D5. VOC HAP Calculations / Analytical Report – Run 5

VOC HAP Emission Summary - Sprague Searsport Residual Oil Tank #3					
Page 1 of 2	Tank #3 - Run 5 SUMMA #7809				
Date	13-Jul-12				
Start	15:25				
Stop	16:25				
Compounds		ppb	ug/M3	lb/hr	ton/yr
2,2,4-Trimethylpentane	<	36	168	1.64E-04	7.17E-04
Carbon Disulfide	<	430	1340	1.31E-03	5.72E-03
Propene		18100	31200	3.04E-02	1.33E-01
Vinyl Acetate	<	36	127	1.24E-04	5.42E-04
Vinyl Bromide	<	36	157	1.53E-04	6.70E-04
Dichlorodifluoromethane (FREON 12)	<	36	178	1.74E-04	7.60E-04
1,2-Dichlorotetrafluoroethane	<	31	214	2.09E-04	9.14E-04
Chloromethane	<	54	112	1.09E-04	4.78E-04
Vinyl Chloride	<	32	82.8	8.07E-05	3.53E-04
Chloroethane	<	54	142	1.38E-04	6.06E-04
1,3-Butadiene	<	200	442	4.31E-04	1.89E-03
Trichlorofluoromethane (FREON 11)	<	36	202	1.97E-04	8.62E-04
Trichlorotrifluoroethane	<	27	207	2.02E-04	8.84E-04
Ethanol (ethyl alcohol)	<	990	1870	1.82E-03	7.98E-03
2-propanol	<	540	1330	1.30E-03	5.68E-03
2-Propanone	<	28000	66500	6.48E-02	2.84E-01
Methyl Ethyl Ketone (2-Butanone)	<	11000	32400	3.16E-02	1.38E-01
Methyl Isobutyl Ketone	<	580	2360	2.30E-03	1.01E-02
Methyl Butyl Ketone (2-Hexanone)	<	360	1470	1.43E-03	6.28E-03
Methyl t-butyl ether (MTBE)		59	213	2.08E-04	9.09E-04
Ethyl Acetate	<	400	1430	1.39E-03	6.11E-03
1,1-Dichloroethylene	<	45	178	1.74E-04	7.60E-04
cis-1,2-Dichloroethylene	<	34	136	1.33E-04	5.81E-04
trans-1,2-Dichloroethylene	<	36	143	1.39E-04	6.11E-04
Methylene Chloride(Dichloromethane)	<	150	521	5.08E-04	2.22E-03
Chloroform	<	27	132	1.29E-04	5.64E-04
Carbon Tetrachloride	<	54	340	3.31E-04	1.45E-03
1,1-Dichloroethane	<	36	146	1.42E-04	6.23E-04
1,2-Dichloroethane	<	36	146	1.42E-04	6.23E-04
Ethylene Dibromide	<	31	235	2.29E-04	1.00E-03
1,1,1-Trichloroethane	<	54	295	2.88E-04	1.26E-03
1,1,2-Trichloroethane	<	27	147	1.43E-04	6.28E-04
1,1,2,2-Tetrachloroethane	<	36	247	2.41E-04	1.05E-03
cis-1,3-Dichloropropene	<	32	147	1.43E-04	6.28E-04
trans-1,3-Dichloropropene	<	31	139	1.35E-04	5.93E-04
1,2-Dichloropropane	<	72	333	3.25E-04	1.42E-03
Volumetric Flow (scfh)	15581				

VOC HAP Emission Summary - Sprague Searsport Residual Oil Tank #3					
Page 2 of 2	Tank #3 - Run 5 SUMMA #7809				
Date	13-Jul-12				
Start	15:25				
Stop	16:25				
Compounds		ppb	ug/M3	lb/hr	ton/yr
Bromomethane	<	32	126	1.23E-04	5.38E-04
Bromoform	<	36	372	3.63E-04	1.59E-03
Bromodichloromethane	<	36	241	2.35E-04	1.03E-03
Dibromochloromethane	<	36	307	2.99E-04	1.31E-03
Heptane		10200	41900	4.08E-02	1.79E-01
Trichloroethylene	<	54	290	2.83E-04	1.24E-03
Tetrachloroethylene	<	36	244	2.38E-04	1.04E-03
Benzene		3630	11600	1.13E-02	4.95E-02
Toluene		9330	35100	3.42E-02	1.50E-01
Ethylbenzene		1820	7910	7.71E-03	3.38E-02
p+m-Xylene		5520	24000	2.34E-02	1.02E-01
o-Xylene		2190	9530	9.29E-03	4.07E-02
Styrene	<	200	852	8.30E-04	3.64E-03
1,3,5-Trimethylbenzene		781	3840	3.74E-03	1.64E-02
1,2,4-Trimethylbenzene		2520	12400	1.21E-02	5.29E-02
4-ethyltoluene		673	3310	3.23E-03	1.41E-02
Chlorobenzene	<	36	166	1.62E-04	7.09E-04
Benzyl chloride	<	180	932	9.08E-04	3.98E-03
1,3-Dichlorobenzene	<	72	433	4.22E-04	1.85E-03
1,4-Dichlorobenzene		165	992	9.67E-04	4.24E-03
1,2-Dichlorobenzene	<	72	433	4.22E-04	1.85E-03
1,2,4-Trichlorobenzene	<	360	2670	2.60E-03	1.14E-02
Hexachlorobutadiene	<	540	5760	5.61E-03	2.46E-02
Hexane		13500	47500	4.63E-02	2.03E-01
Cyclohexane		5920	20400	1.99E-02	8.71E-02
Tetrahydrofuran	<	72	212	2.07E-04	9.05E-04
1,4-Dioxane	<	360	1300	1.27E-03	5.55E-03
Xylene (Total)		7720	33500	3.27E-02	1.43E-01
Surrogate Recovery (%)					
Bromochloromethane	89				
D5-Chlorobenzene	89				
Difluorobenzene	91				
Volumetric Flow (scfh)	15581				
Max Detected Compound (tons/year):	**Hexane**	**0.203**			
Total Detected HAP (tons/year):	**1.07**				
Total Detected/Nondetected HAP (tons/year):	**1.61**				

