

APPENDIX C

DATA SUMMARY TABLES

TABLE C-1

RESULTS OF ANALYSES FOR METALS IN SOIL

PARAMETERS	CCME Table 1	AMSRP Tier II	MDL	BP1	Z3M	ZONE 6	ZONE 7	ZONE 8	ZONE 9
	Agricultural (*)	(+)	Depth>	0.2 m	0.3 m	0.35 m	0.25 m	0.15 m	0.21 m
Aluminum	-	-	100	5200	-	6600	3300	5400	2800
Antimony	20	-	1.0	<1.0	-	<1.0	<1.0	<1.0	<1.0
Arsenic	12	30	1.0	4.9	-	4.5	2.1	3.9	<1.0
Barium	750	-	10	39	-	36	35	27	21
Beryllium	4	-	0.40	<0.40	-	<0.40	<0.40	<0.40	<0.40
Boron	2	-	0.80	2.2*	1.9	1.5	1.6	1.5	1.5
Cadmium	1.4	5	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Chromium	64	250	1.0	21	-	23	11	18	9.7
Cobalt	40	50	1.0	4.2	-	3.5	1.7	3.3	1
Copper	63	100	5.0	9.9	9	9.7	<5.0	6.7	<5.0
Iron	-	-	100	9900	-	11000	5400	8900	3500
Lead	70	500	1.0	1.6	1.9	2.2	4.5	1.8	<1.0
Magnesium	-	-	100	3400	-	3400	1900	3000	1400
Manganese	-	-	2.0	120	-	90	47	76	36
Mercury	6.6	2	0.050	<0.050	-	<0.050	<0.050	<0.050	<0.050
Molybdenum	5	-	0.40	<0.40	-	<0.40	<0.40	<0.40	<0.40
Nickel	50	100	1.0	14	-	10	5.5	9.8	3.8
Selenium	1	-	0.50	<0.50	-	<0.50	<0.50	<0.50	<0.50
Silver	20	-	1.0	<1.0	-	<1.0	<1.0	<1.0	<1.0
Thallium	1	-	0.30	<0.30	-	<0.30	<0.30	<0.30	<0.30
Tin	5	-	1.0	<1.0	-	<1.0	1.2	1.1	<1.0
Uranium	23	-	1.0	<1.0	-	<1.0	<1.0	<1.0	<1.0
Vanadium	130	-	1.0	20	-	21	10	18	7.1
Zinc	200	500	10	27	22	19	13	17	<10

TABLE C-1

RESULTS OF ANALYSES FOR METALS IN SOIL

NOTES:

All parameter values in µg/g (ppm) unless otherwise indicated.

**Canadian Soil Quality Guidelines for the Protection of Environmental and Human Health,
CCME (1999, updated 2004, 2007, 2008, 2011, 2012 and 2014):**

* Exceeds Table 1 Soil Quality Guidelines for the Protection of Environmental and Human Health
Agricultural Property Use, Coarse Grained Soil Standards

**Abandoned Military Site Remediation Protocol, Indian and Northern Affairs Canada
Northern Affairs Organization contaminated Sites Program Final Report (December 2008)**

+ Exceeds Table 4.1 - DEW Line cleanup Criteria for Soil, Tier II Standards

MDL Method detection limit

-- No MDL reported by the laboratory.

- Standard not available.

< Not detected.

na Not analyzed.

TABLE C-2

RESULTS OF ANALYSES FOR BTEX AND PETROLEUM HYDROCARBON (PHCs) IN SOIL

PARAMETERS	CCME/CWS Table 1 Agricultural shading	AMSRP Tier II shading	MDL Depth>	LFB1 0.1 m	DUP1 Duplicate of LFB1 0.1 m	LFB2 0.1 m	LFB3 0.1 m	LFB4 0.1 m	LFB5 0.1 m	LFB6 0.1 m	ZONE 2 BP1 0.7 m
BTEX											
Benzene	0.030	-	0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Toluene	0.37	-	0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Ethyl Benzene	0.82	-	0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Xylenes (Total)	11	-	0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040
m+p Xylenes	-	-	0.40	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040
o-Xylene	-	-	0.20	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Hydrocarbons											
F1 (C6-C10)	30	-	12	<12	<12	<12	<12	<12	<12	<12	<12
F1 (C6-C10 - BTEX)	30	-	12	<12	<12	<12	<12	<12	<12	<12	<12
F2 (C10-C16)	150	-	10	<10	<10	<10	<10	<10	<10	<10	<10
F3 (C16-C34)	300	-	50	<50	<50	<50	<50	<50	<50	<50	<50
F4 (C34-C50)	2800	-	50	<50	<50	<50	<50	<50	<50	<50	<50
F1+F2+F3 (Type B)	-	2500	-	<	<	<	<	<	<	<	<
F3+F4 (Type A)	-	20,000	-	<	<	<	<	<	<	<	<

TABLE C-2

RESULTS OF ANALYSES FOR BTEX AND PETROLEUM HYDROCARBON (PHCs) IN SOIL

PARAMETERS	CCME/CWS Table 1 Agricultural shading	AMSRP Tier II shading	MDL Depth>	Z3 S-1 1.1 m	Z3 S-1B 1.6 m	DUP 5 Duplicate of Z3 S-1b 1.6 m	Z3 S-3 1.1 m	Z3 DUP 1 Duplicate of Z3 S-3 1.1 m	Z3 S-6 1.1 m	Z3 S-10 1.1 m	Z3 S-12 1.1 m
BTEX											
Benzene	0.030	-	0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Toluene	0.37	-	0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Ethyl Benzene	0.82	-	0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.058
Xylenes (Total)	11	-	0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	1.4
m+p Xylenes	-	-	0.40	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	0.67
o-Xylene	-	-	0.20	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.71
Hydrocarbons											
F1 (C6-C10)	30	-	12	62	<12	<12	17	25	<12	<12	300
F1 (C6-C10 - BTEX)	30	-	12	62	<12	<12	17	25	<12	<12	300
F2 (C10-C16)	150	-	10	2300	180	140	1800	1900	<10	<10	5200
F3 (C16-C34)	300	-	50	480	130	89	380	420	<50	<50	930
F4 (C34-C50)	2800	-	50	<50	<50	<50	<50	<50	<50	<50	<50
F1+F2+F3 (Type B)	-	2500	-	2842	310	229	2197	2345	<	<	6430
F3+F4 (Type A)	-	20,000	-	480	130	89	380	420	<	<	930

TABLE C-2

RESULTS OF ANALYSES FOR BTEX AND PETROLEUM HYDROCARBON (PHCs) IN SOIL

PARAMETERS	CCME/CWS Table 1 Agricultural shading	AMSRP Tier II shading	MDL Depth>	Z3 S12B 1.6 m	DUP4 Duplicate of Z3 S-12b 1.1 m	Z3 S12C 1.98 m	Z3 S-14 1.1 m	Z3 S-17 1.1 m	Z3 S-17B 1.6 m	Z3 S17F 2.59 m	Z3 S-19B 1.6 m	Z3 S19F 2.59 m
BTEX												
Benzene	0.030	-	0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.02	0.015
Toluene	0.37	-	0.020	<0.020	<0.020	<0.020	<0.020	0.041	0.4	<0.020	0.71	0.49
Ethyl Benzene	0.82	-	0.010	0.23	0.19	<0.010	<0.010	0.1	1.1	<0.010	0.99	0.79
Xylenes (Total)	11	-	0.040	4.9	4.2	<0.040	<0.040	2.9	20	<0.040	29	8.6
m+p Xylenes	-	-	0.40	2.6	2.2	<0.040	<0.040	1.1	11	<0.040	17	5.3
o-Xylene	-	-	0.20	2.3	2	<0.020	<0.020	1.8	9.1	<0.020	12	3.3
Hydrocarbons												
F1 (C6-C10)	30	-	12	290	390	<12	<12	630	1200	<12	2700	190
F1 (C6-C10 - BTEX)	30	-	12	290	380	<12	<12	630	1200	<12	2700	180
F2 (C10-C16)	150	-	10	4000	3800	<10	37	4800	5700	<10	8900	2000
F3 (C16-C34)	300	-	50	1200	1100	<50	<50	2100	1300	<50	2400	420
F4 (C34-C50)	2800	-	50	<50	<50	<50	<50	1200	<50	<50	130	<50
F1+F2+F3 (Type B)	-	2500	-	5490	5280	<	37	7530	8200	<	14000	2600
F3+F4 (Type A)	-	20,000	-	1200	1100	<	<	3300	1300	<	2530	420

TABLE C-2

RESULTS OF ANALYSES FOR BTEX AND PETROLEUM HYDROCARBON (PHCs) IN SOIL

PARAMETERS	CCME/CWS Table 1 Agricultural shading	AMSRP Tier II shading	MDL Depth>	Z3-S-20 1.1 m	Z3 S23E 2.44 m	Z3 S23F 2.59 m	Z3 S23G 2.74 m	Z3 S-24B 1.6 m	Z3 DUP3 Duplicate of Z3 24B 1.6 m	Z3 S-25 1.1 m	Z3 S-25B 1.6 m	Z3 S25F 2.59 m
BTEX												
Benzene	0.030	-	0.0050	<0.0050	<0.0050	0.24	<0.0050	<0.0050	<0.0050	<0.0050	0.024	0.35
Toluene	0.37	-	0.020	<0.020	<0.020	5.5	<0.020	0.091	0.08	<0.020	0.64	11
Ethyl Benzene	0.82	-	0.010	<0.010	<0.010	6.5	0.033	0.086	0.055	<0.010	1	9.8
Xylenes (Total)	11	-	0.040	<0.040	<0.040	56	0.36	9.4	7.5	<0.040	32	110
m+p Xylenes	-	-	0.40	<0.040	<0.040	36	0.22	4.6	3.7	<0.040	17	67
o-Xylene	-	-	0.20	<0.020	<0.020	20	0.14	4.8	3.8	<0.020	15	40
Hydrocarbons												
F1 (C6-C10)	30	-	12	<12	<12	2000	<12	1300	1500	<12	2200	3700
F1 (C6-C10 - BTEX)	30	-	12	<12	<12	1900	<12	1300	1500	<12	2200	3600
F2 (C10-C16)	150	-	10	36	<10	9000	130	6900	6100	1700	16000	18000
F3 (C16-C34)	300	-	50	<50	<50	1900	<50	1500	1300	520	3300	4200
F4 (C34-C50)	2800	-	50	<50	<50	67	<50	<50	<50	<50	220	<500
F1+F2+F3 (Type B)	-	2500	-	36	<	12800	130	9700	8900	2220	21500	25800
F3+F4 (Type A)	-	20,000	-	<	<	1967	<	1500	1300	520	3520	4200

TABLE C-2

RESULTS OF ANALYSES FOR BTEX AND PETROLEUM HYDROCARBON (PHCs) IN SOIL

PARAMETERS	CCME/CWS Table 1 Agricultural shading	AMSRP Tier II shading	MDL Depth>	Z3 S25G 2.74 m	Z3 S-28 1.1 m	Z3 S-32 1.1 m	Z3 S-34 1.1 m	Z3 S34B 1.6 m	Z3 S34C 1.98 m	Z3 S-35 1.1 m	Z3 S-36 1.1 m	Z3 S-37 1.1 m
BTEX												
Benzene	0.030	-	0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Toluene	0.37	-	0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Ethyl Benzene	0.82	-	0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Xylenes (Total)	11	-	0.040	0.058	<0.040	<0.040	0.093	2	<0.040	<0.040	<0.040	<0.040
m+p Xylenes	-	-	0.40	<0.040	<0.040	<0.040	<0.040	0.62	<0.040	<0.040	<0.040	<0.040
o-Xylene	-	-	0.20	0.058	<0.020	<0.020	0.093	1.4	<0.020	<0.020	<0.020	<0.020
Hydrocarbons												
F1 (C6-C10)	30	-	12	<12	<12	<12	53	160	<12	<12	<12	<12
F1 (C6-C10 - BTEX)	30	-	12	<12	<12	<12	53	150	<12	<12	<12	<12
F2 (C10-C16)	150	-	10	150	<10	<10	2000	4200	<10	<10	<10	230
F3 (C16-C34)	300	-	50	<50	<50	<50	510	1100	<50	<50	<50	61
F4 (C34-C50)	2800	-	50	<50	<50	<50	<50	<50	<50	<50	<50	<50
F1+F2+F3 (Type B)	-	2500	-	150	<	<	2563	5450	<	<	<	291
F3+F4 (Type A)	-	20,000	-	<	<	<	510	1100	<	<	<	61

TABLE C-2

RESULTS OF ANALYSES FOR BTEX AND PETROLEUM HYDROCARBON (PHCs) IN SOIL

PARAMETERS	CCME/CWS Table 1 Agricultural shading	AMSRP Tier II shading	MDL Depth>	Z3-DUP2 Duplicate of Z3 S37 1.1 m	Z3 S-38 1.1 m	Z3 S-39 1.1 m	Z3 S-40 1.1 m	Z3 S-101B 1.6 m	Z3-WA 1.5 m	Z3-WB 2.1 m	Z3 BNG 2.74 m	Z3 BWG 2.74 m
BTEX												
Benzene	0.030	-	0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Toluene	0.37	-	0.020	<0.020	<0.020	<0.020	<0.020	0.027	<0.020	<0.020	<0.020	<0.020
Ethyl Benzene	0.82	-	0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Xylenes (Total)	11	-	0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040
m+p Xylenes	-	-	0.40	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040
o-Xylene	-	-	0.20	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Hydrocarbons												
F1 (C6-C10)	30	-	12	<12	<12	<12	<12	<12	<12	<12	<12	<12
F1 (C6-C10 - BTEX)	30	-	12	<12	<12	<12	<12	<12	<12	<12	<12	<12
F2 (C10-C16)	150	-	10	430	<10	<10	1500	10	<10	<10	<10	<10
F3 (C16-C34)	300	-	50	99	<50	<50	220	<50	56	<50	<50	<50
F4 (C34-C50)	2800	-	50	<50	<50	<50	<50	<50	<50	<50	<50	<50
F1+F2+F3 (Type B)	-	2500	-	529	<	<	1720	10	56	<	<	<
F3+F4 (Type A)	-	20,000	-	99	<	<	220	<	56	<	<	<

TABLE C-2

RESULTS OF ANALYSES FOR BTEX AND PETROLEUM HYDROCARBON (PHCs) IN SOIL

PARAMETERS	CCME/CWS Table 1 Agricultural shading	AMSRP Tier II shading	MDL Depth>	DUP-6 Duplicate of Z3 BWG 2.74 m	ZONE 3 FLOOR-1 3.05 m	ZONE 3 FLOOR-2 3.05 m	ZONE 3 WALL-1 2.9 m	ZONE 3 WALL-2 2.9 m	Z4 S-2 0.5 m	Z4 DUP1 Duplicate of Z4 S-2 0.5 m	Z4 S-3 0.5 m	Z4 S-5 0.5 m
BTEX												
Benzene	0.030	-	0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Toluene	0.37	-	0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.049
Ethyl Benzene	0.82	-	0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.61
Xylenes (Total)	11	-	0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	14
m+p Xylenes	-	-	0.40	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	8
o-Xylene	-	-	0.20	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	5.6
Hydrocarbons												
F1 (C6-C10)	30	-	12	<12	<12	<12	<12	<12	<12	38	<12	480
F1 (C6-C10 - BTEX)	30	-	12	<12	<12	<12	<12	<12	<12	38	<12	470
F2 (C10-C16)	150	-	10	<10	30	130	<10	<10	900	770	<10	2400
F3 (C16-C34)	300	-	50	<50	57	140	<50	<50	670	590	<50	780
F4 (C34-C50)	2800	-	50	<50	<50	<50	<50	<50	<50	<50	<50	<50
F1+F2+F3 (Type B)	-	2500	-	<	87	270	<	<	1570	1398	<	3650
F3+F4 (Type A)	-	20,000	-	<	57	140	<	<	670	590	<	780

TABLE C-2

RESULTS OF ANALYSES FOR BTEX AND PETROLEUM HYDROCARBON (PHCs) IN SOIL

PARAMETERS	CCME/CWS Table 1 Agricultural shading	AMSRP Tier II shading	MDL Depth>	Z4-S5B 1.6 m	Z4 S-7 0.5 m	Z4 S-9 0.5 m	Z4 S-10 0.5 m	Z4 S-11 0.5 m	Z4-S11B 1.1 m	Z4-DUP3 Duplicate of Z4 S-11b 1.1 m	Z4 S-12 0.5 m	Z4 DUP2 Duplicate of Z4 S-12 0.5 m
BTEX												
Benzene	0.030	-	0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Toluene	0.37	-	0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.12	0.14	<0.020	<0.020
Ethyl Benzene	0.82	-	0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.96	0.93	<0.010	<0.010
Xylenes (Total)	11	-	0.040	<0.040	<0.040	<0.040	<0.040	<0.040	10	9.8	<0.040	<0.040
m+p Xylenes	-	-	0.40	<0.040	<0.040	<0.040	<0.040	<0.040	6.9	6.5	<0.040	<0.040
o-Xylene	-	-	0.20	<0.020	<0.020	<0.020	<0.020	<0.020	3.5	3.2	0.037	<0.020
Hydrocarbons												
F1 (C6-C10)	30	-	12	<12	<12	<12	<12	36	180	180	14	48
F1 (C6-C10 - BTEX)	30	-	12	<12	<12	<12	<12	36	170	170	14	48
F2 (C10-C16)	150	-	10	<10	<10	<10	350	3500	2000	1200	86	82
F3 (C16-C34)	300	-	50	<50	<50	<50	87	890	280	170	<50	<50
F4 (C34-C50)	2800	-	50	<50	<50	<50	<50	<50	<50	<50	<50	<50
F1+F2+F3 (Type B)	-	2500	-	<	<	<	437	4426	2450	1540	100	130
F3+F4 (Type A)	-	20,000	-	<	<	<	87	890	280	170	<	<

TABLE C-2

RESULTS OF ANALYSES FOR BTEX AND PETROLEUM HYDROCARBON (PHCs) IN SOIL

PARAMETERS	CCME/CWS Table 1 Agricultural shading	AMSRP Tier II shading	MDL Depth>	Z4 S-13 0.5 m	Z4 S-14 0.5 m	Z4 S-15 0.5 m	Z4-S16 1.1 m	ZONE 5 BASE 0.3 m	Z5-NW 0.3 m	Z5-EW 0.3 m	Z5-WW 0.3 m
BTEX											
Benzene	0.030	-	0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Toluene	0.37	-	0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Ethyl Benzene	0.82	-	0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Xylenes (Total)	11	-	0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040
m+p Xylenes	-	-	0.40	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040
o-Xylene	-	-	0.20	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Hydrocarbons											
F1 (C6-C10)	30	-	12	<12	<12	<12	<12	<12	<12	<12	<12
F1 (C6-C10 - BTEX)	30	-	12	<12	<12	<12	<12	<12	<12	<12	<12
F2 (C10-C16)	150	-	10	<10	<10	<10	<10	<10	<10	<10	<10
F3 (C16-C34)	300	-	50	<50	<50	<50	<50	<50	<50	<50	<50
F4 (C34-C50)	2800	-	50	<50	<50	<50	<50	<50	<50	<50	<50
F1+F2+F3 (Type B)	-	2500	-	<	<	<	<	<	<	<	<
F3+F4 (Type A)	-	20,000	-	<	<	<	<	<	<	<	<

TABLE C-2

RESULTS OF ANALYSES FOR BTEX AND PETROLEUM HYDROCARBON (PHCs) IN SOIL

PARAMETERS	CCME/CWS Table 1 Agricultural shading	AMSRP Tier II shading	MDL Depth>	ZONE 6A 0.35 m	ZONE 6B 0.35 m	ZONE 6C 0.35 m	ZONE 6 NORTH 0.25 m	DUP2 Duplicate of ZONE 6 North 0.25 m	ZONE 6 EAST 0.25 m	ZONE 6 WEST 0.25 m	ZONE 7A 0.25 m
BTEX											
Benzene	0.030	-	0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Toluene	0.37	-	0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Ethyl Benzene	0.82	-	0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Xylenes (Total)	11	-	0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040
m+p Xylenes	-	-	0.40	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040
o-Xylene	-	-	0.20	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Hydrocarbons											
F1 (C6-C10)	30	-	12	<12	<12	<12	<12	<12	<12	<12	<12
F1 (C6-C10 - BTEX)	30	-	12	<12	<12	<12	<12	<12	<12	<12	<12
F2 (C10-C16)	150	-	10	<10	61	<10	<10	<10	<10	<10	<10
F3 (C16-C34)	300	-	50	<50	<50	<50	<50	<50	<50	61	75
F4 (C34-C50)	2800	-	50	<50	<50	<50	<50	<50	<50	<50	<50
F1+F2+F3 (Type B)	-	2500	-	<	61	<	<	<	<	61	75
F3+F4 (Type A)	-	20,000	-	<	<	<	<	<	<	61	75

TABLE C-2

RESULTS OF ANALYSES FOR BTEX AND PETROLEUM HYDROCARBON (PHCs) IN SOIL

PARAMETERS	CCME/CWS Table 1 Agricultural shading	AMSRP Tier II shading	MDL Depth>	ZONE 7B 0.25 m	Z7-NW 0.25 m	Z7-EW 0.25 m	Z7-WW 0.25 m	ZONE 8A 0.9 m	ZONE 8B 0.9 m	ZONE 8C 0.9 m	ZONE 8D 0.9 m	Z8 S-8AR 1.5 m
BTEX												
Benzene	0.030	-	0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Toluene	0.37	-	0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Ethyl Benzene	0.82	-	0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Xylenes (Total)	11	-	0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040
m+p Xylenes	-	-	0.40	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040
o-Xylene	-	-	0.20	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Hydrocarbons												
F1 (C6-C10)	30	-	12	<12	<12	<12	<12	<12	<12	<12	<12	<12
F1 (C6-C10 - BTEX)	30	-	12	<12	<12	<12	<12	<12	<12	<12	<12	<12
F2 (C10-C16)	150	-	10	<10	<10	<10	<10	260	63	<10	<10	<10
F3 (C16-C34)	300	-	50	50	<50	<50	<50	130	460	200	<50	<50
F4 (C34-C50)	2800	-	50	<50	<50	<50	<50	<50	100	69	<50	<50
F1+F2+F3 (Type B)	-	2500	-	50	<	<	<	390	523	200	<	<
F3+F4 (Type A)	-	20,000	-	50	<	<	<	130	560	269	<	<

TABLE C-2

RESULTS OF ANALYSES FOR BTEX AND PETROLEUM HYDROCARBON (PHCs) IN SOIL

PARAMETERS	CCME/CWS Table 1 Agricultural shading	AMSRP Tier II shading	MDL Depth>	Z8 S-8BR 1.5 m	Z8 DUP1 Duplicate of Z8 - SAR 0.9 m	Z9-NW 0.05 m	Z9-EW 0.05 m	Z9-WW 0.05 m	Z10 S-1 0.5 m	Z10 S-3 0.5 m	Z10 S-5 0.5 m	Z10 DUP Duplicate of Z10 S-5 0.5 m
BTEX												
Benzene	0.030	-	0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Toluene	0.37	-	0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Ethyl Benzene	0.82	-	0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Xylenes (Total)	11	-	0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040
m+p Xylenes	-	-	0.40	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040
o-Xylene	-	-	0.20	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Hydrocarbons												
F1 (C6-C10)	30	-	12	16	<12	<12	<12	<12	<12	<12	<12	<12
F1 (C6-C10 - BTEX)	30	-	12	16	<12	<12	<12	<12	<12	<12	<12	<12
F2 (C10-C16)	150	-	10	<10	<10	<10	<10	<10	<10	<10	<10	<10
F3 (C16-C34)	300	-	50	<50	<50	<50	<50	<50	<50	<50	<50	<50
F4 (C34-C50)	2800	-	50	<50	<50	<50	<50	<50	<50	<50	<50	<50
F1+F2+F3 (Type B)	-	2500	-	16	<	<	<	<	<	<	<	<
F3+F4 (Type A)	-	20,000	-	<	<	<	<	<	<	<	<	<

TABLE C-2

RESULTS OF ANALYSES FOR BTEX AND PETROLEUM HYDROCARBON (PHCs) IN SOIL

PARAMETERS	CCME/CWS Table 1 Agricultural shading	AMSRP Tier II shading	MDL Depth>	Z10 S-6 0.5 m	Z10 S-8 0.5 m	Z10 S-9 0.5 m	SP-1 0.15 m	SP-2 0.15 m	SP-3 0.15 m	SP-4 0.15 m	SP-5 0.15 m	SP-6 0.15 m
BTEX												
Benzene	0.030	-	0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Toluene	0.37	-	0.020	<0.020	<0.020	<0.020	0.024	<0.020	<0.020	<0.020	<0.020	<0.020
Ethyl Benzene	0.82	-	0.010	<0.010	<0.010	<0.010	0.035	<0.010	<0.010	<0.010	<0.010	<0.010
Xylenes (Total)	11	-	0.040	<0.040	<0.040	<0.040	1.9	<0.040	<0.040	<0.040	<0.040	<0.040
m+p Xylenes	-	-	0.40	<0.040	<0.040	<0.040	0.84	<0.040	<0.040	<0.040	<0.040	<0.040
o-Xylene	-	-	0.20	<0.020	<0.020	<0.020	1.1	<0.020	<0.020	<0.020	<0.020	<0.020
Hydrocarbons												
F1 (C6-C10)	30	-	12	<12	<12	<12	79	16	<12	<12	22	18
F1 (C6-C10 - BTEX)	30	-	12	<12	<12	<12	77	16	<12	<12	22	18
F2 (C10-C16)	150	-	10	<10	<10	<10	2700	320	330	300	600	780
F3 (C16-C34)	300	-	50	<50	<50	<50	640	170	240	140	240	240
F4 (C34-C50)	2800	-	50	<50	<50	<50	<50	<50	<50	<50	<50	<50
F1+F2+F3 (Type B)	-	2500	-	<	<	<	3417	506	570	440	862	1038
F3+F4 (Type A)	-	20,000	-	<	<	<	640	170	240	140	240	240

TABLE C-2

RESULTS OF ANALYSES FOR BTEX AND PETROLEUM HYDROCARBON (PHCs) IN SOIL

PARAMETERS	CCME/CWS Table 1 Agricultural shading	AMSRP Tier II shading	MDL Depth>	TC 16 0.15 m	TC DUP Duplicate of TC 16 0.15 m	TC 21 0.15 m	TC 26 0.15 m	TC 29 0.15 m	TC30 0.15 m	TC 34 0.15 m	TC 34B 0.15 m	TC-13 (DC) ¹ 0.15 m
BTEX												
Benzene	0.030	-	0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Toluene	0.37	-	0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Ethyl Benzene	0.82	-	0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Xylenes (Total)	11	-	0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040
m+p Xylenes	-	-	0.40	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040
o-Xylene	-	-	0.20	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.024
Hydrocarbons												
F1 (C6-C10)	30	-	12	<12	<12	<12	<12	<12	<12	<12	<12	24
F1 (C6-C10 - BTEX)	30	-	12	<12	<12	<12	<12	<12	<12	<12	<12	24
F2 (C10-C16)	150	-	10	360	150	240	230	110	240	480	94	1000
F3 (C16-C34)	300	-	50	180	110	150	330	150	180	240	120	370
F4 (C34-C50)	2800	-	50	<50	<50	<50	59	<50	<50	<50	<50	<50
F1+F2+F3 (Type B)	-	2500	-	540	260	390	560	260	420	720	214	1394
F3+F4 (Type A)	-	20,000	-	180	110	150	389	150	180	240	120	370

TABLE C-2

RESULTS OF ANALYSES FOR BTEX AND PETROLEUM HYDROCARBON (PHCs) IN SOIL

PARAMETERS	CCME/CWS Table 1 Agricultural shading	AMSRP Tier II shading	MDL Depth>	TC-14 (DC) ¹ 0.15 m	TC-15 (DC) ¹ 0.15 m	TC-16 (DC) ¹ 0.15 m	TC-17 (DC) ¹ 0.15 m	TC-18 (DC) ¹ 0.15 m	TC-19 (DC) ¹ 0.15 m	TC-20 (DC) ¹ 0.15 m	TC-21 (DC) ¹ 0.15 m	TC-22 (DC) ¹ 0.15 m
BTEX												
Benzene	0.030	-	0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Toluene	0.37	-	0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Ethyl Benzene	0.82	-	0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Xylenes (Total)	11	-	0.040	<0.040	<0.040	<0.040	<0.040	<0.040	0.79	<0.040	<0.040	<0.040
m+p Xylenes	-	-	0.40	<0.040	<0.040	<0.040	<0.040	<0.040	0.19	<0.040	<0.040	<0.040
o-Xylene	-	-	0.20	<0.020	<0.020	<0.020	<0.020	<0.020	0.60	<0.020	<0.020	<0.020
Hydrocarbons												
F1 (C6-C10)	30	-	12	<12	<12	<12	<12	<12	140	<12	<12	<12
F1 (C6-C10 - BTEX)	30	-	12	<12	<12	<12	<12	<12	150	<12	<12	<12
F2 (C10-C16)	150	-	10	<10	240	250	830	280	1800	160	170	200
F3 (C16-C34)	300	-	50	<50	100	170	300	150	450	85	93	120
F4 (C34-C50)	2800	-	50	<50	<50	<50	<50	<50	<50	<50	<50	<50
F1+F2+F3 (Type B)	-	2500	-	<	340	420	1130	430	2400	245	263	320
F3+F4 (Type A)	-	20,000	-	<	100	170	300	150	450	85	93	120

TABLE C-2

RESULTS OF ANALYSES FOR BTEX AND PETROLEUM HYDROCARBON (PHCs) IN SOIL

PARAMETERS	CCME/CWS Table 1 Agricultural shading	AMSRP Tier II shading	MDL Depth>	TC-23 (DC) ¹ 0.15 m	TC-24 (DC) ¹ 0.15 m	TC-25 (DC) ¹ 0.15 m	TC-26 (DC) ¹ 0.15 m	TC-27 (DC) ¹ 0.15 m	TC-28 (DC) ¹ 0.15 m	TC-29 (DC) ¹ 0.15 m	TC-31 (DC) ¹ 0.15 m	TC-32 (DC) ¹ 0.15 m
BTEX												
Benzene	0.030	-	0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Toluene	0.37	-	0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Ethyl Benzene	0.82	-	0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Xylenes (Total)	11	-	0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040
m+p Xylenes	-	-	0.40	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040
o-Xylene	-	-	0.20	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Hydrocarbons												
F1 (C6-C10)	30	-	12	<12	<12	<12	<12	<12	<12	<12	<12	18
F1 (C6-C10 - BTEX)	30	-	12	<12	<12	<12	<12	<12	<12	<12	<12	18
F2 (C10-C16)	150	-	10	200	150	260	250	150	870	310	600	1200
F3 (C16-C34)	300	-	50	130	140	140	240	110	440	190	260	430
F4 (C34-C50)	2800	-	50	<50	<50	<50	<50	<50	<50	<50	<50	<50
F1+F2+F3 (Type B)	-	2500	-	330	290	400	490	260	1310	500	860	1648
F3+F4 (Type A)	-	20,000	-	130	140	140	240	110	440	190	260	430

TABLE C-2

RESULTS OF ANALYSES FOR BTEX AND PETROLEUM HYDROCARBON (PHCs) IN SOIL

PARAMETERS	CCME/CWS Table 1 Agricultural shading	AMSRP Tier II shading	MDL Depth>	TC-33 (DC) ¹ 0.15 m	TC-34 (DC) ¹ 0.15 m	Base-1 August 2015 0.15 m	Base-2 August 2015 0.15 m	Base-3 August 2015 0.15 m	Base-4 August 2015 0.15 m	Base-5 August 2015 0.15 m	Base-6 August 2015 0.15 m	Base-B Duplicate of Base-2 0.15 m
BTEX												
Benzene	0.030	-	0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Toluene	0.37	-	0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Ethyl Benzene	0.82	-	0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Xylenes (Total)	11	-	0.040	<0.040	0.15	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040
m+p Xylenes	-	-	0.40	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040
o-Xylene	-	-	0.20	<0.020	0.15	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Hydrocarbons												
F1 (C6-C10)	30	-	12	23	13	<12	<12	<12	<12	<12	<12	<12
F1 (C6-C10 - BTEX)	30	-	12	23	13	<12	<12	<12	<12	<12	<12	<12
F2 (C10-C16)	150	-	10	790	850	<10	<10	<10	<10	<10	<10	<10
F3 (C16-C34)	300	-	50	290	220	<50	<50	<50	<50	<50	<50	<50
F4 (C34-C50)	2800	-	50	<50	<50	<50	<50	<50	<50	<50	<50	<50
F1+F2+F3 (Type B)	-	2500	-	1103	1083	<	<	<	<	<	<	<
F3+F4 (Type A)	-	20,000	-	290	220	<	<	<	<	<	<	<

TABLE C-2

RESULTS OF ANALYSES FOR BTEX AND PETROLEUM HYDROCARBON (PHCs) IN SOIL

NOTES:

All parameter values in µg/g (ppm) unless otherwise indicated.

Canadian Soil Quality Guidelines for the Protection of Environmental and Human Health, CCME (1999, updated 2004, 2007, 2008, 2011, 2012, 2013):

shading Exceeds Table 1 Soil Quality Guidelines for Commercial Land Uses for the Protection of Environmental and Human Health.

Summary of Tier I Levels for Surface Soil; Canada-Wide Standards for Petroleum Hydrocarbons (PHC) in Soil

shading Exceeds Tier 1- Soil Quality Guidelines, Commercial Land Use, coarse -grained soils

**Abandoned Military Site Remediation Protocol, Indian and Northern Affairs Canada
Northern Affairs Organization Contaminated Sites Program Final Report (December 2008)**

shading Exceeds Table 4.1 - DEW Line cleanup Criteria for Soil, Tier II Standards

1 Samples taken and submitted by Delta Carter Joint Venture (DC)

MDL Reportable Detection Limit

-- No MDL reported by the laboratory.

- Standard not available.

< Not detected.

na Not analyzed.

TABLE C-3**HYDROCARBON FIELD TEST-KIT SUMMARY**

Impact Zone/Area	Sample ID	Date	Reading PPM
3	Z3 - S1	17-Jul-14	93
3	Z3 - S1b	24-Jul-14	432
3	Z3 - S2	17-Jul-14	0
3	Z3 - S2bb	24-Jul-14	22
3	Z3 - S3	17-Jul-14	149
3	Z3 - S4	17-Jul-14	7
3	Z3 - S5	17-Jul-14	7
3	Z3 - S6	17-Jul-14	0
3	Z3 - S7	17-Jul-14	6
3	Z3 - S8	17-Jul-14	0
3	Z3 - S9	17-Jul-14	0
3	Z3 - S10	17-Jul-14	0
3	Z3 - S11	17-Jul-14	97
3	Z3 - S12	17-Jul-14	135
3	Z3 - S12b	24-Jul-14	off scale
3	Z3 - S13	17-Jul-14	17
3	Z3 - S14	17-Jul-14	202
3	Z3 - S15	17-Jul-14	69
3	Z3 - S16	18-Jul-14	0
3	Z3 - S17	18-Jul-14	2487
3	Z3 - 17b	20-Jul-14	off scale
3	Z3 - S17f	27-Jul-14	33
3	Z3 - S18	18-Jul-14	46
3	Z3 - 18b	20-Jul-14	off scale
3	Z3 - S19	18-Jul-14	1527
3	Z3 - 19b	20-Jul-14	2
3	Z3 - S19f	27-Jul-14	1811
3	Z3 - S20	18-Jul-14	0
3	Z3 - S21	18-Jul-14	0
3	Z3 - S22	18-Jul-14	0

TABLE C-3

HYDROCARBON FIELD TEST-KIT SUMMARY

Impact Zone/Area	Sample ID	Date	Reading PPM
3	Z3 - S23	18-Jul-14	773
3	Z3 - S23f	27-Jul-14	off scale
3	Z3 - S24	18-Jul-14	984
3	Z3 - S25	18-Jul-14	200
3	Z3 - 24b	20-Jul-14	813
3	Z3 - 25b	20-Jul-14	2328
3	Z3 - S25f	27-Jul-14	off scale
3	Z3 - S26	18-Jul-14	46
3	Z3 - S27	18-Jul-14	0
3	Z3 - S28	18-Jul-14	0
3	Z3 - S29	18-Jul-14	2030
3	Z3 - 29b	20-Jul-14	2400
3	Z3 - S30	18-Jul-14	321
3	Z3 - S31	18-Jul-14	687
3	Z3 - S32	18-Jul-14	0
3	Z3 - S33	18-Jul-14	0
3	Z3 - 33b	20-Jul-14	off scale
3	Z3 - S34	18-Jul-14	57
3	Z3 - S34b	24-Jul-14	off scale
3	Z3 - S35	18-Jul-14	0
3	Z3 - S36	18-Jul-14	0
3	Z3 - S37	18-Jul-14	96
3	Z3 - S38	18-Jul-14	0
3	Z3 - S39	18-Jul-14	11
3	Z3 - S40	18-Jul-14	1441
3	Z3 - 101b	20-Jul-14	0
4	Z4 - S1	20-Jul-14	0
4	Z4 - S2	20-Jul-14	450
4	Z4 - S3	20-Jul-14	3
4	Z4 - S4	20-Jul-14	0
4	Z4 - S5	20-Jul-14	0
4	Z4 - S6	20-Jul-14	0
4	Z4 - S7	20-Jul-14	9

TABLE C-3

HYDROCARBON FIELD TEST-KIT SUMMARY

Impact Zone/Area	Sample ID	Date	Reading PPM
4	Z4 - S8	20-Jul-14	21
4	Z4 - S9	20-Jul-14	19
4	Z4 - S10	20-Jul-14	46
4	Z4 - S11	20-Jul-14	off scale
4	Z4 - S11BTK	20-Jul-14	0
4	Z4 - S12	20-Jul-14	108
4	Z4 - S13	20-Jul-14	0
4	Z4 - S14	20-Jul-14	0
4	Z4 - S15	20-Jul-14	9
8	Z8 - S-ar	21-Jul-14	0
8	Z8 - S-br	21-Jul-14	188
10	Z10 - S1	17-Jul-14	0
10	Z10 - S2	17-Jul-14	0
10	Z10 - S3	17-Jul-14	0
10	Z10 - S4	17-Jul-14	0
10	Z10 - S5	17-Jul-14	0
10	Z10 - S6	17-Jul-14	0
10	Z10 - S7	17-Jul-14	0
10	Z10 - S8	17-Jul-14	0
10	Z10 - S9	17-Jul-14	0
SP	SP - S1	20-Jul-14	off scale
SP	SP - S2	20-Jul-14	474
SP	SP - S3	20-Jul-14	19
SP	SP - S4	20-Jul-14	419
SP	SP - S5	20-Jul-14	595
SP	SP - S6	20-Jul-14	899
SP	SP 7	24-Jul-14	1057
SP	SP 8	24-Jul-14	1067
SP	SP 9	24-Jul-14	1386
SP	SP 10	24-Jul-14	1843
SP	SP 11	24-Jul-14	1465
SP	SP 12	24-Jul-14	2182
TC	TC - 13	09-Aug-14	1551

TABLE C-3

HYDROCARBON FIELD TEST-KIT SUMMARY

Impact Zone/Area	Sample ID	Date	Reading PPM
TC	TC - 14	09-Aug-14	296
TC	TC - 15	09-Aug-14	735
TC	TC - 16	09-Aug-14	1155
TC	16	11-Aug-14	356
TC	16D	11-Aug-14	337
TC	TC - 17	09-Aug-14	1117
TC	TC - 18	09-Aug-14	937
TC	TC - 19	09-Aug-14	2107
TC	TC - 20	09-Aug-14	565
TC	TC - 21	09-Aug-14	558
TC	21	11-Aug-14	294
TC	21D	11-Aug-14	151
TC	TC - 22	09-Aug-14	969
TC	TC - 23	09-Aug-14	411
TC	TC - 24	09-Aug-14	781
TC	TC - 25	09-Aug-14	789
TC	TC - 26	09-Aug-14	581
TC	26	11-Aug-14	281
TC	TC - 27	09-Aug-14	512
TC	TC - 28	09-Aug-14	1782
TC	TC - 29	09-Aug-14	910
TC	29	11-Aug-14	169
TC	TC - 30	09-Aug-14	1179
TC	TC - 31	09-Aug-14	1190
TC	TC - 32	09-Aug-14	1904
TC	TC - 33	09-Aug-14	1151
TC	TC - 34	09-Aug-14	1317
TC	34	11-Aug-14	92
FC Baseline Fuel cache-1	FC 1	17-Apr-14	0
FC Baseline Fuel cache-2	FC 2	17-Apr-14	0
FC Baseline Fuel cache-1	FC DUP1	17-Apr-14	0
Baseline Camp Area	C-1	04-Jul-14	0
Baseline Camp Area	C-2	04-Jul-14	45

TABLE C-3**HYDROCARBON FIELD TEST-KIT SUMMARY**

Impact Zone/Area	Sample ID	Date	Reading PPM
Post-Op TC-14	363	18-Sep-14	298
Post-Op TC-18	364	18-Sep-14	382
Post-Op TC-22	365	18-Sep-14	367
Post-Op TC-22	365-D	18-Sep-14	328
Post-Op TC-30	367	18-Sep-14	304
Post-Op TC-34	368	18-Sep-14	199
Post-Op Camp Area	369	18-Sep-14	84
Post-Op Camp Area	371	18-Sep-14	63
Post-Op Drum Cache-1	DC1	18-Sep-14	389
Post-Op Drum cache-2	DC2	18-Sep-14	0
Post-Op Camp Area	C	11-Aug-14	300
Post-Op TC-24	B	11-Aug-14	0

TABLE C-4

ASSESSMENT OF QA/QC SAMPLES IN SOIL

PARAMETERS	MDL	MDLx5	LFB1	LFB DUP1 Duplicate of LFB1	Average	RPD %	MDL	MDLx5	Z3 S-1B	DUP 5 Duplicate of Z3 S-1b	Average	RPD %
BTEX												
Benzene	0.0050	0.025	<	<	NC	NC	0.0050	0.025	<	<	NC	NC
Toluene	0.020	0.1	<	<	NC	NC	0.020	0.1	<	<	NC	NC
Ethyl Benzene	0.010	0.05	<	<	NC	NC	0.010	0.05	<	<	NC	NC
Xylenes (Total)	0.040	0.2	<	<	NC	NC	0.040	0.2	<	<	NC	NC
m+p Xylenes	0.40	2	<	<	NC	NC	0.40	2	<	<	NC	NC
o-Xylene	0.20	1	<	<	NC	NC	0.20	1	<	<	NC	NC
Hydrocarbons												
F1 (C6-C10)	12	60	<	<	NC	NC	12	60	<	<	NC	NC
F1 (C6-C10 - BTEX)	12	60	<	<	NC	NC	12	60	<	<	NC	NC
F2 (C10-C16)	10	50	<	<	NC	NC	10	50	180	140	160	25
F3 (C16-C34)	50	250	<	<	NC	NC	50	250	130	89	110	37
F4 (C34-C50)	50	250	<	<	NC	NC	50	250	<	<	NC	NC

NOTES:

All values in µg/g (ppm) unless otherwise indicated.

