a)
51	trans-1,3-Dichloropropene	75	6.689	6.682	(1.346)	4680	2.00000	1.87(a)
38	Trichloroethene	130	5.207	5.207	(1.048)	4094	2.00000	1.88(a)
8	Trichlorofluoromethane	101	1.561	1.553	(0.373)	5998	2.00000	1.93(a)
5	Vinyl Chloride	62	1.138	1.138	(0.272)	2738	2.00000	1.87(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.



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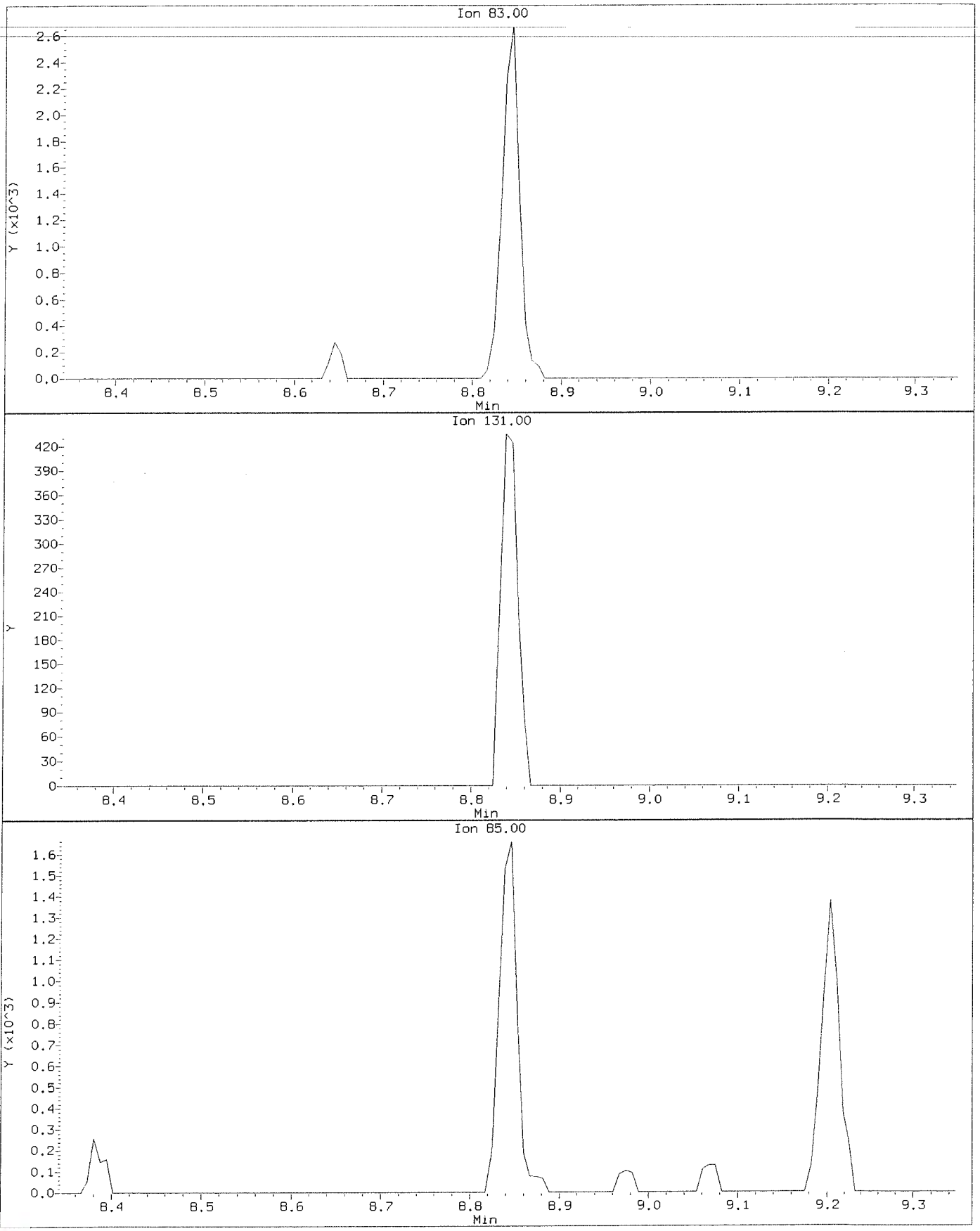
Date : 31-OCT-2019 12:44
Client ID: VSTD002
Sample Info: VSTD002;VSTD002;1;4;
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\BEFORE2\X103105.D
Injection Date: 31-OCT-2019 12:44
Instrument: voa6.i
Client Sample ID: VSTD002

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



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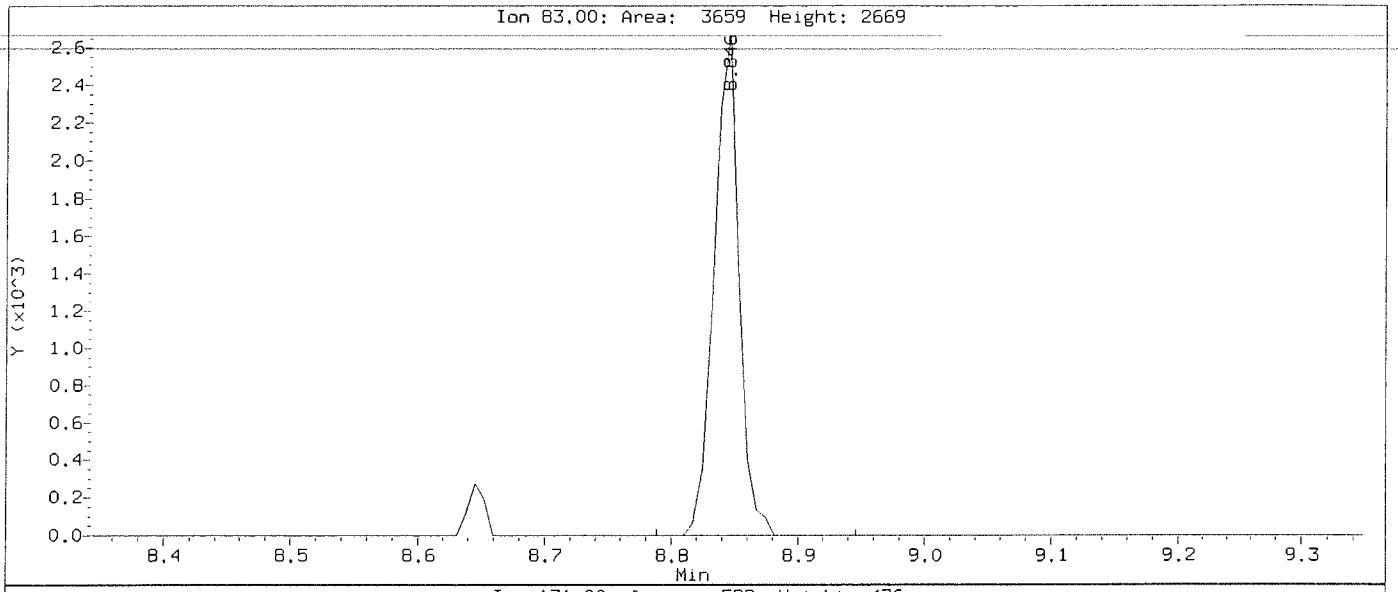
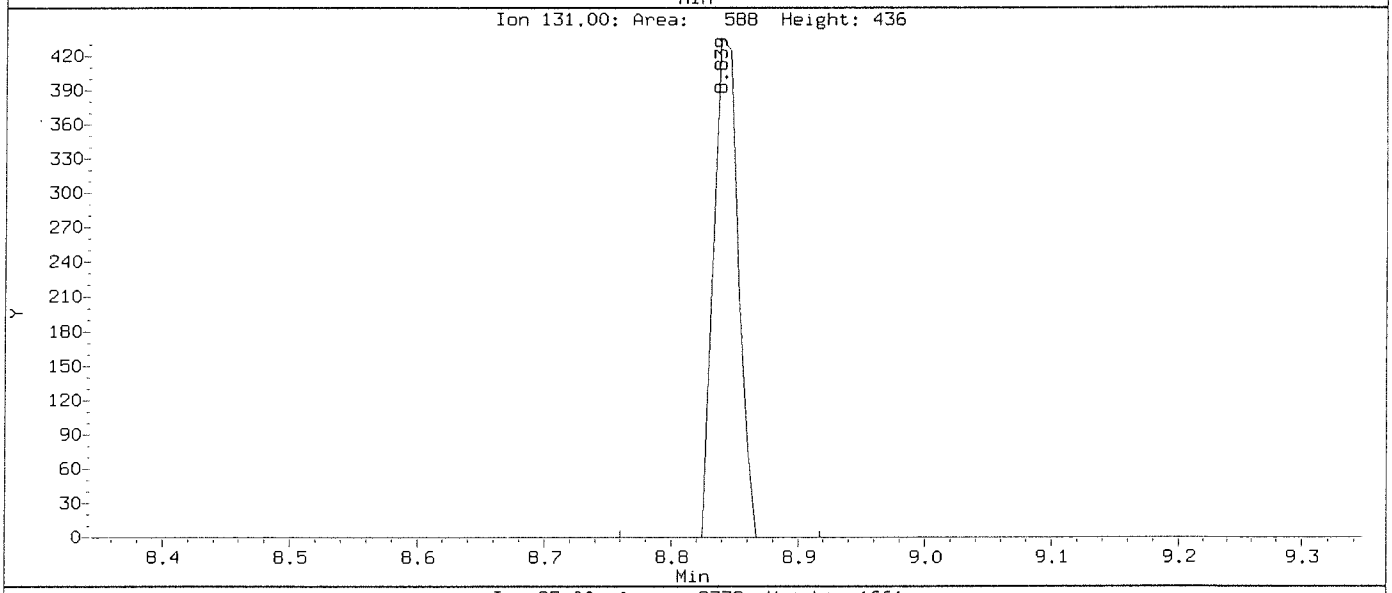
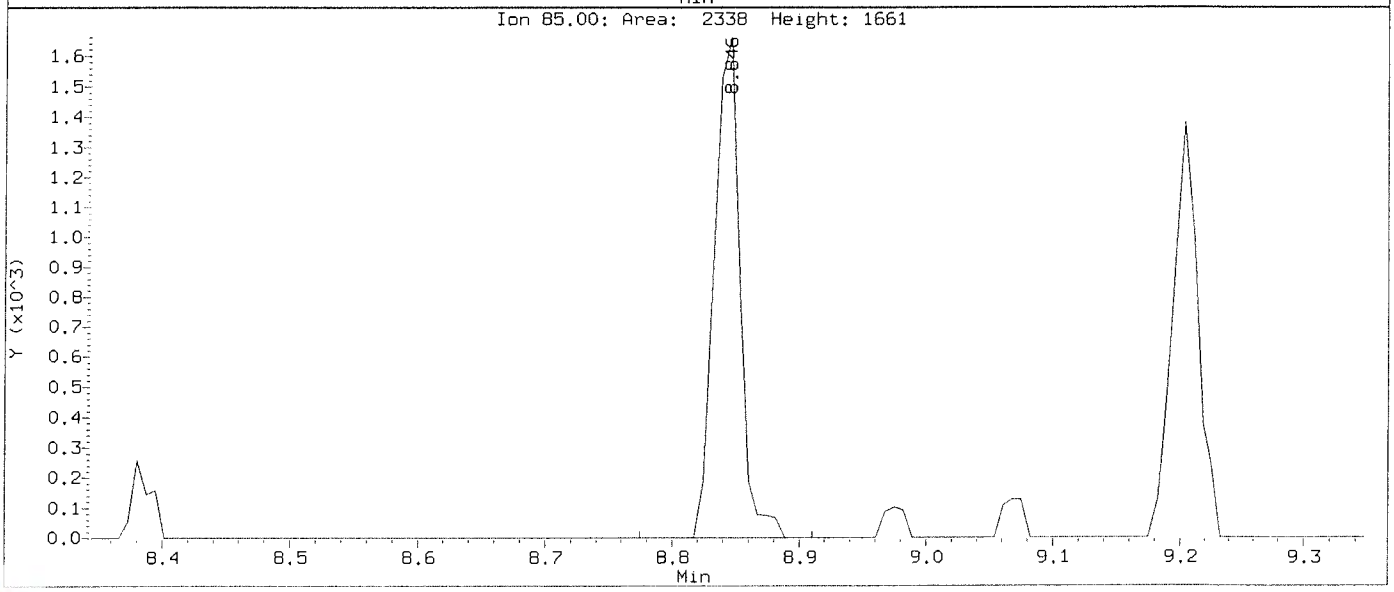
Injection Date: 31-OCT-2019 12:44
Instrument: voa6.i
Client Sample ID: VSTD002

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

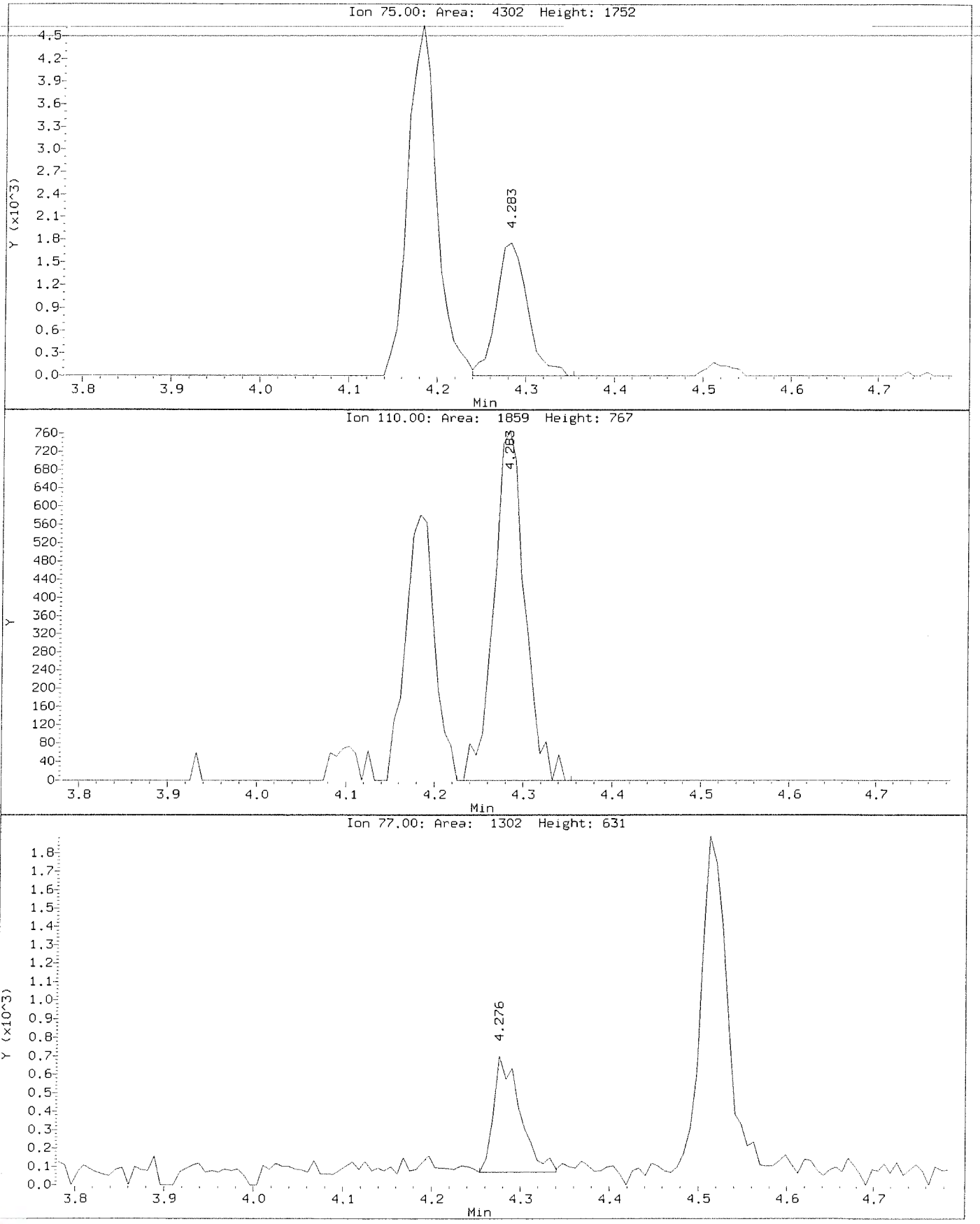






Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\BEFORE2\X103105.D
Injection Date: 31-OCT-2019 12:44
Instrument: voa6.i
Client Sample ID: VSTD002

Compound: 1,1-Dichloropropene
CAS Number: 563-58-6



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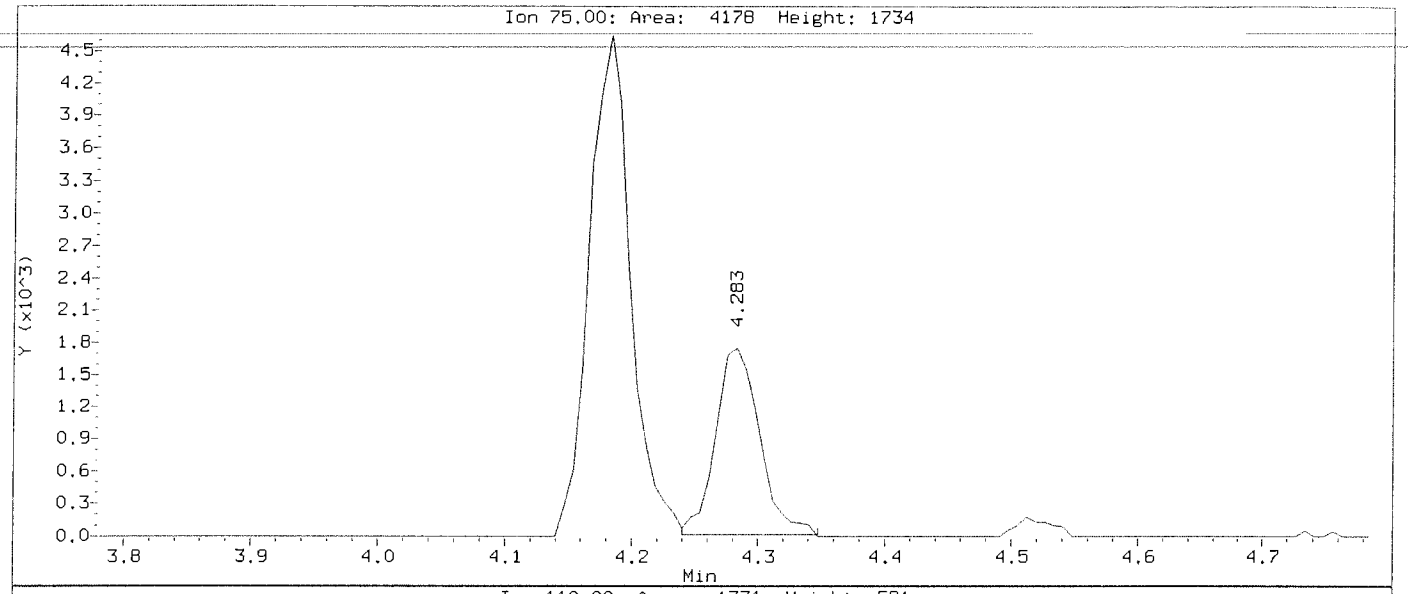
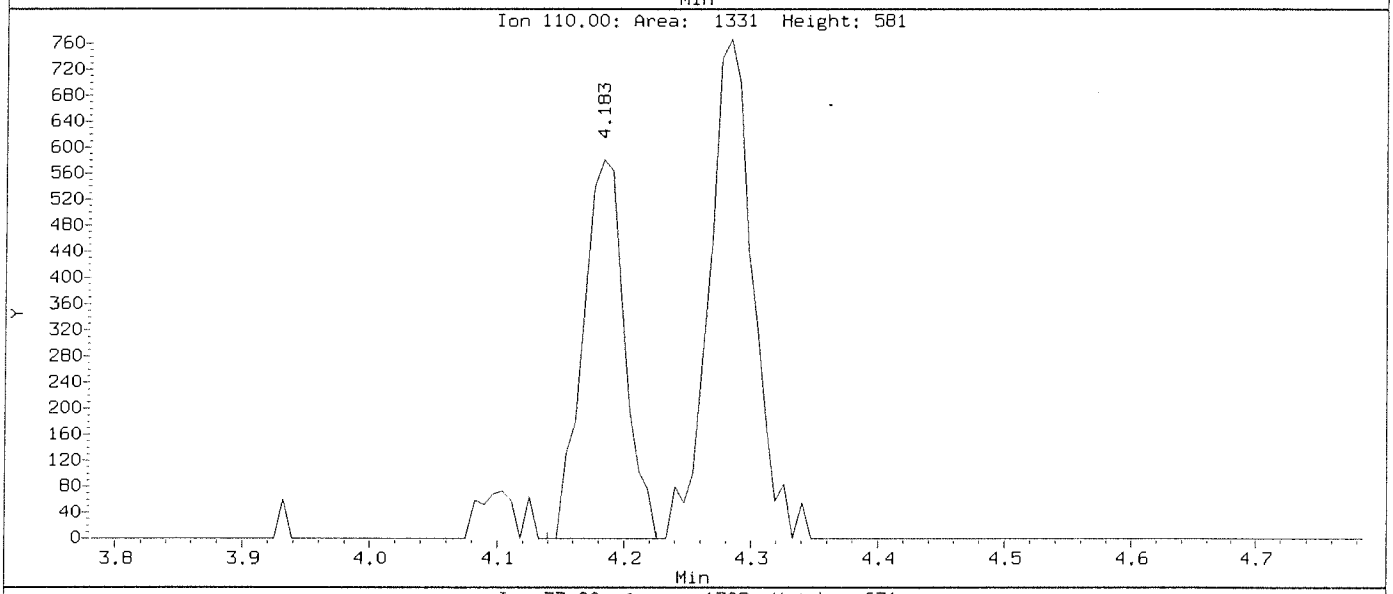
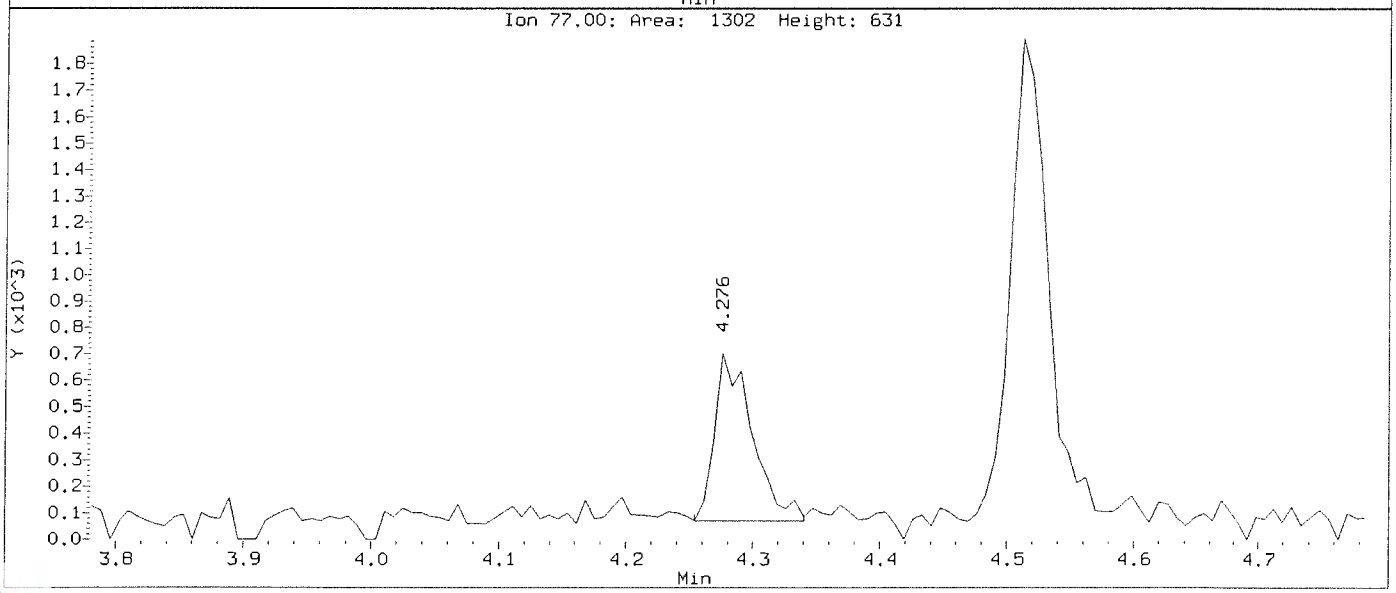
Injection Date: 31-OCT-2019 12:44
Instrument: voa6.i
Client Sample ID: VSTD002

Compound: 1,1-Dichloropropene
CAS Number: 563-58-6







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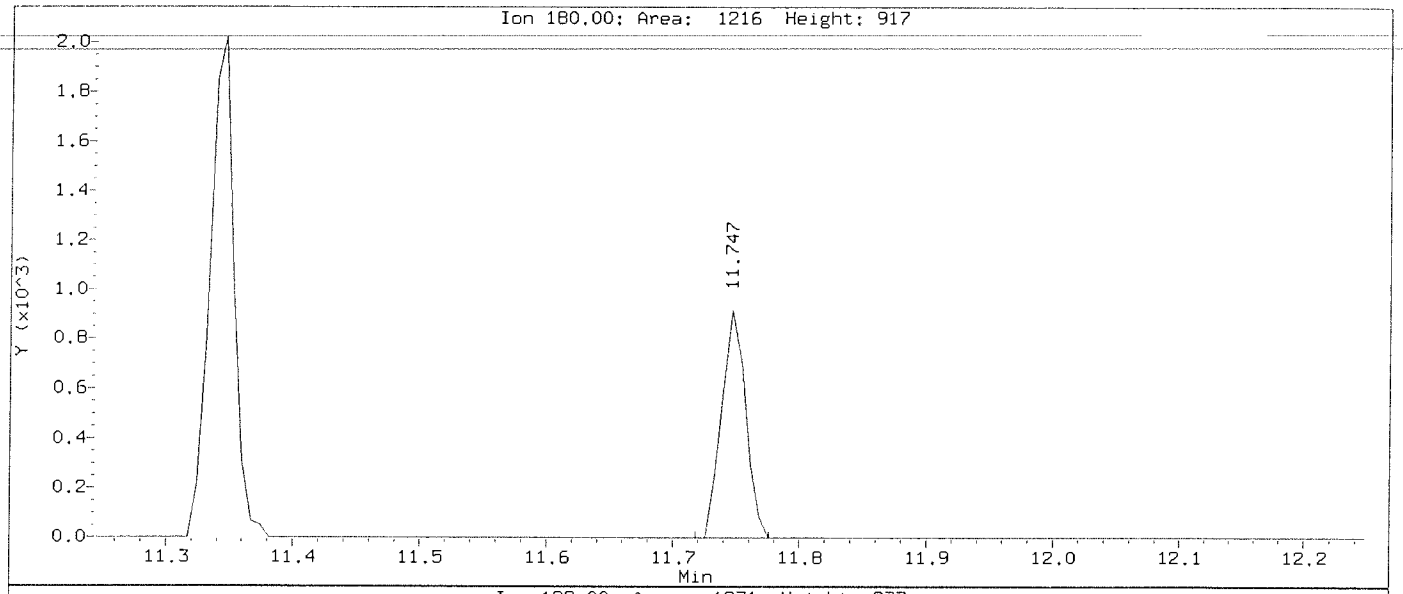
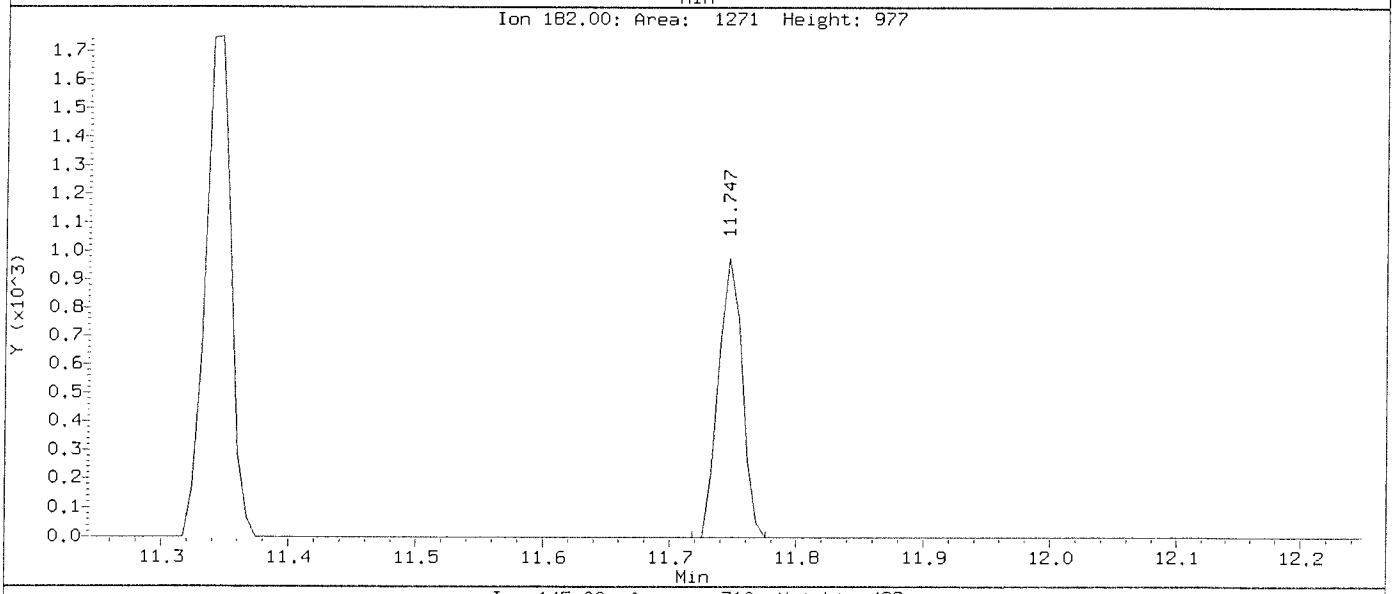
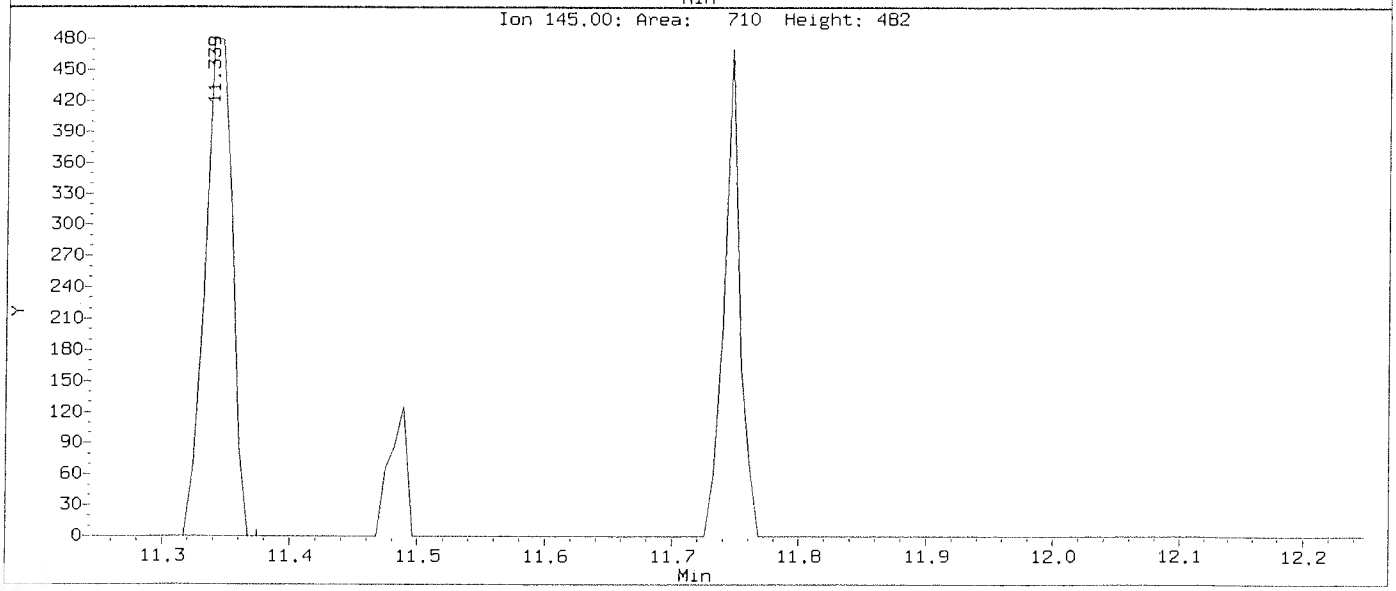
Injection Date: 31-OCT-2019 12:44
Instrument: voa6.i
Client Sample ID: VSTD002

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







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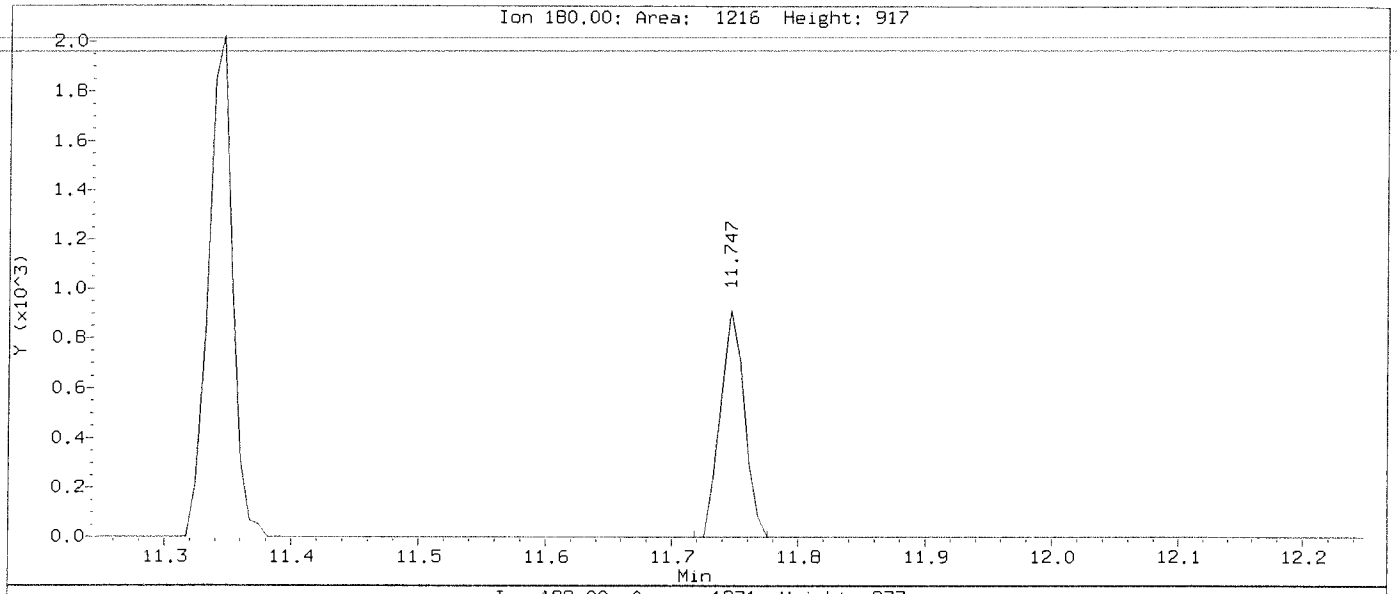
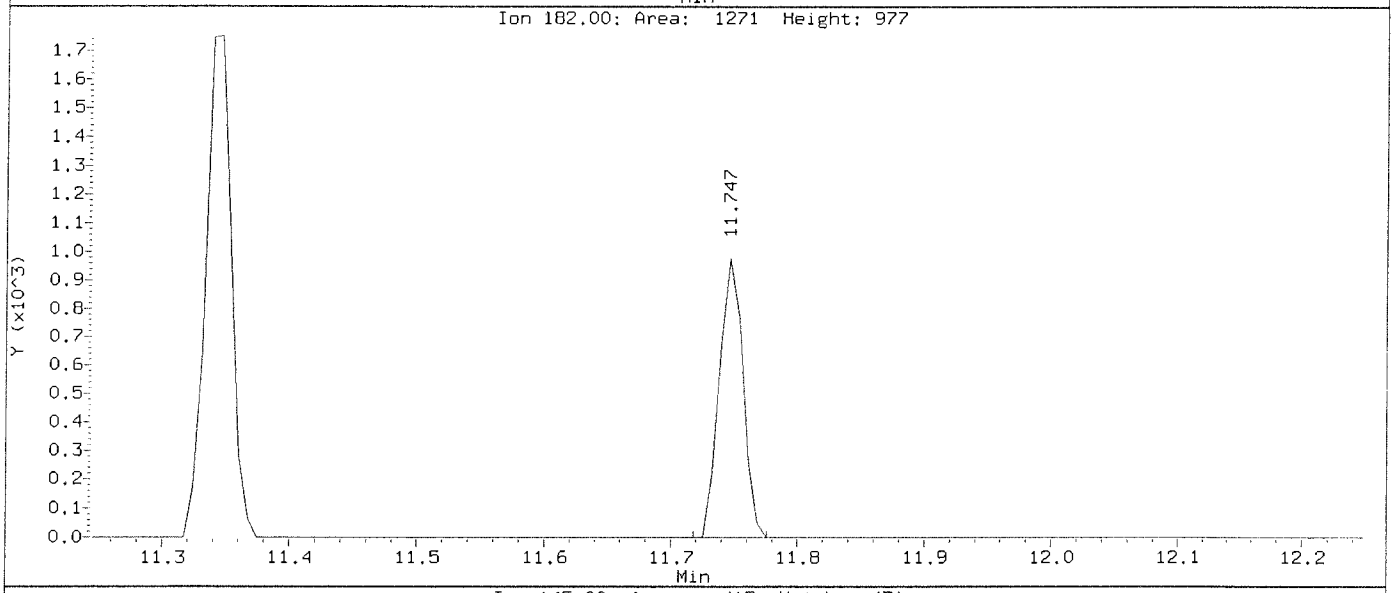
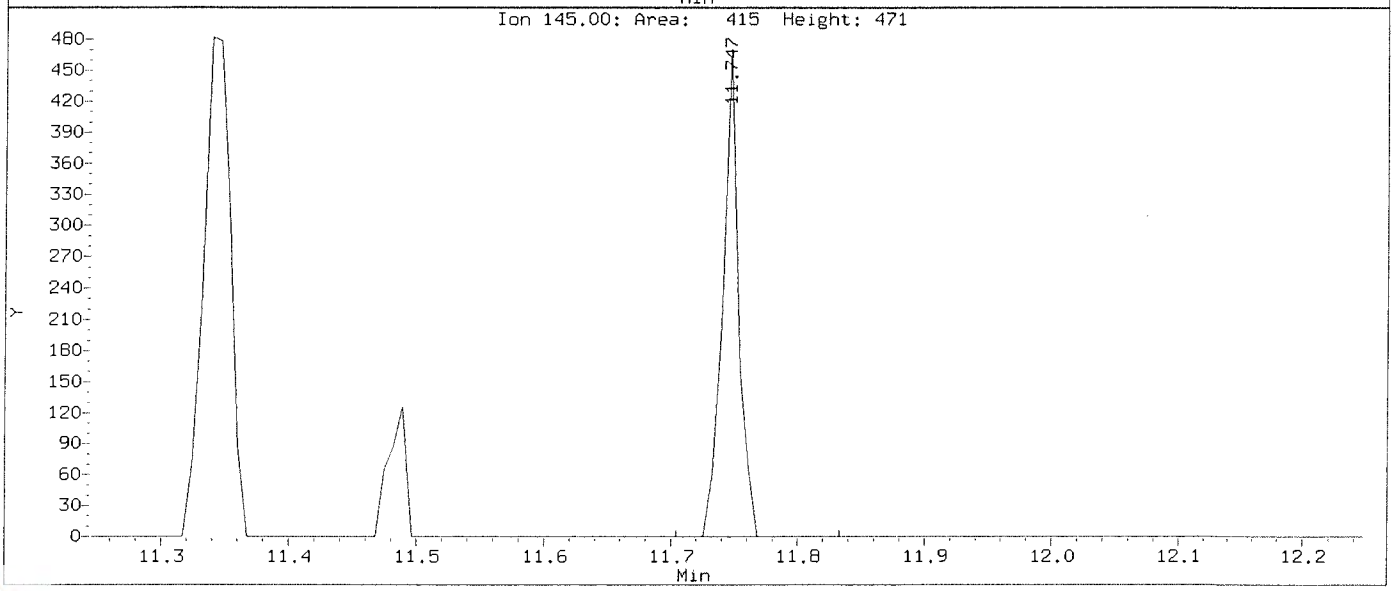
Injection Date: 31-OCT-2019 12:44
Instrument: voa6.i
Client Sample ID: VSTD002

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







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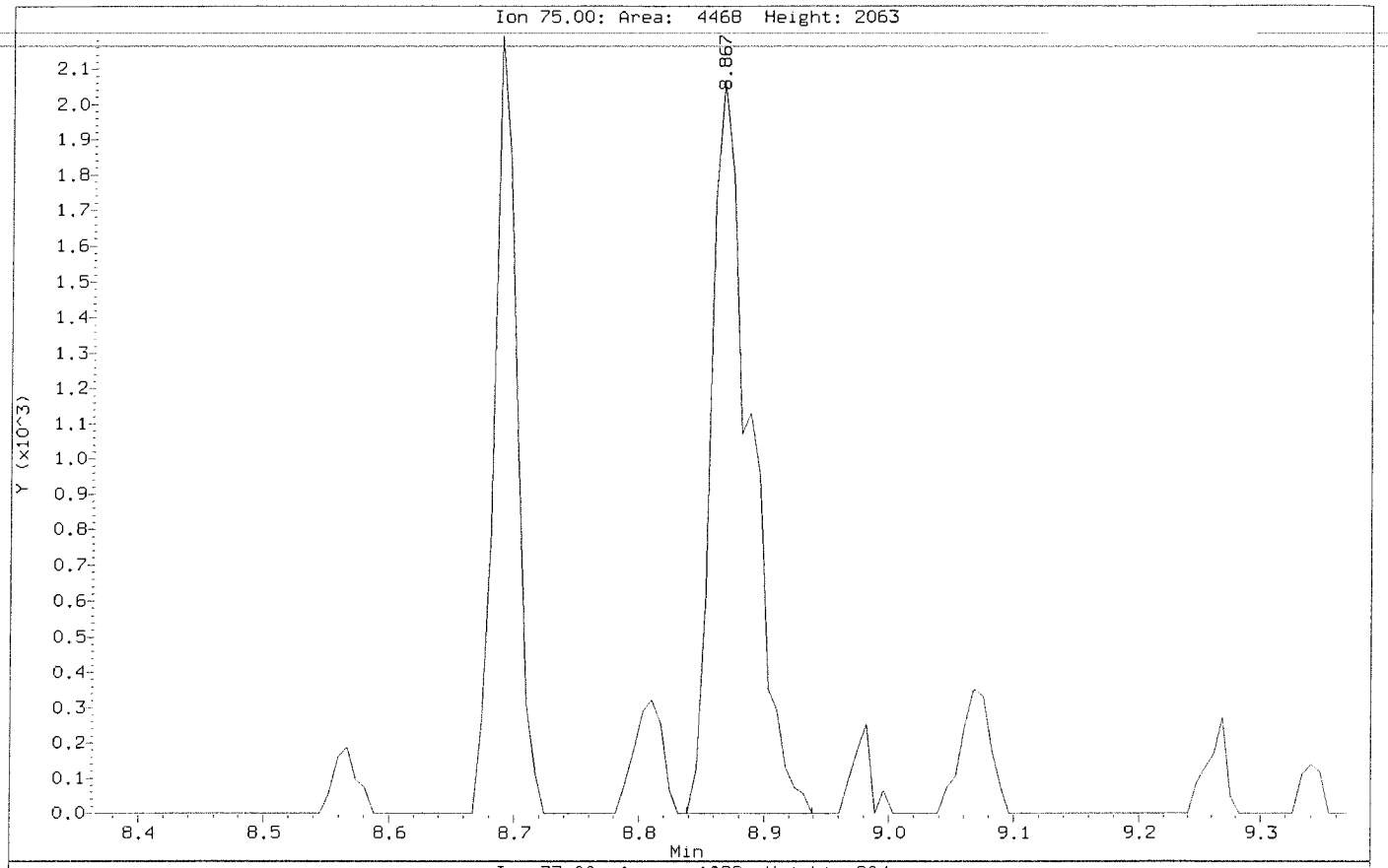
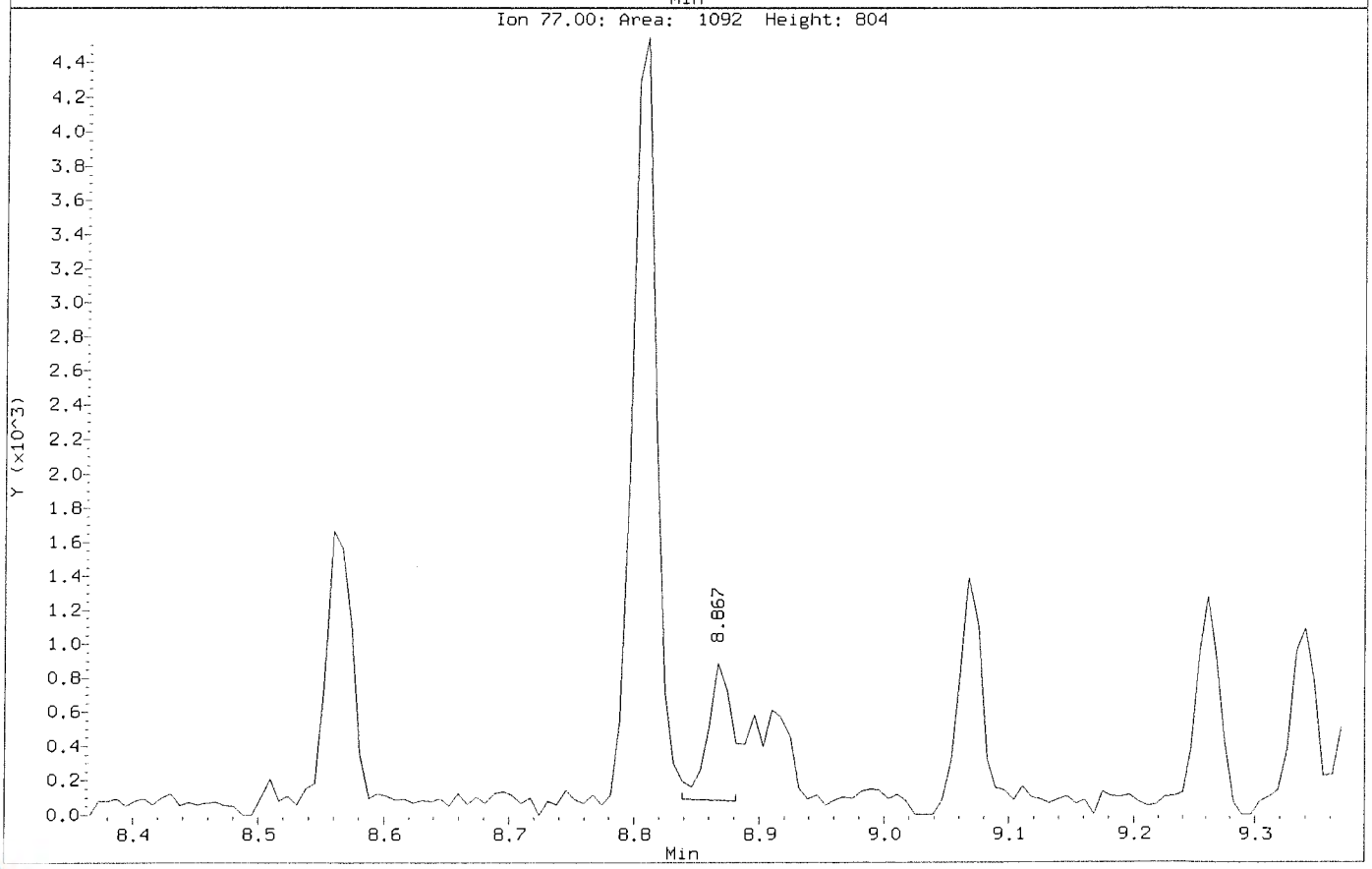
Injection Date: 31-OCT-2019 12:44
Instrument: voa6.i
Client Sample ID: VSTD002

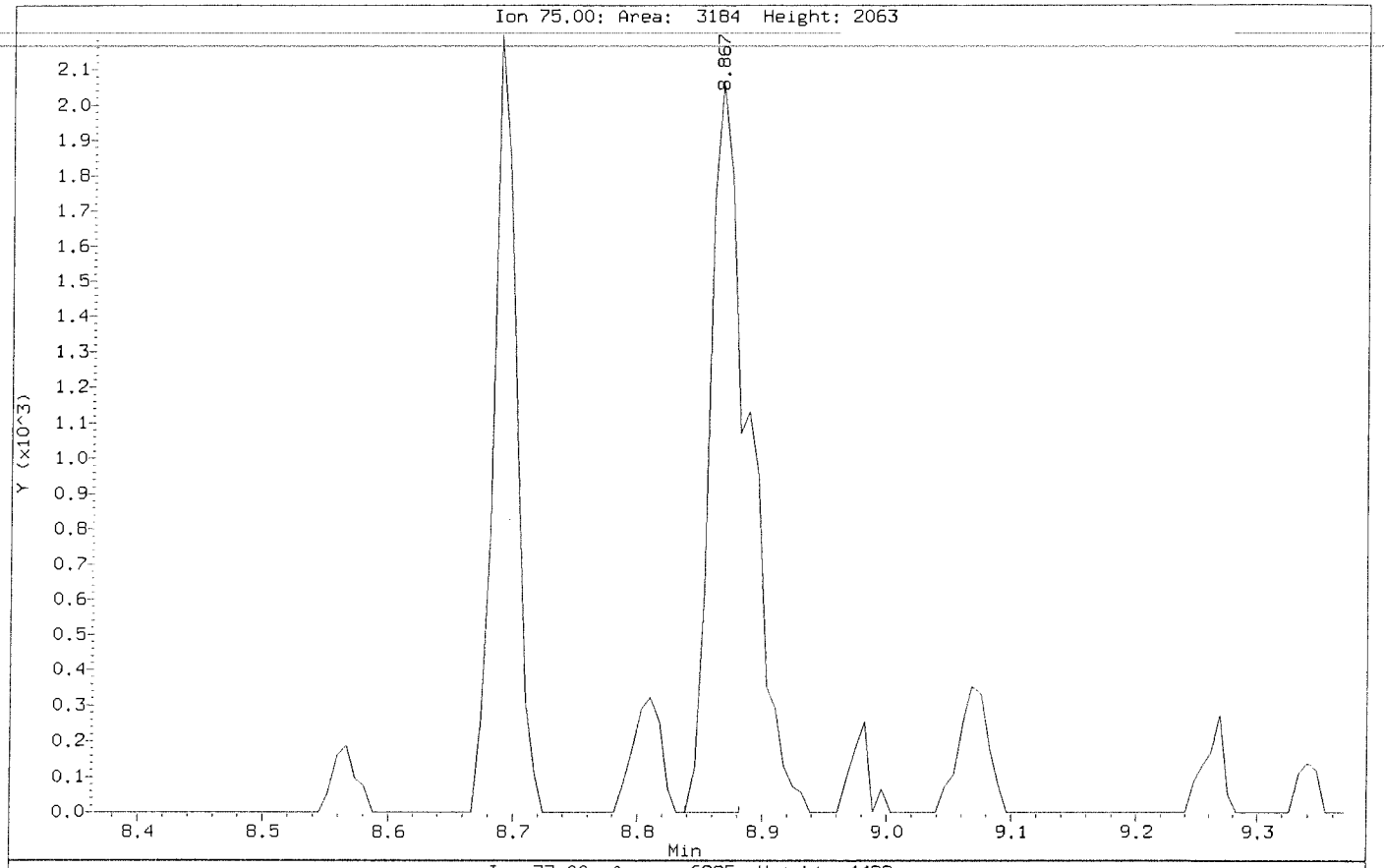
Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4

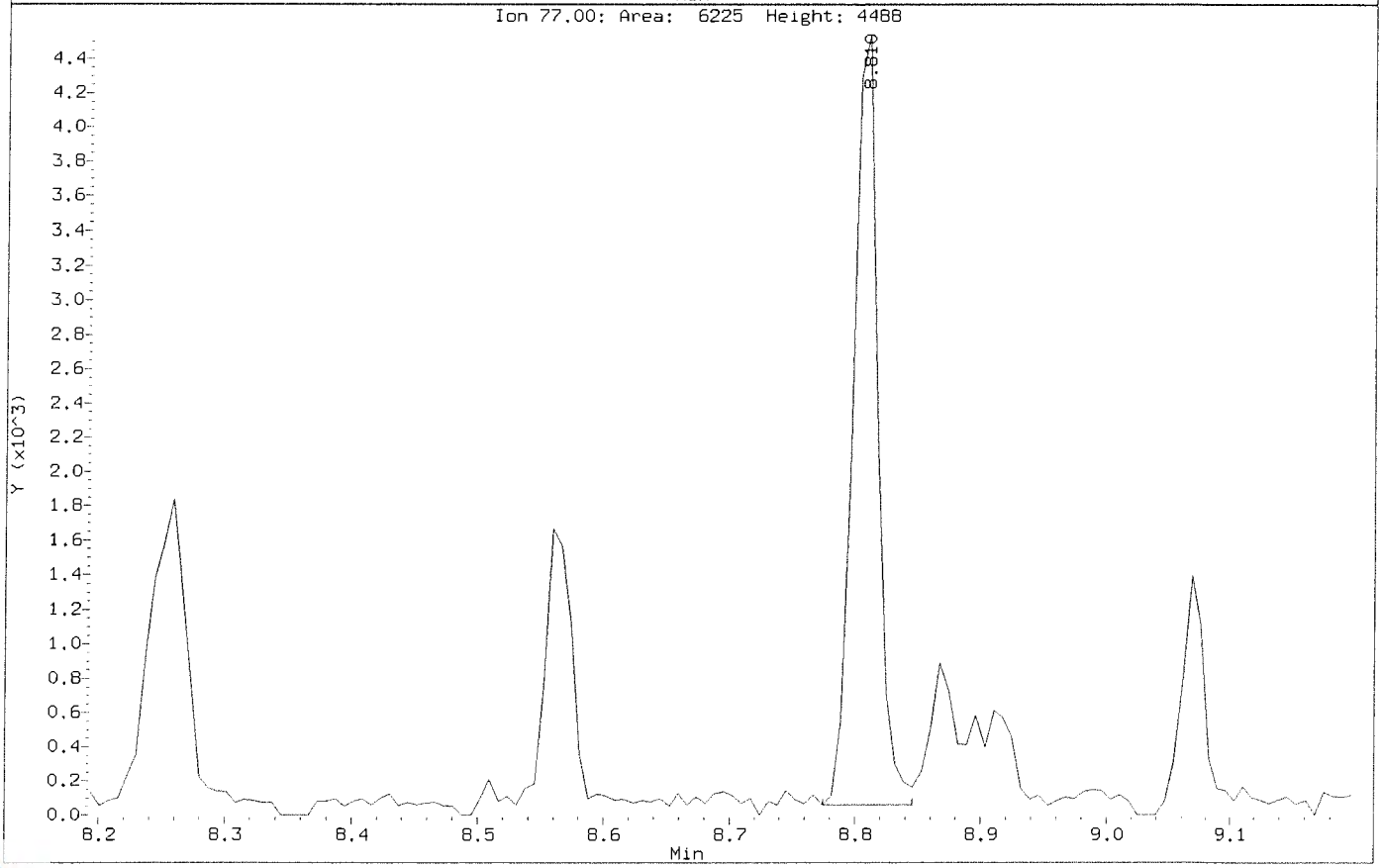




Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\X103105.D
Injection Date: 31-OCT-2019 12:44
Instrument: voa6.i
Client Sample ID: VSTD002

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





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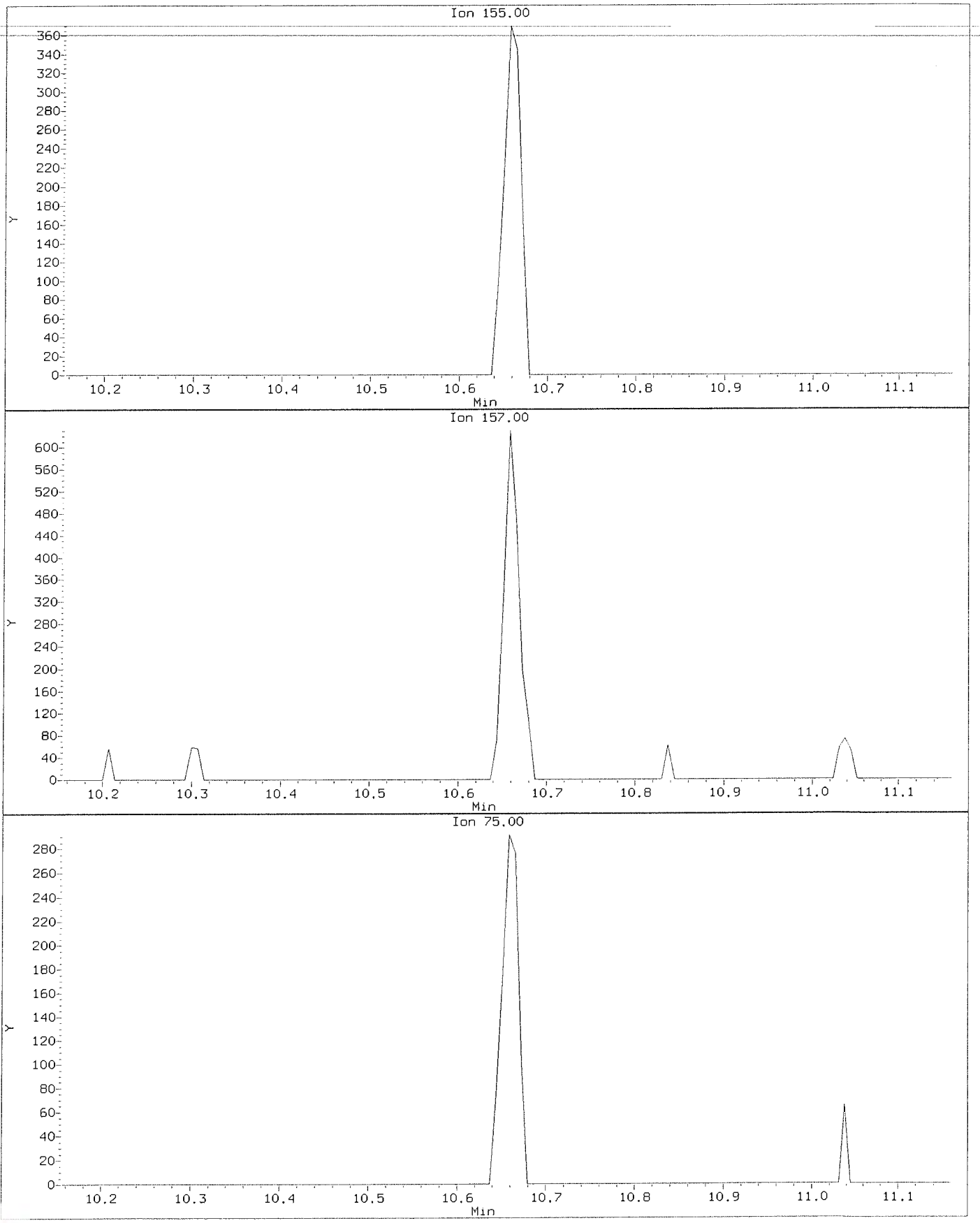
Injection Date: 31-OCT-2019 12:44
Instrument: voa6.i
Client Sample ID: VSTD002

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



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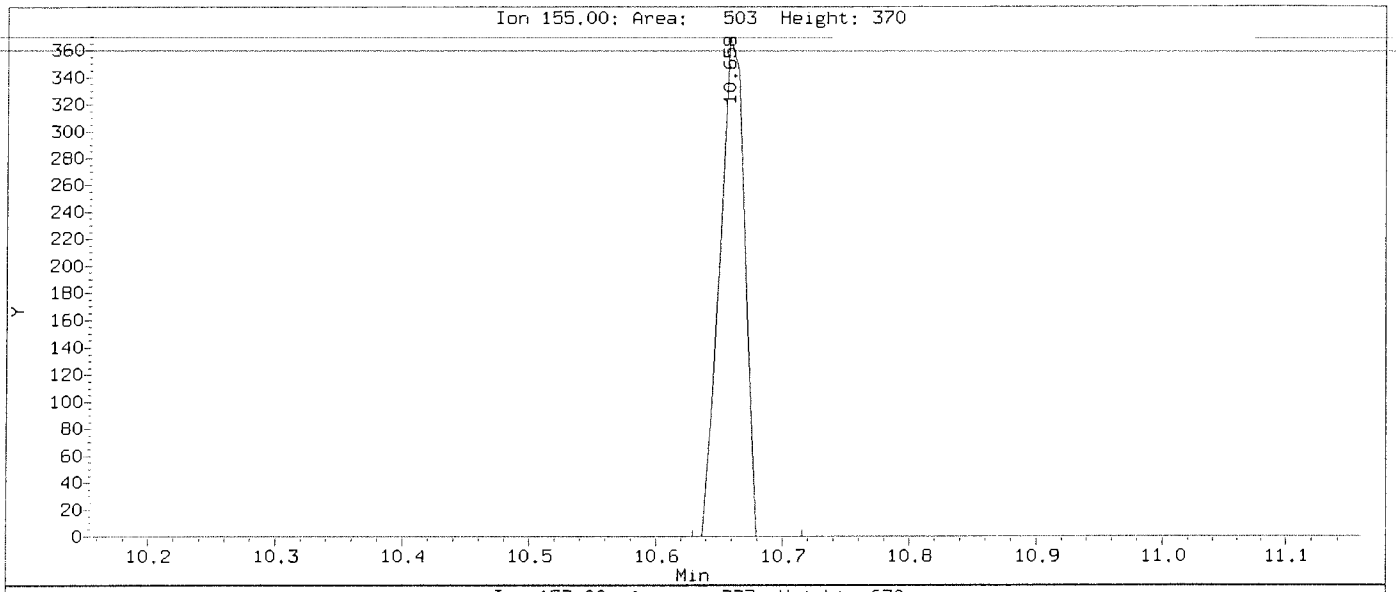
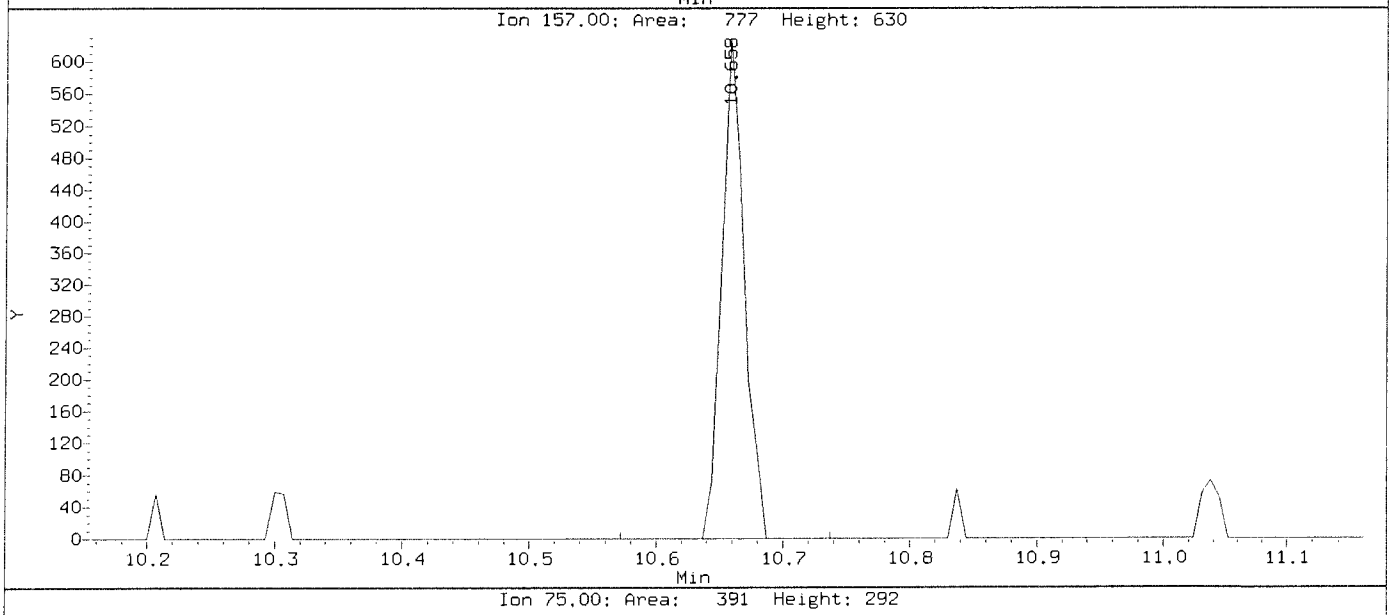
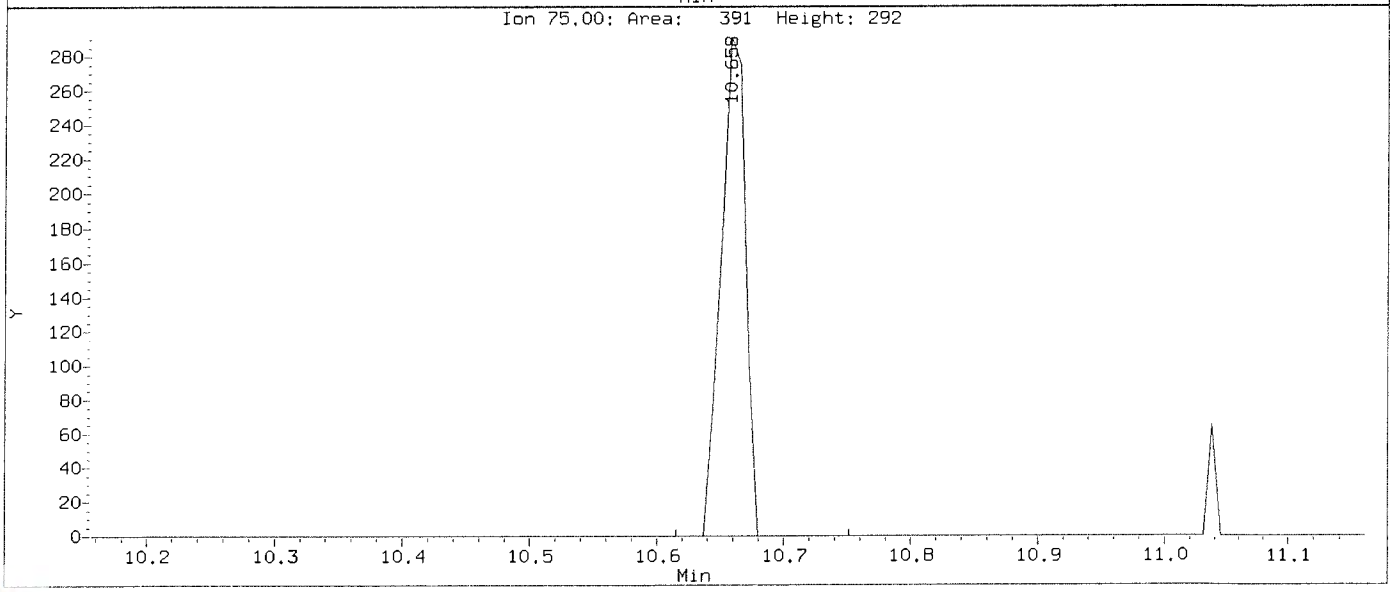
Injection Date: 31-OCT-2019 12:44
Instrument: voa6.i
Client Sample ID: VSTD002

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







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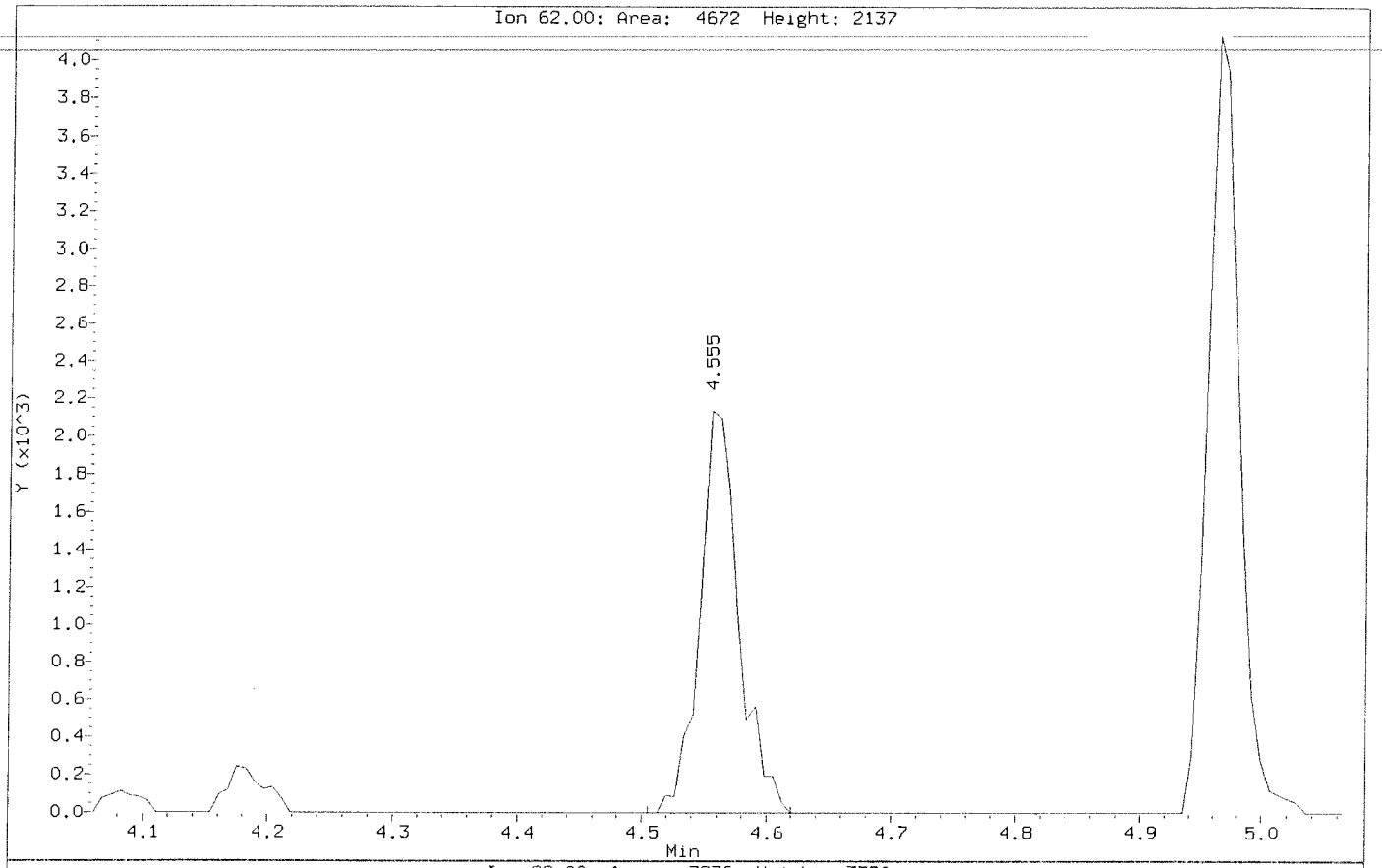
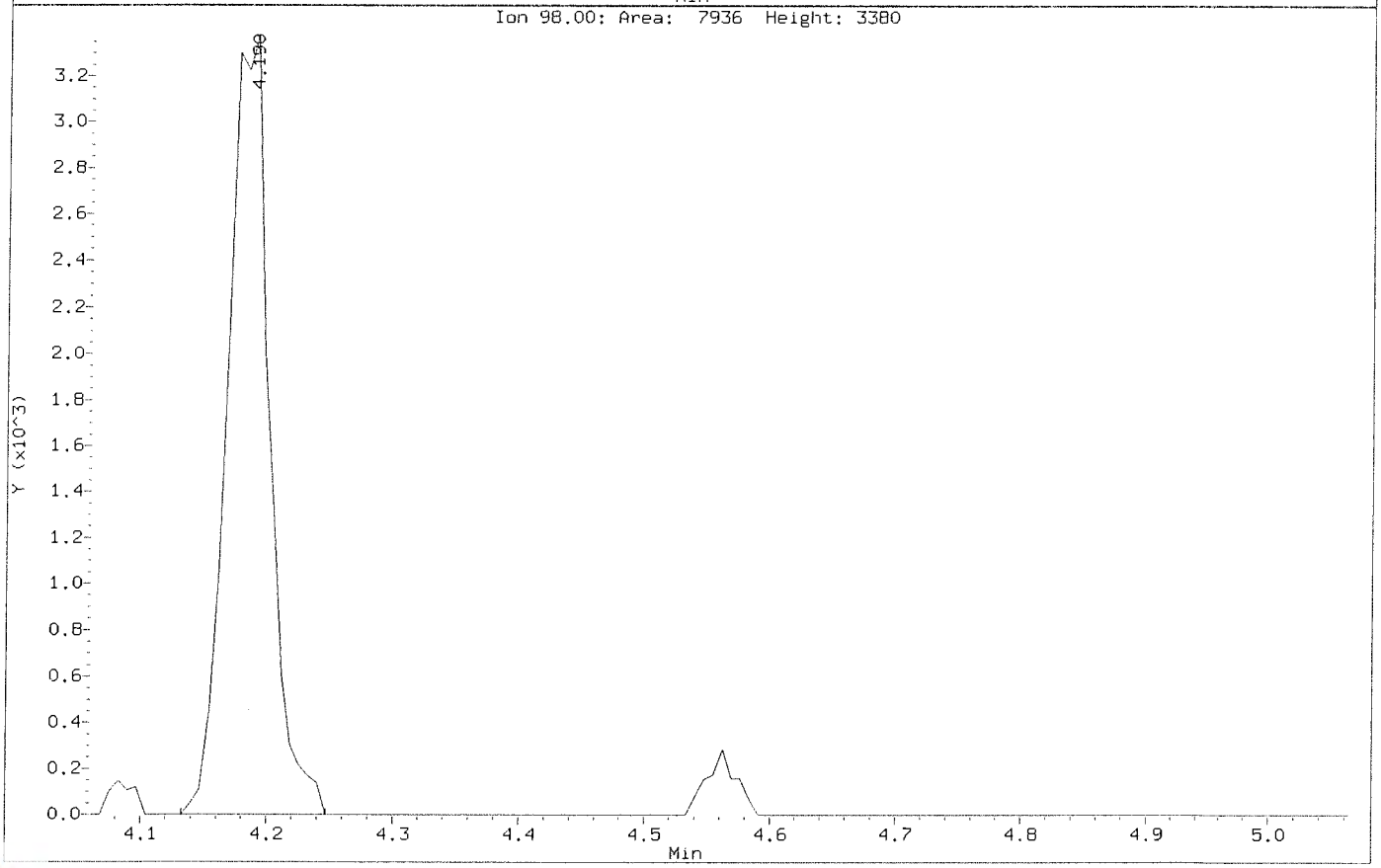
Injection Date: 31-OCT-2019 12:44
Instrument: voa6.i
Client Sample ID: VSTD002

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





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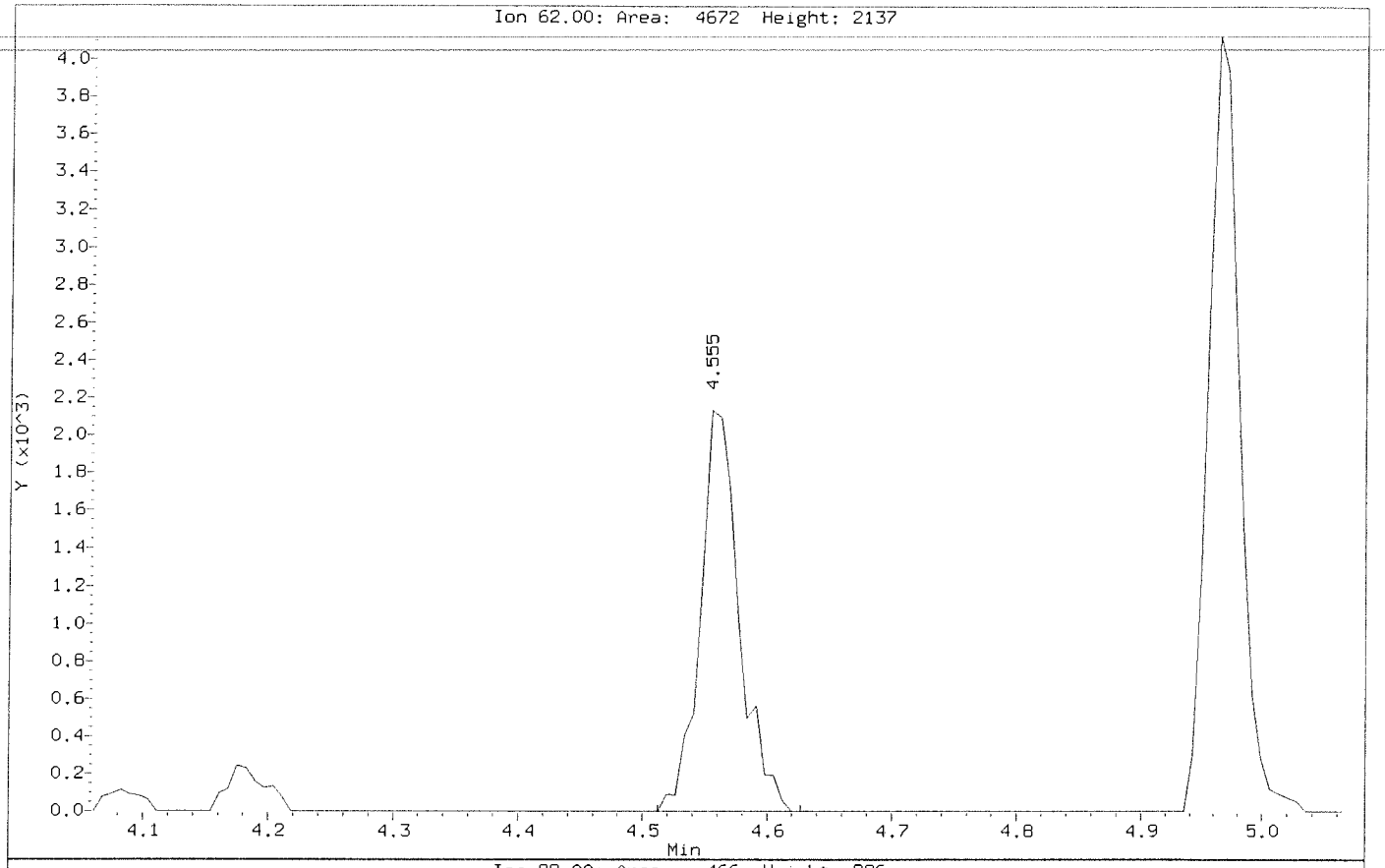
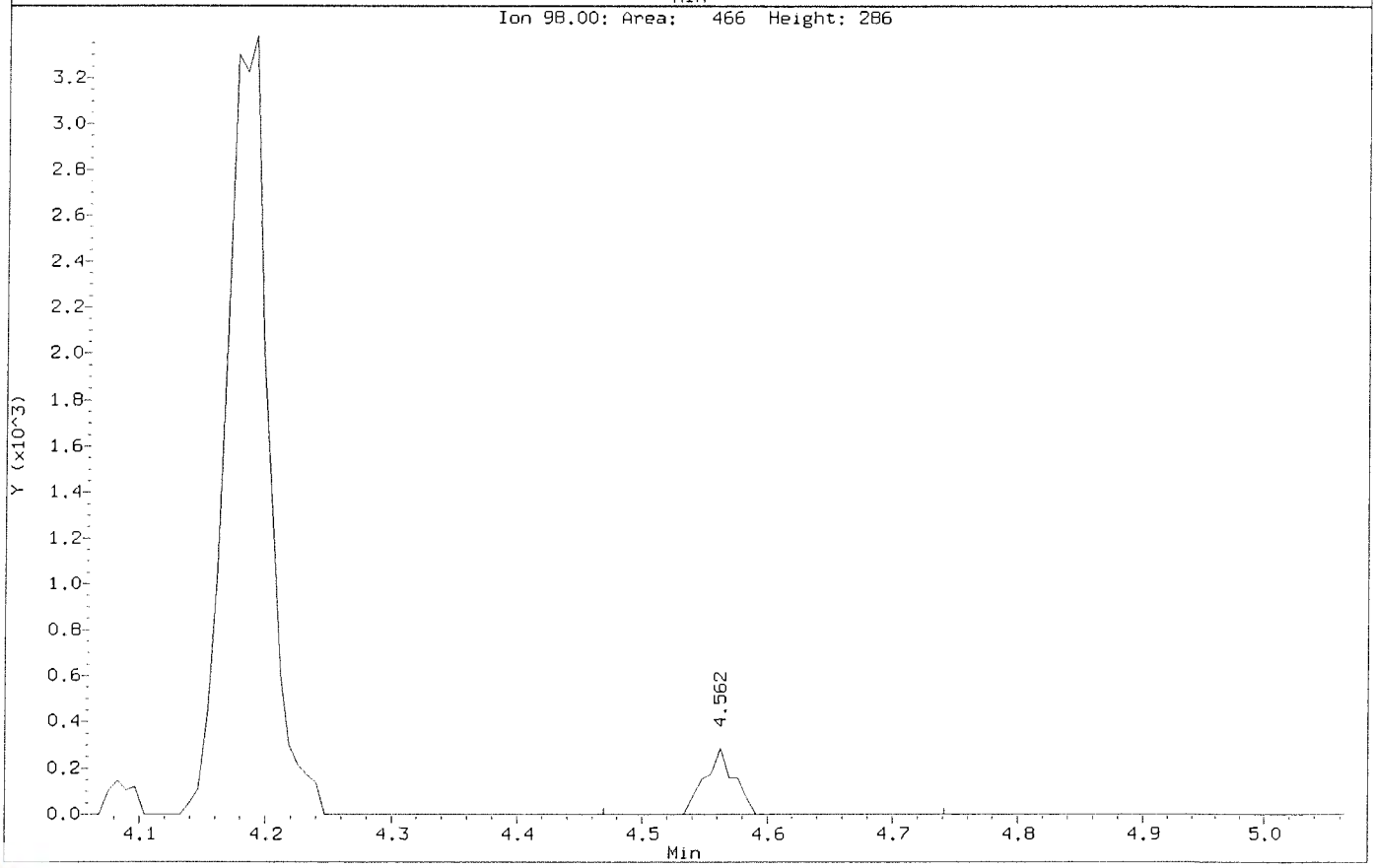
Injection Date: 31-OCT-2019 12:44
Instrument: voa6.i
Client Sample ID: VSTD002

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





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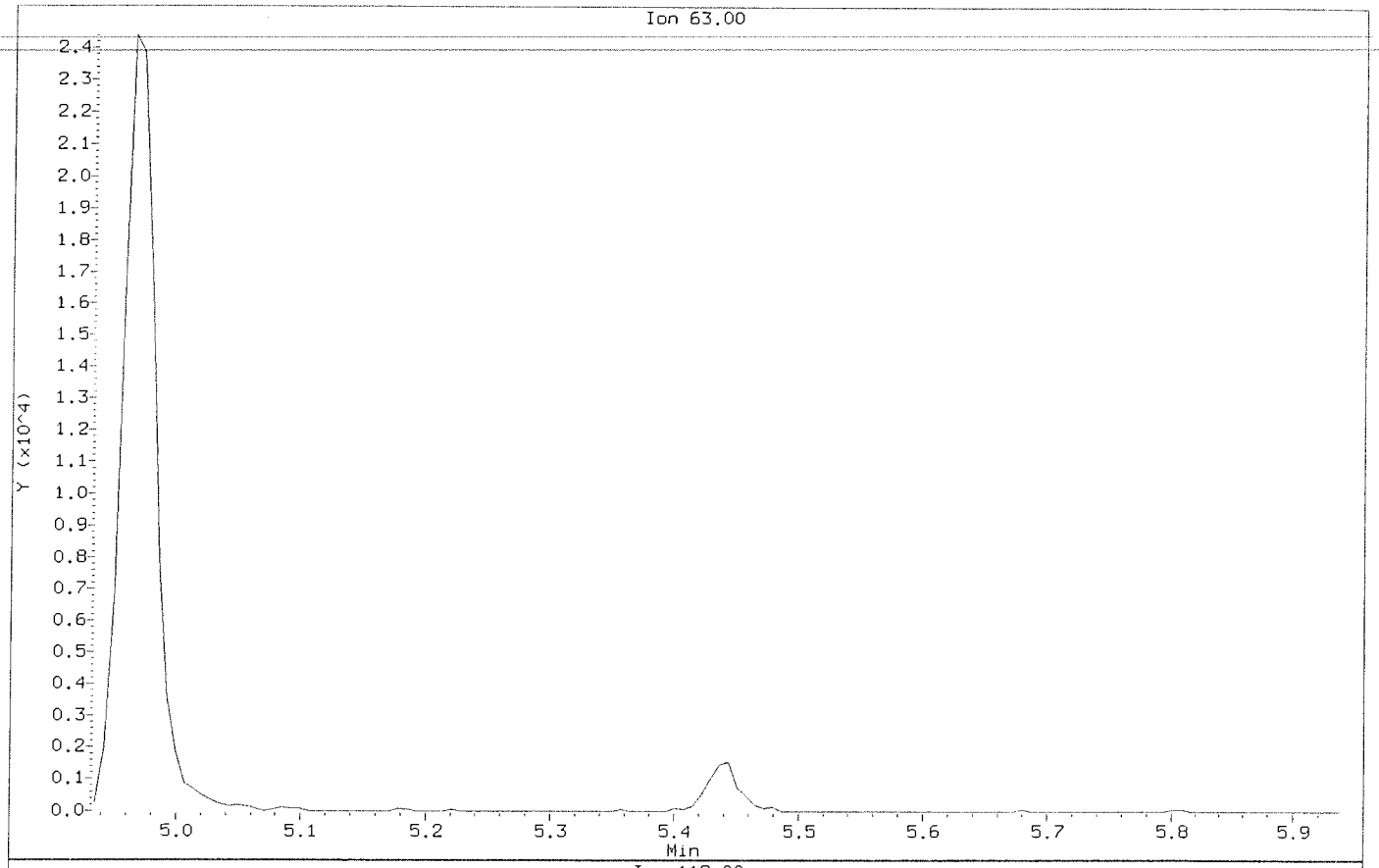
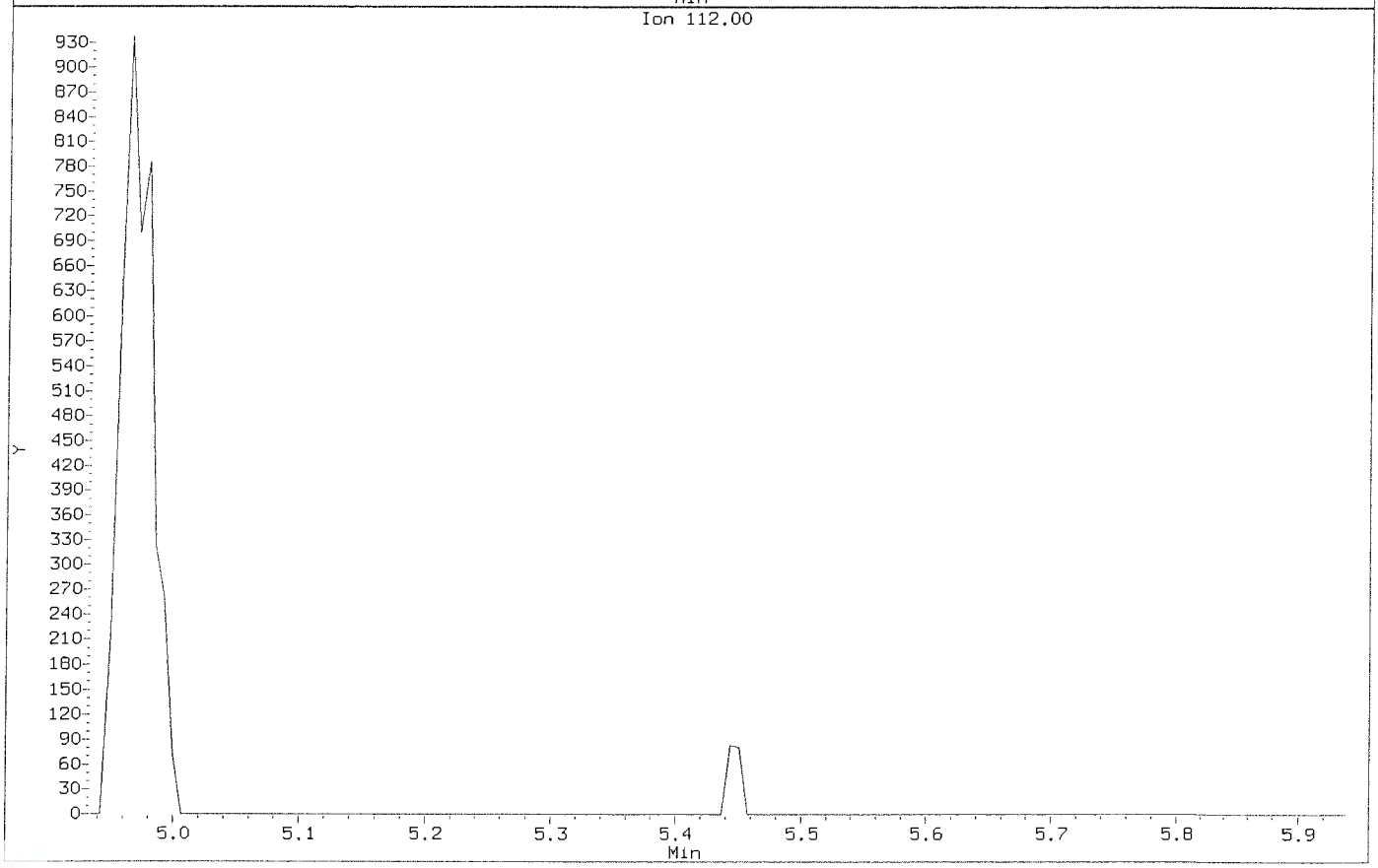
Injection Date: 31-OCT-2019 12:44
Instrument: voa6.i
Client Sample ID: VSTD002

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





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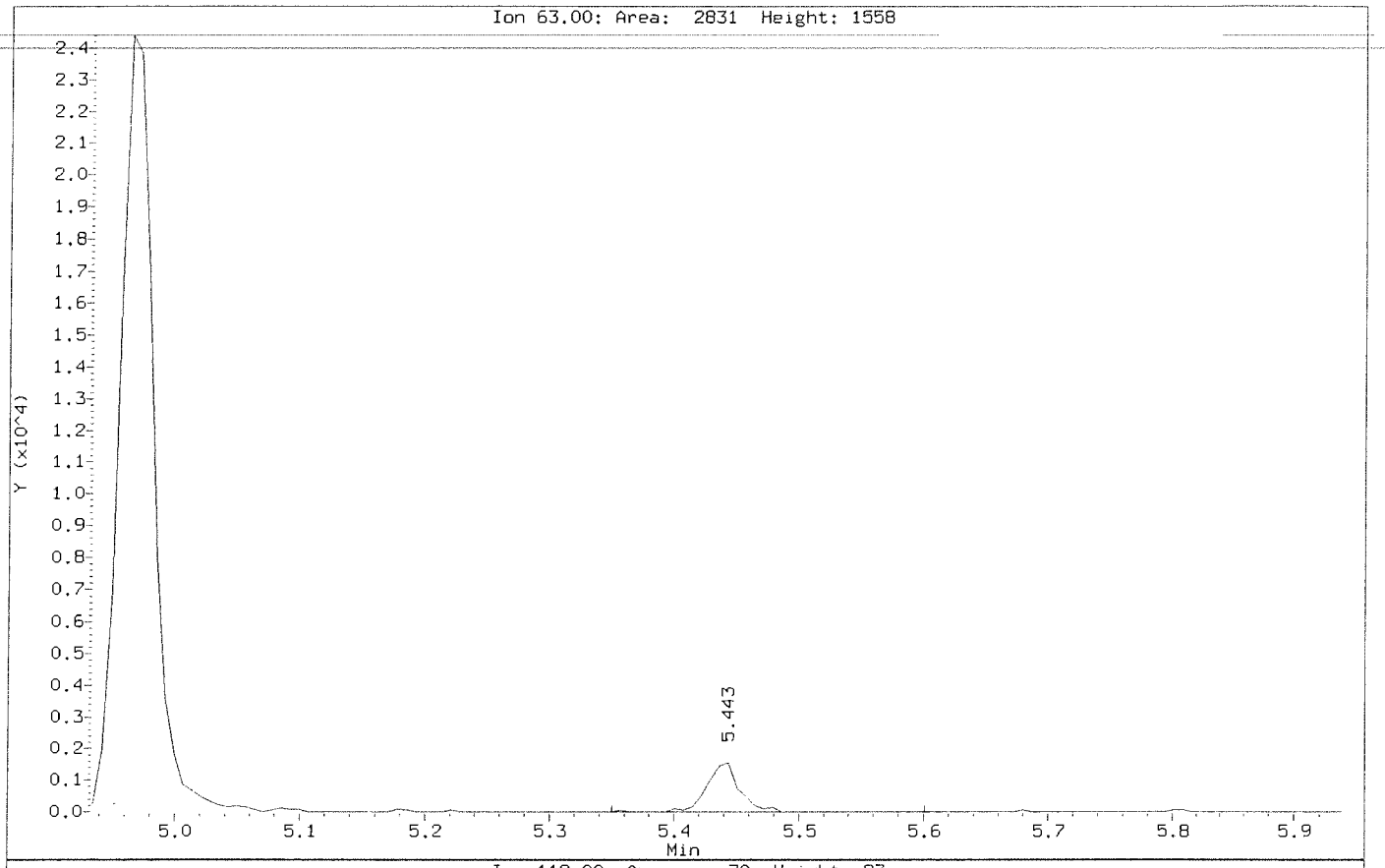
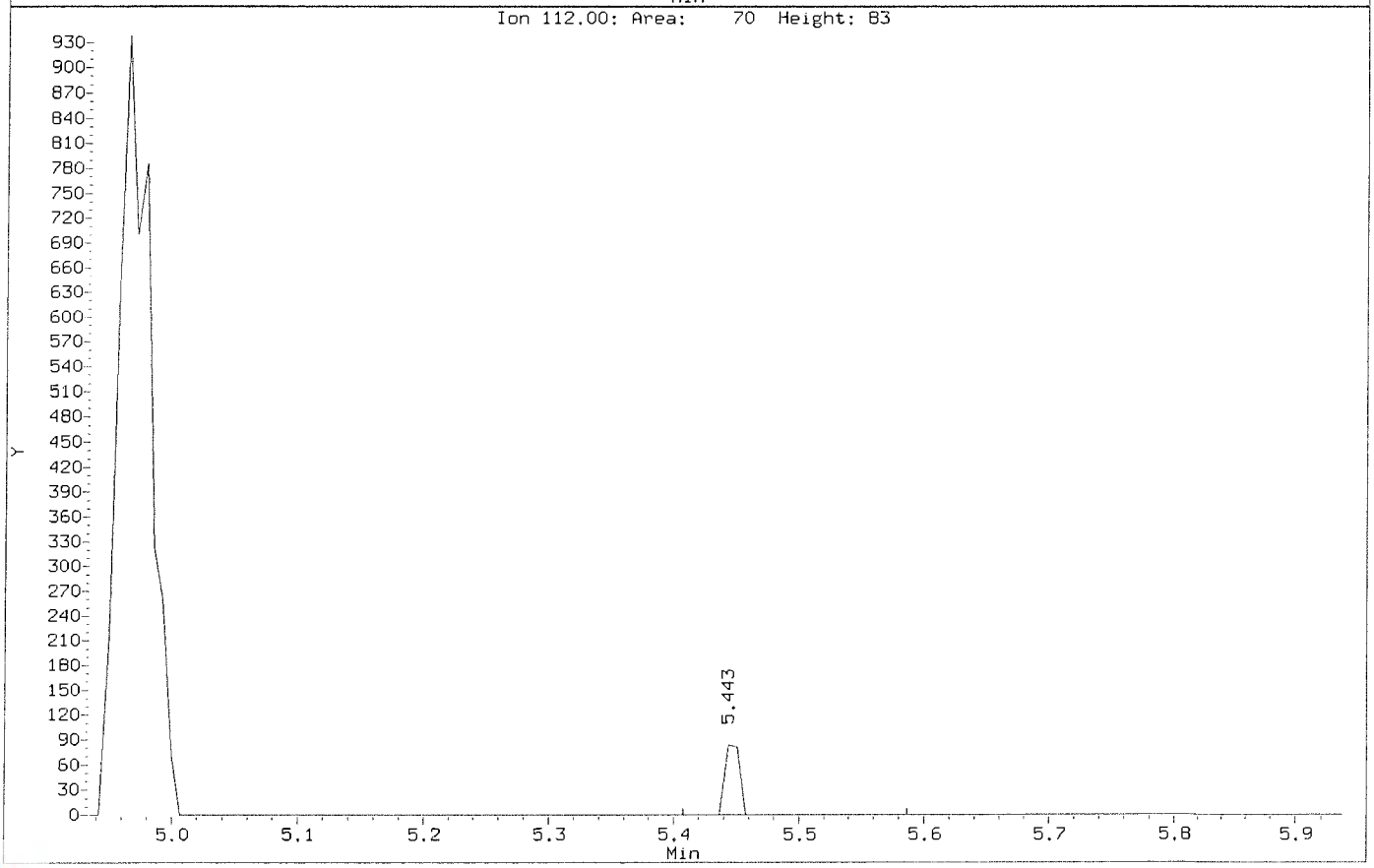
Instrument: voa6.i
Client Sample ID: VSTD002

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





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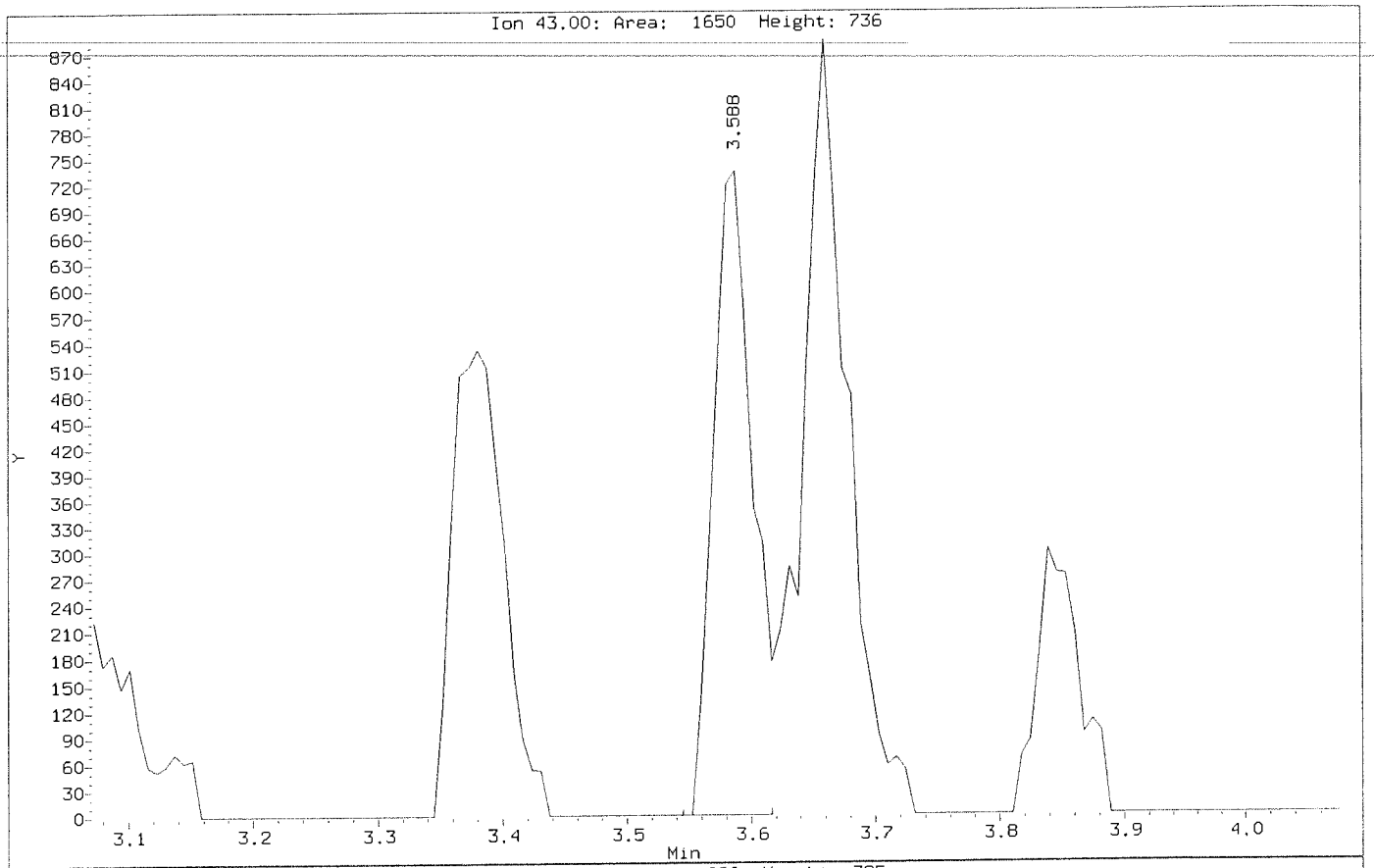
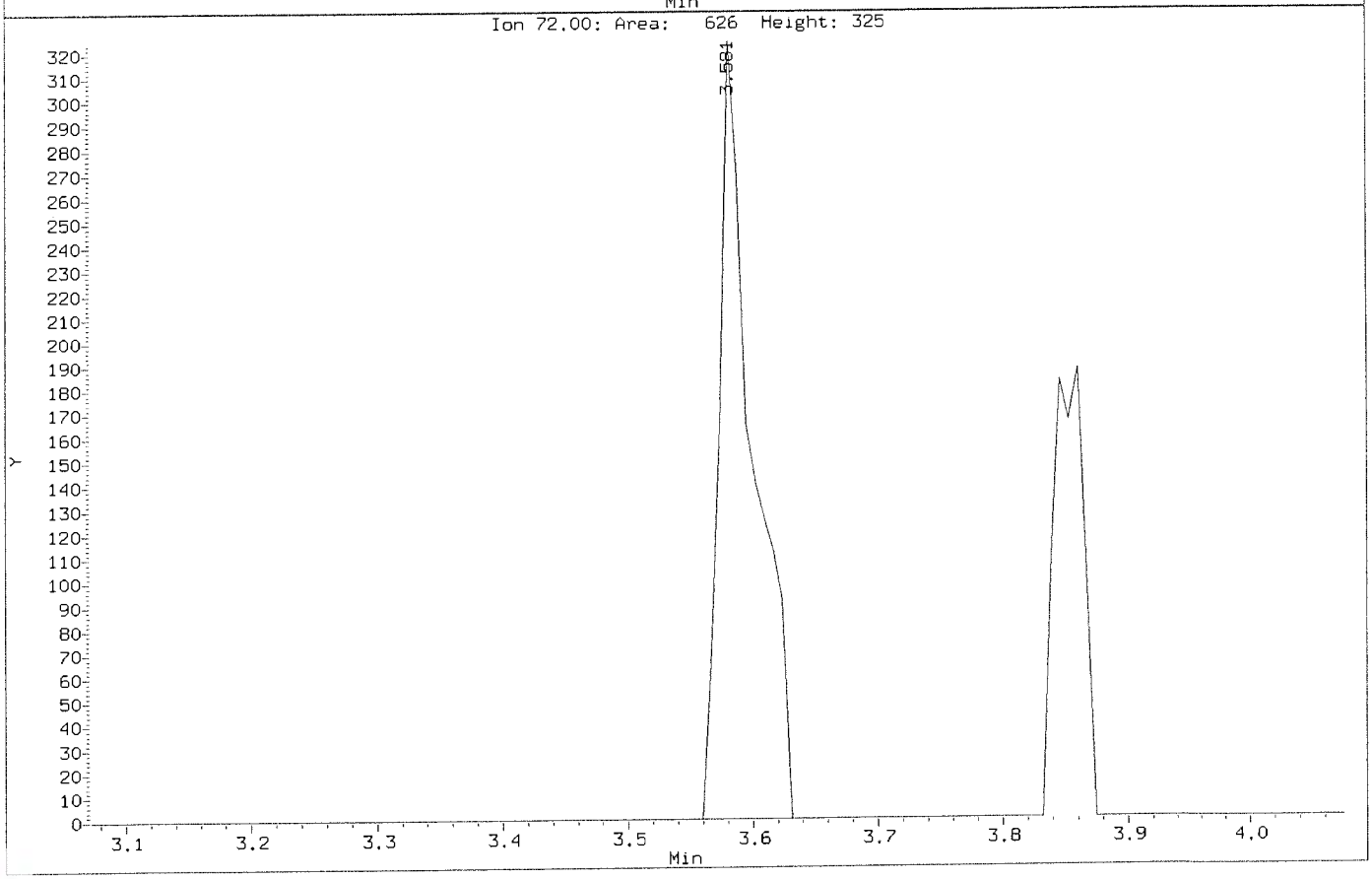
Injection Date: 31-OCT-2019 12:44
Instrument: voa6.i
Client Sample ID: VSTD002

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





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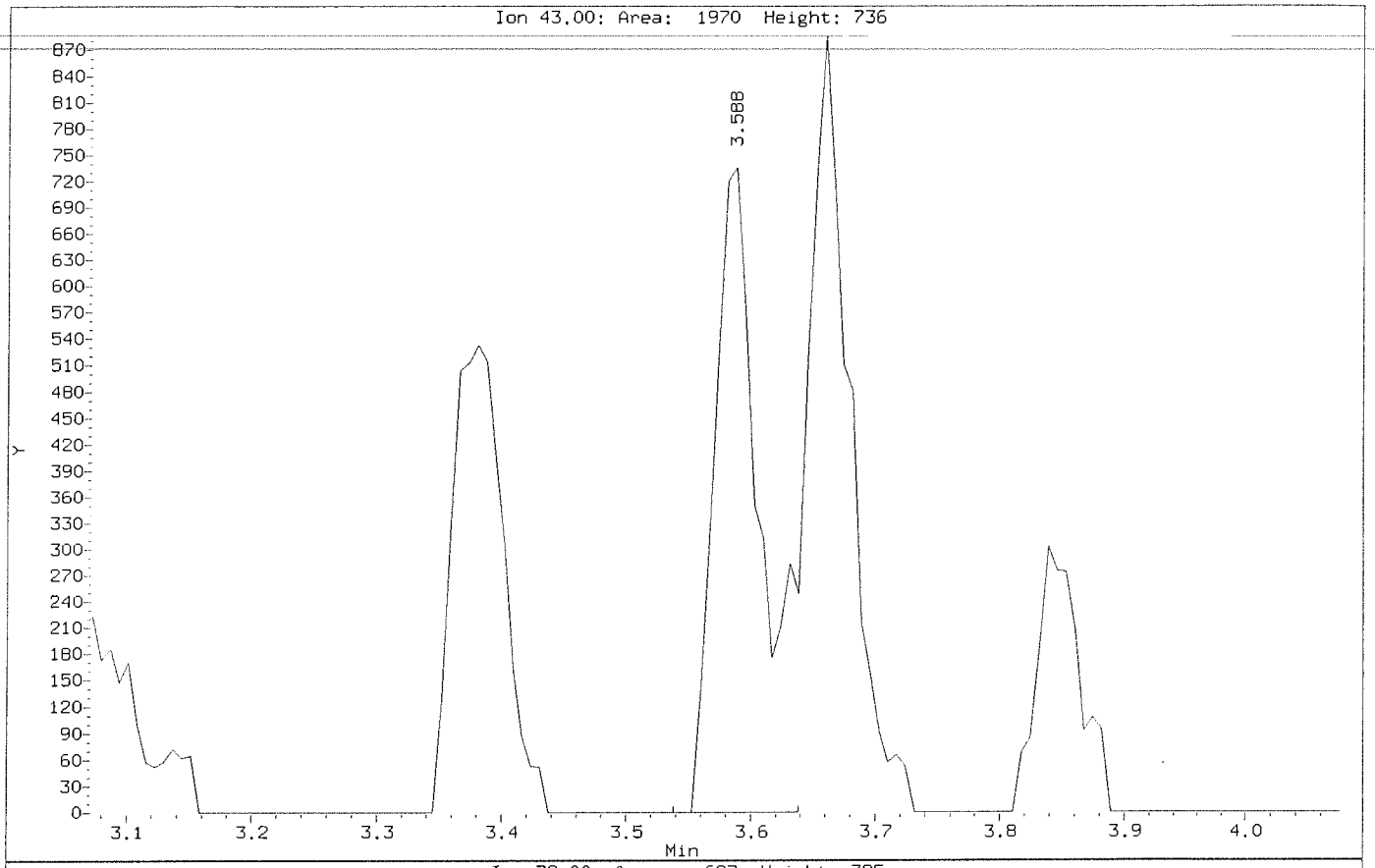
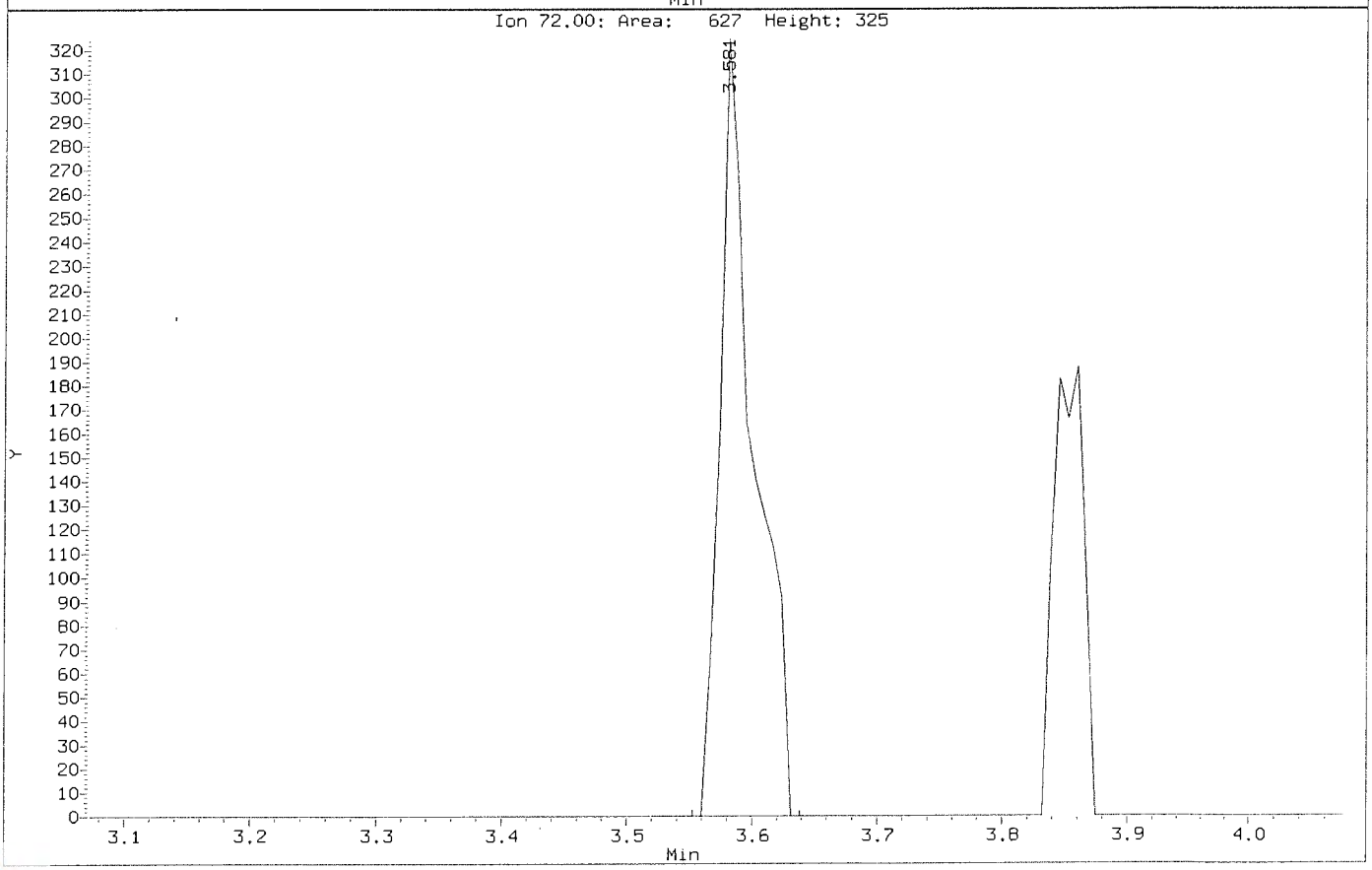
Injection Date: 31-OCT-2019 12:44
Instrument: voa6.i
Client Sample ID: VSTD002

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





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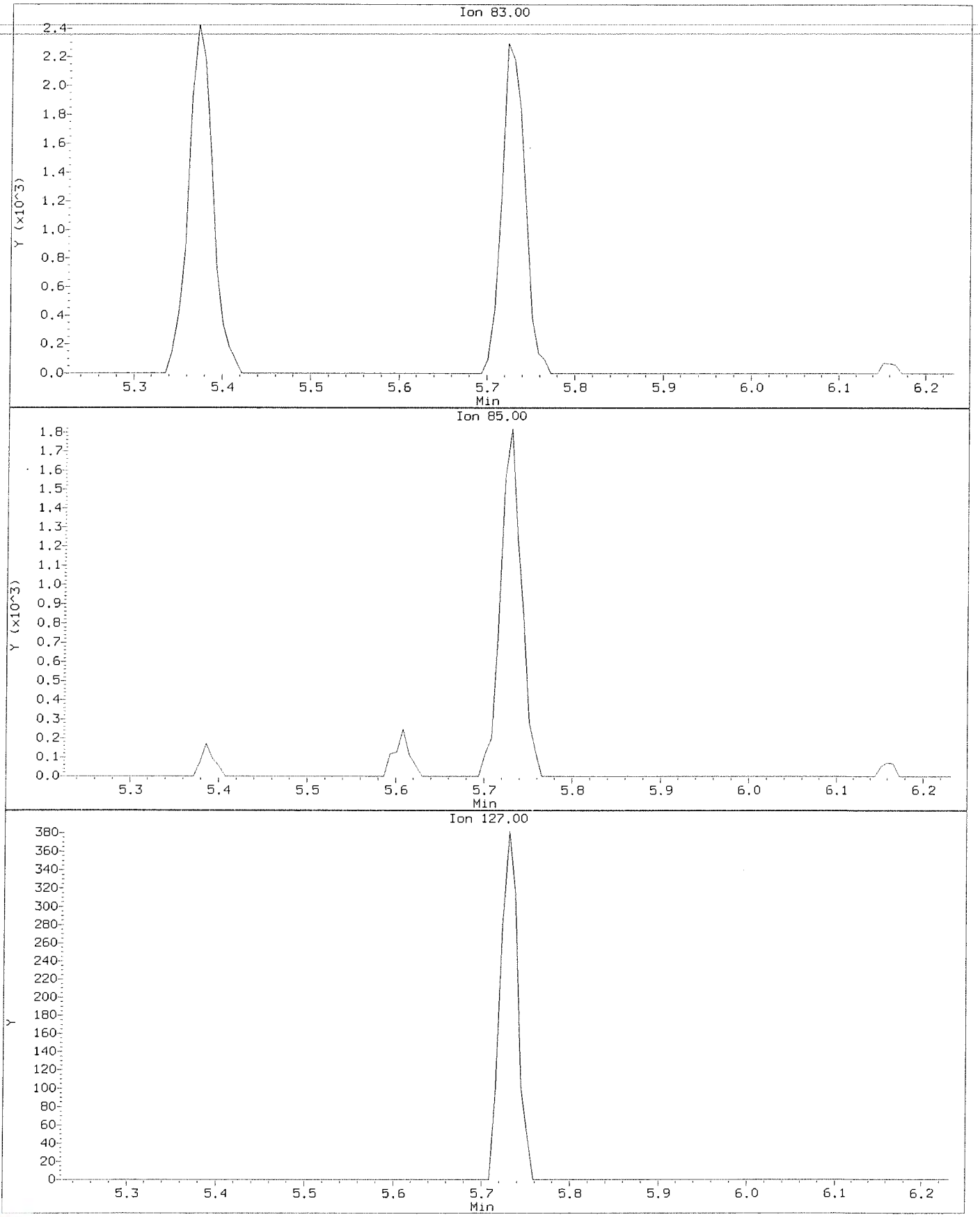
Injection Date: 31-OCT-2019 12:44
Instrument: voa6.i
Client Sample ID: VSTD002

Compound: Bromodichloromethane
CAS Number: 75-27-4



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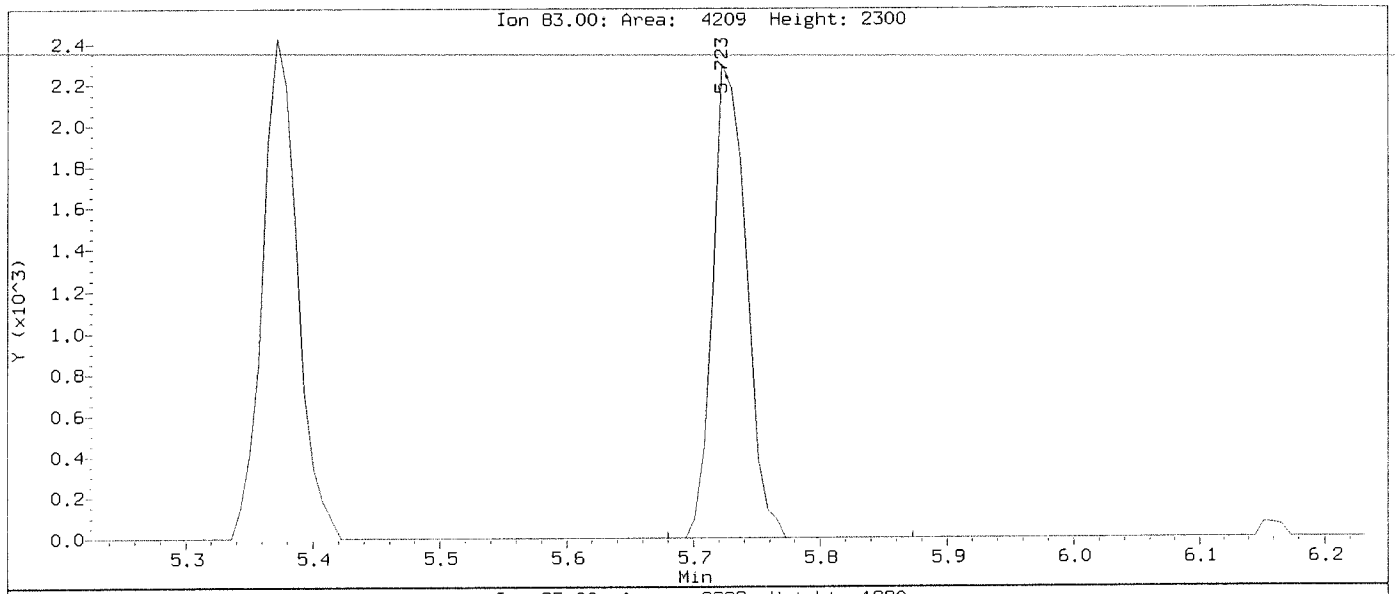
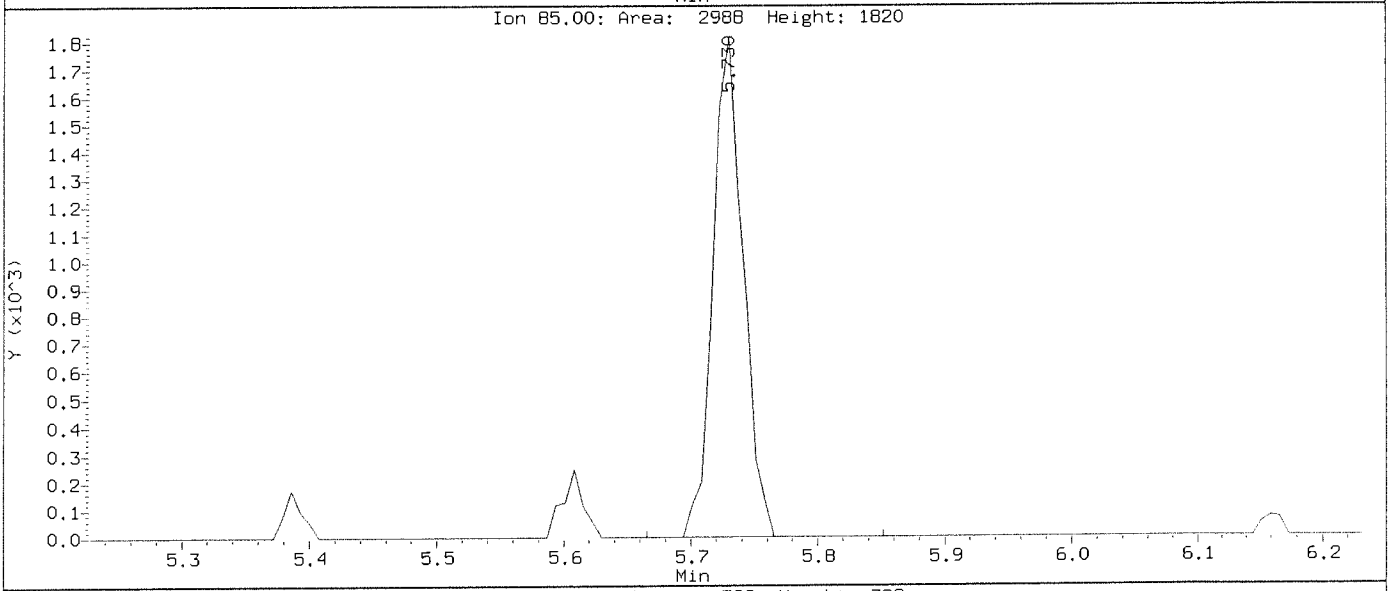
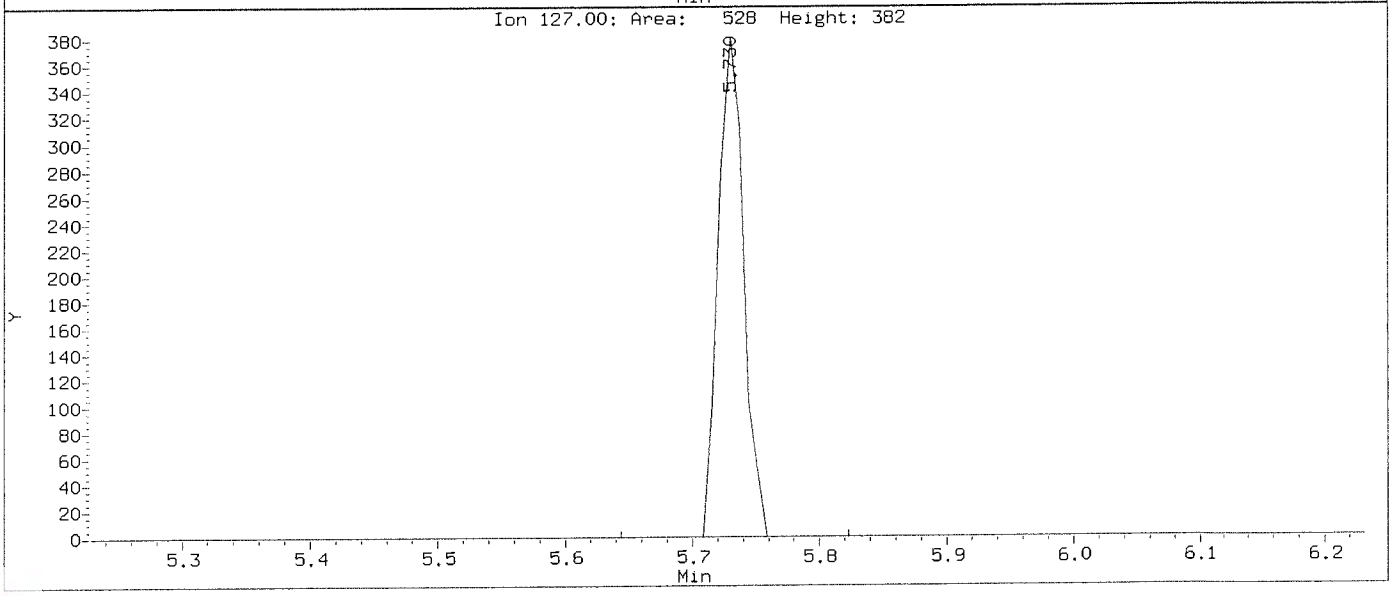
Injection Date: 31-OCT-2019 12:44
Instrument: voa6.i
Client Sample ID: VSTD002

Compound: Bromodichloromethane
CAS Number: 75-27-4







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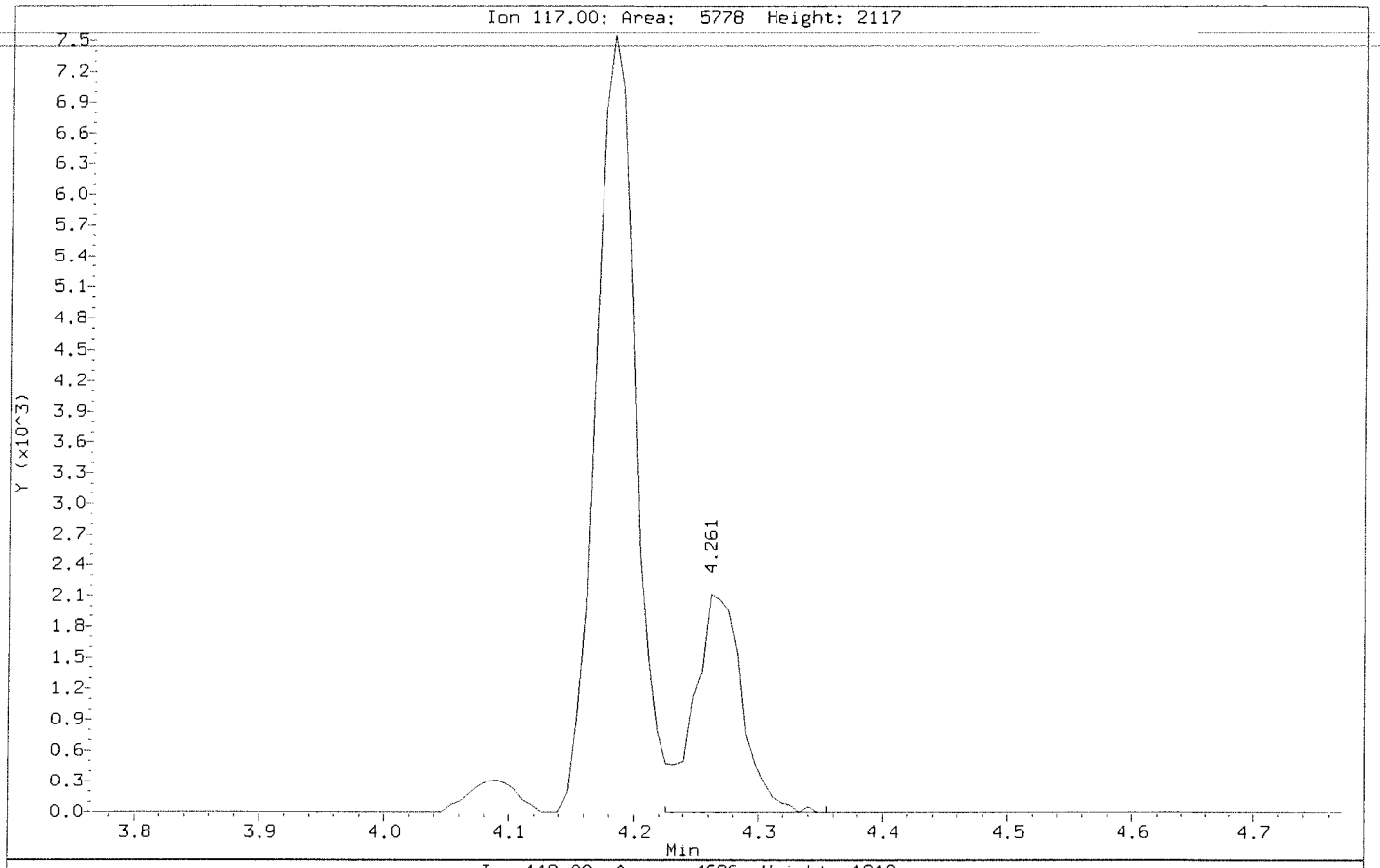
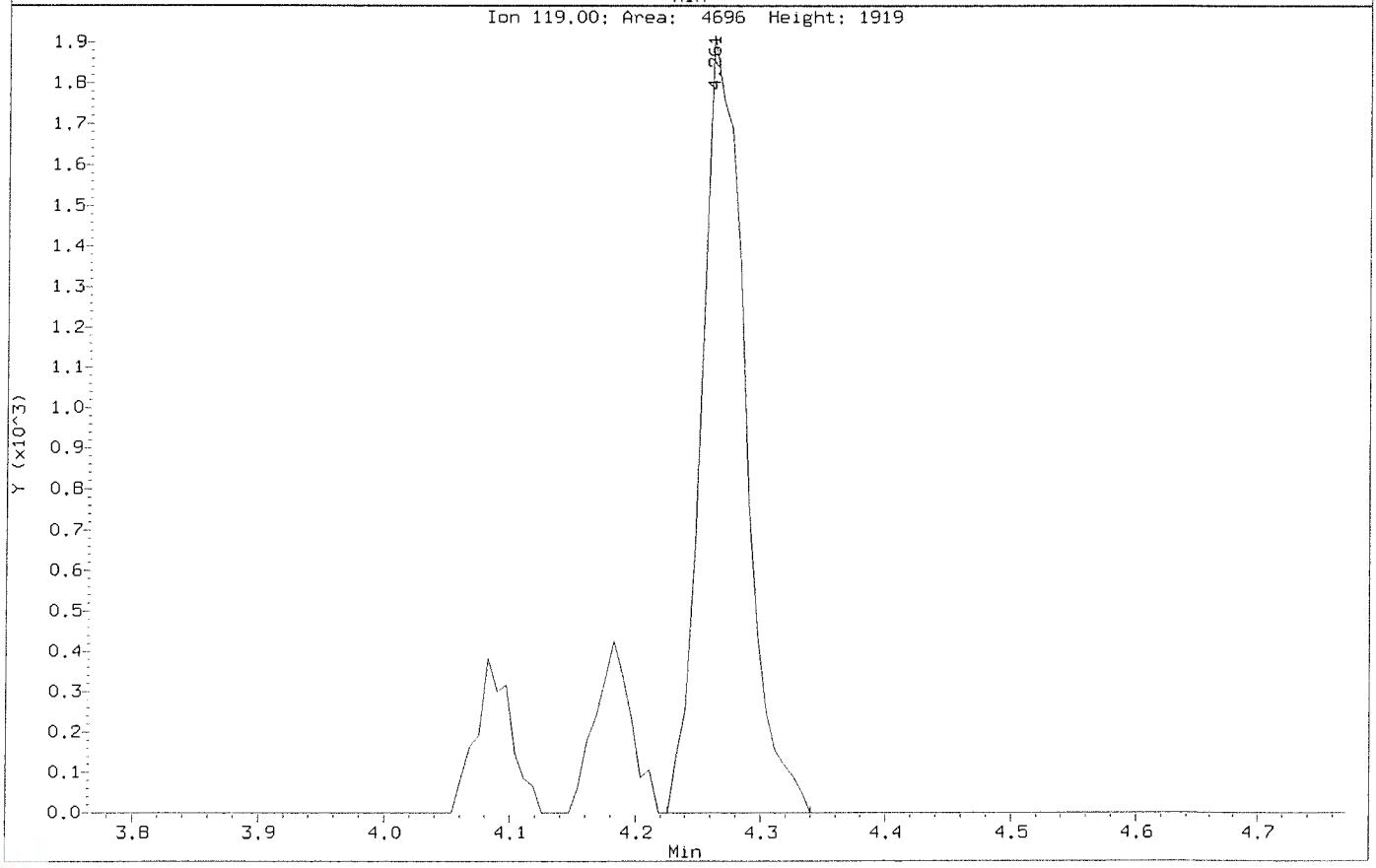
Injection Date: 31-OCT-2019 12:44
Instrument: voa6.i
Client Sample ID: VSTD002

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





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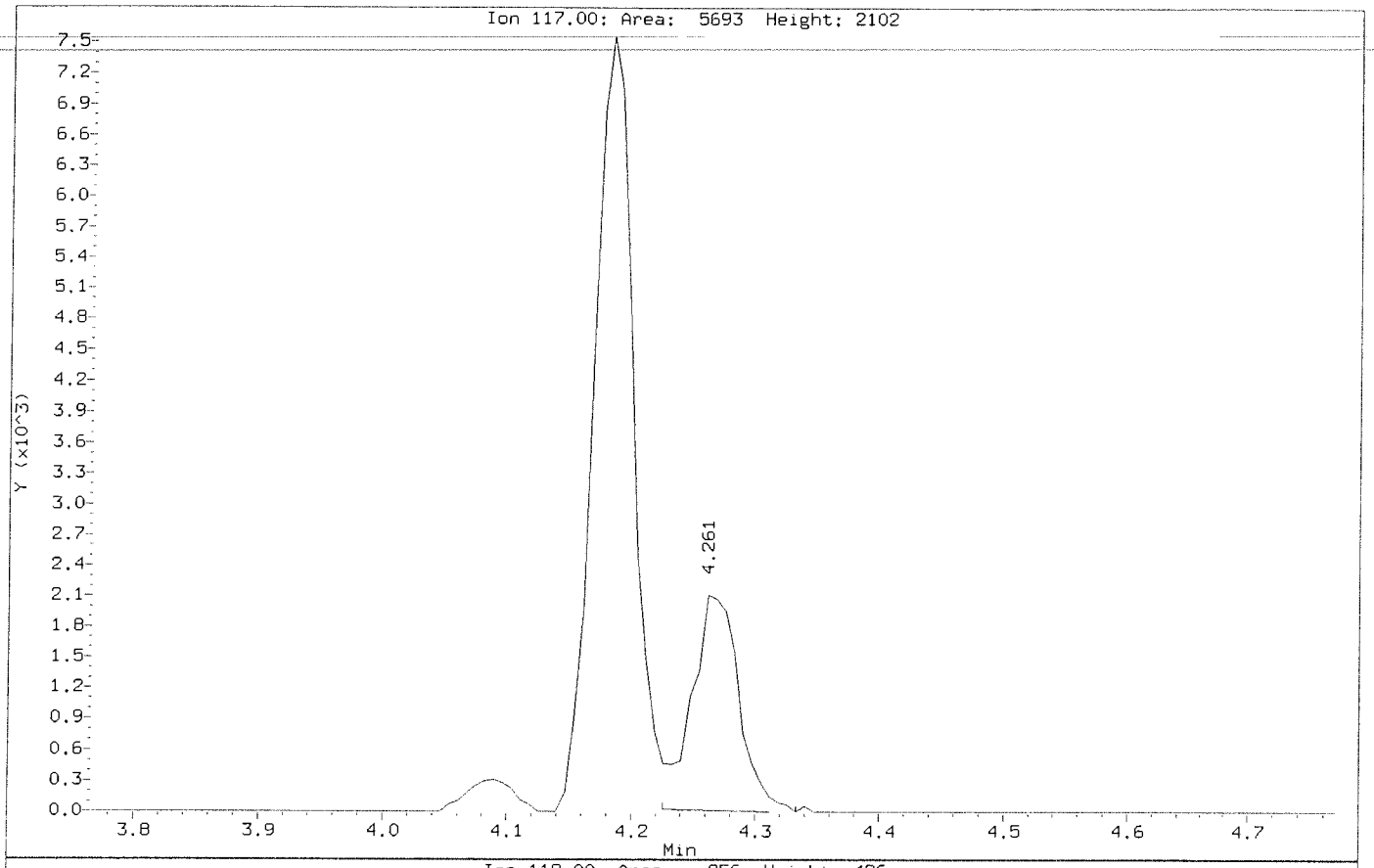
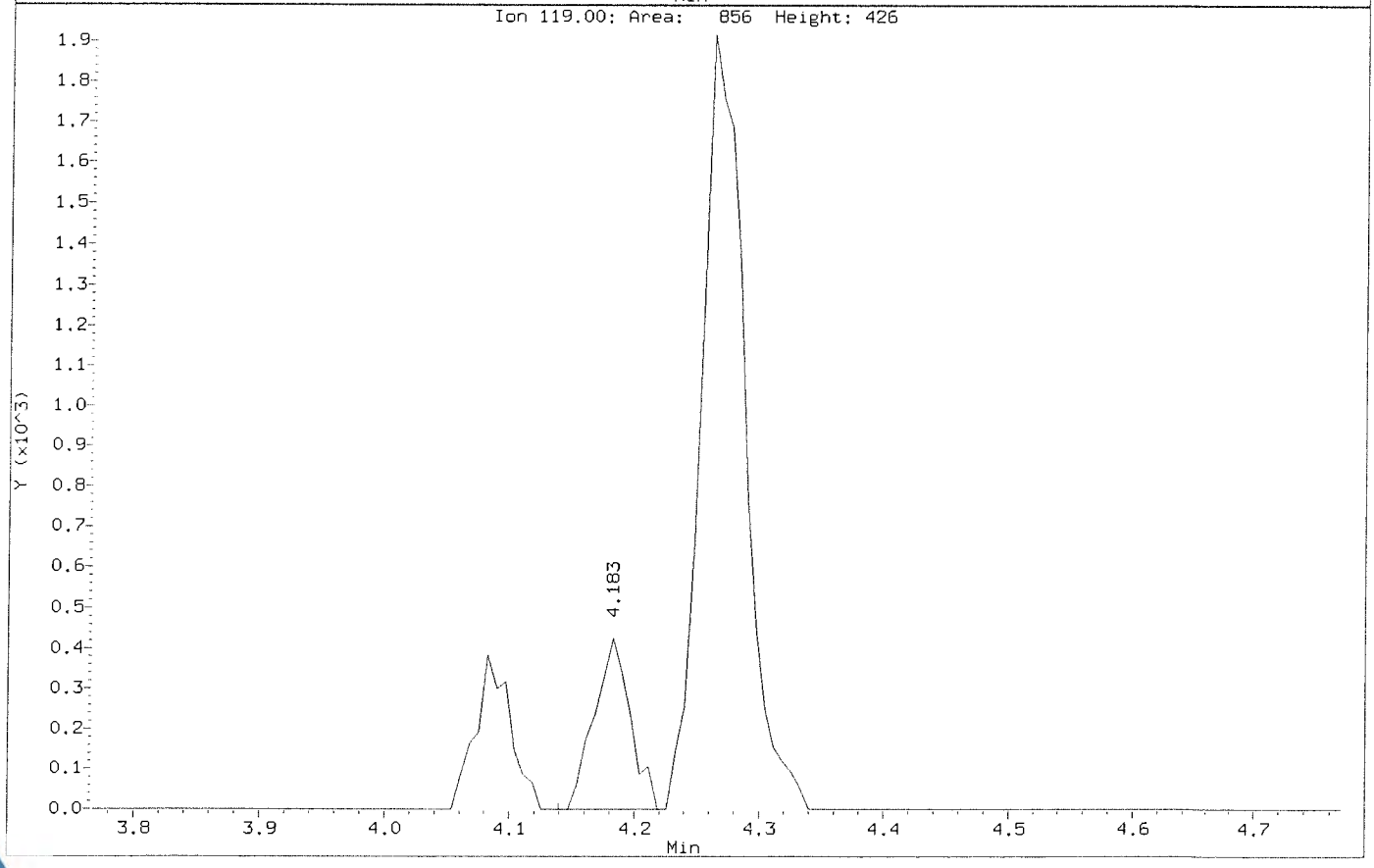
Injection Date: 31-OCT-2019 12:44
Instrument: voa6.i
Client Sample ID: VSTD002

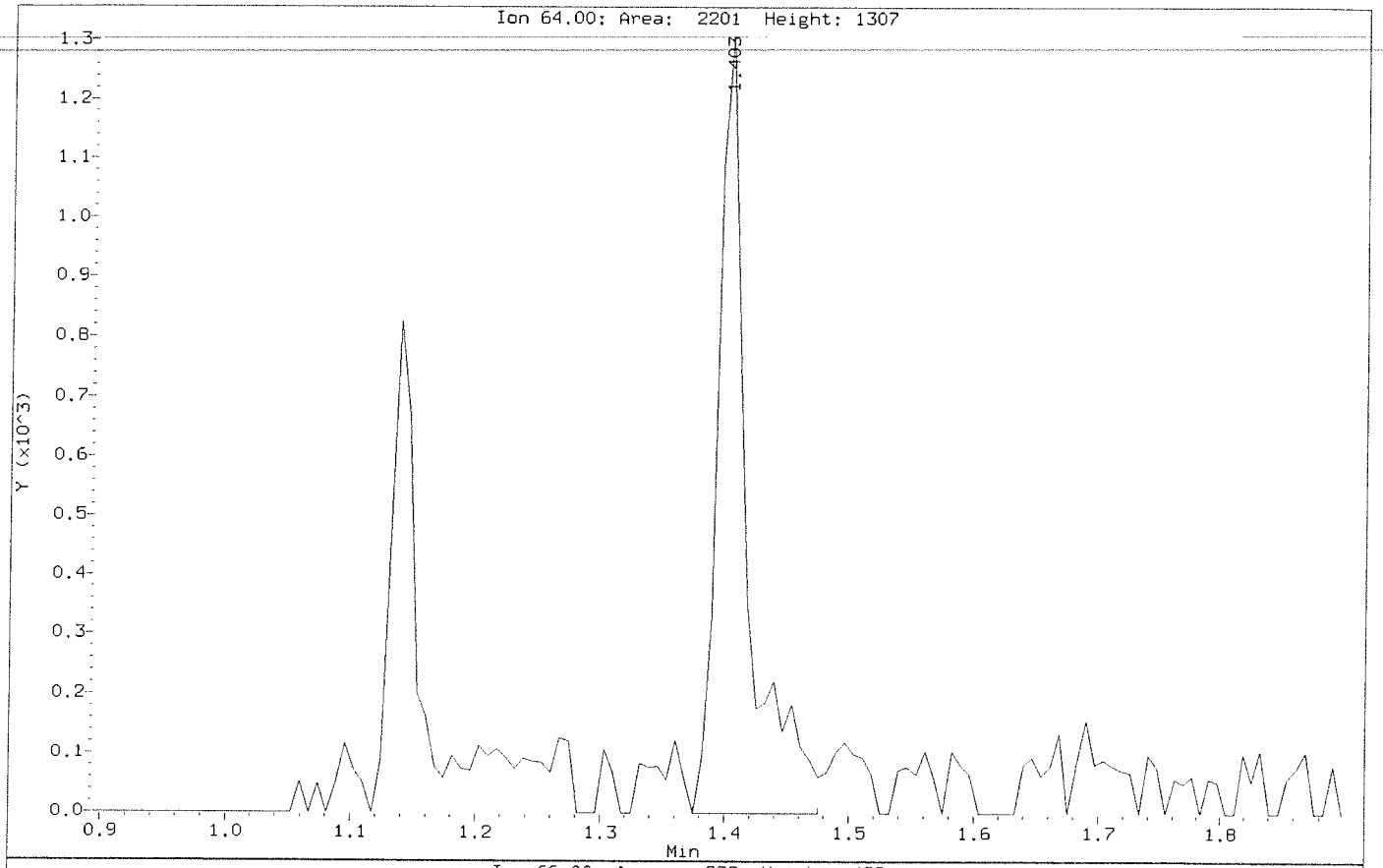
Compound: Carbon Tetrachloride
CAS Number: 56-23-5

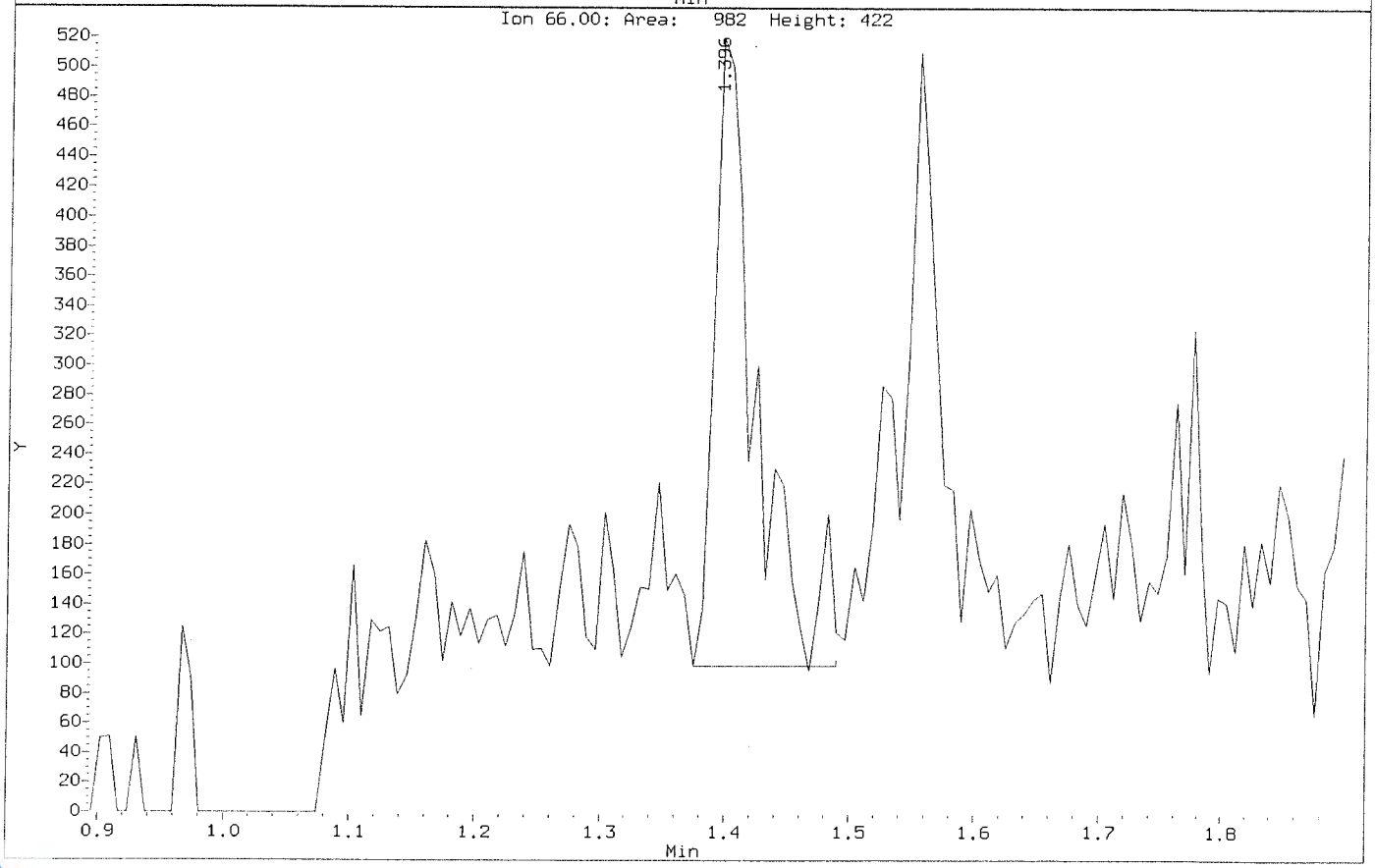




Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\BEFORE2\X103105.D
Injection Date: 31-OCT-2019 12:44
Instrument: voa6.i
Client Sample ID: VSTD002

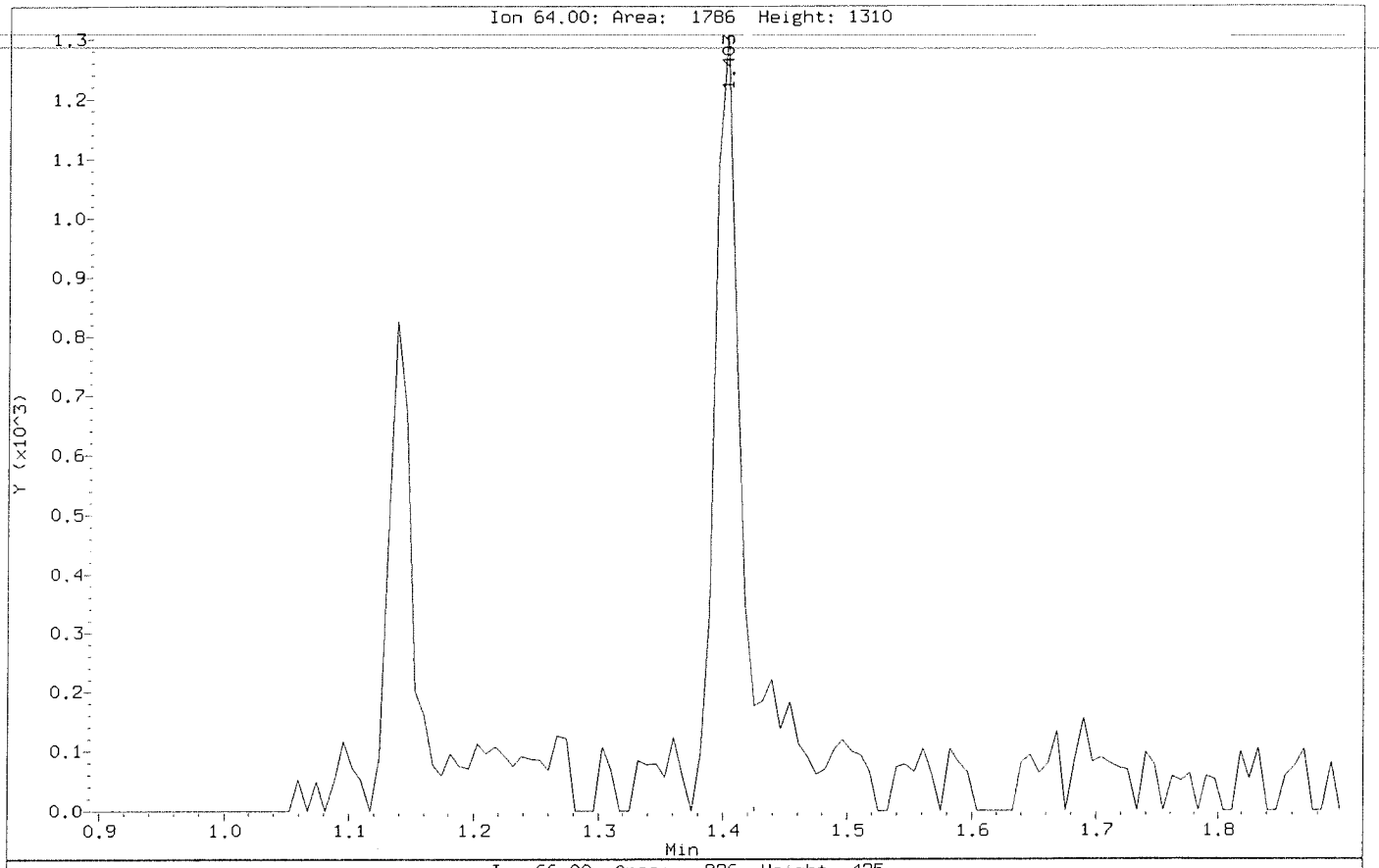
Compound: Chloroethane
CAS Number: 75-00-3

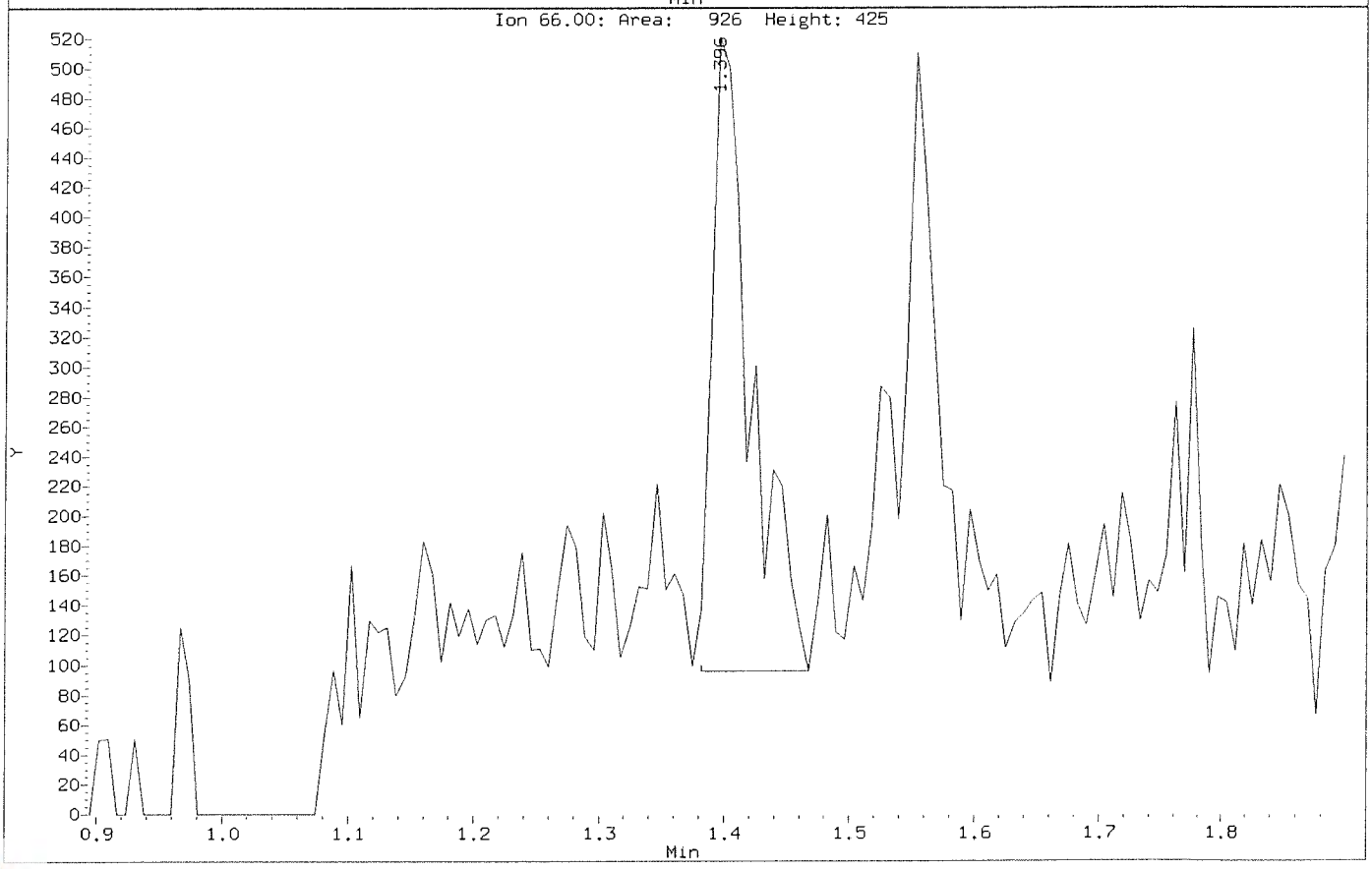




Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\X103105.D
Injection Date: 31-OCT-2019 12:44
Instrument: voa6.i
Client Sample ID: VSTD002

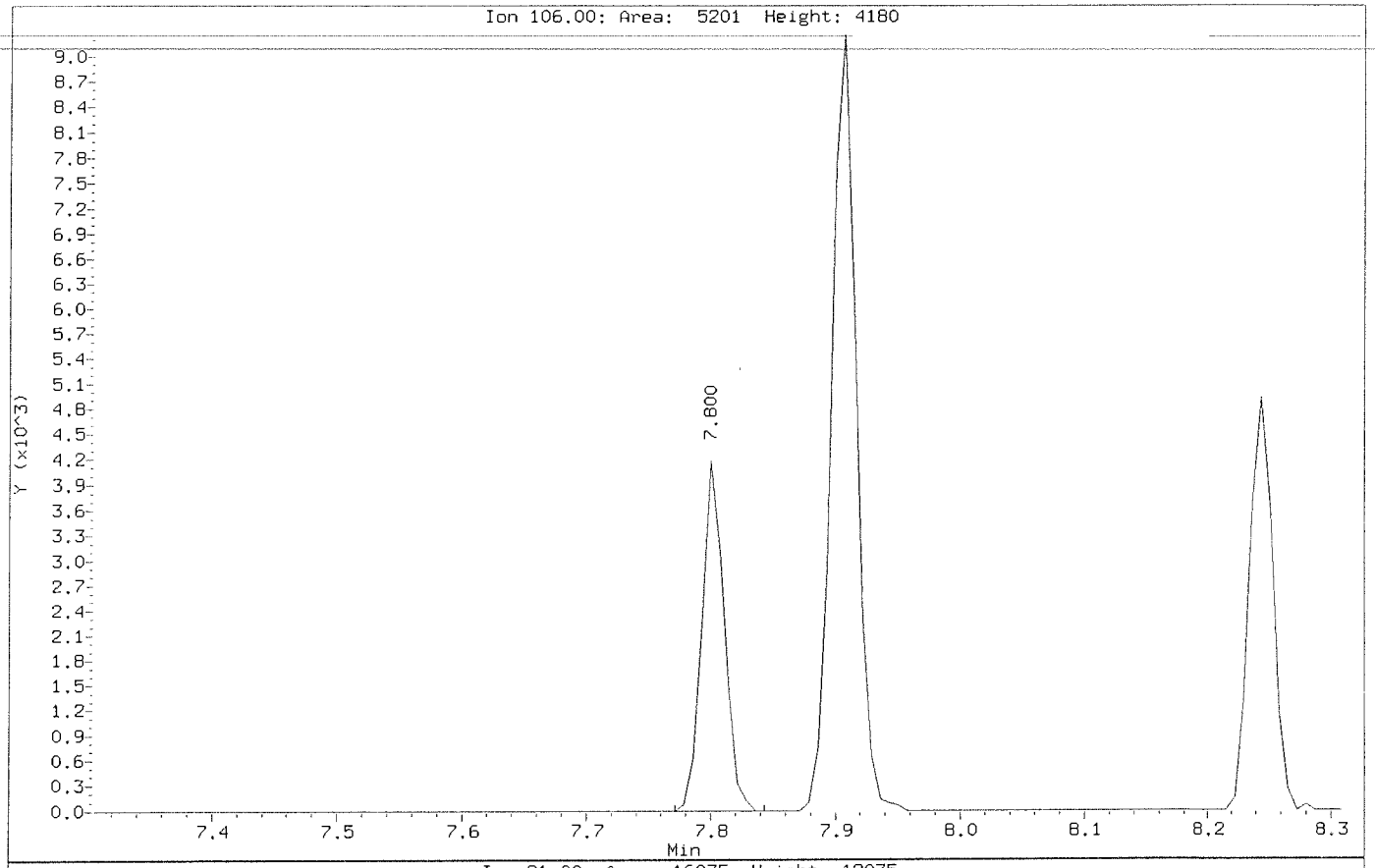
Compound: Chloroethane
CAS Number: 75-00-3