VOC Tentitively Identified Compounds - Sprague Seasport Residual Tank #3				
Page 1 of 1	Tank #3 - Run 5 SUMMA #7809			
Date	13-Jul-12			
Start	15:25			
Stop	16:25			
Tentitively Identified Compounds	ppb	ug/M3	lb/hr	ton/yr
Isobutane	6500	15413	1.50E-02	6.58E-02
Unknown hydrocarbon C4H8 Mol. Wt. 56	6100	13966	1.36E-02	5.96E-02
Unknown hydrocarbon C4H8 Mol. Wt. 56	2900	6639	6.47E-03	2.83E-02
Unknown hydrocarbon C4H8 Mol. Wt. 56	2000	4579	4.46E-03	1.95E-02
Butane, 2-methyl-	17000	50041	4.88E-02	2.14E-01
2-Pentene	1900	5437	5.30E-03	2.32E-02
Unknown hydrocarbon C5H10 Mol. Wt. 70	3400	9730	9.48E-03	4.15E-02
Unknown hydrocarbon C5H10 Mol. Wt. 70	1700	4865	4.74E-03	2.08E-02
Unknown hydrocarbon C5H10 Mol. Wt. 70	4900	14023	1.37E-02	5.99E-02
Cyclopentene	1800	5004	4.88E-03	2.14E-02
Pentane, 2-methyl-	18000	63287	6.17E-02	2.70E-01
Pentane, 3-methyl-	7300	25666	2.50E-02	1.10E-01
1-Hexene	1300	4464	4.35E-03	1.91E-02
2-Hexene, (Z)-	1500	5151	5.02E-03	2.20E-02
Unknown isomer of 3-methyl-2-Pentene	1400	4808	4.69E-03	2.05E-02
Cyclopentane, methyl-	9400	32281	3.15E-02	1.38E-01
Cyclopentene, 1-methyl-	1400	4693	4.57E-03	2.00E-02
Hexane, 3-methyl-	4600	18806	1.83E-02	8.03E-02
Cyclic hydrocarbon C7H14 Mol. Wt. 98	2800	11218	1.09E-02	4.79E-02
Cyclic hydrocarbon C7H14 Mol. Wt. 98	1500	6010	5.86E-03	2.57E-02
Cyclic hydrocarbon C7H14 Mol. Wt. 98	2200	8814	8.59E-03	3.76E-02
Cycloheptane	2000	8013	7.81E-03	3.42E-02
Cyclopentane, ethyl-	1400	5609	5.47E-03	2.39E-02
Heptane, 2-methyl-	4400	20507	2.00E-02	8.76E-02
Heptane, 3-methyl-	2400	11186	1.09E-02	4.78E-02
Cyclic hydrocarbon C8H16 Mol. Wt. 112	2400	10989	1.07E-02	4.69E-02
Octane	7070	32951	3.21E-02	1.41E-01
Cyclic hydrocarbon C8H16 Mol. Wt. 112	1400	6410	6.25E-03	2.74E-02
Cyclohexane, ethyl-	1400	6410	6.25E-03	2.74E-02
Cyclohexane, 1,1,3-trimethyl-	1700	8757	8.54E-03	3.74E-02
Nonane	4800	25119	2.45E-02	1.07E-01
Unknown isomer of dimethyloctane	1400	8070	7.87E-03	3.45E-02
Unknown aromatic hydrocarbon C9H12 Mol. Wt. 120	1600	7850	7.65E-03	3.35E-02
Unknown aliphatic hydrocarbon C11H24 Mol. Wt. 156	1300	8291	8.08E-03	3.54E-02
Undecane	2100	13393	1.31E-02	5.72E-02
4,7-Methanoindene, 3a,4,5,6,7,7a-hexahydro-, endo-	1300	7122	6.94E-03	3.04E-02
Volumetric Flow (scfh)	**15581**			
Total TIC (tons/year)	**2.12**			

Maxxam

Success Through Science®

Your Project #: 11-138
Site Location: SPRAGUE - RESIDUAL OIL TANK #3
Your C.O.C. #: NA

Attention: Anthony Stratton
Eastmount Environmental Services
2 New Pasture Road
Unit 5
Newburyport, MA
USA 1950

Report Date: 2012/08/02

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B2A7647
Received: 2012/07/18, 10:53

Sample Matrix: AIR
Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
Canister Pressure (TO-15)	2	N/A	2012/07/27	BRL SOP-00304	EPA TO-15
Volatile Organics in Air (TO-15) (1)	2	N/A	2012/07/27	BRL SOP-00304	EPA TO-15

(1) Air sampling canisters have been cleaned in accordance with U.S. EPA Method TO14A. At the end of the cleaning, evacuation, and pressurization cycles, one canister was selected and was pressurized with Zero Air. This canister was then analyzed via TO14A on a GC/MS. The canister must have been found to contain <0.2 ppbv concentration of all target analytes in order for the batch to have been considered clean. Each canister also underwent a leak check prior to shipment.