RPD Relative Percent Difference

BOLD RPD exceeds 40%

MDL Method Detection Limit.

-- No MDL reported by the laboratory.

< Not detected.

NA Not analyzed.

NC RPD values not calculated where one or both results are below laboratory MDLs, or <5 x MDL

TABLE C-4

ASSESSMENT OF QA/QC SAMPLES IN SOIL

PARAMETERS	MDL	MDLx5	Z3 S-3	Z3 DUP 1 Duplicate of Z3 S-3	Average	RPD %	MDL	MDLx5	Z3 S-12B	DUP4 Duplicate of Z3 S-12b	Average	RPD %
BTEX												
Benzene	0.0050	0.025	<	<	NC	NC	0.0050	0.025	<	<	NC	NC
Toluene	0.020	0.1	<	<	NC	NC	0.020	0.1	<	<	NC	NC
Ethyl Benzene	0.010	0.05	<	<	NC	NC	0.010	0.05	0.23	0.19	0.210	19
Xylenes (Total)	0.040	0.2	<	<	NC	NC	0.040	0.2	4.9	4.2	4.550	15
m+p Xylenes	0.40	2	<	<	NC	NC	0.40	2	2.6	2.2	2.400	17
o-Xylene	0.20	1	<	<	NC	NC	0.20	1	2.3	2	2.150	14
Hydrocarbons												
F1 (C6-C10)	12	60	17	25	NC	NC	12	60	290	390	340	26
F1 (C6-C10 - BTEX)	12	60	17	25	NC	NC	12	60	290	380	335	27
F2 (C10-C16)	10	50	1800	1900	1850	5	10	50	4000	3800	3900	5
F3 (C16-C34)	50	250	380	420	400	10	50	250	1200	1100	1150	9
F4 (C34-C50)	50	250	<	<	NC	NC	50	250	<	<	NC	NC

NOTES:

All values in µg/g (ppm) unless otherwise indicated.

RPD Relative Percent Difference

BOLD RPD exceeds 40%

MDL Method Detection Limit.

-- No MDL reported by the laboratory.

< Not detected.

NA Not analyzed.

NC RPD values not calculated where one or both results are below laboratory MDLs, or <5 x MDL

TABLE C-4

ASSESSMENT OF QA/QC SAMPLES IN SOIL

PARAMETERS	MDL	MDLx5	Z3 S-24B	Z3 DUP3 Duplicate of Z3 24B	Average	RPD %	MDL	MDLx5	Z3 S-37	Z3-DUP2 Duplicate of Z3 S37	Average	RPD %
BTEX												
Benzene	0.0050	0.025	<	<	NC	NC	0.0050	0.025	<	<	NC	NC
Toluene	0.020	0.1	0.091	0.08	0.086	NC	0.020	0.1	<	<	NC	NC
Ethyl Benzene	0.010	0.05	0.086	0.055	0.071	44	0.010	0.05	<	<	NC	NC
Xylenes (Total)	0.040	0.2	9.4	7.5	8.450	22	0.040	0.2	<	<	NC	NC
m+p Xylenes	0.40	2	4.6	3.7	4.150	22	0.40	2	<	<	NC	NC
o-Xylene	0.20	1	4.8	3.8	4.300	23	0.20	1	<	<	NC	NC
Hydrocarbons												
F1 (C6-C10)	12	60	1300	1500	1400	14	12	60	<	<	NC	NC
F1 (C6-C10 - BTEX)	12	60	1300	1500	1400	14	12	60	<	<	NC	NC
F2 (C10-C16)	10	50	6900	6100	6500	12	10	50	230	430	330	61
F3 (C16-C34)	50	250	1500	1300	1400	14	50	250	61	99	80	NC
F4 (C34-C50)	50	250	<	<	NC	NC	50	250	<	<	NC	NC

NOTES:

All values in µg/g (ppm) unless otherwise indicated.

RPD Relative Percent Difference

BOLD RPD exceeds 40%

MDL Method Detection Limit.

-- No MDL reported by the laboratory.

< Not detected.

NA Not analyzed.

NC RPD values not calculated where one or both results are below laboratory MDLs, or <5 x MDL

TABLE C-4

ASSESSMENT OF QA/QC SAMPLES IN SOIL

PARAMETERS	MDL	MDLx5	Z3 BWG	DUP-6 Duplicate of Z3 BWG	Average	RPD %	MDL	MDLx5	Z4 S-2	Z4 DUP1 Duplicate of Z4 S-2	Average	RPD %
BTEX												
Benzene	0.0050	0.025	<	<	NC	NC	0.0050	0.025	<	<	NC	NC
Toluene	0.020	0.1	<	<	NC	NC	0.020	0.1	<	<	NC	NC
Ethyl Benzene	0.010	0.05	<	<	NC	NC	0.010	0.05	<	<	NC	NC
Xylenes (Total)	0.040	0.2	<	<	NC	NC	0.040	0.2	<	<	NC	NC
m+p Xylenes	0.40	2	<	<	NC	NC	0.40	2	<	<	NC	NC
o-Xylene	0.20	1	<	<	NC	NC	0.20	1	<	<	NC	NC
Hydrocarbons												
F1 (C6-C10)	12	60	<	<	NC	NC	12	60	<	38	NC	NC
F1 (C6-C10 - BTEX)	12	60	<	<	NC	NC	12	60	<	38	NC	NC
F2 (C10-C16)	10	50	<	<	NC	NC	10	50	900	770	835	16
F3 (C16-C34)	50	250	<	<	NC	NC	50	250	670	590	630	13
F4 (C34-C50)	50	250	<	<	NC	NC	50	250	<	<	NC	NC

NOTES:

All values in µg/g (ppm) unless otherwise indicated.

RPD Relative Percent Difference

BOLD RPD exceeds 40%

MDL Method Detection Limit.

-- No MDL reported by the laboratory.

< Not detected.

NA Not analyzed.

NC RPD values not calculated where one or both results are below laboratory MDLs, or <5 x MDL

TABLE C-4

ASSESSMENT OF QA/QC SAMPLES IN SOIL

PARAMETERS	MDL	MDLx5	Z4-S11B	Z4-DUP3 Duplicate of Z4 S-11b	Average	RPD %	MDL	MDLx5	Z4 S-12	Z4 DUP2 Duplicate of Z4 S-12	Average	RPD %
BTEX												
Benzene	0.0050	0.025	<	<	NC	NC	0.0050	0.025	<	<	NC	NC
Toluene	0.020	0.1	0.12	0.14	0.130	15	0.020	0.1	<	<	NC	NC
Ethyl Benzene	0.010	0.05	0.96	0.93	0.945	3	0.010	0.05	<	<	NC	NC
Xylenes (Total)	0.040	0.2	10	9.8	9.900	2	0.040	0.2	<	<	NC	NC
m+p Xylenes	0.40	2	6.9	6.5	6.700	6	0.40	2	<	<	NC	NC
o-Xylene	0.20	1	3.5	3.2	3.350	9	0.20	1	0.037	<	NC	NC
Hydrocarbons												
F1 (C6-C10)	12	60	180	180	180	0	12	60	14	48	31	NC
F1 (C6-C10 - BTEX)	12	60	170	170	170	0	12	60	14	48	31	NC
F2 (C10-C16)	10	50	2000	1200	1600	50	10	50	86	82	84	5
F3 (C16-C34)	50	250	280	170	225	49	50	250	<	<	NC	NC
F4 (C34-C50)	50	250	<	<	NC	NC	50	250	<	<	NC	NC

NOTES:

All values in µg/g (ppm) unless otherwise indicated.

RPD Relative Percent Difference

BOLD RPD exceeds 40%

MDL Method Detection Limit.

-- No MDL reported by the laboratory.

< Not detected.

NA Not analyzed.

NC RPD values not calculated where one or both results are below laboratory MDLs, or <5 x MDL

TABLE C-4

ASSESSMENT OF QA/QC SAMPLES IN SOIL

PARAMETERS	MDL	MDLx5	ZONE 6 NORTH	DUP2 Duplicate of ZONE 6 North	Average	RPD %	MDL	MDLx5	Z8 S-8BR	Z8 DUP1 Duplicate of Z8 - SAR	Average	RPD %
BTEX												
Benzene	0.0050	0.025	<	<	NC	NC	0.0050	0.025	<	<	NC	NC
Toluene	0.020	0.1	<	<	NC	NC	0.020	0.1	<	<	NC	NC
Ethyl Benzene	0.010	0.05	<	<	NC	NC	0.010	0.05	<	<	NC	NC
Xylenes (Total)	0.040	0.2	<	<	NC	NC	0.040	0.2	<	<	NC	NC
m+p Xylenes	0.40	2	<	<	NC	NC	0.40	2	<	<	NC	NC
o-Xylene	0.20	1	<	<	NC	NC	0.20	1	<	<	NC	NC
Hydrocarbons												
F1 (C6-C10)	12	60	<	<	NC	NC	12	60	16	<	NC	NC
F1 (C6-C10 - BTEX)	12	60	<	<	NC	NC	12	60	16	<	NC	NC
F2 (C10-C16)	10	50	<	<	NC	NC	10	50	<	<	NC	NC
F3 (C16-C34)	50	250	<	<	NC	NC	50	250	<	<	NC	NC
F4 (C34-C50)	50	250	<	<	NC	NC	50	250	<	<	NC	NC

NOTES:

All values in µg/g (ppm) unless otherwise indicated.

RPD Relative Percent Difference

BOLD RPD exceeds 40%

MDL Method Detection Limit.

-- No MDL reported by the laboratory.

< Not detected.

NA Not analyzed.

NC RPD values not calculated where one or both results are below laboratory MDLs, or <5 x MDL

TABLE C-4

ASSESSMENT OF QA/QC SAMPLES IN SOIL

PARAMETERS	MDL	MDLx5	Z10 S-5	Z10 DUP Duplicate of Z10 S-5	Average	RPD %	MDL	MDLx5	TC 16	TC DUP Duplicate of TC 16	Average	RPD %
BTEX												
Benzene	0.0050	0.025	<	<	NC	NC	0.0050	0.025	<	<	NC	NC
Toluene	0.020	0.1	<	<	NC	NC	0.020	0.1	<	<	NC	NC
Ethyl Benzene	0.010	0.05	<	<	NC	NC	0.010	0.05	<	<	NC	NC
Xylenes (Total)	0.040	0.2	<	<	NC	NC	0.040	0.2	<	<	NC	NC
m+p Xylenes	0.40	2	<	<	NC	NC	0.40	2	<	<	NC	NC
o-Xylene	0.20	1	<	<	NC	NC	0.20	1	<	<	NC	NC
Hydrocarbons												
F1 (C6-C10)	12	60	<	<	NC	NC	12	60	<	<	NC	NC
F1 (C6-C10 - BTEX)	12	60	<	<	NC	NC	12	60	<	<	NC	NC
F2 (C10-C16)	10	50	<	<	NC	NC	10	50	360	150	255	82
F3 (C16-C34)	50	250	<	<	NC	NC	50	250	180	110	145	NC
F4 (C34-C50)	50	250	<	<	NC	NC	50	250	<	<	NC	NC

NOTES:

All values in µg/g (ppm) unless otherwise indicated.

RPD Relative Percent Difference

BOLD RPD exceeds 40%

MDL Method Detection Limit.

-- No MDL reported by the laboratory.

< Not detected.

NA Not analyzed.

NC RPD values not calculated where one or both results are below laboratory MDLs, or <5 x MDL

TABLE C-4

ASSESSMENT OF QA/QC SAMPLES IN SOIL

PARAMETERS	MDL	MDLx5	Base-2	Base -B Duplicate of Base-2	Average	RPD %
BTEX						
Benzene	0.0050	0.025	<	<	NC	NC
Toluene	0.020	0.1	<	<	NC	NC
Ethyl Benzene	0.010	0.05	<	<	NC	NC
Xylenes (Total)	0.040	0.2	<	<	NC	NC
m+p Xylenes	0.40	2	<	<	NC	NC
o-Xylene	0.20	1	<	<	NC	NC
Hydrocarbons						
F1 (C6-C10)	12	60	<	<	NC	NC
F1 (C6-C10 - BTEX)	12	60	<	<	NC	NC
F2 (C10-C16)	10	50	<	<	NC	NC
F3 (C16-C34)	50	250	<	<	NC	NC
F4 (C34-C50)	50	250	<	<	NC	NC

NOTES:

All values in µg/g (ppm) unless otherwise indicated.

RPD	Relative Percent Difference
BOLD	RPD exceeds 40%
MDL	Method Detection Limit.
--	No MDL reported by the laboratory.
<	Not detected.
NA	Not analyzed.
NC	RPD values not calculated where one or both results are below laboratory MDLs, or <5 x MDL

TABLE C-5A

RESULTS OF ANALYSES FOR METALS (TOTAL), GENERAL INORGANICS, AND ANIONS IN SURFACE WATER

PARAMETERS	CCME FWAL ¹	MOE PWQO ²	Selected EQGs	RDL	CL-1-SW Aug 2012	CL-1-SW Aug 2015	CL-2-SW Aug 2012	CL-6-SW Aug 2012	CL-6-SW Aug 2015	CL-7-SW Aug 2012
Total Metals										
Mercury (µg/L)	<u>0.026</u>	0.2	0.026	0.0020	0.0075	na	<0.0020	<0.0020	na	0.0025
Cadmium (µg/L)	0.002-0.004*	0.1*	0.002-0.004*	0.0050	0.0072	<0.020	0.0064	0.0054	<0.020	<0.0050
Aluminum	0.005-0.1*	0.015*	0.005-0.1*	0.0010	0.0085	0.018	0.0084	0.012	0.074	0.0079
Antimony	-	<u>0.02</u>	0.02	0.00060	<0.00060	<0.00060	<0.00060	<0.00060	<0.00060	<0.00060
Arsenic	<u>0.005*</u>	0.1	0.005*	0.00020	0.0015	0.0017	0.0017	0.00023	0.00032	0.00031
Barium	-	-	-	0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Beryllium	-	<u>0.011*</u>	0.011*	0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Boron	-	<u>0.2</u>	0.2	0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Calcium	-	-	-	0.30	2.0	2.1	2.0	0.86	0.96	0.85
Total Chromium	<u>0.0089</u>	0.0089	0.0089	0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Cobalt	-	<u>0.0009</u>	0.0009	0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030
Copper	<u>0.002*</u>	0.001*	0.002*	0.00020	0.00073	0.001	0.00066	0.00066	0.00093	0.00072
Iron	<u>0.3</u>	0.3	0.3	0.060	0.51	0.79	0.50	<0.060	0.12	<0.060
Lead	<u>0.001*</u>	0.005*	0.001*	0.00020	<0.00020	0.00024	<0.00020	<0.00020	<0.00020	<0.00020
Lithium	-	-	-	0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Magnesium	-	-	-	0.20	1.1	1.0	1.0	0.43	0.46	0.41
Manganese	-	-	-	0.0040	0.019	0.039	0.018	<0.0040	0.013	<0.0040
Molybdenum	<u>0.073</u>	0.04	0.073	0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Nickel	<u>0.025*</u>	0.025	0.025*	0.00050	<0.00050	0.00067	<0.00050	0.00070	0.0011	0.00097
Phosphorus	-	<u>0.01*</u>	0.01*	0.10	0.14	0.12	0.13	<0.10	<0.10	0.16
Potassium	-	-	-	0.30	0.76	0.74	0.74	<0.30	0.43	<0.30
Selenium	<u>0.001</u>	0.1	0.001	0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Silicon	-	-	-	0.10	0.62	0.65	0.62	<0.10	0.2	<0.10
Silver	<u>0.0001</u>	0.0001	0.0001	0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Sodium	-	-	-	0.50	0.94	0.57	0.94	<0.50	0.54	<0.50
Strontium	-	-	-	0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Sulphur	-	-	-	0.20	0.95	0.90	0.96	0.61	0.7	0.60
Thallium	<u>0.0008</u>	0.0003	0.0008	0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Tin	-	-	-	0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Titanium	-	-	-	0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0025	<0.0010
Uranium	-	<u>0.005</u>	0.005	0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Vanadium	-	<u>0.006</u>	0.006	0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Zinc	<u>0.03</u>	0.02	0.03	0.0030	0.0052	0.0079	0.0047	0.0058	<0.0030	0.0039
Misc. Organics										
Dissolved Chromium VI	0.001	-	0.001	0.0010	<0.0010	na	<0.0010	<0.0010	na	<0.0010
Total Dissolved Solids	-	-	-	10	44	<10	34	20	<10	22
Total Suspended Solids	-	-	-	1.0	1.0	na	1.0	<1.0	na	<1.0
Conductivity (µS/cm)	-	-	-	1.0	29	23	27	12	15	12
Hardness (CaCO ₃)	-	-	-	--	9.3	8.8	9.0	3.8	3.8	3.8
pH	-	-	-	--	6.89	6.81	6.88	6.48	6.37	6.48
Anions										
Alkalinity (PP as CaCO ₃)	-	-	-	0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Alkalinity (Total as CaCO ₃)	-	-	-	0.50	7.1	6.4	6.6	2.2	3.0	2.1
Bicarbonate (HCO ₃)	-	-	-	0.50	8.6	7.8	8.0	2.7	3.7	2.5
Carbonate (CO ₃)	-	-	-	0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Hydroxide (OH)	-	-	-	0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50

TABLE C-5A

RESULTS OF ANALYSES FOR METALS (TOTAL), GENERAL INORGANICS, AND ANIONS IN SURFACE WATER

PARAMETERS	CCME FWAL ¹	MOE PWQO ²	Selected EQGs	RDL	CL-8-SW Aug 2012	CL-8-SW Aug 2015
Total Metals						
Mercury (µg/L)	<u>0.026</u>	0.2	0.026	0.0020	<0.0020	na
Cadmium (µg/L)	0.002-0.004*	0.1*	0.002-0.004*	0.0050	0.0052	<0.020
Aluminum	0.005-0.1*	0.015*	0.005-0.1*	0.0010	0.011	0.012
Antimony	-	<u>0.02</u>	0.02	0.00060	<0.00060	<0.00060
Arsenic	<u>0.005*</u>	0.1	0.005*	0.00020	0.00024	0.00031
Barium	-	-	-	0.010	<0.010	<0.010
Beryllium	-	<u>0.011*</u>	0.011*	0.0010	<0.0010	<0.0010
Boron	-	<u>0.2</u>	0.2	0.020	<0.020	<0.020
Calcium	-	-	-	0.30	0.85	0.92
Total Chromium	<u>0.0089</u>	0.0089	0.0089	0.0010	<0.0010	<0.0010
Cobalt	-	<u>0.0009</u>	0.0009	0.00030	<0.00030	<0.00030
Copper	<u>0.002*</u>	0.001*	0.002*	0.00020	0.00097	0.0011
Iron	<u>0.3</u>	0.3	0.3	0.060	<0.060	<0.060
Lead	<u>0.001*</u>	0.005*	0.001*	0.00020	<0.00020	<0.00020
Lithium	-	-	-	0.020	<0.020	<0.020
Magnesium	-	-	-	0.20	0.42	0.45
Manganese	-	-	-	0.0040	<0.0040	<0.0040
Molybdenum	<u>0.073</u>	0.04	0.073	0.00020	<0.00020	<0.00020
Nickel	<u>0.025*</u>	0.025	0.025*	0.00050	0.00082	0.0011
Phosphorus	-	<u>0.01*</u>	0.01*	0.10	0.11	<0.10
Potassium	-	-	-	0.30	<0.30	0.42
Selenium	<u>0.001</u>	0.1	0.001	0.00020	<0.00020	<0.00020
Silicon	-	-	-	0.10	<0.10	<0.10
Silver	<u>0.0001</u>	0.0001	0.0001	0.00010	<0.00010	<0.00010
Sodium	-	-	-	0.50	<0.50	0.56
Strontium	-	-	-	0.020	<0.020	<0.020
Sulphur	-	-	-	0.20	0.65	0.72
Thallium	<u>0.0008</u>	0.0003	0.0008	0.00020	<0.00020	<0.00020
Tin	-	-	-	0.0010	<0.0010	<0.0010
Titanium	-	-	-	0.0010	<0.0010	<0.0010
Uranium	-	<u>0.005</u>	0.005	0.00010	<0.00010	<0.00010
Vanadium	-	<u>0.006</u>	0.006	0.0010	<0.0010	<0.0010
Zinc	<u>0.03</u>	0.02	0.03	0.0030	0.0030	<0.0030
Misc. Organics						
Dissolved Chromium VI	0.001	-	0.001	0.0010	<0.0010	na
Total Dissolved Solids	-	-	-	10	22	<10
Total Suspended Solids	-	-	-	1.0	<1.0	na
Conductivity (uS/cm)	-	-	-	1.0	12	13
Hardness (CaCO ₃)	-	-	-	--	3.7	3.8
pH	-	-	-	--	6.48	6.41
Anions						
Alkalinity (PP as CaCO ₃)	-	-	-	0.50	<0.50	<0.50
Alkalinity (Total as CaCO ₃)	-	-	-	0.50	2.0	2.1
Bicarbonate (HCO ₃)	-	-	-	0.50	2.4	2.6
Carbonate (CO ₃)	-	-	-	0.50	<0.50	<0.50
Hydroxide (OH)	-	-	-	0.50	<0.50	<0.50

TABLE C-5A

RESULTS OF ANALYSES FOR METALS (TOTAL), GENERAL INORGANICS, AND ANIONS IN SURFACE WATER

PARAMETERS	CCME FWAL ¹	MOE PWQO ²	Selected EQGs	RDL	CL-4-SW Aug 2012	CL-104-SW Aug 2012 Dup CL-4-SW	Duplicate Evaluation			CL-5-SW Aug 2012
							RPD	Acceptable	Average Concentration	
Total Metals										
Mercury (µg/L)	<u>0.026</u>	0.2	0.026	0.0020	<0.0020	<0.0020	NC	yes	<0.0020	na
Cadmium (µg/L)	0.002-0.004*	0.1*	0.002-0.004*	0.0050	0.015	0.012	22%	yes	0.0135	na
Aluminum	0.005-0.1*	0.015*	0.005-0.1*	0.0010	0.21	0.21	0%	yes	0.21	na
Antimony	-	<u>0.02</u>	0.02	0.00060	<0.00060	<0.00060	NC	yes	<0.00060	na
Arsenic	<u>0.005*</u>	0.1	0.005*	0.00020	0.0016	0.0016	0%	yes	0.0016	na
Barium	-	-	-	0.010	<0.010	<0.010	NC	yes	<0.010	na
Beryllium	-	<u>0.011*</u>	0.011*	0.0010	<0.0010	<0.0010	NC	yes	<0.0010	na
Boron	-	<u>0.2</u>	0.2	0.020	<0.020	<0.020	NC	yes	<0.020	na
Calcium	-	-	-	0.30	0.71	0.74	4%	yes	0.725	na
Total Chromium	<u>0.0089</u>	0.0089	0.0089	0.0010	<0.0010	0.0016	NC	yes	NC	na
Cobalt	-	<u>0.0009</u>	0.0009	0.00030	0.0011	0.0012	9%	yes	0.00115	na
Copper	<u>0.002*</u>	0.001*	0.002*	0.00020	0.0063	0.0064	2%	yes	0.00635	na
Iron	<u>0.3</u>	0.3	0.3	0.060	2.7	2.9	7%	yes	2.8	na
Lead	<u>0.001*</u>	0.005*	0.001*	0.00020	0.00037	0.00039	5%	yes	0.00038	na
Lithium	-	-	-	0.020	<0.020	<0.020	NC	yes	<0.020	na
Magnesium	-	-	-	0.20	0.62	0.69	11%	yes	0.655	na
Manganese	-	-	-	0.0040	0.014	0.014	0%	yes	0.014	na
Molybdenum	<u>0.073</u>	0.04	0.073	0.00020	<0.00020	<0.00020	NC	yes	<0.00020	na
Nickel	<u>0.025*</u>	0.025	0.025*	0.00050	0.0032	0.0035	9%	yes	0.00335	na
Phosphorus	-	<u>0.01*</u>	0.01*	0.10	<0.10	0.10	NC	yes	NC	na
Potassium	-	-	-	0.30	<0.30	<0.30	NC	yes	<0.30	na
Selenium	<u>0.001</u>	0.1	0.001	0.00020	<0.00020	<0.00020	NC	yes	<0.00020	na
Silicon	-	-	-	0.10	<0.10	<0.10	NC	yes	<0.10	na
Silver	<u>0.0001</u>	0.0001	0.0001	0.00010	<0.00010	<0.00010	NC	yes	<0.00010	na
Sodium	-	-	-	0.50	0.86	0.88	2%	yes	0.87	na
Strontium	-	-	-	0.020	<0.020	<0.020	NC	yes	<0.020	na
Sulphur	-	-	-	0.20	0.37	0.37	0%	yes	0.37	na
Thallium	<u>0.0008</u>	0.0003	0.0008	0.00020	<0.00020	<0.00020	NC	yes	<0.00020	na
Tin	-	-	-	0.0010	<0.0010	<0.0010	NC	yes	<0.0010	na
Titanium	-	-	-	0.0010	0.0027	0.0017	45%	no	0.0022	na
Uranium	-	<u>0.005</u>	0.005	0.00010	<0.00010	<0.00010	NC	yes	<0.00010	na
Vanadium	-	<u>0.006</u>	0.006	0.0010	<0.0010	<0.0010	NC	yes	<0.0010	na
Zinc	<u>0.03</u>	0.02	0.03	0.0030	0.0075	0.0067	11%	yes	0.0071	na
Misc. Organics										
Dissolved Chromium VI	0.001	-	0.001	0.0010	<0.0010	<0.0010	NC	yes	<0.0010	na
Total Dissolved Solids	-	-	-	10	60	58	3%	yes	59	18
Total Suspended Solids	-	-	-	1.0	7.0	9.0	25%	yes	8	<1.0
Conductivity (uS/cm)	-	-	-	1.0	13	13	0%	yes	13	8.8
Hardness (CaCO ₃)	-	-	-	--	4.4	4.3	2%	yes	4.35	na
pH	-	-	-	--	5.52	5.62	2%	yes	5.57	5.62
Anions										
Alkalinity (PP as CaCO ₃)	-	-	-	0.50	<0.50	<0.50	NC	yes	<0.50	<0.50
Alkalinity (Total as CaCO ₃)	-	-	-	0.50	0.85	0.85	0%	yes	0.85	<0.50
Bicarbonate (HCO ₃)	-	-	-	0.50	1.0	1.0	0%	yes	1	<0.50
Carbonate (CO ₃)	-	-	-	0.50	<0.50	<0.50	NC	yes	<0.50	<0.50
Hydroxide (OH)	-	-	-	0.50	<0.50	<0.50	NC	yes	<0.50	<0.50

TABLE C-5A

RESULTS OF ANALYSES FOR METALS (TOTAL), GENERAL INORGANICS, AND ANIONS IN SURFACE WATER

PARAMETERS	CCME FWAL ¹	MOE PWQO ²	Selected EQGs	RDL	CL-9-SW Aug 2012	CL-9-SW Aug 2015	CL-10-SW Aug 2012	CL-11-SW Aug 2012 Bkgrd	CL-12-SW Aug 2012 Bkgrd
Total Metals									
Mercury (µg/L)	<u>0.026</u>	0.2	0.026	0.0020	na	na	0.0046	0.0021	<0.0020
Cadmium (µg/L)	0.002-0.004*	0.1*	0.002-0.004*	0.0050	na	<0.020	<0.0050	0.0095	<0.0050
Aluminum	0.005-0.1*	0.015*	0.005-0.1*	0.0010	na	0.019	0.040	0.11	0.016
Antimony	-	<u>0.02</u>	0.02	0.00060	na	<0.00060	<0.00060	<0.00060	<0.00060
Arsenic	<u>0.005*</u>	0.1	0.005*	0.00020	na	0.0009	0.00057	0.0015	0.00029
Barium	-	-	-	0.010	na	<0.010	<0.010	<0.010	<0.010
Beryllium	-	<u>0.011*</u>	0.011*	0.0010	na	<0.0010	<0.0010	<0.0010	<0.0010
Boron	-	<u>0.2</u>	0.2	0.020	na	<0.020	<0.020	<0.020	<0.020
Calcium	-	-	-	0.30	na	0.71	0.56	1.6	2.0
Total Chromium	<u>0.0089</u>	0.0089	0.0089	0.0010	na	<0.0010	<0.0010	<0.0010	<0.0010
Cobalt	-	<u>0.0009</u>	0.0009	0.00030	na	<0.00030	<0.00030	0.0013	<0.00030
Copper	<u>0.002*</u>	0.001*	0.002*	0.00020	na	0.010	0.0018	0.0022	0.00080
Iron	<u>0.3</u>	0.3	0.3	0.060	na	0.130	0.180	1.3	<0.060
Lead	<u>0.001*</u>	0.005*	0.001*	0.00020	na	0.00048	0.00037	<0.00020	<0.00020
Lithium	-	-	-	0.020	na	<0.020	<0.020	<0.020	<0.020
Magnesium	-	-	-	0.20	na	0.51	0.34	1.2	0.43
Manganese	-	-	-	0.0040	na	<0.0040	<0.0040	0.014	<0.0040
Molybdenum	<u>0.073</u>	0.04	0.073	0.00020	na	<0.00020	<0.00020	<0.00020	<0.00020
Nickel	<u>0.025*</u>	0.025	0.025*	0.00050	na	0.00053	<0.00050	0.0056	0.00085
Phosphorus	-	<u>0.01*</u>	0.01*	0.10	na	<0.10	<0.10	<0.10	<0.10
Potassium	-	-	-	0.30	na	0.38	<0.30	0.79	0.38
Selenium	<u>0.001</u>	0.1	0.001	0.00020	na	<0.00020	<0.00020	<0.00020	<0.00020
Silicon	-	-	-	0.10	na	0.34	0.25	0.16	<0.10
Silver	<u>0.0001</u>	0.0001	0.0001	0.00010	na	<0.00010	<0.00010	<0.00010	<0.00010
Sodium	-	-	-	0.50	na	0.58	0.71	2.0	0.54
Strontium	-	-	-	0.020	na	<0.020	<0.020	<0.020	<0.020
Sulphur	-	-	-	0.20	na	0.49	0.34	2.2	0.61
Thallium	<u>0.0008</u>	0.0003	0.0008	0.00020	na	<0.00020	<0.00020	<0.00020	<0.00020
Tin	-	-	-	0.0010	na	<0.0010	<0.0010	<0.0010	<0.0010
Titanium	-	-	-	0.0010	na	<0.0010	<0.0010	0.0012	<0.0010
Uranium	-	<u>0.005</u>	0.005	0.00010	na	<0.00010	<0.00010	<0.00010	<0.00010
Vanadium	-	<u>0.006</u>	0.006	0.0010	na	<0.0010	<0.0010	<0.0010	<0.0010
Zinc	<u>0.03</u>	0.02	0.03	0.0030	na	0.0052	0.0038	0.0072	0.045
Misc. Organics									
Dissolved Chromium VI	0.001	-	0.001	0.0010	na	na	<0.0010	<0.0010	<0.0010
Total Dissolved Solids	-	-	-	10	24	<10	26	68	18
Total Suspended Solids	-	-	-	1.0	<1.0	na	<1.0	4.0	<1.0
Conductivity (uS/cm)	-	-	-	1.0	8.6	12	9.6	33	12
Hardness (CaCO3)	-	-	-	--	na	3.6	2.6	9.1	3.6
pH	-	-	-	--	6.34	6.38	6.38	6.34	6.44
Anions									
Alkalinity (PP as CaCO3)	-	-	-	0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Alkalinity (Total as CaCO3)	-	-	-	0.50	2.1	2.2	2.5	3.4	1.9
Bicarbonate (HCO3)	-	-	-	0.50	2.6	2.7	3.0	4.1	2.4
Carbonate (CO3)	-	-	-	0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Hydroxide (OH)	-	-	-	0.50	<0.50	<0.50	<0.50	<0.50	<0.50

TABLE C-5A

RESULTS OF ANALYSES FOR METALS (TOTAL), GENERAL INORGANICS, AND ANIONS IN SURFACE WATER

NOTES:

All parameter values in mg/L (ppm) unless otherwise indicated.

- 1 CCME (2007) Summary Table, Canadian Water Quality Guidelines for the Protection of Freshwater Aquatic Life (FWAL) Update 7.0
- 2 MOE (1994) Ontario Ministry of the Environment and Energy, Water Management - Policies, Guidelines, Provincial Water Quality Objectives, (PWQOs) Table 2

* Indicates that the lowest guideline value was used as quality criterion where compound guideline is a function of pH, alkalinity or hardness.

For pH less than 6.5, 5ug is used. For pH greater or equal to 6.5, 100ug is used.

- No available standard

-- No laboratory reportable detection limit

na Not analysed

NC Not Calculated - RPD values not calculated where one or both results are below laboratory MDLs, or <5 x MDL

RDL Reportable Detection Limit

RPD Relative Percent Difference

 Yellow shading denotes exceedances for selected EQGs

 Blue shading denotes where detection limit is greater than applicable guideline

 Green shading denotes sampled collected August 13, 2015

TABLE C-5B

RESULTS OF ANALYSES FOR METALS (DISSOLVED) IN SURFACE WATER

PARAMETERS	CCME FWAL ¹	MOE PWQO ²	Selected EQGs	RDL	CL-1-SW	CL-2-SW	CL-6-SW	CL-7-SW	CL-8-SW
Dissolved Metals									
Mercury (µg/L)	<u>0.026</u>	0.2	0.026	0.0020	<0.0020	0.0030 (2)	<0.0020	<0.0020	<0.0020
Cadmium (µg/L)	0.002-0.004*	0.1*	0.002-0.004*	0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Aluminum	0.005-0.1*	0.015*	0.005-0.1*	0.0010	0.0039	0.0054	0.014 (1)	0.0048	0.0081
Antimony	-	<u>0.02</u>	0.02	0.00060	<0.00060	<0.00060	<0.00060	<0.00060	<0.00060
Arsenic	<u>0.005*</u>	0.1	0.005*	0.00020	0.0012	0.0011	<0.00020	<0.00020	<0.00020
Barium	-	-	-	0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Beryllium	-	<u>0.011*</u>	0.011*	0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Boron	-	<u>0.2</u>	0.2	0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Calcium	-	-	-	0.30	2.0	1.9	0.82	0.83	0.83
Chromium	<u>0.0089</u>	0.0089	0.0089	0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Cobalt	-	<u>0.0009</u>	0.0009	0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030
Copper	<u>0.002*</u>	0.001*	0.002*	0.00020	0.00070	0.00051	0.00060	0.00055	0.00084
Iron	<u>0.3</u>	0.3	0.3	0.060	0.26	0.26	<0.060	<0.060	<0.060
Lead	<u>0.001*</u>	0.005*	0.001*	0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Lithium	-	-	-	0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Magnesium	-	-	-	0.20	1.1	1.0	0.42	0.41	0.41
Manganese	-	-	-	0.0040	0.013	0.012	<0.0040	<0.0040	<0.0040
Molybdenum	<u>0.073</u>	0.04	0.073	0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Nickel	<u>0.025*</u>	0.025	0.025*	0.00050	<0.00050	<0.00050	<0.00050	<0.00050	0.00076
Phosphorus	-	<u>0.01*</u>	0.01*	0.10	0.16 (2)	0.15 (2)	<0.10	0.13	0.18 (2)
Potassium	-	-	-	0.30	0.79 (2)	0.82 (2)	<0.30	<0.30	<0.30
Selenium	<u>0.001</u>	0.1	0.001	0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Silicon	-	-	-	0.10	0.61	0.59	<0.10	<0.10	<0.10
Silver	<u>0.0001</u>	0.0001	0.0001	0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Sodium	-	-	-	0.50	0.92	0.91	<0.50	<0.50	<0.50
Strontium	-	-	-	0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Sulphur	-	-	-	0.20	0.94	0.94	0.57	0.57	0.59
Thallium	<u>0.0008</u>	0.0003	0.0008	0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Tin	-	-	-	0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Titanium	-	-	-	0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Uranium	-	<u>0.005</u>	0.005	0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Vanadium	-	<u>0.006</u>	0.006	0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Zinc	<u>0.03</u>	0.02	0.03	0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030

TABLE C-5B

RESULTS OF ANALYSES FOR METALS (DISSOLVED) IN SURFACE WATER

PARAMETERS	CCME FWAL ¹	MOE PWQO ²	Selected EQGs	RDL	CL-4-SW	CL-104-SW	Duplicate Evaluation			CL-10-SW
							RPD	Acceptable	Average Concentration	
Dissolved Metals										
Mercury (µg/L)	<u>0.026</u>	0.2	0.026	0.0020	<0.0020	<0.0020	NC	yes	<0.0020	<0.0020
Cadmium (µg/L)	0.002-0.004*	0.1*	0.002-0.004*	0.0050	0.0074	<0.0050	NC	yes	nc	0.0064
Aluminum	0.005-0.1*	0.015*	0.005-0.1*	0.0010	0.11	0.11	0%	yes	0.11	0.026
Antimony	-	<u>0.02</u>	0.02	0.00060	<0.00060	<0.00060	NC	yes	<0.00060	<0.00060
Arsenic	<u>0.005*</u>	0.1	0.005*	0.00020	0.0010	0.0011	10%	yes	0.00105	0.00047
Barium	-	-	-	0.010	<0.010	<0.010	NC	yes	<0.010	<0.010
Beryllium	-	<u>0.011*</u>	0.011*	0.0010	<0.0010	<0.0010	NC	yes	<0.0010	<0.0010
Boron	-	<u>0.2</u>	0.2	0.020	<0.020	<0.020	NC	yes	<0.020	<0.020
Calcium	-	-	-	0.30	0.69	0.67	3%	yes	0.68	0.51
Chromium	<u>0.0089</u>	0.0089	0.0089	0.0010	<0.0010	<0.0010	NC	yes	<0.0010	<0.0010
Cobalt	-	<u>0.0009</u>	0.0009	0.00030	0.00092	0.00097	5%	yes	0.000945	<0.00030
Copper	<u>0.002*</u>	0.001*	0.002*	0.00020	0.0044	0.0044	0%	yes	0.0044	0.0016
Iron	<u>0.3</u>	0.3	0.3	0.060	0.99	0.87	13%	yes	0.93	0.074
Lead	<u>0.001*</u>	0.005*	0.001*	0.00020	<0.00020	<0.00020	NC	yes	<0.00020	0.00022
Lithium	-	-	-	0.020	<0.020	<0.020	NC	yes	<0.020	<0.020
Magnesium	-	-	-	0.20	0.66 (1)	0.64	3%	yes	0.65	0.33
Manganese	-	-	-	0.0040	0.012	0.012	0%	yes	0.012	<0.0040
Molybdenum	<u>0.073</u>	0.04	0.073	0.00020	<0.00020	<0.00020	NC	yes	<0.00020	<0.00020
Nickel	<u>0.025*</u>	0.025	0.025*	0.00050	0.0022	0.0024	9%	yes	0.0023	<0.00050
Phosphorus	-	<u>0.01*</u>	0.01*	0.10	<0.10	<0.10	NC	yes	<0.10	<0.10
Potassium	-	-	-	0.30	<0.30	<0.30	NC	yes	<0.30	0.32 (1)
Selenium	<u>0.001</u>	0.1	0.001	0.00020	<0.00020	<0.00020	NC	yes	<0.00020	<0.00020
Silicon	-	-	-	0.10	<0.10	<0.10	NC	yes	<0.10	0.26 (2)
Silver	<u>0.0001</u>	0.0001	0.0001	0.00010	<0.00010	<0.00010	NC	yes	<0.00010	<0.00010
Sodium	-	-	-	0.50	0.92 (1)	0.93 (1)	1%	yes	0.925	0.72 (1)
Strontium	-	-	-	0.020	<0.020	<0.020	NC	yes	<0.020	<0.020
Sulphur	-	-	-	0.20	0.32	0.32	0%	yes	0.32	0.31
Thallium	<u>0.0008</u>	0.0003	0.0008	0.00020	<0.00020	<0.00020	NC	yes	<0.00020	<0.00020
Tin	-	-	-	0.0010	<0.0010	<0.0010	NC	yes	<0.0010	<0.0010
Titanium	-	-	-	0.0010	<0.0010	<0.0010	NC	yes	<0.0010	<0.0010
Uranium	-	<u>0.005</u>	0.005	0.00010	<0.00010	<0.00010	NC	yes	<0.00010	<0.00010
Vanadium	-	<u>0.006</u>	0.006	0.0010	<0.0010	<0.0010	NC	yes	<0.0010	<0.0010
Zinc	<u>0.03</u>	0.02	0.03	0.0030	0.0060	0.0086 (1)	36%	yes	0.0073	0.0031

TABLE C-5B

RESULTS OF ANALYSES FOR METALS (DISSOLVED) IN SURFACE WATER

PARAMETERS	CCME FWAL ¹	MOE PWQO ²	Selected EQGs	RDL	CL-11-SW	CL-12-SW	TRIP BLANK	FIELD BLANK
Dissolved Metals								
Mercury (µg/L)	0.026	0.2	0.026	0.0020	0.0029 (1)	<0.0020	na	<0.0020
Cadmium (µg/L)	0.002-0.004*	0.1*	0.002-0.004*	0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Aluminum	0.005-0.1*	0.015*	0.005-0.1*	0.0010	0.078	0.0051	<0.0010	<0.0010
Antimony	-	0.02	0.02	0.00060	<0.00060	<0.00060	<0.00060	<0.00060
Arsenic	0.005*	0.1	0.005*	0.00020	0.0013	<0.00020	<0.00020	<0.00020
Barium	-	-	-	0.010	<0.010	<0.010	<0.010	<0.010
Beryllium	-	0.011*	0.011*	0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Boron	-	0.2	0.2	0.020	<0.020	<0.020	<0.020	<0.020
Calcium	-	-	-	0.30	1.6	0.77	<0.30	<0.30
Chromium	0.0089	0.0089	0.0089	0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Cobalt	-	0.0009	0.0009	0.00030	0.0013	<0.00030	<0.00030	<0.00030
Copper	0.002*	0.001*	0.002*	0.00020	0.0020	0.00062	<0.00020	<0.00020
Iron	0.3	0.3	0.3	0.060	0.75	<0.060	<0.060	<0.060
Lead	0.001*	0.005*	0.001*	0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Lithium	-	-	-	0.020	<0.020	<0.020	<0.020	<0.020
Magnesium	-	-	-	0.20	1.3 (2)	0.41	<0.20	<0.20
Manganese	-	-	-	0.0040	0.013	<0.0040	<0.0040	<0.0040
Molybdenum	0.073	0.04	0.073	0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Nickel	0.025*	0.025	0.025*	0.00050	0.0052	0.00054	<0.00050	<0.00050
Phosphorus	-	0.01*	0.01*	0.10	<0.10	<0.10	<0.10	<0.10
Potassium	-	-	-	0.30	0.91 (1)	0.38	<0.30	<0.30
Selenium	0.001	0.1	0.001	0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Silicon	-	-	-	0.10	0.14	<0.10	<0.10	<0.10
Silver	0.0001	0.0001	0.0001	0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Sodium	-	-	-	0.50	2.0	0.52	<0.50	<0.50
Strontium	-	-	-	0.020	<0.020	<0.020	<0.020	<0.020
Sulphur	-	-	-	0.20	2.2	0.59	<0.20	<0.20
Thallium	0.0008	0.0003	0.0008	0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Tin	-	-	-	0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Titanium	-	-	-	0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Uranium	-	0.005	0.005	0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Vanadium	-	0.006	0.006	0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Zinc	0.03	0.02	0.03	0.0030	0.0047	<0.0030	<0.0030	<0.0030

TABLE C-5B

RESULTS OF ANALYSES FOR METALS (DISSOLVED) IN SURFACE WATER

NOTES:

All parameter values in mg/L (ppm) unless otherwise indicated.