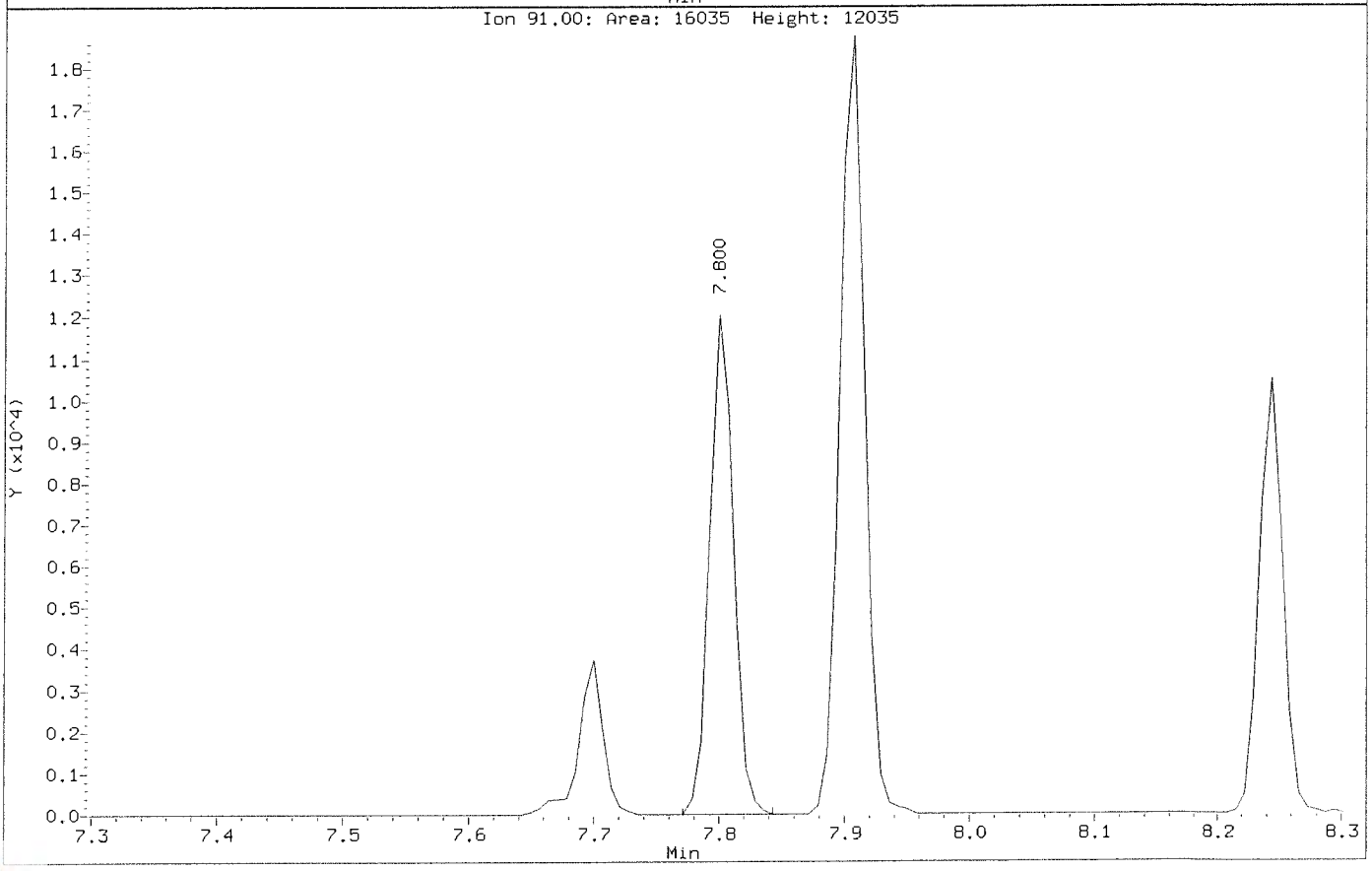




Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\BEFORE2\X103105.D
Injection Date: 31-OCT-2019 12:44
Instrument: voa6.i
Client Sample ID: VSTD002

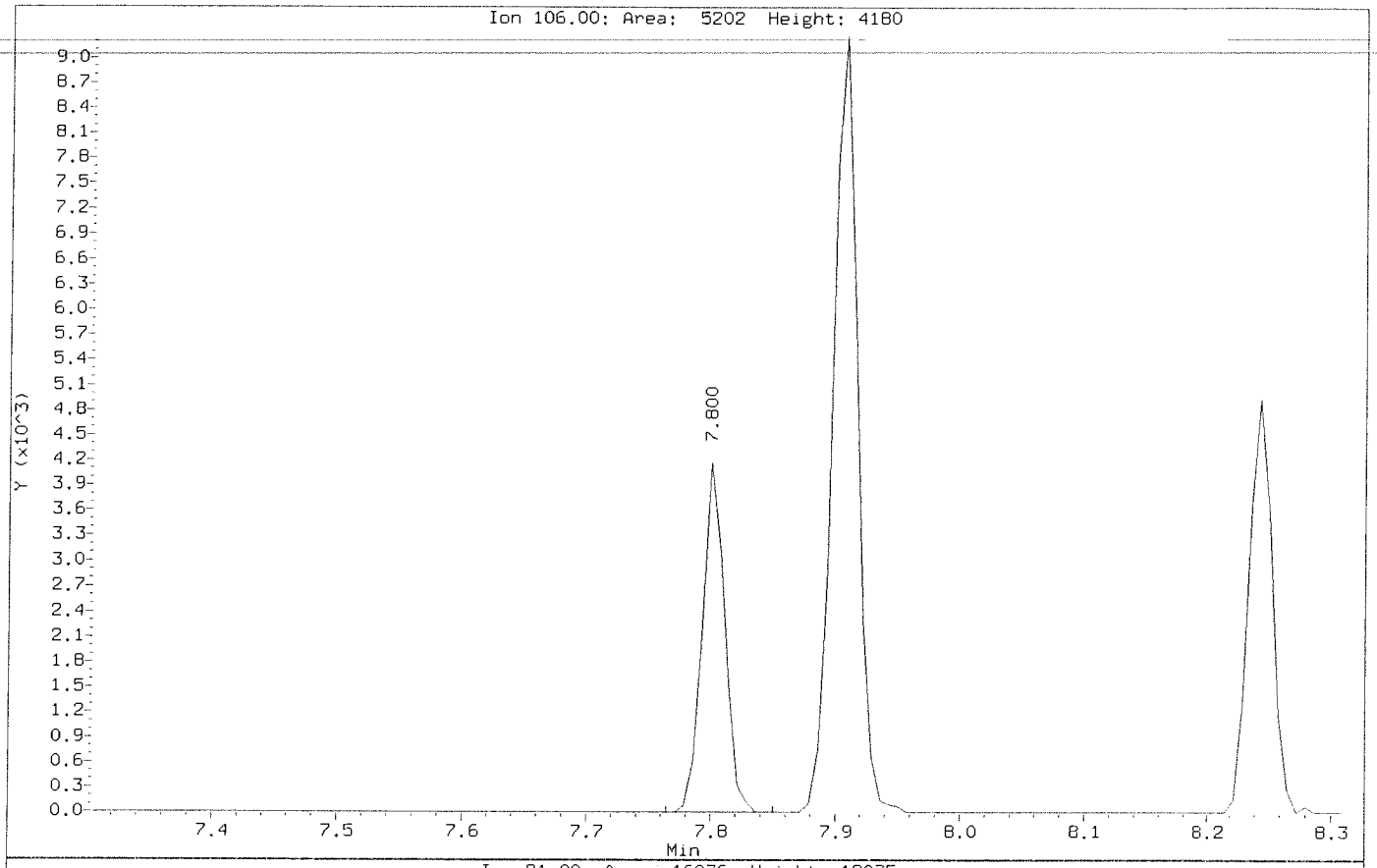
Compound: Ethylbenzene
CAS Number: 100-41-4

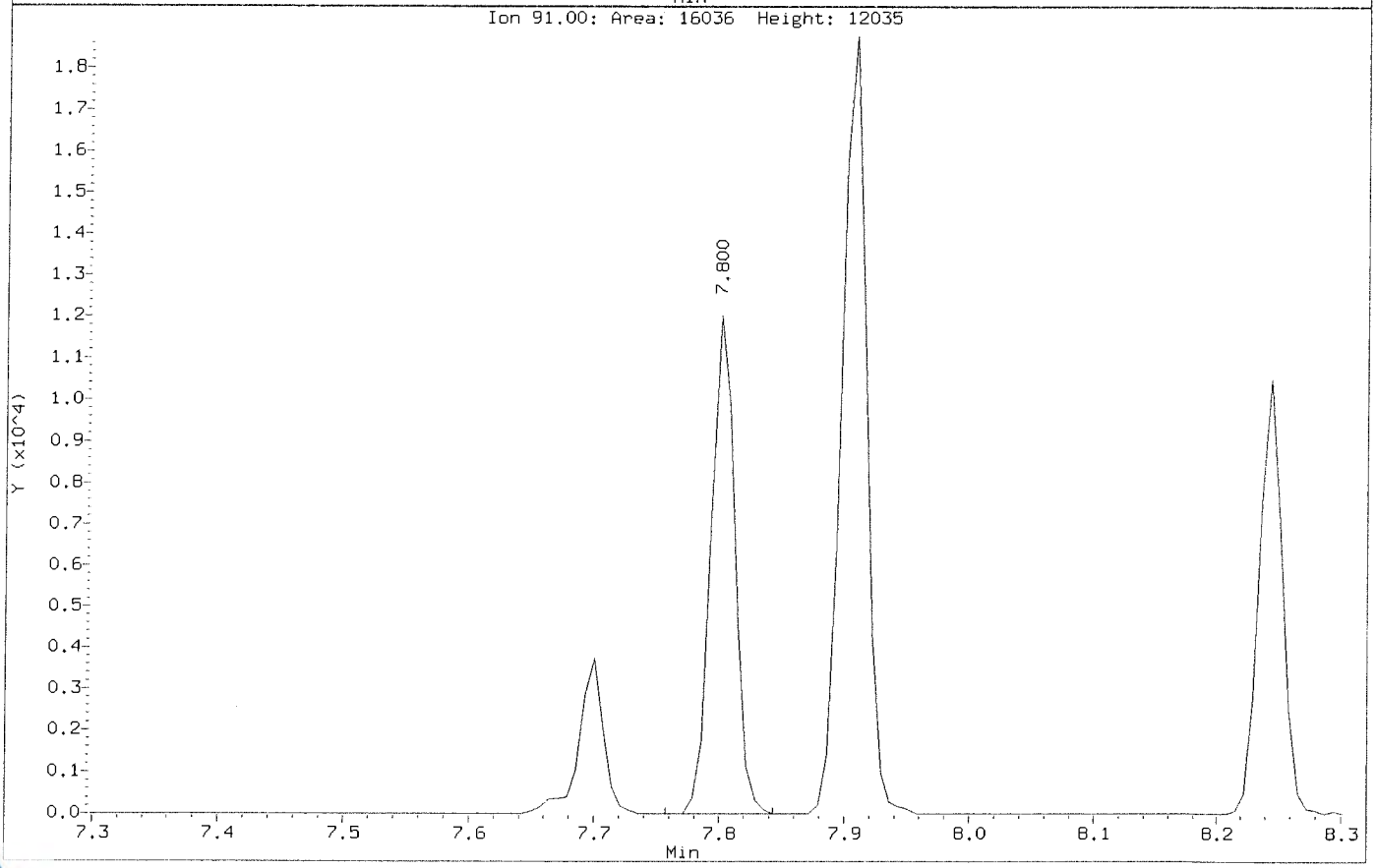




Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\X103105.D
Injection Date: 31-OCT-2019 12:44
Instrument: voa6.i
Client Sample ID: VSTD002

Compound: Ethylbenzene
CAS Number: 100-41-4





Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\X103106.D Page 1
Report Date: 19-Nov-2019 17:39

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X191031.b\X103106.D
Lab Smp Id: VSTD005 Client Smp ID: VSTD005
Inj Date : 31-OCT-2019 13:08
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\X191031.b\8260W.m
Meth Date : 19-Nov-2019 17:37 voa6.i Quant Type: ISTD
Cal Date : 31-OCT-2019 13:08 Cal File: X103106.D
Als bottle: 7 Calibration Sample, Level: 5
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

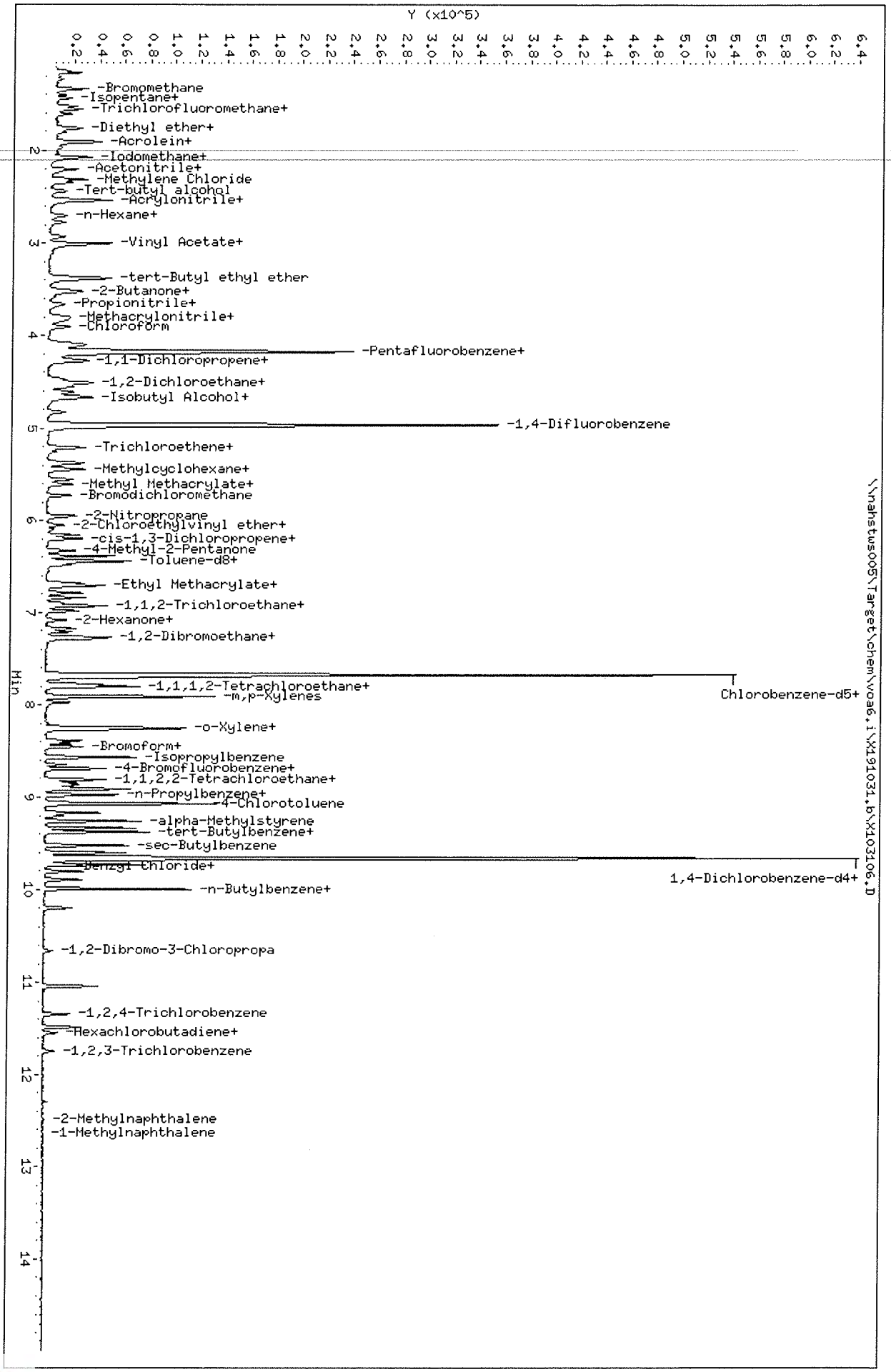
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	228003	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	288494	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	265772	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.669	(1.000)	156556	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	9297	5.00000	5.27
$ 69 4-Bromofluorobenzene	95	8.688	8.695	(1.133)	13391	5.00000	4.81(a)
$ 30 Dibromofluoromethane	113	4.103	4.104	(0.981)	8982	5.00000	5.38
$ 48 Toluene-d8	98	6.388	6.389	(0.833)	32651	5.00000	4.94(a)
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	10805	5.00000	4.99(a)
31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	14579	5.00000	5.10
68 1,1,2,2-Tetrachloroethane	83	8.845	8.845	(0.915)	9716	5.00000	5.22
138 Freon TF	101	1.911	1.912	(0.457)	7368	5.00000	4.88(a)
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	6224	5.00000	5.15
22 1,1-Dichloroethane	63	2.921	2.922	(0.699)	13121	5.00000	5.14
11 1,1-Dichloroethene	96	1.919	1.912	(0.459)	6991	5.00000	4.82(a)
32 1,1-Dichloropropene	75	4.282	4.283	(0.862)	10612	5.00000	4.93(aM)
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.216)	3318	5.00000	5.52
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.918)	8399	5.00000	4.61(aM)
90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	6765	5.00000	4.78(a)
79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.971)	37991	5.00000	5.06
89 1,2-Dibromo-3-Chloropropane	155	10.658	10.658	(1.103)	1446	5.00000	6.48
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	9674	5.00000	5.41
88 1,2-Dichlorobenzene	146	9.999	9.999	(1.035)	22534	5.00000	5.18

Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\X103106.D Page 2
Report Date: 19-Nov-2019 17:39

	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	4.555	4.562	(0.916)	11962	5.00000	5.11
42	1,2-Dichloropropane	63	5.443	5.436	(1.095)	7060	5.00000	5.02(M)
75	1,3,5-Trimethylbenzene	105	9.067	9.075	(0.938)	36351	5.00000	5.00
83	1,3-Dichlorobenzene	146	9.605	9.612	(0.994)	24083	5.00000	5.04
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	13156	5.00000	5.30
84	1,4-Dichlorobenzene	146	9.683	9.684	(1.002)	24076	5.00000	4.99(a)
26	2,2-Dichloropropane	77	3.509	3.516	(0.839)	12356	5.00000	4.50(a)
24	2-Butanone	43	3.573	3.573	(0.854)	4838	10.0000	10.08
76	2-Chlorotoluene	91	8.974	8.982	(0.929)	28055	5.00000	4.98(a)
52	2-Hexanone	43	7.090	7.090	(0.924)	7528	10.0000	9.72
77	4-Chlorotoluene	91	9.075	9.075	(0.939)	32922	5.00000	4.96(a)
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	37316	5.00000	4.79(a)
45	4-Methyl-2-Pentanone	43	6.324	6.331	(0.824)	11085	10.0000	10.12
10	Acetone	43	1.976	1.976	(0.473)	4757	10.0000	10.20(M)
37	Benzene	78	4.512	4.512	(0.908)	34511	5.00000	5.30
74	Bromobenzene	156	8.809	8.810	(0.912)	14474	5.00000	5.02
29	Bromochloromethane	128	3.803	3.795	(0.909)	5891	5.00000	5.00
39	Bromodichloromethane	83	5.729	5.730	(1.153)	11502	5.00000	5.03
66	Bromoform	173	8.416	8.416	(1.097)	8295	5.00000	4.83(a)
6	Bromomethane	94	1.338	1.331	(0.320)	11332	5.00000	5.30
19	Carbon Disulfide	76	2.069	2.069	(0.495)	40914	10.0000	9.73
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	13327	5.00000	4.73(aM)
59	Chlorobenzene	112	7.699	7.699	(1.004)	26649	5.00000	5.14
7	Chloroethane	64	1.403	1.396	(0.336)	4327	5.00000	4.78(aM)
28	Chloroform	83	3.910	3.910	(0.935)	15214	5.00000	5.04
3	Chloromethane	50	1.073	1.074	(0.257)	7622	5.00000	5.00
27	cis-1,2-Dichloroethene	96	3.530	3.523	(0.844)	9260	5.00000	5.08
46	cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	13220	5.00000	4.99(a)
55	Dibromochloromethane	129	7.176	7.176	(0.936)	10937	5.00000	4.96(a)
44	Dibromomethane	93	5.557	5.558	(1.118)	5655	5.00000	5.07
2	Dichlorodifluoromethane	85	0.973	0.966	(0.233)	8109	5.00000	5.61
61	Ethylbenzene	106	7.799	7.807	(1.017)	13799	5.00000	5.13(M)
91	Hexachlorobutadiene	225	11.481	11.481	(1.188)	6060	5.00000	4.96(a)
67	Isopropylbenzene	105	8.566	8.566	(1.117)	40949	5.00000	5.01
62	m,p-Xylenes	106	7.907	7.907	(1.031)	33179	10.0000	10.19
17	Methylene Chloride	84	2.305	2.306	(0.551)	8754	5.00000	5.52
87	n-Butylbenzene	91	9.999	9.999	(1.035)	26629	5.00000	4.79(a)
73	n-Propylbenzene	91	8.917	8.917	(0.923)	43488	5.00000	4.87(a)
92	Naphthalene	128	11.546	11.546	(1.195)	8419	5.00000	5.14
63	o-Xylene	106	8.244	8.244	(1.075)	16351	5.00000	5.10
81	sec-Butylbenzene	105	9.526	9.526	(0.986)	38738	5.00000	4.87(a)
64	Styrene	104	8.258	8.265	(1.077)	28956	5.00000	5.22
78	tert-Butylbenzene	119	9.340	9.340	(0.967)	30777	5.00000	4.88(a)
56	Tetrachloroethene	164	6.933	6.933	(0.904)	10205	5.00000	5.06
50	Toluene	91	6.446	6.446	(0.840)	36212	5.00000	4.99(a)
20	trans-1,2-Dichloroethene	96	2.528	2.528	(0.604)	7756	5.00000	5.06
51	trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	12983	5.00000	5.25
38	Trichloroethene	130	5.206	5.207	(1.048)	10747	5.00000	4.99(a)
8	Trichlorofluoromethane	101	1.560	1.553	(0.373)	14781	5.00000	4.85(a)
5	Vinyl Chloride	62	1.138	1.138	(0.272)	6869	5.00000	4.80(a)

QC Flag Legend

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



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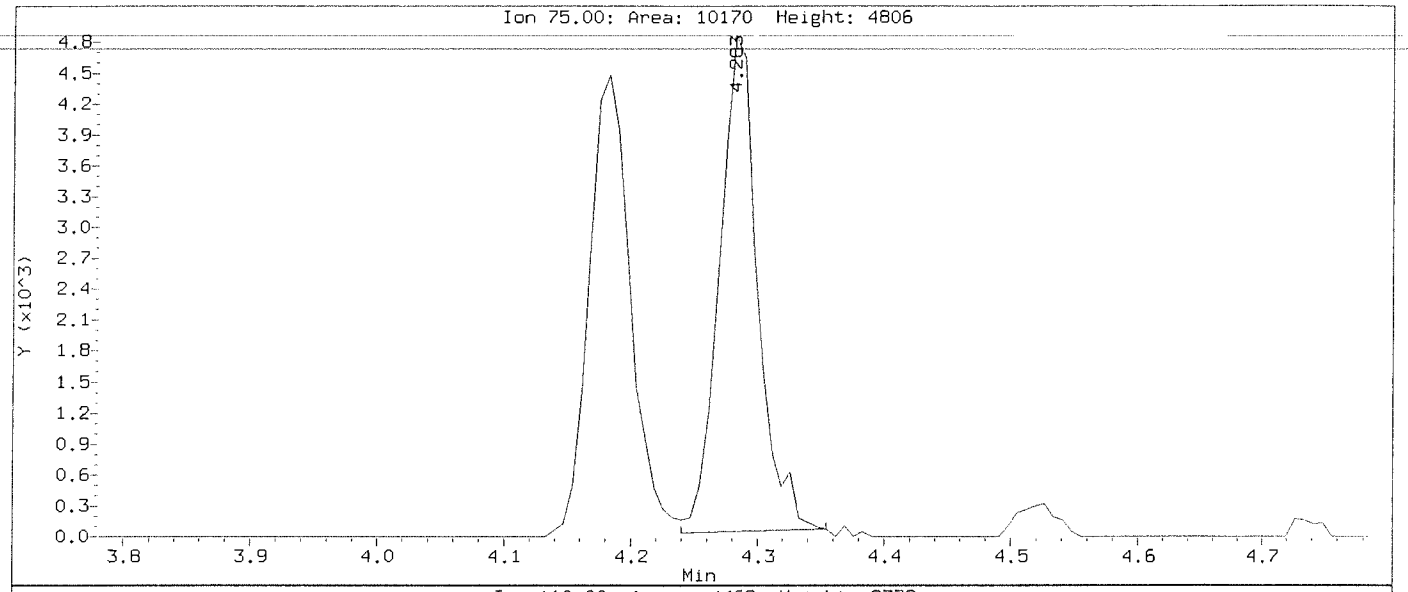
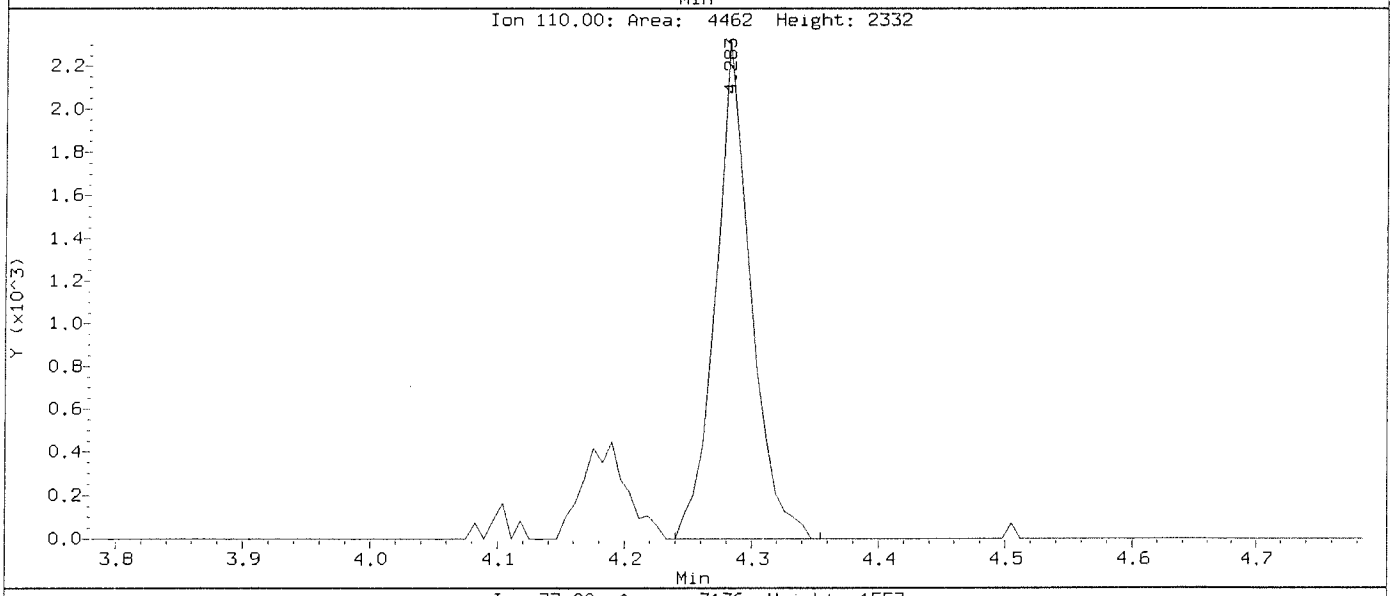
Client ID: VSTD005
Sample Info: VSTD005;VSTD005;1;5;
Purge Volume: 5.0
Column phase: DB624

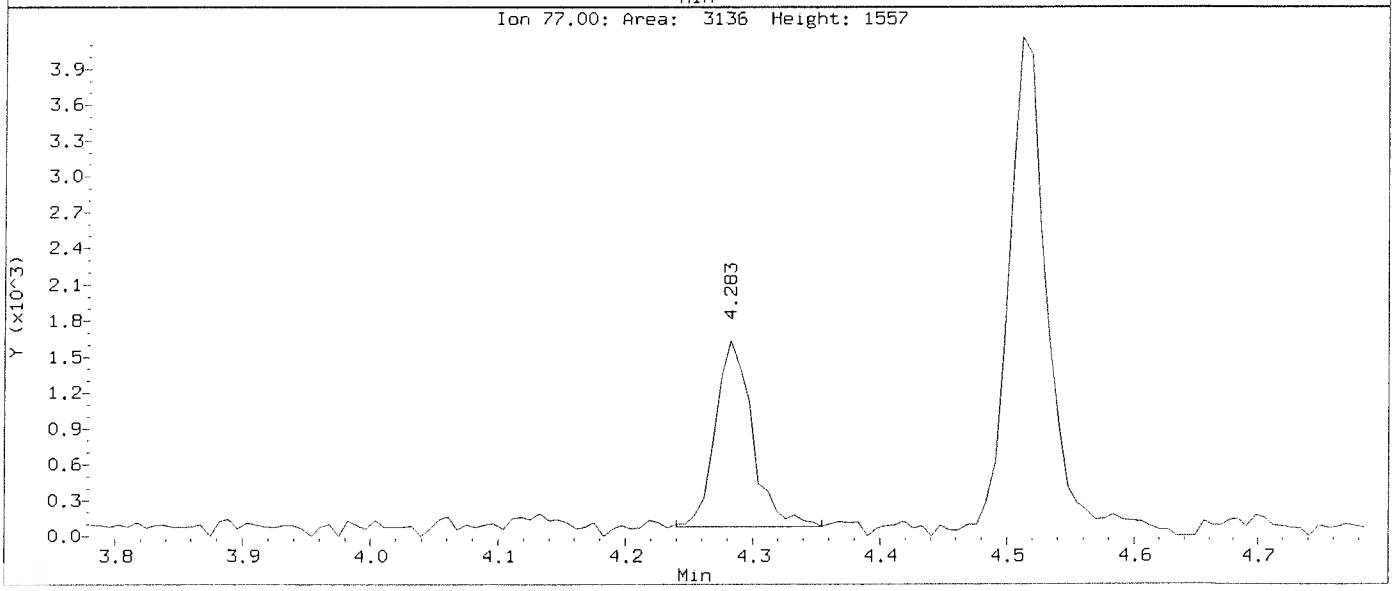
Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\BEFORE2\X103106.D
Injection Date: 31-OCT-2019 13:08
Instrument: voa6.i
Client Sample ID: VSTD005

Compound: 1,1-Dichloropropene
CAS Number: 563-58-6







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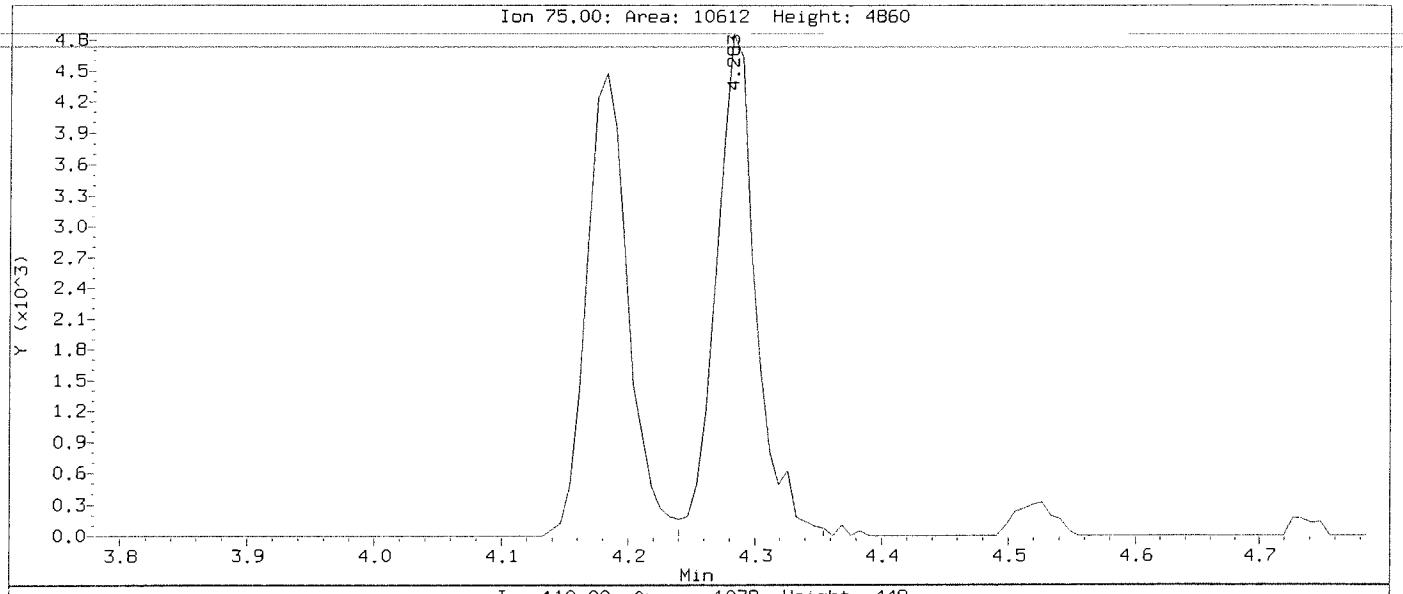
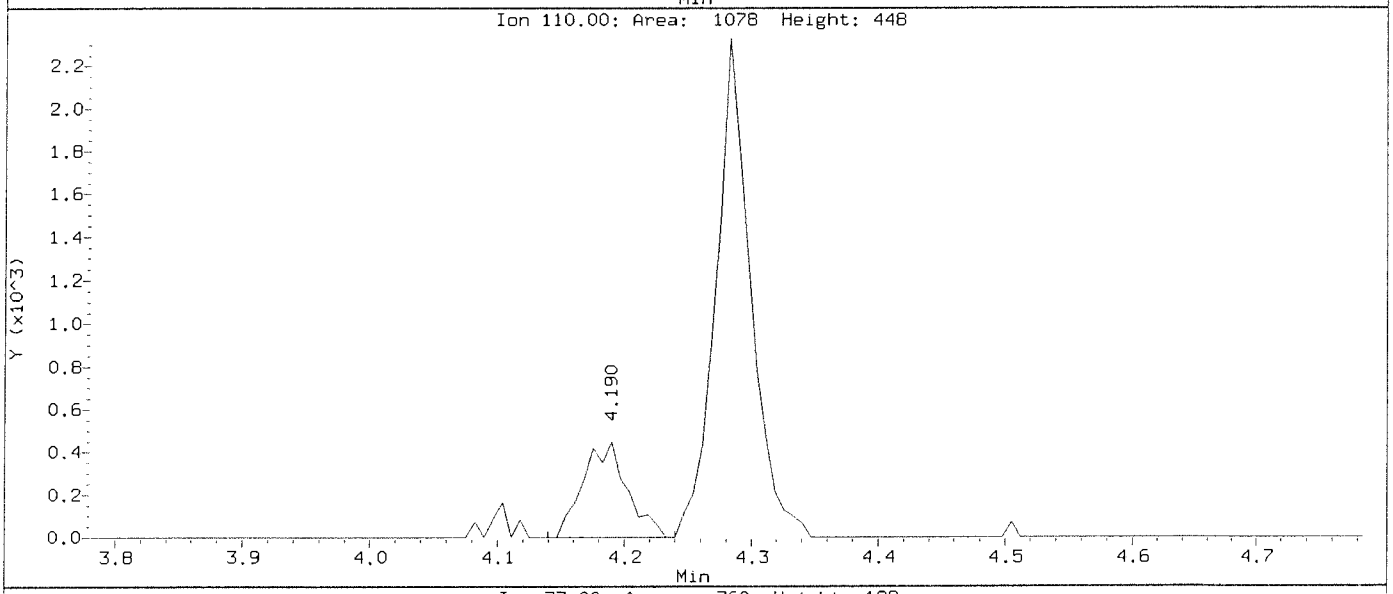
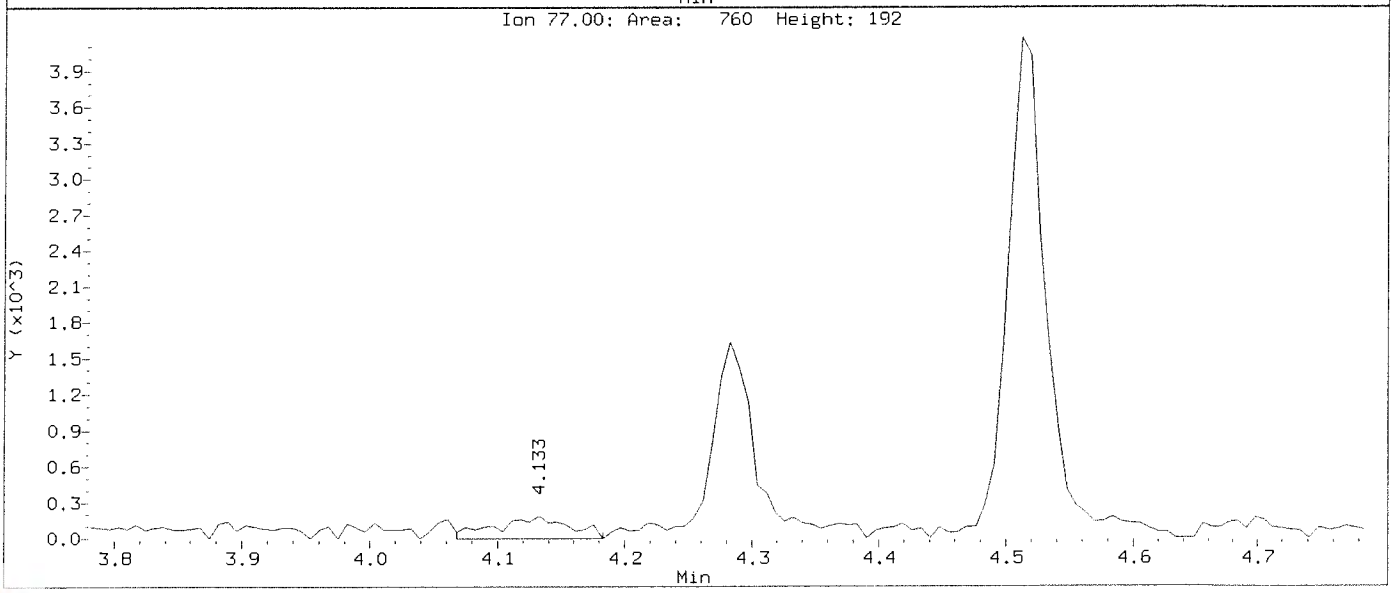
Client Sample ID: VSTD005

Compound: 1,1-Dichloropropene
CAS Number: 563-58-6







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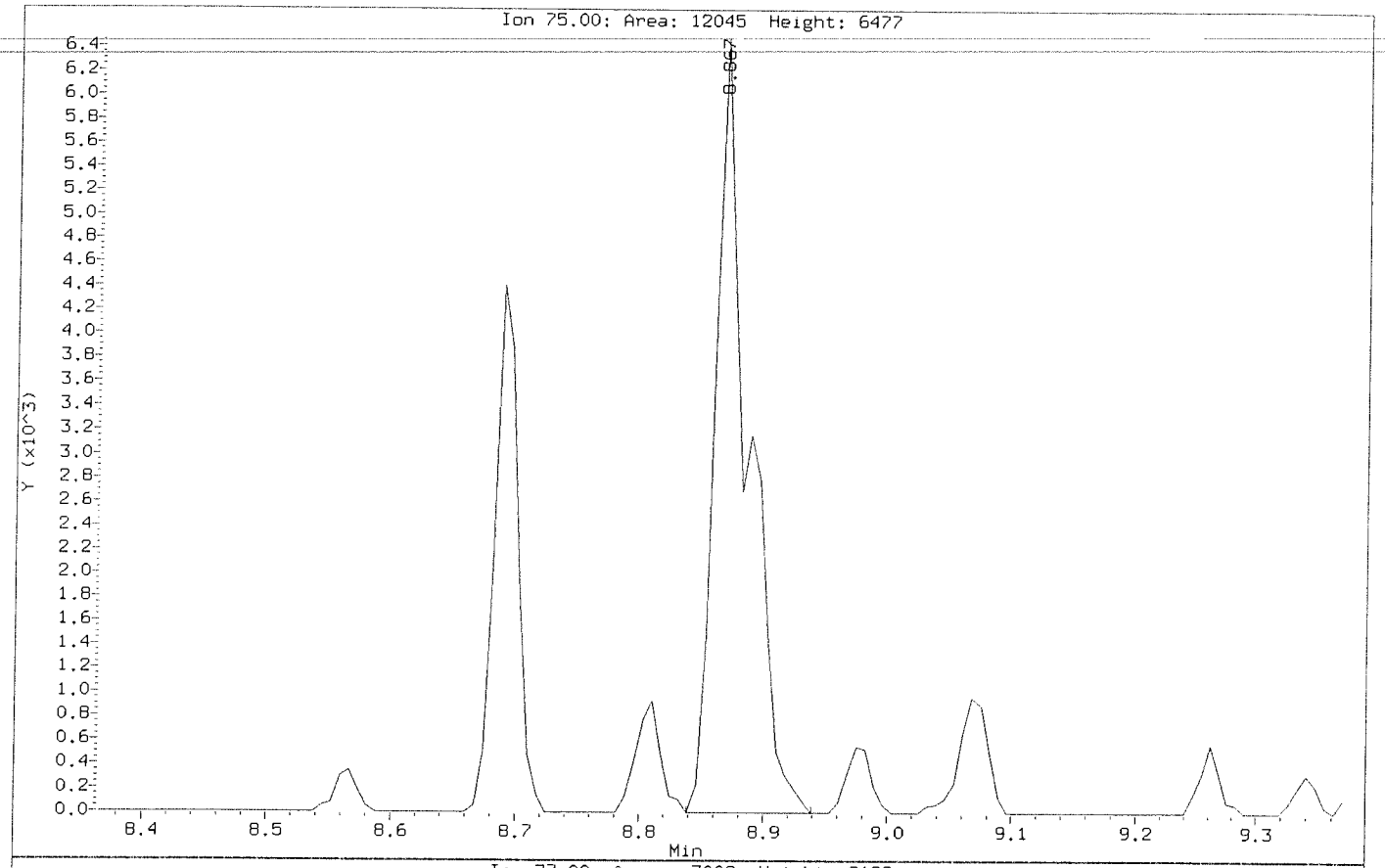
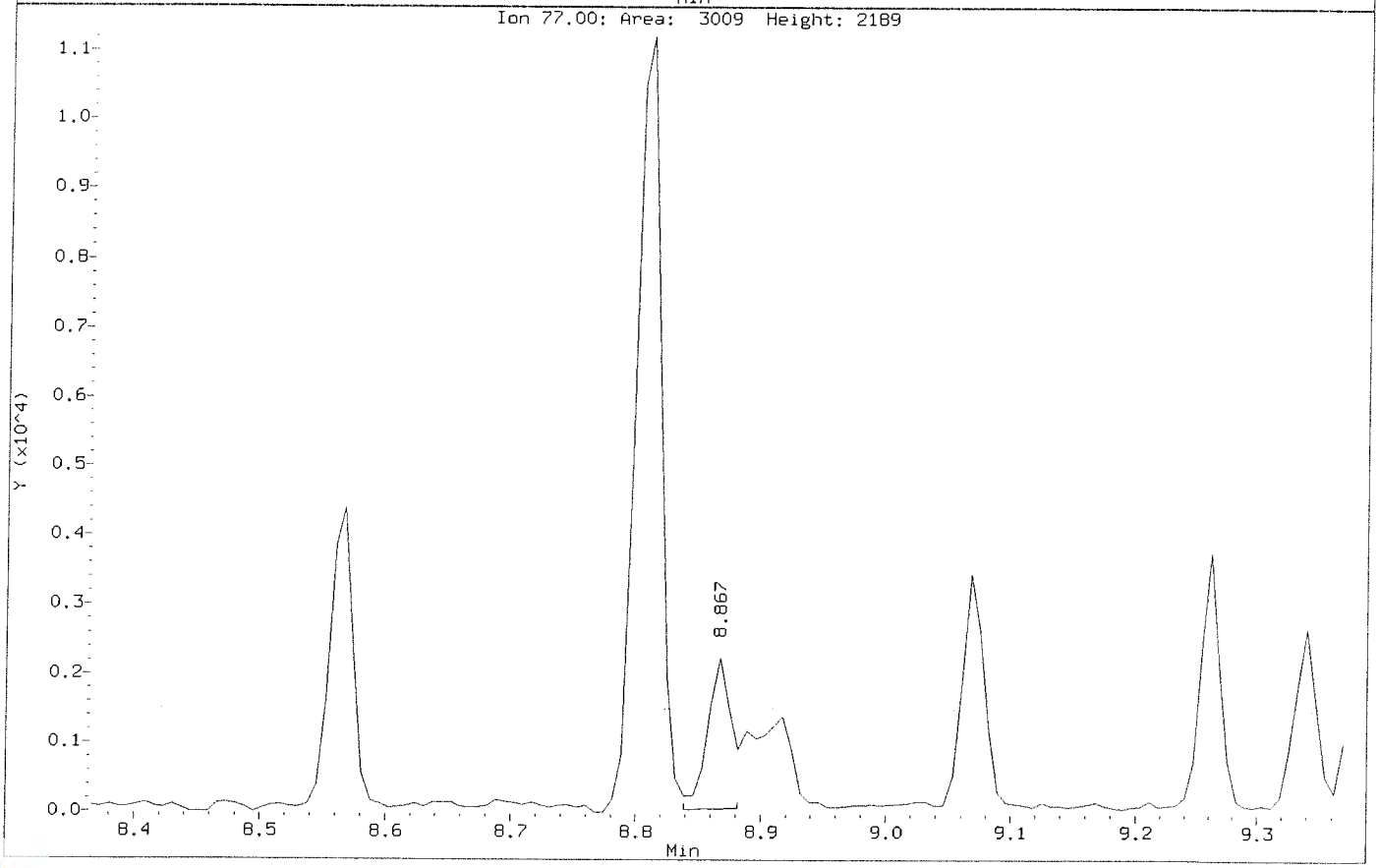
Instrument: voa6.i
Client Sample ID: VSTD005

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





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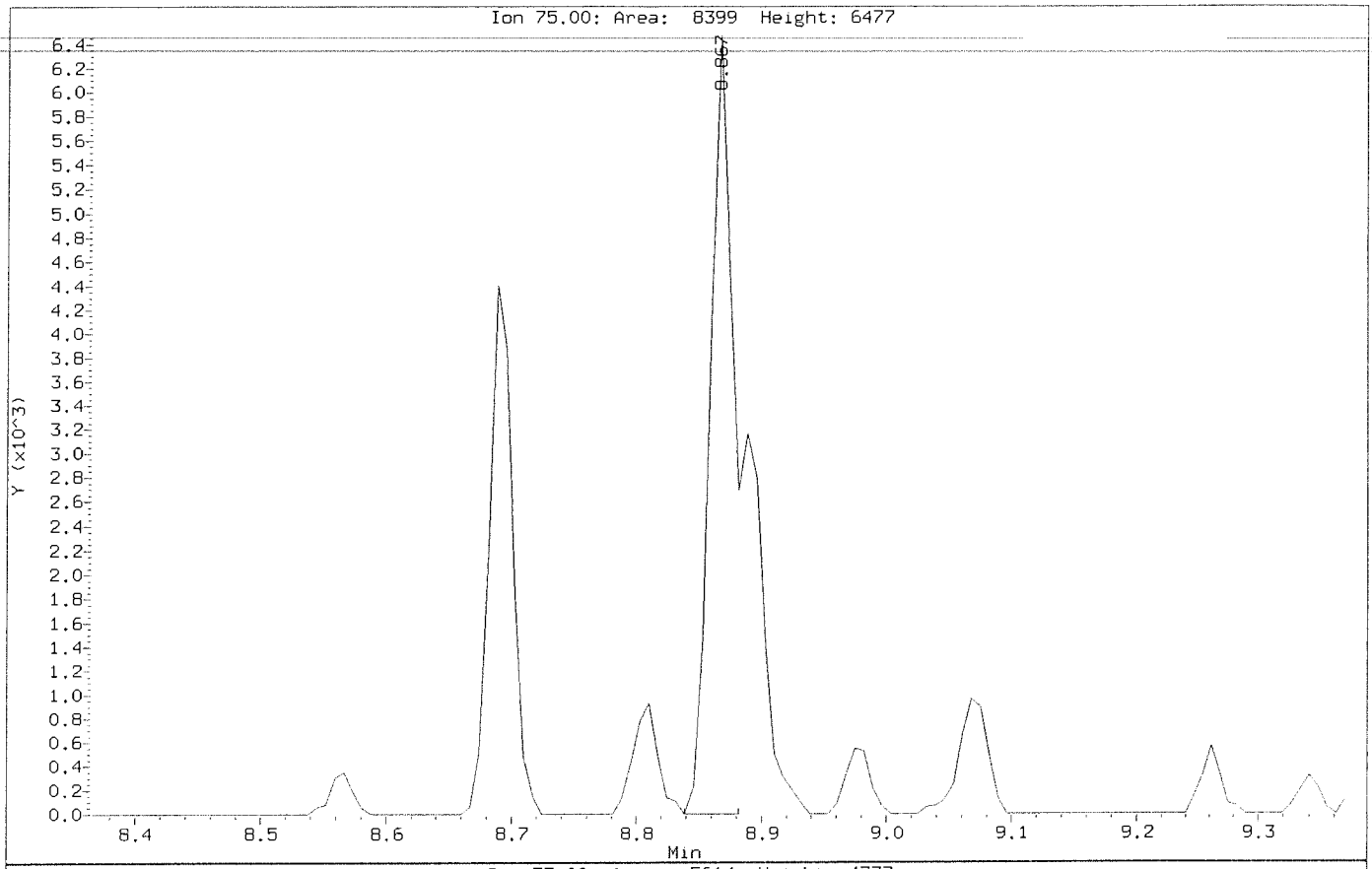
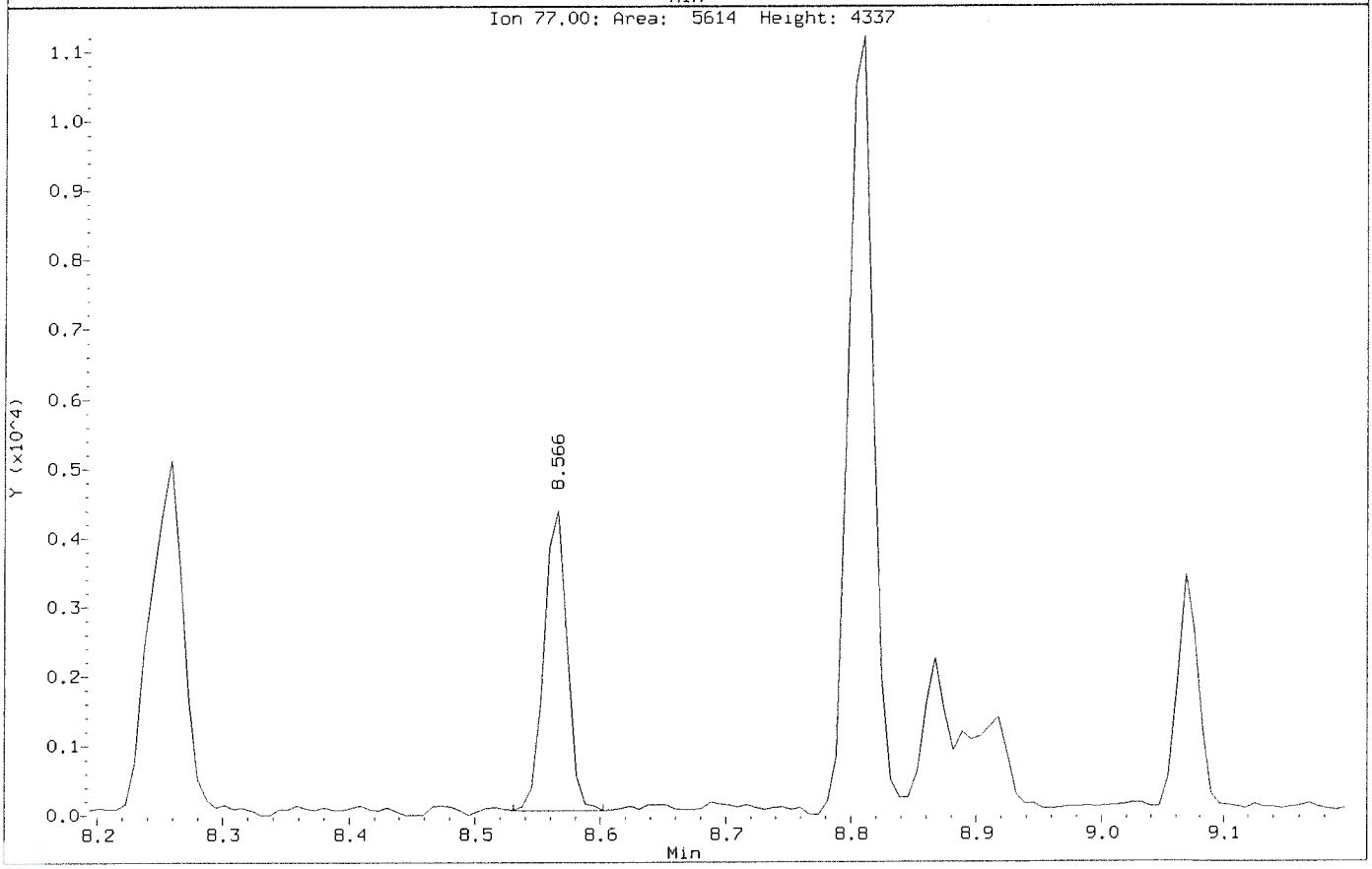
Client Sample ID: VSTD005

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





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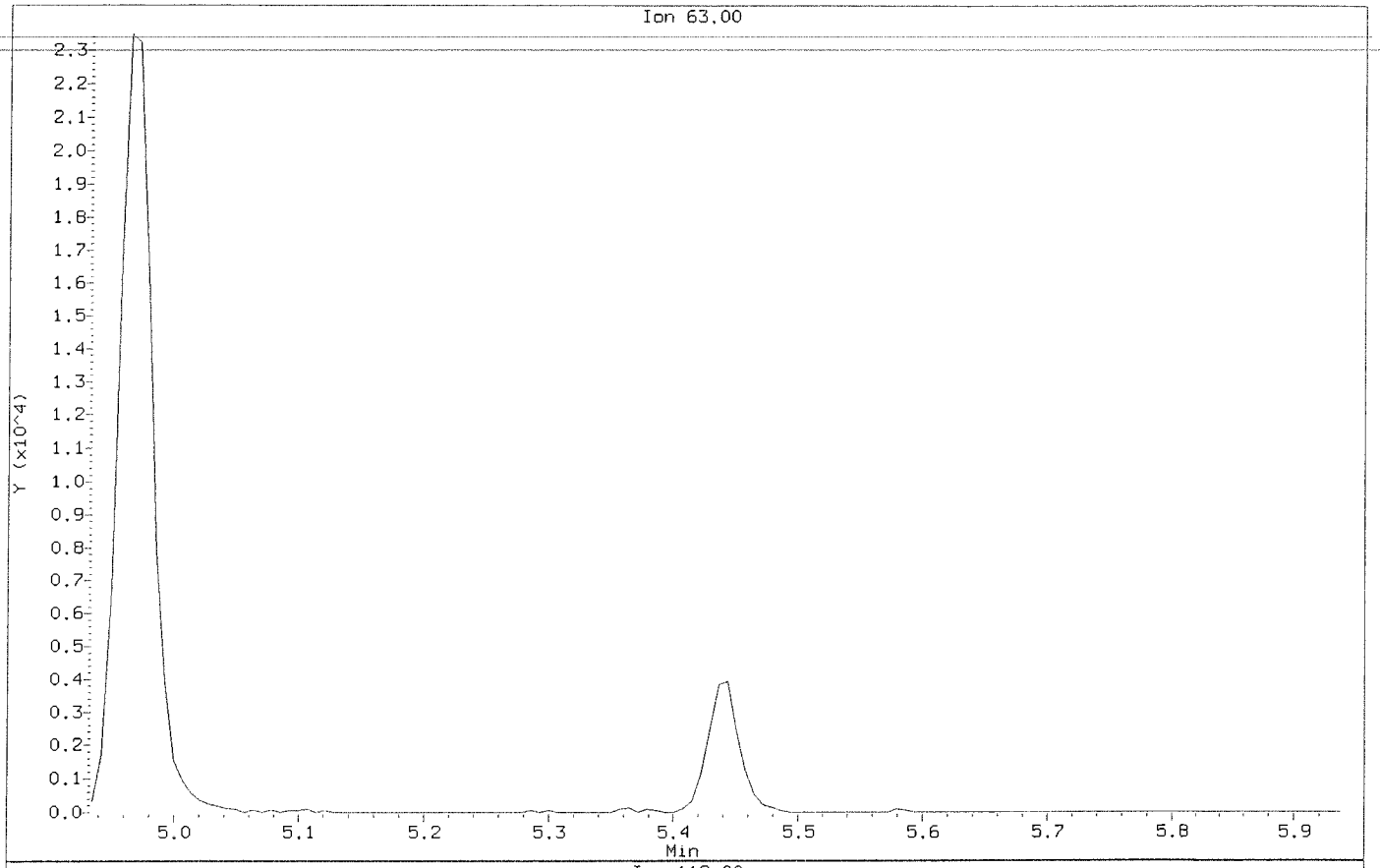
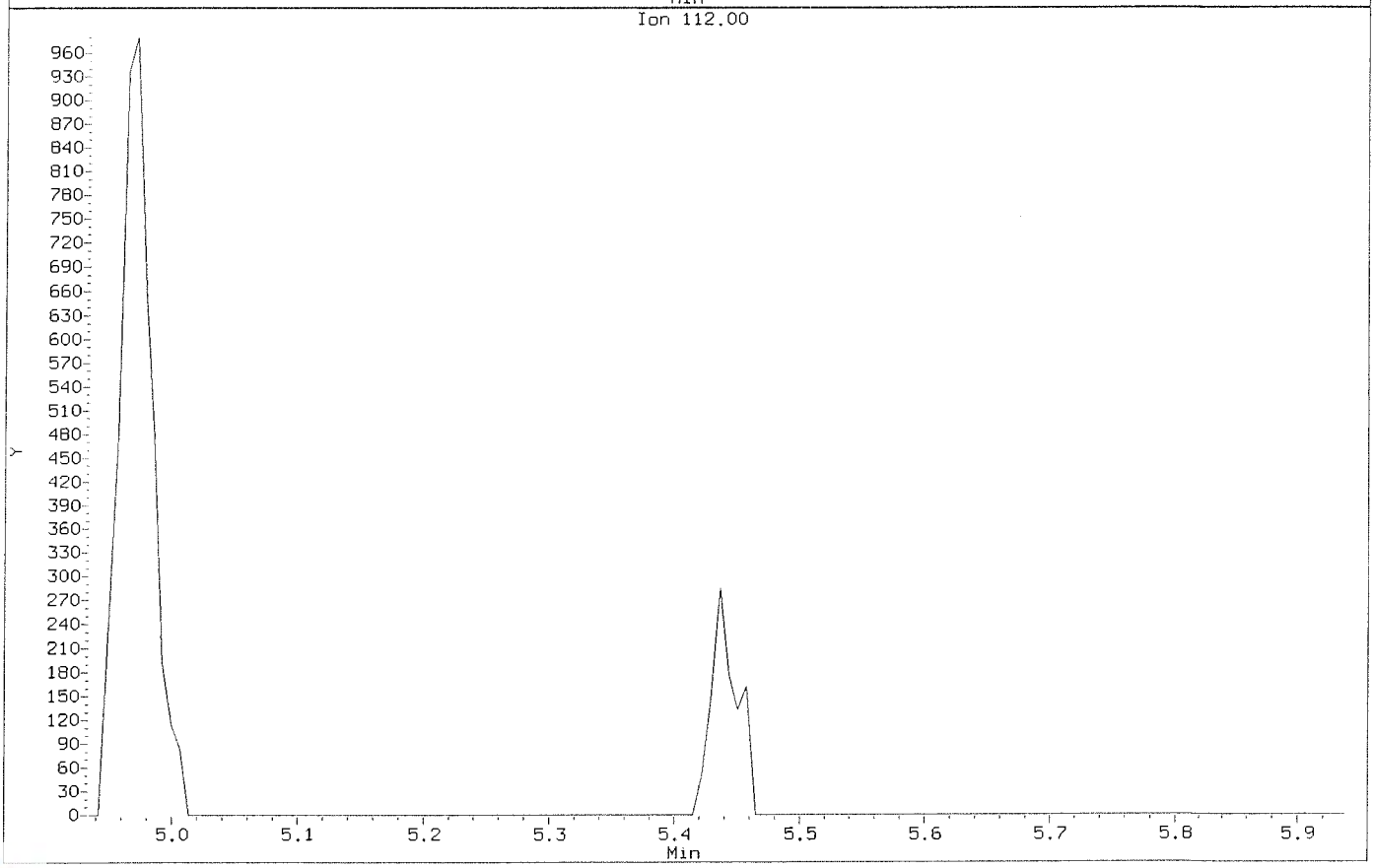
Injection Date: 31-OCT-2019 13:08
Instrument: voa6.i
Client Sample ID: VSTD005

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





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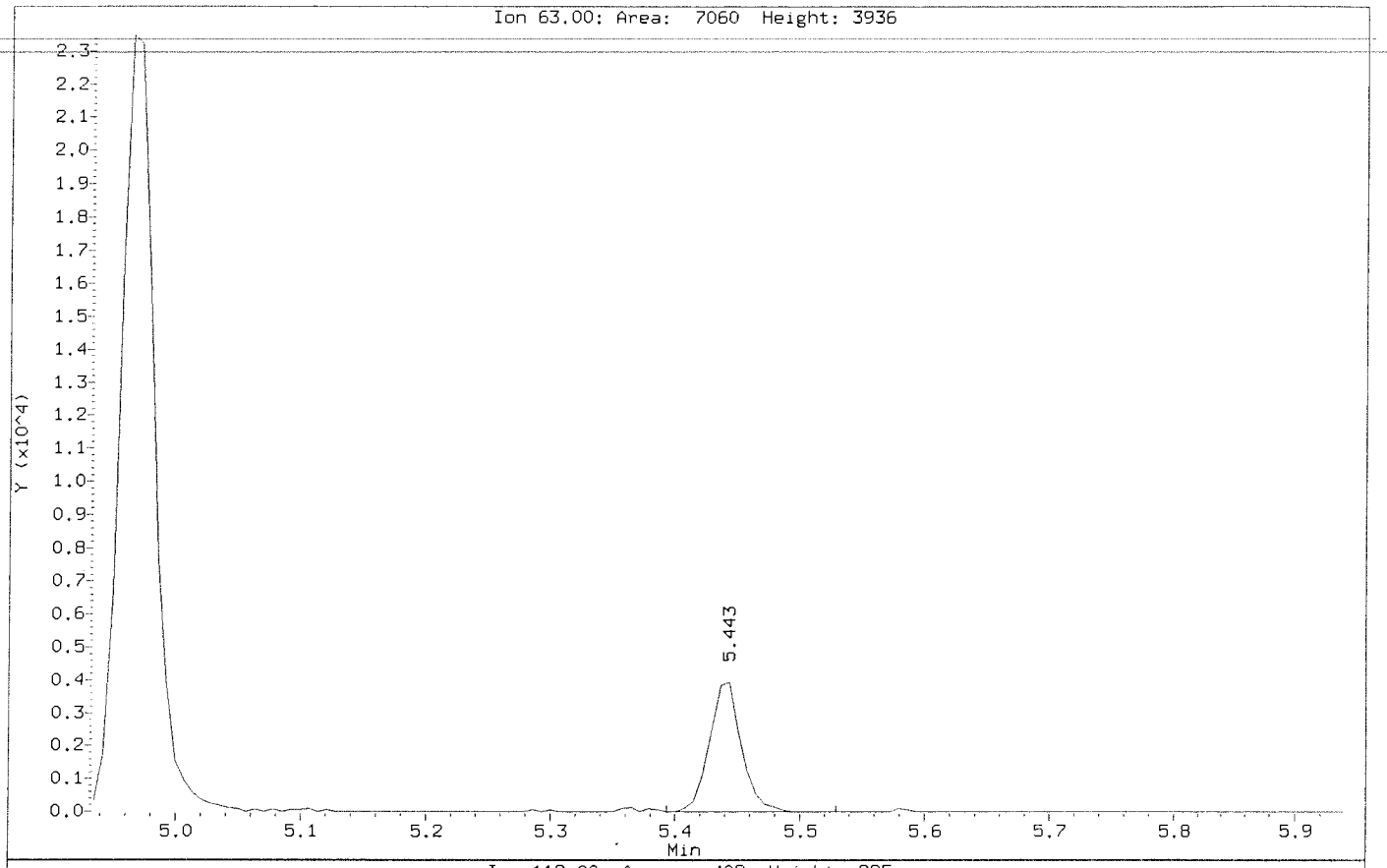
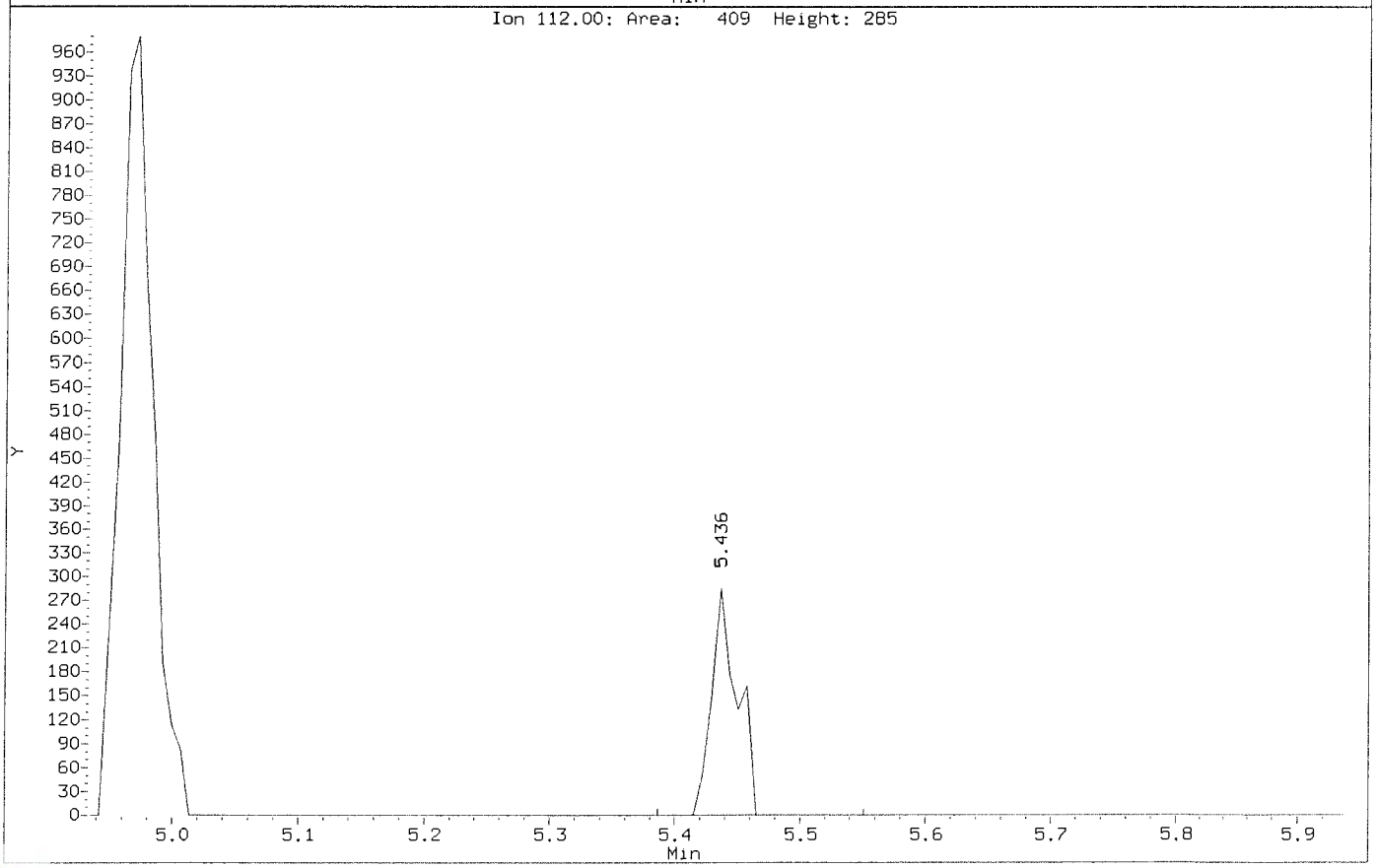
Instrument: voa6.i
Client Sample ID: VSTD005

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





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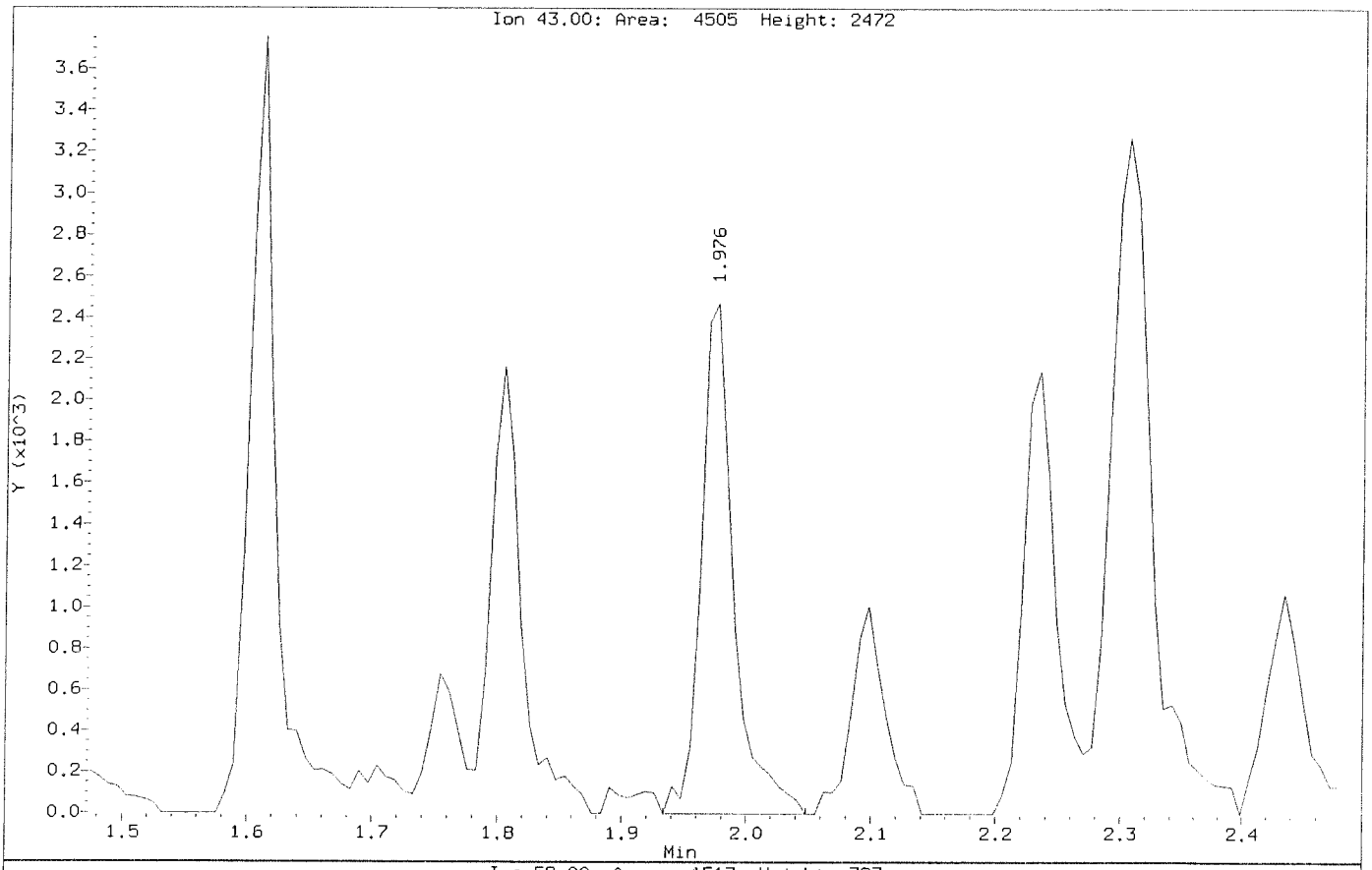
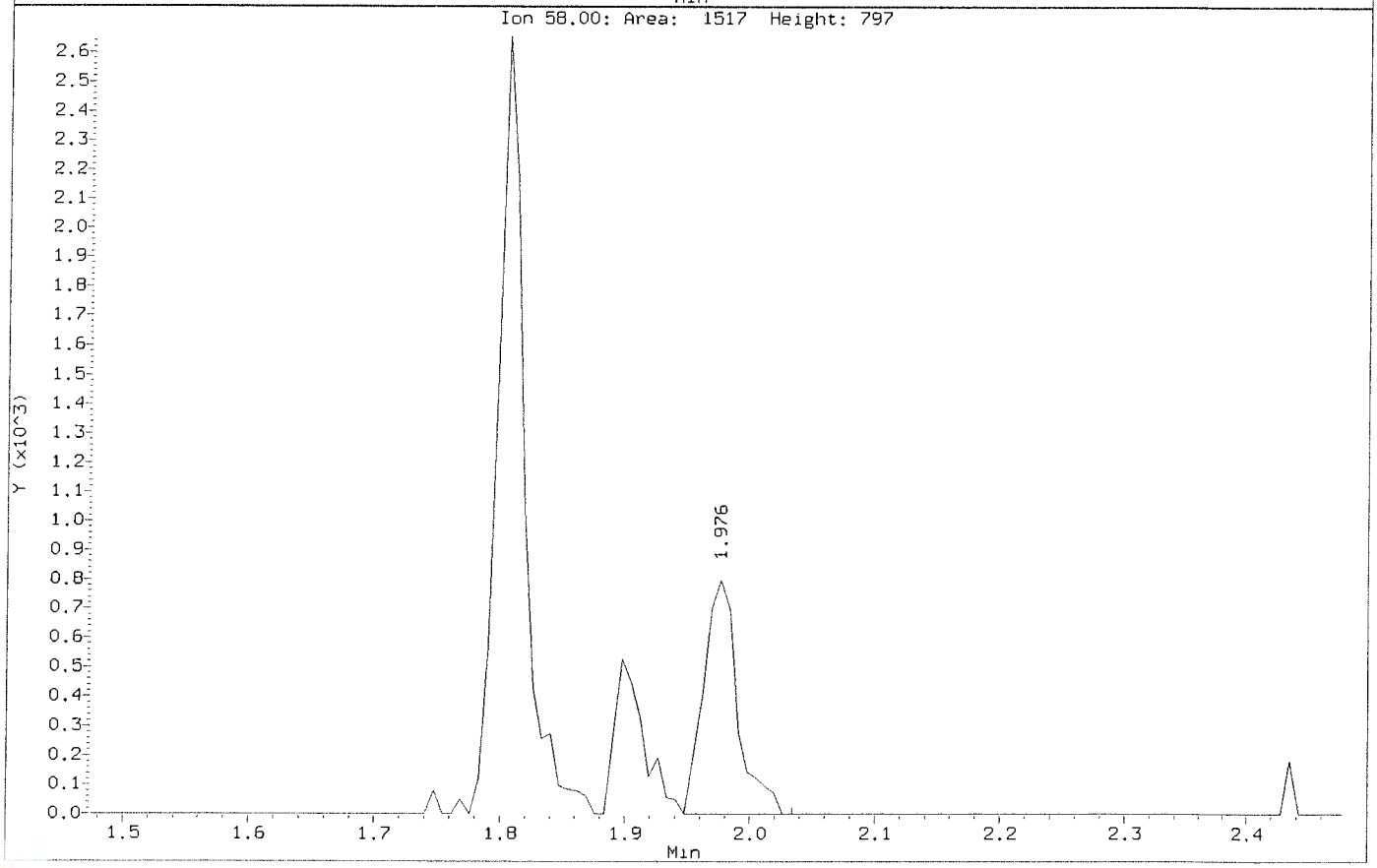
Injection Date: 31-OCT-2019 13:08
Instrument: voa6.i
Client Sample ID: VSTD005

Compound: Acetone
CAS Number: 67-64-1





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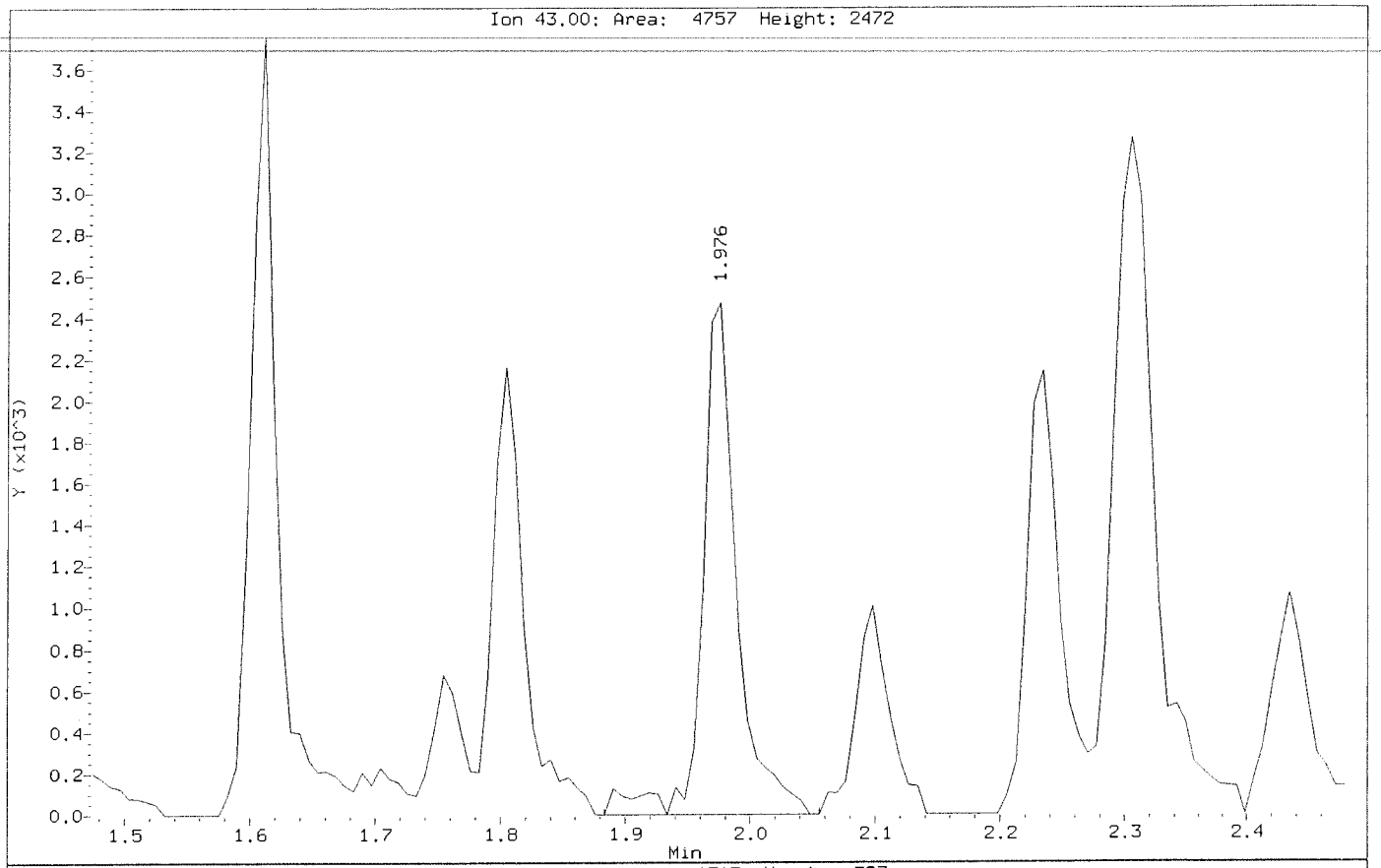
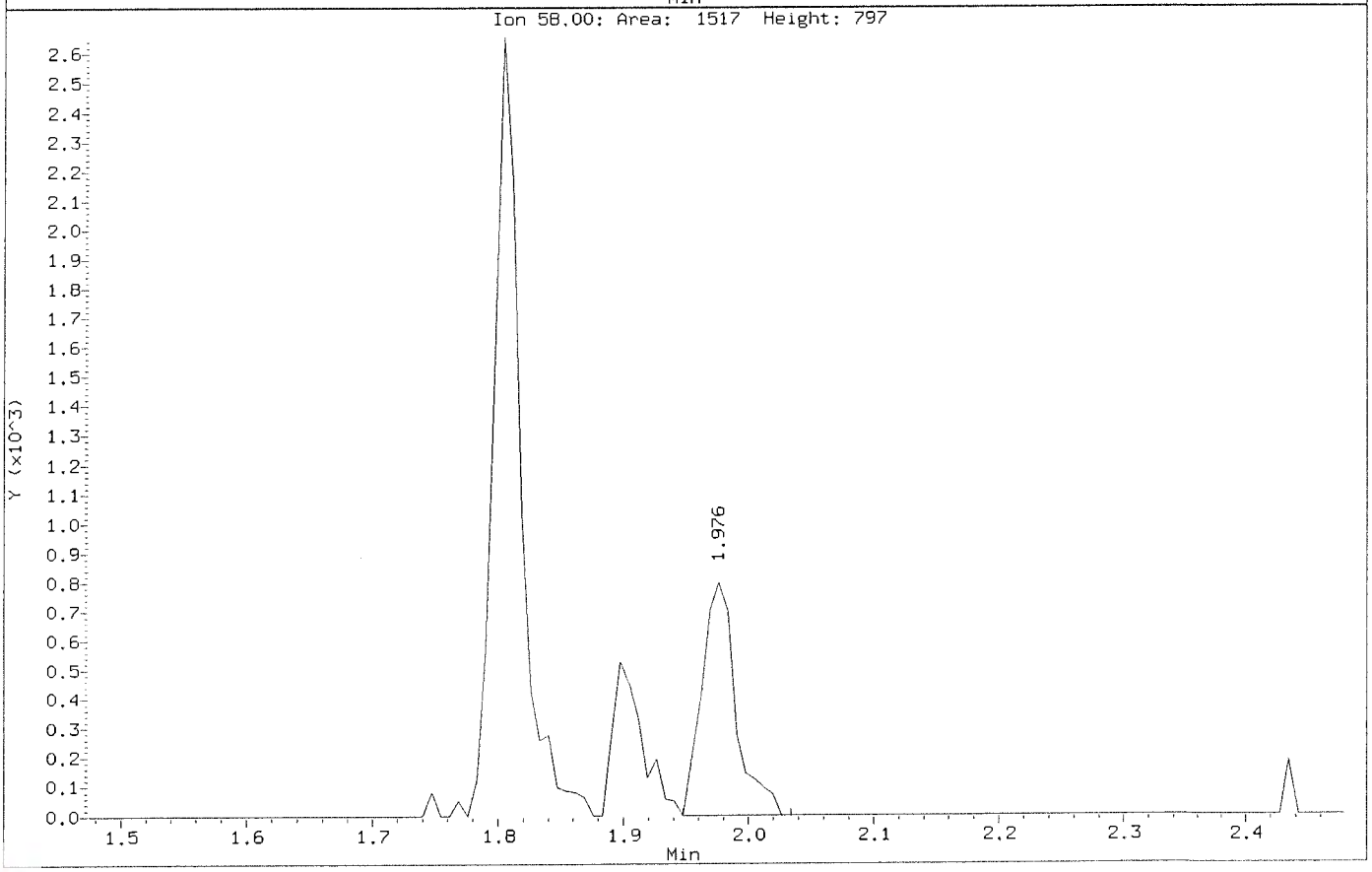
Compound: Acetone
CAS Number: 67-64-1





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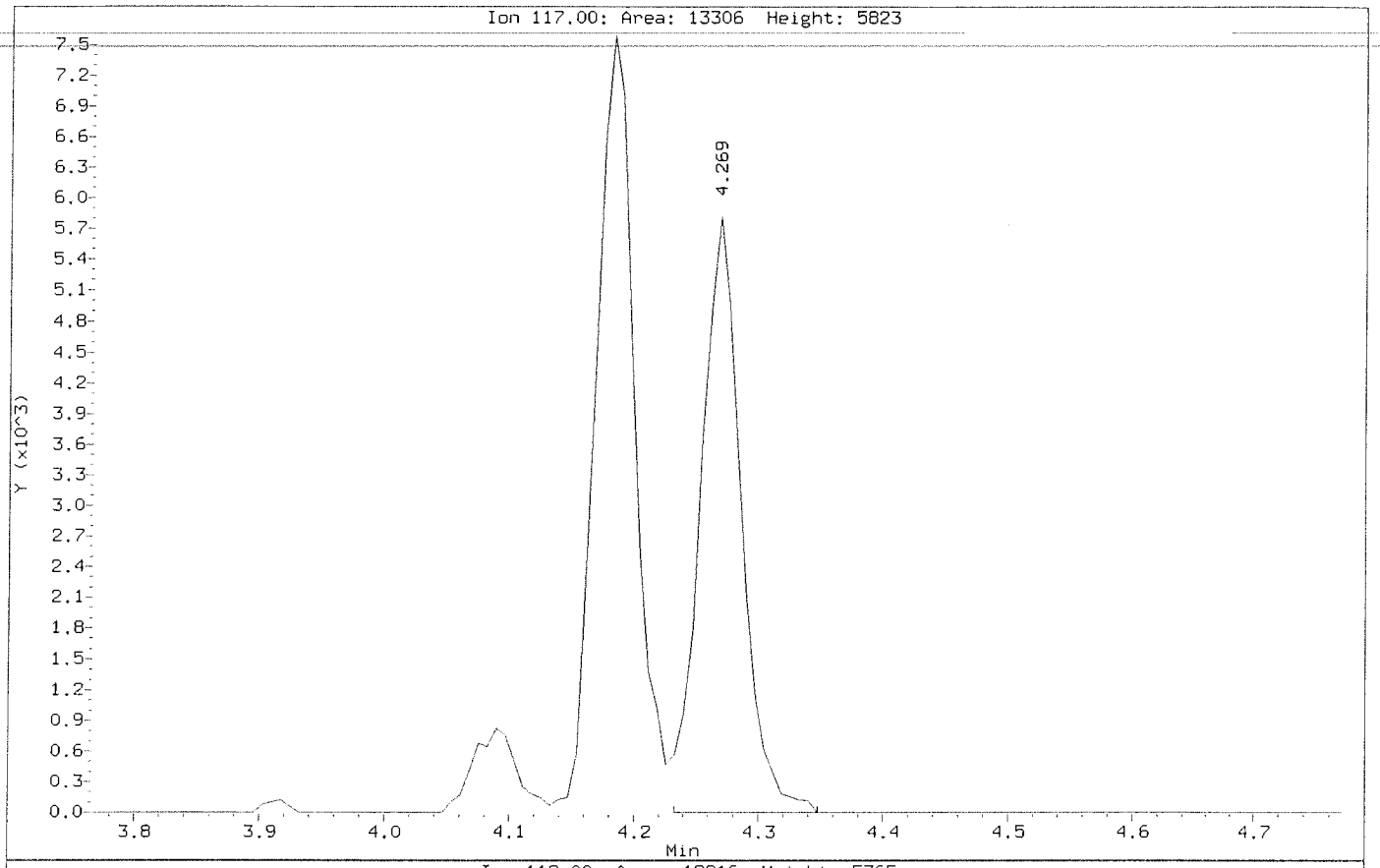
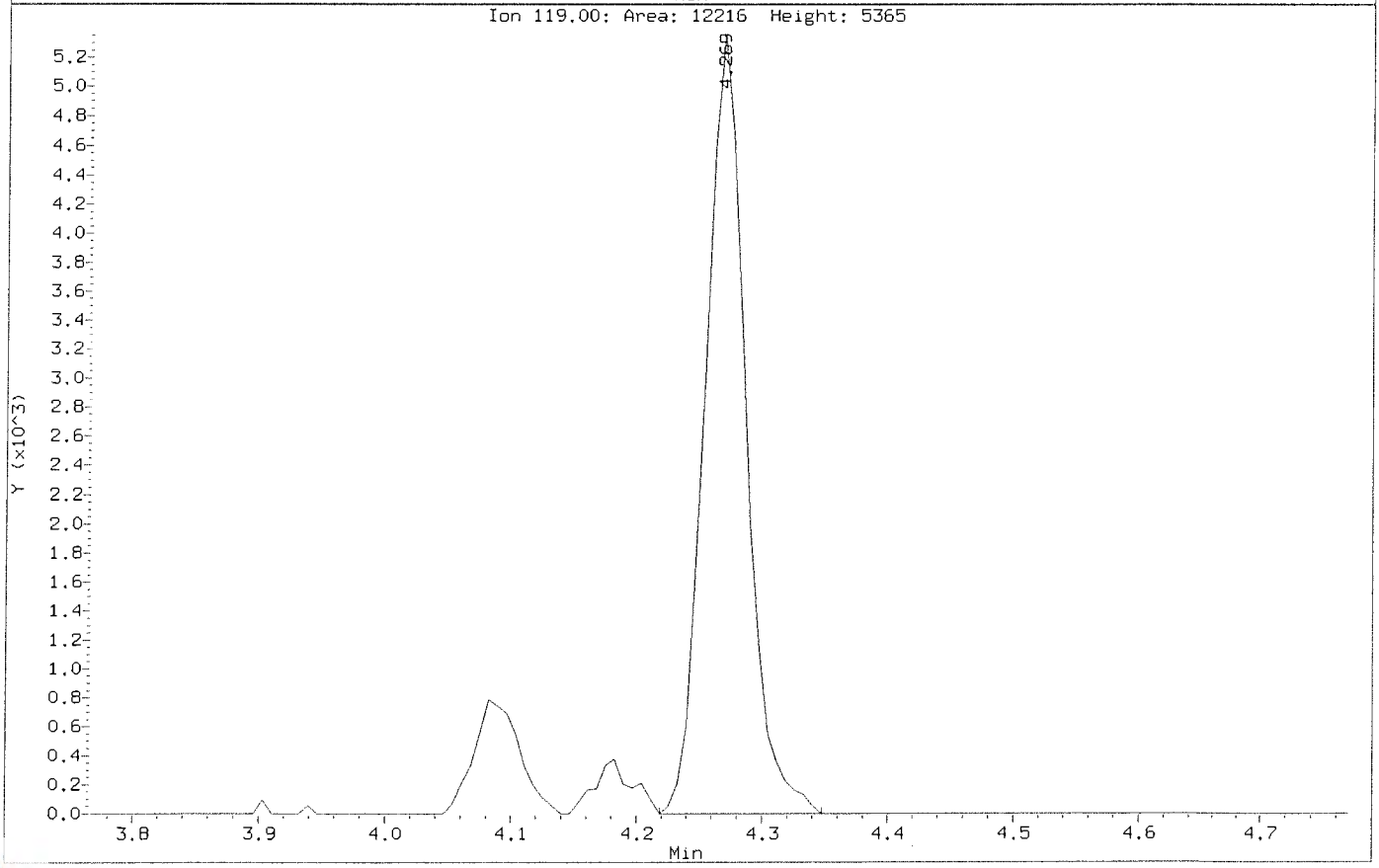
Injection Date: 31-OCT-2019 13:08
Instrument: voa6.i
Client Sample ID: VSTD005

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





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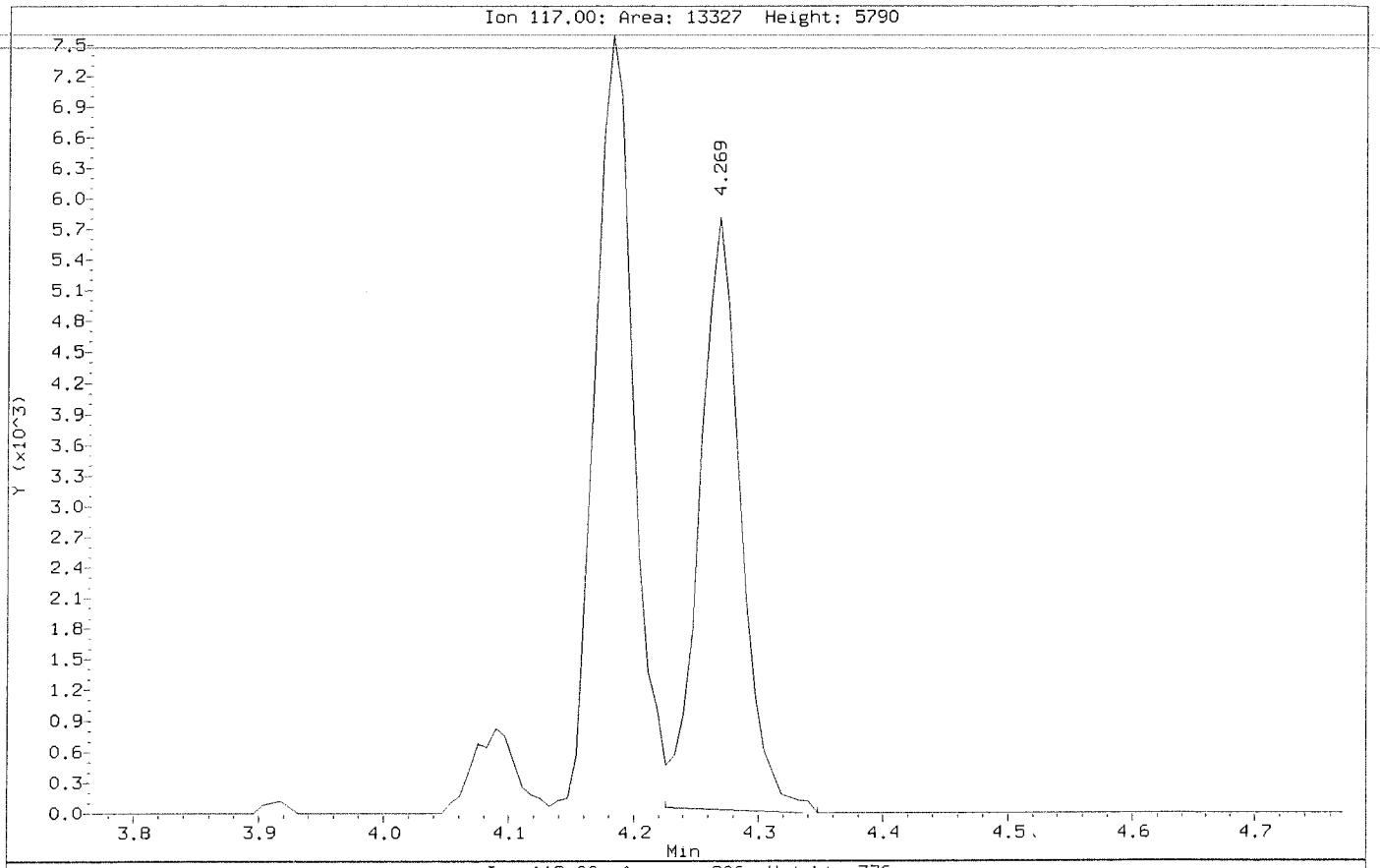
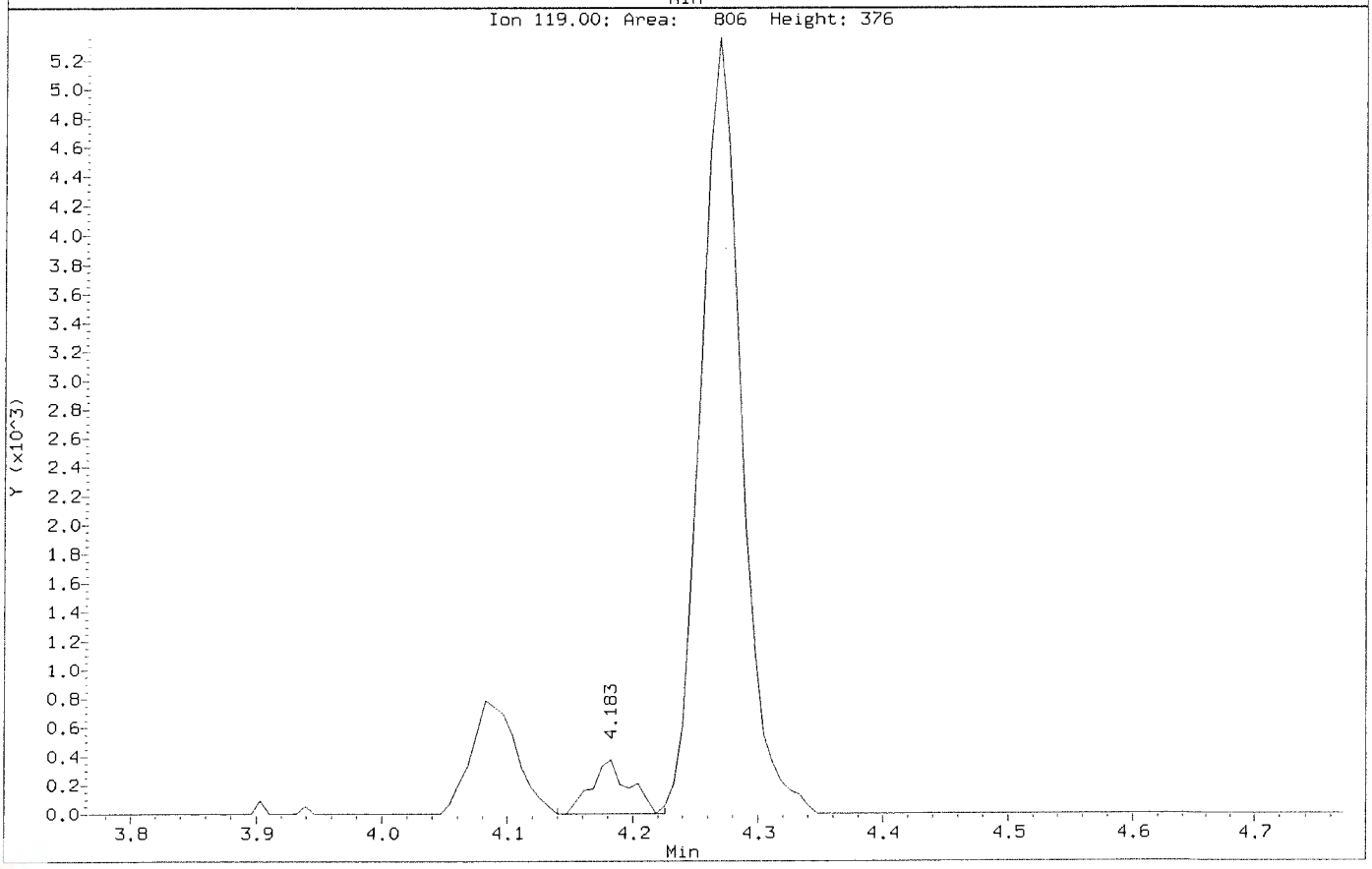
Compound: Carbon Tetrachloride
CAS Number: 56-23-5





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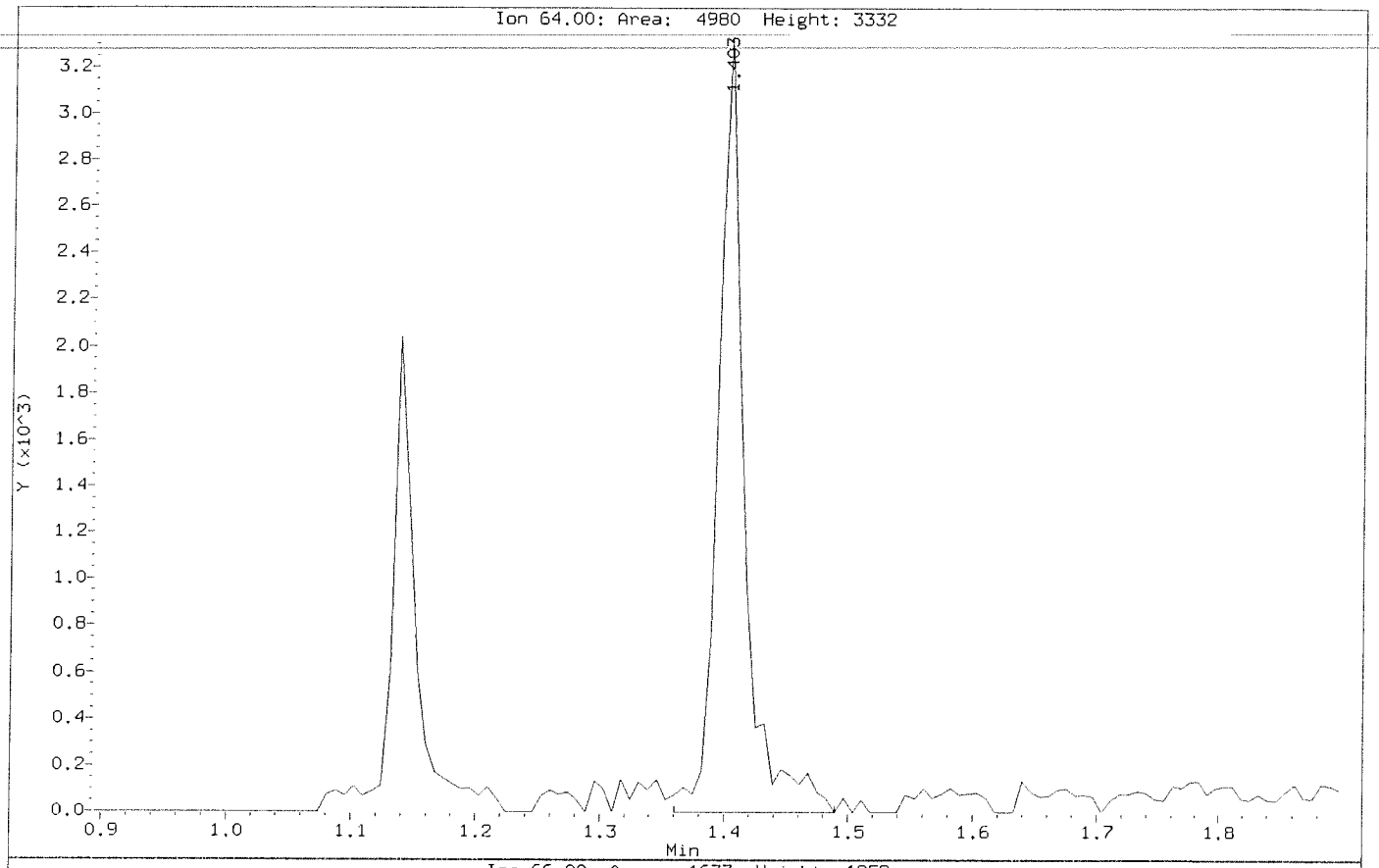
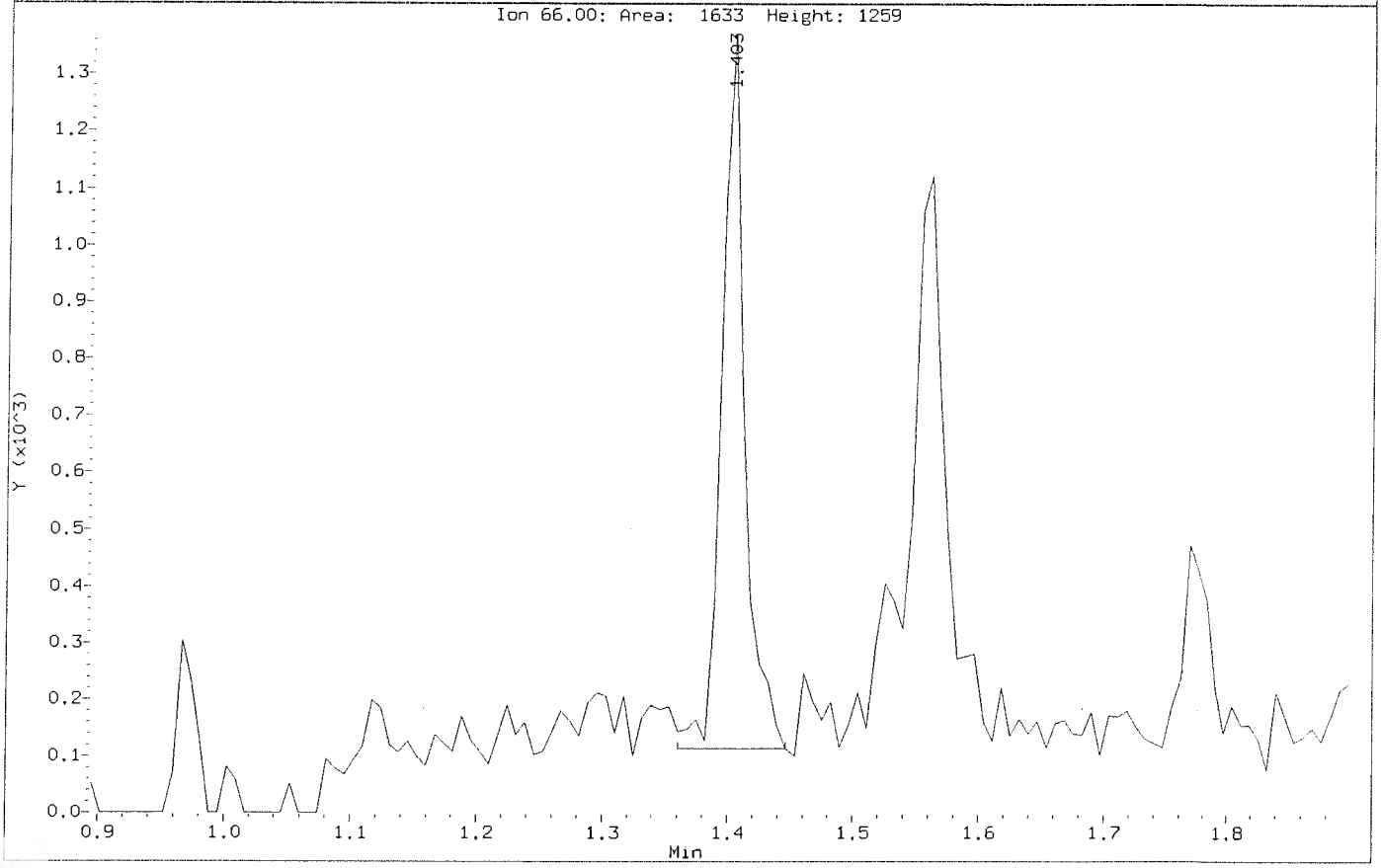
Instrument: voa6.i
Client Sample ID: VSTD005

Compound: Chloroethane
CAS Number: 75-00-3





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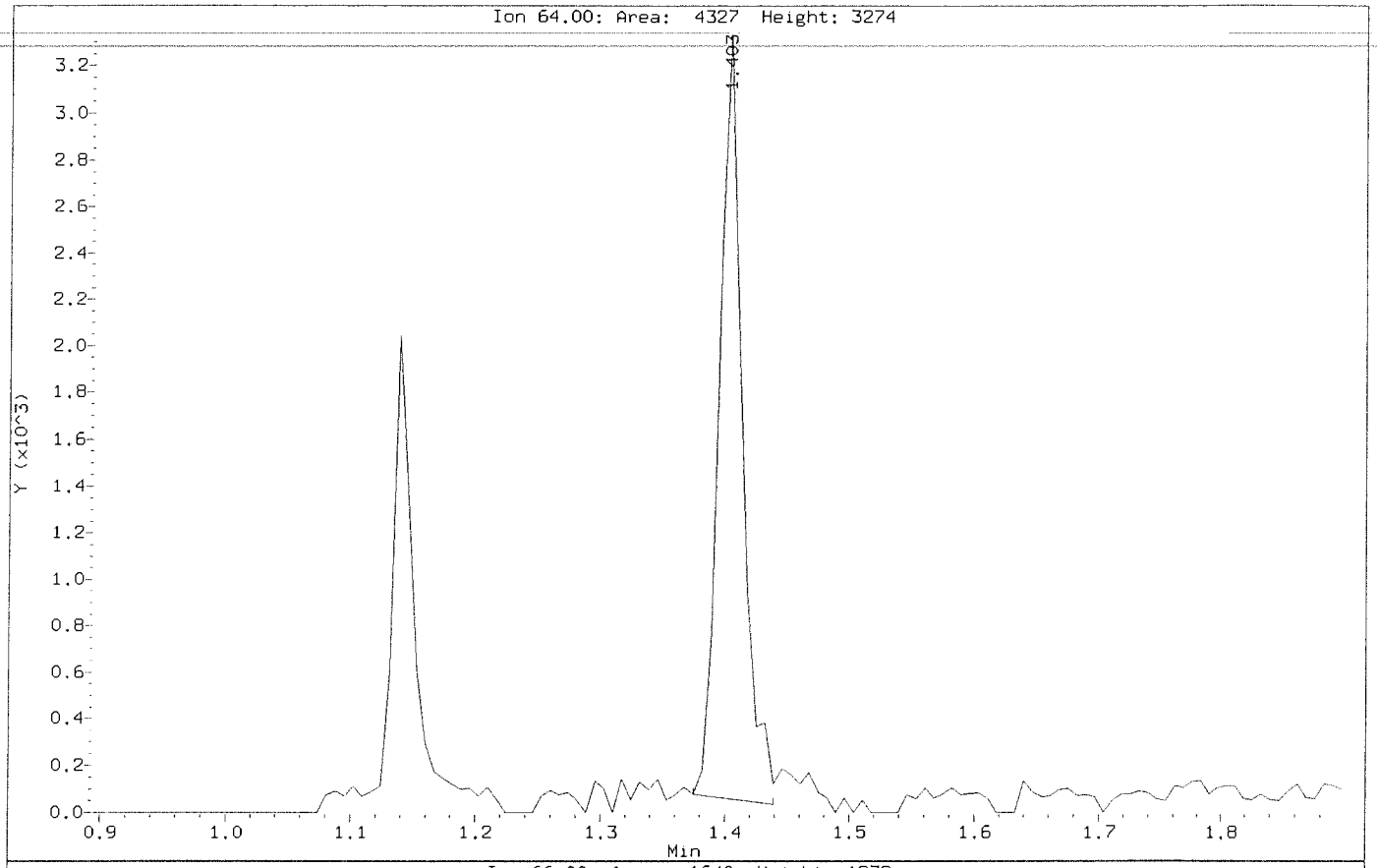
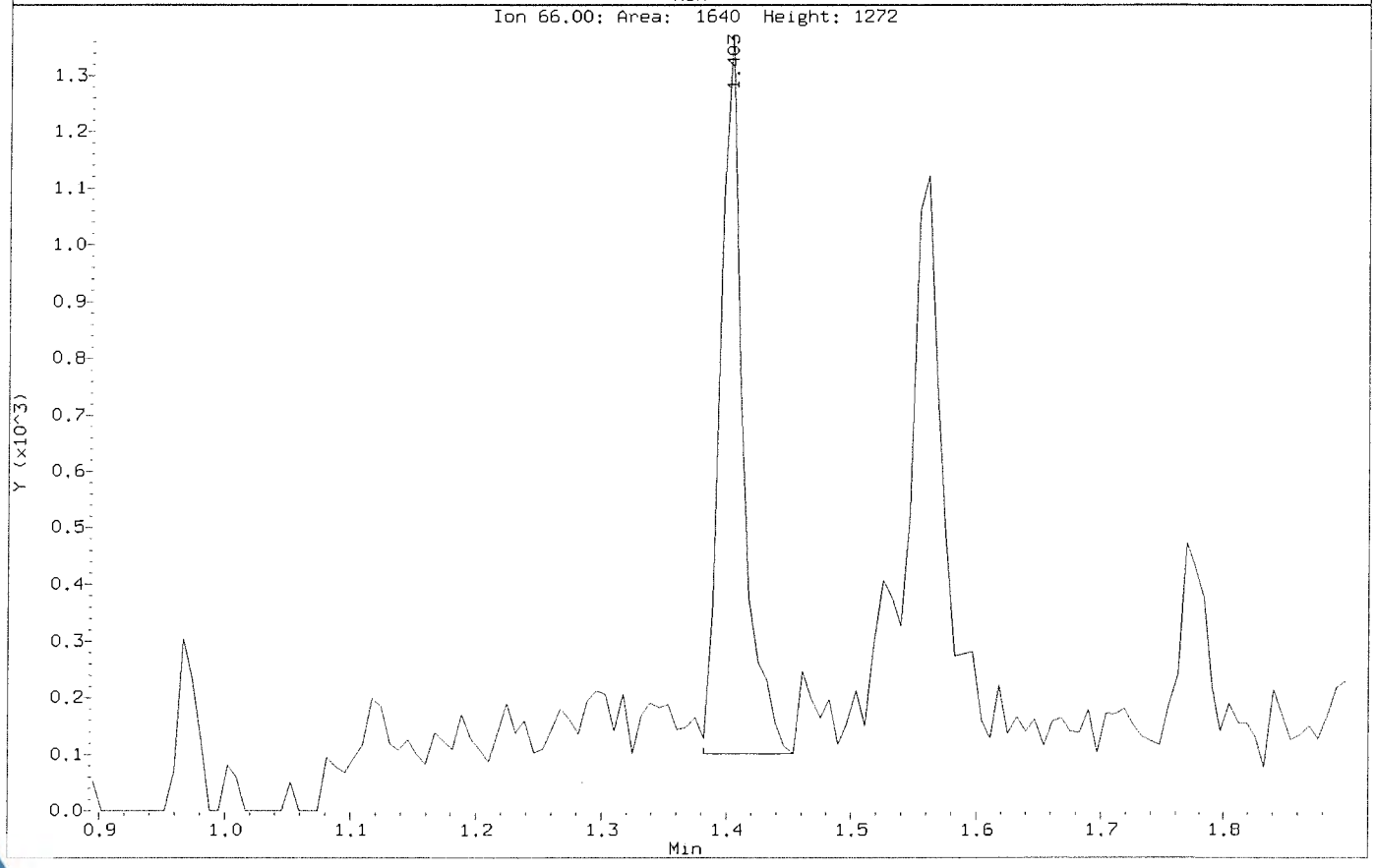
Injection Date: 31-OCT-2019 13:08
Instrument: voa6.i
Client Sample ID: VSTD005

Compound: Chloroethane
CAS Number: 75-00-3





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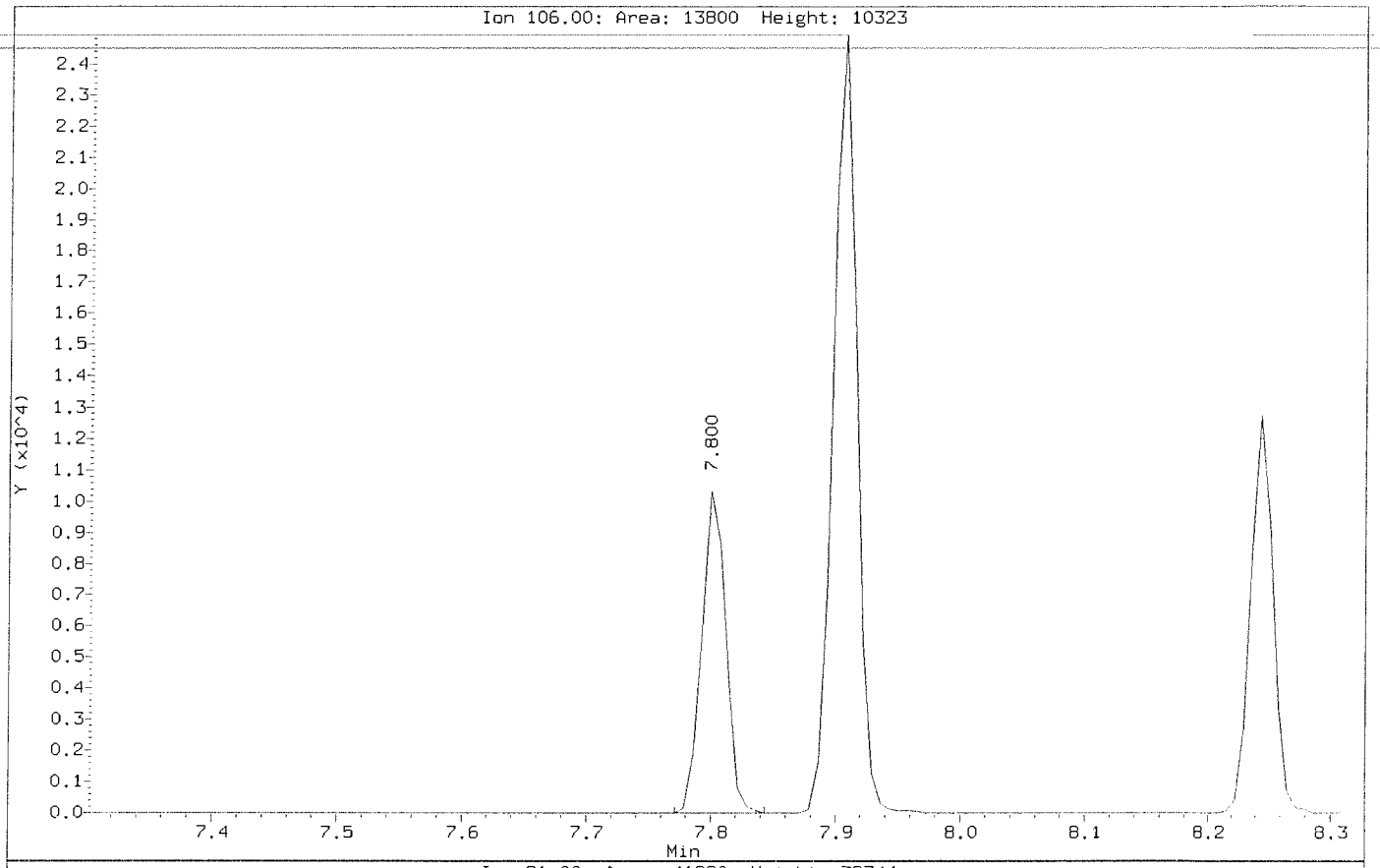
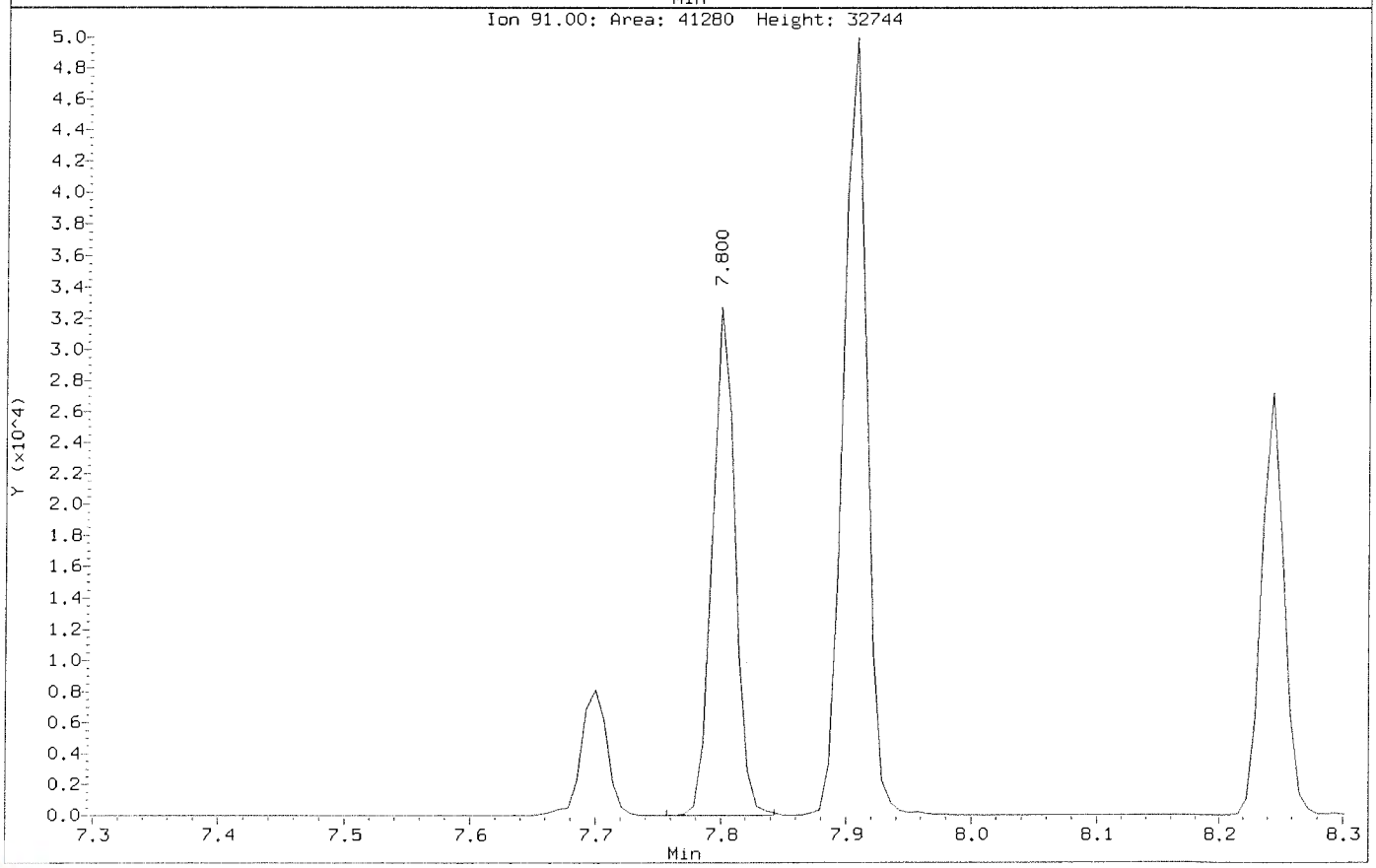
Injection Date: 31-OCT-2019 13:08
Instrument: voa6.i
Client Sample ID: VSTD005

Compound: Ethylbenzene
CAS Number: 100-41-4





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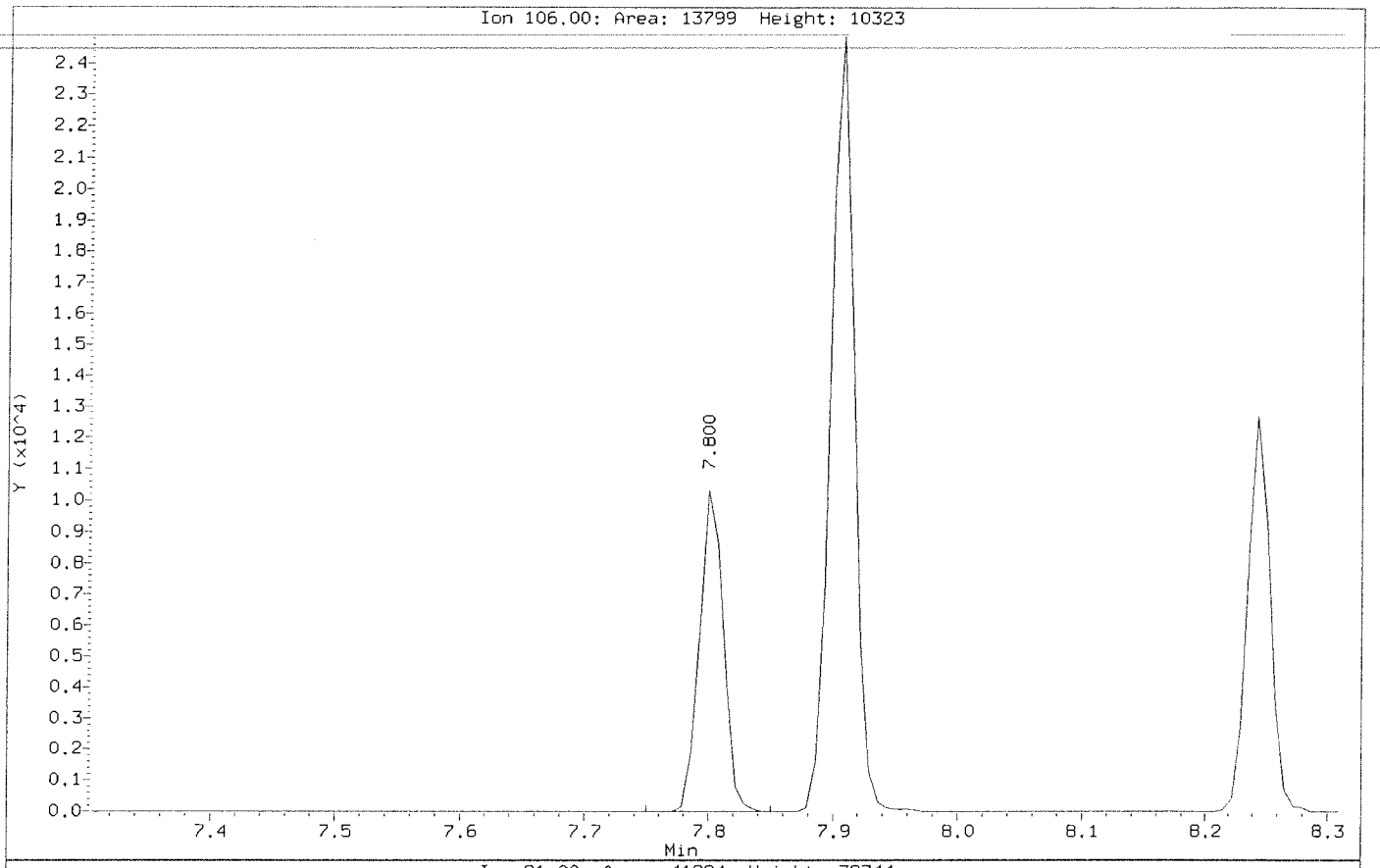
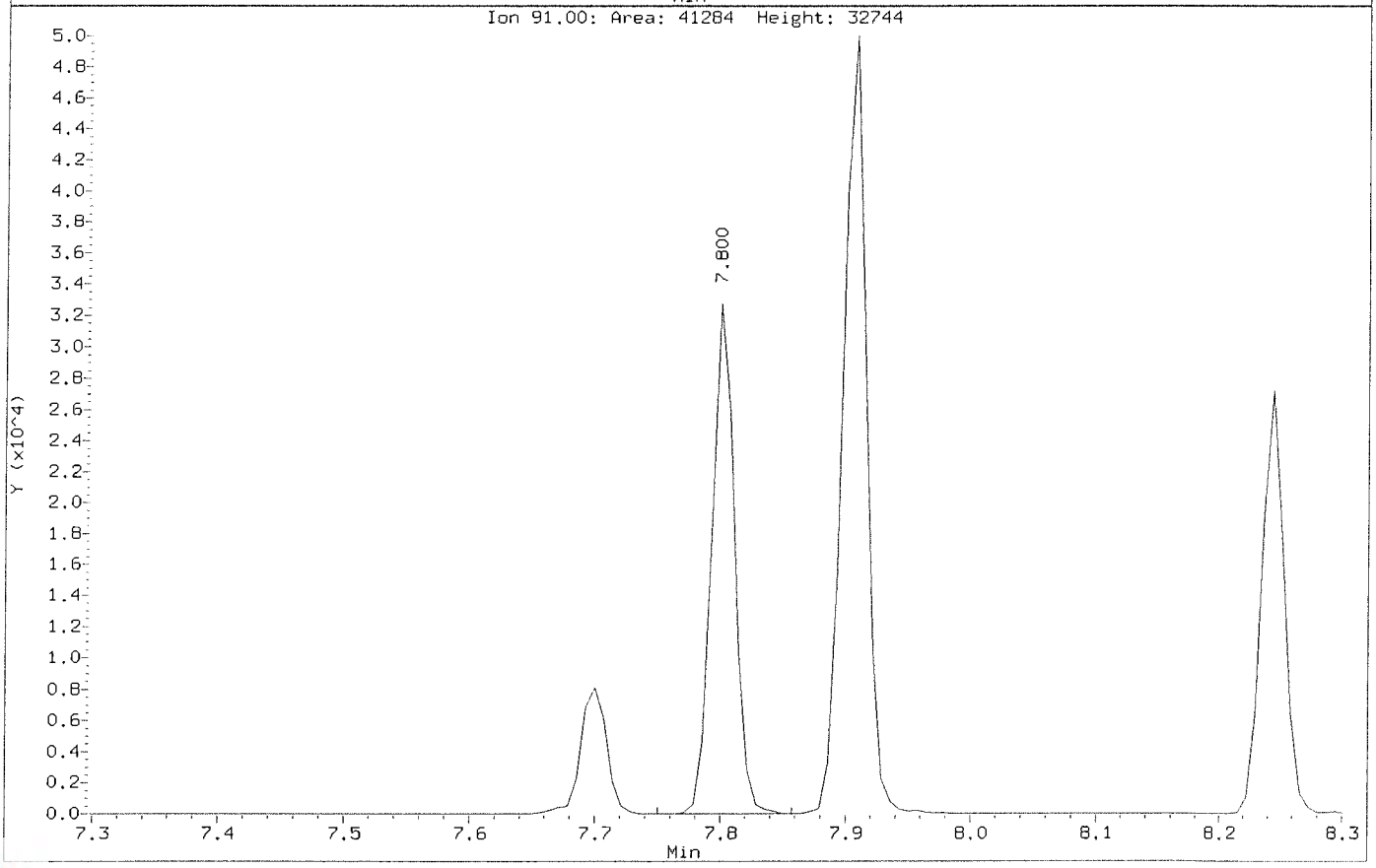
Instrument: voa6.i
Client Sample ID: VSTD005

Compound: Ethylbenzene
CAS Number: 100-41-4





Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\X103107.D Page 1
Report Date: 19-Nov-2019 17:39

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X191031.b\X103107.D
Lab Smp Id: VSTD020 Client Smp ID: VSTD020
Inj Date : 31-OCT-2019 13:32
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\X191031.b\8260W.m
Meth Date : 19-Nov-2019 17:37 voa6.i Quant Type: ISTD
Cal Date : 31-OCT-2019 13:32 Cal File: X103107.D
Als bottle: 8 Calibration Sample, Level: 6
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBIHOUSTONDOD.sub
Target Version: 4.14

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

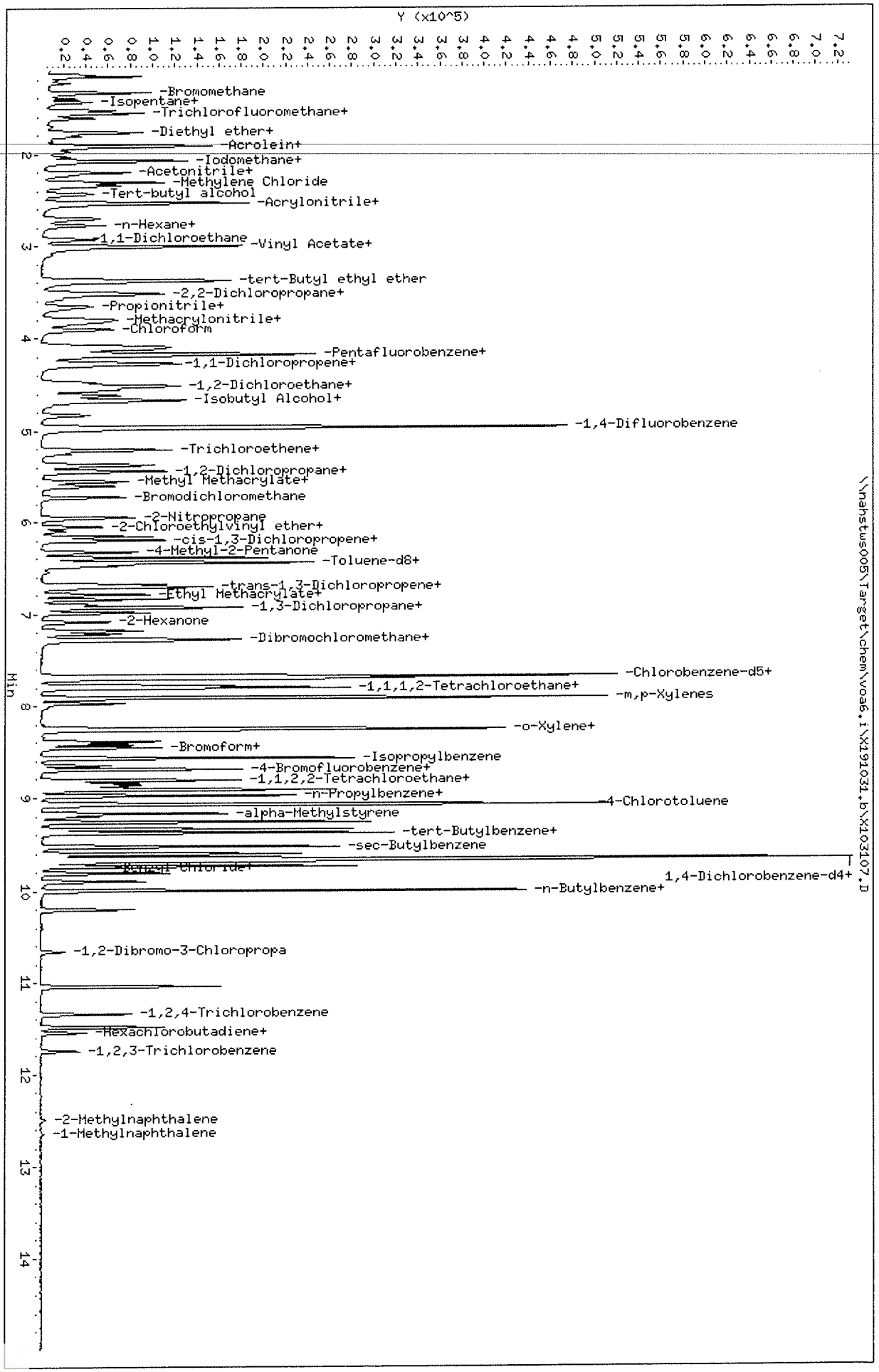
Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

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)	225348	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	280413	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	256253	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.669	(1.000)	150132	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	37631	20.0000	20.08
$ 69 4-Bromofluorobenzene	95	8.688	8.695	(1.133)	49568	20.0000	20.22
$ 30 Dibromofluoromethane	113	4.103	4.104	(0.981)	36041	20.0000	20.36
$ 48 Toluene-d8	98	6.388	6.389	(0.833)	123879	20.0000	19.45
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	41264	20.0000	19.76
31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	57167	20.0000	20.24
68 1,1,2,2-Tetrachloroethane	83	8.845	8.845	(0.915)	34270	20.0000	20.64
138 Freon TF	101	1.919	1.912	(0.459)	30973	20.0000	20.77
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	24296	20.0000	20.86
22 1,1-Dichloroethane	63	2.922	2.922	(0.699)	49501	20.0000	19.62
11 1,1-Dichloroethene	96	1.912	1.912	(0.457)	28144	20.0000	19.64
32 1,1-Dichloropropene	75	4.283	4.283	(0.862)	41159	20.0000	19.70(M)
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.216)	10723	20.0000	21.27
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.918)	30610	20.0000	20.62(M)
90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	25337	20.0000	18.70
79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.971)	145285	20.0000	20.20
89 1,2-Dibromo-3-Chloropropane	155	10.658	10.658	(1.103)	4750	20.0000	19.60
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	35261	20.0000	20.47
88 1,2-Dichlorobenzene	146	9.999	9.999	(1.035)	82599	20.0000	19.82

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
33	1,2-Dichloroethane	62	4.555	4.562	(0.916)	44302	20.0000	19.48
42	1,2-Dichloropropane	63	5.436	5.436	(1.094)	26061	20.0000	19.07
75	1,3,5-Trimethylbenzene	105	9.067	9.075	(0.938)	142629	20.0000	20.46
83	1,3-Dichlorobenzene	146	9.605	9.612	(0.994)	89896	20.0000	19.64
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	48959	20.0000	20.49
84	1,4-Dichlorobenzene	146	9.683	9.684	(1.002)	89790	20.0000	19.44
26	2,2-Dichloropropane	77	3.516	3.516	(0.841)	51105	20.0000	18.85
24	2-Butanone	43	3.573	3.573	(0.854)	18102	40.0000	39.49(M)
76	2-Chlorotoluene	91	8.974	8.982	(0.929)	108549	20.0000	20.11
52	2-Hexanone	43	7.083	7.090	(0.923)	28196	40.0000	37.78
77	4-Chlorotoluene	91	9.075	9.075	(0.939)	129052	20.0000	20.27
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	150670	20.0000	20.18
45	4-Methyl-2-Pentanone	43	6.324	6.331	(0.824)	40666	40.0000	38.54
10	Acetone	43	1.969	1.976	(0.471)	18452	40.0000	40.11(M)
37	Benzene	78	4.512	4.512	(0.908)	123672	20.0000	20.41
74	Bromobenzene	156	8.810	8.810	(0.912)	54908	20.0000	19.86
29	Bromochloromethane	128	3.795	3.795	(0.908)	22884	20.0000	19.68
39	Bromodichloromethane	83	5.729	5.730	(1.153)	44703	20.0000	20.13
66	Bromoform	173	8.416	8.416	(1.097)	34353	20.0000	20.78
6	Bromomethane	94	1.339	1.331	(0.320)	39382	20.0000	22.42
19	Carbon Disulfide	76	2.069	2.069	(0.495)	166059	40.0000	39.99
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	52016	20.0000	19.00(M)
59	Chlorobenzene	112	7.692	7.699	(1.003)	100771	20.0000	20.18
7	Chloroethane	64	1.403	1.396	(0.336)	17654	20.0000	19.76(M)
28	Chloroform	83	3.910	3.910	(0.935)	60261	20.0000	20.20
3	Chloromethane	50	1.074	1.074	(0.257)	28930	20.0000	19.39
27	cis-1,2-Dichloroethene	96	3.530	3.523	(0.844)	36983	20.0000	20.54
46	cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	51927	20.0000	20.19
55	Dibromochloromethane	129	7.176	7.176	(0.936)	41878	20.0000	19.72
44	Dibromomethane	93	5.558	5.558	(1.118)	22495	20.0000	20.77
2	Dichlorodifluoromethane	85	0.973	0.966	(0.233)	33571	20.0000	19.65
61	Ethylbenzene	106	7.800	7.807	(1.017)	51928	20.0000	20.05(M)
91	Hexachlorobutadiene	225	11.489	11.481	(1.189)	22925	20.0000	19.57
67	Isopropylbenzene	105	8.566	8.566	(1.117)	160360	20.0000	20.37
62	m,p-Xylenes	106	7.907	7.907	(1.031)	127177	40.0000	40.52
17	Methylene Chloride	84	2.306	2.306	(0.551)	31523	20.0000	20.15
87	n-Butylbenzene	91	9.999	9.999	(1.035)	109517	20.0000	20.57
73	n-Propylbenzene	91	8.917	8.917	(0.923)	171525	20.0000	20.05
92	Naphthalene	128	11.546	11.546	(1.195)	28087	20.0000	20.67
63	o-Xylene	106	8.244	8.244	(1.075)	62393	20.0000	20.18
81	sec-Butylbenzene	105	9.526	9.526	(0.986)	154749	20.0000	20.30
64	Styrene	104	8.258	8.265	(1.077)	109272	20.0000	20.44
78	tert-Butylbenzene	119	9.340	9.340	(0.967)	121101	20.0000	20.04
56	Tetrachloroethene	164	6.933	6.933	(0.904)	40192	20.0000	20.70
50	Toluene	91	6.446	6.446	(0.840)	141041	20.0000	20.16
20	trans-1,2-Dichloroethene	96	2.528	2.528	(0.604)	31272	20.0000	20.65
51	trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	48447	20.0000	20.17
38	Trichloroethene	130	5.207	5.207	(1.048)	43151	20.0000	20.62
8	Trichlorofluoromethane	101	1.561	1.553	(0.373)	60133	20.0000	19.99
5	Vinyl Chloride	62	1.138	1.138	(0.272)	29073	20.0000	20.56

QC Flag Legend

M - Compound response manually integrated.