Please Note: SUMMA® canister samples will be retained by Maxxam for a period of 5 calendar days from the date of this report, after which time they will be cleaned for reuse. If you require a longer sample storage period, please contact your service representative.

Encryption Key

Mike Challis
02 Aug 2012 08:22:16 -04:00

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

Mike Challis, CET, B.Sc, C.Chem, Customer Service Manager, US Air Toxics
Email: MChallis@maxxam.ca
Phone# (905) 817-5790

==========

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Total cover pages: 1

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

Maxxam Job #: B2A7647
Report Date: 2012/08/02

Eastmount Environmental Services
Client Project #: 11-138
Site Location: SPRAGUE - RESIDUAL OIL TANK #3

RESULTS OF ANALYSES OF AIR

Maxxam ID		OE4452	OE4453	
Sampling Date		2012/07/13 15:20	2012/07/13 15:25	
COC Number		NA	NA	
	Units	**SPRAGUE TANK #3 - RUN 4 / 7798**	**SPRAGUE TANK #3 - RUN 5 / 7809**	**QC Batch**
Pressure on Receipt	psig	(-1.4)	(-1)	2923504

QC Batch = Quality Control Batch

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

Maxxam Job #: B2A7647
Report Date: 2012/08/02

Eastmount Environmental Services
Client Project #: 11-138
Site Location: SPRAGUE - RESIDUAL OIL TANK #3

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		OE4452				
Sampling Date		2012/07/13 15:20				
COC Number		NA				
	Units	**SPRAGUE TANK #3 - RUN 4 / 7798**	**RDL**	**ug/m3**	**DL (ug/m3)**	**QC Batch**
2,2,4-Trimethylpentane	ppbv	<38	38	<178	178	2923594
Carbon Disulfide	ppbv	<410	410	<1280	1280	2923594
Propene	ppbv	26500	57	45600	98.1	2923594
Vinyl Acetate	ppbv	<38	38	<134	134	2923594
Vinyl Bromide	ppbv	<38	38	<166	166	2923594
Dichlorodifluoromethane (FREON 12)	ppbv	<38	38	<188	188	2923594
1,2-Dichlorotetrafluoroethane	ppbv	<32	32	<226	226	2923594
Chloromethane	ppbv	<57	57	<118	118	2923594
Vinyl Chloride	ppbv	<34	34	<87.4	87.4	2923594
Chloroethane	ppbv	<57	57	<150	150	2923594
1,3-Butadiene	ppbv	<310	310	<686	686	2923594
Trichlorofluoromethane (FREON 11)	ppbv	<38	38	<213	213	2923594
Trichlorotrifluoroethane	ppbv	<29	29	<218	218	2923594
Ethanol (ethyl alcohol)	ppbv	<1800	1800	<3390	3390	2923594
2-propanol	ppbv	<570	570	<1400	1400	2923594
2-Propanone	ppbv	<42000	42000	<99800	99800	2923594
Methyl Ethyl Ketone (2-Butanone)	ppbv	<17000	17000	<50100	50100	2923594
Methyl Isobutyl Ketone	ppbv	<610	610	<2490	2490	2923594
Methyl Butyl Ketone (2-Hexanone)	ppbv	<380	380	<1560	1560	2923594
Methyl t-butyl ether (MTBE)	ppbv	88	38	317	137	2923594
Ethyl Acetate	ppbv	<420	420	<1510	1510	2923594
1,1-Dichloroethylene	ppbv	<48	48	<188	188	2923594
cis-1,2-Dichloroethylene	ppbv	<36	36	<143	143	2923594
trans-1,2-Dichloroethylene	ppbv	<38	38	<151	151	2923594
Methylene Chloride(Dichloromethane)	ppbv	<160	160	<556	556	2923594
Chloroform	ppbv	<29	29	<139	139	2923594
Carbon Tetrachloride	ppbv	<57	57	<359	359	2923594
1,1-Dichloroethane	ppbv	<38	38	<154	154	2923594
1,2-Dichloroethane	ppbv	<38	38	<154	154	2923594
Ethylene Dibromide	ppbv	<32	32	<248	248	2923594
1,1,1-Trichloroethane	ppbv	<57	57	<311	311	2923594

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B2A7647
Report Date: 2012/08/02

Eastmount Environmental Services
Client Project #: 11-138
Site Location: SPRAGUE - RESIDUAL OIL TANK #3