- 1 CCME (2007) Summary Table, Canadian Water Quality Guidelines for the Protection of Freshwater Aquatic Life (FWAL) Update 7.0
 - 2 MOE (1994) Ontario Ministry of the Environment and Energy, Water Management - Policies, Guidelines, Provincial Water Quality Objectives, (PWQOs) Table 2
- * Indicates that the lowest guideline value was used as quality criterion where compound guideline is a function of pH, alkalinity or hardness. For pH less than 6.5, 5ug is used. For pH greater or equal to 6.5, 100ug is used.
- (1) Dissolved greater than total. Results within acceptable limits of precision.
- (2) Dissolved greater than total. Results are within limits of uncertainty(MU).
- No available standard
- No laboratory reportable detection limit
- na Not analysed
- NC Not Calculated - RPD values not calculated where one or both results are below laboratory MDLs, or <5 x MDL
- RDL Reportable Detection Limit
- RPD Relative Percent Difference
-  Yellow shading denotes exceedances for selected EQGs
-  Blue shading denotes where detection limit is greater than applicable guideline

APPENDIX D (see CD ROM)

LABORATORY CERTIFICATES

Your Project #: 350600-508

Site Location: CONTWOYT LAKE WEATHER STATION

Attention:CHARLES GRAVELLE

DECOMMISSIONING CONSULTING SERVICES LTD.
ONTARIO
121 GRANTON DRIVE, UNIT 11
RICHMOND HILL, ON
CANADA L4B 3N4

Report Date: 2014/07/18

Report #: R1605907

Version: 1

CERTIFICATE OF ANALYSIS
MAXXAM JOB #: B460693
Received: 2014/07/15, 18:50

Sample Matrix: Soil
Samples Received: 26

Analyses	Quantity	Date		Laboratory Method	Analytical Method
		Extracted	Analyzed		
BTEX/F1 by HS GC/MS (MeOH extract)	2	2014/07/17	2014/07/17	AB SOP-00039	CCME, EPA 8260
BTEX/F1 by HS GC/MS (MeOH extract)	19	2014/07/17	2014/07/18	AB SOP-00039	CCME, EPA 8260
CCME Hydrocarbons (F2-F4 in soil)	21	2014/07/17	2014/07/18	AB SOP-00040 AB SOP-00036	CCME PHC-CWS
Elements by ICPMS - Soils	5	2014/07/18	2014/07/18	AB SOP-00043	EPA 200.8
Moisture	21	N/A	2014/07/18	AB SOP-00002	CCME PHC-CWS

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

Encryption Key

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

Tanya Eugene, M.Sc., Project Manager

Email: TEugine@maxxam.ca

Phone# (780)577-7144

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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.

Maxxam Job #: B460693
Report Date: 2014/07/18

DECOMMISSIONING CONSULTING SERVICES LTD.
Client Project #: 350600-508
Site Location: CONTWOYTO LAKE WEATHER STATION

RESULTS OF CHEMICAL ANALYSES OF SOIL

Maxxam ID		KC7869		KC7870		KC7871	KC7872		KC7873		
Sampling Date		2014/07/14		2014/07/14		2014/07/14	2014/07/14		2014/07/14		
	Units	LFB1	QC Batch	LFB2	QC Batch	LFB3	LFB4	QC Batch	LFB5	RDL	QC Batch

Physical Properties

Moisture	%	2.2	7568649	0.80	7568211	1.0	1.2	7568649	2.5	0.30	7568211
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RDL = Reportable Detection Limit

Maxxam ID		KC7874	KC7875	KC7876	KC7899	KC7900	KC7901	KC7902		
Sampling Date		2014/07/14	2014/07/14	2014/07/14	2014/07/14	2014/07/14	2014/07/14	2014/07/14		
	Units	LFB6	DUP1	DUP2	ZONE 5 BASE	ZONE 6A	ZONE 6B	ZONE 6C	RDL	QC Batch

Physical Properties

Moisture	%	1.5	1.4	13	5.0	16	17	18	0.30	7568649
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RDL = Reportable Detection Limit

Maxxam ID		KC7903	KC7904	KC7905	KC7906	KC7907	KC7908	KC7909		
Sampling Date		2014/07/14	2014/07/14	2014/07/14	2014/07/14	2014/07/14	2014/07/14	2014/07/14		
	Units	ZONE 6 NORTH	ZONE 6 EAST	ZONE 6 WEST	ZONE 7A	ZONE 7B	ZONE 8A	ZONE 8B	RDL	QC Batch

Physical Properties

Moisture	%	12	14	13	29	22	19	6.9	0.30	7568649
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RDL = Reportable Detection Limit

Maxxam ID		KC7910		KC7911		
Sampling Date		2014/07/14		2014/07/14		
	Units	ZONE 8C	QC Batch	ZONE 8D	RDL	QC Batch

Physical Properties

Moisture	%	8.8	7568211	12	0.30	7568649
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RDL = Reportable Detection Limit

Maxxam Job #: B460693
Report Date: 2014/07/18

DECOMMISSIONING CONSULTING SERVICES LTD.
Client Project #: 350600-508
Site Location: CONTWOYTO LAKE WEATHER STATION

PETROLEUM HYDROCARBONS (CCME)

Maxxam ID		KC7869	KC7870	KC7871	KC7872		KC7873		
Sampling Date		2014/07/14	2014/07/14	2014/07/14	2014/07/14		2014/07/14		
	Units	LFB1	LFB2	LFB3	LFB4	QC Batch	LFB5	RDL	QC Batch
Ext. Pet. Hydrocarbon									
F2 (C10-C16 Hydrocarbons)	mg/kg	<10	<10	<10	<10	7568560	<10	10	7566881
F3 (C16-C34 Hydrocarbons)	mg/kg	<50	<50	<50	<50	7568560	<50	50	7566881
F4 (C34-C50 Hydrocarbons)	mg/kg	<50	<50	<50	<50	7568560	<50	50	7566881
Reached Baseline at C50	mg/kg	Yes	Yes	Yes	Yes	7568560	Yes		7566881
Surrogate Recovery (%)									
O-TERPHENYL (sur.)	%	95	90	88	105	7568560	90		7566881
RDL = Reportable Detection Limit									

Maxxam ID		KC7874	KC7875	KC7876	KC7899	KC7900	KC7901	KC7902		
Sampling Date		2014/07/14	2014/07/14	2014/07/14	2014/07/14	2014/07/14	2014/07/14	2014/07/14		
	Units	LFB6	DUP1	DUP2	ZONE 5 BASE	ZONE 6A	ZONE 6B	ZONE 6C	RDL	QC Batch
Ext. Pet. Hydrocarbon										
F2 (C10-C16 Hydrocarbons)	mg/kg	<10	<10	<10	<10	<10	61	<10	10	7568560
F3 (C16-C34 Hydrocarbons)	mg/kg	<50	<50	<50	<50	<50	<50	<50	50	7568560
F4 (C34-C50 Hydrocarbons)	mg/kg	<50	<50	<50	<50	<50	<50	<50	50	7568560
Reached Baseline at C50	mg/kg	Yes	Yes	Yes	Yes	Yes	Yes	Yes		7568560
Surrogate Recovery (%)										
O-TERPHENYL (sur.)	%	90	99	91	101	95	97	100		7568560
RDL = Reportable Detection Limit										

Maxxam ID		KC7903	KC7904	KC7905	KC7906	KC7907	KC7908	KC7909		
Sampling Date		2014/07/14	2014/07/14	2014/07/14	2014/07/14	2014/07/14	2014/07/14	2014/07/14		
	Units	ZONE 6 NORTH	ZONE 6 EAST	ZONE 6 WEST	ZONE 7A	ZONE 7B	ZONE 8A	ZONE 8B	RDL	QC Batch
Ext. Pet. Hydrocarbon										
F2 (C10-C16 Hydrocarbons)	mg/kg	<10	<10	<10	<10	<10	260	63	10	7568560
F3 (C16-C34 Hydrocarbons)	mg/kg	<50	<50	61	75	50	130	460	50	7568560
F4 (C34-C50 Hydrocarbons)	mg/kg	<50	<50	<50	<50	<50	<50	100	50	7568560
Reached Baseline at C50	mg/kg	Yes	Yes	Yes	Yes	Yes	Yes	Yes		7568560
Surrogate Recovery (%)										
O-TERPHENYL (sur.)	%	88	94	89	98	96	101	85		7568560
RDL = Reportable Detection Limit										

Maxxam Job #: B460693
Report Date: 2014/07/18

DECOMMISSIONING CONSULTING SERVICES LTD.
Client Project #: 350600-508
Site Location: CONTWOYTO LAKE WEATHER STATION

PETROLEUM HYDROCARBONS (CCME)

Maxxam ID		KC7910	KC7911		
Sampling Date		2014/07/14	2014/07/14		
	Units	ZONE 8C	ZONE 8D	RDL	QC Batch
Ext. Pet. Hydrocarbon					
F2 (C10-C16 Hydrocarbons)	mg/kg	<10	<10	10	7568560
F3 (C16-C34 Hydrocarbons)	mg/kg	200	<50	50	7568560
F4 (C34-C50 Hydrocarbons)	mg/kg	69	<50	50	7568560
Reached Baseline at C50	mg/kg	Yes	Yes		7568560
Surrogate Recovery (%)					
O-TERPHENYL (sur.)	%	87	89		7568560
RDL = Reportable Detection Limit					

Maxxam Job #: B460693
Report Date: 2014/07/18

DECOMMISSIONING CONSULTING SERVICES LTD.
Client Project #: 350600-508
Site Location: CONTWOYTO LAKE WEATHER STATION

ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)

Maxxam ID		KC7864	KC7865	KC7866	KC7867	KC7868		
Sampling Date		2014/07/13	2014/07/13	2014/07/13	2014/07/13	2014/07/13		
	Units	BP1	ZONE 6	ZONE 7	ZONE 8	ZONE 9	RDL	QC Batch
Elements								
Total Antimony (Sb)	mg/kg			<1.0			1.0	7569634
Total Arsenic (As)	mg/kg			2.1			1.0	7569634
Total Barium (Ba)	mg/kg	39					10	7569634
Total Boron (B)	mg/kg	2.2					0.80	7569634
Total Cadmium (Cd)	mg/kg		<0.10				0.10	7569634
Total Chromium (Cr)	mg/kg		23				1.0	7569634
Total Copper (Cu)	mg/kg	9.9	9.7				5.0	7569634
Total Lead (Pb)	mg/kg	1.6	2.2	4.5			1.0	7569634
Total Tin (Sn)	mg/kg	<1.0	<1.0	1.2	1.1		1.0	7569634
Total Zinc (Zn)	mg/kg	27	19	13	17	<10	10	7569634
RDL = Reportable Detection Limit								

Maxxam Job #: B460693
Report Date: 2014/07/18

DECOMMISSIONING CONSULTING SERVICES LTD.
Client Project #: 350600-508
Site Location: CONTWOYT LAKE WEATHER STATION

VOLATILE ORGANICS BY GC-MS (SOIL)

Maxxam ID		KC7869		KC7870	KC7871	KC7872	KC7873		
Sampling Date		2014/07/14		2014/07/14	2014/07/14	2014/07/14	2014/07/14		
	Units	LFB1	QC Batch	LFB2	LFB3	LFB4	LFB5	RDL	QC Batch
Volatiles									
Benzene	mg/kg	<0.0050	7567415	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	7568574
Toluene	mg/kg	<0.020	7567415	<0.020	<0.020	<0.020	<0.020	0.020	7568574
Ethylbenzene	mg/kg	<0.010	7567415	<0.010	<0.010	<0.010	<0.010	0.010	7568574
Xylenes (Total)	mg/kg	<0.040	7567415	<0.040	<0.040	<0.040	<0.040	0.040	7568574
m & p-Xylene	mg/kg	<0.040	7567415	<0.040	<0.040	<0.040	<0.040	0.040	7568574
o-Xylene	mg/kg	<0.020	7567415	<0.020	<0.020	<0.020	<0.020	0.020	7568574
F1 (C6-C10) - BTEX	mg/kg	<12	7567415	<12	<12	<12	<12	12	7568574
(C6-C10)	mg/kg	<12	7567415	<12	<12	<12	<12	12	7568574
Surrogate Recovery (%)									
1,4-Difluorobenzene (sur.)	%	105	7567415	109	108	109	108		7568574
4-Bromofluorobenzene (sur.)	%	98	7567415	97	97	97	97		7568574
D10-ETHYLBENZENE (sur.)	%	91	7567415	99	103	100	109		7568574
D4-1,2-Dichloroethane (sur.)	%	105	7567415	105	102	103	104		7568574
RDL = Reportable Detection Limit									

Maxxam ID		KC7874	KC7875	KC7876	KC7899	KC7900	KC7901		
Sampling Date		2014/07/14	2014/07/14	2014/07/14	2014/07/14	2014/07/14	2014/07/14		
	Units	LFB6	DUP1	DUP2	ZONE 5 BASE	ZONE 6A	ZONE 6B	RDL	QC Batch
Volatiles									
Benzene	mg/kg	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	7568574
Toluene	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.020	7568574
Ethylbenzene	mg/kg	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	7568574
Xylenes (Total)	mg/kg	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	0.040	7568574
m & p-Xylene	mg/kg	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	0.040	7568574
o-Xylene	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.020	7568574
F1 (C6-C10) - BTEX	mg/kg	<12	<12	<12	<12	<12	<12	12	7568574
(C6-C10)	mg/kg	<12	<12	<12	<12	<12	<12	12	7568574
Surrogate Recovery (%)									
1,4-Difluorobenzene (sur.)	%	109	109	115	111	118	120		7568574
4-Bromofluorobenzene (sur.)	%	98	97	97	97	94	96		7568574
D10-ETHYLBENZENE (sur.)	%	101	99	100	100	104	106		7568574
D4-1,2-Dichloroethane (sur.)	%	105	104	106	105	98	102		7568574
RDL = Reportable Detection Limit									

Maxxam Job #: B460693
Report Date: 2014/07/18

DECOMMISSIONING CONSULTING SERVICES LTD.
Client Project #: 350600-508
Site Location: CONTWOYTO LAKE WEATHER STATION

VOLATILE ORGANICS BY GC-MS (SOIL)

Maxxam ID		KC7902	KC7903	KC7904	KC7905	KC7906	KC7907		
Sampling Date		2014/07/14	2014/07/14	2014/07/14	2014/07/14	2014/07/14	2014/07/14		
	Units	ZONE 6C	ZONE 6 NORTH	ZONE 6 EAST	ZONE 6 WEST	ZONE 7A	ZONE 7B	RDL	QC Batch
Volatiles									
Benzene	mg/kg	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	7568574
Toluene	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.020	7568574
Ethylbenzene	mg/kg	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	7568574
Xylenes (Total)	mg/kg	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	0.040	7568574
m & p-Xylene	mg/kg	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	0.040	7568574
o-Xylene	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.020	7568574
F1 (C6-C10) - BTEX	mg/kg	<12	<12	<12	<12	<12	<12	12	7568574
(C6-C10)	mg/kg	<12	<12	<12	<12	<12	<12	12	7568574
Surrogate Recovery (%)									
1,4-Difluorobenzene (sur.)	%	120	115	117	116	125	121		7568574
4-Bromofluorobenzene (sur.)	%	98	97	97	96	97	97		7568574
D10-ETHYLBENZENE (sur.)	%	100	103	102	99	99	101		7568574
D4-1,2-Dichloroethane (sur.)	%	103	102	104	103	104	104		7568574
RDL = Reportable Detection Limit									

Maxxam ID		KC7908	KC7909	KC7910	KC7911		
Sampling Date		2014/07/14	2014/07/14	2014/07/14	2014/07/14		
	Units	ZONE 8A	ZONE 8B	ZONE 8C	ZONE 8D	RDL	QC Batch
Volatiles							
Benzene	mg/kg	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	7568574
Toluene	mg/kg	<0.020	<0.020	<0.020	<0.020	0.020	7568574
Ethylbenzene	mg/kg	<0.010	<0.010	<0.010	<0.010	0.010	7568574
Xylenes (Total)	mg/kg	<0.040	<0.040	<0.040	<0.040	0.040	7568574
m & p-Xylene	mg/kg	<0.040	<0.040	<0.040	<0.040	0.040	7568574
o-Xylene	mg/kg	<0.020	<0.020	<0.020	<0.020	0.020	7568574
F1 (C6-C10) - BTEX	mg/kg	<12	<12	<12	<12	12	7568574
(C6-C10)	mg/kg	<12	<12	<12	<12	12	7568574
Surrogate Recovery (%)							
1,4-Difluorobenzene (sur.)	%	123	113	113	115		7568574
4-Bromofluorobenzene (sur.)	%	97	95	96	98		7568574
D10-ETHYLBENZENE (sur.)	%	105	105	102	104		7568574
D4-1,2-Dichloroethane (sur.)	%	103	99	104	105		7568574
RDL = Reportable Detection Limit							

Maxxam Job #: B460693
Report Date: 2014/07/18

DECOMMISSIONING CONSULTING SERVICES LTD.
Client Project #: 350600-508
Site Location: CONTWOYTO LAKE WEATHER STATION

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	8.0°C
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Results relate only to the items tested.

Maxxam Job #: B460693
Report Date: 2014/07/18

QUALITY ASSURANCE REPORT

DECOMMISSIONING CONSULTING SERVICES LTD.

Client Project #: 350600-508

Site Location: CONTWOYTO LAKE WEATHER STATION

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits	% Recovery	QC Limits
7566881	O-TERPHENYL (sur.)	2014/07/17	96	50 - 130	91	50 - 130	97	%				
7567415	1,4-Difluorobenzene (sur.)	2014/07/17	110	60 - 140	101	60 - 140	102	%				
7567415	4-Bromofluorobenzene (sur.)	2014/07/17	94	60 - 140	95	60 - 140	95	%				
7567415	D10-ETHYLBENZENE (sur.)	2014/07/17	104	60 - 130	101	60 - 130	103	%				
7567415	D4-1,2-Dichloroethane (sur.)	2014/07/17	84	60 - 140	85	60 - 140	84	%				
7568560	O-TERPHENYL (sur.)	2014/07/18	92	50 - 130	92	50 - 130	107	%				
7568574	1,4-Difluorobenzene (sur.)	2014/07/17	109	60 - 140	102	60 - 140	107	%				
7568574	4-Bromofluorobenzene (sur.)	2014/07/17	95	60 - 140	96	60 - 140	97	%				
7568574	D10-ETHYLBENZENE (sur.)	2014/07/17	103	60 - 130	98	60 - 130	95	%				
7568574	D4-1,2-Dichloroethane (sur.)	2014/07/17	109	60 - 140	107	60 - 140	103	%				
7566881	F2 (C10-C16 Hydrocarbons)	2014/07/17	NC	50 - 130	114	70 - 130	<10	mg/kg				
7566881	F3 (C16-C34 Hydrocarbons)	2014/07/17	99	50 - 130	115	70 - 130	<50	mg/kg				
7566881	F4 (C34-C50 Hydrocarbons)	2014/07/17	97	50 - 130	109	70 - 130	<50	mg/kg				
7567415	(C6-C10)	2014/07/17	123	60 - 140	120	60 - 140	<12	mg/kg				
7567415	Benzene	2014/07/17	104	60 - 140	102	60 - 140	<0.0050	mg/kg				
7567415	Ethylbenzene	2014/07/17	100	60 - 140	95	60 - 140	<0.010	mg/kg				
7567415	F1 (C6-C10) - BTEX	2014/07/17					<12	mg/kg				
7567415	m & p-Xylene	2014/07/17	101	60 - 140	95	60 - 140	<0.040	mg/kg				
7567415	o-Xylene	2014/07/17	101	60 - 140	96	60 - 140	<0.020	mg/kg				
7567415	Toluene	2014/07/17	97	60 - 140	94	60 - 140	<0.020	mg/kg				
7567415	Xylenes (Total)	2014/07/17					<0.040	mg/kg				
7568211	Moisture	2014/07/18					<0.30	%				
7568560	F2 (C10-C16 Hydrocarbons)	2014/07/18	87	50 - 130	94	70 - 130	<10	mg/kg	2.3	50		
7568560	F3 (C16-C34 Hydrocarbons)	2014/07/18	88	50 - 130	97	70 - 130	<50	mg/kg	NC	50		
7568560	F4 (C34-C50 Hydrocarbons)	2014/07/18	79	50 - 130	86	70 - 130	<50	mg/kg	NC	50		
7568574	(C6-C10)	2014/07/17	81	60 - 140	102	60 - 140	<12	mg/kg	NC	50		
7568574	Benzene	2014/07/17	106	60 - 140	104	60 - 140	<0.0050	mg/kg	NC	50		
7568574	Ethylbenzene	2014/07/17	87	60 - 140	85	60 - 140	<0.010	mg/kg	NC	50		
7568574	F1 (C6-C10) - BTEX	2014/07/17					<12	mg/kg	NC	50		
7568574	m & p-Xylene	2014/07/17	87	60 - 140	86	60 - 140	<0.040	mg/kg	NC	50		
7568574	o-Xylene	2014/07/17	90	60 - 140	89	60 - 140	<0.020	mg/kg	NC	50		
7568574	Toluene	2014/07/17	94	60 - 140	93	60 - 140	<0.020	mg/kg	NC	50		

Maxxam Job #: B460693
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QUALITY ASSURANCE REPORT(CONT'D)

DECOMMISSIONING CONSULTING SERVICES LTD.
Client Project #: 350600-508
Site Location: CONTWOYTO LAKE WEATHER STATION

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits	% Recovery	QC Limits
7568574	Xylenes (Total)	2014/07/17					<0.040	mg/kg	NC	50		
7568649	Moisture	2014/07/18					<0.30	%				
7569634	Total Antimony (Sb)	2014/07/18	105	75 - 125	108	75 - 125	<1.0	mg/kg				
7569634	Total Arsenic (As)	2014/07/18	100	75 - 125	97	75 - 125	<1.0	mg/kg			112	50 - 150
7569634	Total Barium (Ba)	2014/07/18	NC	75 - 125	100	75 - 125	<10	mg/kg			99	69 - 131
7569634	Total Boron (B)	2014/07/18	86	75 - 125	98	75 - 125	0.89 ,RDL=0.80	mg/kg				
7569634	Total Cadmium (Cd)	2014/07/18	104	75 - 125	97	75 - 125	<0.10	mg/kg				
7569634	Total Chromium (Cr)	2014/07/18	102	75 - 125	92	75 - 125	<1.0	mg/kg			85	41 - 159
7569634	Total Copper (Cu)	2014/07/18	94	75 - 125	91	75 - 125	<5.0	mg/kg			93	73 - 127
7569634	Total Lead (Pb)	2014/07/18	97	75 - 125	95	75 - 125	<1.0	mg/kg			94	54 - 146
7569634	Total Tin (Sn)	2014/07/18	111	75 - 125	104	75 - 125	<1.0	mg/kg				
7569634	Total Zinc (Zn)	2014/07/18	NC	75 - 125	96	75 - 125	<10	mg/kg			98	72 - 128

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

QC Standard: A sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

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.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spiked amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than 2x that of the native sample concentration).

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (one or both samples < 5x RDL).

Maxxam Job #: B460693
Report Date: 2014/07/18

DECOMMISSIONING CONSULTING SERVICES LTD.
Client Project #: 350600-508
Site Location: CONTWOYTO LAKE WEATHER STATION

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



Anna Koksharova, M.Sc., Senior Analyst



Daniel Reslan, Chem. Tech., Volatiles Supervisor



Dina Tleugabulova, Ph.D., Scientific Specialist, Inorganics Department



Karla Offord, B.Sc., Supervisor, Extractable Hydrocarbons

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.

Your Project #: 350600-508

Site Location: CONTWOYT LAKE WEATHER STATION

Attention:CHARLES GRAVELLE

DECOMMISSIONING CONSULTING SERVICES LTD.
ONTARIO
121 GRANTON DRIVE, UNIT 11
RICHMOND HILL, ON
CANADA L4B 3N4

Report Date: 2014/07/21

Report #: R1606564

Version: 2R

CERTIFICATE OF ANALYSIS – REVISED REPORT
MAXXAM JOB #: B460693
Received: 2014/07/15, 18:50

Sample Matrix: Soil
Samples Received: 26

Analyses	Quantity	Date		Laboratory Method	Analytical Method
		Extracted	Analyzed		
BTEX/F1 by HS GC/MS (MeOH extract)	2	2014/07/17	2014/07/17	AB SOP-00039	CCME, EPA 8260
BTEX/F1 by HS GC/MS (MeOH extract)	19	2014/07/17	2014/07/18	AB SOP-00039	CCME, EPA 8260
CCME Hydrocarbons (F2-F4 in soil)	21	2014/07/17	2014/07/18	AB SOP-00040 AB SOP-00036	CCME PHC-CWS
Elements by ICPMS - Soils	5	2014/07/18	2014/07/18	AB SOP-00043	EPA 200.8
Moisture	21	N/A	2014/07/18	AB SOP-00002	CCME PHC-CWS

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

Encryption Key

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

Tanya Eugene, M.Sc., Project Manager

Email: TEugine@maxxam.ca

Phone# (780)577-7144

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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.

Maxxam Job #: B460693
Report Date: 2014/07/21

DECOMMISSIONING CONSULTING SERVICES LTD.
Client Project #: 350600-508
Site Location: CONTWOYTO LAKE WEATHER STATION

RESULTS OF CHEMICAL ANALYSES OF SOIL

Maxxam ID		KC7869		KC7870		KC7871	KC7872		KC7873		
Sampling Date		2014/07/14		2014/07/14		2014/07/14	2014/07/14		2014/07/14		
	Units	LFB1	QC Batch	LFB2	QC Batch	LFB3	LFB4	QC Batch	LFB5	RDL	QC Batch

Physical Properties

Moisture	%	2.2	7568649	0.80	7568211	1.0	1.2	7568649	2.5	0.30	7568211
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RDL = Reportable Detection Limit

Maxxam ID		KC7874	KC7875	KC7876	KC7899	KC7900	KC7901	KC7902		
Sampling Date		2014/07/14	2014/07/14	2014/07/14	2014/07/14	2014/07/14	2014/07/14	2014/07/14		
	Units	LFB6	DUP1	DUP2	ZONE 5 BASE	ZONE 6A	ZONE 6B	ZONE 6C	RDL	QC Batch

Physical Properties

Moisture	%	1.5	1.4	13	5.0	16	17	18	0.30	7568649
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RDL = Reportable Detection Limit

Maxxam ID		KC7903	KC7904	KC7905	KC7906	KC7907	KC7908	KC7909		
Sampling Date		2014/07/14	2014/07/14	2014/07/14	2014/07/14	2014/07/14	2014/07/14	2014/07/14		
	Units	ZONE 6 NORTH	ZONE 6 EAST	ZONE 6 WEST	ZONE 7A	ZONE 7B	ZONE 8A	ZONE 8B	RDL	QC Batch

Physical Properties

Moisture	%	12	14	13	29	22	19	6.9	0.30	7568649
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RDL = Reportable Detection Limit

Maxxam ID		KC7910		KC7911		
Sampling Date		2014/07/14		2014/07/14		
	Units	ZONE 8C	QC Batch	ZONE 8D	RDL	QC Batch

Physical Properties

Moisture	%	8.8	7568211	12	0.30	7568649
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RDL = Reportable Detection Limit

Maxxam Job #: B460693
Report Date: 2014/07/21

DECOMMISSIONING CONSULTING SERVICES LTD.
Client Project #: 350600-508
Site Location: CONTWOYTO LAKE WEATHER STATION

PETROLEUM HYDROCARBONS (CCME)

Maxxam ID		KC7869	KC7870	KC7871	KC7872		KC7873		
Sampling Date		2014/07/14	2014/07/14	2014/07/14	2014/07/14		2014/07/14		
	Units	LFB1	LFB2	LFB3	LFB4	QC Batch	LFB5	RDL	QC Batch
Ext. Pet. Hydrocarbon									
F2 (C10-C16 Hydrocarbons)	mg/kg	<10	<10	<10	<10	7568560	<10	10	7566881
F3 (C16-C34 Hydrocarbons)	mg/kg	<50	<50	<50	<50	7568560	<50	50	7566881
F4 (C34-C50 Hydrocarbons)	mg/kg	<50	<50	<50	<50	7568560	<50	50	7566881
Reached Baseline at C50	mg/kg	Yes	Yes	Yes	Yes	7568560	Yes		7566881
Surrogate Recovery (%)									
O-TERPHENYL (sur.)	%	95	90	88	105	7568560	90		7566881
RDL = Reportable Detection Limit									

Maxxam ID		KC7874	KC7875	KC7876	KC7899	KC7900	KC7901	KC7902		
Sampling Date		2014/07/14	2014/07/14	2014/07/14	2014/07/14	2014/07/14	2014/07/14	2014/07/14		
	Units	LFB6	DUP1	DUP2	ZONE 5 BASE	ZONE 6A	ZONE 6B	ZONE 6C	RDL	QC Batch
Ext. Pet. Hydrocarbon										
F2 (C10-C16 Hydrocarbons)	mg/kg	<10	<10	<10	<10	<10	61	<10	10	7568560
F3 (C16-C34 Hydrocarbons)	mg/kg	<50	<50	<50	<50	<50	<50	<50	50	7568560
F4 (C34-C50 Hydrocarbons)	mg/kg	<50	<50	<50	<50	<50	<50	<50	50	7568560
Reached Baseline at C50	mg/kg	Yes	Yes	Yes	Yes	Yes	Yes	Yes		7568560
Surrogate Recovery (%)										
O-TERPHENYL (sur.)	%	90	99	91	101	95	97	100		7568560
RDL = Reportable Detection Limit										

Maxxam ID		KC7903	KC7904	KC7905	KC7906	KC7907	KC7908	KC7909		
Sampling Date		2014/07/14	2014/07/14	2014/07/14	2014/07/14	2014/07/14	2014/07/14	2014/07/14		
	Units	ZONE 6 NORTH	ZONE 6 EAST	ZONE 6 WEST	ZONE 7A	ZONE 7B	ZONE 8A	ZONE 8B	RDL	QC Batch
Ext. Pet. Hydrocarbon										
F2 (C10-C16 Hydrocarbons)	mg/kg	<10	<10	<10	<10	<10	260	63	10	7568560
F3 (C16-C34 Hydrocarbons)	mg/kg	<50	<50	61	75	50	130	460	50	7568560
F4 (C34-C50 Hydrocarbons)	mg/kg	<50	<50	<50	<50	<50	<50	100	50	7568560
Reached Baseline at C50	mg/kg	Yes	Yes	Yes	Yes	Yes	Yes	Yes		7568560
Surrogate Recovery (%)										
O-TERPHENYL (sur.)	%	88	94	89	98	96	101	85		7568560
RDL = Reportable Detection Limit										

Maxxam Job #: B460693
Report Date: 2014/07/21

DECOMMISSIONING CONSULTING SERVICES LTD.
Client Project #: 350600-508
Site Location: CONTWOYTO LAKE WEATHER STATION

PETROLEUM HYDROCARBONS (CCME)

Maxxam ID		KC7910	KC7911		
Sampling Date		2014/07/14	2014/07/14		
	Units	ZONE 8C	ZONE 8D	RDL	QC Batch
Ext. Pet. Hydrocarbon					
F2 (C10-C16 Hydrocarbons)	mg/kg	<10	<10	10	7568560
F3 (C16-C34 Hydrocarbons)	mg/kg	200	<50	50	7568560
F4 (C34-C50 Hydrocarbons)	mg/kg	69	<50	50	7568560
Reached Baseline at C50	mg/kg	Yes	Yes		7568560
Surrogate Recovery (%)					
O-TERPHENYL (sur.)	%	87	89		7568560
RDL = Reportable Detection Limit					

Maxxam Job #: B460693
Report Date: 2014/07/21

DECOMMISSIONING CONSULTING SERVICES LTD.
Client Project #: 350600-508
Site Location: CONTWOYT LAKE WEATHER STATION

ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)

Maxxam ID		KC7864	KC7865	KC7866	KC7867	KC7868		
Sampling Date		2014/07/13	2014/07/13	2014/07/13	2014/07/13	2014/07/13		
	Units	BP1	ZONE 6	ZONE 7	ZONE 8	ZONE 9	RDL	QC Batch
Elements								
Total Aluminum (Al)	mg/kg	5200	6600	3300	5400	2800	100	7569634
Total Antimony (Sb)	mg/kg	<1.0	<1.0	<1.0	<1.0	<1.0	1.0	7569634
Total Arsenic (As)	mg/kg	4.9	4.5	2.1	3.9	<1.0	1.0	7569634
Total Barium (Ba)	mg/kg	39	36	35	27	21	10	7569634
Total Beryllium (Be)	mg/kg	<0.40	<0.40	<0.40	<0.40	<0.40	0.40	7569634
Total Boron (B)	mg/kg	2.2	1.5	1.6	1.5	1.5	0.80	7569634
Total Cadmium (Cd)	mg/kg	<0.10	<0.10	<0.10	<0.10	<0.10	0.10	7569634
Total Chromium (Cr)	mg/kg	21	23	11	18	9.7	1.0	7569634
Total Cobalt (Co)	mg/kg	4.2	3.5	1.7	3.3	1.0	1.0	7569634
Total Copper (Cu)	mg/kg	9.9	9.7	<5.0	6.7	<5.0	5.0	7569634
Total Iron (Fe)	mg/kg	9900	11000	5400	8900	3500	100	7569634
Total Lead (Pb)	mg/kg	1.6	2.2	4.5	1.8	<1.0	1.0	7569634
Total Magnesium (Mg)	mg/kg	3400	3400	1900	3000	1400	100	7569634
Total Manganese (Mn)	mg/kg	120	90	47	76	36	2.0	7569634
Total Mercury (Hg)	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	0.050	7569634
Total Molybdenum (Mo)	mg/kg	<0.40	<0.40	<0.40	<0.40	<0.40	0.40	7569634
Total Nickel (Ni)	mg/kg	14	10	5.5	9.8	3.8	1.0	7569634
Total Selenium (Se)	mg/kg	<0.50	<0.50	<0.50	<0.50	<0.50	0.50	7569634
Total Silver (Ag)	mg/kg	<1.0	<1.0	<1.0	<1.0	<1.0	1.0	7569634
Total Thallium (Tl)	mg/kg	<0.30	<0.30	<0.30	<0.30	<0.30	0.30	7569634
Total Tin (Sn)	mg/kg	<1.0	<1.0	1.2	1.1	<1.0	1.0	7569634
Total Uranium (U)	mg/kg	<1.0	<1.0	<1.0	<1.0	<1.0	1.0	7569634
Total Vanadium (V)	mg/kg	20	21	10	18	7.1	1.0	7569634
Total Zinc (Zn)	mg/kg	27	19	13	17	<10	10	7569634
RDL = Reportable Detection Limit								

Maxxam Job #: B460693

Report Date: 2014/07/21

DECOMMISSIONING CONSULTING SERVICES LTD.