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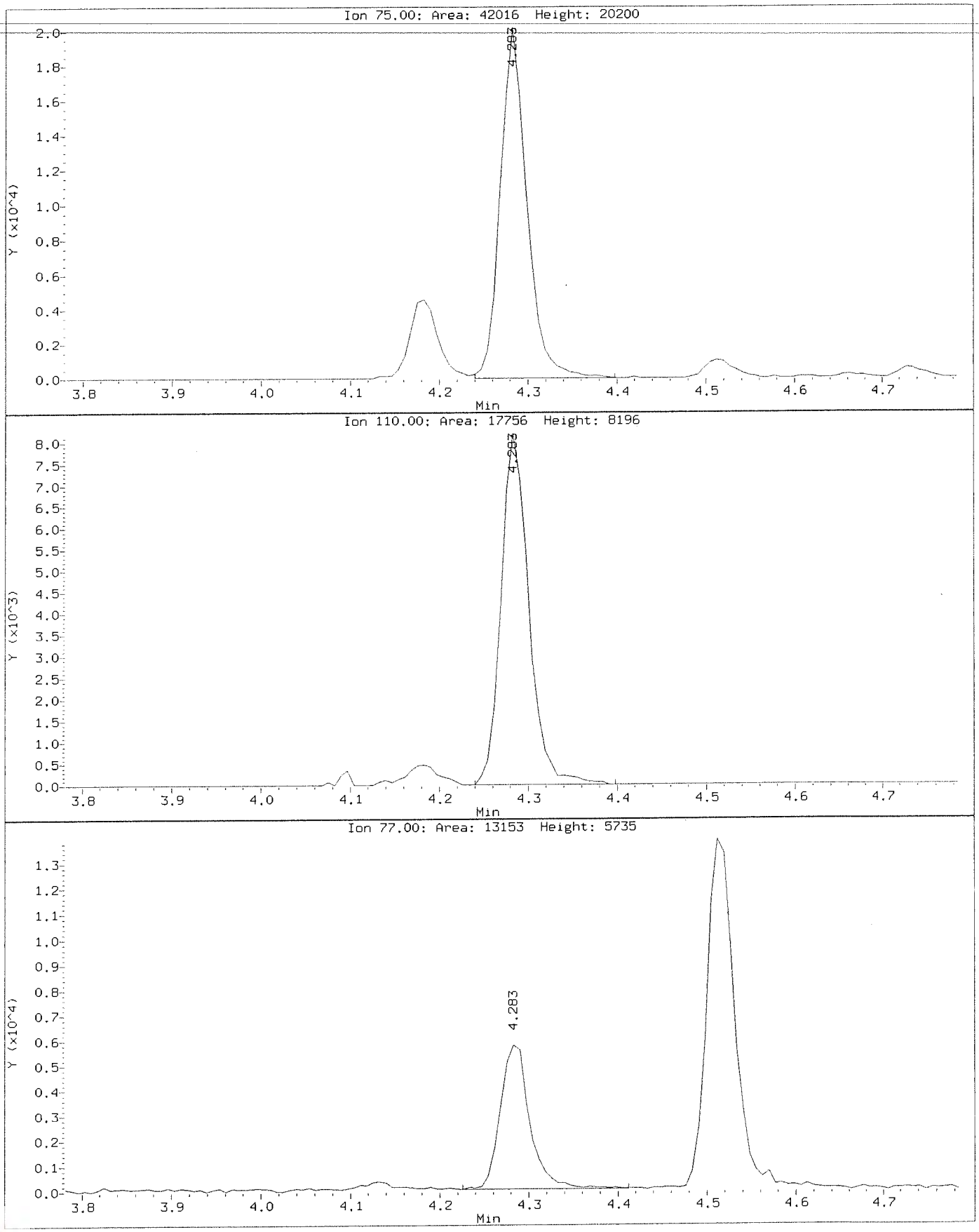
Client ID: VSTD020
Sample Info: VSTD020;VSTD020;1;6;
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\BEFORE2\X103107.D
Injection Date: 31-OCT-2019 13:32
Instrument: voa6.i
Client Sample ID: VSTD020

Compound: 1,1-Dichloropropene
CAS Number: 563-58-6



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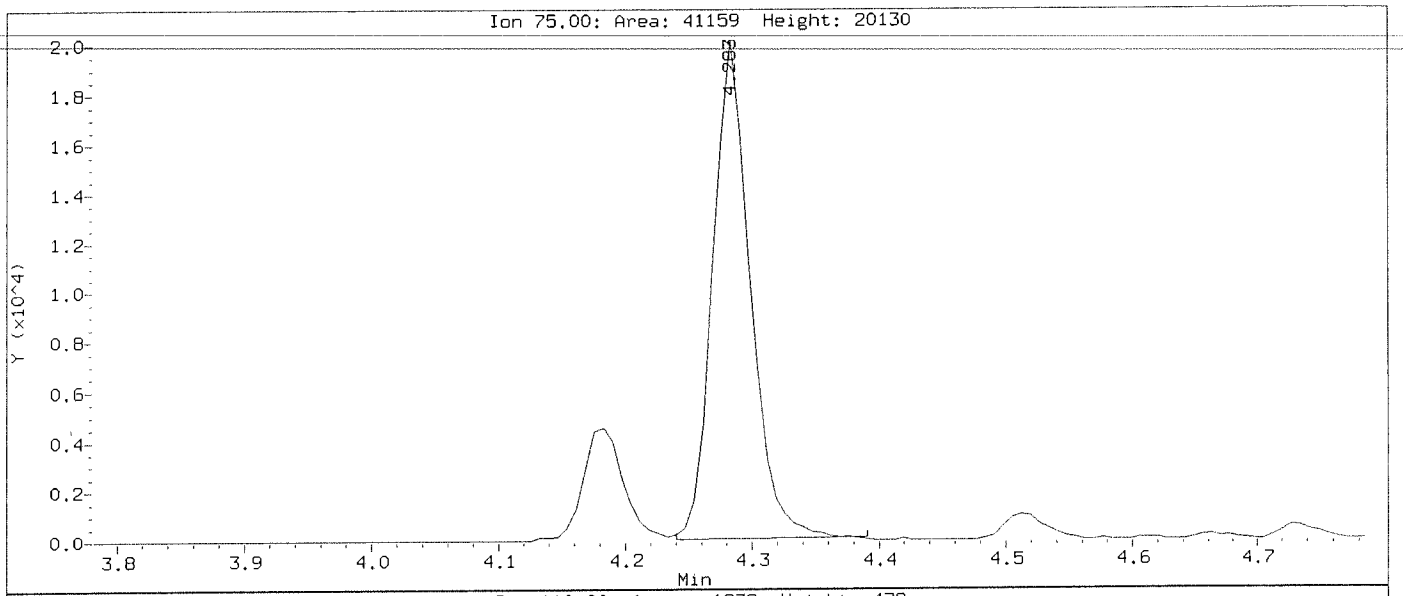
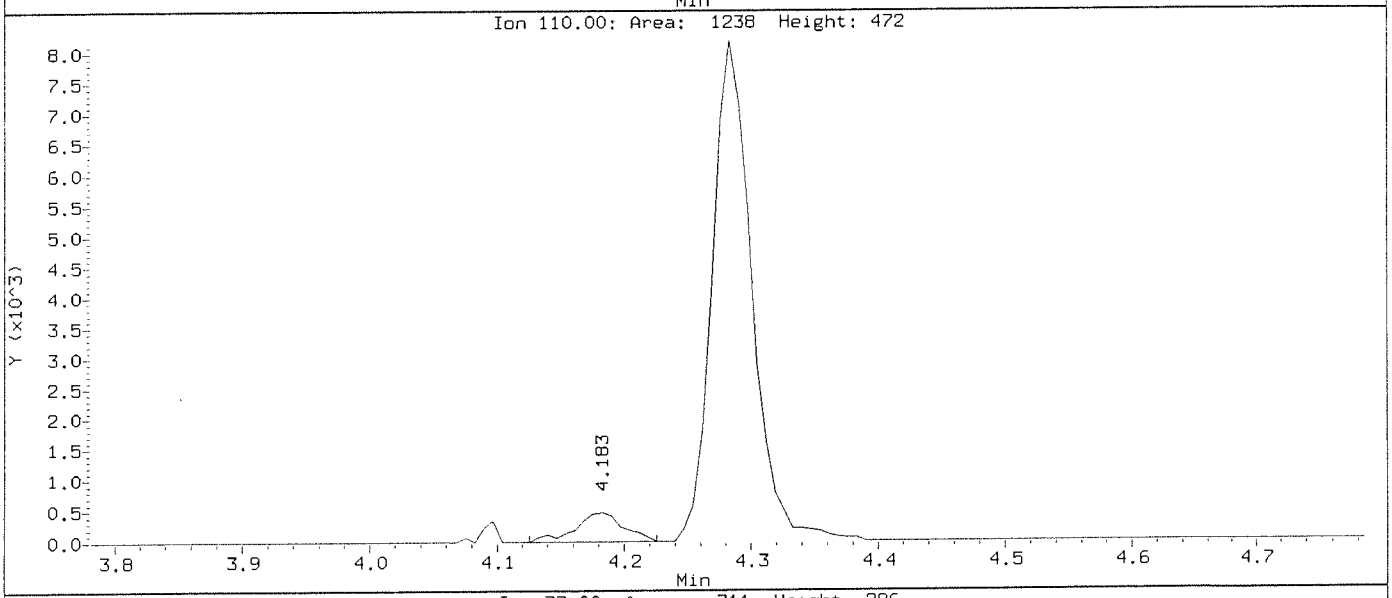
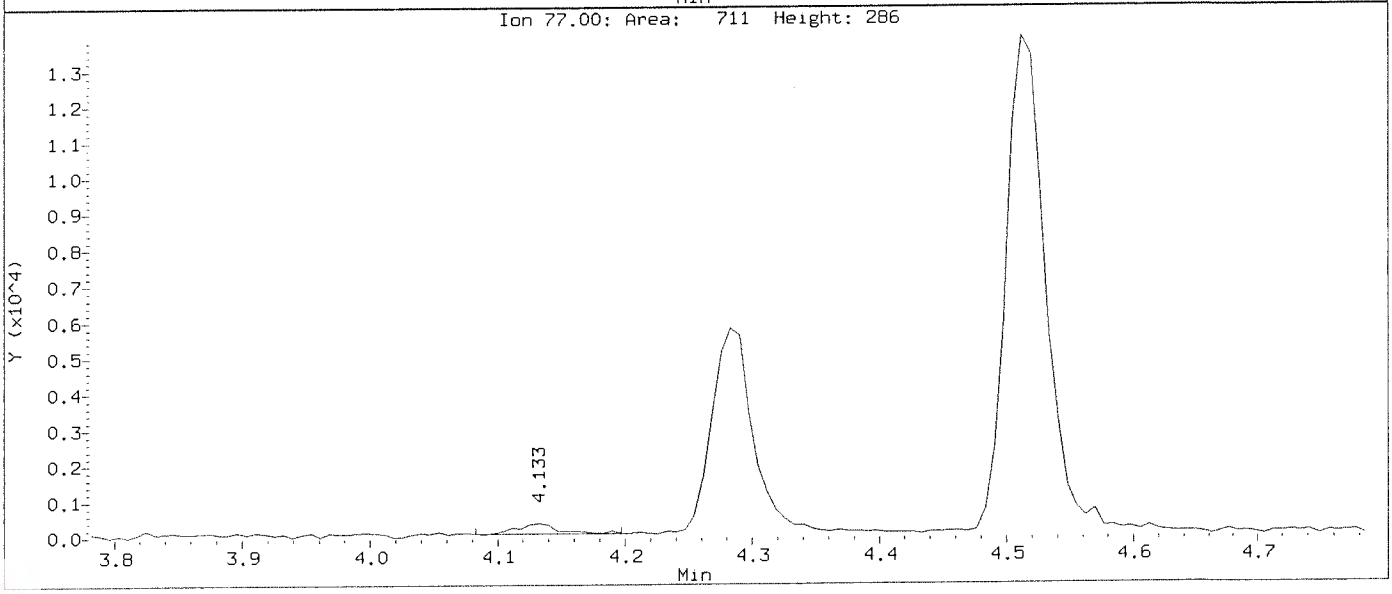
Client Sample ID: VSTD020

Compound: 1,1-Dichloropropene
CAS Number: 563-58-6







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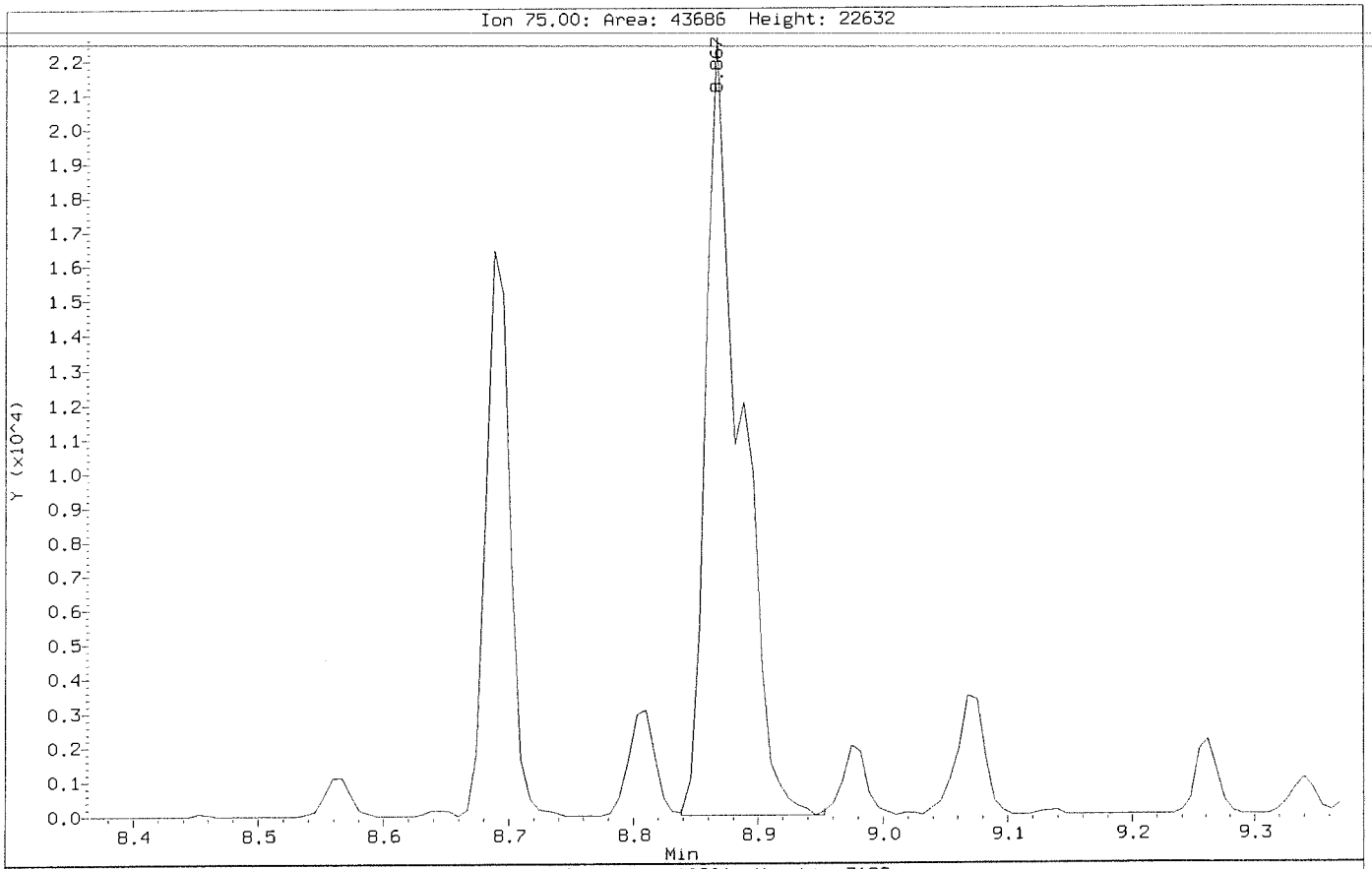
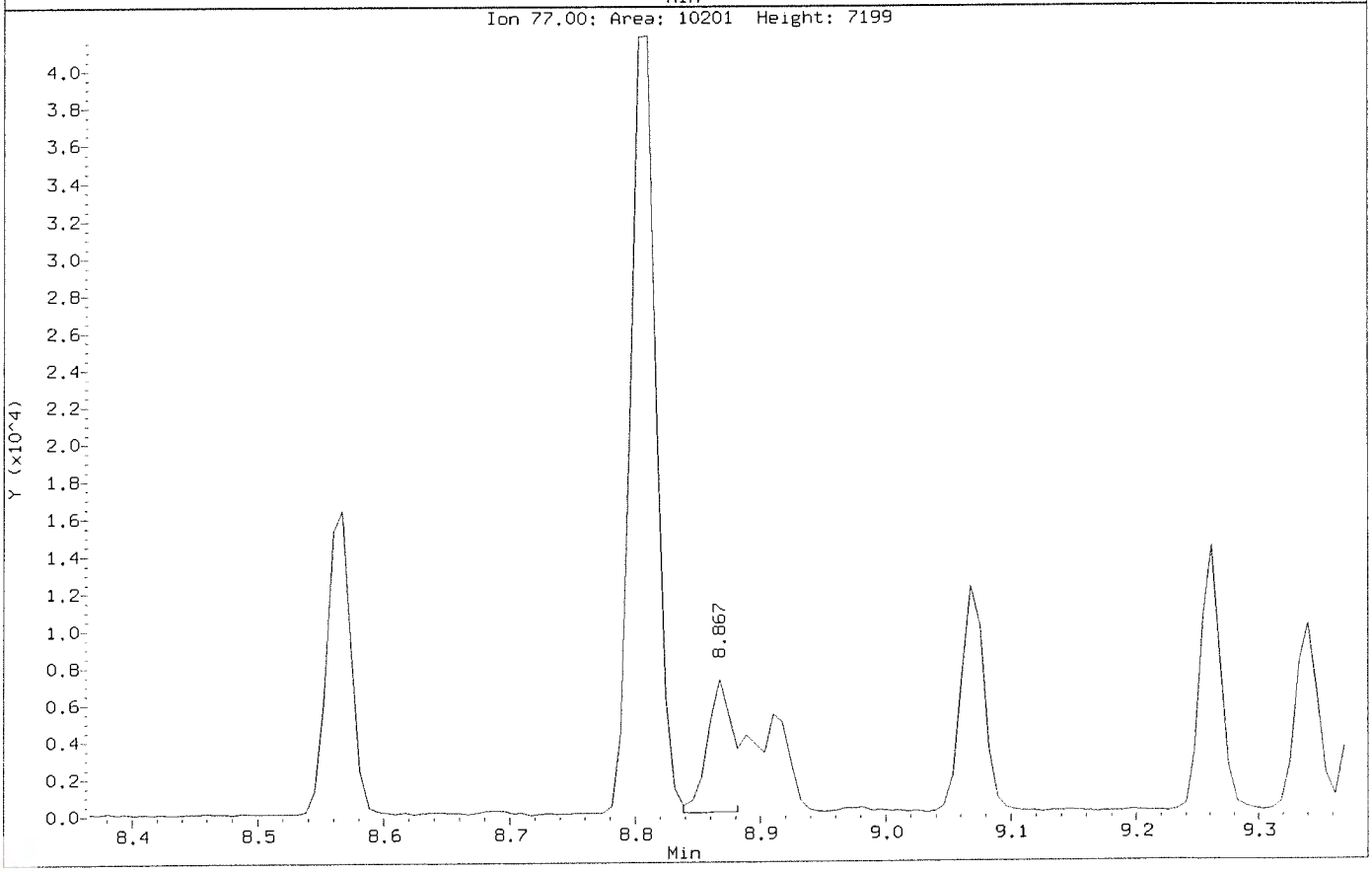
Injection Date: 31-OCT-2019 13:32
Instrument: voa6.i
Client Sample ID: VSTD020

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





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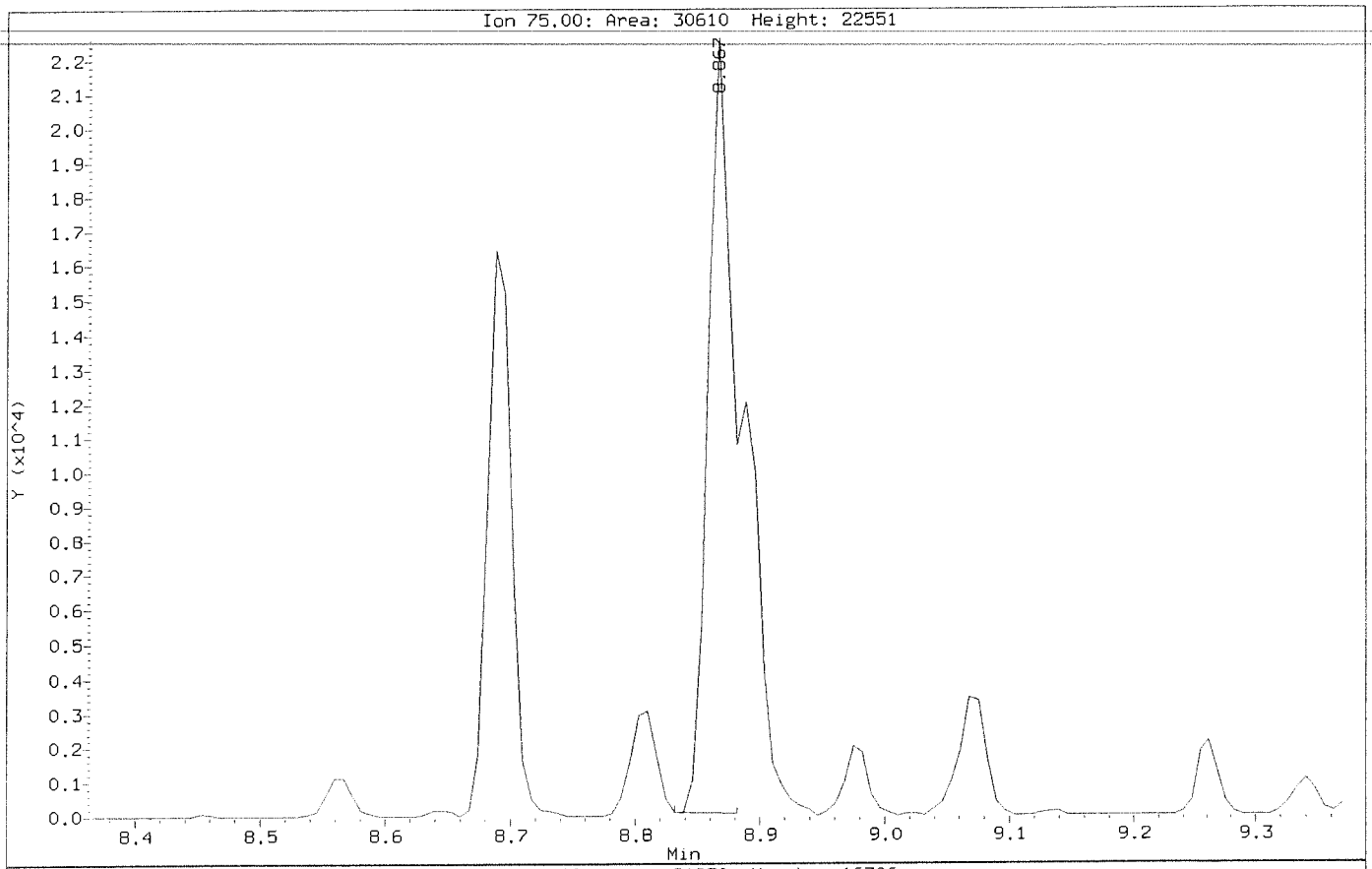
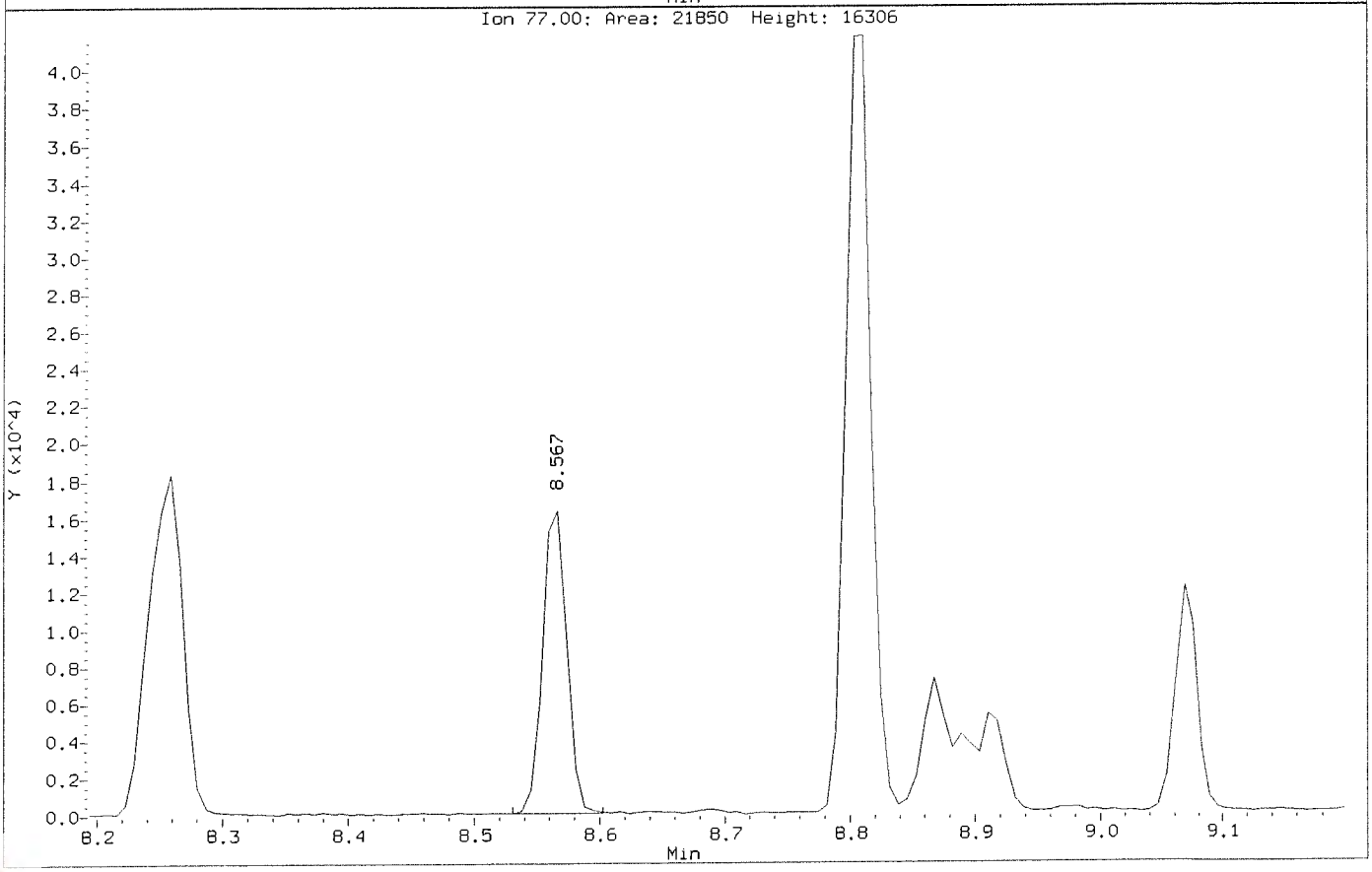
Instrument: voa6.i
Client Sample ID: VSTD020

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





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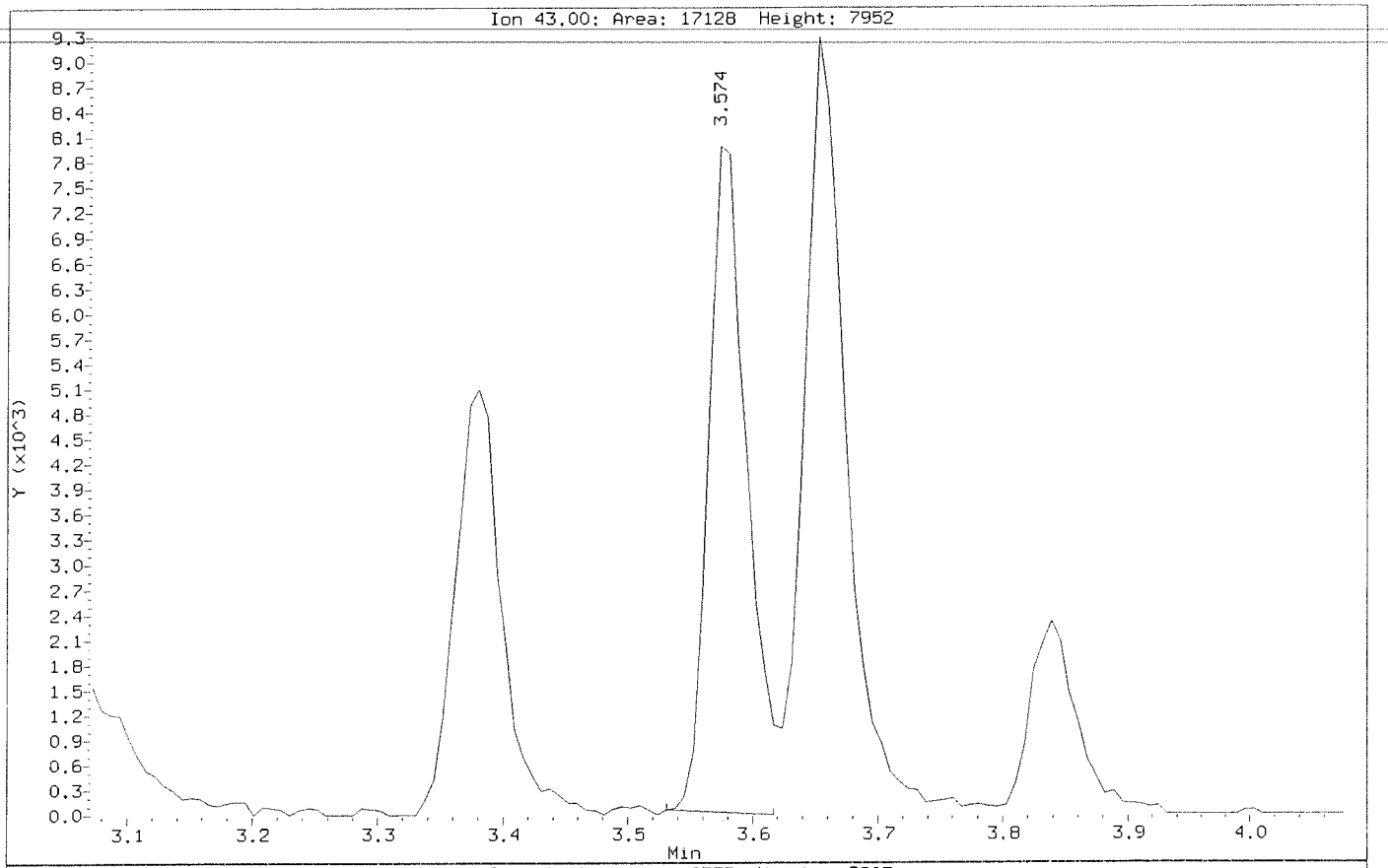
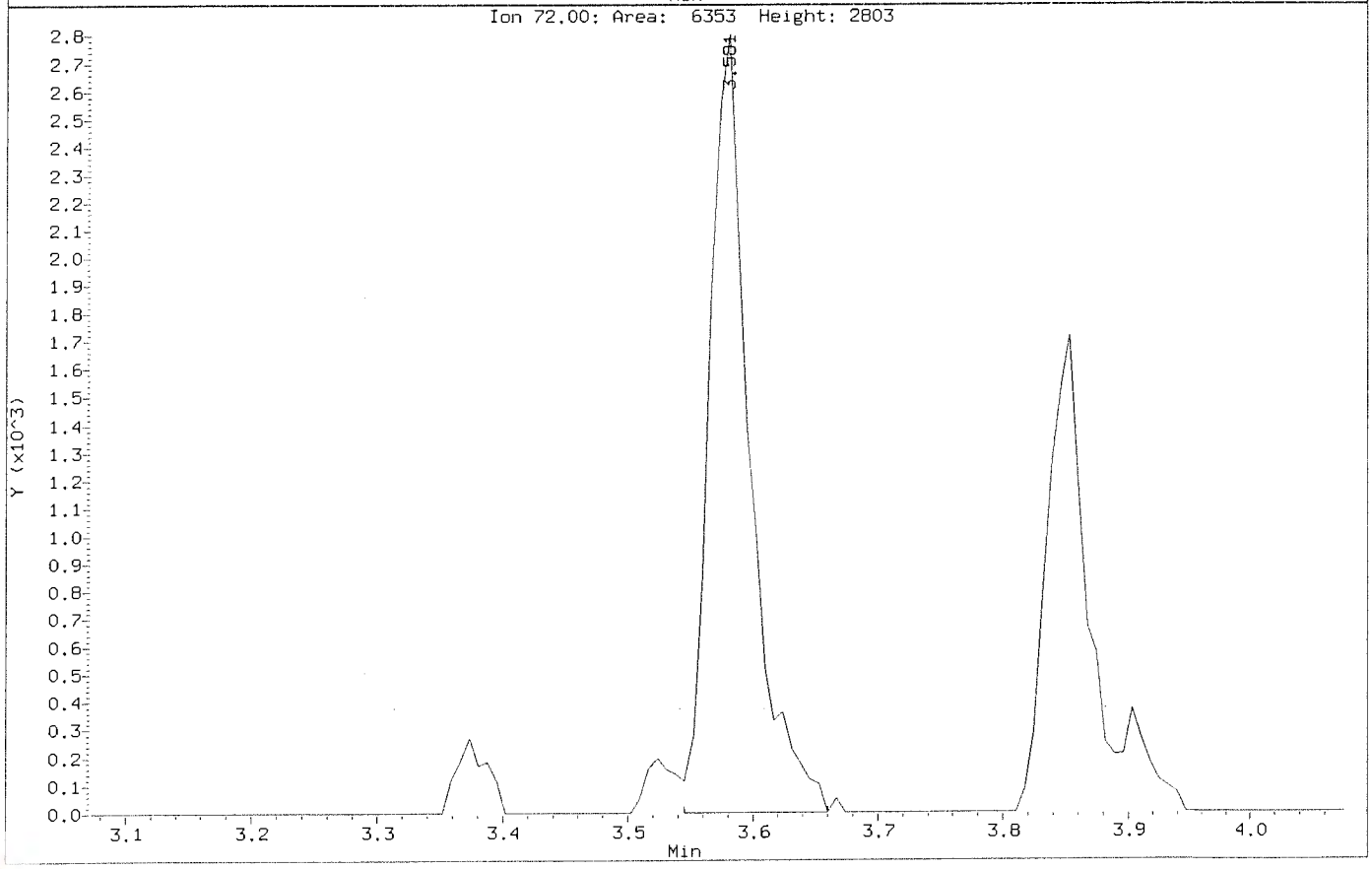
Injection Date: 31-OCT-2019 13:32
Instrument: voa6.i
Client Sample ID: VSTD020

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





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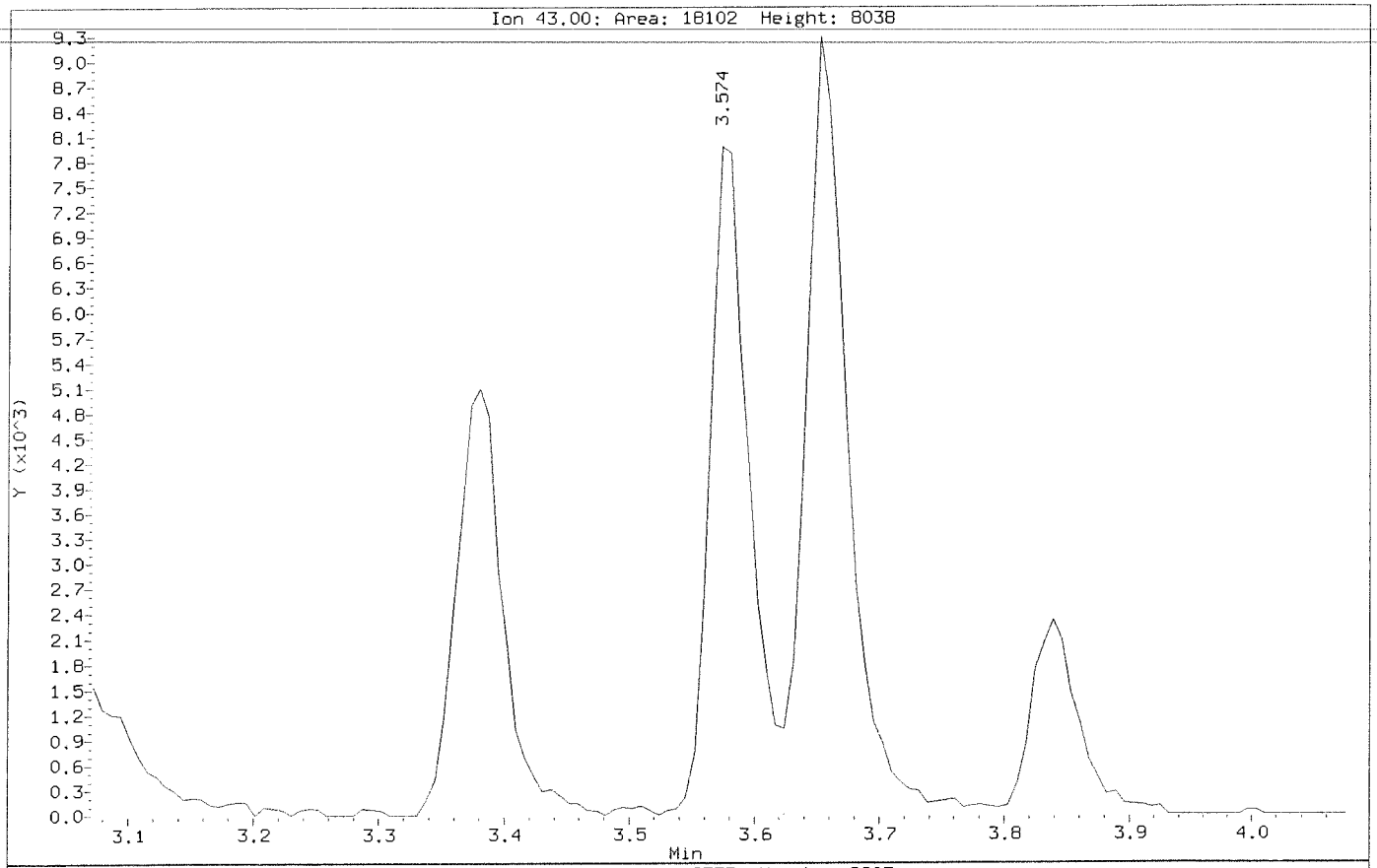
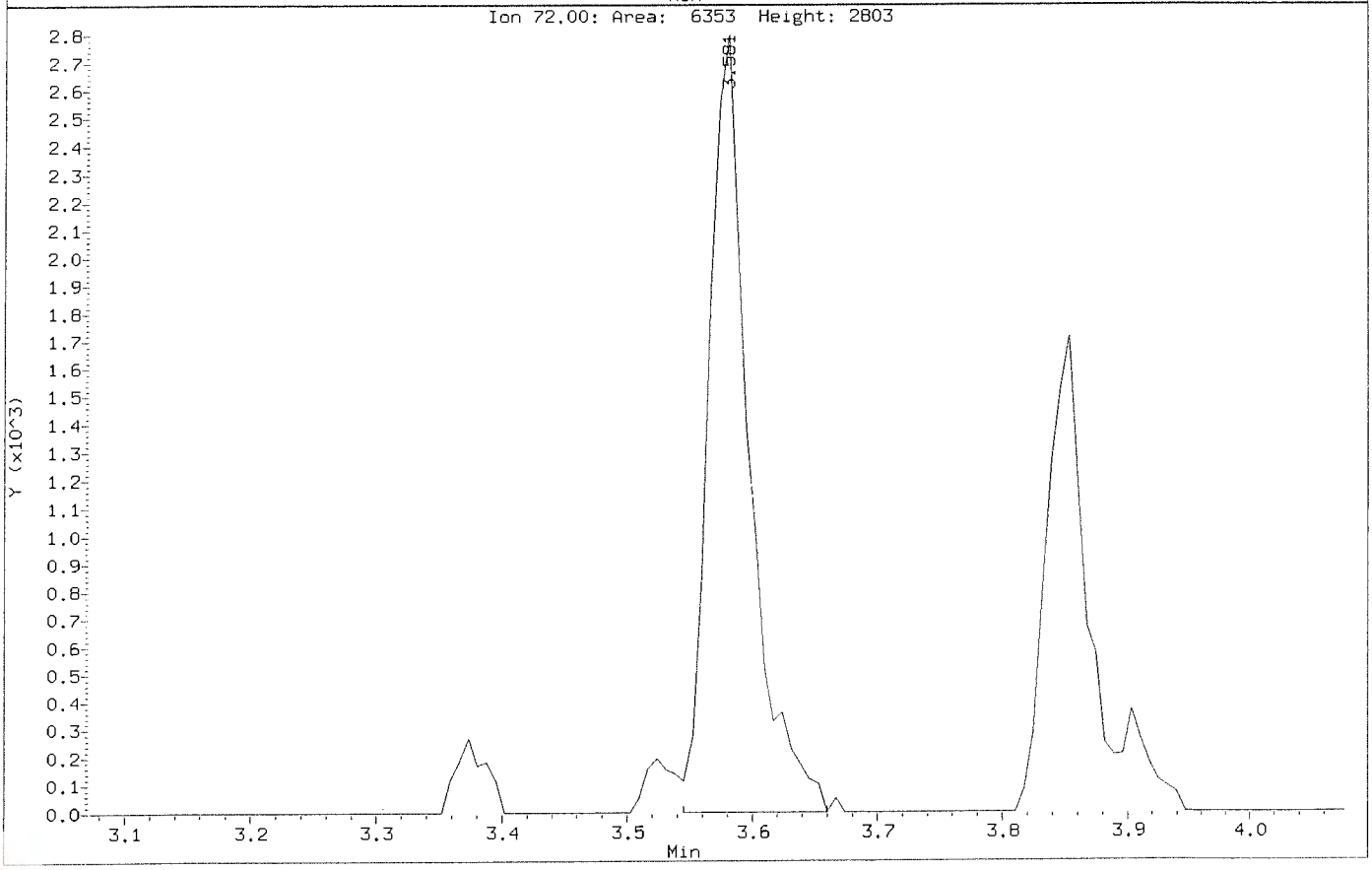
Injection Date: 31-OCT-2019 13:32
Instrument: voa6.i
Client Sample ID: VSTD020

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





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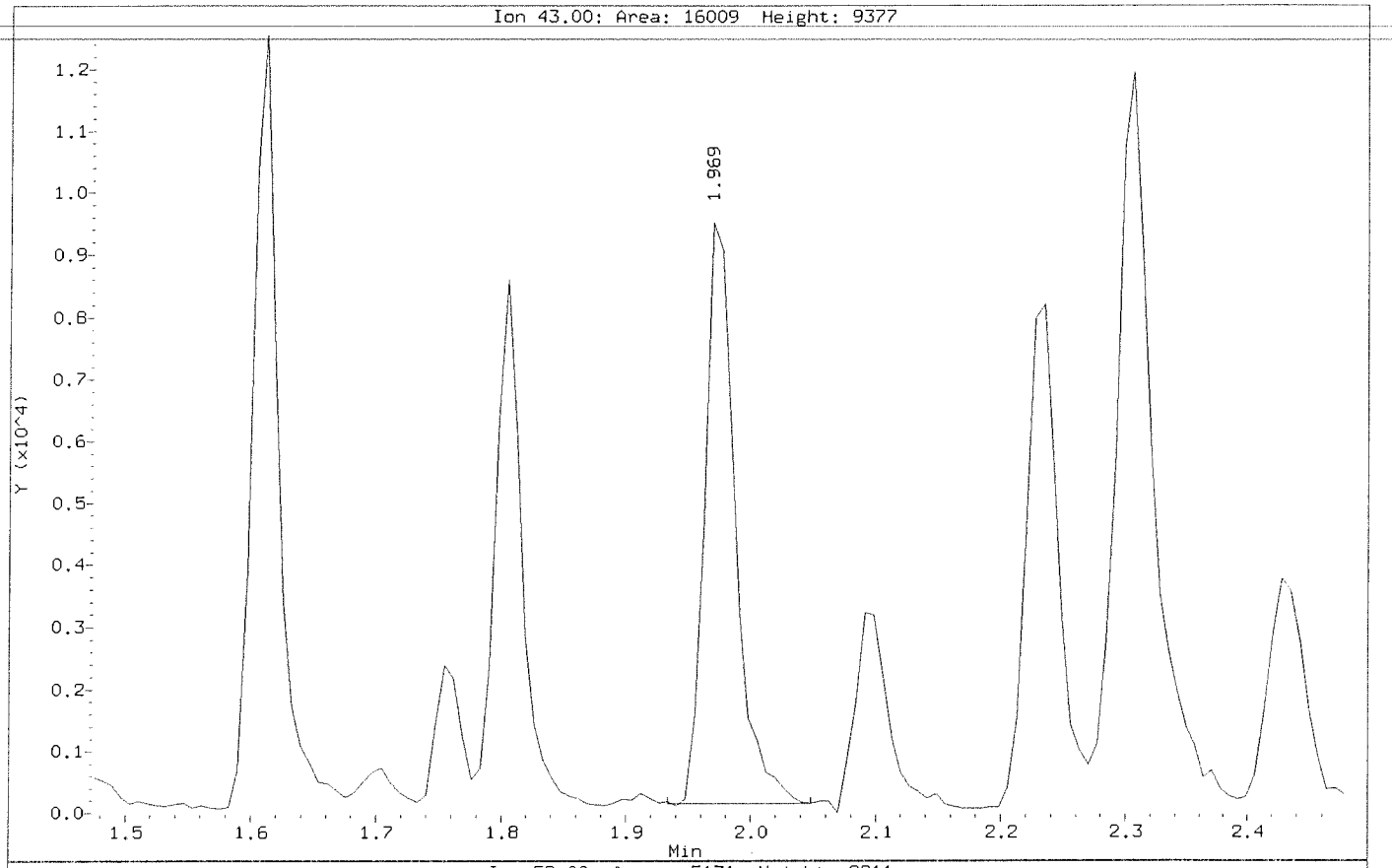
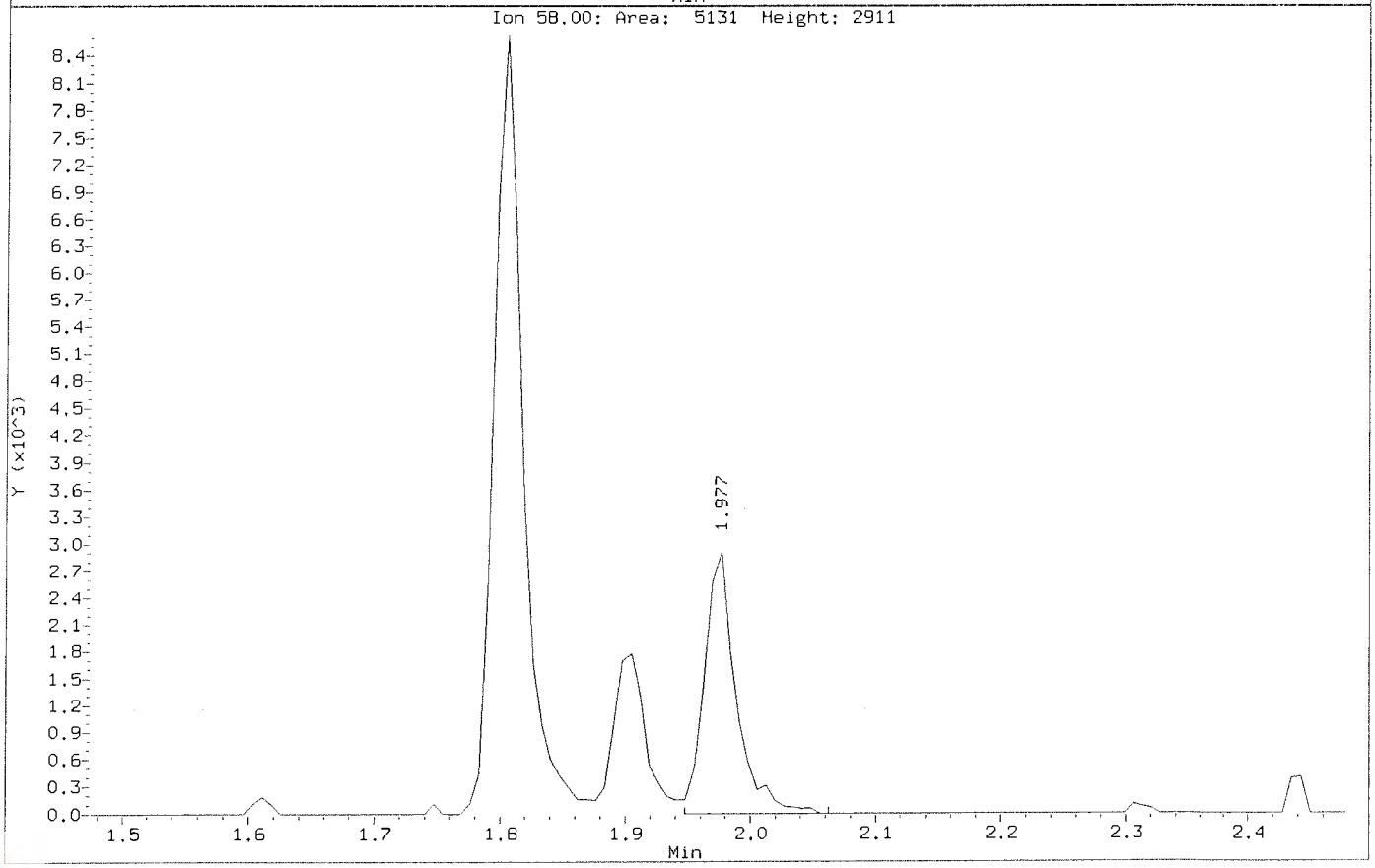
Injection Date: 31-OCT-2019 13:32
Instrument: voa6.i
Client Sample ID: VSTD020

Compound: Acetone
CAS Number: 67-64-1





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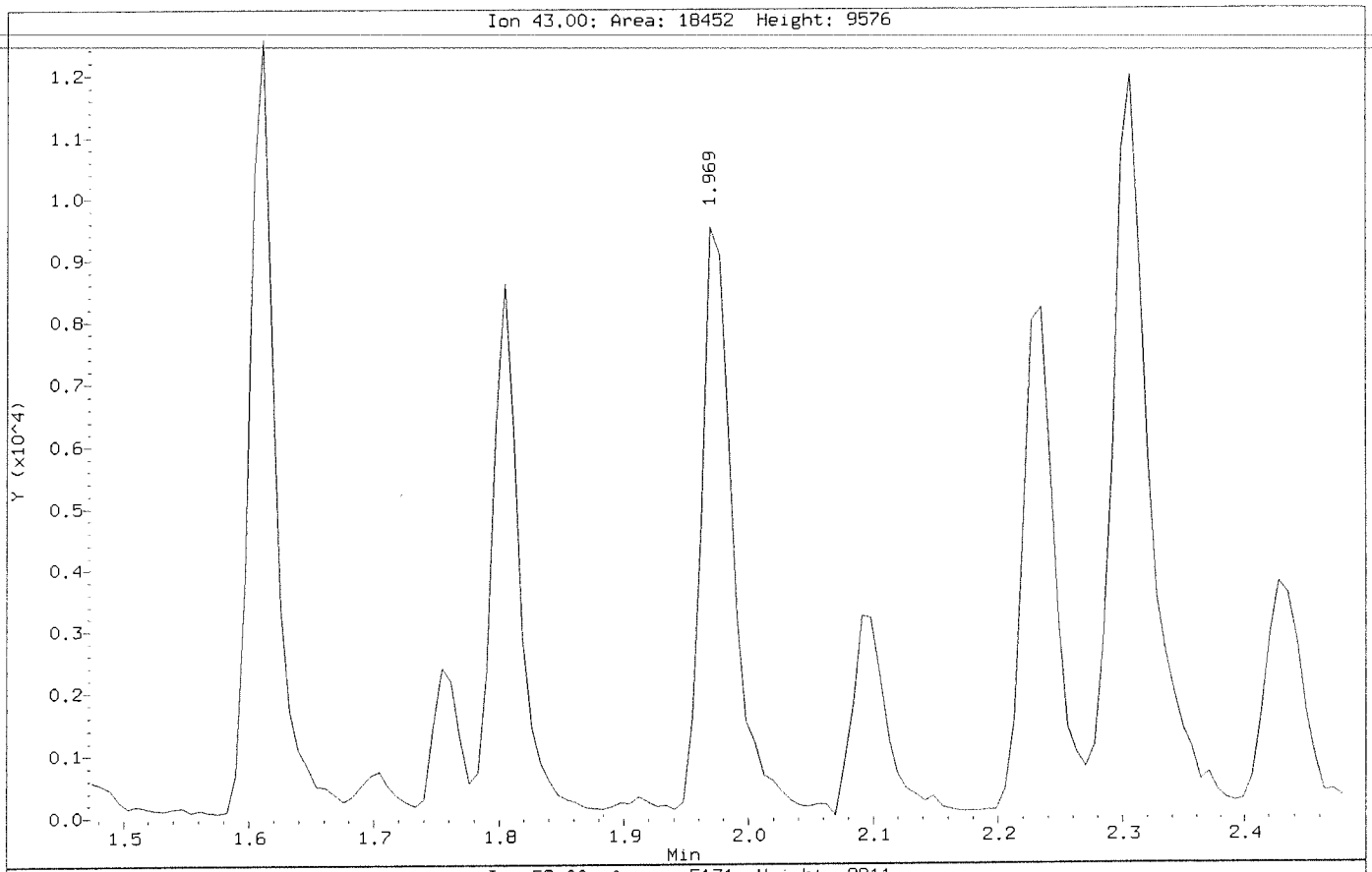
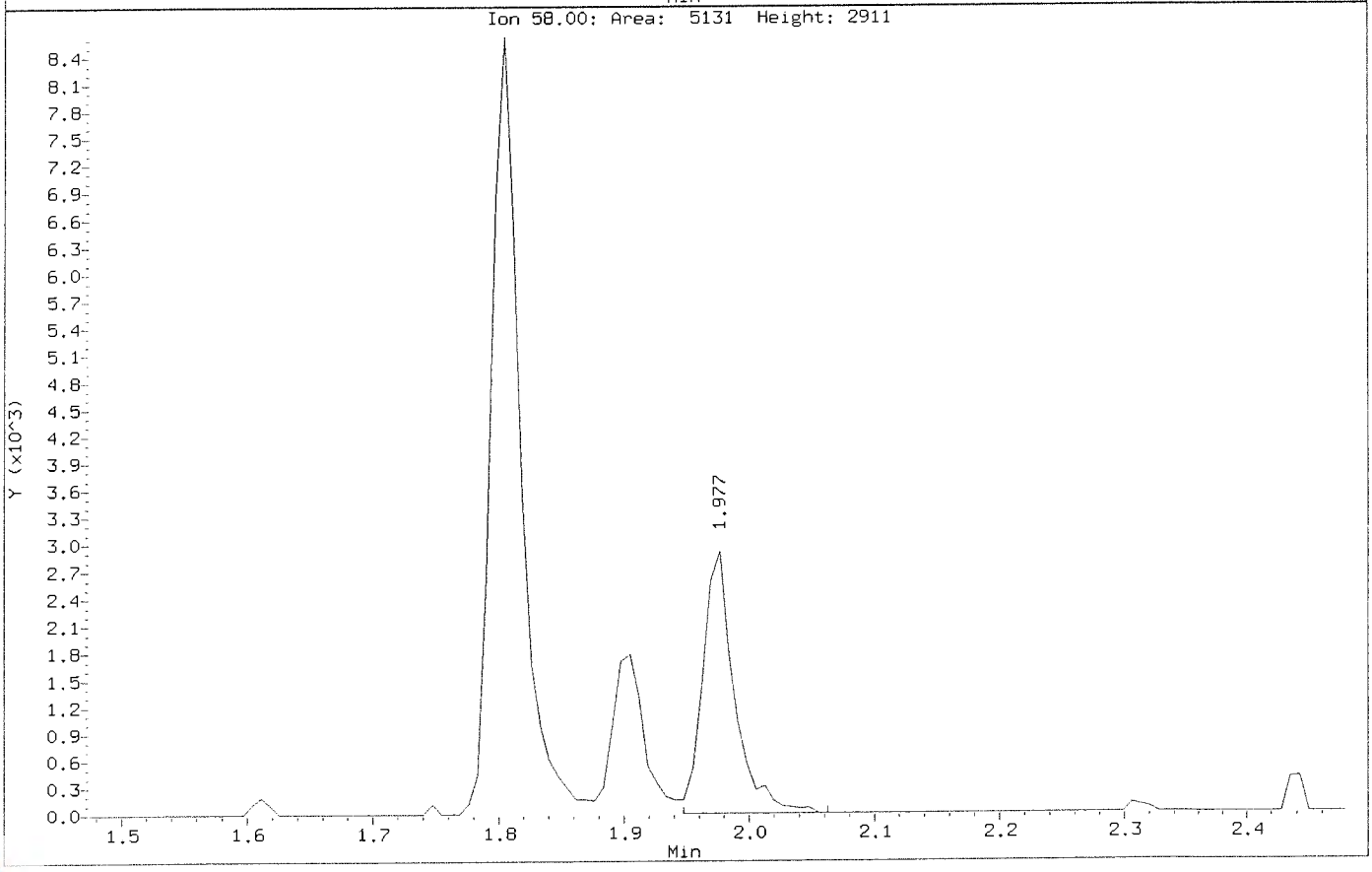
Injection Date: 31-OCT-2019 13:32
Instrument: voa6.i
Client Sample ID: VSTD020

Compound: Acetone
CAS Number: 67-64-1





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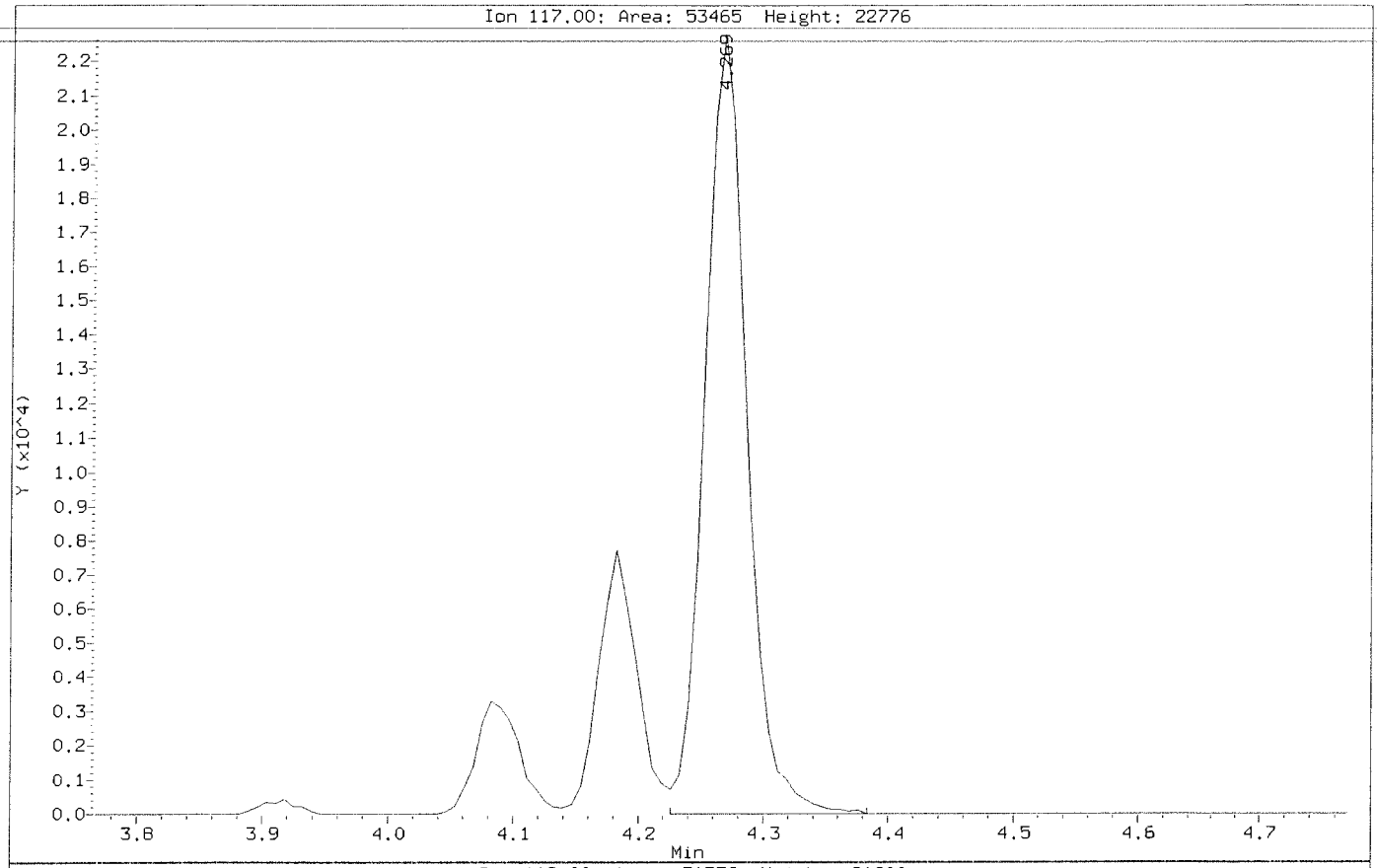
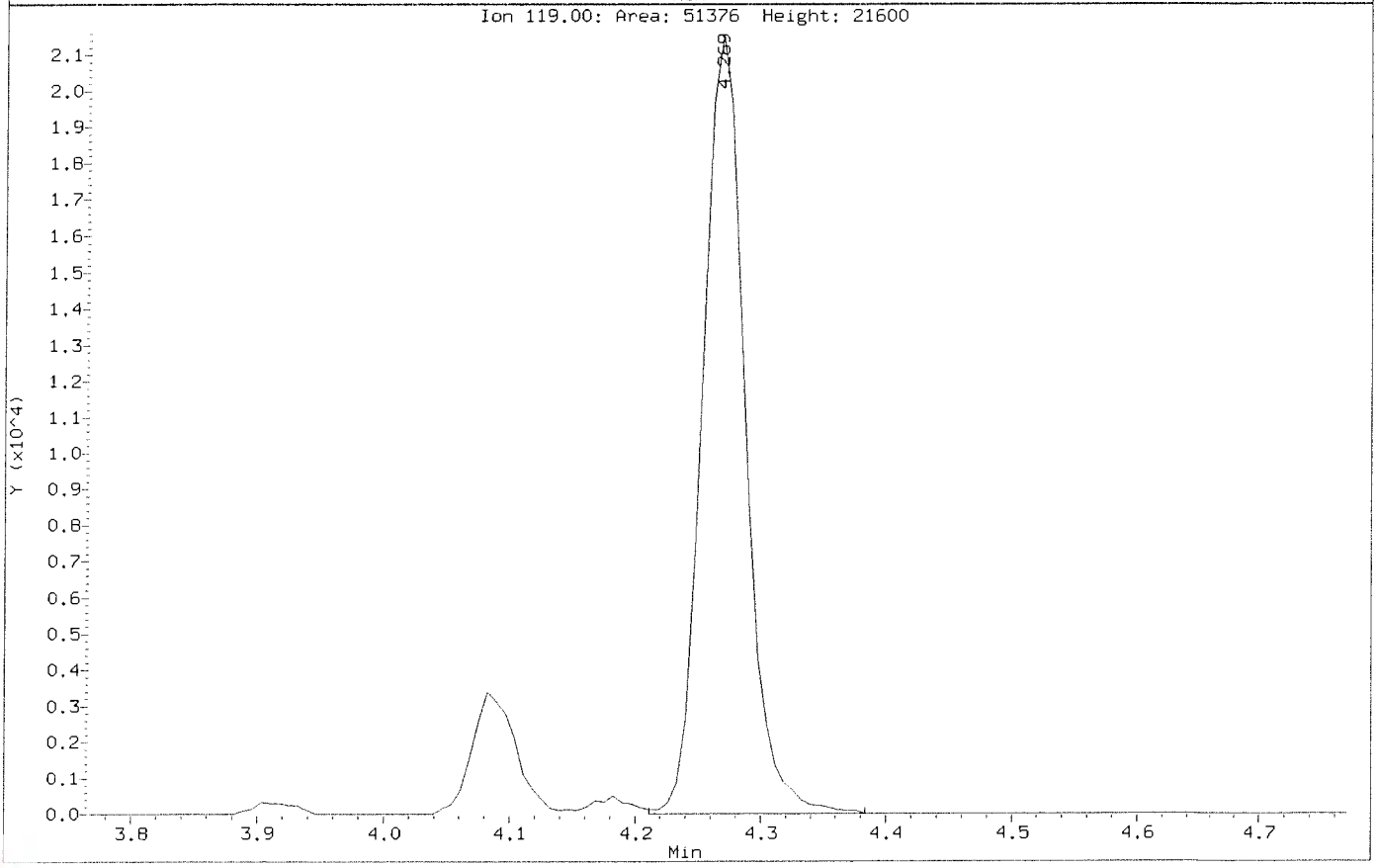
Injection Date: 31-OCT-2019 13:32
Instrument: voa6.i
Client Sample ID: VSTD020

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





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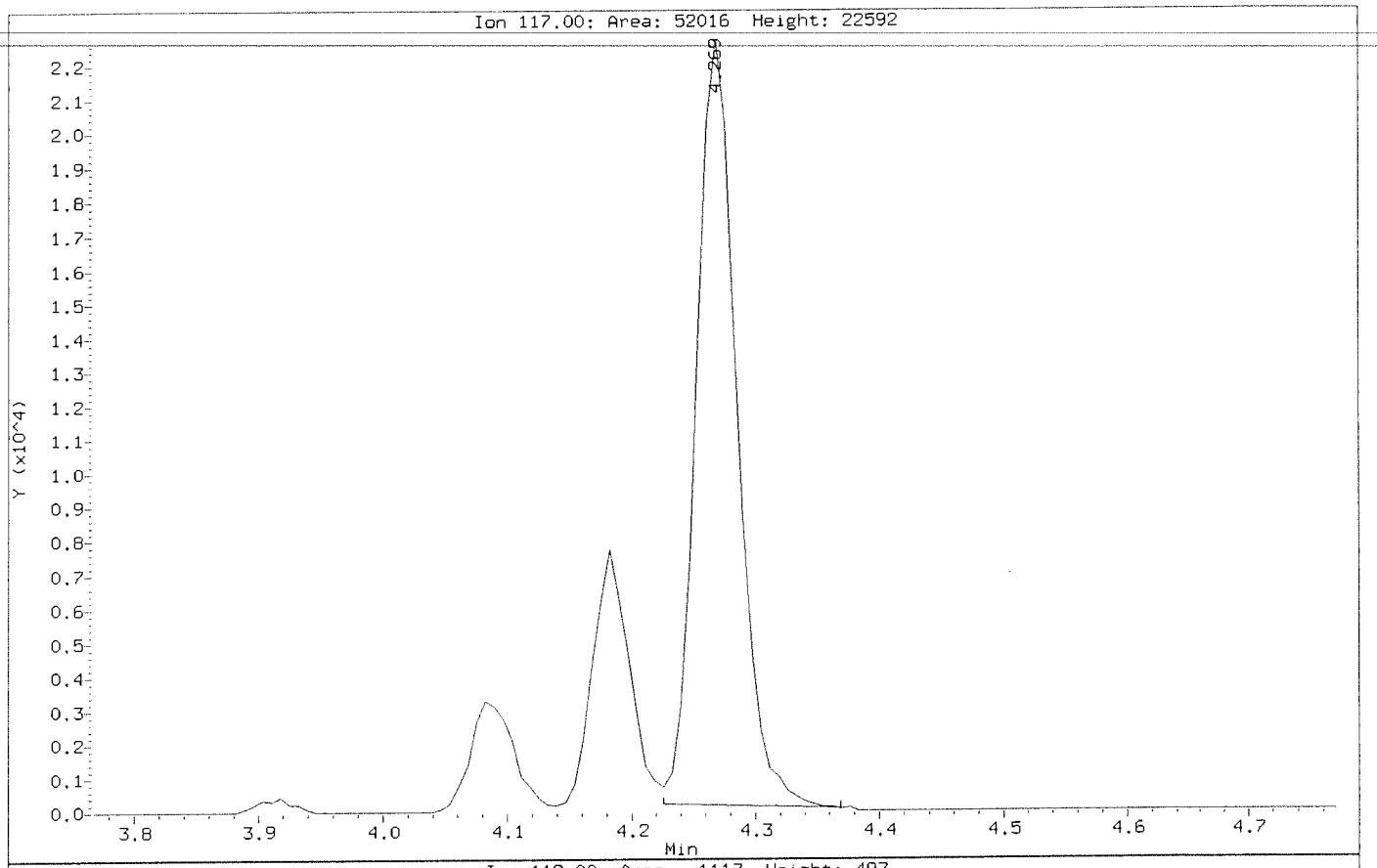
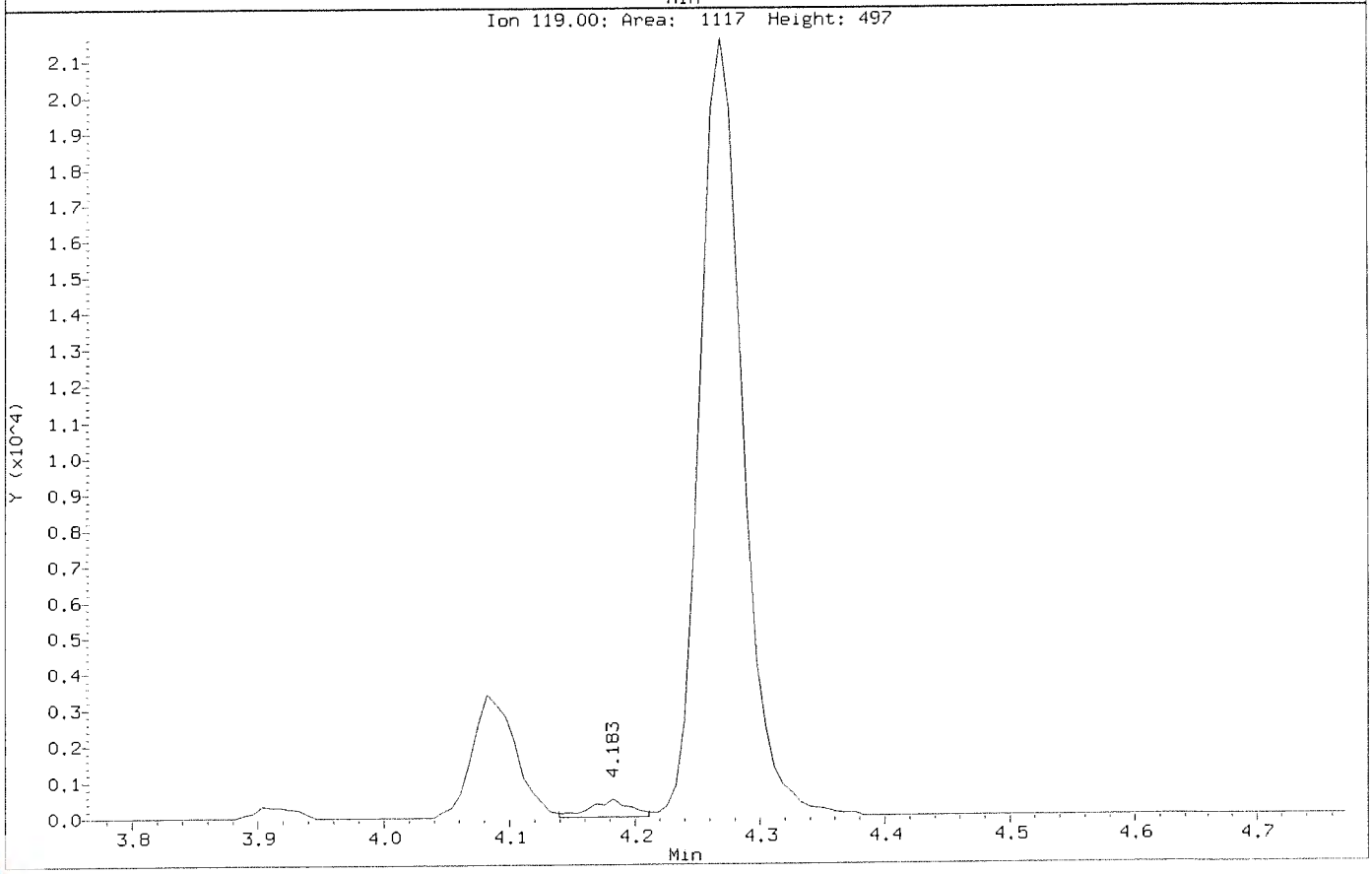
Injection Date: 31-OCT-2019 13:32
Instrument: voa6.i
Client Sample ID: VSTD020

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





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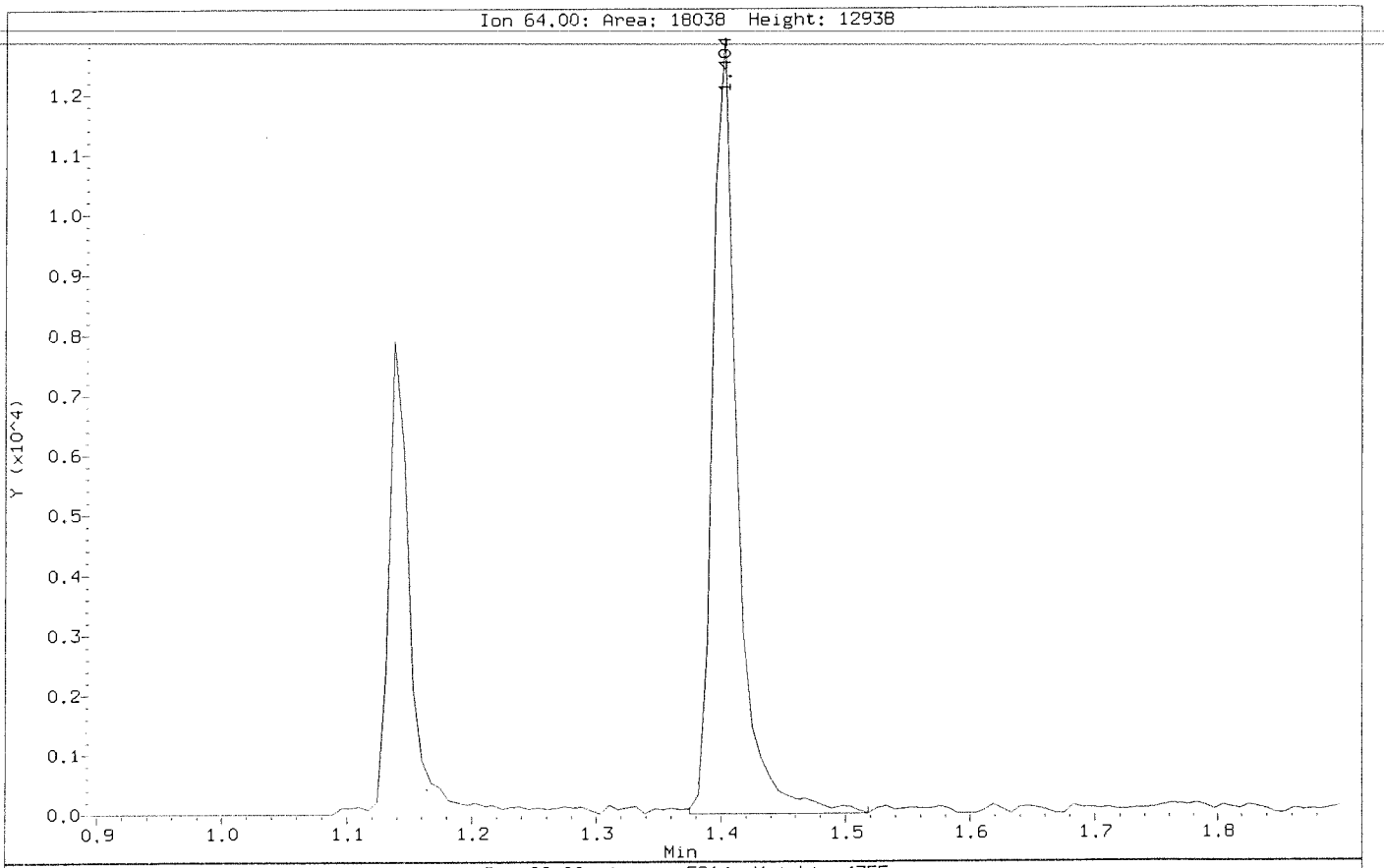
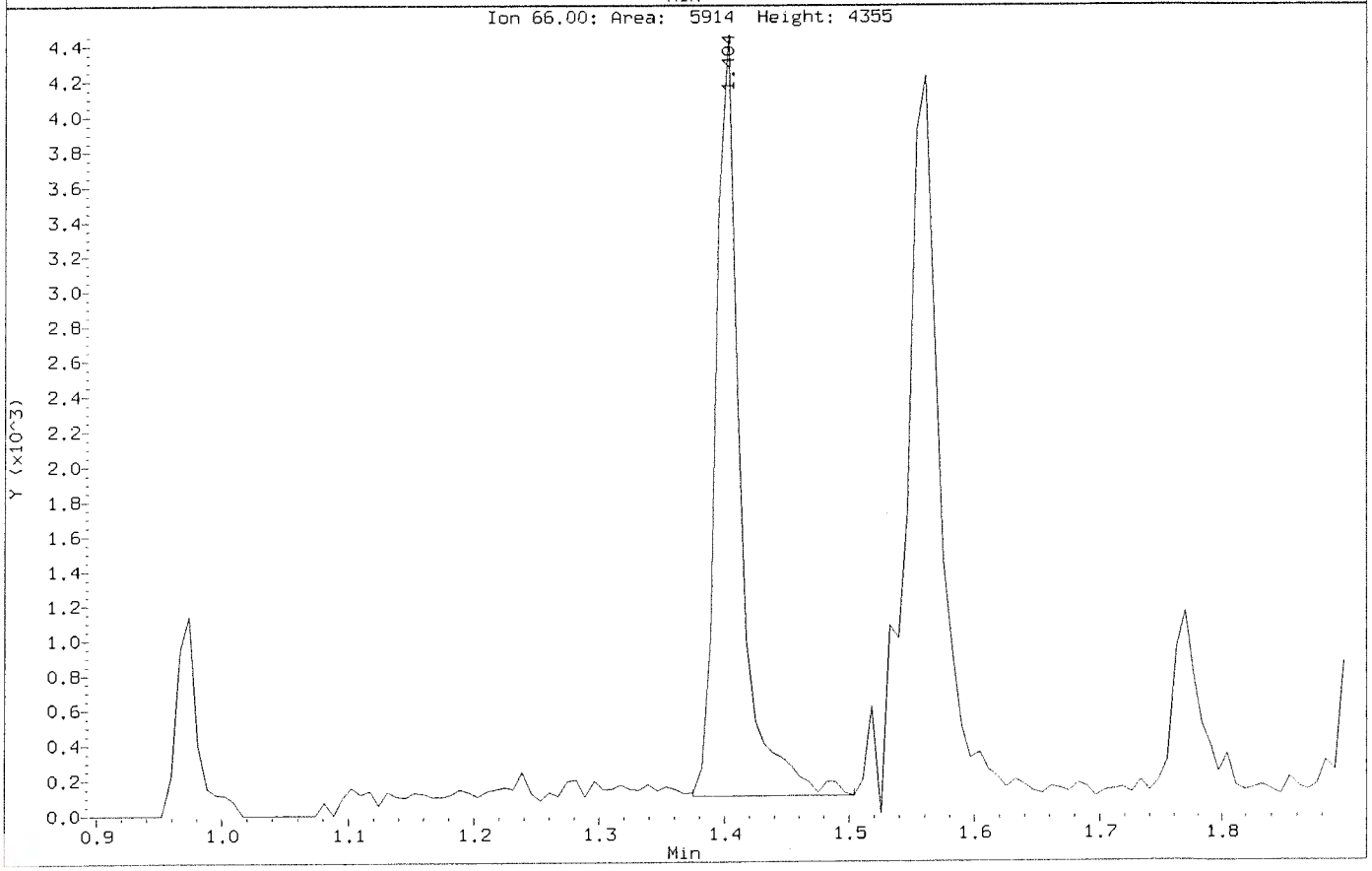
Instrument: voa6.i
Client Sample ID: VSTD020

Compound: Chloroethane
CAS Number: 75-00-3





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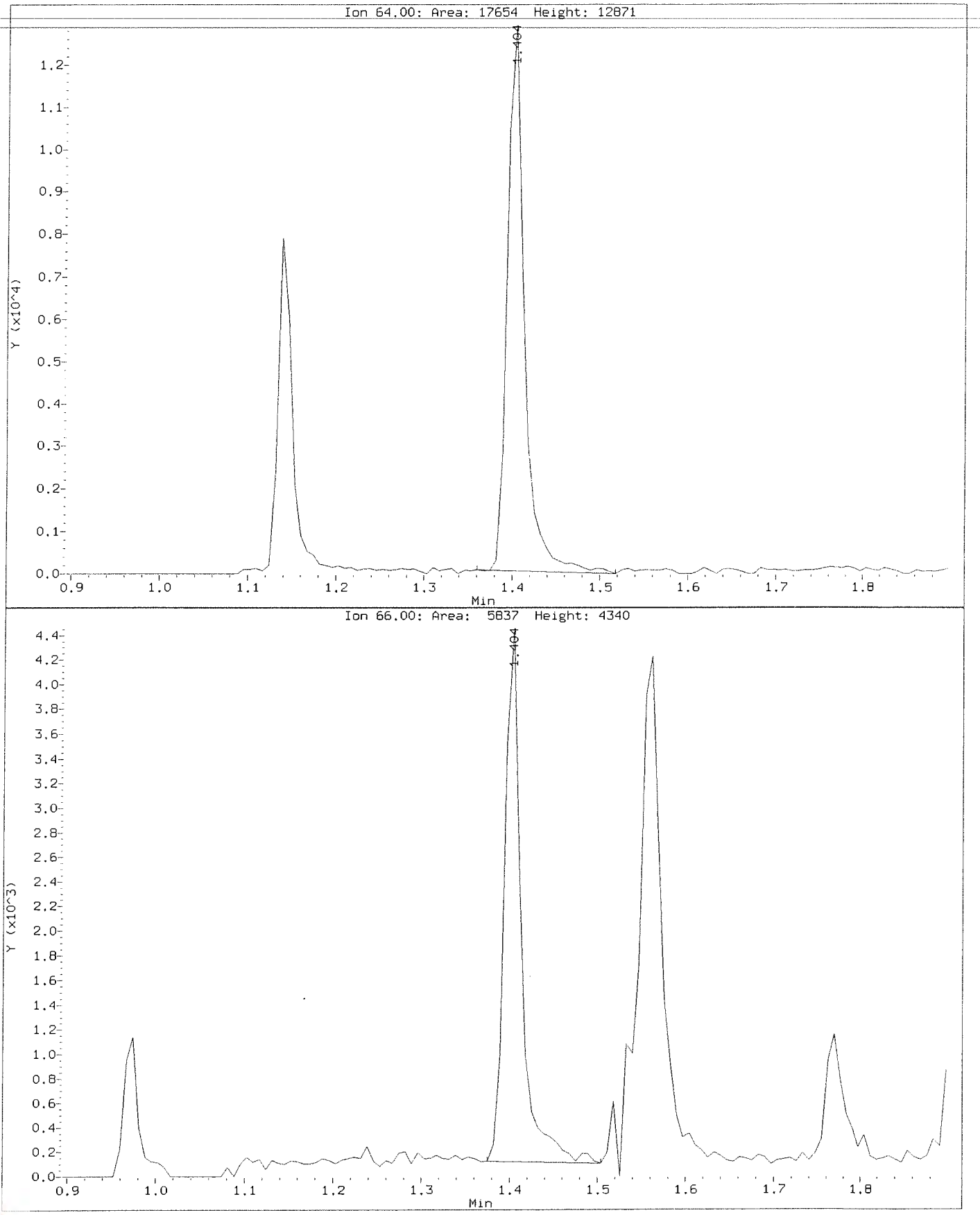
Instrument: voa6.i
Client Sample ID: VSTD020

Compound: Chloroethane
CAS Number: 75-00-3



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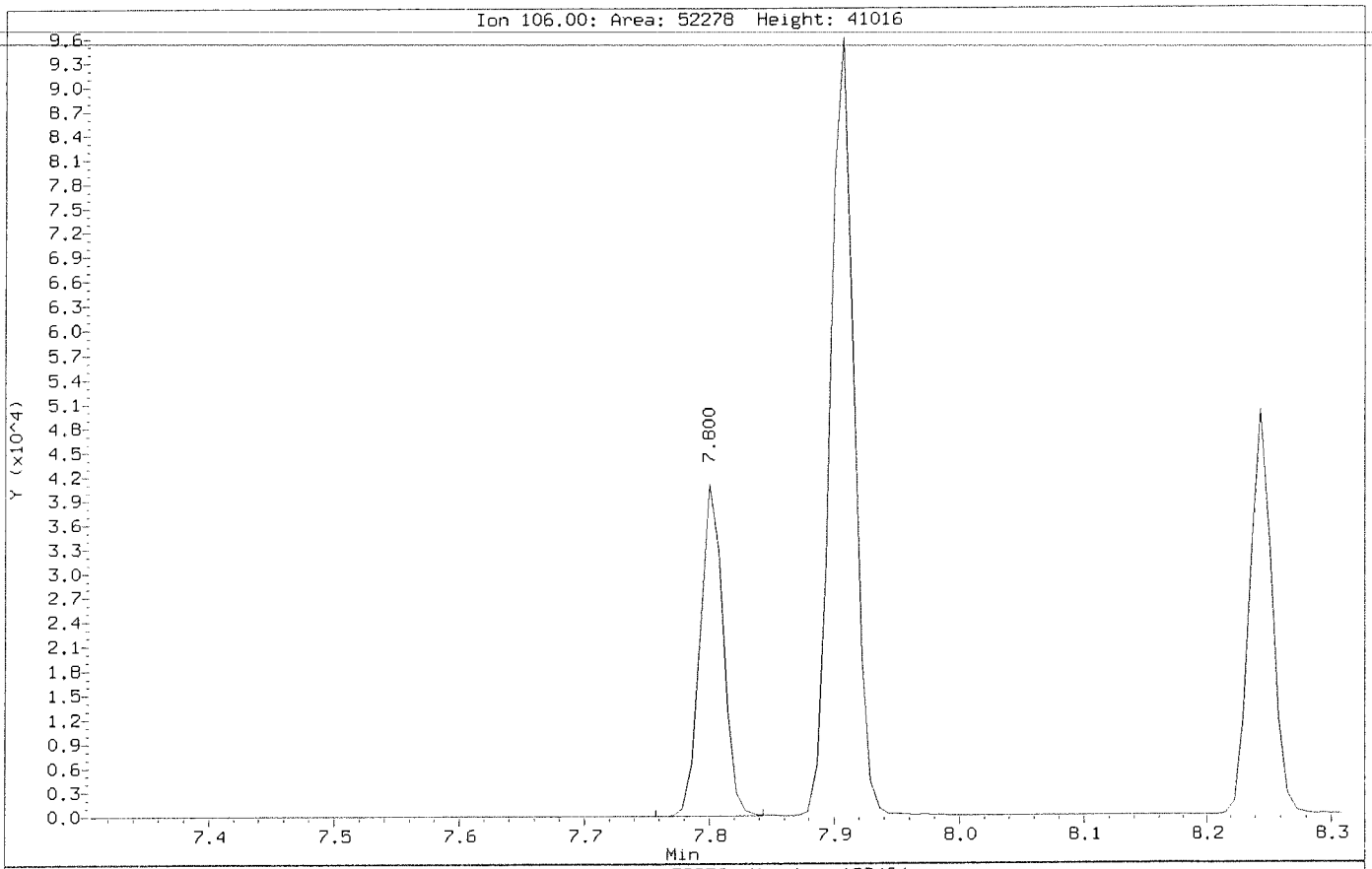
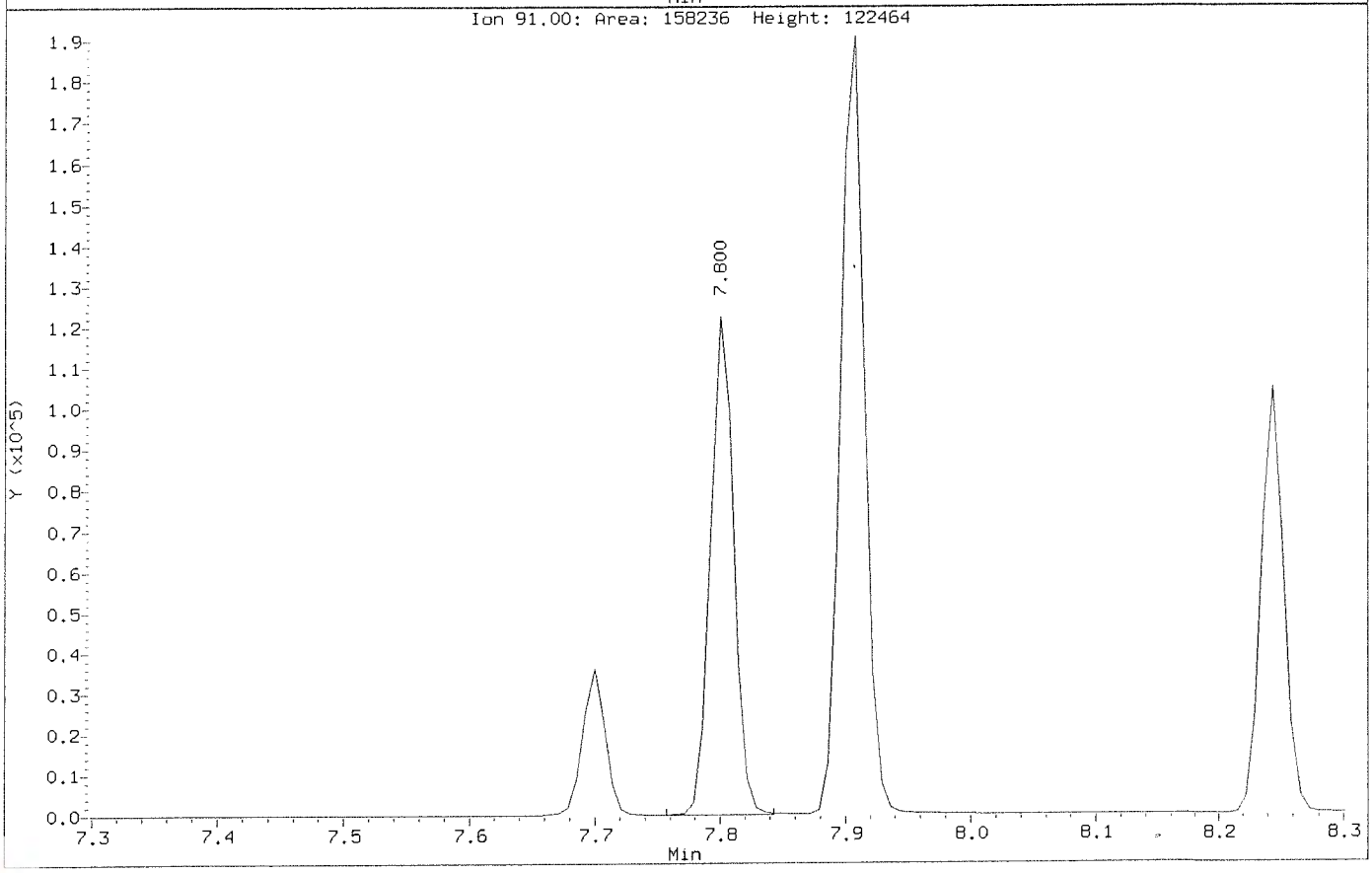
Injection Date: 31-OCT-2019 13:32
Instrument: voa6.i
Client Sample ID: VSTD020

Compound: Ethylbenzene
CAS Number: 100-41-4





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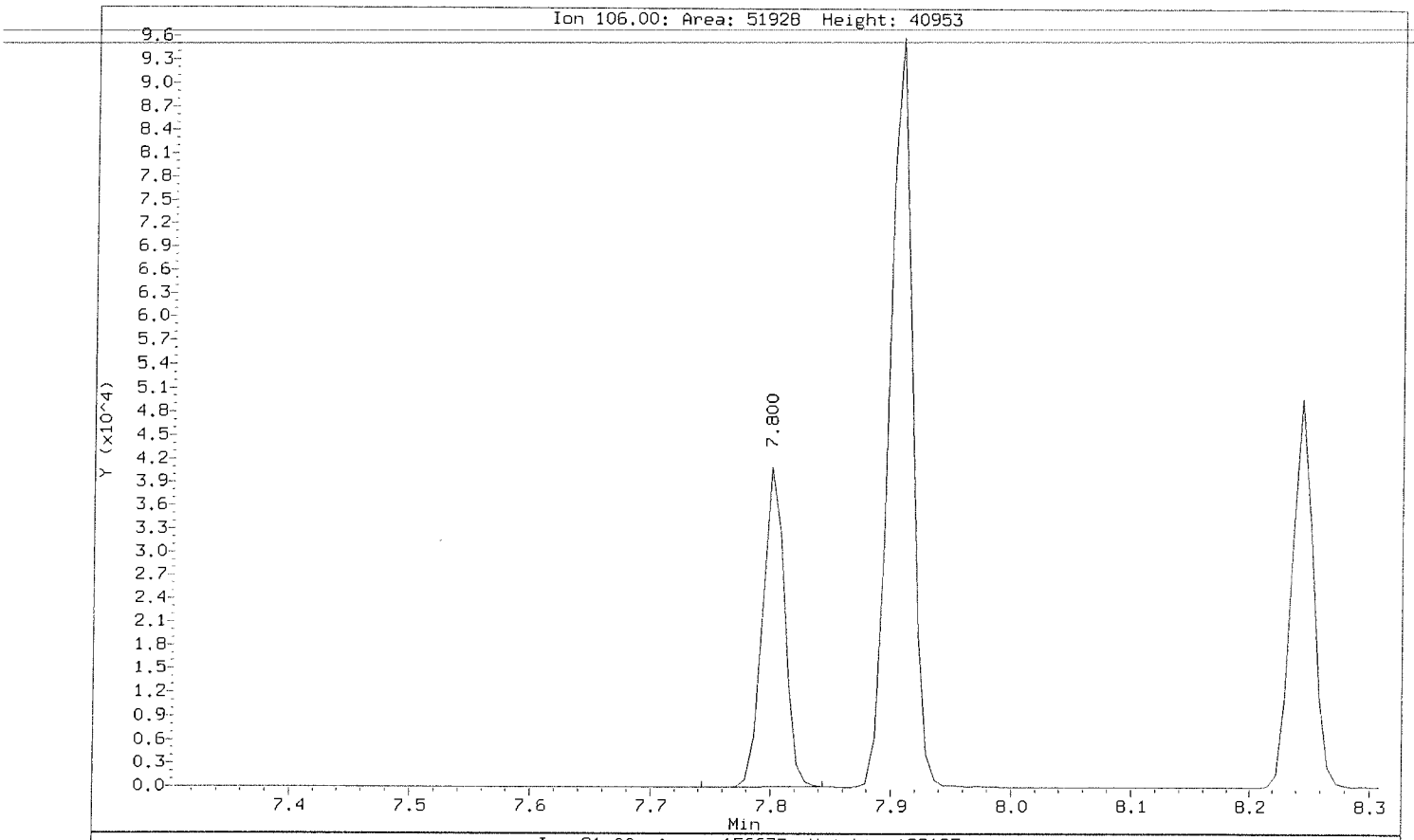
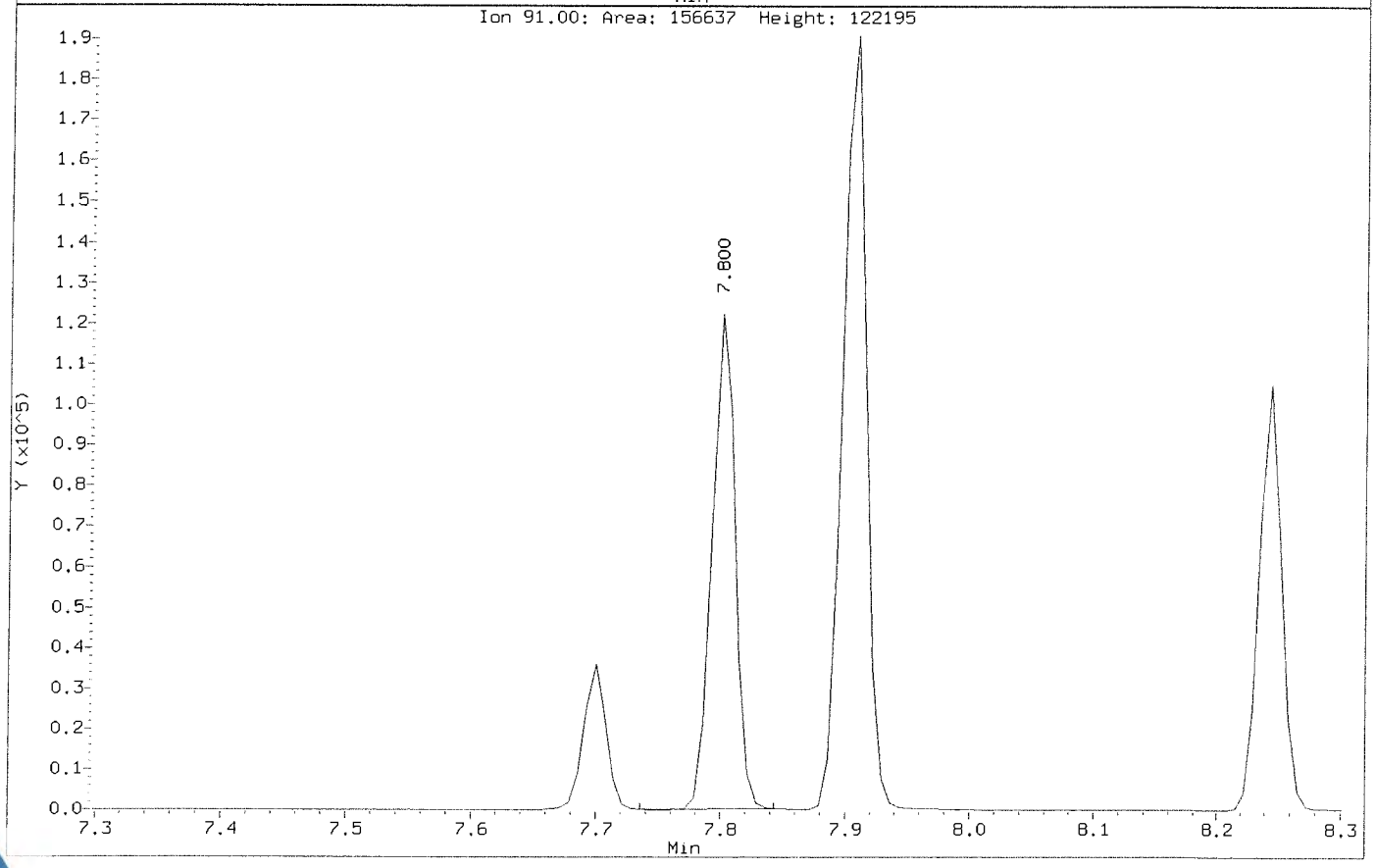
Instrument: voa6.i
Client Sample ID: VSTD020

Compound: Ethylbenzene
CAS Number: 100-41-4





Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\X103108.D Page 1
Report Date: 19-Nov-2019 17:39

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X191031.b\X103108.D
Lab Smp Id: VSTD050 Client Smp ID: VSTD050
Inj Date : 31-OCT-2019 13:56
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\X191031.b\8260W.m
Meth Date : 19-Nov-2019 17:37 voa6.i Quant Type: ISTD
Cal Date : 31-OCT-2019 13:56 Cal File: X103108.D
Als bottle: 9 Calibration Sample, Level: 7
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

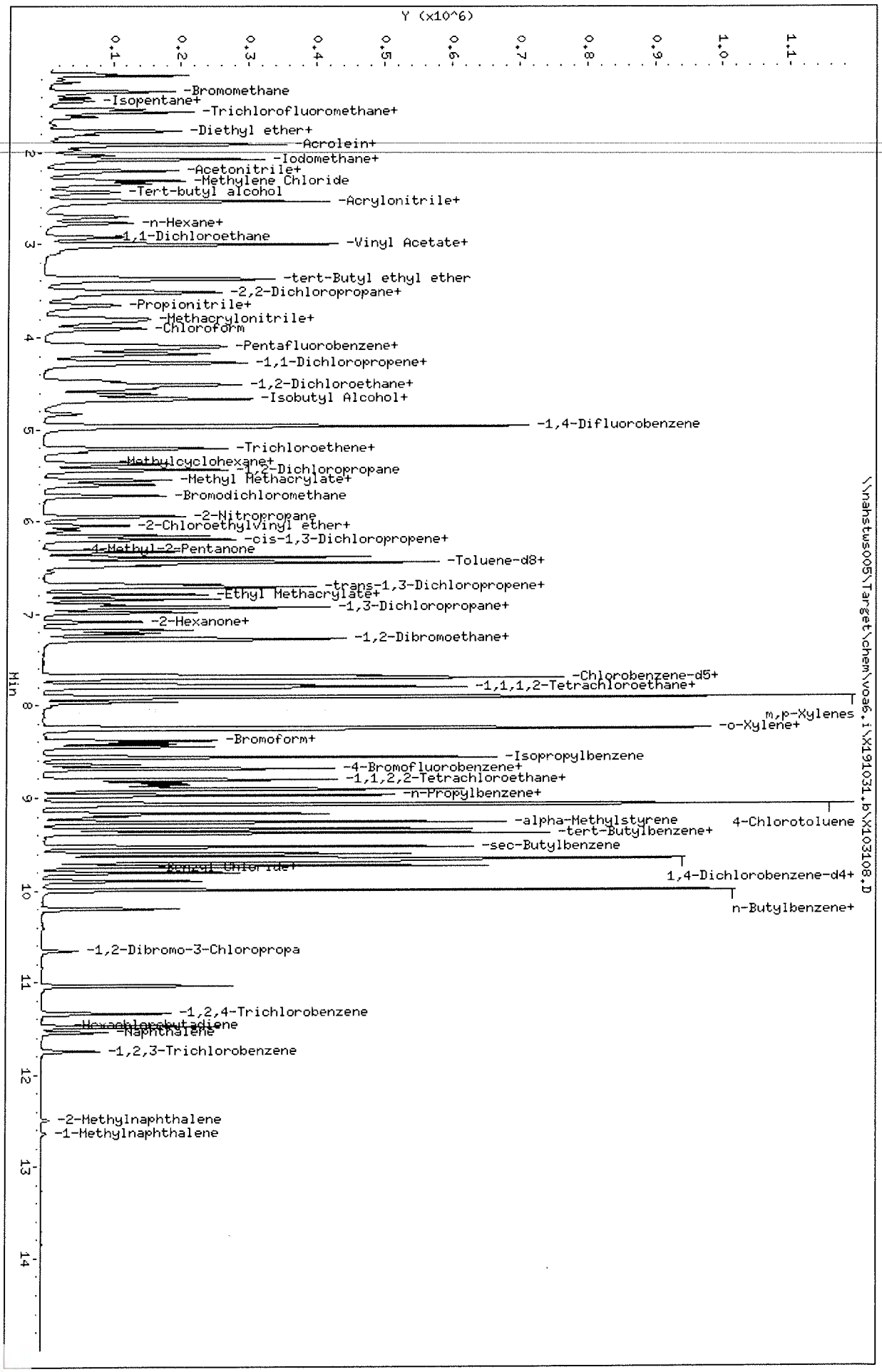
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
*	1 Pentafluorobenzene	168	4.182	4.182	(1.000)	219598	50.0000	
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	269454	50.0000	
*	47 Chlorobenzene-d5	117	7.670	7.671	(1.000)	246961	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	143042	50.0000	
$	35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	88103	50.0000	47.55
$	69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	114681	50.0000	49.41
$	30 Dibromofluoromethane	113	4.103	4.104	(0.981)	82728	50.0000	47.29
$	48 Toluene-d8	98	6.388	6.389	(0.833)	283939	50.0000	46.27
	60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	96591	50.0000	48.01
	31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	136211	50.0000	49.49
	68 1,1,2,2-Tetrachloroethane	83	8.845	8.845	(0.915)	78949	50.0000	50.68
	138 Freon TF	101	1.919	1.912	(0.459)	70742	50.0000	48.69
	53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	56087	50.0000	49.97
	22 1,1-Dichloroethane	63	2.921	2.922	(0.699)	116320	50.0000	47.31
	11 1,1-Dichloroethene	96	1.911	1.912	(0.457)	66894	50.0000	47.91
	32 1,1-Dichloropropene	75	4.282	4.283	(0.862)	96251	50.0000	47.95(M)
	93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.215)	25234	50.0000	52.48
	71 1,2,3-Trichloropropane	75	8.867	8.867	(0.917)	71038	50.0000	51.83(M)
	90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	58485	50.0000	45.30
	79 1,2,4-Trimethylbenzene	105	9.382	9.383	(0.970)	337007	50.0000	49.18
	89 1,2-Dibromo-3-Chloropropane	155	10.657	10.658	(1.102)	11810	50.0000	49.44
	57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	82322	50.0000	49.61
	88 1,2-Dichlorobenzene	146	9.998	9.999	(1.034)	187297	50.0000	47.18

Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\X103108.D Page 2
Report Date: 19-Nov-2019 17:39

	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	4.555	4.562	(0.916)	106493	50.0000	48.74
42	1,2-Dichloropropane	63	5.443	5.436	(1.095)	60515	50.0000	46.10
75	1,3,5-Trimethylbenzene	105	9.067	9.075	(0.938)	325999	50.0000	49.09
83	1,3-Dichlorobenzene	146	9.605	9.612	(0.993)	206696	50.0000	47.39
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	112292	50.0000	48.77
84	1,4-Dichlorobenzene	146	9.683	9.684	(1.001)	208272	50.0000	47.33
26	2,2-Dichloropropane	77	3.509	3.516	(0.839)	121862	50.0000	46.13
24	2-Butanone	43	3.573	3.573	(0.854)	44815	100.000	101.07(M)
76	2-Chlorotoluene	91	8.974	8.982	(0.928)	249303	50.0000	48.49
52	2-Hexanone	43	7.083	7.090	(0.923)	67154	100.000	93.38
77	4-Chlorotoluene	91	9.074	9.075	(0.939)	294400	50.0000	48.54
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	346879	50.0000	48.78
45	4-Methyl-2-Pentanone	43	6.324	6.331	(0.824)	96374	100.000	94.77
10	Acetone	43	1.969	1.976	(0.471)	43941	100.000	98.06(M)
37	Benzene	78	4.512	4.512	(0.908)	279169	50.0000	48.38
74	Bromobenzene	156	8.809	8.810	(0.911)	126752	50.0000	48.13
29	Bromochloromethane	128	3.795	3.795	(0.908)	51797	50.0000	45.73
39	Bromodichloromethane	83	5.729	5.730	(1.153)	106235	50.0000	49.79
66	Bromoform	173	8.415	8.416	(1.097)	79413	50.0000	49.85
6	Bromomethane	94	1.338	1.331	(0.320)	87503	50.0000	53.05
19	Carbon Disulfide	76	2.069	2.069	(0.495)	397691	100.000	98.29
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	126392	50.0000	48.05(M)
59	Chlorobenzene	112	7.699	7.699	(1.004)	232271	50.0000	48.28
7	Chloroethane	64	1.403	1.396	(0.336)	41091	50.0000	47.20(M)
28	Chloroform	83	3.910	3.910	(0.935)	142426	50.0000	49.00
3	Chloromethane	50	1.073	1.074	(0.257)	70697	50.0000	48.73
27	cis-1,2-Dichloroethene	96	3.530	3.523	(0.844)	87258	50.0000	49.74
46	cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	122806	50.0000	49.69
55	Dibromochloromethane	129	7.176	7.176	(0.936)	99989	50.0000	48.87
44	Dibromomethane	93	5.557	5.558	(1.118)	52702	50.0000	50.64
2	Dichlorodifluoromethane	85	0.973	0.966	(0.233)	80612	50.0000	46.64
61	Ethylbenzene	106	7.799	7.807	(1.017)	120027	50.0000	48.10(M)
91	Hexachlorobutadiene	225	11.488	11.481	(1.188)	53101	50.0000	47.59
67	Isopropylbenzene	105	8.566	8.566	(1.117)	370547	50.0000	48.85
62	m,p-Xylenes	106	7.907	7.907	(1.031)	296459	100.000	98.01
17	Methylene Chloride	84	2.305	2.306	(0.551)	75516	50.0000	49.54
87	n-Butylbenzene	91	9.998	9.999	(1.034)	253254	50.0000	49.93
73	n-Propylbenzene	91	8.917	8.917	(0.922)	397191	50.0000	48.75
92	Naphthalene	128	11.546	11.546	(1.194)	67956	50.0000	52.61
63	o-Xylene	106	8.244	8.244	(1.075)	145212	50.0000	48.75
81	sec-Butylbenzene	105	9.526	9.526	(0.985)	358336	50.0000	49.34
64	Styrene	104	8.258	8.265	(1.077)	257969	50.0000	50.07
78	tert-Butylbenzene	119	9.339	9.340	(0.966)	279459	50.0000	48.56
56	Tetrachloroethene	164	6.933	6.933	(0.904)	92580	50.0000	49.48
50	Toluene	91	6.446	6.446	(0.840)	329262	50.0000	48.85
20	trans-1,2-Dichloroethene	96	2.527	2.528	(0.604)	74432	50.0000	50.45
51	trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	115378	50.0000	50.01
38	Trichloroethene	130	5.206	5.207	(1.048)	100105	50.0000	49.79
8	Trichlorofluoromethane	101	1.560	1.553	(0.373)	144949	50.0000	49.45
5	Vinyl Chloride	62	1.138	1.138	(0.272)	67608	50.0000	49.08

QC Flag Legend

M - Compound response manually integrated.



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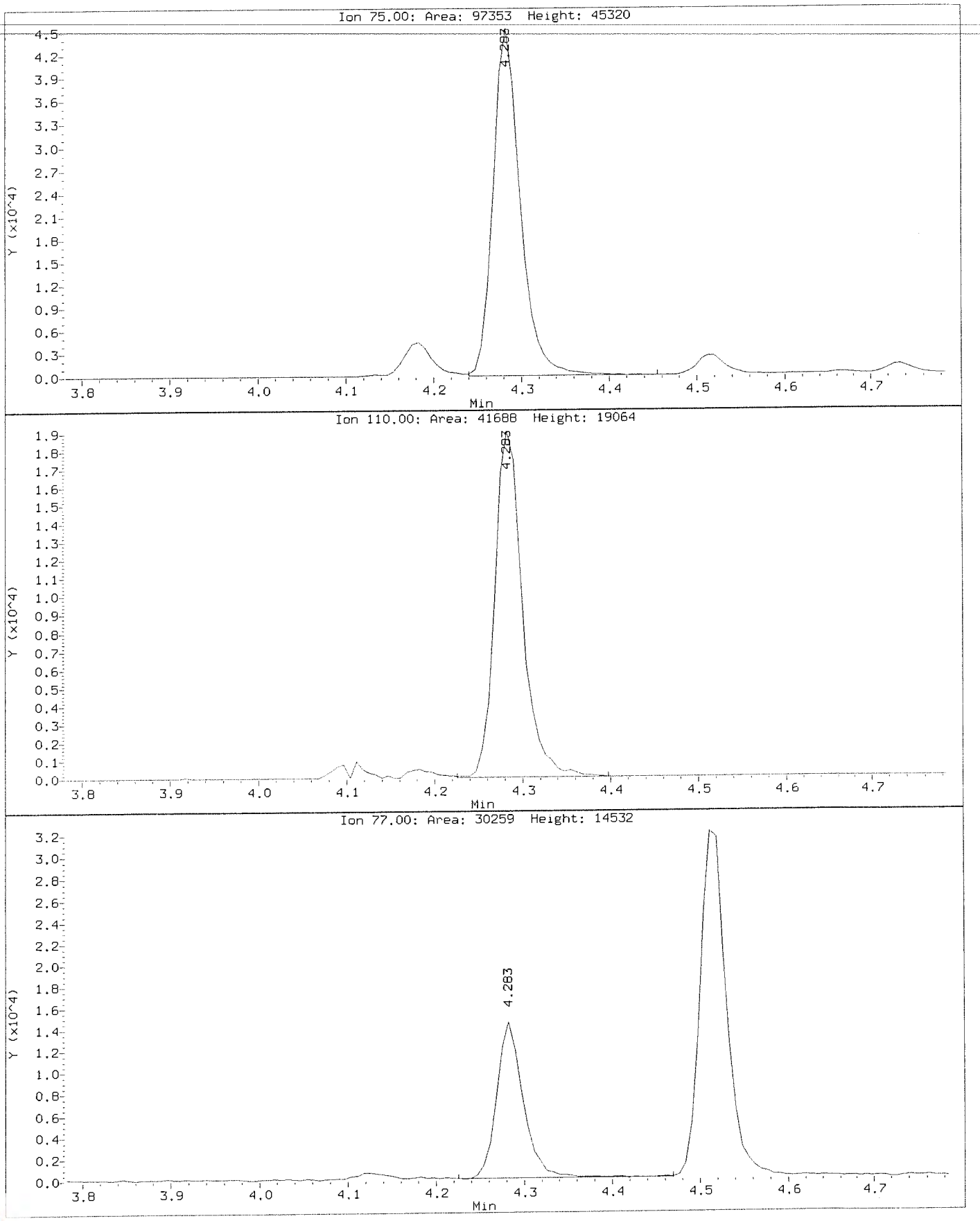
Client ID: VSTD050
Sample Info: VSTD050;VSTD050;1;7;
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\BEFORE2\X103108.D
Injection Date: 31-OCT-2019 13:56
Instrument: voa6.i
Client Sample ID: VSTD050

Compound: 1,1-Dichloropropene
CAS Number: 563-58-6



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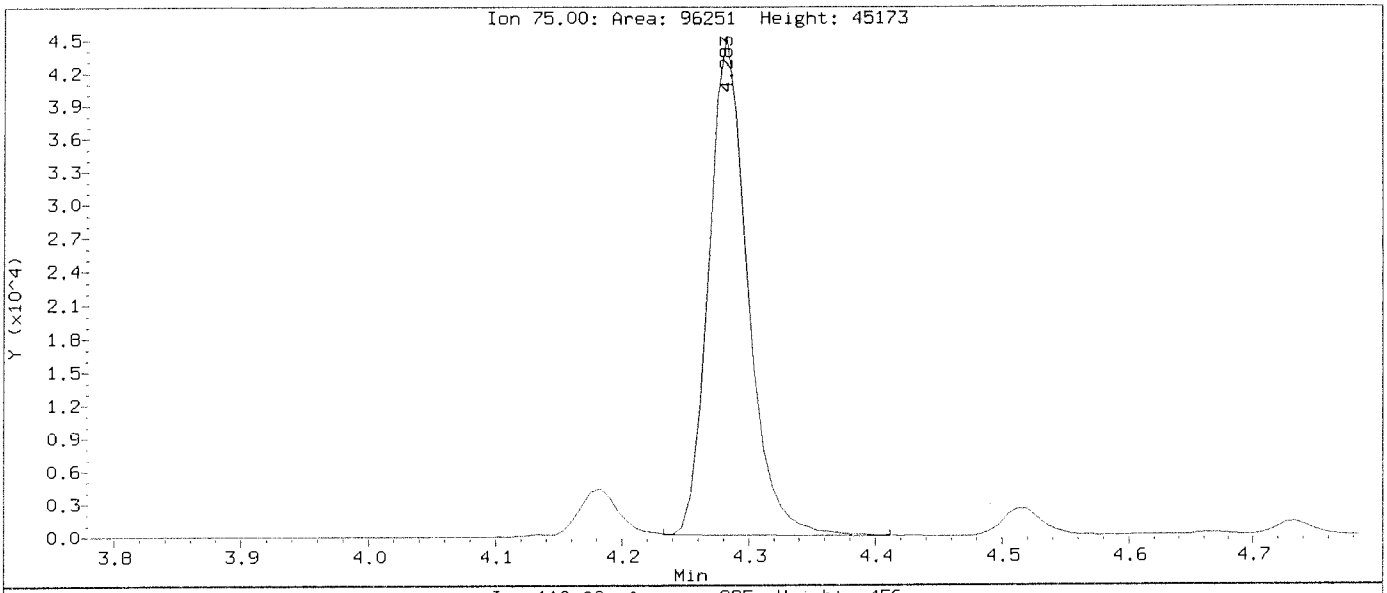
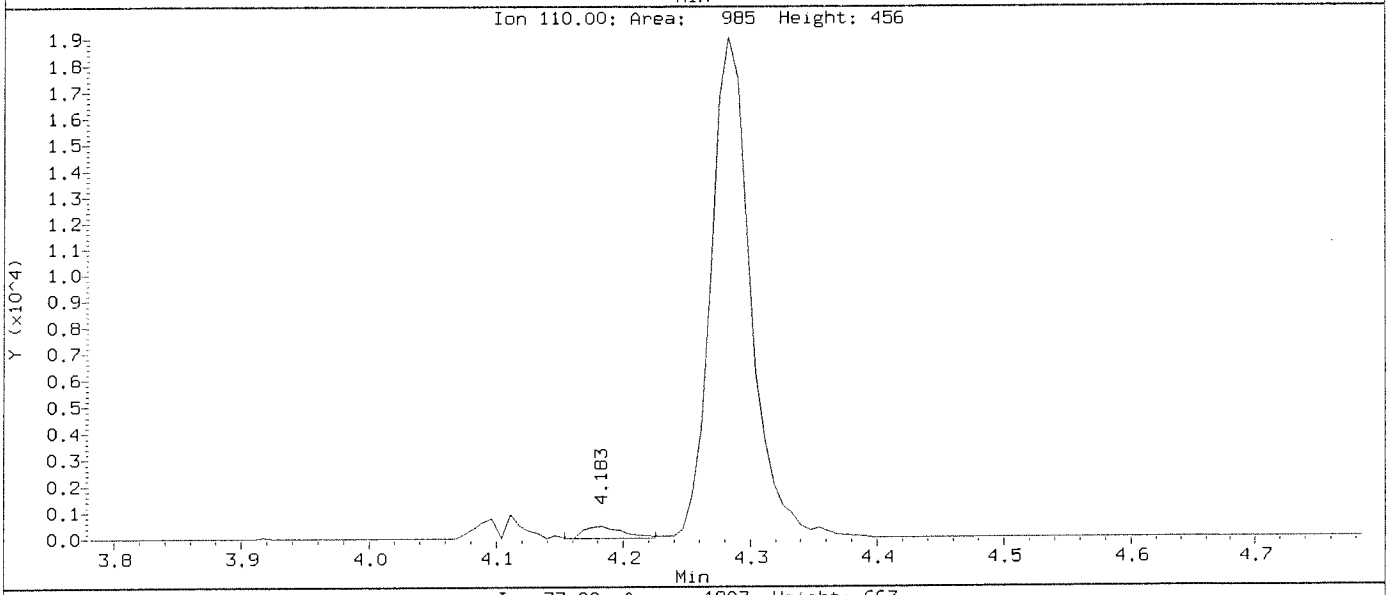
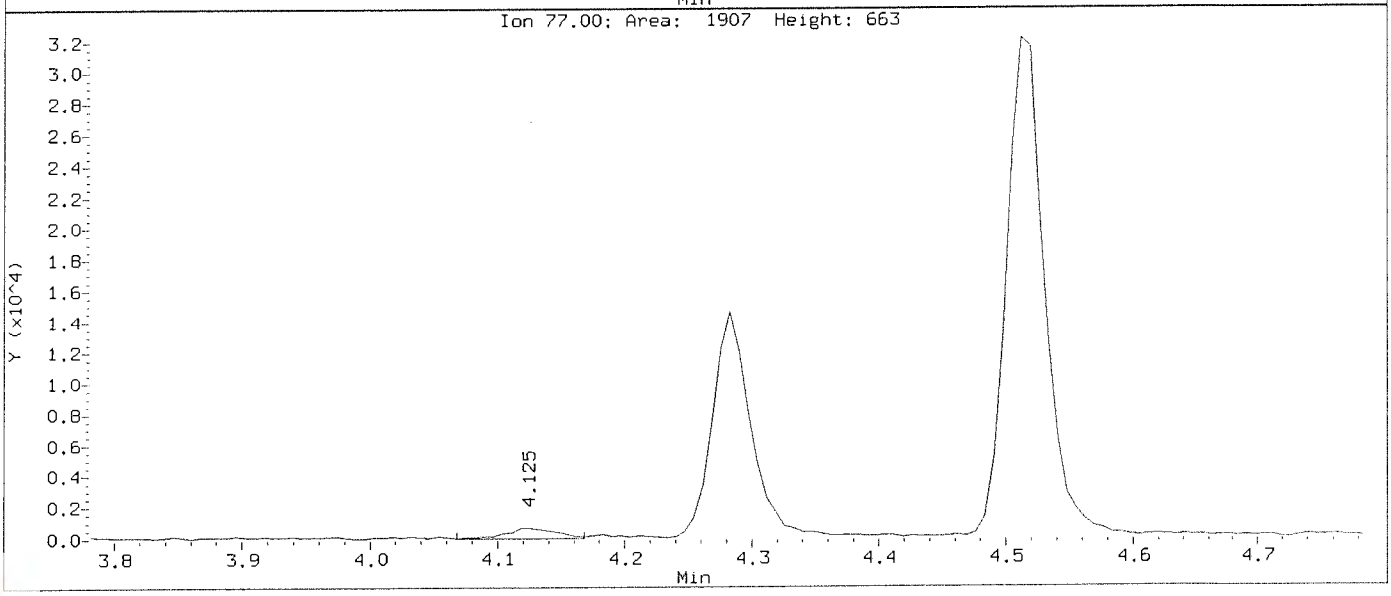
Instrument: voa6.i
Client Sample ID: VSTD050

Compound: 1,1-Dichloropropene
CAS Number: 563-58-6







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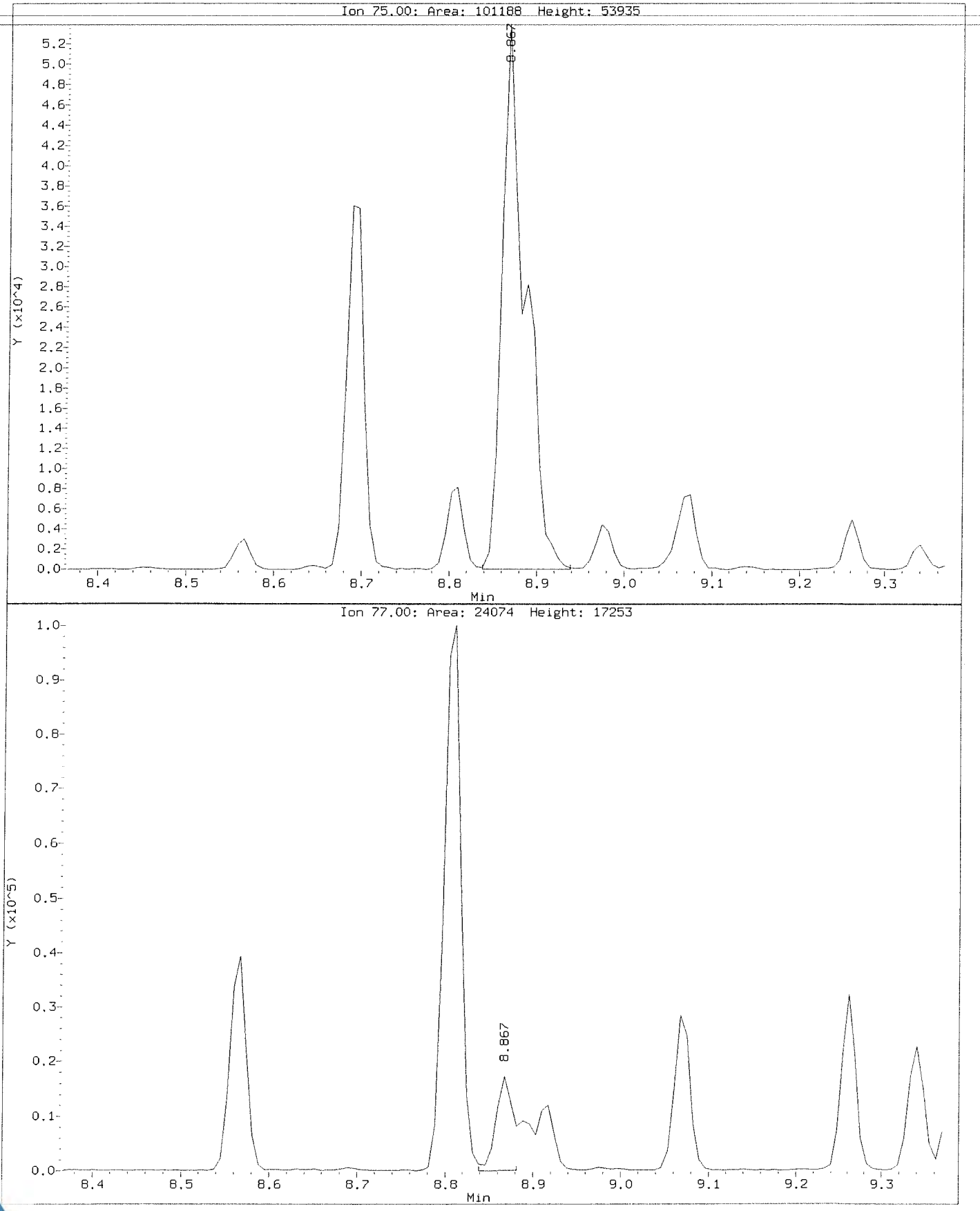
Injection Date: 31-OCT-2019 13:56
Instrument: voa6.i
Client Sample ID: VSTD050

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



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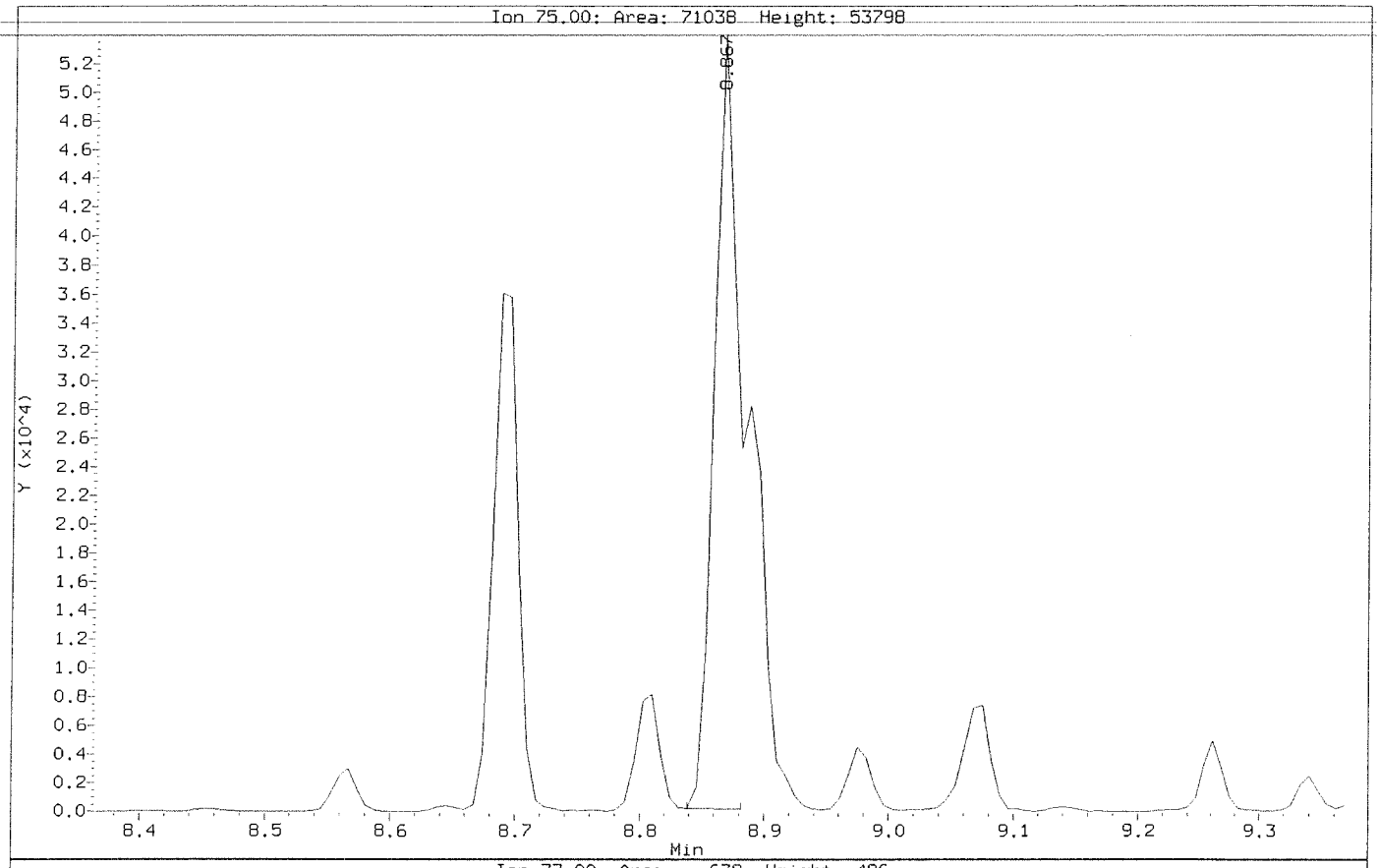
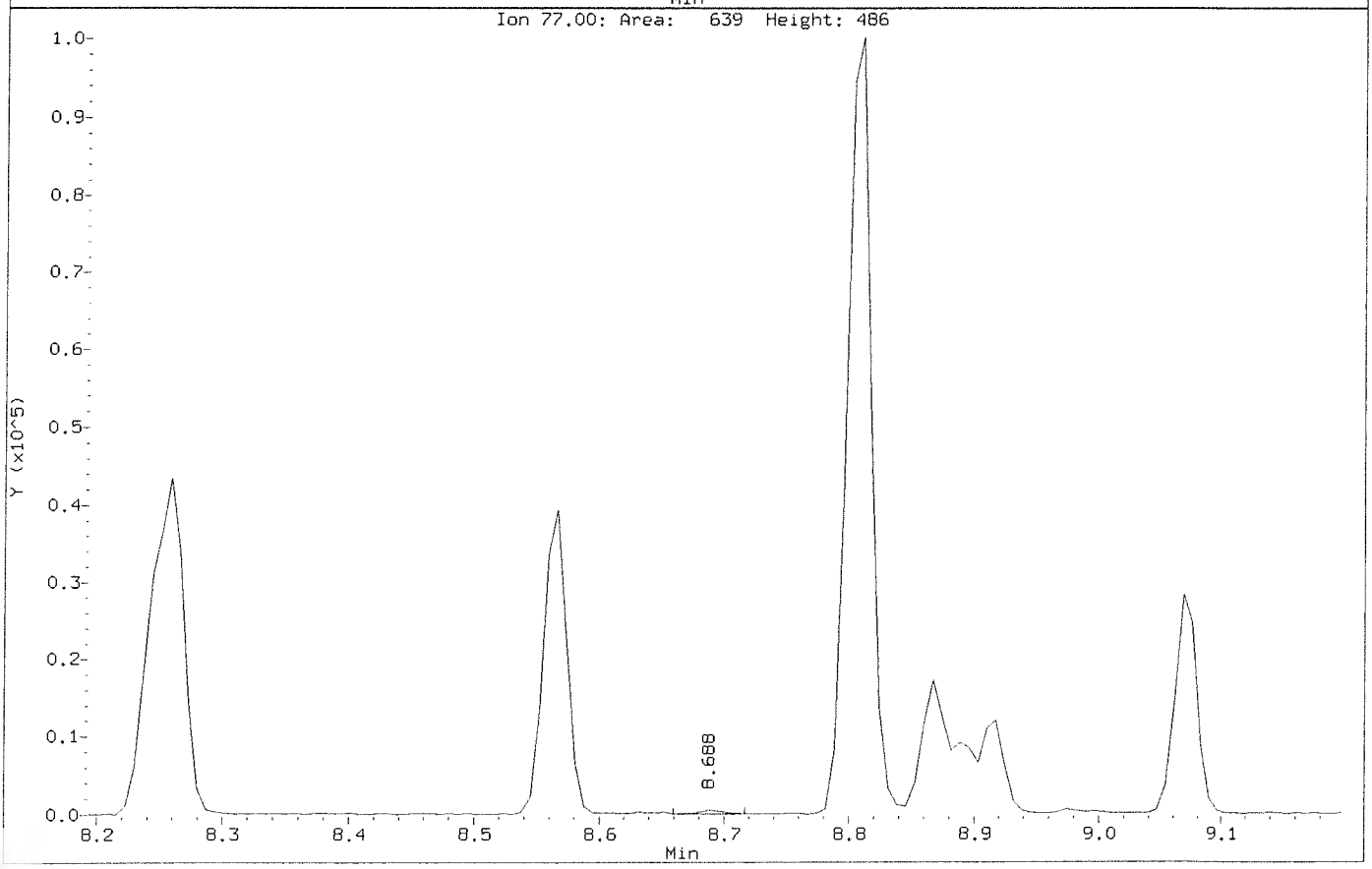
Injection Date: 31-OCT-2019 13:56
Instrument: voa6.i
Client Sample ID: VSTD050

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





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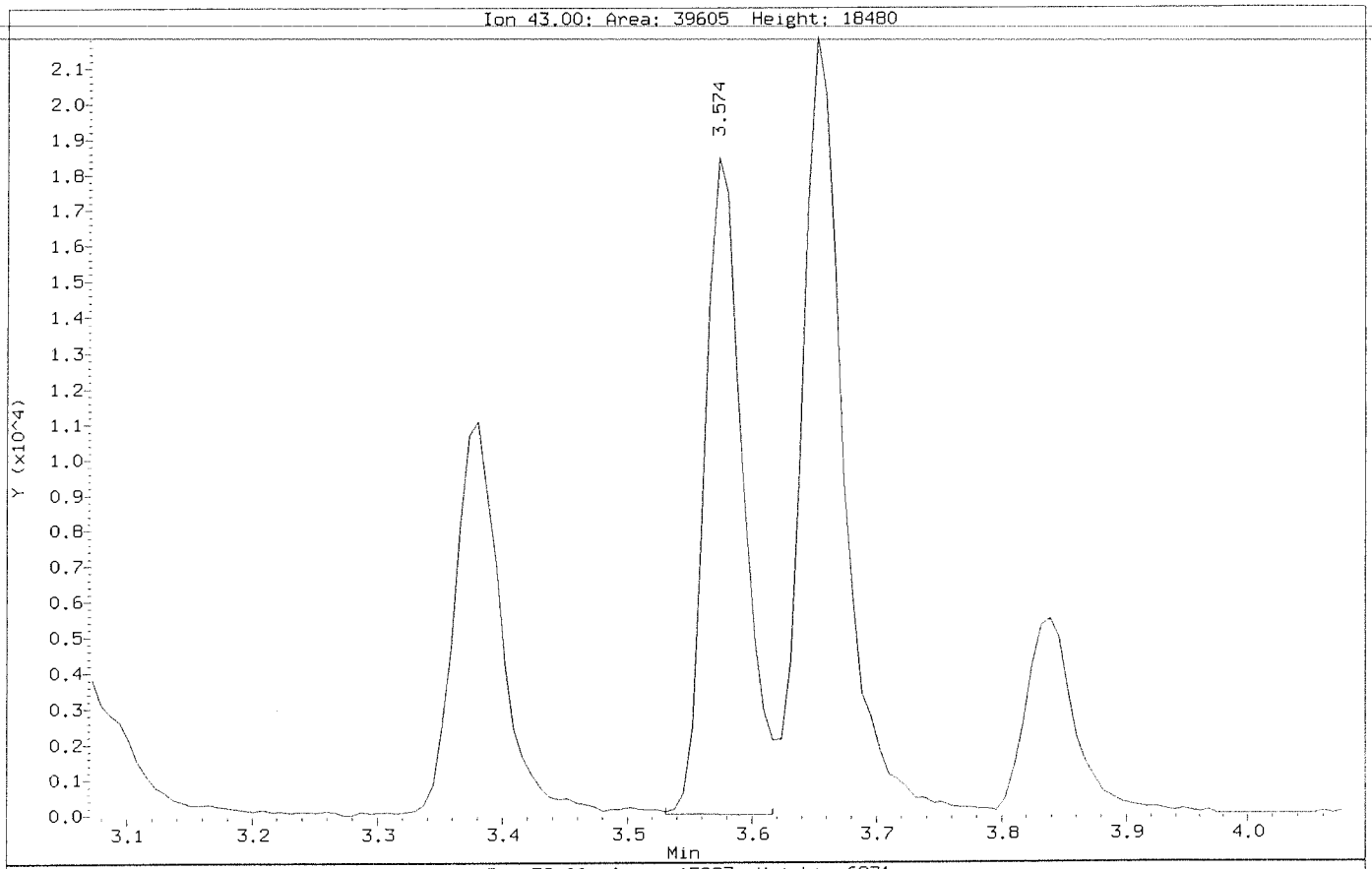
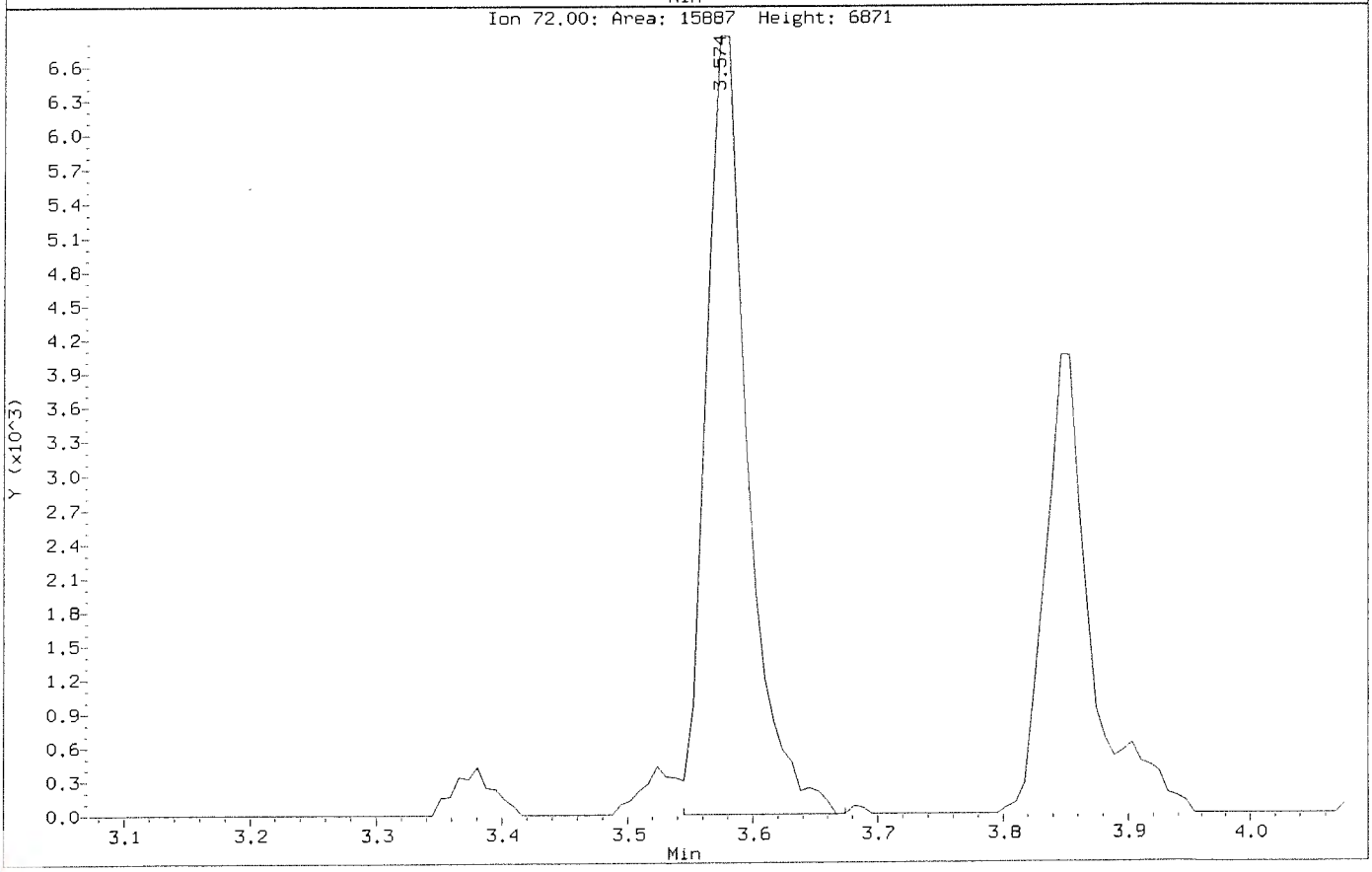
Injection Date: 31-OCT-2019 13:56
Instrument: voa6.i
Client Sample ID: VSTD050

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





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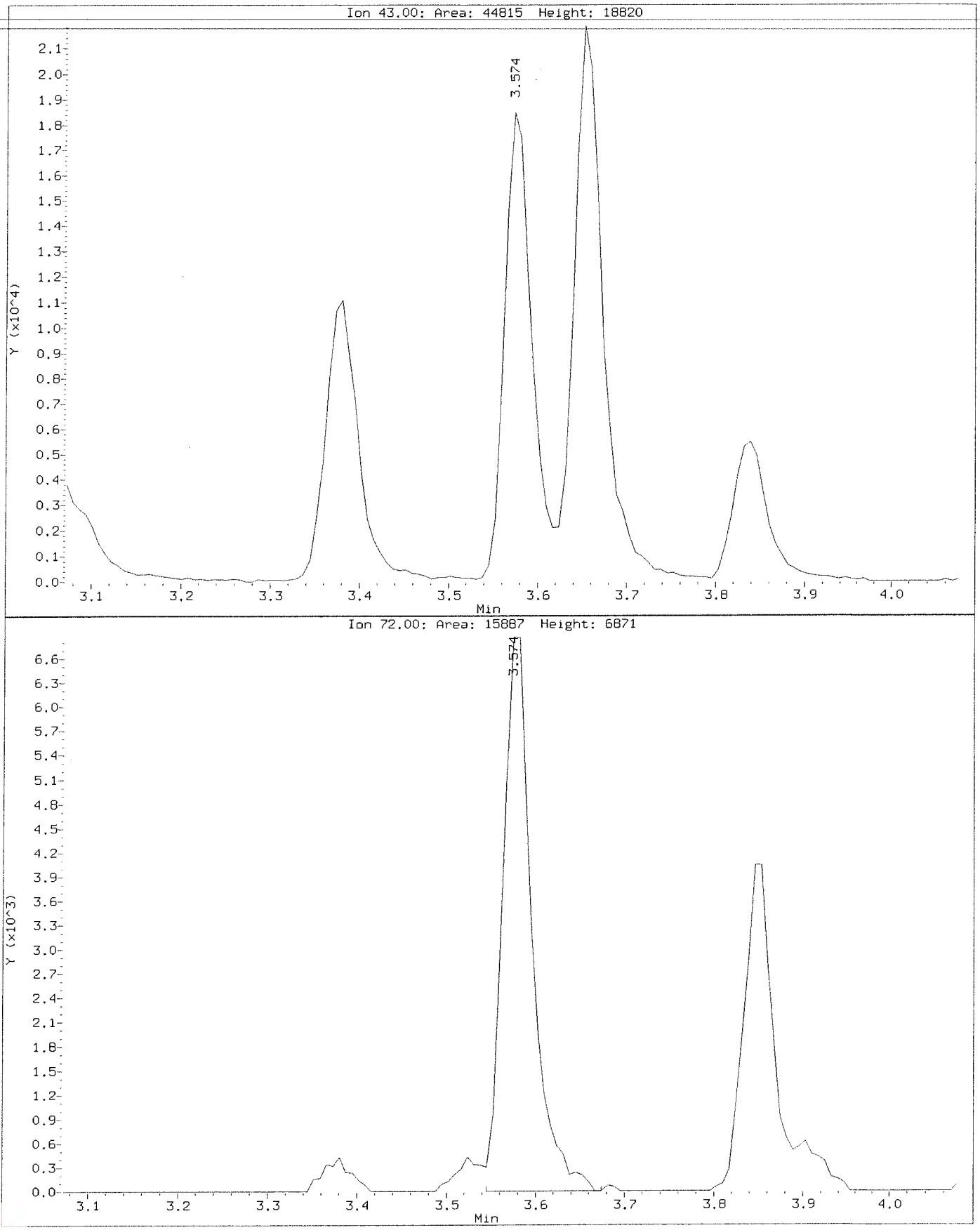
Injection Date: 31-OCT-2019 13:56
Instrument: voa6.i
Client Sample ID: VSTD050

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



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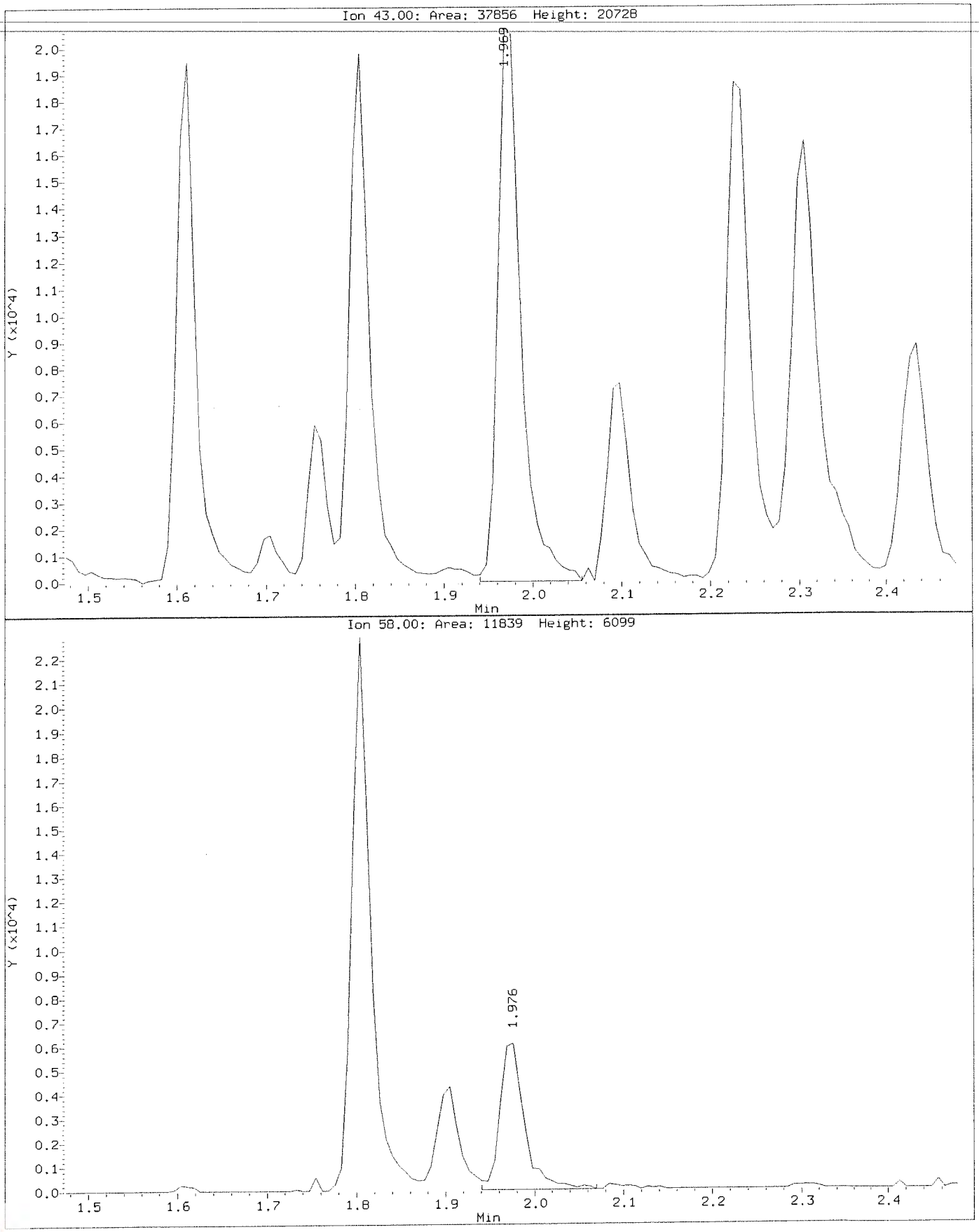
Injection Date: 31-OCT-2019 13:56
Instrument: voa6.i
Client Sample ID: VSTD050

Compound: Acetone
CAS Number: 67-64-1



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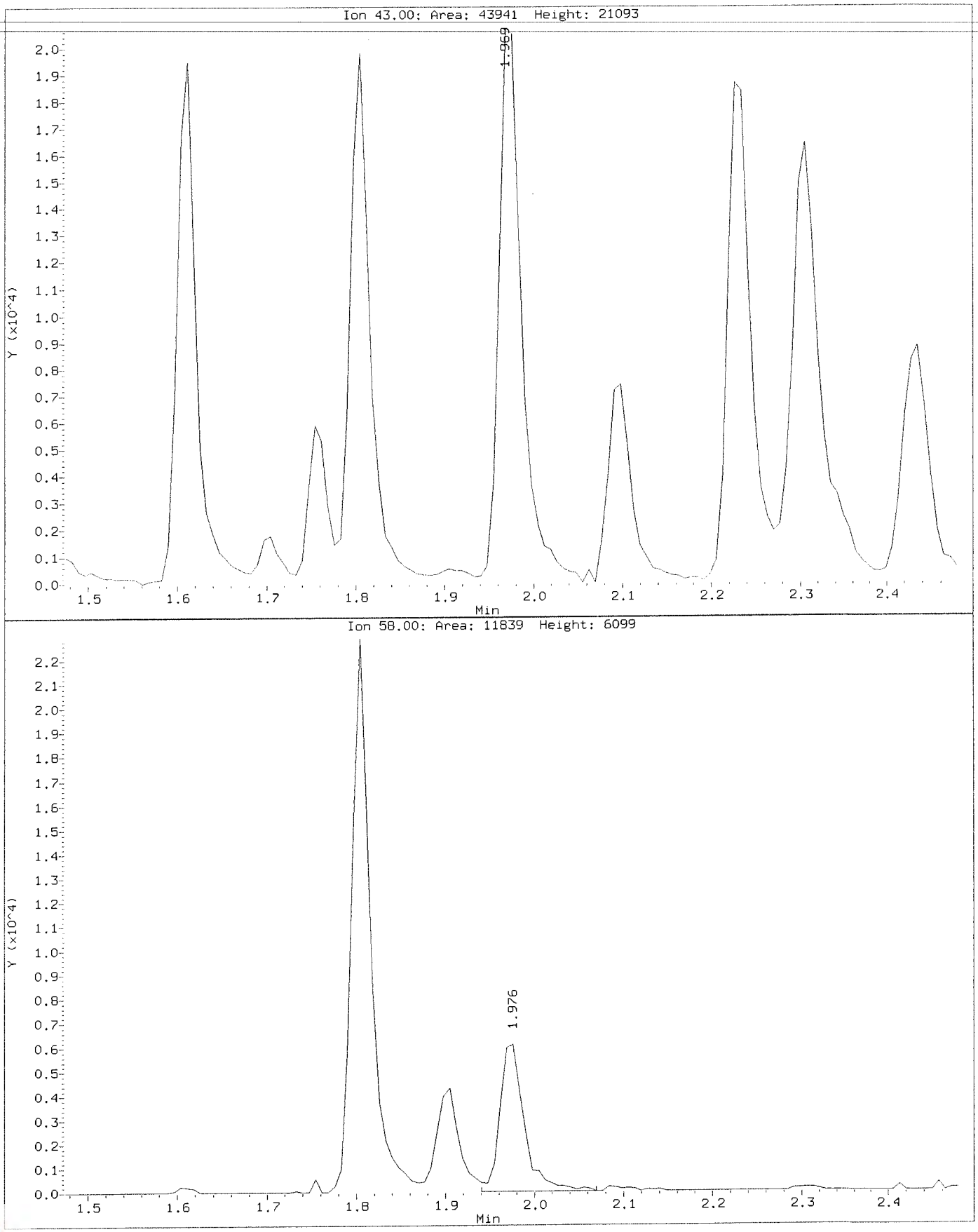
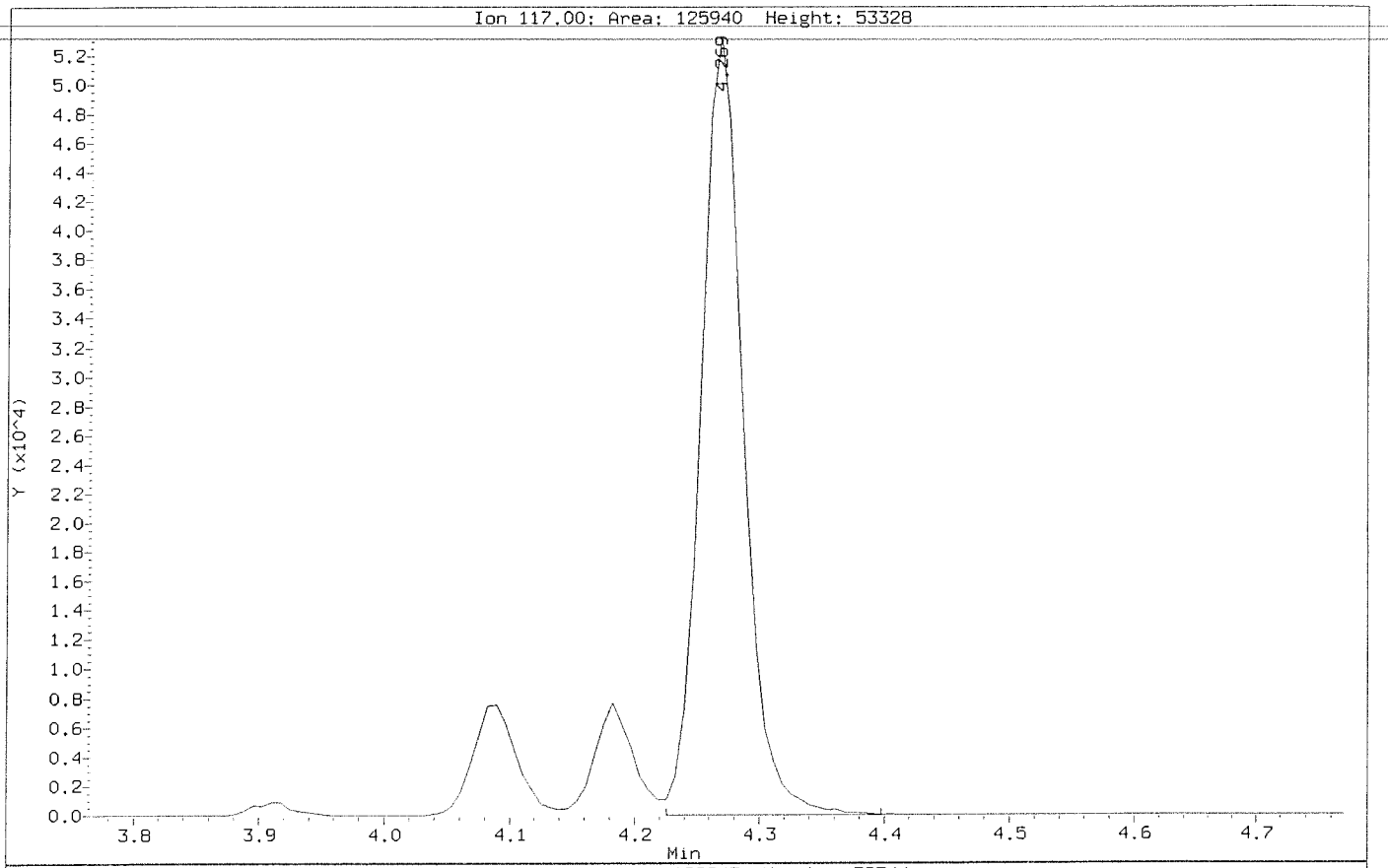
Injection Date: 31-OCT-2019 13:56
Instrument: voa6.i
Client Sample ID: VSTD050

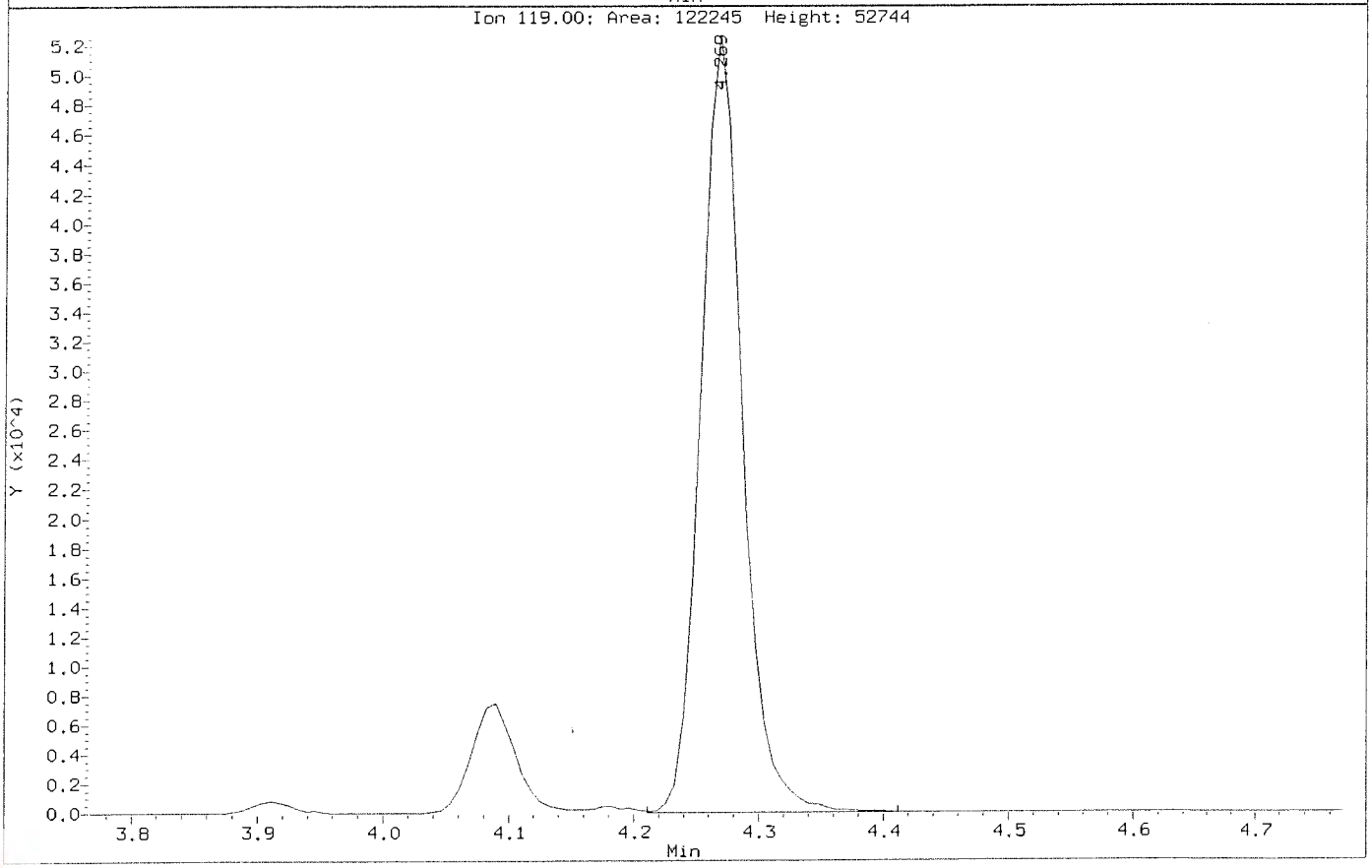
Compound: Acetone
CAS Number: 67-64-1



Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\BEFORE2\X10310B.D
Injection Date: 31-OCT-2019 13:56
Instrument: voa6.i
Client Sample ID: VSTD050

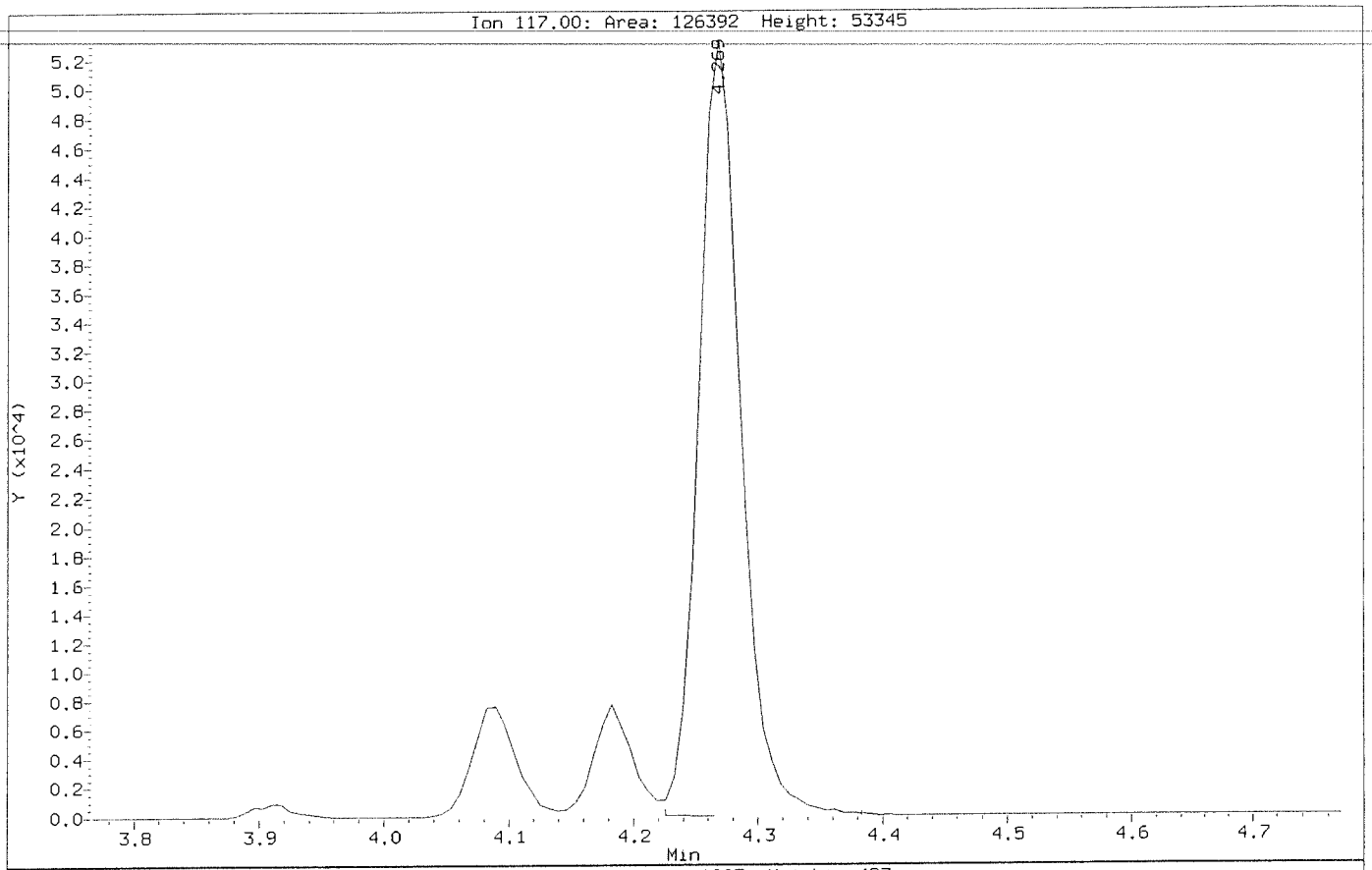
Compound: Carbon Tetrachloride
CAS Number: 56-23-5

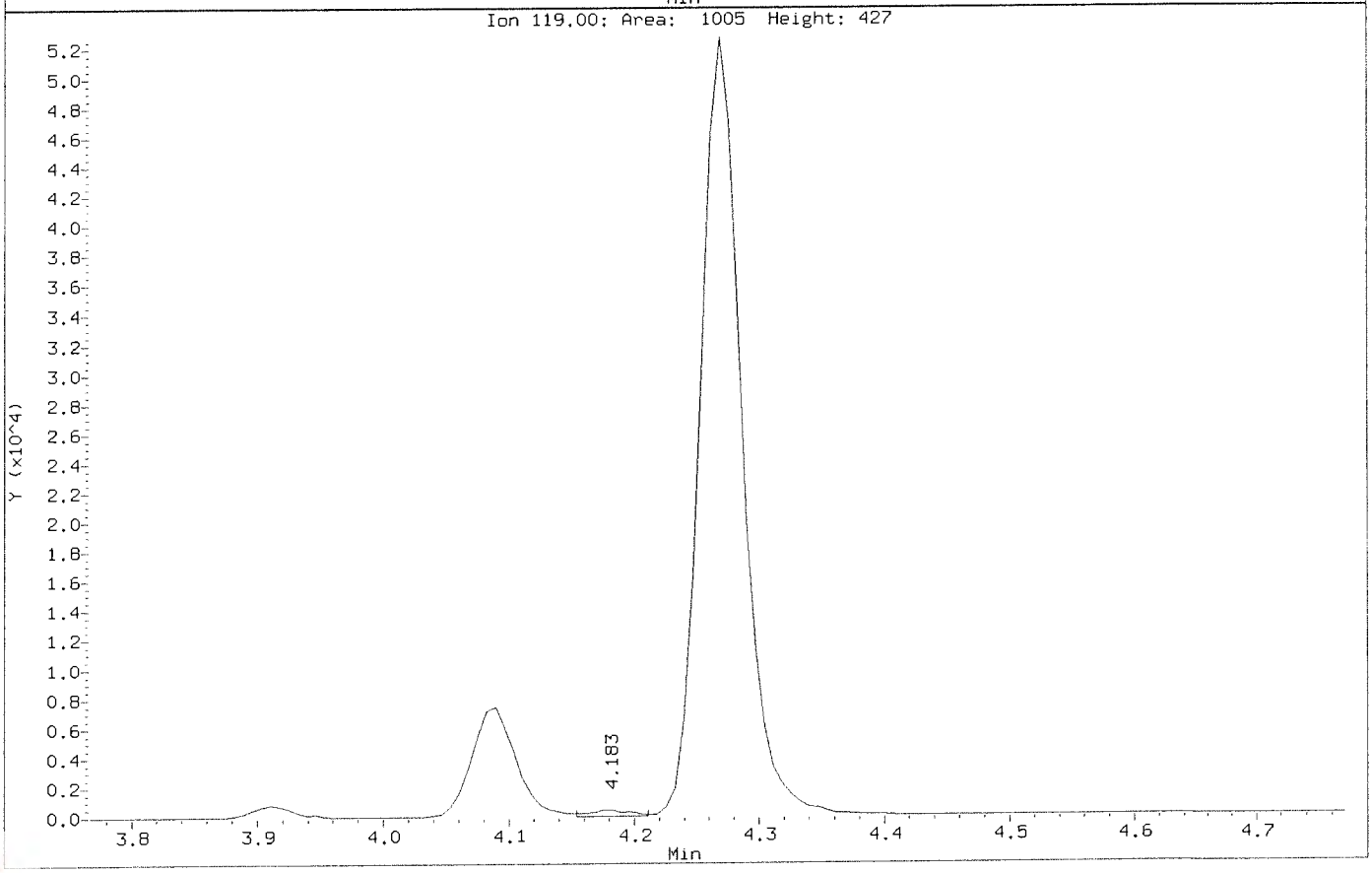




Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\X103108.D
Injection Date: 31-OCT-2019 13:56
Instrument: voa6.i
Client Sample ID: VSTD050

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





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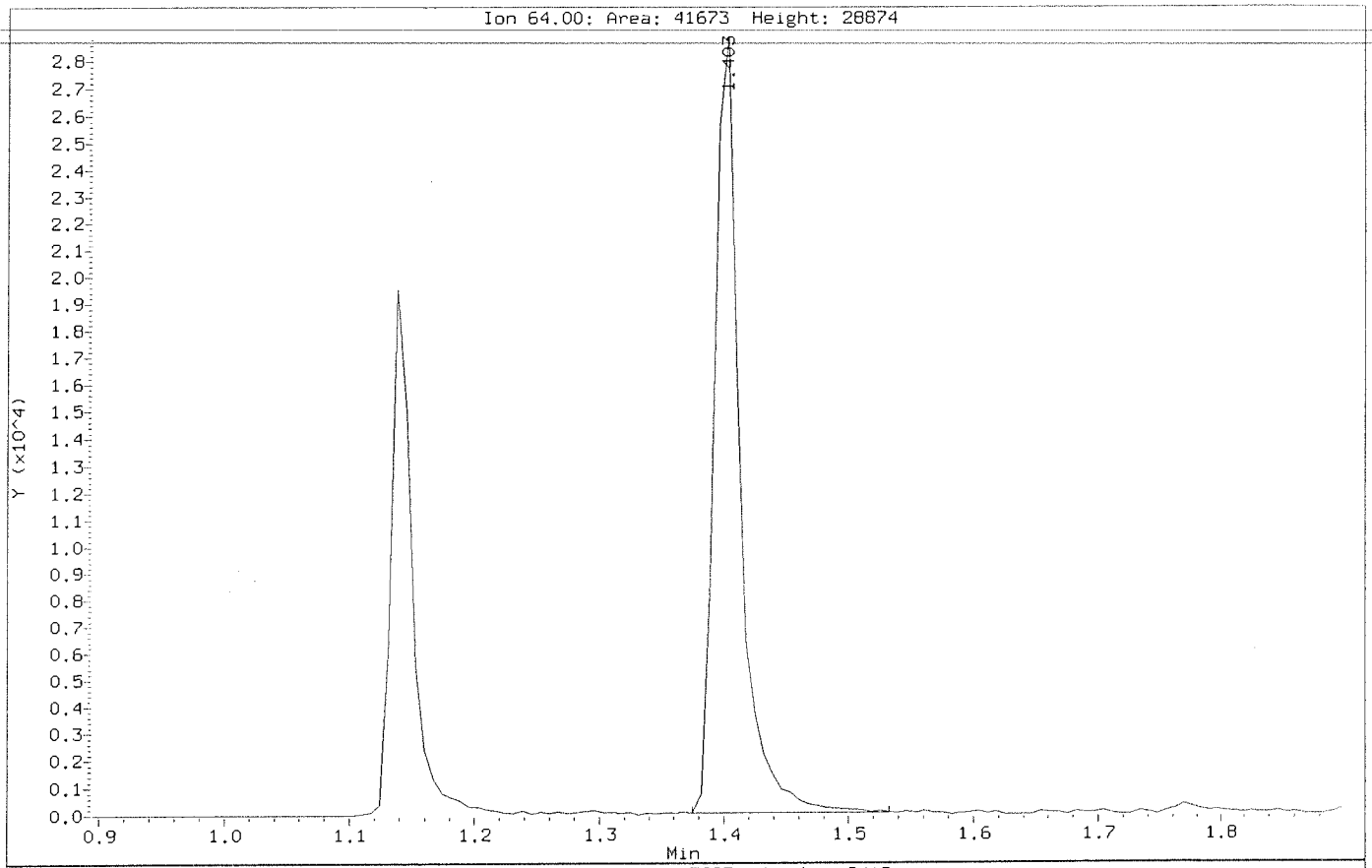
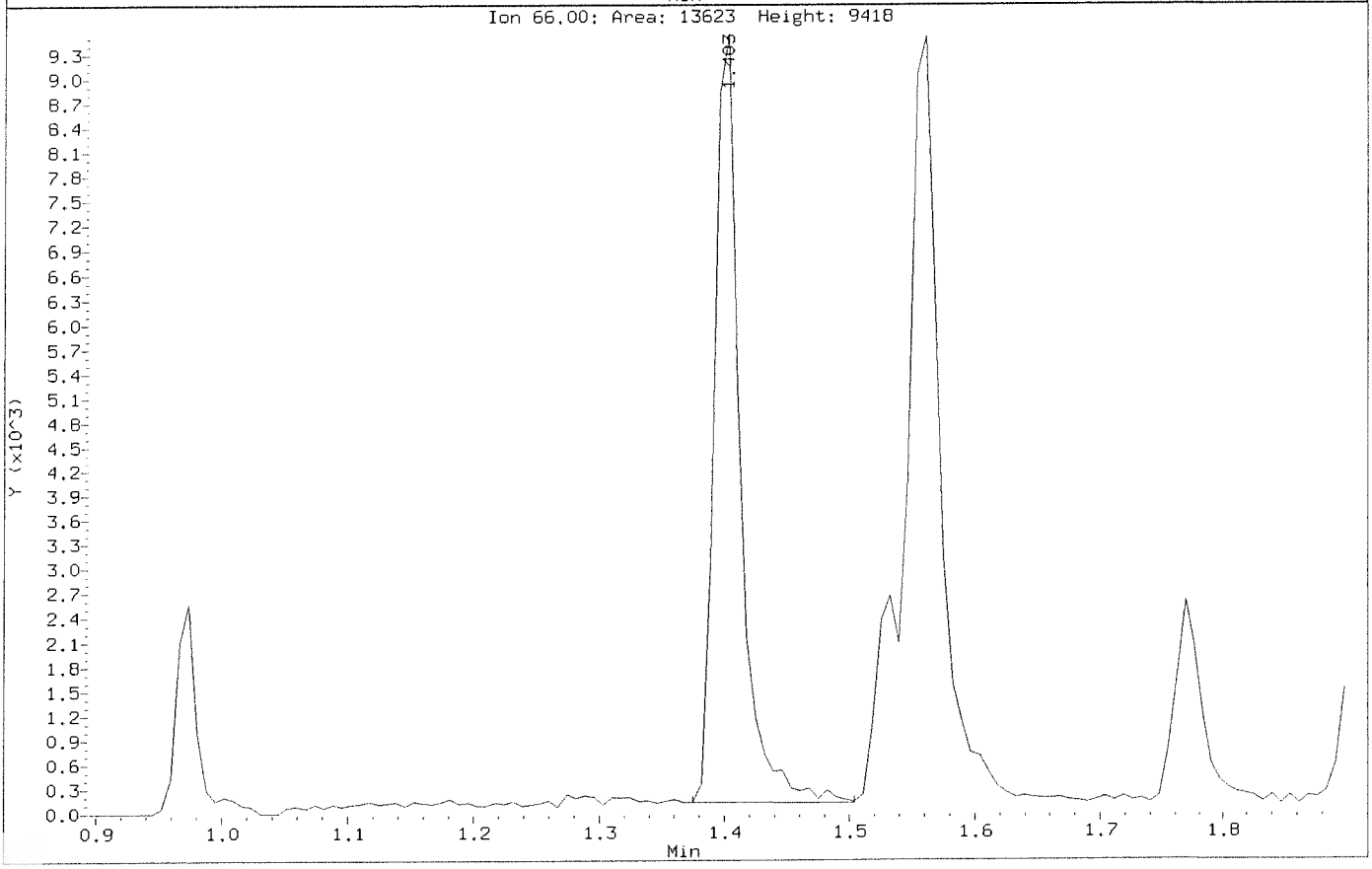
Instrument: voa6.i
Client Sample ID: VSTD050