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		OE4452				
Sampling Date		2012/07/13 15:20				
COC Number		NA				
	Units	**SPRAGUE TANK #3 - RUN 4 / 7798**	**RDL**	**ug/m3**	**DL (ug/m3)**	**QC Batch**
1,1,2-Trichloroethane	ppbv	<29	29	<155	155	2923594
1,1,2,2-Tetrachloroethane	ppbv	<38	38	<261	261	2923594
cis-1,3-Dichloropropene	ppbv	<34	34	<155	155	2923594
trans-1,3-Dichloropropene	ppbv	<32	32	<147	147	2923594
1,2-Dichloropropane	ppbv	<76	76	<351	351	2923594
Bromomethane	ppbv	<34	34	<133	133	2923594
Bromoform	ppbv	<38	38	<393	393	2923594
Bromodichloromethane	ppbv	<38	38	<255	255	2923594
Dibromochloromethane	ppbv	<38	38	<324	324	2923594
Heptane	ppbv	17500	57	71900	234	2923594
Trichloroethylene	ppbv	<57	57	<306	306	2923594
Tetrachloroethylene	ppbv	<38	38	<258	258	2923594
Benzene	ppbv	6020	34	19200	109	2923594
Toluene	ppbv	16500	38	61900	143	2923594
Ethylbenzene	ppbv	3180	38	13800	165	2923594
p+m-Xylene	ppbv	9770	70	42400	305	2923594
o-Xylene	ppbv	3910	38	17000	165	2923594
Styrene	ppbv	<260	260	<1110	1110	2923594
1,3,5-Trimethylbenzene	ppbv	1380	95	6780	467	2923594
1,2,4-Trimethylbenzene	ppbv	4500	95	22100	467	2923594
4-ethyltoluene	ppbv	1180	420	5820	2050	2923594
Chlorobenzene	ppbv	<38	38	<175	175	2923594
Benzyl chloride	ppbv	<190	190	<984	984	2923594
1,3-Dichlorobenzene	ppbv	<76	76	<457	457	2923594
1,4-Dichlorobenzene	ppbv	183	76	1100	457	2923594
1,2-Dichlorobenzene	ppbv	<76	76	<457	457	2923594
1,2,4-Trichlorobenzene	ppbv	<380	380	<2820	2820	2923594
Hexachlorobutadiene	ppbv	<570	570	<6080	6080	2923594
Hexane	ppbv	21500	57	75900	201	2923594
Cyclohexane	ppbv	9250	38	31900	131	2923594
Tetrahydrofuran	ppbv	<76	76	<224	224	2923594
1,4-Dioxane	ppbv	<380	380	<1370	1370	2923594

QC Batch = Quality Control Batch

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Maxxam Job #: B2A7647
Report Date: 2012/08/02

Eastmount Environmental Services
Client Project #: 11-138
Site Location: SPRAGUE - RESIDUAL OIL TANK #3

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		OE4452				
Sampling Date		2012/07/13 15:20				
COC Number		NA				
	Units	**SPRAGUE TANK #3 - RUN 4 / 7798**	**RDL**	**ug/m3**	**DL (ug/m3)**	**QC Batch**
Xylene (Total)	ppbv	13700	110	59400	495	2923594
Surrogate Recovery (%)						
Bromochloromethane	%	85	N/A	N/A	N/A	2923594
D5-Chlorobenzene	%	87	N/A	N/A	N/A	2923594
Difluorobenzene	%	87	N/A	N/A	N/A	2923594

N/A = Not Applicable
QC Batch = Quality Control Batch

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Maxxam Job #: B2A7647
Report Date: 2012/08/02

Eastmount Environmental Services
Client Project #: 11-138
Site Location: SPRAGUE - RESIDUAL OIL TANK #3

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		OE4453				
Sampling Date		2012/07/13 15:25				
COC Number		NA				
	Units	**SPRAGUE TANK #3 - RUN 5 / 7809**	**RDL**	**ug/m3**	**DL (ug/m3)**	**QC Batch**
2,2,4-Trimethylpentane	ppbv	<36	36	<168	168	2923594
Carbon Disulfide	ppbv	<430	430	<1340	1340	2923594
Propene	ppbv	18100	54	31200	92.9	2923594
Vinyl Acetate	ppbv	<36	36	<127	127	2923594
Vinyl Bromide	ppbv	<36	36	<157	157	2923594
Dichlorodifluoromethane (FREON 12)	ppbv	<36	36	<178	178	2923594
1,2-Dichlorotetrafluoroethane	ppbv	<31	31	<214	214	2923594
Chloromethane	ppbv	<54	54	<112	112	2923594
Vinyl Chloride	ppbv	<32	32	<82.8	82.8	2923594
Chloroethane	ppbv	<54	54	<142	142	2923594
1,3-Butadiene	ppbv	<200	200	<442	442	2923594
Trichlorofluoromethane (FREON 11)	ppbv	<36	36	<202	202	2923594
Trichlorotrifluoroethane	ppbv	<27	27	<207	207	2923594
Ethanol (ethyl alcohol)	ppbv	<990	990	<1870	1870	2923594
2-propanol	ppbv	<540	540	<1330	1330	2923594
2-Propanone	ppbv	<28000	28000	<66500	66500	2923594
Methyl Ethyl Ketone (2-Butanone)	ppbv	<11000	11000	<32400	32400	2923594
Methyl Isobutyl Ketone	ppbv	<580	580	<2360	2360	2923594
Methyl Butyl Ketone (2-Hexanone)	ppbv	<360	360	<1470	1470	2923594
Methyl t-butyl ether (MTBE)	ppbv	59	36	213	130	2923594
Ethyl Acetate	ppbv	<400	400	<1430	1430	2923594
1,1-Dichloroethylene	ppbv	<45	45	<178	178	2923594
cis-1,2-Dichloroethylene	ppbv	<34	34	<136	136	2923594
trans-1,2-Dichloroethylene	ppbv	<36	36	<143	143	2923594
Methylene Chloride(Dichloromethane)	ppbv	<150	150	<521	521	2923594
Chloroform	ppbv	<27	27	<132	132	2923594
Carbon Tetrachloride	ppbv	<54	54	<340	340	2923594
1,1-Dichloroethane	ppbv	<36	36	<146	146	2923594
1,2-Dichloroethane	ppbv	<36	36	<146	146	2923594
Ethylene Dibromide	ppbv	<31	31	<235	235	2923594
1,1,1-Trichloroethane	ppbv	<54	54	<295	295	2923594