Client Project #: 350600-508

Site Location: CONTWOYT LAKE WEATHER STATION

VOLATILE ORGANICS BY GC-MS (SOIL)

Maxxam ID		KC7869		KC7870	KC7871	KC7872	KC7873		
Sampling Date		2014/07/14		2014/07/14	2014/07/14	2014/07/14	2014/07/14		
	Units	LFB1	QC Batch	LFB2	LFB3	LFB4	LFB5	RDL	QC Batch
Volatiles									
Benzene	mg/kg	<0.0050	7567415	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	7568574
Toluene	mg/kg	<0.020	7567415	<0.020	<0.020	<0.020	<0.020	0.020	7568574
Ethylbenzene	mg/kg	<0.010	7567415	<0.010	<0.010	<0.010	<0.010	0.010	7568574
Xylenes (Total)	mg/kg	<0.040	7567415	<0.040	<0.040	<0.040	<0.040	0.040	7568574
m & p-Xylene	mg/kg	<0.040	7567415	<0.040	<0.040	<0.040	<0.040	0.040	7568574
o-Xylene	mg/kg	<0.020	7567415	<0.020	<0.020	<0.020	<0.020	0.020	7568574
F1 (C6-C10) - BTEX	mg/kg	<12	7567415	<12	<12	<12	<12	12	7568574
(C6-C10)	mg/kg	<12	7567415	<12	<12	<12	<12	12	7568574
Surrogate Recovery (%)									
1,4-Difluorobenzene (sur.)	%	105	7567415	109	108	109	108		7568574
4-Bromofluorobenzene (sur.)	%	98	7567415	97	97	97	97		7568574
D10-ETHYLBENZENE (sur.)	%	91	7567415	99	103	100	109		7568574
D4-1,2-Dichloroethane (sur.)	%	105	7567415	105	102	103	104		7568574
RDL = Reportable Detection Limit									

Maxxam ID		KC7874	KC7875	KC7876	KC7899	KC7900	KC7901		
Sampling Date		2014/07/14	2014/07/14	2014/07/14	2014/07/14	2014/07/14	2014/07/14		
	Units	LFB6	DUP1	DUP2	ZONE 5 BASE	ZONE 6A	ZONE 6B	RDL	QC Batch
Volatiles									
Benzene	mg/kg	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	7568574
Toluene	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.020	7568574
Ethylbenzene	mg/kg	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	7568574
Xylenes (Total)	mg/kg	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	0.040	7568574
m & p-Xylene	mg/kg	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	0.040	7568574
o-Xylene	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.020	7568574
F1 (C6-C10) - BTEX	mg/kg	<12	<12	<12	<12	<12	<12	12	7568574
(C6-C10)	mg/kg	<12	<12	<12	<12	<12	<12	12	7568574
Surrogate Recovery (%)									
1,4-Difluorobenzene (sur.)	%	109	109	115	111	118	120		7568574
4-Bromofluorobenzene (sur.)	%	98	97	97	97	94	96		7568574
D10-ETHYLBENZENE (sur.)	%	101	99	100	100	104	106		7568574
D4-1,2-Dichloroethane (sur.)	%	105	104	106	105	98	102		7568574
RDL = Reportable Detection Limit									

Maxxam Job #: B460693
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DECOMMISSIONING CONSULTING SERVICES LTD.
Client Project #: 350600-508
Site Location: CONTWOYTO LAKE WEATHER STATION

VOLATILE ORGANICS BY GC-MS (SOIL)

Maxxam ID		KC7902	KC7903	KC7904	KC7905	KC7906	KC7907		
Sampling Date		2014/07/14	2014/07/14	2014/07/14	2014/07/14	2014/07/14	2014/07/14		
	Units	ZONE 6C	ZONE 6 NORTH	ZONE 6 EAST	ZONE 6 WEST	ZONE 7A	ZONE 7B	RDL	QC Batch
Volatiles									
Benzene	mg/kg	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	7568574
Toluene	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.020	7568574
Ethylbenzene	mg/kg	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	7568574
Xylenes (Total)	mg/kg	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	0.040	7568574
m & p-Xylene	mg/kg	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	0.040	7568574
o-Xylene	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.020	7568574
F1 (C6-C10) - BTEX	mg/kg	<12	<12	<12	<12	<12	<12	12	7568574
(C6-C10)	mg/kg	<12	<12	<12	<12	<12	<12	12	7568574
Surrogate Recovery (%)									
1,4-Difluorobenzene (sur.)	%	120	115	117	116	125	121		7568574
4-Bromofluorobenzene (sur.)	%	98	97	97	96	97	97		7568574
D10-ETHYLBENZENE (sur.)	%	100	103	102	99	99	101		7568574
D4-1,2-Dichloroethane (sur.)	%	103	102	104	103	104	104		7568574
RDL = Reportable Detection Limit									

Maxxam ID		KC7908	KC7909	KC7910	KC7911		
Sampling Date		2014/07/14	2014/07/14	2014/07/14	2014/07/14		
	Units	ZONE 8A	ZONE 8B	ZONE 8C	ZONE 8D	RDL	QC Batch
Volatiles							
Benzene	mg/kg	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	7568574
Toluene	mg/kg	<0.020	<0.020	<0.020	<0.020	0.020	7568574
Ethylbenzene	mg/kg	<0.010	<0.010	<0.010	<0.010	0.010	7568574
Xylenes (Total)	mg/kg	<0.040	<0.040	<0.040	<0.040	0.040	7568574
m & p-Xylene	mg/kg	<0.040	<0.040	<0.040	<0.040	0.040	7568574
o-Xylene	mg/kg	<0.020	<0.020	<0.020	<0.020	0.020	7568574
F1 (C6-C10) - BTEX	mg/kg	<12	<12	<12	<12	12	7568574
(C6-C10)	mg/kg	<12	<12	<12	<12	12	7568574
Surrogate Recovery (%)							
1,4-Difluorobenzene (sur.)	%	123	113	113	115		7568574
4-Bromofluorobenzene (sur.)	%	97	95	96	98		7568574
D10-ETHYLBENZENE (sur.)	%	105	105	102	104		7568574
D4-1,2-Dichloroethane (sur.)	%	103	99	104	105		7568574
RDL = Reportable Detection Limit							

Maxxam Job #: B460693
Report Date: 2014/07/21

DECOMMISSIONING CONSULTING SERVICES LTD.
Client Project #: 350600-508
Site Location: CONTWOYTO LAKE WEATHER STATION

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	8.0°C
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Results relate only to the items tested.

Maxxam Job #: B460693
Report Date: 2014/07/21

QUALITY ASSURANCE REPORT

DECOMMISSIONING CONSULTING SERVICES LTD.

Client Project #: 350600-508

Site Location: CONTWOYTO LAKE WEATHER STATION

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits	% Recovery	QC Limits
7566881	O-TERPHENYL (sur.)	2014/07/17	96	50 - 130	91	50 - 130	97	%				
7567415	1,4-Difluorobenzene (sur.)	2014/07/17	110	60 - 140	101	60 - 140	102	%				
7567415	4-Bromofluorobenzene (sur.)	2014/07/17	94	60 - 140	95	60 - 140	95	%				
7567415	D10-ETHYLBENZENE (sur.)	2014/07/17	104	60 - 130	101	60 - 130	103	%				
7567415	D4-1,2-Dichloroethane (sur.)	2014/07/17	84	60 - 140	85	60 - 140	84	%				
7568560	O-TERPHENYL (sur.)	2014/07/18	92	50 - 130	92	50 - 130	107	%				
7568574	1,4-Difluorobenzene (sur.)	2014/07/17	109	60 - 140	102	60 - 140	107	%				
7568574	4-Bromofluorobenzene (sur.)	2014/07/17	95	60 - 140	96	60 - 140	97	%				
7568574	D10-ETHYLBENZENE (sur.)	2014/07/17	103	60 - 130	98	60 - 130	95	%				
7568574	D4-1,2-Dichloroethane (sur.)	2014/07/17	109	60 - 140	107	60 - 140	103	%				
7566881	F2 (C10-C16 Hydrocarbons)	2014/07/17	NC	50 - 130	114	70 - 130	<10	mg/kg				
7566881	F3 (C16-C34 Hydrocarbons)	2014/07/17	99	50 - 130	115	70 - 130	<50	mg/kg				
7566881	F4 (C34-C50 Hydrocarbons)	2014/07/17	97	50 - 130	109	70 - 130	<50	mg/kg				
7567415	(C6-C10)	2014/07/17	123	60 - 140	120	60 - 140	<12	mg/kg				
7567415	Benzene	2014/07/17	104	60 - 140	102	60 - 140	<0.0050	mg/kg				
7567415	Ethylbenzene	2014/07/17	100	60 - 140	95	60 - 140	<0.010	mg/kg				
7567415	F1 (C6-C10) - BTEX	2014/07/17					<12	mg/kg				
7567415	m & p-Xylene	2014/07/17	101	60 - 140	95	60 - 140	<0.040	mg/kg				
7567415	o-Xylene	2014/07/17	101	60 - 140	96	60 - 140	<0.020	mg/kg				
7567415	Toluene	2014/07/17	97	60 - 140	94	60 - 140	<0.020	mg/kg				
7567415	Xylenes (Total)	2014/07/17					<0.040	mg/kg				
7568211	Moisture	2014/07/18					<0.30	%				
7568560	F2 (C10-C16 Hydrocarbons)	2014/07/18	87	50 - 130	94	70 - 130	<10	mg/kg	2.3	50		
7568560	F3 (C16-C34 Hydrocarbons)	2014/07/18	88	50 - 130	97	70 - 130	<50	mg/kg	NC	50		
7568560	F4 (C34-C50 Hydrocarbons)	2014/07/18	79	50 - 130	86	70 - 130	<50	mg/kg	NC	50		
7568574	(C6-C10)	2014/07/17	81	60 - 140	102	60 - 140	<12	mg/kg	NC	50		
7568574	Benzene	2014/07/17	106	60 - 140	104	60 - 140	<0.0050	mg/kg	NC	50		
7568574	Ethylbenzene	2014/07/17	87	60 - 140	85	60 - 140	<0.010	mg/kg	NC	50		
7568574	F1 (C6-C10) - BTEX	2014/07/17					<12	mg/kg	NC	50		
7568574	m & p-Xylene	2014/07/17	87	60 - 140	86	60 - 140	<0.040	mg/kg	NC	50		
7568574	o-Xylene	2014/07/17	90	60 - 140	89	60 - 140	<0.020	mg/kg	NC	50		
7568574	Toluene	2014/07/17	94	60 - 140	93	60 - 140	<0.020	mg/kg	NC	50		

Maxxam Job #: B460693
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QUALITY ASSURANCE REPORT(CONT'D)

DECOMMISSIONING CONSULTING SERVICES LTD.
Client Project #: 350600-508
Site Location: CONTWOYTO LAKE WEATHER STATION

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits	% Recovery	QC Limits
7568574	Xylenes (Total)	2014/07/17					<0.040	mg/kg	NC	50		
7568649	Moisture	2014/07/18					<0.30	%				
7569634	Total Aluminum (Al)	2014/07/18	NC	75 - 125	99	75 - 125	<100	mg/kg			73	51 - 149
7569634	Total Antimony (Sb)	2014/07/18	105	75 - 125	108	75 - 125	<1.0	mg/kg				
7569634	Total Arsenic (As)	2014/07/18	100	75 - 125	97	75 - 125	<1.0	mg/kg			112	50 - 150
7569634	Total Barium (Ba)	2014/07/18	NC	75 - 125	100	75 - 125	<10	mg/kg			99	69 - 131
7569634	Total Beryllium (Be)	2014/07/18	107	75 - 125	100	75 - 125	<0.40	mg/kg				
7569634	Total Boron (B)	2014/07/18	86	75 - 125	98	75 - 125	0.89 ,RDL=0.80	mg/kg				
7569634	Total Cadmium (Cd)	2014/07/18	104	75 - 125	97	75 - 125	<0.10	mg/kg				
7569634	Total Chromium (Cr)	2014/07/18	102	75 - 125	92	75 - 125	<1.0	mg/kg			85	41 - 159
7569634	Total Cobalt (Co)	2014/07/18	96	75 - 125	91	75 - 125	<1.0	mg/kg			91	75 - 125
7569634	Total Copper (Cu)	2014/07/18	94	75 - 125	91	75 - 125	<5.0	mg/kg			93	73 - 127
7569634	Total Iron (Fe)	2014/07/18	NC	75 - 125	96	75 - 125	<100	mg/kg			107	61 - 139
7569634	Total Lead (Pb)	2014/07/18	97	75 - 125	95	75 - 125	<1.0	mg/kg			94	54 - 146
7569634	Total Magnesium (Mg)	2014/07/18	NC	75 - 125	95	75 - 125	<100	mg/kg			83	69 - 131
7569634	Total Manganese (Mn)	2014/07/18	NC	75 - 125	98	75 - 125	<2.0	mg/kg			105	71 - 129
7569634	Total Mercury (Hg)	2014/07/18	98	75 - 125	99	75 - 125	<0.050	mg/kg				
7569634	Total Molybdenum (Mo)	2014/07/18	105	75 - 125	100	75 - 125	<0.40	mg/kg				
7569634	Total Nickel (Ni)	2014/07/18	97	75 - 125	91	75 - 125	<1.0	mg/kg			98	61 - 139
7569634	Total Selenium (Se)	2014/07/18	97	75 - 125	96	75 - 125	<0.50	mg/kg				
7569634	Total Silver (Ag)	2014/07/18	103	75 - 125	98	75 - 125	<1.0	mg/kg				
7569634	Total Thallium (Tl)	2014/07/18	92	75 - 125	88	75 - 125	<0.30	mg/kg				
7569634	Total Tin (Sn)	2014/07/18	111	75 - 125	104	75 - 125	<1.0	mg/kg				
7569634	Total Uranium (U)	2014/07/18	95	75 - 125	95	75 - 125	<1.0	mg/kg				
7569634	Total Vanadium (V)	2014/07/18	108	75 - 125	98	75 - 125	<1.0	mg/kg			101	50 - 150
7569634	Total Zinc (Zn)	2014/07/18	NC	75 - 125	96	75 - 125	<10	mg/kg			98	72 - 128

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

QC Standard: A sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Maxxam Job #: B460693
Report Date: 2014/07/21

QUALITY ASSURANCE REPORT(CONT'D)

DECOMMISSIONING CONSULTING SERVICES LTD.
Client Project #: 350600-508
Site Location: CONTWOYT LAKE WEATHER STATION

			Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits	% Recovery	QC Limits
Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.												
NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spiked amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than 2x that of the native sample concentration).												
NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (one or both samples < 5x RDL).												

Maxxam Job #: B460693
Report Date: 2014/07/21

DECOMMISSIONING CONSULTING SERVICES LTD.
Client Project #: 350600-508
Site Location: CONTWOYTO LAKE WEATHER STATION

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



Anna Koksharova, M.Sc., Senior Analyst



Daniel Reslan, Chem. Tech., Volatiles Supervisor



Kelly Gip, B.Sc., Senior Analyst



Karla Offord, B.Sc., Supervisor, Extractable Hydrocarbons

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.

Your Project #: 350600-508

Site Location: CONTWOYT LAKE WEATHER STATION

Attention:CHARLES GRAVELLE

DECOMMISSIONING CONSULTING SERVICES LTD.
ONTARIO
121 GRANTON DRIVE, UNIT 11
RICHMOND HILL, ON
CANADA L4B 3N4

Report Date: 2014/07/21

Report #: R1606887

Version: 1

CERTIFICATE OF ANALYSIS
MAXXAM JOB #: B461540
Received: 2014/07/18, 20:00

Sample Matrix: Soil
Samples Received: 26

Analyses	Quantity	Date	Date	Laboratory Method	Analytical Method
		Extracted	Analyzed		
BTEX/F1 by HS GC/MS (MeOH extract)	11	2014/07/20	2014/07/20	AB SOP-00039	CCME, EPA 8260
BTEX/F1 by HS GC/MS (MeOH extract)	14	2014/07/20	2014/07/21	AB SOP-00039	CCME, EPA 8260
CCME Hydrocarbons (F2-F4 in soil)	23	2014/07/20	2014/07/20	AB SOP-00040 AB SOP-00036	CCME PHC-CWS
CCME Hydrocarbons (F2-F4 in soil)	2	2014/07/20	2014/07/21	AB SOP-00040 AB SOP-00036	CCME PHC-CWS
Elements by ICPMS - Soils	1	2014/07/21	2014/07/21	AB SOP-00043	EPA 200.8
Moisture	5	N/A	2014/07/20	AB SOP-00002	CCME PHC-CWS
Moisture	20	N/A	2014/07/21	AB SOP-00002	CCME PHC-CWS

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

Encryption Key

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

Tanya Eugene, M.Sc., Project Manager

Email: TEugine@maxxam.ca

Phone# (780)577-7144

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Maxxam Job #: B461540
Report Date: 2014/07/21

DECOMMISSIONING CONSULTING SERVICES LTD.
Client Project #: 350600-508
Site Location: CONTWOYT LAKE WEATHER STATION
Sampler Initials: PH

RESULTS OF CHEMICAL ANALYSES OF SOIL

Maxxam ID		KD2785	KD2786	KD2787	KD2788		KD2789	KD2790		
Sampling Date		2014/07/18	2014/07/18	2014/07/18	2014/07/18		2014/07/18	2014/07/18		
	Units	Z10 S-1	Z10 S-3	Z10 S-5	Z10 S-6	QC Batch	Z10 S-8	Z10 S-9	RDL	QC Batch

Physical Properties										
Moisture	%	1.9	1.9	2.1	2.9	7571091	2.7	2.7	0.30	7571114
RDL = Reportable Detection Limit										

Maxxam ID		KD2791	KD2792		KD2793		KD2794	KD2795		
Sampling Date		2014/07/18	2014/07/18		2014/07/18		2014/07/18	2014/07/18		
	Units	Z10 DUP	Z3 S-1	QC Batch	Z3 S-3	QC Batch	Z3 S-6	Z3 S-10	RDL	QC Batch

Physical Properties										
Moisture	%	1.9	2.9	7571091	2.5	7571114	3.8	2.6	0.30	7571091
RDL = Reportable Detection Limit										

Maxxam ID		KD2796		KD2797	KD2798	KD2799	KD2800	KD2801		
Sampling Date		2014/07/18		2014/07/18	2014/07/18	2014/07/18	2014/07/18	2014/07/18		
	Units	Z3 S-12	QC Batch	Z3 S-14	Z3 S-17	Z3 S-25	Z3 S-28	Z3 S-32	RDL	QC Batch

Physical Properties										
Moisture	%	3.6	7571114	4.4	9.6	6.5	3.9	3.8	0.30	7571091
RDL = Reportable Detection Limit										

Maxxam ID		KD2802		KD2804		KD2805	KD2806	KD2807		
Sampling Date		2014/07/18		2014/07/18		2014/07/18	2014/07/18	2014/07/18		
	Units	Z3 S-34	QC Batch	Z3 S-35	QC Batch	Z3 S-36	Z3 S-37	Z3 S-38	RDL	QC Batch

Physical Properties										
Moisture	%	6.6	7571091	11	7571114	5.1	1.5	3.3	0.30	7571091
RDL = Reportable Detection Limit										

Maxxam ID		KD2808	KD2809	KD2810		
Sampling Date		2014/07/18	2014/07/18	2014/07/18		
	Units	Z3 S-39	Z3 S-40	Z3 DUP 1	RDL	QC Batch
Physical Properties						
Moisture	%	2.5	5.4	2.5	0.30	7571091
RDL = Reportable Detection Limit						

Maxxam Job #: B461540
Report Date: 2014/07/21

DECOMMISSIONING CONSULTING SERVICES LTD.
Client Project #: 350600-508
Site Location: CONTWOYT LAKE WEATHER STATION
Sampler Initials: PH

PETROLEUM HYDROCARBONS (CCME)

Maxxam ID		KD2785	KD2786	KD2787	KD2788		KD2789	KD2790		
Sampling Date		2014/07/18	2014/07/18	2014/07/18	2014/07/18		2014/07/18	2014/07/18		
	Units	Z10 S-1	Z10 S-3	Z10 S-5	Z10 S-6	QC Batch	Z10 S-8	Z10 S-9	RDL	QC Batch

Ext. Pet. Hydrocarbon

F2 (C10-C16 Hydrocarbons)	mg/kg	<10	<10	<10	<10	7571094	<10	<10	10	7571115
F3 (C16-C34 Hydrocarbons)	mg/kg	<50	<50	<50	<50	7571094	<50	<50	50	7571115
F4 (C34-C50 Hydrocarbons)	mg/kg	<50	<50	<50	<50	7571094	<50	<50	50	7571115
Reached Baseline at C50	mg/kg	Yes	Yes	Yes	Yes	7571094	Yes	Yes		7571115

Surrogate Recovery (%)

O-TERPHENYL (sur.)	%	94	94	94	94	7571094	95	94		7571115
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RDL = Reportable Detection Limit

Maxxam ID		KD2791	KD2792		KD2793		KD2794	KD2795		
Sampling Date		2014/07/18	2014/07/18		2014/07/18		2014/07/18	2014/07/18		
	Units	Z10 DUP	Z3 S-1	QC Batch	Z3 S-3	QC Batch	Z3 S-6	Z3 S-10	RDL	QC Batch

Ext. Pet. Hydrocarbon

F2 (C10-C16 Hydrocarbons)	mg/kg	<10	2300	7571094	1800	7571115	<10	<10	10	7571094
F3 (C16-C34 Hydrocarbons)	mg/kg	<50	480	7571094	380	7571115	<50	<50	50	7571094
F4 (C34-C50 Hydrocarbons)	mg/kg	<50	<50	7571094	<50	7571115	<50	<50	50	7571094
Reached Baseline at C50	mg/kg	Yes	Yes	7571094	Yes	7571115	Yes	Yes		7571094

Surrogate Recovery (%)

O-TERPHENYL (sur.)	%	94	96	7571094	99	7571115	96	94		7571094
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RDL = Reportable Detection Limit

Maxxam ID		KD2796		KD2797	KD2798	KD2799	KD2800	KD2801		
Sampling Date		2014/07/18		2014/07/18	2014/07/18	2014/07/18	2014/07/18	2014/07/18		
	Units	Z3 S-12	QC Batch	Z3 S-14	Z3 S-17	Z3 S-25	Z3 S-28	Z3 S-32	RDL	QC Batch

Ext. Pet. Hydrocarbon

F2 (C10-C16 Hydrocarbons)	mg/kg	5200	7571115	37	4800	1700	<10	<10	10	7571094
F3 (C16-C34 Hydrocarbons)	mg/kg	930	7571115	<50	2100	520	<50	<50	50	7571094
F4 (C34-C50 Hydrocarbons)	mg/kg	<50	7571115	<50	1200	<50	<50	<50	50	7571094
Reached Baseline at C50	mg/kg	Yes	7571115	Yes	Yes	Yes	Yes	Yes		7571094

Surrogate Recovery (%)

O-TERPHENYL (sur.)	%	99	7571115	125	101	126	83	104		7571094
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RDL = Reportable Detection Limit

Maxxam Job #: B461540
Report Date: 2014/07/21

DECOMMISSIONING CONSULTING SERVICES LTD.
Client Project #: 350600-508
Site Location: CONTWOYTO LAKE WEATHER STATION
Sampler Initials: PH

PETROLEUM HYDROCARBONS (CCME)

Maxxam ID		KD2802		KD2804		KD2805	KD2806	KD2807		
Sampling Date		2014/07/18		2014/07/18		2014/07/18	2014/07/18	2014/07/18		
	Units	Z3 S-34	QC Batch	Z3 S-35	QC Batch	Z3 S-36	Z3 S-37	Z3 S-38	RDL	QC Batch
Ext. Pet. Hydrocarbon										
F2 (C10-C16 Hydrocarbons)	mg/kg	2000	7571094	<10	7571115	<10	230	<10	10	7571094
F3 (C16-C34 Hydrocarbons)	mg/kg	510	7571094	<50	7571115	<50	61	<50	50	7571094
F4 (C34-C50 Hydrocarbons)	mg/kg	<50	7571094	<50	7571115	<50	<50	<50	50	7571094
Reached Baseline at C50	mg/kg	Yes	7571094	Yes	7571115	Yes	Yes	Yes		7571094
Surrogate Recovery (%)										
O-TERPHENYL (sur.)	%	98	7571094	83	7571115	93	98	96		7571094
RDL = Reportable Detection Limit										

Maxxam ID		KD2808	KD2809	KD2810		
Sampling Date		2014/07/18	2014/07/18	2014/07/18		
	Units	Z3 S-39	Z3 S-40	Z3 DUP 1	RDL	QC Batch
Ext. Pet. Hydrocarbon						
F2 (C10-C16 Hydrocarbons)	mg/kg	<10	1500	1900	10	7571094
F3 (C16-C34 Hydrocarbons)	mg/kg	<50	220	420	50	7571094
F4 (C34-C50 Hydrocarbons)	mg/kg	<50	<50	<50	50	7571094
Reached Baseline at C50	mg/kg	Yes	Yes	Yes		7571094
Surrogate Recovery (%)						
O-TERPHENYL (sur.)	%	96	95	108		7571094
RDL = Reportable Detection Limit						

Maxxam Job #: B461540
Report Date: 2014/07/21

DECOMMISSIONING CONSULTING SERVICES LTD.
Client Project #: 350600-508
Site Location: CONTWOYTO LAKE WEATHER STATION
Sampler Initials: PH

ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)

Maxxam ID		KD2803		
Sampling Date		2014/07/18		
	Units	Z3M	RDL	QC Batch
Elements				
Total Boron (B)	mg/kg	1.9	0.80	7571919
Total Cadmium (Cd)	mg/kg	<0.10	0.10	7571919
Total Copper (Cu)	mg/kg	9.0	5.0	7571919
Total Lead (Pb)	mg/kg	1.9	1.0	7571919
Total Zinc (Zn)	mg/kg	22	10	7571919
RDL = Reportable Detection Limit				

Maxxam Job #: B461540

Report Date: 2014/07/21

DECOMMISSIONING CONSULTING SERVICES LTD.

Client Project #: 350600-508

Site Location: CONTWOYT LAKE WEATHER STATION

Sampler Initials: PH

VOLATILE ORGANICS BY GC-MS (SOIL)

Maxxam ID		KD2785	KD2786	KD2787	KD2788		KD2789		
Sampling Date		2014/07/18	2014/07/18	2014/07/18	2014/07/18		2014/07/18		
	Units	Z10 S-1	Z10 S-3	Z10 S-5	Z10 S-6	QC Batch	Z10 S-8	RDL	QC Batch

Volatiles									
Benzene	mg/kg	<0.0050	<0.0050	<0.0050	<0.0050	7571142	<0.0050	0.0050	7571145
Toluene	mg/kg	<0.020	<0.020	<0.020	<0.020	7571142	<0.020	0.020	7571145
Ethylbenzene	mg/kg	<0.010	<0.010	<0.010	<0.010	7571142	<0.010	0.010	7571145
Xylenes (Total)	mg/kg	<0.040	<0.040	<0.040	<0.040	7571142	<0.040	0.040	7571145
m & p-Xylene	mg/kg	<0.040	<0.040	<0.040	<0.040	7571142	<0.040	0.040	7571145
o-Xylene	mg/kg	<0.020	<0.020	<0.020	<0.020	7571142	<0.020	0.020	7571145
F1 (C6-C10) - BTEX	mg/kg	<12	<12	<12	<12	7571142	<12	12	7571145
(C6-C10)	mg/kg	<12	<12	<12	<12	7571142	<12	12	7571145

Surrogate Recovery (%)

1,4-Difluorobenzene (sur.)	%	112	106	108	109	7571142	102		7571145
4-Bromofluorobenzene (sur.)	%	96	97	95	96	7571142	100		7571145
D10-ETHYLBENZENE (sur.)	%	100	98	100	97	7571142	93		7571145
D4-1,2-Dichloroethane (sur.)	%	113	104	104	103	7571142	101		7571145

RDL = Reportable Detection Limit

Maxxam ID		KD2790		KD2791	KD2792		KD2793		
Sampling Date		2014/07/18		2014/07/18	2014/07/18		2014/07/18		
	Units	Z10 S-9	QC Batch	Z10 DUP	Z3 S-1	QC Batch	Z3 S-3	RDL	QC Batch

Volatiles									
Benzene	mg/kg	<0.0050	7571145	<0.0050	<0.0050	7571142	<0.0050	0.0050	7571145
Toluene	mg/kg	<0.020	7571145	<0.020	<0.020	7571142	<0.020	0.020	7571145
Ethylbenzene	mg/kg	<0.010	7571145	<0.010	<0.010	7571142	<0.010	0.010	7571145
Xylenes (Total)	mg/kg	<0.040	7571145	<0.040	<0.040	7571142	<0.040	0.040	7571145
m & p-Xylene	mg/kg	<0.040	7571145	<0.040	<0.040	7571142	<0.040	0.040	7571145
o-Xylene	mg/kg	<0.020	7571145	<0.020	<0.020	7571142	<0.020	0.020	7571145
F1 (C6-C10) - BTEX	mg/kg	<12	7571145	<12	62	7571142	17	12	7571145
(C6-C10)	mg/kg	<12	7571145	<12	62	7571142	17	12	7571145

Surrogate Recovery (%)

1,4-Difluorobenzene (sur.)	%	103	7571145	107	107	7571142	103		7571145
4-Bromofluorobenzene (sur.)	%	100	7571145	97	94	7571142	101		7571145
D10-ETHYLBENZENE (sur.)	%	92	7571145	95	100	7571142	94		7571145
D4-1,2-Dichloroethane (sur.)	%	101	7571145	107	103	7571142	100		7571145

RDL = Reportable Detection Limit

Maxxam Job #: B461540
Report Date: 2014/07/21

DECOMMISSIONING CONSULTING SERVICES LTD.
Client Project #: 350600-508
Site Location: CONTWOYT LAKE WEATHER STATION
Sampler Initials: PH

VOLATILE ORGANICS BY GC-MS (SOIL)

Maxxam ID		KD2794	KD2795		KD2796		KD2797	KD2798		
Sampling Date		2014/07/18	2014/07/18		2014/07/18		2014/07/18	2014/07/18		
	Units	Z3 S-6	Z3 S-10	QC Batch	Z3 S-12	QC Batch	Z3 S-14	Z3 S-17	RDL	QC Batch

Volatiles										
Benzene	mg/kg	<0.0050	<0.0050	7571142	<0.0050	7571145	<0.0050	<0.0050	0.0050	7571142
Toluene	mg/kg	<0.020	<0.020	7571142	<0.020	7571145	<0.020	0.041	0.020	7571142
Ethylbenzene	mg/kg	<0.010	<0.010	7571142	0.058	7571145	<0.010	0.10	0.010	7571142
Xylenes (Total)	mg/kg	<0.040	<0.040	7571142	1.4	7571145	<0.040	2.9	0.040	7571142
m & p-Xylene	mg/kg	<0.040	<0.040	7571142	0.67	7571145	<0.040	1.1	0.040	7571142
o-Xylene	mg/kg	<0.020	<0.020	7571142	0.71	7571145	<0.020	1.8	0.020	7571142
F1 (C6-C10) - BTEX	mg/kg	<12	<12	7571142	300	7571145	<12	630	12	7571142
(C6-C10)	mg/kg	<12	<12	7571142	300	7571145	<12	630	12	7571142

Surrogate Recovery (%)										
1,4-Difluorobenzene (sur.)	%	109	107	7571142	97	7571145	111	116		7571142
4-Bromofluorobenzene (sur.)	%	93	106	7571142	105	7571145	94	93		7571142
D10-ETHYLBENZENE (sur.)	%	104	102	7571142	115	7571145	98	129		7571142
D4-1,2-Dichloroethane (sur.)	%	104	99	7571142	95	7571145	108	110		7571142

RDL = Reportable Detection Limit

Maxxam ID		KD2799	KD2800	KD2801	KD2802		KD2804		
Sampling Date		2014/07/18	2014/07/18	2014/07/18	2014/07/18		2014/07/18		
	Units	Z3 S-25	Z3 S-28	Z3 S-32	Z3 S-34	QC Batch	Z3 S-35	RDL	QC Batch

Volatiles									
Benzene	mg/kg	<0.0050	<0.0050	<0.0050	<0.0050	7571142	<0.0050	0.0050	7571145
Toluene	mg/kg	<0.020	<0.020	<0.020	<0.020	7571142	<0.020	0.020	7571145
Ethylbenzene	mg/kg	<0.010	<0.010	<0.010	<0.010	7571142	<0.010	0.010	7571145
Xylenes (Total)	mg/kg	<0.040	<0.040	<0.040	0.093	7571142	<0.040	0.040	7571145
m & p-Xylene	mg/kg	<0.040	<0.040	<0.040	<0.040	7571142	<0.040	0.040	7571145
o-Xylene	mg/kg	<0.020	<0.020	<0.020	0.093	7571142	<0.020	0.020	7571145
F1 (C6-C10) - BTEX	mg/kg	<12	<12	<12	53	7571142	<12	12	7571145
(C6-C10)	mg/kg	<12	<12	<12	53	7571142	<12	12	7571145

Surrogate Recovery (%)									
1,4-Difluorobenzene (sur.)	%	113	110	110	109	7571142	106		7571145
4-Bromofluorobenzene (sur.)	%	96	98	98	94	7571142	101		7571145
D10-ETHYLBENZENE (sur.)	%	99	99	98	100	7571142	99		7571145
D4-1,2-Dichloroethane (sur.)	%	113	107	106	104	7571142	104		7571145

RDL = Reportable Detection Limit

Maxxam Job #: B461540
Report Date: 2014/07/21

DECOMMISSIONING CONSULTING SERVICES LTD.
Client Project #: 350600-508
Site Location: CONTWOYTO LAKE WEATHER STATION
Sampler Initials: PH

VOLATILE ORGANICS BY GC-MS (SOIL)

Maxxam ID		KD2805	KD2806	KD2807	KD2808	KD2809	KD2810		
Sampling Date		2014/07/18	2014/07/18	2014/07/18	2014/07/18	2014/07/18	2014/07/18		
	Units	Z3 S-36	Z3 S-37	Z3 S-38	Z3 S-39	Z3 S-40	Z3 DUP 1	RDL	QC Batch
Volatiles									
Benzene	mg/kg	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	7571142
Toluene	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.020	7571142
Ethylbenzene	mg/kg	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	7571142
Xylenes (Total)	mg/kg	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	0.040	7571142
m & p-Xylene	mg/kg	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	0.040	7571142
o-Xylene	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.020	7571142
F1 (C6-C10) - BTEX	mg/kg	<12	<12	<12	<12	<12	25	12	7571142
(C6-C10)	mg/kg	<12	<12	<12	<12	<12	25	12	7571142
Surrogate Recovery (%)									
1,4-Difluorobenzene (sur.)	%	112	108	111	107	108	109		7571142
4-Bromofluorobenzene (sur.)	%	98	97	96	97	98	96		7571142
D10-ETHYLBENZENE (sur.)	%	102	97	100	99	98	99		7571142
D4-1,2-Dichloroethane (sur.)	%	108	108	104	104	105	108		7571142
RDL = Reportable Detection Limit									

Maxxam Job #: B461540
Report Date: 2014/07/21

DECOMMISSIONING CONSULTING SERVICES LTD.
Client Project #: 350600-508
Site Location: CONTWOYTO LAKE WEATHER STATION
Sampler Initials: PH

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	9.0°C
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Results relate only to the items tested.

Maxxam Job #: B461540
Report Date: 2014/07/21

QUALITY ASSURANCE REPORT

DECOMMISSIONING CONSULTING SERVICES LTD.

Client Project #: 350600-508

Site Location: CONTWOYTO LAKE WEATHER STATION

Sampler Initials: PH

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits	% Recovery	QC Limits
7571094	O-TERPHENYL (sur.)	2014/07/20	92	50 - 130	90	50 - 130	96	%				
7571115	O-TERPHENYL (sur.)	2014/07/20	94	50 - 130	90	50 - 130	95	%				
7571142	1,4-Difluorobenzene (sur.)	2014/07/20	103	60 - 140	100	60 - 140	106	%				
7571142	4-Bromofluorobenzene (sur.)	2014/07/20	95	60 - 140	95	60 - 140	98	%				
7571142	D10-ETHYLBENZENE (sur.)	2014/07/20	100	60 - 130	97	60 - 130	97	%				
7571142	D4-1,2-Dichloroethane (sur.)	2014/07/20	108	60 - 140	111	60 - 140	105	%				
7571145	1,4-Difluorobenzene (sur.)	2014/07/20	107	60 - 140	99	60 - 140	101	%				
7571145	4-Bromofluorobenzene (sur.)	2014/07/20	102	60 - 140	100	60 - 140	101	%				
7571145	D10-ETHYLBENZENE (sur.)	2014/07/20	100	60 - 130	94	60 - 130	96	%				
7571145	D4-1,2-Dichloroethane (sur.)	2014/07/20	101	60 - 140	102	60 - 140	101	%				
7571091	Moisture	2014/07/21					<0.30	%	0	20		
7571094	F2 (C10-C16 Hydrocarbons)	2014/07/20	97	50 - 130	97	70 - 130	<10	mg/kg	NC	50		
7571094	F3 (C16-C34 Hydrocarbons)	2014/07/20	99	50 - 130	101	70 - 130	<50	mg/kg	NC	50		
7571094	F4 (C34-C50 Hydrocarbons)	2014/07/20	95	50 - 130	99	70 - 130	<50	mg/kg	NC	50		
7571114	Moisture	2014/07/20					<0.30	%				
7571115	F2 (C10-C16 Hydrocarbons)	2014/07/20	NC	50 - 130	101	70 - 130	<10	mg/kg	2.1	50		
7571115	F3 (C16-C34 Hydrocarbons)	2014/07/20	NC	50 - 130	103	70 - 130	<50	mg/kg	1.6	50		
7571115	F4 (C34-C50 Hydrocarbons)	2014/07/20	86	50 - 130	97	70 - 130	<50	mg/kg	NC	50		
7571142	(C6-C10)	2014/07/21	109	60 - 140	108	60 - 140	<12	mg/kg	NC	50		
7571142	Benzene	2014/07/21	106	60 - 140	102	60 - 140	<0.0050	mg/kg	NC	50		
7571142	Ethylbenzene	2014/07/21	87	60 - 140	84	60 - 140	<0.010	mg/kg	NC	50		
7571142	F1 (C6-C10) - BTEX	2014/07/21					<12	mg/kg	NC	50		
7571142	m & p-Xylene	2014/07/21	87	60 - 140	83	60 - 140	<0.040	mg/kg	NC	50		
7571142	o-Xylene	2014/07/21	90	60 - 140	88	60 - 140	<0.020	mg/kg	NC	50		
7571142	Toluene	2014/07/21	94	60 - 140	90	60 - 140	<0.020	mg/kg	NC	50		
7571142	Xylenes (Total)	2014/07/21					<0.040	mg/kg	NC	50		
7571145	(C6-C10)	2014/07/20	119	60 - 140	114	60 - 140	<12	mg/kg	NC	50		
7571145	Benzene	2014/07/20	103	60 - 140	96	60 - 140	<0.0050	mg/kg	NC	50		
7571145	Ethylbenzene	2014/07/20	104	60 - 140	98	60 - 140	<0.010	mg/kg	NC	50		
7571145	F1 (C6-C10) - BTEX	2014/07/20					<12	mg/kg	NC	50		
7571145	m & p-Xylene	2014/07/20	106	60 - 140	99	60 - 140	<0.040	mg/kg	NC	50		
7571145	o-Xylene	2014/07/20	107	60 - 140	99	60 - 140	<0.020	mg/kg	NC	50		

Maxxam Job #: B461540
Report Date: 2014/07/21

QUALITY ASSURANCE REPORT(CONT'D)

DECOMMISSIONING CONSULTING SERVICES LTD.
Client Project #: 350600-508
Site Location: CONTWOYTO LAKE WEATHER STATION
Sampler Initials: PH

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits	% Recovery	QC Limits
7571145	Toluene	2014/07/20	103	60 - 140	96	60 - 140	<0.020	mg/kg	NC	50		
7571145	Xylenes (Total)	2014/07/20					<0.040	mg/kg	NC	50		
7571919	Total Boron (B)	2014/07/21	92	75 - 125	98	75 - 125	<0.80	mg/kg				
7571919	Total Cadmium (Cd)	2014/07/21	107	75 - 125	98	75 - 125	<0.10	mg/kg				
7571919	Total Copper (Cu)	2014/07/21	107	75 - 125	102	75 - 125	<5.0	mg/kg			117	73 - 127
7571919	Total Lead (Pb)	2014/07/21	108	75 - 125	100	75 - 125	<1.0	mg/kg			110	54 - 146
7571919	Total Zinc (Zn)	2014/07/21	NC	75 - 125	101	75 - 125	<10	mg/kg			121	72 - 128

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

QC Standard: A sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

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.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spiked amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than 2x that of the native sample concentration).

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (one or both samples < 5x RDL).

Maxxam Job #: B461540
Report Date: 2014/07/21

DECOMMISSIONING CONSULTING SERVICES LTD.
Client Project #: 350600-508
Site Location: CONTWOYTO LAKE WEATHER STATION
Sampler Initials: PH

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



Anna Koksharova, M.Sc., Senior Analyst



Daniel Reslan, Chem. Tech., Volatiles Supervisor



Dina Tleugabulova, Ph.D., Scientific Specialist, Inorganics Department



Karla Offord, B.Sc., Supervisor, Extractable Hydrocarbons



Yashu Mohan, B.Sc. B.Tech., Senior Analyst

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.

Attention:CHARLES GRAVELLE

DECOMMISSIONING CONSULTING SERVICES LTD.
ONTARIO
121 GRANTON DRIVE, UNIT 11
RICHMOND HILL, ON
CANADA L4B 3N4

Report Date: 2014/07/23
Report #: R1608375
Version: 1
CERTIFICATE OF ANALYSIS
MAXXAM JOB #: B462090
Received: 2014/07/21, 14:55

Sample Matrix: Soil
Samples Received: 30

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
BTEX/F1 by HS GC/MS (MeOH extract)	28	2014/07/22	2014/07/22	AB SOP-00039	CCME, EPA 8260
BTEX/F1 by HS GC/MS (MeOH extract)	2	2014/07/22	2014/07/23	AB SOP-00039	CCME, EPA 8260
CCME Hydrocarbons (F2-F4 in soil)	30	2014/07/22	2014/07/22	AB SOP-00040 AB SOP-00036	CCME PHC-CWS
Moisture	1	N/A	2014/07/22	AB SOP-00002	CCME PHC-CWS
Moisture	29	N/A	2014/07/23	AB SOP-00002	CCME PHC-CWS

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

Encryption Key

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

Tanya Eugene, M.Sc., Project Manager

Email: TEugine@maxxam.ca

Phone# (780)577-7144

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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.