Compound: Chloroethane
CAS Number: 75-00-3





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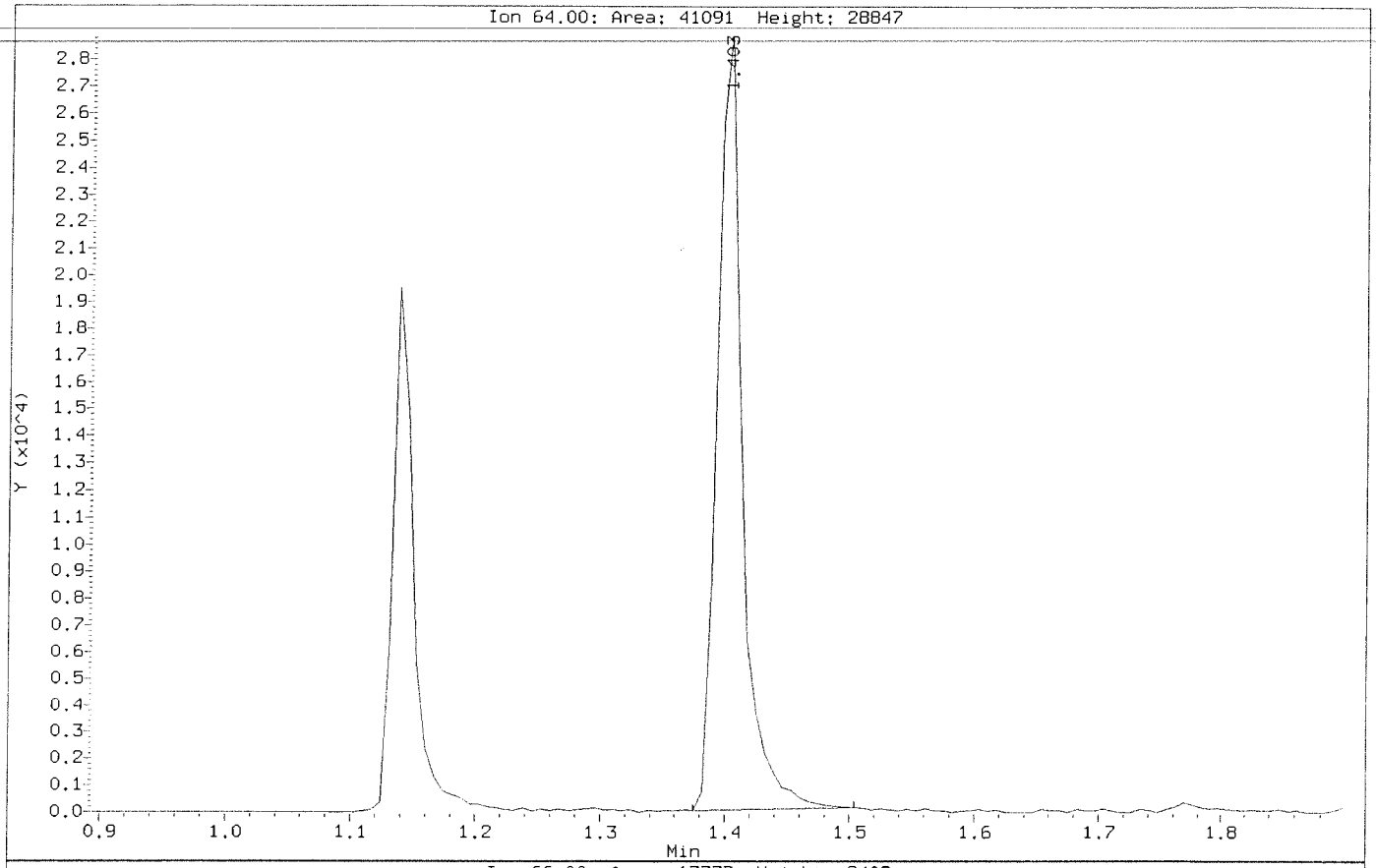
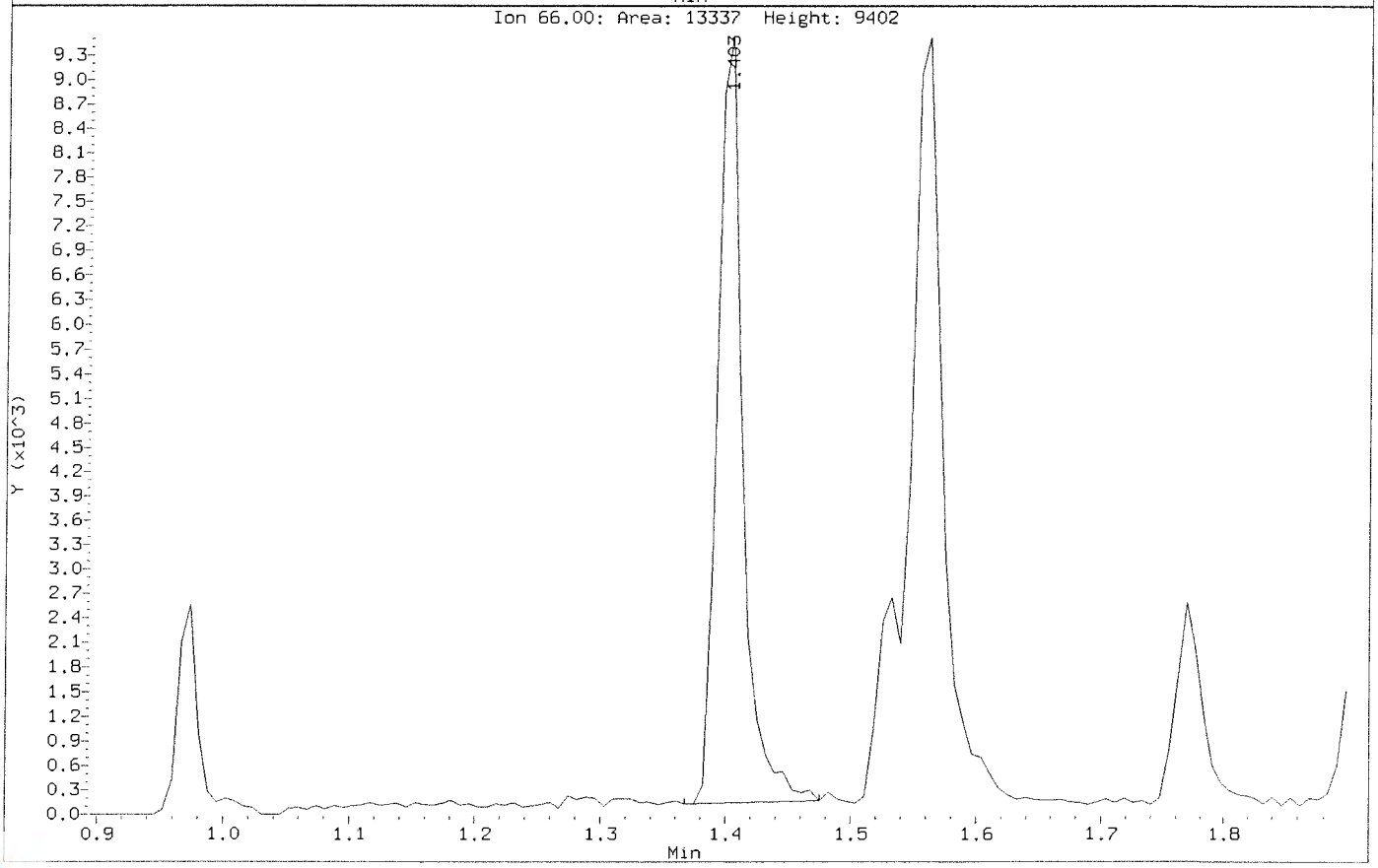
Instrument: voa6.i
Client Sample ID: VSTD050

Compound: Chloroethane
CAS Number: 75-00-3





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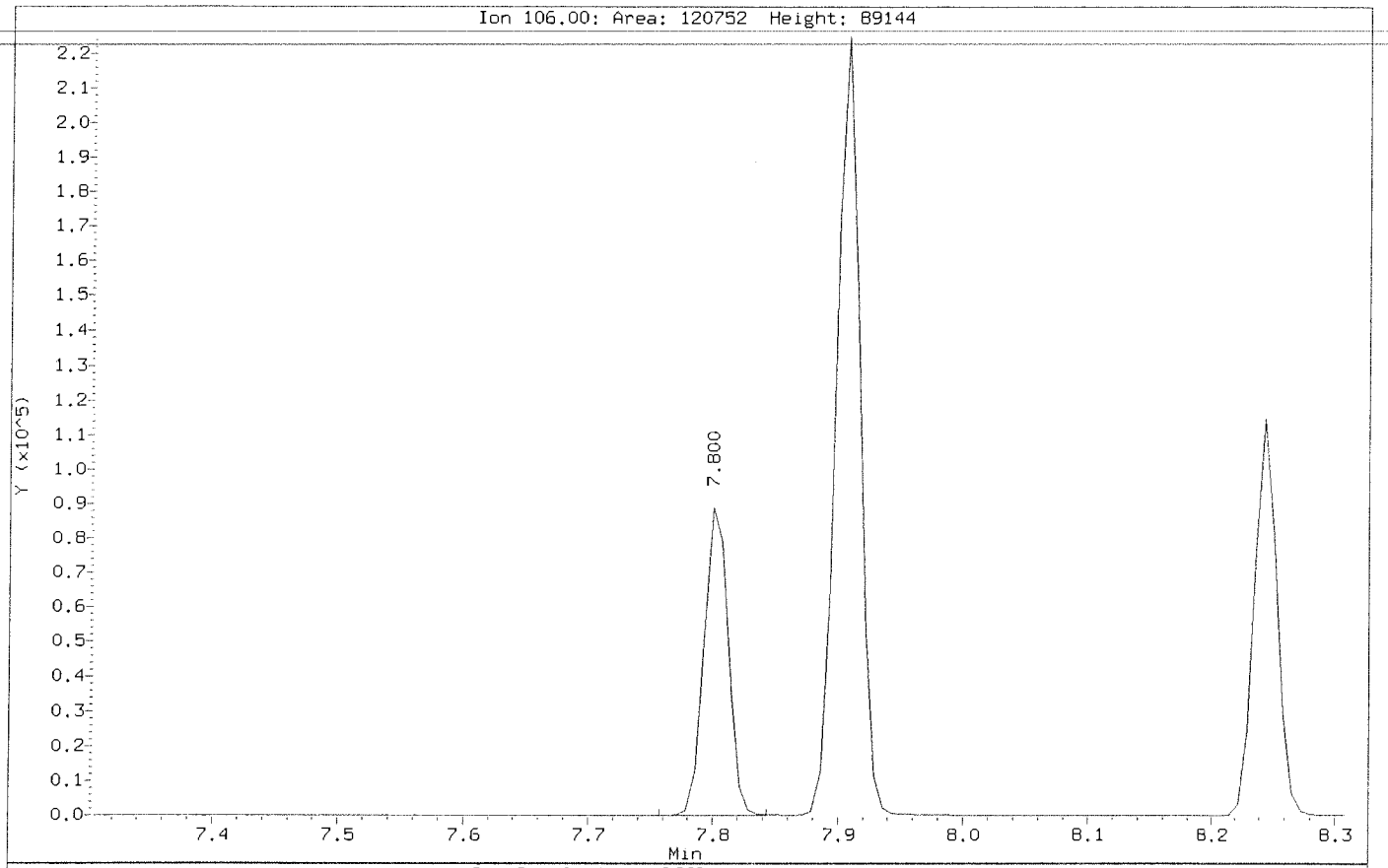
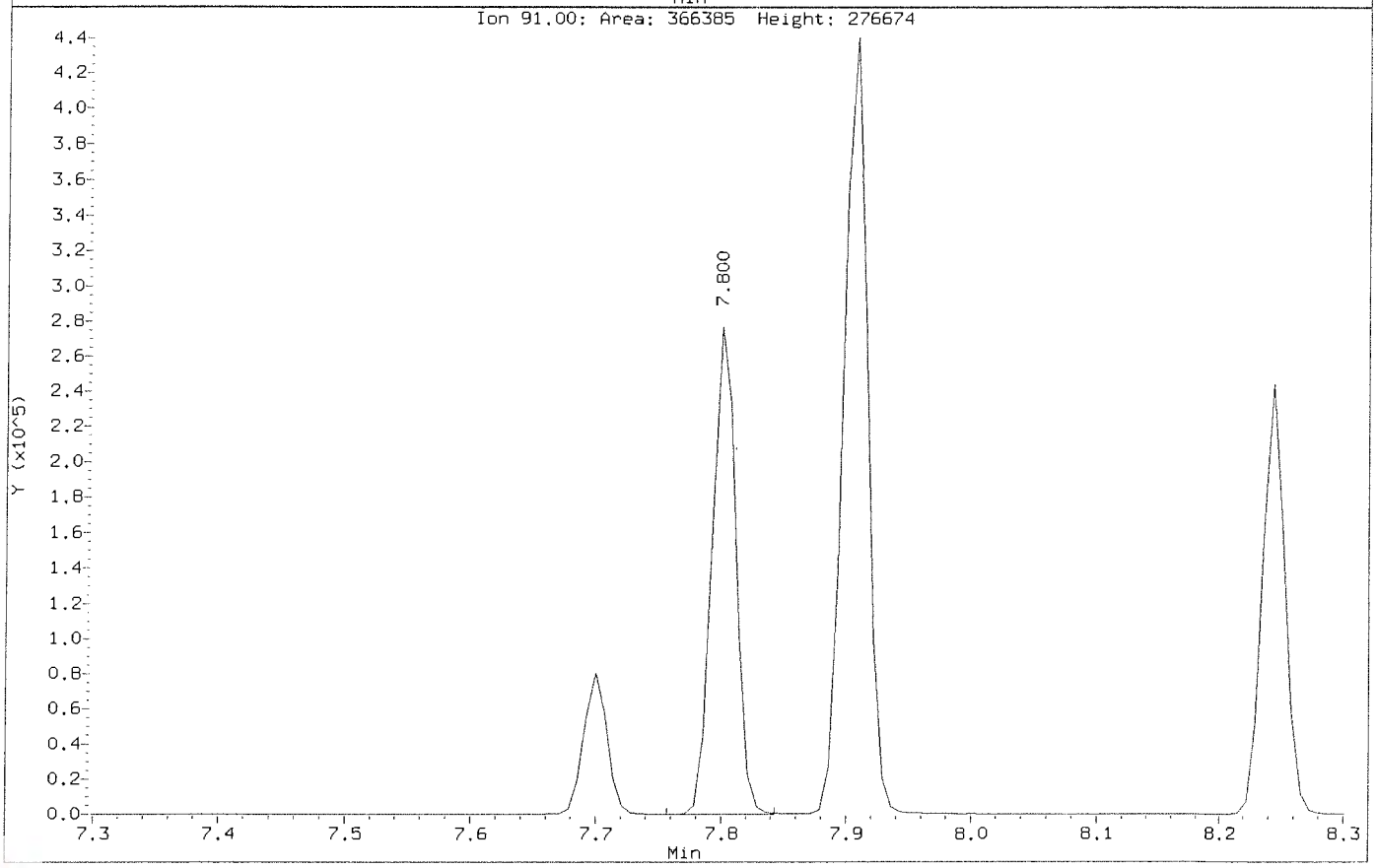
Injection Date: 31-OCT-2019 13:56
Instrument: voa6.i
Client Sample ID: VSTD050

Compound: Ethylbenzene
CAS Number: 100-41-4





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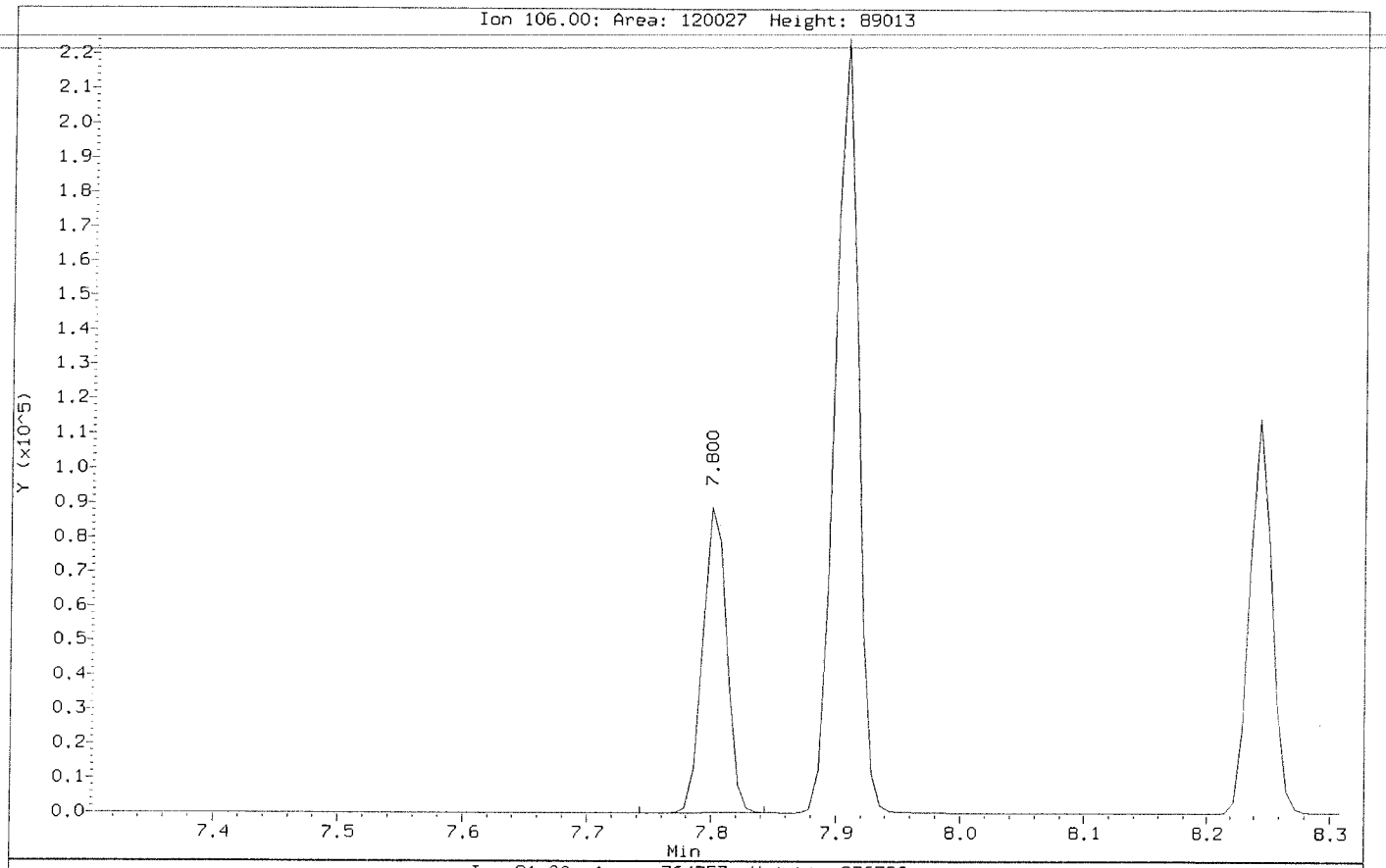
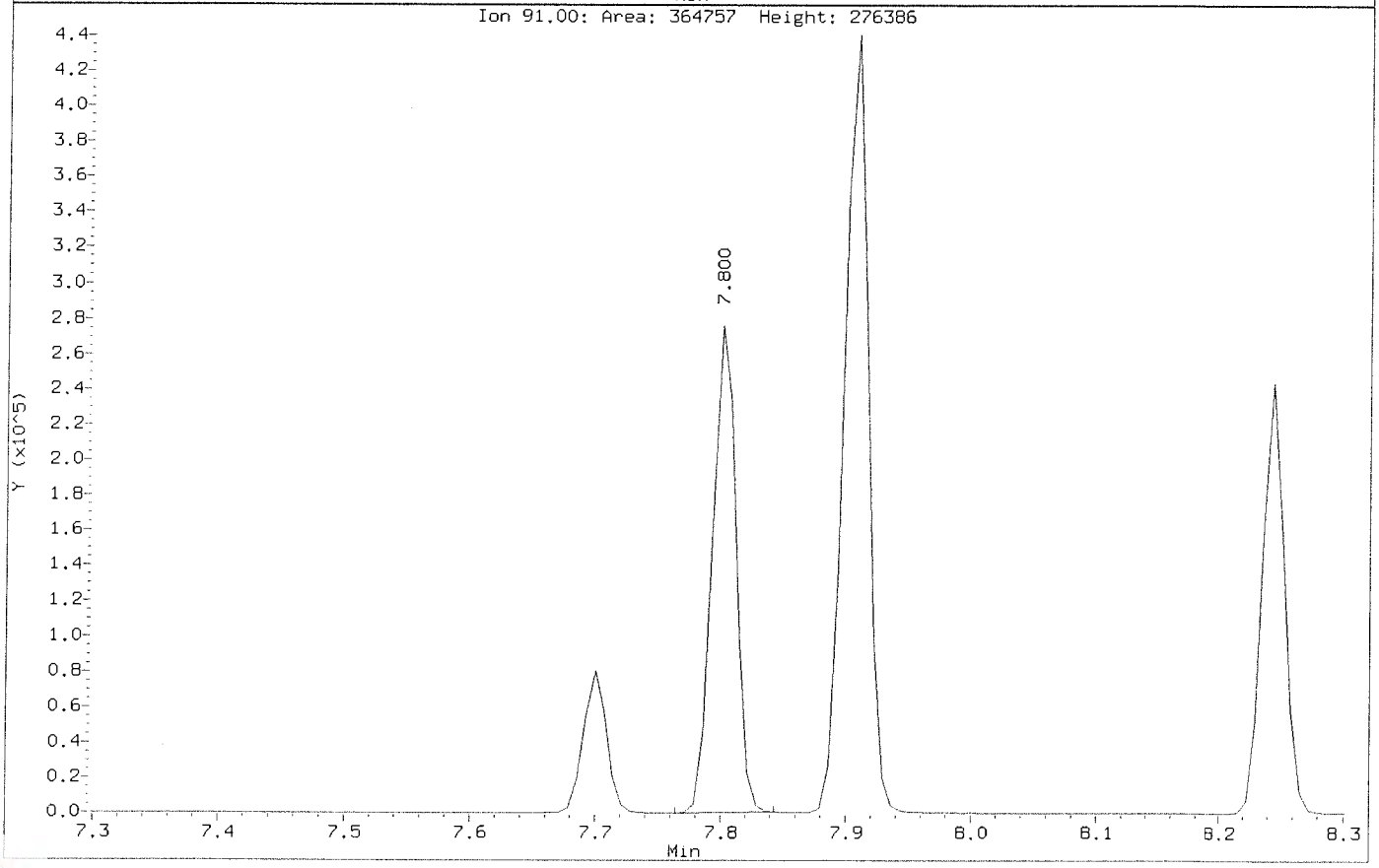
Instrument: voa6.i
Client Sample ID: VSTD050

Compound: Ethylbenzene
CAS Number: 100-41-4





Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\X103109.D Page 1
Report Date: 19-Nov-2019 17:39

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X191031.b\X103109.D
Lab Smp Id: VSTD100 Client Smp ID: VSTD100
Inj Date : 31-OCT-2019 14:20
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\X191031.b\8260W.m
Meth Date : 19-Nov-2019 17:37 voa6.i Quant Type: ISTD
Cal Date : 31-OCT-2019 14:20 Cal File: X103109.D
Als bottle: 10 Calibration Sample, Level: 8
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

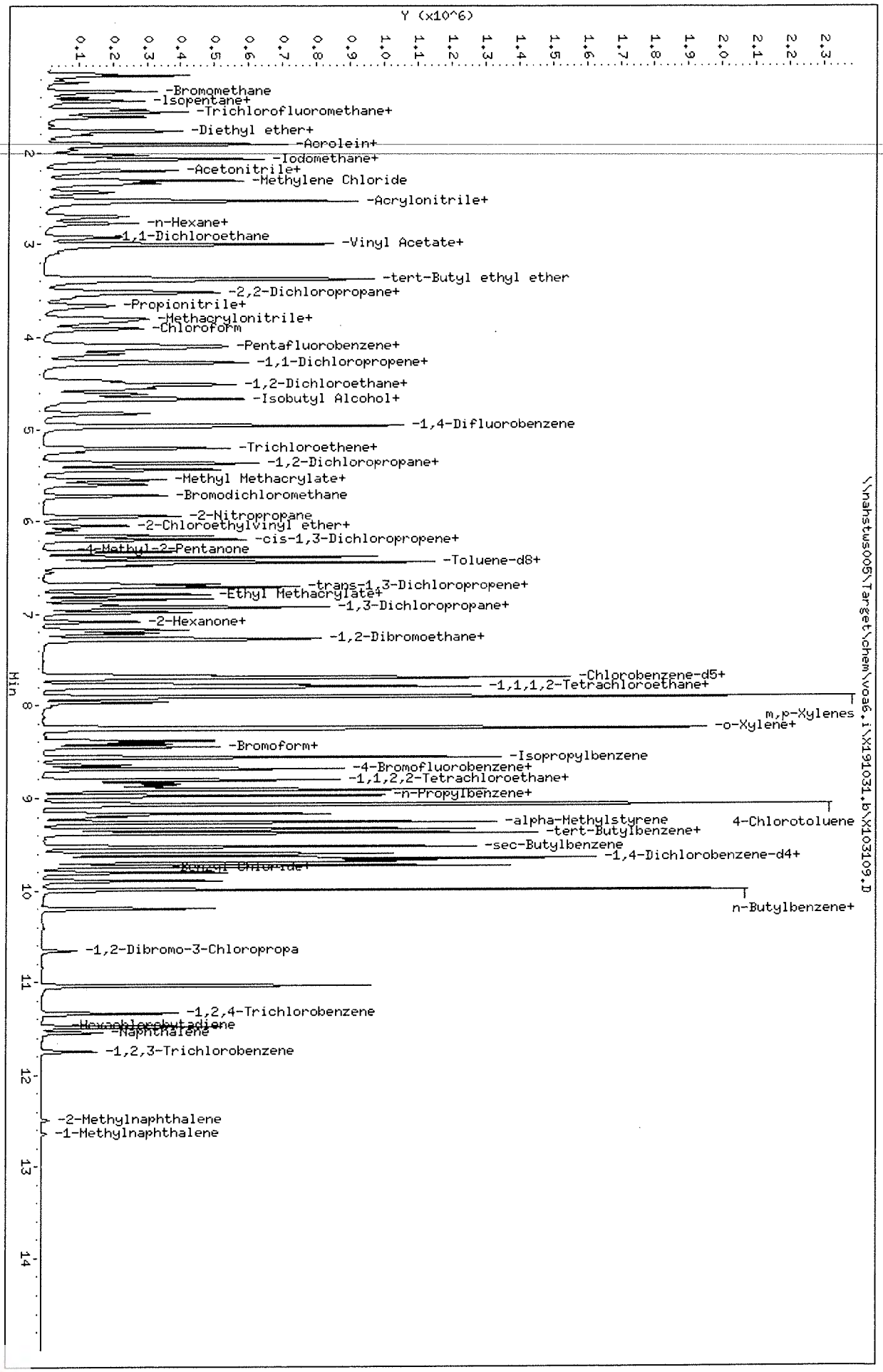
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
*	1 Pentafluorobenzene	168	4.182	4.182	(1.000)	211157	50.0000	
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	260534	50.0000	
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	243171	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	139912	50.0000	
$	35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	177646	100.000	99.17
$	69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	230071	100.000	101.30
$	30 Dibromofluoromethane	113	4.103	4.104	(0.981)	169612	100.000	100.29
$	48 Toluene-d8	98	6.388	6.389	(0.833)	589193	100.000	97.52
	60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	193755	100.000	97.81
	31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	274084	100.000	103.57
	68 1,1,2,2-Tetrachloroethane	83	8.845	8.845	(0.915)	149496	100.000	98.60
	138 Freon TF	101	1.912	1.912	(0.457)	147697	100.000	105.72
	53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	107723	100.000	97.48
	22 1,1-Dichloroethane	63	2.922	2.922	(0.699)	233374	100.000	98.72
	11 1,1-Dichloroethene	96	1.912	1.912	(0.457)	135961	100.000	101.27
	32 1,1-Dichloropropene	75	4.282	4.283	(0.862)	194698	100.000	100.32(M)
	93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.215)	48520	100.000	98.21
	71 1,2,3-Trichloropropane	75	8.867	8.867	(0.917)	133696	100.000	100.75(M)
	90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	115070	100.000	91.13
	79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.970)	671697	100.000	100.22
	89 1,2-Dibromo-3-Chloropropane	155	10.658	10.658	(1.102)	22324	100.000	94.55
	57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	160121	100.000	97.99
	88 1,2-Dichlorobenzene	146	9.999	9.999	(1.034)	365350	100.000	94.09

Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\X103109.D Page 2
Report Date: 19-Nov-2019 17:39

	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)	208488	100.000	98.70
42	1,2-Dichloropropane	63	5.443	5.436	(1.095)	119732	100.000	94.34
75	1,3,5-Trimethylbenzene	105	9.067	9.075	(0.938)	654000	100.000	100.69
83	1,3-Dichlorobenzene	146	9.612	9.612	(0.994)	410642	100.000	96.27
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	219024	100.000	96.61
84	1,4-Dichlorobenzene	146	9.683	9.684	(1.001)	412514	100.000	95.85
26	2,2-Dichloropropane	77	3.516	3.516	(0.841)	240644	100.000	94.74
24	2-Butanone	43	3.573	3.573	(0.854)	85336	200.000	200.61(AM)
76	2-Chlorotoluene	91	8.974	8.982	(0.928)	502345	100.000	99.89
52	2-Hexanone	43	7.090	7.090	(0.924)	128736	200.000	181.81
77	4-Chlorotoluene	91	9.075	9.075	(0.939)	587034	100.000	98.96
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	698133	100.000	100.37
45	4-Methyl-2-Pentanone	43	6.324	6.331	(0.824)	183868	200.000	183.63
10	Acetone	43	1.976	1.976	(0.473)	85856	200.000	199.28(M)
37	Benzene	78	4.512	4.512	(0.908)	554628	100.000	99.75
74	Bromobenzene	156	8.810	8.810	(0.911)	251457	100.000	97.63
29	Bromochloromethane	128	3.795	3.795	(0.908)	103904	100.000	95.40
39	Bromodichloromethane	83	5.729	5.730	(1.153)	212615	100.000	103.07
66	Bromoform	173	8.416	8.416	(1.097)	156487	100.000	99.77
6	Bromomethane	94	1.331	1.331	(0.318)	153089	100.000	97.76
19	Carbon Disulfide	76	2.069	2.069	(0.495)	802077	200.000	206.16(A)
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	256566	100.000	100.89(M)
59	Chlorobenzene	112	7.699	7.699	(1.004)	467223	100.000	98.63
7	Chloroethane	64	1.396	1.396	(0.334)	82836	100.000	98.96(M)
28	Chloroform	83	3.910	3.910	(0.935)	278502	100.000	99.64
3	Chloromethane	50	1.073	1.074	(0.257)	143471	100.000	102.91
27	cis-1,2-Dichloroethene	96	3.530	3.523	(0.844)	173867	100.000	103.07
46	cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	242495	100.000	101.48
55	Dibromochloromethane	129	7.176	7.176	(0.936)	202055	100.000	100.30
44	Dibromomethane	93	5.558	5.558	(1.118)	102350	100.000	101.72
2	Dichlorodifluoromethane	85	0.973	0.966	(0.233)	166586	100.000	98.84
61	Ethylbenzene	106	7.800	7.807	(1.017)	245506	100.000	99.93(M)
91	Hexachlorobutadiene	225	11.488	11.481	(1.188)	105281	100.000	96.46
67	Isopropylbenzene	105	8.566	8.566	(1.117)	752889	100.000	100.80
62	m,p-Xylenes	106	7.907	7.907	(1.031)	590026	200.000	198.12
17	Methylene Chloride	84	2.305	2.306	(0.551)	144719	100.000	98.75
87	n-Butylbenzene	91	9.999	9.999	(1.034)	511584	100.000	103.12
73	n-Propylbenzene	91	8.917	8.917	(0.922)	808567	100.000	101.46
92	Naphthalene	128	11.546	11.546	(1.194)	130449	100.000	98.79
63	o-Xylene	106	8.244	8.244	(1.075)	288145	100.000	98.25
81	sec-Butylbenzene	105	9.526	9.526	(0.985)	730800	100.000	102.88
64	Styrene	104	8.258	8.265	(1.077)	506217	100.000	99.78
78	tert-Butylbenzene	119	9.340	9.340	(0.966)	563883	100.000	100.17
56	Tetrachloroethene	164	6.933	6.933	(0.904)	186113	100.000	101.02
50	Toluene	91	6.446	6.446	(0.840)	655428	100.000	98.77
20	trans-1,2-Dichloroethene	96	2.528	2.528	(0.604)	147422	100.000	103.93
51	trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	226191	100.000	101.39
38	Trichloroethene	130	5.207	5.207	(1.048)	201532	100.000	103.67
8	Trichlorofluoromethane	101	1.561	1.553	(0.373)	294229	100.000	104.40
5	Vinyl Chloride	62	1.138	1.138	(0.272)	138241	100.000	104.37

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.
M - Compound response manually integrated.



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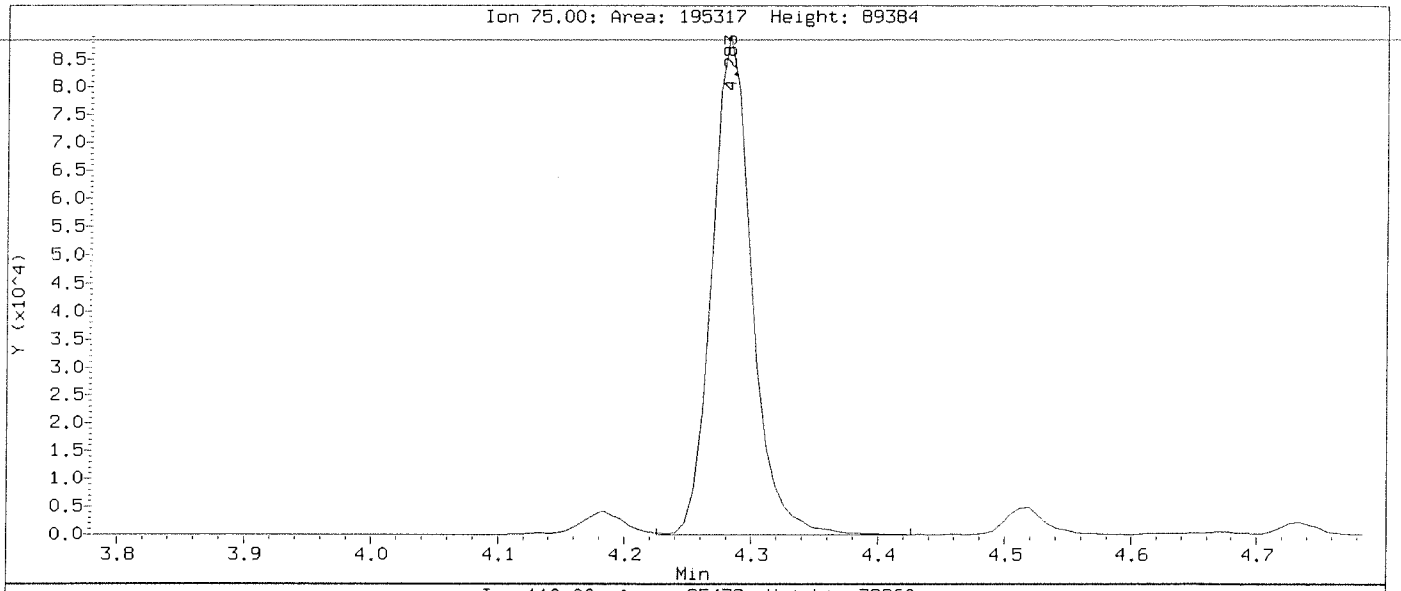
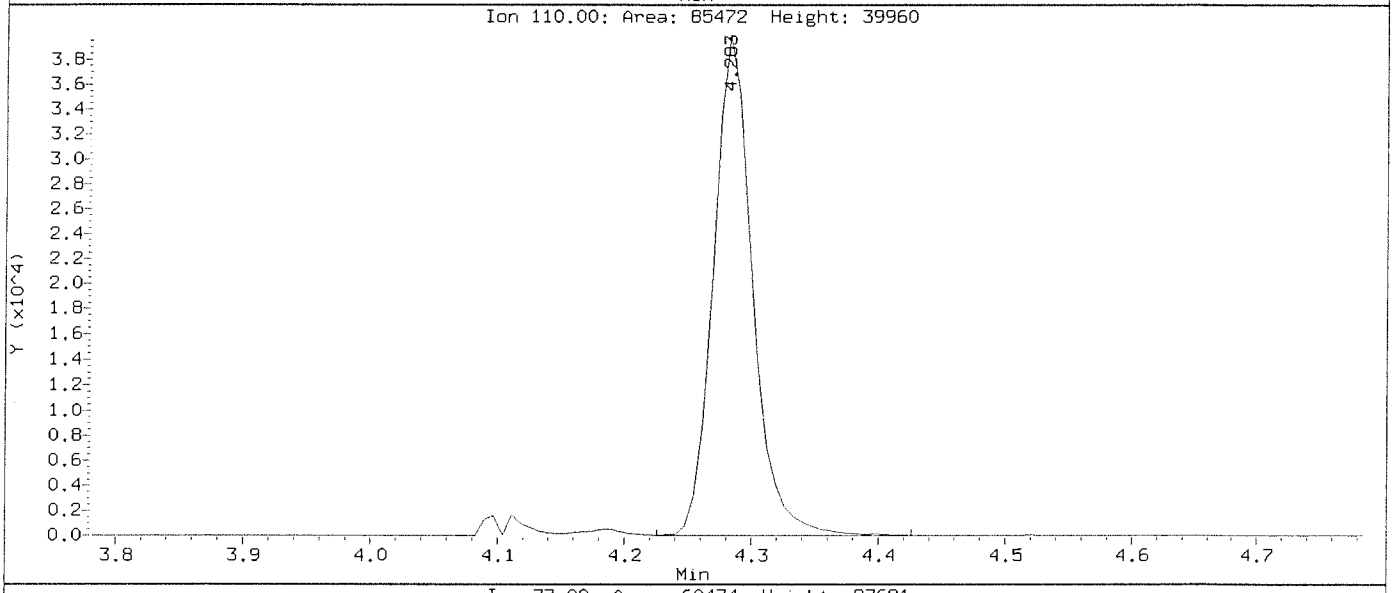
Date : 31-OCT-2019 14:20
Client ID: VSTD100
Sample Info: VSTD100;VSTD100;1;8;
Purge Volume: 5.0
Column phase: DB624

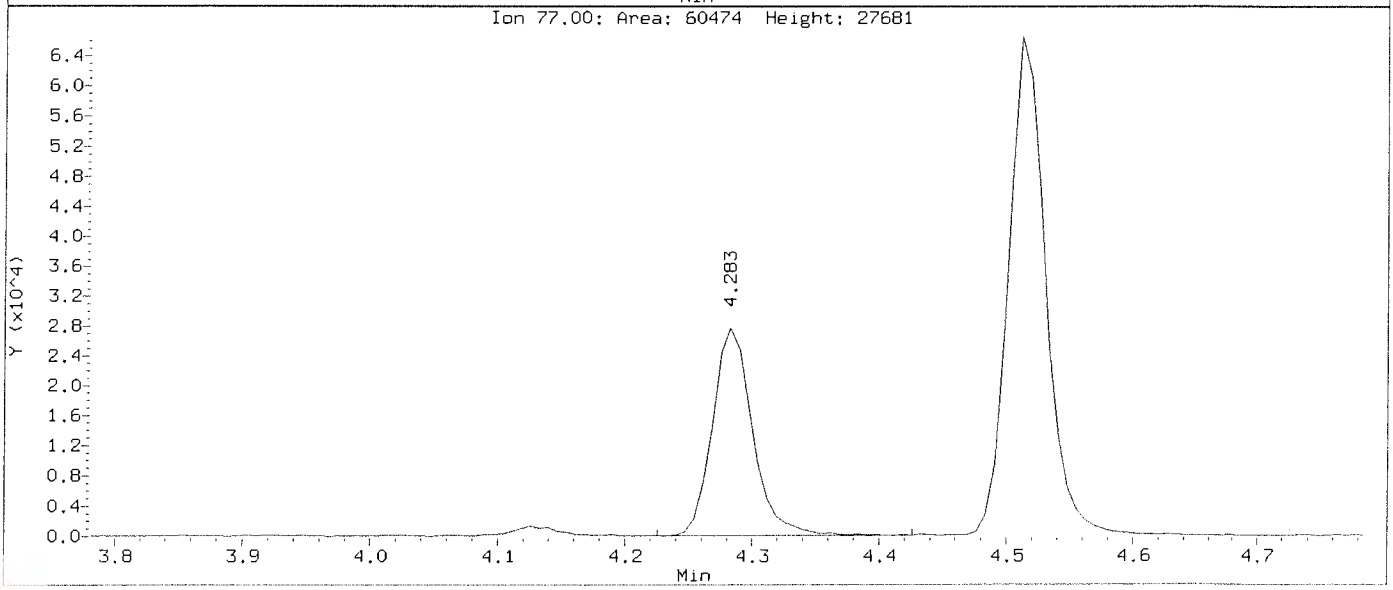
Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\BEFORE2\X103109.D
Injection Date: 31-OCT-2019 14:20
Instrument: voa6.i
Client Sample ID: VSTD100

Compound: 1,1-Dichloropropene
CAS Number: 563-58-6







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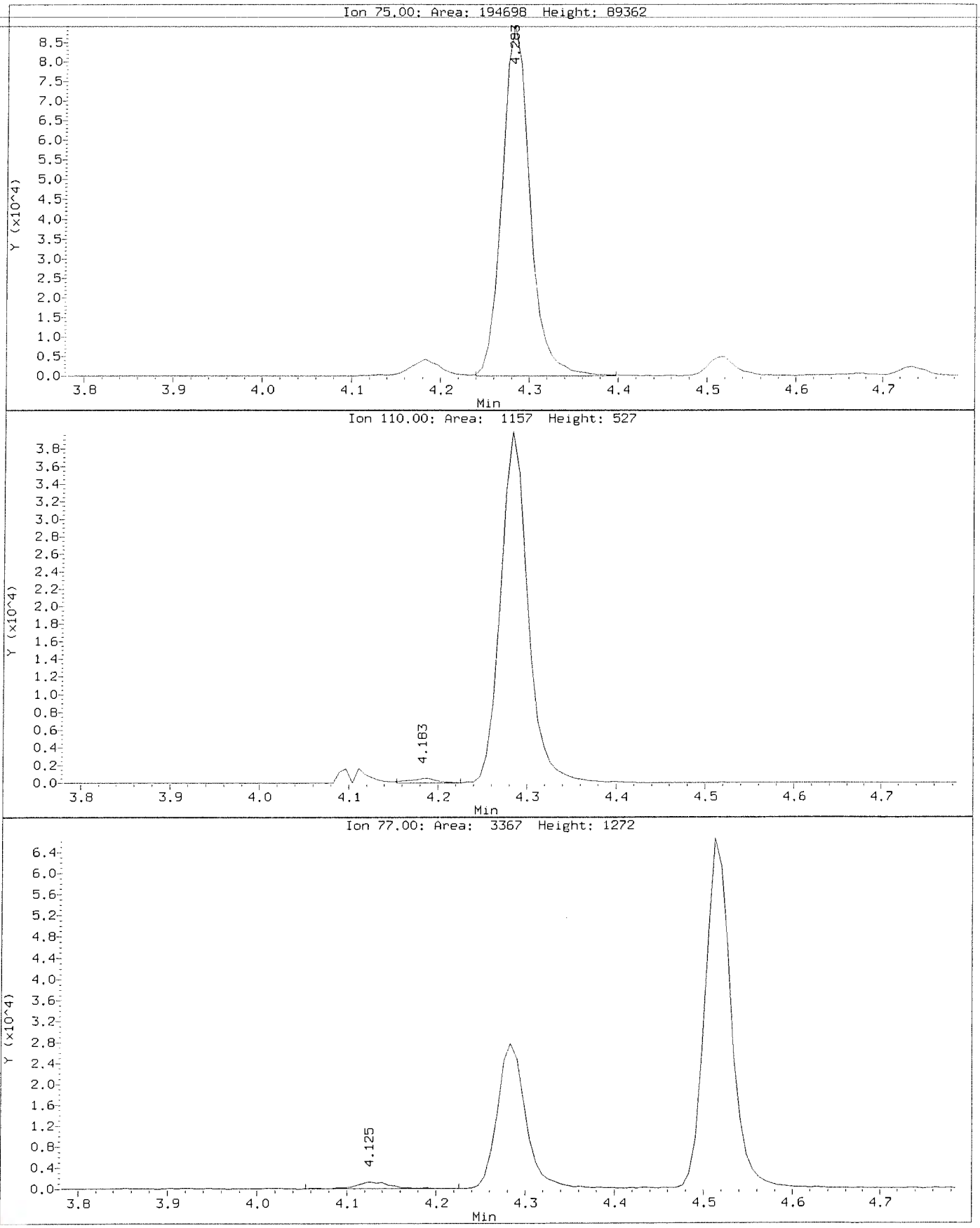
Injection Date: 31-OCT-2019 14:20
Instrument: voa6.i
Client Sample ID: VSTD100

Compound: 1,1-Dichloropropene
CAS Number: 563-58-6



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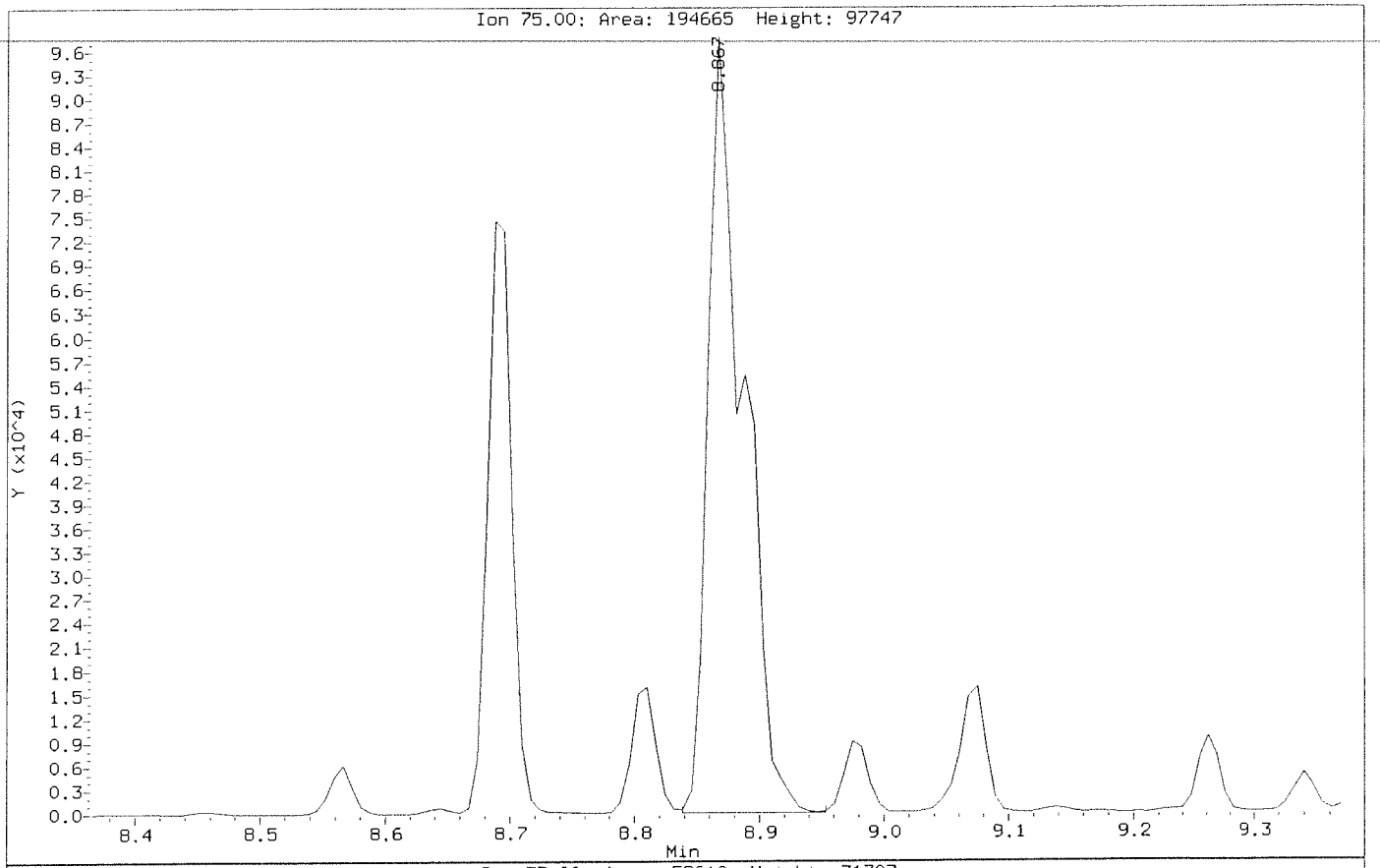
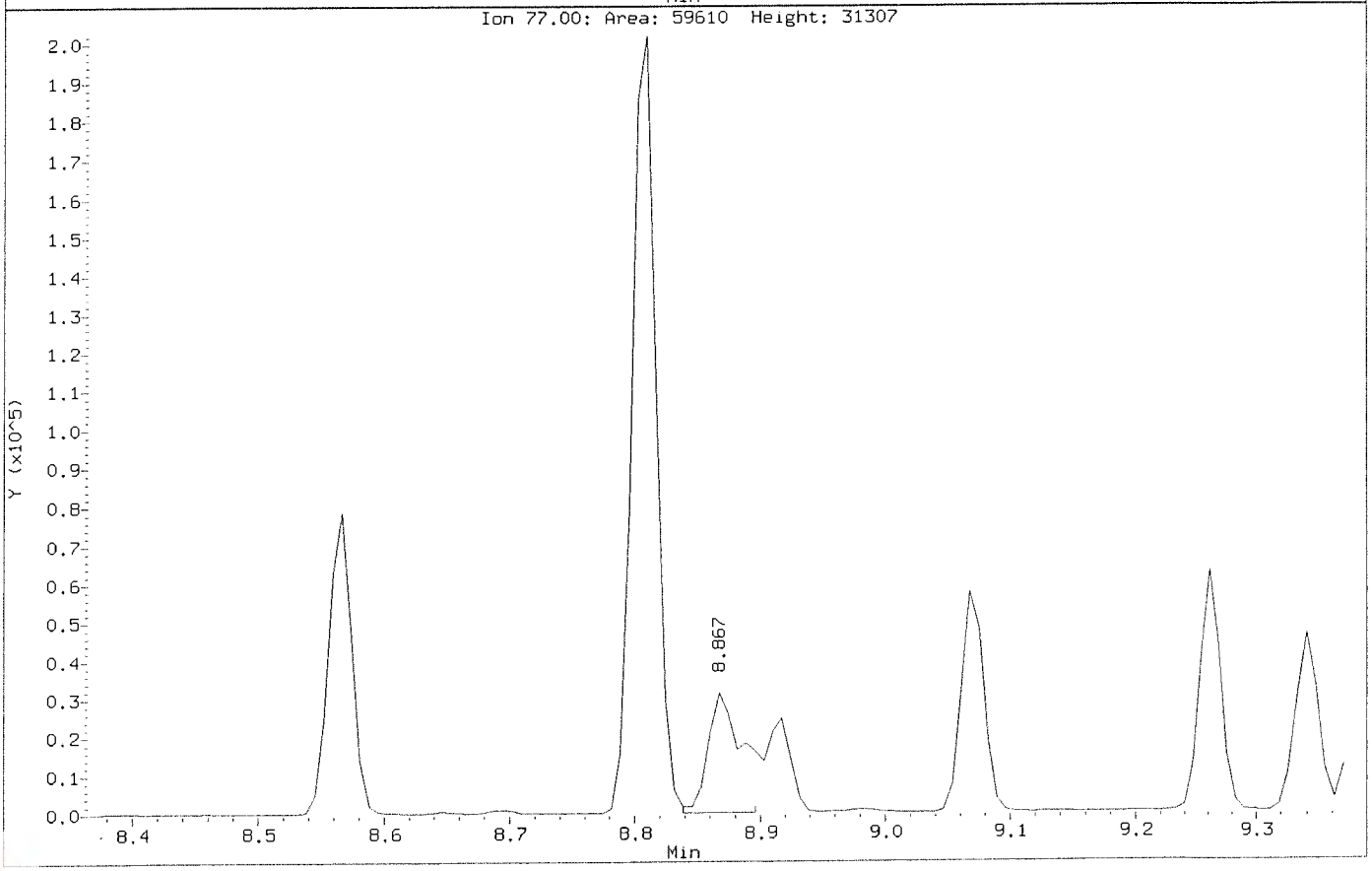
Injection Date: 31-OCT-2019 14:20
Instrument: voa6.i
Client Sample ID: VSTD100

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





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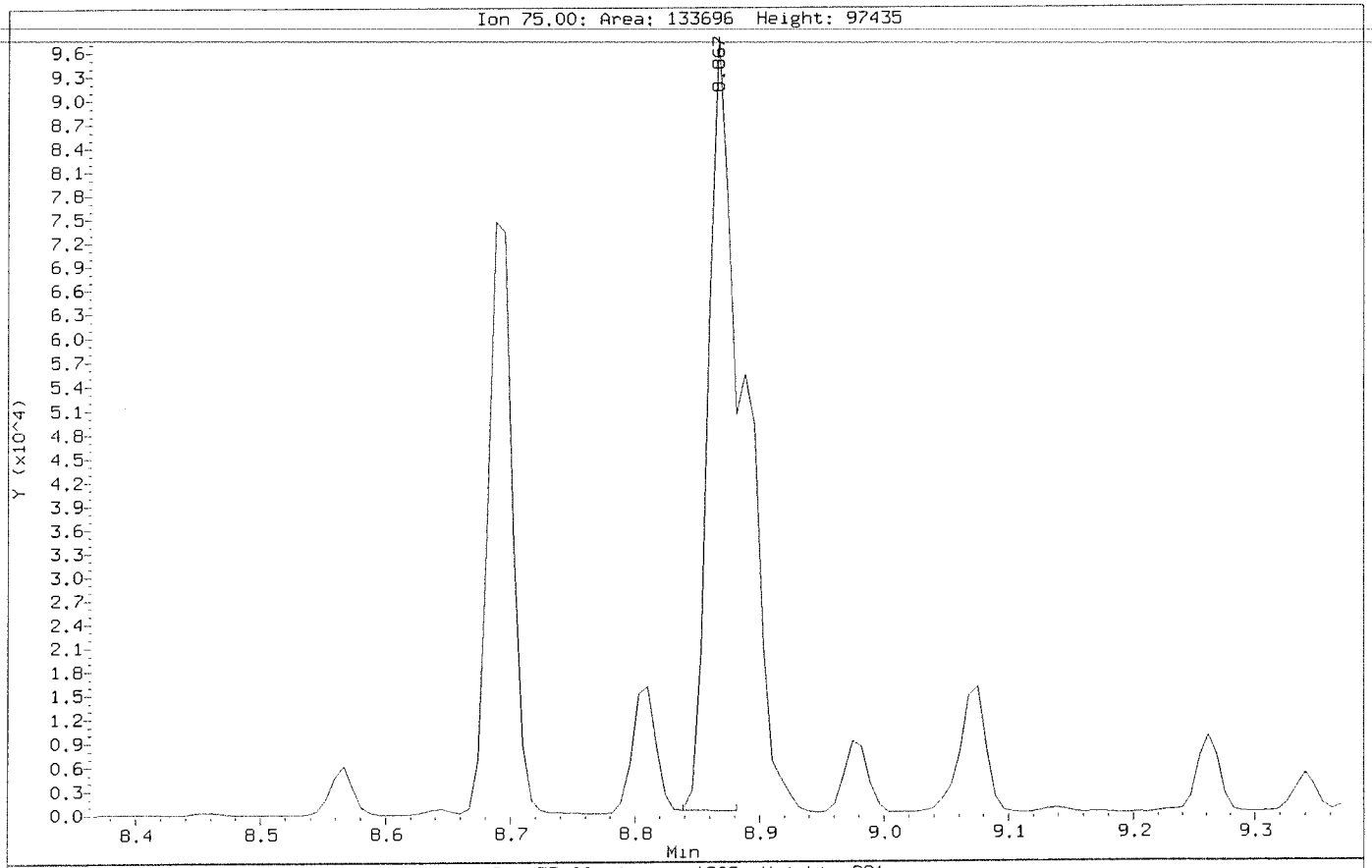
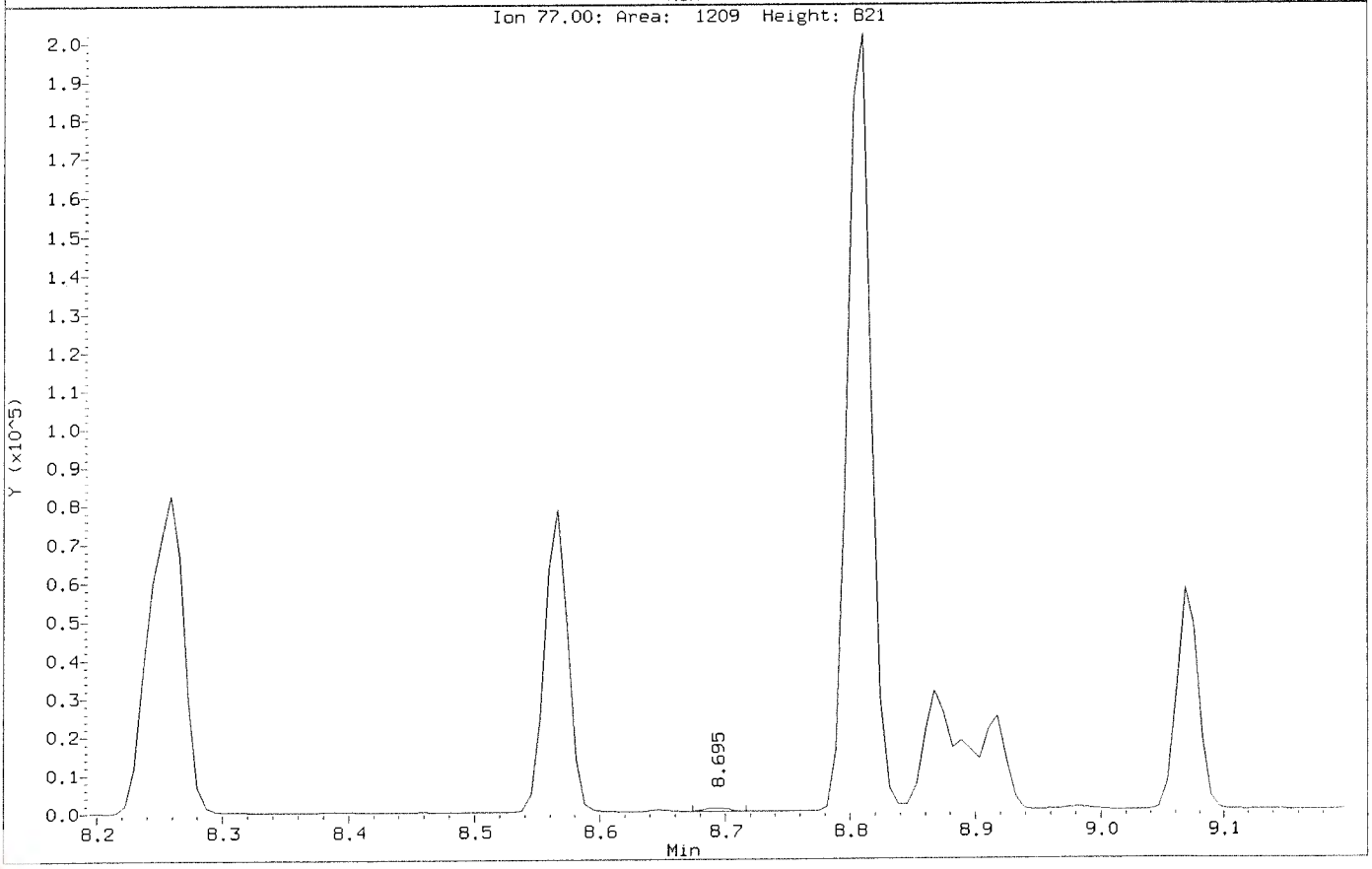
Injection Date: 31-OCT-2019 14:20
Instrument: voa6.i
Client Sample ID: VSTD100

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





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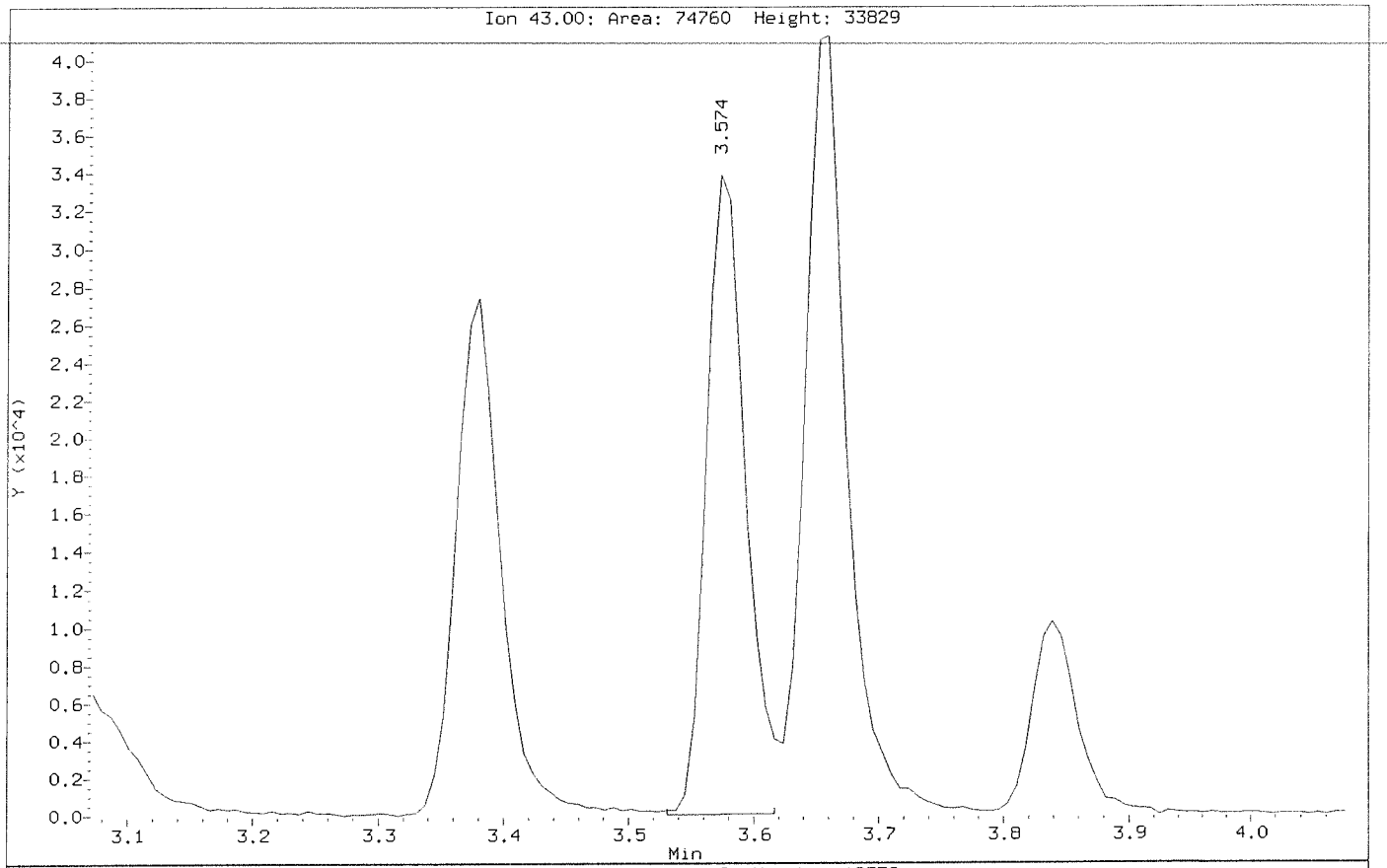
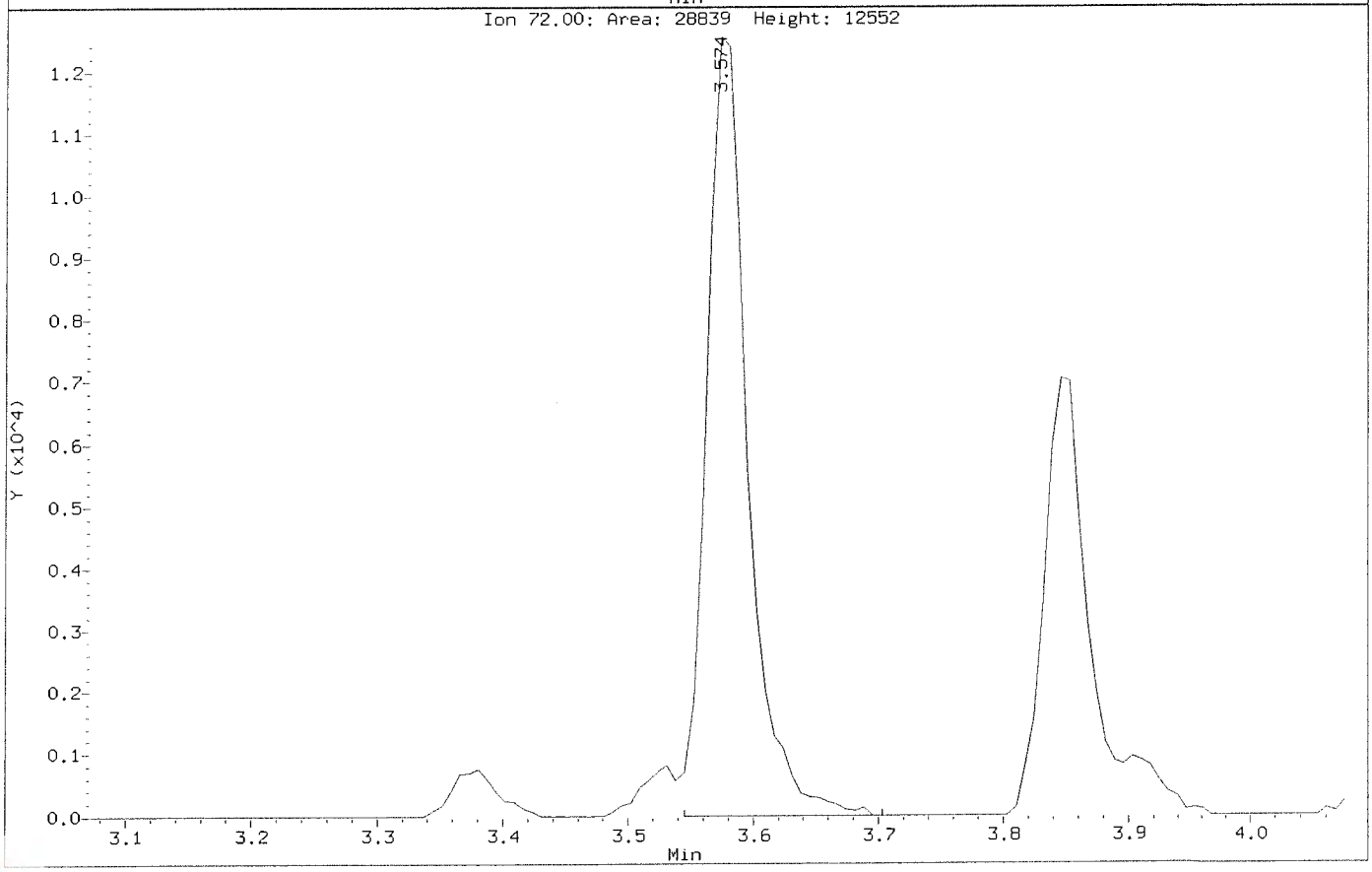
Injection Date: 31-OCT-2019 14:20
Instrument: voa6.i
Client Sample ID: VSTD100

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





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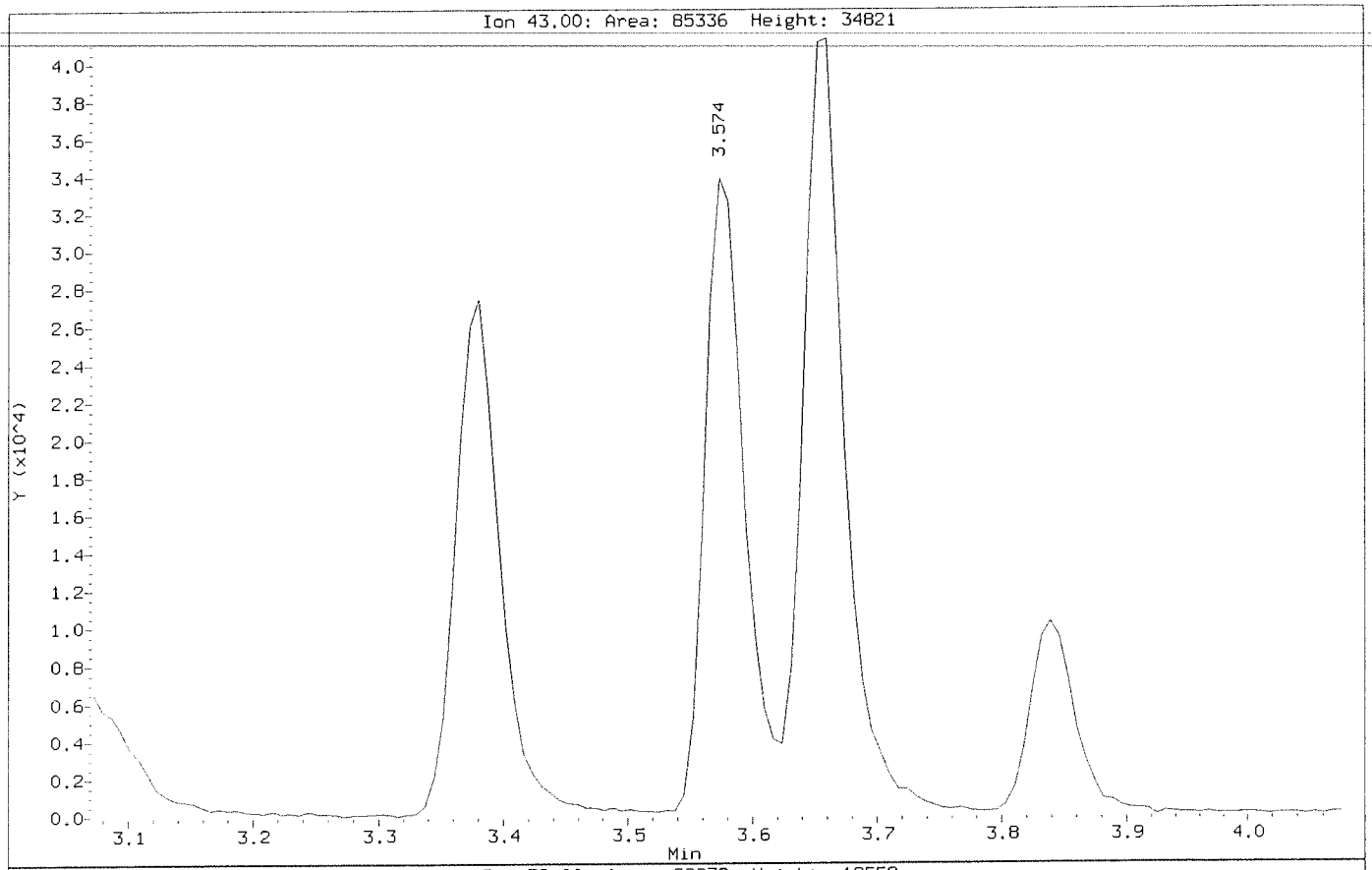
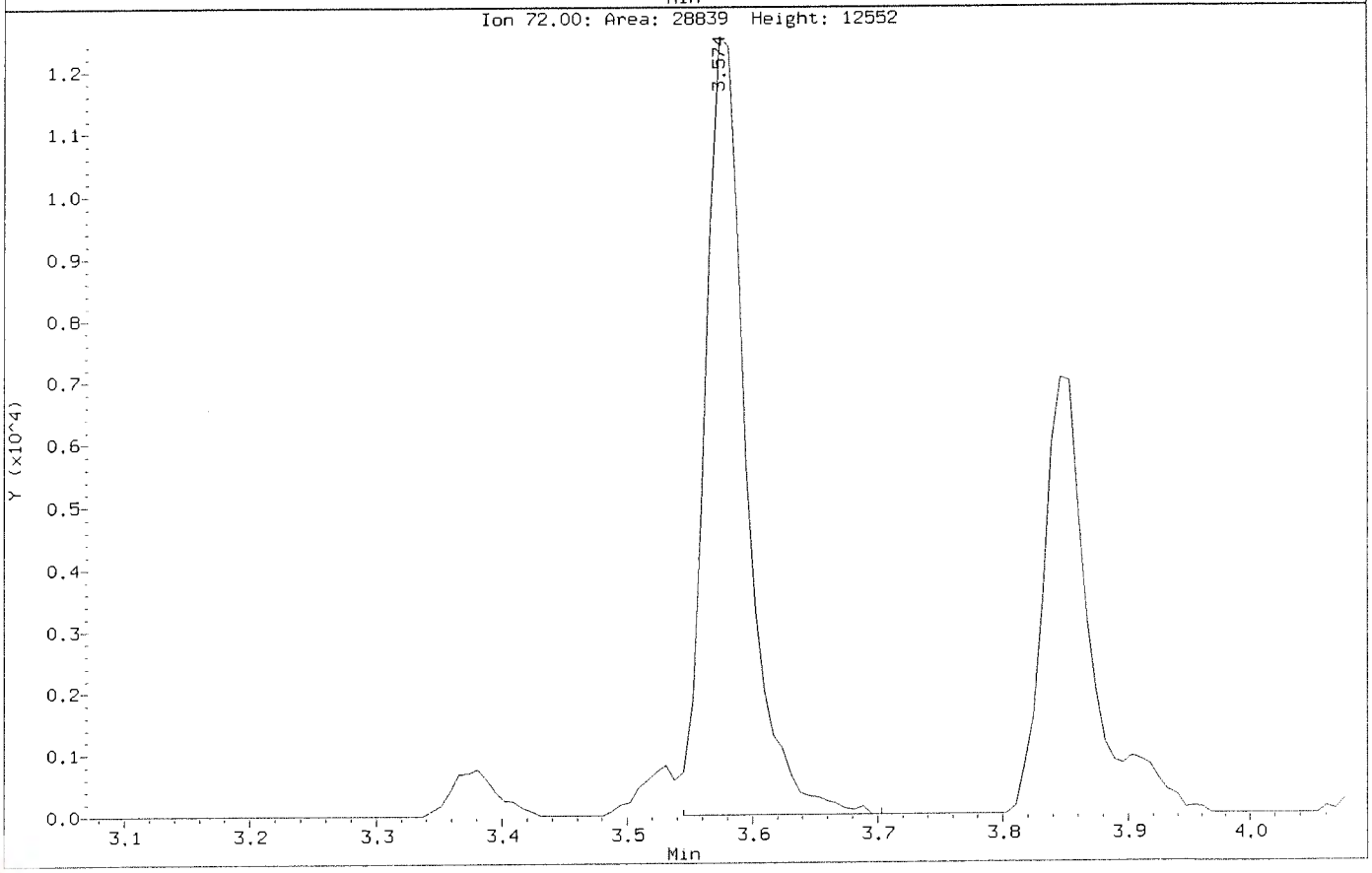
Injection Date: 31-OCT-2019 14:20
Instrument: voa6.i
Client Sample ID: VSTD100

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





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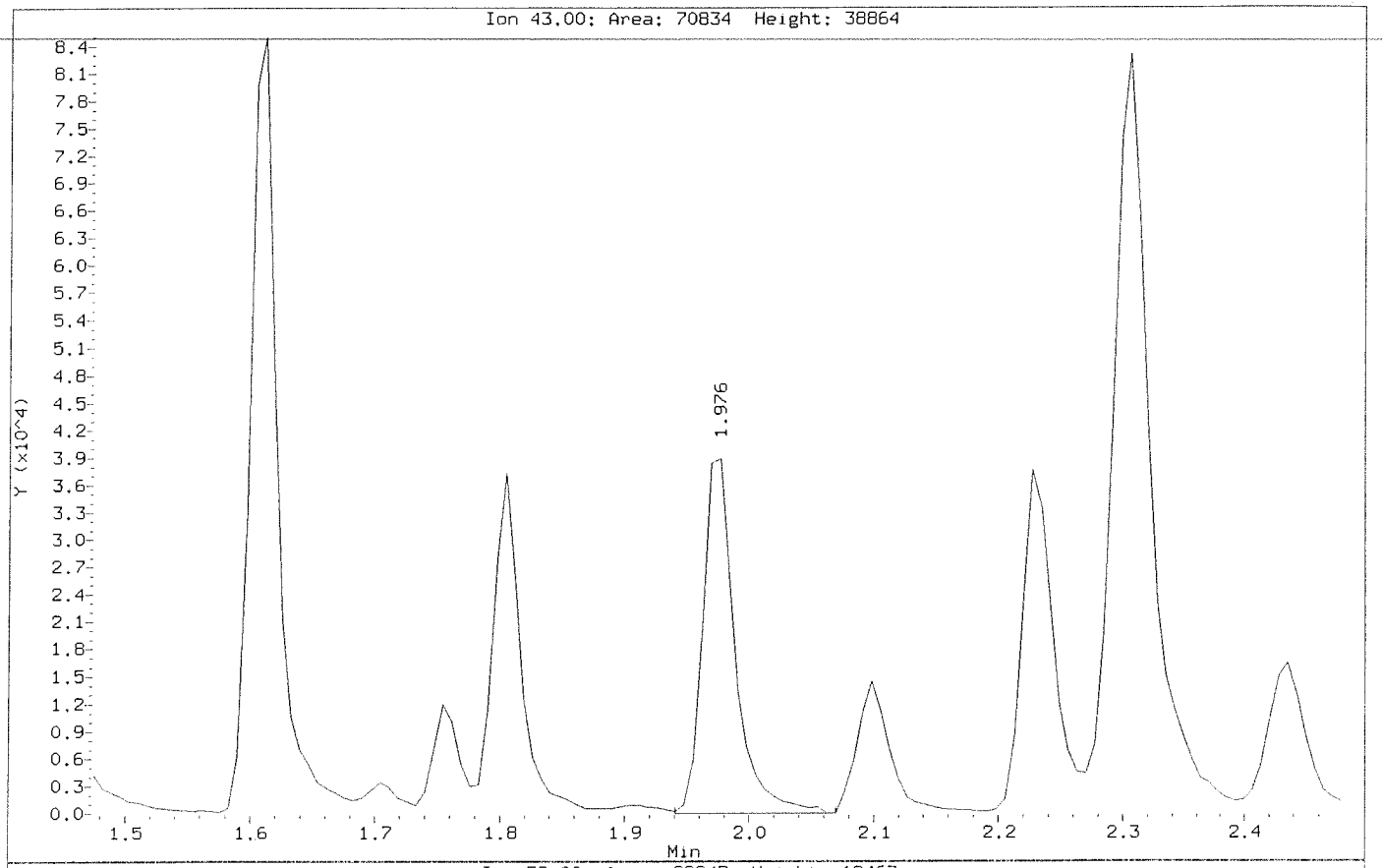
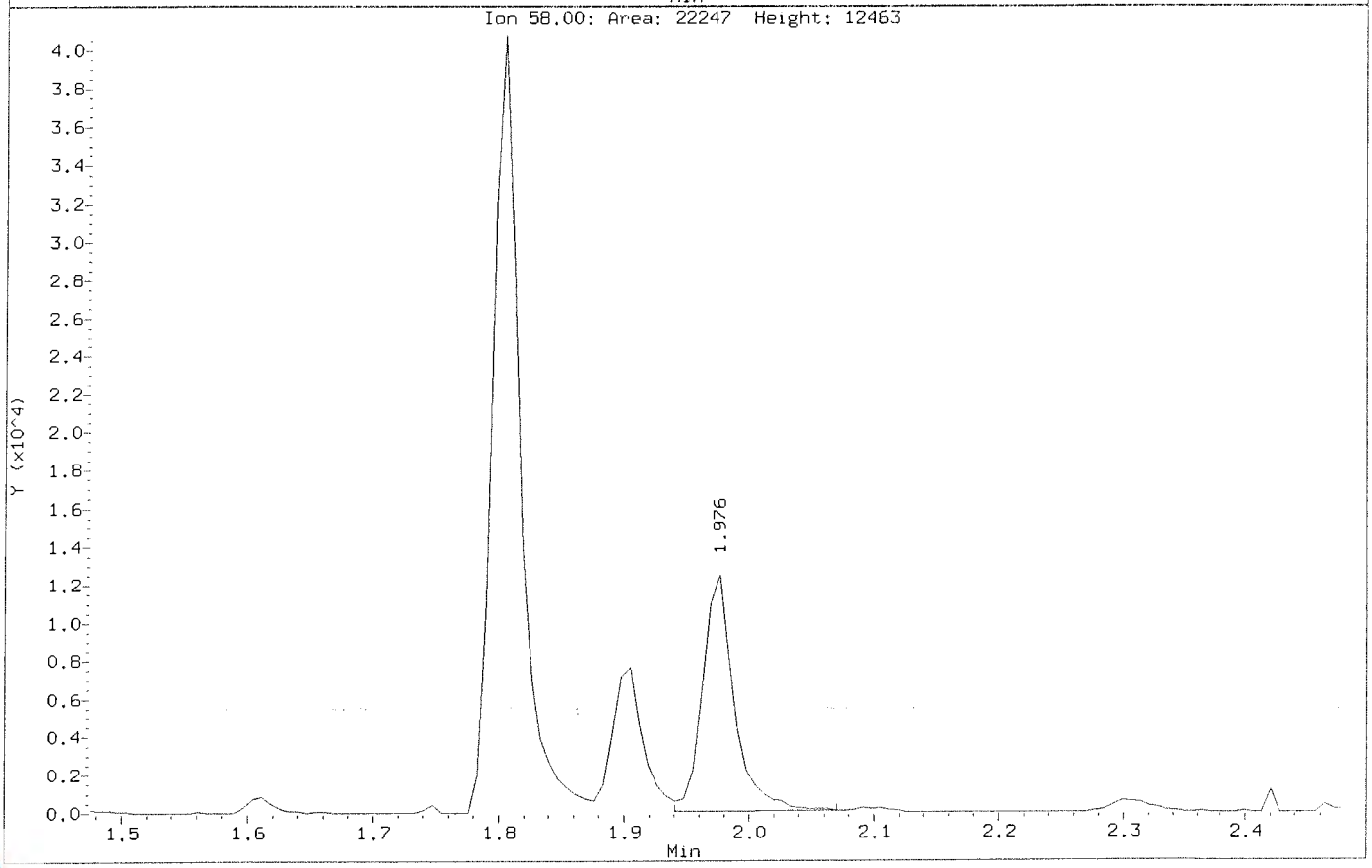
Injection Date: 31-OCT-2019 14:20
Instrument: voa6.i
Client Sample ID: VSTD100

Compound: Acetone
CAS Number: 67-64-1





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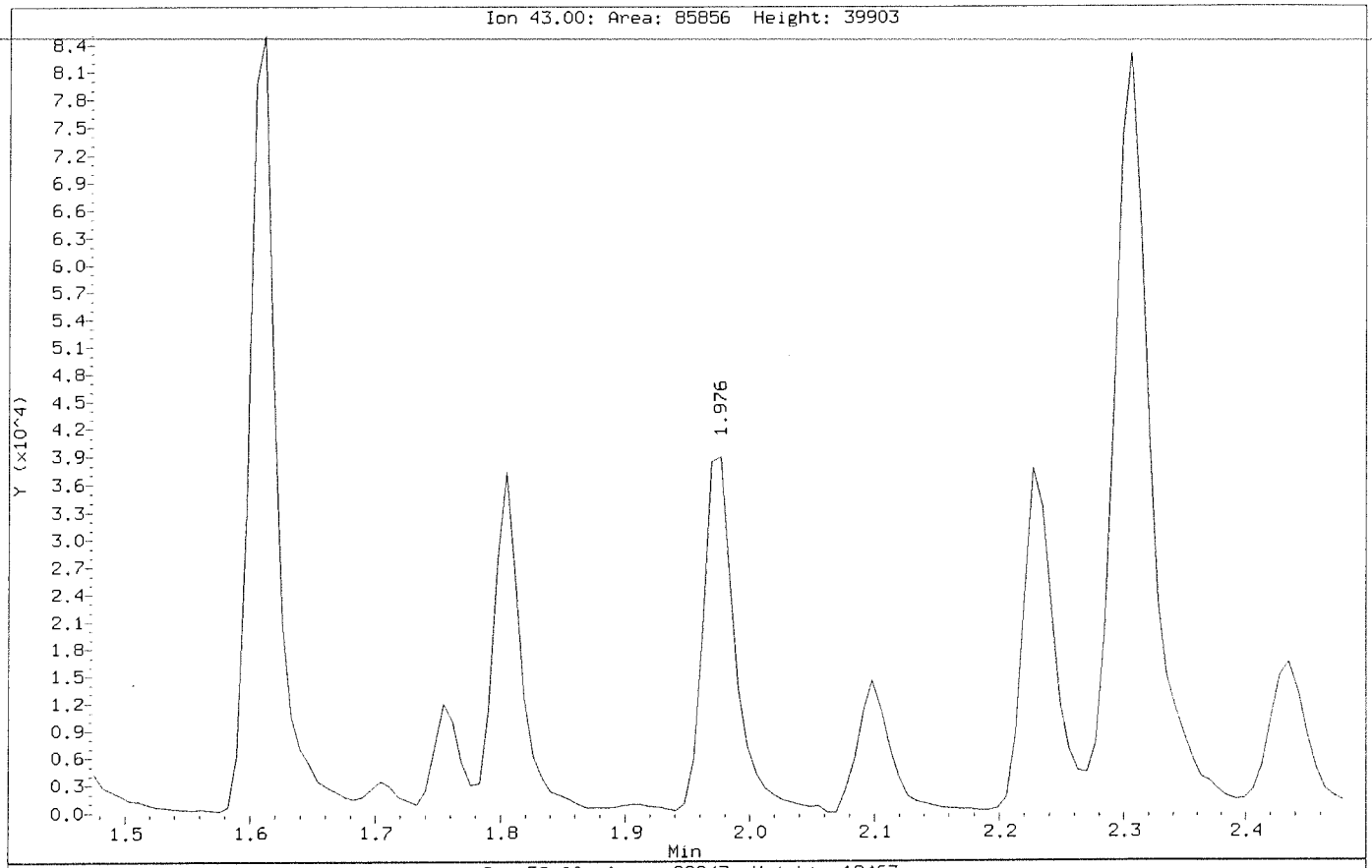
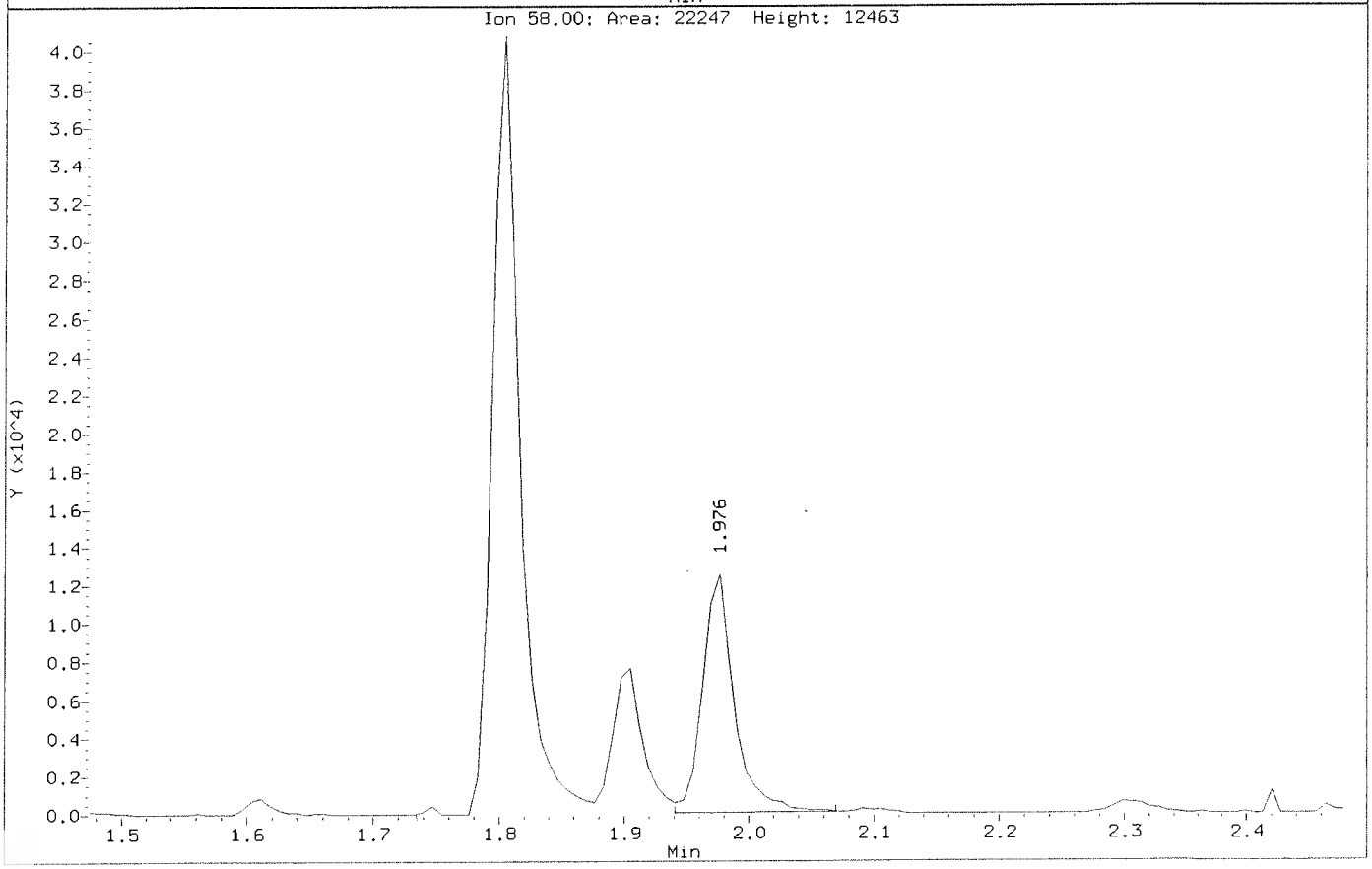
Instrument: voa6.i
Client Sample ID: VSTD100

Compound: Acetone
CAS Number: 67-64-1





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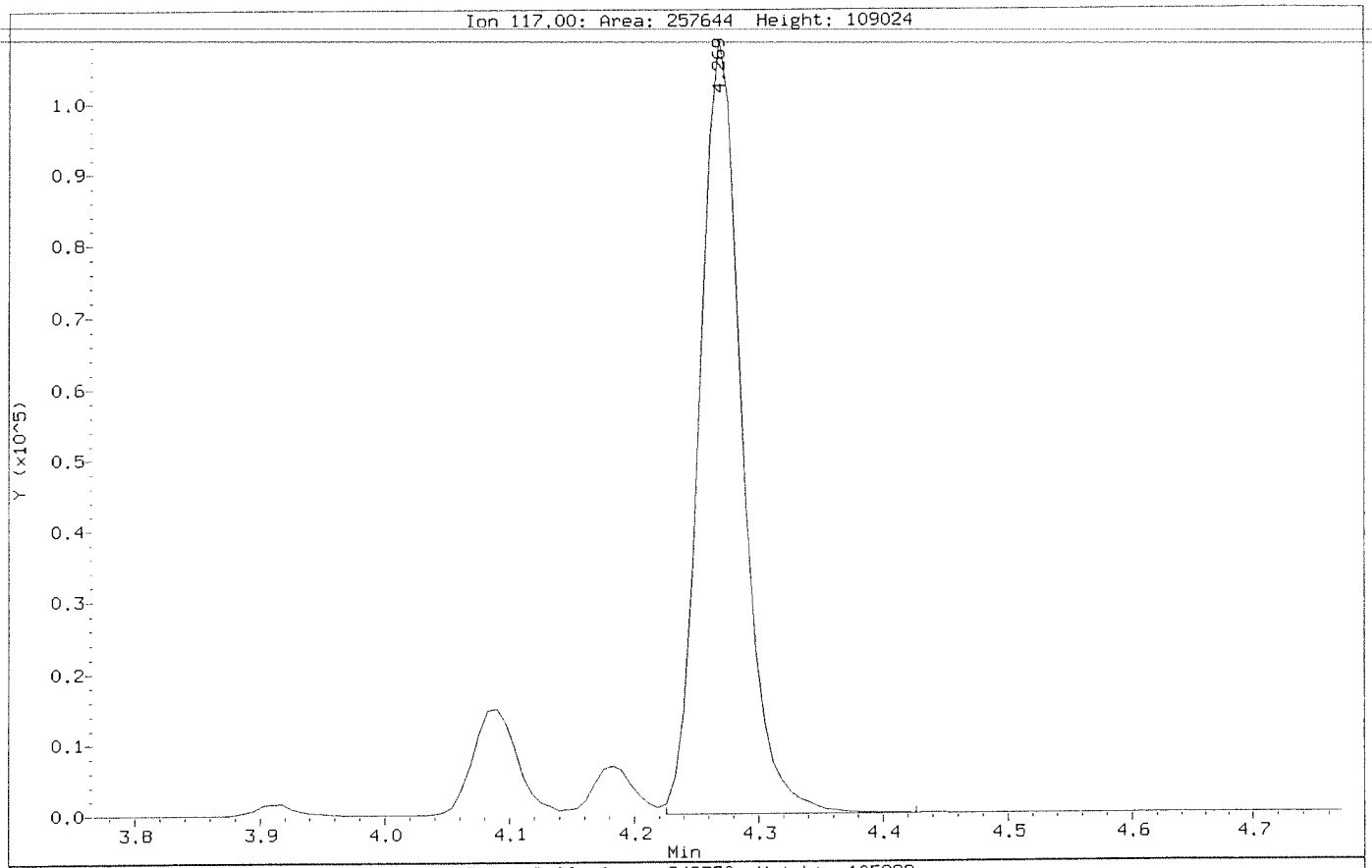
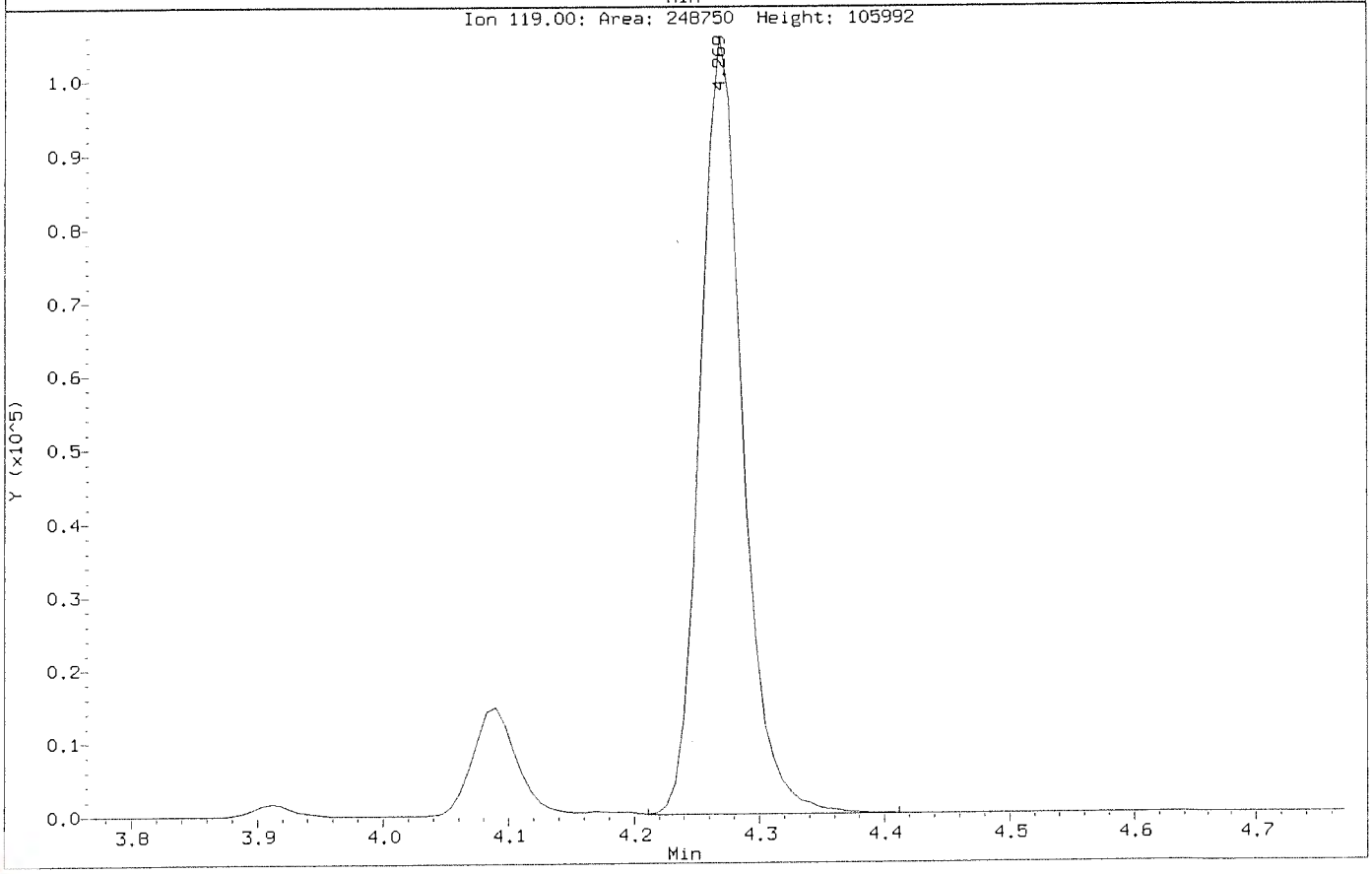
Injection Date: 31-OCT-2019 14:20
Instrument: voa6.i
Client Sample ID: VSTD100

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





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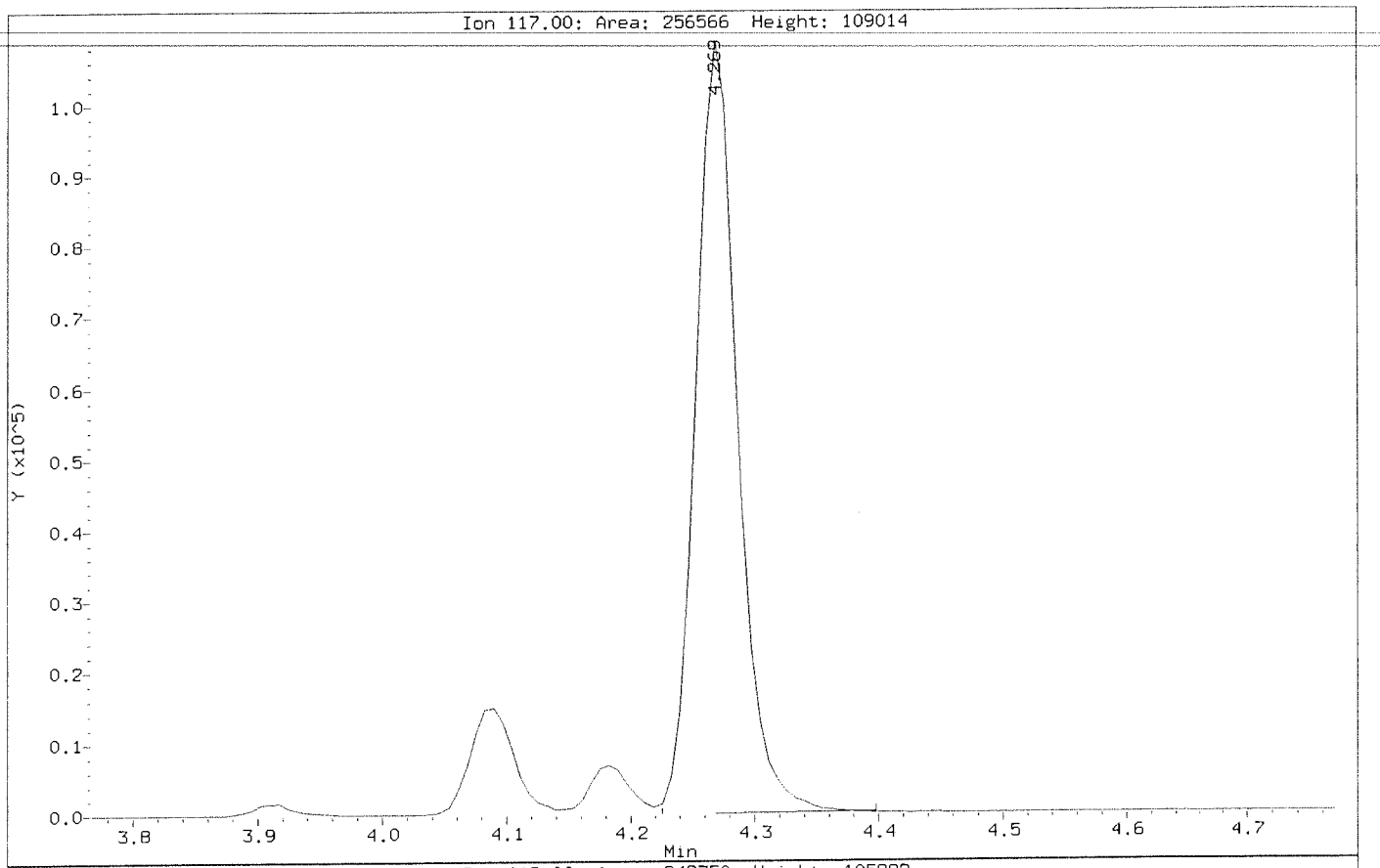
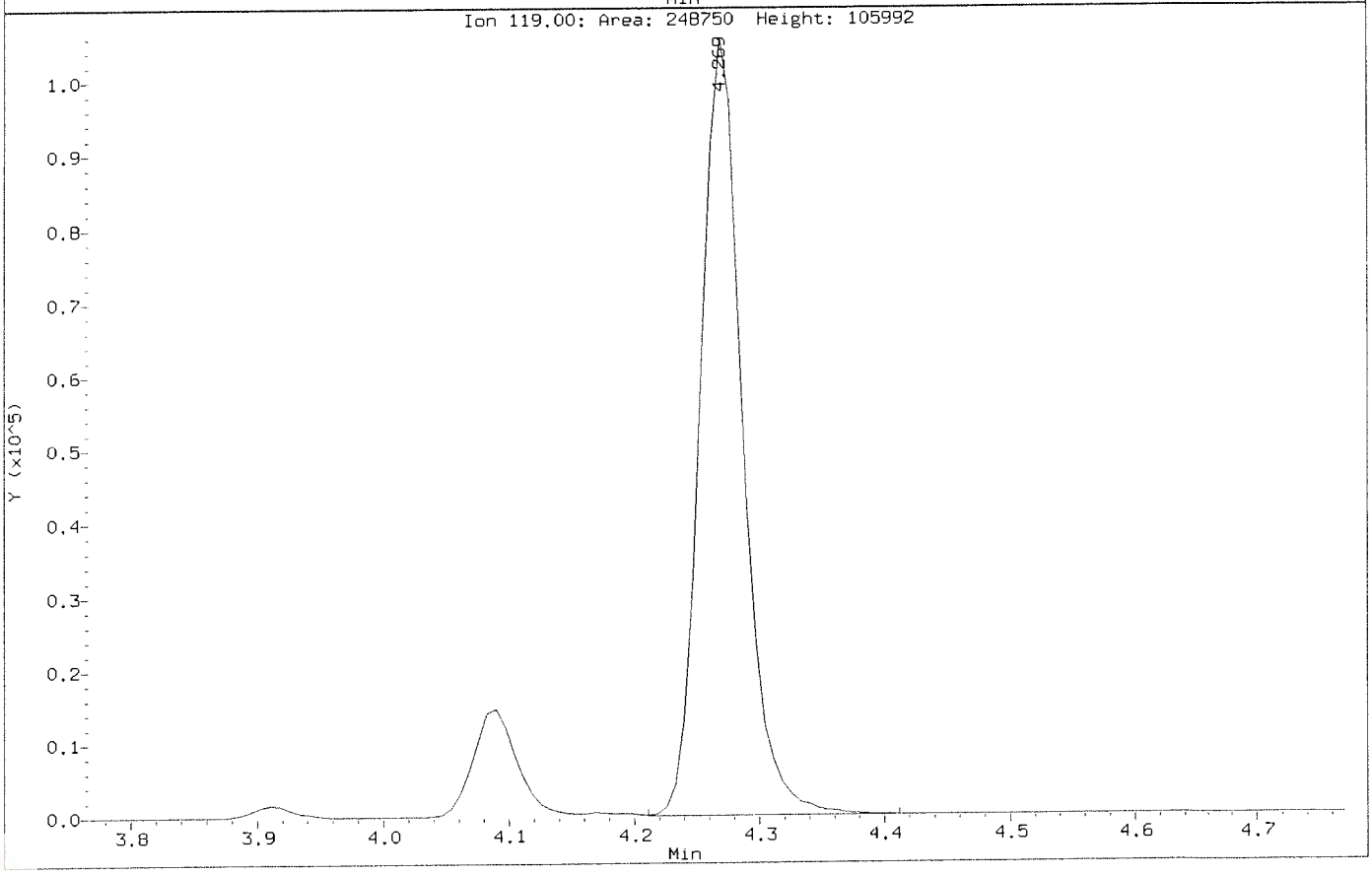
Client Sample ID: VSTD100

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





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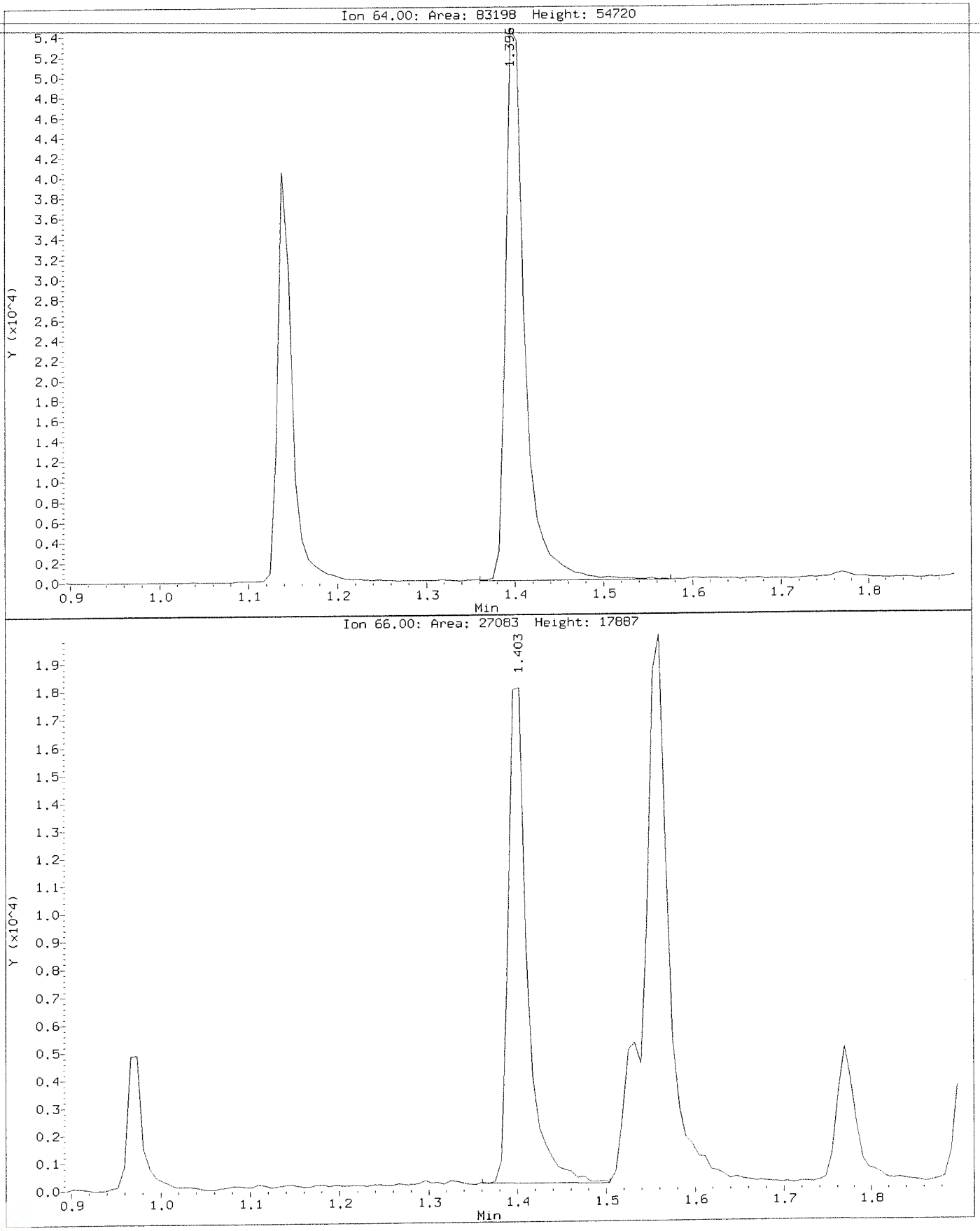
Instrument: voa6.i
Client Sample ID: VSTD100

Compound: Chloroethane
CAS Number: 75-00-3



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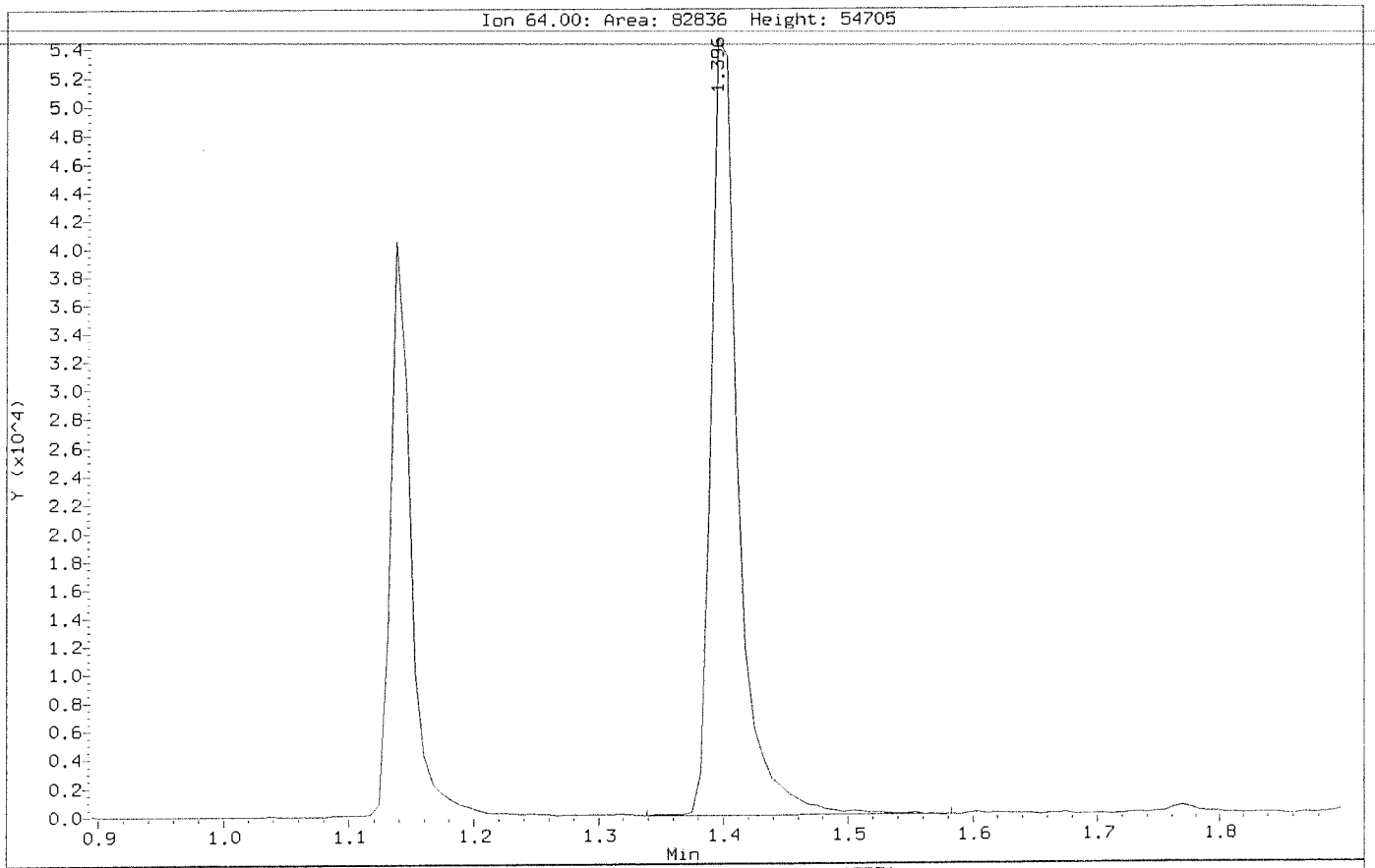
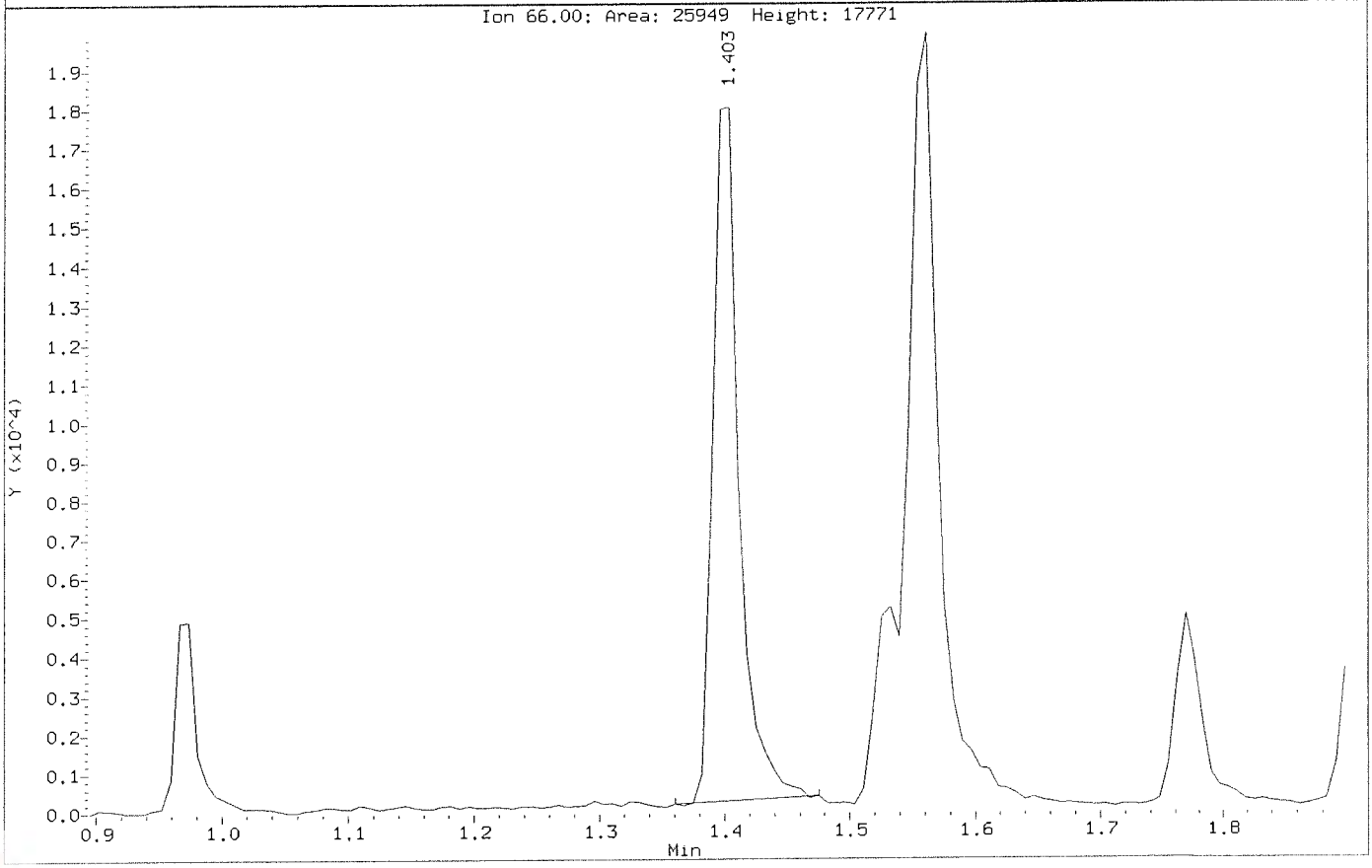
Instrument: voa6.i
Client Sample ID: VSTD100

Compound: Chloroethane
CAS Number: 75-00-3





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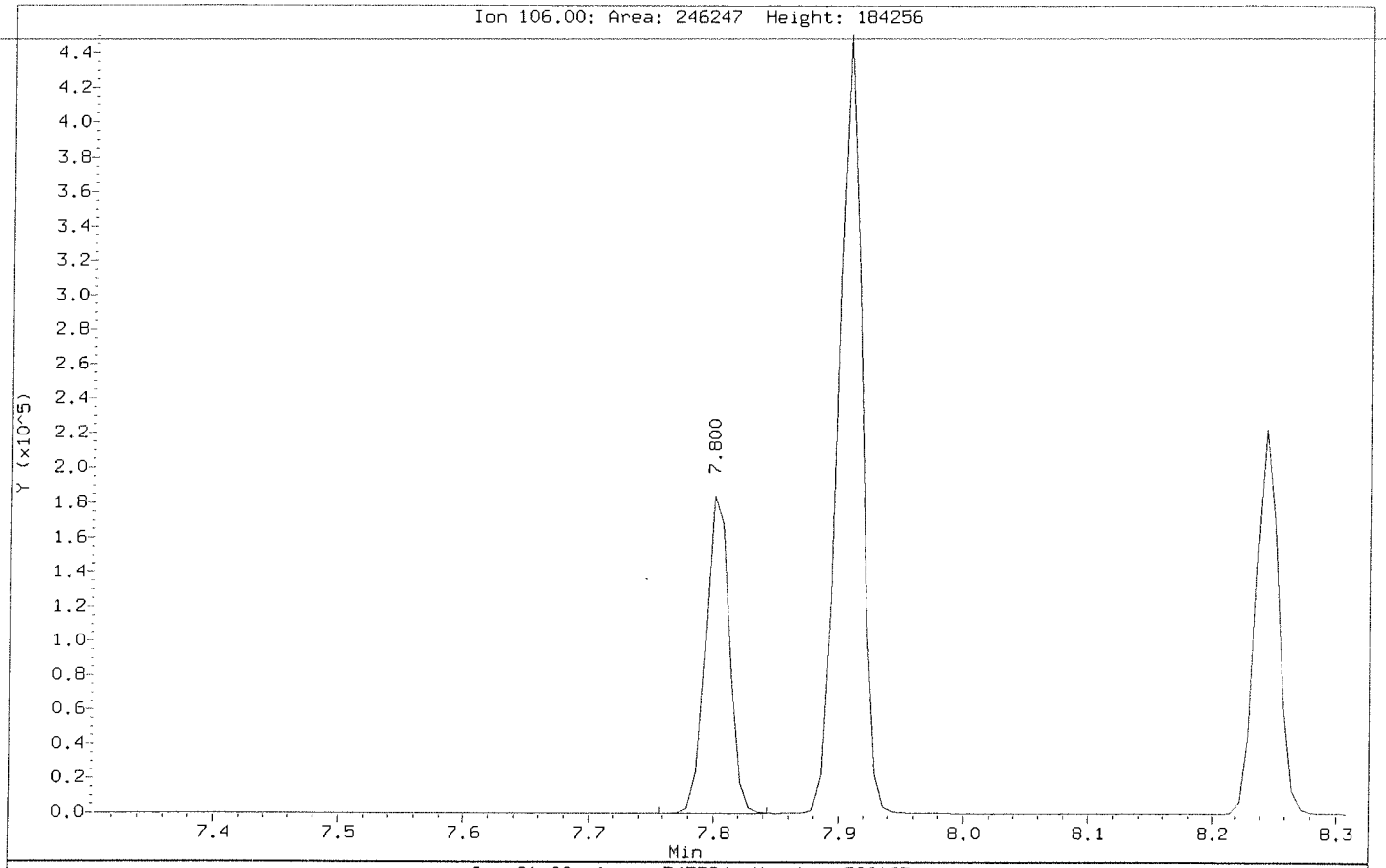
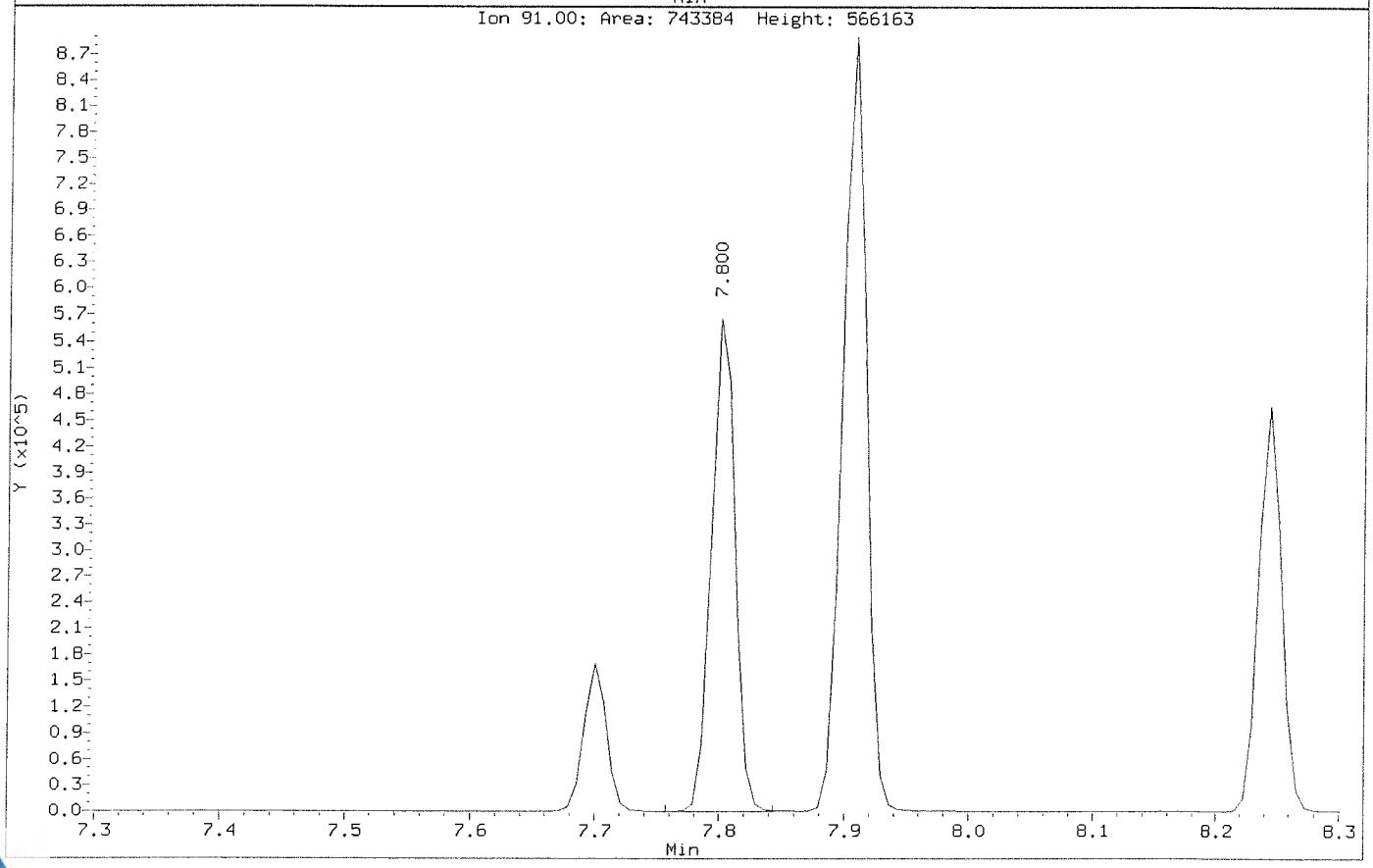
Injection Date: 31-OCT-2019 14:20
Instrument: voa6.i
Client Sample ID: VSTD100

Compound: Ethylbenzene
CAS Number: 100-41-4





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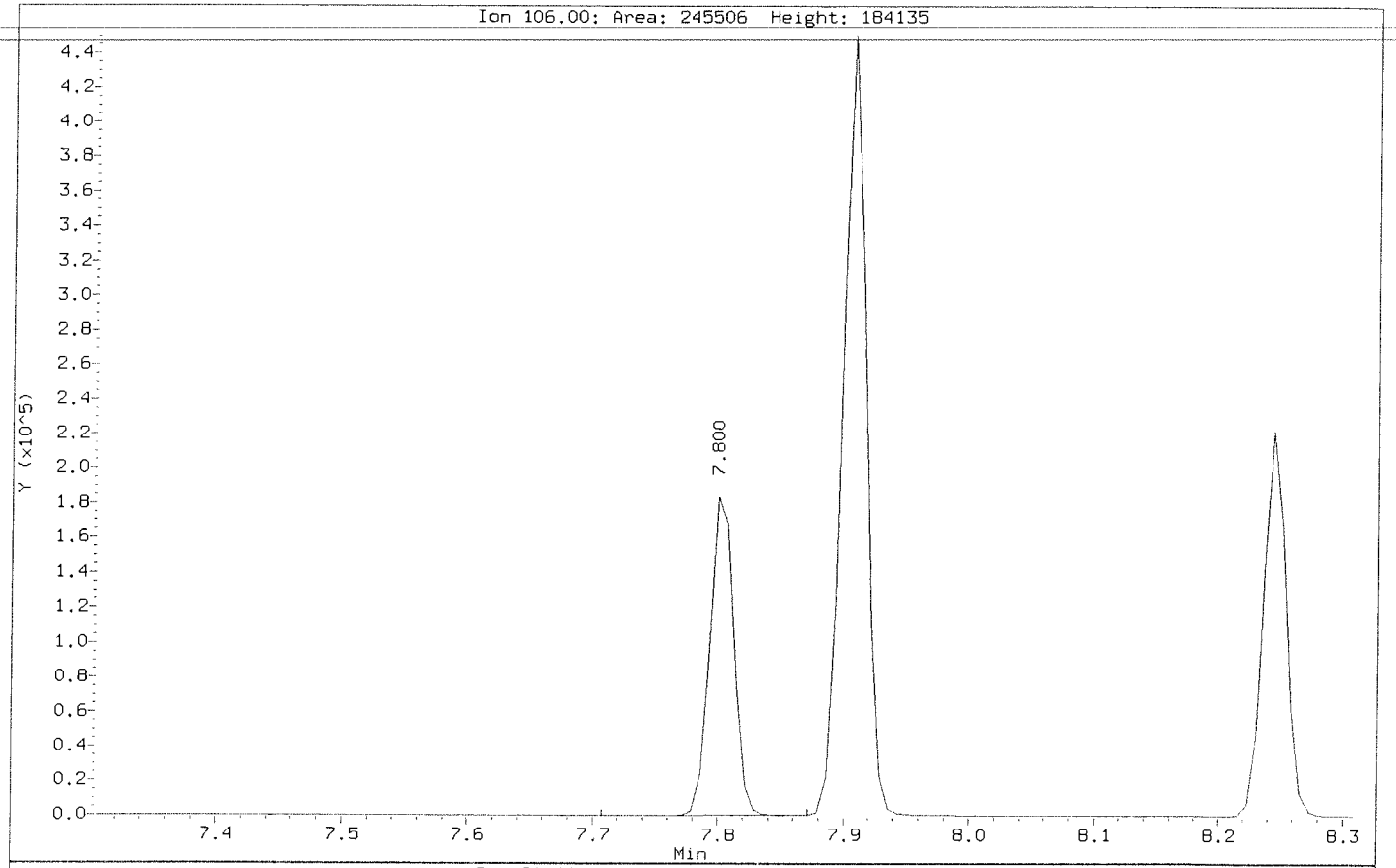
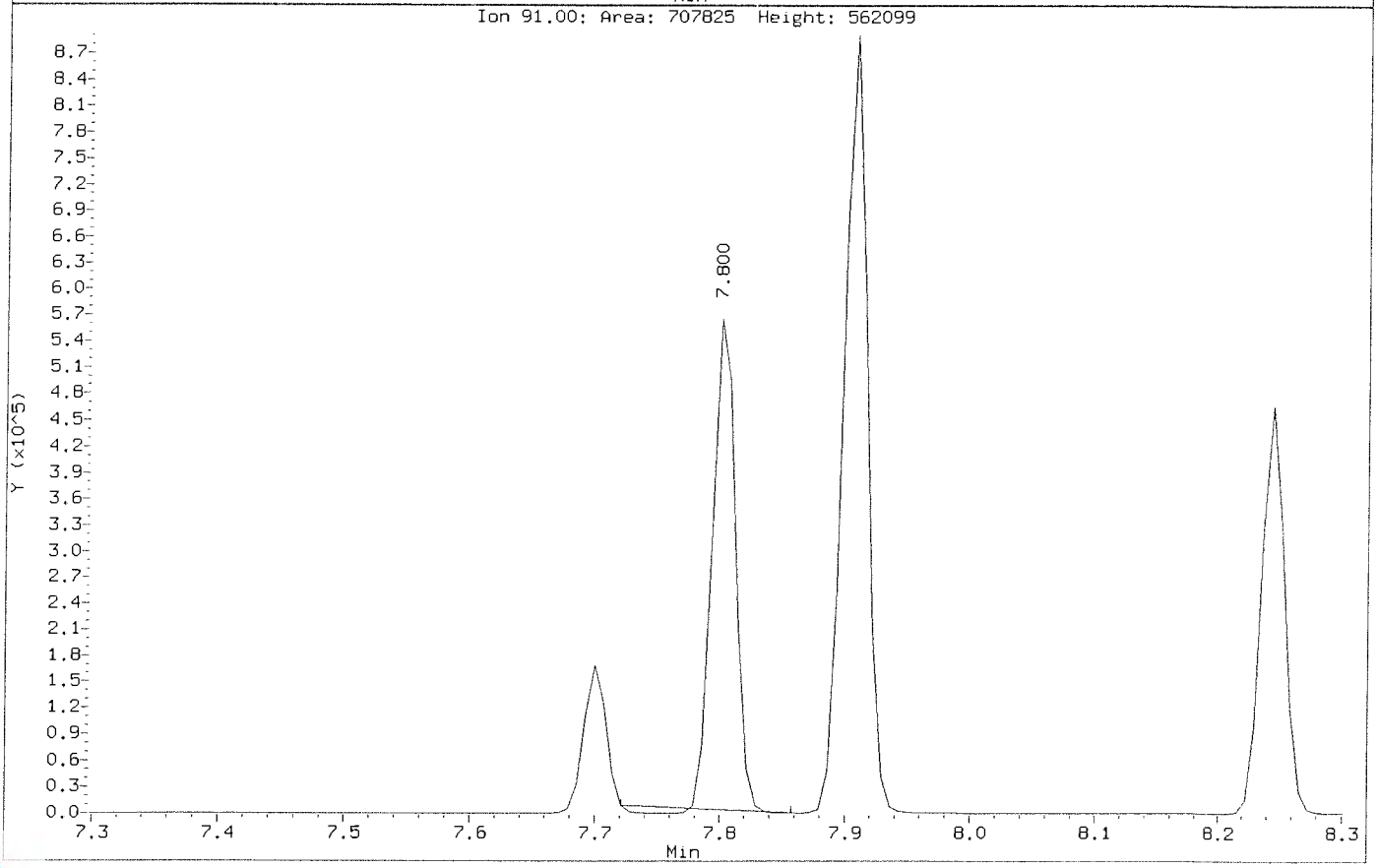
Injection Date: 31-OCT-2019 14:20
Instrument: voa6.i
Client Sample ID: VSTD100

Compound: Ethylbenzene
CAS Number: 100-41-4





Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\X103110.D Page 1
Report Date: 19-Nov-2019 17:39

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X191031.b\X103110.D
Lab Smp Id: VSTD150 Client Smp ID: VSTD150
Inj Date : 31-OCT-2019 14:44
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\X191031.b\8260W.m
Meth Date : 19-Nov-2019 17:37 voa6.i Quant Type: ISTD
Cal Date : 31-OCT-2019 14:44 Cal File: X103110.D
Als bottle: 11 Calibration Sample, Level: 9
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

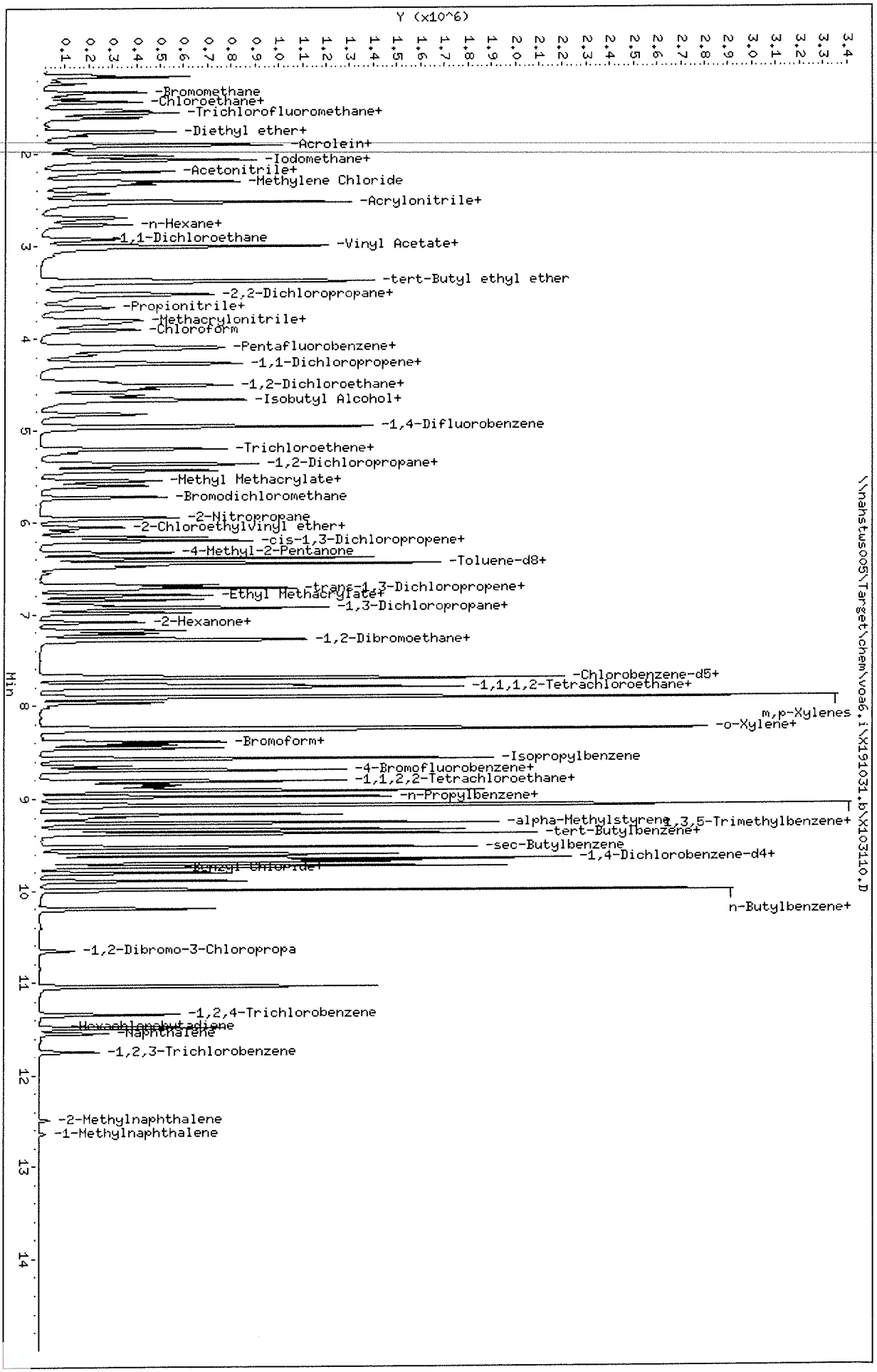
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	201465	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	245662	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	233239	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	132452	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	255632	150.000	149.32
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	330489	150.000	152.02
$ 30 Dibromofluoromethane	113	4.103	4.104	(0.981)	240546	150.000	148.84
$ 48 Toluene-d8	98	6.388	6.389	(0.833)	834607	150.000	144.02
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	277128	150.000	145.86
31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	392034	150.000	155.27
68 1,1,2,2-Tetrachloroethane	83	8.845	8.845	(0.915)	215145	150.000	150.18
138 Freon TF	101	1.911	1.912	(0.457)	208229	150.000	156.22
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	155359	150.000	146.58
22 1,1-Dichloroethane	63	2.921	2.922	(0.699)	331744	150.000	147.09
11 1,1-Dichloroethene	96	1.911	1.912	(0.457)	194601	150.000	151.92
32 1,1-Dichloropropene	75	4.282	4.283	(0.862)	279849	150.000	152.92
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.215)	76003	150.000	149.68
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.917)	190196	150.000	151.96(M)
90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	175289	150.000	146.65
79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.970)	950707	150.000	149.84
89 1,2-Dibromo-3-Chloropropane	155	10.658	10.658	(1.102)	32705	150.000	145.73
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	233055	150.000	148.71
88 1,2-Dichlorobenzene	146	9.999	9.999	(1.034)	523614	150.000	142.44

Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\X103110.D Page 2
Report Date: 19-Nov-2019 17:39

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
33	1,2-Dichloroethane	62	4.562	4.562	(0.918)	302667	150.000	151.96
42	1,2-Dichloropropane	63	5.436	5.436	(1.094)	171017	150.000	142.91
75	1,3,5-Trimethylbenzene	105	9.075	9.075	(0.939)	926902	150.000	150.75
83	1,3-Dichlorobenzene	146	9.612	9.612	(0.994)	589626	150.000	146.01
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	313319	150.000	144.09
84	1,4-Dichlorobenzene	146	9.683	9.684	(1.001)	595025	150.000	146.04
26	2,2-Dichloropropane	77	3.516	3.516	(0.841)	342382	150.000	141.28
24	2-Butanone	43	3.573	3.573	(0.854)	122056	300.000	300.97(AM)
76	2-Chlorotoluene	91	8.981	8.982	(0.929)	717171	150.000	150.65
52	2-Hexanone	43	7.090	7.090	(0.924)	186042	300.000	273.94(A)
77	4-Chlorotoluene	91	9.075	9.075	(0.939)	827361	150.000	147.34
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	1001528	150.000	152.10
45	4-Methyl-2-Pentanone	43	6.324	6.331	(0.824)	269564	300.000	280.68(A)
10	Acetone	43	1.976	1.976	(0.473)	120957	300.000	294.26(AM)
37	Benzene	78	4.512	4.512	(0.908)	792393	150.000	151.31
74	Bromobenzene	156	8.809	8.810	(0.911)	362113	150.000	148.51
29	Bromochloromethane	128	3.795	3.795	(0.908)	147849	150.000	142.29
39	Bromodichloromethane	83	5.729	5.730	(1.153)	309583	150.000	159.16
66	Bromoform	173	8.416	8.416	(1.097)	230945	150.000	153.51
6	Bromomethane	94	1.331	1.331	(0.318)	193515	150.000	130.01
19	Carbon Disulfide	76	2.069	2.069	(0.495)	1135656	300.000	305.95(A)
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	372164	150.000	155.21
59	Chlorobenzene	112	7.699	7.699	(1.004)	666345	150.000	146.66
7	Chloroethane	64	1.396	1.396	(0.334)	117696	150.000	147.37
28	Chloroform	83	3.910	3.910	(0.935)	398838	150.000	149.57
3	Chloromethane	50	1.073	1.074	(0.257)	201305	150.000	151.37
27	cis-1,2-Dichloroethene	96	3.530	3.523	(0.844)	246505	150.000	153.16
46	cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	349168	150.000	154.97
55	Dibromochloromethane	129	7.176	7.176	(0.936)	290873	150.000	150.55
44	Dibromomethane	93	5.557	5.558	(1.118)	146552	150.000	154.46
2	Dichlorodifluoromethane	85	0.973	0.966	(0.233)	241181	150.000	149.36
61	Ethylbenzene	106	7.800	7.807	(1.017)	346132	150.000	146.88(M)
91	Hexachlorobutadiene	225	11.488	11.481	(1.188)	156850	150.000	151.81
67	Isopropylbenzene	105	8.566	8.566	(1.117)	1066134	150.000	148.82
62	m,p-Xylenes	106	7.907	7.907	(1.031)	837027	300.000	293.03(A)
17	Methylene Chloride	84	2.305	2.306	(0.551)	206835	150.000	147.93
87	n-Butylbenzene	91	9.999	9.999	(1.034)	725898	150.000	154.56
73	n-Propylbenzene	91	8.917	8.917	(0.922)	1155965	150.000	153.23
92	Naphthalene	128	11.546	11.546	(1.194)	199967	150.000	149.14
63	o-Xylene	106	8.244	8.244	(1.075)	406630	150.000	144.56
81	sec-Butylbenzene	105	9.526	9.526	(0.985)	1041174	150.000	154.83
64	Styrene	104	8.265	8.265	(1.078)	707159	150.000	145.33
78	tert-Butylbenzene	119	9.340	9.340	(0.966)	797901	150.000	149.73
56	Tetrachloroethene	164	6.933	6.933	(0.904)	265184	150.000	150.07
50	Toluene	91	6.446	6.446	(0.840)	930820	150.000	146.24
20	trans-1,2-Dichloroethene	96	2.528	2.528	(0.604)	210029	150.000	155.19
51	trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	329536	150.000	156.67
38	Trichloroethene	130	5.206	5.207	(1.048)	285356	150.000	155.67
8	Trichlorofluoromethane	101	1.560	1.553	(0.373)	422424	150.000	157.10
5	Vinyl Chloride	62	1.138	1.138	(0.272)	197786	150.000	156.51

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.
M - Compound response manually integrated.