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B2A7647
Report Date: 2012/08/02

Eastmount Environmental Services
Client Project #: 11-138
Site Location: SPRAGUE - RESIDUAL OIL TANK #3

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		OE4453				
Sampling Date		2012/07/13 15:25				
COC Number		NA				
	Units	**SPRAGUE TANK #3 - RUN 5 / 7809**	**RDL**	**ug/m3**	**DL (ug/m3)**	**QC Batch**
1,1,2-Trichloroethane	ppbv	<27	27	<147	147	2923594
1,1,2,2-Tetrachloroethane	ppbv	<36	36	<247	247	2923594
cis-1,3-Dichloropropene	ppbv	<32	32	<147	147	2923594
trans-1,3-Dichloropropene	ppbv	<31	31	<139	139	2923594
1,2-Dichloropropane	ppbv	<72	72	<333	333	2923594
Bromomethane	ppbv	<32	32	<126	126	2923594
Bromoform	ppbv	<36	36	<372	372	2923594
Bromodichloromethane	ppbv	<36	36	<241	241	2923594
Dibromochloromethane	ppbv	<36	36	<307	307	2923594
Heptane	ppbv	10200	54	41900	221	2923594
Trichloroethylene	ppbv	<54	54	<290	290	2923594
Tetrachloroethylene	ppbv	<36	36	<244	244	2923594
Benzene	ppbv	3630	32	11600	104	2923594
Toluene	ppbv	9330	36	35100	135	2923594
Ethylbenzene	ppbv	1820	36	7910	156	2923594
p+m-Xylene	ppbv	5520	67	24000	289	2923594
o-Xylene	ppbv	2190	36	9530	156	2923594
Styrene	ppbv	<200	200	<852	852	2923594
1,3,5-Trimethylbenzene	ppbv	781	90	3840	442	2923594
1,2,4-Trimethylbenzene	ppbv	2520	90	12400	442	2923594
4-ethyltoluene	ppbv	673	400	3310	1950	2923594
Chlorobenzene	ppbv	<36	36	<166	166	2923594
Benzyl chloride	ppbv	<180	180	<932	932	2923594
1,3-Dichlorobenzene	ppbv	<72	72	<433	433	2923594
1,4-Dichlorobenzene	ppbv	165	72	992	433	2923594
1,2-Dichlorobenzene	ppbv	<72	72	<433	433	2923594
1,2,4-Trichlorobenzene	ppbv	<360	360	<2670	2670	2923594
Hexachlorobutadiene	ppbv	<540	540	<5760	5760	2923594
Hexane	ppbv	13500	54	47500	190	2923594
Cyclohexane	ppbv	5920	36	20400	124	2923594
Tetrahydrofuran	ppbv	<72	72	<212	212	2923594
1,4-Dioxane	ppbv	<360	360	<1300	1300	2923594

QC Batch = Quality Control Batch

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Maxxam Job #: B2A7647
Report Date: 2012/08/02

Eastmount Environmental Services
Client Project #: 11-138
Site Location: SPRAGUE - RESIDUAL OIL TANK #3

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		OE4453				
Sampling Date		2012/07/13 15:25				
COC Number		NA				
	Units	**SPRAGUE TANK #3 - RUN 5 / 7809**	**RDL**	**ug/m3**	**DL (ug/m3)**	**QC Batch**
Xylene (Total)	ppbv	7720	110	33500	469	2923594
Surrogate Recovery (%)						
Bromochloromethane	%	89	N/A	N/A	N/A	2923594
D5-Chlorobenzene	%	89	N/A	N/A	N/A	2923594
Difluorobenzene	%	91	N/A	N/A	N/A	2923594

N/A = Not Applicable
QC Batch = Quality Control Batch

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Maxxam Job #: B2A7647
Report Date: 2012/08/02

Eastmount Environmental Services
Client Project #: 11-138
Site Location: SPRAGUE - RESIDUAL OIL TANK #3