Maxxam Job #: B462090
Report Date: 2014/07/23

DECOMMISSIONING CONSULTING SERVICES LTD.
Sampler Initials: PH

RESULTS OF CHEMICAL ANALYSES OF SOIL

Maxxam ID		KD6368	KD6369	KD6370	KD6371	KD6372	KD6373	KD6374		
Sampling Date		2014/07/20	2014/07/20	2014/07/20	2014/07/20	2014/07/20	2014/07/20	2014/07/20		
	Units	Z3 S-17B	Z3 S-19B	Z3 S-24B	Z3 S-25B	Z3 S-101B	Z3 DUP3	Z4 S-2	RDL	QC Batch

Physical Properties

Moisture	%	18	18	20	21	17	20	13	0.30	7573992
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RDL = Reportable Detection Limit

Maxxam ID		KD6375		KD6376		KD6377	KD6378		KD6379		
Sampling Date		2014/07/20		2014/07/20		2014/07/20	2014/07/20		2014/07/20		
	Units	Z4 S-3	QC Batch	Z4 S-5	QC Batch	Z4 S-7	Z4 S-9	QC Batch	Z4 S-10	RDL	QC Batch

Physical Properties

Moisture	%	13	7574330	11	7573992	13	15	7574330	16	0.30	7573992
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RDL = Reportable Detection Limit

Maxxam ID		KD6380		KD6430	KD6431		KD6432	KD6433		
Sampling Date		2014/07/20		2014/07/21	2014/07/21		2014/07/21	2014/07/21		
	Units	Z4 S-11	QC Batch	Z4 S-12	Z4 S-13	QC Batch	Z4 S-14	Z4 S-15	RDL	QC Batch

Physical Properties

Moisture	%	5.7	7574344	16	2.2	7573992	6.8	12	0.30	7574330
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RDL = Reportable Detection Limit

Maxxam ID		KD6434	KD6435	KD6436	KD6437	KD6438		KD6439		
Sampling Date		2014/07/21	2014/07/21	2014/07/21	2014/07/21	2014/07/21		2014/07/21		
	Units	Z4 DUP1	Z4 DUP2	SP-1	SP-2	SP-3	QC Batch	SP-4	RDL	QC Batch

Physical Properties

Moisture	%	15	16	7.6	4.2	3.8	7573992	4.6	0.30	7574344
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RDL = Reportable Detection Limit

Maxxam ID		KD6440		KD6441		KD6470		KD6471	KD6472		
Sampling Date		2014/07/21		2014/07/21		2014/07/21		2014/07/21	2014/07/21		
	Units	SP-5	QC Batch	SP-6	QC Batch	Z8 S-8AR	QC Batch	Z8 S-8BR	Z8 DUP1	RDL	QC Batch

Physical Properties

Moisture	%	5.6	7574330	4.7	7573992	2.3	7573834	4.4	1.6	0.30	7573992
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RDL = Reportable Detection Limit

Maxxam ID		KD6473		KD6474		
Sampling Date		2014/07/21		2014/07/21		
	Units	Z3-S-20	QC Batch	Z3-DUP2	RDL	QC Batch

Physical Properties

Moisture	%	18	7573992	1.8	0.30	7574330
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RDL = Reportable Detection Limit

Maxxam Job #: B462090
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DECOMMISSIONING CONSULTING SERVICES LTD.
Sampler Initials: PH

PETROLEUM HYDROCARBONS (CCME)

Maxxam ID		KD6368		KD6369		KD6370	KD6371	KD6372		
Sampling Date		2014/07/20		2014/07/20		2014/07/20	2014/07/20	2014/07/20		
	Units	Z3 S-17B	QC Batch	Z3 S-19B	QC Batch	Z3 S-24B	Z3 S-25B	Z3 S-101B	RDL	QC Batch

Ext. Pet. Hydrocarbon

F2 (C10-C16 Hydrocarbons)	mg/kg	5700	7573882	8900	7573888	6900	16000	10	10	7573882
F3 (C16-C34 Hydrocarbons)	mg/kg	1300	7573882	2400	7573888	1500	3300	<50	50	7573882
F4 (C34-C50 Hydrocarbons)	mg/kg	<50	7573882	130	7573888	<50	220	<50	50	7573882
Reached Baseline at C50	mg/kg	Yes	7573882	Yes	7573888	Yes	Yes	Yes		7573882

Surrogate Recovery (%)

O-TERPHENYL (sur.)	%	91	7573882	84	7573888	93	98	88		7573882
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RDL = Reportable Detection Limit

Maxxam ID		KD6373	KD6374	KD6375		KD6376		KD6377		
Sampling Date		2014/07/20	2014/07/20	2014/07/20		2014/07/20		2014/07/20		
	Units	Z3 DUP3	Z4 S-2	Z4 S-3	QC Batch	Z4 S-5	QC Batch	Z4 S-7	RDL	QC Batch

Ext. Pet. Hydrocarbon

F2 (C10-C16 Hydrocarbons)	mg/kg	6100	900	<10	7573882	2400	7573888	<10	10	7573882
F3 (C16-C34 Hydrocarbons)	mg/kg	1300	670	<50	7573882	780	7573888	<50	50	7573882
F4 (C34-C50 Hydrocarbons)	mg/kg	<50	<50	<50	7573882	<50	7573888	<50	50	7573882
Reached Baseline at C50	mg/kg	Yes	Yes	Yes	7573882	Yes	7573888	Yes		7573882

Surrogate Recovery (%)

O-TERPHENYL (sur.)	%	96	94	92	7573882	87	7573888	95		7573882
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RDL = Reportable Detection Limit

Maxxam ID		KD6378	KD6379	KD6380	KD6430		KD6431		
Sampling Date		2014/07/20	2014/07/20	2014/07/20	2014/07/21		2014/07/21		
	Units	Z4 S-9	Z4 S-10	Z4 S-11	Z4 S-12	QC Batch	Z4 S-13	RDL	QC Batch

Ext. Pet. Hydrocarbon

F2 (C10-C16 Hydrocarbons)	mg/kg	<10	350	3500	86	7573882	<10	10	7573888
F3 (C16-C34 Hydrocarbons)	mg/kg	<50	87	890	<50	7573882	<50	50	7573888
F4 (C34-C50 Hydrocarbons)	mg/kg	<50	<50	<50	<50	7573882	<50	50	7573888
Reached Baseline at C50	mg/kg	Yes	Yes	Yes	Yes	7573882	Yes		7573888

Surrogate Recovery (%)

O-TERPHENYL (sur.)	%	91	89	99	89	7573882	77		7573888
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RDL = Reportable Detection Limit

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DECOMMISSIONING CONSULTING SERVICES LTD.
Sampler Initials: PH

PETROLEUM HYDROCARBONS (CCME)

Maxxam ID		KD6432		KD6433		KD6434	KD6435	KD6436		
Sampling Date		2014/07/21		2014/07/21		2014/07/21	2014/07/21	2014/07/21		
	Units	Z4 S-14	QC Batch	Z4 S-15	QC Batch	Z4 DUP1	Z4 DUP2	SP-1	RDL	QC Batch

Ext. Pet. Hydrocarbon

F2 (C10-C16 Hydrocarbons)	mg/kg	<10	7573882	<10	7573888	770	82	2700	10	7573882
F3 (C16-C34 Hydrocarbons)	mg/kg	<50	7573882	<50	7573888	590	<50	640	50	7573882
F4 (C34-C50 Hydrocarbons)	mg/kg	<50	7573882	<50	7573888	<50	<50	<50	50	7573882
Reached Baseline at C50	mg/kg	Yes	7573882	Yes	7573888	Yes	Yes	Yes		7573882

Surrogate Recovery (%)

O-TERPHENYL (sur.)	%	89	7573882	80	7573888	95	87	93		7573882
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RDL = Reportable Detection Limit

Maxxam ID		KD6437		KD6438	KD6439	KD6440		KD6441		
Sampling Date		2014/07/21		2014/07/21	2014/07/21	2014/07/21		2014/07/21		
	Units	SP-2	QC Batch	SP-3	SP-4	SP-5	QC Batch	SP-6	RDL	QC Batch

Ext. Pet. Hydrocarbon

F2 (C10-C16 Hydrocarbons)	mg/kg	320	7573882	330	300	600	7573888	780	10	7573882
F3 (C16-C34 Hydrocarbons)	mg/kg	170	7573882	240	140	240	7573888	240	50	7573882
F4 (C34-C50 Hydrocarbons)	mg/kg	<50	7573882	<50	<50	<50	7573888	<50	50	7573882
Reached Baseline at C50	mg/kg	Yes	7573882	Yes	Yes	Yes	7573888	Yes		7573882

Surrogate Recovery (%)

O-TERPHENYL (sur.)	%	95	7573882	79	80	87	7573888	91		7573882
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RDL = Reportable Detection Limit

Maxxam ID		KD6470		KD6471	KD6472		KD6473	KD6474		
Sampling Date		2014/07/21		2014/07/21	2014/07/21		2014/07/21	2014/07/21		
	Units	Z8 S-8AR	QC Batch	Z8 S-8BR	Z8 DUP1	QC Batch	Z3-S-20	Z3-DUP2	RDL	QC Batch

Ext. Pet. Hydrocarbon

F2 (C10-C16 Hydrocarbons)	mg/kg	<10	7573888	<10	<10	7573882	36	430	10	7573888
F3 (C16-C34 Hydrocarbons)	mg/kg	<50	7573888	<50	<50	7573882	<50	99	50	7573888
F4 (C34-C50 Hydrocarbons)	mg/kg	<50	7573888	<50	<50	7573882	<50	<50	50	7573888
Reached Baseline at C50	mg/kg	Yes	7573888	Yes	Yes	7573882	Yes	Yes		7573888

Surrogate Recovery (%)

O-TERPHENYL (sur.)	%	78	7573888	93	89	7573882	91	86		7573888
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RDL = Reportable Detection Limit

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DECOMMISSIONING CONSULTING SERVICES LTD.
Sampler Initials: PH

VOLATILE ORGANICS BY GC-MS (SOIL)

Maxxam ID		KD6368		KD6369		KD6370	KD6371	KD6372		
Sampling Date		2014/07/20		2014/07/20		2014/07/20	2014/07/20	2014/07/20		
	Units	Z3 S-17B	QC Batch	Z3 S-19B	QC Batch	Z3 S-24B	Z3 S-25B	Z3 S-101B	RDL	QC Batch
Volatiles										
Benzene	mg/kg	<0.0050	7573917	0.020	7573958	<0.0050	0.024	<0.0050	0.0050	7573917
Toluene	mg/kg	0.40	7573917	0.71	7573958	0.091	0.64	0.027	0.020	7573917
Ethylbenzene	mg/kg	1.1	7573917	0.99	7573958	0.086	1.0	<0.010	0.010	7573917
Xylenes (Total)	mg/kg	20	7573917	29	7573958	9.4	32	<0.040	0.040	7573917
m & p-Xylene	mg/kg	11	7573917	17	7573958	4.6	17	<0.040	0.040	7573917
o-Xylene	mg/kg	9.1	7573917	12	7573958	4.8	15	<0.020	0.020	7573917
F1 (C6-C10) - BTEX	mg/kg	1200	7573917	2700	7573958	1300	2200	<12	12	7573917
(C6-C10)	mg/kg	1200	7573917	2700	7573958	1300	2200	<12	12	7573917
Surrogate Recovery (%)										
1,4-Difluorobenzene (sur.)	%	114	7573917	110	7573958	106	109	111		7573917
4-Bromofluorobenzene (sur.)	%	113	7573917	NC (1)	7573958	113	116	100		7573917
D10-ETHYLBENZENE (sur.)	%	129	7573917	106	7573958	121	127	96		7573917
D4-1,2-Dichloroethane (sur.)	%	101	7573917	95	7573958	94	98	102		7573917
RDL = Reportable Detection Limit										
(1) Surrogate recovery not reported due to matrix interference.										

Maxxam ID		KD6373	KD6374	KD6375		KD6376		KD6377		
Sampling Date		2014/07/20	2014/07/20	2014/07/20		2014/07/20		2014/07/20		
	Units	Z3 DUP3	Z4 S-2	Z4 S-3	QC Batch	Z4 S-5	QC Batch	Z4 S-7	RDL	QC Batch
Volatiles										
Benzene	mg/kg	<0.0050	<0.0050	<0.0050	7573917	<0.0050	7573958	<0.0050	0.0050	7573917
Toluene	mg/kg	0.080	<0.020	<0.020	7573917	0.049	7573958	<0.020	0.020	7573917
Ethylbenzene	mg/kg	0.055	<0.010	<0.010	7573917	0.61	7573958	<0.010	0.010	7573917
Xylenes (Total)	mg/kg	7.5	<0.040	<0.040	7573917	14	7573958	<0.040	0.040	7573917
m & p-Xylene	mg/kg	3.7	<0.040	<0.040	7573917	8.0	7573958	<0.040	0.040	7573917
o-Xylene	mg/kg	3.8	<0.020	<0.020	7573917	5.6	7573958	<0.020	0.020	7573917
F1 (C6-C10) - BTEX	mg/kg	1500	<12	<12	7573917	470	7573958	<12	12	7573917
(C6-C10)	mg/kg	1500	<12	<12	7573917	480	7573958	<12	12	7573917
Surrogate Recovery (%)										
1,4-Difluorobenzene (sur.)	%	107	111	106	7573917	102	7573958	109		7573917
4-Bromofluorobenzene (sur.)	%	110	100	100	7573917	106	7573958	100		7573917
D10-ETHYLBENZENE (sur.)	%	130	99	97	7573917	95	7573958	94		7573917
D4-1,2-Dichloroethane (sur.)	%	96	101	98	7573917	88	7573958	102		7573917
RDL = Reportable Detection Limit										

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DECOMMISSIONING CONSULTING SERVICES LTD.
Sampler Initials: PH

VOLATILE ORGANICS BY GC-MS (SOIL)

Maxxam ID		KD6378	KD6379	KD6380	KD6430		KD6431		
Sampling Date		2014/07/20	2014/07/20	2014/07/20	2014/07/21		2014/07/21		
	Units	Z4 S-9	Z4 S-10	Z4 S-11	Z4 S-12	QC Batch	Z4 S-13	RDL	QC Batch
Volatiles									
Benzene	mg/kg	<0.0050	<0.0050	<0.0050	<0.0050	7573917	<0.0050	0.0050	7573958
Toluene	mg/kg	<0.020	<0.020	<0.020	<0.020	7573917	<0.020	0.020	7573958
Ethylbenzene	mg/kg	<0.010	<0.010	<0.010	<0.010	7573917	<0.010	0.010	7573958
Xylenes (Total)	mg/kg	<0.040	<0.040	<0.040	<0.040	7573917	<0.040	0.040	7573958
m & p-Xylene	mg/kg	<0.040	<0.040	<0.040	<0.040	7573917	<0.040	0.040	7573958
o-Xylene	mg/kg	<0.020	<0.020	<0.020	0.037	7573917	<0.020	0.020	7573958
F1 (C6-C10) - BTEX	mg/kg	<12	<12	36	14	7573917	<12	12	7573958
(C6-C10)	mg/kg	<12	<12	36	14	7573917	<12	12	7573958
Surrogate Recovery (%)									
1,4-Difluorobenzene (sur.)	%	107	110	100	112	7573917	99		7573958
4-Bromofluorobenzene (sur.)	%	99	101	99	100	7573917	107		7573958
D10-ETHYLBENZENE (sur.)	%	98	96	97	94	7573917	91		7573958
D4-1,2-Dichloroethane (sur.)	%	104	103	94	102	7573917	91		7573958
RDL = Reportable Detection Limit									

Maxxam ID		KD6432		KD6433		KD6434	KD6435	KD6436		
Sampling Date		2014/07/21		2014/07/21		2014/07/21	2014/07/21	2014/07/21		
	Units	Z4 S-14	QC Batch	Z4 S-15	QC Batch	Z4 DUP1	Z4 DUP2	SP-1	RDL	QC Batch
Volatiles										
Benzene	mg/kg	<0.0050	7573917	<0.0050	7573958	<0.0050	<0.0050	<0.0050	0.0050	7573917
Toluene	mg/kg	<0.020	7573917	<0.020	7573958	<0.020	<0.020	0.024	0.020	7573917
Ethylbenzene	mg/kg	<0.010	7573917	<0.010	7573958	<0.010	<0.010	0.035	0.010	7573917
Xylenes (Total)	mg/kg	<0.040	7573917	<0.040	7573958	<0.040	<0.040	1.9	0.040	7573917
m & p-Xylene	mg/kg	<0.040	7573917	<0.040	7573958	<0.040	<0.040	0.84	0.040	7573917
o-Xylene	mg/kg	<0.020	7573917	<0.020	7573958	<0.020	<0.020	1.1	0.020	7573917
F1 (C6-C10) - BTEX	mg/kg	<12	7573917	<12	7573958	38	48	77	12	7573917
(C6-C10)	mg/kg	<12	7573917	<12	7573958	38	48	79	12	7573917
Surrogate Recovery (%)										
1,4-Difluorobenzene (sur.)	%	104	7573917	110	7573958	111	108	106		7573917
4-Bromofluorobenzene (sur.)	%	99	7573917	100	7573958	102	102	101		7573917
D10-ETHYLBENZENE (sur.)	%	96	7573917	89	7573958	98	97	116		7573917
D4-1,2-Dichloroethane (sur.)	%	103	7573917	91	7573958	98	99	98		7573917
RDL = Reportable Detection Limit										

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DECOMMISSIONING CONSULTING SERVICES LTD.
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VOLATILE ORGANICS BY GC-MS (SOIL)

Maxxam ID		KD6437		KD6438	KD6439	KD6440		KD6441		
Sampling Date		2014/07/21		2014/07/21	2014/07/21	2014/07/21		2014/07/21		
	Units	SP-2	QC Batch	SP-3	SP-4	SP-5	QC Batch	SP-6	RDL	QC Batch

Volatiles										
Benzene	mg/kg	<0.0050	7573917	<0.0050	<0.0050	<0.0050	7573958	<0.0050	0.0050	7573917
Toluene	mg/kg	<0.020	7573917	<0.020	<0.020	<0.020	7573958	<0.020	0.020	7573917
Ethylbenzene	mg/kg	<0.010	7573917	<0.010	<0.010	<0.010	7573958	<0.010	0.010	7573917
Xylenes (Total)	mg/kg	<0.040	7573917	<0.040	<0.040	<0.040	7573958	<0.040	0.040	7573917
m & p-Xylene	mg/kg	<0.040	7573917	<0.040	<0.040	<0.040	7573958	<0.040	0.040	7573917
o-Xylene	mg/kg	<0.020	7573917	<0.020	<0.020	<0.020	7573958	<0.020	0.020	7573917
F1 (C6-C10) - BTEX	mg/kg	16	7573917	<12	<12	22	7573958	18	12	7573917
(C6-C10)	mg/kg	16	7573917	<12	<12	22	7573958	18	12	7573917

Surrogate Recovery (%)

1,4-Difluorobenzene (sur.)	%	103	7573917	101	99	103	7573958	102		7573917
4-Bromofluorobenzene (sur.)	%	99	7573917	102	96	101	7573958	99		7573917
D10-ETHYLBENZENE (sur.)	%	96	7573917	100	91	91	7573958	97		7573917
D4-1,2-Dichloroethane (sur.)	%	102	7573917	91	86	99	7573958	102		7573917

RDL = Reportable Detection Limit

Maxxam ID		KD6470		KD6471	KD6472		KD6473	KD6474		
Sampling Date		2014/07/21		2014/07/21	2014/07/21		2014/07/21	2014/07/21		
	Units	Z8 S-8AR	QC Batch	Z8 S-8BR	Z8 DUP1	QC Batch	Z3-S-20	Z3-DUP2	RDL	QC Batch

Volatiles										
Benzene	mg/kg	<0.0050	7573958	<0.0050	<0.0050	7573917	<0.0050	<0.0050	0.0050	7573958
Toluene	mg/kg	<0.020	7573958	<0.020	<0.020	7573917	<0.020	<0.020	0.020	7573958
Ethylbenzene	mg/kg	<0.010	7573958	<0.010	<0.010	7573917	<0.010	<0.010	0.010	7573958
Xylenes (Total)	mg/kg	<0.040	7573958	<0.040	<0.040	7573917	<0.040	<0.040	0.040	7573958
m & p-Xylene	mg/kg	<0.040	7573958	<0.040	<0.040	7573917	<0.040	<0.040	0.040	7573958
o-Xylene	mg/kg	<0.020	7573958	<0.020	<0.020	7573917	<0.020	<0.020	0.020	7573958
F1 (C6-C10) - BTEX	mg/kg	<12	7573958	16	<12	7573917	<12	<12	12	7573958
(C6-C10)	mg/kg	<12	7573958	16	<12	7573917	<12	<12	12	7573958

Surrogate Recovery (%)

1,4-Difluorobenzene (sur.)	%	97	7573958	105	101	7573917	113	97		7573958
4-Bromofluorobenzene (sur.)	%	101	7573958	100	101	7573917	107	96		7573958
D10-ETHYLBENZENE (sur.)	%	91	7573958	99	102	7573917	94	93		7573958
D4-1,2-Dichloroethane (sur.)	%	83	7573958	99	103	7573917	95	89		7573958

RDL = Reportable Detection Limit

Maxxam Job #: B462090
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DECOMMISSIONING CONSULTING SERVICES LTD.
Sampler Initials: PH

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	16.0°C
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Results relate only to the items tested.

Maxxam Job #: B462090
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QUALITY ASSURANCE REPORT

DECOMMISSIONING CONSULTING SERVICES LTD.
Sampler Initials: PH

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits
7573882	O-TERPHENYL (sur.)	2014/07/22	87	50 - 130	87	50 - 130	85	%		
7573888	O-TERPHENYL (sur.)	2014/07/22	72	50 - 130	79	50 - 130	92	%		
7573917	1,4-Difluorobenzene (sur.)	2014/07/22	110	60 - 140	100	60 - 140	106	%		
7573917	4-Bromofluorobenzene (sur.)	2014/07/22	100	60 - 140	100	60 - 140	101	%		
7573917	D10-ETHYLBENZENE (sur.)	2014/07/22	99	60 - 130	95	60 - 130	99	%		
7573917	D4-1,2-Dichloroethane (sur.)	2014/07/22	101	60 - 140	102	60 - 140	101	%		
7573958	1,4-Difluorobenzene (sur.)	2014/07/22	102	60 - 140	100	60 - 140	97	%		
7573958	4-Bromofluorobenzene (sur.)	2014/07/22	100	60 - 140	100	60 - 140	100	%		
7573958	D10-ETHYLBENZENE (sur.)	2014/07/22	92	60 - 130	92	60 - 130	88	%		
7573958	D4-1,2-Dichloroethane (sur.)	2014/07/22	96	60 - 140	98	60 - 140	92	%		
7573834	Moisture	2014/07/22					0.30 ,RDL=0.30	%		
7573882	F2 (C10-C16 Hydrocarbons)	2014/07/22	NC	50 - 130	92	70 - 130	<10	mg/kg	0.8	50
7573882	F3 (C16-C34 Hydrocarbons)	2014/07/22	80	50 - 130	93	70 - 130	<50	mg/kg	0.6	50
7573882	F4 (C34-C50 Hydrocarbons)	2014/07/22	86	50 - 130	88	70 - 130	<50	mg/kg	NC	50
7573888	F2 (C10-C16 Hydrocarbons)	2014/07/22	NC	50 - 130	87	70 - 130	<10	mg/kg	2.3	50
7573888	F3 (C16-C34 Hydrocarbons)	2014/07/22	77	50 - 130	89	70 - 130	<50	mg/kg	NC	50
7573888	F4 (C34-C50 Hydrocarbons)	2014/07/22	76	50 - 130	84	70 - 130	<50	mg/kg	NC	50
7573917	(C6-C10)	2014/07/22	115	60 - 140	86	60 - 140	<12	mg/kg	NC	50
7573917	Benzene	2014/07/22	102	60 - 140	96	60 - 140	<0.0050	mg/kg	NC	50
7573917	Ethylbenzene	2014/07/22	105	60 - 140	99	60 - 140	<0.010	mg/kg	NC	50
7573917	F1 (C6-C10) - BTEX	2014/07/22					<12	mg/kg	NC	50
7573917	m & p-Xylene	2014/07/22	107	60 - 140	100	60 - 140	<0.040	mg/kg	NC	50
7573917	o-Xylene	2014/07/22	107	60 - 140	102	60 - 140	<0.020	mg/kg	NC	50
7573917	Toluene	2014/07/22	103	60 - 140	97	60 - 140	<0.020	mg/kg	NC	50
7573917	Xylenes (Total)	2014/07/22					<0.040	mg/kg	NC	50
7573958	(C6-C10)	2014/07/22	106	60 - 140	110	60 - 140	<12	mg/kg	NC	50
7573958	Benzene	2014/07/22	100	60 - 140	96	60 - 140	<0.0050	mg/kg	NC	50
7573958	Ethylbenzene	2014/07/22	101	60 - 140	96	60 - 140	<0.010	mg/kg	NC	50
7573958	F1 (C6-C10) - BTEX	2014/07/22					<12	mg/kg	NC	50
7573958	m & p-Xylene	2014/07/22	103	60 - 140	98	60 - 140	<0.040	mg/kg	NC	50
7573958	o-Xylene	2014/07/22	99	60 - 140	95	60 - 140	<0.020	mg/kg	NC	50
7573958	Toluene	2014/07/22	97	60 - 140	94	60 - 140	<0.020	mg/kg	NC	50

Maxxam Job #: B462090
Report Date: 2014/07/23

QUALITY ASSURANCE REPORT(CONT'D)

DECOMMISSIONING CONSULTING SERVICES LTD.
Sampler Initials: PH

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits
7573958	Xylenes (Total)	2014/07/22					<0.040	mg/kg	NC	50
7573992	Moisture	2014/07/23					<0.30	%	3.7	20
7574330	Moisture	2014/07/23					<0.30	%		
7574344	Moisture	2014/07/23					<0.30	%		

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

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.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spiked amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than 2x that of the native sample concentration).

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (one or both samples < 5x RDL).

Maxxam Job #: B462090
Report Date: 2014/07/23

DECOMMISSIONING CONSULTING SERVICES LTD.
Sampler Initials: PH

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



Anna Koksharova, M.Sc., Senior Analyst



Daniel Reslan, Chem. Tech., Volatiles Supervisor



Justin Geisel, B.Sc., Supervisor, Organics

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.

Your Project #: 350600-508

Site Location: CONTWOYTO LAKE WEATHER STATION

Attention:CHARLES GRAVELLE

DECOMMISSIONING CONSULTING SERVICES LTD.
ONTARIO
121 GRANTON DRIVE, UNIT 11
RICHMOND HILL, ON
CANADA L4B 3N4

Report Date: 2014/07/28

Report #: R1610963

Version: 1

CERTIFICATE OF ANALYSIS
MAXXAM JOB #: B464021
Received: 2014/07/25, 16:00

Sample Matrix: Soil
Samples Received: 17

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
BTEX/F1 by HS GC/MS (MeOH extract)	14	2014/07/27	2014/07/27	AB SOP-00039	CCME, EPA 8260
BTEX/F1 by HS GC/MS (MeOH extract)	3	2014/07/27	2014/07/28	AB SOP-00039	CCME, EPA 8260
CCME Hydrocarbons (F2-F4 in soil)	16	2014/07/27	2014/07/27	AB SOP-00040 AB SOP-00036	CCME PHC-CWS
CCME Hydrocarbons (F2-F4 in soil)	1	2014/07/27	2014/07/28	AB SOP-00040 AB SOP-00036	CCME PHC-CWS
Moisture	17	N/A	2014/07/28	AB SOP-00002	CCME PHC-CWS

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

Encryption Key

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

Tanya Eugene, M.Sc., Project Manager

Email: TEugene@maxxam.ca

Phone# (780)577-7144

=====

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Maxxam Job #: B464021
Report Date: 2014/07/28

DECOMMISSIONING CONSULTING SERVICES LTD.
Client Project #: 350600-508
Site Location: CONTWOYTO LAKE WEATHER STATION
Sampler Initials: PH

RESULTS OF CHEMICAL ANALYSES OF SOIL

Maxxam ID		KE8570	KE8571	KE8572	KE8573	KE8574	KE8575	KE8576		
Sampling Date		2014/07/24	2014/07/24	2014/07/24	2014/07/24	2014/07/24	2014/07/24	2014/07/24		
	Units	Z3 S12B	Z3 S23E	Z3 S34B	DUP4	Z9-WW	Z9-EW	Z9-NW	RDL	QC Batch

Physical Properties										
Moisture	%	18	19	20	18	0.40	1.0	0.30	0.30	7579878
RDL = Reportable Detection Limit										

Maxxam ID		KE8577	KE8578	KE8579	KE8580	KE8581	KE8582	KE8583		
Sampling Date		2014/07/24	2014/07/24	2014/07/24	2014/07/24	2014/07/24	2014/07/24	2014/07/25		
	Units	Z5-NW	Z5-EW	Z5-WW	Z7-NW	Z7-EW	Z7-WW	Z4-S5	RDL	QC Batch

Physical Properties										
Moisture	%	0.50	0.50	0.60	0.50	0.30	0.50	18	0.30	7579878
RDL = Reportable Detection Limit										

Maxxam ID		KE8584	KE8585	KE8586		
Sampling Date		2014/07/25	2014/07/25			
	Units	Z4-S11B	Z4-S16	Z4-DUP3	RDL	QC Batch

Physical Properties						
Moisture	%	14	3.3	17	0.30	7579878
RDL = Reportable Detection Limit						

Maxxam Job #: B464021
Report Date: 2014/07/28

DECOMMISSIONING CONSULTING SERVICES LTD.
Client Project #: 350600-508
Site Location: CONTWOYT LAKE WEATHER STATION
Sampler Initials: PH

PETROLEUM HYDROCARBONS (CCME)

Maxxam ID		KE8570	KE8571	KE8572	KE8573	KE8574	KE8575	KE8576		
Sampling Date		2014/07/24	2014/07/24	2014/07/24	2014/07/24	2014/07/24	2014/07/24	2014/07/24		
	Units	Z3 S12B	Z3 S23E	Z3 S34B	DUP4	Z9-WW	Z9-EW	Z9-NW	RDL	QC Batch

Ext. Pet. Hydrocarbon										
F2 (C10-C16 Hydrocarbons)	mg/kg	4000	<10	4200	3800	<10	<10	<10	10	7579860
F3 (C16-C34 Hydrocarbons)	mg/kg	1200	<50	1100	1100	<50	<50	<50	50	7579860
F4 (C34-C50 Hydrocarbons)	mg/kg	<50	<50	<50	<50	<50	<50	<50	50	7579860
Reached Baseline at C50	mg/kg	Yes	Yes	Yes	Yes	Yes	Yes	Yes		7579860
Surrogate Recovery (%)										
O-TERPHENYL (sur.)	%	94	89	91	88	86	87	90		7579860
RDL = Reportable Detection Limit										

Maxxam ID		KE8577	KE8578	KE8579	KE8580	KE8581	KE8582	KE8583		
Sampling Date		2014/07/24	2014/07/24	2014/07/24	2014/07/24	2014/07/24	2014/07/24	2014/07/25		
	Units	Z5-NW	Z5-EW	Z5-WW	Z7-NW	Z7-EW	Z7-WW	Z4-S5	RDL	QC Batch

Ext. Pet. Hydrocarbon										
F2 (C10-C16 Hydrocarbons)	mg/kg	<10	<10	<10	<10	<10	<10	<10	10	7579860
F3 (C16-C34 Hydrocarbons)	mg/kg	<50	<50	<50	<50	<50	<50	<50	50	7579860
F4 (C34-C50 Hydrocarbons)	mg/kg	<50	<50	<50	<50	<50	<50	<50	50	7579860
Reached Baseline at C50	mg/kg	Yes	Yes	Yes	Yes	Yes	Yes	Yes		7579860
Surrogate Recovery (%)										
O-TERPHENYL (sur.)	%	87	88	89	88	87	88	89		7579860
RDL = Reportable Detection Limit										

Maxxam ID		KE8584	KE8585	KE8586		
Sampling Date		2014/07/25	2014/07/25			
	Units	Z4-S11B	Z4-S16	Z4-DUP3	RDL	QC Batch
Ext. Pet. Hydrocarbon						
F2 (C10-C16 Hydrocarbons)	mg/kg	2000	<10	1200	10	7579860
F3 (C16-C34 Hydrocarbons)	mg/kg	280	<50	170	50	7579860
F4 (C34-C50 Hydrocarbons)	mg/kg	<50	<50	<50	50	7579860
Reached Baseline at C50	mg/kg	Yes	Yes	Yes		7579860
Surrogate Recovery (%)						
O-TERPHENYL (sur.)	%	86	91	86		7579860
RDL = Reportable Detection Limit						

Maxxam Job #: B464021
Report Date: 2014/07/28

DECOMMISSIONING CONSULTING SERVICES LTD.
Client Project #: 350600-508
Site Location: CONTWOYT LAKE WEATHER STATION
Sampler Initials: PH

VOLATILE ORGANICS BY GC-MS (SOIL)

Maxxam ID		KE8570	KE8571	KE8572	KE8573	KE8574	KE8575		
Sampling Date		2014/07/24	2014/07/24	2014/07/24	2014/07/24	2014/07/24	2014/07/24		
	Units	Z3 S12B	Z3 S23E	Z3 S34B	DUP4	Z9-WW	Z9-EW	RDL	QC Batch

Volatiles									
Benzene	mg/kg	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	7579859
Toluene	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.020	7579859
Ethylbenzene	mg/kg	0.23	<0.010	<0.010	0.19	<0.010	<0.010	0.010	7579859
Xylenes (Total)	mg/kg	4.9	<0.040	2.0	4.2	<0.040	<0.040	0.040	7579859
m & p-Xylene	mg/kg	2.6	<0.040	0.62	2.2	<0.040	<0.040	0.040	7579859
o-Xylene	mg/kg	2.3	<0.020	1.4	2.0	<0.020	<0.020	0.020	7579859
F1 (C6-C10) - BTEX	mg/kg	290	<12	150	380	<12	<12	12	7579859
(C6-C10)	mg/kg	290	<12	160	390	<12	<12	12	7579859

Surrogate Recovery (%)

1,4-Difluorobenzene (sur.)	%	115	113	112	113	103	102		7579859
4-Bromofluorobenzene (sur.)	%	119	96	114	102	96	104		7579859
D10-ETHYLBENZENE (sur.)	%	85	108	112	123	107	90		7579859
D4-1,2-Dichloroethane (sur.)	%	102	96	99	103	94	99		7579859

RDL = Reportable Detection Limit

Maxxam ID		KE8576	KE8577	KE8578	KE8579	KE8580	KE8581		
Sampling Date		2014/07/24	2014/07/24	2014/07/24	2014/07/24	2014/07/24	2014/07/24		
	Units	Z9-NW	Z5-NW	Z5-EW	Z5-WW	Z7-NW	Z7-EW	RDL	QC Batch

Volatiles									
Benzene	mg/kg	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	7579859
Toluene	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.020	7579859
Ethylbenzene	mg/kg	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	7579859
Xylenes (Total)	mg/kg	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	0.040	7579859
m & p-Xylene	mg/kg	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	0.040	7579859
o-Xylene	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.020	7579859
F1 (C6-C10) - BTEX	mg/kg	<12	<12	<12	<12	<12	<12	12	7579859
(C6-C10)	mg/kg	<12	<12	<12	<12	<12	<12	12	7579859

Surrogate Recovery (%)

1,4-Difluorobenzene (sur.)	%	102	104	101	105	103	104		7579859
4-Bromofluorobenzene (sur.)	%	99	101	98	97	97	99		7579859
D10-ETHYLBENZENE (sur.)	%	105	107	107	107	105	109		7579859
D4-1,2-Dichloroethane (sur.)	%	98	103	101	95	99	97		7579859

RDL = Reportable Detection Limit

Maxxam Job #: B464021
Report Date: 2014/07/28

DECOMMISSIONING CONSULTING SERVICES LTD.
Client Project #: 350600-508
Site Location: CONTWOYT LAKE WEATHER STATION
Sampler Initials: PH

VOLATILE ORGANICS BY GC-MS (SOIL)

Maxxam ID		KE8582	KE8583	KE8584	KE8585	KE8586		
Sampling Date		2014/07/24	2014/07/25	2014/07/25	2014/07/25			
	Units	Z7-WW	Z4-S5	Z4-S11B	Z4-S16	Z4-DUP3	RDL	QC Batch
Volatiles								
Benzene	mg/kg	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	7579859
Toluene	mg/kg	<0.020	<0.020	0.12	<0.020	0.14	0.020	7579859
Ethylbenzene	mg/kg	<0.010	<0.010	0.96	<0.010	0.93	0.010	7579859
Xylenes (Total)	mg/kg	<0.040	<0.040	10	<0.040	9.8	0.040	7579859
m & p-Xylene	mg/kg	<0.040	<0.040	6.9	<0.040	6.5	0.040	7579859
o-Xylene	mg/kg	<0.020	<0.020	3.5	<0.020	3.2	0.020	7579859
F1 (C6-C10) - BTEX	mg/kg	<12	<12	170	<12	170	12	7579859
(C6-C10)	mg/kg	<12	<12	180	<12	180	12	7579859
Surrogate Recovery (%)								
1,4-Difluorobenzene (sur.)	%	103	113	113	108	114		7579859
4-Bromofluorobenzene (sur.)	%	98	97	112	97	113		7579859
D10-ETHYLBENZENE (sur.)	%	103	103	118	107	112		7579859
D4-1,2-Dichloroethane (sur.)	%	98	98	101	97	98		7579859
RDL = Reportable Detection Limit								

Maxxam Job #: B464021
Report Date: 2014/07/28

DECOMMISSIONING CONSULTING SERVICES LTD.
Client Project #: 350600-508
Site Location: CONTWOYTO LAKE WEATHER STATION
Sampler Initials: PH

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	7.3°C
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Results relate only to the items tested.

Maxxam Job #: B464021
Report Date: 2014/07/28

QUALITY ASSURANCE REPORT

DECOMMISSIONING CONSULTING SERVICES LTD.

Client Project #: 350600-508

Site Location: CONTWOYTO LAKE WEATHER STATION

Sampler Initials: PH

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits
7579859	1,4-Difluorobenzene (sur.)	2014/07/27	109	60 - 140	103	60 - 140	107	%		
7579859	4-Bromofluorobenzene (sur.)	2014/07/27	103	60 - 140	99	60 - 140	98	%		
7579859	D10-ETHYLBENZENE (sur.)	2014/07/27	107	60 - 130	106	60 - 130	104	%		
7579859	D4-1,2-Dichloroethane (sur.)	2014/07/27	99	60 - 140	99	60 - 140	97	%		
7579860	O-TERPHENYL (sur.)	2014/07/27	90	50 - 130	92	50 - 130	87	%		
7579859	(C6-C10)	2014/07/27	NC	60 - 140	114	60 - 140	<12	mg/kg	3.5	50
7579859	Benzene	2014/07/27	105	60 - 140	96	60 - 140	<0.0050	mg/kg	NC	50
7579859	Ethylbenzene	2014/07/27	90	60 - 140	97	60 - 140	<0.010	mg/kg	17.6	50
7579859	F1 (C6-C10) - BTEX	2014/07/27					<12	mg/kg	2.6	50
7579859	m & p-Xylene	2014/07/27	NC	60 - 140	96	60 - 140	<0.040	mg/kg	18.7	50
7579859	o-Xylene	2014/07/27	NC	60 - 140	95	60 - 140	<0.020	mg/kg	19.5	50
7579859	Toluene	2014/07/27	95	60 - 140	90	60 - 140	<0.020	mg/kg	17.3	50
7579859	Xylenes (Total)	2014/07/27					<0.040	mg/kg	19.0	50
7579860	F2 (C10-C16 Hydrocarbons)	2014/07/27	NC	50 - 130	93	70 - 130	<10	mg/kg	51.2 (1)	50
7579860	F3 (C16-C34 Hydrocarbons)	2014/07/27	85	50 - 130	97	70 - 130	<50	mg/kg	NC	50
7579860	F4 (C34-C50 Hydrocarbons)	2014/07/27	82	50 - 130	93	70 - 130	<50	mg/kg	NC	50
7579878	Moisture	2014/07/28					<0.30	%	7.3	20

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

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.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spiked amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than 2x that of the native sample concentration).

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (one or both samples < 5x RDL).