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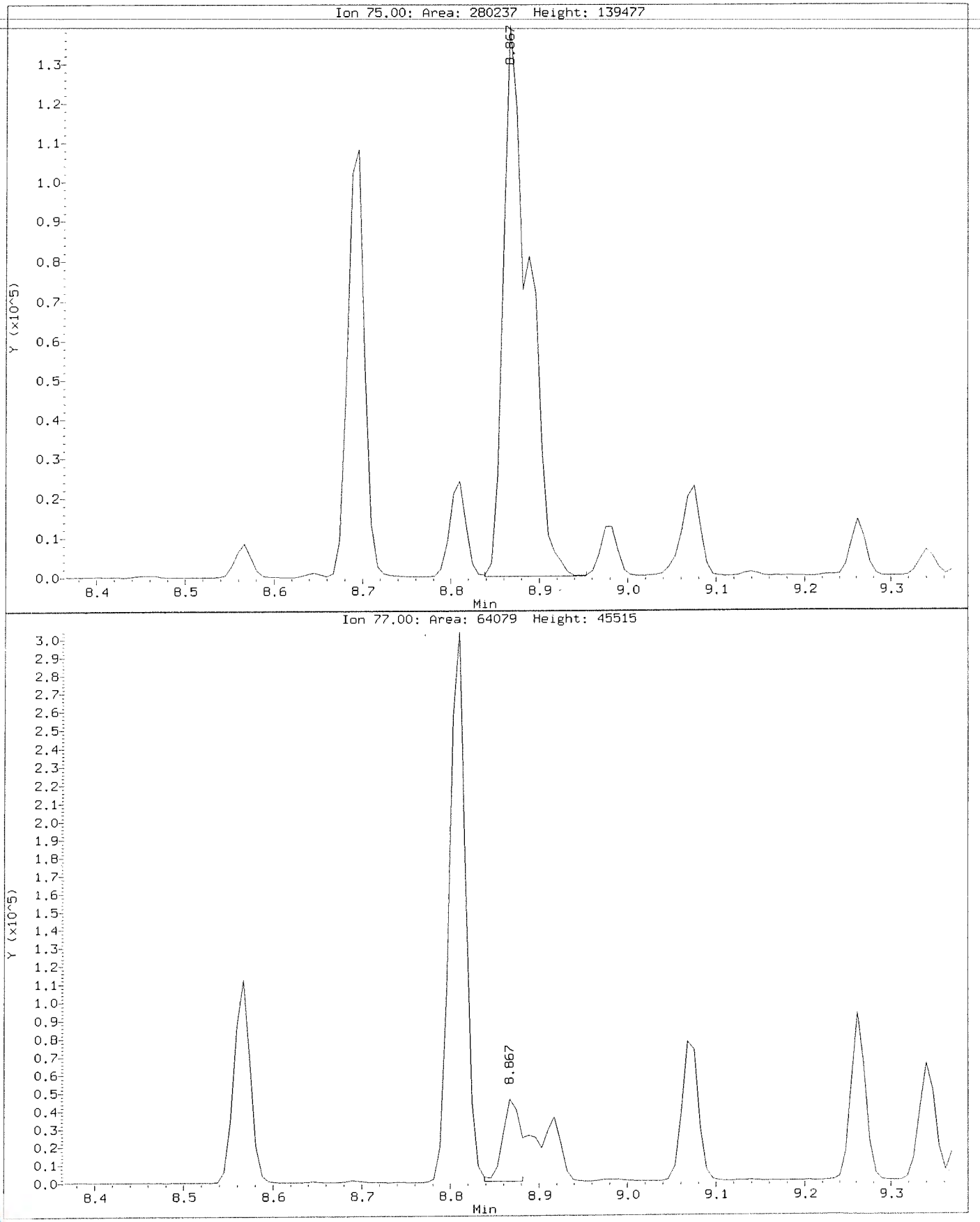
Client ID: VSTD150
Sample Info: VSTD150;VSTD150;1;9;
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\BEFORE2\X103110.D
Injection Date: 31-OCT-2019 14:44
Instrument: voa6.i
Client Sample ID: VSTD150

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



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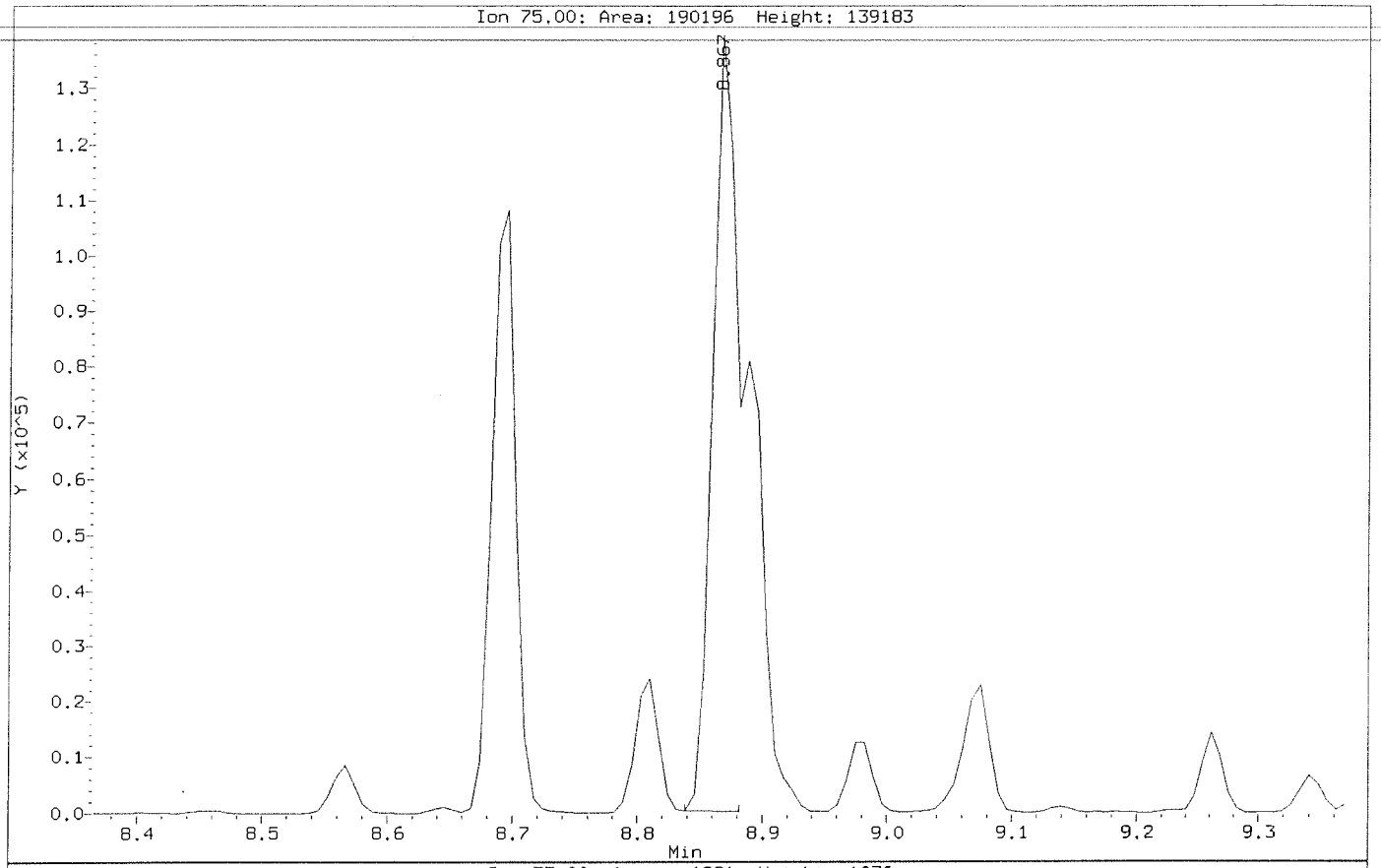
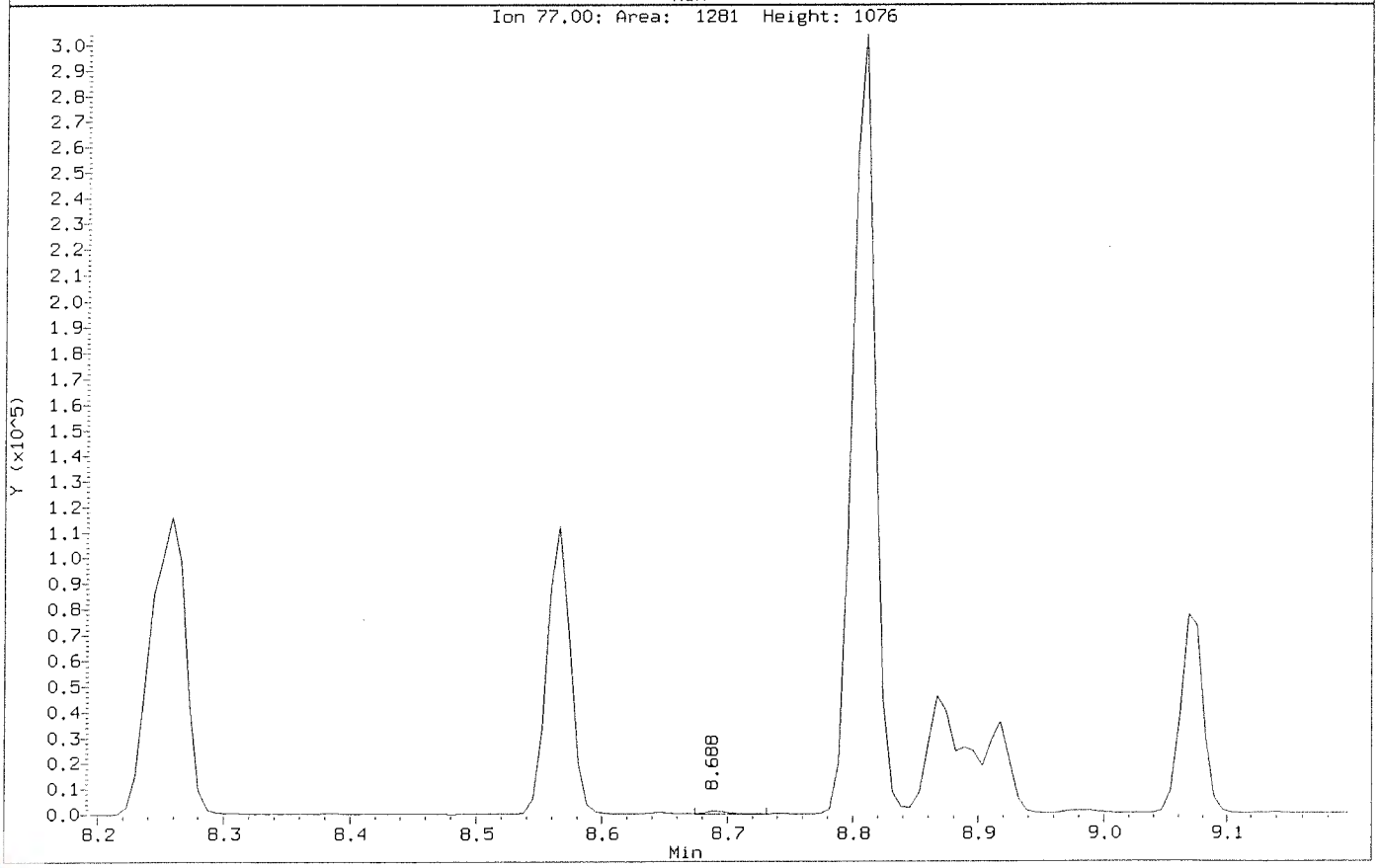
Injection Date: 31-OCT-2019 14:44
Instrument: voa6.i
Client Sample ID: VSTD150

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





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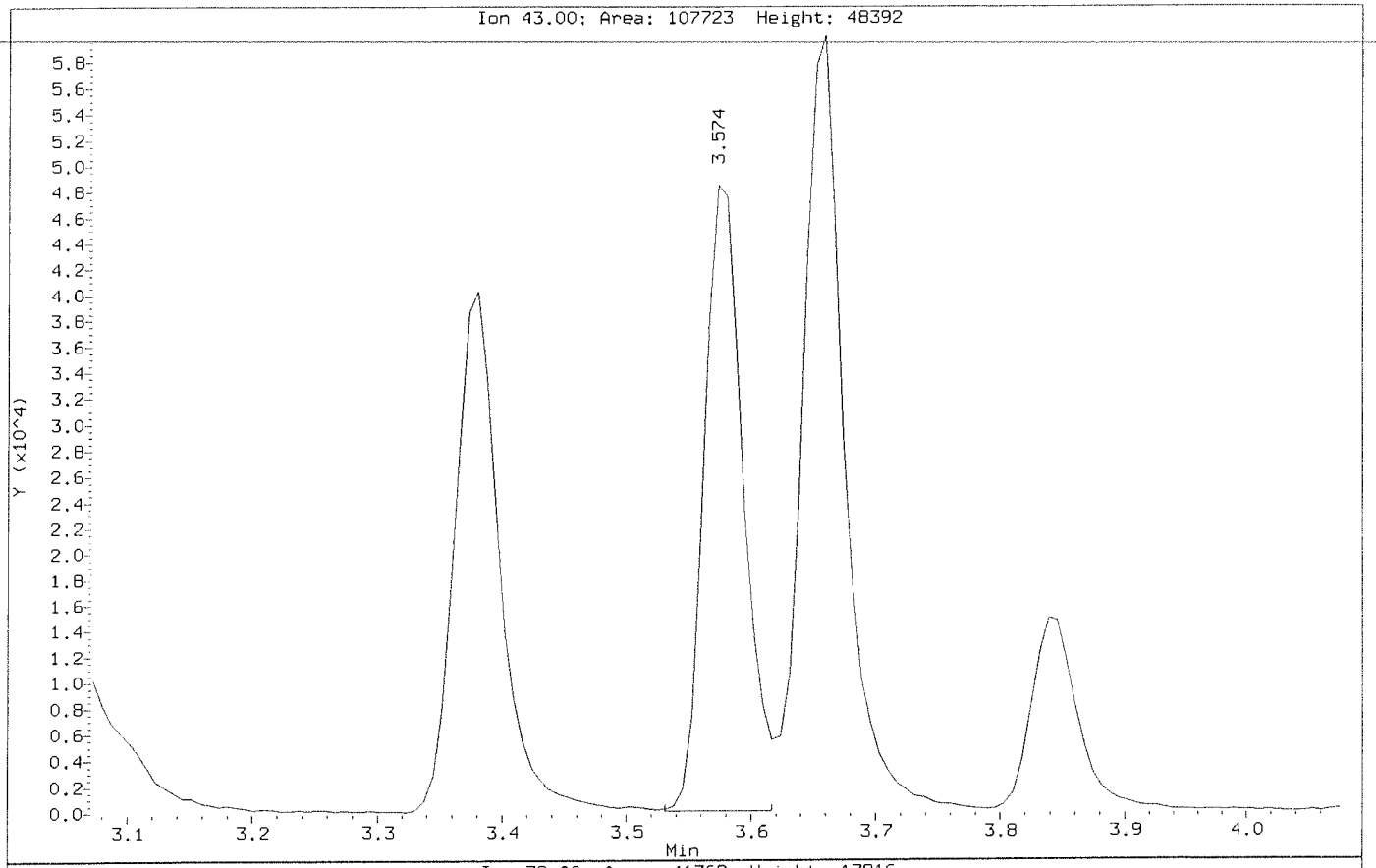
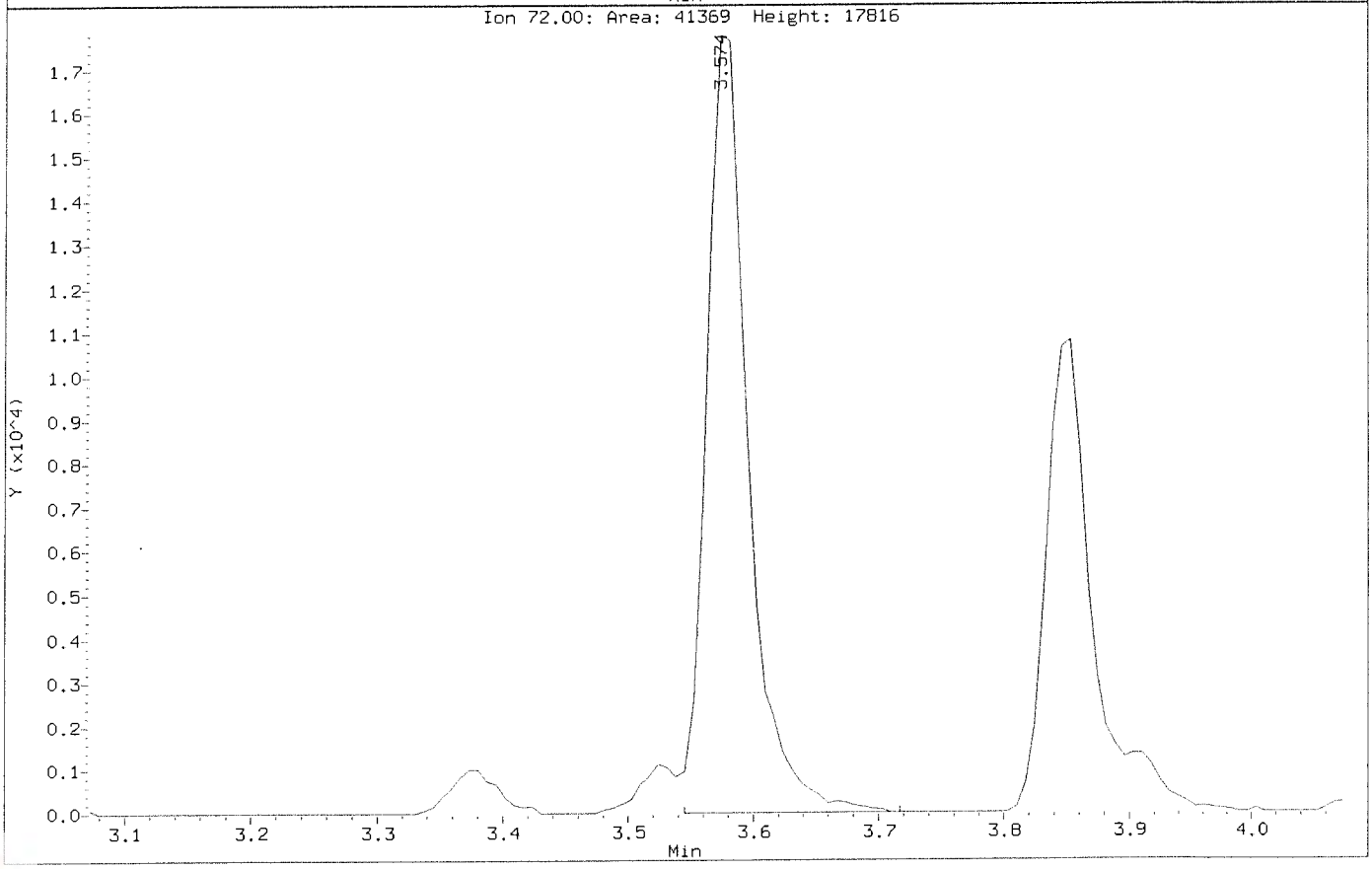
Injection Date: 31-OCT-2019 14:44
Instrument: voa6.i
Client Sample ID: VSTD150

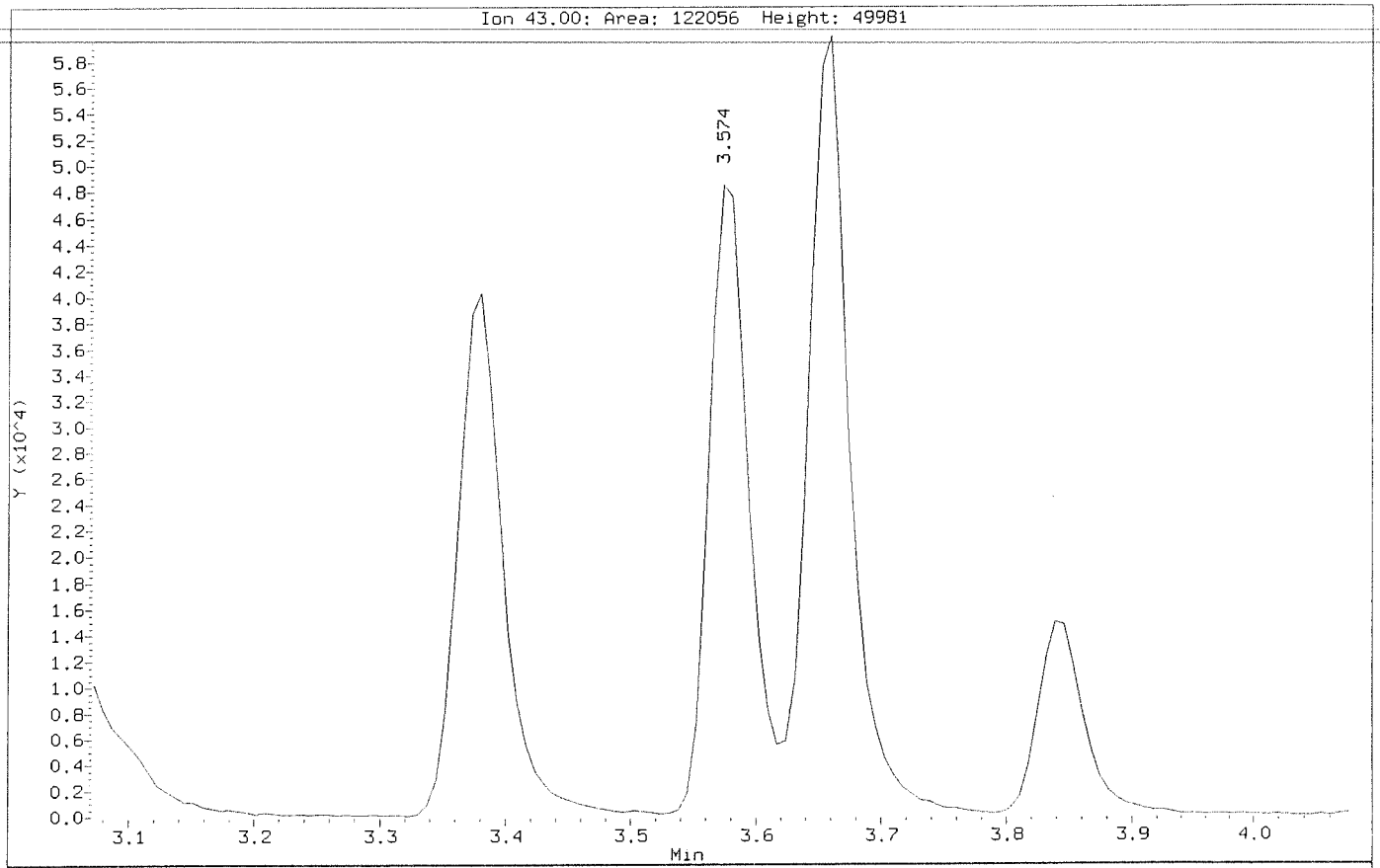
Compound: 2-Butanone
CAS Number: 78-93-3

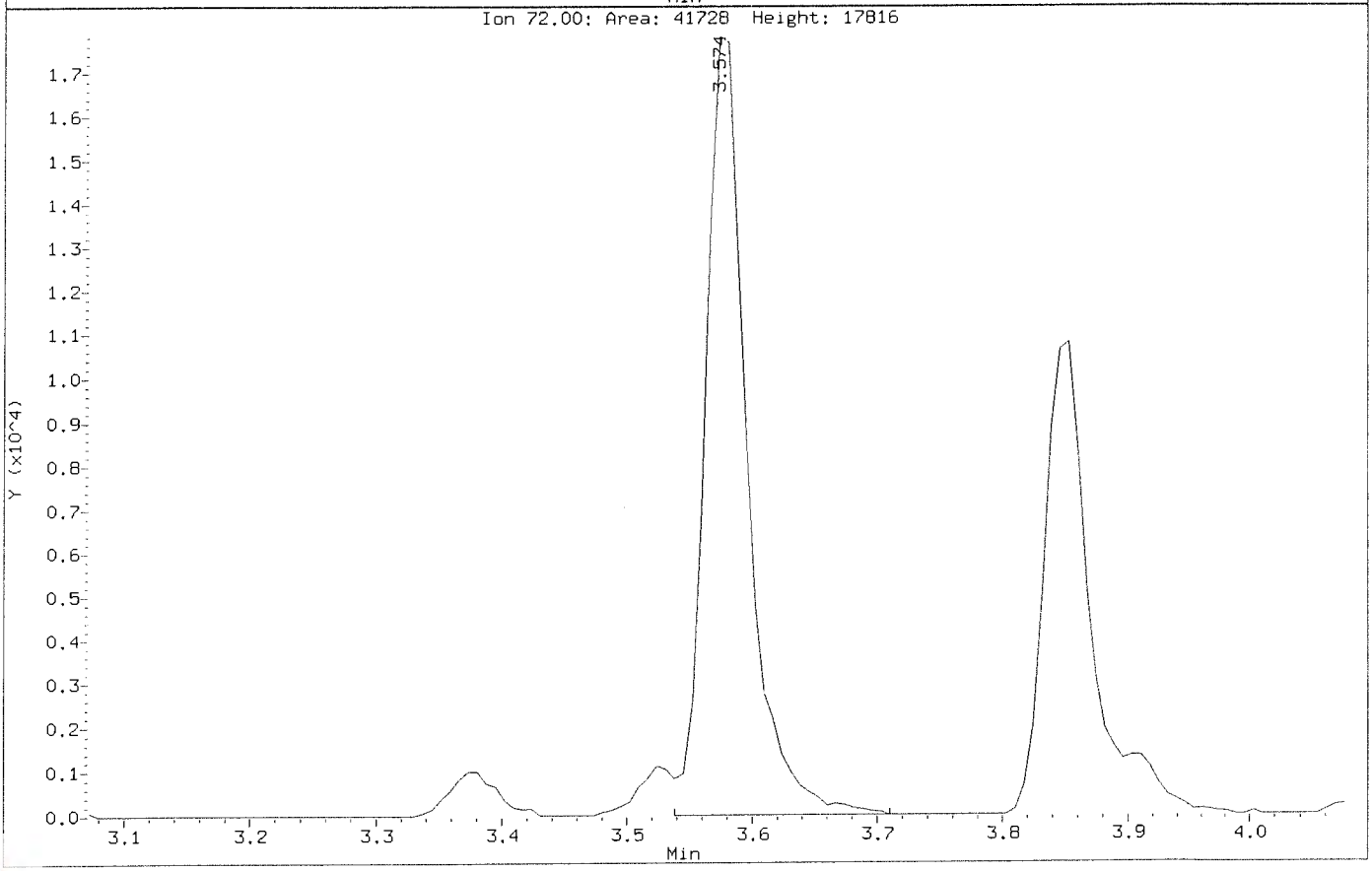




Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\X103110.D
Injection Date: 31-OCT-2019 14:44
Instrument: voa6.i
Client Sample ID: VSTD150

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





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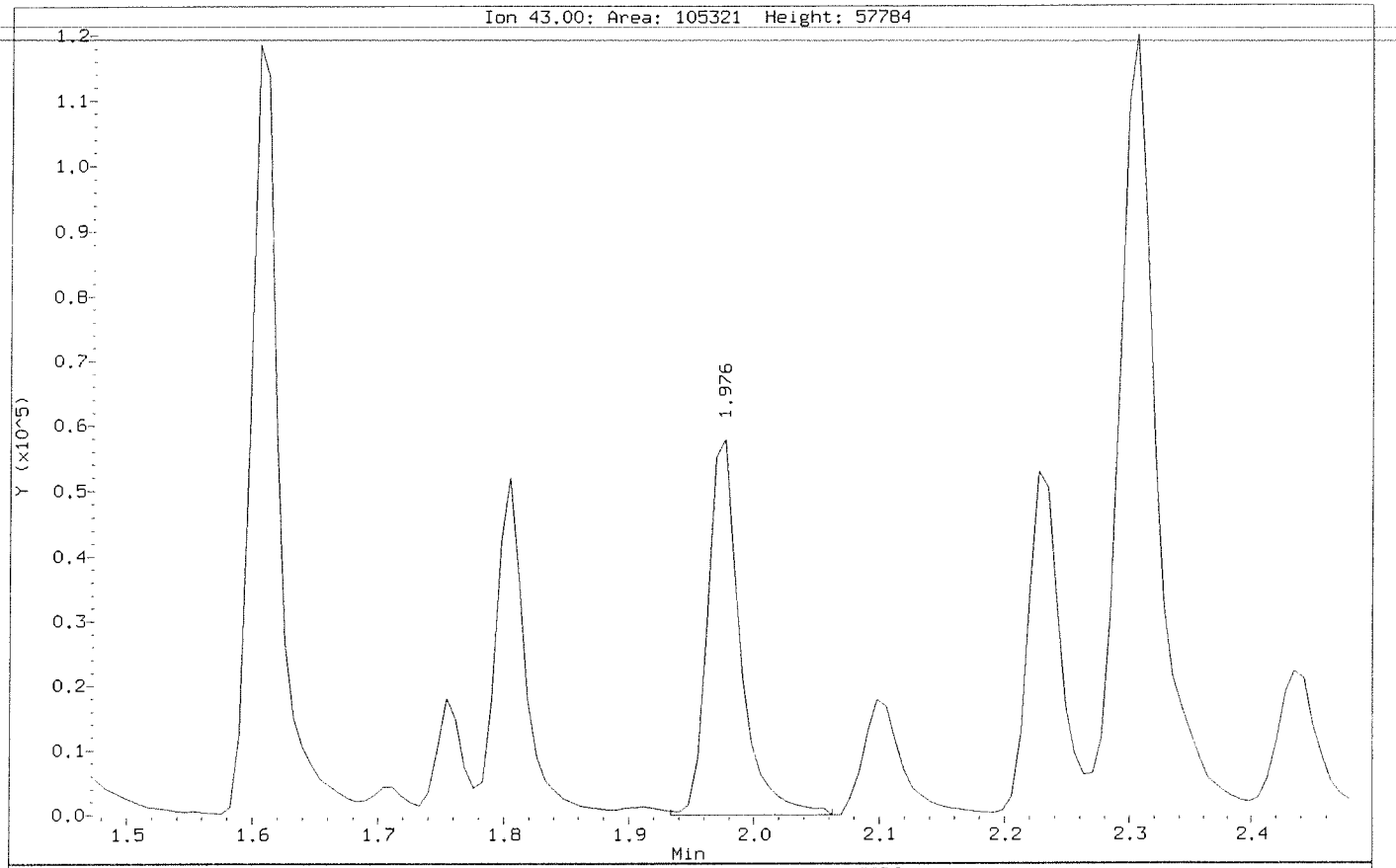
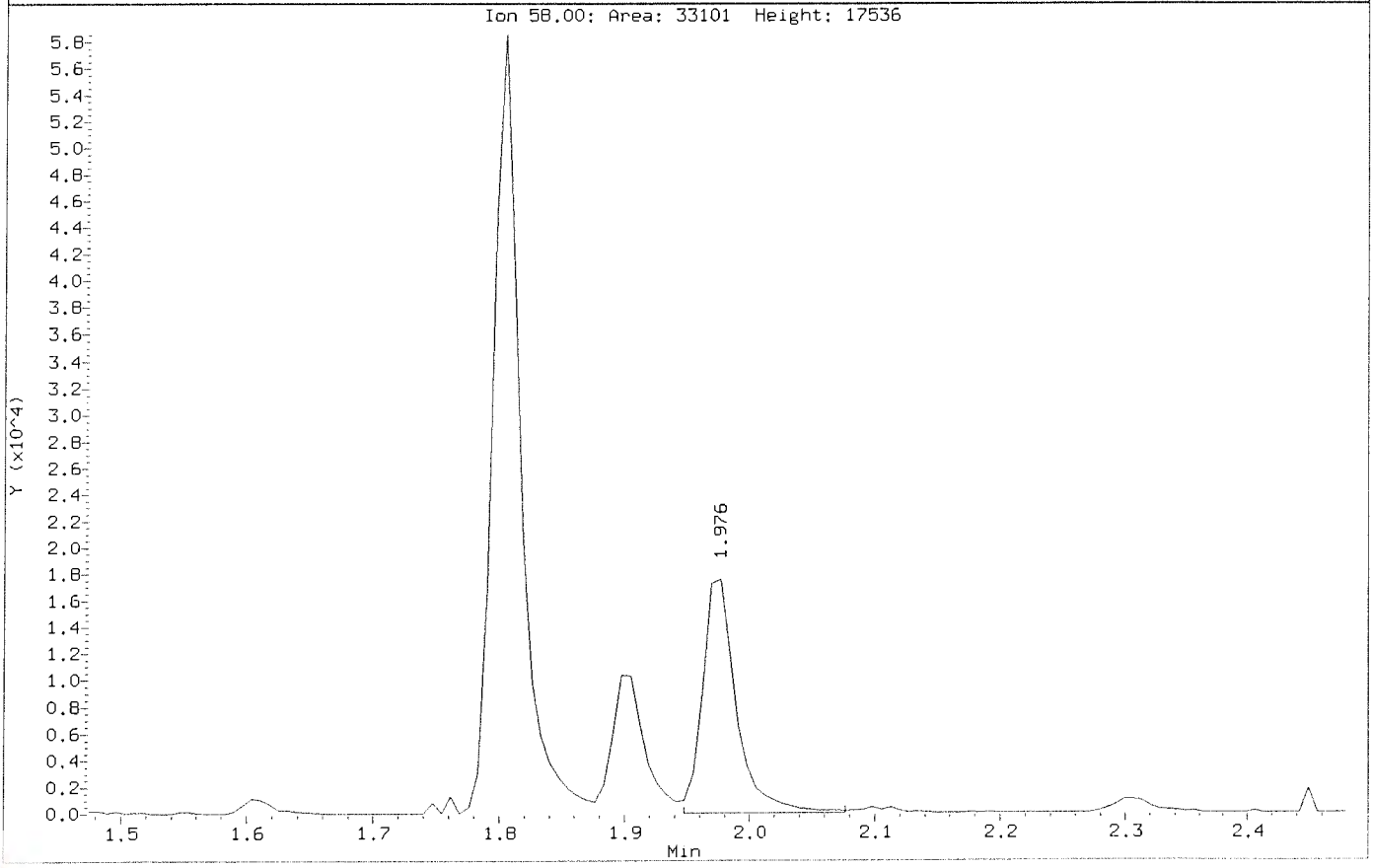
Injection Date: 31-OCT-2019 14:44
Instrument: voa6.i
Client Sample ID: VSTD150

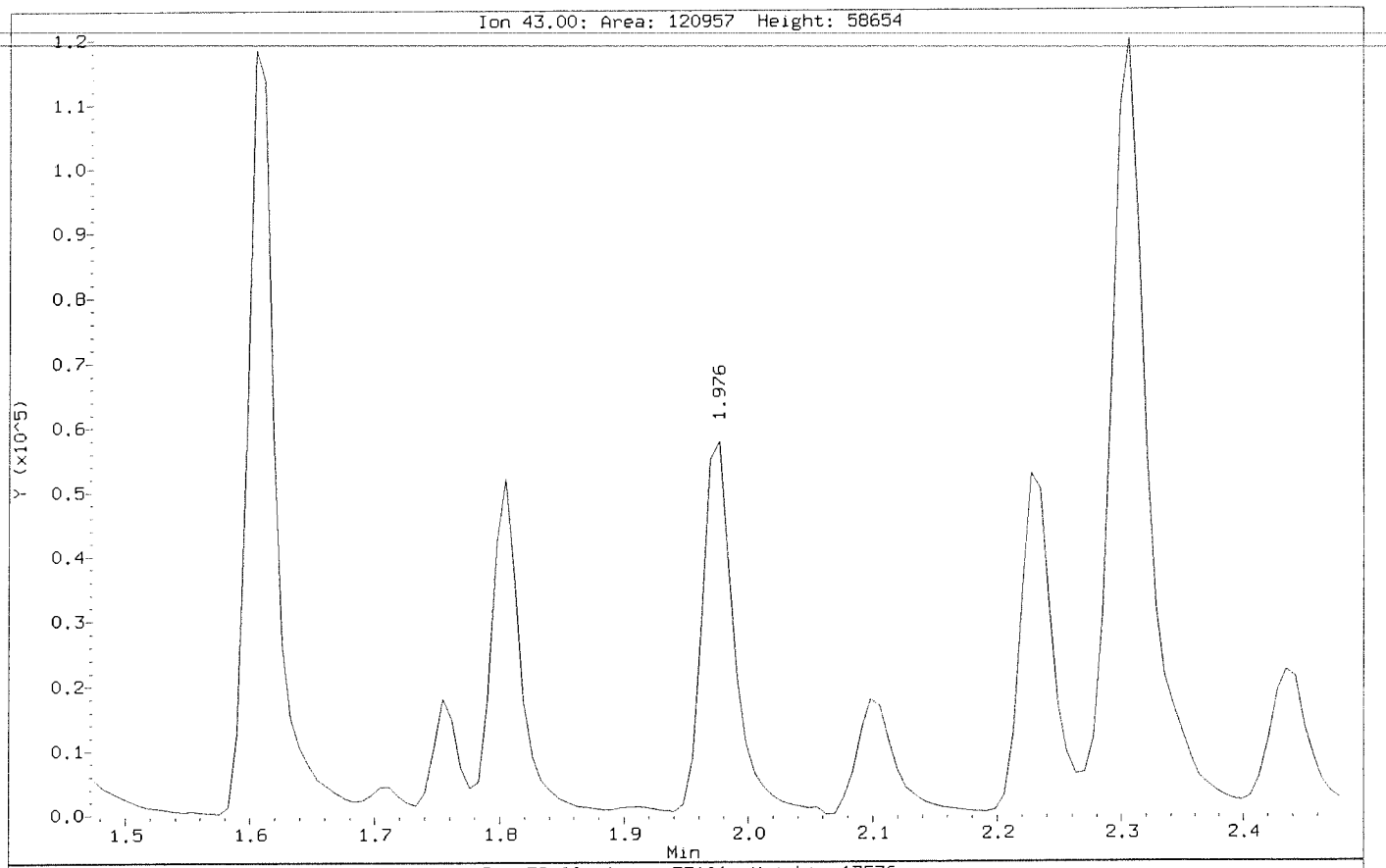
Compound: Acetone
CAS Number: 67-64-1

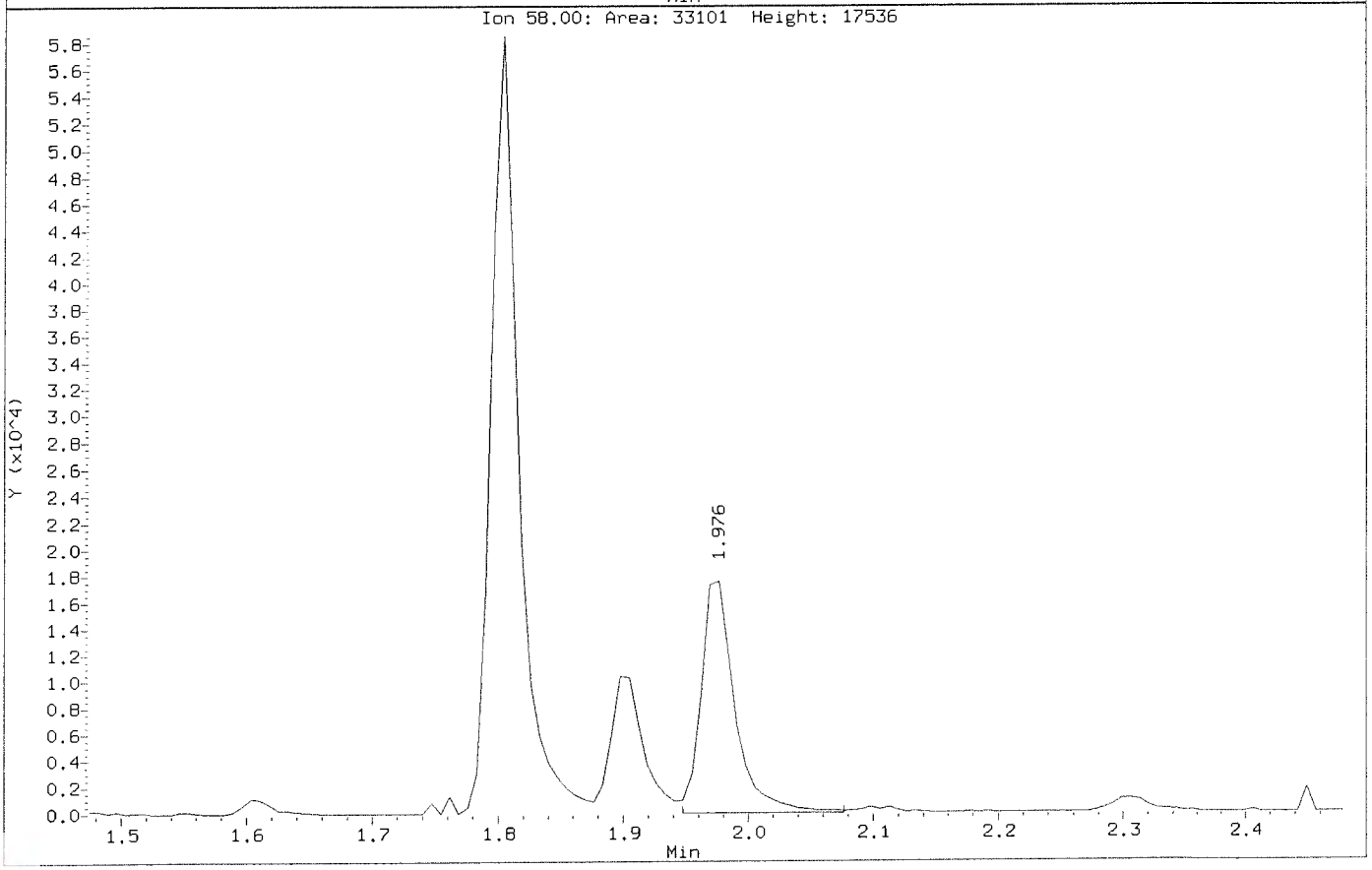




Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\X103110.D
Injection Date: 31-OCT-2019 14:44
Instrument: voa6.i
Client Sample ID: VSTD150

Compound: Acetone
CAS Number: 67-64-1





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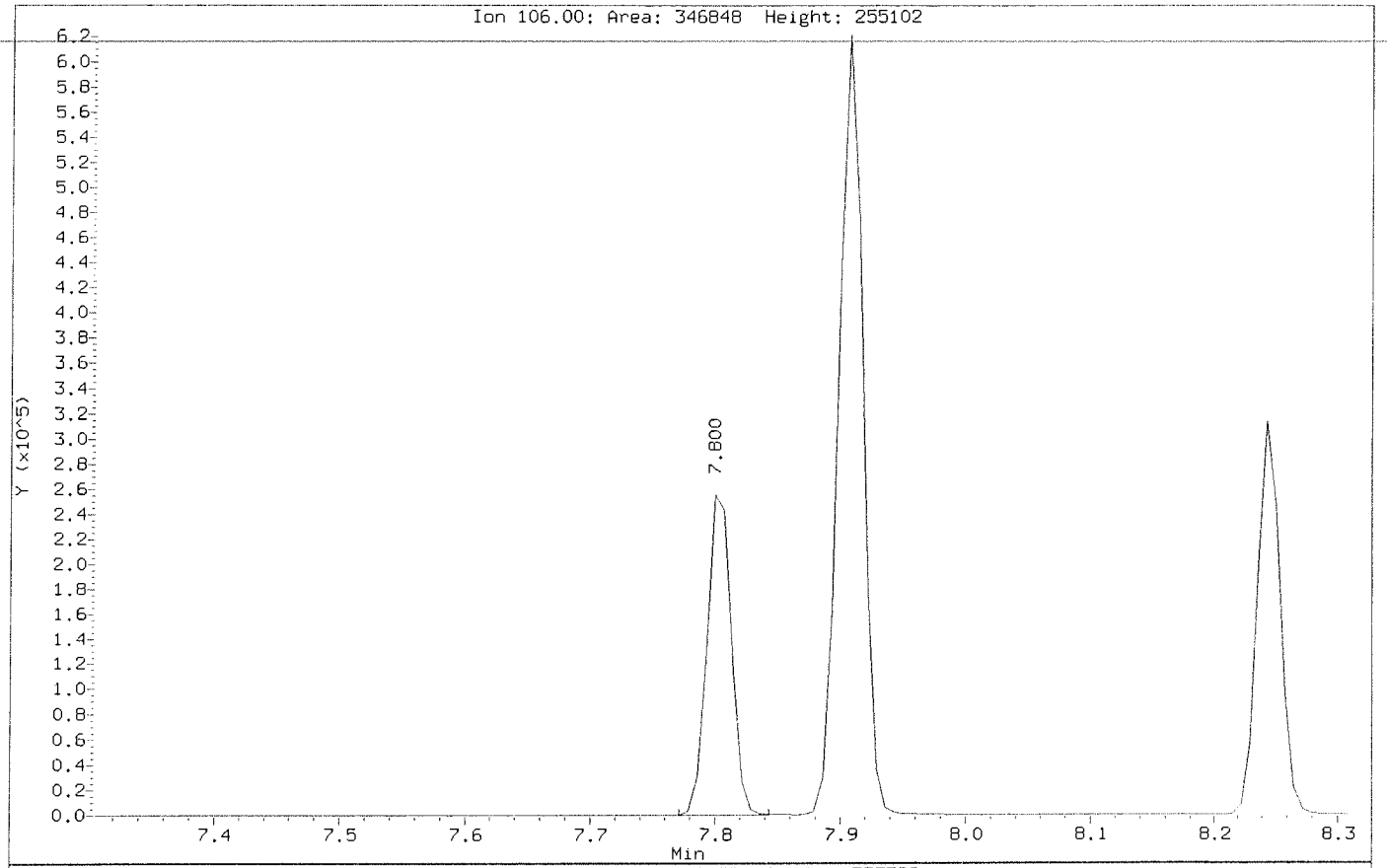
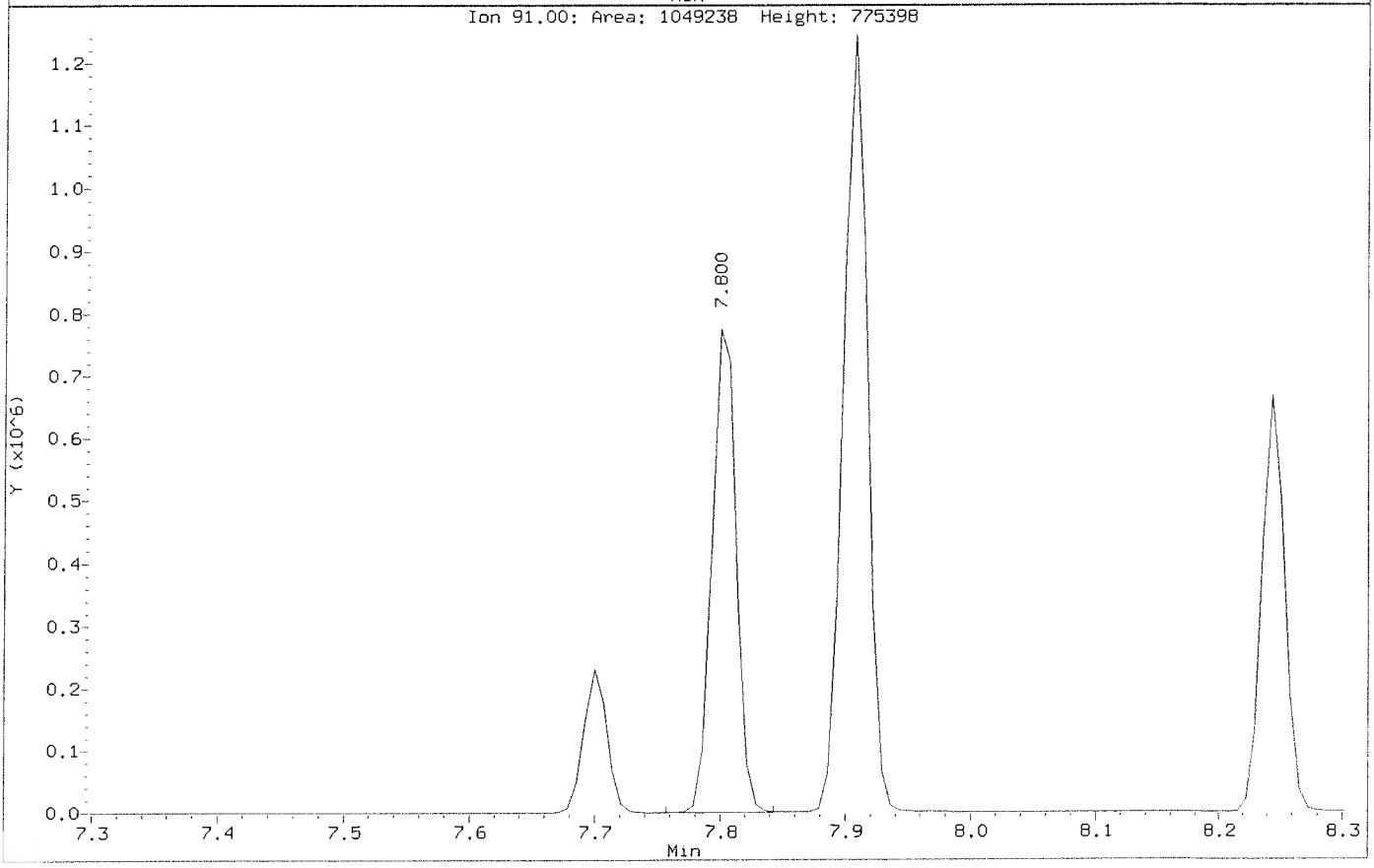
Injection Date: 31-OCT-2019 14:44
Instrument: voa6.i
Client Sample ID: VSTD150

Compound: Ethylbenzene
CAS Number: 100-41-4





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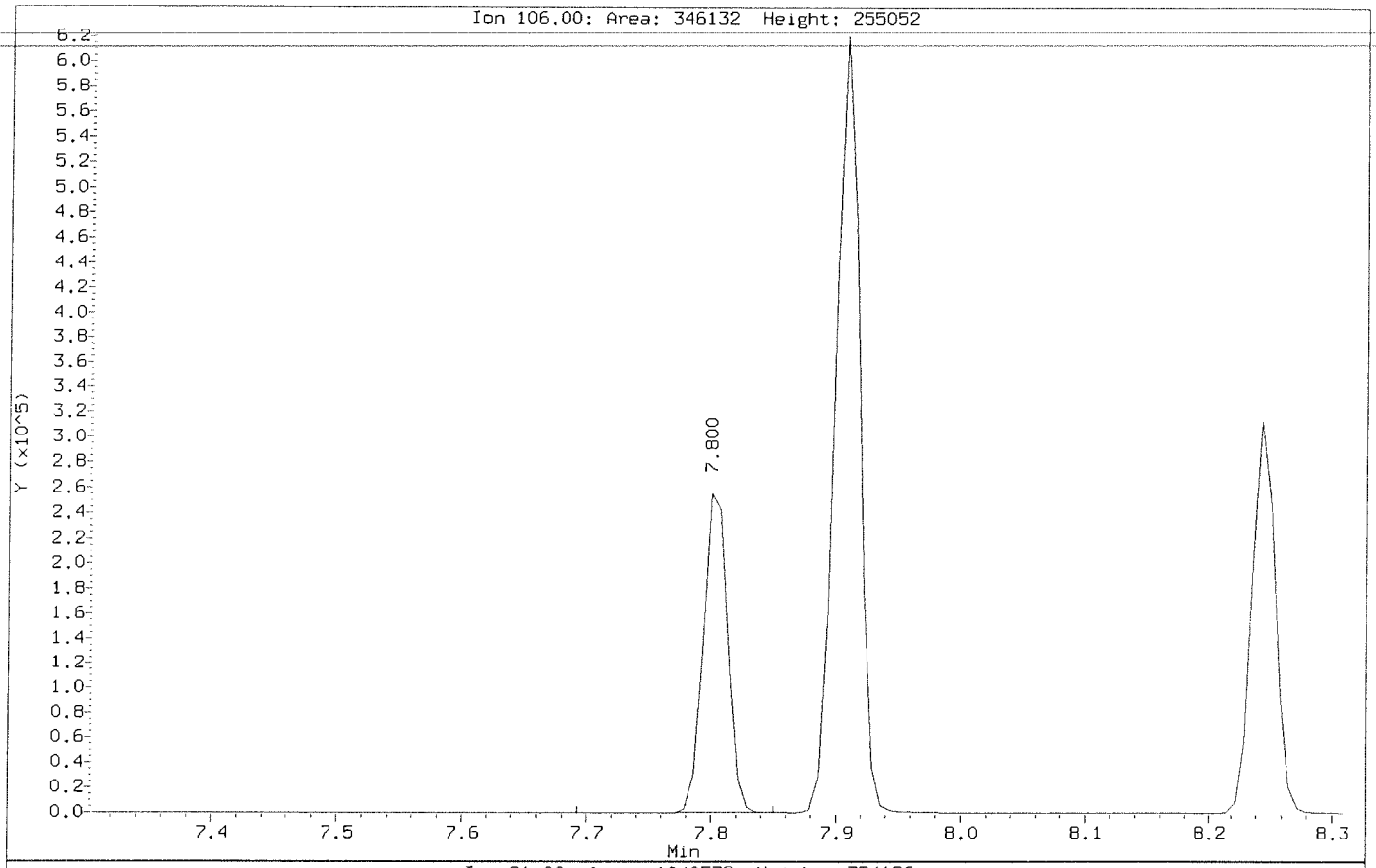
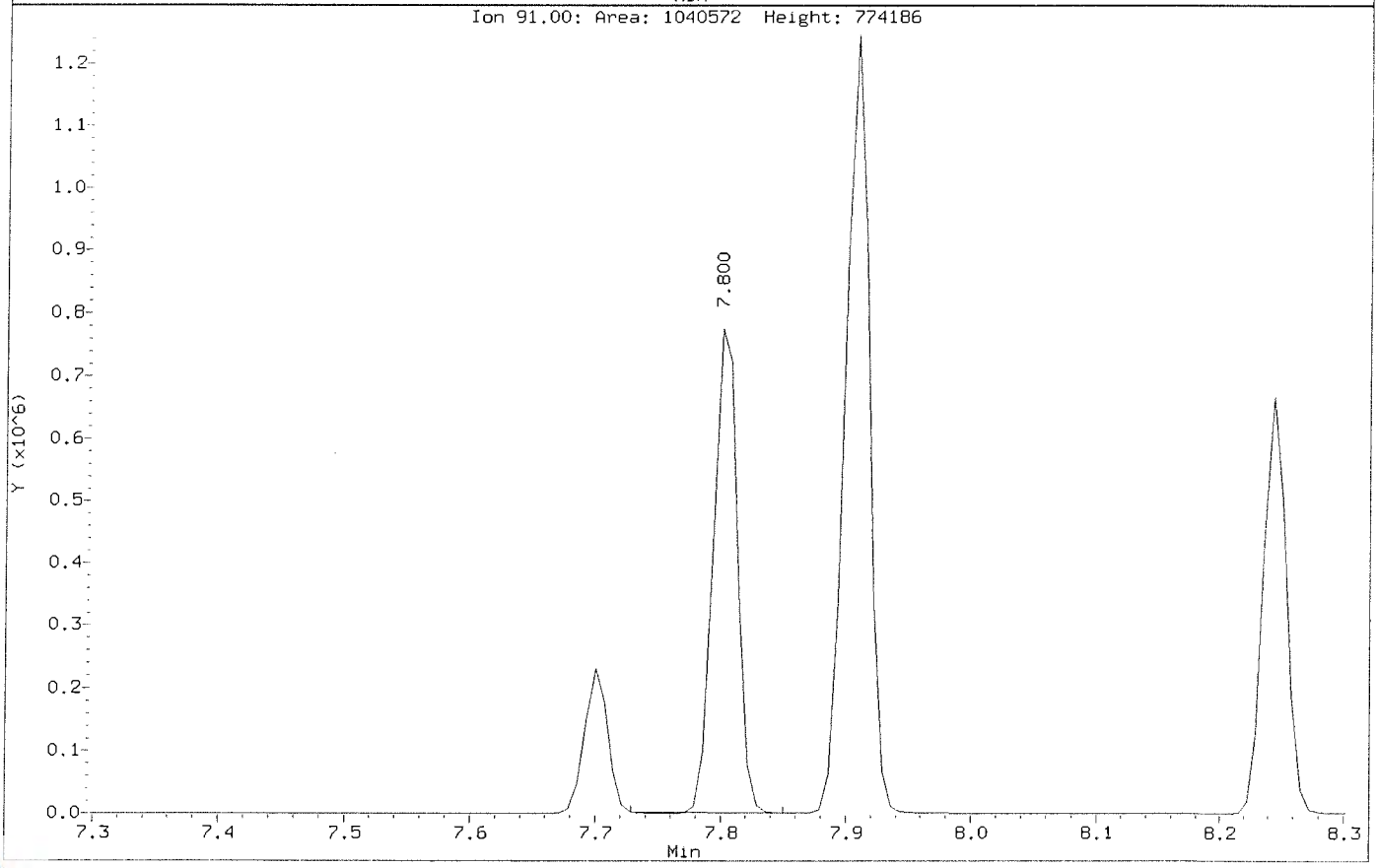
Instrument: voa6.i
Client Sample ID: VSTD150

Compound: Ethylbenzene
CAS Number: 100-41-4





Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\X103111.D Page 1
Report Date: 19-Nov-2019 17:39

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X191031.b\X103111.D
Lab Smp Id: VSTD200 Client Smp ID: VSTD200
Inj Date : 31-OCT-2019 15:08
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\X191031.b\8260W.m
Meth Date : 19-Nov-2019 17:37 voa6.i Quant Type: ISTD
Cal Date : 31-OCT-2019 15:08 Cal File: X103111.D
Als bottle: 12 Calibration Sample, Level: 10
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

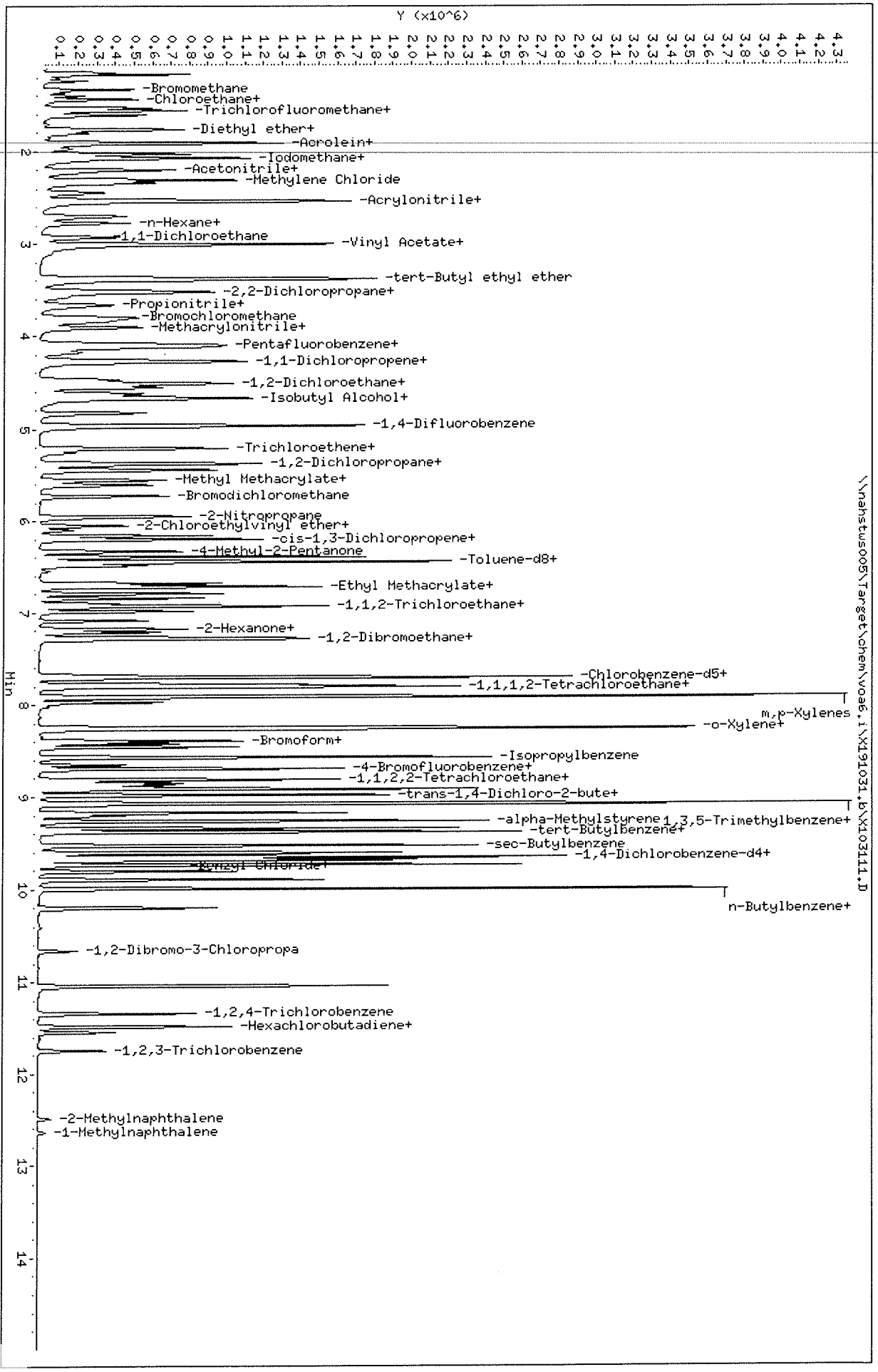
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	192693	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	240601	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	229758	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	129573	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	330151	200.000	201.45(A)
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	423412	200.000	197.90
$ 30 Dibromofluoromethane	113	4.104	4.104	(0.981)	311402	200.000	201.28(A)
$ 48 Toluene-d8	98	6.389	6.389	(0.833)	1086741	200.000	190.37
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	362024	200.000	193.43
31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	509929	200.000	211.16(A)
68 1,1,2,2-Tetrachloroethane	83	8.845	8.845	(0.915)	280469	200.000	200.30(A)
138 Freon TF	101	1.912	1.912	(0.457)	270272	200.000	212.00(A)
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	199951	200.000	191.51
22 1,1-Dichloroethane	63	2.922	2.922	(0.699)	426322	200.000	197.63
11 1,1-Dichloroethene	96	1.912	1.912	(0.457)	248897	200.000	203.16(A)
32 1,1-Dichloropropene	75	4.283	4.283	(0.862)	361761	200.000	201.85(A)
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.215)	112477	200.000	200.31(A)
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.917)	241481	200.000	197.56(M)
90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	249218	200.000	213.13(A)
79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.970)	1210599	200.000	195.05
89 1,2-Dibromo-3-Chloropropane	155	10.658	10.658	(1.102)	45236	200.000	205.61(A)
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	302393	200.000	195.87
88 1,2-Dichlorobenzene	146	9.999	9.999	(1.034)	679744	200.000	189.03

Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\X103111.D Page 2
Report Date: 19-Nov-2019 17:39

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	394219	200.000	202.09(A)
42 1,2-Dichloropropane	63	5.436	5.436	(1.094)	220211	200.000	187.89
75 1,3,5-Trimethylbenzene	105	9.075	9.075	(0.939)	1176138	200.000	195.54
83 1,3-Dichlorobenzene	146	9.612	9.612	(0.994)	756206	200.000	191.43
54 1,3-Dichloropropane	76	6.983	6.983	(0.910)	407232	200.000	190.12
84 1,4-Dichlorobenzene	146	9.684	9.684	(1.001)	762624	200.000	191.34
26 2,2-Dichloropropane	77	3.516	3.516	(0.841)	438977	200.000	189.39
24 2-Butanone	43	3.573	3.573	(0.854)	154601	400.000	398.73(AM)
76 2-Chlorotoluene	91	8.982	8.982	(0.929)	912637	200.000	195.97
52 2-Hexanone	43	7.090	7.090	(0.924)	245858	400.000	367.50(A)
77 4-Chlorotoluene	91	9.075	9.075	(0.939)	1047506	200.000	190.69
82 p-Isopropyltoluene	119	9.655	9.655	(0.999)	1283447	200.000	199.25
45 4-Methyl-2-Pentanone	43	6.331	6.331	(0.825)	356911	400.000	377.26(A)
10 Acetone	43	1.976	1.976	(0.473)	159199	400.000	404.94(AM)
37 Benzene	78	4.512	4.512	(0.908)	1022532	200.000	199.46
74 Bromobenzene	156	8.810	8.810	(0.911)	466669	200.000	195.65
29 Bromochloromethane	128	3.795	3.795	(0.908)	182013	200.000	183.14
39 Bromodichloromethane	83	5.730	5.730	(1.153)	401613	200.000	210.82(A)
66 Bromoform	173	8.416	8.416	(1.097)	303043	200.000	204.49(A)
6 Bromomethane	94	1.331	1.331	(0.318)	196628	200.000	138.21
19 Carbon Disulfide	76	2.069	2.069	(0.495)	1461267	400.000	411.59(A)
34 Carbon Tetrachloride	117	4.268	4.268	(0.859)	485222	200.000	206.62(A)
59 Chlorobenzene	112	7.699	7.699	(1.004)	854468	200.000	190.92
7 Chloroethane	64	1.396	1.396	(0.334)	146270	200.000	191.48
28 Chloroform	83	3.910	3.910	(0.935)	520476	200.000	204.07(A)
3 Chloromethane	50	1.074	1.074	(0.257)	251570	200.000	197.80
27 cis-1,2-Dichloroethene	96	3.523	3.523	(0.842)	319301	200.000	207.42(A)
46 cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	451963	200.000	204.81(A)
55 Dibromochloromethane	129	7.176	7.176	(0.936)	378530	200.000	198.88
44 Dibromomethane	93	5.558	5.558	(1.118)	191662	200.000	206.26(A)
2 Dichlorodifluoromethane	85	0.966	0.966	(0.231)	312332	200.000	201.79(A)
61 Ethylbenzene	106	7.807	7.807	(1.018)	447199	200.000	192.65(M)
91 Hexachlorobutadiene	225	11.481	11.481	(1.187)	207467	200.000	205.26(A)
67 Isopropylbenzene	105	8.566	8.566	(1.117)	1362308	200.000	193.05
62 m,p-Xylenes	106	7.907	7.907	(1.031)	1068578	400.000	379.76(A)
17 Methylene Chloride	84	2.306	2.306	(0.551)	270371	200.000	202.18(A)
87 n-Butylbenzene	91	9.999	9.999	(1.034)	917884	200.000	199.79
73 n-Propylbenzene	91	8.917	8.917	(0.922)	1464095	200.000	198.39
92 Naphthalene	128	11.546	11.546	(1.194)	291018	200.000	200.47(A)
63 o-Xylene	106	8.244	8.244	(1.075)	518774	200.000	187.22
81 sec-Butylbenzene	105	9.526	9.526	(0.985)	1323564	200.000	201.20(A)
64 Styrene	104	8.265	8.265	(1.078)	908128	200.000	189.46
78 tert-Butylbenzene	119	9.340	9.340	(0.966)	1015808	200.000	194.86
56 Tetrachloroethene	164	6.933	6.933	(0.904)	340715	200.000	195.74
50 Toluene	91	6.446	6.446	(0.840)	1200814	200.000	191.52
20 trans-1,2-Dichloroethene	96	2.528	2.528	(0.604)	270571	200.000	209.03(A)
51 trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	429004	200.000	208.25(A)
38 Trichloroethene	130	5.207	5.207	(1.048)	372852	200.000	207.68(A)
8 Trichlorofluoromethane	101	1.553	1.553	(0.372)	546705	200.000	212.58(A)
5 Vinyl Chloride	62	1.138	1.138	(0.272)	256102	200.000	211.88(A)

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.
M - Compound response manually integrated.



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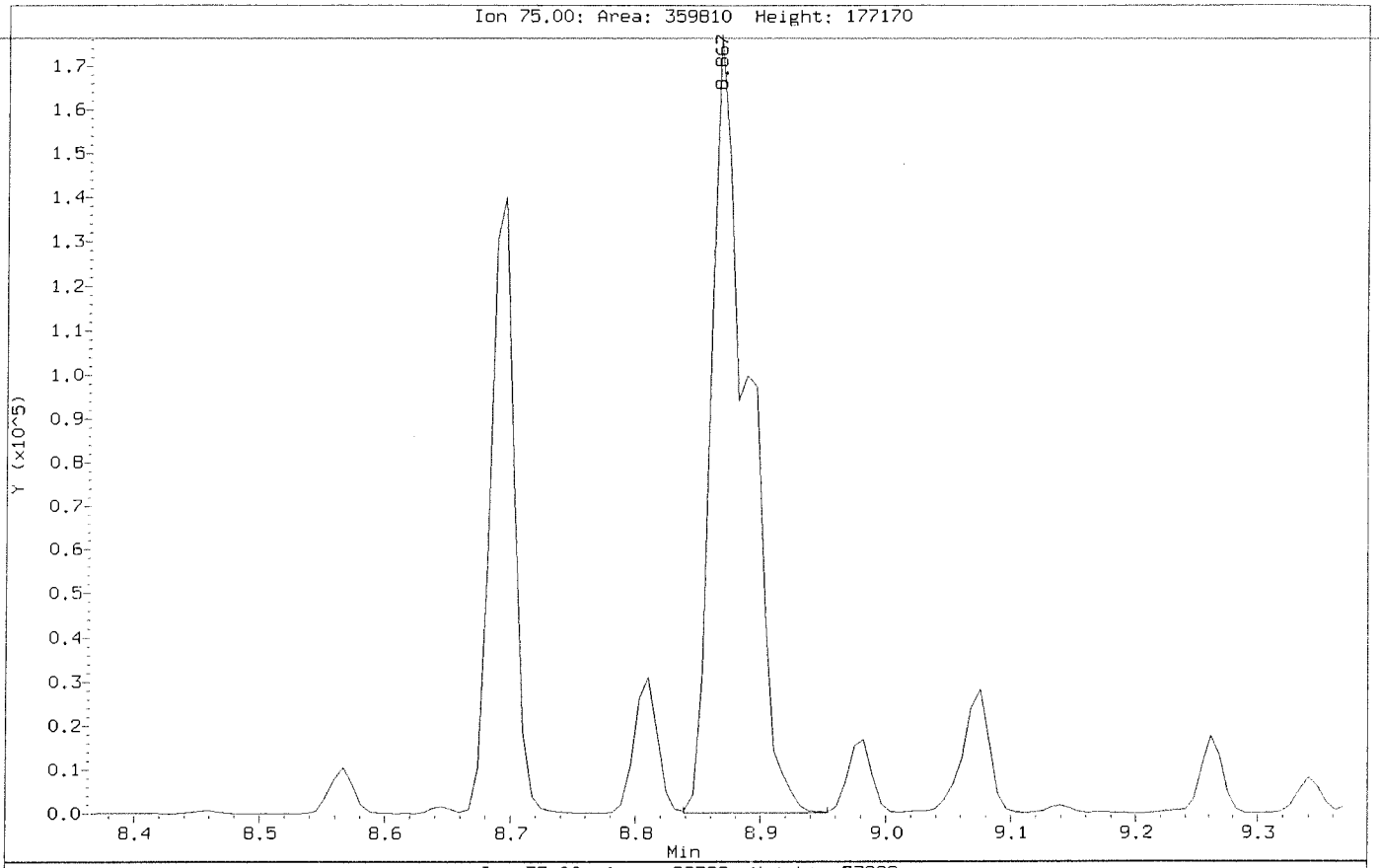
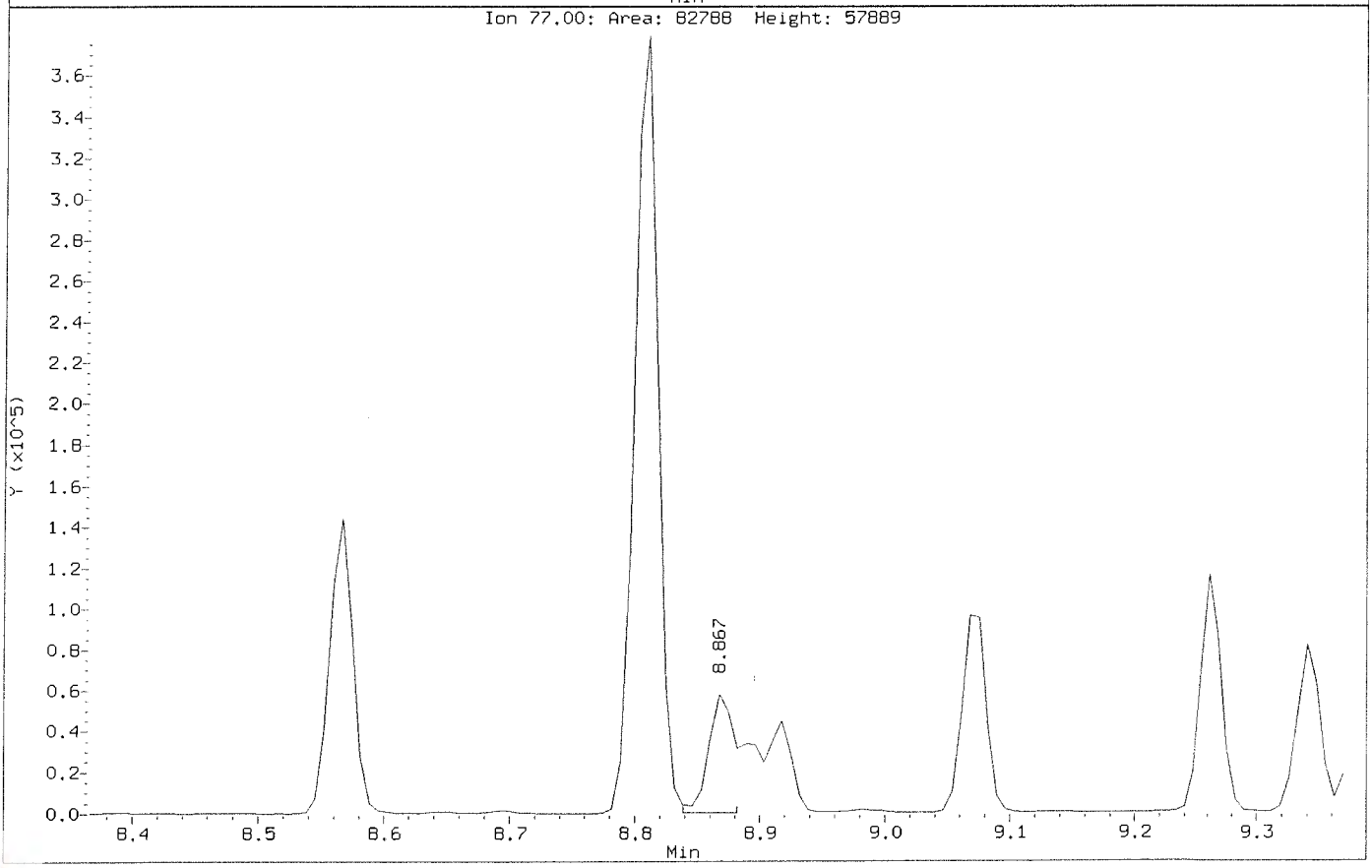
Client ID: VSTD200
Sample Info: VSTD200;VSTD200;1;10;
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\BEFORE2\X103111.D
Injection Date: 31-OCT-2019 15:08
Instrument: voa6.i
Client Sample ID: VSTD200

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





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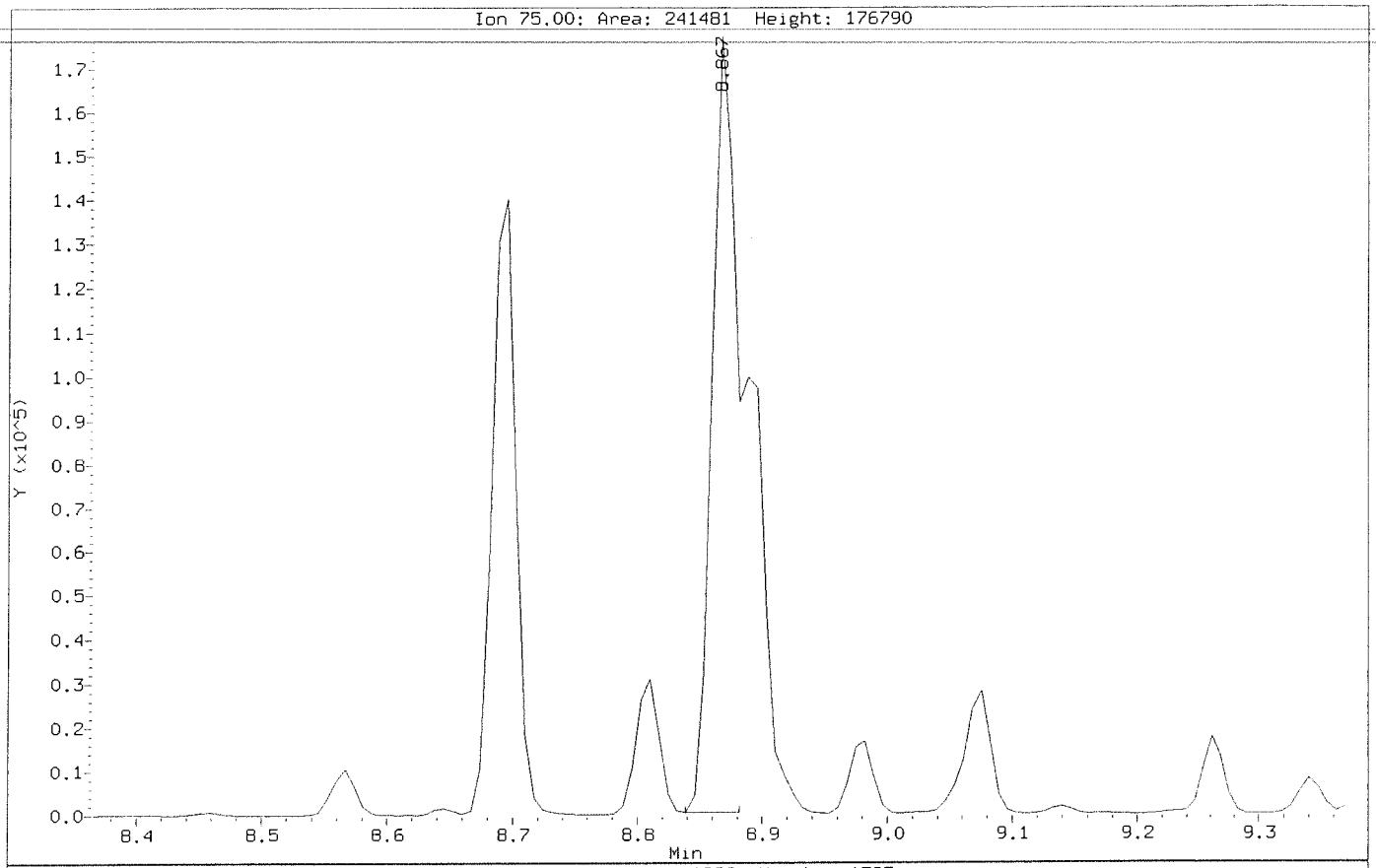
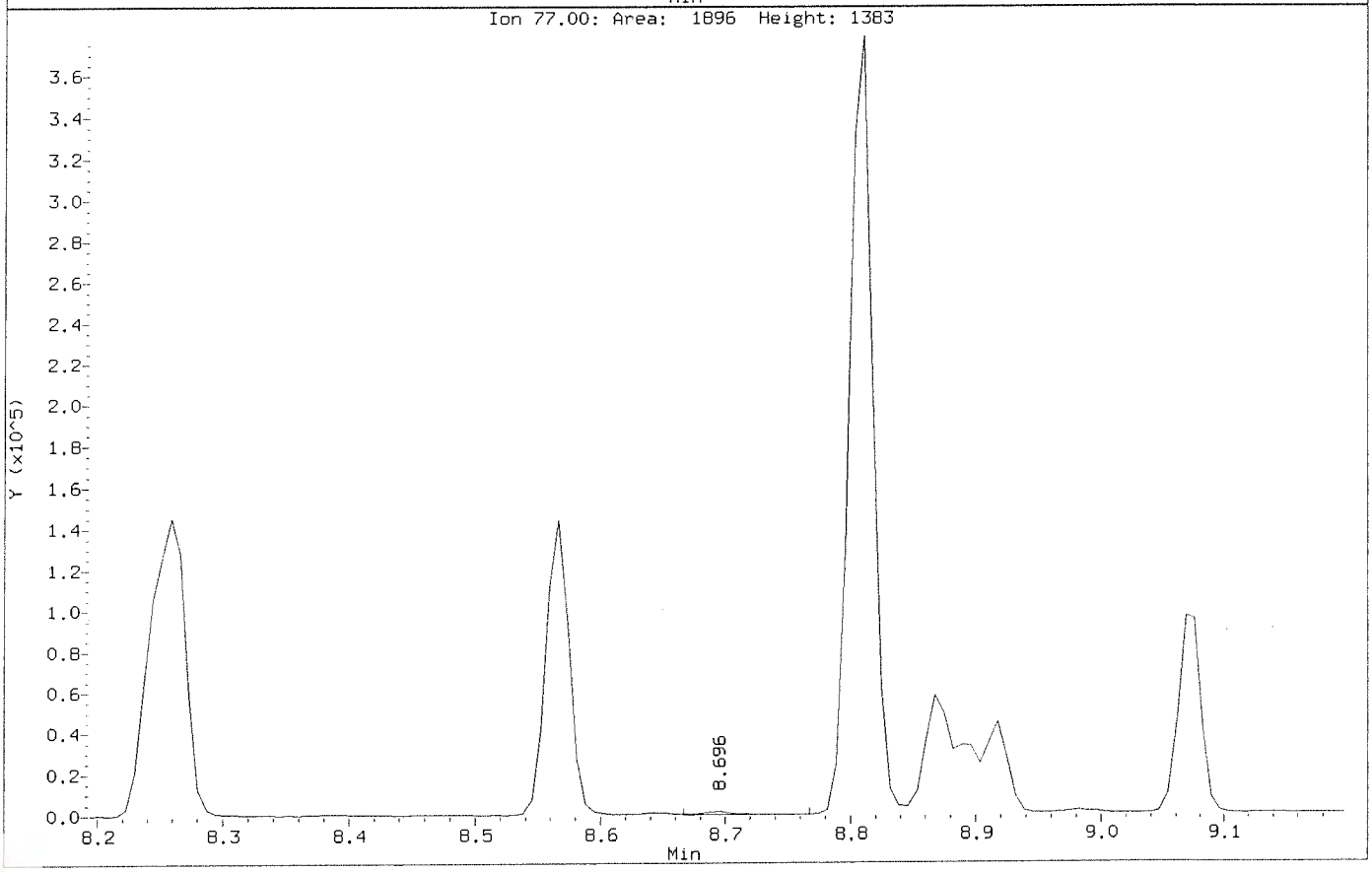
Instrument: voa6.i
Client Sample ID: VSTD200

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





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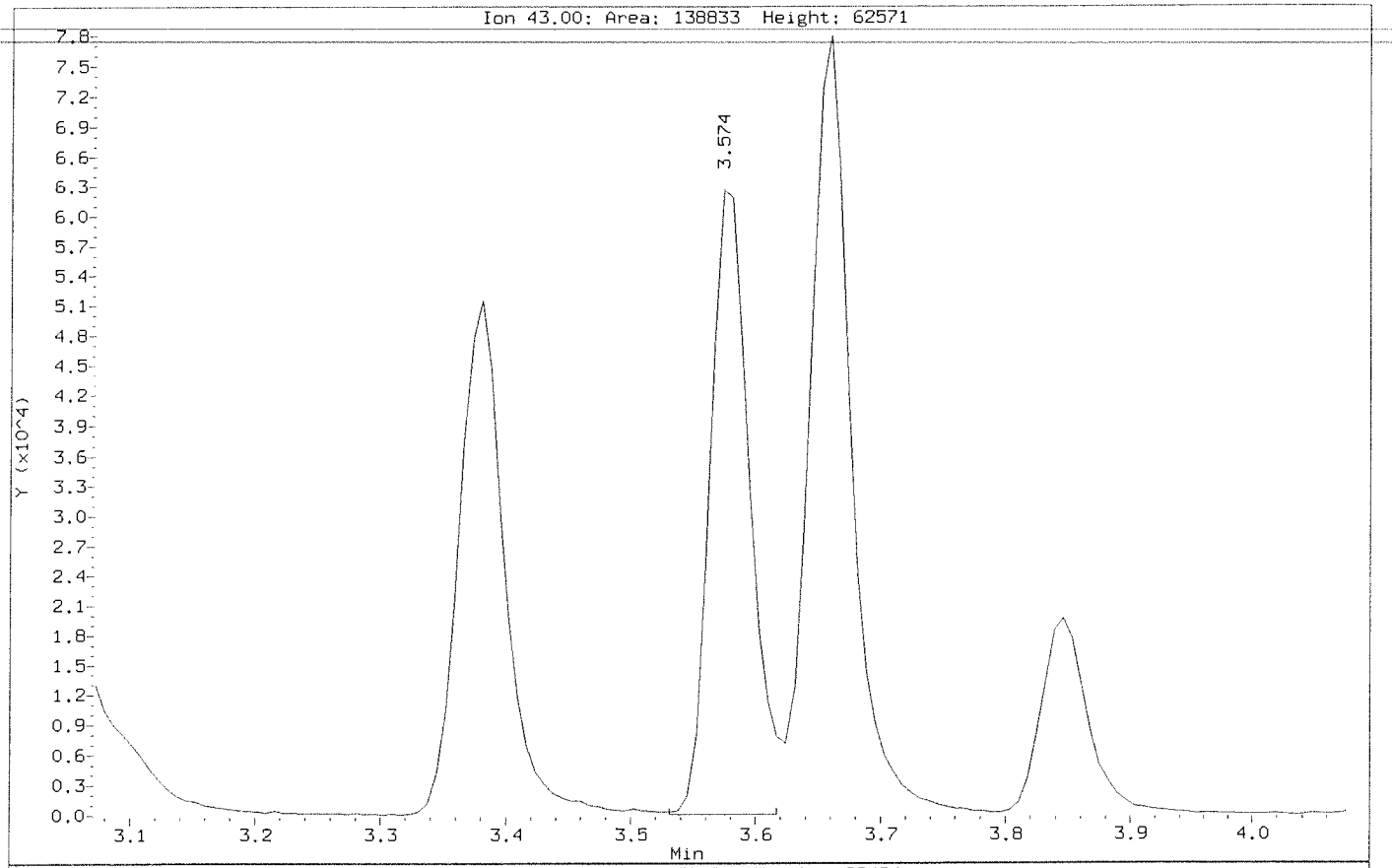
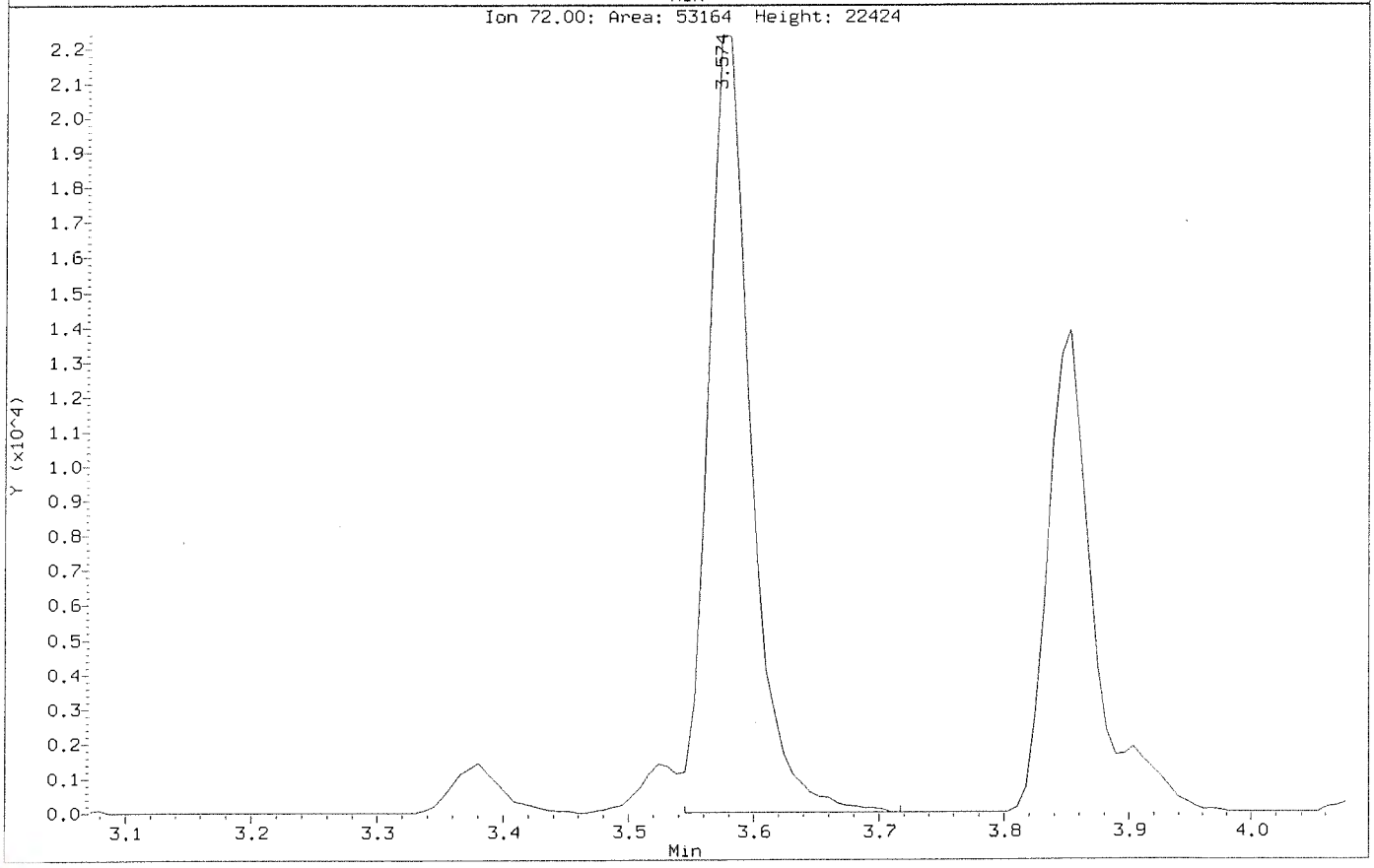
Injection Date: 31-OCT-2019 15:08
Instrument: voa6.i
Client Sample ID: VSTD200

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





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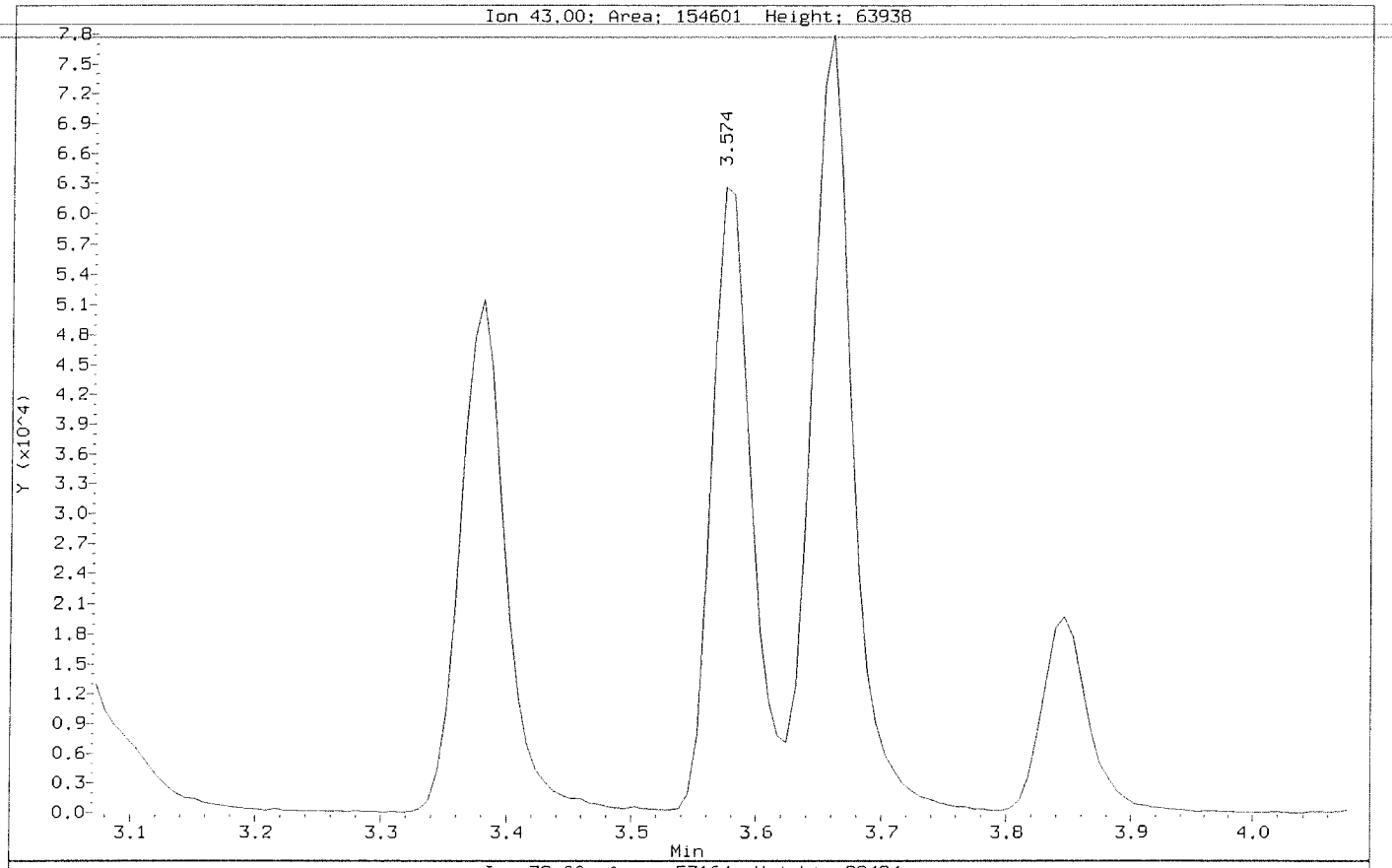
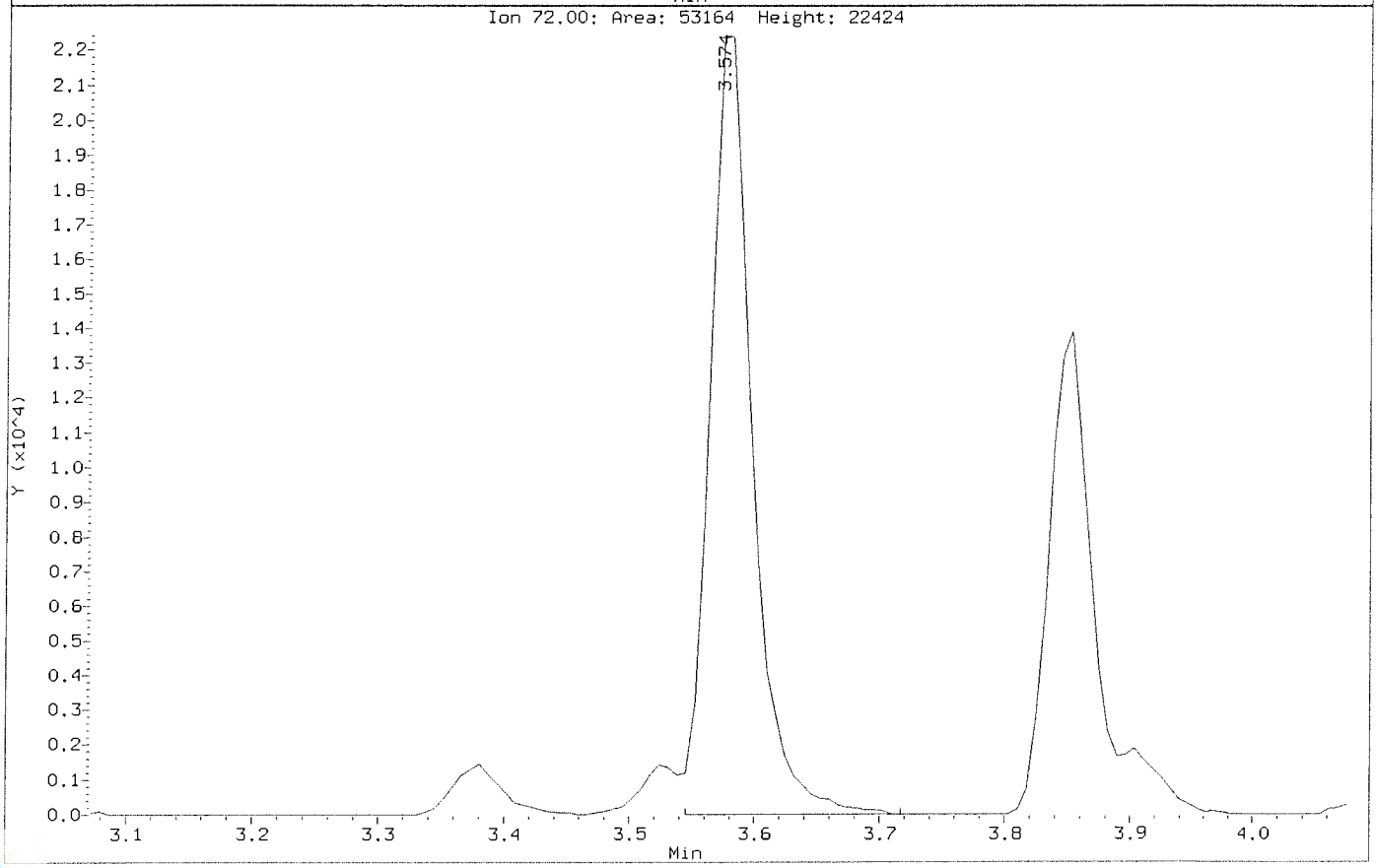
Injection Date: 31-OCT-2019 15:08
Instrument: voa6.i
Client Sample ID: VSTD200

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





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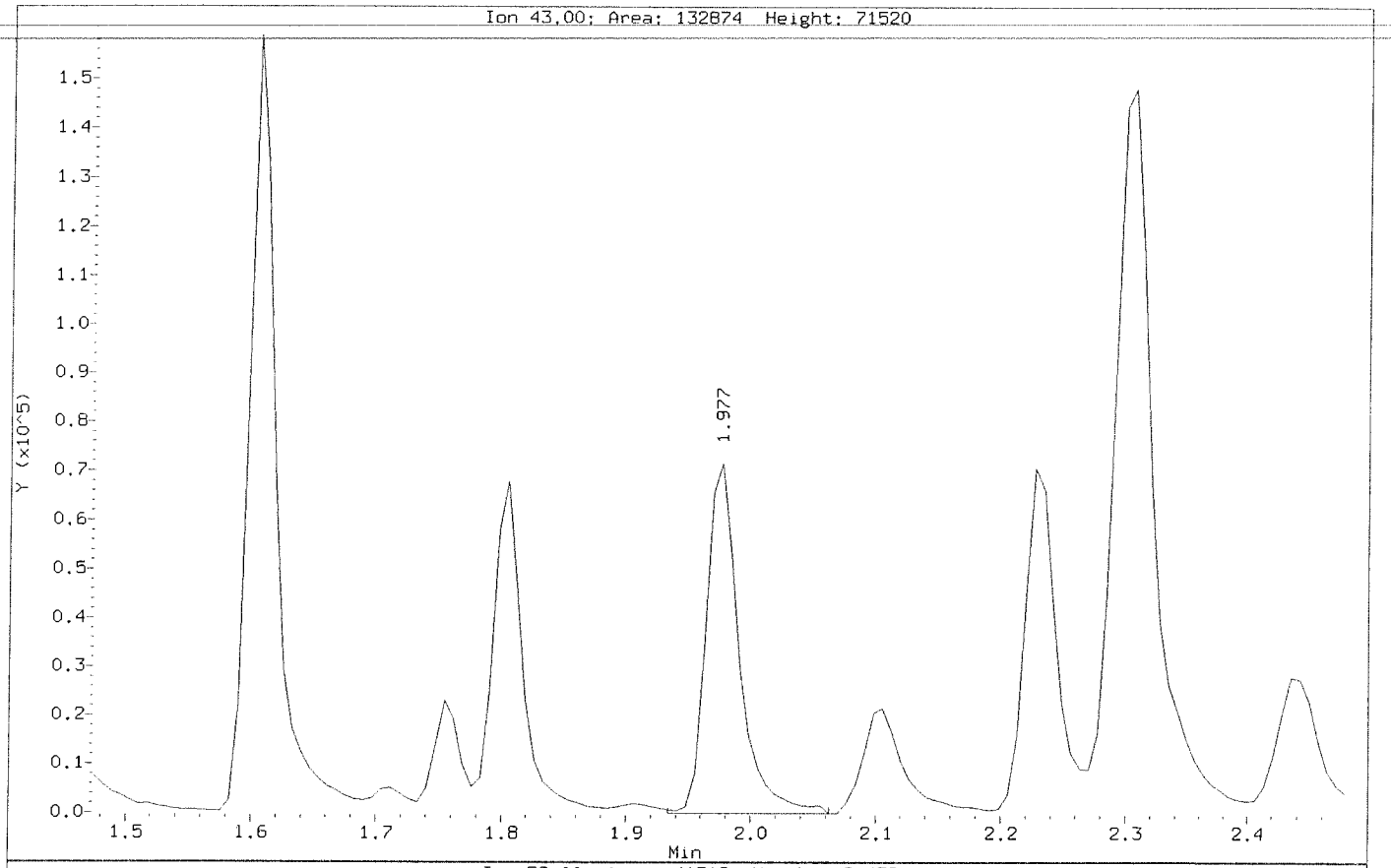
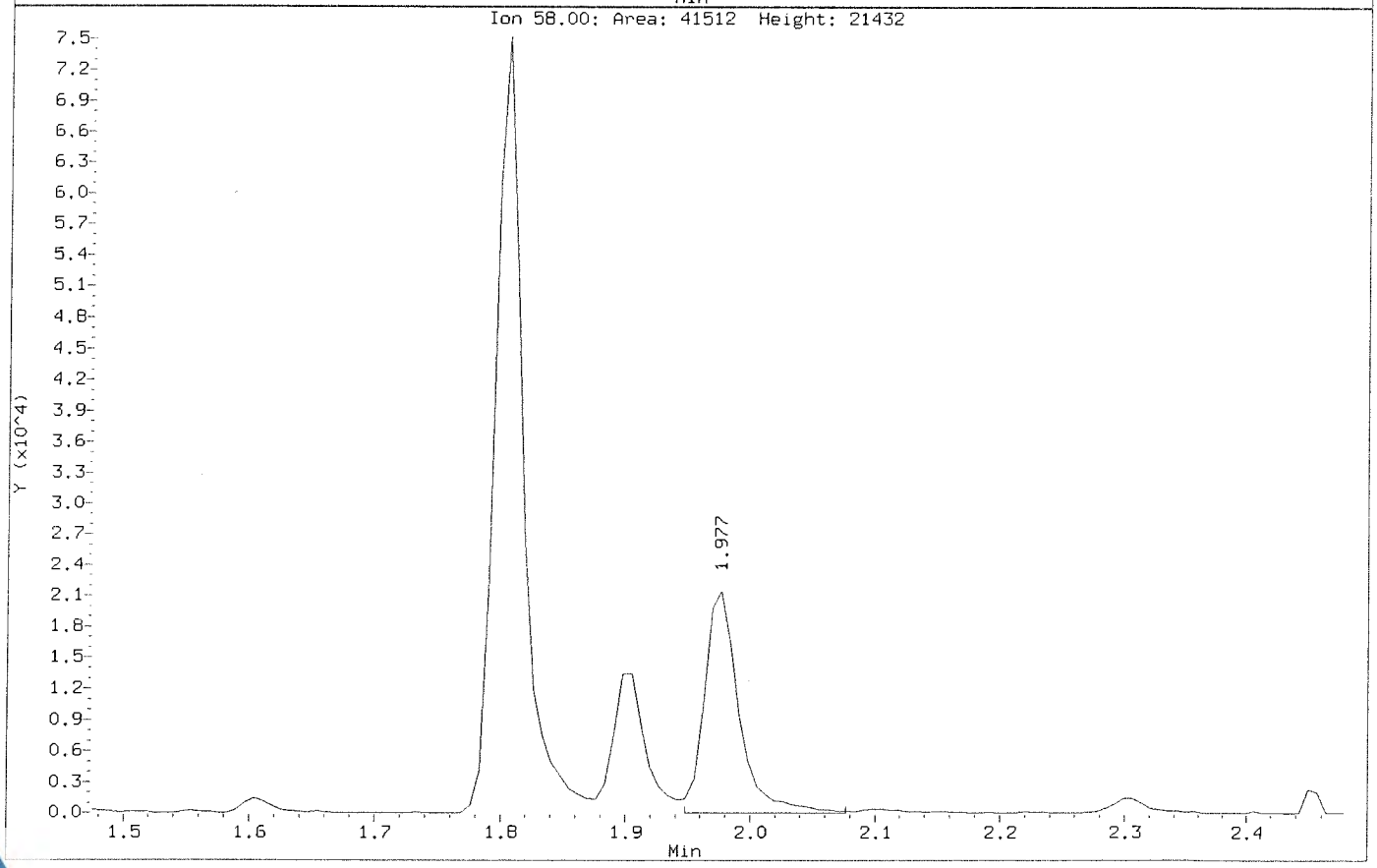
Injection Date: 31-OCT-2019 15:08
Instrument: voa6.i
Client Sample ID: VSTD200

Compound: Acetone
CAS Number: 67-64-1





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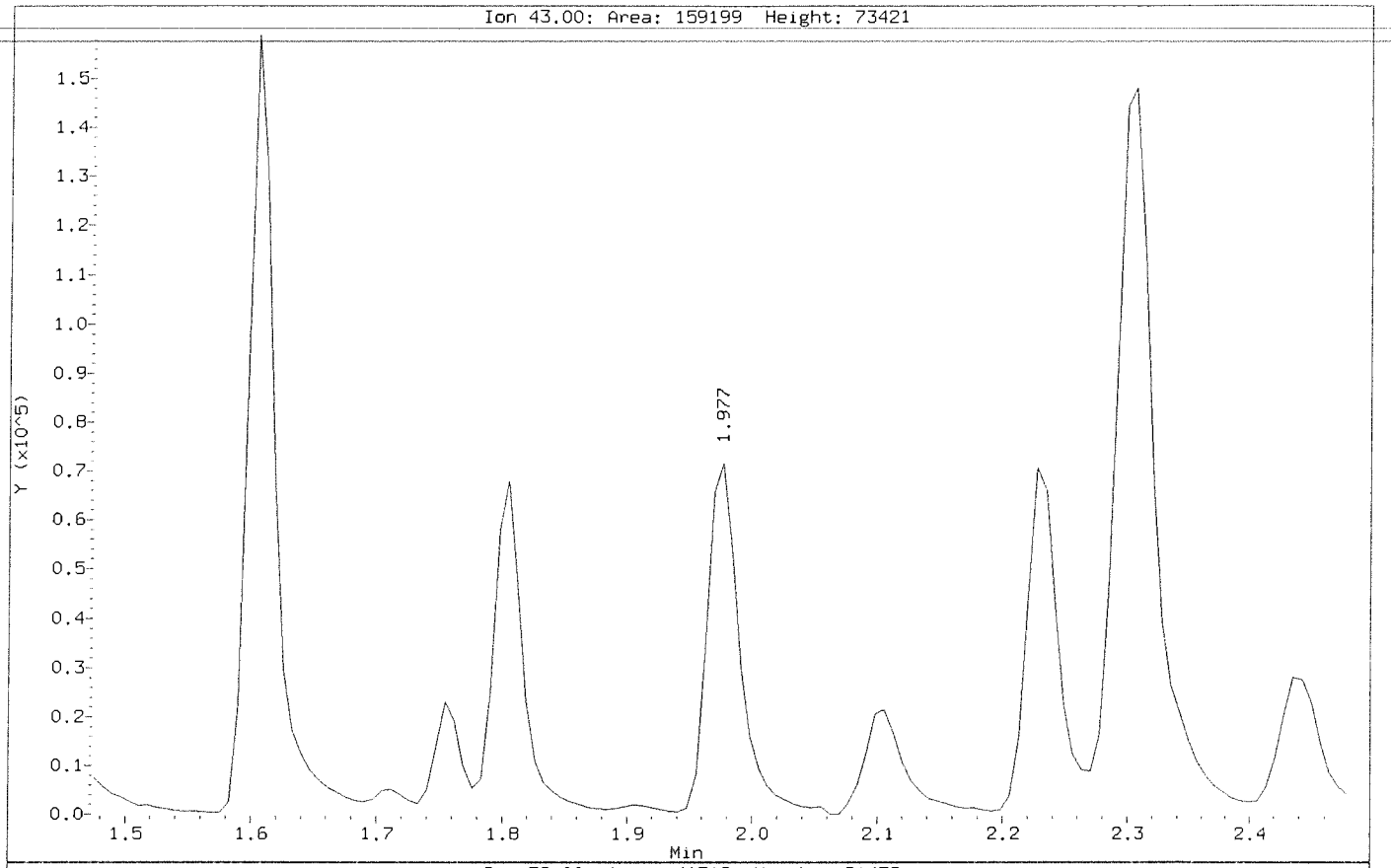
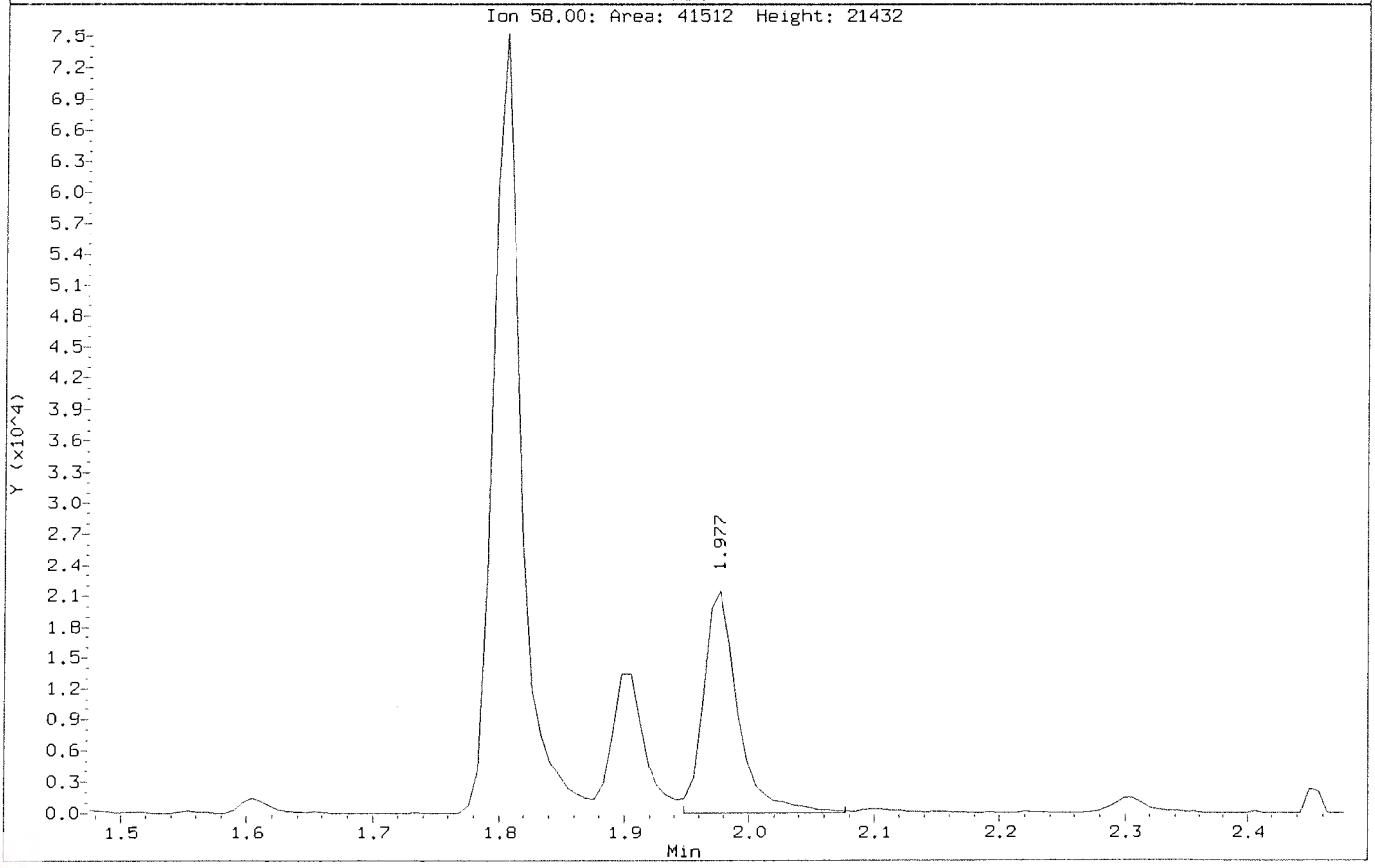
Injection Date: 31-OCT-2019 15:08
Instrument: voa6.i
Client Sample ID: VSTD200

Compound: Acetone
CAS Number: 67-64-1





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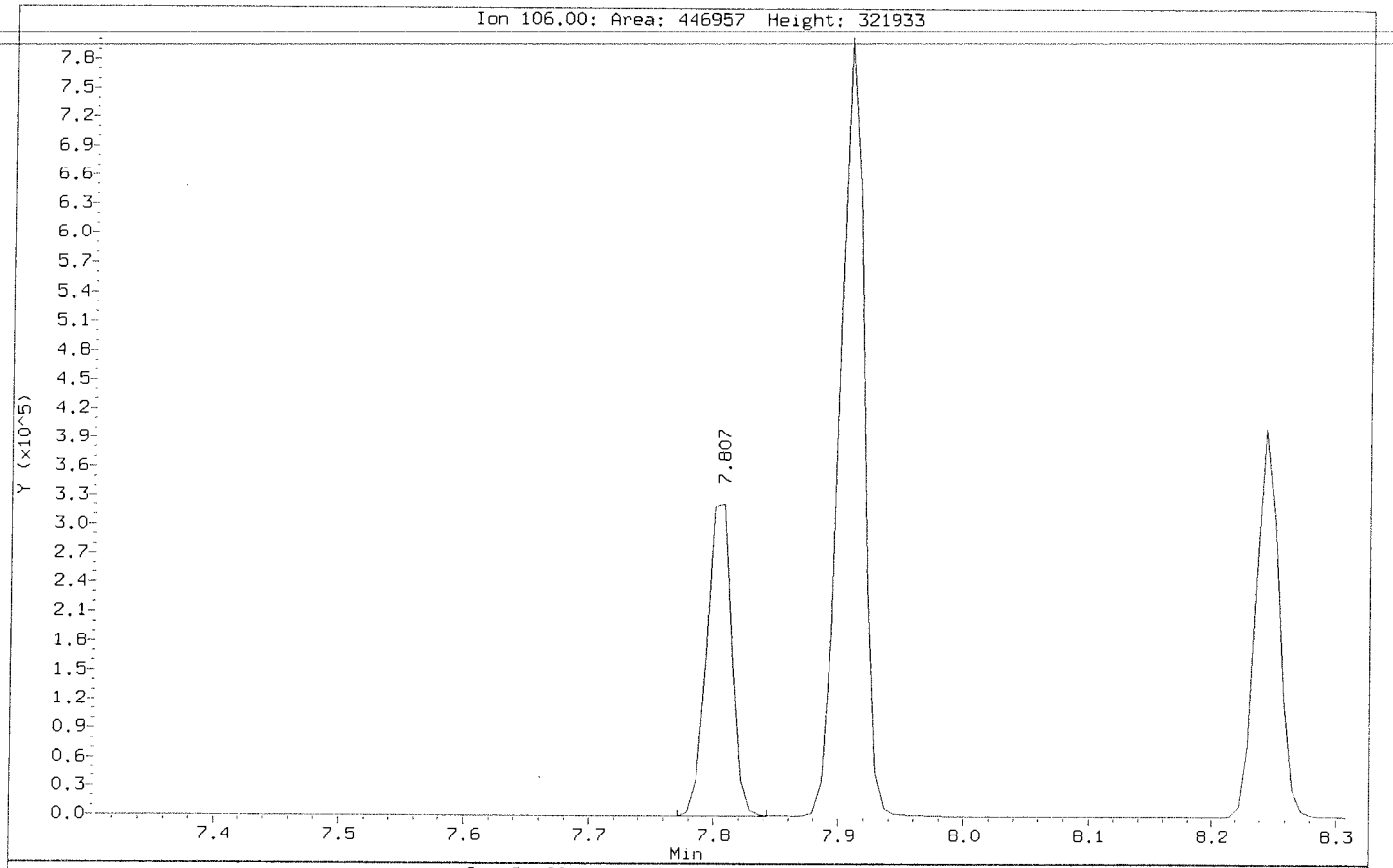
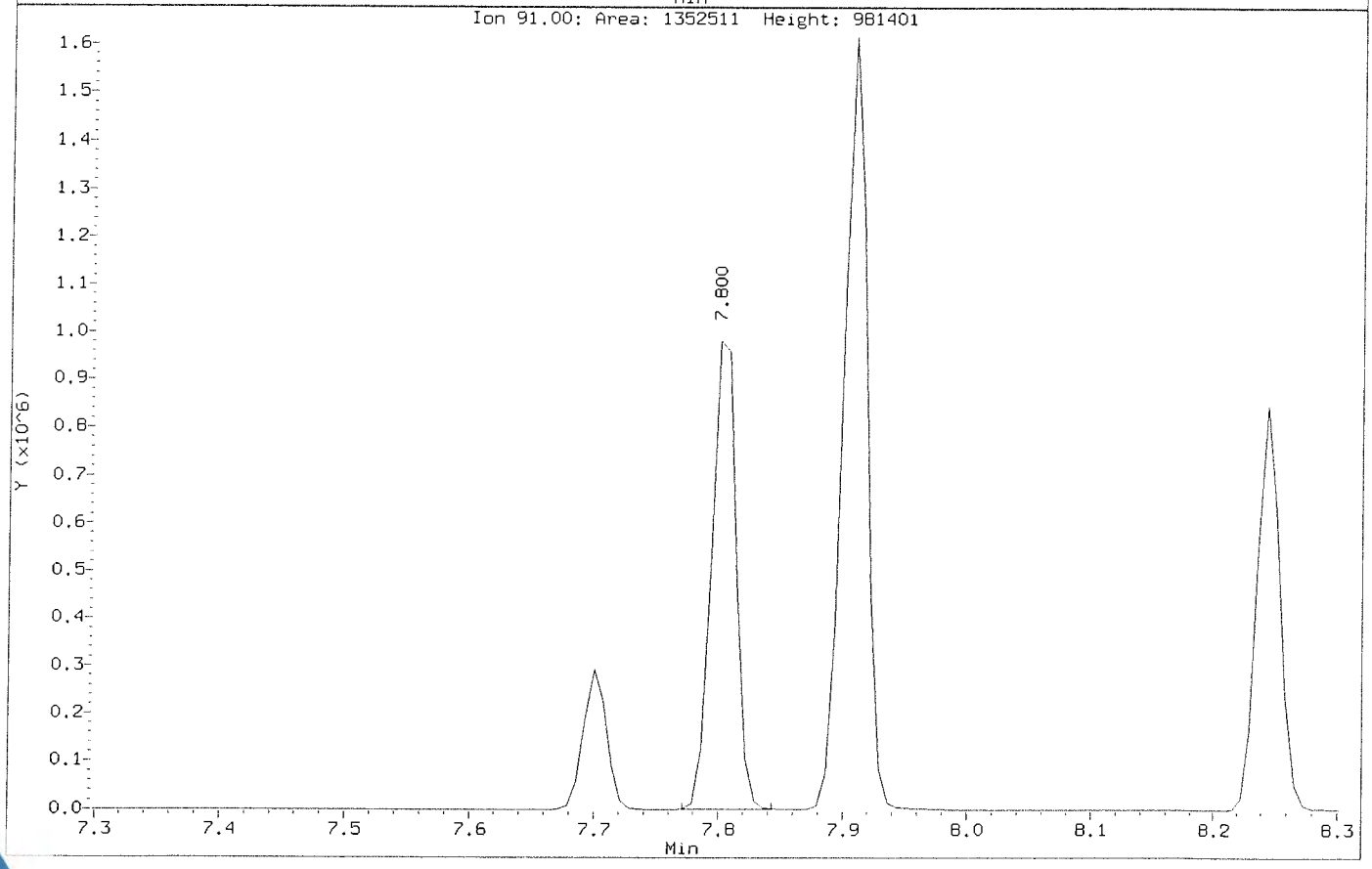
Injection Date: 31-OCT-2019 15:08
Instrument: voa6.i
Client Sample ID: VSTD200

Compound: Ethylbenzene
CAS Number: 100-41-4





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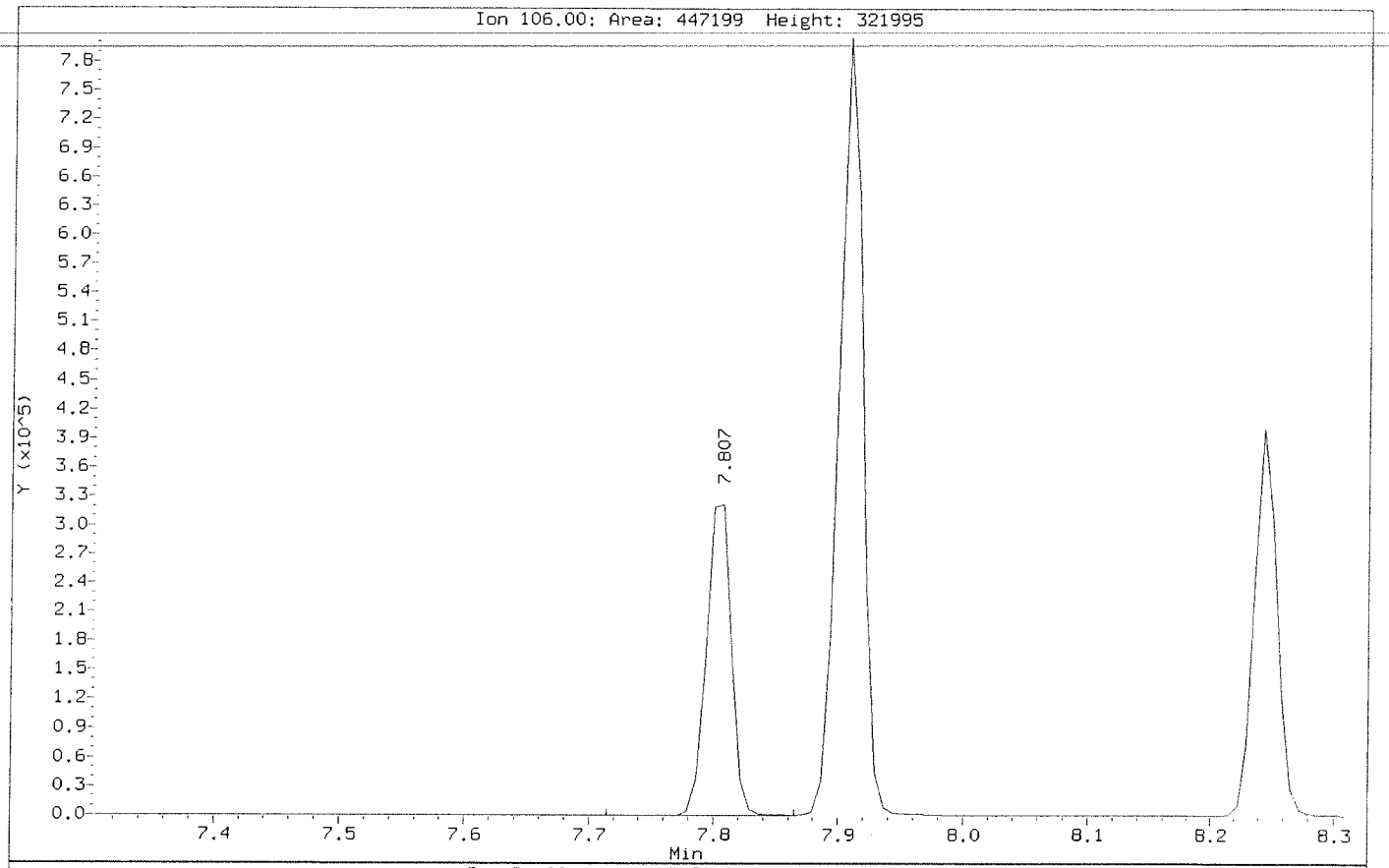
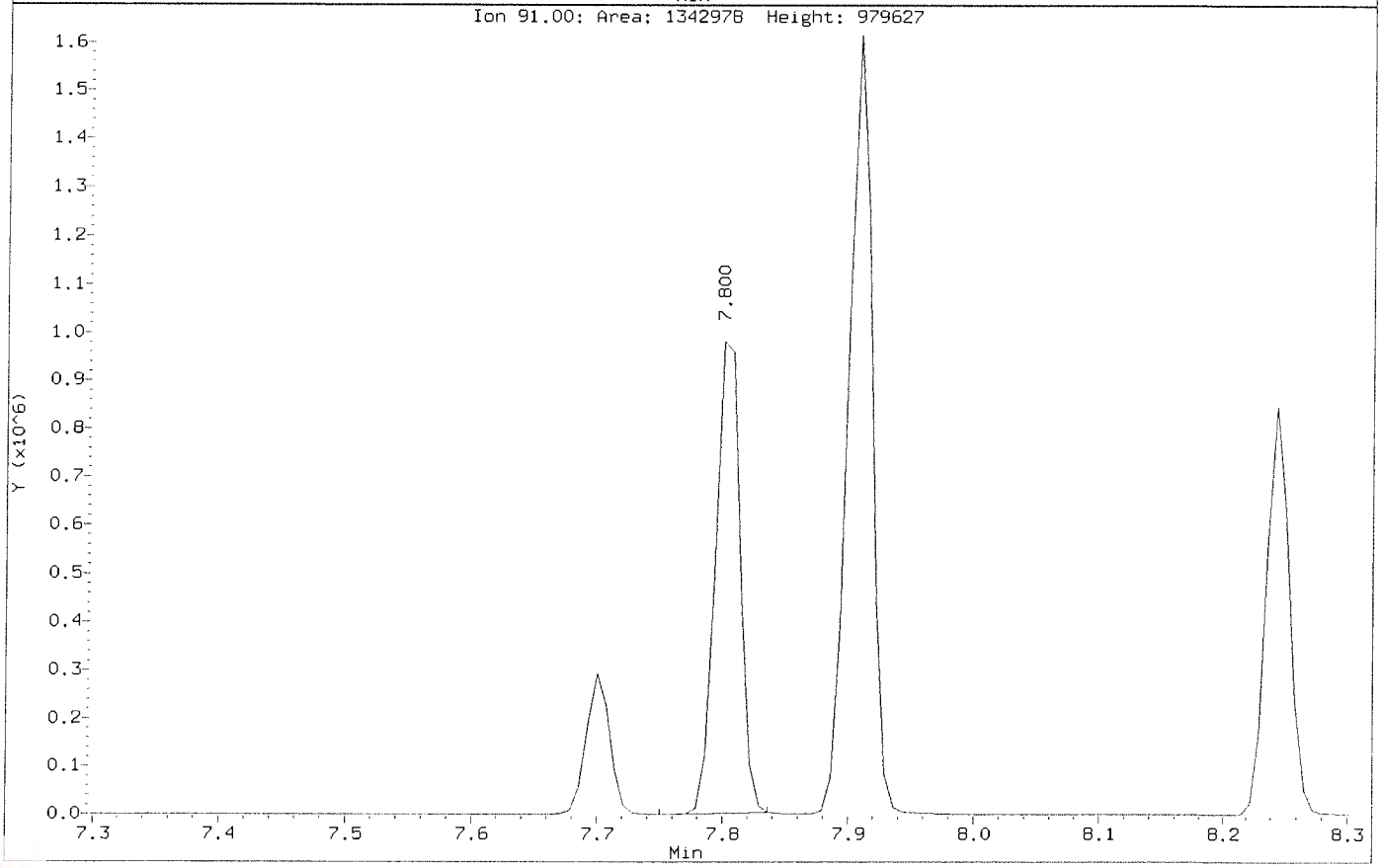
Injection Date: 31-OCT-2019 15:08
Instrument: voa6.i
Client Sample ID: VSTD200

Compound: Ethylbenzene
CAS Number: 100-41-4





Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\X103114.D Page 1
Report Date: 19-Nov-2019 17:39

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X191031.b\X103114.D
Lab Smp Id: ICV Client Smp ID: ICV
Inj Date : 31-OCT-2019 16:20
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\X191031.b\8260W.m
Meth Date : 19-Nov-2019 17:37 voa6.i Quant Type: ISTD
Cal Date : 31-OCT-2019 15:08 Cal File: X103111.D
Als bottle: 15 QC Sample: METHSPIKE
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

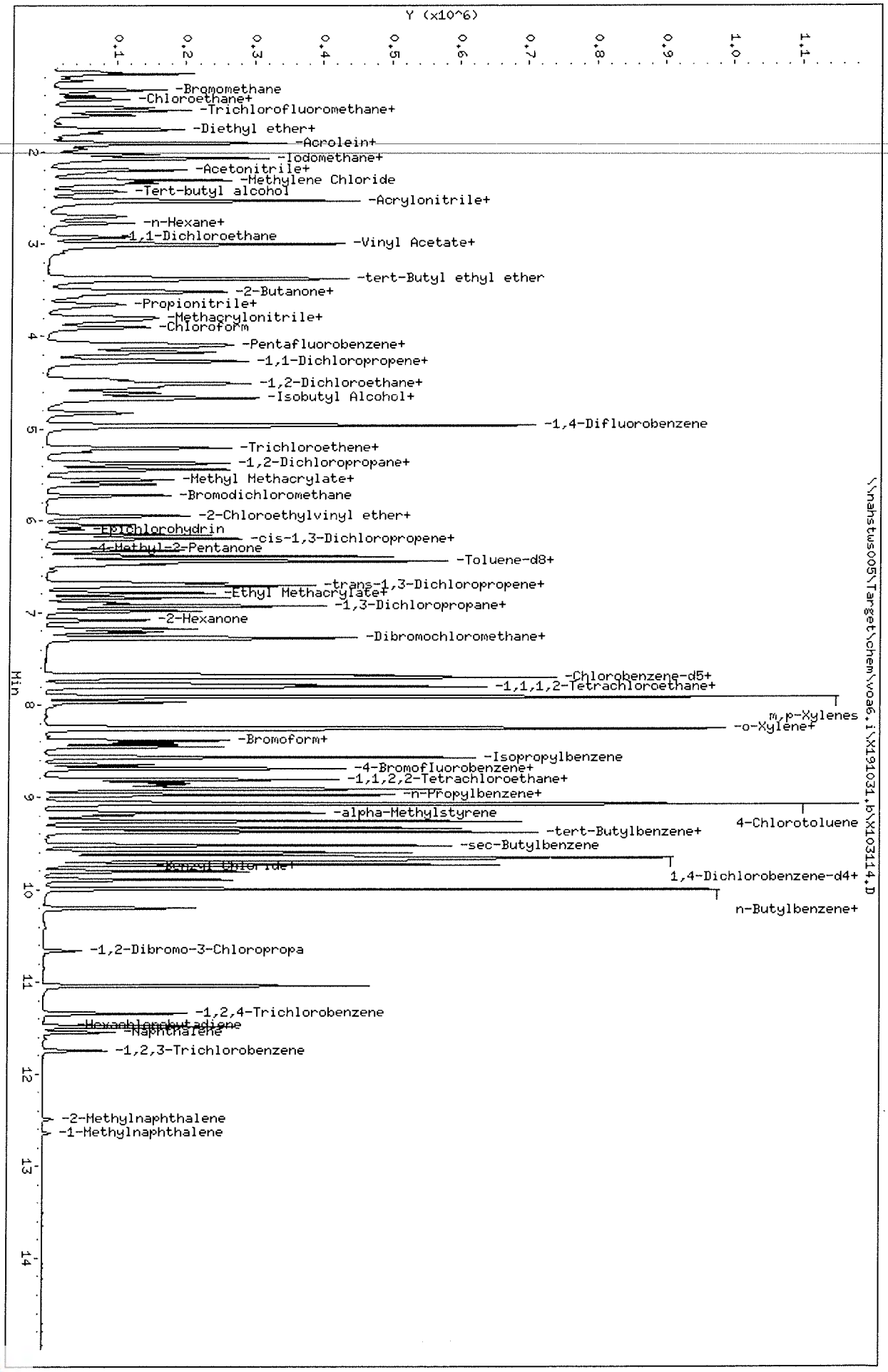
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	222901	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	271395	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	249311	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	145534	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	91238	48.5035	48.50
$ 69 4-Bromofluorobenzene	95	8.688	8.695	(1.133)	118151	50.4414	50.44
$ 30 Dibromofluoromethane	113	4.103	4.104	(0.981)	87286	49.1450	49.14
$ 48 Toluene-d8	98	6.388	6.389	(0.833)	300802	48.5612	48.56
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	96972	47.7498	47.74
31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	132872	47.5658	47.56
68 1,1,2,2-Tetrachloroethane	83	8.845	8.845	(0.915)	77879	49.1210	49.12
138 Freon TF	101	1.912	1.912	(0.457)	67962	46.0865	46.08
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	55155	48.6842	48.68
22 1,1-Dichloroethane	63	2.922	2.922	(0.699)	118345	47.4273	47.42
11 1,1-Dichloroethene	96	1.912	1.912	(0.457)	66655	47.0337	47.03
32 1,1-Dichloropropene	75	4.283	4.283	(0.862)	95177	47.0800	47.08
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.215)	27836	56.7167	56.71
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.917)	70273	50.3661	50.36(M)
90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	62648	47.7024	47.70
79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.970)	326505	46.8369	46.83
89 1,2-Dibromo-3-Chloropropane	155	10.658	10.658	(1.102)	11830	48.6971	48.69
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	81750	48.8016	48.80
88 1,2-Dichlorobenzene	146	9.999	9.999	(1.034)	187662	46.4641	46.46

Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\X103114.D Page 2
Report Date: 19-Nov-2019 17:39

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
33	1,2-Dichloroethane	62	4.555	4.562	(0.916)	105674	48.0274	48.02
42	1,2-Dichloropropane	63	5.436	5.436	(1.094)	60945	46.1006	46.10
75	1,3,5-Trimethylbenzene	105	9.067	9.075	(0.938)	319848	47.3459	47.34
83	1,3-Dichlorobenzene	146	9.605	9.612	(0.993)	206473	46.5359	46.53
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	111425	47.9423	47.94
84	1,4-Dichlorobenzene	146	9.683	9.684	(1.001)	204599	45.7038	45.70
26	2,2-Dichloropropane	77	3.516	3.516	(0.841)	124902	46.5859	46.58
24	2-Butanone	43	3.573	3.573	(0.854)	41819	92.8796	92.87
76	2-Chlorotoluene	91	8.974	8.982	(0.928)	242660	46.3918	46.39
52	2-Hexanone	43	7.083	7.090	(0.923)	67411	92.8622	92.86
77	4-Chlorotoluene	91	9.075	9.075	(0.939)	290651	47.1081	47.10
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	334348	46.2154	46.21
45	4-Methyl-2-Pentanone	43	6.324	6.331	(0.824)	93203	90.7923	90.79
10	Acetone	43	1.969	1.976	(0.471)	43147	94.8629	94.86
37	Benzene	78	4.512	4.512	(0.908)	282394	48.5953	48.59
74	Bromobenzene	156	8.810	8.810	(0.911)	127809	47.7075	47.70
29	Bromochloromethane	128	3.795	3.795	(0.908)	53096	46.1857	46.18
39	Bromodichloromethane	83	5.729	5.730	(1.153)	104561	48.6604	48.66
66	Bromoform	173	8.416	8.416	(1.097)	79401	49.3778	49.37
6	Bromomethane	94	1.339	1.331	(0.320)	78511	46.7242	46.72
19	Carbon Disulfide	76	2.069	2.069	(0.495)	398279	96.9804	96.98
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	121917	46.0259	46.02
59	Chlorobenzene	112	7.699	7.699	(1.004)	235939	48.5835	48.58
7	Chloroethane	64	1.403	1.396	(0.336)	40878	46.2623	46.26
28	Chloroform	83	3.910	3.910	(0.935)	142247	48.2146	48.21
3	Chloromethane	50	1.074	1.074	(0.257)	69924	47.4826	47.48
27	cis-1,2-Dichloroethene	96	3.530	3.523	(0.844)	87003	48.8598	48.85
46	cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	121466	48.7997	48.79
55	Dibromochloromethane	129	7.176	7.176	(0.936)	100135	48.4872	48.48
44	Dibromomethane	93	5.550	5.558	(1.117)	51989	49.6014	49.60
2	Dichlorodifluoromethane	85	0.973	0.966	(0.233)	79696	45.4615	45.46
61	Ethylbenzene	106	7.800	7.807	(1.017)	120889	47.9946	47.99
91	Hexachlorobutadiene	225	11.489	11.481	(1.188)	55154	48.5846	48.58
67	Isopropylbenzene	105	8.566	8.566	(1.117)	355632	46.4438	46.44
62	m,p-Xylenes	106	7.907	7.907	(1.031)	292741	95.8779	95.87
17	Methylene Chloride	84	2.306	2.306	(0.551)	73218	47.3288	47.32
87	n-Butylbenzene	91	9.999	9.999	(1.034)	246174	47.7070	47.70
73	n-Propylbenzene	91	8.917	8.917	(0.922)	383682	46.2884	46.28
92	Naphthalene	128	11.546	11.546	(1.194)	73378	55.7244	55.72
63	o-Xylene	106	8.244	8.244	(1.075)	142268	47.3188	47.31
81	sec-Butylbenzene	105	9.526	9.526	(0.985)	339907	46.0052	46.00
64	Styrene	104	8.258	8.265	(1.077)	252523	48.5514	48.55
78	tert-Butylbenzene	119	9.340	9.340	(0.966)	266237	45.4717	45.47
56	Tetrachloroethene	164	6.933	6.933	(0.904)	90330	47.8251	47.82
50	Toluene	91	6.446	6.446	(0.840)	329332	48.4073	48.40
20	trans-1,2-Dichloroethene	96	2.528	2.528	(0.604)	73884	49.3441	49.34
51	trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	114282	49.1814	49.18
38	Trichloroethene	130	5.207	5.207	(1.048)	99222	48.9983	48.99
8	Trichlorofluoromethane	101	1.561	1.553	(0.373)	140155	47.1125	47.11
5	Vinyl Chloride	62	1.138	1.138	(0.272)	67120	48.0063	48.00

QC Flag Legend

M - Compound response manually integrated.



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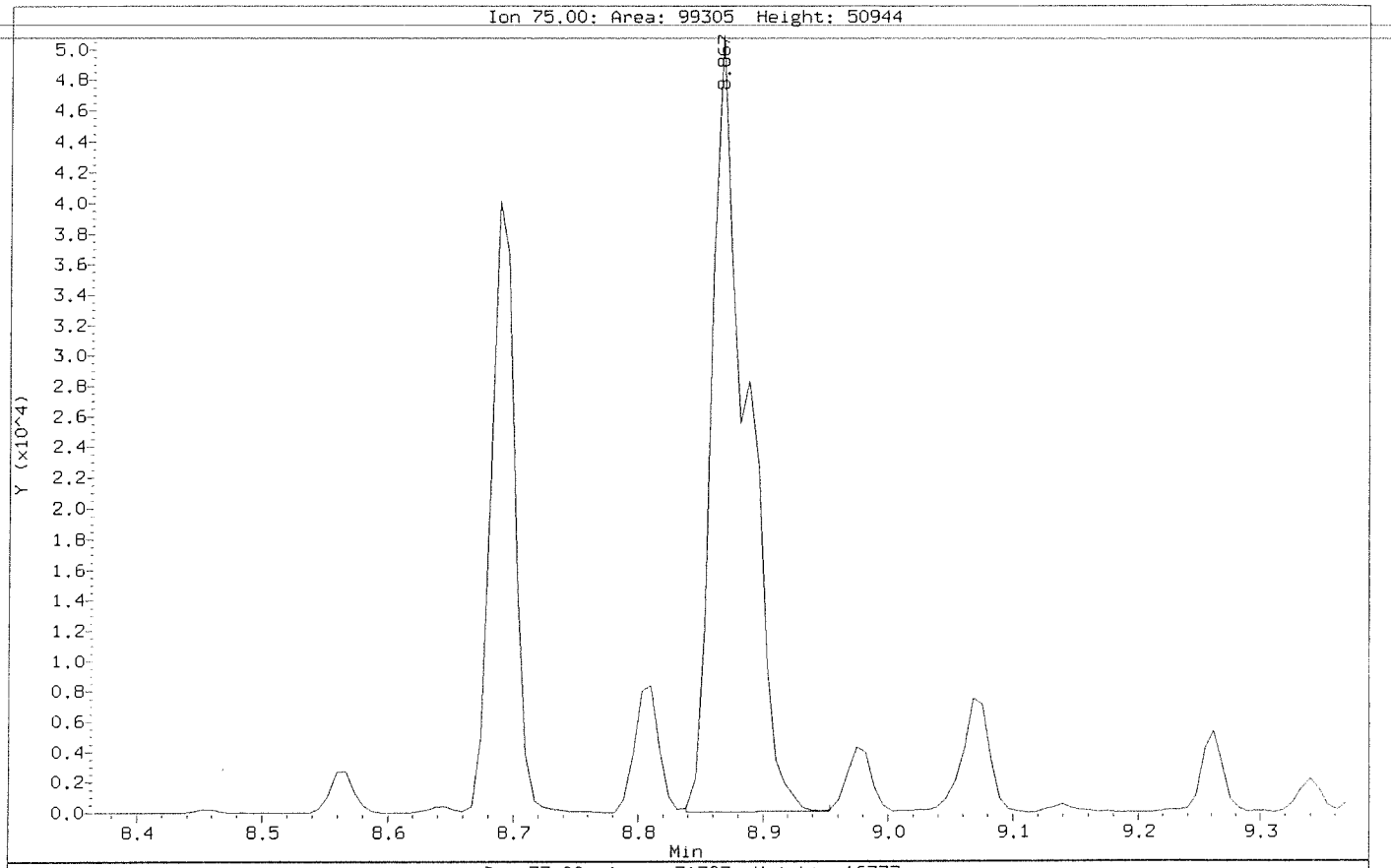
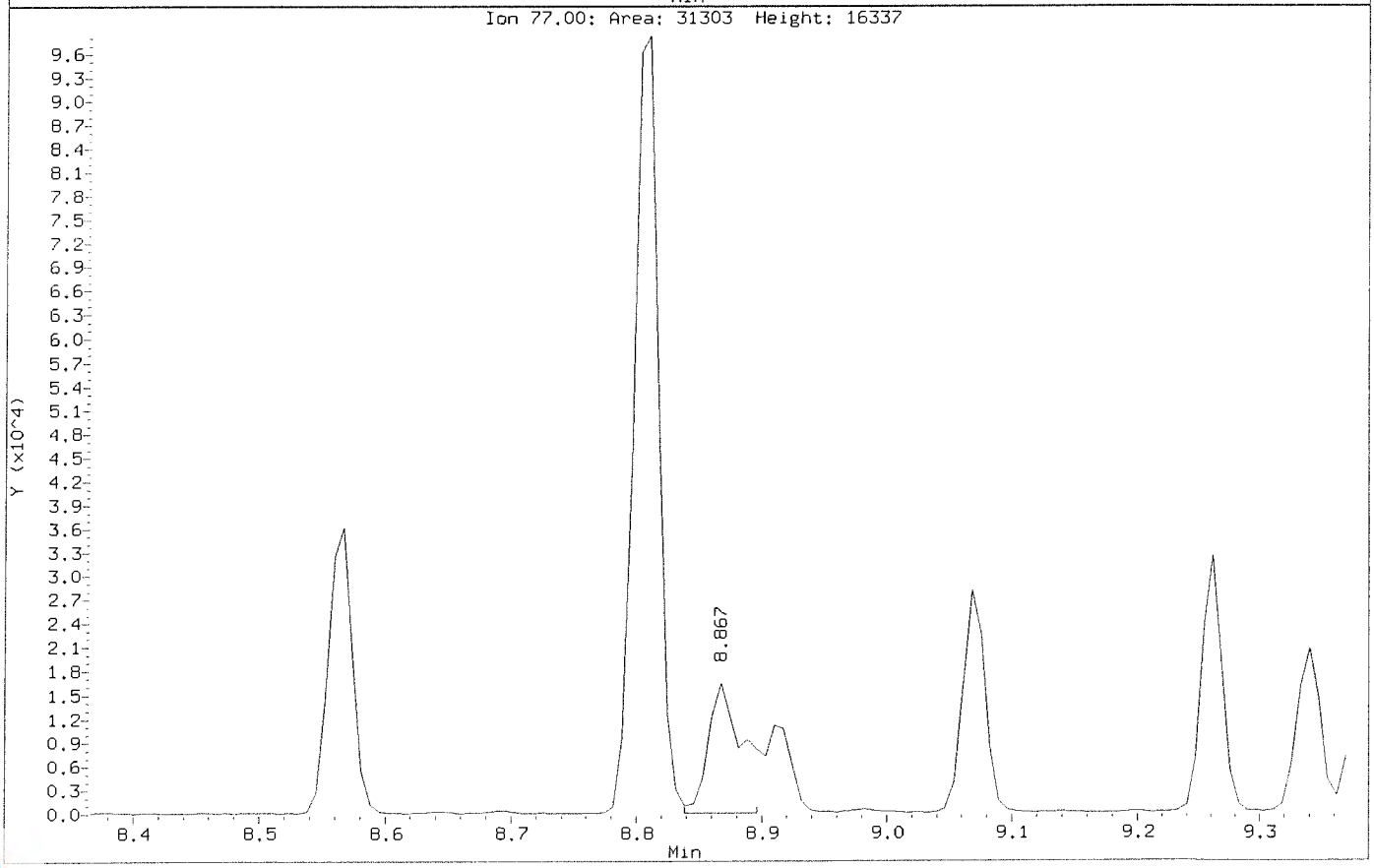
Date : 31-OCT-2019 16:20
Client ID: ICV
Sample Info: CCV;CCV;2;;ICV
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\nahstws005\Target\chem\voa6.i\X191031.b\BEFORE2\X103114.D
Injection Date: 31-OCT-2019 16:20
Instrument: voa6.i
Client Sample ID: ICV

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





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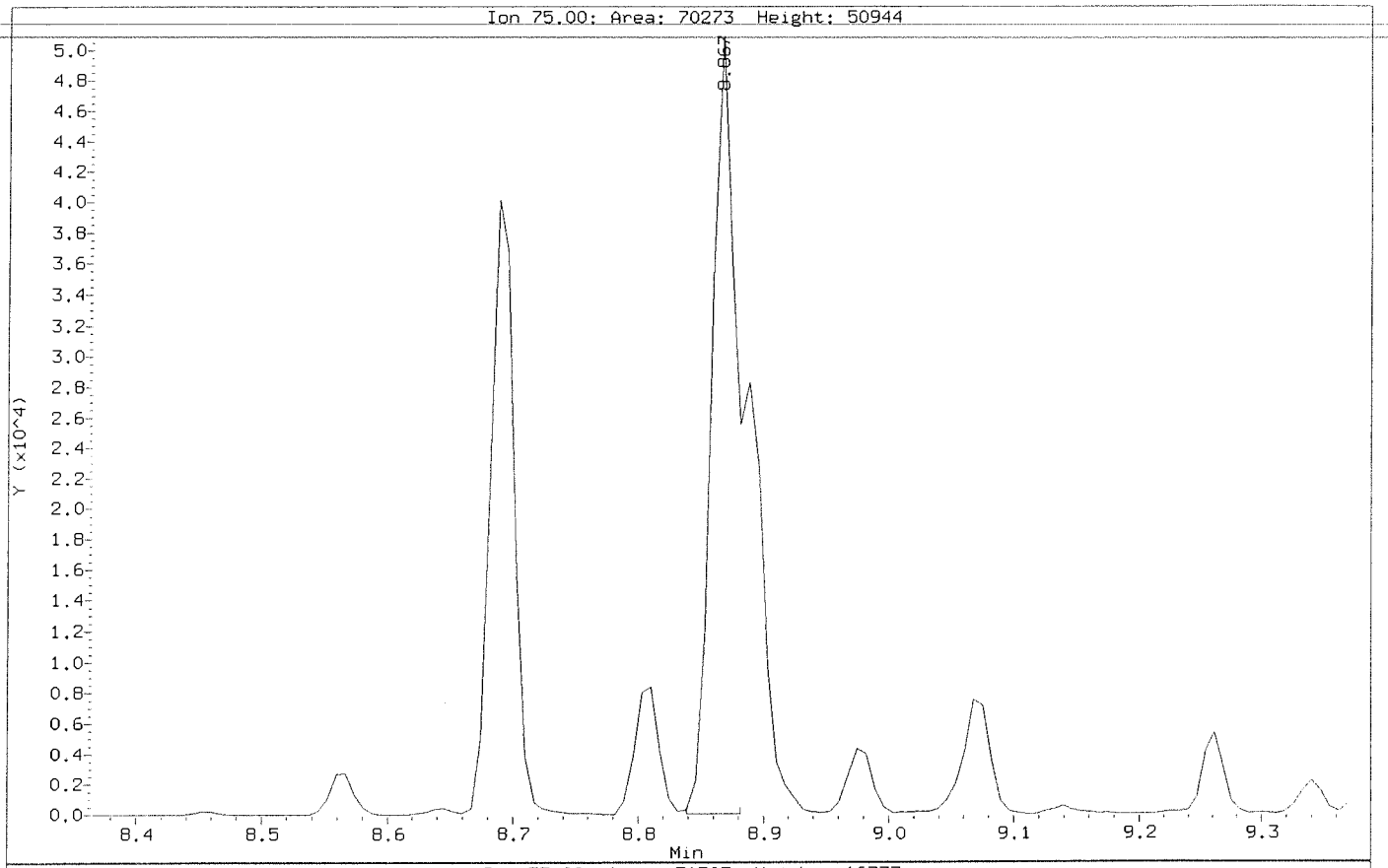
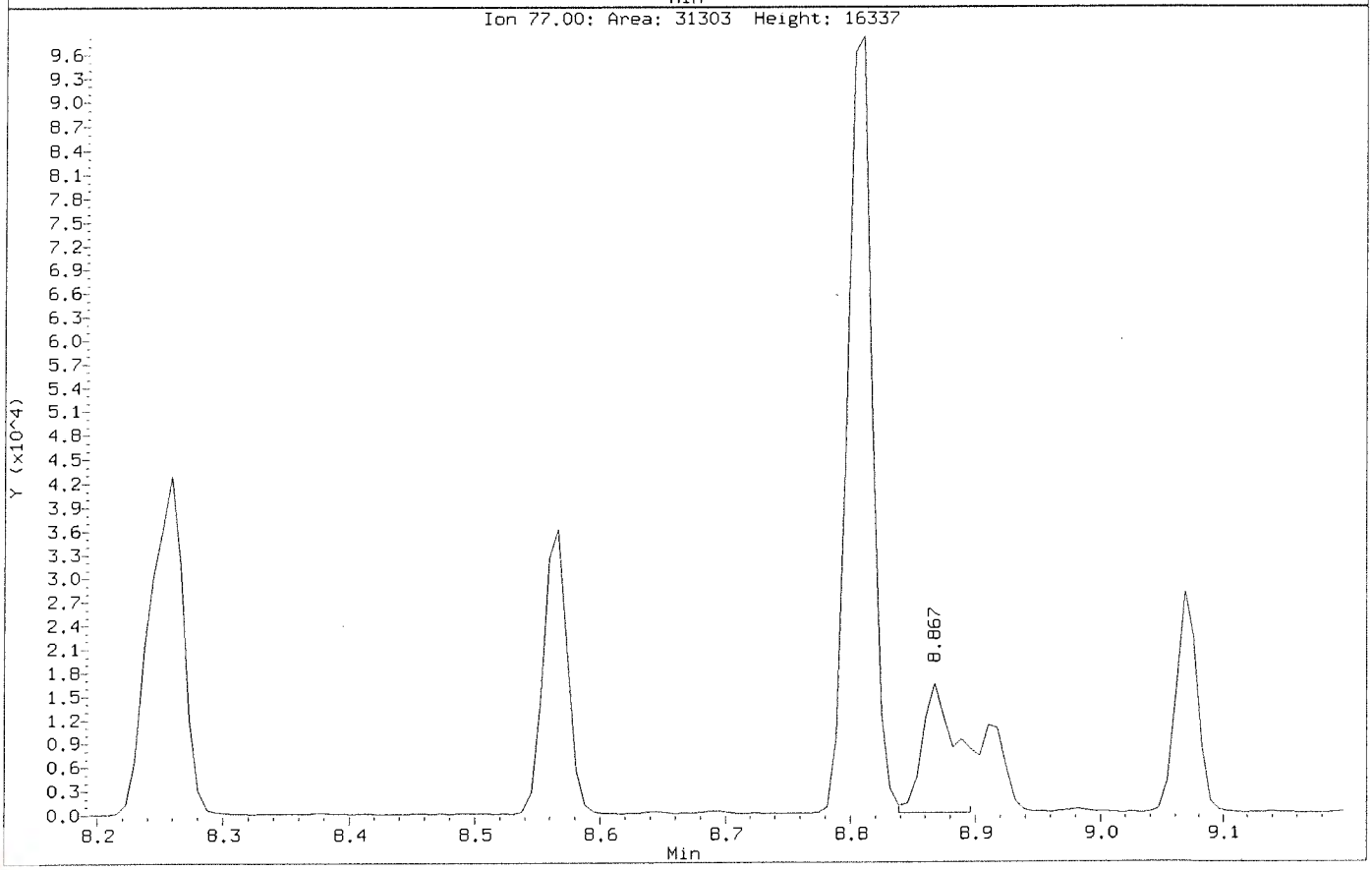
Injection Date: 31-OCT-2019 16:20
Instrument: voa6.i
Client Sample ID: ICV

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





MSVOA06 -Logbook

Batch: 38076 **Analyst:** Devak Giga

Date: 11-01-2019 **Reviewer:**

Method: 8260 **Laboratory:** Houston

Comments:

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
1	BFB	TUNE	11-01-2019 10:45 am	1.00	0.00 mL	0.00 mL	X110101.D	Liquid	Y	NA
	Auto find/purged									
2	CCV	CCV	11-01-2019 11:09 am	1.00	5.00 mL	0.00 mL	X110102a.D	Liquid	Y	NA
	10 uL cal std/50 mL DI									
3	CCV	CCV	11-01-2019 11:33 am	1.00	5.00 mL	0.00 mL	X110103.D	Liquid	Y	NA
	10 uL cal std/50 mL DI									
4	CCB	SAMP	11-01-2019 11:57 am	1.00	5.00 mL	0.00 mL	X110104.D	Liquid	Y	NA
	CCB									
5	VLCSW-191101	LCS	11-01-2019 12:21 pm	1.00	5.00 mL	0.00 mL	X110105.D	Liquid	Y	NA
	4 uL LCS std/50 mL DI									
6	BLK	SAMP	11-01-2019 12:45 pm	1.00	5.00 mL	0.00 mL	X110106.D	Liquid	Y	NA
	Cleanup blk									
7	VBLKW-191101	MBLK	11-01-2019 01:09 pm	1.00	5.00 mL	0.00 mL	X110107.D	Liquid	Y	<2
8	HS19101523-12	SAMP	11-01-2019 01:33 pm	1.00	5.00 mL	0.00 mL	X110108.D	Liquid	Y	<2
9	HS19101523-08	SAMP	11-01-2019 01:57 pm	1.00	5.00 mL	0.00 mL	X110109.D	Liquid	Y	<2
10	HS19101523-09	SAMP	11-01-2019 02:21 pm	1.00	5.00 mL	0.00 mL	X110110.D	Liquid	Y	<2
11	HS19101523-10	SAMP	11-01-2019 02:45 pm	1.00	5.00 mL	0.00 mL	X110111.D	Liquid	Y	<2
12	HS19101523-11	SAMP	11-01-2019 03:09 pm	1.00	5.00 mL	0.00 mL	X110112.D	Liquid	Y	<2
13	HS19101706-06	SAMP	11-01-2019 03:33 pm	1.00	5.00 mL	0.00 mL	X110113.D	Liquid	Y	<2
14	HS19101706-07	SAMP	11-01-2019 03:57 pm	1.00	5.00 mL	0.00 mL	X110114.D	Liquid	Y	<2
15	HS19101523-07	SAMP	11-01-2019 04:21 pm	10.00	5.00 mL	0.00 mL	X110115.D	Liquid	Y	<2
16	HS19101523-07	SAMP	11-01-2019 04:45 pm	1.00	5.00 mL	0.00 mL	X110116.D	Liquid	Y	<2
17	HS19101706-05	SAMP	11-01-2019 05:09 pm	1.00	5.00 mL	0.00 mL	X110117.D	Liquid	Y	<2
18	HS19101523-07MS	MS	11-01-2019 05:34 pm	10.00	5.00 mL	0.00 mL	X110118.D	Liquid	Y	NA
	3.2 uL cal std/40 mL sample									
19	HS19101523-07MSD	MSD	11-01-2019 05:58 pm	10.00	5.00 mL	0.00 mL	X110119.D	Liquid	Y	NA
	3.2 uL cal std/40 mL sample									
20	HS19101706-05	SAMP	11-01-2019 06:22 pm	10.00	5.00 mL	0.00 mL	X110120.D	Liquid	Y	<2
21	HS19101706-08	SAMP	11-01-2019 06:46 pm	1.00	5.00 mL	0.00 mL	X110121.D	Liquid	Y	<2
22	HS19101706-01	SAMP	11-01-2019 07:10 pm	1.00	5.00 mL	0.00 mL	X110122.D	Liquid	Y	<2
23	HS19101706-02	SAMP	11-01-2019 07:34 pm	1.00	5.00 mL	0.00 mL	X110123.D	Liquid	Y	<2
24	HS19101706-03	SAMP	11-01-2019 07:58 pm	1.00	5.00 mL	0.00 mL	X110124.D	Liquid	Y	<2
25	HS19101706-04	SAMP	11-01-2019 08:22 pm	1.00	5.00 mL	0.00 mL	X110125.D	Liquid	Y	<2
26	HS19101774-02	SAMP	11-01-2019 08:46 pm	1.00	5.00 mL	0.00 mL	X110126.D	Liquid	Y	<2
27	HS19101774-01	SAMP	11-01-2019 09:10 pm	1.00	5.00 mL	0.00 mL	X110127.D	Liquid	Y	<2
28	HS19110039-01	SAMP	11-01-2019 09:34 pm	1.00	5.00 mL	0.00 mL	X110128.D	Liquid	Y	<2
29	HS19110039-02	SAMP	11-01-2019 09:58 pm	1.00	5.00 mL	0.00 mL	X110129.D	Liquid	Y	<2
30	CCV-END	CCV	11-01-2019 10:22 pm	1.00	5.00 mL	0.00 mL	X110130.D	Liquid	Y	NA
	10 uL cal std/50 mL DI									
31	BFB	TUNE	11-01-2019 10:46 pm	1.00	0.00 mL	0.00 mL	Y110101.D	Liquid	Y	NA
	Auto find/purged									
32	CCV	CCV	11-01-2019 11:10 pm	1.00	5.00 mL	0.00 mL	Y110102.D	Liquid	Y	NA
	10 uL cal std/50 mL DI									
33	BLANK	SAMP	11-01-2019 11:34 pm	1.00	5.00 mL	0.00 mL	Y110103.D	Liquid	Y	NA
	Cleanup blk									
34	CCB	SAMP	11-01-2019 11:58 pm	1.00	5.00 mL	0.00 mL	Y110104.D	Liquid	Y	NA
	CCB									

MSVOA06 -Logbook

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
35	VLCSW-191101	LCS	11-02-2019 12:22 am	1.00	5.00 mL	0.00 mL	Y110105.D	Liquid	Y	NA
	4 uL LCS std/50 mL DI									
36	BLK	SAMP	11-02-2019 12:46 am	1.00	5.00 mL	0.00 mL	Y110106.D	Liquid	Y	NA
	Cleanup blk									
37	VBLKW-191101	MBLK	11-02-2019 01:10 am	1.00	5.00 mL	0.00 mL	Y110107.D	Liquid	Y	<2
38	HS19101843-10	SAMP	11-02-2019 01:34 am	1.00	5.00 mL	0.00 mL	Y110108.D	Liquid	Y	<2
39	HS19101843-01	SAMP	11-02-2019 01:58 am	1.00	5.00 mL	0.00 mL	Y110109.D	Liquid	Y	<2
40	HS19101843-01MS	MS	11-02-2019 02:22 am	1.00	5.00 mL	0.00 mL	Y110110.D	Liquid	Y	NA
	3.2 uL cal std/40 mL sample									
41	HS19101843-01MSD	MSD	11-02-2019 02:46 am	1.00	5.00 mL	0.00 mL	Y110111.D	Liquid	Y	NA
	3.2 uL cal std/40 mL sample									
42	HS19101843-02	SAMP	11-02-2019 03:10 am	1.00	5.00 mL	0.00 mL	Y110112.D	Liquid	Y	<2
43	HS19101843-04	SAMP	11-02-2019 03:34 am	1.00	5.00 mL	0.00 mL	Y110113.D	Liquid	Y	<2
44	HS19101843-05	SAMP	11-02-2019 03:58 am	1.00	5.00 mL	0.00 mL	Y110114.D	Liquid	Y	<2
45	HS19101843-06	SAMP	11-02-2019 04:22 am	1.00	5.00 mL	0.00 mL	Y110115.D	Liquid	Y	<2
46	HS19101843-07	SAMP	11-02-2019 04:47 am	1.00	5.00 mL	0.00 mL	Y110116.D	Liquid	Y	<2
47	HS19101843-08	SAMP	11-02-2019 05:11 am	1.00	5.00 mL	0.00 mL	Y110117.D	Liquid	Y	<2
48	HS19101906-01	SAMP	11-02-2019 05:35 am	1.00	5.00 mL	0.00 mL	Y110118.D	Liquid	Y	<2
49	HS19101906-02	SAMP	11-02-2019 05:59 am	1.00	5.00 mL	0.00 mL	Y110119.D	Liquid	Y	<2
50	HS19101906-03	SAMP	11-02-2019 06:23 am	1.00	5.00 mL	0.00 mL	Y110120.D	Liquid	Y	<2
51	HS19101906-04	SAMP	11-02-2019 06:47 am	1.00	5.00 mL	0.00 mL	Y110121.D	Liquid	Y	<2
52	HS19101906-05	SAMP	11-02-2019 07:11 am	1.00	5.00 mL	0.00 mL	Y110122.D	Liquid	Y	<2
53	HS19101906-06	SAMP	11-02-2019 07:35 am	1.00	5.00 mL	0.00 mL	Y110123.D	Liquid	Y	<2
54	HS19101906-07	SAMP	11-02-2019 07:59 am	1.00	5.00 mL	0.00 mL	Y110124.D	Liquid	Y	<2
55	HS19101906-08	SAMP	11-02-2019 08:23 am	1.00	5.00 mL	0.00 mL	Y110125.D	Liquid	Y	<2
56	HS19101906-09	SAMP	11-02-2019 08:47 am	1.00	5.00 mL	0.00 mL	Y110126.D	Liquid	Y	<2
57	HS19101906-10	SAMP	11-02-2019 09:11 am	1.00	5.00 mL	0.00 mL	Y110127.D	Liquid	Y	<2
58	HS19101843-09	SAMP	11-02-2019 09:35 am	5.00	5.00 mL	0.00 mL	Y110128.D	Liquid	Y	<2
59	HS19101843-03	SAMP	11-02-2019 09:59 am	100.0(	5.00 mL	0.00 mL	Y110129.D	Liquid	Y	<2
60	BLK	SAMP	11-02-2019 10:24 am	1.00	5.00 mL	0.00 mL	Y110140.D	Liquid	Y	NA
	Cleanup blk									

Chemical	Value
SURR SPK ID	30502-94-03
IS ID	30502-94-04
ICV STD ID	31106-01-01
LCS/MS ID	31106-01-01
CAL STD ID	31106-01-05
BFB ID	30502-94-03
pH Paper	634-64-11

FORM 2
WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS19101706

	CLIENT SAMPLE NO.	SMC1 #	SMC2 #	SMC3 (TOL)#	OTHER (DCE)#	TOT OUT
01	VLCSW-191101	105	102	99	105	0
02	VBLKW-191101	101	94	100	92	0
03	HS19101706-06	101	93	103	89	0
04	HS19101706-07	99	92	102	91	0
05	HS19101706-05	101	92	100	90	0
06	HS19101523-07	100	93	102	91	0
07	HS19101523-07	100	92	102	89	0
08	HS19101706-05	99	93	100	91	0
09	HS19101706-08	100	93	102	90	0
10	HS19101706-01	102	92	100	90	0
11	HS19101706-02	103	93	99	90	0
12	HS19101706-03	99	93	103	92	0
13	HS19101706-04	101	92	101	90	0
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-191101

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS19101706

Lab File ID: X110107 Lab Sample ID: VBLKW-191101

Date Analyzed: 11/01/19 Time Analyzed: 1309

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-191101	VLCSW-191101	X110105	1221
02	HS19101706-0	HS19101706-06	X110113	1533
03	HS19101706-0	HS19101706-07	X110114	1557
04	HS19101706-0	HS19101706-05	X110117	1709
05	HS19101523-0	HS19101523-07M	X110118	1734
06	HS19101523-0	HS19101523-07M	X110119	1758
07	HS19101706-0	HS19101706-05	X110120	1822
08	HS19101706-0	HS19101706-08	X110121	1846
09	HS19101706-0	HS19101706-01	X110122	1910
10	HS19101706-0	HS19101706-02	X110123	1934
11	HS19101706-0	HS19101706-03	X110124	1958
12	HS19101706-0	HS19101706-04	X110125	2022
13				
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COMMENTS:

FORM 5
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS19101706

Lab File ID: X110101 BFB Injection Date: 11/01/19

Instrument ID: VOA6 BFB Injection Time: 1045

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	16.0
75	30.0 - 60.0% of mass 95	46.3
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	7.2
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	Greater than 50.0% of mass 95	84.8
175	5.0 - 9.0% of mass 174	7.2 (8.5)1
176	95.0 - 101.0% of mass 174	84.1 (99.1)1
177	5.0 - 9.0% of mass 176	6.2 (7.3)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	X110103	11/01/19	1133
02	VLCSW-191101	VLCSW-191101	X110105	11/01/19	1221
03	VBLKW-191101	VBLKW-191101	X110107	11/01/19	1309
04	HS19101706-0	HS19101706-06	X110113	11/01/19	1533
05	HS19101706-0	HS19101706-07	X110114	11/01/19	1557
06	HS19101706-0	HS19101706-05	X110117	11/01/19	1709
07	HS19101523-0	HS19101523-07M	X110118	11/01/19	1734
08	HS19101523-0	HS19101523-07M	X110119	11/01/19	1758
09	HS19101706-0	HS19101706-05	X110120	11/01/19	1822
10	HS19101706-0	HS19101706-08	X110121	11/01/19	1846
11	HS19101706-0	HS19101706-01	X110122	11/01/19	1910
12	HS19101706-0	HS19101706-02	X110123	11/01/19	1934
13	HS19101706-0	HS19101706-03	X110124	11/01/19	1958
14	HS19101706-0	HS19101706-04	X110125	11/01/19	2022
15	CCV-END	CCV-END	X110130	11/01/19	2222
16					
17					
18					
19					
20					
21					
22					

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS19101706

Instrument ID: VOA6 Calibration Date: 11/01/19 Time: 1133

Lab File ID: X110103 Init. Calib. Date(s): 10/31/19 10/31/19

Init. Calib. Times: 1108 1508

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	0.4580000	0.4525371	0.4525371	0.2	1.19	20.00	AVRG	
trans-1,3-Dichloropropene	0.4280000	0.4369688	0.4369688	0.1	-2.10	20.00	AVRG	
1,3-Dichlorobenzene	1.5240000	1.4389550	1.4389550	0.6	5.58	20.00	AVRG	
2,2-Dichloropropane	0.6010000	0.5643334	0.5643334	0.1	6.10	20.00	AVRG	
1,1-Dichloropropene	0.3720000	0.3496141	0.3496141	0.1	6.02	20.00	AVRG	
Dibromomethane	0.1930000	0.1955463	0.1955463	0.1	-1.32	20.00	AVRG	
1,2-Dibromoethane	0.3360000	0.3368678	0.3368678	0.1	-0.26	20.00	AVRG	
trans-1,2-Dichloroethene	0.3360000	0.3424481	0.3424481	0.1	-1.92	20.00	AVRG	
1,1,1,2-Tetrachloroethane	0.4070000	0.3930733	0.3930733	0.1	3.42	20.00	AVRG	
1,1,1-Trichloroethane	0.6270000	0.6163339	0.6163339	0.1	1.70	20.00	AVRG	
1,1,2,2-Tetrachloroethane	50.619333	50.000000	0.5512744	0.3	-1.24	20.00	LINR	
Toluene	1.3640000	1.3140441	1.3140441	0.4	3.66	20.00	AVRG	
1,1,2-Trichloroethane	0.2270000	0.2248964	0.2248964	0.1	0.93	20.00	AVRG	
1,1-Dichloroethane	0.5600000	0.5471260	0.5471260	0.2	2.30	20.00	AVRG	
1,1-Dichloroethene	0.3180000	0.3029674	0.3029674	0.1	4.73	20.00	AVRG	
Trichlorofluoromethane	0.6670000	0.6152178	0.6152178	0.1	7.76	20.00	AVRG	
1,2,3-Trichlorobenzene	64.326195	50.000000	0.2184155	0.1	-28.65	20.00	2RDR	<-
Tetrachloroethene	0.3790000	0.3539173	0.3539173	0.2	6.62	20.00	AVRG	
1,2,4-Trichlorobenzene	0.4510000	0.4579581	0.4579581	0.2	-1.54	20.00	AVRG	
1,2,4-Trimethylbenzene	2.3950000	2.3013877	2.3013877	0.1	3.91	20.00	AVRG	
tert-Butylbenzene	2.0120000	1.8327386	1.8327386	0.1	8.91	20.00	AVRG	
Trichloroethene	0.3730000	0.3727498	0.3727498	0.2	0.07	20.00	AVRG	
1,2-Dichlorobenzene	1.3880000	1.3137709	1.3137709	0.4	5.35	20.00	AVRG	
1,2-Dichloroethane	0.4050000	0.3927849	0.3927849	0.1	3.02	20.00	AVRG	
1,2-Dichloropropane	0.2440000	0.2274927	0.2274927	0.1	6.76	20.00	AVRG	
1,3,5-Trimethylbenzene	2.3210000	2.2087015	2.2087015	0.1	4.84	20.00	AVRG	
1,3-Dichloropropane	0.4660000	0.4522923	0.4522923	0.1	2.94	20.00	AVRG	
1,4-Dichlorobenzene	1.5380000	1.4607972	1.4607972	0.4	5.02	20.00	AVRG	
2-Butanone	100.44840	100.00000	0.1014121	0.1	-0.45	20.00	LINR	
2-Chlorotoluene	1.7970000	1.7075616	1.7075616	0.1	4.98	20.00	AVRG	
2-Hexanone	0.1460000	0.1395934	0.1395934	0.1	4.39	20.00	AVRG	
4-Chlorotoluene	2.1200000	2.0242212	2.0242212	0.1	4.52	20.00	AVRG	
Styrene	1.0430000	1.0382648	1.0382648	0.3	0.45	20.00	AVRG	
4-Methyl-2-Pentanone	0.2060000	0.1950195	0.1950195	0.1	5.33	20.00	AVRG	
Acetone	99.153880	100.00000	0.1011622	0.1	0.85	20.00	LINR	
Benzene	48.200375	50.000000	1.0321267	0.5	3.60	20.00	LINR	
Bromobenzene	0.9200000	0.8924880	0.8924880	0.1	2.99	20.00	AVRG	
Bromochloromethane	0.2580000	0.2486279	0.2486279	0.1	3.63	20.00	AVRG	
Bromodichloromethane	0.3960000	0.4002103	0.4002103	0.2	-1.06	20.00	AVRG	
Bromoform	0.3220000	0.3296883	0.3296883	0.1	-2.39	20.00	AVRG	
Bromomethane	49.239471	50.000000	0.3705932	0.1	1.52	20.00	LINR	
Carbon Disulfide	0.9210000	0.9080650	0.9080650	0.1	1.40	20.00	AVRG	

FORM VII VOA

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS1910170

Instrument ID: VOA6 Calibration Date: 11/01/19 Time: 1133

Lab File ID: X110103 Init. Calib. Date(s): 10/31/19 10/31/19

Init. Calib. Times: 1108 1508

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	0.4880000	0.4484311	0.4484311	0.1	8.11	20.00	AVRG	
Chlorobenzene	0.9740000	0.9540209	0.9540209	0.5	2.05	20.00	AVRG	
Chloroethane	0.1980000	0.1901832	0.1901832	0.1	3.95	20.00	AVRG	
Chloroform	0.6620000	0.6638263	0.6638263	0.2	-0.28	20.00	AVRG	
Chloromethane	49.004500	50.000000	0.3237414	0.1	1.99	20.00	LINR	
cis-1,2-Dichloroethene	0.3990000	0.4078467	0.4078467	0.1	-2.22	20.00	AVRG	
Dibromochloromethane	0.4140000	0.4040955	0.4040955	0.1	2.39	20.00	AVRG	
Dichlorodifluoromethane	44.221398	50.000000	0.3475191	0.1	11.56	20.00	LINR	
Ethylbenzene	0.5050000	0.4841734	0.4841734	0.1	4.12	20.00	AVRG	
Hexachlorobutadiene	0.3900000	0.3587794	0.3587794	0.1	8.00	20.00	AVRG	
Isopropylbenzene	1.5360000	1.4418214	1.4418214	0.1	6.13	20.00	AVRG	
m,p-Xylenes	0.6120000	0.5926318	0.5926318	0.1	3.16	20.00	AVRG	
Methylene Chloride	49.836397	50.000000	0.3458789	0.1	0.33	20.00	LINR	
n-Butylbenzene	1.7730000	1.6329935	1.6329935	0.5	7.90	20.00	AVRG	
n-Propylbenzene	2.8480000	2.6202705	2.6202705	0.1	8.00	20.00	AVRG	
Naphthalene	61.390075	50.000000	0.5578590	0.2	-22.78	20.00	2RDR	<-
o-Xylene	0.6030000	0.5758705	0.5758705	0.3	4.50	20.00	AVRG	
sec-Butylbenzene	2.5380000	2.3149250	2.3149250	0.1	8.79	20.00	AVRG	
Vinyl Chloride	0.3130000	0.2989009	0.2989009	0.1	4.50	20.00	AVRG	
1,2,3-Trichloropropane	53.325841	50.000000	0.5106273	0.1	-6.65	20.00	LINR	
p-Isopropyltoluene	2.4850000	2.2651161	2.2651161	0.1	8.85	20.00	AVRG	
1,2-Dibromo-3-Chloropropane	52.127769	50.000000	8.71e-002	0.05	-4.26	20.00	LINR	
Freon TF	0.3310000	0.2922091	0.2922091	0.1	11.72	20.00	AVRG	
4-Bromofluorobenzene	52.952151	50.000000	0.4972185	0.1	-5.90	20.00	LINR	
Dibromofluoromethane	51.904625	50.000000	0.4138008	0.1	-3.81	20.00	LINR	
Toluene-d8	1.2420000	1.2506052	1.2506052	0.1	-0.69	20.00	AVRG	
1,2-Dichloroethane-d4	52.178185	50.000000	0.4406502	0.1	-4.36	20.00	LINR	

FORM VII VOA

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS19101706

Instrument ID: VOA6 Calibration Date: 11/01/19 Time: 2222

Lab File ID: X110130 Init. Calib. Date(s): 10/31/19 10/31/19

Init. Calib. Times: 1108 1508

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	0.4580000	0.4581132	0.4581132	0.2	-0.02	50.00	AVRG	
trans-1,3-Dichloropropene	0.4280000	0.4379381	0.4379381	0.1	-2.32	50.00	AVRG	
1,3-Dichlorobenzene	1.5240000	1.5130506	1.5130506	0.6	0.72	50.00	AVRG	
2,2-Dichloropropane	0.6010000	0.5637085	0.5637085	0.1	6.20	50.00	AVRG	
1,1-Dichloropropene	0.3720000	0.3793921	0.3793921	0.1	-1.99	50.00	AVRG	
Dibromomethane	0.1930000	0.2012031	0.2012031	0.1	-4.25	50.00	AVRG	
1,2-Dibromoethane	0.3360000	0.3517798	0.3517798	0.1	-4.70	50.00	AVRG	
trans-1,2-Dichloroethene	0.3360000	0.3642232	0.3642232	0.1	-8.40	50.00	AVRG	
1,1,1,2-Tetrachloroethane	0.4070000	0.4109453	0.4109453	0.1	-0.97	50.00	AVRG	
1,1,1-Trichloroethane	0.6270000	0.6593860	0.6593860	0.1	-5.16	50.00	AVRG	
1,1,2,2-Tetrachloroethane	51.059341	50.000000	0.5560167	0.3	-2.12	50.00	LINR	
Toluene	1.3640000	1.4038982	1.4038982	0.4	-2.92	50.00	AVRG	
1,1,2-Trichloroethane	0.2270000	0.2343813	0.2343813	0.1	-3.25	50.00	AVRG	
1,1-Dichloroethane	0.5600000	0.5748951	0.5748951	0.2	-2.66	50.00	AVRG	
1,1-Dichloroethene	0.3180000	0.3270279	0.3270279	0.1	-2.84	50.00	AVRG	
Trichlorofluoromethane	0.6670000	0.7054214	0.7054214	0.1	-5.76	50.00	AVRG	
1,2,3-Trichlorobenzene	46.992934	50.000000	0.1573525	0.1	6.01	50.00	2RDR	
Tetrachloroethene	0.3790000	0.3871959	0.3871959	0.2	-2.16	50.00	AVRG	
1,2,4-Trichlorobenzene	0.4510000	0.3882515	0.3882515	0.2	13.91	50.00	AVRG	
1,2,4-Trimethylbenzene	2.3950000	2.4607971	2.4607971	0.1	-2.75	50.00	AVRG	
tert-Butylbenzene	2.0120000	2.0563382	2.0563382	0.1	-2.20	50.00	AVRG	
Trichloroethene	0.3730000	0.3894356	0.3894356	0.2	-4.41	50.00	AVRG	
1,2-Dichlorobenzene	1.3880000	1.3552085	1.3552085	0.4	2.36	50.00	AVRG	
1,2-Dichloroethane	0.4050000	0.4193703	0.4193703	0.1	-3.55	50.00	AVRG	
1,2-Dichloropropane	0.2440000	0.2297874	0.2297874	0.1	5.82	50.00	AVRG	
1,3,5-Trimethylbenzene	2.3210000	2.3772470	2.3772470	0.1	-2.42	50.00	AVRG	
1,3-Dichloropropane	0.4660000	0.4667047	0.4667047	0.1	-0.15	50.00	AVRG	
1,4-Dichlorobenzene	1.5380000	1.5220238	1.5220238	0.4	1.04	50.00	AVRG	
2-Butanone	93.605410	100.00000	9.45e-002	0.1	6.39	50.00	LINR	<-
2-Chlorotoluene	1.7970000	1.8238170	1.8238170	0.1	-1.49	50.00	AVRG	
2-Hexanone	0.1460000	0.1374437	0.1374437	0.1	5.86	50.00	AVRG	
4-Chlorotoluene	2.1200000	2.1159062	2.1159062	0.1	0.19	50.00	AVRG	
Styrene	1.0430000	1.0586573	1.0586573	0.3	-1.50	50.00	AVRG	
4-Methyl-2-Pentanone	0.2060000	0.1987405	0.1987405	0.1	3.52	50.00	AVRG	
Acetone	85.439753	100.00000	8.72e-002	0.1	14.56	50.00	LINR	<-
Benzene	50.430954	50.000000	1.0795766	0.5	-0.86	50.00	LINR	
Bromobenzene	0.9200000	0.9381887	0.9381887	0.1	-1.98	50.00	AVRG	
Bromochloromethane	0.2580000	0.2615644	0.2615644	0.1	-1.38	50.00	AVRG	
Bromodichloromethane	0.3960000	0.4128102	0.4128102	0.2	-4.24	50.00	AVRG	
Bromoform	0.3220000	0.3269218	0.3269218	0.1	-1.53	50.00	AVRG	
Bromomethane	61.408353	50.000000	0.4594661	0.1	-22.82	50.00	LINR	
Carbon Disulfide	0.9210000	0.9629182	0.9629182	0.1	-4.55	50.00	AVRG	

FORM VII VOA

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS1910170

Instrument ID: VOA6 Calibration Date: 11/01/19 Time: 2222

Lab File ID: X110130 Init. Calib. Date(s): 10/31/19 10/31/19

Init. Calib. Times: 1108 1508

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	0.4880000	0.4886349	0.4886349	0.1	-0.13	50.00	AVRG
Chlorobenzene	0.9740000	0.9949268	0.9949268	0.5	-2.15	50.00	AVRG
Chloroethane	0.1980000	0.2064715	0.2064715	0.1	-4.28	50.00	AVRG
Chloroform	0.6620000	0.6875045	0.6875045	0.2	-3.85	50.00	AVRG
Chloromethane	54.221495	50.000000	0.3581640	0.1	-8.44	50.00	LINR
cis-1,2-Dichloroethene	0.3990000	0.4321442	0.4321442	0.1	-8.31	50.00	AVRG
Dibromochloromethane	0.4140000	0.4199284	0.4199284	0.1	-1.43	50.00	AVRG
Dichlorodifluoromethane	50.918295	50.000000	0.4016357	0.1	-1.84	50.00	LINR
Ethylbenzene	0.5050000	0.5176640	0.5176640	0.1	-2.51	50.00	AVRG
Hexachlorobutadiene	0.3900000	0.3628153	0.3628153	0.1	6.97	50.00	AVRG
Isopropylbenzene	1.5360000	1.5774467	1.5774467	0.1	-2.70	50.00	AVRG
m,p-Xylenes	0.6120000	0.6272027	0.6272027	0.1	-2.48	50.00	AVRG
Methylene Chloride	52.541808	50.000000	0.3646529	0.1	-5.08	50.00	LINR
n-Butylbenzene	1.7730000	1.8269737	1.8269737	0.5	-3.04	50.00	AVRG
n-Propylbenzene	2.8480000	2.9122556	2.9122556	0.1	-2.26	50.00	AVRG
Naphthalene	48.320189	50.000000	0.4351416	0.2	3.36	50.00	2RDR
o-Xylene	0.6030000	0.6095031	0.6095031	0.3	-1.08	50.00	AVRG
sec-Butylbenzene	2.5380000	2.6433666	2.6433666	0.1	-4.15	50.00	AVRG
Vinyl Chloride	0.3130000	0.3300309	0.3300309	0.1	-5.44	50.00	AVRG
1,2,3-Trichloropropane	53.730619	50.000000	0.5144243	0.1	-7.46	50.00	LINR
p-Isopropyltoluene	2.4850000	2.5191886	2.5191886	0.1	-1.38	50.00	AVRG
1,2-Dibromo-3-Chloropropane	47.882600	50.000000	7.99e-002	0.05	4.23	50.00	LINR
Freon TF	0.3310000	0.3438247	0.3438247	0.1	-3.87	50.00	AVRG
4-Bromofluorobenzene	52.473205	50.000000	0.4927723	0.1	-4.95	50.00	LINR
Dibromofluoromethane	52.135783	50.000000	0.4156612	0.1	-4.27	50.00	LINR
Toluene-d8	1.2420000	1.2435703	1.2435703	0.1	-0.13	50.00	AVRG
1,2-Dichloroethane-d4	51.508381	50.000000	0.4349396	0.1	-3.02	50.00	LINR

FORM VII VOA

FORM 8
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS19101706

Lab File ID (Standard): X110103 Date Analyzed: 11/01/19

Instrument ID: VOA6 Time Analyzed: 1133

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	141240	9.67	241240	7.67	260593	4.97
	UPPER LIMIT	282480	10.17	482480	8.17	521186	5.47
	LOWER LIMIT	70620	9.17	120620	7.17	130297	4.47
	CLIENT SAMPLE NO.						
01	VLCSW-191101	151884	9.66	257370	7.67	277482	4.97
02	VBLKW-191101	165314	9.66	288826	7.67	327078	4.97
03	HS19101706-06	154353	9.66	284411	7.67	328889	4.97
04	HS19101706-07	158837	9.67	285890	7.67	331392	4.97
05	HS19101706-05	177796	9.66	303354	7.67	341839	4.97
06	HS19101523-07	165445	9.66	283230	7.67	322705	4.97
07	HS19101523-07	157766	9.67	277291	7.67	315266	4.97
08	HS19101706-05	158560	9.66	283929	7.67	321779	4.97
09	HS19101706-08	159551	9.66	281903	7.67	324759	4.97
10	HS19101706-01	177065	9.66	299855	7.67	334537	4.97
11	HS19101706-02	187970	9.67	318622	7.67	352732	4.97
12	HS19101706-03	154680	9.67	282018	7.67	328252	4.97
13	HS19101706-04	176783	9.67	297828	7.67	338765	4.97
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 8
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS19101706

Lab File ID (Standard): X110103 Date Analyzed: 11/01/19

Instrument ID: VOA6 Time Analyzed: 1133

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

		IS4 AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	206075	4.18				
	UPPER LIMIT	412150	4.68				
	LOWER LIMIT	103038	3.68				
	CLIENT SAMPLE NO.						
01	VLCSW-191101	223304	4.18				
02	VBLKW-191101	273156	4.18				
03	HS19101706-06	279332	4.18				
04	HS19101706-07	277235	4.18				
05	HS19101706-05	289115	4.18				
06	HS19101523-07	270472	4.18				
07	HS19101523-07	266313	4.18				
08	HS19101706-05	270539	4.18				
09	HS19101706-08	271938	4.18				
10	HS19101706-01	283854	4.18				
11	HS19101706-02	295604	4.18				
12	HS19101706-03	274504	4.18				
13	HS19101706-04	283625	4.18				
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.