Test Summary

Maxxam ID OE4452
Sample ID SPRAGUE TANK #3 - RUN 4 / 7798
Matrix AIR

Collected 2012/07/13
Shipped
Received 2012/07/18

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Canister Pressure (TO-15)	PRES	2923504	N/A	2012/07/27	Diane Temniuk
Volatile Organics in Air (TO-15)	GC/MS	2923594	N/A	2012/07/27	Diane Temniuk

Maxxam ID OE4453
Sample ID SPRAGUE TANK #3 - RUN 5 / 7809
Matrix AIR

Collected 2012/07/13
Shipped
Received 2012/07/18

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Canister Pressure (TO-15)	PRES	2923504	N/A	2012/07/27	Diane Temniuk
Volatile Organics in Air (TO-15)	GC/MS	2923594	N/A	2012/07/27	Diane Temniuk

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Maxxam Job #: B2A7647
Report Date: 2012/08/02

Eastmount Environmental Services
Client Project #: 11-138
Site Location: SPRAGUE - RESIDUAL OIL TANK #3

GENERAL COMMENTS

TO15
The result of propene included propane.

Increased DL for 1,3-butadiene, 2-butanone and acetone due to hydrocarbon interference.

Increased DL for ethanol, carbon disulfide, methylene chloride and styrene due to possible background.

Sample OE4452-01: TO15
Canister received at -1.4 psig and was pressurized to 10 psig, for a 1.9X pressure dilution. A further dilution was prepared resulting in a 190X final dilution. The DL's were adjusted accordingly. Increased DL for carbon disulfide, methylene chloride and ethanol due to possible background.
Increased DL for 2-propanone and 2-butanone due to hydrocarbon interference.
The value of propene is a combination of both propene and propane so the value may be biased high.

Sample OE4453-01: TO15
Canister received at -1 psig and was pressurized to 10.2 psig, for a 1.8X pressure dilution. A further dilution was prepared resulting in a 180X final dilution. The DL's were adjusted accordingly. Increased DL for carbon disulfide, methylene chloride and ethanol due to possible background.
Increased DL for 2-propanone and 2-butanone due to hydrocarbon interference.
The value of propene is a combination of both propene and propane so the value may be biased high.

Results relate only to the items tested.

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Eastmount Environmental Services
Attention: Anthony Stratton
Client Project #: 11-138
P.O. #:
Site Location: SPRAGUE - RESIDUAL OIL TANK #3

Quality Assurance Report

Maxxam Job Number: GB2A7647

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2923594 DVO	Spiked Blank	Bromochloromethane	2012/07/27		102	%	60 - 140
		D5-Chlorobenzene	2012/07/27		106	%	60 - 140
		Difluorobenzene	2012/07/27		104	%	60 - 140
		2,2,4-Trimethylpentane	2012/07/27		89	%	70 - 130
		Carbon Disulfide	2012/07/27		88	%	70 - 130
		Propene	2012/07/27		84	%	70 - 130
		Vinyl Acetate	2012/07/27		95	%	70 - 130
		Vinyl Bromide	2012/07/27		87	%	70 - 130
		Dichlorodifluoromethane (FREON 12)	2012/07/27		94	%	70 - 130
		1,2-Dichlorotetrafluoroethane	2012/07/27		108	%	70 - 130
		Chloromethane	2012/07/27		93	%	70 - 130
		Vinyl Chloride	2012/07/27		91	%	70 - 130
		Chloroethane	2012/07/27		90	%	70 - 130
		1,3-Butadiene	2012/07/27		89	%	70 - 130
		Trichlorofluoromethane (FREON 11)	2012/07/27		93	%	70 - 130
		Trichlorotrifluoroethane	2012/07/27		92	%	70 - 130
		Ethanol (ethyl alcohol)	2012/07/27		85	%	70 - 130
		2-propanol	2012/07/27		97	%	70 - 130
		2-Propanone	2012/07/27		101	%	70 - 130
		Methyl Ethyl Ketone (2-Butanone)	2012/07/27		93	%	70 - 130
		Methyl Isobutyl Ketone	2012/07/27		99	%	70 - 130
		Methyl Butyl Ketone (2-Hexanone)	2012/07/27		100	%	70 - 130
		Methyl t-butyl ether (MTBE)	2012/07/27		93	%	70 - 130
		Ethyl Acetate	2012/07/27		98	%	70 - 130
		1,1-Dichloroethylene	2012/07/27		94	%	70 - 130
		cis-1,2-Dichloroethylene	2012/07/27		93	%	70 - 130
		trans-1,2-Dichloroethylene	2012/07/27		92	%	70 - 130
		Methylene Chloride(Dichloromethane)	2012/07/27		84	%	70 - 130
		Chloroform	2012/07/27		92	%	70 - 130
		Carbon Tetrachloride	2012/07/27		97	%	70 - 130
		1,1-Dichloroethane	2012/07/27		92	%	70 - 130
		1,2-Dichloroethane	2012/07/27		97	%	70 - 130
		Ethylene Dibromide	2012/07/27		90	%	70 - 130
		1,1,1-Trichloroethane	2012/07/27		94	%	70 - 130
		1,1,2-Trichloroethane	2012/07/27		93	%	70 - 130
		1,1,2,2-Tetrachloroethane	2012/07/27		88	%	70 - 130
		cis-1,3-Dichloropropene	2012/07/27		93	%	70 - 130
		trans-1,3-Dichloropropene	2012/07/27		94	%	70 - 130
		1,2-Dichloropropane	2012/07/27		91	%	70 - 130
		Bromomethane	2012/07/27		91	%	70 - 130
		Bromoform	2012/07/27		100	%	70 - 130
		Bromodichloromethane	2012/07/27		98	%	70 - 130
		Dibromochloromethane	2012/07/27		100	%	70 - 130
		Heptane	2012/07/27		90	%	70 - 130
		Trichloroethylene	2012/07/27		90	%	70 - 130
		Tetrachloroethylene	2012/07/27		90	%	70 - 130
		Benzene	2012/07/27		90	%	70 - 130
		Toluene	2012/07/27		90	%	70 - 130
		Ethylbenzene	2012/07/27		91	%	70 - 130
		p+m-Xylene	2012/07/27		89	%	70 - 130
		o-Xylene	2012/07/27		89	%	70 - 130
		Styrene	2012/07/27		64 (1)	%	70 - 130
		1,3,5-Trimethylbenzene	2012/07/27		82	%	70 - 130
		1,2,4-Trimethylbenzene	2012/07/27		76	%	70 - 130
		4-ethyltoluene	2012/07/27		85	%	70 - 130