(1) Duplicate exceeds acceptance criteria due to sample non homogeneity. Reanalysis yields similar results.

Maxxam Job #: B464021
Report Date: 2014/07/28

DECOMMISSIONING CONSULTING SERVICES LTD.
Client Project #: 350600-508
Site Location: CONTWOYTO LAKE WEATHER STATION
Sampler Initials: PH

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



Daniel Reslan, Chem. Tech., Volatiles Supervisor



Karla Offord, B.Sc., Supervisor, Extractable Hydrocarbons

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Your Project #: 350600-508

Site Location: CONTWOYT LAKE WEATHER STATION

Attention:CHARLES GRAVELLE

DECOMMISSIONING CONSULTING SERVICES LTD.
ONTARIO
121 GRANTON DRIVE, UNIT 11
RICHMOND HILL, ON
CANADA L4B 3N4

Report Date: 2014/07/29

Report #: R1611758

Version: 2R

CERTIFICATE OF ANALYSIS – REVISED REPORT
MAXXAM JOB #: B464021
Received: 2014/07/25, 16:00

Sample Matrix: Soil
Samples Received: 18

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
BTEX/F1 by HS GC/MS (MeOH extract)	14	2014/07/27	2014/07/27	AB SOP-00039	CCME, EPA 8260
BTEX/F1 by HS GC/MS (MeOH extract)	3	2014/07/27	2014/07/28	AB SOP-00039	CCME, EPA 8260
BTEX/F1 by HS GC/MS (MeOH extract)	1	2014/07/28	2014/07/29	AB SOP-00039	CCME, EPA 8260
CCME Hydrocarbons (F2-F4 in soil)	16	2014/07/27	2014/07/27	AB SOP-00040 AB SOP-00036	CCME PHC-CWS
CCME Hydrocarbons (F2-F4 in soil)	1	2014/07/27	2014/07/28	AB SOP-00040 AB SOP-00036	CCME PHC-CWS
CCME Hydrocarbons (F2-F4 in soil)	1	2014/07/28	2014/07/29	AB SOP-00040 AB SOP-00036	CCME PHC-CWS
Moisture	17	N/A	2014/07/28	AB SOP-00002	CCME PHC-CWS
Moisture	1	N/A	2014/07/29	AB SOP-00002	CCME PHC-CWS

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

Encryption Key

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

Tanya Eugene, M.Sc., Project Manager

Email: TEugine@maxxam.ca

Phone# (780)577-7144

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Maxxam Job #: B464021
Report Date: 2014/07/29

DECOMMISSIONING CONSULTING SERVICES LTD.
Client Project #: 350600-508
Site Location: CONTWOYT LAKE WEATHER STATION
Sampler Initials: PH

RESULTS OF CHEMICAL ANALYSES OF SOIL

Maxxam ID		KE8570	KE8571	KE8572	KE8573	KE8574	KE8575	KE8576		
Sampling Date		2014/07/24	2014/07/24	2014/07/24	2014/07/24	2014/07/24	2014/07/24	2014/07/24		
	Units	Z3 S12B	Z3 S23E	Z3 S34B	DUP4	Z9-WW	Z9-EW	Z9-NW	RDL	QC Batch

Physical Properties										
Moisture	%	18	19	20	18	0.40	1.0	0.30	0.30	7579878
RDL = Reportable Detection Limit										

Maxxam ID		KE8577	KE8578	KE8579	KE8580	KE8581	KE8582	KE8583		
Sampling Date		2014/07/24	2014/07/24	2014/07/24	2014/07/24	2014/07/24	2014/07/24	2014/07/25		
	Units	Z5-NW	Z5-EW	Z5-WW	Z7-NW	Z7-EW	Z7-WW	Z4-S5	RDL	QC Batch

Physical Properties										
Moisture	%	0.50	0.50	0.60	0.50	0.30	0.50	18	0.30	7579878
RDL = Reportable Detection Limit										

Maxxam ID		KE8584	KE8585	KE8586		KE8587		
Sampling Date		2014/07/25	2014/07/25					
	Units	Z4-S11B	Z4-S16	Z4-DUP3	QC Batch	ZONE 2 BP1	RDL	QC Batch
Physical Properties								
Moisture	%	14	3.3	17	7579878	0.30	0.30	7581195
RDL = Reportable Detection Limit								

Maxxam Job #: B464021
Report Date: 2014/07/29

DECOMMISSIONING CONSULTING SERVICES LTD.
Client Project #: 350600-508
Site Location: CONTWOYT LAKE WEATHER STATION
Sampler Initials: PH

PETROLEUM HYDROCARBONS (CCME)

Maxxam ID		KE8570	KE8571	KE8572	KE8573	KE8574	KE8575	KE8576		
Sampling Date		2014/07/24	2014/07/24	2014/07/24	2014/07/24	2014/07/24	2014/07/24	2014/07/24		
	Units	Z3 S12B	Z3 S23E	Z3 S34B	DUP4	Z9-WW	Z9-EW	Z9-NW	RDL	QC Batch

Ext. Pet. Hydrocarbon										
F2 (C10-C16 Hydrocarbons)	mg/kg	4000	<10	4200	3800	<10	<10	<10	10	7579860
F3 (C16-C34 Hydrocarbons)	mg/kg	1200	<50	1100	1100	<50	<50	<50	50	7579860
F4 (C34-C50 Hydrocarbons)	mg/kg	<50	<50	<50	<50	<50	<50	<50	50	7579860
Reached Baseline at C50	mg/kg	Yes	Yes	Yes	Yes	Yes	Yes	Yes		7579860
Surrogate Recovery (%)										
O-TERPHENYL (sur.)	%	94	89	91	88	86	87	90		7579860
RDL = Reportable Detection Limit										

Maxxam ID		KE8577	KE8578	KE8579	KE8580	KE8581	KE8582	KE8583		
Sampling Date		2014/07/24	2014/07/24	2014/07/24	2014/07/24	2014/07/24	2014/07/24	2014/07/25		
	Units	Z5-NW	Z5-EW	Z5-WW	Z7-NW	Z7-EW	Z7-WW	Z4-S5	RDL	QC Batch

Ext. Pet. Hydrocarbon										
F2 (C10-C16 Hydrocarbons)	mg/kg	<10	<10	<10	<10	<10	<10	<10	10	7579860
F3 (C16-C34 Hydrocarbons)	mg/kg	<50	<50	<50	<50	<50	<50	<50	50	7579860
F4 (C34-C50 Hydrocarbons)	mg/kg	<50	<50	<50	<50	<50	<50	<50	50	7579860
Reached Baseline at C50	mg/kg	Yes	Yes	Yes	Yes	Yes	Yes	Yes		7579860
Surrogate Recovery (%)										
O-TERPHENYL (sur.)	%	87	88	89	88	87	88	89		7579860
RDL = Reportable Detection Limit										

Maxxam ID		KE8584	KE8585	KE8586		KE8587		
Sampling Date		2014/07/25	2014/07/25					
	Units	Z4-S11B	Z4-S16	Z4-DUP3	QC Batch	ZONE 2 BP1	RDL	QC Batch

Ext. Pet. Hydrocarbon								
F2 (C10-C16 Hydrocarbons)	mg/kg	2000	<10	1200	7579860	<10	10	7579129
F3 (C16-C34 Hydrocarbons)	mg/kg	280	<50	170	7579860	<50	50	7579129
F4 (C34-C50 Hydrocarbons)	mg/kg	<50	<50	<50	7579860	<50	50	7579129
Reached Baseline at C50	mg/kg	Yes	Yes	Yes	7579860	Yes		7579129
Surrogate Recovery (%)								
O-TERPHENYL (sur.)	%	86	91	86	7579860	85		7579129
RDL = Reportable Detection Limit								

Maxxam Job #: B464021
Report Date: 2014/07/29

DECOMMISSIONING CONSULTING SERVICES LTD.
Client Project #: 350600-508
Site Location: CONTWOYT LAKE WEATHER STATION
Sampler Initials: PH

VOLATILE ORGANICS BY GC-MS (SOIL)

Maxxam ID		KE8570	KE8571	KE8572	KE8573	KE8574	KE8575		
Sampling Date		2014/07/24	2014/07/24	2014/07/24	2014/07/24	2014/07/24	2014/07/24		
	Units	Z3 S12B	Z3 S23E	Z3 S34B	DUP4	Z9-WW	Z9-EW	RDL	QC Batch

Volatiles									
Benzene	mg/kg	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	7579859
Toluene	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.020	7579859
Ethylbenzene	mg/kg	0.23	<0.010	<0.010	0.19	<0.010	<0.010	0.010	7579859
Xylenes (Total)	mg/kg	4.9	<0.040	2.0	4.2	<0.040	<0.040	0.040	7579859
m & p-Xylene	mg/kg	2.6	<0.040	0.62	2.2	<0.040	<0.040	0.040	7579859
o-Xylene	mg/kg	2.3	<0.020	1.4	2.0	<0.020	<0.020	0.020	7579859
F1 (C6-C10) - BTEX	mg/kg	290	<12	150	380	<12	<12	12	7579859
(C6-C10)	mg/kg	290	<12	160	390	<12	<12	12	7579859

Surrogate Recovery (%)									
1,4-Difluorobenzene (sur.)	%	115	113	112	113	103	102		7579859
4-Bromofluorobenzene (sur.)	%	119	96	114	102	96	104		7579859
D10-ETHYLBENZENE (sur.)	%	85	108	112	123	107	90		7579859
D4-1,2-Dichloroethane (sur.)	%	102	96	99	103	94	99		7579859

RDL = Reportable Detection Limit

Maxxam ID		KE8576	KE8577	KE8578	KE8579	KE8580	KE8581		
Sampling Date		2014/07/24	2014/07/24	2014/07/24	2014/07/24	2014/07/24	2014/07/24		
	Units	Z9-NW	Z5-NW	Z5-EW	Z5-WW	Z7-NW	Z7-EW	RDL	QC Batch

Volatiles									
Benzene	mg/kg	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	7579859
Toluene	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.020	7579859
Ethylbenzene	mg/kg	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	7579859
Xylenes (Total)	mg/kg	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	0.040	7579859
m & p-Xylene	mg/kg	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	0.040	7579859
o-Xylene	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.020	7579859
F1 (C6-C10) - BTEX	mg/kg	<12	<12	<12	<12	<12	<12	12	7579859
(C6-C10)	mg/kg	<12	<12	<12	<12	<12	<12	12	7579859

Surrogate Recovery (%)									
1,4-Difluorobenzene (sur.)	%	102	104	101	105	103	104		7579859
4-Bromofluorobenzene (sur.)	%	99	101	98	97	97	99		7579859
D10-ETHYLBENZENE (sur.)	%	105	107	107	107	105	109		7579859
D4-1,2-Dichloroethane (sur.)	%	98	103	101	95	99	97		7579859

RDL = Reportable Detection Limit

Maxxam Job #: B464021
Report Date: 2014/07/29

DECOMMISSIONING CONSULTING SERVICES LTD.
Client Project #: 350600-508
Site Location: CONTWOYTO LAKE WEATHER STATION
Sampler Initials: PH

VOLATILE ORGANICS BY GC-MS (SOIL)

Maxxam ID		KE8582	KE8583	KE8584	KE8585	KE8586	KE8587		
Sampling Date		2014/07/24	2014/07/25	2014/07/25	2014/07/25				
	Units	Z7-WW	Z4-S5	Z4-S11B	Z4-S16	Z4-DUP3	ZONE 2 BP1	RDL	QC Batch

Volatiles									
Benzene	mg/kg	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	7579859
Toluene	mg/kg	<0.020	<0.020	0.12	<0.020	0.14	<0.020	0.020	7579859
Ethylbenzene	mg/kg	<0.010	<0.010	0.96	<0.010	0.93	<0.010	0.010	7579859
Xylenes (Total)	mg/kg	<0.040	<0.040	10	<0.040	9.8	<0.040	0.040	7579859
m & p-Xylene	mg/kg	<0.040	<0.040	6.9	<0.040	6.5	<0.040	0.040	7579859
o-Xylene	mg/kg	<0.020	<0.020	3.5	<0.020	3.2	<0.020	0.020	7579859
F1 (C6-C10) - BTEX	mg/kg	<12	<12	170	<12	170	<12	12	7579859
(C6-C10)	mg/kg	<12	<12	180	<12	180	<12	12	7579859

Surrogate Recovery (%)									
1,4-Difluorobenzene (sur.)	%	103	113	113	108	114	100		7579859
4-Bromofluorobenzene (sur.)	%	98	97	112	97	113	100		7579859
D10-ETHYLBENZENE (sur.)	%	103	103	118	107	112	99		7579859
D4-1,2-Dichloroethane (sur.)	%	98	98	101	97	98	97		7579859

RDL = Reportable Detection Limit

Maxxam Job #: B464021
Report Date: 2014/07/29

DECOMMISSIONING CONSULTING SERVICES LTD.
Client Project #: 350600-508
Site Location: CONTWOYTO LAKE WEATHER STATION
Sampler Initials: PH

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	7.3°C
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Results relate only to the items tested.

Maxxam Job #: B464021
Report Date: 2014/07/29

QUALITY ASSURANCE REPORT

DECOMMISSIONING CONSULTING SERVICES LTD.
Client Project #: 350600-508
Site Location: CONTWOYTO LAKE WEATHER STATION
Sampler Initials: PH

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits
7579129	O-TERPHENYL (sur.)	2014/07/29	86	50 - 130	103	50 - 130	100	%		
7579859	1,4-Difluorobenzene (sur.)	2014/07/27	109	60 - 140	103	60 - 140	107	%		
7579859	4-Bromofluorobenzene (sur.)	2014/07/27	103	60 - 140	99	60 - 140	98	%		
7579859	D10-ETHYLBENZENE (sur.)	2014/07/27	107	60 - 130	106	60 - 130	104	%		
7579859	D4-1,2-Dichloroethane (sur.)	2014/07/27	99	60 - 140	99	60 - 140	97	%		
7579860	O-TERPHENYL (sur.)	2014/07/27	90	50 - 130	92	50 - 130	87	%		
7579129	F2 (C10-C16 Hydrocarbons)	2014/07/29	88	50 - 130	119	70 - 130	<10	mg/kg		
7579129	F3 (C16-C34 Hydrocarbons)	2014/07/29	88	50 - 130	121	70 - 130	<50	mg/kg		
7579129	F4 (C34-C50 Hydrocarbons)	2014/07/29	84	50 - 130	114	70 - 130	<50	mg/kg		
7579859	(C6-C10)	2014/07/27	NC	60 - 140	114	60 - 140	<12	mg/kg	3.5	50
7579859	Benzene	2014/07/27	105	60 - 140	96	60 - 140	<0.0050	mg/kg	NC	50
7579859	Ethylbenzene	2014/07/27	90	60 - 140	97	60 - 140	<0.010	mg/kg	17.6	50
7579859	F1 (C6-C10) - BTEX	2014/07/27					<12	mg/kg	2.6	50
7579859	m & p-Xylene	2014/07/27	NC	60 - 140	96	60 - 140	<0.040	mg/kg	18.7	50
7579859	o-Xylene	2014/07/27	NC	60 - 140	95	60 - 140	<0.020	mg/kg	19.5	50
7579859	Toluene	2014/07/27	95	60 - 140	90	60 - 140	<0.020	mg/kg	17.3	50
7579859	Xylenes (Total)	2014/07/27					<0.040	mg/kg	19.0	50
7579860	F2 (C10-C16 Hydrocarbons)	2014/07/27	NC	50 - 130	93	70 - 130	<10	mg/kg	51.2 (1)	50
7579860	F3 (C16-C34 Hydrocarbons)	2014/07/27	85	50 - 130	97	70 - 130	<50	mg/kg	NC	50
7579860	F4 (C34-C50 Hydrocarbons)	2014/07/27	82	50 - 130	93	70 - 130	<50	mg/kg	NC	50
7579878	Moisture	2014/07/28					<0.30	%	7.3	20
7581195	Moisture	2014/07/29					<0.30	%		

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

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.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spiked amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than 2x that of the native sample concentration).

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (one or both samples < 5x RDL).

(1) Duplicate exceeds acceptance criteria due to sample non homogeneity. Reanalysis yields similar results.

Maxxam Job #: B464021
Report Date: 2014/07/29

DECOMMISSIONING CONSULTING SERVICES LTD.
Client Project #: 350600-508
Site Location: CONTWOYTO LAKE WEATHER STATION
Sampler Initials: PH

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



Daniel Reslan, Chem. Tech., Volatiles Supervisor



Karla Offord, B.Sc., Supervisor, Extractable Hydrocarbons



Yashu Mohan, B.Sc. B.Tech., Senior Analyst

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.

Attention:CHARLES GRAVELLE

DECOMMISSIONING CONSULTING SERVICES LTD.
ONTARIO
121 GRANTON DRIVE, UNIT 11
RICHMOND HILL, ON
CANADA L4B 3N4

Report Date: 2014/07/31

Report #: R1613622

Version: 1

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B465465

Received: 2014/07/30, 15:55

Sample Matrix: Soil
Samples Received: 4

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
BTEX/F1 by HS GC/MS (MeOH extract)	4	2014/07/31	2014/07/31	AB SOP-00039	CCME CWS/EPA 5260C m
CCME Hydrocarbons (F2-F4 in soil)	4	2014/07/31	2014/07/31	AB SOP-00040 AB SOP-00036	CCME PHC-CWS
Moisture	4	N/A	2014/07/31	AB SOP-00002	CCME PHC-CWS

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

Encryption Key

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

Tanya Eugene, M.Sc., Project Manager

Email: TEugine@maxxam.ca

Phone# (780)577-7144

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Maxxam Job #: B465465
Report Date: 2014/07/31

DECOMMISSIONING CONSULTING SERVICES LTD.
Sampler Initials: PH

RESULTS OF CHEMICAL ANALYSES OF SOIL

Maxxam ID		KF7247	KF7248	KF7249	KF7250		
Sampling Date		2014/07/30	2014/07/30	2014/07/30	2014/07/30		
	Units	Z3 S-1B	DUP 5	Z3-WA	Z3-WB	RDL	QC Batch
Physical Properties							
Moisture	%	0.50	0.30	0.60	1.7	0.30	7584721
RDL = Reportable Detection Limit							

Maxxam Job #: B465465
Report Date: 2014/07/31

DECOMMISSIONING CONSULTING SERVICES LTD.
Sampler Initials: PH

PETROLEUM HYDROCARBONS (CCME)

Maxxam ID		KF7247	KF7248	KF7249	KF7250		
Sampling Date		2014/07/30	2014/07/30	2014/07/30	2014/07/30		
	Units	Z3 S-1B	DUP 5	Z3-WA	Z3-WB	RDL	QC Batch
Ext. Pet. Hydrocarbon							
F2 (C10-C16 Hydrocarbons)	mg/kg	180	140	<10	<10	10	7582683
F3 (C16-C34 Hydrocarbons)	mg/kg	130	89	56	<50	50	7582683
F4 (C34-C50 Hydrocarbons)	mg/kg	<50	<50	<50	<50	50	7582683
Reached Baseline at C50	mg/kg	Yes	Yes	Yes	Yes		7582683
Surrogate Recovery (%)							
O-TERPHENYL (sur.)	%	88	91	86	87		7582683
RDL = Reportable Detection Limit							

Maxxam Job #: B465465
Report Date: 2014/07/31

DECOMMISSIONING CONSULTING SERVICES LTD.
Sampler Initials: PH

VOLATILE ORGANICS BY GC-MS (SOIL)

Maxxam ID		KF7247	KF7248	KF7249	KF7250		
Sampling Date		2014/07/30	2014/07/30	2014/07/30	2014/07/30		
	Units	Z3 S-1B	DUP 5	Z3-WA	Z3-WB	RDL	QC Batch
Volatiles							
Benzene	mg/kg	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	7582680
Toluene	mg/kg	<0.020	<0.020	<0.020	<0.020	0.020	7582680
Ethylbenzene	mg/kg	<0.010	<0.010	<0.010	<0.010	0.010	7582680
Xylenes (Total)	mg/kg	<0.040	<0.040	<0.040	<0.040	0.040	7582680
m & p-Xylene	mg/kg	<0.040	<0.040	<0.040	<0.040	0.040	7582680
o-Xylene	mg/kg	<0.020	<0.020	<0.020	<0.020	0.020	7582680
F1 (C6-C10) - BTEX	mg/kg	<12	<12	<12	<12	12	7582680
(C6-C10)	mg/kg	<12	<12	<12	<12	12	7582680
Surrogate Recovery (%)							
1,4-Difluorobenzene (sur.)	%	104	105	103	103		7582680
4-Bromofluorobenzene (sur.)	%	95	95	94	95		7582680
D10-ETHYLBENZENE (sur.)	%	102	102	102	101		7582680
D4-1,2-Dichloroethane (sur.)	%	95	98	97	95		7582680
RDL = Reportable Detection Limit							

Maxxam Job #: B465465
Report Date: 2014/07/31

DECOMMISSIONING CONSULTING SERVICES LTD.
Sampler Initials: PH

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	9.0°C
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Results relate only to the items tested.

Maxxam Job #: B465465
Report Date: 2014/07/31

QUALITY ASSURANCE REPORT

DECOMMISSIONING CONSULTING SERVICES LTD.
Sampler Initials: PH

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	Units
7582680	1,4-Difluorobenzene (sur.)	2014/07/31	111	60 - 140	99	60 - 140	99	%
7582680	4-Bromofluorobenzene (sur.)	2014/07/31	100	60 - 140	101	60 - 140	99	%
7582680	D10-ETHYLBENZENE (sur.)	2014/07/31	95	60 - 130	92	60 - 130	96	%
7582680	D4-1,2-Dichloroethane (sur.)	2014/07/31	112	60 - 140	111	60 - 140	114	%
7582683	O-TERPHENYL (sur.)	2014/07/30	84	50 - 130	85	50 - 130	83	%
7582680	(C6-C10)	2014/07/31	121	60 - 140	115	60 - 140	<12	mg/kg
7582680	Benzene	2014/07/31	94	60 - 140	93	60 - 140	<0.0050	mg/kg
7582680	Ethylbenzene	2014/07/31	97	60 - 140	95	60 - 140	<0.010	mg/kg
7582680	F1 (C6-C10) - BTEX	2014/07/31					<12	mg/kg
7582680	m & p-Xylene	2014/07/31	97	60 - 140	96	60 - 140	<0.040	mg/kg
7582680	o-Xylene	2014/07/31	98	60 - 140	96	60 - 140	<0.020	mg/kg
7582680	Toluene	2014/07/31	98	60 - 140	97	60 - 140	<0.020	mg/kg
7582680	Xylenes (Total)	2014/07/31					<0.040	mg/kg
7582683	F2 (C10-C16 Hydrocarbons)	2014/07/30	83	50 - 130	88	70 - 130	<10	mg/kg
7582683	F3 (C16-C34 Hydrocarbons)	2014/07/30	88	50 - 130	93	70 - 130	<50	mg/kg
7582683	F4 (C34-C50 Hydrocarbons)	2014/07/30	84	50 - 130	88	70 - 130	<50	mg/kg
7584721	Moisture	2014/07/31					<0.30	%

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

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.

Maxxam Job #: B465465
Report Date: 2014/07/31

DECOMMISSIONING CONSULTING SERVICES LTD.
Sampler Initials: PH

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

A handwritten signature in black ink, appearing to read "Daniel Reslan", is written over a horizontal line.

Daniel Reslan, Chem. Tech., Volatiles Supervisor

A handwritten signature in black ink, appearing to read "Karla Offord", is written over a horizontal line.

Karla Offord, B.Sc., Supervisor, Extractable Hydrocarbons

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Your P.O. #: 350600-508
 Your Project #: CONTWOYTO
 Site Location: CONTWOYTO LAKE, NUNAVUT
 Your C.O.C. #: A159050

Attention: CHARLES GRAVELLE

DECOMMISSIONING CONSULTING SERVICES LTD.
 ONTARIO
 121 GRANTON DRIVE, UNIT 11
 RICHMOND HILL, ON
 CANADA L4B 3N4

Report Date: 2014/08/05
 Report #: R1615580
 Version: 1

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B466561

Received: 2014/08/03, 11:55

Sample Matrix: Soil
 # Samples Received: 7

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
BTEX/F1 by HS GC/MS (MeOH extract)	7	2014/08/04	2014/08/05	AB SOP-00039	CCME CWS/EPA 5260C m
CCME Hydrocarbons (F2-F4 in soil)	7	2014/08/04	2014/08/05	AB SOP-00040 AB SOP-00036	CCME PHC-CWS
Moisture	7	N/A	2014/08/05	AB SOP-00002	CCME PHC-CWS

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

Encryption Key

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

Tanya Eugene, M.Sc., Project Manager

Email: TEugine@maxxam.ca

Phone# (780)577-7144

=====

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.

Maxxam Job #: B466561
Report Date: 2014/08/05

DECOMMISSIONING CONSULTING SERVICES LTD.
Client Project #: CONTWOYTO
Site Location: CONTWOYTO LAKE, NUNAVUT
Your P.O. #: 350600-508
Sampler Initials: JM

RESULTS OF CHEMICAL ANALYSES OF SOIL

Maxxam ID		KG3691	KG3692	KG3693	KG3694	KG3695	KG3696	KG3697		
Sampling Date		2014/08/02 22:00	2014/08/02 22:05	2014/08/02 22:10	2014/08/02 22:20	2014/08/02 22:25	2014/08/02 22:30	2014/08/02 22:15		
COC Number		A159050	A159050	A159050	A159050	A159050	A159050	A159050		
	Units	Z3 S23G	Z3 S25G	Z3 BNG	Z3 BWG	Z3 S12B	Z3 S34B	DUP-6	RDL	QC Batch

Physical Properties										
Moisture	%	17	20	21	22	1.8	17	21	0.30	7588277
RDL = Reportable Detection Limit										

Maxxam Job #: B466561
Report Date: 2014/08/05

DECOMMISSIONING CONSULTING SERVICES LTD.
Client Project #: CONTWOYTO
Site Location: CONTWOYTO LAKE, NUNAVUT
Your P.O. #: 350600-508
Sampler Initials: JM

PETROLEUM HYDROCARBONS (CCME)

Maxxam ID		KG3691	KG3692	KG3693	KG3694	KG3695	KG3696	KG3697		
Sampling Date		2014/08/02 22:00	2014/08/02 22:05	2014/08/02 22:10	2014/08/02 22:20	2014/08/02 22:25	2014/08/02 22:30	2014/08/02 22:15		
COC Number		A159050	A159050	A159050	A159050	A159050	A159050	A159050		
	Units	Z3 S23G	Z3 S25G	Z3 BNG	Z3 BWG	Z3 S12B	Z3 S34B	DUP-6	RDL	QC Batch

Ext. Pet. Hydrocarbon										
F2 (C10-C16 Hydrocarbons)	mg/kg	130	150	<10	<10	<10	<10	<10	10	7588477
F3 (C16-C34 Hydrocarbons)	mg/kg	<50	<50	<50	<50	<50	<50	<50	50	7588477
F4 (C34-C50 Hydrocarbons)	mg/kg	<50	<50	<50	<50	<50	<50	<50	50	7588477
Reached Baseline at C50	mg/kg	Yes	Yes	Yes	Yes	Yes	Yes	Yes		7588477
Surrogate Recovery (%)										
O-TERPHENYL (sur.)	%	84	92	95	90	92	90	87		7588477
RDL = Reportable Detection Limit										

Maxxam Job #: B466561
Report Date: 2014/08/05

DECOMMISSIONING CONSULTING SERVICES LTD.
Client Project #: CONTWOYTO
Site Location: CONTWOYTO LAKE, NUNAVUT
Your P.O. #: 350600-508
Sampler Initials: JM

VOLATILE ORGANICS BY GC-MS (SOIL)

Maxxam ID		KG3691	KG3692	KG3693	KG3694	KG3695	KG3696		
Sampling Date		2014/08/02 22:00	2014/08/02 22:05	2014/08/02 22:10	2014/08/02 22:20	2014/08/02 22:25	2014/08/02 22:30		
COC Number		A159050	A159050	A159050	A159050	A159050	A159050		
	Units	Z3 S23G	Z3 S25G	Z3 BNG	Z3 BWG	Z3 S12B	Z3 S34B	RDL	QC Batch
Volatiles									
Benzene	mg/kg	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	7587271
Toluene	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.020	7587271
Ethylbenzene	mg/kg	0.033	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	7587271
Xylenes (Total)	mg/kg	0.36	0.058	<0.040	<0.040	<0.040	<0.040	0.040	7587271
m & p-Xylene	mg/kg	0.22	<0.040	<0.040	<0.040	<0.040	<0.040	0.040	7587271
o-Xylene	mg/kg	0.14	0.058	<0.020	<0.020	<0.020	<0.020	0.020	7587271
F1 (C6-C10) - BTEX	mg/kg	14	<12	<12	<12	<12	<12	12	7587271
(C6-C10)	mg/kg	14	<12	<12	<12	<12	<12	12	7587271
Surrogate Recovery (%)									
1,4-Difluorobenzene (sur.)	%	105	107	108	108	97	103		7587271
4-Bromofluorobenzene (sur.)	%	103	101	98	101	99	99		7587271
D10-ETHYLBENZENE (sur.)	%	102	95	98	97	92	95		7587271
D4-1,2-Dichloroethane (sur.)	%	94	93	91	91	90	91		7587271
RDL = Reportable Detection Limit									

Maxxam Job #: B466561
Report Date: 2014/08/05

DECOMMISSIONING CONSULTING SERVICES LTD.
Client Project #: CONTWOYTO
Site Location: CONTWOYTO LAKE, NUNAVUT
Your P.O. #: 350600-508
Sampler Initials: JM

VOLATILE ORGANICS BY GC-MS (SOIL)

Maxxam ID		KG3697		
Sampling Date		2014/08/02 22:15		
COC Number		A159050		
	Units	DUP-6	RDL	QC Batch
Volatiles				
Benzene	mg/kg	<0.0050	0.0050	7587271
Toluene	mg/kg	<0.020	0.020	7587271
Ethylbenzene	mg/kg	<0.010	0.010	7587271
Xylenes (Total)	mg/kg	<0.040	0.040	7587271
m & p-Xylene	mg/kg	<0.040	0.040	7587271
o-Xylene	mg/kg	<0.020	0.020	7587271
F1 (C6-C10) - BTEX	mg/kg	<12	12	7587271
(C6-C10)	mg/kg	<12	12	7587271
Surrogate Recovery (%)				
1,4-Difluorobenzene (sur.)	%	105		7587271
4-Bromofluorobenzene (sur.)	%	100		7587271
D10-ETHYLBENZENE (sur.)	%	106		7587271
D4-1,2-Dichloroethane (sur.)	%	95		7587271
RDL = Reportable Detection Limit				

Maxxam Job #: B466561
Report Date: 2014/08/05

DECOMMISSIONING CONSULTING SERVICES LTD.
Client Project #: CONTWOYTO
Site Location: CONTWOYTO LAKE, NUNAVUT
Your P.O. #: 350600-508
Sampler Initials: JM

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	6.3°C
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Sample KG3691-01 : Headspace was noted in sample container at the time of volatiles extraction.

Sample KG3692-01 : Headspace was noted in sample container at the time of volatiles extraction.

Sample KG3693-01 : Headspace was noted in sample container at the time of volatiles extraction.

Sample KG3694-01 : Headspace was noted in sample container at the time of volatiles extraction.

Sample KG3695-01 : Headspace was noted in sample container at the time of volatiles extraction.

Sample KG3696-01 : Headspace was noted in sample container at the time of volatiles extraction.

Sample KG3697-01 : Headspace was noted in sample container at the time of volatiles extraction.

Results relate only to the items tested.

Maxxam Job #: B466561
Report Date: 2014/08/05

QUALITY ASSURANCE REPORT

DECOMMISSIONING CONSULTING SERVICES LTD.
Client Project #: CONTWOYTO
Site Location: CONTWOYTO LAKE, NUNAVUT
Your P.O. #: 350600-508
Sampler Initials: JM

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits
7587271	1,4-Difluorobenzene (sur.)	2014/08/03	109	60 - 140	104	60 - 140	104	%		
7587271	4-Bromofluorobenzene (sur.)	2014/08/03	87	60 - 140	92	60 - 140	90	%		
7587271	D10-ETHYLBENZENE (sur.)	2014/08/03	110	60 - 130	110	60 - 130	107	%		
7587271	D4-1,2-Dichloroethane (sur.)	2014/08/03	96	60 - 140	101	60 - 140	99	%		
7588477	O-TERPHENYL (sur.)	2014/08/05	86	50 - 130	93	50 - 130	93	%		
7587271	(C6-C10)	2014/08/03	94	60 - 140	89	60 - 140	<12	mg/kg		
7587271	Benzene	2014/08/03	102	60 - 140	104	60 - 140	<0.0050	mg/kg		
7587271	Ethylbenzene	2014/08/03	102	60 - 140	99	60 - 140	<0.010	mg/kg		
7587271	F1 (C6-C10) - BTEX	2014/08/03					<12	mg/kg		
7587271	m & p-Xylene	2014/08/03	101	60 - 140	101	60 - 140	<0.040	mg/kg		
7587271	o-Xylene	2014/08/03	96	60 - 140	98	60 - 140	<0.020	mg/kg		
7587271	Toluene	2014/08/03	96	60 - 140	94	60 - 140	<0.020	mg/kg		
7587271	Xylenes (Total)	2014/08/03					<0.040	mg/kg		
7588277	Moisture	2014/08/05					<0.30	%	0.6	20
7588477	F2 (C10-C16 Hydrocarbons)	2014/08/05	95	50 - 130	108	70 - 130	<10	mg/kg	NC	50
7588477	F3 (C16-C34 Hydrocarbons)	2014/08/05	98	50 - 130	111	70 - 130	<50	mg/kg	NC	50
7588477	F4 (C34-C50 Hydrocarbons)	2014/08/05	92	50 - 130	105	70 - 130	<50	mg/kg	NC	50

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

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.

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (one or both samples < 5x RDL).

Maxxam Job #: B466561
Report Date: 2014/08/05

DECOMMISSIONING CONSULTING SERVICES LTD.
Client Project #: CONTWOYTO
Site Location: CONTWOYTO LAKE, NUNAVUT
Your P.O. #: 350600-508
Sampler Initials: JM

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



Daniel Reslan, Chem. Tech., Volatiles Supervisor



Karla Offord, B.Sc., Supervisor, Extractable Hydrocarbons

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Site Location: CONTWOYTO LAKE WEATHER STATION

Attention: BOB JOHNSON

Delta Engineering/Carter Industries A Joint Venture
Hay River
40 Studney Drive
Hay River, NT
CANADA X0E 0R6

Report Date: 2014/08/13
Report #: R1621127
Version: 1

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B469272

Received: 2014/08/11, 08:55

Sample Matrix: Soil
Samples Received: 21

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
BTEX/F1 by HS GC/MS (MeOH extract)	10	2014/08/12	2014/08/12	AB SOP-00039	CCME CWS/EPA 5260C m
BTEX/F1 by HS GC/MS (MeOH extract)	11	2014/08/12	2014/08/13	AB SOP-00039	CCME CWS/EPA 5260C m
CCME Hydrocarbons (F2-F4 in soil)	21	2014/08/12	2014/08/13	AB SOP-00036 / AB SOP-00040	CCME PHC-CWS
Moisture	21	N/A	2014/08/13	AB SOP-00002	CCME PHC-CWS

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

Encryption Key

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

Tanya Eugene, M.Sc., Project Manager
Email: TEugine@maxxam.ca
Phone# (780) 577-7144

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Total cover pages: 1

Delta Engineering/Carter Industries A Joint Venture

Maxxam Job #: B469272

Report Date: 2014/08/13

Site Location: CONTWOYTO LAKE WEATHER STATION

Sampler Initials: CC

AT1 BTEX AND F1-F4 IN SOIL (SOIL)

Maxxam ID		KH9540		KH9541	KH9542	KH9543	KH9544		
Sampling Date		2014/08/09		2014/08/09	2014/08/09				
	UNITS	TC-13	RDL	TC-14	TC-15	TC-16	TC-17	RDL	QC Batch

Physical Properties									
Moisture	%	4.9	0.30	4.8	4.7	5.1	4.4	0.30	7597478
Ext. Pet. Hydrocarbon									
F2 (C10-C16 Hydrocarbons)	mg/kg	1000	10	ND	240	250	830	10	7597488
F3 (C16-C34 Hydrocarbons)	mg/kg	370	50	ND	100	170	300	50	7597488
F4 (C34-C50 Hydrocarbons)	mg/kg	ND	50	ND	ND	ND	ND	50	7597488
Reached Baseline at C50	mg/kg	Yes		Yes	Yes	Yes	Yes		7597488
Volatiles									
Benzene	mg/kg	ND	0.0050	ND	ND	ND	ND	0.0050	7597472
Toluene	mg/kg	ND	0.020	ND	ND	ND	ND	0.020	7597472
Ethylbenzene	mg/kg	ND	0.010	ND	ND	ND	ND	0.010	7597472
Xylenes (Total)	mg/kg	ND	0.040	ND	ND	ND	ND	0.040	7597472
m & p-Xylene	mg/kg	ND	0.040	ND	ND	ND	ND	0.040	7597472
o-Xylene	mg/kg	ND (1)	0.024	ND	ND	ND	ND	0.020	7597472
F1 (C6-C10) - BTEX	mg/kg	24	12	ND	ND	ND	ND	12	7597472
(C6-C10)	mg/kg	24	12	ND	ND	ND	ND	12	7597472
Surrogate Recovery (%)									
1,4-Difluorobenzene (sur.)	%	122		123	110	114	131		7597472
4-Bromofluorobenzene (sur.)	%	101		103	125	103	104		7597472
D10-ETHYLBENZENE (sur.)	%	92		95	98	97	97		7597472
D4-1,2-Dichloroethane (sur.)	%	120		127	127	123	115		7597472
O-TERPHENYL (sur.)	%	122		105	104	106	107		7597488

ND = Not detected

RDL = Reportable Detection Limit

(1) Detection limits raised due to matrix interference.

Delta Engineering/Carter Industries A Joint Venture

Maxxam Job #: B469272

Report Date: 2014/08/13

Site Location: CONTWOYTO LAKE WEATHER STATION

Sampler Initials: CC

AT1 BTEX AND F1-F4 IN SOIL (SOIL)

Maxxam ID		KH9545	KH9546	KH9547	KH9548	KH9549		
Sampling Date								
	UNITS	TC-18	TC-19	TC-20	TC-21	TC-22	RDL	QC Batch

Physical Properties								
Moisture	%	5.7	5.2	4.8	4.2	5.1	0.30	7597478
Ext. Pet. Hydrocarbon								
F2 (C10-C16 Hydrocarbons)	mg/kg	280	1800	160	170	200	10	7597488
F3 (C16-C34 Hydrocarbons)	mg/kg	150	450	85	93	120	50	7597488
F4 (C34-C50 Hydrocarbons)	mg/kg	ND	ND	ND	ND	ND	50	7597488
Reached Baseline at C50	mg/kg	Yes	Yes	Yes	Yes	Yes		7597488
Volatiles								
Benzene	mg/kg	ND	ND	ND	ND	ND	0.0050	7597472
Toluene	mg/kg	ND	ND	ND	ND	ND	0.020	7597472
Ethylbenzene	mg/kg	ND	ND	ND	ND	ND	0.010	7597472
Xylenes (Total)	mg/kg	ND	0.79	ND	ND	ND	0.040	7597472
m & p-Xylene	mg/kg	ND	0.19	ND	ND	ND	0.040	7597472
o-Xylene	mg/kg	ND	0.60	ND	ND	ND	0.020	7597472
F1 (C6-C10) - BTEX	mg/kg	ND	140	ND	ND	ND	12	7597472
(C6-C10)	mg/kg	ND	150	ND	ND	ND	12	7597472
Surrogate Recovery (%)								
1,4-Difluorobenzene (sur.)	%	116	137	141 (1)	120	138		7597472
4-Bromofluorobenzene (sur.)	%	103	113	104	103	103		7597472
D10-ETHYLBENZENE (sur.)	%	95	87	95	96	97		7597472
D4-1,2-Dichloroethane (sur.)	%	127	112	121	115	116		7597472
O-TERPHENYL (sur.)	%	117	98	106	101	106		7597488

ND = Not detected

RDL = Reportable Detection Limit

(1) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.