FORM VIII VOA

Data File: \\nahstws005\Target\chem\voa6.i\X191101.b\X110101.D

Date : 01-NOV-2019 10:45

Client ID: BFB

Instrument: voa6.i

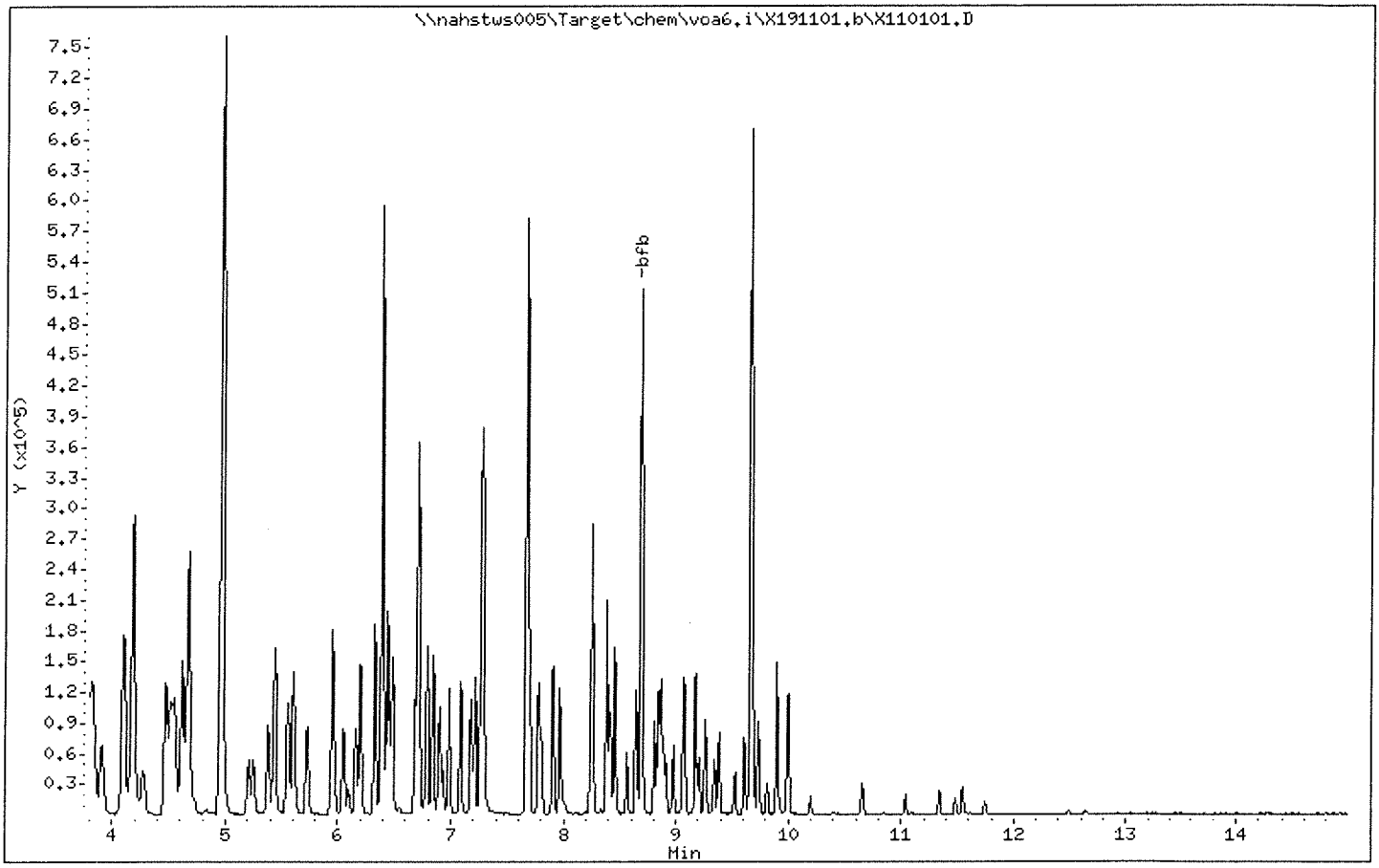
Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0

Operator: PC

Column phase: DB624

Column diameter: 0.25



Data File: \\nahstws005\Target\chem\voa6.i\X191101.b\X110101.D Page 3

Date : 01-NOV-2019 10:45

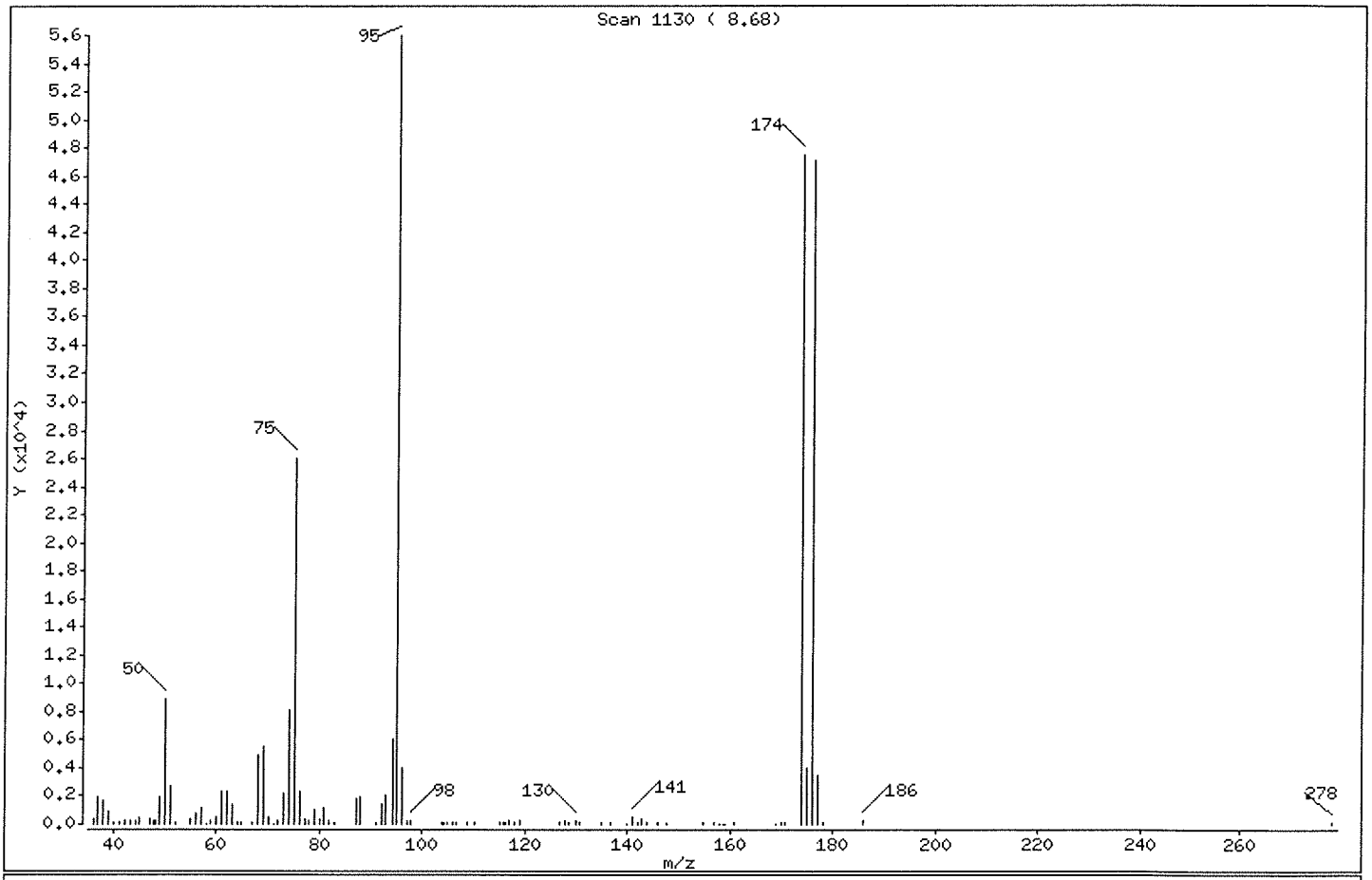
Client ID: BFB Instrument: voa6.i

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	15.95
75	30.00 - 60.00% of mass 95	46.32
96	5.00 - 9.00% of mass 95	7.16
173	Less than 2.00% of mass 174	0.00 (0.00)
174	Greater than 50.00% of mass 95	84.82
175	5.00 - 9.00% of mass 174	7.19 (8.48)
176	95.00 - 101.00% of mass 174	84.07 (99.12)
177	5.00 - 9.00% of mass 176	6.17 (7.34)

Data File: \\nahstws005\Target\chem\voa6.i\X191101.b\X110101.D Page 4

Date : 01-NOV-2019 10:45

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: X110101.D
Spectrum: Scan 1130 (8.68)
Location of Maximum: 95.00
Number of points: 98

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.10	402	63.10	1443	94.10	6044	139.80	54
37.00	1935	64.00	151	95.00	56008	140.90	523
38.10	1733	65.00	89	96.00	4012	141.90	152
39.10	942	67.00	181	97.00	205	142.90	394
40.00	151	68.00	4858	97.90	221	143.80	67
41.00	171	69.00	5508	103.70	162	145.80	69
42.10	205	70.00	530	104.10	177	147.80	131
43.10	237	71.10	64	104.90	88	154.90	165
44.20	290	72.00	268	106.00	147	157.00	161
45.00	553	73.00	2212	106.80	114	158.00	60
47.10	369	74.10	8134	108.80	79	158.60	55
47.80	264	75.10	25944	110.20	68	159.20	62
48.20	227	76.10	2276	115.00	162	160.70	67
49.00	1881	77.10	323	115.70	113	169.00	53
50.00	8936	77.80	260	116.10	156	170.00	66
51.00	2761	78.90	1059	116.90	245	170.90	88
52.00	123	80.10	322	118.00	174	173.90	47504
55.00	390	80.90	1185	118.90	253	175.00	4028
56.00	785	81.80	248	126.90	107	175.90	47088
57.10	1123	83.00	118	128.00	246	177.00	3458
58.00	61	87.00	1795	128.70	134	178.00	76
59.00	271	87.90	1989	130.00	293	186.10	290
60.00	485	90.90	184	130.70	77	278.10	113
61.00	2369	92.00	1393	135.00	87		
62.00	2307	93.00	2109	136.90	101		

Data File: \\nahstws005\Target\chem\voa6.i\X191101.b\X110103.D Page 1
Report Date: 20-Nov-2019 14:02

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X191101.b\X110103.D
Lab Smp Id: CCV Client Smp ID: CCV
Inj Date : 01-NOV-2019 11:33
Operator : PC Inst ID: voa6.i
Smp Info : CCV;CCV;2;;
Misc Info : HS18090001;WATER;0;1;
Comment   :
Method   : \\nahstws005\Target\chem\voa6.i\X191101.b\8260W.m
Meth Date : 20-Nov-2019 14:02 voa6.i Quant Type: ISTD
Cal Date : 31-OCT-2019 13:56 Cal File: X103108.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

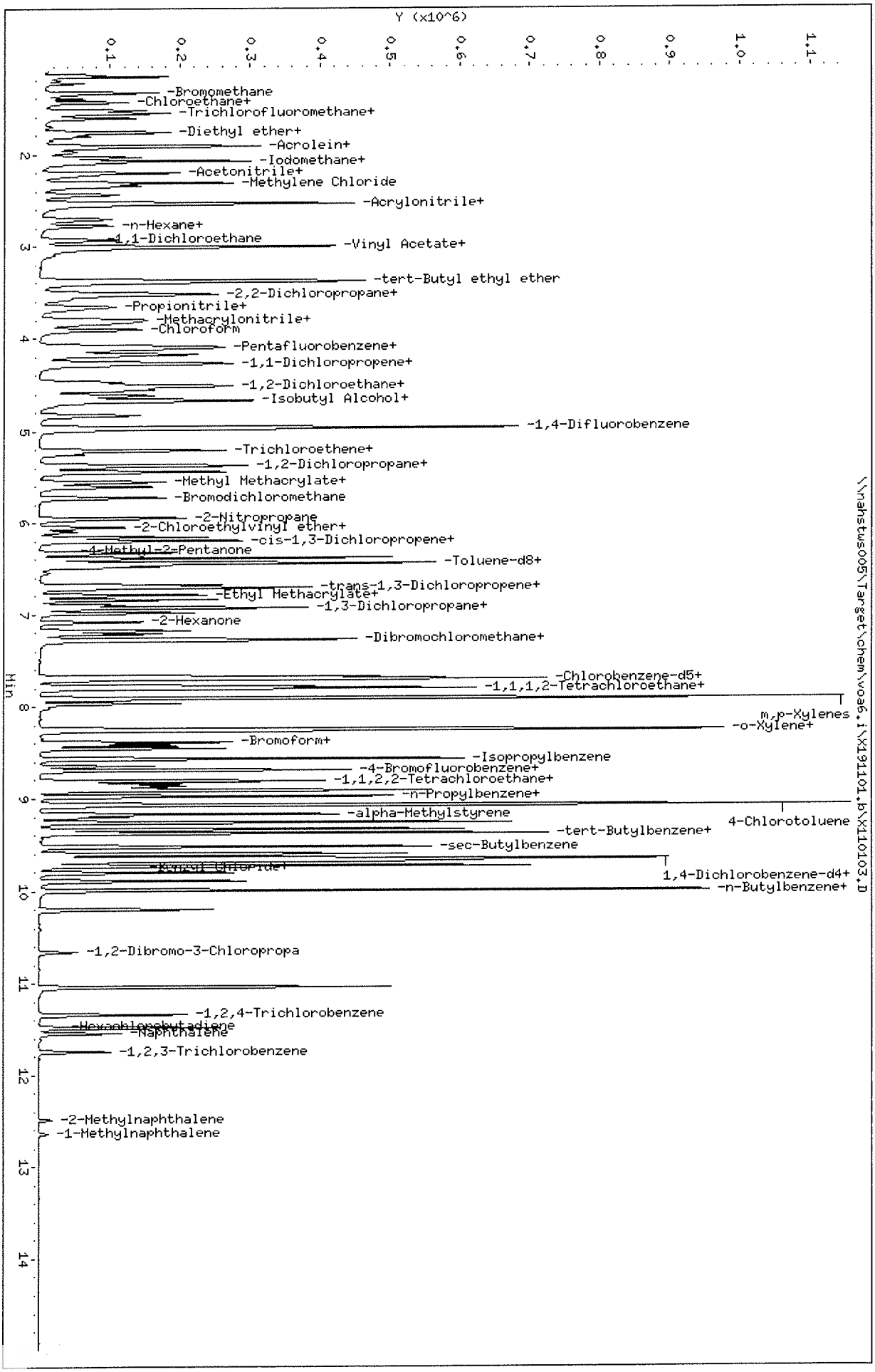
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
*	1 Pentafluorobenzene	168	4.182	4.182	(1.000)	206075	50.0000	
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	260593	50.0000	
*	47 Chlorobenzene-d5	117	7.670	7.671	(1.000)	241240	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	141240	50.0000	
$	35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	90807	50.0000	52.17
$	69 4-Bromofluorobenzene	95	8.688	8.695	(1.133)	119949	50.0000	52.95
$	30 Dibromofluoromethane	113	4.103	4.103	(0.981)	85274	50.0000	51.90
$	48 Toluene-d8	98	6.388	6.388	(0.833)	301696	50.0000	50.33
	60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	94825	50.0000	48.25
	31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	127011	50.0000	49.18
	68 1,1,2,2-Tetrachloroethane	83	8.838	8.838	(0.914)	77862	50.0000	50.61
	138 Freon TF	101	1.919	1.919	(0.459)	60217	50.0000	44.16
	53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	54254	50.0000	49.49
	22 1,1-Dichloroethane	63	2.921	2.921	(0.699)	112749	50.0000	48.87
	11 1,1-Dichloroethene	96	1.911	1.911	(0.457)	62434	50.0000	47.65
	32 1,1-Dichloropropene	75	4.282	4.282	(0.862)	91107	50.0000	46.93
	93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.215)	30849	50.0000	64.32
	71 1,2,3-Trichloropropane	75	8.867	8.867	(0.917)	72121	50.0000	53.32(M)
	90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	64682	50.0000	50.74
	79 1,2,4-Trimethylbenzene	105	9.382	9.382	(0.970)	325048	50.0000	48.04
	89 1,2-Dibromo-3-Chloropropane	155	10.657	10.657	(1.102)	12308	50.0000	52.12
	57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	81266	50.0000	50.13
	88 1,2-Dichlorobenzene	146	9.998	9.999	(1.034)	185557	50.0000	47.33

Data File: \\nahstws005\Target\chem\voa6.i\X191101.b\X110103.D Page 2
Report Date: 20-Nov-2019 14:02

	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)	102357	50.0000	48.44
42	1,2-Dichloropropane	63	5.436	5.443	(1.094)	59283	50.0000	46.70
75	1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	311957	50.0000	47.58
83	1,3-Dichlorobenzene	146	9.604	9.605	(0.993)	203238	50.0000	47.19
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	109111	50.0000	48.51
84	1,4-Dichlorobenzene	146	9.683	9.683	(1.001)	206323	50.0000	47.49
26	2,2-Dichloropropane	77	3.516	3.509	(0.841)	116295	50.0000	46.91
24	2-Butanone	43	3.573	3.573	(0.854)	41797	100.000	100.44(M)
76	2-Chlorotoluene	91	8.974	8.974	(0.928)	241176	50.0000	47.50
52	2-Hexanone	43	7.083	7.083	(0.923)	67351	100.000	95.88
77	4-Chlorotoluene	91	9.074	9.074	(0.939)	285901	50.0000	47.74
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	319925	50.0000	45.56
45	4-Methyl-2-Pentanone	43	6.324	6.324	(0.824)	94093	100.000	94.72
10	Acetone	43	1.976	1.976	(0.473)	41694	100.000	99.15
37	Benzene	78	4.512	4.512	(0.908)	268965	50.0000	48.20
74	Bromobenzene	156	8.809	8.809	(0.911)	126055	50.0000	48.48
29	Bromochloromethane	128	3.795	3.795	(0.908)	51236	50.0000	48.20
39	Bromodichloromethane	83	5.729	5.729	(1.153)	104292	50.0000	50.54
66	Bromoform	173	8.415	8.415	(1.097)	79534	50.0000	51.11
6	Bromomethane	94	1.338	1.338	(0.320)	76370	50.0000	49.23
19	Carbon Disulfide	76	2.069	2.069	(0.495)	374259	100.000	98.57
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	116858	50.0000	45.94
59	Chlorobenzene	112	7.699	7.699	(1.004)	230148	50.0000	48.97
7	Chloroethane	64	1.403	1.403	(0.336)	39192	50.0000	47.97
28	Chloroform	83	3.910	3.910	(0.935)	136798	50.0000	50.15
3	Chloromethane	50	1.073	1.073	(0.257)	66715	50.0000	49.00
27	cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	84047	50.0000	51.05
46	cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	117928	50.0000	49.34
55	Dibromochloromethane	129	7.176	7.176	(0.936)	97484	50.0000	48.78
44	Dibromomethane	93	5.557	5.557	(1.118)	50958	50.0000	50.63
2	Dichlorodifluoromethane	85	0.973	0.973	(0.233)	71615	50.0000	44.22
61	Ethylbenzene	106	7.799	7.799	(1.017)	116802	50.0000	47.92
91	Hexachlorobutadiene	225	11.481	11.488	(1.187)	50674	50.0000	45.99
67	Isopropylbenzene	105	8.566	8.566	(1.117)	347825	50.0000	46.94
62	m,p-Xylenes	106	7.907	7.907	(1.031)	285933	100.000	96.78
17	Methylene Chloride	84	2.305	2.305	(0.551)	71277	50.0000	49.83
87	n-Butylbenzene	91	9.998	9.999	(1.034)	230644	50.0000	46.05
73	n-Propylbenzene	91	8.917	8.917	(0.922)	370087	50.0000	46.00
92	Naphthalene	128	11.546	11.546	(1.194)	78792	50.0000	61.39
63	o-Xylene	106	8.243	8.244	(1.075)	138923	50.0000	47.75
81	sec-Butylbenzene	105	9.526	9.526	(0.985)	326960	50.0000	45.59
64	Styrene	104	8.258	8.258	(1.077)	250471	50.0000	49.76
78	tert-Butylbenzene	119	9.339	9.340	(0.966)	258856	50.0000	45.55
56	Tetrachloroethene	164	6.933	6.933	(0.904)	85379	50.0000	46.71
50	Toluene	91	6.446	6.446	(0.840)	317000	50.0000	48.15
20	trans-1,2-Dichloroethene	96	2.527	2.527	(0.604)	70570	50.0000	50.97
51	trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	113871	50.0000	51.03
38	Trichloroethene	130	5.206	5.206	(1.048)	97136	50.0000	49.95
8	Trichlorofluoromethane	101	1.560	1.560	(0.373)	126781	50.0000	46.09
5	Vinyl Chloride	62	1.138	1.138	(0.272)	61596	50.0000	47.65

QC Flag Legend

M - Compound response manually integrated.



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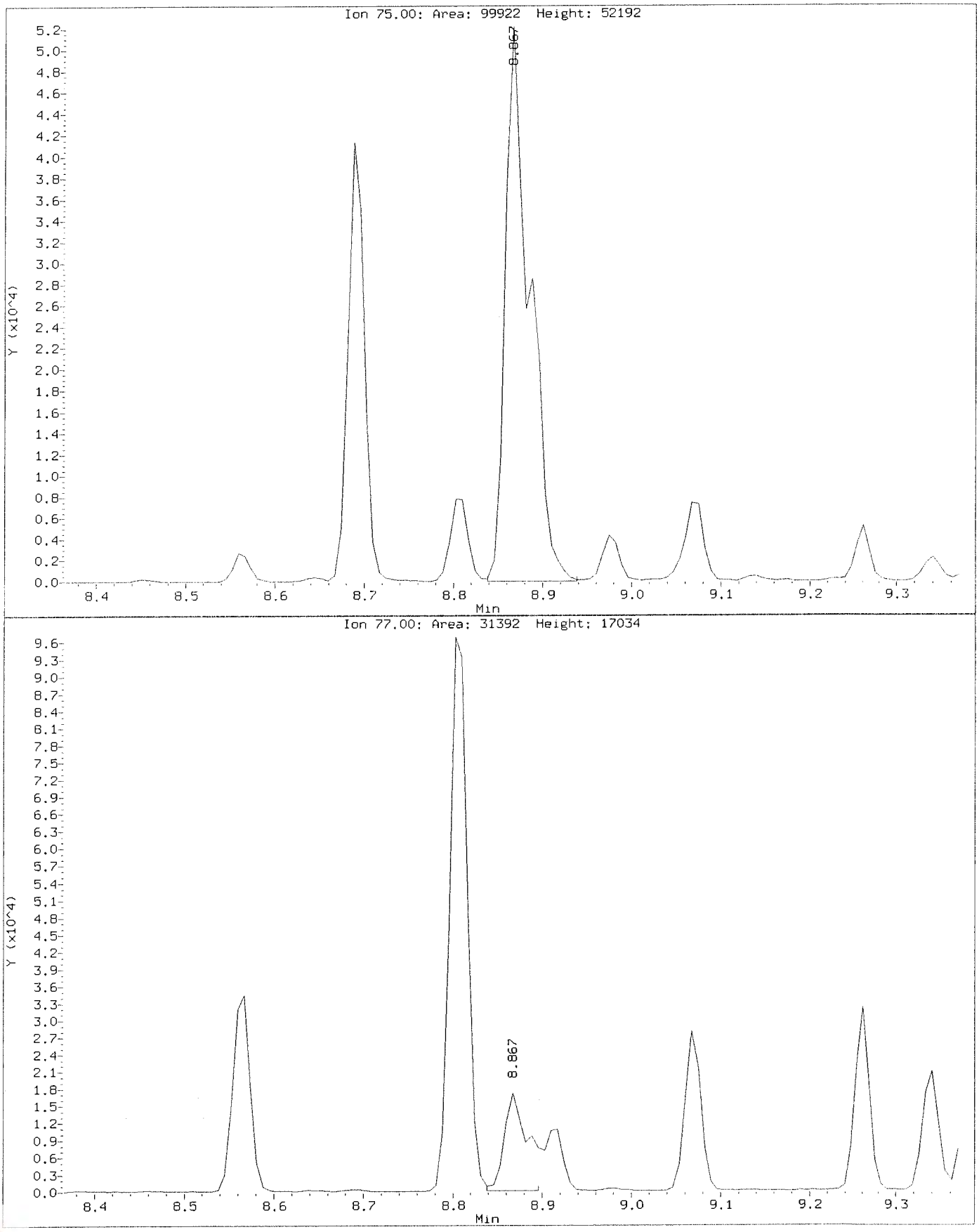
Date : 01-NOV-2019 11:33
Client ID: CCV
Sample Info: CCV;CCV;2;;
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\nahstws005\Target\chem\voa6.i\X191101.b\BEFORE2\X110103.D
Injection Date: 01-NOV-2019 11:33
Instrument: voa6.i
Client Sample ID: CCV

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



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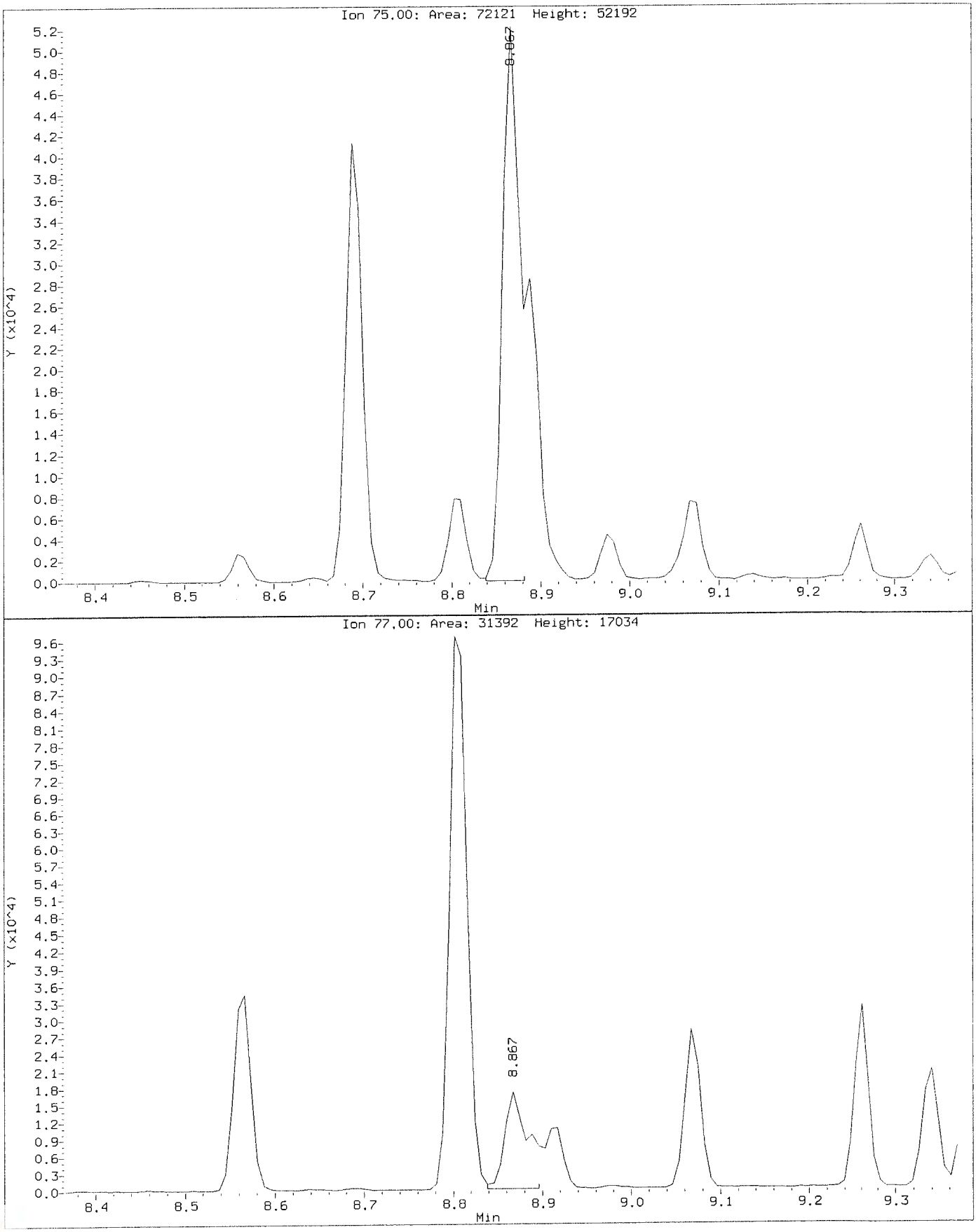
Injection Date: 01-NOV-2019 11:33
Instrument: voa6.i
Client Sample ID: CCV

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



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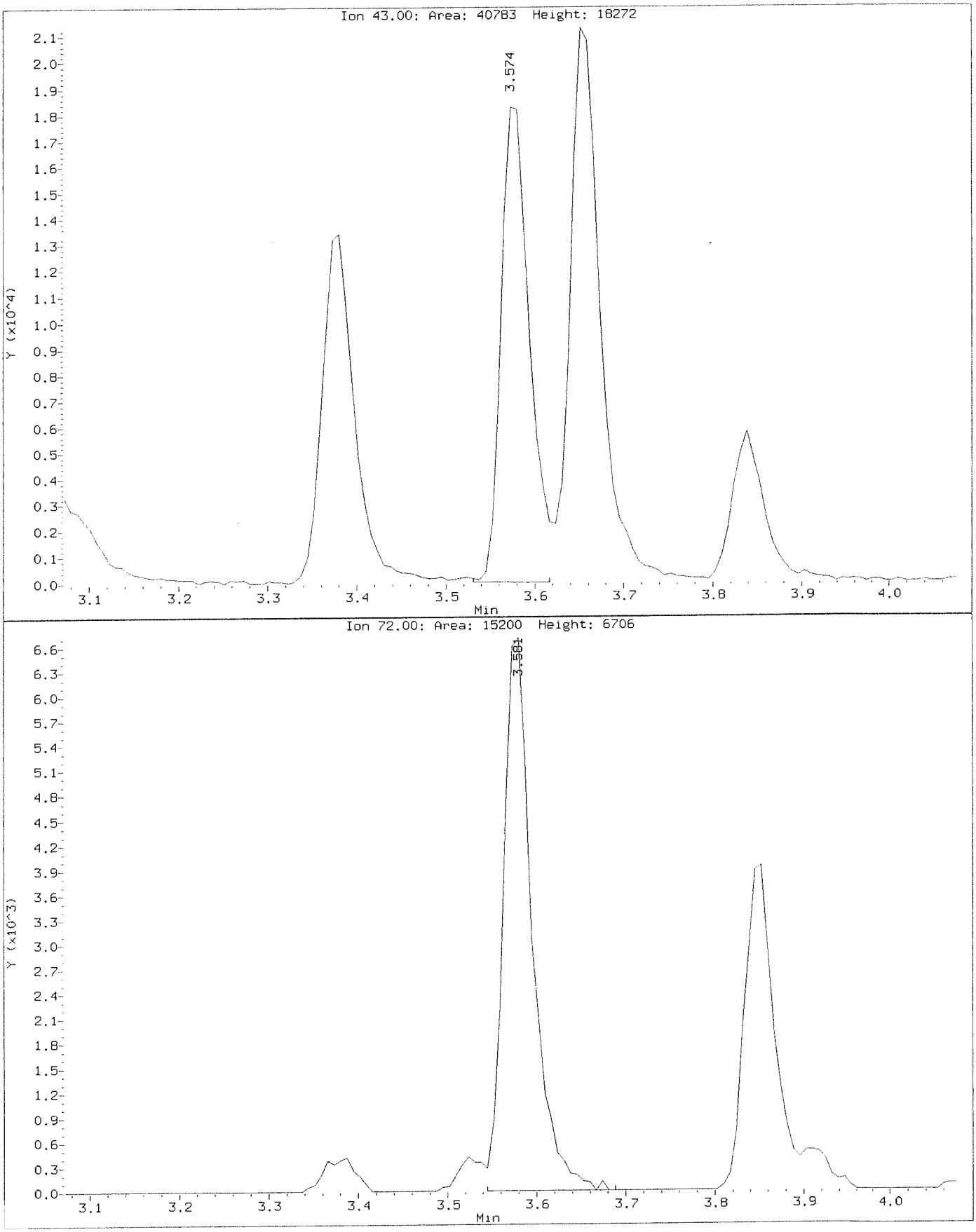
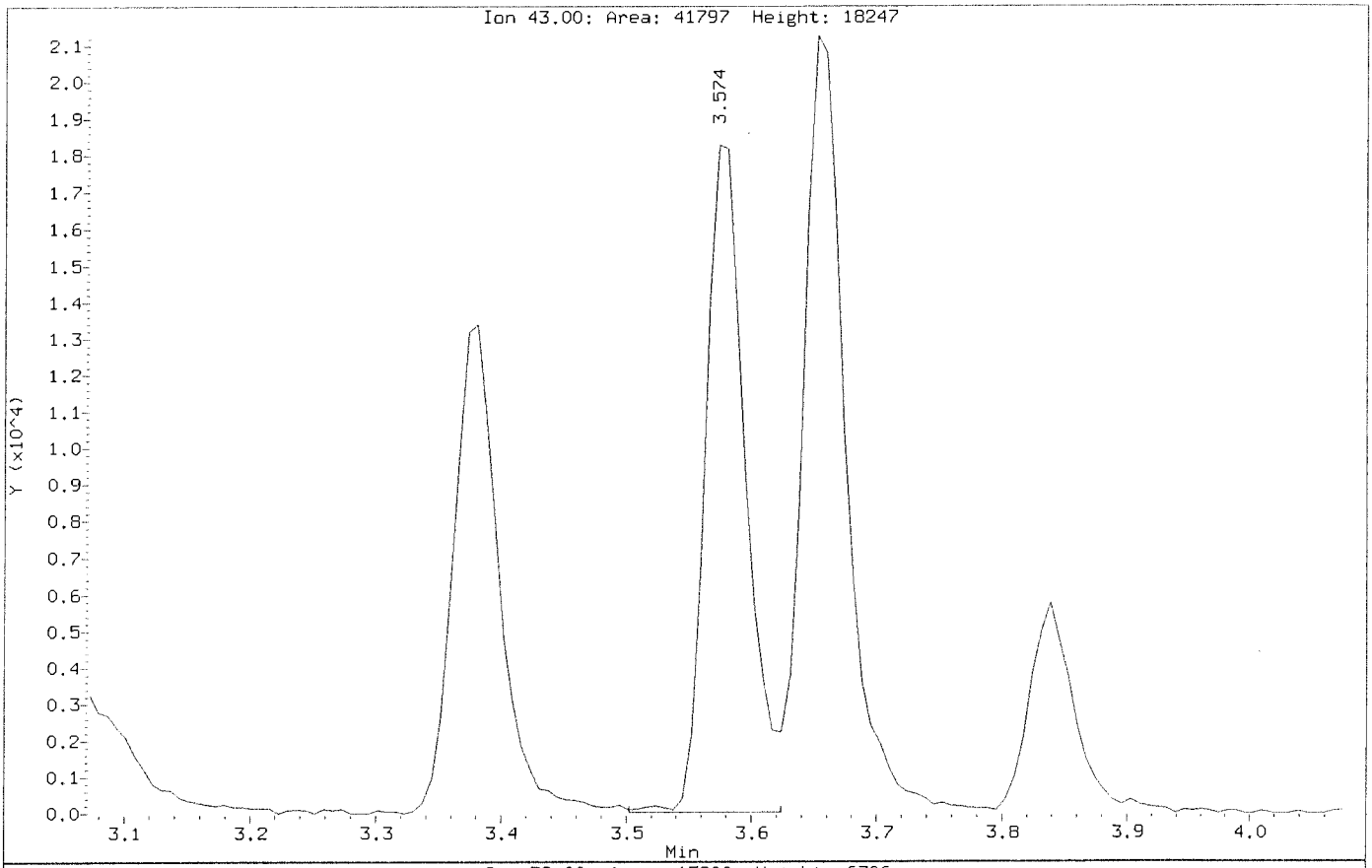
Injection Date: 01-NOV-2019 11:33
Instrument: voa6.i
Client Sample ID: CCV

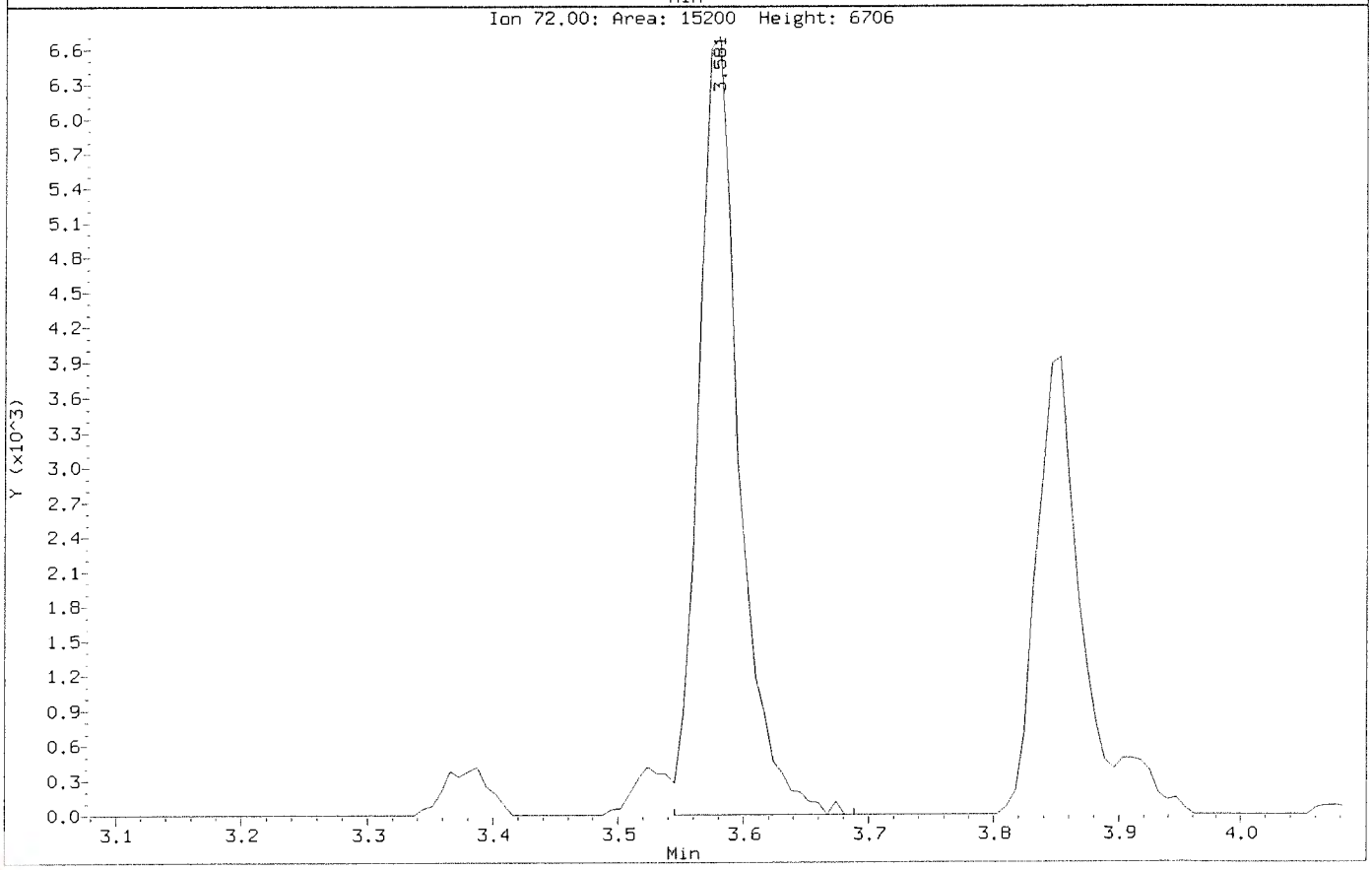
Compound: 2-Butanone
CAS Number: 78-93-3



Data File: \\nahstws005\Target\chem\voa6.i\X191101.b\X110103.D
Injection Date: 01-NOV-2019 11:33
Instrument: voa6.i
Client Sample ID: CCV

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





Data File: \\nahstws005\Target\chem\voa6.i\X191101.b\X110105.D Page 1
Report Date: 20-Nov-2019 14:02

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X191101.b\X110105.D
Lab Smp Id: VLCSW-191101 Client Smp ID: VLCSW-191101
Inj Date : 01-NOV-2019 12:21
Operator : PC Inst ID: voa6.i
Smp Info : VLCSW-191101;VLCSW-191101;3;;LCS
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X191101.b\8260W.m
Meth Date : 20-Nov-2019 14:02 voa6.i Quant Type: ISTD
Cal Date : 31-OCT-2019 13:56 Cal File: X103108.D
Als bottle: 5 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

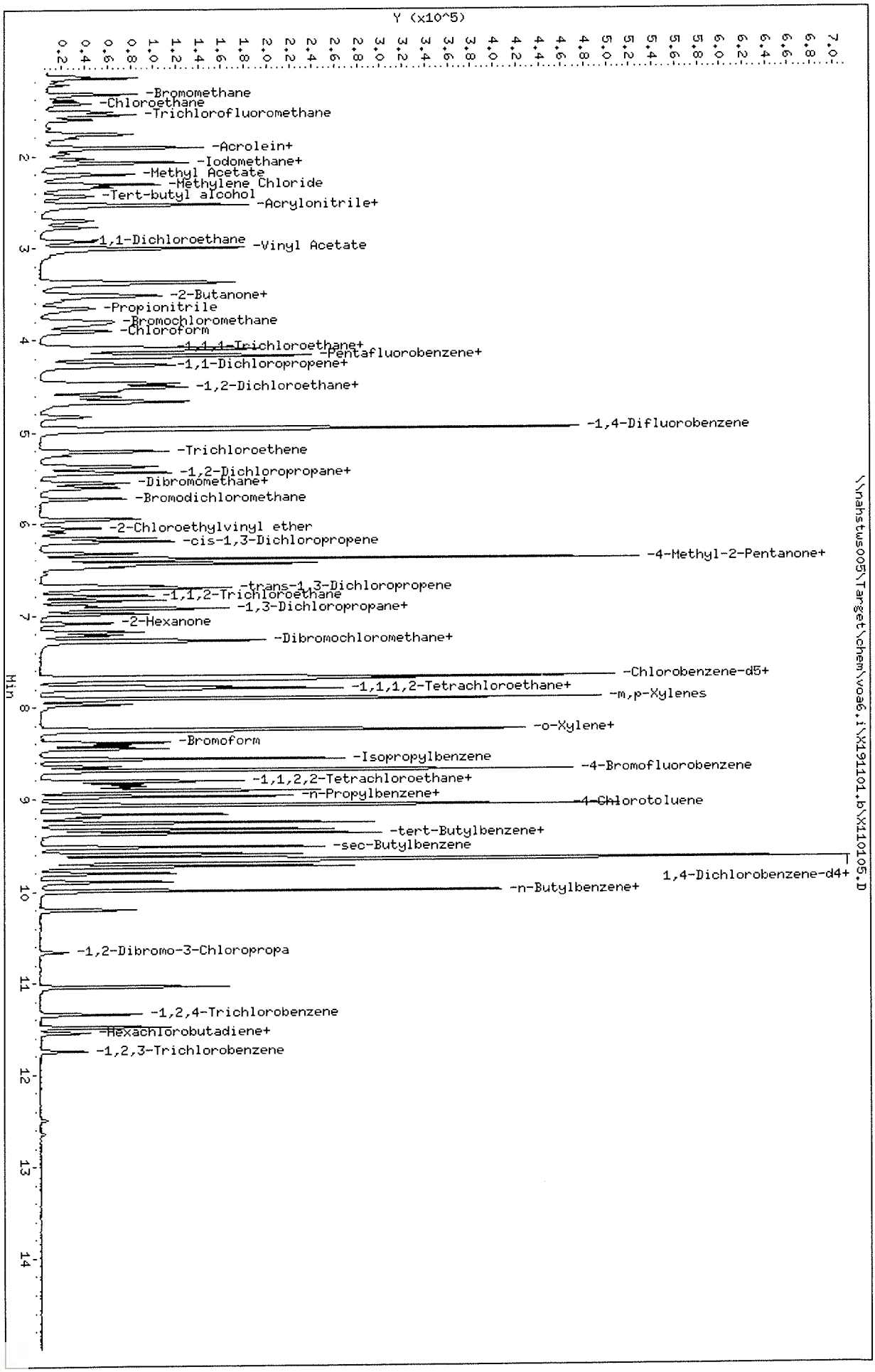
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	223304	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	277482	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	257370	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.669	(1.000)	151884	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	98971	52.4786	52.47
$ 69 4-Bromofluorobenzene	95	8.688	8.695	(1.133)	126518	52.3448	52.34
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	91023	51.1366	51.13
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	315860	49.3954	49.39
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	40091	19.1230	19.12
31 1,1,1-Trichloroethane	97	4.082	4.089	(0.976)	55239	19.7389	19.73
68 1,1,2,2-Tetrachloroethane	83	8.838	8.838	(0.915)	33596	19.9933	19.99
138 Freon TF	101	1.919	1.919	(0.459)	27589	18.6749	18.67
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	23578	20.1602	20.16
22 1,1-Dichloroethane	63	2.922	2.921	(0.699)	49050	19.6215	19.62
11 1,1-Dichloroethene	96	1.912	1.911	(0.457)	26647	18.7690	18.76
32 1,1-Dichloropropene	75	4.283	4.282	(0.862)	39634	19.1752	19.17
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.216)	12649	24.9172	24.91
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.918)	31266	20.8359	20.83(M)
90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	26462	19.3067	19.30
79 1,2,4-Trimethylbenzene	105	9.383	9.382	(0.971)	138587	19.0490	19.04
89 1,2-Dibromo-3-Chloropropane	155	10.658	10.657	(1.103)	5369	21.7837	21.78
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	35679	20.6320	20.63
88 1,2-Dichlorobenzene	146	9.991	9.999	(1.034)	79677	18.9028	18.90

Data File: \\nahstws005\Target\chem\voa6.i\X191101.b\X110105.D Page 2
Report Date: 20-Nov-2019 14:02

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
33	1,2-Dichloroethane	62	4.555	4.562	(0.916)	45417	20.1886	20.18
42	1,2-Dichloropropane	63	5.436	5.443	(1.094)	26473	19.5857	19.58
75	1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	134947	19.1405	19.14
83	1,3-Dichlorobenzene	146	9.605	9.605	(0.994)	88149	19.0368	19.03
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	48486	20.2086	20.20
84	1,4-Dichlorobenzene	146	9.683	9.683	(1.002)	88597	18.9636	18.96
26	2,2-Dichloropropane	77	3.509	3.509	(0.839)	51041	19.0029	19.00
24	2-Butanone	43	3.573	3.573	(0.854)	17811	39.2167	39.21
76	2-Chlorotoluene	91	8.974	8.974	(0.929)	105550	19.3354	19.33
52	2-Hexanone	43	7.083	7.083	(0.923)	29037	38.7475	38.74
77	4-Chlorotoluene	91	9.075	9.074	(0.939)	123131	19.1224	19.12
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	140514	18.6106	18.61
45	4-Methyl-2-Pentanone	43	6.324	6.324	(0.824)	40793	38.4936	38.49
10	Acetone	43	1.976	1.976	(0.473)	17778	39.0055	39.00
37	Benzene	78	4.512	4.512	(0.908)	119318	19.8950	19.89
74	Bromobenzene	156	8.810	8.809	(0.912)	54149	19.3672	19.36
29	Bromochloromethane	128	3.803	3.795	(0.909)	22816	19.8107	19.81
39	Bromodichloromethane	83	5.729	5.729	(1.153)	44955	20.4621	20.46
66	Bromoform	173	8.416	8.415	(1.097)	33867	20.4017	20.40
6	Bromomethane	94	1.339	1.338	(0.320)	37323	21.3817	21.38
19	Carbon Disulfide	76	2.069	2.069	(0.495)	161471	39.2470	39.24
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	50961	18.8167	18.81
59	Chlorobenzene	112	7.692	7.699	(1.003)	100226	19.9918	19.99
7	Chloroethane	64	1.403	1.403	(0.336)	17700	19.9952	19.99
28	Chloroform	83	3.910	3.910	(0.935)	60517	20.4752	20.47
3	Chloromethane	50	1.073	1.073	(0.257)	29645	20.0593	20.05
27	cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	36751	20.6017	20.60
46	cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	50909	20.0043	20.00
55	Dibromochloromethane	129	7.176	7.176	(0.936)	41819	19.6155	19.61
44	Dibromomethane	93	5.558	5.557	(1.118)	22160	20.6785	20.67
2	Dichlorodifluoromethane	85	0.973	0.973	(0.233)	33012	19.5105	19.51
61	Ethylbenzene	106	7.800	7.799	(1.017)	50035	19.2426	19.24
91	Hexachlorobutadiene	225	11.481	11.488	(1.188)	22320	18.8395	18.83
67	Isopropylbenzene	105	8.566	8.566	(1.117)	151627	19.1817	19.18
62	m,p-Xylenes	106	7.907	7.907	(1.031)	122458	38.8513	38.85
17	Methylene Chloride	84	2.306	2.305	(0.551)	31108	20.0686	20.06
87	n-Butylbenzene	91	9.999	9.999	(1.035)	101832	18.9094	18.90
73	n-Propylbenzene	91	8.917	8.917	(0.923)	162361	18.7687	18.76
92	Naphthalene	128	11.546	11.546	(1.195)	31119	22.7148	22.71
63	o-Xylene	106	8.244	8.244	(1.075)	60585	19.5198	19.51
81	sec-Butylbenzene	105	9.526	9.526	(0.986)	144506	18.7407	18.74
64	Styrene	104	8.258	8.258	(1.077)	108588	20.2240	20.22
78	tert-Butylbenzene	119	9.340	9.340	(0.967)	114135	18.6786	18.67
56	Tetrachloroethene	164	6.933	6.933	(0.904)	37906	19.4408	19.44
50	Toluene	91	6.446	6.446	(0.840)	138992	19.7902	19.79
20	trans-1,2-Dichloroethene	96	2.528	2.527	(0.604)	30648	20.4316	20.43
51	trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	47761	20.1031	20.10
38	Trichloroethene	130	5.207	5.206	(1.048)	41029	19.8167	19.81
8	Trichlorofluoromethane	101	1.561	1.560	(0.373)	55905	18.7583	18.75
5	Vinyl Chloride	62	1.138	1.138	(0.272)	27685	19.7654	19.76

QC Flag Legend

M - Compound response manually integrated.



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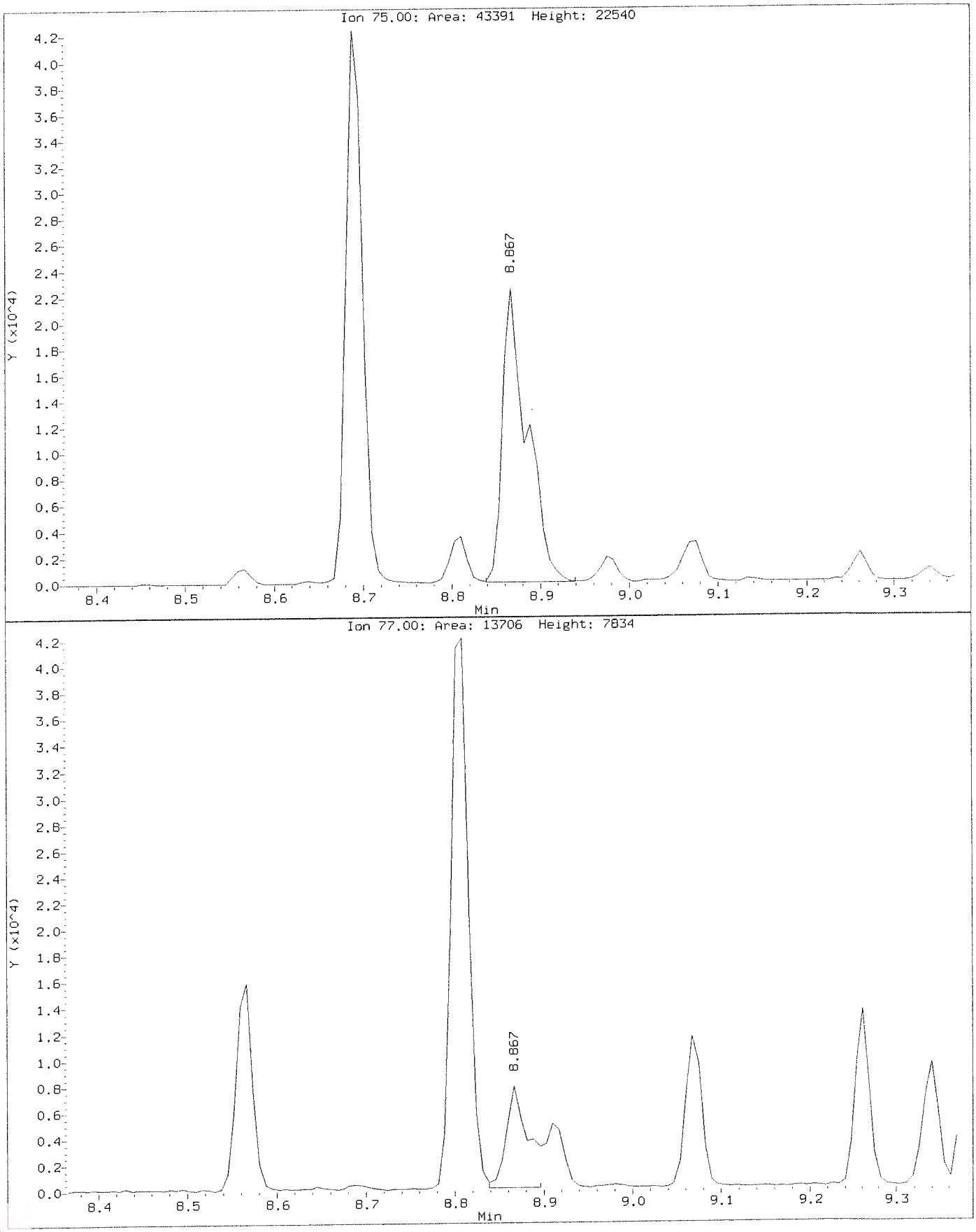
Date : 01-NOV-2019 12:21
Client ID: VLCSW-191101
Sample Info: VLCSW-191101;VLCSW-191101;3;;LCS
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\nahstws005\Target\chem\voa6.i\X191101.b\BEFORE2\X110105.D
Injection Date: 01-NOV-2019 12:21
Instrument: voa6.i
Client Sample ID: VLCSW-191101

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



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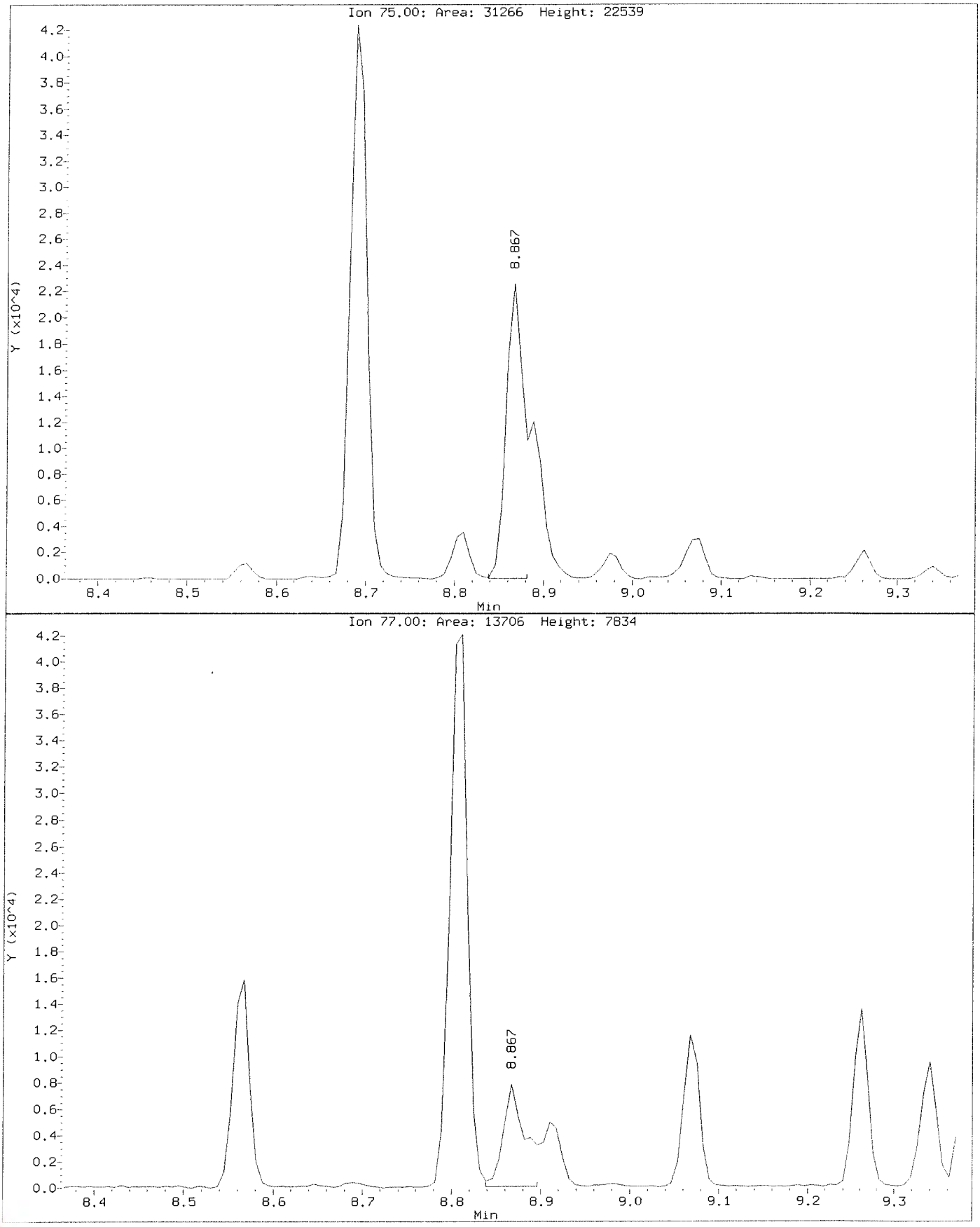
Injection Date: 01-NOV-2019 12:21
Instrument: voa6.i
Client Sample ID: VLCSW-191101

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



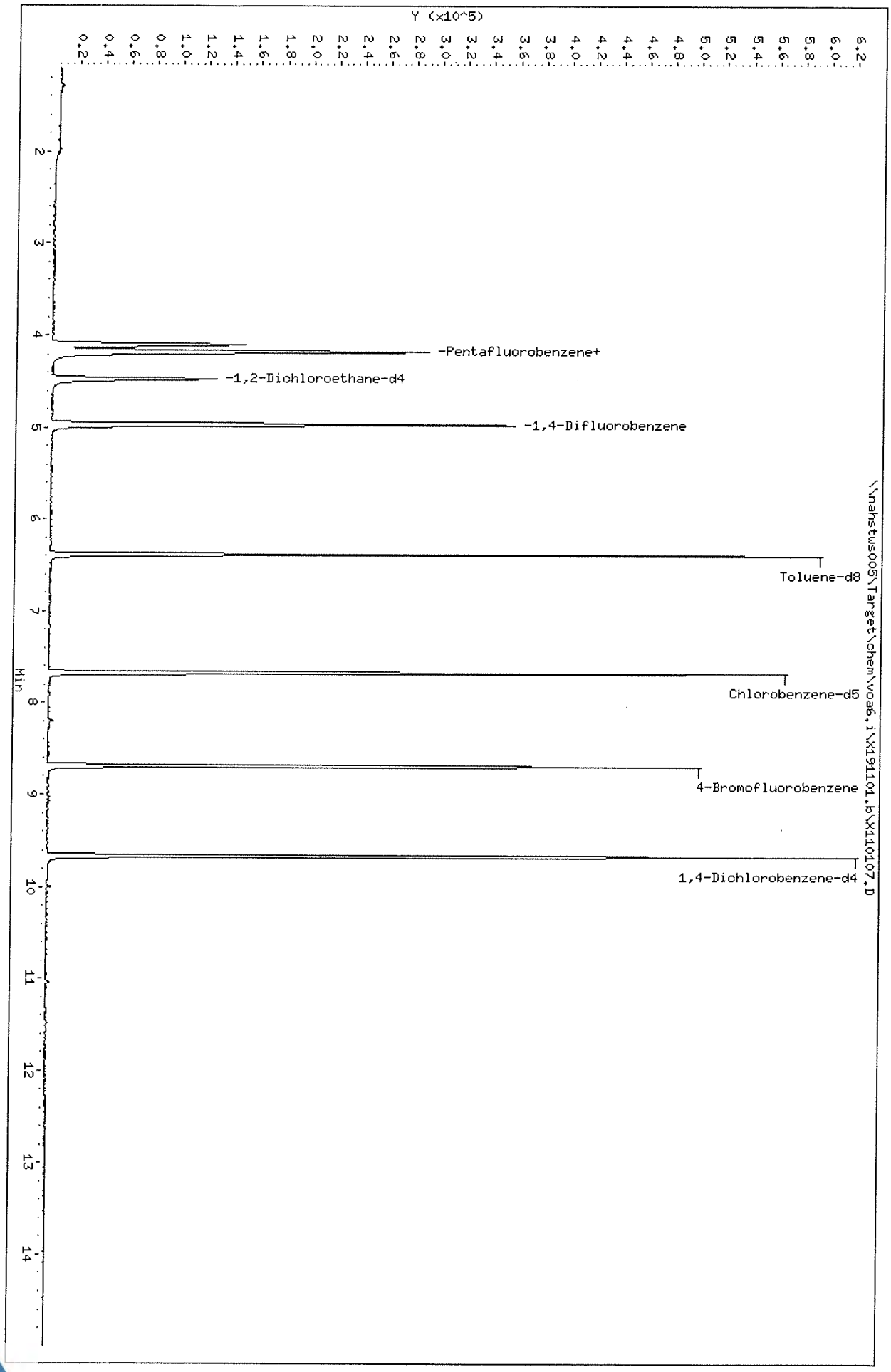
ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X191101.b\X110107.D
Lab Smp Id: VBLKW-191101 Client Smp ID: VBLKW-191101
Inj Date : 01-NOV-2019 13:09
Operator : PC Inst ID: voa6.i
Smp Info : VBLKW-191101;VBLKW-191101;3;;BLANK
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X191101.b\8260W.m
Meth Date : 20-Nov-2019 14:02 voa6.i Quant Type: ISTD
Cal Date : 31-OCT-2019 13:56 Cal File: X103108.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)	CONCENTRATIONS FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	273156	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	327078	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	288826	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.669	(1.000)	165314	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	105635	45.8527	45.85
$ 69 4-Bromofluorobenzene	95	8.688	8.695	(1.133)	137034	50.4997	50.49
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	102270	47.0092	47.00
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	360761	50.2728	50.27



Data File: \\nahstus005\Target\chem\voa6.i\X191101.b\X110107.D
Date : 01-NOV-2019 13:09
Client ID: VBLKW-191101
Sample Info: VBLKW-191101;VBLKW-191101;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\X191101.b\X110113.D Page 1
Report Date: 20-Nov-2019 14:00

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X191101.b\X110113.D
Lab Smp Id: HS19101706-06 Client Smp ID: HS19101706-06
Inj Date : 01-NOV-2019 15:33
Operator : PC Inst ID: voa6.i
Smp Info : HS19101706-06;HS19101706-06;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X191101.b\8260W.m
Meth Date : 20-Nov-2019 13:59 DevakG Quant Type: ISTD
Cal Date : 31-OCT-2019 13:56 Cal File: X103108.D
Als bottle: 13
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBIHOUSTONDOD.sub
Target Version: 4.14

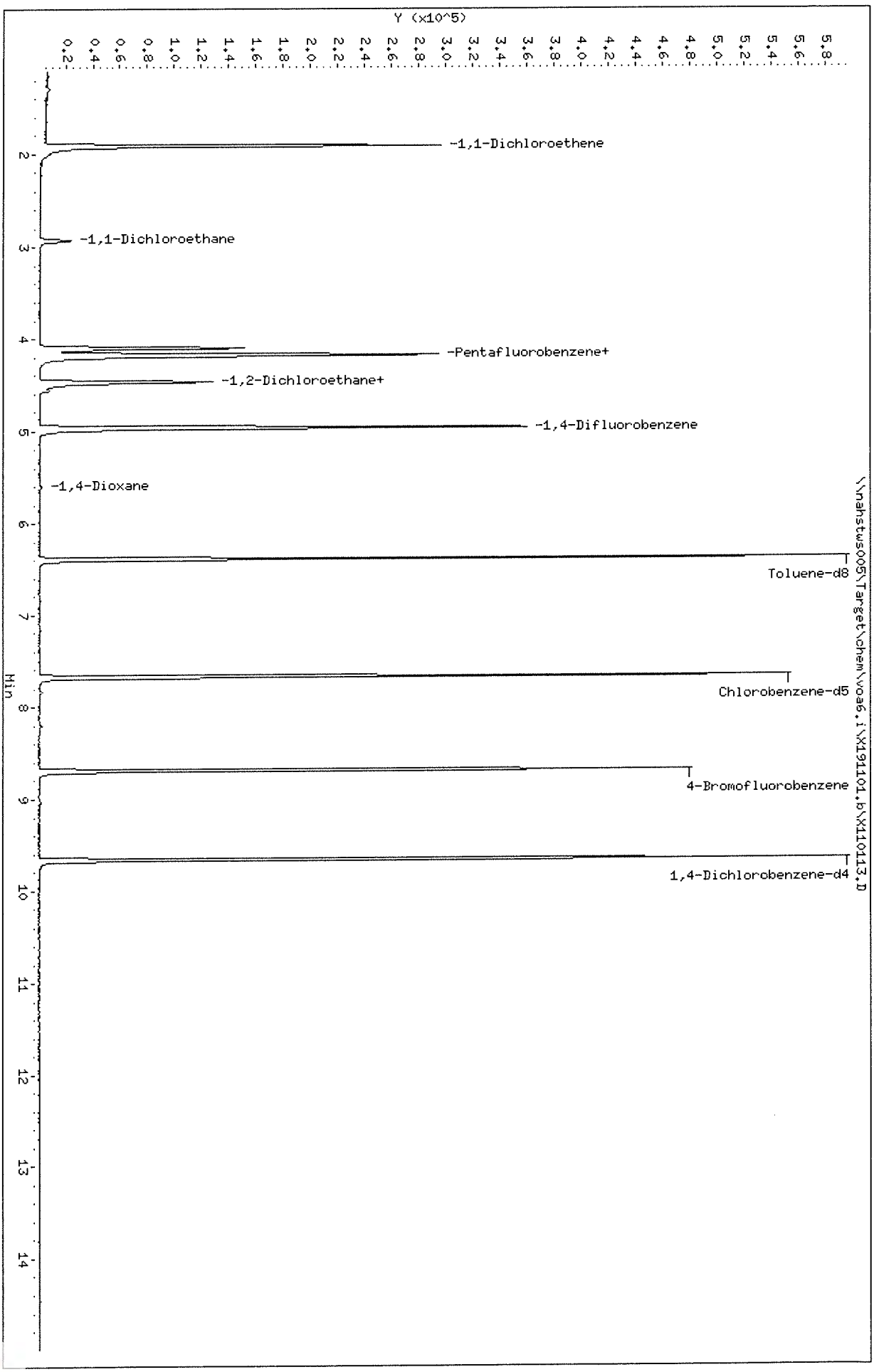
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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)	279332	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	328889	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	284411	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.669	(1.000)	154353	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	104747	44.4770	44.47
$ 69 4-Bromofluorobenzene	95	8.688	8.695	(1.133)	134567	50.3587	50.35
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	103442	46.5020	46.50
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	362831	51.3462	51.34
22 1,1-Dichloroethane	63	2.921	2.921	(0.699)	23978	7.66801	7.66
11 1,1-Dichloroethene	96	1.912	1.911	(0.457)	112316	63.2426	63.24
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	6221	2.33310	2.33(a)

QC Flag Legend

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



Data File: \\nahstws005\Target\chem\voa6.i\X191101.b\X110113.D
Date : 01-NOV-2019 15:33
Client ID: HS19101706-06
Sample Info: HS19101706-06;HS19101706-06;;;
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\nahstws005\Target\chem\voa6.i\X191101.b\X110113.D

Date : 01-NOV-2019 15:33

Client ID: HS19101706-06

Instrument: voa6.i

Sample Info: HS19101706-06;HS19101706-06;;;

Purge Volume: 5.0

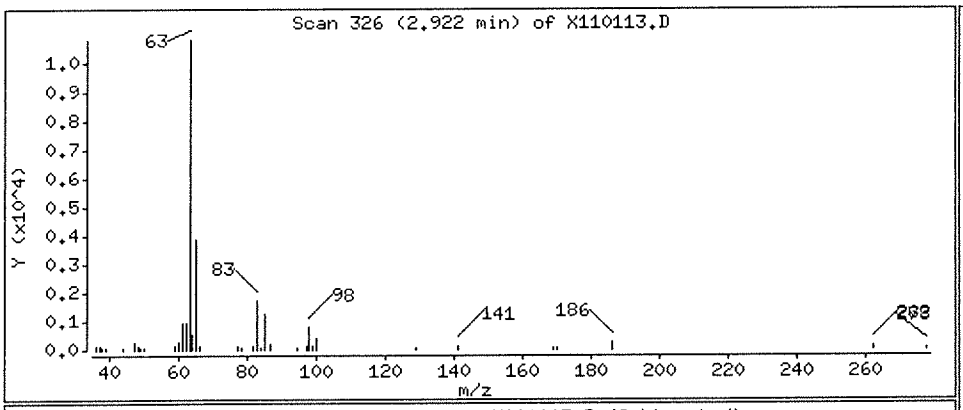
Operator: PC

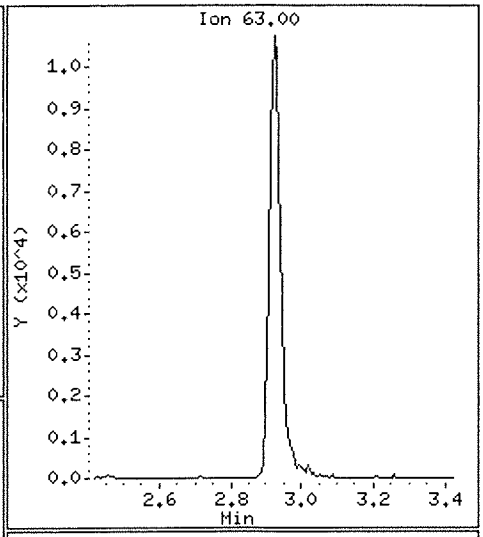
Column phase: DB624

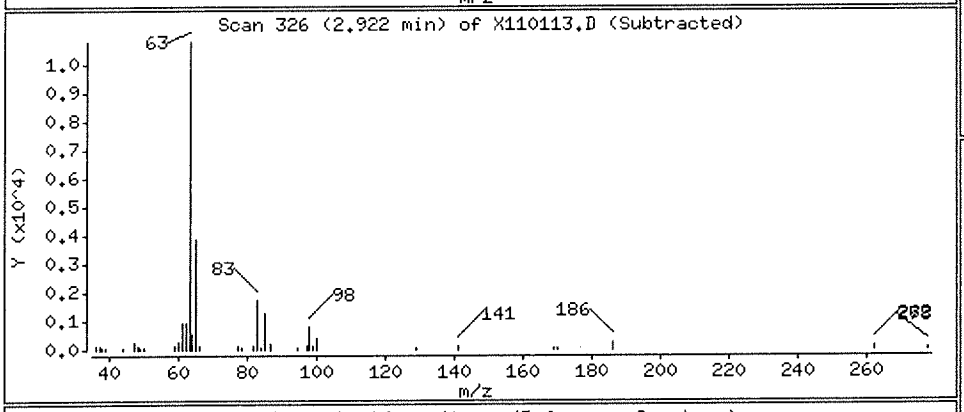
Column diameter: 0.18

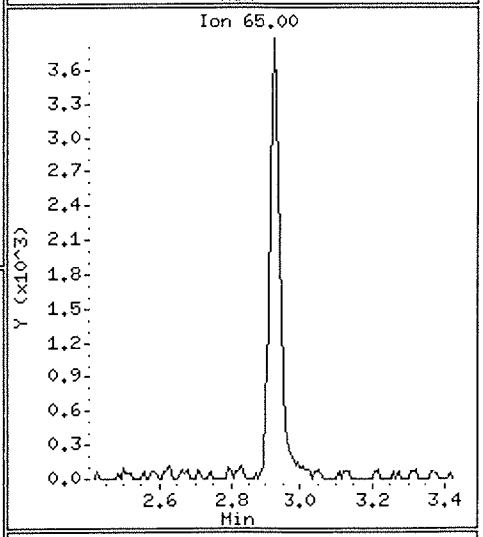
22 1,1-Dichloroethane

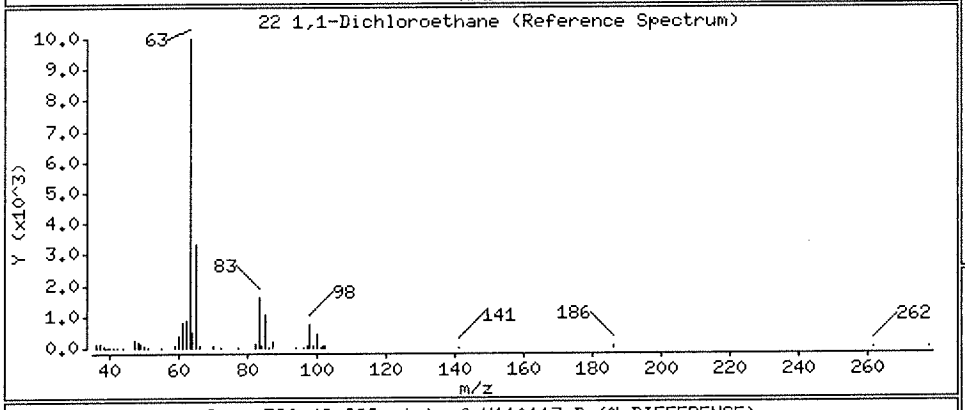
Concentration: 7.66 ug/l

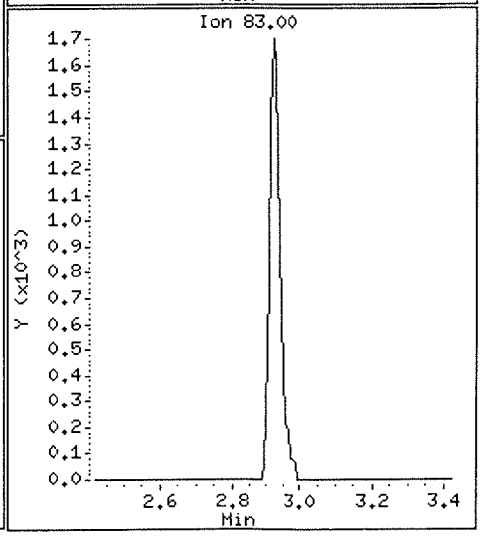


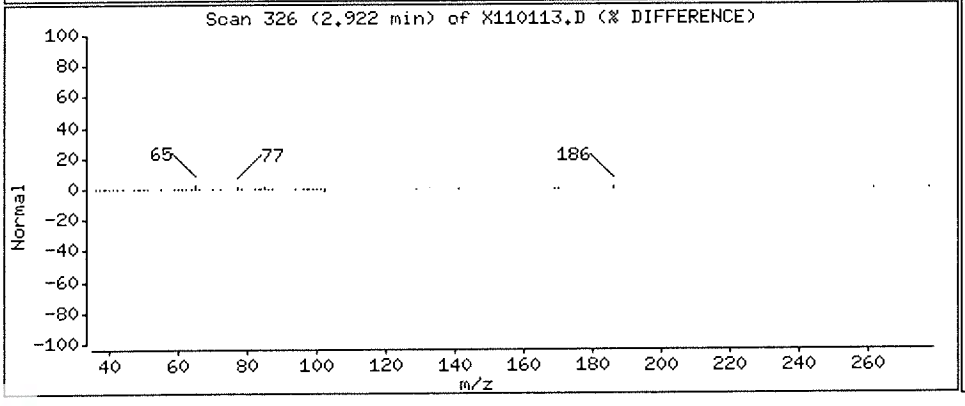












Data File: \\nahstws005\Target\chem\voa6.i\X191101.b\X110113.D Page 4

Date : 01-NOV-2019 15:33

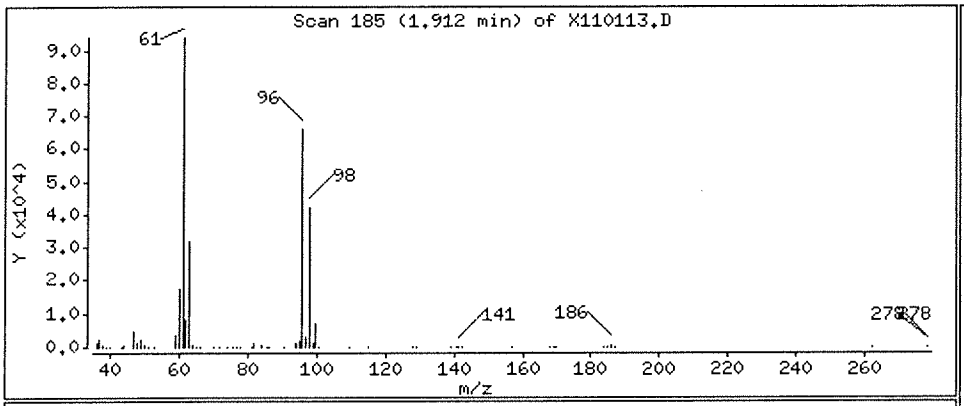
Client ID: HS19101706-06 Instrument: voa6.i

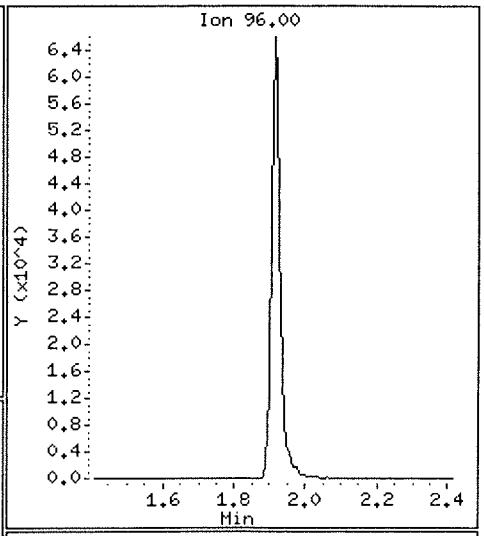
Sample Info: HS19101706-06;HS19101706-06;;;

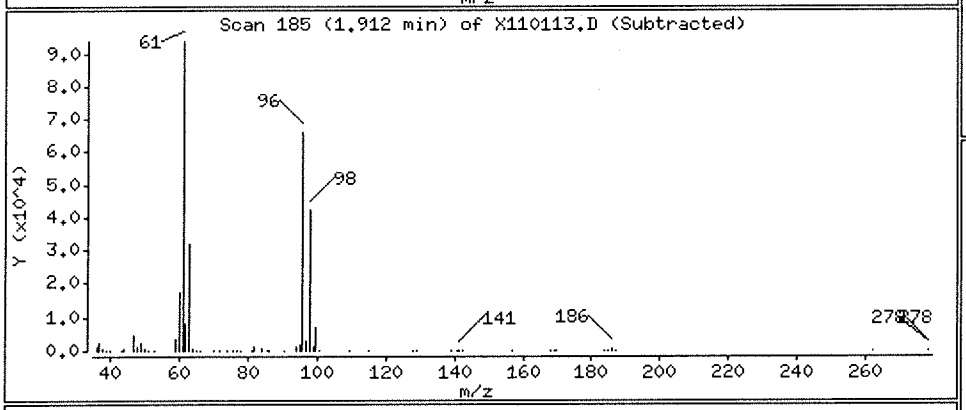
Purge Volume: 5.0 Operator: PC

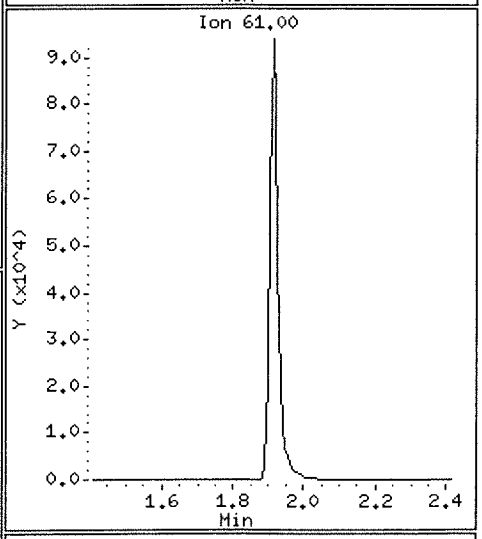
Column phase: DB624 Column diameter: 0.18

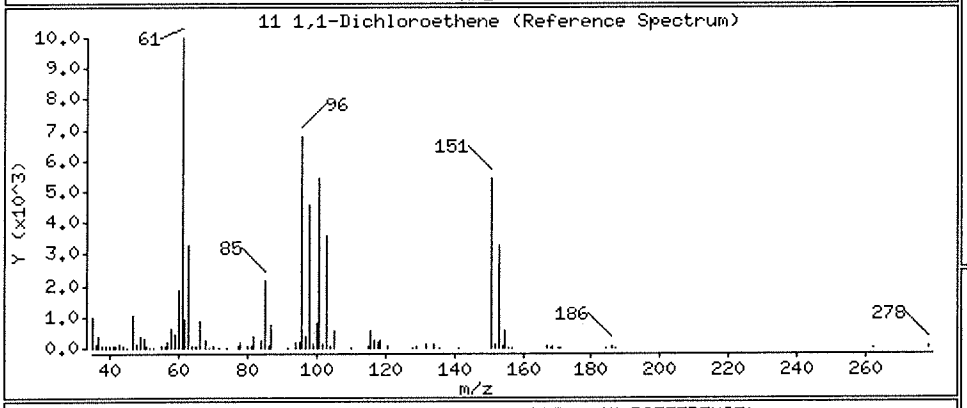
11 1,1-Dichloroethene Concentration: 63.24 ug/l

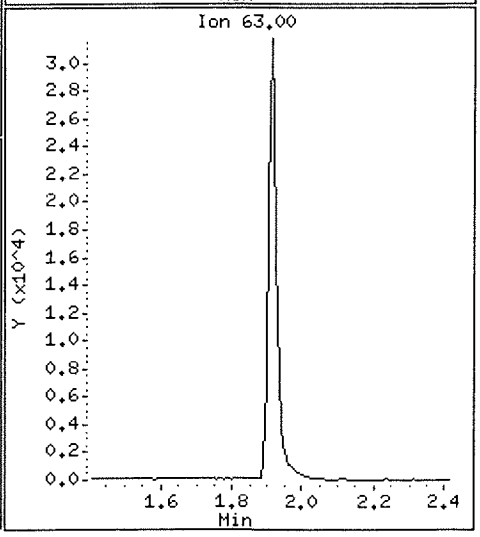


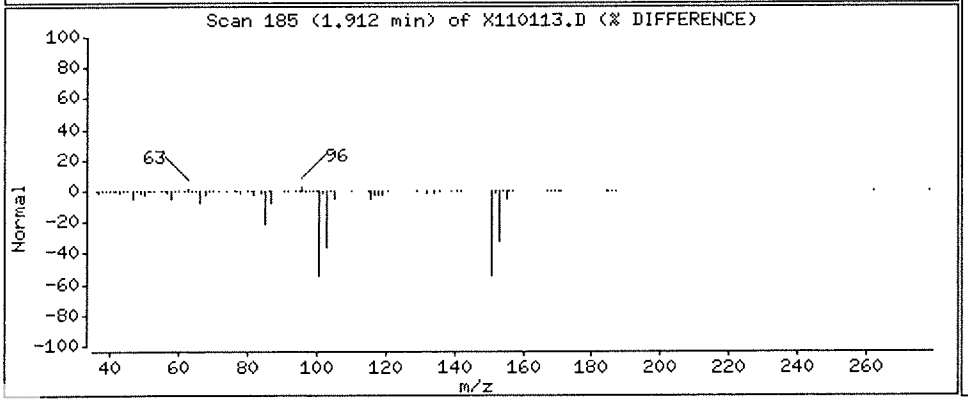












Data File: \\nahstws005\Target\chem\voa6.i\X191101.b\X110113.D

Date : 01-NOV-2019 15:33

Client ID: HS19101706-06

Instrument: voa6.i

Sample Info: HS19101706-06;HS19101706-06;;;

Purge Volume: 5.0

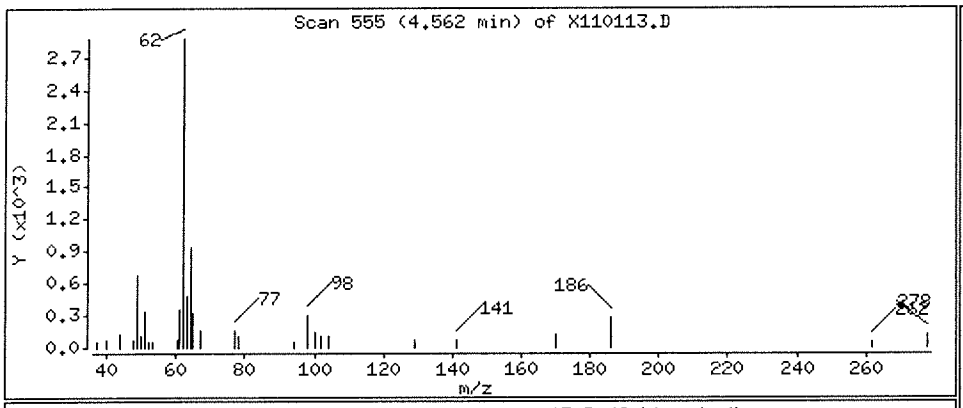
Operator: PC

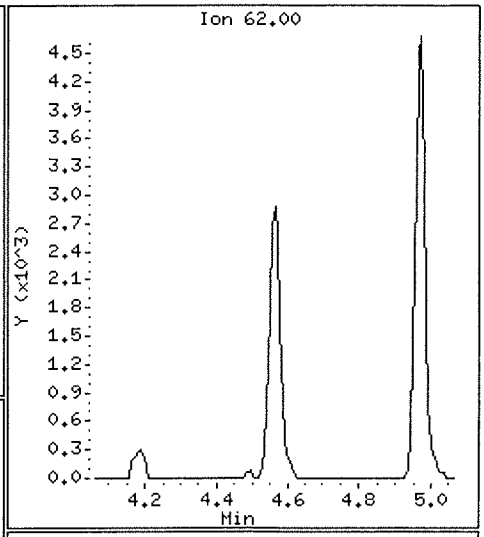
Column phase: DB624

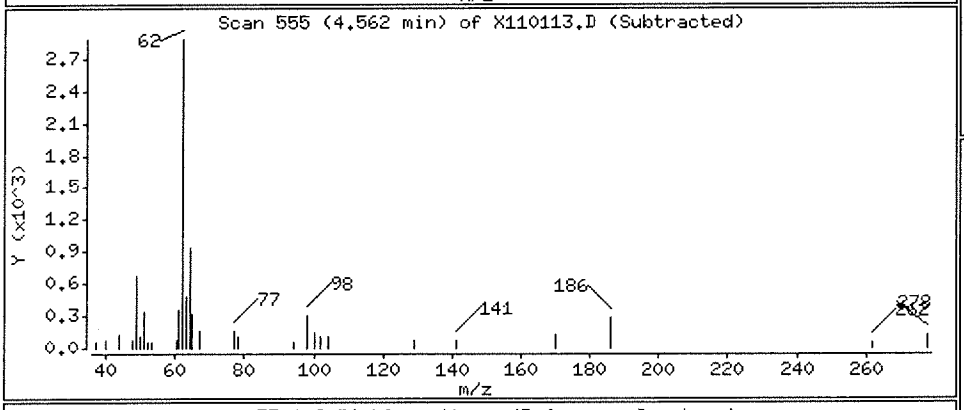
Column diameter: 0.18

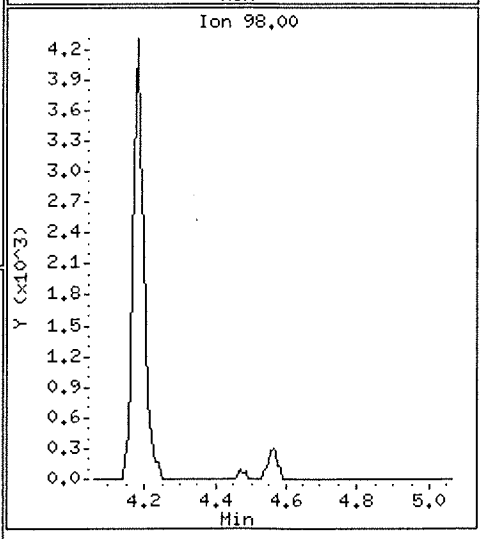
33 1,2-Dichloroethane

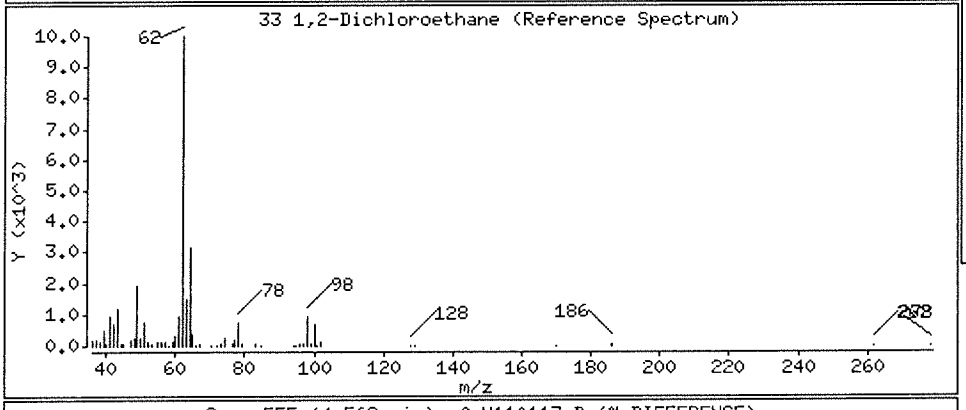
Concentration: 2.33 ug/l

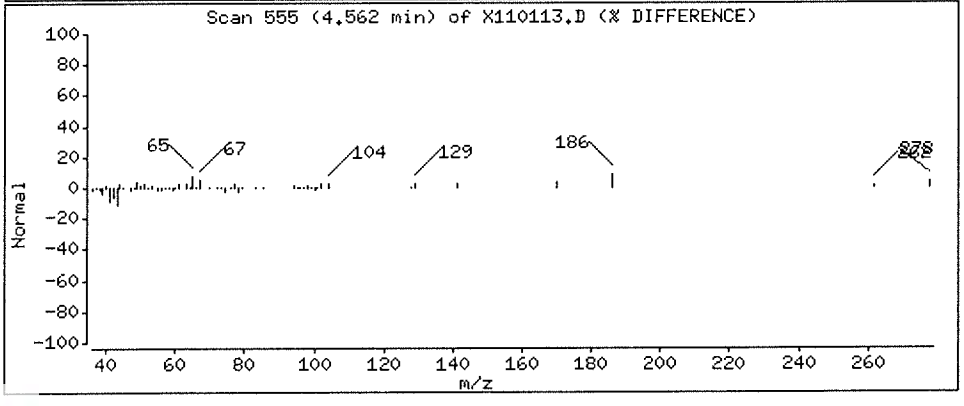












Data File: \\nahstws005\Target\chem\voa6.i\X191101.b\X110114.D Page 1
Report Date: 20-Nov-2019 14:00

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X191101.b\X110114.D
Lab Smp Id: HS19101706-07 Client Smp ID: HS19101706-07
Inj Date : 01-NOV-2019 15:57
Operator : PC Inst ID: voa6.i
Smp Info : HS19101706-07;HS19101706-07;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X191101.b\8260W.m
Meth Date : 20-Nov-2019 13:59 DevakG Quant Type: ISTD
Cal Date : 31-OCT-2019 13:56 Cal File: X103108.D
Als bottle: 14
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBIHOUSTONDOD.sub
Target Version: 4.14

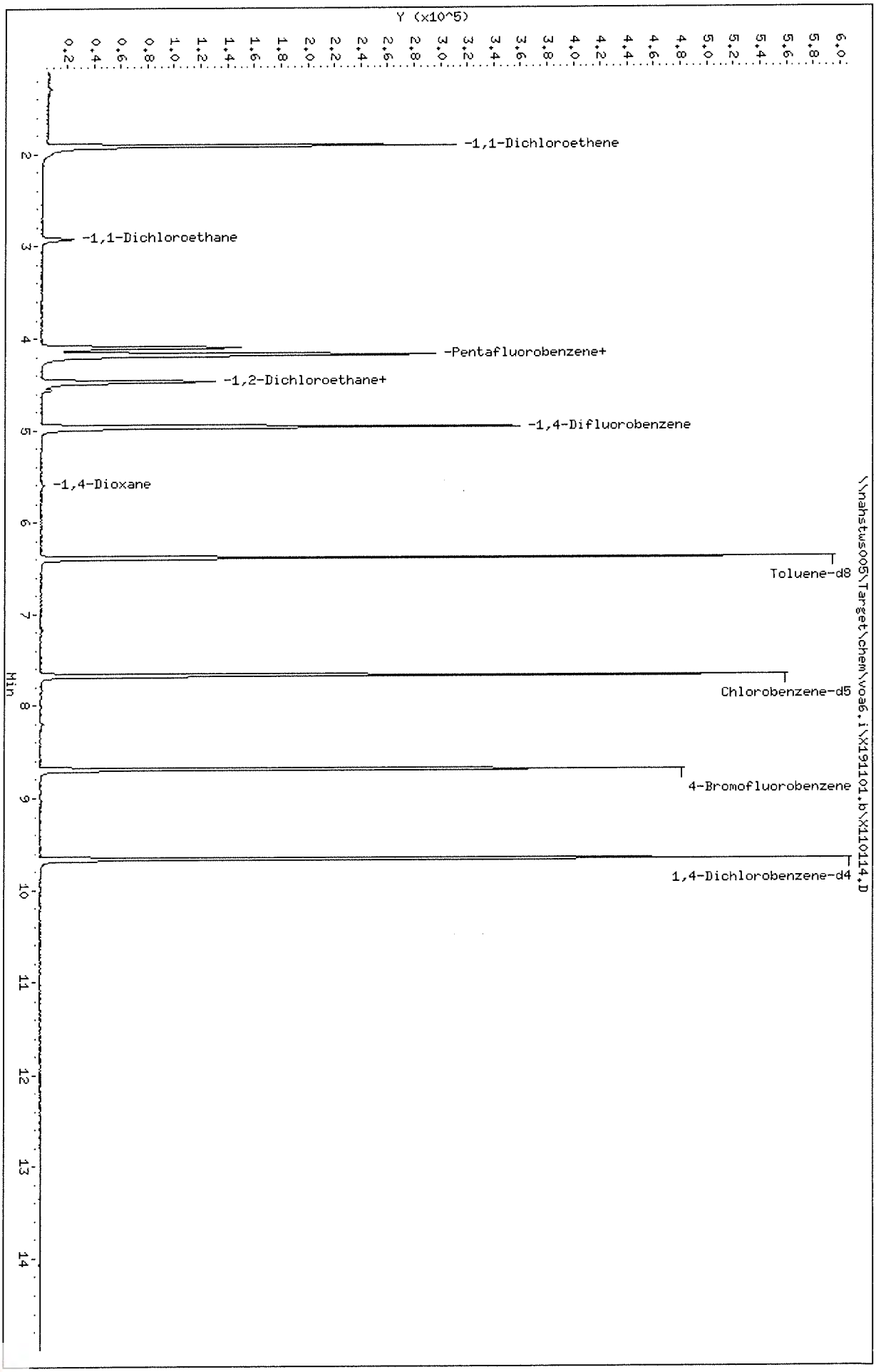
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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)	277235	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	331392	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	285890	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	158837	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	106377	45.4993	45.49
$ 69 4-Bromofluorobenzene	95	8.688	8.695	(1.133)	133041	49.5201	49.52
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	102084	46.2414	46.24
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	362753	51.0695	51.06
22 1,1-Dichloroethane	63	2.921	2.921	(0.699)	23632	7.61452	7.61
11 1,1-Dichloroethene	96	1.911	1.911	(0.457)	115272	65.3980	65.39
33 1,2-Dichloroethane	62	4.555	4.562	(0.916)	6551	2.43831	2.43(a)

QC Flag Legend

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



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Date : 01-NOV-2019 15:57
Client ID: HS19101706-07
Sample Info: HS19101706-07;HS19101706-07;;;
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\nahstws005\Target\chem\voa6.i\X191101.b\X110114.D

Date : 01-NOV-2019 15:57

Client ID: HS19101706-07

Instrument: voa6.i

Sample Info: HS19101706-07;HS19101706-07;;;

Purge Volume: 5.0

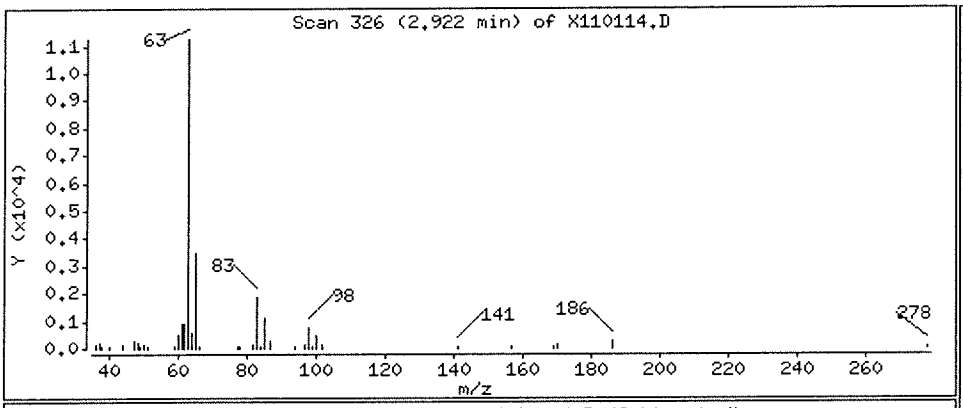
Operator: PC

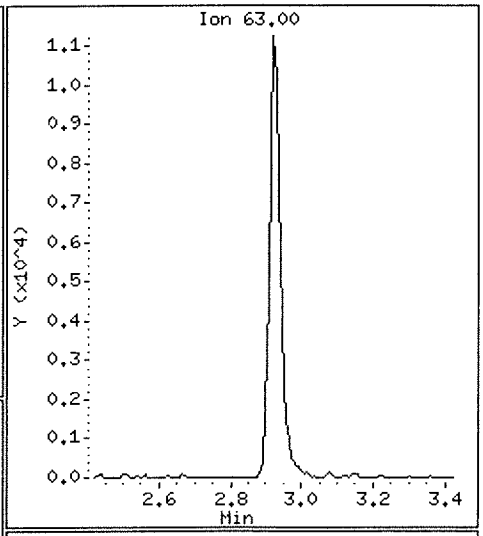
Column phase: DB624

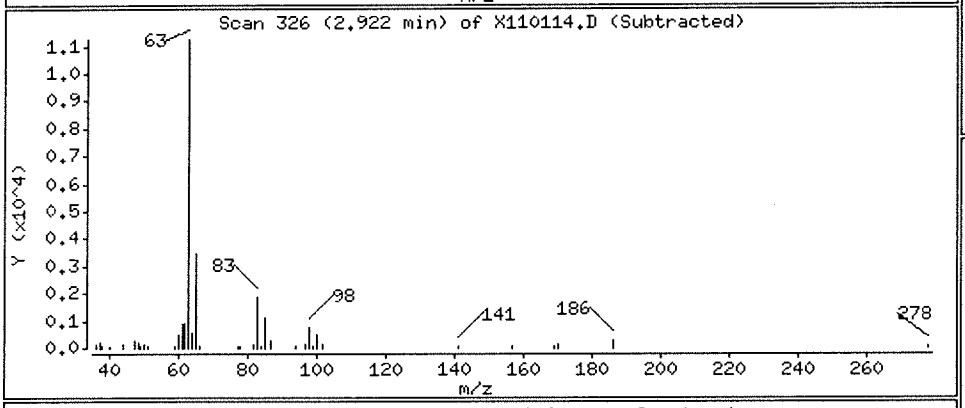
Column diameter: 0.18

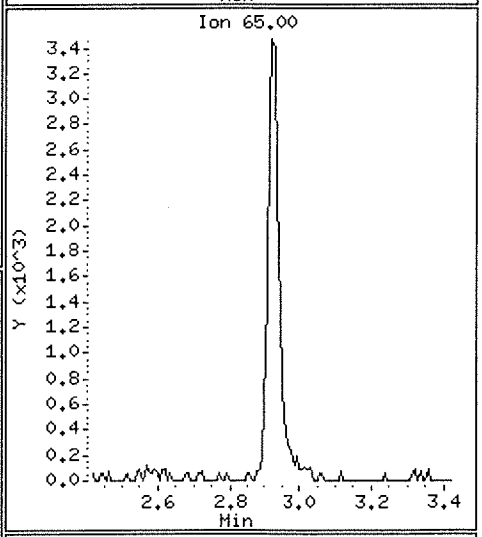
22 1,1-Dichloroethane

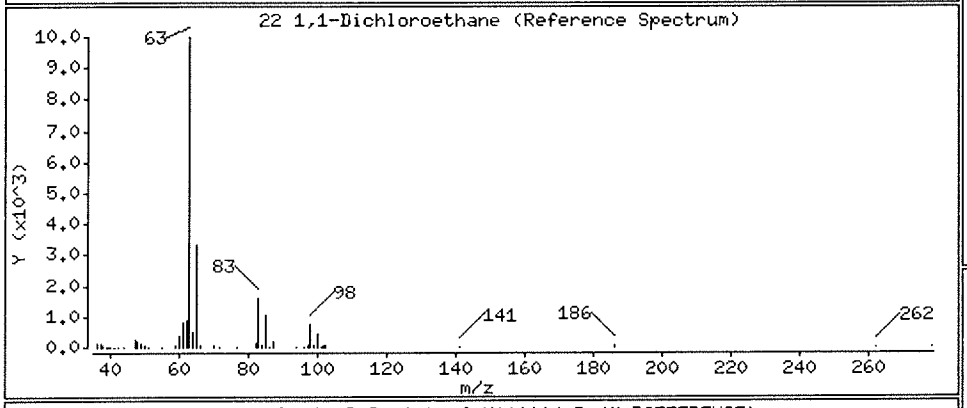
Concentration: 7.61 ug/l

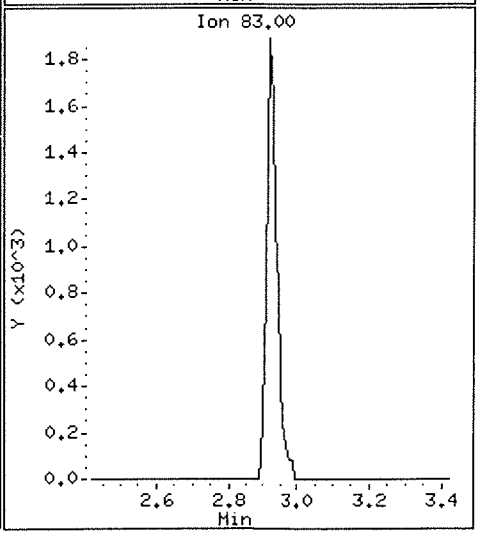


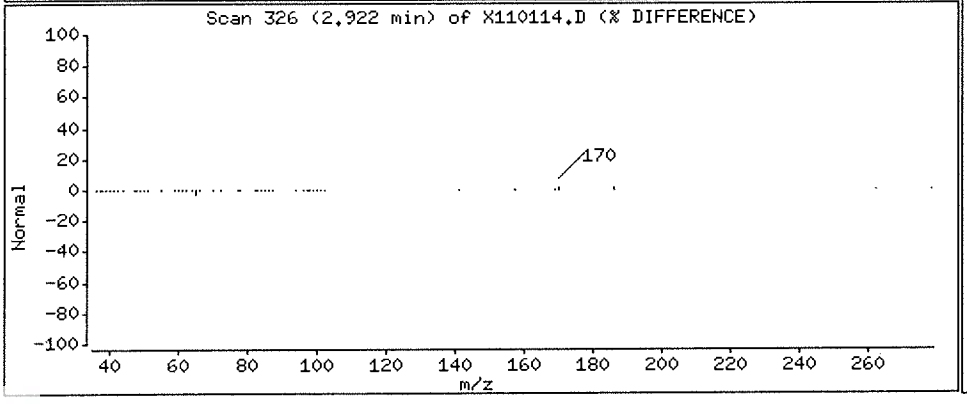












Data File: \\nahstws005\Target\chem\voa6.i\X191101.b\X110114.D

Date : 01-NOV-2019 15:57

Client ID: HS19101706-07

Instrument: voa6.i

Sample Info: HS19101706-07;HS19101706-07;;;

Purge Volume: 5.0

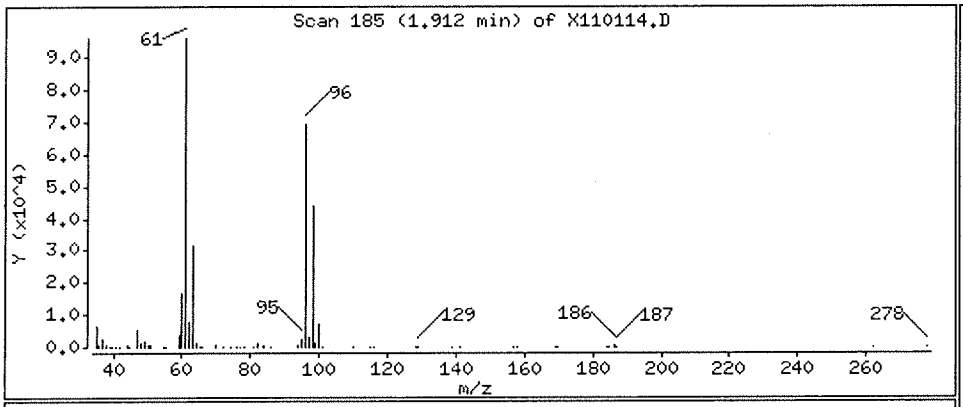
Operator: PC

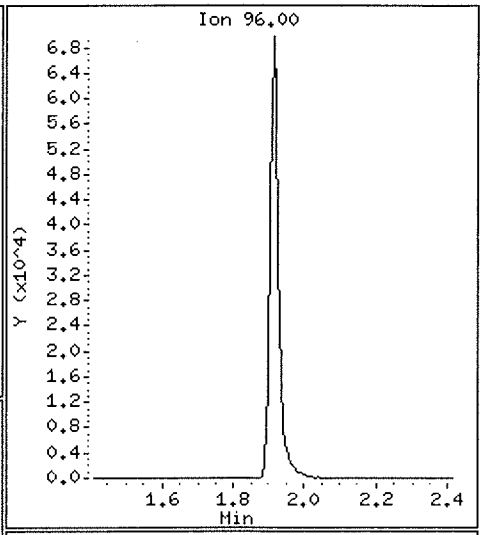
Column phase: DB624

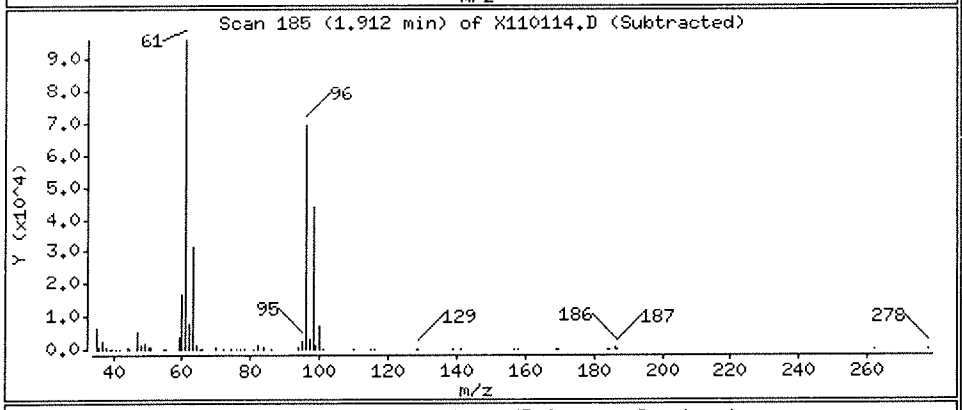
Column diameter: 0.18

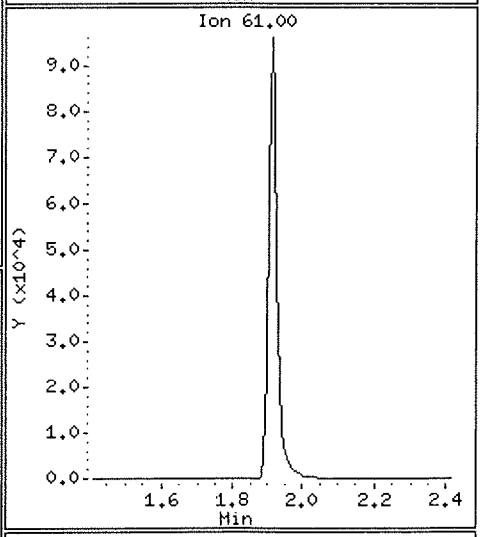
11 1,1-Dichloroethene

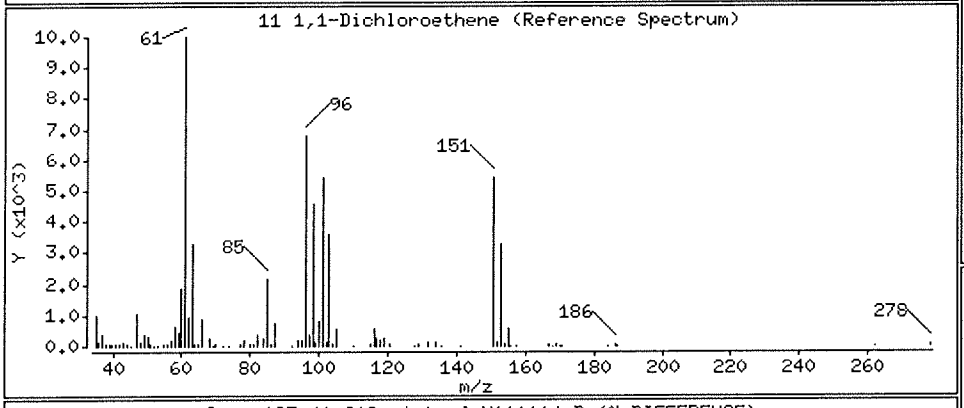
Concentration: 65.39 ug/l

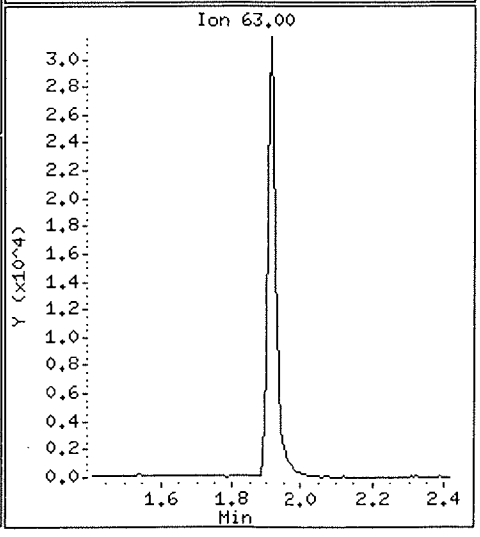


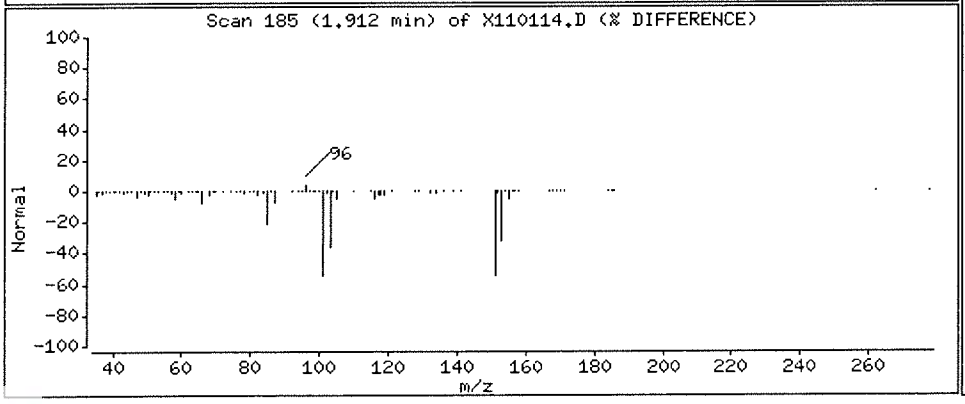












Data File: \\nahstws005\Target\chem\voa6.i\X191101.b\X110114.D

Date : 01-NOV-2019 15:57

Client ID: HS19101706-07

Instrument: voa6.i

Sample Info: HS19101706-07;HS19101706-07;;;

Purge Volume: 5.0

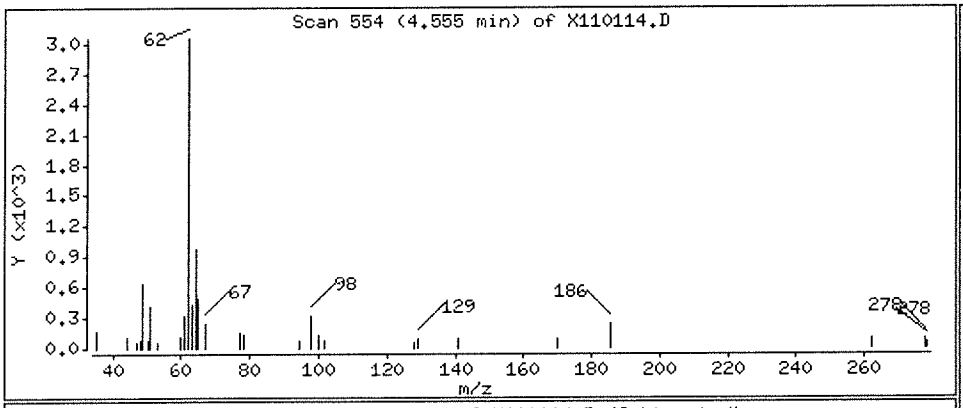
Operator: PC

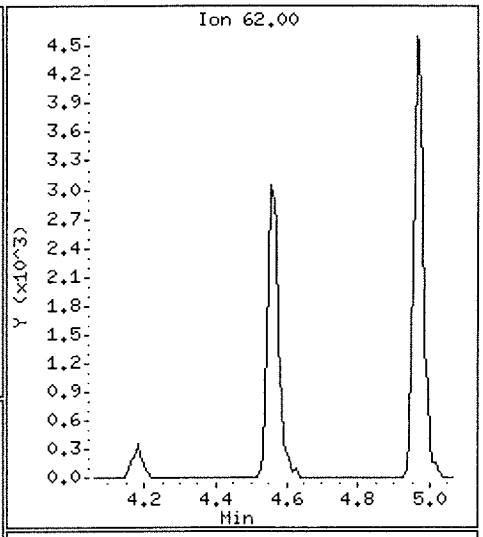
Column phase: DB624

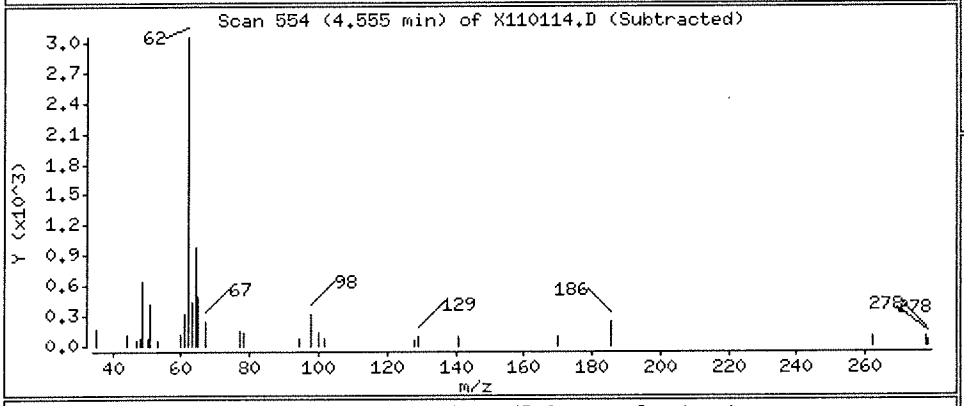
Column diameter: 0.18

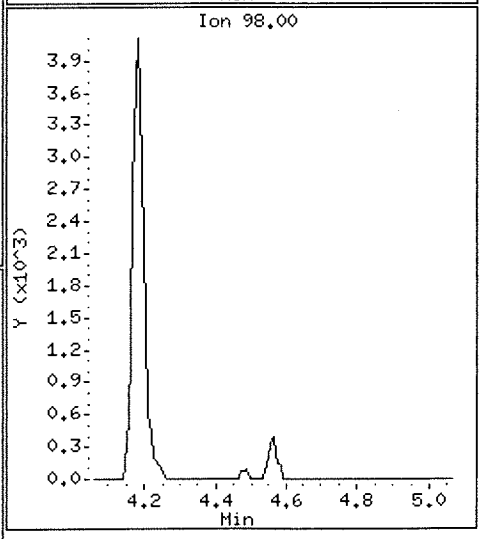
33 1,2-Dichloroethane

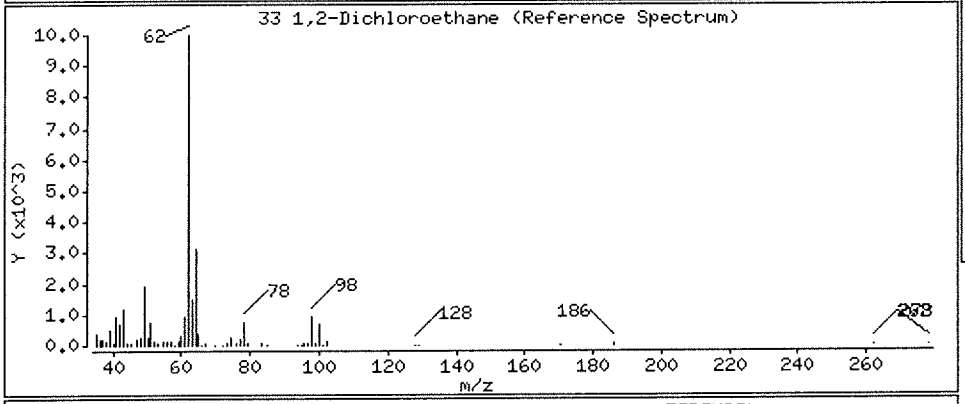
Concentration: 2.43 ug/l

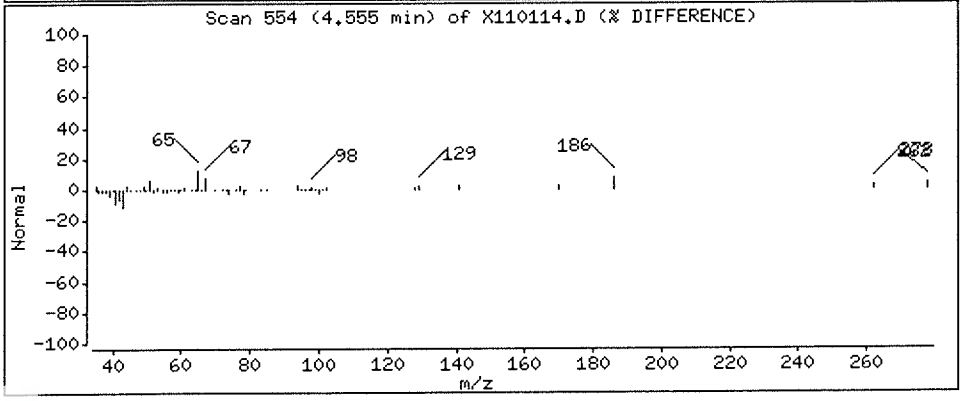












Data File: \\nahstws005\Target\chem\voa6.i\X191101.b\X110117.D Page 1
Report Date: 20-Nov-2019 14:00

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X191101.b\X110117.D
Lab Smp Id: HS19101706-05 Client Smp ID: HS19101706-05
Inj Date : 01-NOV-2019 17:09
Operator : PC Inst ID: voa6.i
Smp Info : HS19101706-05;HS19101706-05;;;
Misc Info : HS18090001;WATER;0;1;
Comment   :
Method   : \\nahstws005\Target\chem\voa6.i\X191101.b\8260W.m
Meth Date : 20-Nov-2019 13:59 DevakG Quant Type: ISTD
Cal Date : 31-OCT-2019 13:56 Cal File: X103108.D
Als bottle: 17
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBIHOUSTONDOD.sub
Target Version: 4.14

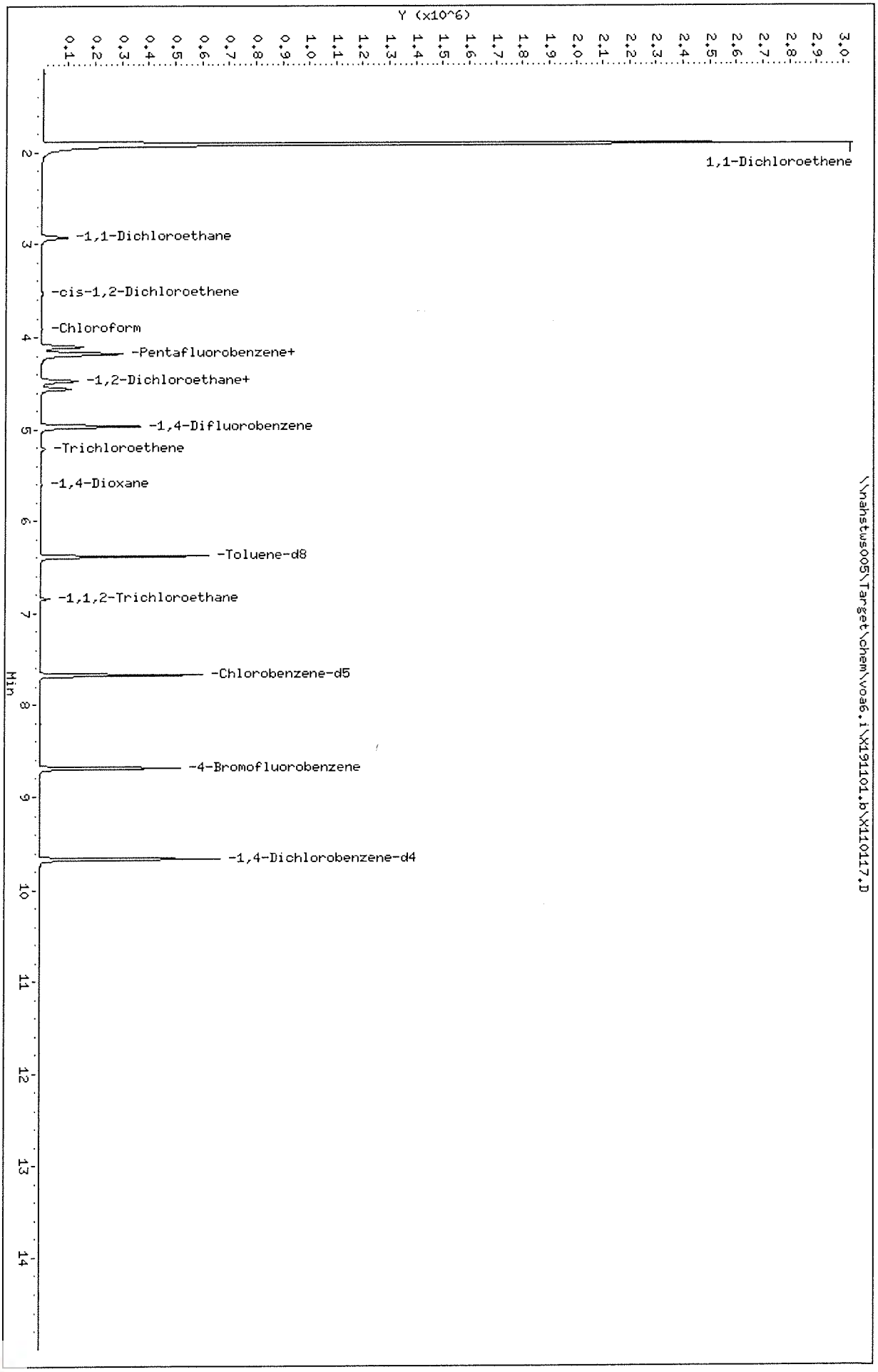
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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)	289115	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	341839	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	303354	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.669	(1.000)	177796	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	109234	44.8090	44.80
$ 69 4-Bromofluorobenzene	95	8.688	8.695	(1.133)	143710	50.4227	50.42
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	105646	45.8923	45.89
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	379042	50.2907	50.29
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	6921	5.02070	5.02
22 1,1-Dichloroethane	63	2.921	2.921	(0.699)	99427	30.7202	30.72
11 1,1-Dichloroethene	96	1.911	1.911	(0.457)	1188929	646.806	646.80(A)
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	99940	36.0612	36.06
28 Chloroform	83	3.910	3.910	(0.935)	2519	0.65827	0.65(a)
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	4156	1.79943	1.79(a)
38 Trichloroethene	130	5.206	5.206	(1.048)	6541	2.56447	2.56(a)
5 Vinyl Chloride	62	1.138	1.138	(0.272)	1485	0.81887	0.81(a)

QC Flag Legend

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



Data File: \\nahstws005\Target\chem\voa6.i\X191101.b\X110117.D
Date : 01-NOV-2019 17:09
Client ID: HS19101706-05
Sample Info: HS19101706-05;HS19101706-05;;;
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\nahstws005\Target\chem\voa6.i\X191101.b\X110117.D

Date : 01-NOV-2019 17:09

Client ID: HS19101706-05

Instrument: voa6.i

Sample Info: HS19101706-05;HS19101706-05;;;

Purge Volume: 5.0

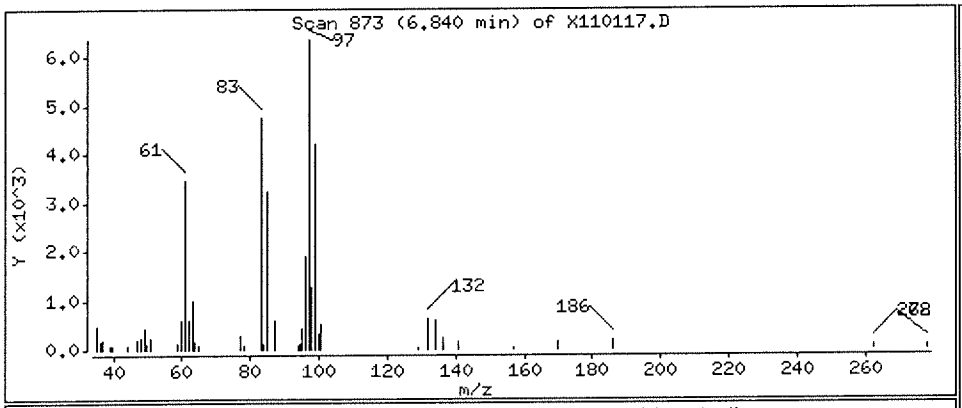
Operator: PC

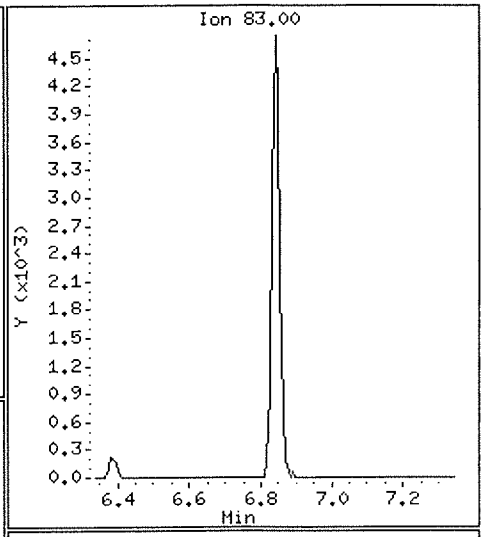
Column phase: DB624

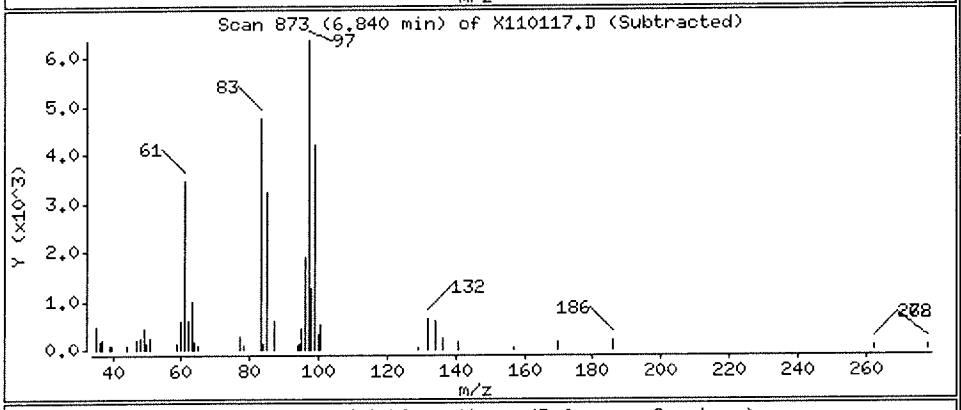
Column diameter: 0.18

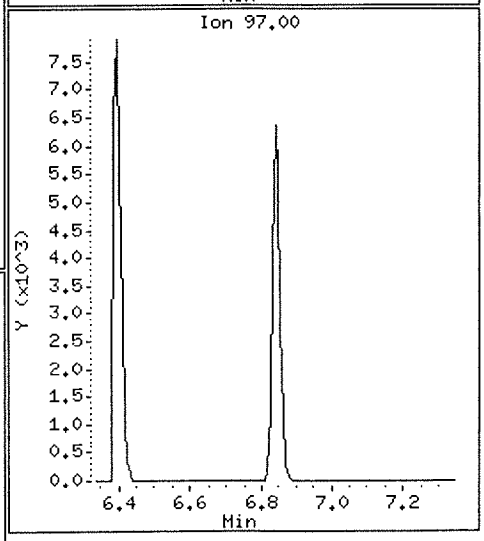
53 1,1,2-Trichloroethane

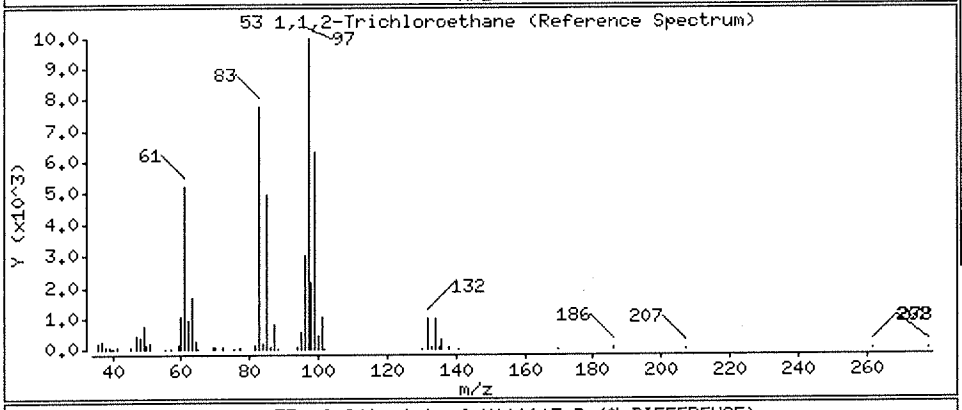
Concentration: 5.02 ug/l

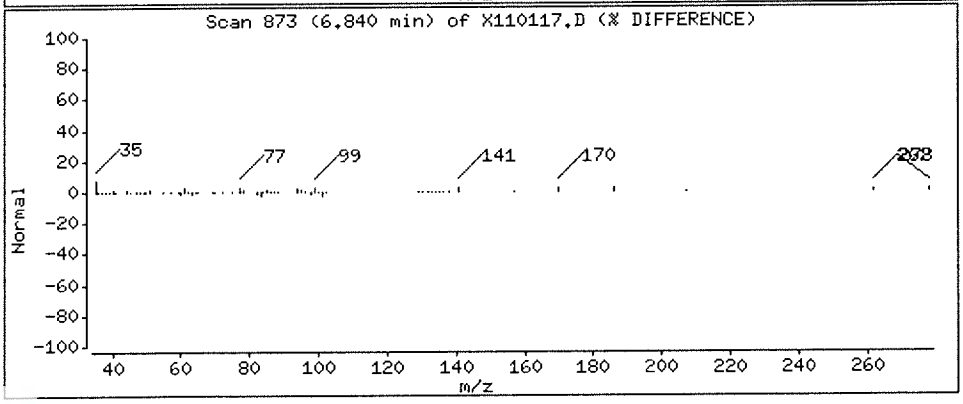












Data File: \\nahstws005\Target\chem\voa6.i\X191101.b\X110117.D

Date : 01-NOV-2019 17:09

Client ID: HS19101706-05

Instrument: voa6.i

Sample Info: HS19101706-05;HS19101706-05;;;

Purge Volume: 5.0

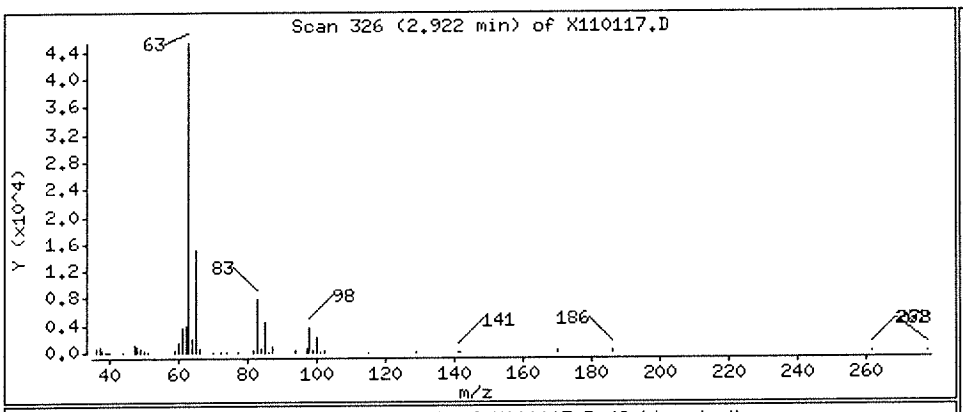
Operator: PC

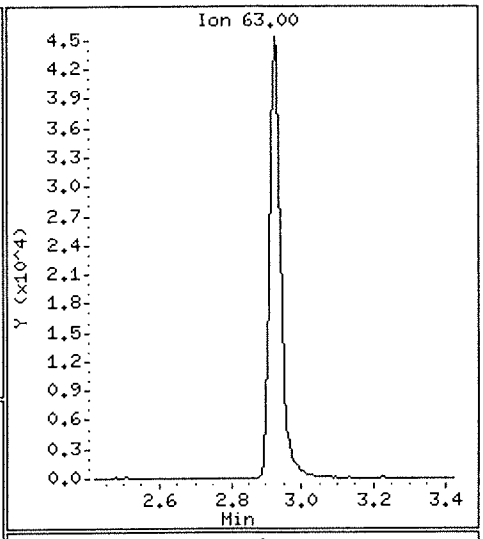
Column phase: DB624

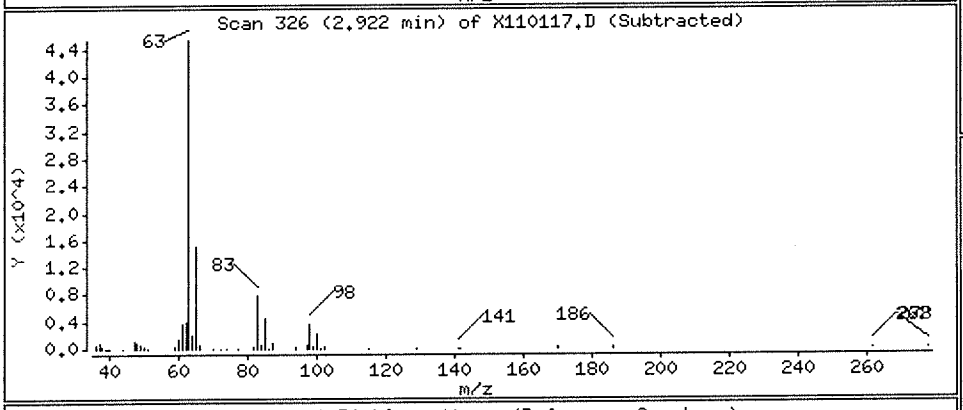
Column diameter: 0.18

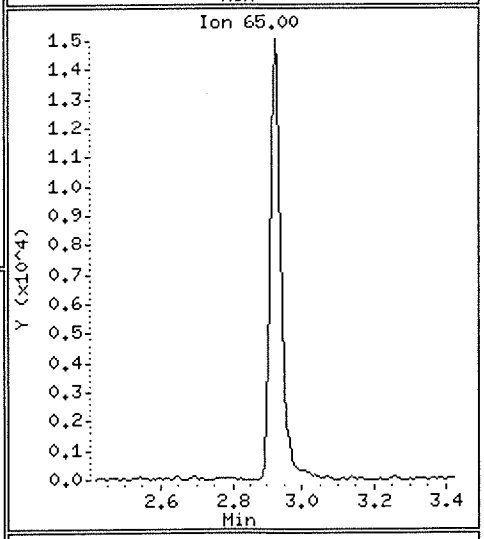
22 1,1-Dichloroethane

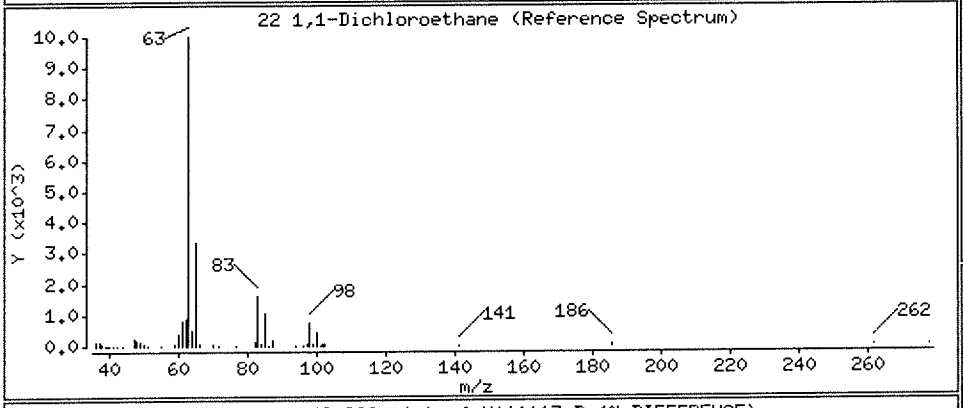
Concentration: 30.72 ug/l

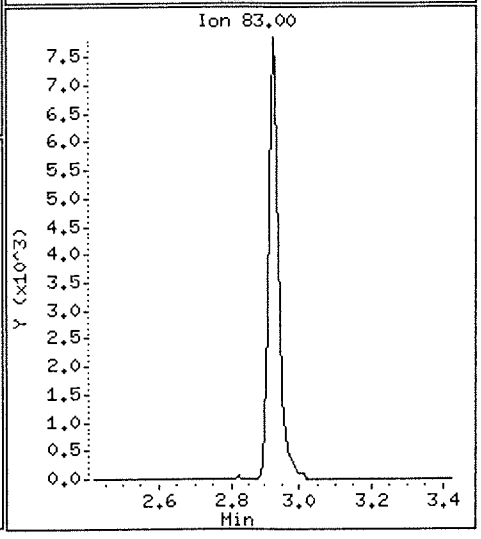


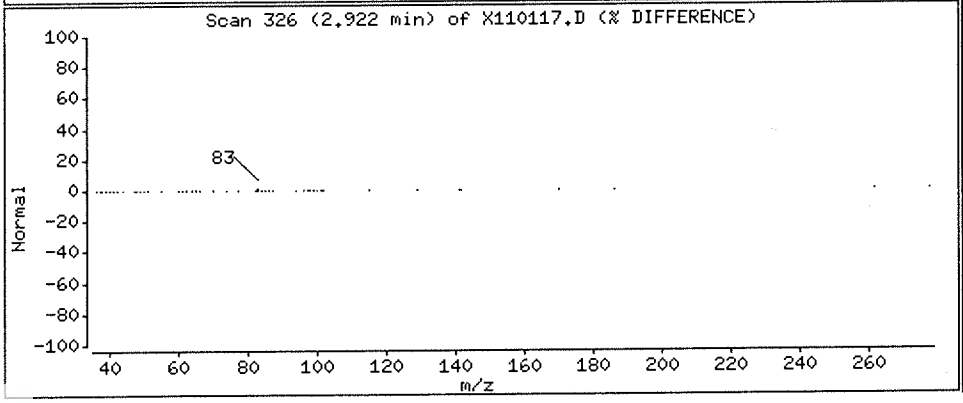












Data File: \\nahstws005\Target\chem\voa6.i\X191101.b\X110117.D

Date : 01-NOV-2019 17:09

Client ID: HS19101706-05

Instrument: voa6.i

Sample Info: HS19101706-05;HS19101706-05;;;

Purge Volume: 5.0

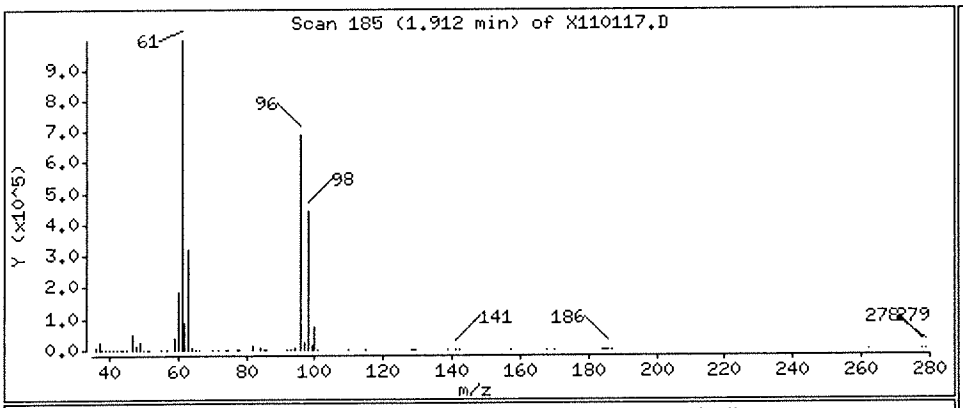
Operator: PC

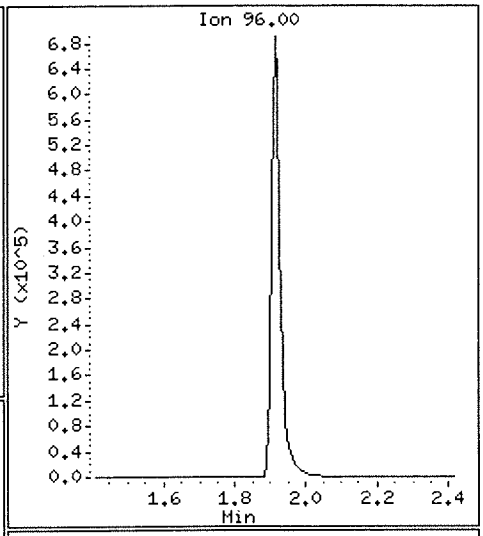
Column phase: DB624

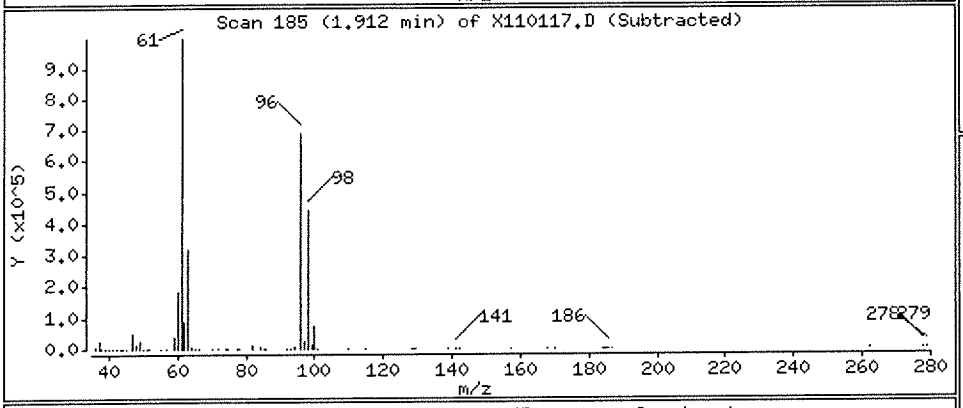
Column diameter: 0.18

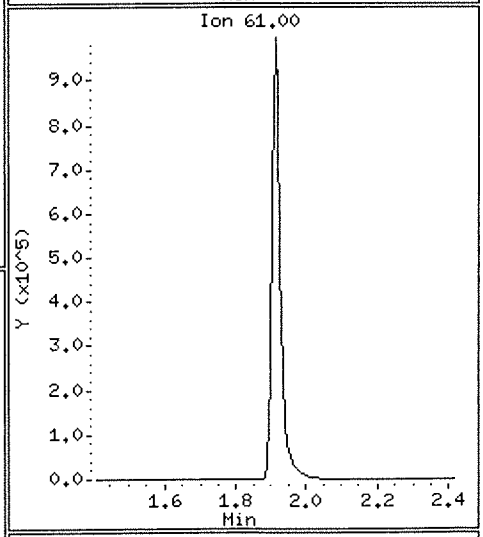
11 1,1-Dichloroethene

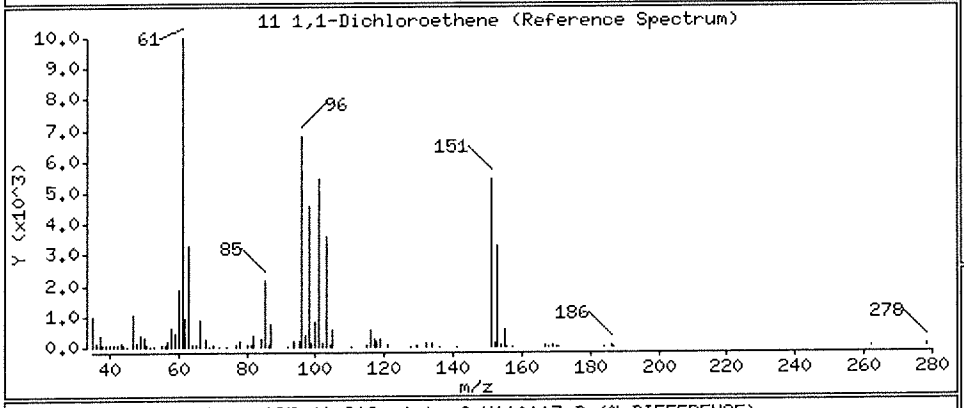
Concentration: 646.80 ug/l

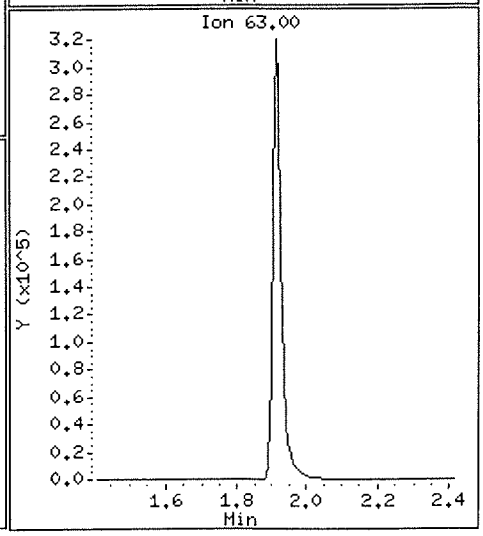


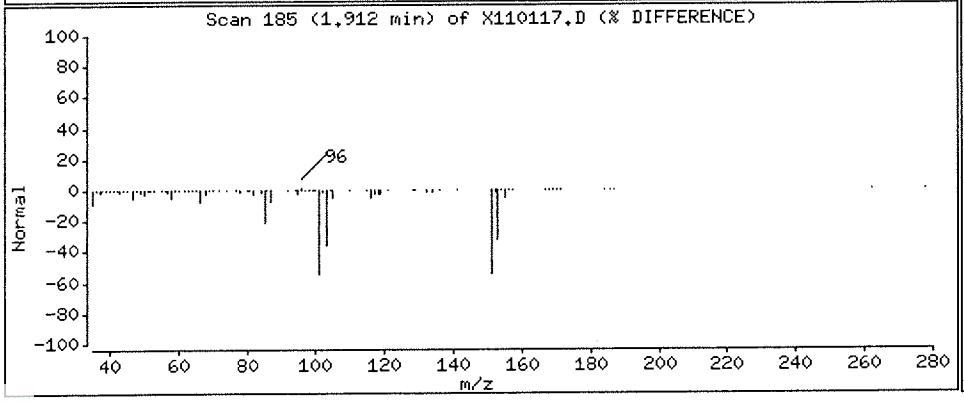












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Date : 01-NOV-2019 17:09

Client ID: HS19101706-05

Instrument: voa6.i

Sample Info: HS19101706-05;HS19101706-05;;;