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Eastmount Environmental Services
Attention: Anthony Stratton
Client Project #: 11-138
P.O. #:
Site Location: SPRAGUE - RESIDUAL OIL TANK #3

Quality Assurance Report (Continued)

Maxxam Job Number: GB2A7647

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2923594 DVO	Spiked Blank	Chlorobenzene	2012/07/27		89	%	70 - 130
		Benzyl chloride	2012/07/27		75	%	70 - 130
		1,3-Dichlorobenzene	2012/07/27		76	%	70 - 130
		1,4-Dichlorobenzene	2012/07/27		76	%	70 - 130
		1,2-Dichlorobenzene	2012/07/27		72	%	70 - 130
		1,2,4-Trichlorobenzene	2012/07/27		86	%	70 - 130
		Hexachlorobutadiene	2012/07/27		85	%	70 - 130
		Hexane	2012/07/27		92	%	70 - 130
		Cyclohexane	2012/07/27		89	%	70 - 130
		Tetrahydrofuran	2012/07/27		92	%	70 - 130
		1,4-Dioxane	2012/07/27		89	%	70 - 130
		Xylene (Total)	2012/07/27		89	%	70 - 130
	Method Blank	Bromochloromethane	2012/07/27		89	%	60 - 140
		D5-Chlorobenzene	2012/07/27		87	%	60 - 140
		Difluorobenzene	2012/07/27		92	%	60 - 140
		2,2,4-Trimethylpentane	2012/07/27	<0.20		ppbv	
		Carbon Disulfide	2012/07/27	<0.50		ppbv	
		Propene	2012/07/27	<0.30		ppbv	
		Vinyl Acetate	2012/07/27	<0.20		ppbv	
		Vinyl Bromide	2012/07/27	<0.20		ppbv	
		Dichlorodifluoromethane (FREON 12)	2012/07/27	<0.20		ppbv	
		1,2-Dichlorotetrafluoroethane	2012/07/27	<0.17		ppbv	
		Chloromethane	2012/07/27	<0.30		ppbv	
		Vinyl Chloride	2012/07/27	<0.18		ppbv	
		Chloroethane	2012/07/27	<0.30		ppbv	
		1,3-Butadiene	2012/07/27	<0.50		ppbv	
		Trichlorofluoromethane (FREON 11)	2012/07/27	<0.20		ppbv	
		Trichlorotrifluoroethane	2012/07/27	<0.15		ppbv	
		Ethanol (ethyl alcohol)	2012/07/27	<2.3		ppbv	
		2-propanol	2012/07/27	<3.0		ppbv	
		2-Propanone	2012/07/27	<0.80		ppbv	
		Methyl Ethyl Ketone (2-Butanone)	2012/07/27	<3.0		ppbv	
		Methyl Isobutyl Ketone	2012/07/27	<3.2		ppbv	
		Methyl Butyl Ketone (2-Hexanone)	2012/07/27	<2.0		ppbv	
		Methyl t-butyl ether (MTBE)	2012/07/27	<0.20		ppbv	
		Ethyl Acetate	2012/07/27	<2.2		ppbv	
		1,1-Dichloroethylene	2012/07/27	<0.25		ppbv	
		cis-1,2-Dichloroethylene	2012/07/27	<0.19		ppbv	
		trans-1,2-Dichloroethylene	2012/07/27	<0.20		ppbv	
		Methylene Chloride(Dichloromethane)	2012/07/27	<0.80		ppbv	
		Chloroform	2012/07/27	<0.15		ppbv	
		Carbon Tetrachloride	2012/07/27	<0.30		ppbv	
		1,1-Dichloroethane	2012/07/27	<0.20		ppbv	
		1,2-Dichloroethane	2012/07/27	<0.20		ppbv	
		Ethylene Dibromide	2012/07/27	<0.17		ppbv	
		1,1,1-Trichloroethane	2012/07/27	<0.30		ppbv	
		1,1,2-Trichloroethane	2012/07/27	<0.15		ppbv	
		1,1,2,2-Tetrachloroethane	2012/07/27	<0.20		ppbv	
		cis-1,3-Dichloropropene	2012/07/27	<0.18		ppbv	
		trans-1,3-Dichloropropene	2012/07/27	<0.17		ppbv	
		1,2-Dichloropropane	2012/07/27	<0.40		ppbv	
		Bromomethane	2012/07/27	<0.18		ppbv	
		Bromoform	2012/07/27	<0.20		ppbv	
		Bromodichloromethane	2012/07/27	<0.20		ppbv	
		Dibromochloromethane	2012/07/27	<0.20		ppbv	