Delta Engineering/Carter Industries A Joint Venture

Maxxam Job #: B469272

Report Date: 2014/08/13

Site Location: CONTWOYTO LAKE WEATHER STATION

Sampler Initials: CC

AT1 BTEX AND F1-F4 IN SOIL (SOIL)

Maxxam ID		KH9550		KH9551		KH9552	KH9553		
Sampling Date							2014/08/09		
	UNITS	TC-23	QC Batch	TC-24	QC Batch	TC-25	TC-26	RDL	QC Batch

Physical Properties									
Moisture	%	5.1	7597014	4.8	7597478	4.1	4.4	0.30	7597478
Ext. Pet. Hydrocarbon									
F2 (C10-C16 Hydrocarbons)	mg/kg	200	7597488	150	7596960	260	250	10	7597488
F3 (C16-C34 Hydrocarbons)	mg/kg	130	7597488	140	7596960	140	240	50	7597488
F4 (C34-C50 Hydrocarbons)	mg/kg	ND	7597488	ND	7596960	ND	ND	50	7597488
Reached Baseline at C50	mg/kg	Yes	7597488	Yes	7596960	Yes	Yes		7597488
Volatiles									
Benzene	mg/kg	ND	7597472	ND	7597472	ND	ND	0.0050	7597472
Toluene	mg/kg	ND	7597472	ND	7597472	ND	ND	0.020	7597472
Ethylbenzene	mg/kg	ND	7597472	ND	7597472	ND	ND	0.010	7597472
Xylenes (Total)	mg/kg	ND	7597472	ND	7597472	ND	ND	0.040	7597472
m & p-Xylene	mg/kg	ND	7597472	ND	7597472	ND	ND	0.040	7597472
o-Xylene	mg/kg	ND	7597472	ND	7597472	ND	ND	0.020	7597472
F1 (C6-C10) - BTEX	mg/kg	ND	7597472	ND	7597472	ND	ND	12	7597472
(C6-C10)	mg/kg	ND	7597472	ND	7597472	ND	ND	12	7597472
Surrogate Recovery (%)									
1,4-Difluorobenzene (sur.)	%	114	7597472	121	7597472	121	122		7597472
4-Bromofluorobenzene (sur.)	%	142 (1)	7597472	103	7597472	102	106		7597472
D10-ETHYLBENZENE (sur.)	%	98	7597472	102	7597472	98	100		7597472
D4-1,2-Dichloroethane (sur.)	%	117	7597472	115	7597472	128	119		7597472
O-TERPHENYL (sur.)	%	112	7597488	102	7596960	95	110		7597488

ND = Not detected

RDL = Reportable Detection Limit

(1) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.

Delta Engineering/Carter Industries A Joint Venture

Maxxam Job #: B469272
Report Date: 2014/08/13

Site Location: CONTWOYTO LAKE WEATHER STATION
Sampler Initials: CC

AT1 BTEX AND F1-F4 IN SOIL (SOIL)

Maxxam ID		KH9554	KH9555	KH9556	KH9558	KH9559	KH9560		
Sampling Date		2014/08/09	2014/08/09	2014/08/09	2014/08/09	2014/08/09	2014/08/09		
	UNITS	TC-27	TC-28	TC-29	TC-31	TC-32	TC-33	RDL	QC Batch

Physical Properties									
Moisture	%	4.5	2.1	6.2	5.7	6.8	6.0	0.30	7597478
Ext. Pet. Hydrocarbon									
F2 (C10-C16 Hydrocarbons)	mg/kg	150	870	310	600	1200	790	10	7597488
F3 (C16-C34 Hydrocarbons)	mg/kg	110	440	190	260	430	290	50	7597488
F4 (C34-C50 Hydrocarbons)	mg/kg	ND	ND	ND	ND	ND	ND	50	7597488
Reached Baseline at C50	mg/kg	Yes	Yes	Yes	Yes	Yes	Yes		7597488
Volatiles									
Benzene	mg/kg	ND	ND	ND	ND	ND	ND	0.0050	7597472
Toluene	mg/kg	ND	ND	ND	ND	ND	ND	0.020	7597472
Ethylbenzene	mg/kg	ND	ND	ND	ND	ND	ND	0.010	7597472
Xylenes (Total)	mg/kg	ND	ND	ND	ND	ND	ND	0.040	7597472
m & p-Xylene	mg/kg	ND	ND	ND	ND	ND	ND	0.040	7597472
o-Xylene	mg/kg	ND	ND	ND	ND	ND	ND	0.020	7597472
F1 (C6-C10) - BTEX	mg/kg	ND	ND	ND	ND	18	23	12	7597472
(C6-C10)	mg/kg	ND	ND	ND	ND	18	23	12	7597472
Surrogate Recovery (%)									
1,4-Difluorobenzene (sur.)	%	119	110	112	103	103	91		7597472
4-Bromofluorobenzene (sur.)	%	141 (1)	103	103	82	87	80		7597472
D10-ETHYLBENZENE (sur.)	%	95	100	103	92	95	97		7597472
D4-1,2-Dichloroethane (sur.)	%	115	119	116	101	99	83		7597472
O-TERPHENYL (sur.)	%	100	109	109	107	109	109		7597488

ND = Not detected

RDL = Reportable Detection Limit

(1) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.

Maxxam Job #: B469272
Report Date: 2014/08/13

Delta Engineering/Carter Industries A Joint Venture

Site Location: CONTWOYTO LAKE WEATHER STATION
Sampler Initials: CC

AT1 BTEX AND F1-F4 IN SOIL (SOIL)

Maxxam ID		KH9561		
Sampling Date		2014/08/09		
	UNITS	TC-34	RDL	QC Batch

Physical Properties				
Moisture	%	5.1	0.30	7597478
Ext. Pet. Hydrocarbon				
F2 (C10-C16 Hydrocarbons)	mg/kg	850	10	7597488
F3 (C16-C34 Hydrocarbons)	mg/kg	220	50	7597488
F4 (C34-C50 Hydrocarbons)	mg/kg	ND	50	7597488
Reached Baseline at C50	mg/kg	Yes		7597488
Volatiles				
Benzene	mg/kg	ND	0.0050	7596490
Toluene	mg/kg	ND	0.020	7596490
Ethylbenzene	mg/kg	ND	0.010	7596490
Xylenes (Total)	mg/kg	0.15	0.040	7596490
m & p-Xylene	mg/kg	ND	0.040	7596490
o-Xylene	mg/kg	0.15	0.020	7596490
F1 (C6-C10) - BTEX	mg/kg	13	12	7596490
(C6-C10)	mg/kg	13	12	7596490
Surrogate Recovery (%)				
1,4-Difluorobenzene (sur.)	%	105		7596490
4-Bromofluorobenzene (sur.)	%	126		7596490
D10-ETHYLBENZENE (sur.)	%	108		7596490
D4-1,2-Dichloroethane (sur.)	%	115		7596490
O-TERPHENYL (sur.)	%	94		7597488
ND = Not detected RDL = Reportable Detection Limit				

Maxxam Job #: B469272
Report Date: 2014/08/13

Delta Engineering/Carter Industries A Joint Venture

Site Location: CONTWOYTO LAKE WEATHER STATION
Sampler Initials: CC

Package 1	1.7°C
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Each temperature is the average of up to three cooler temperatures taken at receipt

General Comments

Results relate only to the items tested.

Delta Engineering/Carter Industries A Joint Venture
Attention: BOB JOHNSON
Client Project #:
P.O. #:
Site Location: CONTWOYTO LAKE WEATHER STATION

Quality Assurance Report
Maxxam Job Number: EYKB469272

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	UNITS	QC Limits
7596490 RC6	Matrix Spike	1,4-Difluorobenzene (sur.)	2014/08/12		100	%	60 - 140
		4-Bromofluorobenzene (sur.)	2014/08/12		103	%	60 - 140
		D10-ETHYLBENZENE (sur.)	2014/08/12		103	%	60 - 130
		D4-1,2-Dichloroethane (sur.)	2014/08/12		95	%	60 - 140
		Benzene	2014/08/12		100	%	60 - 140
		Toluene	2014/08/12		103	%	60 - 140
		Ethylbenzene	2014/08/12		100	%	60 - 140
		m & p-Xylene	2014/08/12		110	%	60 - 140
		o-Xylene	2014/08/12		110	%	60 - 140
		(C6-C10)	2014/08/12		129	%	60 - 140
	Spiked Blank	1,4-Difluorobenzene (sur.)	2014/08/12		107	%	60 - 140
		4-Bromofluorobenzene (sur.)	2014/08/12		95	%	60 - 140
		D10-ETHYLBENZENE (sur.)	2014/08/12		107	%	60 - 130
		D4-1,2-Dichloroethane (sur.)	2014/08/12		102	%	60 - 140
		Benzene	2014/08/12		112	%	60 - 140
		Toluene	2014/08/12		106	%	60 - 140
		Ethylbenzene	2014/08/12		108	%	60 - 140
		m & p-Xylene	2014/08/12		107	%	60 - 140
		o-Xylene	2014/08/12		105	%	60 - 140
		(C6-C10)	2014/08/12		112	%	60 - 140
	Method Blank	1,4-Difluorobenzene (sur.)	2014/08/12		107	%	60 - 140
		4-Bromofluorobenzene (sur.)	2014/08/12		93	%	60 - 140
		D10-ETHYLBENZENE (sur.)	2014/08/12		108	%	60 - 130
		D4-1,2-Dichloroethane (sur.)	2014/08/12		102	%	60 - 140
		Benzene	2014/08/12	ND, RDL=0.0050		mg/kg	
		Toluene	2014/08/12	ND, RDL=0.020		mg/kg	
		Ethylbenzene	2014/08/12	ND, RDL=0.010		mg/kg	
		Xylenes (Total)	2014/08/12	ND, RDL=0.040		mg/kg	
		m & p-Xylene	2014/08/12	ND, RDL=0.040		mg/kg	
		o-Xylene	2014/08/12	ND, RDL=0.020		mg/kg	
	RPD	F1 (C6-C10) - BTEX	2014/08/12	ND, RDL=12		mg/kg	
		(C6-C10)	2014/08/12	ND, RDL=12		mg/kg	
		Benzene	2014/08/12	NC		%	50
		Toluene	2014/08/12	NC		%	50
		Ethylbenzene	2014/08/12	NC		%	50
		Xylenes (Total)	2014/08/12	NC		%	50
		m & p-Xylene	2014/08/12	NC		%	50
		o-Xylene	2014/08/12	NC		%	50
		F1 (C6-C10) - BTEX	2014/08/12	NC		%	50
		(C6-C10)	2014/08/12	NC		%	50
7596960 KK5	Matrix Spike	O-TERPHENYL (sur.)	2014/08/12		104	%	50 - 130
		F2 (C10-C16 Hydrocarbons)	2014/08/12		102	%	50 - 130
		F3 (C16-C34 Hydrocarbons)	2014/08/12		100	%	50 - 130
		F4 (C34-C50 Hydrocarbons)	2014/08/12		95	%	50 - 130
	Spiked Blank	O-TERPHENYL (sur.)	2014/08/12		104	%	50 - 130
		F2 (C10-C16 Hydrocarbons)	2014/08/12		114	%	70 - 130
		F3 (C16-C34 Hydrocarbons)	2014/08/12		114	%	70 - 130
		F4 (C34-C50 Hydrocarbons)	2014/08/12		112	%	70 - 130
	Method Blank	O-TERPHENYL (sur.)	2014/08/12		111	%	50 - 130
		F2 (C10-C16 Hydrocarbons)	2014/08/12	ND, RDL=10		mg/kg	
		F3 (C16-C34 Hydrocarbons)	2014/08/12	ND, RDL=50		mg/kg	
		F4 (C34-C50 Hydrocarbons)	2014/08/12	ND, RDL=50		mg/kg	
	RPD	F2 (C10-C16 Hydrocarbons)	2014/08/12	NC		%	50
		F3 (C16-C34 Hydrocarbons)	2014/08/12	NC		%	50
		F4 (C34-C50 Hydrocarbons)	2014/08/12	NC		%	50

Delta Engineering/Carter Industries A Joint Venture
Attention: BOB JOHNSON
Client Project #:
P.O. #:
Site Location: CONTWOYTO LAKE WEATHER STATION

Quality Assurance Report (Continued)

Maxxam Job Number: EYKB469272

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	UNITS	QC Limits
7597014 ZZ	Method Blank	Moisture	2014/08/13	ND, RDL=0.30		%	
	RPD	Moisture	2014/08/13	2.0		%	20
7597472 NP2	Matrix Spike [KH9546-01]	1,4-Difluorobenzene (sur.)	2014/08/12		112	%	60 - 140
		4-Bromofluorobenzene (sur.)	2014/08/12		125	%	60 - 140
		D10-ETHYLBENZENE (sur.)	2014/08/12		100	%	60 - 130
		D4-1,2-Dichloroethane (sur.)	2014/08/12		126	%	60 - 140
		Benzene	2014/08/12		113	%	60 - 140
		Toluene	2014/08/12		95	%	60 - 140
		Ethylbenzene	2014/08/12		94	%	60 - 140
		m & p-Xylene	2014/08/12		102	%	60 - 140
		o-Xylene	2014/08/12		100	%	60 - 140
		(C6-C10)	2014/08/12		92	%	60 - 140
	Spiked Blank	1,4-Difluorobenzene (sur.)	2014/08/12		109	%	60 - 140
		4-Bromofluorobenzene (sur.)	2014/08/12		104	%	60 - 140
		D10-ETHYLBENZENE (sur.)	2014/08/12		94	%	60 - 130
		D4-1,2-Dichloroethane (sur.)	2014/08/12		123	%	60 - 140
		Benzene	2014/08/12		113	%	60 - 140
		Toluene	2014/08/12		94	%	60 - 140
		Ethylbenzene	2014/08/12		91	%	60 - 140
		m & p-Xylene	2014/08/12		97	%	60 - 140
		o-Xylene	2014/08/12		99	%	60 - 140
		(C6-C10)	2014/08/12		122	%	60 - 140
	Method Blank	1,4-Difluorobenzene (sur.)	2014/08/12		107	%	60 - 140
		4-Bromofluorobenzene (sur.)	2014/08/12		103	%	60 - 140
		D10-ETHYLBENZENE (sur.)	2014/08/12		97	%	60 - 130
		D4-1,2-Dichloroethane (sur.)	2014/08/12		129	%	60 - 140
		Benzene	2014/08/12	ND, RDL=0.0050		mg/kg	
		Toluene	2014/08/12	ND, RDL=0.020		mg/kg	
		Ethylbenzene	2014/08/12	ND, RDL=0.010		mg/kg	
		Xylenes (Total)	2014/08/12	ND, RDL=0.040		mg/kg	
		m & p-Xylene	2014/08/12	ND, RDL=0.040		mg/kg	
		o-Xylene	2014/08/12	ND, RDL=0.020		mg/kg	
		F1 (C6-C10) - BTEX	2014/08/12	ND, RDL=12		mg/kg	
		(C6-C10)	2014/08/12	ND, RDL=12		mg/kg	
	RPD [KH9546-01]	Benzene	2014/08/12	NC		%	50
		Toluene	2014/08/12	NC		%	50
		Ethylbenzene	2014/08/12	NC		%	50
		Xylenes (Total)	2014/08/12	3.1		%	50
		m & p-Xylene	2014/08/12	NC		%	50
		o-Xylene	2014/08/12	4.0		%	50
		F1 (C6-C10) - BTEX	2014/08/12	2.1		%	50
		(C6-C10)	2014/08/12	2.1		%	50
7597478 ZZ	Method Blank	Moisture	2014/08/13	ND, RDL=0.30		%	
	RPD [KH9560-01]	Moisture	2014/08/13	0		%	20
7597488 RPA	Matrix Spike [KH9561-01]	O-TERPHENYL (sur.)	2014/08/13		88	%	50 - 130
		F2 (C10-C16 Hydrocarbons)	2014/08/13		NC	%	50 - 130
		F3 (C16-C34 Hydrocarbons)	2014/08/13		82	%	50 - 130
		F4 (C34-C50 Hydrocarbons)	2014/08/13		78	%	50 - 130
	Spiked Blank	O-TERPHENYL (sur.)	2014/08/13		109	%	50 - 130
		F2 (C10-C16 Hydrocarbons)	2014/08/13		116	%	70 - 130
		F3 (C16-C34 Hydrocarbons)	2014/08/13		114	%	70 - 130
		F4 (C34-C50 Hydrocarbons)	2014/08/13		106	%	70 - 130
	Method Blank	O-TERPHENYL (sur.)	2014/08/13		124	%	50 - 130

Delta Engineering/Carter Industries A Joint Venture
Attention: BOB JOHNSON
Client Project #:
P.O. #:
Site Location: CONTWOYTO LAKE WEATHER STATION

Quality Assurance Report (Continued)

Maxxam Job Number: EYKB469272

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	UNITS	QC Limits
7597488 RPA	Method Blank	F2 (C10-C16 Hydrocarbons)	2014/08/13	ND, RDL=10		mg/kg	
		F3 (C16-C34 Hydrocarbons)	2014/08/13	ND, RDL=50		mg/kg	
		F4 (C34-C50 Hydrocarbons)	2014/08/13	ND, RDL=50		mg/kg	
	RPD [KH9561-01]	F2 (C10-C16 Hydrocarbons)	2014/08/13	6.0		%	50
		F3 (C16-C34 Hydrocarbons)	2014/08/13	NC		%	50
		F4 (C34-C50 Hydrocarbons)	2014/08/13	NC		%	50

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

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.

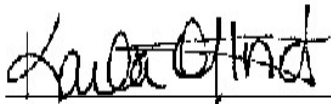
NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spiked amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than 2x that of the native sample concentration).

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (one or both samples < 5x RDL).

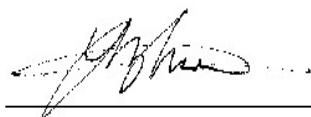
Validation Signature Page

Maxxam Job #: B469272

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



Karla Offord, B.Sc., Supervisor, Extractable Hydrocarbons



Yashu Mohan, B.Sc. B.Tech., Senior Analyst

=====

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.

Your P.O. #: 350600-508
Your Project #: CONTWOYTO
Your C.O.C. #: A159045

Attention:CHARLES GRAVELLE

DECOMMISSIONING CONSULTING SERVICES LTD.
ONTARIO
121 GRANTON DRIVE, UNIT 11
RICHMOND HILL, ON
CANADA L4B 3N4

Report Date: 2014/08/18
Report #: R1623464
Version: 1

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B469787

Received: 2014/08/12, 14:00

Sample Matrix: Soil
Samples Received: 6

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
BTEX/F1 by HS GC/MS (MeOH extract)	6	2014/08/16	2014/08/18	AB SOP-00039	CCME CWS/EPA 5260C m
CCME Hydrocarbons (F2-F4 in soil)	5	2014/08/16	2014/08/17	AB SOP-00036 / AB SOP-00040	CCME PHC-CWS
CCME Hydrocarbons (F2-F4 in soil)	1	2014/08/18	2014/08/18	AB SOP-00036 / AB SOP-00040	CCME PHC-CWS
Moisture	3	N/A	2014/08/17	AB SOP-00002	CCME PHC-CWS
Moisture	3	N/A	2014/08/18	AB SOP-00002	CCME PHC-CWS

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

Encryption Key

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

Tanya Eugene, M.Sc., Project Manager

Email: TEugene@maxxam.ca

Phone# (780)577-7144

=====

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.

Maxxam Job #: B469787
Report Date: 2014/08/18

DECOMMISSIONING CONSULTING SERVICES LTD.
Client Project #: CONTWOYTO
Your P.O. #: 350600-508
Sampler Initials: JM

RESULTS OF CHEMICAL ANALYSES OF SOIL

Maxxam ID		KI2138	KI2139		KI2149	KI2151		KI2152		
Sampling Date										
COC Number		A159045	A159045		A159045	A159045		A159045		
	Units	TC 29	TC 21	QC Batch	TC DUP	TC 26	QC Batch	TC 16	RDL	QC Batch
Physical Properties										
Moisture	%	1.5	3.9	7603699	3.7	1.4	7603450	3.8	0.30	7603849
RDL = Reportable Detection Limit										

Maxxam ID		KI2153		
Sampling Date				
COC Number		A159045		
	Units	TC 34	RDL	QC Batch
Physical Properties				
Moisture	%	2.6	0.30	7603450
RDL = Reportable Detection Limit				

Maxxam Job #: B469787
Report Date: 2014/08/18

DECOMMISSIONING CONSULTING SERVICES LTD.
Client Project #: CONTWOYTO
Your P.O. #: 350600-508
Sampler Initials: JM

PETROLEUM HYDROCARBONS (CCME)

Maxxam ID		KI2138	KI2139	KI2149	KI2151	KI2152	KI2153		
Sampling Date									
COC Number		A159045	A159045	A159045	A159045	A159045	A159045		
	Units	TC 29	TC 21	TC DUP	TC 26	TC 16	TC 34	RDL	QC Batch
Ext. Pet. Hydrocarbon									
F2 (C10-C16 Hydrocarbons)	mg/kg	110	240	150	230	360	480	10	7603534
F3 (C16-C34 Hydrocarbons)	mg/kg	150	150	110	330	180	240	50	7603534
F4 (C34-C50 Hydrocarbons)	mg/kg	<50	<50	<50	59	<50	<50	50	7603534
Reached Baseline at C50	mg/kg	Yes	Yes	Yes	Yes	Yes	Yes		7603534
Surrogate Recovery (%)									
O-TERPHENYL (sur.)	%	99	105	103	109	104	108		7603534
RDL = Reportable Detection Limit									

Maxxam Job #: B469787
Report Date: 2014/08/18

DECOMMISSIONING CONSULTING SERVICES LTD.
Client Project #: CONTWOYTO
Your P.O. #: 350600-508
Sampler Initials: JM

VOLATILE ORGANICS BY GC-MS (SOIL)

Maxxam ID		KI2138	KI2139	KI2149	KI2151	KI2152	KI2153		
Sampling Date									
COC Number		A159045	A159045	A159045	A159045	A159045	A159045		
	Units	TC 29	TC 21	TC DUP	TC 26	TC 16	TC 34	RDL	QC Batch
Volatiles									
Benzene	mg/kg	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	7603490
Toluene	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.020	7603490
Ethylbenzene	mg/kg	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	7603490
Xylenes (Total)	mg/kg	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	0.040	7603490
m & p-Xylene	mg/kg	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	0.040	7603490
o-Xylene	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.020	7603490
F1 (C6-C10) - BTEX	mg/kg	<12	<12	<12	<12	<12	<12	12	7603490
(C6-C10)	mg/kg	<12	<12	<12	<12	<12	<12	12	7603490
Surrogate Recovery (%)									
1,4-Difluorobenzene (sur.)	%	104	104	106	103	106	105		7603490
4-Bromofluorobenzene (sur.)	%	96	95	95	95	98	97		7603490
D10-ETHYLBENZENE (sur.)	%	101	105	106	102	107	104		7603490
D4-1,2-Dichloroethane (sur.)	%	98	99	97	99	97	101		7603490
RDL = Reportable Detection Limit									

Maxxam Job #: B469787
Report Date: 2014/08/18

DECOMMISSIONING CONSULTING SERVICES LTD.
Client Project #: CONTWOYTO
Your P.O. #: 350600-508
Sampler Initials: JM

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	8.0°C
Package 2	16.0°C

Results relate only to the items tested.

QUALITY ASSURANCE REPORT

DECOMMISSIONING CONSULTING SERVICES LTD.
Client Project #: CONTWOYTO
Your P.O. #: 350600-508
Sampler Initials: JM

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits
7603490	1,4-Difluorobenzene (sur.)	2014/08/17	114	60 - 140	110	60 - 140	103	%		
7603490	4-Bromofluorobenzene (sur.)	2014/08/17	101	60 - 140	100	60 - 140	103	%		
7603490	D10-ETHYLBENZENE (sur.)	2014/08/17	118	60 - 130	109	60 - 130	108	%		
7603490	D4-1,2-Dichloroethane (sur.)	2014/08/17	94	60 - 140	99	60 - 140	87	%		
7603534	O-TERPHENYL (sur.)	2014/08/17	106	50 - 130	98	50 - 130	106	%		
7603450	Moisture	2014/08/17					<0.30	%		
7603490	(C6-C10)	2014/08/17	132	60 - 140	133	60 - 140	<12	mg/kg		
7603490	Benzene	2014/08/17	97	60 - 140	104	60 - 140	<0.0050	mg/kg		
7603490	Ethylbenzene	2014/08/17	103	60 - 140	103	60 - 140	<0.010	mg/kg		
7603490	F1 (C6-C10) - BTEX	2014/08/17					<12	mg/kg		
7603490	m & p-Xylene	2014/08/17	111	60 - 140	109	60 - 140	<0.040	mg/kg		
7603490	o-Xylene	2014/08/17	105	60 - 140	103	60 - 140	<0.020	mg/kg		
7603490	Toluene	2014/08/17	98	60 - 140	101	60 - 140	<0.020	mg/kg		
7603490	Xylenes (Total)	2014/08/17					<0.040	mg/kg		
7603534	F2 (C10-C16 Hydrocarbons)	2014/08/17	112	50 - 130	104	70 - 130	<10	mg/kg		
7603534	F3 (C16-C34 Hydrocarbons)	2014/08/17	117	50 - 130	108	70 - 130	<50	mg/kg		
7603534	F4 (C34-C50 Hydrocarbons)	2014/08/17	109	50 - 130	100	70 - 130	<50	mg/kg		
7603699	Moisture	2014/08/18					<0.30	%		
7603849	Moisture	2014/08/18					<0.30	%	0	20

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

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.

Maxxam Job #: B469787
Report Date: 2014/08/18

DECOMMISSIONING CONSULTING SERVICES LTD.
Client Project #: CONTWOYTO
Your P.O. #: 350600-508
Sampler Initials: JM

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



Daniel Reslan, Chem. Tech., Volatiles Supervisor



Justin Geisel, B.Sc., Supervisor, Organics



Pamela Kimmerly, Chem. Tech., Team Lead

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Your P.O. #: 350600-508
 Your Project #: CONTWOYTO
 Your C.O.C. #: A159046

Attention:CHARLES GRAVELLE

DECOMMISSIONING CONSULTING SERVICES LTD.
 ONTARIO
 121 GRANTON DRIVE, UNIT 11
 RICHMOND HILL, ON
 CANADA L4B 3N4

Report Date: 2014/08/18

Report #: R1623025

Version: 1

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B469800

Received: 2014/08/12, 14:00

Sample Matrix: Water
 # Samples Received: 1

Analyses	Quantity	Date	Date	Laboratory Method	Analytical Method
		Extracted	Analyzed		
CCME Hydrocarbons in Water (F2; C10-C16)	1	2014/08/15	2014/08/16	AB SOP-00040 AB SOP-00037	EPA3510/CCME PHCCWS
Hydrocarbons (C10-C30) in Water - GC/FID	1	2014/08/15	2014/08/16	AB SOP-00037 / AB SOP-00040	CCME PHC-CWS m

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

Encryption Key

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

Tanya Eugene, M.Sc., Project Manager

Email: TEugine@maxxam.ca

Phone# (780)577-7144

=====

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Maxxam Job #: B469800
Report Date: 2014/08/18

DECOMMISSIONING CONSULTING SERVICES LTD.
Client Project #: CONTWOYTO
Your P.O. #: 350600-508
Sampler Initials: JM

PETROLEUM HYDROCARBONS (CCME)

Maxxam ID		KI2168		
Sampling Date		2014/08/11 16:00		
COC Number		A159046		
	Units	MW-2	RDL	QC Batch
Hydrocarbons				
F2 (C10-C16 Hydrocarbons)	mg/L	0.20	0.10	7601318
Surrogate Recovery (%)				
O-TERPHENYL (sur.)	%	99		7601318
RDL = Reportable Detection Limit				

Maxxam Job #: B469800
Report Date: 2014/08/18

DECOMMISSIONING CONSULTING SERVICES LTD.
Client Project #: CONTWOYTO
Your P.O. #: 350600-508
Sampler Initials: JM

TOTAL PETROLEUM HYDROCARBONS (WATER)

Maxxam ID		KI2168		
Sampling Date		2014/08/11 16:00		
COC Number		A159046		
	Units	MW-2	RDL	QC Batch
Hydrocarbons				
Total Extractables C10 to C30	mg/L	0.49	0.20	7601323
Surrogate Recovery (%)				
O-TERPHENYL (sur.)	%	99		7601323
RDL = Reportable Detection Limit				

Maxxam Job #: B469800
Report Date: 2014/08/18

DECOMMISSIONING CONSULTING SERVICES LTD.
Client Project #: CONTWOYTO
Your P.O. #: 350600-508
Sampler Initials: JM

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	16.0°C
Package 2	8.0°C

Results relate only to the items tested.

QUALITY ASSURANCE REPORT

DECOMMISSIONING CONSULTING SERVICES LTD.
Client Project #: CONTWOYTO
Your P.O. #: 350600-508
Sampler Initials: JM

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	Units
7601318	O-TERPHENYL (sur.)	2014/08/16	110	50 - 130	105	50 - 130	94	%
7601323	O-TERPHENYL (sur.)	2014/08/16			105	50 - 130	94	%
7601318	F2 (C10-C16 Hydrocarbons)	2014/08/16	123	50 - 130	117	70 - 130	<0.10	mg/L
7601323	Total Extractables C10 to C30	2014/08/16			116	70 - 130	<0.20	mg/L

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

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.

Maxxam Job #: B469800
Report Date: 2014/08/18

DECOMMISSIONING CONSULTING SERVICES LTD.
Client Project #: CONTWOYTO
Your P.O. #: 350600-508
Sampler Initials: JM

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

A handwritten signature in blue ink, appearing to read "Pam Kimmerly", is written over a horizontal line.

Pamela Kimmerly, Chem. Tech., Team Lead

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.

Your P.O. #: 350600-508
Your Project #: CONTWOYTO
Your C.O.C. #: A159043

Attention:CHARLES GRAVELLE

DECOMMISSIONING CONSULTING SERVICES LTD.
ONTARIO
121 GRANTON DRIVE, UNIT 11
RICHMOND HILL, ON
CANADA L4B 3N4

Report Date: 2014/08/18
Report #: R1623472
Version: 1

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B469804

Received: 2014/08/12, 14:00

Sample Matrix: Soil
Samples Received: 4

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
BTEX/F1 by HS GC/MS (MeOH extract)	1	2014/08/13	2014/08/14	AB SOP-00039	CCME CWS/EPA 5260C m
BTEX/F1 by HS GC/MS (MeOH extract)	3	2014/08/13	2014/08/15	AB SOP-00039	CCME CWS/EPA 5260C m
CCME Hydrocarbons (F2-F4 in soil)	1	2014/08/13	2014/08/13	AB SOP-00036 / AB SOP-00040	CCME PHC-CWS
CCME Hydrocarbons (F2-F4 in soil)	3	2014/08/13	2014/08/16	AB SOP-00036 / AB SOP-00040	CCME PHC-CWS
Moisture	4	N/A	2014/08/14	AB SOP-00002	CCME PHC-CWS

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

Encryption Key

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

Tanya Eugene, M.Sc., Project Manager

Email: TEugene@maxxam.ca

Phone# (780)577-7144

=====

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Maxxam Job #: B469804
Report Date: 2014/08/18

DECOMMISSIONING CONSULTING SERVICES LTD.
Client Project #: CONTWOYTO
Your P.O. #: 350600-508

RESULTS OF CHEMICAL ANALYSES OF SOIL

Maxxam ID		KI2184		KI2185		KI2186	KI2187		
Sampling Date		2014/08/07		2014/08/07		2014/08/07	2014/08/07		
COC Number		A159043		A159043		A159043	A159043		
	Units	ZONE 3 - FLOOR 1	QC Batch	ZONE 3 - FLOOR 2	QC Batch	ZONE 3 - WALL 1	ZONE 3 - WALL 2	RDL	QC Batch
Physical Properties									
Moisture	%	3.1	7599354	11	7599425	16	12	0.30	7599354
RDL = Reportable Detection Limit									

Maxxam Job #: B469804
Report Date: 2014/08/18

DECOMMISSIONING CONSULTING SERVICES LTD.
Client Project #: CONTWOYTO
Your P.O. #: 350600-508

PETROLEUM HYDROCARBONS (CCME)

Maxxam ID		KI2184	KI2185	KI2186		KI2187		
Sampling Date		2014/08/07	2014/08/07	2014/08/07		2014/08/07		
COC Number		A159043	A159043	A159043		A159043		
	Units	ZONE 3 - FLOOR 1	ZONE 3 - FLOOR 2	ZONE 3 - WALL 1	QC Batch	ZONE 3 - WALL 2	RDL	QC Batch
Ext. Pet. Hydrocarbon								
F2 (C10-C16 Hydrocarbons)	mg/kg	30	130	<10	7599541	<10	10	7598635
F3 (C16-C34 Hydrocarbons)	mg/kg	57	140	<50	7599541	<50	50	7598635
F4 (C34-C50 Hydrocarbons)	mg/kg	<50	<50	<50	7599541	<50	50	7598635
Reached Baseline at C50	mg/kg	Yes	Yes	Yes	7599541	Yes		7598635
Surrogate Recovery (%)								
O-TERPHENYL (sur.)	%	93	106	91	7599541	92		7598635
RDL = Reportable Detection Limit								

Maxxam Job #: B469804
Report Date: 2014/08/18

DECOMMISSIONING CONSULTING SERVICES LTD.
Client Project #: CONTWOYTO
Your P.O. #: 350600-508

VOLATILE ORGANICS BY GC-MS (SOIL)

Maxxam ID		KI2184	KI2185		KI2186		
Sampling Date		2014/08/07	2014/08/07		2014/08/07		
COC Number		A159043	A159043		A159043		
	Units	ZONE 3 - FLOOR 1	ZONE 3 - FLOOR 2	QC Batch	ZONE 3 - WALL 1	RDL	QC Batch
Volatiles							
Benzene	mg/kg	<0.0050	<0.0050	7599700	<0.0050	0.0050	7599699
Toluene	mg/kg	<0.020	<0.020	7599700	<0.020	0.020	7599699
Ethylbenzene	mg/kg	<0.010	<0.010	7599700	<0.010	0.010	7599699
Xylenes (Total)	mg/kg	<0.040	<0.040	7599700	<0.040	0.040	7599699
m & p-Xylene	mg/kg	<0.040	<0.040	7599700	<0.040	0.040	7599699
o-Xylene	mg/kg	<0.020	<0.020	7599700	<0.020	0.020	7599699
F1 (C6-C10) - BTEX	mg/kg	<12	<12	7599700	<12	12	7599699
(C6-C10)	mg/kg	<12	<12	7599700	<12	12	7599699
Surrogate Recovery (%)							
1,4-Difluorobenzene (sur.)	%	101	105	7599700	101		7599699
4-Bromofluorobenzene (sur.)	%	99	100	7599700	101		7599699
D10-ETHYLBENZENE (sur.)	%	97	100	7599700	107		7599699
D4-1,2-Dichloroethane (sur.)	%	87	88	7599700	102		7599699
RDL = Reportable Detection Limit							

Maxxam ID		KI2187		
Sampling Date		2014/08/07		
COC Number		A159043		
	Units	ZONE 3 - WALL 2	RDL	QC Batch
Volatiles				
Benzene	mg/kg	<0.0050	0.0050	7599711
Toluene	mg/kg	<0.020	0.020	7599711
Ethylbenzene	mg/kg	<0.010	0.010	7599711
Xylenes (Total)	mg/kg	<0.040	0.040	7599711
m & p-Xylene	mg/kg	<0.040	0.040	7599711
o-Xylene	mg/kg	<0.020	0.020	7599711
F1 (C6-C10) - BTEX	mg/kg	<12	12	7599711
(C6-C10)	mg/kg	<12	12	7599711
Surrogate Recovery (%)				
1,4-Difluorobenzene (sur.)	%	102		7599711
4-Bromofluorobenzene (sur.)	%	99		7599711
D10-ETHYLBENZENE (sur.)	%	93		7599711
D4-1,2-Dichloroethane (sur.)	%	114		7599711
RDL = Reportable Detection Limit				

Maxxam Job #: B469804
Report Date: 2014/08/18

DECOMMISSIONING CONSULTING SERVICES LTD.
Client Project #: CONTWOYTO
Your P.O. #: 350600-508

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	8.0°C
Package 2	16.0°C

Results relate only to the items tested.

QUALITY ASSURANCE REPORT

DECOMMISSIONING CONSULTING SERVICE
Client Project #: CONTWOYTO
Your P.O. #: 350600-508

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	Units
7598635	O-TERPHENYL (sur.)	2014/08/13	94	50 - 130	91	50 - 130	93	%
7599541	O-TERPHENYL (sur.)	2014/08/16	101	50 - 130	94	50 - 130	98	%
7599699	1,4-Difluorobenzene (sur.)	2014/08/14	107	60 - 140	98	60 - 140	96	%
7599699	4-Bromofluorobenzene (sur.)	2014/08/14	101	60 - 140	100	60 - 140	101	%
7599699	D10-ETHYLBENZENE (sur.)	2014/08/14	104	60 - 130	101	60 - 130	92	%
7599699	D4-1,2-Dichloroethane (sur.)	2014/08/14	87	60 - 140	85	60 - 140	90	%
7599700	1,4-Difluorobenzene (sur.)	2014/08/15	107	60 - 140	99	60 - 140	97	%
7599700	4-Bromofluorobenzene (sur.)	2014/08/15	100	60 - 140	100	60 - 140	99	%
7599700	D10-ETHYLBENZENE (sur.)	2014/08/15	104	60 - 130	102	60 - 130	94	%
7599700	D4-1,2-Dichloroethane (sur.)	2014/08/15	87	60 - 140	88	60 - 140	89	%
7599711	1,4-Difluorobenzene (sur.)	2014/08/15	109	60 - 140	95	60 - 140	98	%
7599711	4-Bromofluorobenzene (sur.)	2014/08/15	98	60 - 140	98	60 - 140	98	%
7599711	D10-ETHYLBENZENE (sur.)	2014/08/15	100	60 - 130	101	60 - 130	97	%
7599711	D4-1,2-Dichloroethane (sur.)	2014/08/15	113	60 - 140	114	60 - 140	109	%
7598635	F2 (C10-C16 Hydrocarbons)	2014/08/13	89	50 - 130	98	70 - 130	<10	mg/kg
7598635	F3 (C16-C34 Hydrocarbons)	2014/08/13	88	50 - 130	98	70 - 130	<50	mg/kg
7598635	F4 (C34-C50 Hydrocarbons)	2014/08/13	83	50 - 130	92	70 - 130	<50	mg/kg
7599354	Moisture	2014/08/14					<0.30	%
7599425	Moisture	2014/08/14					<0.30	%
7599541	F2 (C10-C16 Hydrocarbons)	2014/08/16	99	50 - 130	98	70 - 130	<10	mg/kg
7599541	F3 (C16-C34 Hydrocarbons)	2014/08/16	91	50 - 130	96	70 - 130	<50	mg/kg
7599541	F4 (C34-C50 Hydrocarbons)	2014/08/16	89	50 - 130	95	70 - 130	<50	mg/kg
7599699	(C6-C10)	2014/08/14	127	60 - 140	124	60 - 140	<12	mg/kg
7599699	Benzene	2014/08/14	98	60 - 140	98	60 - 140	<0.0050	mg/kg
7599699	Ethylbenzene	2014/08/14	96	60 - 140	95	60 - 140	<0.010	mg/kg
7599699	F1 (C6-C10) - BTEX	2014/08/14					<12	mg/kg
7599699	m & p-Xylene	2014/08/14	105	60 - 140	104	60 - 140	<0.040	mg/kg
7599699	o-Xylene	2014/08/14	104	60 - 140	103	60 - 140	<0.020	mg/kg
7599699	Toluene	2014/08/14	99	60 - 140	98	60 - 140	<0.020	mg/kg
7599699	Xylenes (Total)	2014/08/14					<0.040	mg/kg
7599700	(C6-C10)	2014/08/15	118	60 - 140	123	60 - 140	<12	mg/kg
7599700	Benzene	2014/08/15	103	60 - 140	95	60 - 140	<0.0050	mg/kg

QUALITY ASSURANCE REPORT(CONT'D)

DECOMMISSIONING CONSULTING SERVICE
Client Project #: CONTWOYTO
Your P.O. #: 350600-508

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	Units
7599700	Ethylbenzene	2014/08/15	100	60 - 140	90	60 - 140	<0.010	mg/kg
7599700	F1 (C6-C10) - BTEX	2014/08/15					<12	mg/kg
7599700	m & p-Xylene	2014/08/15	109	60 - 140	97	60 - 140	<0.040	mg/kg
7599700	o-Xylene	2014/08/15	108	60 - 140	96	60 - 140	<0.020	mg/kg
7599700	Toluene	2014/08/15	104	60 - 140	94	60 - 140	<0.020	mg/kg
7599700	Xylenes (Total)	2014/08/15					<0.040	mg/kg
7599711	(C6-C10)	2014/08/15	132	60 - 140	126	60 - 140	<12	mg/kg
7599711	Benzene	2014/08/15	108	60 - 140	105	60 - 140	<0.0050	mg/kg
7599711	Ethylbenzene	2014/08/15	95	60 - 140	93	60 - 140	<0.010	mg/kg
7599711	F1 (C6-C10) - BTEX	2014/08/15					<12	mg/kg
7599711	m & p-Xylene	2014/08/15	92	60 - 140	90	60 - 140	<0.040	mg/kg
7599711	o-Xylene	2014/08/15	95	60 - 140	92	60 - 140	<0.020	mg/kg
7599711	Toluene	2014/08/15	95	60 - 140	94	60 - 140	<0.020	mg/kg
7599711	Xylenes (Total)	2014/08/15					<0.040	mg/kg

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

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.