Purge Volume: 5.0

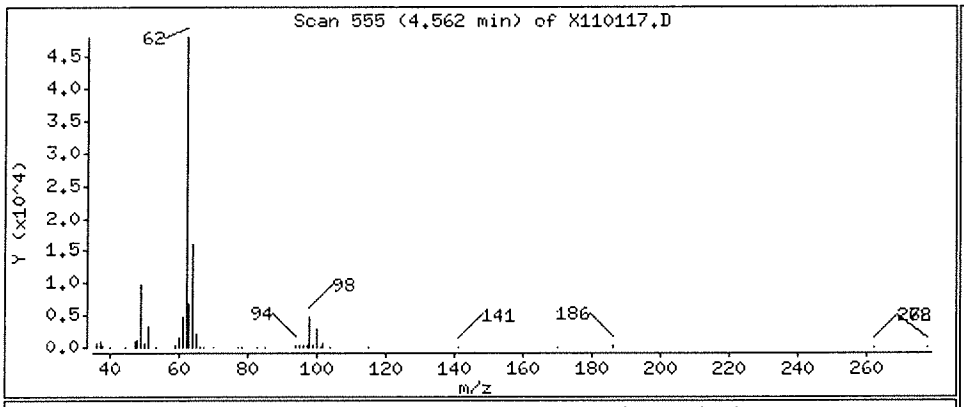
Operator: PC

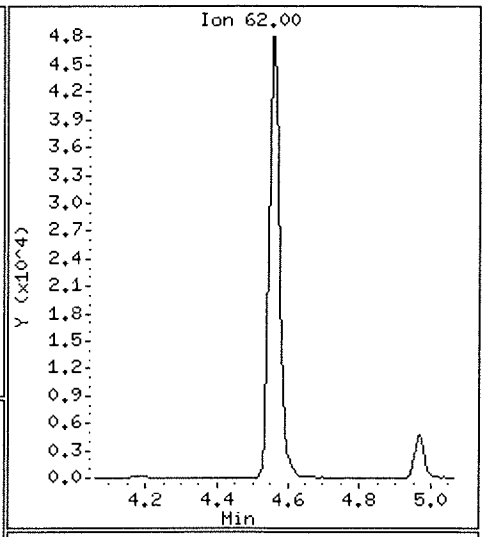
Column phase: DB624

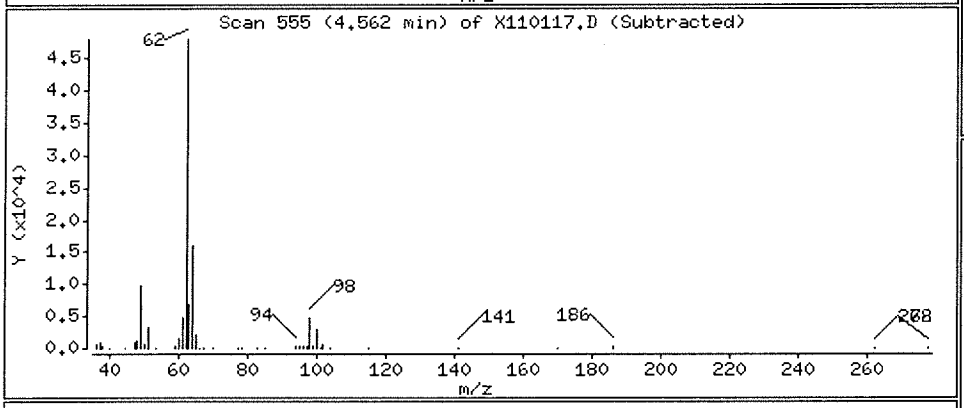
Column diameter: 0.18

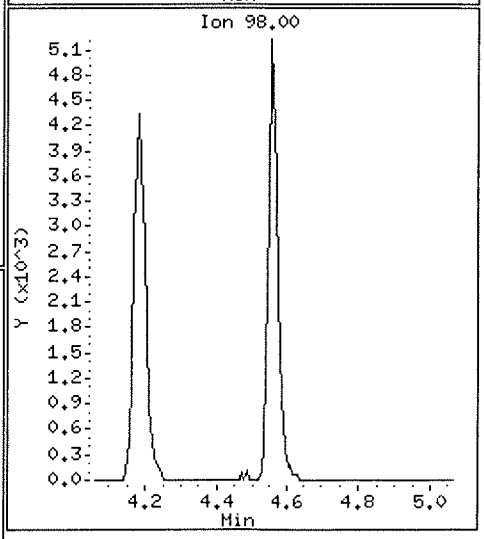
33 1,2-Dichloroethane

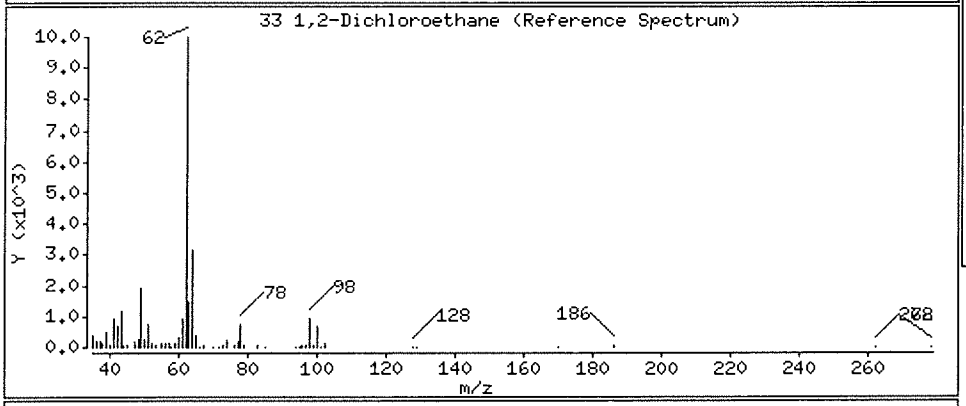
Concentration: 36.06 ug/l

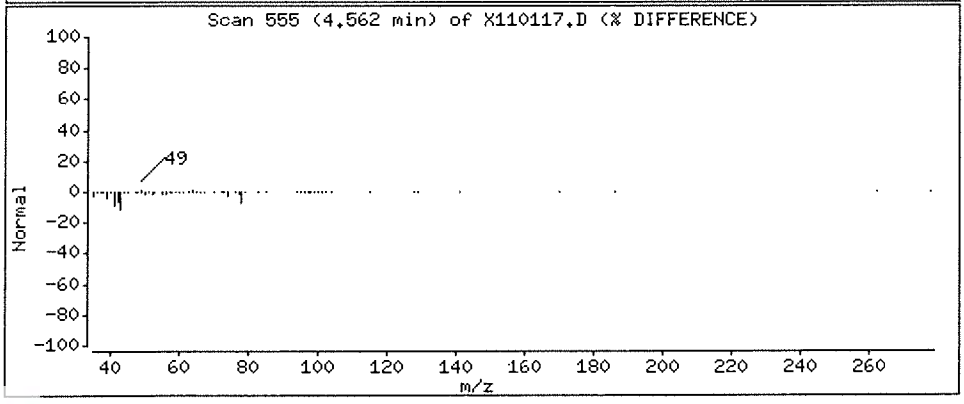












Data File: \\nahstws005\Target\chem\voa6.i\X191101.b\X110117.D

Date : 01-NOV-2019 17:09

Client ID: HS19101706-05

Instrument: voa6.i

Sample Info: HS19101706-05;HS19101706-05;;;

Purge Volume: 5.0

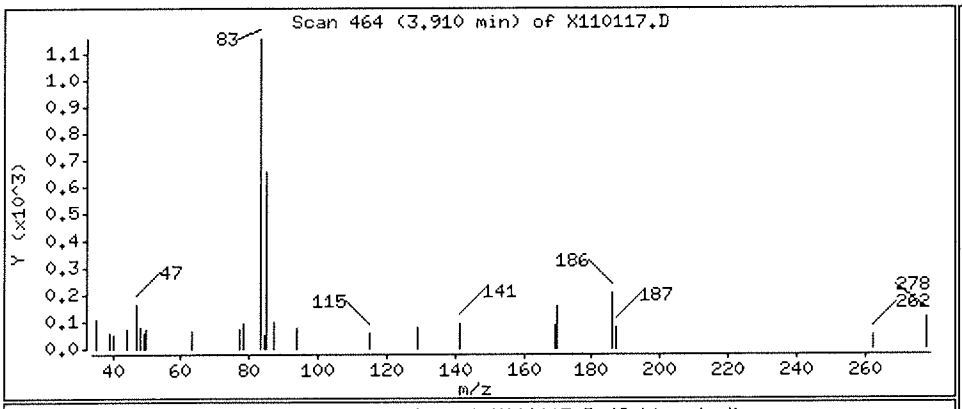
Operator: PC

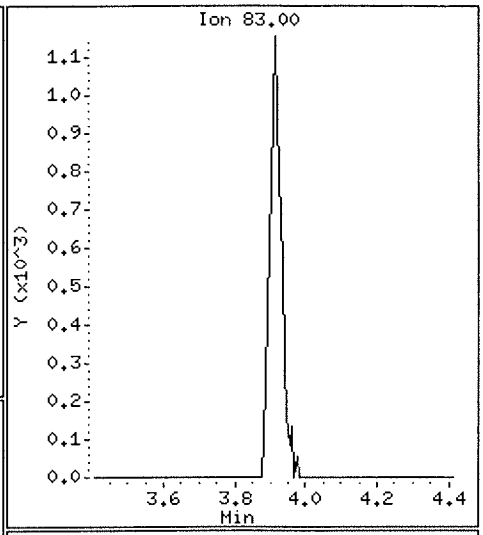
Column phase: DB624

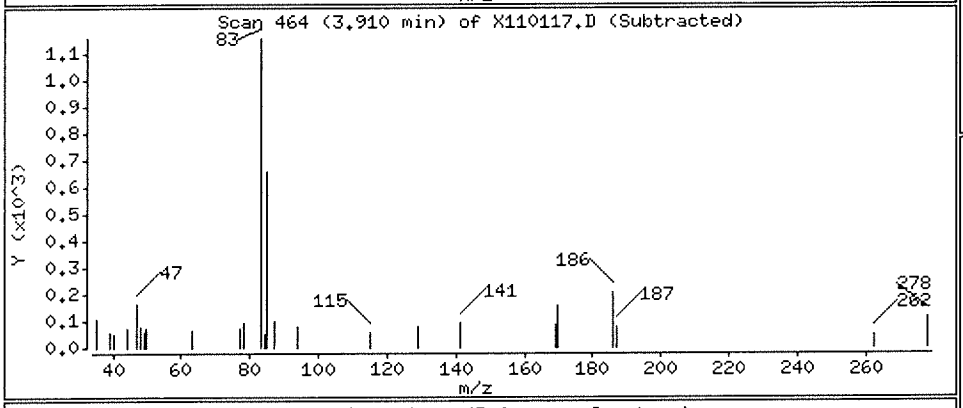
Column diameter: 0.18

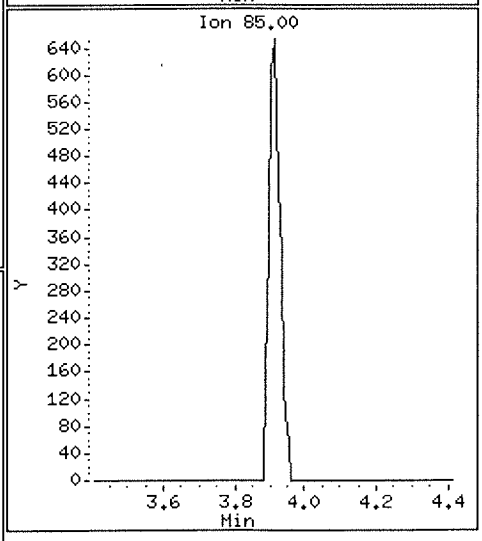
28 Chloroform

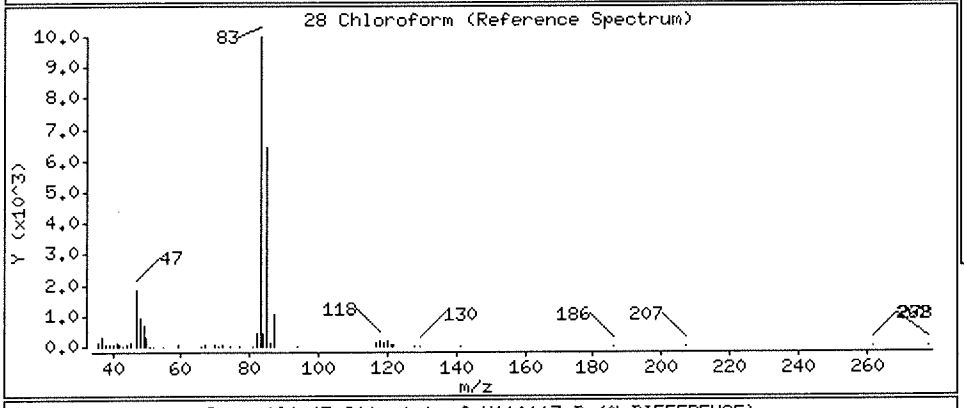
Concentration: 0.65 ug/l

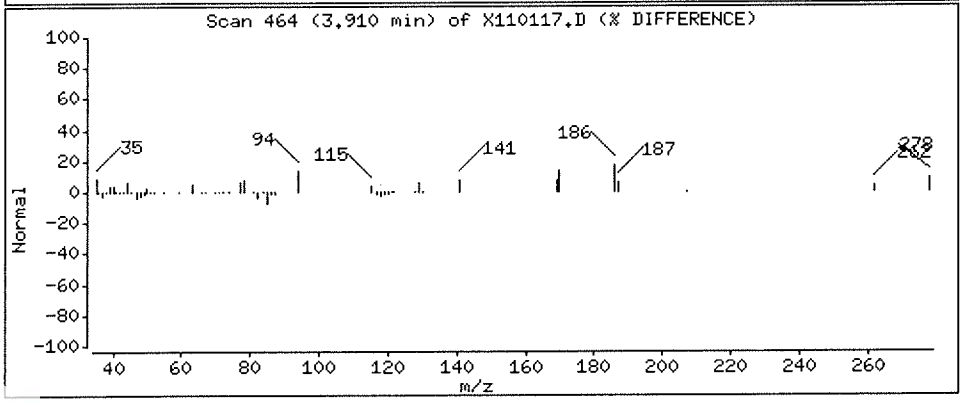












Data File: \\nahstws005\Target\chem\voa6.i\X191101.b\X110117.D

Date : 01-NOV-2019 17:09

Client ID: HS19101706-05

Instrument: voa6.i

Sample Info: HS19101706-05;HS19101706-05;;;

Purge Volume: 5.0

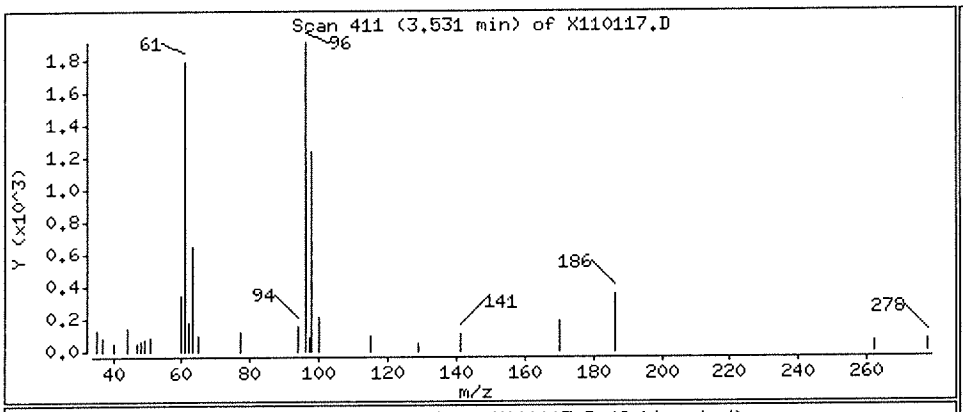
Operator: PC

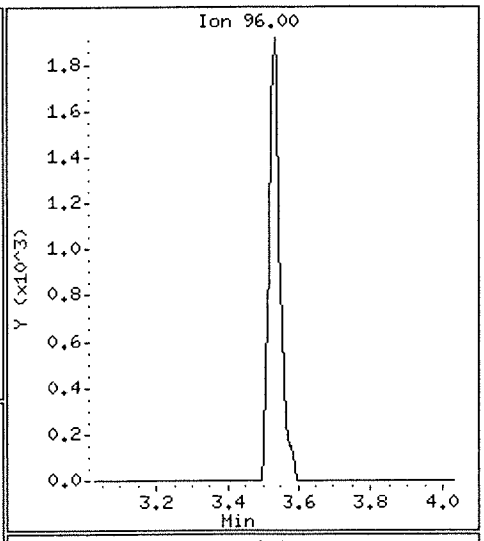
Column phase: DB624

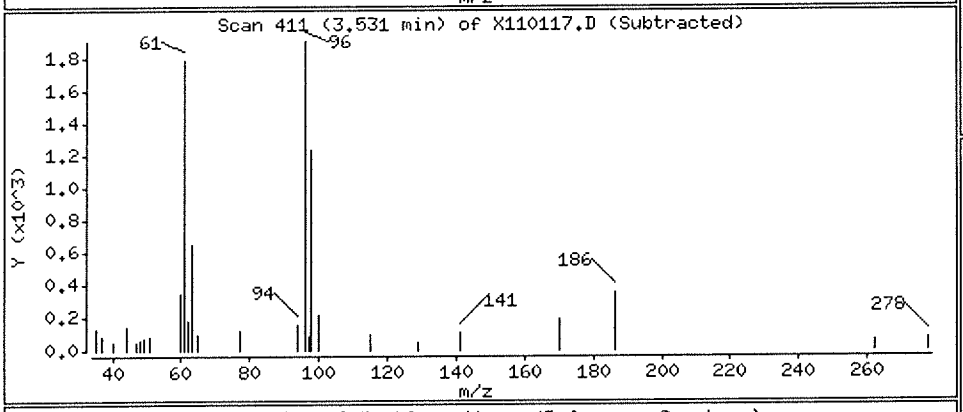
Column diameter: 0.18

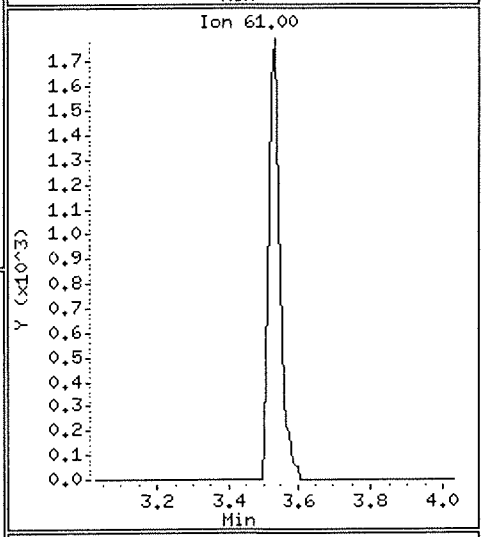
27 cis-1,2-Dichloroethene

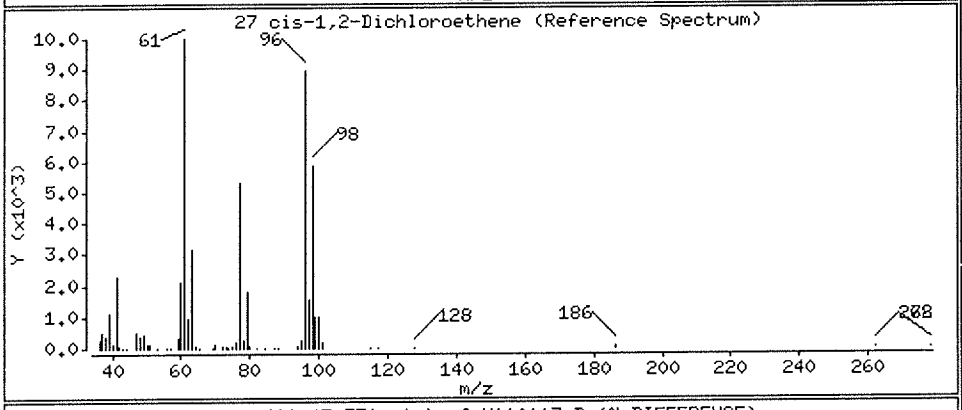
Concentration: 1.79 ug/l

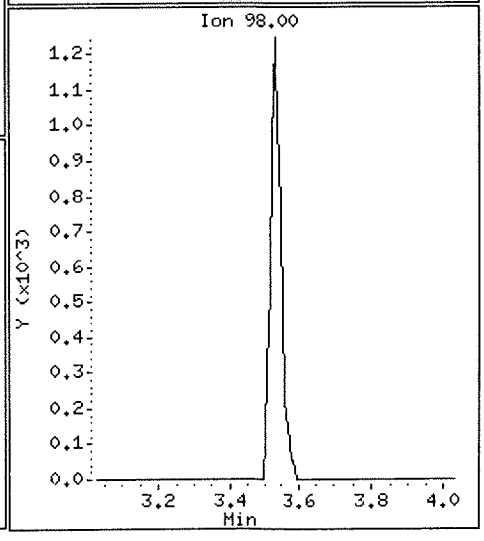


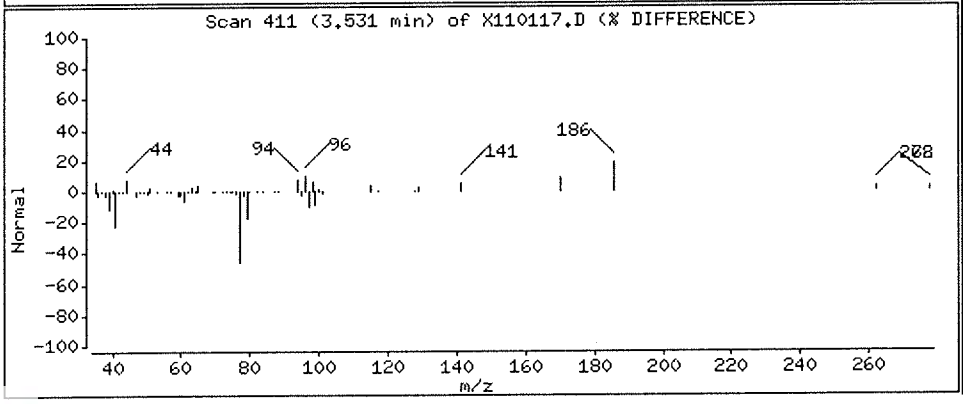












Data File: \\nahstws005\Target\chem\voa6.i\X191101.b\X110117.D Page 9

Date : 01-NOV-2019 17:09

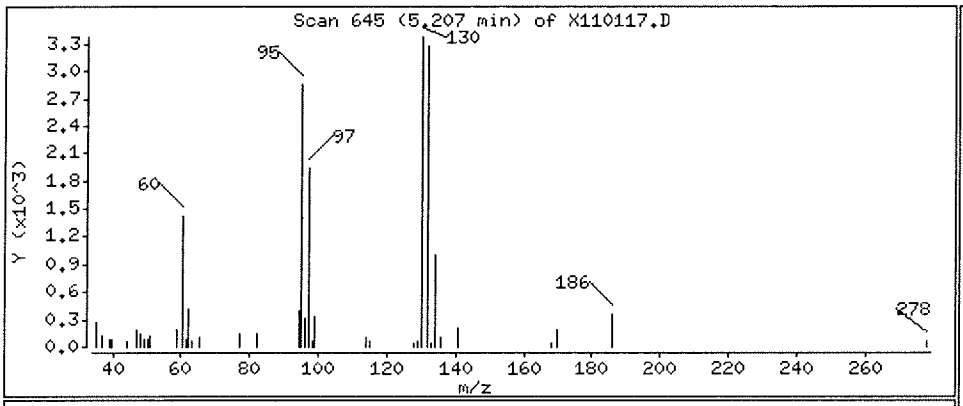
Client ID: HS19101706-05 Instrument: voa6.i

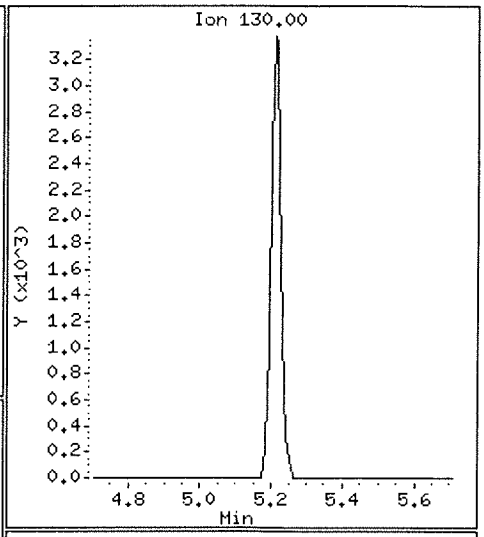
Sample Info: HS19101706-05;HS19101706-05;;;

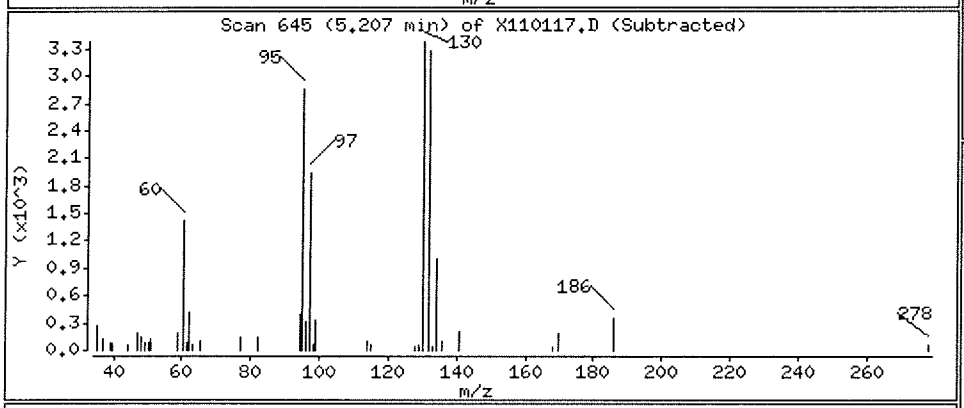
Purge Volume: 5.0 Operator: PC

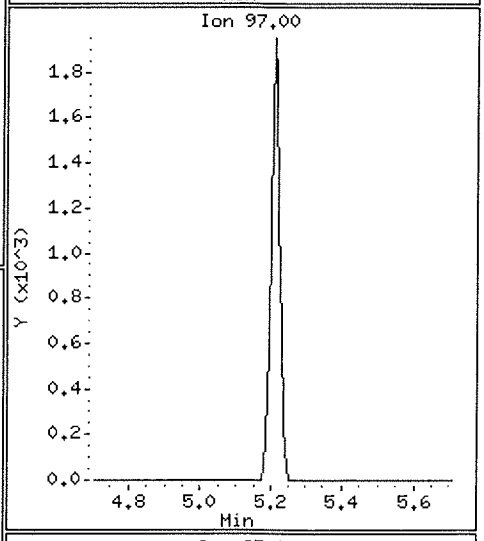
Column phase: DB624 Column diameter: 0.18

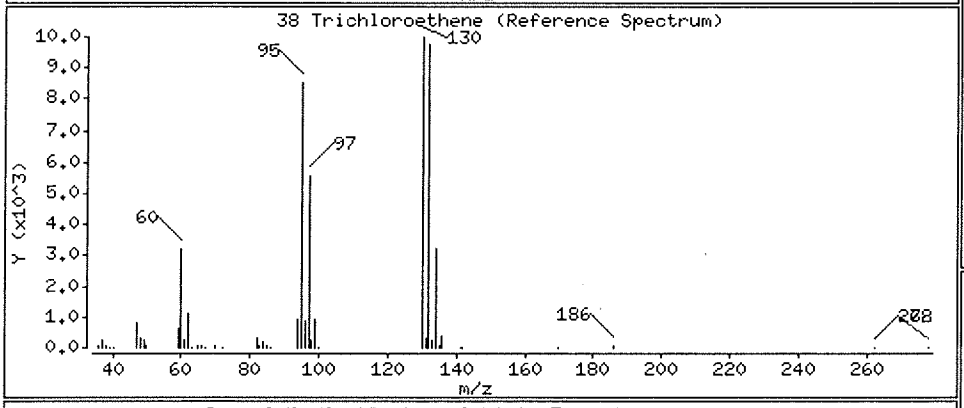
38 Trichloroethene Concentration: 2.56 ug/l

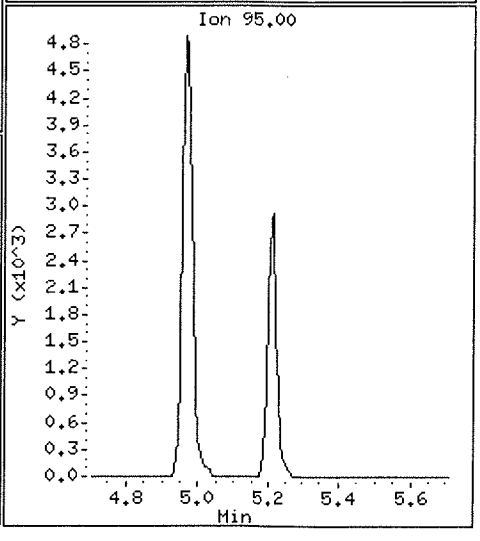


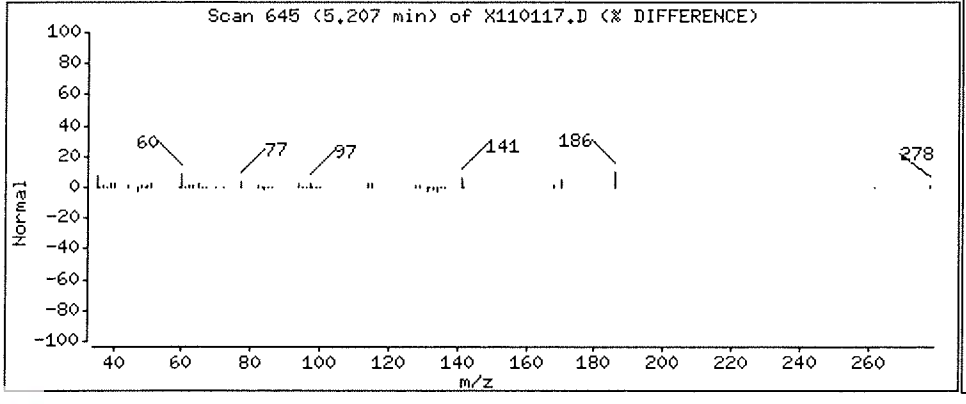












Data File: \\nahstws005\Target\chem\voa6.i\X191101.b\X110117.D

Date : 01-NOV-2019 17:09

Client ID: HS19101706-05

Instrument: voa6.i

Sample Info: HS19101706-05;HS19101706-05;;;

Purge Volume: 5.0

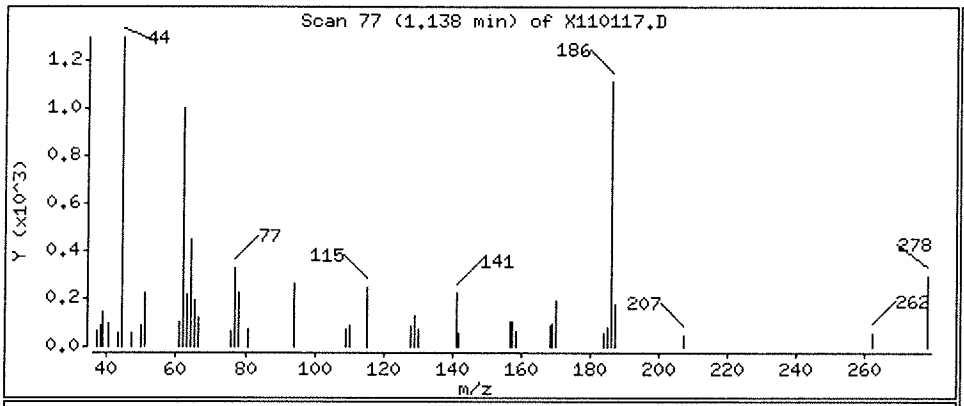
Operator: PC

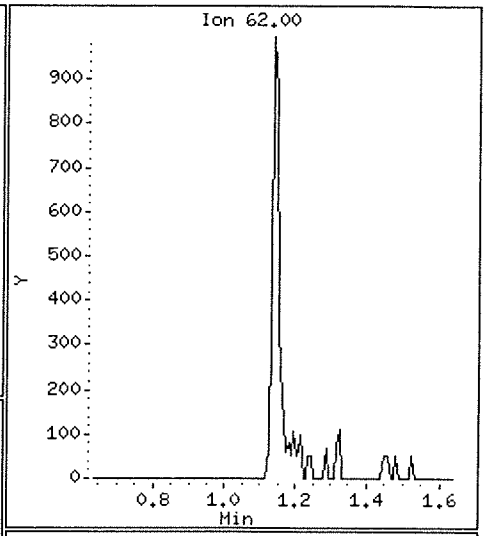
Column phase: DB624

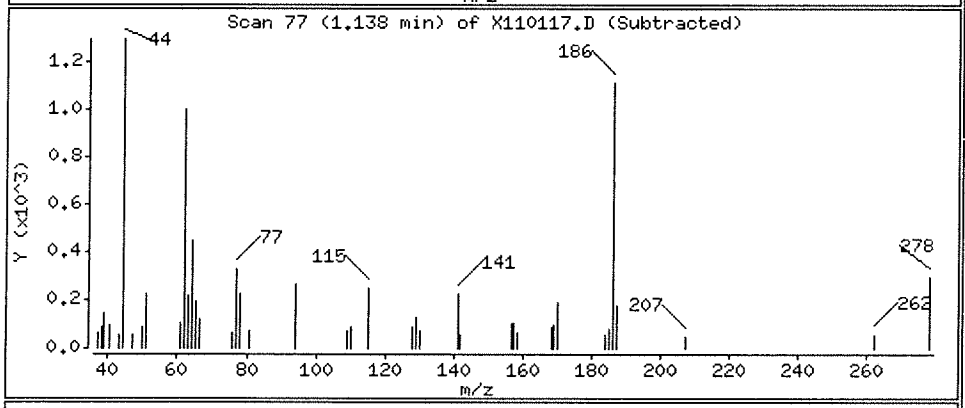
Column diameter: 0.18

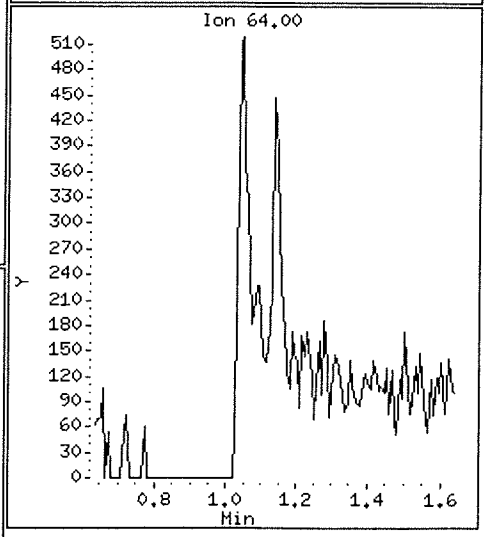
5 Vinyl Chloride

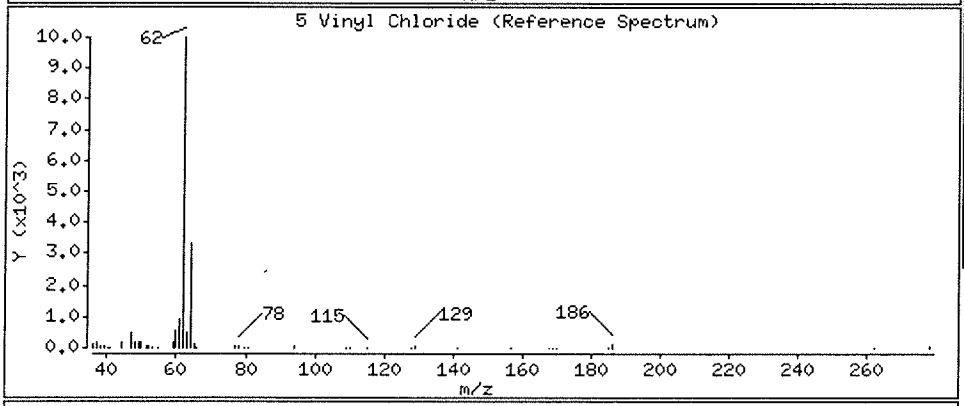
Concentration: 0.81 ug/l

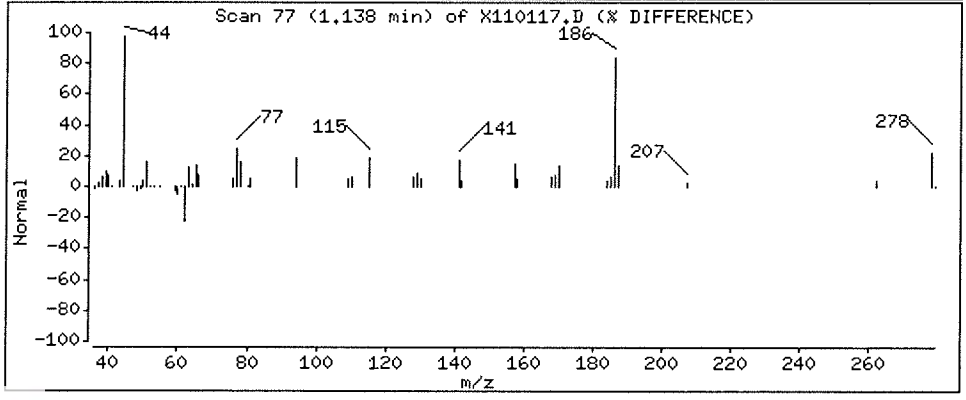












Data File: \\nahstws005\Target\chem\voa6.i\X191101.b\X110118.D Page 1
Report Date: 20-Nov-2019 14:02

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X191101.b\X110118.D
Lab Smp Id: HS19101523-07MS Client Smp ID: HS19101523-07MS
Inj Date : 01-NOV-2019 17:34
Operator : PC Inst ID: voa6.i
Smp Info : HS19101523-07MS;HS19101523-07MS;3;;MS
Misc Info : HS18090001;WATER;0;10;
Comment   :
Method   : \\nahstws005\Target\chem\voa6.i\X191101.b\8260W.m
Meth Date : 20-Nov-2019 14:02 voa6.i Quant Type: ISTD
Cal Date : 31-OCT-2019 13:56 Cal File: X103108.D
Als bottle: 18 QC Sample: MS
Dil Factor: 10.00000
Integrator: HP RTE Compound Sublist: CBIHOUSTONDOD.sub
Target Version: 4.14

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

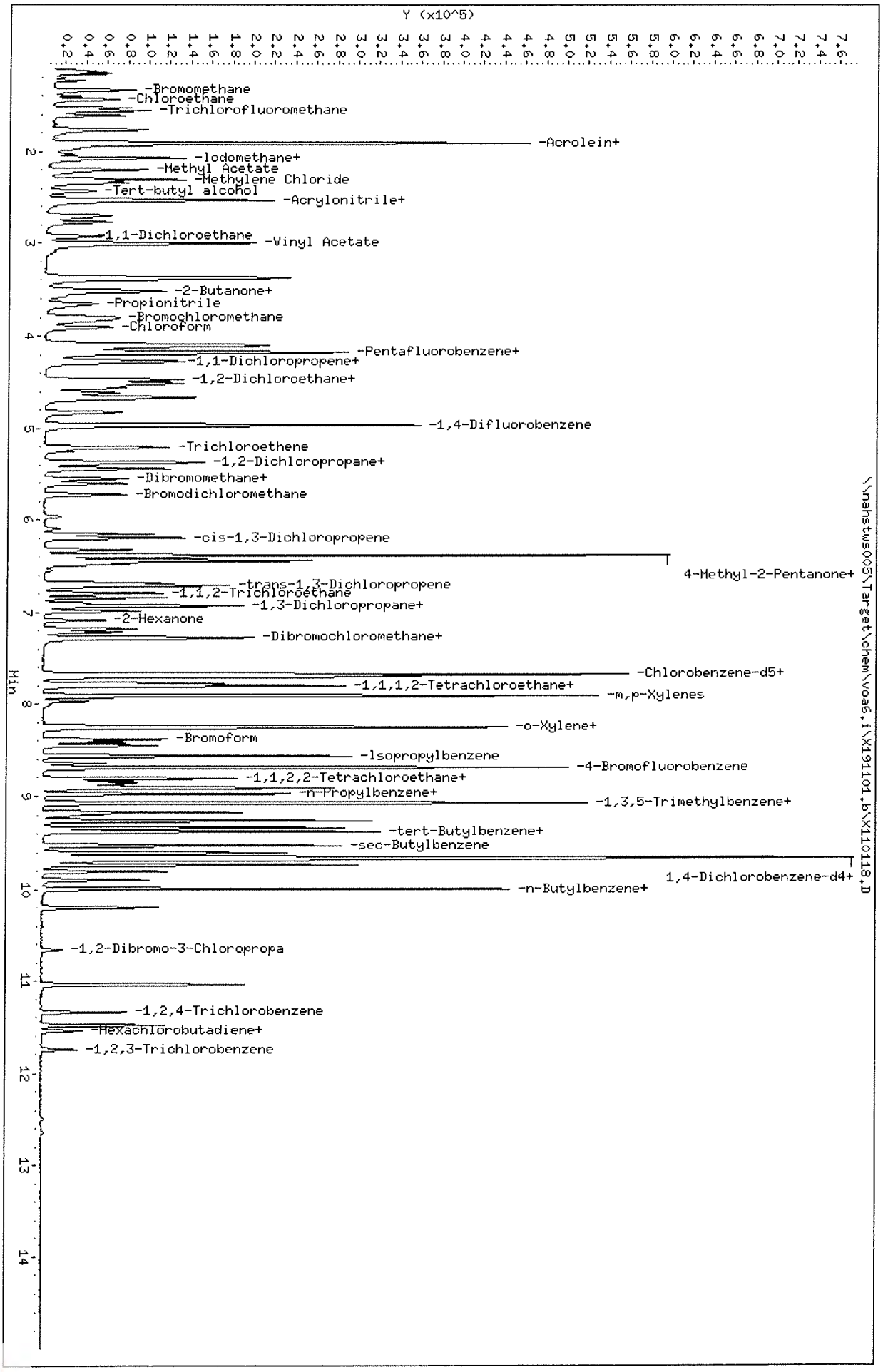
Name	Value	Description
DF	10.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

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)	270472	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	322705	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	283230	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.669	(1.000)	165445	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	103589	45.4156	45.41
$ 69 4-Bromofluorobenzene	95	8.688	8.695	(1.133)	132610	49.8269	49.82
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	100252	46.5438	46.54
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	360092	51.1710	51.17
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	41669	18.0610	180.60
31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	60950	17.9814	179.81
68 1,1,2,2-Tetrachloroethane	83	8.845	8.838	(0.915)	33257	18.1209	181.20
138 Freon TF	101	1.919	1.919	(0.459)	33439	18.6875	186.87
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	24744	19.2254	192.25
22 1,1-Dichloroethane	63	2.921	2.921	(0.699)	55396	18.2956	182.95
11 1,1-Dichloroethene	96	1.911	1.911	(0.457)	141744	82.4273	824.27
32 1,1-Dichloropropene	75	4.282	4.282	(0.862)	43796	18.2194	182.19
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.216)	10523	18.8596	188.59
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.918)	30435	18.5017	185.01(M)
90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	24797	16.6090	166.08
79 1,2,4-Trimethylbenzene	105	9.382	9.382	(0.971)	149568	18.8733	188.73
89 1,2-Dibromo-3-Chloropropane	155	10.657	10.657	(1.103)	4667	17.6003	176.00
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	35159	18.4750	184.75
88 1,2-Dichlorobenzene	146	9.991	9.999	(1.034)	80911	17.6222	176.22

	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)	51159	19.5542	195.54
42	1,2-Dichloropropane	63	5.436	5.443	(1.094)	26954	17.1470	171.46
75	1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	147197	19.1667	191.66
83	1,3-Dichlorobenzene	146	9.605	9.605	(0.994)	91210	18.0833	180.83
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	47898	18.1408	181.40
84	1,4-Dichlorobenzene	146	9.683	9.683	(1.002)	89204	17.5284	175.28
26	2,2-Dichloropropane	77	3.509	3.509	(0.839)	54474	16.7442	167.44
24	2-Butanone	43	3.573	3.573	(0.854)	16307	29.5290	295.28
76	2-Chlorotoluene	91	8.974	8.974	(0.929)	110225	18.5368	185.36
52	2-Hexanone	43	7.083	7.083	(0.923)	28687	34.7853	347.85
77	4-Chlorotoluene	91	9.074	9.074	(0.939)	129994	18.5335	185.33
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	156300	19.0046	190.04
45	4-Methyl-2-Pentanone	43	6.324	6.324	(0.824)	39882	34.1978	341.97
10	Acetone	43	1.969	1.976	(0.471)	13901	25.1741	251.74
37	Benzene	78	4.512	4.512	(0.908)	121309	17.3523	173.52
74	Bromobenzene	156	8.809	8.809	(0.912)	55363	18.1784	181.78
29	Bromochloromethane	128	3.795	3.795	(0.908)	23213	16.6405	166.40
39	Bromodichloromethane	83	5.729	5.729	(1.153)	45259	17.7136	177.13
66	Bromoform	173	8.415	8.415	(1.097)	32596	17.8432	178.43
6	Bromomethane	94	1.338	1.338	(0.320)	41576	19.5437	195.43
19	Carbon Disulfide	76	2.069	2.069	(0.495)	167655	33.6436	336.43
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	58153	18.4632	184.63
59	Chlorobenzene	112	7.699	7.699	(1.004)	102748	18.6236	186.23
7	Chloroethane	64	1.403	1.403	(0.336)	18611	17.3579	173.57
28	Chloroform	83	3.910	3.910	(0.935)	60822	16.9897	169.89
3	Chloromethane	50	1.073	1.073	(0.257)	31406	17.5373	175.37
27	cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	38320	17.7351	177.35
46	cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	52244	17.6521	176.52
55	Dibromochloromethane	129	7.176	7.176	(0.936)	41730	17.7866	177.86
44	Dibromomethane	93	5.557	5.557	(1.118)	21994	17.6475	176.47
2	Dichlorodifluoromethane	85	0.973	0.973	(0.233)	37682	18.4568	184.56
61	Ethylbenzene	106	7.799	7.799	(1.017)	54496	19.0446	190.44
91	Hexachlorobutadiene	225	11.481	11.488	(1.188)	23273	18.0337	180.33
67	Isopropylbenzene	105	8.566	8.566	(1.117)	167529	19.2584	192.58
62	m,p-Xylenes	106	7.907	7.907	(1.031)	132951	38.3291	383.29
17	Methylene Chloride	84	2.305	2.305	(0.551)	31846	16.9609	169.60
87	n-Butylbenzene	91	9.998	9.999	(1.035)	114958	19.5970	195.97
73	n-Propylbenzene	91	8.917	8.917	(0.923)	178002	18.8902	188.90
92	Naphthalene	128	11.546	11.546	(1.195)	27894	18.5507	185.50
63	o-Xylene	106	8.244	8.244	(1.075)	63936	18.7186	187.18
81	sec-Butylbenzene	105	9.526	9.526	(0.986)	163776	19.4988	194.98
64	Styrene	104	8.258	8.258	(1.077)	111580	18.8838	188.83
78	tert-Butylbenzene	119	9.339	9.340	(0.967)	127964	19.2252	192.25
56	Tetrachloroethene	164	6.933	6.933	(0.904)	42963	20.0226	200.22
50	Toluene	91	6.446	6.446	(0.840)	145483	18.8231	188.23
20	trans-1,2-Dichloroethene	96	2.527	2.527	(0.604)	32791	18.0480	180.47
51	trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	47690	17.2602	172.60
38	Trichloroethene	130	5.206	5.206	(1.048)	44715	18.5705	185.70
8	Trichlorofluoromethane	101	1.560	1.560	(0.373)	66356	18.3822	183.82
5	Vinyl Chloride	62	1.138	1.138	(0.272)	31341	18.4735	184.73

QC Flag Legend

M - Compound response manually integrated.



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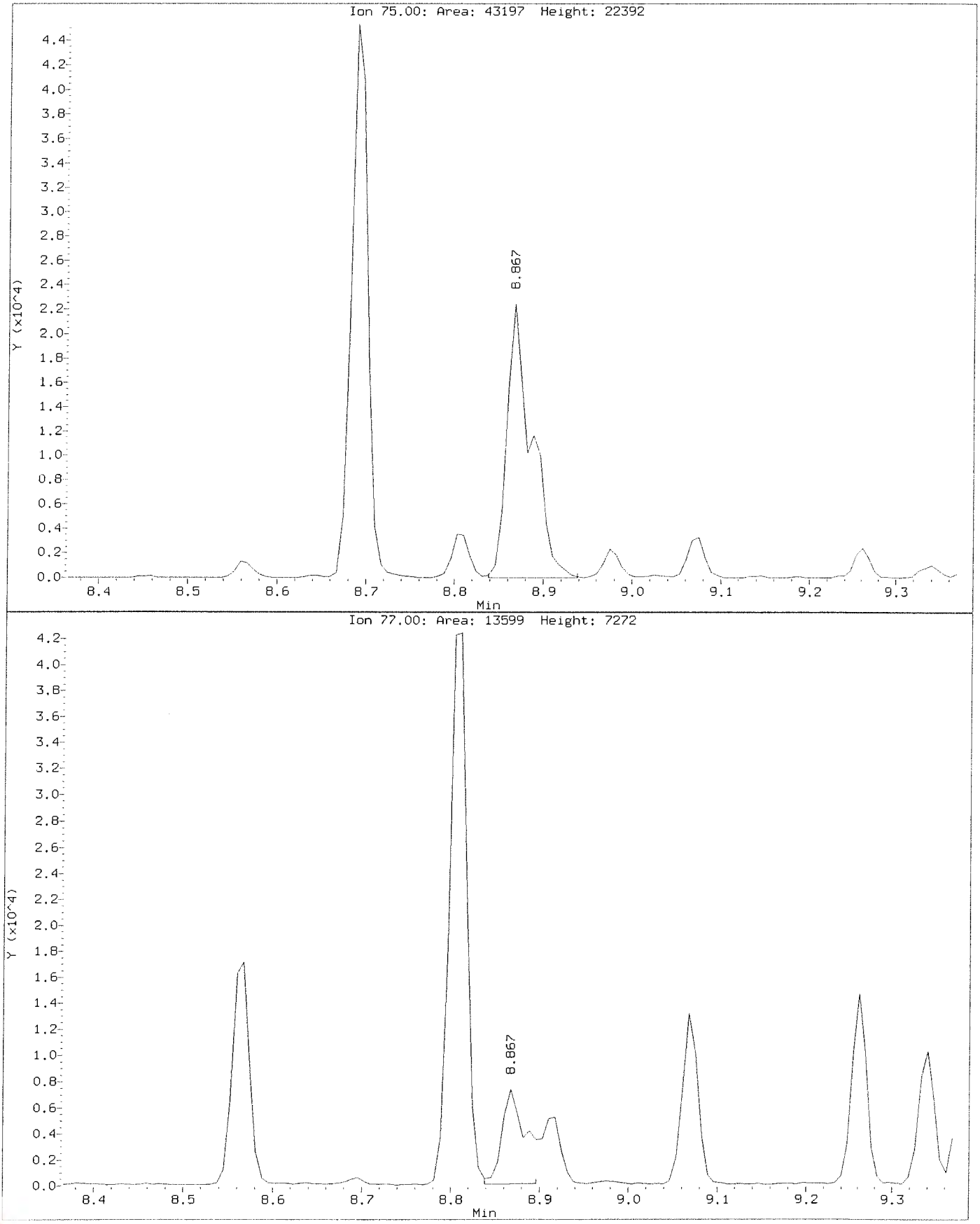
Date : 01-NOV-2019 17:34
Client ID: HS191015523-07MS
Sample Info: HS191015523-07MS;HS191015523-07MS;3;;MS
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\nahstws005\Target\chem\voa6.i\X191101.b\BEFORE2\X110118.D
Injection Date: 01-NOV-2019 17:34
Instrument: voa6.i
Client Sample ID: HS19101523-07MS

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



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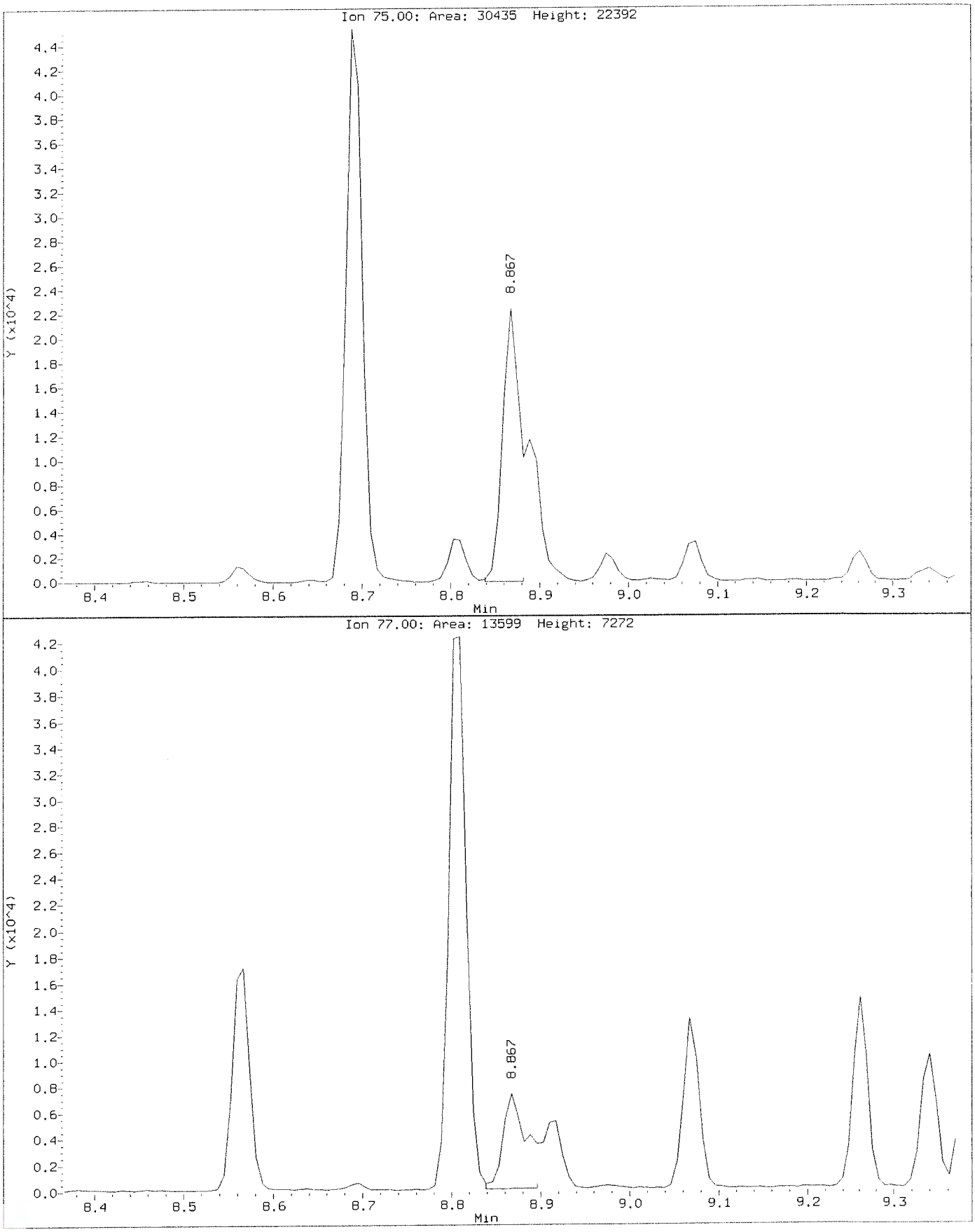
Injection Date: 01-NOV-2019 17:34
Instrument: voa6.i
Client Sample ID: HS19101523-07MS

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



Data File: \\nahstws005\Target\chem\voa6.i\X191101.b\X110119.D Page 1
Report Date: 20-Nov-2019 14:02

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Data file : \\nahstws005\Target\chem\voa6.i\X191101.b\X110119.D
Lab Smp Id: HS19101523-07MSD Client Smp ID: HS19101523-07MSD
Inj Date : 01-NOV-2019 17:58
Operator : PC Inst ID: voa6.i
Smp Info : HS19101523-07MSD;HS19101523-07MSD;3;;MSD
Misc Info : HS18090001;WATER;0;10;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X191101.b\8260W.m
Meth Date : 20-Nov-2019 14:02 voa6.i Quant Type: ISTD
Cal Date : 31-OCT-2019 13:56 Cal File: X103108.D
Als bottle: 18 QC Sample: MSD
Dil Factor: 10.00000
Integrator: HP RTE Compound Sublist: CBIHOUSTONDOD.sub
Target Version: 4.14

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

Name	Value	Description
DF	10.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

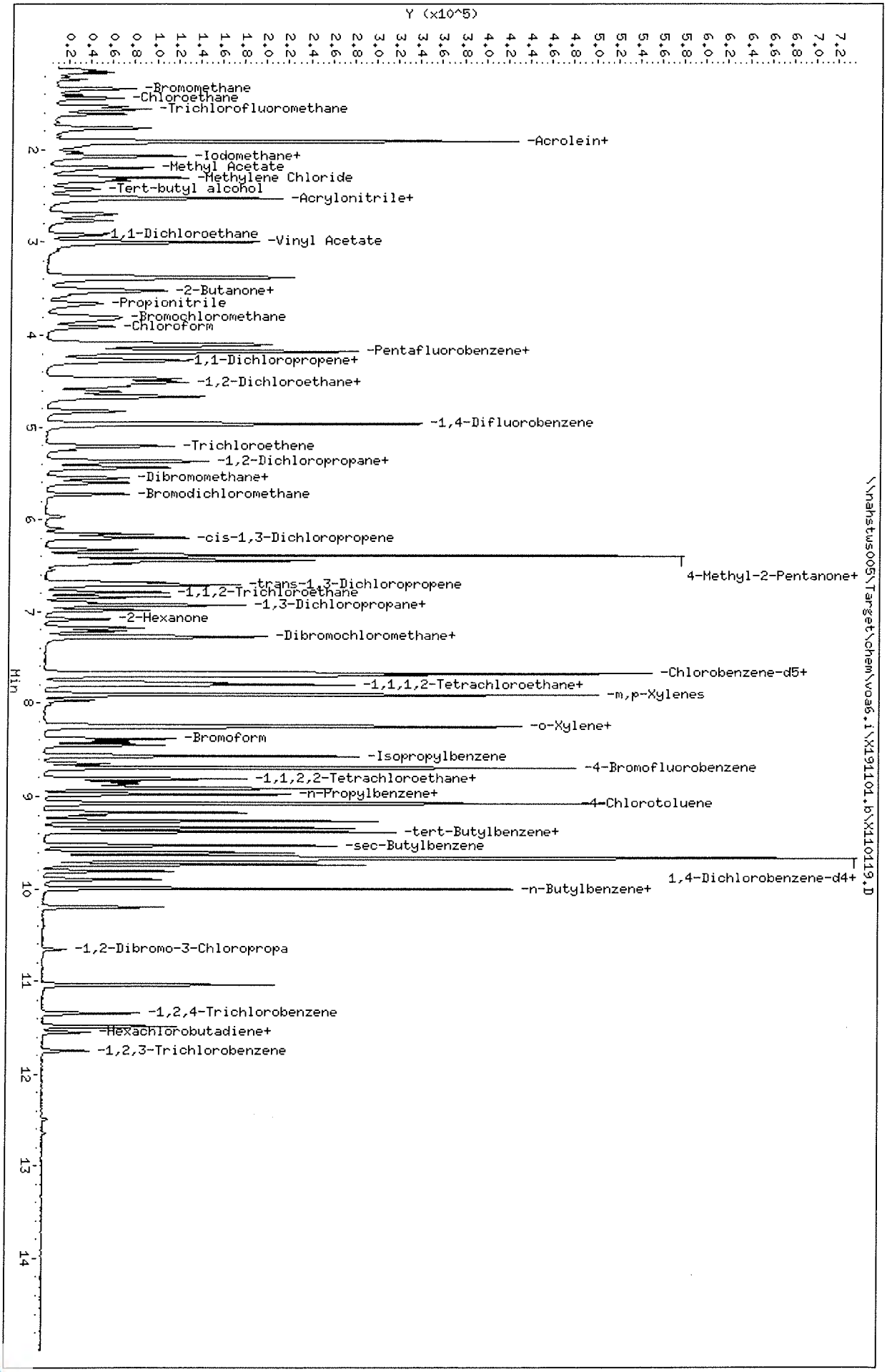
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	266313	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	315266	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	277291	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	157766	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	99842	44.4668	44.46
$ 69 4-Bromofluorobenzene	95	8.688	8.695	(1.133)	130850	50.2234	50.22
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	98034	46.2282	46.22
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	350952	50.9403	50.94
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	40427	17.8979	178.97
31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	57910	17.3514	173.51
68 1,1,2,2-Tetrachloroethane	83	8.838	8.838	(0.914)	32798	18.7588	187.58
138 Freon TF	101	1.912	1.919	(0.457)	31724	18.0059	180.05
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	24177	19.1872	191.87
22 1,1-Dichloroethane	63	2.922	2.921	(0.699)	52470	17.5999	175.99
11 1,1-Dichloroethene	96	1.912	1.911	(0.457)	130860	77.2864	772.86
32 1,1-Dichloropropene	75	4.283	4.282	(0.862)	42120	17.9357	179.35
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.215)	12059	22.8192	228.19
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.917)	29707	18.9643	189.64(M)
90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	27016	18.9760	189.76
79 1,2,4-Trimethylbenzene	105	9.383	9.382	(0.970)	144891	19.1730	191.73
89 1,2-Dibromo-3-Chloropropane	155	10.658	10.657	(1.102)	4832	19.0174	190.17
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	34463	18.4972	184.97
88 1,2-Dichlorobenzene	146	9.991	9.999	(1.033)	79441	18.1442	181.44

Data File: \\nahstws005\Target\chem\voa6.i\X191101.b\X110119.D Page 2
Report Date: 20-Nov-2019 14:02

	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)	50351	19.6994	196.99
42	1,2-Dichloropropane	63	5.436	5.443	(1.094)	25526	16.6217	166.21
75	1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	141592	19.3343	193.34
83	1,3-Dichlorobenzene	146	9.605	9.605	(0.993)	87398	18.1709	181.70
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	47283	18.2914	182.91
84	1,4-Dichlorobenzene	146	9.683	9.683	(1.001)	88562	18.2493	182.49
26	2,2-Dichloropropane	77	3.509	3.509	(0.839)	52105	16.2661	162.66
24	2-Butanone	43	3.581	3.573	(0.856)	16486	30.3319	303.31
76	2-Chlorotoluene	91	8.974	8.974	(0.928)	106552	18.7913	187.91
52	2-Hexanone	43	7.083	7.083	(0.923)	27239	33.7369	337.36
77	4-Chlorotoluene	91	9.075	9.074	(0.939)	125164	18.7135	187.13
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	152453	19.4391	194.39
45	4-Methyl-2-Pentanone	43	6.324	6.324	(0.824)	38809	33.9905	339.90
10	Acetone	43	1.969	1.976	(0.471)	13951	25.6595	256.59
37	Benzene	78	4.512	4.512	(0.908)	118236	17.3111	173.11
74	Bromobenzene	156	8.810	8.809	(0.911)	53538	18.4348	184.34
29	Bromochloromethane	128	3.795	3.795	(0.908)	22684	16.5152	165.15
39	Bromodichloromethane	83	5.729	5.729	(1.153)	44106	17.6697	176.69
66	Bromoform	173	8.416	8.415	(1.097)	31925	17.8502	178.50
6	Bromomethane	94	1.339	1.338	(0.320)	37936	18.0009	180.00
19	Carbon Disulfide	76	2.069	2.069	(0.495)	157211	32.0405	320.40
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	54439	17.6918	176.91
59	Chlorobenzene	112	7.699	7.699	(1.004)	99166	18.3593	183.59
7	Chloroethane	64	1.403	1.403	(0.336)	17253	16.3426	163.42
28	Chloroform	83	3.910	3.910	(0.935)	58247	16.5245	165.24
3	Chloromethane	50	1.073	1.073	(0.257)	29350	16.6421	166.42
27	cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	37325	17.5443	175.44
46	cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	50422	17.4384	174.38
55	Dibromochloromethane	129	7.176	7.176	(0.936)	40723	17.7291	177.29
44	Dibromomethane	93	5.550	5.557	(1.117)	21914	17.9982	179.98
2	Dichlorodifluoromethane	85	0.973	0.973	(0.233)	35861	17.8799	178.79
61	Ethylbenzene	106	7.800	7.799	(1.017)	52193	18.6304	186.30
91	Hexachlorobutadiene	225	11.489	11.488	(1.188)	24636	20.0190	200.19
67	Isopropylbenzene	105	8.566	8.566	(1.117)	160560	18.8526	188.52
62	m,p-Xylenes	106	7.907	7.907	(1.031)	126304	37.1927	371.92
17	Methylene Chloride	84	2.306	2.305	(0.551)	30559	16.5295	165.29
87	n-Butylbenzene	91	9.999	9.999	(1.034)	110861	19.8185	198.18
73	n-Propylbenzene	91	8.917	8.917	(0.922)	172777	19.2282	192.28
92	Naphthalene	128	11.546	11.546	(1.194)	30774	21.5907	215.90
63	o-Xylene	106	8.244	8.244	(1.075)	61307	18.3334	183.33
81	sec-Butylbenzene	105	9.526	9.526	(0.985)	159473	19.9106	199.10
64	Styrene	104	8.258	8.258	(1.077)	105730	18.2770	182.76
78	tert-Butylbenzene	119	9.340	9.340	(0.966)	123320	19.4293	194.29
56	Tetrachloroethene	164	6.933	6.933	(0.904)	40634	19.3428	193.42
50	Toluene	91	6.446	6.446	(0.840)	139611	18.4502	184.50
20	trans-1,2-Dichloroethene	96	2.528	2.527	(0.604)	31802	17.7770	177.77
51	trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	47011	17.4159	174.15
38	Trichloroethene	130	5.207	5.206	(1.048)	43038	18.2957	182.95
8	Trichlorofluoromethane	101	1.561	1.560	(0.373)	62068	17.4628	174.62
5	Vinyl Chloride	62	1.138	1.138	(0.272)	29192	17.4755	174.75

QC Flag Legend

M - Compound response manually integrated.



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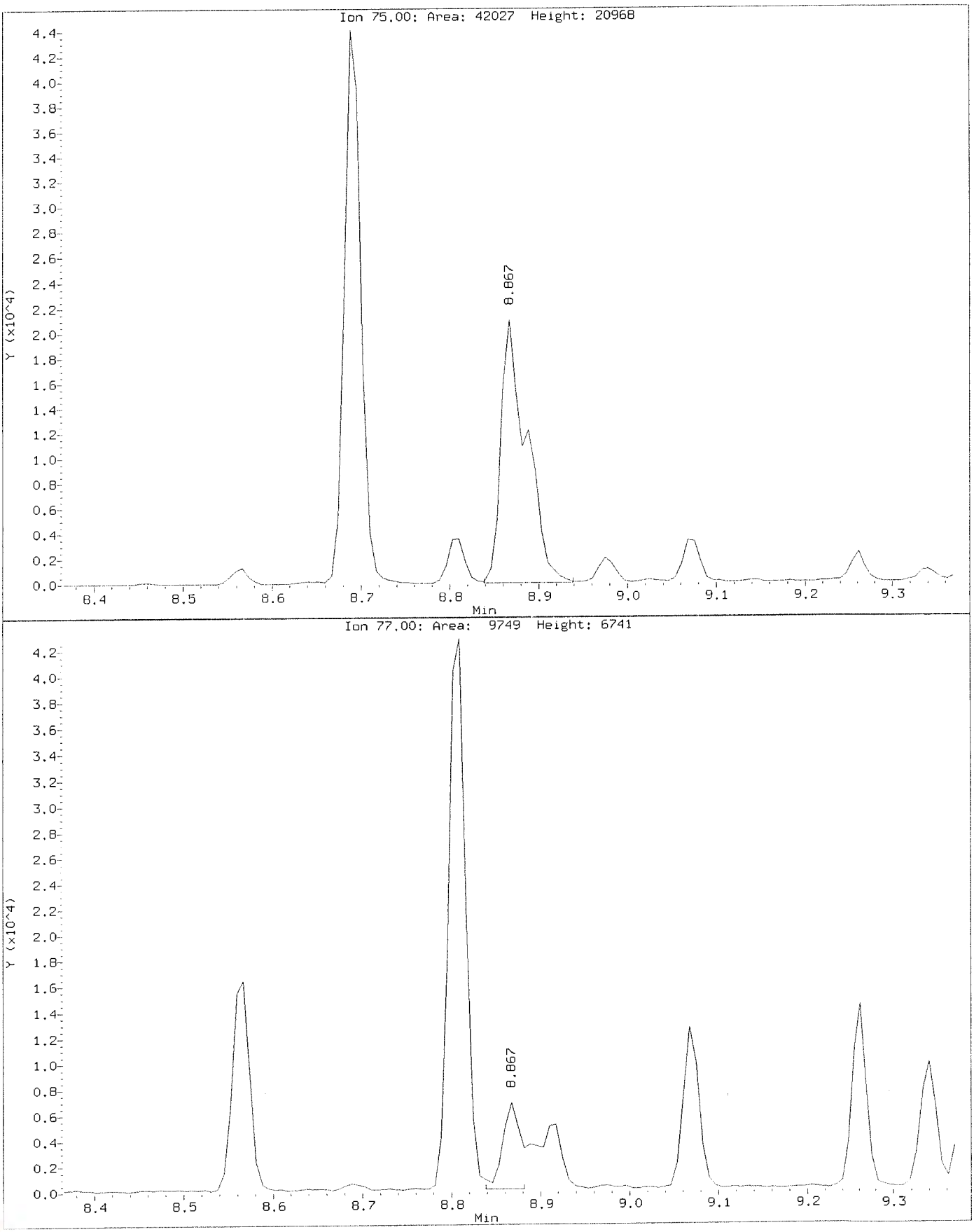
Sample Info: HS191101523-07HSD;HS191101523-07HSD;3;;HSD
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\nahstws005\Target\chem\voa6.i\X191101.b\BEFORE2\X110119.D
Injection Date: 01-NOV-2019 17:58
Instrument: voa6.i
Client Sample ID: HS19101523-07MSD

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



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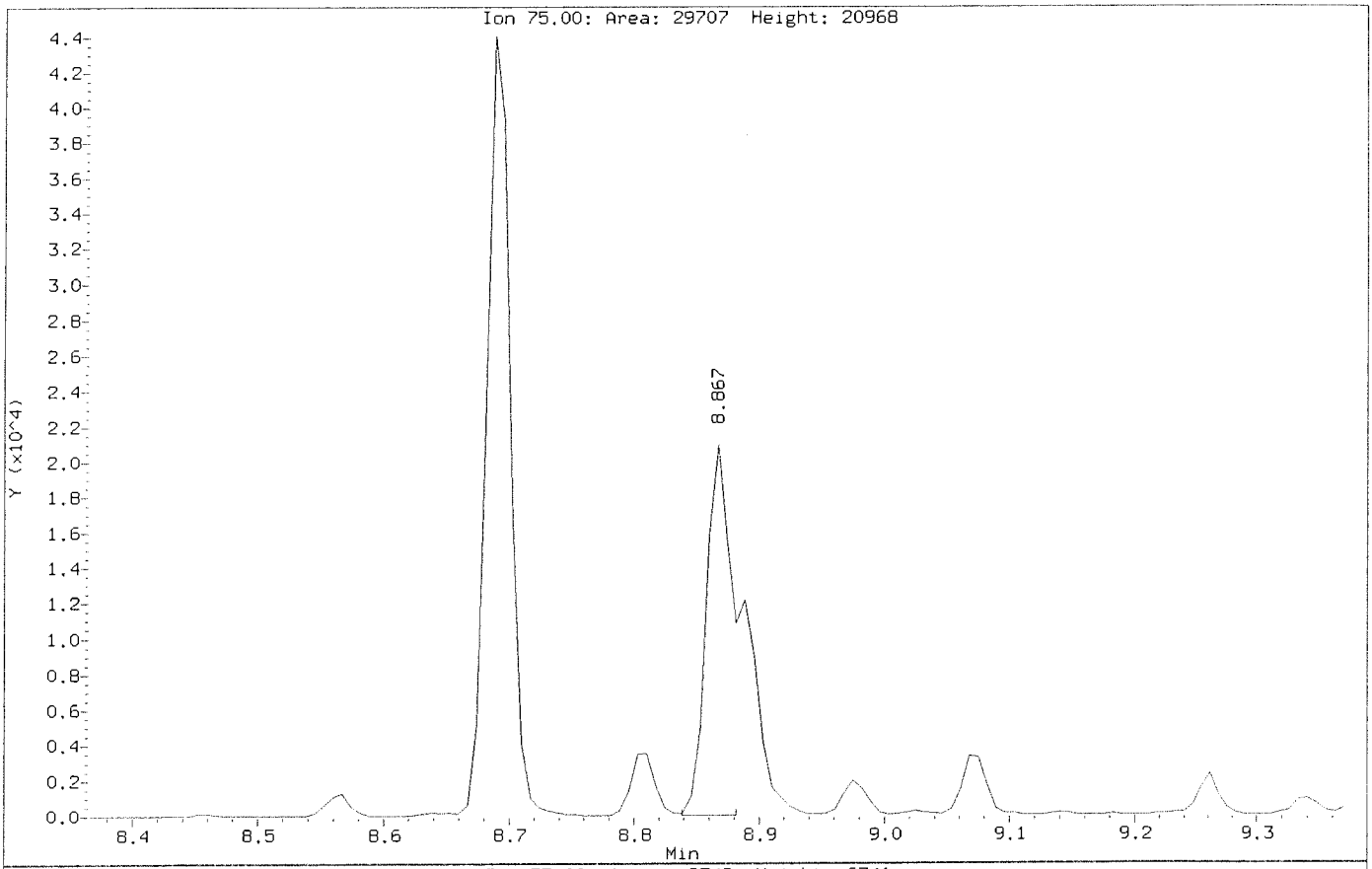
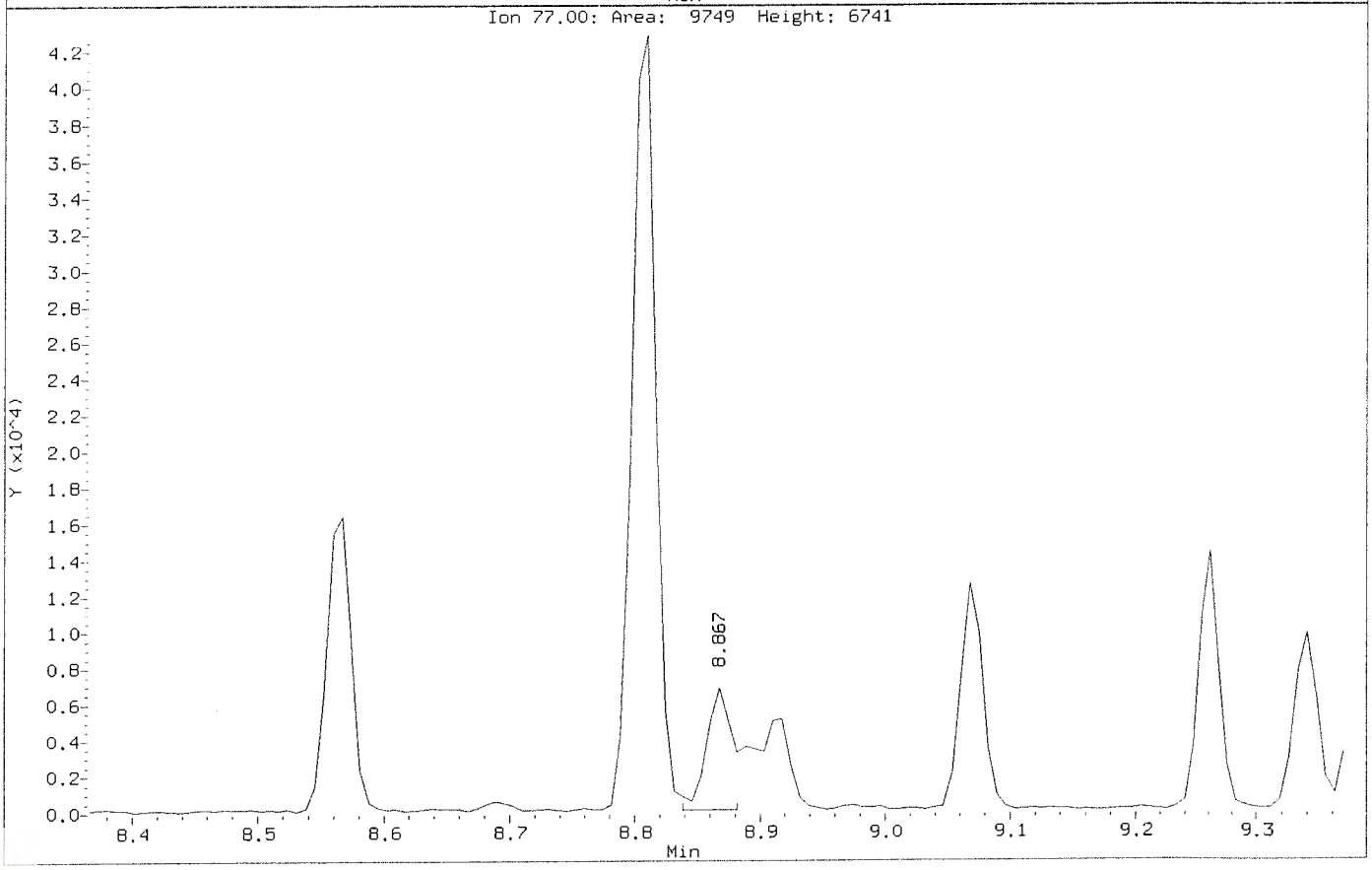
Injection Date: 01-NOV-2019 17:58
Instrument: voa6.i
Client Sample ID: HS19101523-07MSD

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





Data File: \\nahstws005\Target\chem\voa6.i\X191101.b\X110120.D Page 1
Report Date: 20-Nov-2019 14:00

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X191101.b\X110120.D
Lab Smp Id: HS19101706-05 Client Smp ID: HS19101706-05
Inj Date : 01-NOV-2019 18:22
Operator : PC Inst ID: voa6.i
Smp Info : HS19101706-05;HS19101706-05;;;
Misc Info : HS18090001;WATER;0;10;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X191101.b\8260W.m
Meth Date : 20-Nov-2019 13:59 DevakG Quant Type: ISTD
Cal Date : 31-OCT-2019 13:56 Cal File: X103108.D
Als bottle: 19
Dil Factor: 10.00000
Integrator: HP RTE Compound Sublist: CBIHOUSTONDOD.sub
Target Version: 4.14

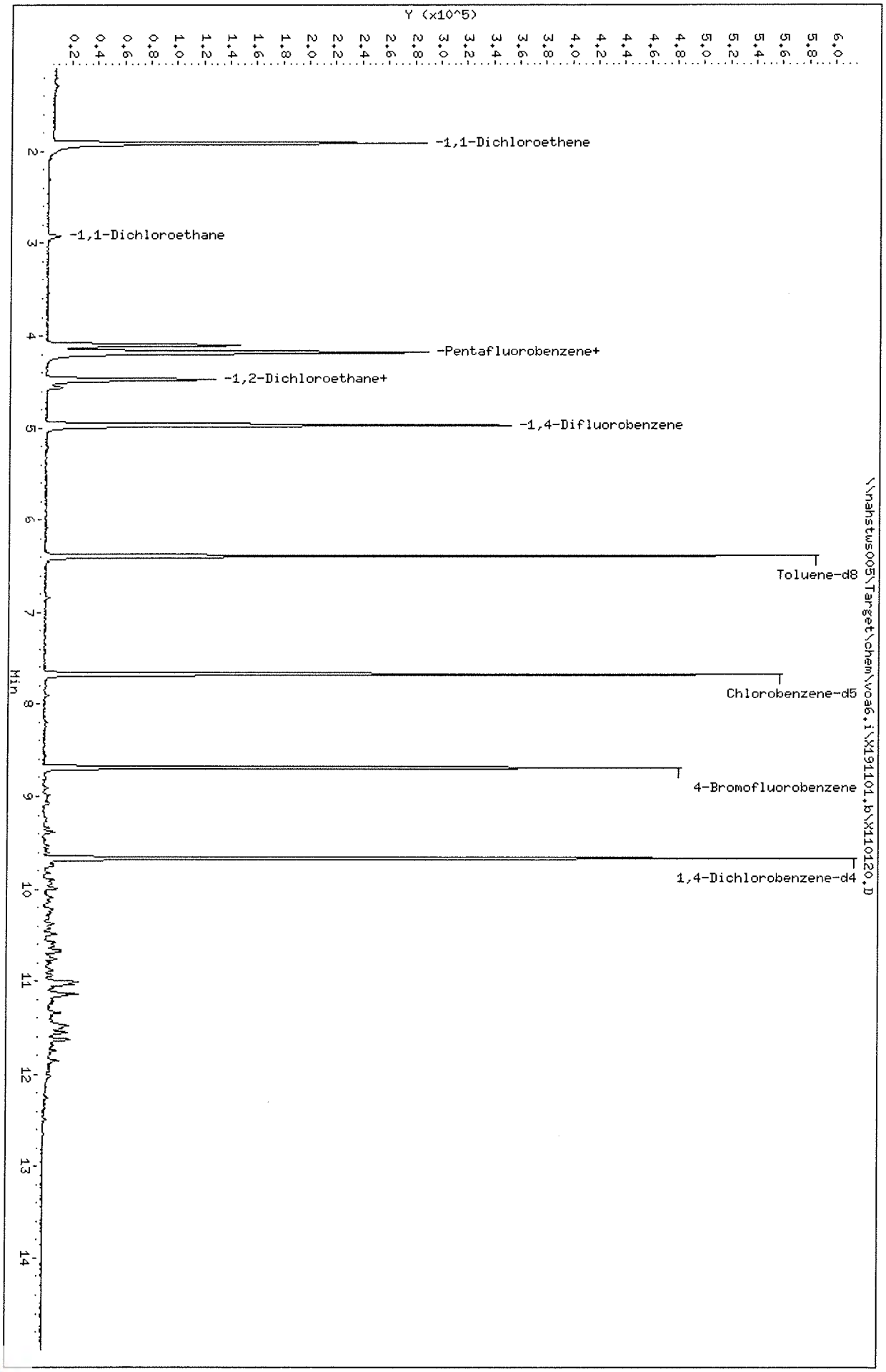
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	10.000	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)	270539	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	321779	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	283929	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.669	(1.000)	158560	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	103689	45.4478	45.44
$ 69 4-Bromofluorobenzene	95	8.688	8.695	(1.133)	131560	49.3044	49.30
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	99790	46.3202	46.32
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	353731	50.1433	50.14
22 1,1-Dichloroethane	63	2.921	2.921	(0.699)	10047	3.31739	33.17(a)
11 1,1-Dichloroethene	96	1.911	1.911	(0.457)	109841	63.8591	638.59
33 1,2-Dichloroethane	62	4.555	4.562	(0.916)	10205	3.91181	39.11(a)

QC Flag Legend

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



Data File: \\nahstws005\Target\chem\voa6.i\X191101.b\X110120.D
Date : 01-NOV-2019 18:22
Client ID: HS191017O6-05
Sample Info: HS191017O6-05;HS191017O6-05;;;
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\nahstws005\Target\chem\voa6.i\X191101.b\X110120.D Page 3

Date : 01-NOV-2019 18:22

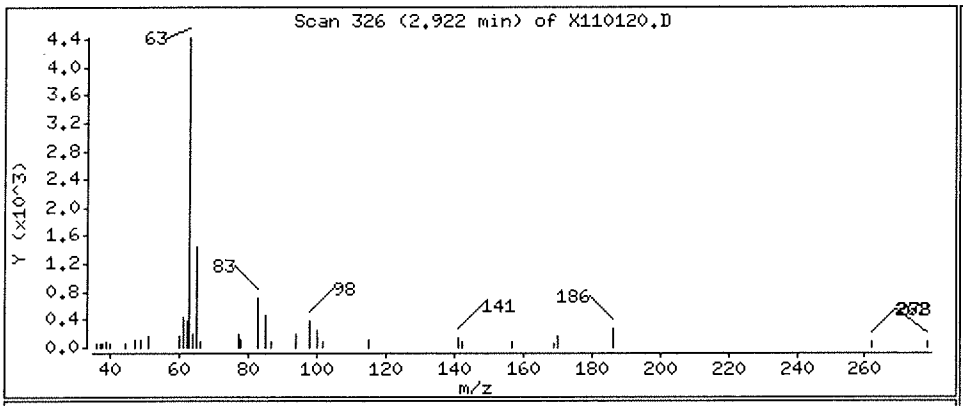
Client ID: HS19101706-05 Instrument: voa6.i

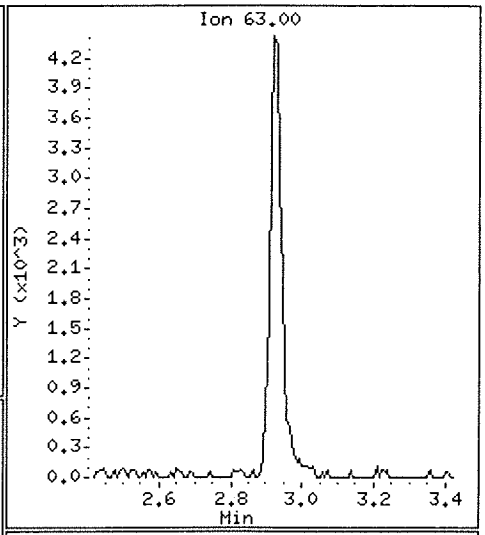
Sample Info: HS19101706-05;HS19101706-05;;;

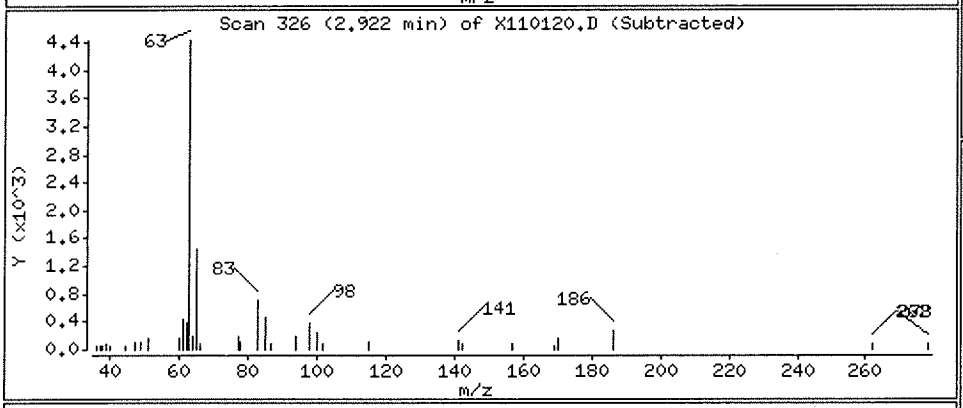
Purge Volume: 5.0 Operator: PC

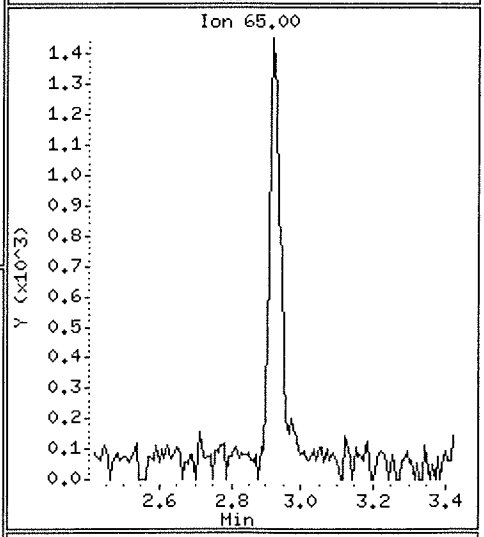
Column phase: DB624 Column diameter: 0.18

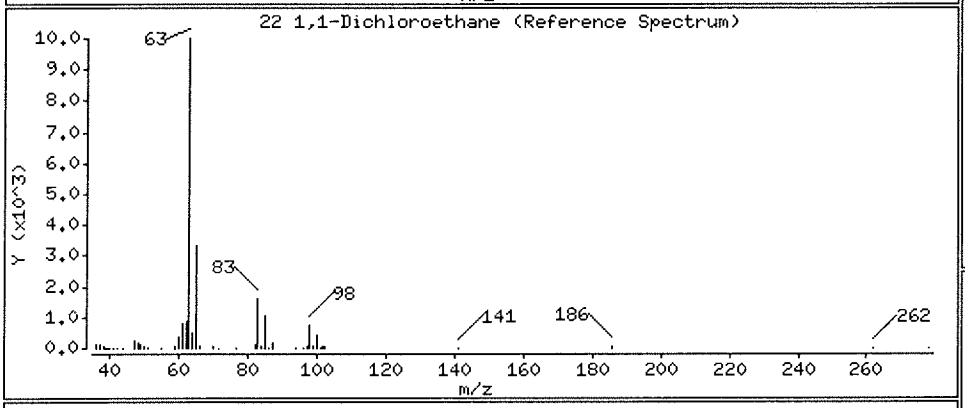
22 1,1-Dichloroethane Concentration: 33.17 ug/l

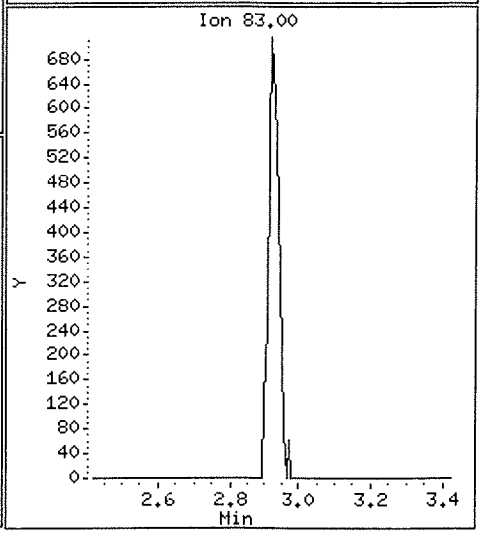


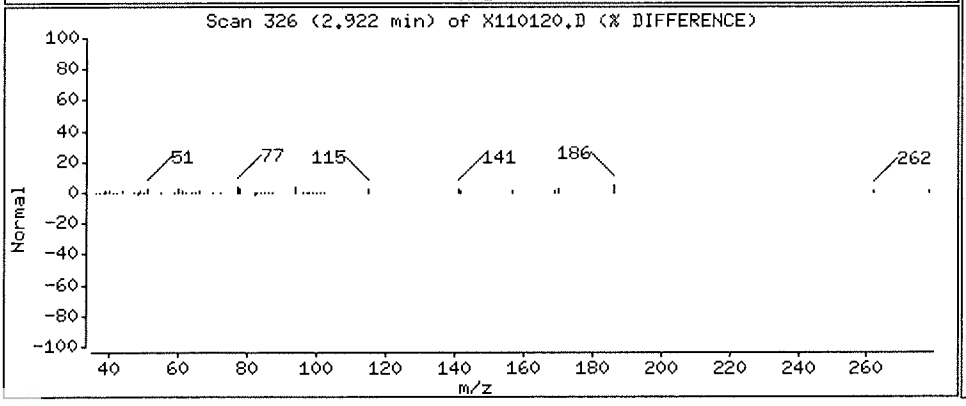












Data File: \\nahstws005\Target\chem\voa6.i\X191101.b\X110120.D

Date : 01-NOV-2019 18:22

Client ID: HS19101706-05

Instrument: voa6.i

Sample Info: HS19101706-05;HS19101706-05;;;

Purge Volume: 5.0

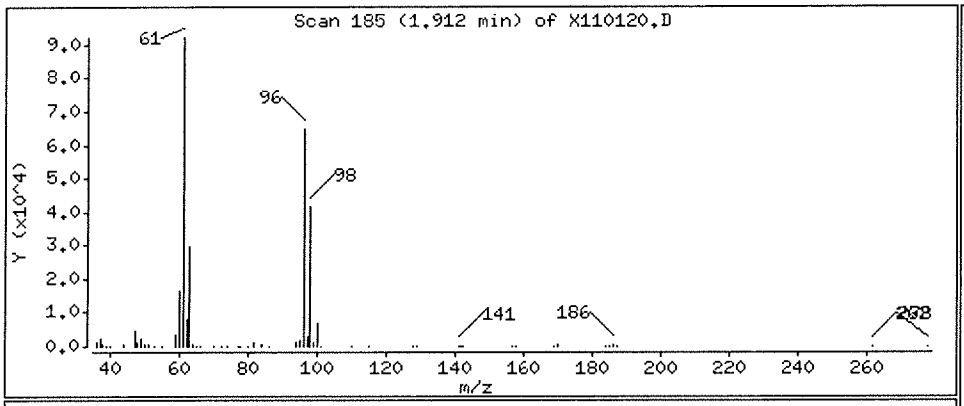
Operator: PC

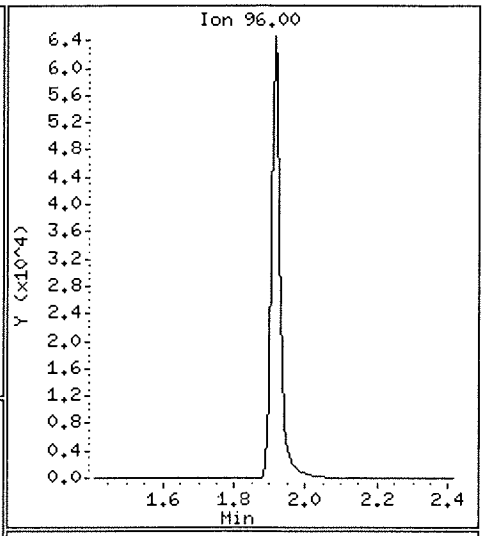
Column phase: DB624

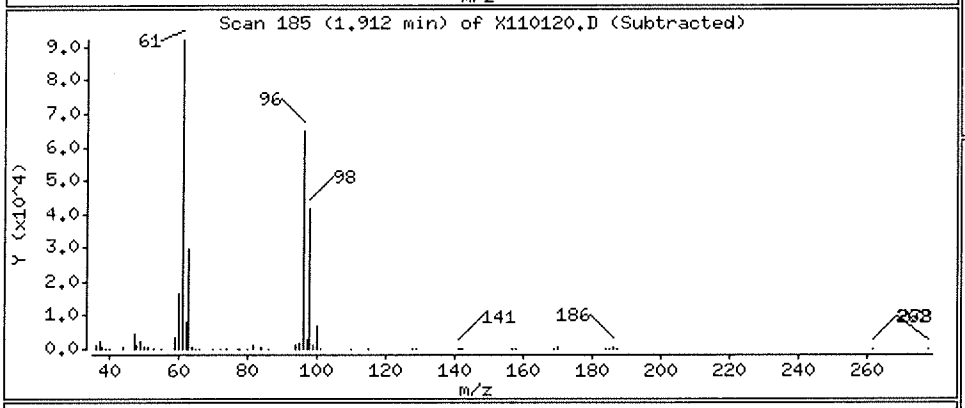
Column diameter: 0.18

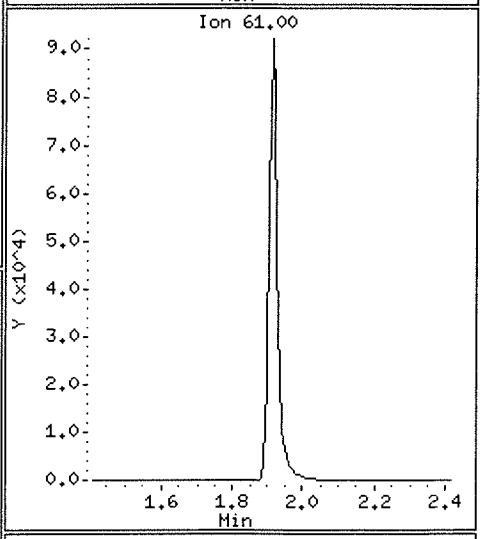
11 1,1-Dichloroethene

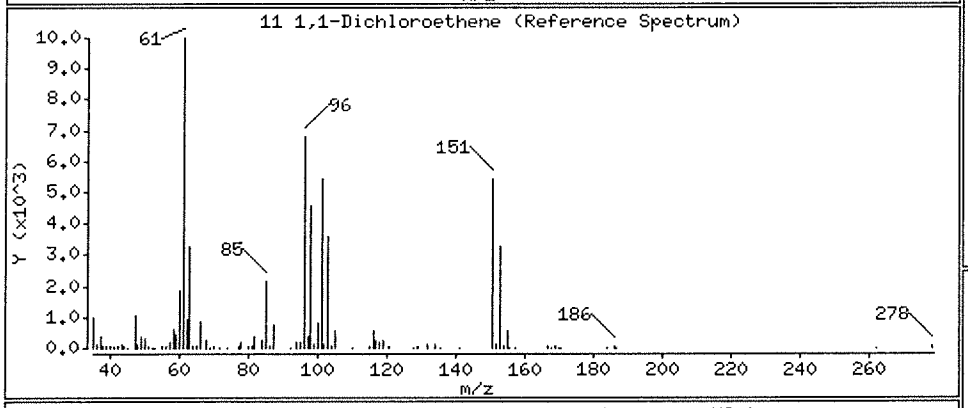
Concentration: 638.59 ug/l

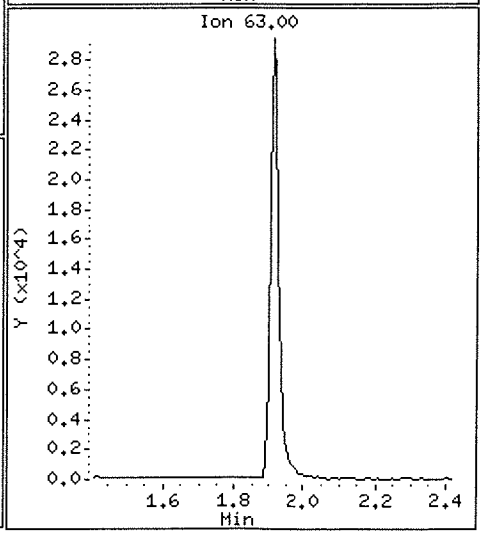


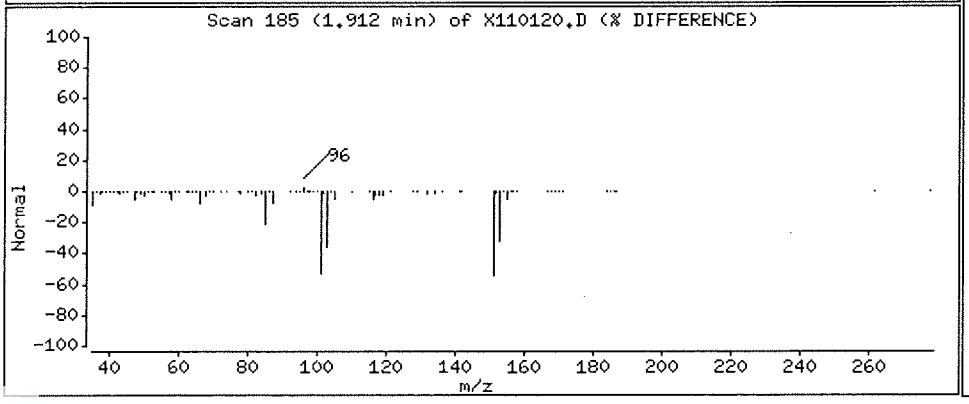












Data File: \\nahstws005\Target\chem\voa6.i\X191101.b\X110120.D Page 5

Date : 01-NOV-2019 18:22

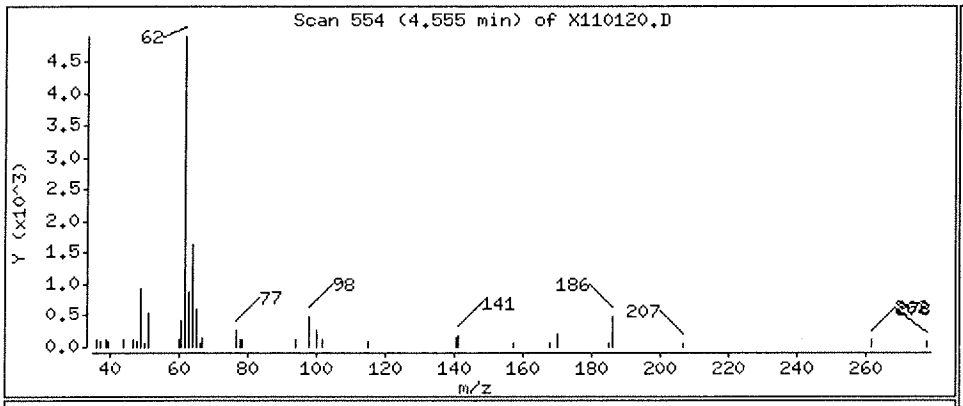
Client ID: HS19101706-05 Instrument: voa6.i

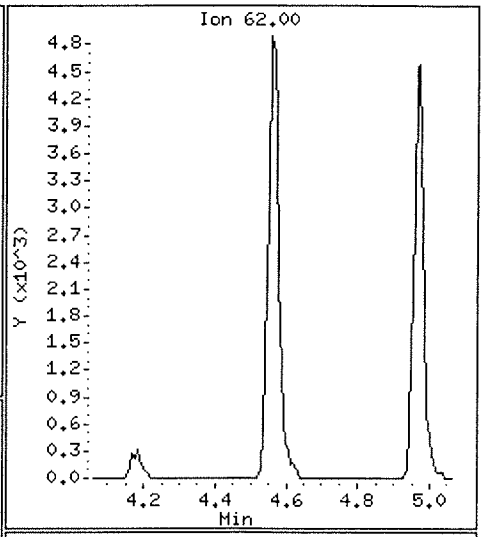
Sample Info: HS19101706-05;HS19101706-05;;;

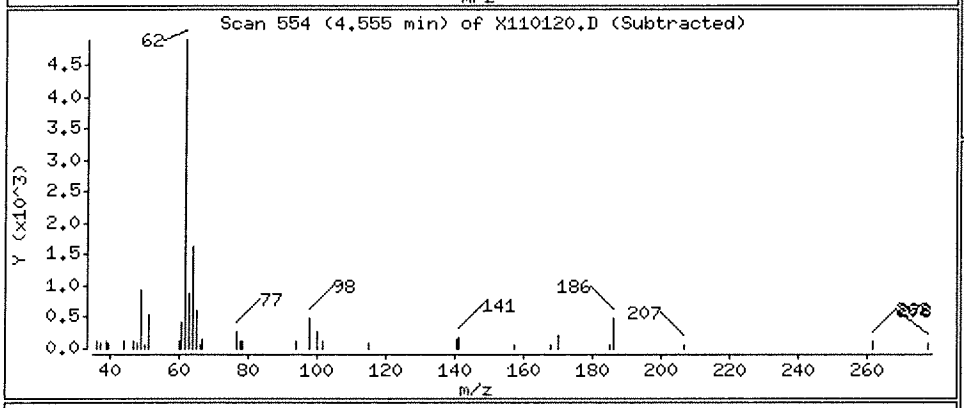
Purge Volume: 5.0 Operator: PC

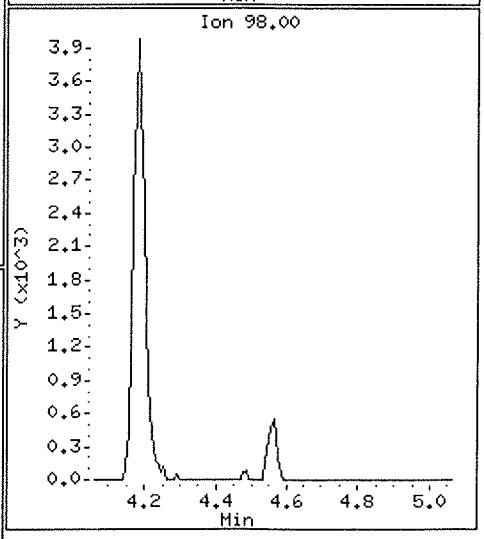
Column phase: DB624 Column diameter: 0.18

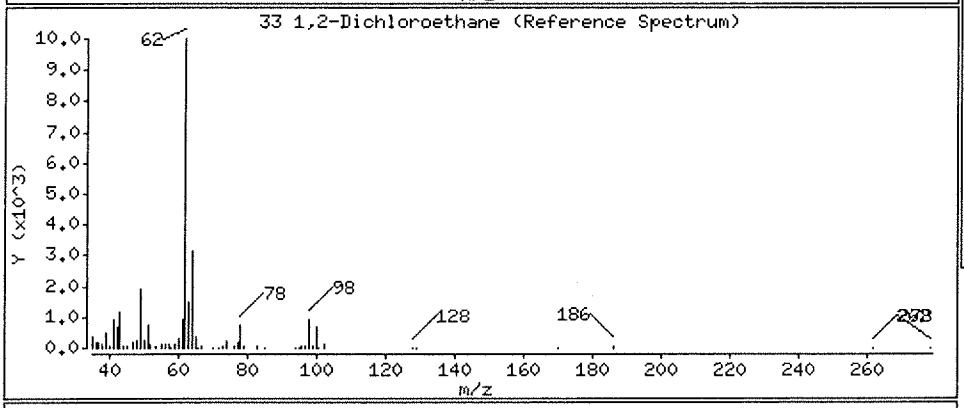
33 1,2-Dichloroethane Concentration: 39.11 ug/l

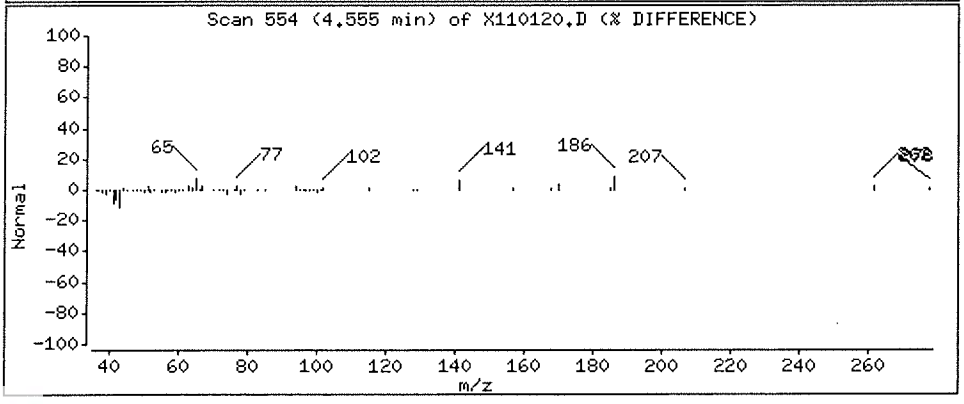












ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X191101.b\X110121.D
Lab Smp Id: HS19101706-08 Client Smp ID: HS19101706-08
Inj Date : 01-NOV-2019 18:46
Operator : PC Inst ID: voa6.i
Smp Info : HS19101706-08;HS19101706-08;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X191101.b\8260W.m
Meth Date : 20-Nov-2019 13:59 DevakG Quant Type: ISTD
Cal Date : 31-OCT-2019 13:56 Cal File: X103108.D
Als bottle: 20
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBIHOUSTONDOD.sub
Target Version: 4.14

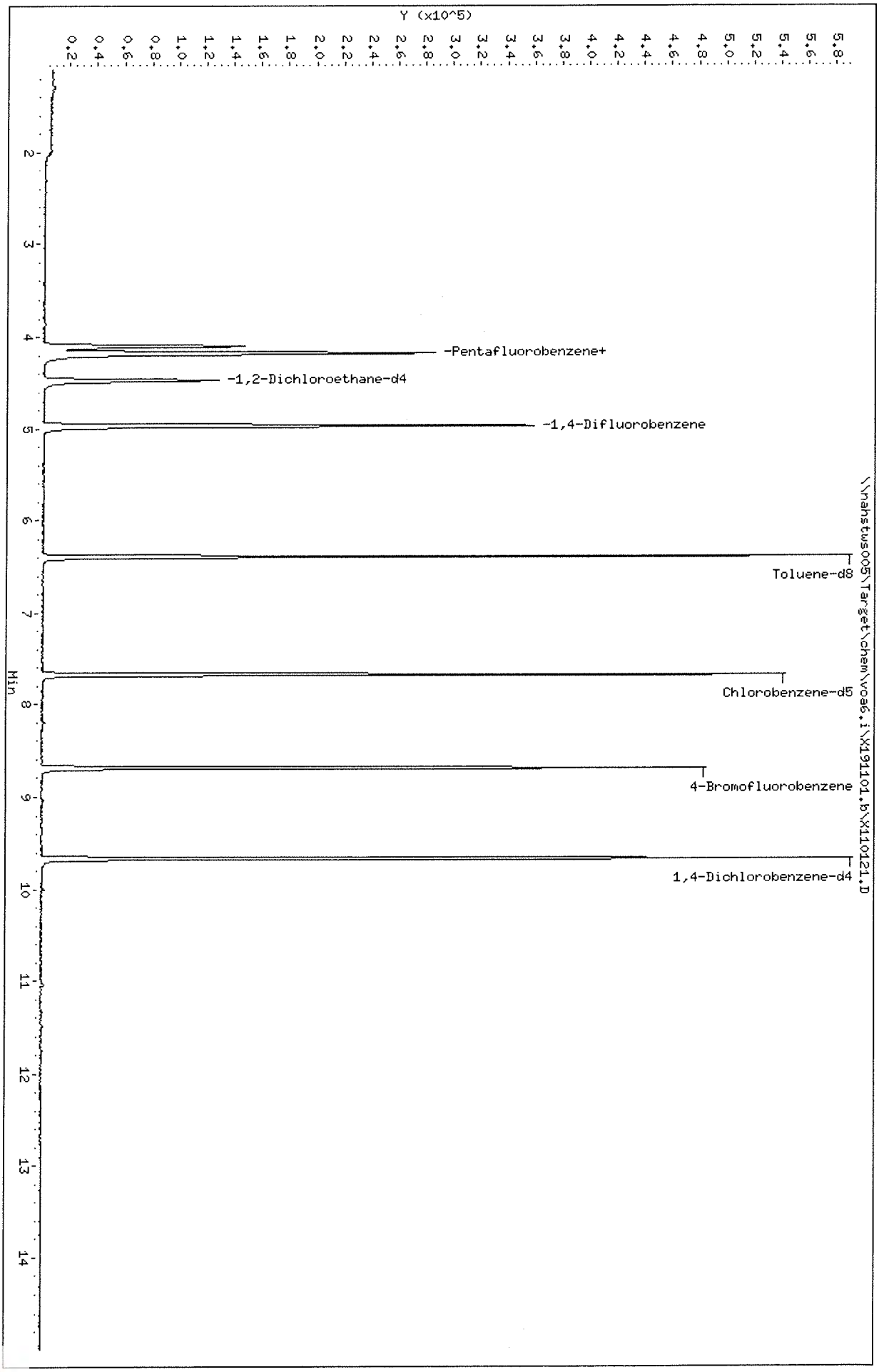
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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)	271938	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	324759	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	281903	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.669	(1.000)	159551	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	103151	44.9845	44.98
$ 69 4-Bromofluorobenzene	95	8.688	8.695	(1.133)	131914	49.7984	49.79
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	100563	46.4377	46.43
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	358195	51.1411	51.14

Data File: \\nahstws005\Target\chem\voa6.i\X191101.b\X110121.D
Date : 01-NOV-2019 18:46
Client ID: HS19101706-08
Sample Info: HS19101706-08;HS19101706-08;;;
Purge Volume: 5.0
Column phase: DB624

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



Data File: \\nahstws005\Target\chem\voa6.i\X191101.b\X110122.D Page 1
Report Date: 20-Nov-2019 14:00

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X191101.b\X110122.D
Lab Smp Id: HS19101706-01 Client Smp ID: HS19101706-01
Inj Date : 01-NOV-2019 19:10
Operator : PC Inst ID: voa6.i
Smp Info : HS19101706-01;HS19101706-01;;;
Misc Info : HS18090001;WATER;0;1;
Comment   :
Method   : \\nahstws005\Target\chem\voa6.i\X191101.b\8260W.m
Meth Date : 20-Nov-2019 13:59 DevakG Quant Type: ISTD
Cal Date : 31-OCT-2019 13:56 Cal File: X103108.D
Als bottle: 21
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBIHOUSTONDOD.sub
Target Version: 4.14

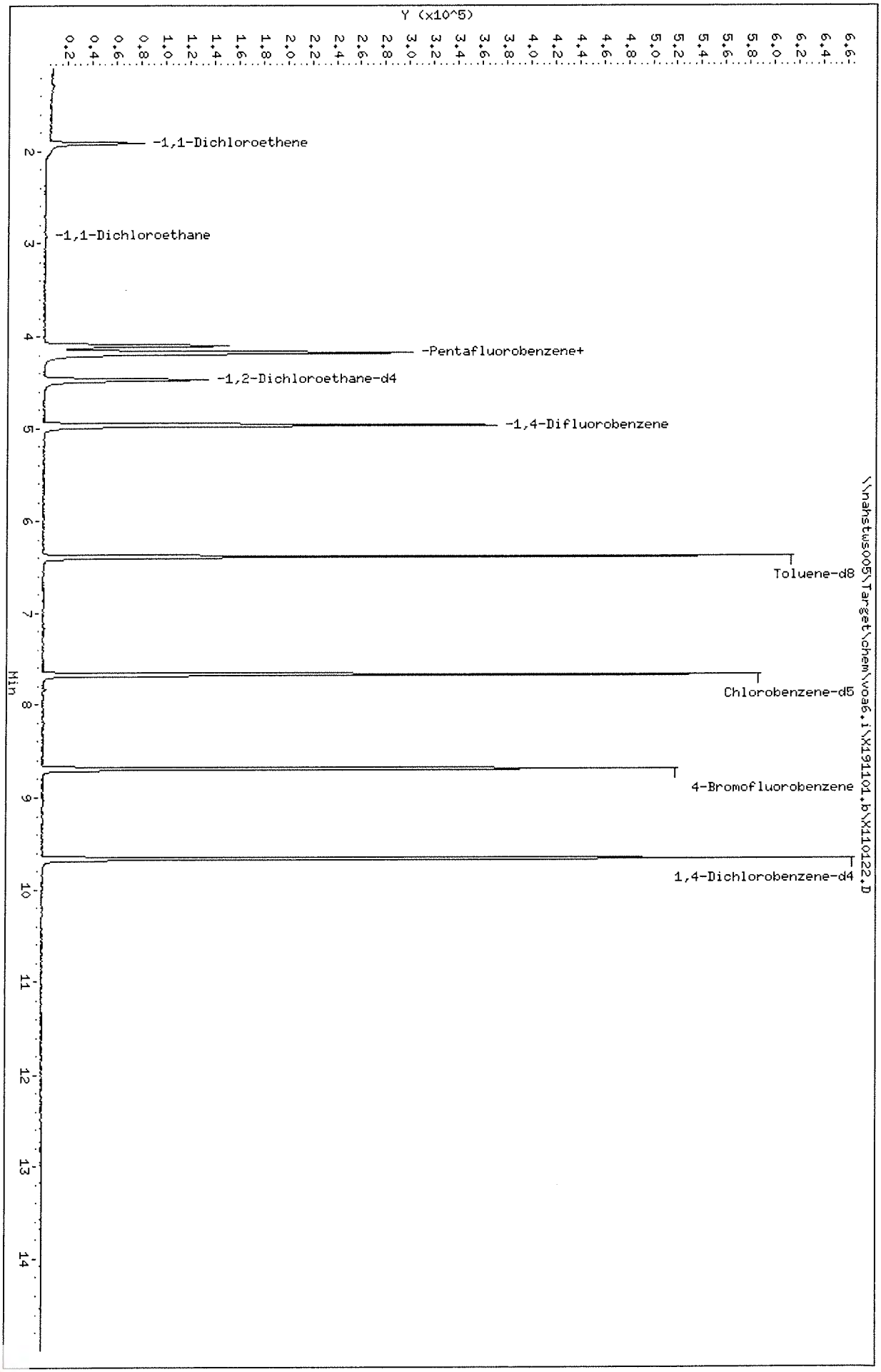
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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)	283854	50.0000	
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	334537	50.0000	
*	47 Chlorobenzene-d5	117	7.670	7.671	(1.000)	299855	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.662	9.669	(1.000)	177065	50.0000	
$	35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	107240	44.8064	44.80
$	69 4-Bromofluorobenzene	95	8.688	8.695	(1.133)	143585	50.9733	50.97
$	30 Dibromofluoromethane	113	4.103	4.103	(0.981)	104407	46.1914	46.19
$	48 Toluene-d8	98	6.388	6.388	(0.833)	373851	50.1808	50.18
	22 1,1-Dichloroethane	63	2.921	2.921	(0.699)	1629	0.51264	0.51(a)
	11 1,1-Dichloroethene	96	1.911	1.911	(0.457)	30194	16.7307	16.73

QC Flag Legend

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



Data File: \\nahstws005\Target\chem\voa6.i\X191101.b\X110122.D
Date : 01-NOV-2019 19:10
Client ID: HS19101706-01
Sample Info: HS19101706-01;HS19101706-01;;;
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\nahstws005\Target\chem\voa6.i\X191101.b\X110122.D

Date : 01-NOV-2019 19:10

Client ID: HS19101706-01

Instrument: voa6.i

Sample Info: HS19101706-01;HS19101706-01;;;

Purge Volume: 5.0

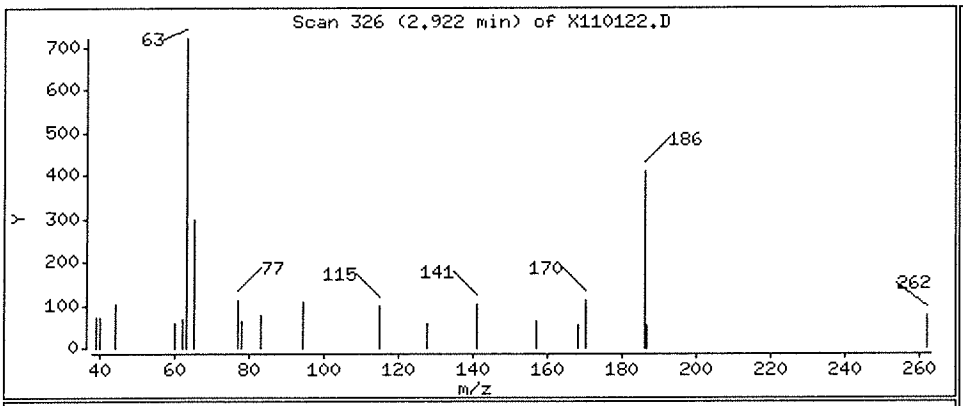
Operator: PC

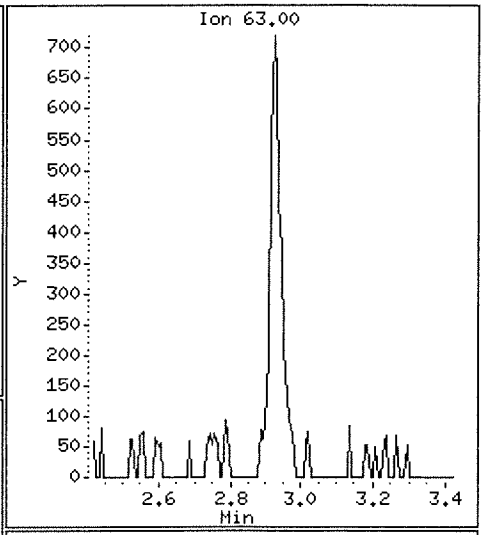
Column phase: DB624

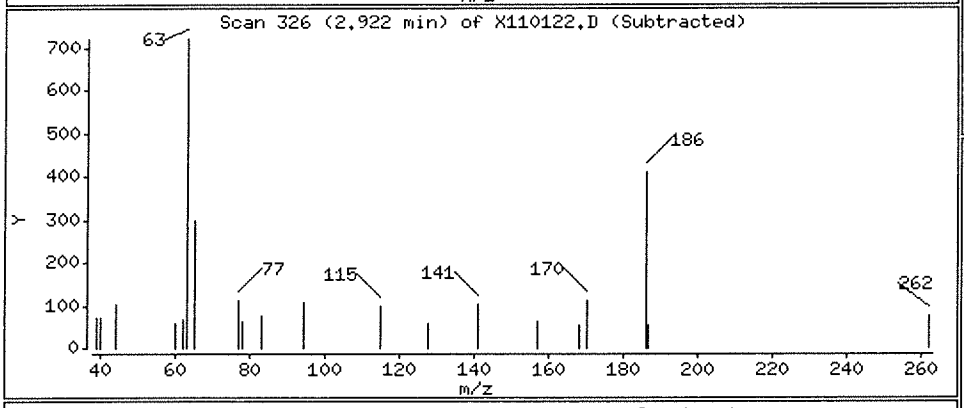
Column diameter: 0.18

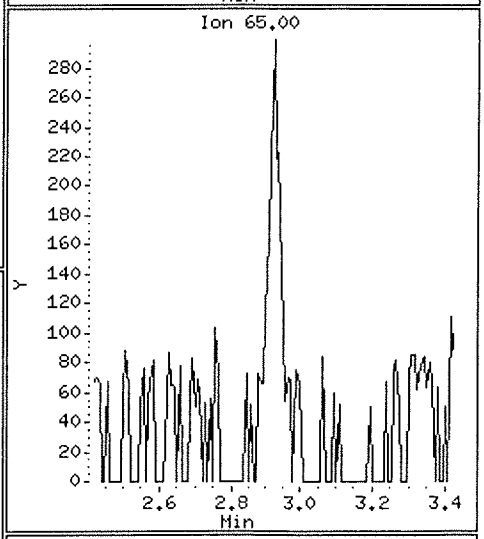
22 1,1-Dichloroethane

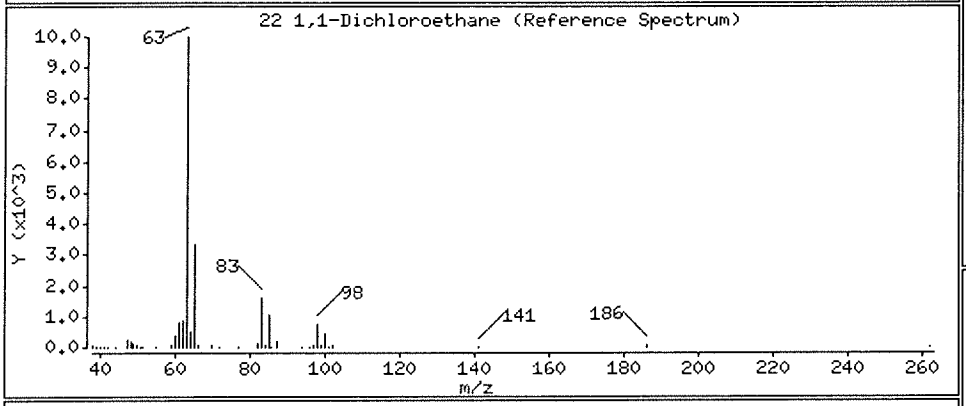
Concentration: 0.51 ug/l

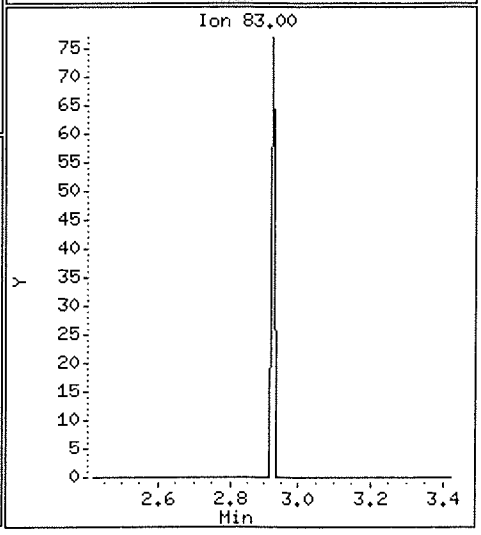


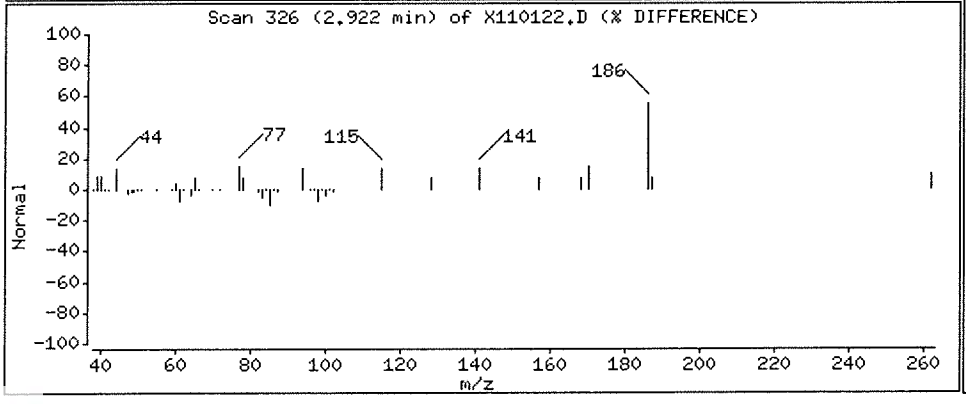












Data File: \\nahstws005\Target\chem\voa6.i\X191101.b\X110122.D Page 4

Date : 01-NOV-2019 19:10

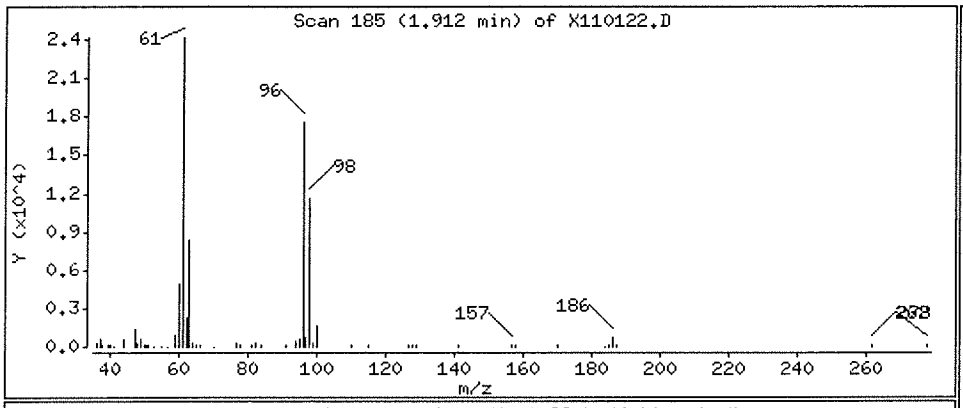
Client ID: HS19101706-01 Instrument: voa6.i

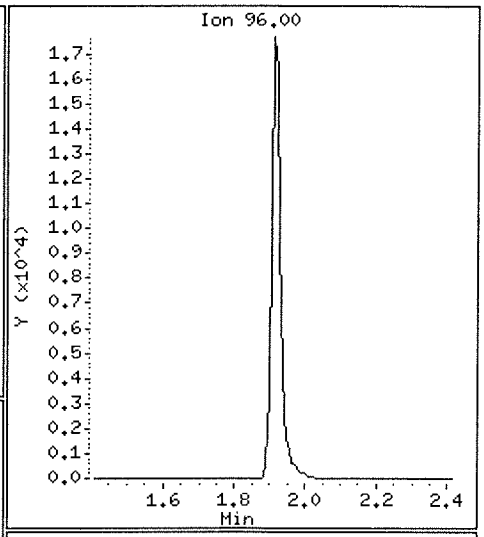
Sample Info: HS19101706-01;HS19101706-01;;;

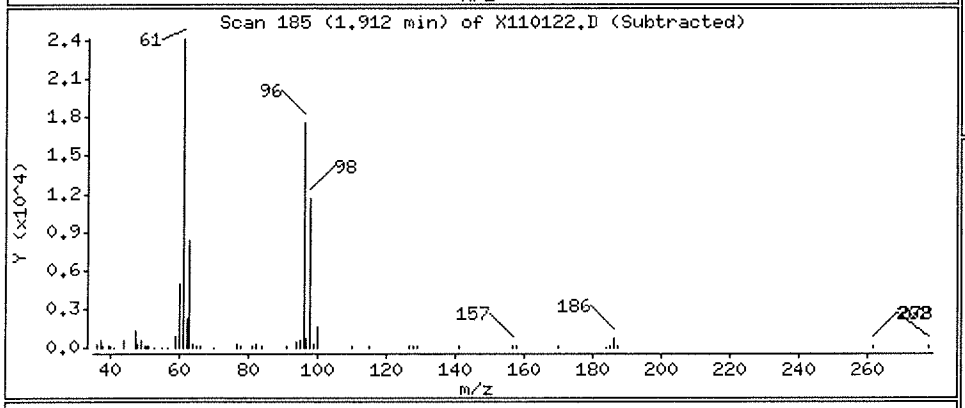
Purge Volume: 5.0 Operator: PC

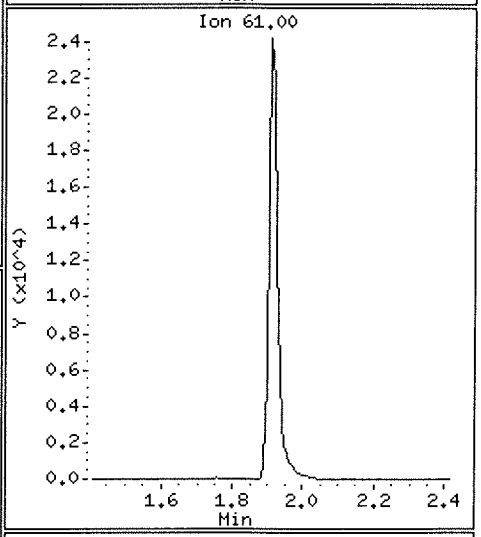
Column phase: DB624 Column diameter: 0.18

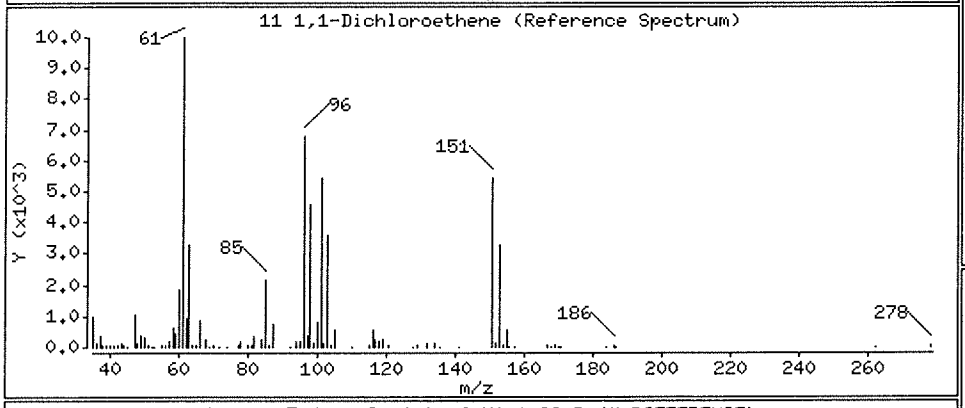
11 1,1-Dichloroethene Concentration: 16.73 ug/l

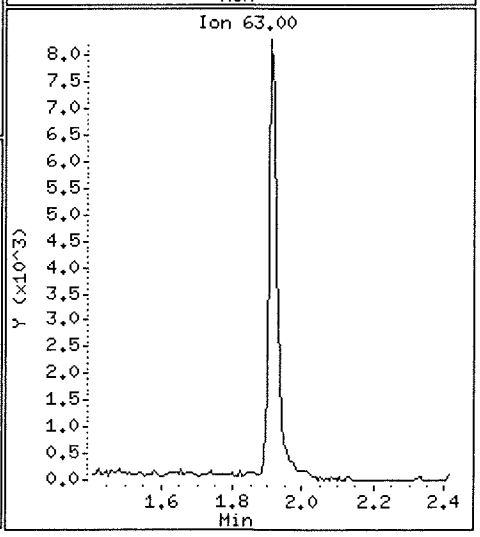


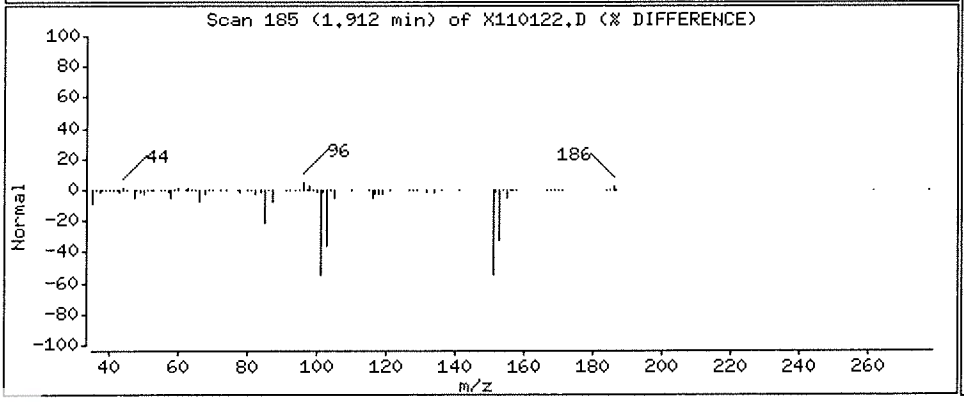












Data File: \\nahstws005\Target\chem\voa6.i\X191101.b\X110123.D Page 1
Report Date: 20-Nov-2019 14:00

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X191101.b\X110123.D
Lab Smp Id: HS19101706-02 Client Smp ID: HS19101706-02
Inj Date : 01-NOV-2019 19:34
Operator : PC Inst ID: voa6.i
Smp Info : HS19101706-02;HS19101706-02;;;
Misc Info : HS18090001;WATER;0;1;
Comment   :
Method   : \\nahstws005\Target\chem\voa6.i\X191101.b\8260W.m
Meth Date : 20-Nov-2019 13:59 DevakG Quant Type: ISTD
Cal Date : 31-OCT-2019 13:56 Cal File: X103108.D
Als bottle: 22
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBIHOUSTONDOD.sub
Target Version: 4.14

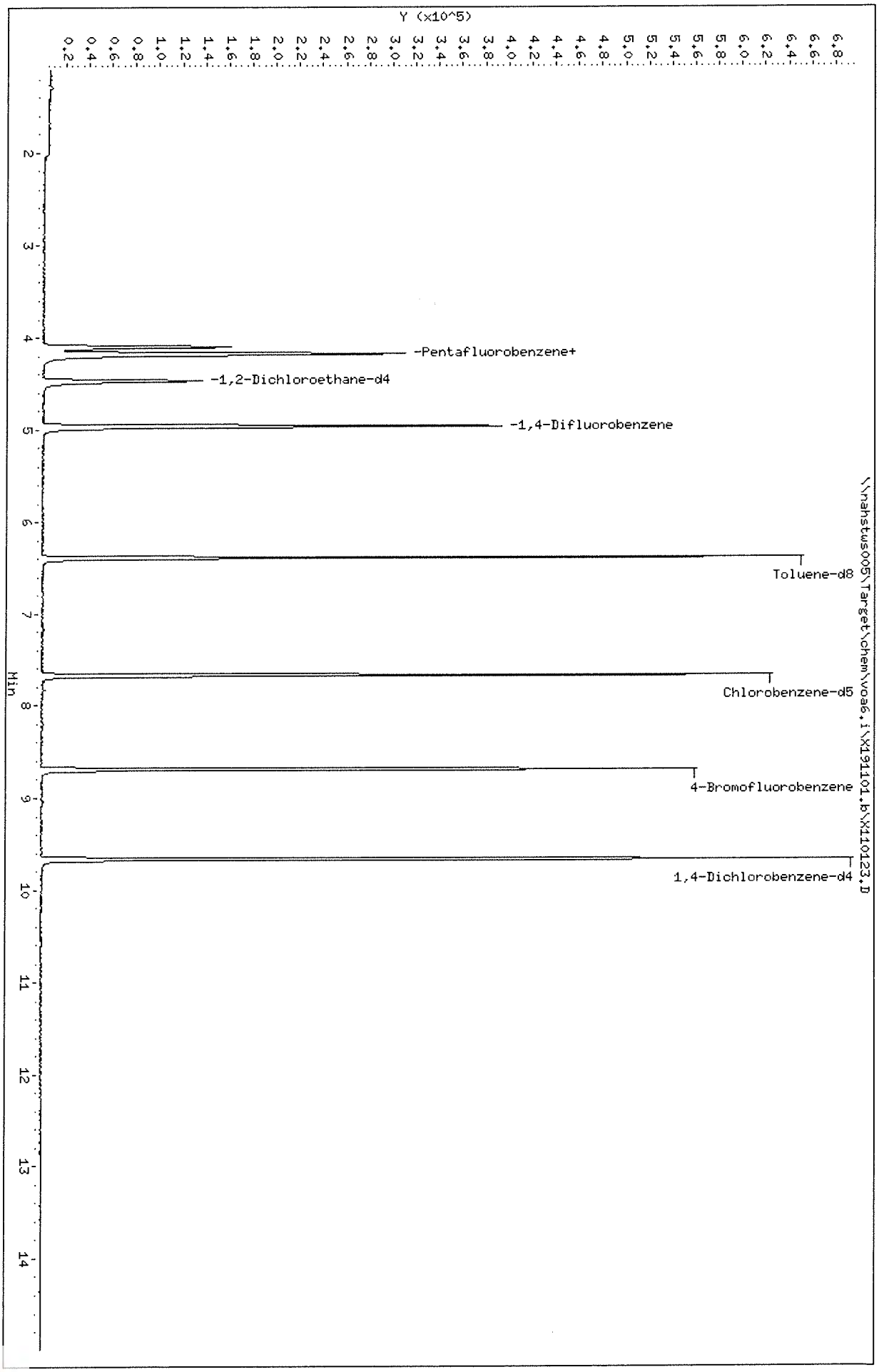
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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)	295604	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	352732	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	318622	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	187970	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	111704	44.8163	44.81
$ 69 4-Bromofluorobenzene	95	8.688	8.695	(1.133)	154057	51.4755	51.47
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	109571	46.5454	46.54
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	392395	49.5676	49.56

Data File: \\nahstws005\Target\chem\voa6.i\X191101.b\X110123.D
Date : 01-NOV-2019 19:34
Client ID: HS19101706-02
Sample Info: HS19101706-02;HS19101706-02;;;
Purge Volume: 5.0
Column phase: DB624

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



Data File: \\nahstws005\Target\chem\voa6.i\X191101.b\X110124.D Page 1
Report Date: 20-Nov-2019 14:00

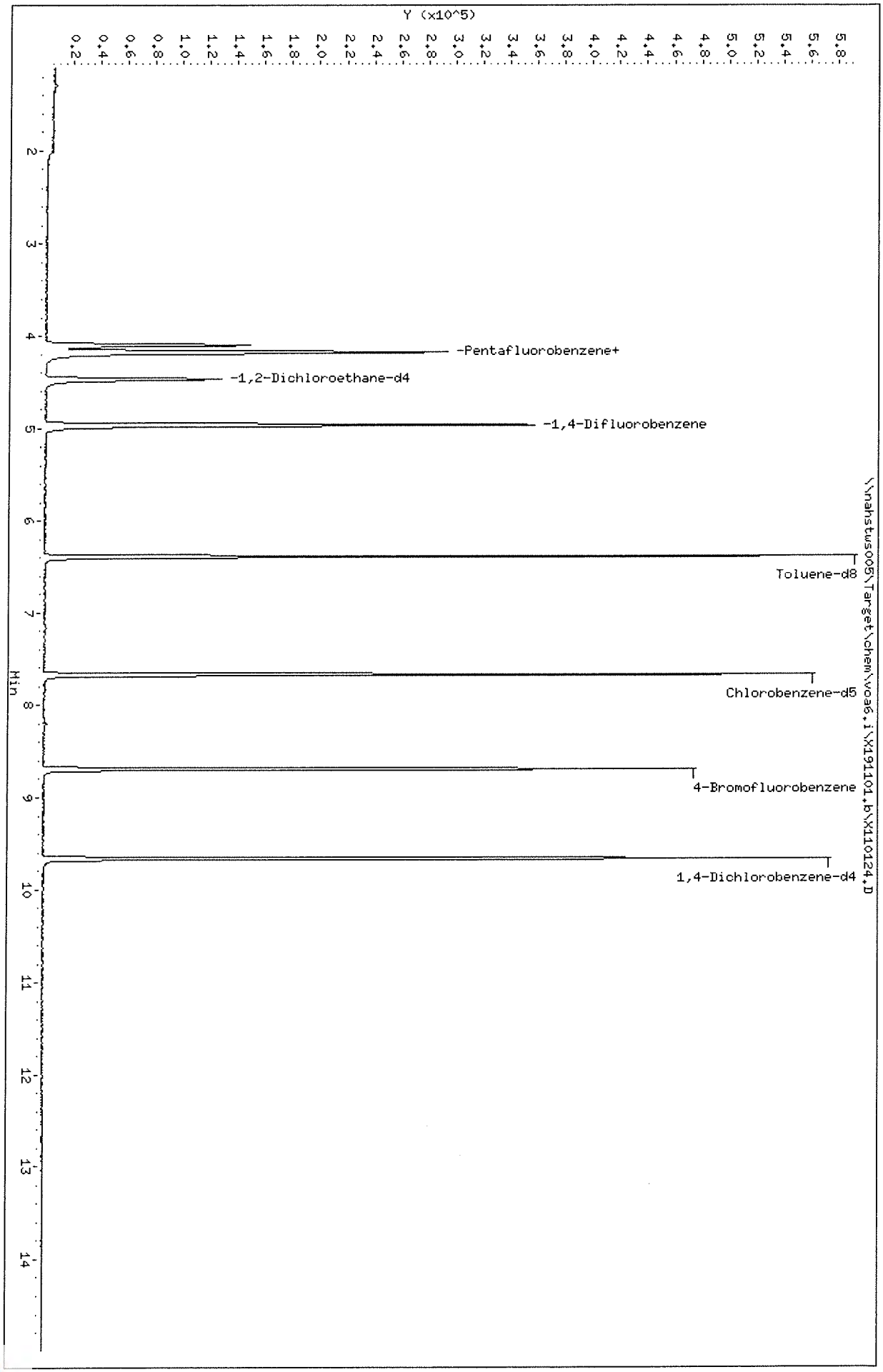
ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X191101.b\X110124.D
Lab Smp Id: HS19101706-03 Client Smp ID: HS19101706-03
Inj Date : 01-NOV-2019 19:58
Operator : PC Inst ID: voa6.i
Smp Info : HS19101706-03;HS19101706-03;;;
Misc Info : HS18090001;WATER;0;1;
Comment   :
Method   : \\nahstws005\Target\chem\voa6.i\X191101.b\8260W.m
Meth Date : 20-Nov-2019 13:59 DevakG Quant Type: ISTD
Cal Date : 31-OCT-2019 13:56 Cal File: X103108.D
Als bottle: 23
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)	274504	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	328252	50.0000	
* 47 Chlorobenzene-d5	117	7.670	7.671	(1.000)	282018	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	154680	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	106774	46.1166	46.11
$ 69 4-Bromofluorobenzene	95	8.688	8.695	(1.133)	131370	49.5701	49.57
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	102138	46.7211	46.72
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	361695	51.6197	51.61



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Date : 01-NOV-2019 19:58
Client ID: HS19101706-03
Sample Info: HS19101706-03;HS19101706-03;;;
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\nahstws005\Target\chem\voa6.i\X191101.b\X110125.D Page 1
Report Date: 20-Nov-2019 14:00

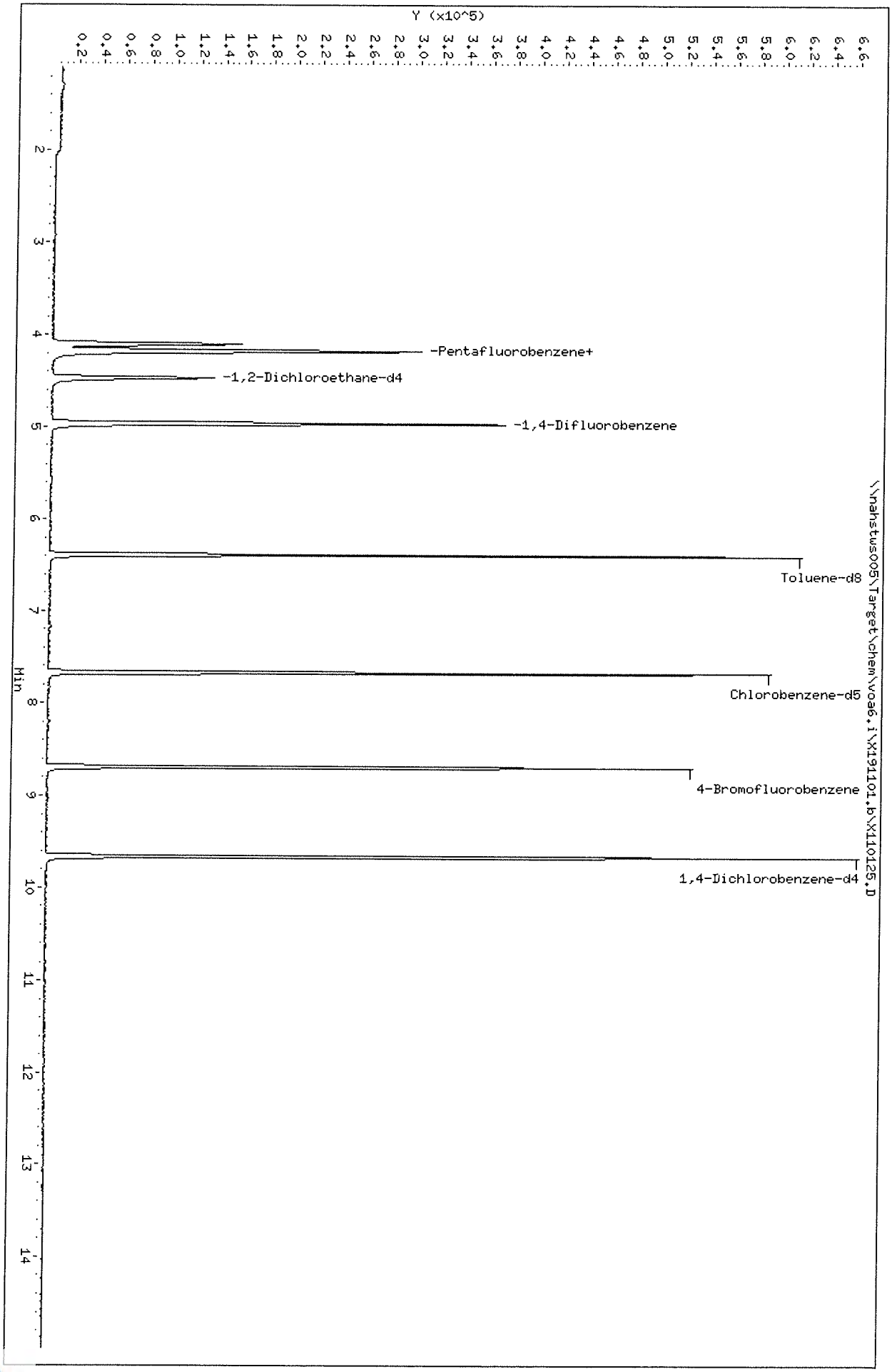
ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X191101.b\X110125.D
Lab Smp Id: HS19101706-04 Client Smp ID: HS19101706-04
Inj Date : 01-NOV-2019 20:22
Operator : PC Inst ID: voa6.i
Smp Info : HS19101706-04;HS19101706-04;;;
Misc Info : HS18090001;WATER;0;1;
Comment   :
Method   : \\nahstws005\Target\chem\voa6.i\X191101.b\8260W.m
Meth Date : 20-Nov-2019 13:59 DevakG Quant Type: ISTD
Cal Date : 31-OCT-2019 13:56 Cal File: X103108.D
Als bottle: 24
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)	283625	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	338765	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	297828	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	176783	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	107269	44.8542	44.85
$ 69 4-Bromofluorobenzene	95	8.688	8.695	(1.133)	141527	50.5800	50.58
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	103857	45.9874	45.98
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	373132	50.4251	50.42



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Date : 01-NOV-2019 20:22
Client ID: HS19101706-04
Sample Info: HS19101706-04;HS19101706-04;;;
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\nahstws005\Target\chem\voa6.i\X191101.b\X110130.D Page 1
Report Date: 20-Nov-2019 14:02

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X191101.b\X110130.D
Lab Smp Id: CCV-END Client Smp ID: CCV-END
Inj Date : 01-NOV-2019 22:22
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\X191101.b\8260W.m
Meth Date : 20-Nov-2019 14:02 voa6.i Quant Type: ISTD
Cal Date : 31-OCT-2019 13:56 Cal File: X103108.D
Als bottle: 29 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

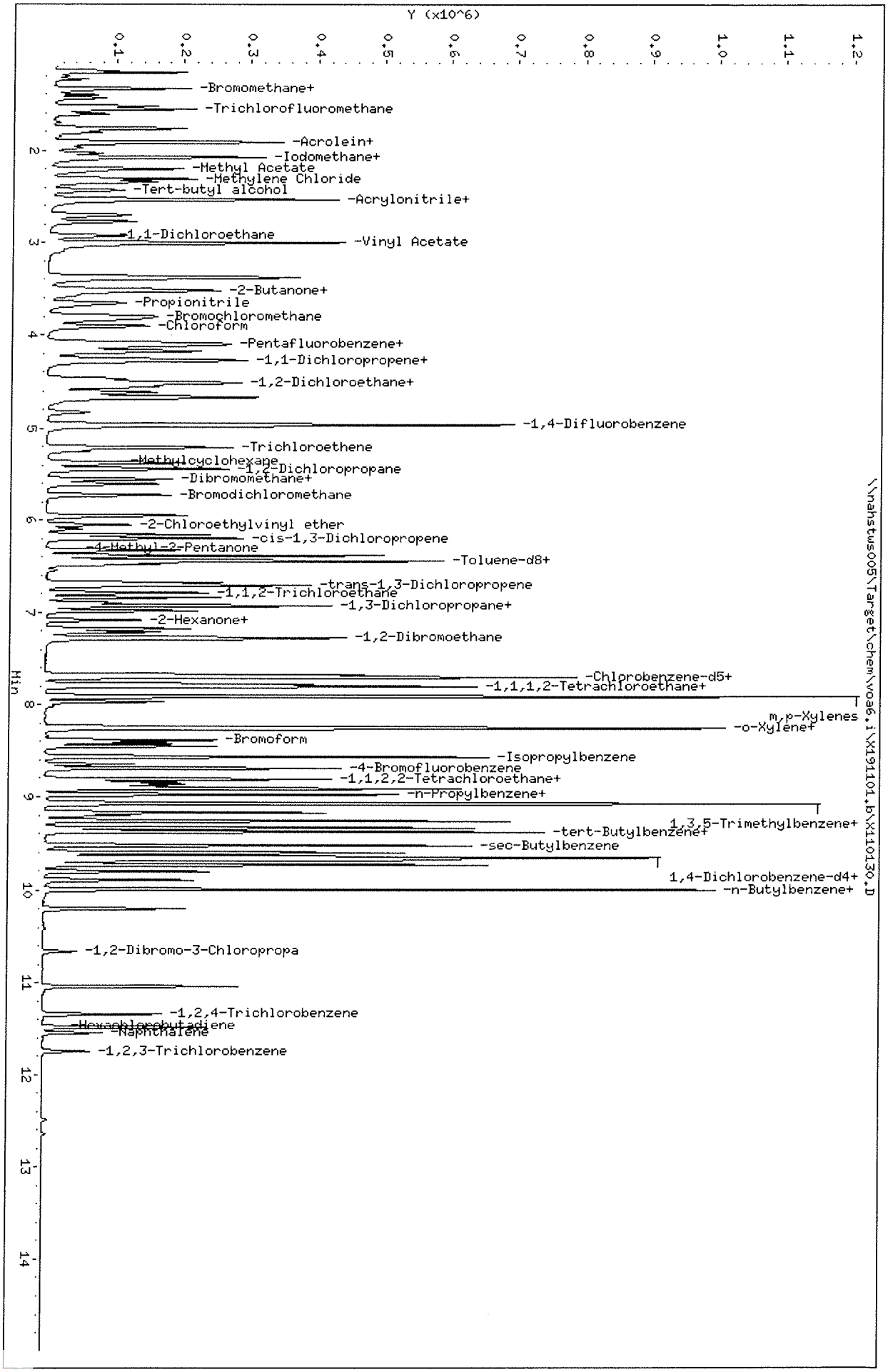
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	207123	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	260667	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	238112	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	136852	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	90086	50.0000	51.50
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	117335	50.0000	52.47
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	86093	50.0000	52.13
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	296109	50.0000	50.05
60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	97851	50.0000	50.44
31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	136574	50.0000	52.61
68 1,1,2,2-Tetrachloroethane	83	8.838	8.838	(0.914)	76092	50.0000	51.05
138 Freon TF	101	1.919	1.919	(0.459)	71214	50.0000	51.97
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	55809	50.0000	51.57
22 1,1-Dichloroethane	63	2.921	2.921	(0.699)	119074	50.0000	51.35
11 1,1-Dichloroethene	96	1.911	1.911	(0.457)	67735	50.0000	51.43
32 1,1-Dichloropropene	75	4.282	4.282	(0.862)	98895	50.0000	50.93
93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.215)	21534	50.0000	46.99
71 1,2,3-Trichloropropane	75	8.867	8.867	(0.917)	70400	50.0000	53.73(M)
90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	53133	50.0000	43.02
79 1,2,4-Trimethylbenzene	105	9.382	9.382	(0.970)	336765	50.0000	51.37
89 1,2-Dibromo-3-Chloropropane	155	10.657	10.657	(1.102)	10934	50.0000	47.88
57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	83763	50.0000	52.35
88 1,2-Dichlorobenzene	146	9.999	9.999	(1.034)	185463	50.0000	48.83

Data File: \\nahstws005\Target\chem\voa6.i\X191101.b\X110130.D Page 2
Report Date: 20-Nov-2019 14:02

	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)	109316	50.0000	51.72
42	1,2-Dichloropropane	63	5.443	5.443	(1.095)	59898	50.0000	47.17
75	1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	325331	50.0000	51.21
83	1,3-Dichlorobenzene	146	9.605	9.605	(0.993)	207064	50.0000	49.62
54	1,3-Dichloropropane	76	6.983	6.983	(0.910)	111128	50.0000	50.06
84	1,4-Dichlorobenzene	146	9.683	9.683	(1.001)	208292	50.0000	49.48
26	2,2-Dichloropropane	77	3.509	3.509	(0.839)	116757	50.0000	46.86
24	2-Butanone	43	3.573	3.573	(0.854)	39161	100.000	93.60
76	2-Chlorotoluene	91	8.974	8.974	(0.928)	249593	50.0000	50.74
52	2-Hexanone	43	7.083	7.083	(0.923)	65454	100.000	94.40
77	4-Chlorotoluene	91	9.074	9.074	(0.939)	289566	50.0000	49.90
82	p-Isopropyltoluene	119	9.655	9.655	(0.999)	344756	50.0000	50.67
45	4-Methyl-2-Pentanone	43	6.324	6.324	(0.824)	94645	100.000	96.53
10	Acetone	43	1.976	1.976	(0.473)	36111	100.000	85.43
37	Benzene	78	4.512	4.512	(0.908)	281410	50.0000	50.43
74	Bromobenzene	156	8.809	8.809	(0.911)	128393	50.0000	50.96
29	Bromochloromethane	128	3.795	3.795	(0.908)	54176	50.0000	50.71
39	Bromodichloromethane	83	5.729	5.729	(1.153)	107606	50.0000	52.13
66	Bromoform	173	8.415	8.415	(1.097)	77844	50.0000	50.68
6	Bromomethane	94	1.338	1.338	(0.320)	95166	50.0000	61.40
19	Carbon Disulfide	76	2.069	2.069	(0.495)	398885	100.000	104.52
34	Carbon Tetrachloride	117	4.268	4.268	(0.859)	127371	50.0000	50.06
59	Chlorobenzene	112	7.699	7.699	(1.004)	236904	50.0000	51.07
7	Chloroethane	64	1.403	1.403	(0.336)	42765	50.0000	52.08
28	Chloroform	83	3.910	3.910	(0.935)	142398	50.0000	51.94
3	Chloromethane	50	1.073	1.073	(0.257)	74184	50.0000	54.22
27	cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	89507	50.0000	54.09
46	cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	119415	50.0000	49.95
55	Dibromochloromethane	129	7.176	7.176	(0.936)	99990	50.0000	50.69
44	Dibromomethane	93	5.557	5.557	(1.118)	52447	50.0000	52.09
2	Dichlorodifluoromethane	85	0.973	0.973	(0.233)	83188	50.0000	50.91
61	Ethylbenzene	106	7.799	7.799	(1.017)	123262	50.0000	51.23
91	Hexachlorobutadiene	225	11.488	11.488	(1.188)	49652	50.0000	46.51
67	Isopropylbenzene	105	8.566	8.566	(1.117)	375609	50.0000	51.35
62	m,p-Xylenes	106	7.907	7.907	(1.031)	298689	100.000	102.42
17	Methylene Chloride	84	2.305	2.305	(0.551)	75528	50.0000	52.54
87	n-Butylbenzene	91	9.999	9.999	(1.034)	250025	50.0000	51.52
73	n-Propylbenzene	91	8.917	8.917	(0.922)	398548	50.0000	51.13
92	Naphthalene	128	11.546	11.546	(1.194)	59550	50.0000	48.32
63	o-Xylene	106	8.244	8.244	(1.075)	145130	50.0000	50.54
81	sec-Butylbenzene	105	9.526	9.526	(0.985)	361750	50.0000	52.06
64	Styrene	104	8.258	8.258	(1.077)	252079	50.0000	50.74
78	tert-Butylbenzene	119	9.340	9.340	(0.966)	281414	50.0000	51.11
56	Tetrachloroethene	164	6.933	6.933	(0.904)	92196	50.0000	51.10
50	Toluene	91	6.446	6.446	(0.840)	334285	50.0000	51.44
20	trans-1,2-Dichloroethene	96	2.527	2.527	(0.604)	75439	50.0000	54.22
51	trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	114156	50.0000	51.14
38	Trichloroethene	130	5.206	5.206	(1.048)	101513	50.0000	52.19
8	Trichlorofluoromethane	101	1.560	1.560	(0.373)	146109	50.0000	52.85
5	Vinyl Chloride	62	1.138	1.138	(0.272)	68357	50.0000	52.61

QC Flag Legend

M - Compound response manually integrated.