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Eastmount Environmental Services
Attention: Anthony Stratton
Client Project #: 11-138
P.O. #:
Site Location: SPRAGUE - RESIDUAL OIL TANK #3

Quality Assurance Report (Continued)

Maxxam Job Number: GB2A7647

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2923594 DVO	Method Blank	Heptane	2012/07/27	<0.30		ppbv	
		Trichloroethylene	2012/07/27	<0.30		ppbv	
		Tetrachloroethylene	2012/07/27	<0.20		ppbv	
		Benzene	2012/07/27	<0.18		ppbv	
		Toluene	2012/07/27	<0.20		ppbv	
		Ethylbenzene	2012/07/27	<0.20		ppbv	
		p+m-Xylene	2012/07/27	<0.37		ppbv	
		o-Xylene	2012/07/27	<0.20		ppbv	
		Styrene	2012/07/27	<0.20		ppbv	
		1,3,5-Trimethylbenzene	2012/07/27	<0.50		ppbv	
		1,2,4-Trimethylbenzene	2012/07/27	<0.50		ppbv	
		4-ethyltoluene	2012/07/27	<2.2		ppbv	
		Chlorobenzene	2012/07/27	<0.20		ppbv	
		Benzyl chloride	2012/07/27	<1.0		ppbv	
		1,3-Dichlorobenzene	2012/07/27	<0.40		ppbv	
		1,4-Dichlorobenzene	2012/07/27	<0.40		ppbv	
		1,2-Dichlorobenzene	2012/07/27	<0.40		ppbv	
		1,2,4-Trichlorobenzene	2012/07/27	<2.0		ppbv	
		Hexachlorobutadiene	2012/07/27	<3.0		ppbv	
		Hexane	2012/07/27	<0.30		ppbv	
		Cyclohexane	2012/07/27	<0.20		ppbv	
		Tetrahydrofuran	2012/07/27	<0.40		ppbv	
		1,4-Dioxane	2012/07/27	<2.0		ppbv	
		Xylene (Total)	2012/07/27	<0.60		ppbv	

Spiked Blank: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.
Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.
Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.
(1) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.

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SAMPLE#: OE4453

Sprague Tank #3 Run 5 / 7809

Component	MW	ppbv	ug/m^3
Isobutane	58	6500	15413
Unknown hydrocarbon C4H8 Mol. Wt. 56	56	6100	13966
Unknown hydrocarbon C4H8 Mol. Wt. 56	56	2900	6639
Unknown hydrocarbon C4H8 Mol. Wt. 56	56	2000	4579
Butane, 2-methyl-	72	17000	50041
2-Pentene	70	1900	5437
Unknown hydrocarbon C5H10 Mol. Wt. 70	70	3400	9730
Unknown hydrocarbon C5H10 Mol. Wt. 70	70	1700	4865
Unknown hydrocarbon C5H10 Mol. Wt. 70	70	4900	14023
Cyclopentene	68	1800	5004
Pentane, 2-methyl-	86	18000	63287
Pentane, 3-methyl-	86	7300	25666
1-Hexene	84	1300	4464
2-Hexene, (Z)-	84	1500	5151
Unknown isomer of 3-methyl-2-Pentene	84	1400	4808
Cyclopentane, methyl-	84	9400	32281
Cyclopentene, 1-methyl-	82	1400	4693
Hexane, 3-methyl-	100	4600	18806
Cyclic hydrocarbon C7H14 Mol. Wt. 98	98	2800	11218
Cyclic hydrocarbon C7H14 Mol. Wt. 98	98	1500	6010
Cyclic hydrocarbon C7H14 Mol. Wt. 98	98	2200	8814
Cycloheptane	98	2000	8013
Cyclopentane, ethyl-	98	1400	5609
Heptane, 2-methyl-	114	4400	20507
Heptane, 3-methyl-	114	2400	11186
Cyclic hydrocarbon C8H16 Mol. Wt. 112	112	2400	10989
Octane	114	7070	32951
Cyclic hydrocarbon C8H16 Mol. Wt. 112	112	1400	6410
Cyclohexane, ethyl-	112	1400	6410
Cyclohexane, 1,1,3-trimethyl-	126	1700	8757
Nonane	128	4800	25119
Unknown isomer of dimethyloctane	141	1400	8070
Unknown aromatic hydrocarbon C9H12 Mol. Wt. 120	120	1600	7850
Unknown alipahtic hydrcoarbon C11H24 Mol. Wt. 156	156	1300	8291
Undecane	156	2100	13393
4,7-Methanoindene, 3a,4,5,6,7,7a-hexahydro-, endo-	134	1300	7122