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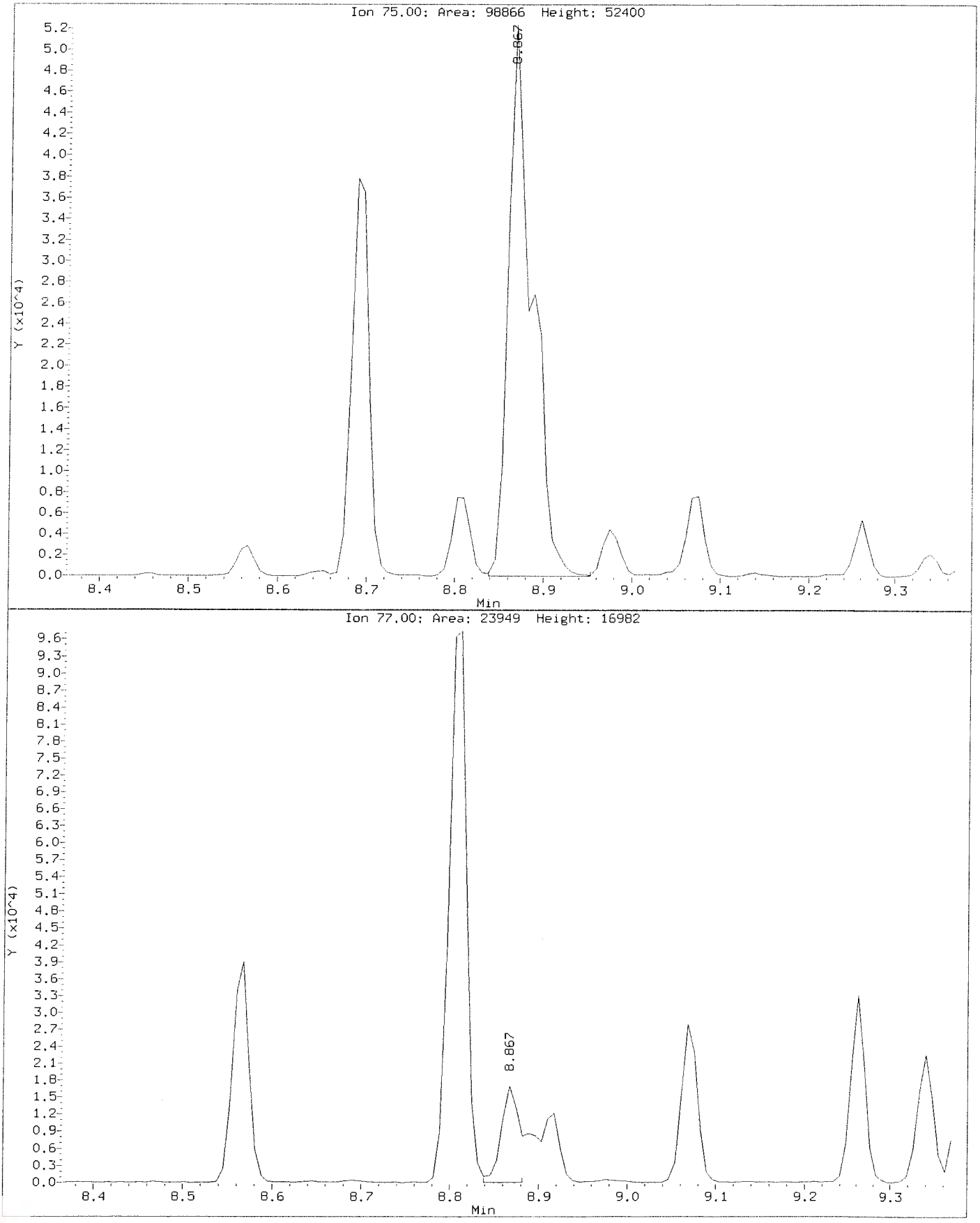
Client ID: CCV-END
Sample Info: CCV-END;CCV-END;2;;
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\nahstws005\Target\chem\voa6.i\X191101.b\BEFORE2\X110130.D
Injection Date: 01-NOV-2019 22:22
Instrument: voa6.i
Client Sample ID: CCV-END

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



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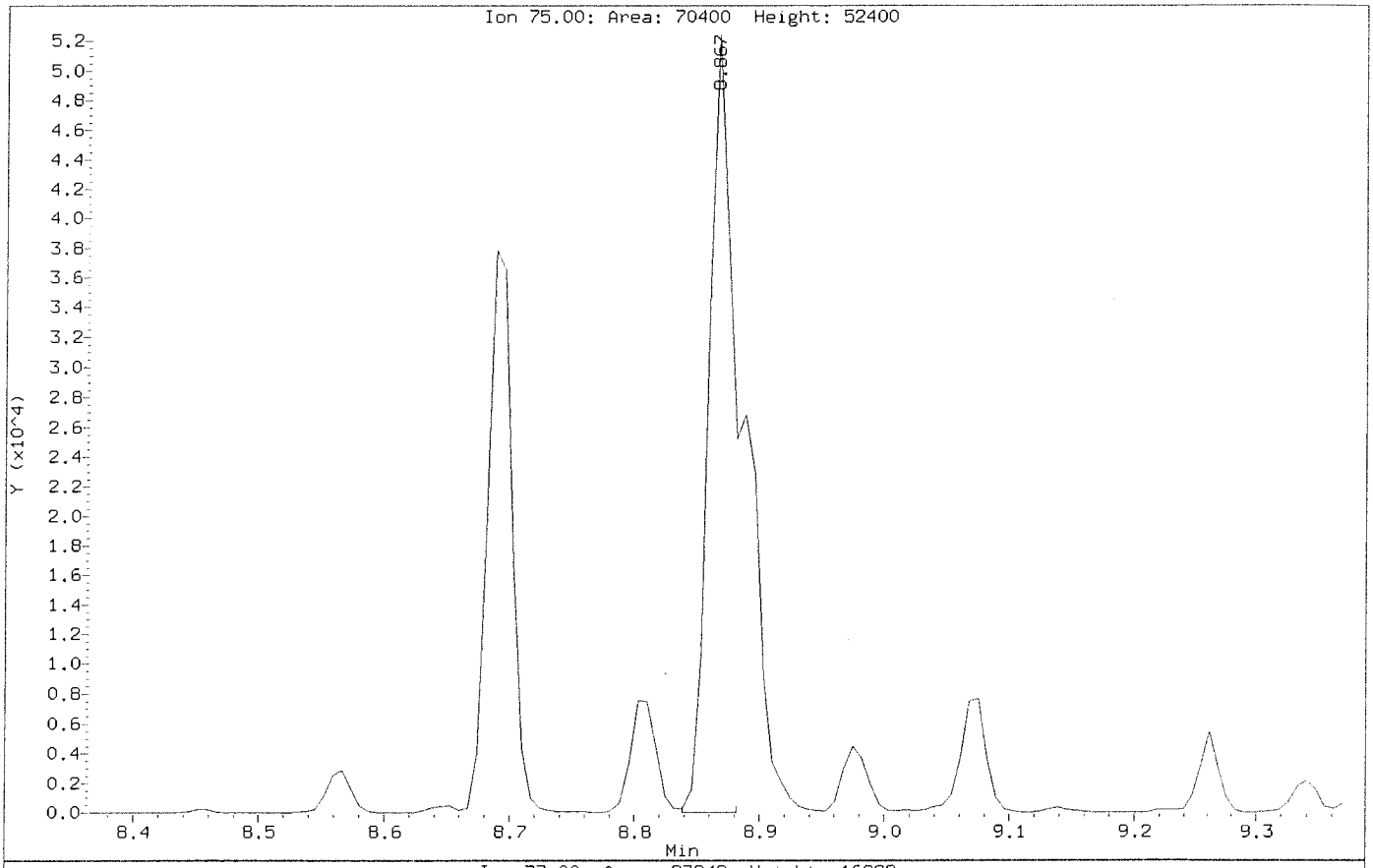
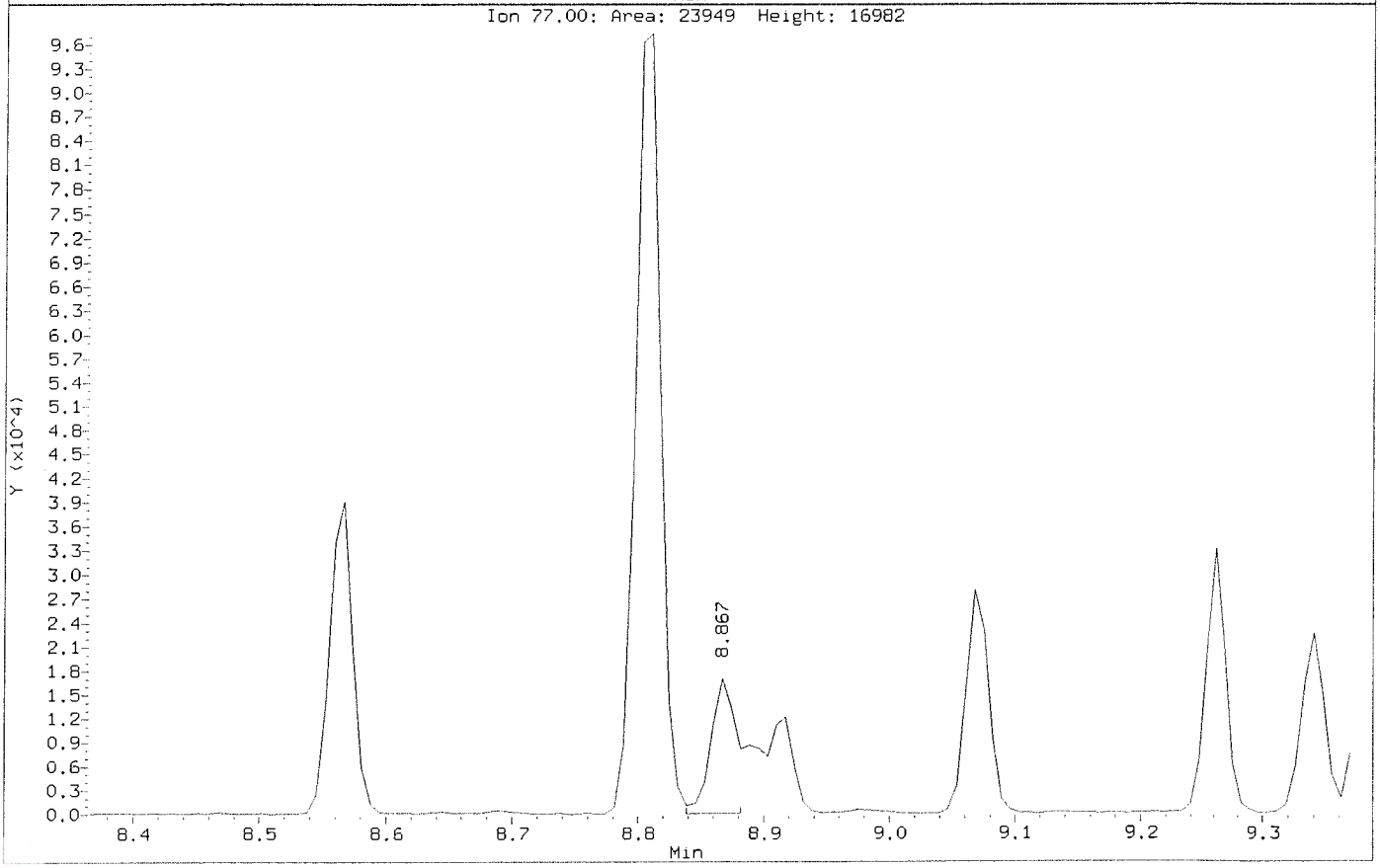
Injection Date: 01-NOV-2019 22:22
Instrument: voa6.i
Client Sample ID: CCV-END

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



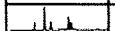
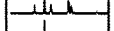
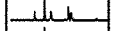
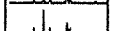
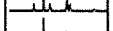
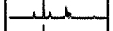
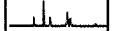


HS19101706 WC Raw Data

ALS WO# HS19101706

Sequence: 102819
Last Update Operator: alshs.nouser

HS19101706

CD	Name	Comment	Type	Position	Dilution	Level	Instrument Method	ng	Volume [ul]	Status	Inject Time
	STD1	2970209205	Calibration	GA1	1.0000	1	Anions Pro	Anions Pr	5.0	Finished	8/12/2019 2:08:06 PM -05:00
	STD2		Calibration	GA2	1.0000	2	Anions Pro	Anions Pr	5.0	Finished	8/12/2019 2:24:42 PM -05:00
	STD3		Calibration	GA3	1.0000	3	Anions Pro	Anions Pr	5.0	Finished	8/12/2019 2:41:19 PM -05:00
	STD4		Calibration	GA4	1.0000	4	Anions Pro	Anions Pr	5.0	Finished	8/12/2019 2:57:54 PM -05:00
	STD5		Calibration	GA5	1.0000	5	Anions Pro	Anions Pr	5.0	Finished	8/12/2019 3:14:30 PM -05:00
	STD6	NO2,F MAX 10PPM	Calibration	GB8	1.0000	6	Anions Pro	Anions Pr	5.0	Finished	8/12/2019 6:37:32 PM -05:00
	ICV	2970209123	Unknown	GA7	1.0000		Anions Pro	Anions Pr	5.0	Finished	8/12/2019 6:54:07 PM -05:00
	ICB		Unknown	GB8	1.0000		Anions Pro	Anions Pr	5.0	Finished	8/12/2019 7:29:52 PM -05:00
	CCV1		Unknown	BA7	1.0000		Anions Pro	Anions Pr	5.0	Finished	10/30/2019 5:43:45 AM -05:00
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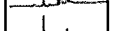
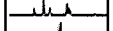
	WBLKW2-102919		Unknown	BC4	1.0000		Anions Pro	Anions Pr	5.0	Finished	10/30/2019 6:16:59 AM -05:00
	WLCSW2-102919		Unknown	BC5	1.0000		Anions Pro	Anions Pr	5.0	Finished	10/30/2019 6:33:34 AM -05:00
	WLCSDW2-102919		Unknown	BC6	1.0000		Anions Pro	Anions Pr	5.0	Finished	10/30/2019 6:50:10 AM -05:00
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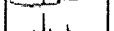
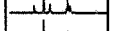
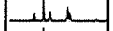
	HS19101706-05DF50		Unknown	BC8	50.0000		Anions Pro	Anions Pr	5.0	Finished	10/30/2019 7:23:22 AM -05:00
	HS19101706-06DF5		Unknown	BD1	5.0000		Anions Pro	Anions Pr	5.0	Finished	10/30/2019 7:39:57 AM -05:00
	HS19101706-06DF50		Unknown	BD2	50.0000		Anions Pro	Anions Pr	5.0	Finished	10/30/2019 7:56:34 AM -05:00
	HS19101706-07DF5		Unknown	BD3	5.0000		Anions Pro	Anions Pr	5.0	Finished	10/30/2019 8:13:08 AM -05:00
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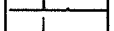
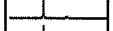
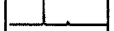
	HS19101657-02DF50	RR SO4 10.28	Unknown	BD5	50.0000		Anions Pro	Anions Pr	5.0	Finished	10/30/2019 8:46:20 AM -05:00
	CCV		Unknown	BA5	1.0000		Anions Pro	Anions Pr	5.0	Finished	10/30/2019 9:02:58 AM -05:00
	CCB		Unknown	BA6	1.0000		Anions Pro	Anions Pr	5.0	Finished	10/30/2019 9:19:33 AM -05:00
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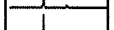
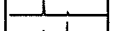
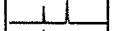
	HS19101706-06DF2		Unknown	RD3	2.0000		Anions Pro	Anions Pr	5.0	Finished	10/30/2019 11:19:40 AM -05:00
	HS19101706-07DF2		Unknown	RD4	2.0000		Anions Pro	Anions Pr	5.0	Finished	10/30/2019 11:36:15 AM -05:00
	CCV1		Unknown	BA7	1.0000		Anions Pro	Anions Pr	5.0	Finished	10/30/2019 12:26:09 PM -05:00
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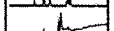
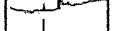
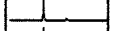
	CCV		Unknown	BA5	1.0000		Anions Pro	Anions Pr	5.0	Finished	10/30/2019 3:45:28 PM -05:00
	CCB		Unknown	BA6	1.0000		Anions Pro	Anions Pr	5.0	Finished	10/30/2019 4:02:04 PM -05:00
	HS19101109-13DF20	300_w cont'd	Unknown	BD8	20.0000		Anions Pro	Anions Pr	5.0	Finished	10/30/2019 4:18:38 PM -05:00
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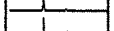
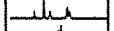
	CCV1		Unknown	BA7	1.0000		Anions Pro	Anions Pr	5.0	Finished	10/30/2019 7:04:52 PM -05:00
	CCB		Unknown	BA8	1.0000		Anions Pro	Anions Pr	5.0	Finished	10/30/2019 7:21:33 PM -05:00

Sequence: 102819
Injection #6: STD6

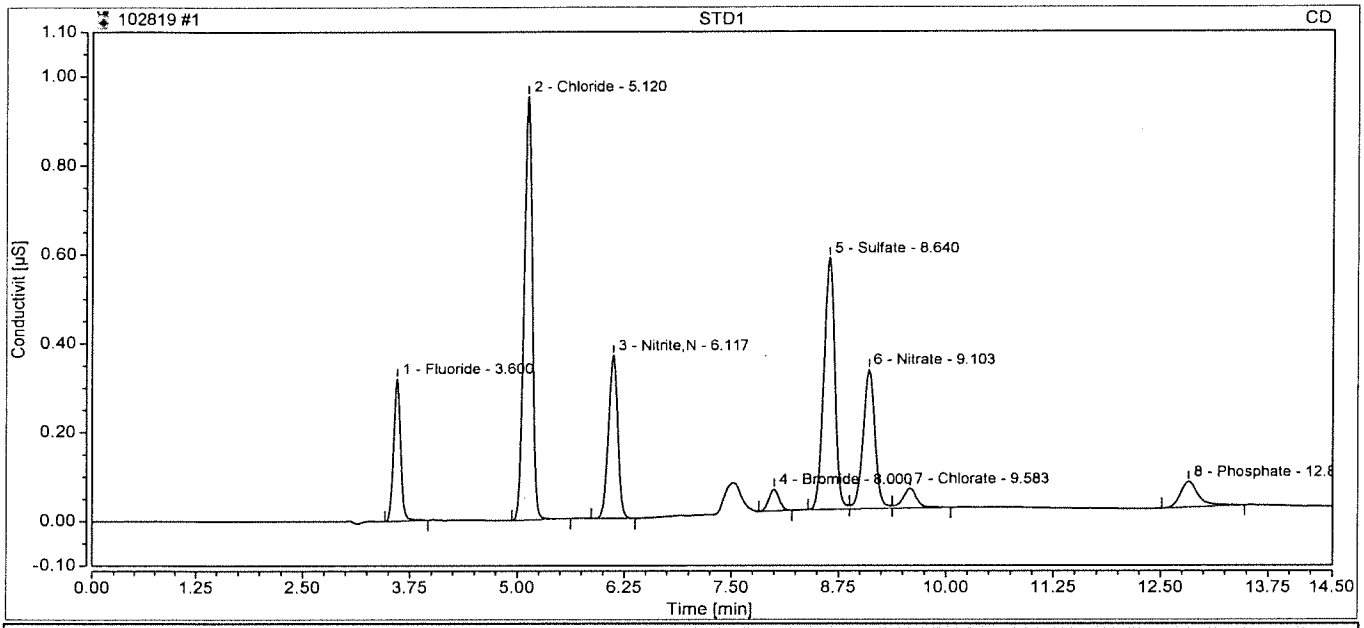
Calibration

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/x	Area	5	10.1532	0.99927	-0.0056	0.3716	0.0000
2	Chloride	Lin, WithOffset, 1/x	Area	6	0.2804	1.00000	-0.0135	0.2355	0.0000
3	Nitrite,N	Lin, WithOffset, 1/x	Area	5	15.1147	0.99824	0.0003	0.5120	0.0000
4	Bromide	Lin, WithOffset, 1/x	Area	6	14.0217	0.99919	-0.0052	0.1009	0.0000
5	Sulfate	Lin, WithOffset, 1/x	Area	6	1.1258	0.99999	-0.0022	0.1717	0.0000
6	Nitrate	Lin, WithOffset, 1/x	Area	6	2.2249	0.99998	-0.0102	0.5876	0.0000
7	Chlorate	Lin, WithOffset, 1/x	Area	6	10.0265	0.99953	-0.0024	0.0944	0.0000
8	Phosphate	Lin, WithOffset, 1/x	Area	6	6.6198	0.99981	-0.0110	0.2321	0.0000
Maximum					15.1147	1.00000			
Minimum					0.2804	0.99824			

1 STD1

Sample Name:	**STD1**	*Injection Volume:*	**5.00**
Vial Number:	**GA1**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program 08092019**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**08/12/2019 14:08**	*Sample Weight:*	**1.0000**

Run Time:



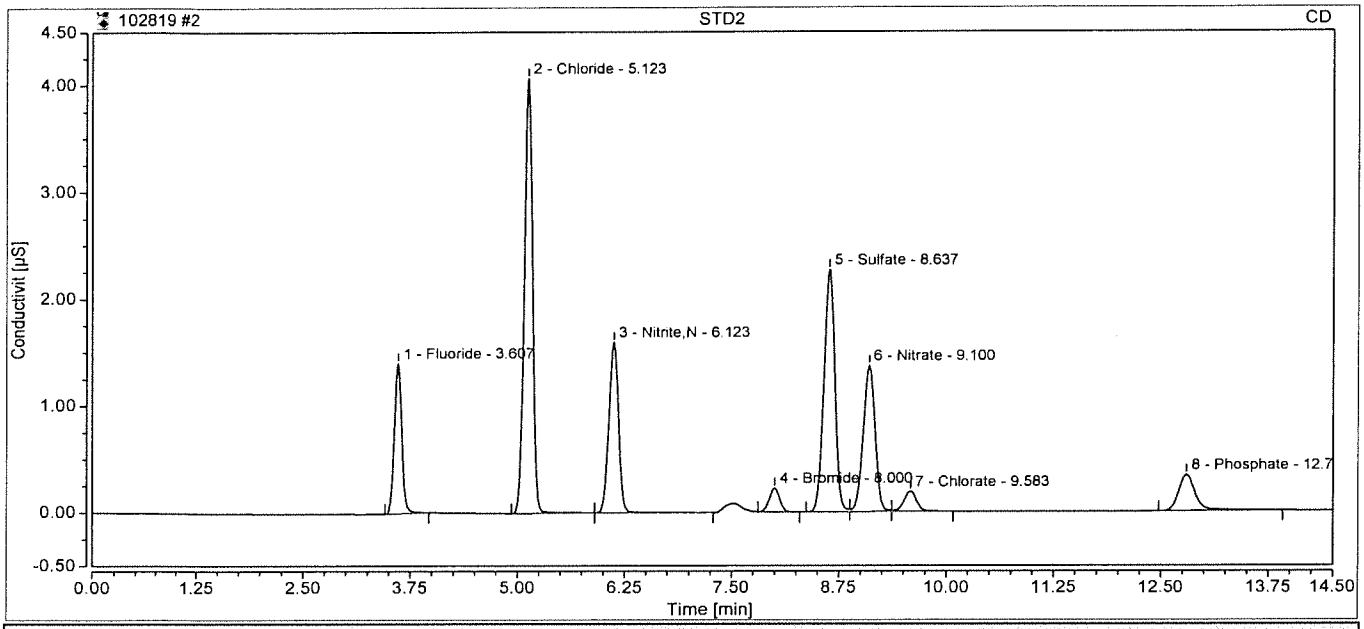
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.60	Fluoride	BMB	0.031	0.0973	0.0973	1.0000
2	5.12	Chloride	BMB	0.105	0.5026	0.5026	1.0000
3	6.12	Nitrite,N	BMB	0.046	0.0893	0.0893	1.0000
4	8.00	Bromide	BMB	0.007	0.1192	0.1192	1.0000
5	8.64	Sulfate	BM	0.084	0.5042	0.5042	1.0000
6	9.10	Nitrate	M	0.051	0.1034	0.1034	1.0000
7	9.58	Chlorate	MB	0.008	0.1143	0.1143	1.0000
8	12.83	Phosphate	BMB	0.014	0.1085	0.1085	1.0000
Total:			**0.000**	**0.346**		**1.64**	

2 STD2

Sample Name:	**STD2**	*Injection Volume:*	**5.00**
Vial Number:	**GA2**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program 08092019**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**08/12/2019 14:24**	*Sample Weight:*	**1.0000**

Run Time:



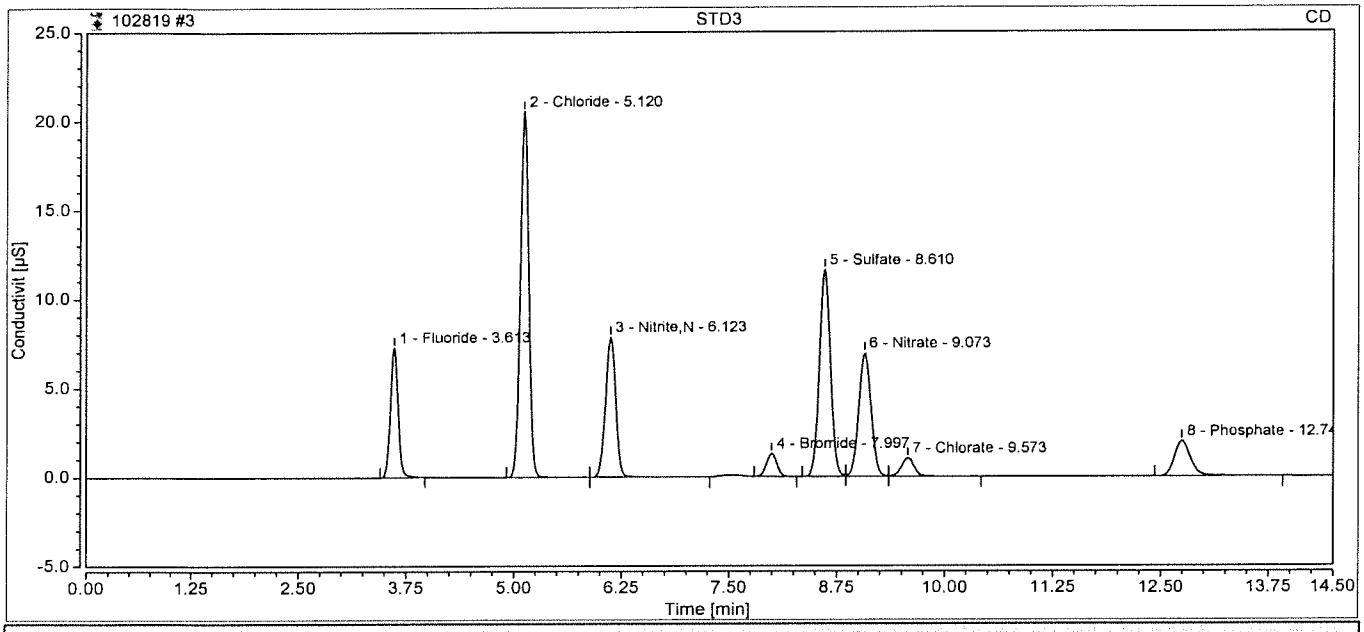
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.61	Fluoride	BMB	0.140	0.3929	0.3929	1.0000
2	5.12	Chloride	BMB	0.456	1.9918	1.9918	1.0000
3	6.12	Nitrite,N	BMB	0.211	0.4119	0.4119	1.0000
4	8.00	Bromide	BMB	0.031	0.3593	0.3593	1.0000
5	8.64	Sulfate	BM	0.337	1.9733	1.9733	1.0000
6	9.10	Nitrate	M	0.220	0.3917	0.3917	1.0000
7	9.58	Chlorate	MB	0.033	0.3704	0.3704	1.0000
8	12.80	Phosphate	BMB	0.078	0.3841	0.3841	1.0000
Total:			**0.000**	**1.506**		**6.28**	

3 STD3

Sample Name:	**STD3**	*Injection Volume:*	**5.00**
Vial Number:	**GA3**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program 08092019**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**08/12/2019 14:41**	*Sample Weight:*	**1.0000**

Run Time:



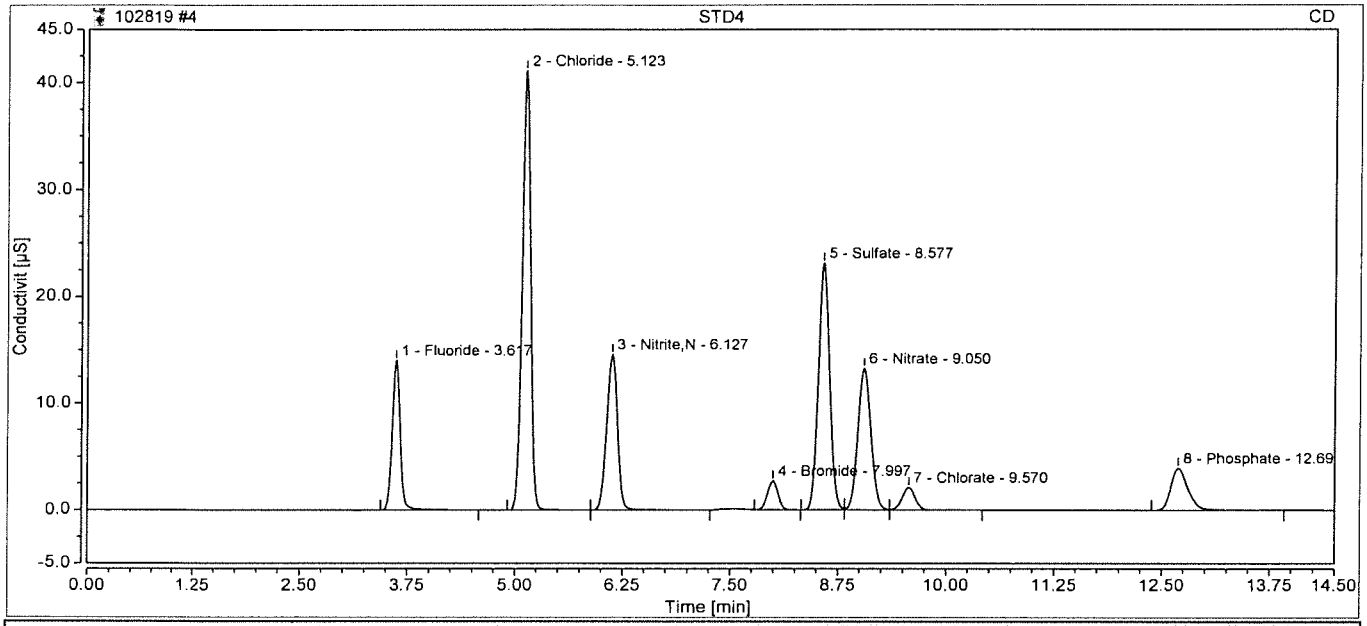
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.61	Fluoride	BMB	0.758	2.0551	2.0551	1.0000
2	5.12	Chloride	BMB	2.339	9.9888	9.9888	1.0000
3	6.12	Nitrite,N	BMB	1.091	2.1305	2.1305	1.0000
4	8.00	Bromide	BMB	0.182	1.8590	1.8590	1.0000
5	8.61	Sulfate	BM	1.715	10.0007	10.0007	1.0000
6	9.07	Nitrate	M	1.153	1.9792	1.9792	1.0000
7	9.57	Chlorate	MB	0.176	1.8940	1.8940	1.0000
8	12.75	Phosphate	BMB	0.436	1.9269	1.9269	1.0000
Total:			**0.000**	**7.851**		**31.83**	

4 STD4

Sample Name:	**STD4**	*Injection Volume:*	**5.00**
Vial Number:	**GA4**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program 08092019**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**08/12/2019 14:57**	*Sample Weight:*	**1.0000**

Run Time:



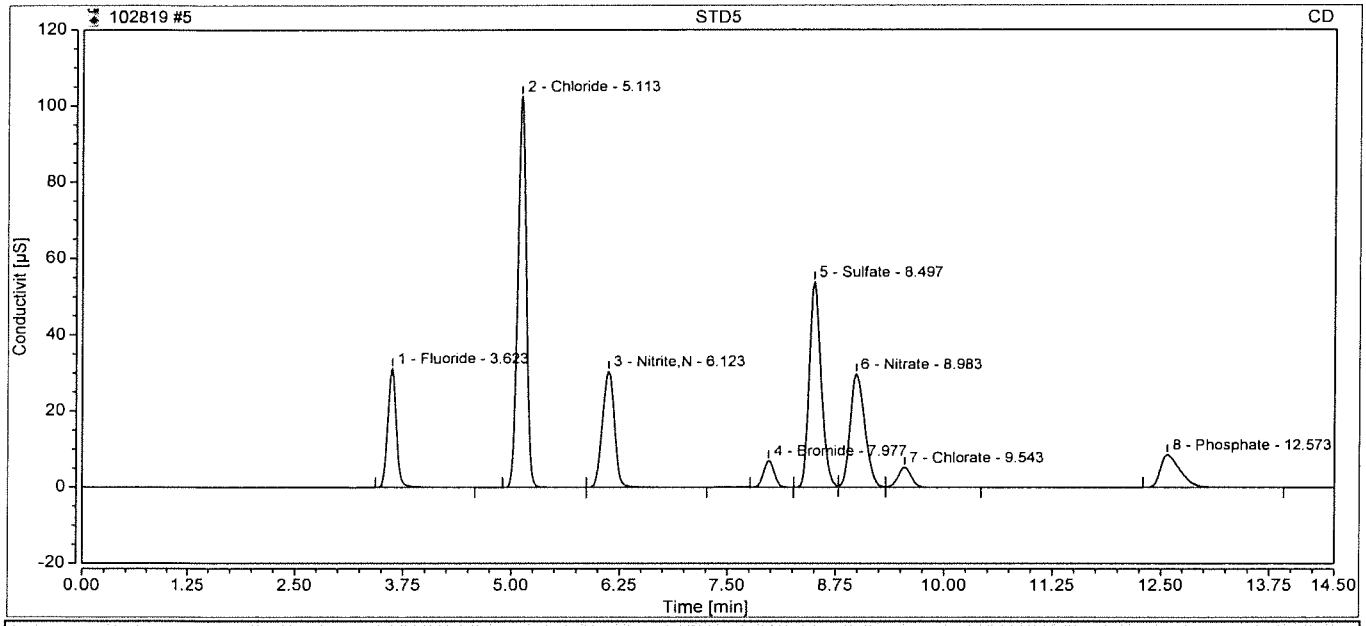
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.62	Fluoride	BMB	1.535	4.1457	4.1457	1.0000
2	5.12	Chloride	BMB	4.695	19.9948	19.9948	1.0000
3	6.13	Nitrite,N	BMB	2.133	4.1659	4.1659	1.0000
4	8.00	Bromide	BMB	0.385	3.8642	3.8642	1.0000
5	8.58	Sulfate	BM	3.451	20.1082	20.1082	1.0000
6	9.05	Nitrate	M	2.330	3.9823	3.9823	1.0000
7	9.57	Chlorate	MB	0.365	3.8956	3.8956	1.0000
8	12.69	Phosphate	BMB	0.903	3.9395	3.9395	1.0000
Total:			**0.000**	**15.798**		**64.10**	

5 STD5

Sample Name:	**STD5**	*Injection Volume:*	**5.00**
Vial Number:	**GA5**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program 08092019**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**08/12/2019 15:14**	*Sample Weight:*	**1.0000**

Run Time:



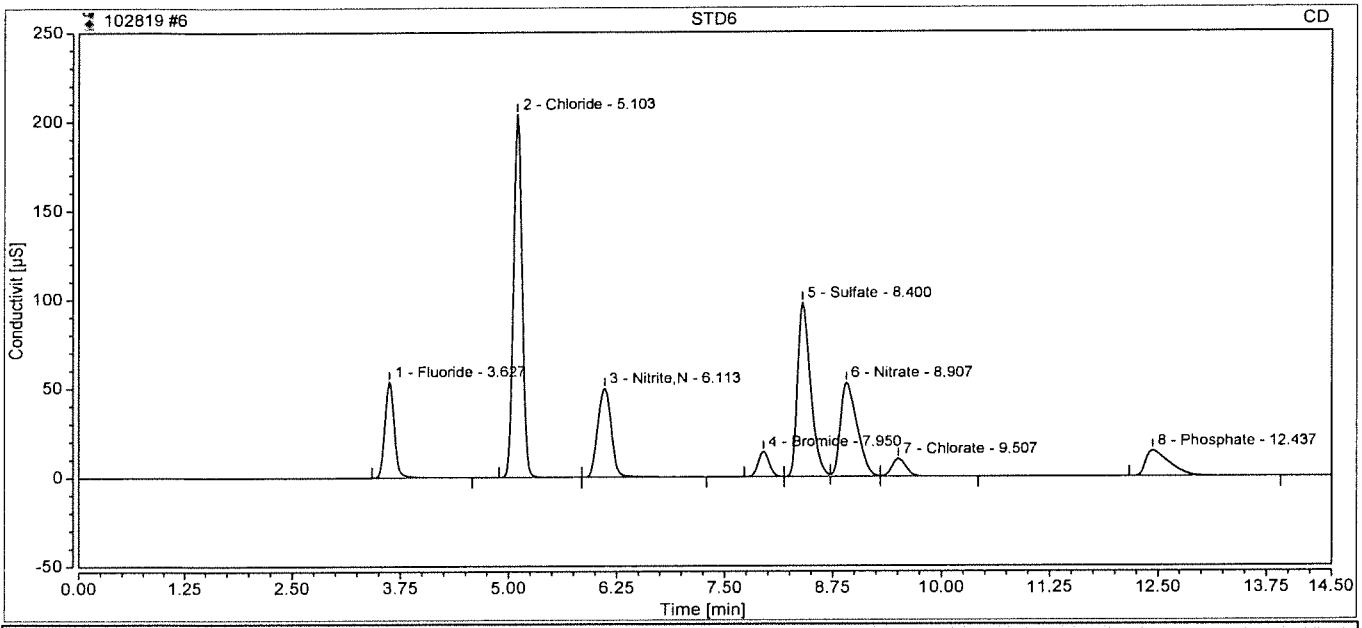
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.62	Fluoride	BMB	3.639	9.8090	9.8090	1.0000
2	5.11	Chloride	BMB	11.762	49.9996	49.9996	1.0000
3	6.12	Nitrite,N	BMB	4.968	9.7023	9.7023	1.0000
4	7.98	Bromide	BMB	1.001	9.9786	9.9786	1.0000
5	8.50	Sulfate	BM	8.590	50.0271	50.0271	1.0000
6	8.98	Nitrate	M	5.854	9.9805	9.9805	1.0000
7	9.54	Chlorate	MB	0.939	9.9670	9.9670	1.0000
8	12.57	Phosphate	BMB	2.305	9.9803	9.9803	1.0000
Total:			**0.000**	**39.057**		**159.44**	

6 STD6

Sample Name:	**STD6**	*Injection Volume:*	**5.00**
Vial Number:	**GB8**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program 08092019**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**08/12/2019 18:37**	*Sample Weight:*	**1.0000**

Run Time:



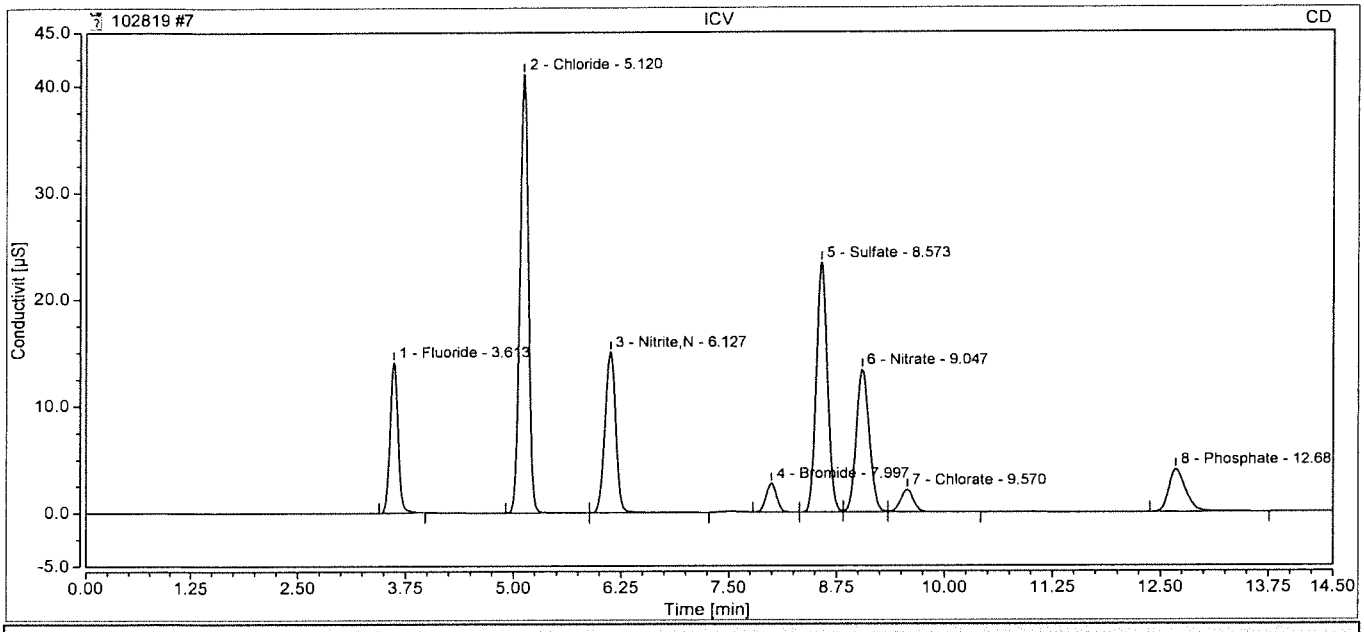
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.63	Fluoride	BMB	6.773	18.2418	18.2418	1.0000
2	5.10	Chloride	BMB	23.542	100.0224	100.0224	1.0000
3	6.11	Nitrite,N	BMB	9.157	17.8850	17.8850	1.0000
4	7.95	Bromide	BM	2.045	20.3197	20.3197	1.0000
5	8.40	Sulfate	M	17.153	99.8863	99.8863	1.0000
6	8.91	Nitrate	M	11.778	20.0629	20.0629	1.0000
7	9.51	Chlorate	MB	1.910	20.2586	20.2586	1.0000
8	12.44	Phosphate	BMB	4.668	20.1606	20.1606	1.0000
Total:			**0.000**	**77.025**		**316.84**	

7 ICV

Sample Name:	**ICV**	*Injection Volume:*	**5.00**
Vial Number:	**GA7**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 08092019**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**08/12/2019 18:54**	*Sample Weight:*	**1.0000**

Run Time:



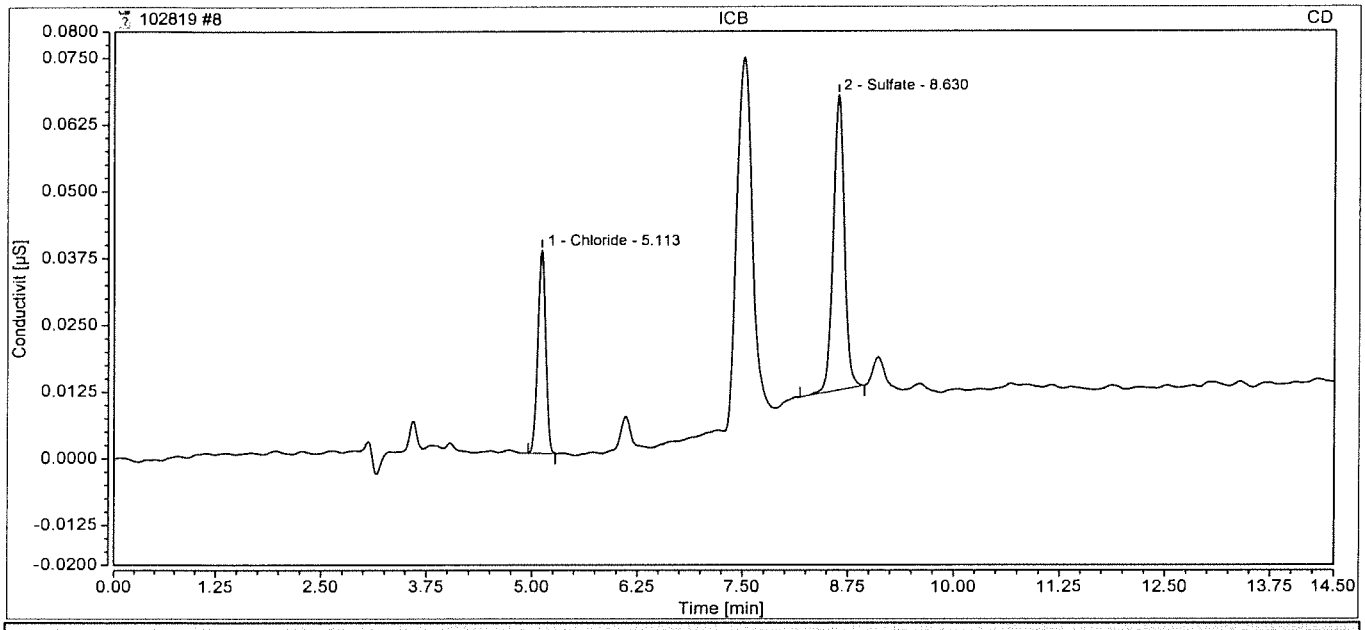
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.61	Fluoride	BMB	1.495	4.0374	4.0374	1.0000
2	5.12	Chloride	BMB	4.681	19.9333	19.9333	1.0000
3	6.13	Nitrite,N	BMB	2.195	4.2858	4.2858	1.0000
4	8.00	Bromide	BMB	0.384	3.8585	3.8585	1.0000
5	8.57	Sulfate	BM	3.469	20.2132	20.2132	1.0000
6	9.05	Nitrate	M	2.340	3.9993	3.9993	1.0000
7	9.57	Chlorate	MB	0.367	3.9104	3.9104	1.0000
8	12.68	Phosphate	BMB	0.911	3.9732	3.9732	1.0000
Total:			**0.000**	**15.841**		**64.21**	

8 ICB

Sample Name:	**ICB**	*Injection Volume:*	**5.00**
Vial Number:	**GB8**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 08092019**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**08/12/2019 19:29**	*Sample Weight:*	**1.0000**

Run Time:



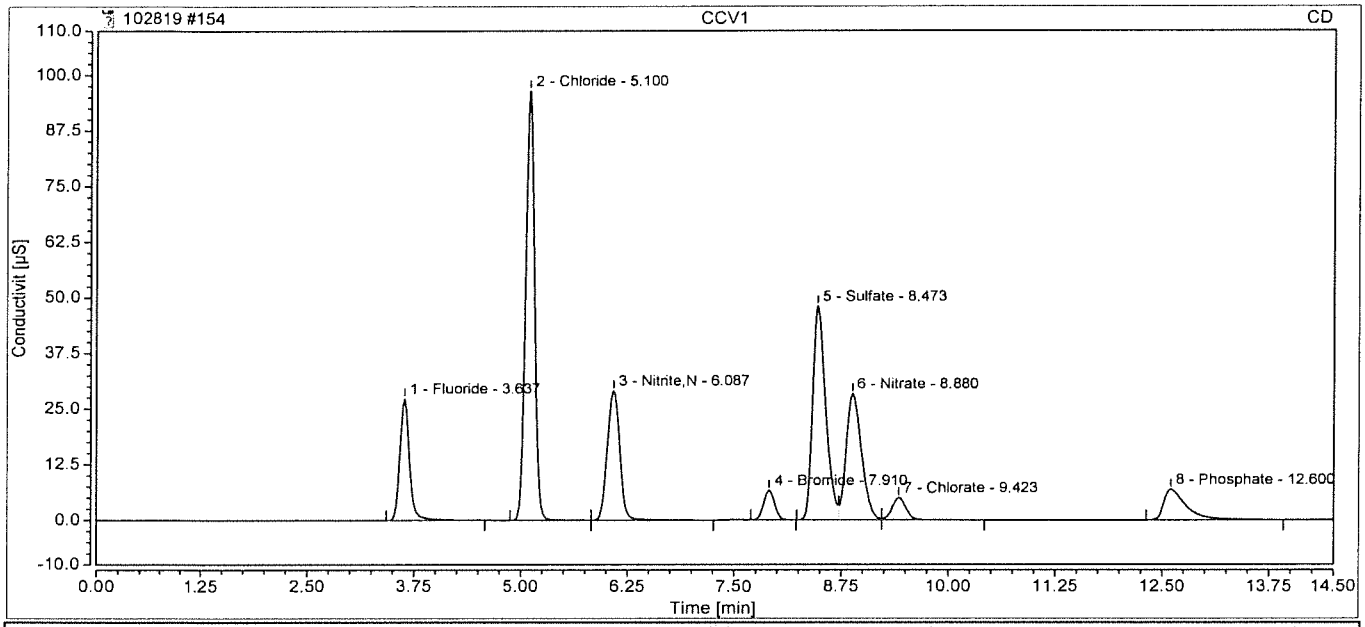
Integration Results

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	5.11	Chloride	BMB	0.004	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
2	8.63	Sulfate	BMB	0.008	0.0618	0.0618	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**	**0.013**		**0.14**	

154 CCV1

Sample Name:	**CCV1**	*Injection Volume:*	**5.00**
Vial Number:	**BA7**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 08092019**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/30/2019 05:43**	*Sample Weight:*	**1.0000**

Run Time:



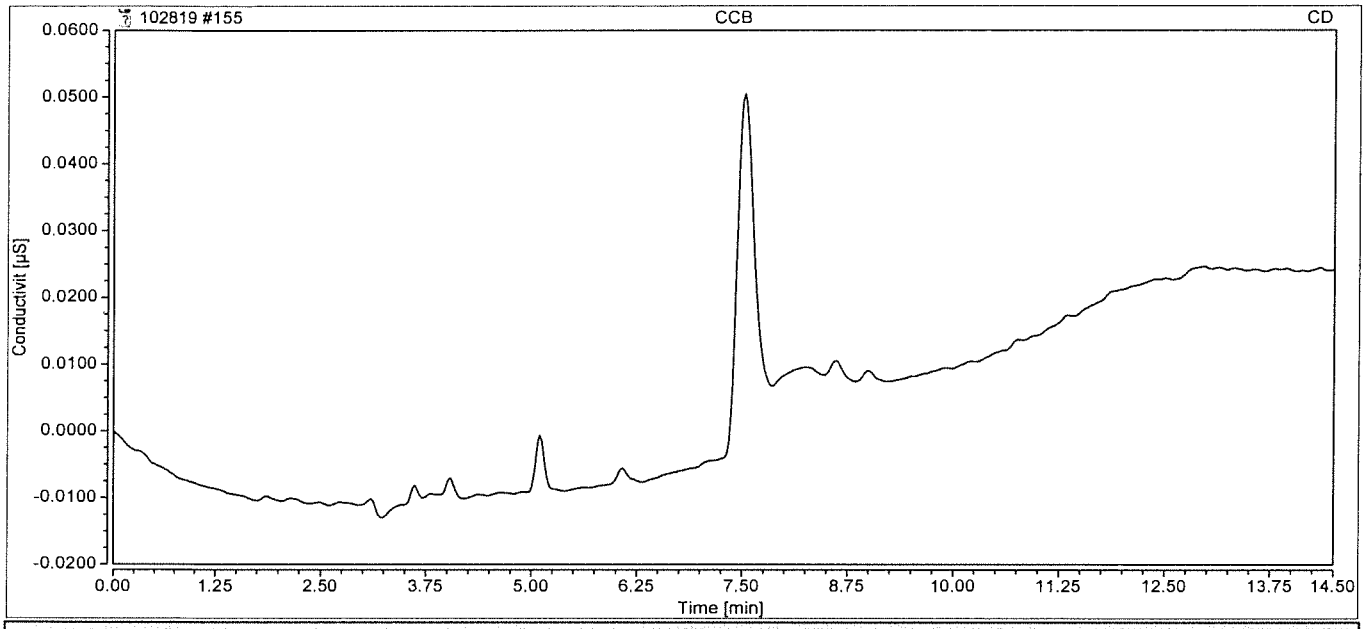
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.64	Fluoride	BMB	3.609	9.7273	9.7273	1.0000
2	5.10	Chloride	BMB	11.703	49.7523	49.7523	1.0000
3	6.09	Nitrite,N	BMB	4.940	9.6481	9.6481	1.0000
4	7.91	Bromide	BMB	0.987	9.8401	9.8401	1.0000
5	8.47	Sulfate	BM	8.453	49.2339	49.2339	1.0000
6	8.88	Nitrate	M	5.915	10.0840	10.0840	1.0000
7	9.42	Chlorate	MB	0.948	10.0671	10.0671	1.0000
8	12.60	Phosphate	BMB	2.136	9.2513	9.2513	1.0000
Total:			**0.000**	**38.692**		**157.60**	

155 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**BA8**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 08092019**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/30/2019 06:00**	*Sample Weight:*	**1.0000**

Run Time:



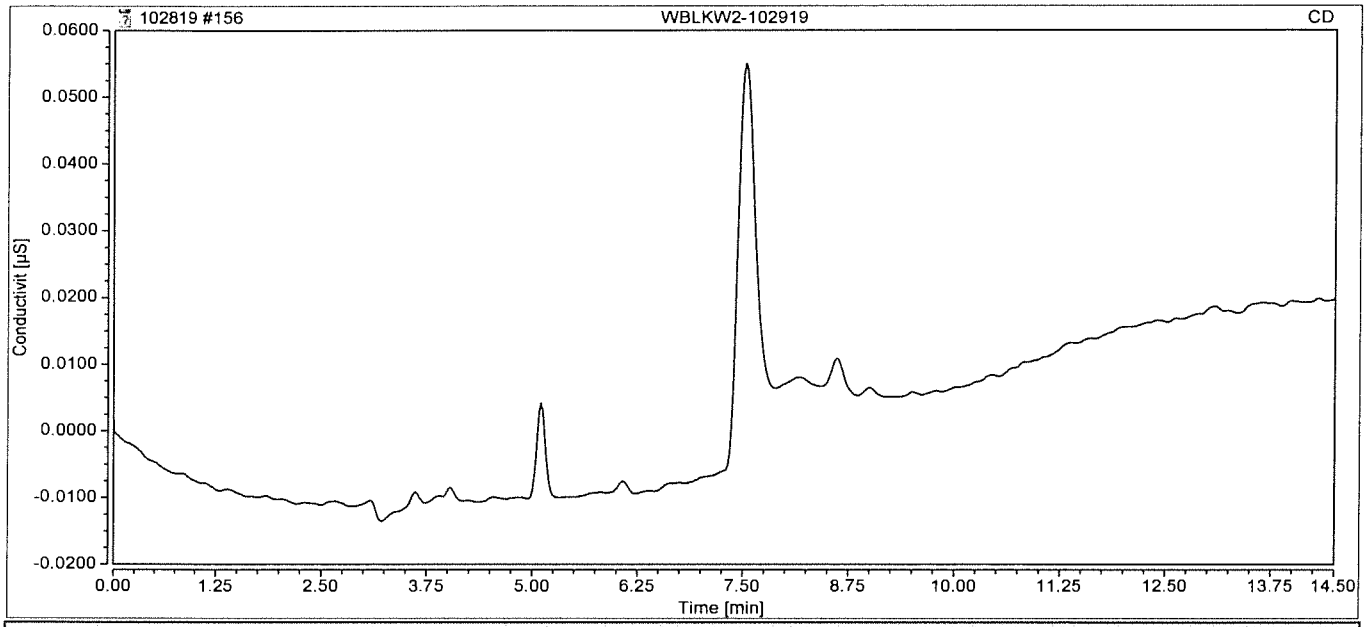
Integration Results

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
n.a.	n.a.	Chloride	n.a.	n.a.	n.a.	n.a.	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**	**0.000**		**0.00**	

156 WBLKW2-102919

Sample Name:	**WBLKW2-102919**	*Injection Volume:*	**5.00**
Vial Number:	**BC4**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 08092019**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/30/2019 06:16**	*Sample Weight:*	**1.0000**

Run Time:



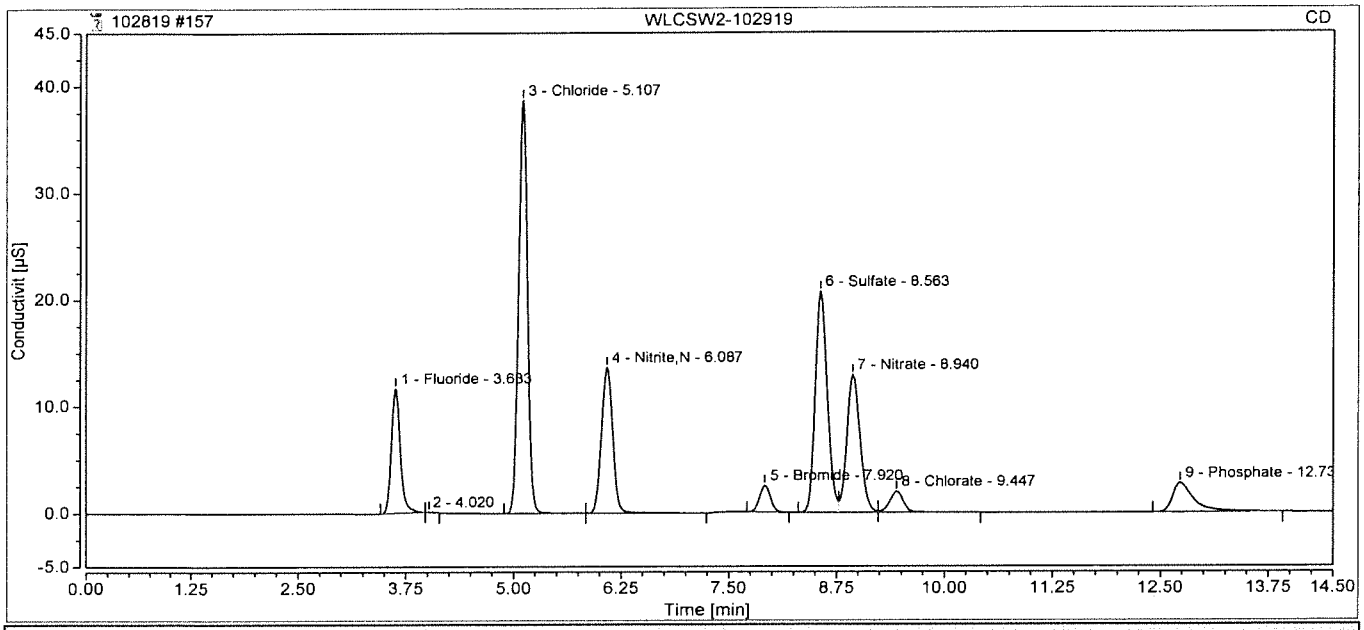
Integration Results

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
n.a.	n.a.	Chloride	n.a.	n.a.	n.a.	n.a.	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**	**0.000**		**0.00**	

157 WLCSW2-102919

Sample Name:	**WLCSW2-102919**	*Injection Volume:*	**5.00**
Vial Number:	**BC5**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 08092019**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/30/2019 06:33**	*Sample Weight:*	**1.0000**

Run Time:



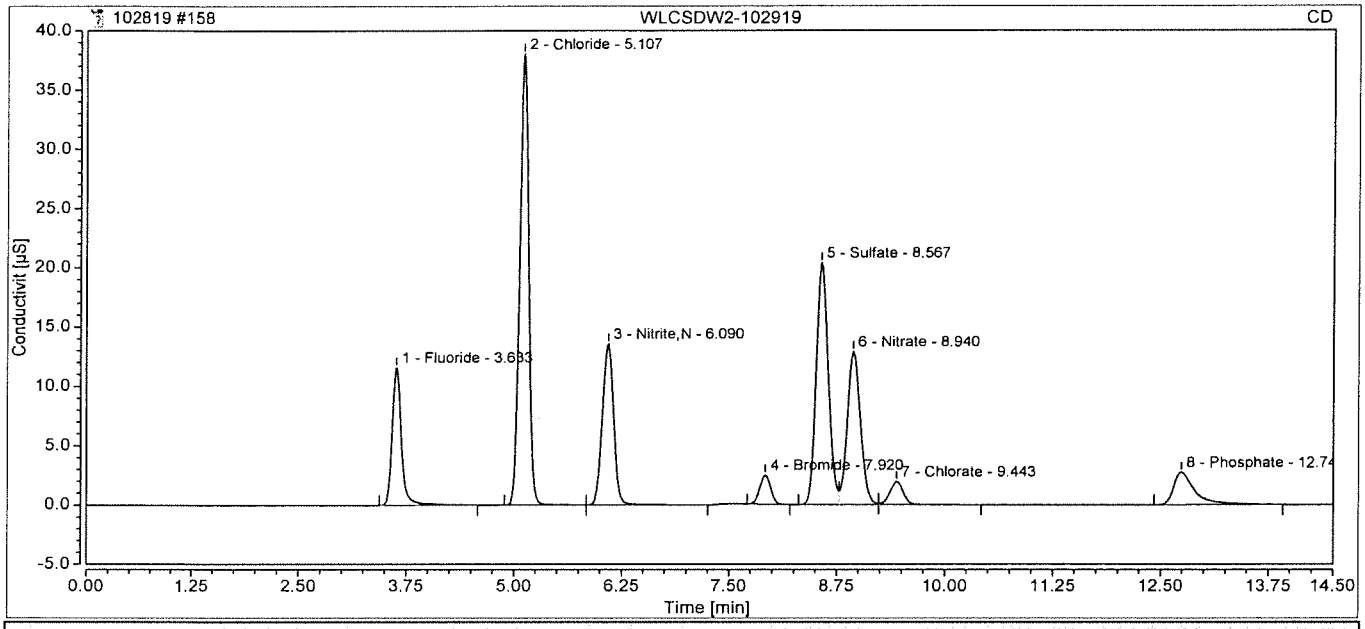
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.63	Fluoride	BMB	1.415	3.8219	3.8219	1.0000
3	5.11	Chloride	BMB	4.649	19.7991	19.7991	1.0000
4	6.09	Nitrite,N	BMB	2.082	4.0657	4.0657	1.0000
5	7.92	Bromide	BMB	0.361	3.6347	3.6347	1.0000
6	8.56	Sulfate	BM	3.352	19.5325	19.5325	1.0000
7	8.94	Nitrate	M	2.303	3.9370	3.9370	1.0000
8	9.45	Chlorate	MB	0.363	3.8657	3.8657	1.0000
9	12.73	Phosphate	BMB	0.788	3.4418	3.4418	1.0000
Total:			**0.000**	**15.313**		**62.10**	

158 *WLCSDW2-102919*

Sample Name:	**WLCSDW2-102919**	*Injection Volume:*	**5.00**
Vial Number:	**BC6**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 08092019**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/30/2019 06:50**	*Sample Weight:*	**1.0000**

Run Time:



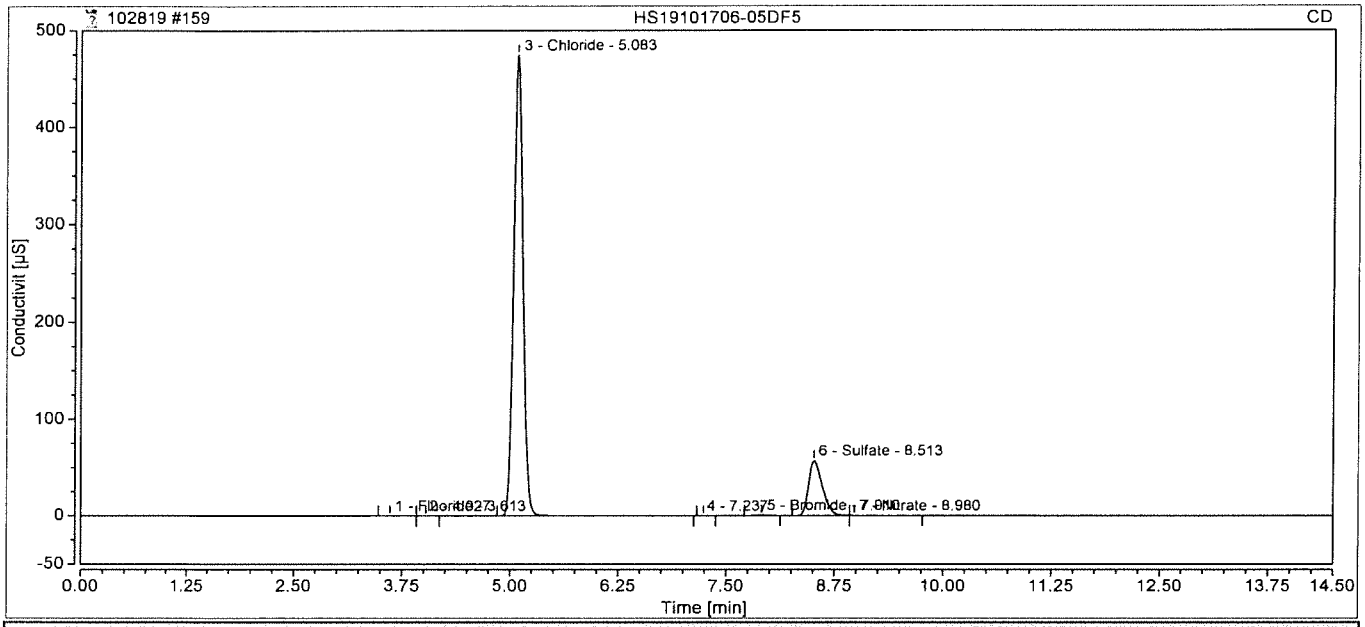
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.63	Fluoride	BMB	1.465	3.9574	3.9574	1.0000
2	5.11	Chloride	BMB	4.570	19.4607	19.4607	1.0000
3	6.09	Nitrite,N	BMB	2.068	4.0386	4.0386	1.0000
4	7.92	Bromide	BMB	0.359	3.6149	3.6149	1.0000
5	8.57	Sulfate	BM	3.310	19.2870	19.2870	1.0000
6	8.94	Nitrate	M	2.286	3.9087	3.9087	1.0000
7	9.44	Chlorate	MB	0.360	3.8430	3.8430	1.0000
8	12.74	Phosphate	BMB	0.788	3.4410	3.4410	1.0000
Total:			**0.000**	**15.207**		**61.55**	

159 HS19101706-05DF5

Sample Name:	**HS19101706-05DF5**	*Injection Volume:*	**5.00**
Vial Number:	**BC7**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 08092019**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**5.0000**
Recording Time:	**10/30/2019 07:06**	*Sample Weight:*	**1.0000**

Run Time:



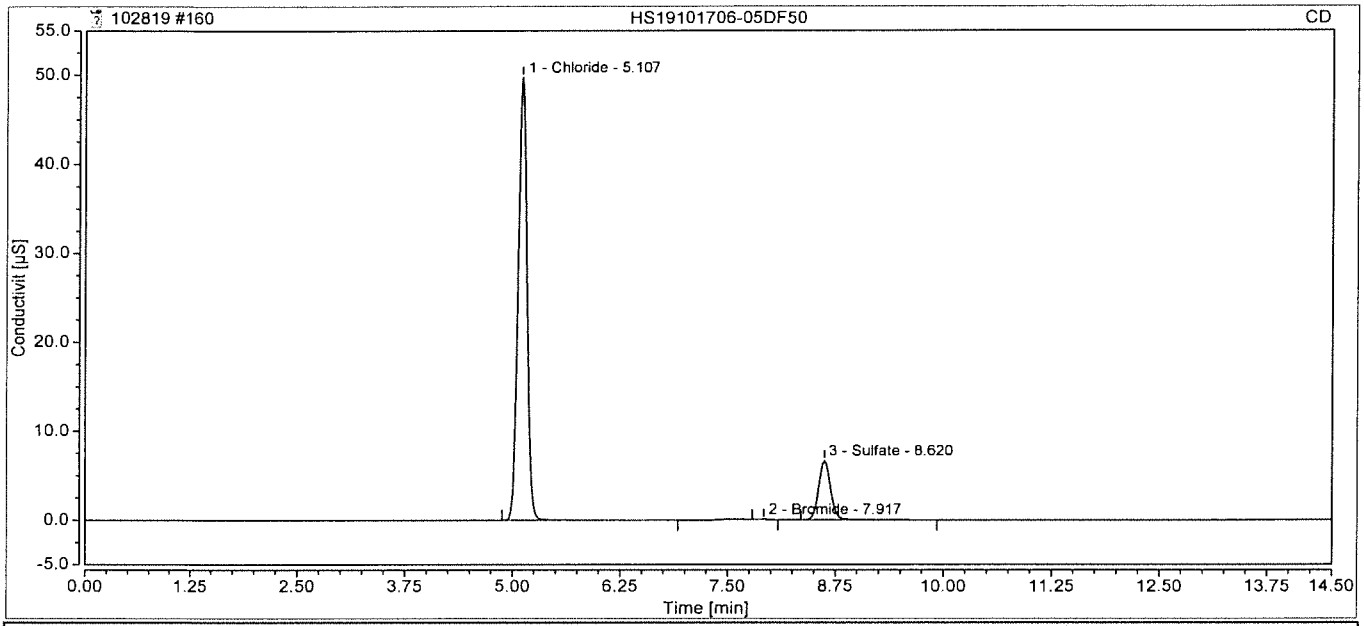
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.61	Fluoride	BMB	0.016	0.0585	0.2923	5.0000
3	5.08	Chloride	BMB	59.283	251.7894	1258.9471	5.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	5.0000
5	7.91	Bromide	BMB	0.095	0.9886	4.9431	5.0000
6	8.51	Sulfate	BM	10.446	60.8358	304.1788	5.0000
7	8.98	Nitrate	MB	0.035	0.0771	0.3856	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**	**69.875**		**1568.75**	

160 HS19101706-05DF50

Sample Name:	**HS19101706-05DF50**	*Injection Volume:*	**5.00**
Vial Number:	**BC8**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 08092019**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**50.0000**
Recording Time:	**10/30/2019 07:23**	*Sample Weight:*	**1.0000**

Run Time:



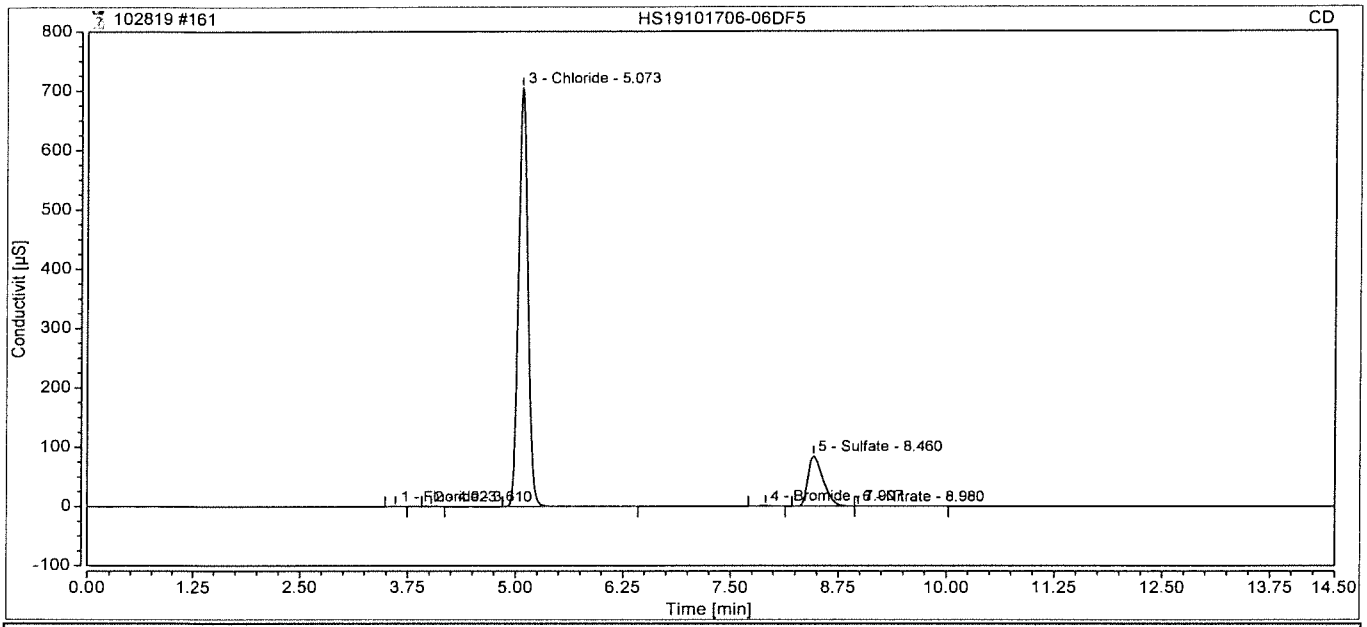
Integration Results

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.	50.0000
1	5.11	Chloride	BMB	6.002	25.5426	1277.1304	50.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	50.0000
2	7.92	Bromide	BMB	0.006	0.1124	5.6221	50.0000
3	8.62	Sulfate	BMB	1.073	6.2617	313.0865	50.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	50.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	50.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	50.0000
Total:			**0.000**	**7.081**		**1595.84**	

161 HS19101706-06DF5

Sample Name:	**HS19101706-06DF5**	*Injection Volume:*	**5.00**
Vial Number:	**BD1**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 08092019**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**5.0000**
Recording Time:	**10/30/2019 07:39**	*Sample Weight:*	**1.0000**

Run Time:



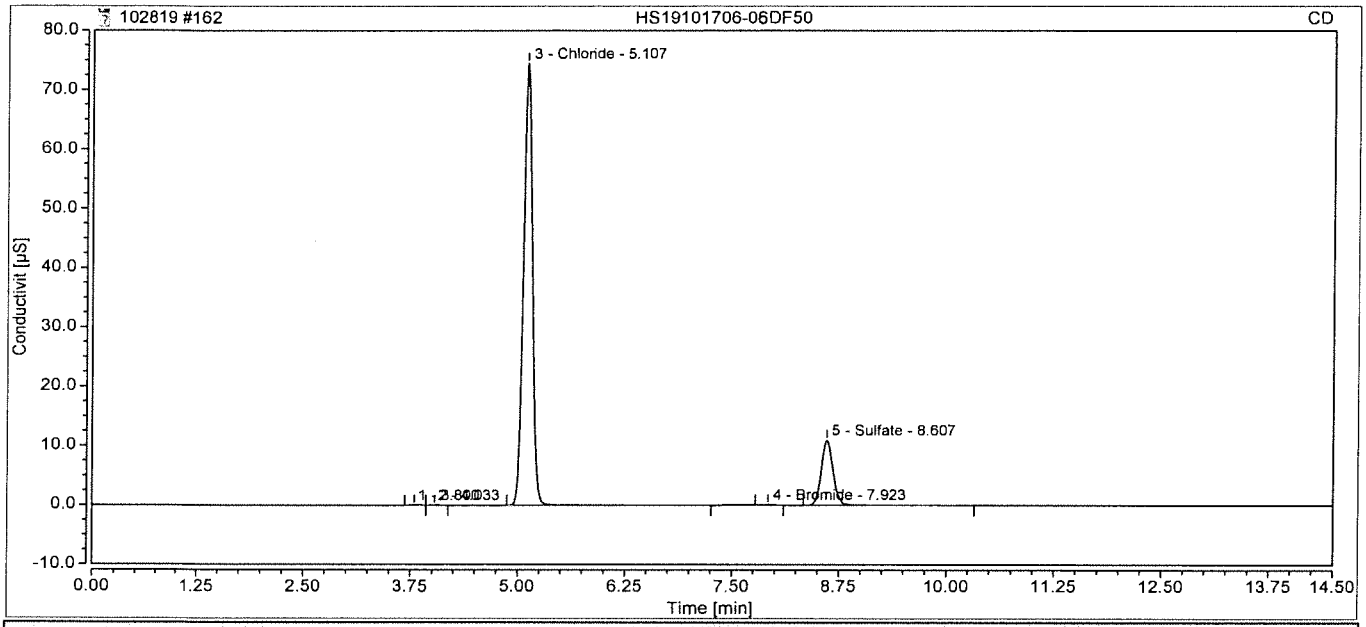
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.61	Fluoride	BMB	0.010	0.0430	0.2150	5.0000
3	5.07	Chloride	BMB	88.523	375.9485	1879.7427	5.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	5.0000
4	7.91	Bromide	BMB	0.160	1.6337	8.1687	5.0000
5	8.46	Sulfate	BM	17.226	100.3116	501.5582	5.0000
6	8.98	Nitrate	MB	0.042	0.0888	0.4440	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**	**105.961**		**2390.13**	

162 HS19101706-06DF50

Sample Name:	**HS19101706-06DF50**	*Injection Volume:*	**5.00**
Vial Number:	**BD2**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 08092019**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**50.0000**
Recording Time:	**10/30/2019 07:56**	*Sample Weight:*	**1.0000**

Run Time:



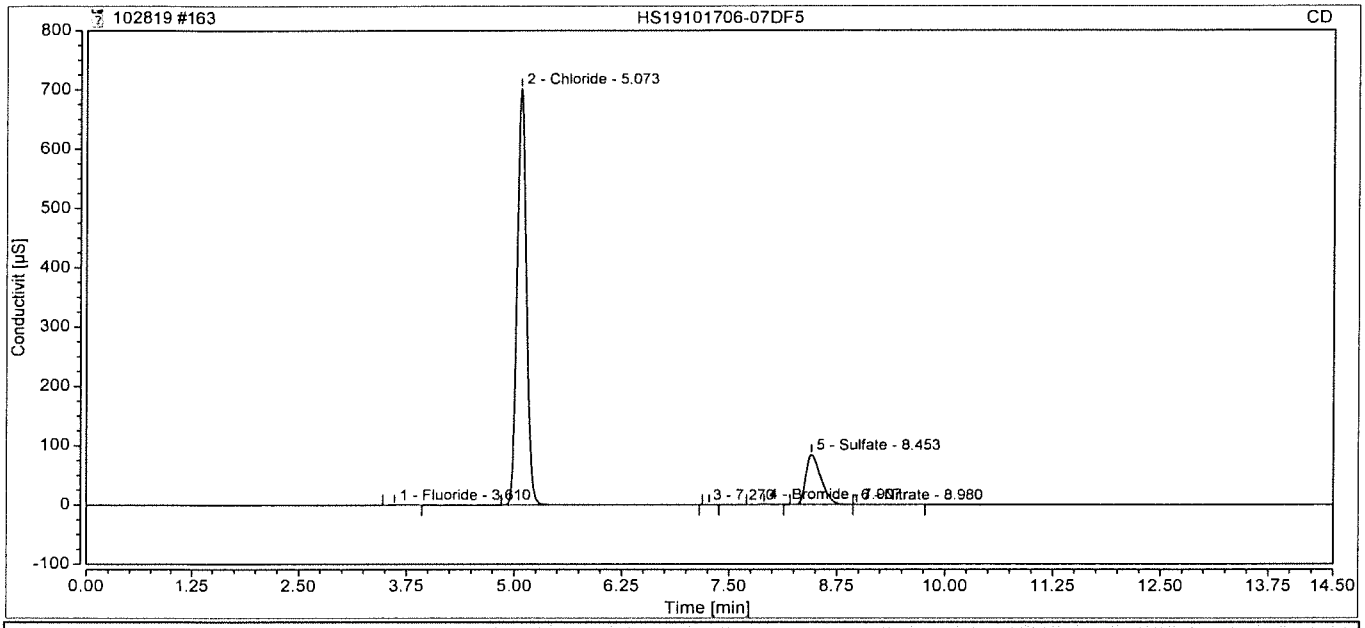
Integration Results

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.	50.0000
3	5.11	Chloride	BMB	9.023	38.3702	1918.5091	50.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	50.0000
4	7.92	Bromide	BMB	0.011	0.1604	8.0188	50.0000
5	8.61	Sulfate	BMB	1.765	10.2906	514.5303	50.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	50.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	50.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	50.0000
Total:			**0.000**	**10.799**		**2441.06**	

163 HS19101706-07DF5

Sample Name:	**HS19101706-07DF5**	*Injection Volume:*	**5.00**
Vial Number:	**BD3**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 08092019**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**5.0000**
Recording Time:	**10/30/2019 08:13**	*Sample Weight:*	**1.0000**

Run Time:



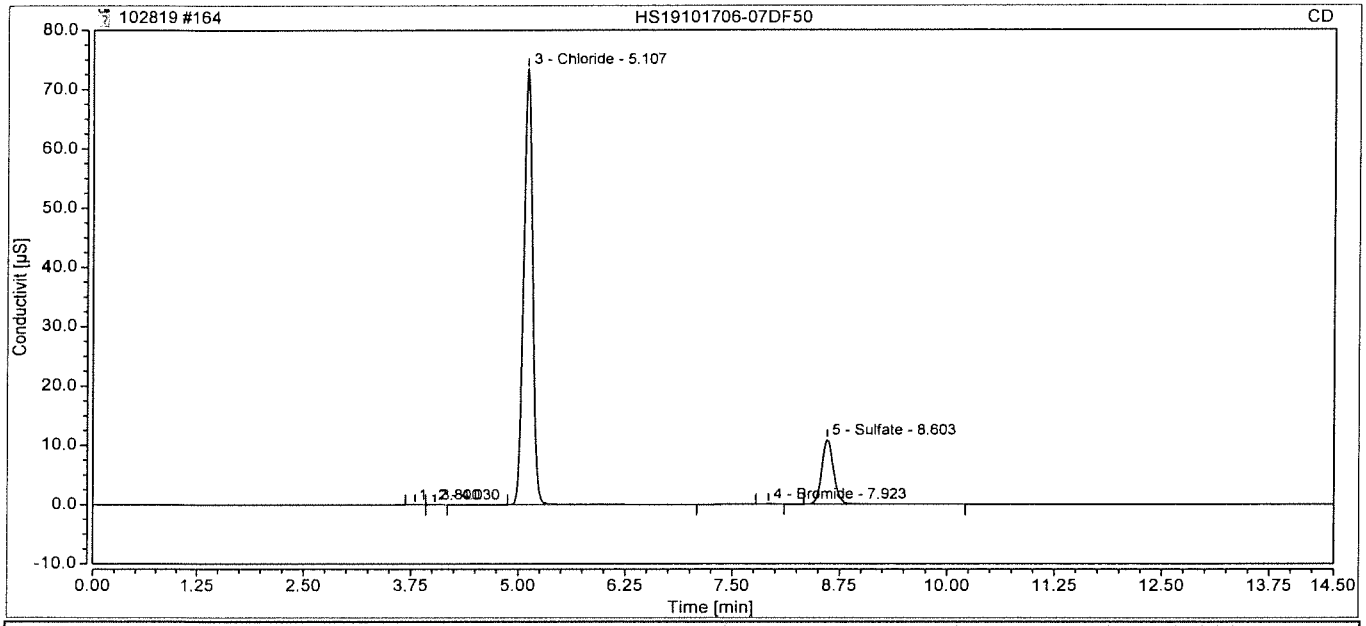
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.61	Fluoride	BMB	0.016	0.0575	0.2875	5.0000
2	5.07	Chloride	BMB	88.257	374.8201	1874.1003	5.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	5.0000
4	7.91	Bromide	BMB	0.159	1.6280	8.1400	5.0000
5	8.45	Sulfate	BM	17.274	100.5903	502.9514	5.0000
6	8.98	Nitrate	MB	0.039	0.0837	0.4183	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**	**105.745**		**2385.90**	

164 HS19101706-07DF50

Sample Name:	**HS19101706-07DF50**	*Injection Volume:*	**5.00**
Vial Number:	**BD4**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 08092019**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**50.0000**
Recording Time:	**10/30/2019 08:29**	*Sample Weight:*	**1.0000**

Run Time:



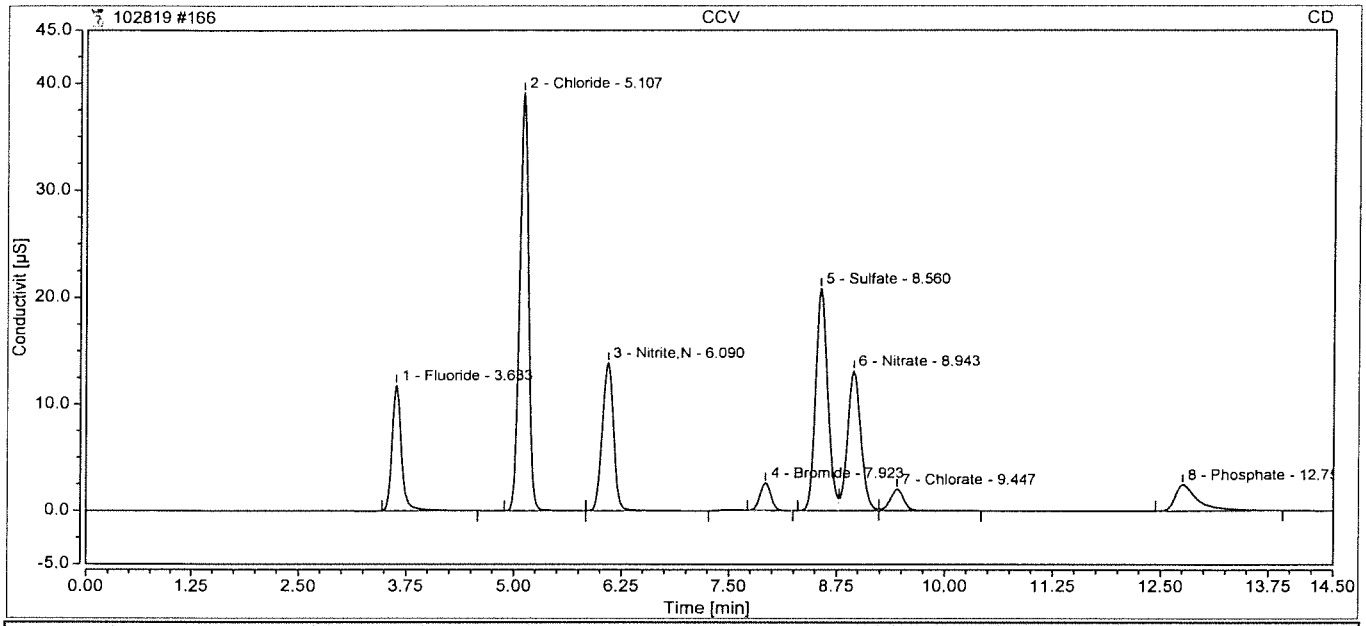
Integration Results

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.	50.0000
3	5.11	Chloride	BMB	8.892	37.8153	1890.7647	50.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	50.0000
4	7.92	Bromide	BMB	0.011	0.1602	8.0105	50.0000
5	8.60	Sulfate	BMB	1.759	10.2540	512.6986	50.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	50.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	50.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	50.0000
Total:			**0.000**	**10.662**		**2411.47**	

166 CCV

Sample Name:	**CCV**	*Injection Volume:*	**5.00**
Vial Number:	**BA5**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 08092019**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/30/2019 09:02**	*Sample Weight:*	**1.0000**

Run Time:



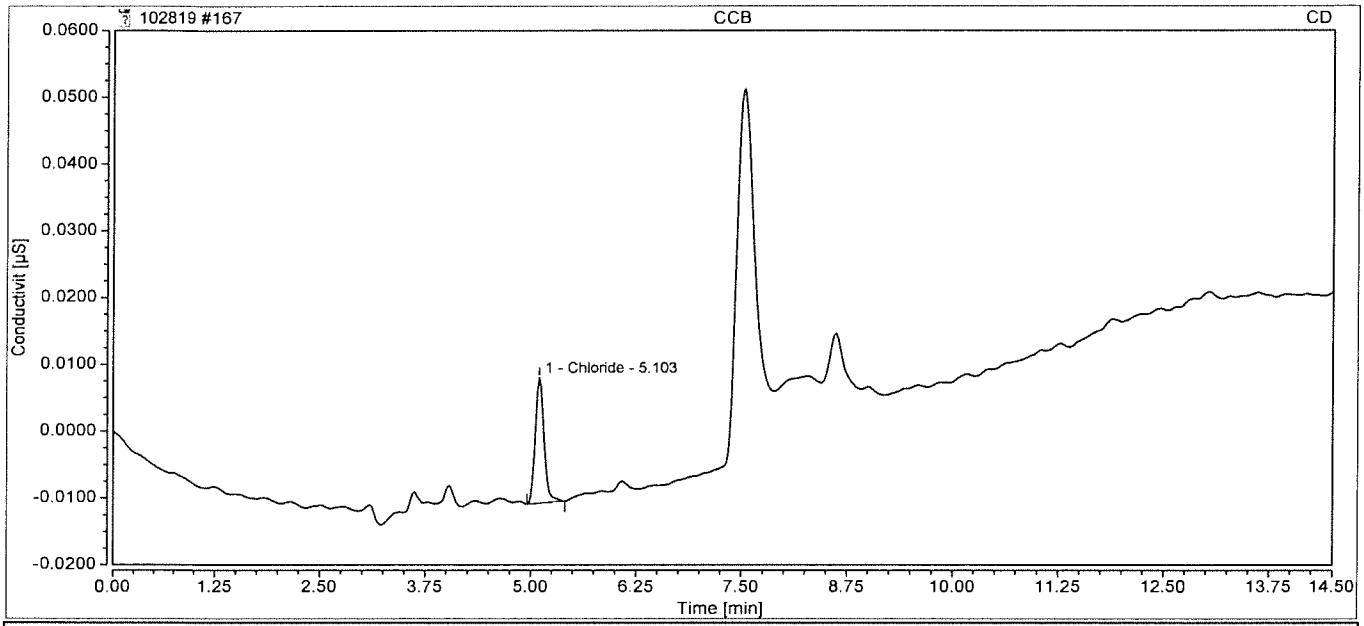
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.63	Fluoride	BMB	1.489	4.0221	4.0221	1.0000
2	5.11	Chloride	BMB	4.701	20.0170	20.0170	1.0000
3	6.09	Nitrite,N	BMB	2.127	4.1532	4.1532	1.0000
4	7.92	Bromide	BMB	0.376	3.7744	3.7744	1.0000
5	8.56	Sulfate	BM	3.388	19.7380	19.7380	1.0000
6	8.94	Nitrate	M	2.361	4.0353	4.0353	1.0000
7	9.45	Chlorate	MB	0.374	3.9865	3.9865	1.0000
8	12.76	Phosphate	BMB	0.768	3.3549	3.3549	1.0000
Total:			**0.000**	**15.582**		**63.08**	

167 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**BA6**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 08092019**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/30/2019 09:19**	*Sample Weight:*	**1.0000**

Run Time:



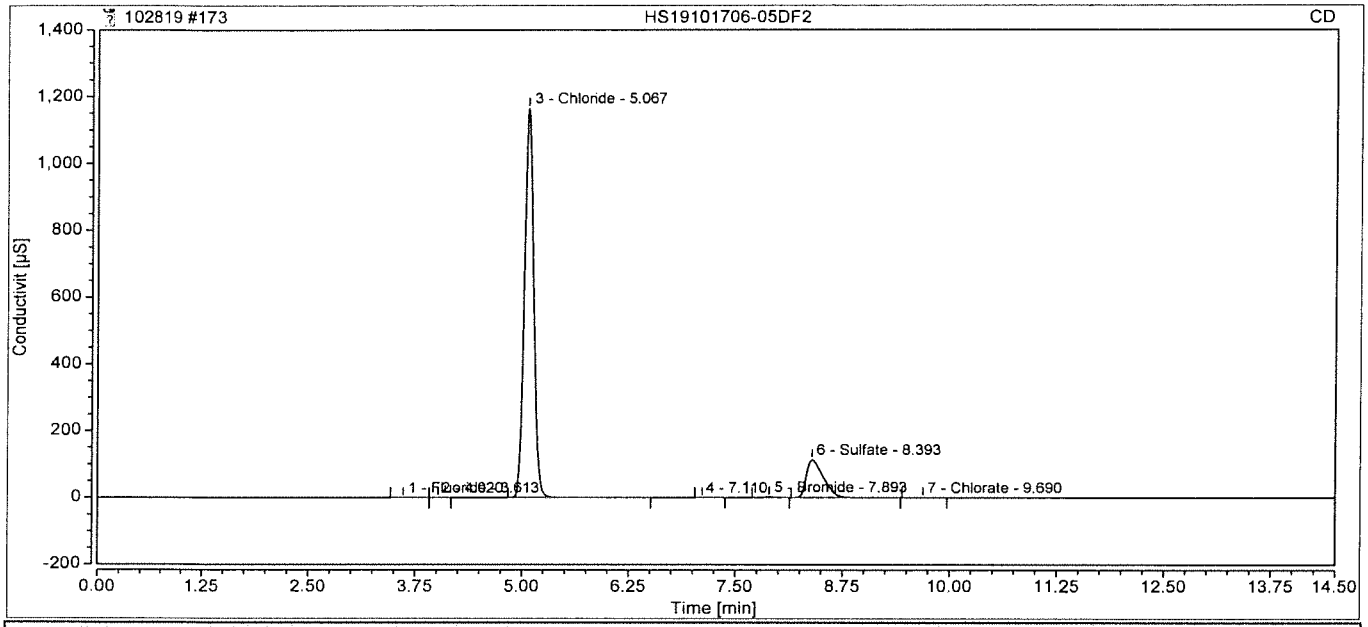
Integration Results

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	5.10	Chloride	BMB	0.002	0.0670	0.0670	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**	**0.002**		**0.07**	

173 HS19101706-05DF2

Sample Name:	**HS19101706-05DF2**	*Injection Volume:*	**5.00**
Vial Number:	**RD2**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 08092019**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**2.0000**
Recording Time:	**10/30/2019 11:03**	*Sample Weight:*	**1.0000**

Run Time:



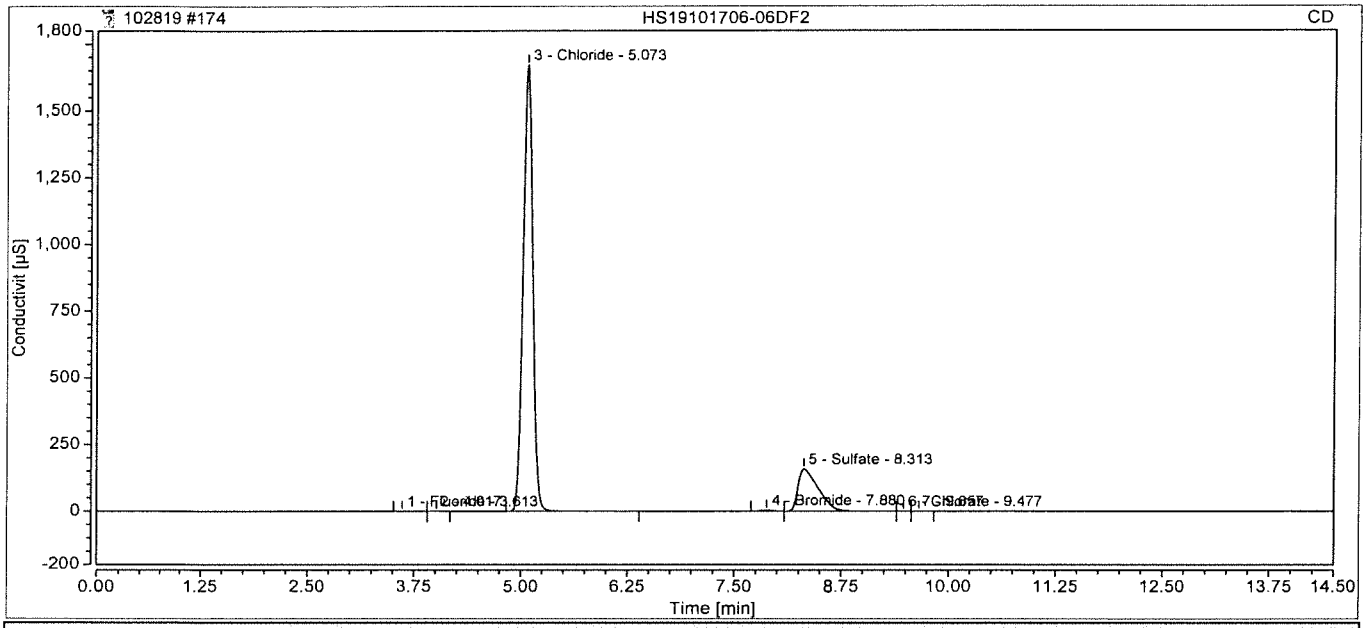
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.61	Fluoride	BMB	0.041	0.1258	0.2516	2.0000
3	5.07	Chloride	BMB	147.550	626.5943	1253.1885	2.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	2.0000
5	7.89	Bromide	BMB	0.277	2.7999	5.5997	2.0000
6	8.39	Sulfate	BMB	26.063	151.7670	303.5340	2.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	2.0000
7	9.69	Chlorate	BMB	0.003	0.0538	0.1077	2.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	2.0000
Total:			**0.000**	**173.935**		**1562.68**	

174 HS19101706-06DF2

Sample Name:	**HS19101706-06DF2**	*Injection Volume:*	**5.00**
Vial Number:	**RD3**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 08092019**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**2.0000**
Recording Time:	**10/30/2019 11:19**	*Sample Weight:*	**1.0000**

Run Time:

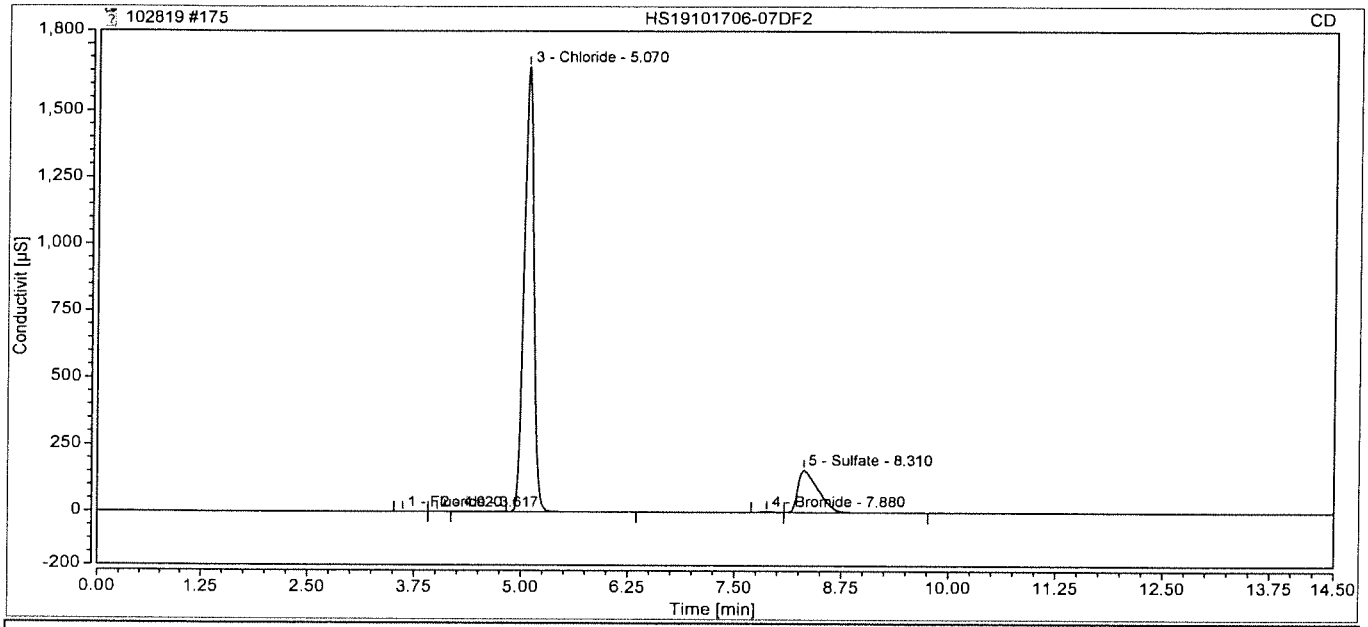


Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.61	Fluoride	BMB	0.033	0.1035	0.2069	2.0000
3	5.07	Chloride	BMB	219.471	931.9891	1863.9783	2.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	2.0000
4	7.88	Bromide	BMB	0.444	4.4576	8.9152	2.0000
5	8.31	Sulfate	BM	42.738	248.8571	497.7143	2.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	2.0000
6	9.48	Chlorate	M	0.004	0.0695	0.1391	2.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	2.0000
Total:			**0.000**	**262.691**		**2370.95**	

175 HS19101706-07DF2

Sample Name:	**HS19101706-07DF2**	*Injection Volume:*	**5.00**
Vial Number:	**RD4**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 08092019**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**2.0000**
Recording Time:	**10/30/2019 11:36**	*Sample Weight:*	**1.0000**
Run Time:			



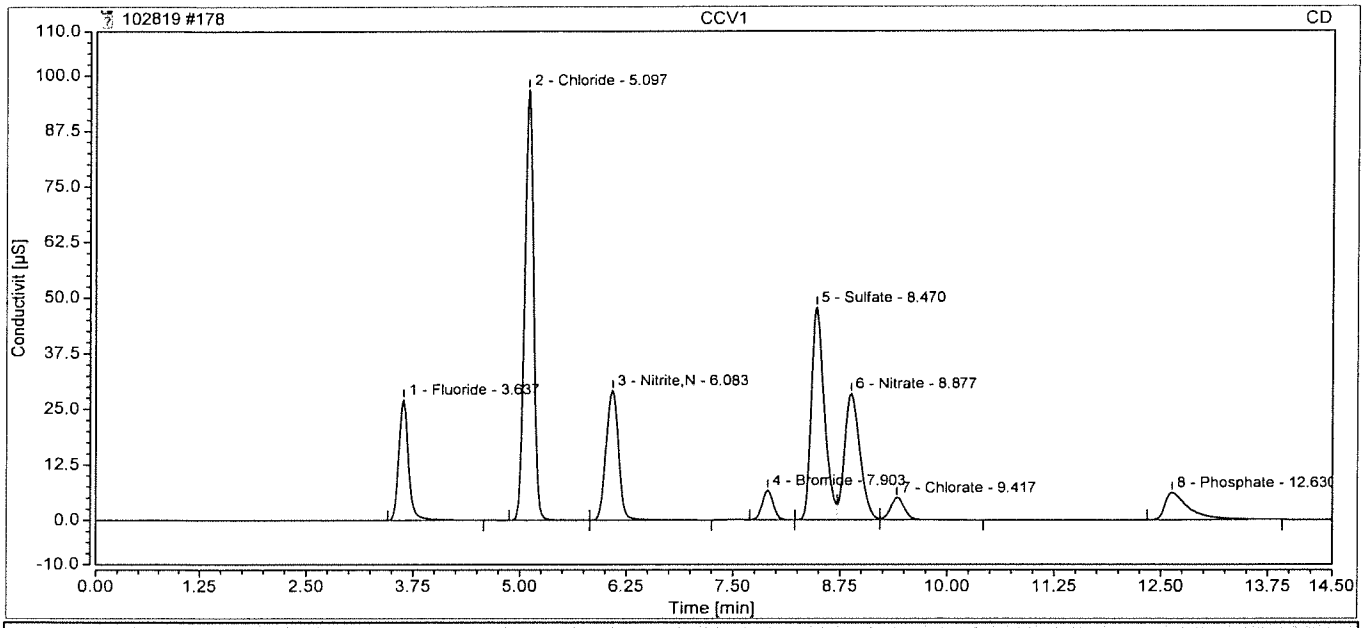
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.62	Fluoride	BMB	0.035	0.1095	0.2190	2.0000
3	5.07	Chloride	BMB	218.736	928.8651	1857.7302	2.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	2.0000
4	7.88	Bromide	BMB	0.442	4.4341	8.8683	2.0000
5	8.31	Sulfate	BMB	42.865	249.5966	499.1931	2.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	2.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	2.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	2.0000
Total:			**0.000**	**262.078**		**2366.01**	

178 CCV1

Sample Name:	**CCV1**	*Injection Volume:*	**5.00**
Vial Number:	**BA7**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 08092019**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/30/2019 12:26**	*Sample Weight:*	**1.0000**

Run Time:



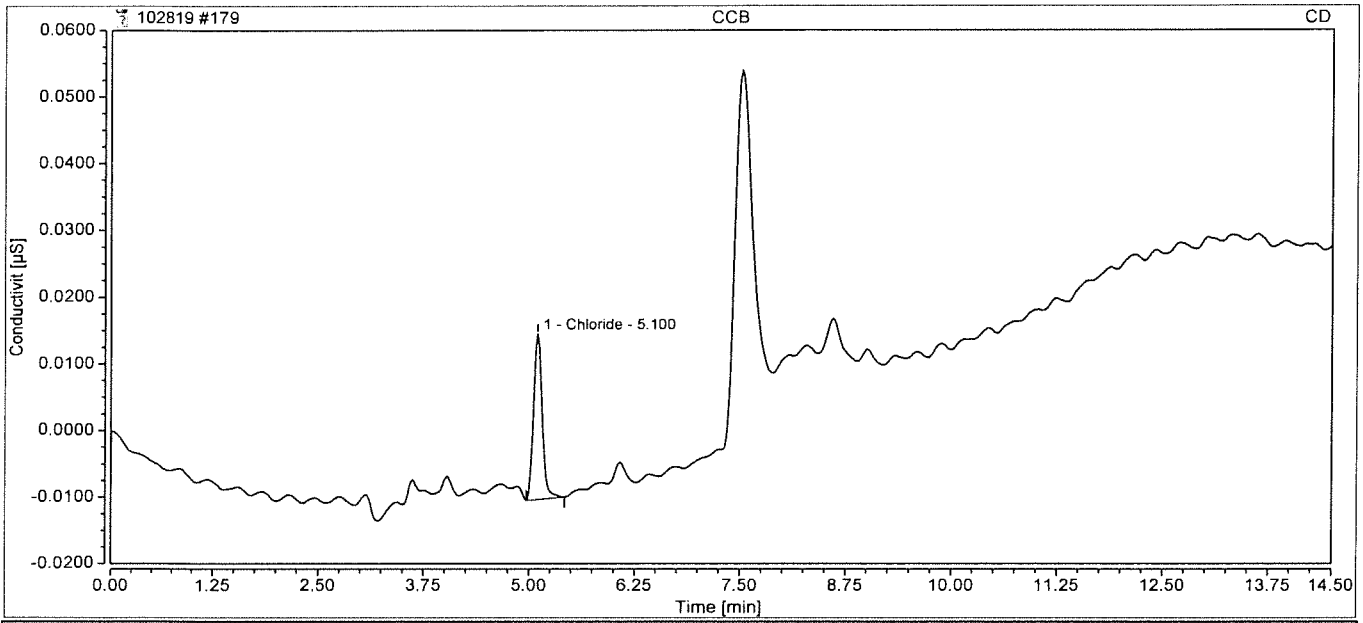
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.64	Fluoride	BMB	3.606	9.7187	9.7187	1.0000
2	5.10	Chloride	BMB	11.735	49.8851	49.8851	1.0000
3	6.08	Nitrite,N	BMB	4.948	9.6626	9.6626	1.0000
4	7.90	Bromide	BMB	0.988	9.8445	9.8445	1.0000
5	8.47	Sulfate	BM	8.450	49.2129	49.2129	1.0000
6	8.88	Nitrate	M	5.931	10.1123	10.1123	1.0000
7	9.42	Chlorate	MB	0.950	10.0855	10.0855	1.0000
8	12.63	Phosphate	BMB	2.051	8.8841	8.8841	1.0000
Total:			**0.000**	**38.657**		**157.41**	

179 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**BA8**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 08092019**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/30/2019 12:42**	*Sample Weight:*	**1.0000**

Run Time:



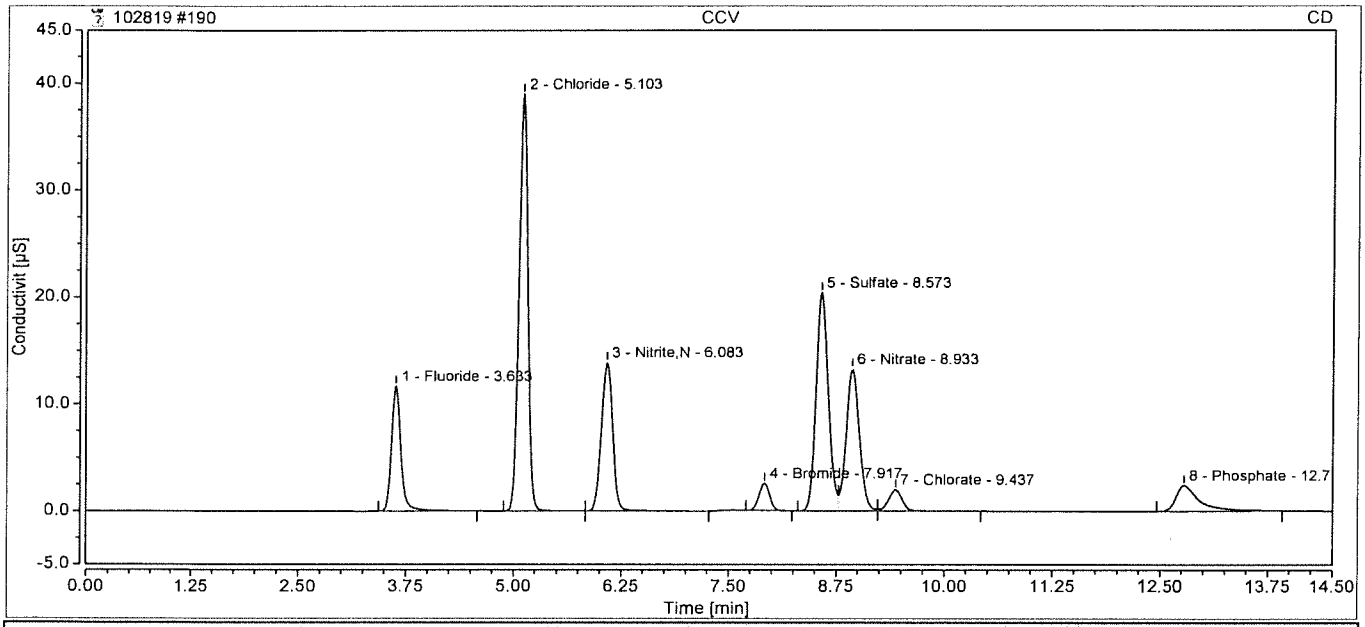
Integration Results

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	5.10	Chloride	BMB	0.003	0.0698	0.0698	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**	

190 CCV

Sample Name:	**CCV**	*Injection Volume:*	**5.00**
Vial Number:	**BA5**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 08092019**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/30/2019 15:45**	*Sample Weight:*	**1.0000**

Run Time:



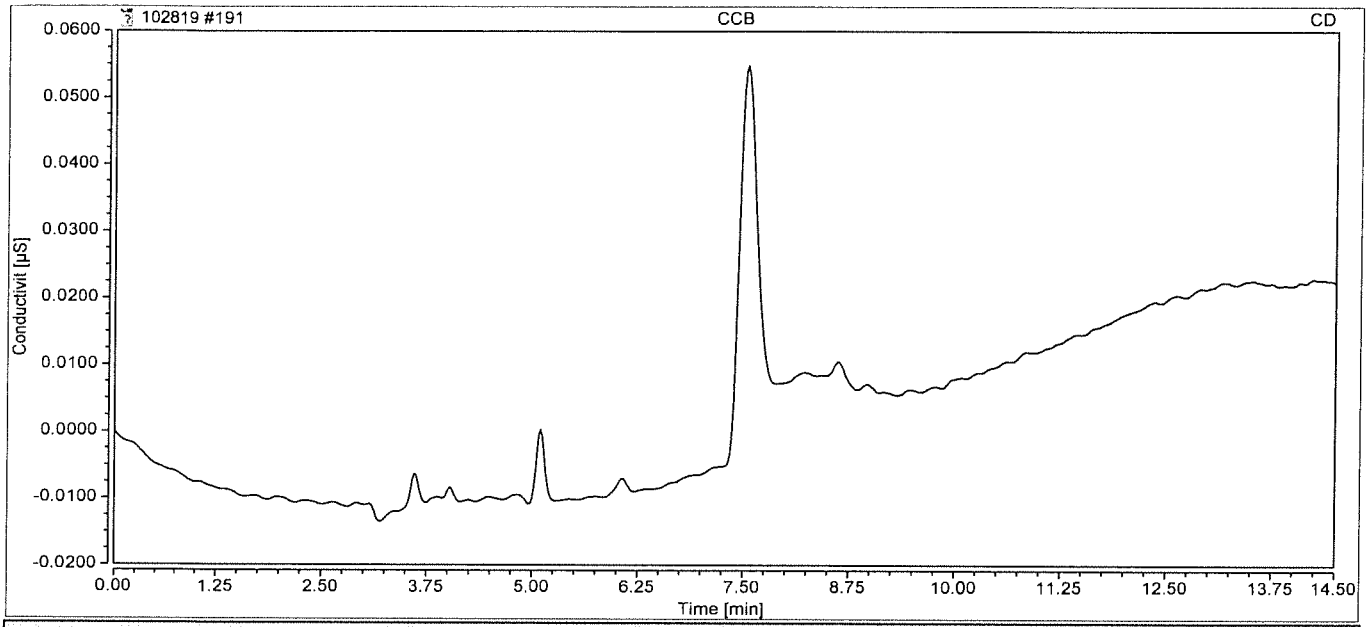
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.63	Fluoride	BMB	1.486	4.0138	4.0138	1.0000
2	5.10	Chloride	BMB	4.674	19.9038	19.9038	1.0000
3	6.08	Nitrite,N	BMB	2.115	4.1310	4.1310	1.0000
4	7.92	Bromide	BMB	0.370	3.7225	3.7225	1.0000
5	8.57	Sulfate	BM	3.354	19.5443	19.5443	1.0000
6	8.93	Nitrate	M	2.355	4.0253	4.0253	1.0000
7	9.44	Chlorate	MB	0.371	3.9584	3.9584	1.0000
8	12.78	Phosphate	BMB	0.761	3.3280	3.3280	1.0000
Total:			**0.000**	**15.487**		**62.63**	

191 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**BA6**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 08092019**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/30/2019 16:02**	*Sample Weight:*	**1.0000**

Run Time:



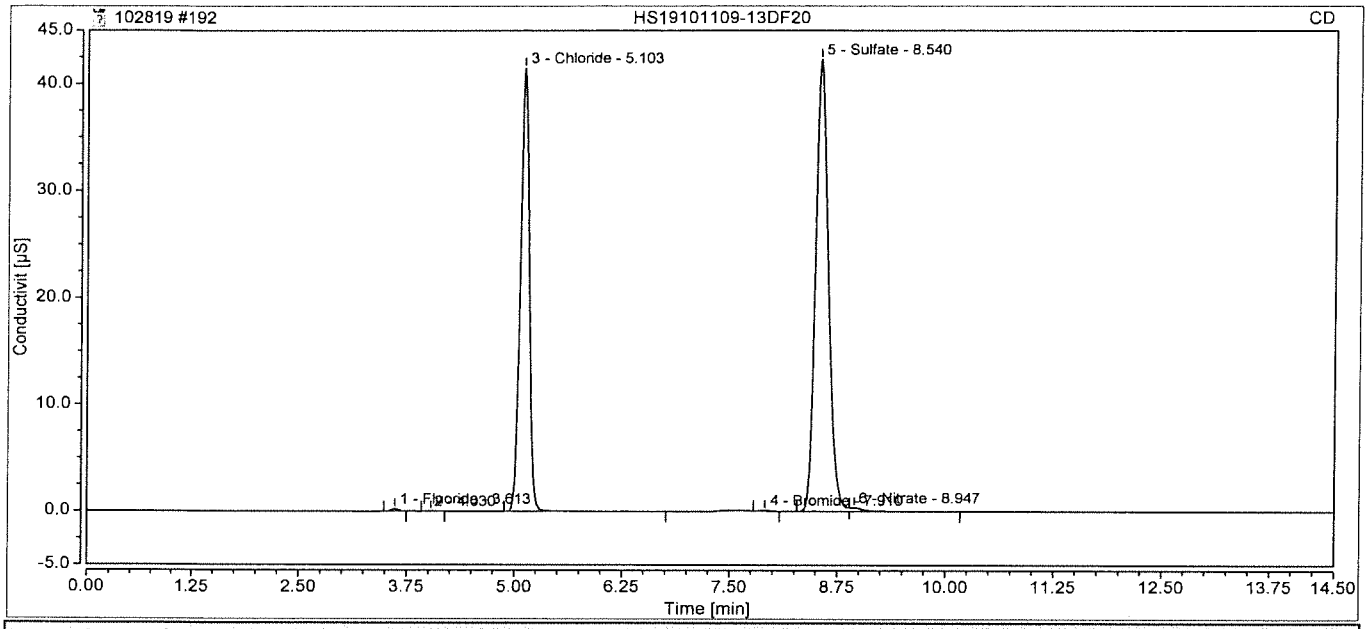
Integration Results

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
n.a.	n.a.	Chloride	n.a.	n.a.	n.a.	n.a.	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**	**0.000**		**0.00**	

192 HS19101109-13DF20

Sample Name:	**HS19101109-13DF20**	*Injection Volume:*	**5.00**
Vial Number:	**BD8**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 08092019**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**20.0000**
Recording Time:	**10/30/2019 16:18**	*Sample Weight:*	**1.0000**

Run Time:



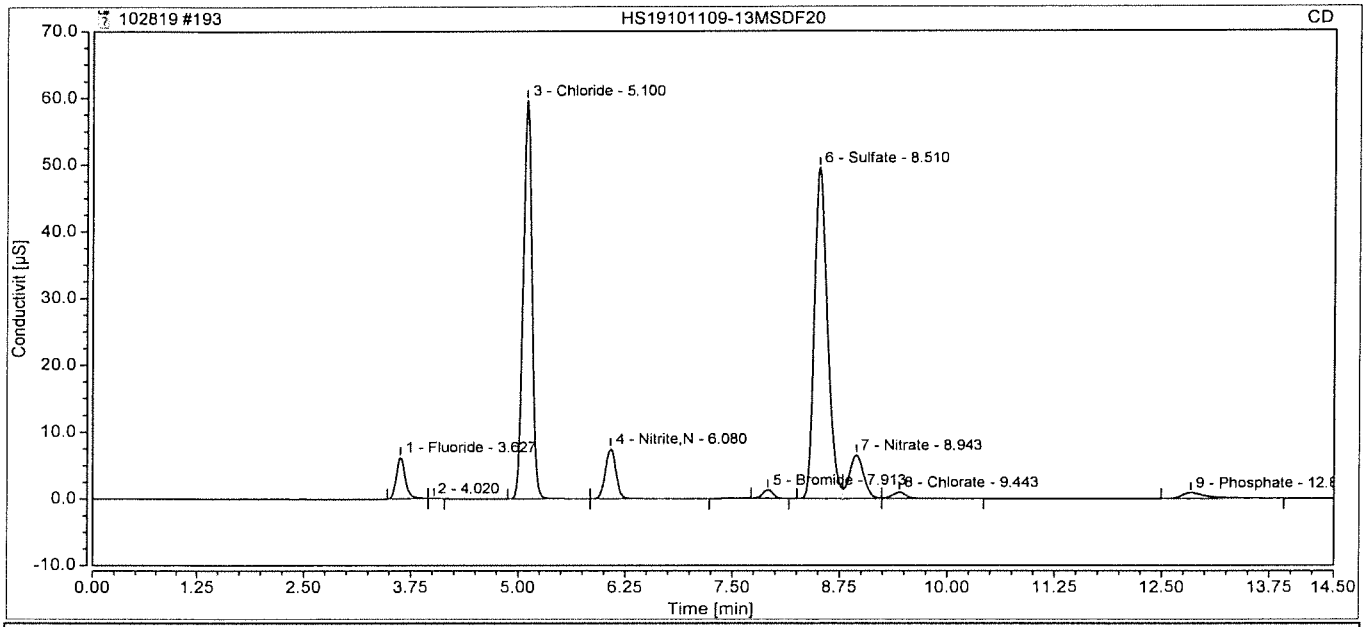
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.61	Fluoride	BMB	0.022	0.0733	1.4661	20.0000
3	5.10	Chloride	BMB	4.977	21.1902	423.8046	20.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	20.0000
4	7.91	Bromide	BMB	0.007	0.1234	2.4675	20.0000
5	8.54	Sulfate	BM	7.279	42.3972	847.9447	20.0000
6	8.95	Nitrate	MB	0.071	0.1385	2.7691	20.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	20.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	20.0000
Total:			**0.000**	**12.356**		**1278.45**	

193 HS19101109-13MSDF20

Sample Name:	**HS19101109-13MSDF20**	*Injection Volume:*	**5.00**
Vial Number:	**BE1**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 08092019**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**20.0000**
Recording Time:	**10/30/2019 16:35**	*Sample Weight:*	**1.0000**

Run Time:

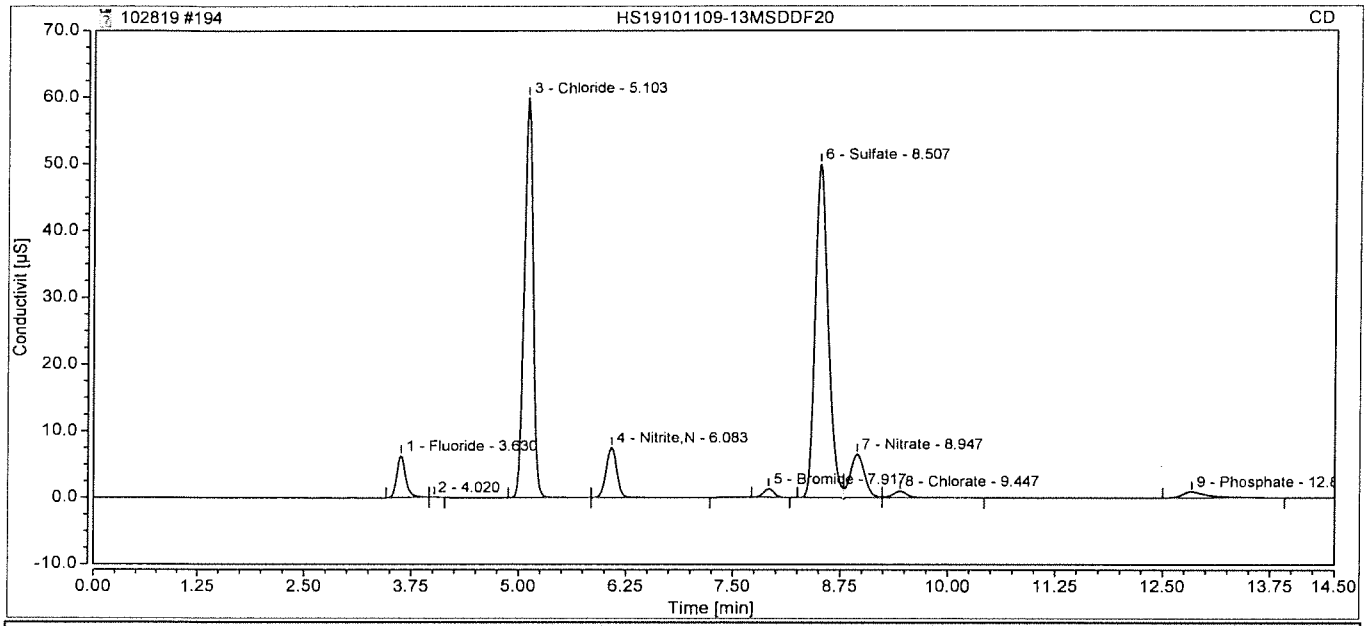


Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.63	Fluoride	BMB	0.746	2.0239	40.4781	20.0000
3	5.10	Chloride	BMB	7.170	30.5047	610.0938	20.0000
4	6.08	Nitrite,N	BMB	1.082	2.1135	42.2701	20.0000
5	7.91	Bromide	BMB	0.184	1.8717	37.4336	20.0000
6	8.51	Sulfate	BM	8.724	50.8112	1016.2231	20.0000
7	8.94	Nitrate	M	1.243	2.1333	42.6651	20.0000
8	9.44	Chlorate	MB	0.186	1.9920	39.8400	20.0000
9	12.84	Phosphate	BMB	0.319	1.4235	28.4705	20.0000
Total:			**0.000**	**19.655**		**1857.47**	

194 HS19101109-13MSDDF20

Sample Name:	**HS19101109-13MSDDF20**	*Injection Volume:*	**5.00**
Vial Number:	**BE2**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 08092019**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**20.0000**
Recording Time:	**10/30/2019 16:51**	*Sample Weight:*	**1.0000**
Run Time:			



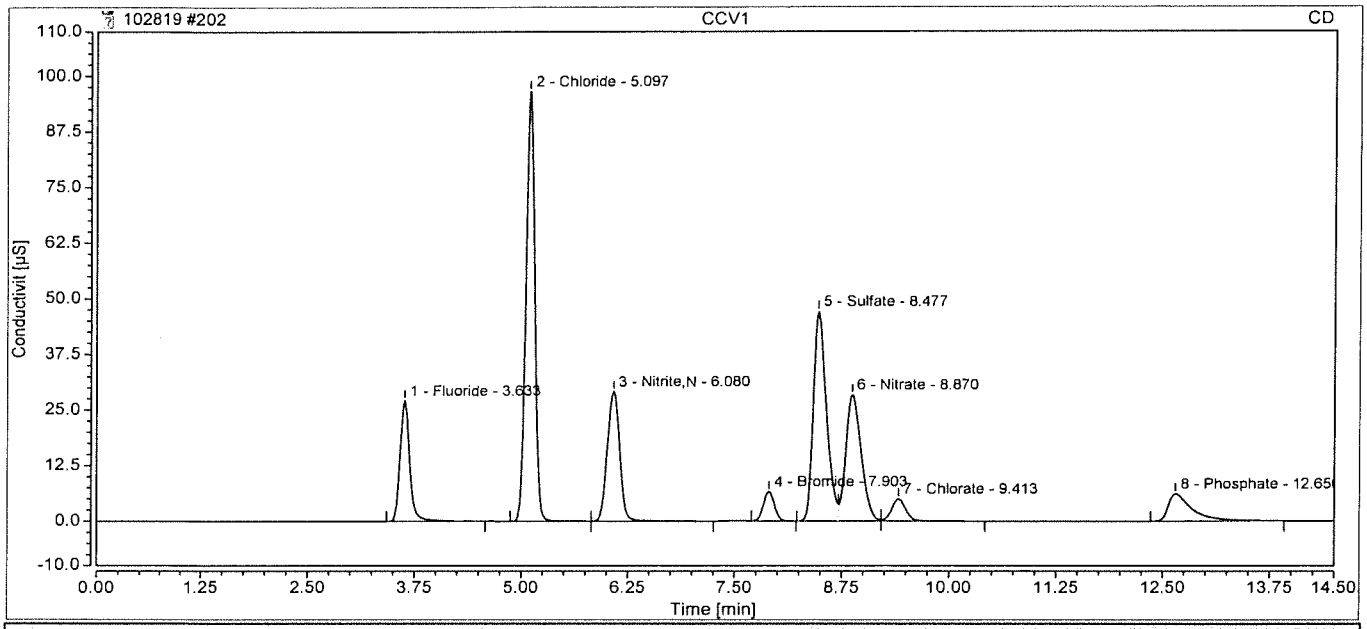
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.63	Fluoride	BMB	0.752	2.0383	40.7654	20.0000
3	5.10	Chloride	BMB	7.201	30.6347	612.6935	20.0000
4	6.08	Nitrite,N	BMB	1.086	2.1202	42.4045	20.0000
5	7.92	Bromide	BMB	0.184	1.8785	37.5705	20.0000
6	8.51	Sulfate	BM	8.803	51.2702	1025.4030	20.0000
7	8.95	Nitrate	M	1.246	2.1381	42.7625	20.0000
8	9.45	Chlorate	MB	0.186	1.9995	39.9903	20.0000
9	12.84	Phosphate	BMB	0.331	1.4753	29.5061	20.0000
Total:			**0.000**	**19.790**		**1871.10**	

202 CCV1

Sample Name:	**CCV1**	*Injection Volume:*	**5.00**
Vial Number:	**BA7**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 08092019**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/30/2019 19:04**	*Sample Weight:*	**1.0000**

Run Time:



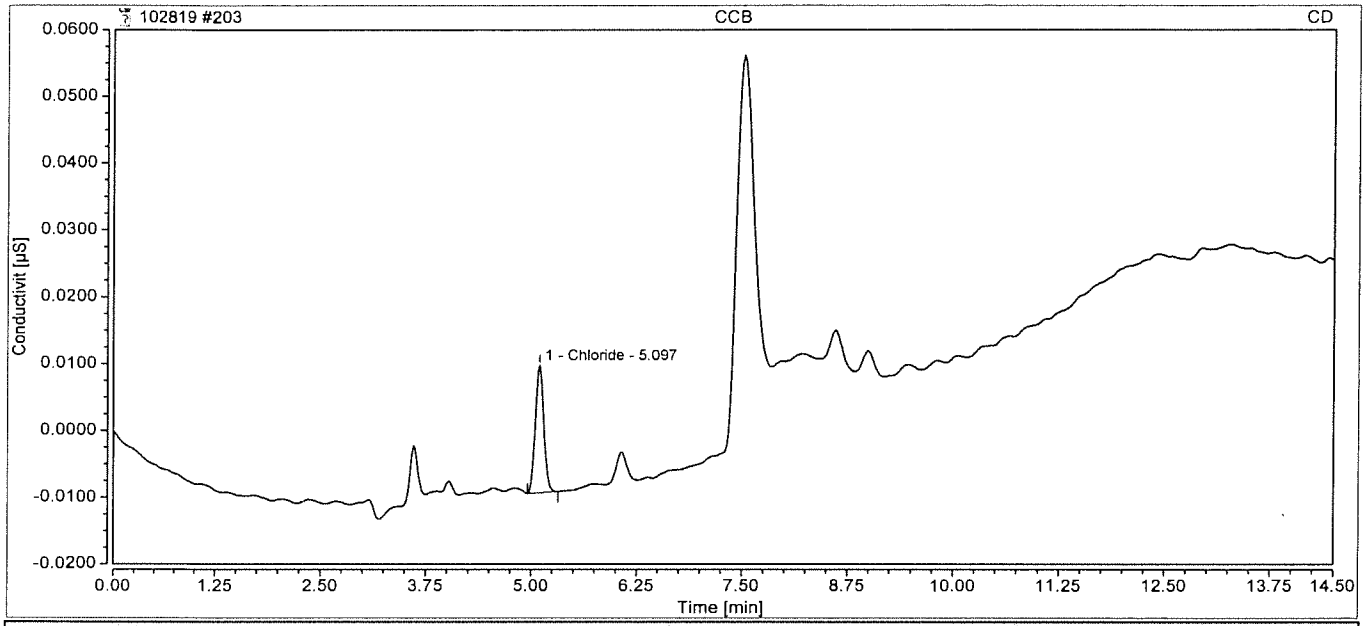
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.63	Fluoride	BMB	3.595	9.6911	9.6911	1.0000
2	5.10	Chloride	BMB	11.675	49.6309	49.6309	1.0000
3	6.08	Nitrite,N	BMB	4.925	9.6183	9.6183	1.0000
4	7.90	Bromide	BMB	0.981	9.7809	9.7809	1.0000
5	8.48	Sulfate	BM	8.370	48.7476	48.7476	1.0000
6	8.87	Nitrate	M	5.915	10.0848	10.0848	1.0000
7	9.41	Chlorate	MB	0.959	10.1834	10.1834	1.0000
8	12.65	Phosphate	BMB	2.043	8.8520	8.8520	1.0000
Total:			**0.000**	**38.464**		**156.59**	

203 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**BA8**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 08092019**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/30/2019 19:21**	*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	5.10	Chloride	BMB	0.002	0.0668	0.0668	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**	**0.002**		**0.07**	

Appendix D

Photographic Log

PHOTO LOG

Photo No.	Date	Task and Description
1	11-21-2019	Well Inspection, 67WW01
2	11-21-2019	Well Inspection, 67WW02
3	11-21-2019	Well Inspection, 67WW03
4	11-21-2019	Well Inspection, 67WW05
5	11-21-2019	Well Inspection, 67WW07
6	11-21-2019	Well Inspection, 67WW08
7	11-21-2019	Well Inspection, 67WW09
8	11-21-2019	Well Inspection, 67WW09A
9	11-21-2019	Well Inspection, 67WW10
10	11-21-2019	Well Inspection, 67WW11
11	11-21-2019	Well Inspection, 67WW12
12	11-21-2019	Well Inspection, 67WW13
13	11-21-2019	Well Inspection, 67WW14
14	11-21-2019	Well Inspection, 67WW15
15	11-21-2019	Well Inspection, 67WW16l
16	11-21-2019	Well Inspection, 67WW17
17	11-21-2019	Well Inspection, 67WW18



PHOTO 1: Well Inspection, 67WW01
DATE: November 21, 2019



PHOTO 2: Well Inspection, 67WW02
DATE: November 21, 2019



PHOTO 3: Well Inspection, 67WW03
DATE: November 21, 2019



PHOTO 4: Well Inspection, 67WW05
DATE: November 21, 2019



PHOTO 5: Well Inspection, 67WW07
DATE: November 21, 2019



PHOTO 6: Well Inspection, 67WW08
DATE: November 21, 2019



PHOTO 7: Well Inspection, 67WW09
DATE: November 21, 2019



PHOTO 8: Well Inspection, 67WW09A
DATE: November 21, 2019



PHOTO 9: Well Inspection, 67WW10
DATE: November 21, 2019



PHOTO 10: Well Inspection, 67WW11
DATE: November 21, 2019



PHOTO 11: Well Inspection, 67WW12
DATE: November 21, 2019



PHOTO 12: Well Inspection, 67WW13
DATE: November 21, 2019



PHOTO 13: Well Inspection, 67WW14
DATE: November 21, 2019



PHOTO 14: Well Inspection, 67WW15
DATE: November 21, 2019



PHOTO 15: Well Inspection, 67WW16I
DATE: November 21, 2019



PHOTO 16: Well Inspection, 67WW17
DATE: November 21, 2019



PHOTO 17: Well Inspection, 67WW18
DATE: November 21, 2019

Contract No. W9128F-13-D-0012, Task Order No. W9128BV17F0150 • Final • Rev 0 • September 2020

Appendix E

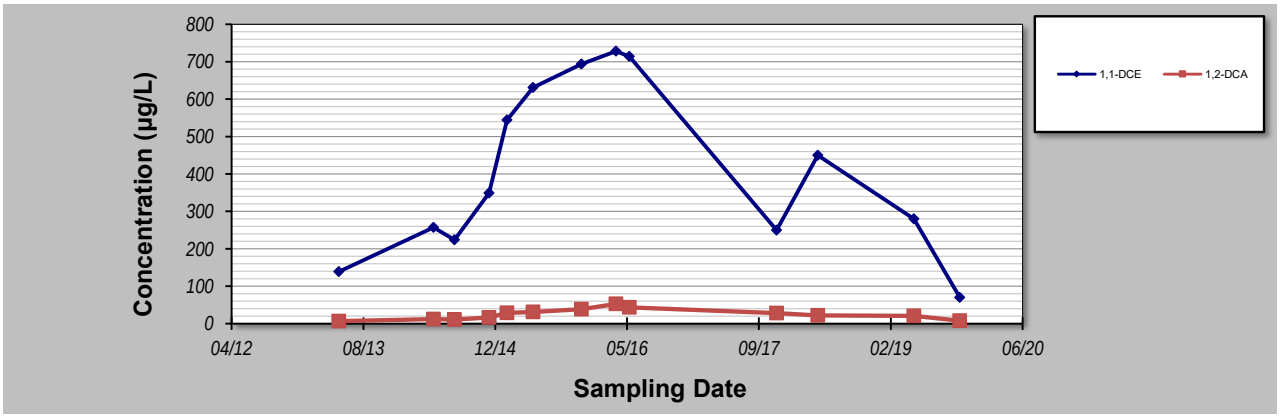
Mann-Kendall Trend Test Results

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date: **22-Apr-20**
Facility Name: **LHAAP-67**
Conducted By: **Robert Mayer**

Job ID: **501032**
Constituent: **67WW01**
Concentration Units: **µg/L**

Sampling Point ID:	1,1-DCE	1,2-DCA					
Sampling Event	Sampling Date	67WW01 CONCENTRATION (µg/L)						
1	13-May-13	139	6.7					
2	7-May-14	257	12					
3	25-Jul-14	224	11					
4	3-Dec-14	349	17					
5	10-Feb-15	544	29					
6	19-May-15	631	31					
7	19-Nov-15	694	39					
8	29-Mar-16	728	53					
9	19-May-16	714	43					
10	28-Nov-17	250	28					
11	3-May-18	450	22					
12	3-May-19	280	21					
13	24-Oct-19	70	7.6					
14								
15								
16								
17								
18								
19								
20								
Coefficient of Variation:		0.56	0.58					
Mann-Kendall Statistic (S):		12	16					
Confidence Factor:		74.5%	81.6%					
Concentration Trend:		No Trend	No Trend					



Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water* , 41(3):355-367, 2003.

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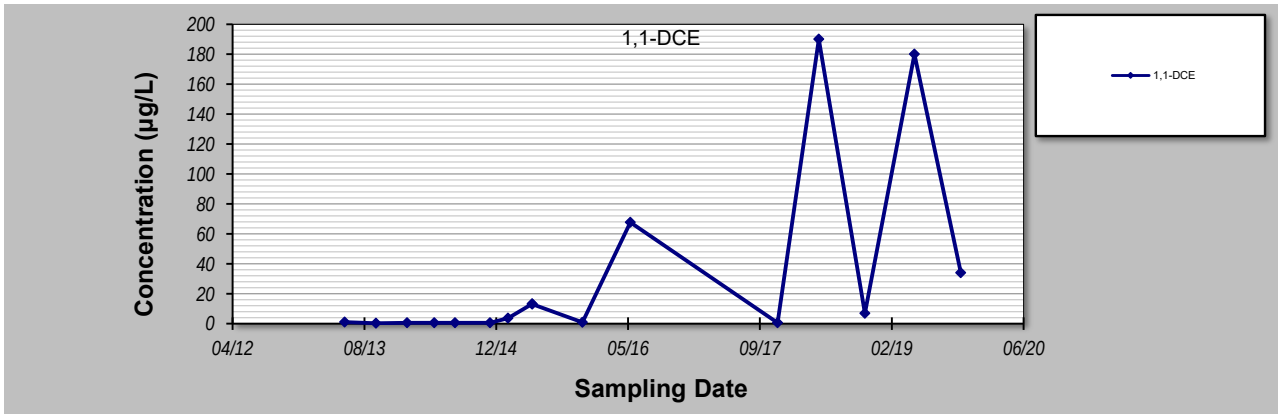
GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date: **22-Apr-20**
Facility Name: **LHAAP-67**
Conducted By: **Robert Mayer**

Job ID: **501032**
Constituent: **67WW02**
Concentration Units: **µg/L**

Sampling Point ID: **1,1-DCE**

Sampling Event	Sampling Date	67WW02 CONCENTRATION (µg/L)
1	31-May-13	1.0
2	27-Sep-13	0.25
3	23-Jan-14	0.5
4	6-May-14	0.5
5	24-Jul-14	0.5
6	3-Dec-14	0.5
7	10-Feb-15	3.59
8	12-May-15	13.2
9	12-May-15	13
10	19-Nov-15	0.86
11	19-May-16	68
12	28-Nov-17	0.5
13	3-May-18	190
14	25-Oct-18	6.9
15	1-May-19	180
16	24-Oct-19	34
17		
18		
19		
20		
Coefficient of Variation:		1.94
Mann-Kendall Statistic (S):		62
Confidence Factor:		99.8%
Concentration Trend:		Increasing



Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water* , 41(3):355-367, 2003.

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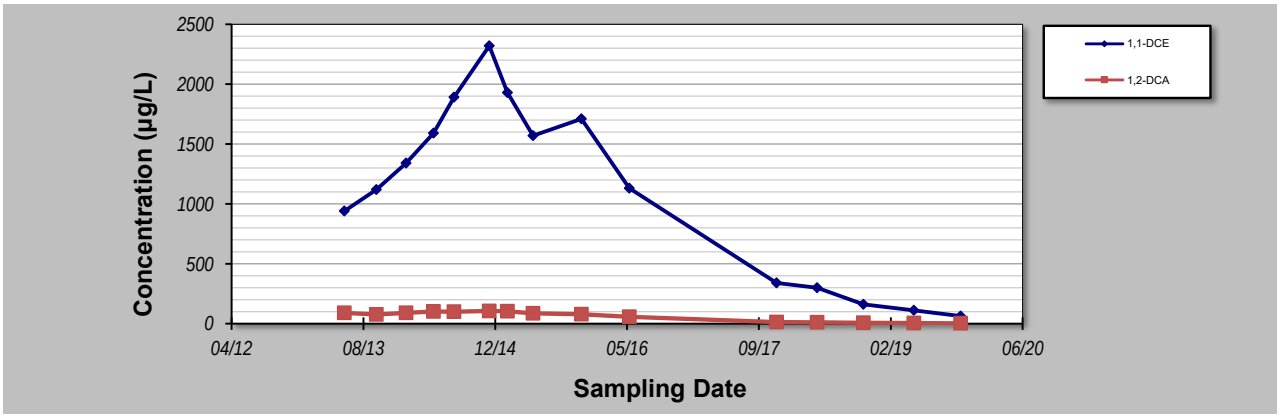
GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date: **22-Apr-20**
Facility Name: **LHAAP-67**
Conducted By: **Robert Mayer**

Job ID: **501032**
Constituent: **67WW08**
Concentration Units: **µg/L**

Sampling Point ID:	1,1-DCE	1,2-DCA					
Sampling Event	Sampling Date	67WW08 CONCENTRATION (µg/L)						
1	3-Jun-13	940	89.2					
2	2-Oct-13	1,120	76.5					
3	23-Jan-14	1,340	89.9					
4	7-May-14	1,590	101					
5	24-Jul-14	1,890	98.9					
6	4-Dec-14	2,320	106					
7	11-Feb-15	1,930	104					
8	19-May-15	1,570	85.6					
9	19-Nov-15	1,710	77.6					
10	19-May-16	1,130	56.1					
11	28-Nov-17	340	13					
12	1-May-18	300	11					
13	23-Oct-18	160	6.5					
14	3-May-19	110	5.1					
15	27-Oct-19	63	2.3					
16								
17								
18								
19								
20								
Coefficient of Variation:		0.68	0.67					
Mann-Kendall Statistic (S):		-45	-65					
Confidence Factor:		98.6%	100.0%					
Concentration Trend:		Decreasing	Decreasing					



Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water* , 41(3):355-367, 2003.

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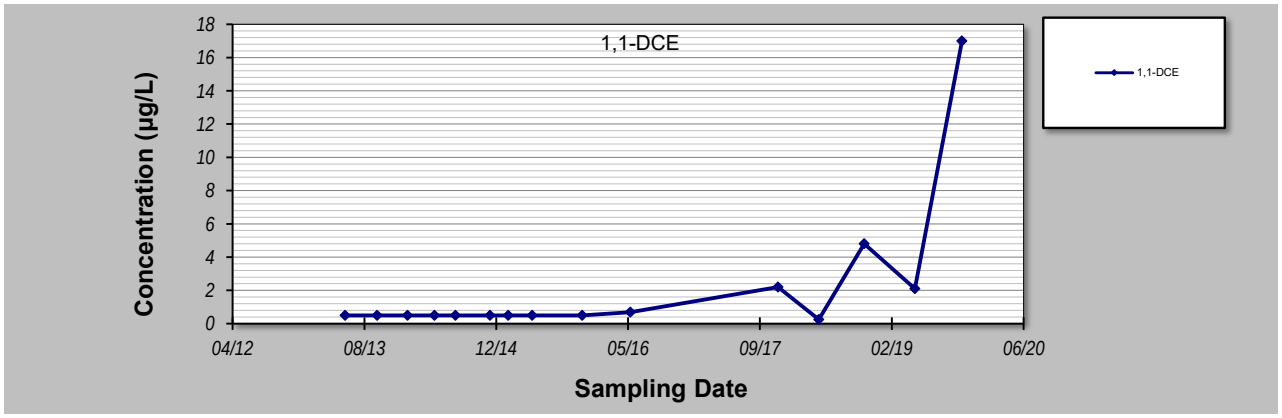
GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date: **22-Apr-20**
Facility Name: **LHAAP-67**
Conducted By: **Robert Mayer**
Job ID: **501032**
Constituent: **67WW12**
Concentration Units: **µg/L**
Sampling Point ID: **1,1-DCE**

Sampling Event	Sampling Date	67WW12 CONCENTRATION (µg/L)
1	1-Jun-13	0.5
2	1-Oct-13	0.5
3	24-Jan-14	0.5
4	6-May-14	0.5
5	25-Jul-14	0.5
6	3-Dec-14	0.5
7	10-Feb-15	0.5
8	12-May-15	0.5
9	18-Nov-15	0.5
10	18-May-16	0.681
11	29-Nov-17	2.2
12	3-May-18	0.25
13	22-Oct-18	4.8
14	2-May-19	2.1
15	28-Oct-19	17
16		
17		
18		
19		
20		
Coefficient of Variation:		2.04
Mann-Kendall Statistic (S):		43
Confidence Factor:		98.2%
Concentration Trend:		Increasing



Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water* , 41(3):355-367, 2003.

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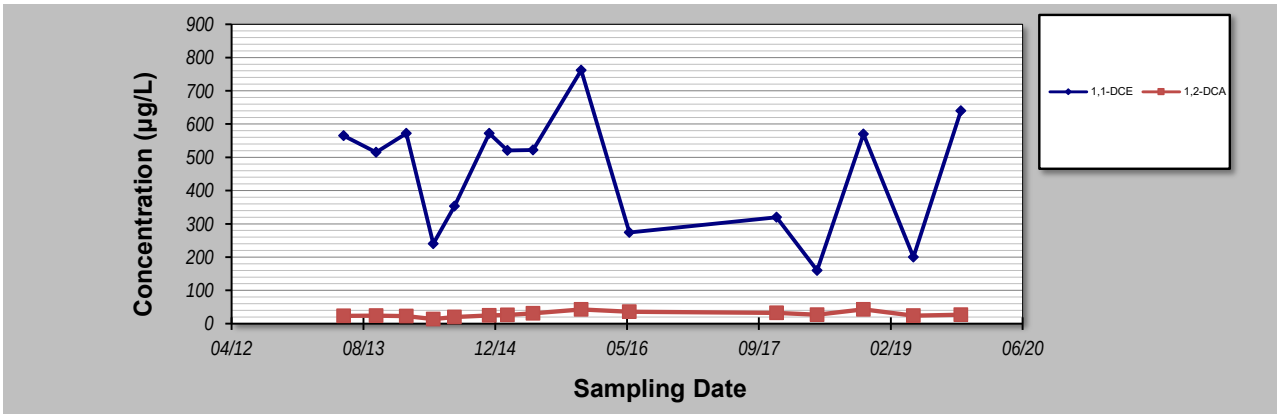
GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	22-Apr-20	Job ID:	501032
Facility Name:	LHAAP-67	Constituent:	67WW13
Conducted By:	Robert Mayer	Concentration Units:	µg/L

Sampling Point ID:	1,1-DCE	1,2-DCA					
Sampling Event	Sampling Date	67WW13 CONCENTRATION (µg/L)						
1	31-May-13	565	23.1					
2	1-Oct-13	515	23.8					
3	24-Jan-14	572	22.9					
4	6-May-14	240	13.7					
5	25-Jul-14	353	19.8					
6	4-Dec-14	572	24.9					
7	11-Feb-15	521	26					
8	19-May-15	522	30.6					
9	18-Nov-15	762	42.6					
10	19-May-16	274	35.7					
11	28-Nov-17	320	32					
12	1-May-18	160	27					
13	23-Oct-18	570	43					
14	1-May-19	200	24					
15	28-Oct-19	640	27					
16								
17								
18								
19								
20								
Coefficient of Variation:		0.40	0.29					
Mann-Kendall Statistic (S):		-8	48					
Confidence Factor:		63.3%	99.1%					
Concentration Trend:		Stable	Increasing					



Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water* , 41(3):355-367, 2003.

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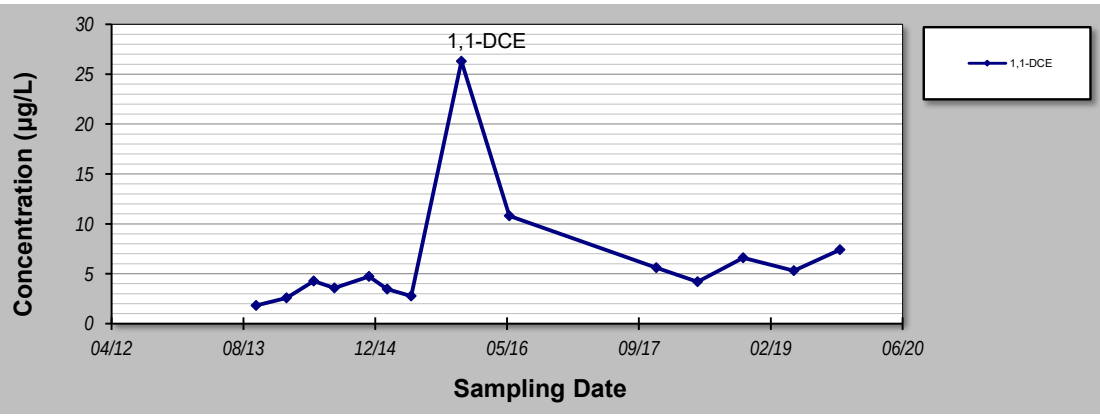
GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	22-Apr-20	Job ID:	501032
Facility Name:	LHAAP-67	Constituent:	67WW14
Conducted By:	Robert Mayer	Concentration Units:	µg/L
Sampling Point ID:	1,1-DCE		

Sampling Event	Sampling Date	67WW14 CONCENTRATION (µg/L)
1	1-Oct-13	1.8
2	24-Jan-14	2.6
3	7-May-14	4.3
4	25-Jul-14	3.6
5	3-Dec-14	4.7
6	10-Feb-15	3.5
7	12-May-15	2.8
8	18-Nov-15	26
9	18-May-16	11
10	27-Nov-17	5.6
11	2-May-18	4.2
12	22-Oct-18	6.6
13	2-May-19	5.3
14	24-Oct-19	7.4
15		
16		
17		
18		
19		
20		
Coefficient of Variation:		0.97
Mann-Kendall Statistic (S):		43
Confidence Factor:		99.0%
Concentration Trend:		Increasing



Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
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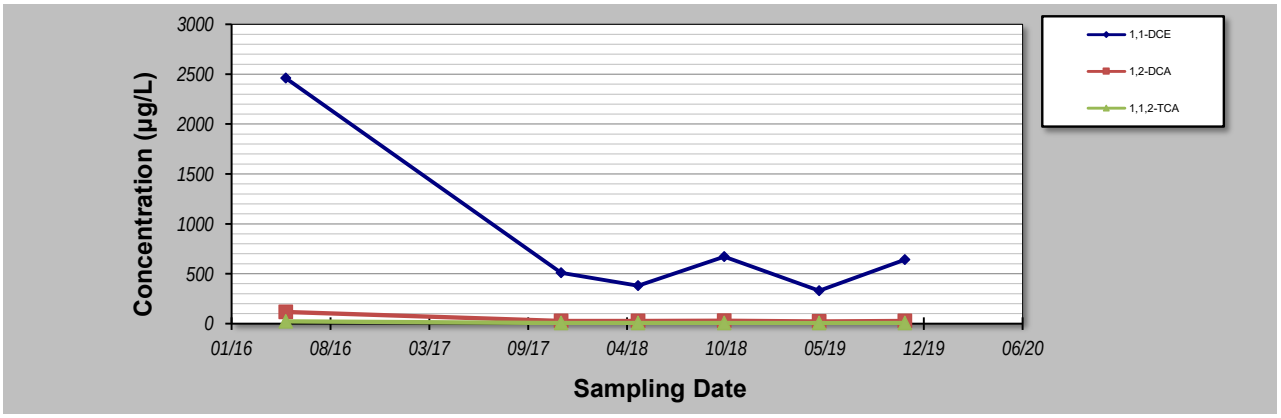
GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date: **22-Apr-20**
Facility Name: **LHAAP-67**
Conducted By: **Robert Mayer**

Job ID: **501032**
Constituent: **67WW15**
Concentration Units: **µg/L**

Sampling Point ID:	1,1-DCE	1,2-DCA	1,1,2-TCA				
Sampling Event	Sampling Date	67WW15 CONCENTRATION (µg/L)						
1	19-May-16	2,460	117	22.7				
2	27-Nov-17	510	27	5.6				
3	2-May-18	380	26	5.6				
4	23-Oct-18	670	30	6.0				
5	3-May-19	330	22	5.4				
6	24-Oct-19	640	27	6.4				
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
Coefficient of Variation:		0.97	0.89	0.80				
Mann-Kendall Statistic (S):		-5	-6	-2				
Confidence Factor:		76.5%	81.5%	57.0%				
Concentration Trend:		Stable	Stable	Stable				



Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
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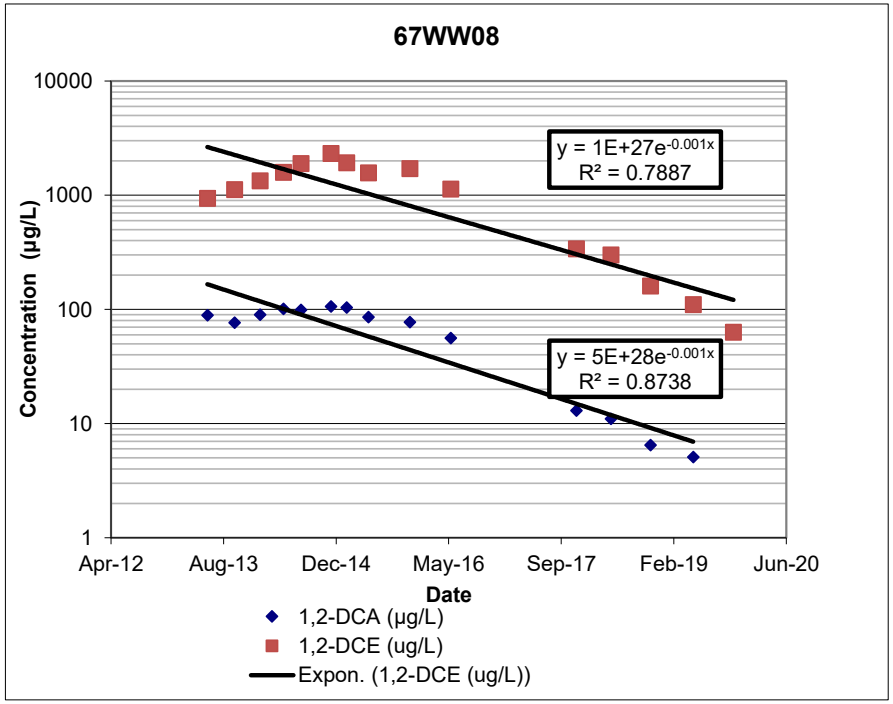
Contract No. W9128F-13-D-0012, Task Order No. W9128BV17F0150 • Final • Rev 0 • September 2020

Appendix F

Regression Analysis

Time-Dependent Attenuation Rate Constant and Estimated Cleanup Time
67WW08

Date	1,2-DCA (µg/L)	1,2-DCE (µg/L)
3-Jun-13	89.2	940
2-Oct-13	76.5	1,120
23-Jan-14	89.9	1,340
7-May-14	101	1,590
24-Jul-14	98.9	1,890
4-Dec-14	106	2,320
11-Feb-15	104	1,930
19-May-15	85.6	1,570
19-Nov-15	77.6	1,710
19-May-16	56.1	1,130
28-Nov-17	13	340
1-May-18	11	300
23-Oct-18	6.5	160
1-May-19	5.1	110
27-Oct-19	2.3	63



Chemical: TCE Well ID	Attenuation Rate Constant (day^{-1})	Attenuation Half-life (days)	Attenuation Half-life (years)	Current Conc. (µg/L)	Target Concentration (µg/L)	Estimated Cleanup Time (years)
1,2-DCE	0.0010	693.1	1.9	63	5	6.9

Notes:

The estimated cleanup time was calculated as the time it would take the most recent detected TCE concentration to reach the MCL using the site-specific attenuation rate, and assuming first order degradation kinetics.

µg/L - micrograms per liter
DCA - dichloroethane
DCE - dichloroethene
MCL - maximum contaminant level
NA - not applicable because the concentration is below the Target Concentration