Maxxam Job #: B469804
Report Date: 2014/08/18

DECOMMISSIONING CONSULTING SERVICES LTD.
Client Project #: CONTWOYTO
Your P.O. #: 350600-508

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



Justin Geisel, B.Sc., Supervisor, Organics



Kale Edwards, Analyst II



Karla Offord, B.Sc., Supervisor, Extractable Hydrocarbons



Poonam Sharma, Chem. Tech., Senior Analyst, Organics Department

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Your Project #: 350600-508
Site Location: CONTWOYT LAKE

Attention:CHARLES F. GRAVELLE

SENE CONSULTANTS LIMITED
121 GRANTON DRIVE, UNIT 12
RICHMOND HILL, ON
CANADA L4B 3N4

Report Date: 2015/04/07

Report #: R1841176

Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B525712

Received: 2015/03/30, 11:45

Sample Matrix: Soil
Samples Received: 1

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
BTEX/F1 by HS GC/MS/FID (MeOH extract)	1	2015/04/01	2015/04/05	AB SOP-00039	CCME CWS/EPA 8260C m
CCME Hydrocarbons (F2-F4 in soil)	1	2015/04/01	2015/04/02	AB SOP-00036 / AB SOP-00040	CCME PHC-CWS
Moisture	1	N/A	2015/04/02	AB SOP-00002	CCME PHC-CWS

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

Encryption Key

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

Tanya Eugene, M.Sc., Project Manager

Email: TEugene@maxxam.ca

Phone# (780)577-7144

=====

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Maxxam Job #: B525712
Report Date: 2015/04/07

SENE CONSULTANTS LIMITED
Client Project #: 350600-508
Site Location: CONTWOYT LAKE
Sampler Initials: PH

AT1 BTEX AND F1-F4 IN SOIL (SOIL)

Maxxam ID		LZ0165		
Sampling Date		2015/03/27		
	Units	BASE 1 SAMPLE LOCATION 12W0529138 7262626	RDL	QC Batch
Physical Properties				
Moisture	%	3.9	0.30	7853414
Ext. Pet. Hydrocarbon				
F2 (C10-C16 Hydrocarbons)	mg/kg	<10	10	7854184
F3 (C16-C34 Hydrocarbons)	mg/kg	<50	50	7854184
F4 (C34-C50 Hydrocarbons)	mg/kg	<50	50	7854184
Reached Baseline at C50	mg/kg	Yes		7854184
Volatiles				
Benzene	mg/kg	<0.0050	0.0050	7854221
Toluene	mg/kg	<0.020	0.020	7854221
Ethylbenzene	mg/kg	<0.010	0.010	7854221
Xylenes (Total)	mg/kg	<0.040	0.040	7854221
m & p-Xylene	mg/kg	<0.040	0.040	7854221
o-Xylene	mg/kg	<0.020	0.020	7854221
F1 (C6-C10) - BTEX	mg/kg	<12	12	7854221
(C6-C10)	mg/kg	<12	12	7854221
Surrogate Recovery (%)				
1,4-Difluorobenzene (sur.)	%	102		7854221
4-Bromofluorobenzene (sur.)	%	98		7854221
D10-ETHYLBENZENE (sur.)	%	96		7854221
D4-1,2-Dichloroethane (sur.)	%	96		7854221
O-TERPHENYL (sur.)	%	110		7854184
RDL = Reportable Detection Limit				

Maxxam Job #: B525712
Report Date: 2015/04/07

SENE CONSULTANTS LIMITED
Client Project #: 350600-508
Site Location: CONTWOYTO LAKE
Sampler Initials: PH

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	9.0°C
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Results relate only to the items tested.

Maxxam Job #: B525712
Report Date: 2015/04/07

QUALITY ASSURANCE REPORT

SENE CONSULTANTS LIMITED
Client Project #: 350600-508
Site Location: CONTWOYTO LAKE
Sampler Initials: PH

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits
7854184	O-TERPHENYL (sur.)	2015/04/02	97	50 - 130	109	50 - 130	118	%		
7854221	1,4-Difluorobenzene (sur.)	2015/04/05	101	60 - 140	99	60 - 140	101	%		
7854221	4-Bromofluorobenzene (sur.)	2015/04/05	98	60 - 140	98	60 - 140	99	%		
7854221	D10-ETHYLBENZENE (sur.)	2015/04/05	99	60 - 130	94	60 - 130	93	%		
7854221	D4-1,2-Dichloroethane (sur.)	2015/04/05	97	60 - 140	97	60 - 140	97	%		
7853414	Moisture	2015/04/02					<0.30	%	1.1	20
7854184	F2 (C10-C16 Hydrocarbons)	2015/04/04	100	50 - 130	123	70 - 130	<10	mg/kg	NC	50
7854184	F3 (C16-C34 Hydrocarbons)	2015/04/04	102	50 - 130	121	70 - 130	<50	mg/kg	NC	50
7854184	F4 (C34-C50 Hydrocarbons)	2015/04/04	102	50 - 130	123	70 - 130	<50	mg/kg	NC	50
7854221	(C6-C10)	2015/04/05	105	60 - 140	102	60 - 140	<12	mg/kg	NC	50
7854221	Benzene	2015/04/05	98	60 - 140	93	60 - 140	<0.0050	mg/kg	NC	50
7854221	Ethylbenzene	2015/04/05	96	60 - 140	93	60 - 140	<0.010	mg/kg	NC	50
7854221	F1 (C6-C10) - BTEX	2015/04/05					<12	mg/kg	NC	50
7854221	m & p-Xylene	2015/04/05	94	60 - 140	90	60 - 140	<0.040	mg/kg	NC	50
7854221	o-Xylene	2015/04/05	92	60 - 140	90	60 - 140	<0.020	mg/kg	NC	50
7854221	Toluene	2015/04/05	96	60 - 140	91	60 - 140	<0.020	mg/kg	NC	50
7854221	Xylenes (Total)	2015/04/05					<0.040	mg/kg	NC	50

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

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.

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (one or both samples < 5x RDL).

Maxxam Job #: B525712
Report Date: 2015/04/07

SENES CONSULTANTS LIMITED
Client Project #: 350600-508
Site Location: CONTWOYTO LAKE
Sampler Initials: PH

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



Anna Koksharova, M.Sc., Senior Analyst



Justin Geisel, B.Sc., Supervisor - Organics



Lisa Cummings, Organics Manager

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.

Your Project #: 350600-508
Site Location: CONTWOYT LAKE

Attention:CHARLES F. GRAVELLE

SENE CONSULTANTS LIMITED
121 GRANTON DRIVE, UNIT 12
RICHMOND HILL, ON
CANADA L4B 3N4

Report Date: 2015/04/07

Report #: R1841019

Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B525776

Received: 2015/03/30, 11:43

Sample Matrix: Soil
Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
BTEX/F1 by HS GC/MS/FID (MeOH extract)	2	2015/04/01	2015/04/02	AB SOP-00039	CCME CWS/EPA 8260C m
CCME Hydrocarbons (F2-F4 in soil)	2	2015/04/01	2015/04/02	AB SOP-00036 / AB SOP-00040	CCME PHC-CWS
Moisture	2	N/A	2015/04/02	AB SOP-00002	CCME PHC-CWS

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

Encryption Key

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

Tanya Eugene, M.Sc., Project Manager

Email: TEugene@maxxam.ca

Phone# (780)577-7144

=====

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Maxxam Job #: B525776
Report Date: 2015/04/07

SENE CONSULTANTS LIMITED
Client Project #: 350600-508
Site Location: CONTWOYT LAKE
Sampler Initials: PH

AT1 BTEX AND F1-F4 IN SOIL (SOIL)

Maxxam ID		LZ0358	LZ0359		
Sampling Date		2015/03/27	2015/03/27		
	Units	BASE 2 SAMPLE LOCATION 12W0529118 7262619	BASE B SAMPLE LOCATION 11V635635 6927609	RDL	QC Batch
Physical Properties					
Moisture	%	2.9	3.4	0.30	7853414
Ext. Pet. Hydrocarbon					
F2 (C10-C16 Hydrocarbons)	mg/kg	<10	<10	10	7854184
F3 (C16-C34 Hydrocarbons)	mg/kg	<50	<50	50	7854184
F4 (C34-C50 Hydrocarbons)	mg/kg	<50	<50	50	7854184
Reached Baseline at C50	mg/kg	Yes	Yes		7854184
Volatiles					
Benzene	mg/kg	<0.0050	<0.0050	0.0050	7853073
Toluene	mg/kg	<0.020	<0.020	0.020	7853073
Ethylbenzene	mg/kg	<0.010	<0.010	0.010	7853073
Xylenes (Total)	mg/kg	<0.040	<0.040	0.040	7853073
m & p-Xylene	mg/kg	<0.040	<0.040	0.040	7853073
o-Xylene	mg/kg	<0.020	<0.020	0.020	7853073
F1 (C6-C10) - BTEX	mg/kg	<12	<12	12	7853073
(C6-C10)	mg/kg	<12	<12	12	7853073
Surrogate Recovery (%)					
1,4-Difluorobenzene (sur.)	%	100	103		7853073
4-Bromofluorobenzene (sur.)	%	96	97		7853073
D10-ETHYLBENZENE (sur.)	%	93	96		7853073
D4-1,2-Dichloroethane (sur.)	%	97	97		7853073
O-TERPHENYL (sur.)	%	112	102		7854184
RDL = Reportable Detection Limit					

Maxxam Job #: B525776
Report Date: 2015/04/07

SENE CONSULTANTS LIMITED
Client Project #: 350600-508
Site Location: CONTWOYTO LAKE
Sampler Initials: PH

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	9.0°C
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Results relate only to the items tested.

Maxxam Job #: B525776
Report Date: 2015/04/07

QUALITY ASSURANCE REPORT

SENE CONSULTANTS LIMITED
Client Project #: 350600-508
Site Location: CONTWOYTO LAKE
Sampler Initials: PH

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits
7853073	1,4-Difluorobenzene (sur.)	2015/04/01	103	60 - 140	103	60 - 140	103	%		
7853073	4-Bromofluorobenzene (sur.)	2015/04/01	100	60 - 140	100	60 - 140	98	%		
7853073	D10-ETHYLBENZENE (sur.)	2015/04/01	100	60 - 130	93	60 - 130	92	%		
7853073	D4-1,2-Dichloroethane (sur.)	2015/04/01	95	60 - 140	95	60 - 140	93	%		
7854184	O-TERPHENYL (sur.)	2015/04/02	97	50 - 130	109	50 - 130	118	%		
7853073	(C6-C10)	2015/04/01	106	60 - 140	103	60 - 140	<12	mg/kg	NC	50
7853073	Benzene	2015/04/01	98	60 - 140	90	60 - 140	<0.0050	mg/kg	NC	50
7853073	Ethylbenzene	2015/04/01	99	60 - 140	91	60 - 140	<0.010	mg/kg	NC	50
7853073	F1 (C6-C10) - BTEX	2015/04/01							NC	50
7853073	m & p-Xylene	2015/04/01	96	60 - 140	88	60 - 140	<0.040	mg/kg	NC	50
7853073	o-Xylene	2015/04/01	98	60 - 140	91	60 - 140	<0.020	mg/kg	NC	50
7853073	Toluene	2015/04/01	90	60 - 140	83	60 - 140	<0.020	mg/kg	NC	50
7853073	Xylenes (Total)	2015/04/01							NC	50
7853414	Moisture	2015/04/02					<0.30	%	1.1	20
7854184	F2 (C10-C16 Hydrocarbons)	2015/04/04	100	50 - 130	123	70 - 130	<10	mg/kg	NC	50
7854184	F3 (C16-C34 Hydrocarbons)	2015/04/04	102	50 - 130	121	70 - 130	<50	mg/kg	NC	50
7854184	F4 (C34-C50 Hydrocarbons)	2015/04/04	102	50 - 130	123	70 - 130	<50	mg/kg	NC	50

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

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.

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (one or both samples < 5x RDL).

Maxxam Job #: B525776
Report Date: 2015/04/07

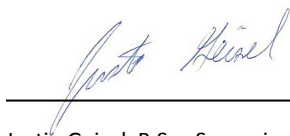
SENES CONSULTANTS LIMITED
Client Project #: 350600-508
Site Location: CONTWOYTO LAKE
Sampler Initials: PH

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



Anna Koksharova, M.Sc., Senior Analyst



Justin Geisel, B.Sc., Supervisor - Organics



Kale Edwards, Senior Analyst

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.

Your Project #: 350600-508
Site Location: CONTWOYT LAKE

Attention:CHARLES F. GRAVELLE

SENE CONSULTANTS LIMITED
121 GRANTON DRIVE, UNIT 12
RICHMOND HILL, ON
CANADA L4B 3N4

Report Date: 2015/04/07

Report #: R1841177

Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B525779

Received: 2015/03/30, 11:45

Sample Matrix: Soil
Samples Received: 1

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
BTEX/F1 by HS GC/MS/FID (MeOH extract)	1	2015/04/01	2015/04/05	AB SOP-00039	CCME CWS/EPA 8260C m
CCME Hydrocarbons (F2-F4 in soil)	1	2015/04/01	2015/04/02	AB SOP-00036 / AB SOP-00040	CCME PHC-CWS
Moisture	1	N/A	2015/04/02	AB SOP-00002	CCME PHC-CWS

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

Encryption Key

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

Tanya Eugene, M.Sc., Project Manager

Email: TEugene@maxxam.ca

Phone# (780)577-7144

=====

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Maxxam Job #: B525779
Report Date: 2015/04/07

SENE CONSULTANTS LIMITED
Client Project #: 350600-508
Site Location: CONTWOYT LAKE
Sampler Initials: PH

AT1 BTEX AND F1-F4 IN SOIL (SOIL)

Maxxam ID		LZ0366		
Sampling Date		2015/03/27		
	Units	BASE 3 SAMPLE LOCATION 12W0529194 7262598	RDL	QC Batch
Physical Properties				
Moisture	%	2.8	0.30	7853414
Ext. Pet. Hydrocarbon				
F2 (C10-C16 Hydrocarbons)	mg/kg	<10	10	7854184
F3 (C16-C34 Hydrocarbons)	mg/kg	<50	50	7854184
F4 (C34-C50 Hydrocarbons)	mg/kg	<50	50	7854184
Reached Baseline at C50	mg/kg	Yes		7854184
Volatiles				
Benzene	mg/kg	<0.0050	0.0050	7854221
Toluene	mg/kg	<0.020	0.020	7854221
Ethylbenzene	mg/kg	<0.010	0.010	7854221
Xylenes (Total)	mg/kg	<0.040	0.040	7854221
m & p-Xylene	mg/kg	<0.040	0.040	7854221
o-Xylene	mg/kg	<0.020	0.020	7854221
F1 (C6-C10) - BTEX	mg/kg	<12	12	7854221
(C6-C10)	mg/kg	<12	12	7854221
Surrogate Recovery (%)				
1,4-Difluorobenzene (sur.)	%	100		7854221
4-Bromofluorobenzene (sur.)	%	98		7854221
D10-ETHYLBENZENE (sur.)	%	93		7854221
D4-1,2-Dichloroethane (sur.)	%	97		7854221
O-TERPHENYL (sur.)	%	103		7854184
RDL = Reportable Detection Limit				

Maxxam Job #: B525779
Report Date: 2015/04/07

SENE CONSULTANTS LIMITED
Client Project #: 350600-508
Site Location: CONTWOYTO LAKE
Sampler Initials: PH

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	9.0°C
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Results relate only to the items tested.

Maxxam Job #: B525779
Report Date: 2015/04/07

QUALITY ASSURANCE REPORT

SENE CONSULTANTS LIMITED
Client Project #: 350600-508
Site Location: CONTWOYTO LAKE
Sampler Initials: PH

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits
7854184	O-TERPHENYL (sur.)	2015/04/02	97	50 - 130	109	50 - 130	118	%		
7854221	1,4-Difluorobenzene (sur.)	2015/04/05	101	60 - 140	99	60 - 140	101	%		
7854221	4-Bromofluorobenzene (sur.)	2015/04/05	98	60 - 140	98	60 - 140	99	%		
7854221	D10-ETHYLBENZENE (sur.)	2015/04/05	99	60 - 130	94	60 - 130	93	%		
7854221	D4-1,2-Dichloroethane (sur.)	2015/04/05	97	60 - 140	97	60 - 140	97	%		
7853414	Moisture	2015/04/02					<0.30	%	1.1	20
7854184	F2 (C10-C16 Hydrocarbons)	2015/04/04	100	50 - 130	123	70 - 130	<10	mg/kg	NC	50
7854184	F3 (C16-C34 Hydrocarbons)	2015/04/04	102	50 - 130	121	70 - 130	<50	mg/kg	NC	50
7854184	F4 (C34-C50 Hydrocarbons)	2015/04/04	102	50 - 130	123	70 - 130	<50	mg/kg	NC	50
7854221	(C6-C10)	2015/04/05	105	60 - 140	102	60 - 140	<12	mg/kg	NC	50
7854221	Benzene	2015/04/05	98	60 - 140	93	60 - 140	<0.0050	mg/kg	NC	50
7854221	Ethylbenzene	2015/04/05	96	60 - 140	93	60 - 140	<0.010	mg/kg	NC	50
7854221	F1 (C6-C10) - BTEX	2015/04/05					<12	mg/kg	NC	50
7854221	m & p-Xylene	2015/04/05	94	60 - 140	90	60 - 140	<0.040	mg/kg	NC	50
7854221	o-Xylene	2015/04/05	92	60 - 140	90	60 - 140	<0.020	mg/kg	NC	50
7854221	Toluene	2015/04/05	96	60 - 140	91	60 - 140	<0.020	mg/kg	NC	50
7854221	Xylenes (Total)	2015/04/05					<0.040	mg/kg	NC	50

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

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.

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (one or both samples < 5x RDL).

Maxxam Job #: B525779
Report Date: 2015/04/07

SENES CONSULTANTS LIMITED
Client Project #: 350600-508
Site Location: CONTWOYTO LAKE
Sampler Initials: PH

VALIDATION SIGNATURE PAGE

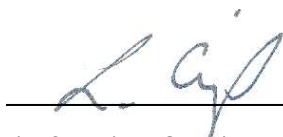
The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



Anna Koksharova, M.Sc., Senior Analyst



Justin Geisel, B.Sc., Supervisor - Organics



Lisa Cummings, Organics Manager

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Your Project #: 350600-508
Site Location: CONTWOYT LAKE

Attention:CHARLES F. GRAVELLE

SENE CONSULTANTS LIMITED
121 GRANTON DRIVE, UNIT 12
RICHMOND HILL, ON
CANADA L4B 3N4

Report Date: 2015/04/07

Report #: R1841185

Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B525784

Received: 2015/03/30, 11:45

Sample Matrix: Soil
Samples Received: 1

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
BTEX/F1 by HS GC/MS/FID (MeOH extract)	1	2015/04/01	2015/04/05	AB SOP-00039	CCME CWS/EPA 8260C m
CCME Hydrocarbons (F2-F4 in soil)	1	2015/04/01	2015/04/02	AB SOP-00036 / AB SOP-00040	CCME PHC-CWS
Moisture	1	N/A	2015/04/02	AB SOP-00002	CCME PHC-CWS

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

Encryption Key

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

Tanya Eugene, M.Sc., Project Manager

Email: TEugene@maxxam.ca

Phone# (780)577-7144

=====

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Maxxam Job #: B525784
Report Date: 2015/04/07

SENE CONSULTANTS LIMITED
Client Project #: 350600-508
Site Location: CONTWOYT LAKE
Sampler Initials: PH

AT1 BTEX AND F1-F4 IN SOIL (SOIL)

Maxxam ID		LZ0383		
Sampling Date		2015/03/27		
	Units	BASE 4 SAMPLE LOCATION 12W0529197 726573	RDL	QC Batch
Physical Properties				
Moisture	%	3.0	0.30	7853414
Ext. Pet. Hydrocarbon				
F2 (C10-C16 Hydrocarbons)	mg/kg	<10	10	7854184
F3 (C16-C34 Hydrocarbons)	mg/kg	<50	50	7854184
F4 (C34-C50 Hydrocarbons)	mg/kg	<50	50	7854184
Reached Baseline at C50	mg/kg	Yes		7854184
Volatiles				
Benzene	mg/kg	<0.0050	0.0050	7854221
Toluene	mg/kg	<0.020	0.020	7854221
Ethylbenzene	mg/kg	<0.010	0.010	7854221
Xylenes (Total)	mg/kg	<0.040	0.040	7854221
m & p-Xylene	mg/kg	<0.040	0.040	7854221
o-Xylene	mg/kg	<0.020	0.020	7854221
F1 (C6-C10) - BTEX	mg/kg	<12	12	7854221
(C6-C10)	mg/kg	<12	12	7854221
Surrogate Recovery (%)				
1,4-Difluorobenzene (sur.)	%	102		7854221
4-Bromofluorobenzene (sur.)	%	97		7854221
D10-ETHYLBENZENE (sur.)	%	99		7854221
D4-1,2-Dichloroethane (sur.)	%	95		7854221
O-TERPHENYL (sur.)	%	103		7854184
RDL = Reportable Detection Limit				

Maxxam Job #: B525784
Report Date: 2015/04/07

SENE CONSULTANTS LIMITED
Client Project #: 350600-508
Site Location: CONTWOYTO LAKE
Sampler Initials: PH

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	9.0°C
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Results relate only to the items tested.

Maxxam Job #: B525784
Report Date: 2015/04/07

QUALITY ASSURANCE REPORT

SENE CONSULTANTS LIMITED
Client Project #: 350600-508
Site Location: CONTWOYTO LAKE
Sampler Initials: PH

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits
7854184	O-TERPHENYL (sur.)	2015/04/02	97	50 - 130	109	50 - 130	118	%		
7854221	1,4-Difluorobenzene (sur.)	2015/04/05	101	60 - 140	99	60 - 140	101	%		
7854221	4-Bromofluorobenzene (sur.)	2015/04/05	98	60 - 140	98	60 - 140	99	%		
7854221	D10-ETHYLBENZENE (sur.)	2015/04/05	99	60 - 130	94	60 - 130	93	%		
7854221	D4-1,2-Dichloroethane (sur.)	2015/04/05	97	60 - 140	97	60 - 140	97	%		
7853414	Moisture	2015/04/02					<0.30	%	1.1	20
7854184	F2 (C10-C16 Hydrocarbons)	2015/04/04	100	50 - 130	123	70 - 130	<10	mg/kg	NC	50
7854184	F3 (C16-C34 Hydrocarbons)	2015/04/04	102	50 - 130	121	70 - 130	<50	mg/kg	NC	50
7854184	F4 (C34-C50 Hydrocarbons)	2015/04/04	102	50 - 130	123	70 - 130	<50	mg/kg	NC	50
7854221	(C6-C10)	2015/04/05	105	60 - 140	102	60 - 140	<12	mg/kg	NC	50
7854221	Benzene	2015/04/05	98	60 - 140	93	60 - 140	<0.0050	mg/kg	NC	50
7854221	Ethylbenzene	2015/04/05	96	60 - 140	93	60 - 140	<0.010	mg/kg	NC	50
7854221	F1 (C6-C10) - BTEX	2015/04/05					<12	mg/kg	NC	50
7854221	m & p-Xylene	2015/04/05	94	60 - 140	90	60 - 140	<0.040	mg/kg	NC	50
7854221	o-Xylene	2015/04/05	92	60 - 140	90	60 - 140	<0.020	mg/kg	NC	50
7854221	Toluene	2015/04/05	96	60 - 140	91	60 - 140	<0.020	mg/kg	NC	50
7854221	Xylenes (Total)	2015/04/05					<0.040	mg/kg	NC	50

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

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.

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (one or both samples < 5x RDL).

Maxxam Job #: B525784
Report Date: 2015/04/07

SENES CONSULTANTS LIMITED
Client Project #: 350600-508
Site Location: CONTWOYTO LAKE
Sampler Initials: PH

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



Anna Koksharova, M.Sc., Senior Analyst



Justin Geisel, B.Sc., Supervisor - Organics



Lisa Cummings, Organics Manager

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Your Project #: 350600-508
Site Location: CONTWOYT LAKE

Attention: CHARLES F. GRAVELLE

SENE CONSULTANTS LIMITED
121 GRANTON DRIVE, UNIT 12
RICHMOND HILL, ON
CANADA L4B 3N4

Report Date: 2015/04/07

Report #: R1841186

Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B525786

Received: 2015/03/30, 11:45

Sample Matrix: Soil
Samples Received: 1

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
BTEX/F1 by HS GC/MS/FID (MeOH extract)	1	2015/04/01	2015/04/05	AB SOP-00039	CCME CWS/EPA 8260C m
CCME Hydrocarbons (F2-F4 in soil)	1	2015/04/01	2015/04/02	AB SOP-00036 / AB SOP-00040	CCME PHC-CWS
Moisture	1	N/A	2015/04/02	AB SOP-00002	CCME PHC-CWS

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

Encryption Key

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

Tanya Eugene, M.Sc., Project Manager

Email: TEugene@maxxam.ca

Phone# (780)577-7144

=====

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Maxxam Job #: B525786
Report Date: 2015/04/07

SENE CONSULTANTS LIMITED
Client Project #: 350600-508
Site Location: CONTWOYT LAKE
Sampler Initials: PH

AT1 BTEX AND F1-F4 IN SOIL (SOIL)

Maxxam ID		LZ0388		
Sampling Date		2015/03/27		
	Units	BASE 5 SAMPLE LOCATION 12W062937 7262548	RDL	QC Batch
Physical Properties				
Moisture	%	2.8	0.30	7853414
Ext. Pet. Hydrocarbon				
F2 (C10-C16 Hydrocarbons)	mg/kg	<10	10	7854184
F3 (C16-C34 Hydrocarbons)	mg/kg	<50	50	7854184
F4 (C34-C50 Hydrocarbons)	mg/kg	<50	50	7854184
Reached Baseline at C50	mg/kg	Yes		7854184
Volatiles				
Benzene	mg/kg	<0.0050	0.0050	7854221
Toluene	mg/kg	<0.020	0.020	7854221
Ethylbenzene	mg/kg	<0.010	0.010	7854221
Xylenes (Total)	mg/kg	<0.040	0.040	7854221
m & p-Xylene	mg/kg	<0.040	0.040	7854221
o-Xylene	mg/kg	<0.020	0.020	7854221
F1 (C6-C10) - BTEX	mg/kg	<12	12	7854221
(C6-C10)	mg/kg	<12	12	7854221
Surrogate Recovery (%)				
1,4-Difluorobenzene (sur.)	%	101		7854221
4-Bromofluorobenzene (sur.)	%	97		7854221
D10-ETHYLBENZENE (sur.)	%	96		7854221
D4-1,2-Dichloroethane (sur.)	%	97		7854221
O-TERPHENYL (sur.)	%	100		7854184
RDL = Reportable Detection Limit				

Maxxam Job #: B525786
Report Date: 2015/04/07

SENE CONSULTANTS LIMITED
Client Project #: 350600-508
Site Location: CONTWOYTO LAKE
Sampler Initials: PH

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	9.0°C
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Results relate only to the items tested.

Maxxam Job #: B525786
Report Date: 2015/04/07

QUALITY ASSURANCE REPORT

SENE CONSULTANTS LIMITED
Client Project #: 350600-508
Site Location: CONTWOYTO LAKE
Sampler Initials: PH

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits
7854184	O-TERPHENYL (sur.)	2015/04/02	97	50 - 130	109	50 - 130	118	%		
7854221	1,4-Difluorobenzene (sur.)	2015/04/05	101	60 - 140	99	60 - 140	101	%		
7854221	4-Bromofluorobenzene (sur.)	2015/04/05	98	60 - 140	98	60 - 140	99	%		
7854221	D10-ETHYLBENZENE (sur.)	2015/04/05	99	60 - 130	94	60 - 130	93	%		
7854221	D4-1,2-Dichloroethane (sur.)	2015/04/05	97	60 - 140	97	60 - 140	97	%		
7853414	Moisture	2015/04/02					<0.30	%	1.1	20
7854184	F2 (C10-C16 Hydrocarbons)	2015/04/04	100	50 - 130	123	70 - 130	<10	mg/kg	NC	50
7854184	F3 (C16-C34 Hydrocarbons)	2015/04/04	102	50 - 130	121	70 - 130	<50	mg/kg	NC	50
7854184	F4 (C34-C50 Hydrocarbons)	2015/04/04	102	50 - 130	123	70 - 130	<50	mg/kg	NC	50
7854221	(C6-C10)	2015/04/05	105	60 - 140	102	60 - 140	<12	mg/kg	NC	50
7854221	Benzene	2015/04/05	98	60 - 140	93	60 - 140	<0.0050	mg/kg	NC	50
7854221	Ethylbenzene	2015/04/05	96	60 - 140	93	60 - 140	<0.010	mg/kg	NC	50
7854221	F1 (C6-C10) - BTEX	2015/04/05					<12	mg/kg	NC	50
7854221	m & p-Xylene	2015/04/05	94	60 - 140	90	60 - 140	<0.040	mg/kg	NC	50
7854221	o-Xylene	2015/04/05	92	60 - 140	90	60 - 140	<0.020	mg/kg	NC	50
7854221	Toluene	2015/04/05	96	60 - 140	91	60 - 140	<0.020	mg/kg	NC	50
7854221	Xylenes (Total)	2015/04/05					<0.040	mg/kg	NC	50

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

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.

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (one or both samples < 5x RDL).

Maxxam Job #: B525786
Report Date: 2015/04/07

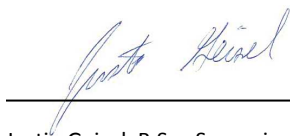
SENES CONSULTANTS LIMITED
Client Project #: 350600-508
Site Location: CONTWOYTO LAKE
Sampler Initials: PH

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



Anna Koksharova, M.Sc., Senior Analyst



Justin Geisel, B.Sc., Supervisor - Organics



Lisa Cummings, Organics Manager

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.

Your Project #: 350600-508
Site Location: CONTWOYT LAKE

Attention:CHARLES F. GRAVELLE

SENE CONSULTANTS LIMITED
121 GRANTON DRIVE, UNIT 12
RICHMOND HILL, ON
CANADA L4B 3N4

Report Date: 2015/04/07

Report #: R1841187

Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B525789

Received: 2015/03/30, 11:45

Sample Matrix: Soil
Samples Received: 1

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
BTEX/F1 by HS GC/MS/FID (MeOH extract)	1	2015/04/01	2015/04/05	AB SOP-00039	CCME CWS/EPA 8260C m
CCME Hydrocarbons (F2-F4 in soil)	1	2015/04/01	2015/04/02	AB SOP-00036 / AB SOP-00040	CCME PHC-CWS
Moisture	1	N/A	2015/04/02	AB SOP-00002	CCME PHC-CWS

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

Encryption Key

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

Tanya Eugene, M.Sc., Project Manager

Email: TEugene@maxxam.ca

Phone# (780)577-7144

=====

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Maxxam Job #: B525789
Report Date: 2015/04/07

SENE CONSULTANTS LIMITED
Client Project #: 350600-508
Site Location: CONTWOYT LAKE
Sampler Initials: PH

AT1 BTEX AND F1-F4 IN SOIL (SOIL)

Maxxam ID		LZ0391		
Sampling Date		2015/03/27		
	Units	BASE 6 SAMPLE LOCATION 12W0529240 7262564	RDL	QC Batch
Physical Properties				
Moisture	%	2.6	0.30	7853414
Ext. Pet. Hydrocarbon				
F2 (C10-C16 Hydrocarbons)	mg/kg	<10	10	7854184
F3 (C16-C34 Hydrocarbons)	mg/kg	<50	50	7854184
F4 (C34-C50 Hydrocarbons)	mg/kg	<50	50	7854184
Reached Baseline at C50	mg/kg	Yes		7854184
Volatiles				
Benzene	mg/kg	<0.0050	0.0050	7854221
Toluene	mg/kg	<0.020	0.020	7854221
Ethylbenzene	mg/kg	<0.010	0.010	7854221
Xylenes (Total)	mg/kg	<0.040	0.040	7854221
m & p-Xylene	mg/kg	<0.040	0.040	7854221
o-Xylene	mg/kg	<0.020	0.020	7854221
F1 (C6-C10) - BTEX	mg/kg	<12	12	7854221
(C6-C10)	mg/kg	<12	12	7854221
Surrogate Recovery (%)				
1,4-Difluorobenzene (sur.)	%	100		7854221
4-Bromofluorobenzene (sur.)	%	98		7854221
D10-ETHYLBENZENE (sur.)	%	93		7854221
D4-1,2-Dichloroethane (sur.)	%	99		7854221
O-TERPHENYL (sur.)	%	109		7854184
RDL = Reportable Detection Limit				

Maxxam Job #: B525789
Report Date: 2015/04/07

SENE CONSULTANTS LIMITED
Client Project #: 350600-508
Site Location: CONTWOYTO LAKE
Sampler Initials: PH

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	9.0°C
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Results relate only to the items tested.

Maxxam Job #: B525789
Report Date: 2015/04/07

QUALITY ASSURANCE REPORT

SENE CONSULTANTS LIMITED
Client Project #: 350600-508
Site Location: CONTWOYTO LAKE
Sampler Initials: PH

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits
7854184	O-TERPHENYL (sur.)	2015/04/02	97	50 - 130	109	50 - 130	118	%		
7854221	1,4-Difluorobenzene (sur.)	2015/04/05	101	60 - 140	99	60 - 140	101	%		
7854221	4-Bromofluorobenzene (sur.)	2015/04/05	98	60 - 140	98	60 - 140	99	%		
7854221	D10-ETHYLBENZENE (sur.)	2015/04/05	99	60 - 130	94	60 - 130	93	%		
7854221	D4-1,2-Dichloroethane (sur.)	2015/04/05	97	60 - 140	97	60 - 140	97	%		
7853414	Moisture	2015/04/02					<0.30	%	1.1	20
7854184	F2 (C10-C16 Hydrocarbons)	2015/04/04	100	50 - 130	123	70 - 130	<10	mg/kg	NC	50
7854184	F3 (C16-C34 Hydrocarbons)	2015/04/04	102	50 - 130	121	70 - 130	<50	mg/kg	NC	50
7854184	F4 (C34-C50 Hydrocarbons)	2015/04/04	102	50 - 130	123	70 - 130	<50	mg/kg	NC	50
7854221	(C6-C10)	2015/04/05	105	60 - 140	102	60 - 140	<12	mg/kg	NC	50
7854221	Benzene	2015/04/05	98	60 - 140	93	60 - 140	<0.0050	mg/kg	NC	50
7854221	Ethylbenzene	2015/04/05	96	60 - 140	93	60 - 140	<0.010	mg/kg	NC	50
7854221	F1 (C6-C10) - BTEX	2015/04/05					<12	mg/kg	NC	50
7854221	m & p-Xylene	2015/04/05	94	60 - 140	90	60 - 140	<0.040	mg/kg	NC	50
7854221	o-Xylene	2015/04/05	92	60 - 140	90	60 - 140	<0.020	mg/kg	NC	50
7854221	Toluene	2015/04/05	96	60 - 140	91	60 - 140	<0.020	mg/kg	NC	50
7854221	Xylenes (Total)	2015/04/05					<0.040	mg/kg	NC	50

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

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Maxxam Job #: B525789
Report Date: 2015/04/07

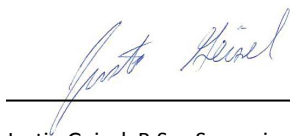
SENES CONSULTANTS LIMITED
Client Project #: 350600-508
Site Location: CONTWOYTO LAKE
Sampler Initials: PH

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



Anna Koksharova, M.Sc., Senior Analyst



Justin Geisel, B.Sc., Supervisor - Organics



Lisa Cummings, Organics Manager

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Your P.O. #: 350600-508
Your Project #: CONTWOYTO LAKE WEATHER STATION
Site Location: CONTWOYTO LAKE, NUNAVUT
Your C.O.C. #: A043890

Corporate Client - Maxxam Edmonton
9331-48 Street NW
Edmonton, AB
CANADA T6B 2R4

Report Date: 2015/08/21
Report #: R2028461
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B569747

Received: 2015/08/14, 09:20

Sample Matrix: Water
Samples Received: 5

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Alkalinity @25C (pp, total), CO ₃ ,HCO ₃ ,OH	5	N/A	2015/08/19	AB SOP-00005	SM 22 2320 B m
BTEX/F1 in Water by HS GC/MS/FID	2	N/A	2015/08/20	AB SOP-00039	CCME CWS/EPA 8260c m
Cadmium - low level CCME - Dissolved	5	N/A	2015/08/21	AB WI-00065	Auto Calc
Cadmium - low level CCME (Total)	5	2015/08/18	2015/08/21	AB WI-00065	Auto Calc
Chloride by Automated Colourimetry	5	N/A	2015/08/20	AB SOP-00020	SM 22 4500-Cl G m
Conductivity @25C	5	N/A	2015/08/19	AB SOP-00005	SM 22 2510 B m
CCME Hydrocarbons (F2-F4 in water)	2	2015/08/20	2015/08/20	AB SOP-00037 / AB SOP-00040	CCME PHC-CWS m
Hardness	5	N/A	2015/08/21	AB WI-00065	Auto Calc
Elements by ICP-Dissolved-Lab Filtered	5	N/A	2015/08/21	AB SOP-00042	EPA 200.7 CFR 2012 m
Elements by ICP - Total	5	2015/08/20	2015/08/21	AB SOP-00014 / AB SOP-00042	EPA 200.7 CFR 2012 m
Elements by ICPMS-Dissolved-Lab Filtered	4	N/A	2015/08/20	AB SOP-00043	EPA 200.8 R5.4 m
Elements by ICPMS-Dissolved-Lab Filtered	1	N/A	2015/08/21	AB SOP-00043	EPA 200.8 R5.4 m
Elements by ICPMS - Total	5	2015/08/20	2015/08/20	AB SOP-00014 / AB SOP-00043	EPA 200.8 R5.4 m
Ion Balance	5	N/A	2015/08/21	AB WI-00065	Auto Calc
Sum of cations, anions	5	N/A	2015/08/21	AB WI-00065	Auto Calc
Nitrate and Nitrite	5	N/A	2015/08/20	AB WI-00065	Auto Calc
Nitrate + Nitrite-N (calculated)	5	N/A	2015/08/20	AB WI-00065	Auto Calc
Nitrogen, (Nitrite, Nitrate) by IC	1	N/A	2015/08/19	AB SOP-00023	SM 22 4110 B m
Nitrogen, (Nitrite, Nitrate) by IC	4	N/A	2015/08/20	AB SOP-00023	SM 22 4110 B m
pH @25°C (Alkalinity titrator)	5	N/A	2015/08/19	AB SOP-00005	SM 22 4500 H+ B m
Sulphate by Automated Colourimetry	5	N/A	2015/08/20	AB SOP-00018	SM 22 4500-SO ₄ E m
Total Dissolved Solids (Calculated)	5	N/A	2015/08/21	AB WI-00065	Auto Calc

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

Your P.O. #: 350600-508
Your Project #: CONTWOYTO LAKE WEATHER STATION
Site Location: CONTWOYTO LAKE, NUNAVUT
Your C.O.C. #: A043890

Corporate Client - Maxxam Edmonton
9331-48 Street NW
Edmonton, AB
CANADA T6B 2R4

Report Date: 2015/08/21
Report #: R2028461
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B569747

Received: 2015/08/14, 09:20

Encryption Key

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

Jeremy Wakaruk, B.Sc., Senior Project Manager

Email: JWakaruk@maxxam.ca

Phone# (780)577-7105 Ext:7105

=====

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Maxxam Job #: B569747
Report Date: 2015/08/21

Corporate Client - Maxxam Edmonton
Client Project #: CONTWOYTO LAKE WEATHER STATION
Site Location: CONTWOYTO LAKE, NUNAVUT
Your P.O. #: 350600-508
Sampler Initials: PH

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		MW6971	MW6972		MW6973	MW6974	MW6975		
Sampling Date		2015/08/13	2015/08/13		2015/08/13	2015/08/13	2015/08/13		
COC Number		A043890	A043890		A043890	A043890	A043890		
	UNITS	CL-1-SW	CL-6-SW	QC Batch	CL-8-SW	CL-9-SW	DUP	RDL	QC Batch
Calculated Parameters									
Anion Sum	meq/L	0.16	0.10	8007023	0.082	0.045	0.082	N/A	8007276
Cation Sum	meq/L	0.22	0.087	8007023	0.084	0.10	0.11	N/A	8007276
Hardness (CaCO ₃)	mg/L	8.8	3.8	8007019	3.8	3.6	4.0	0.50	8007274
Ion Balance	N/A	NC	NC	8007021	NC	NC	NC	0.010	8007275
Dissolved Nitrate (NO ₃)	mg/L	<0.044	<0.044	8007027	<0.044	0.069	<0.044	0.044	8007277
Nitrate plus Nitrite (N)	mg/L	<0.020	<0.020	8007029	<0.020	<0.020	<0.020	0.020	8007278
Dissolved Nitrite (NO ₂)	mg/L	<0.033	<0.033	8007027	<0.033	<0.033	<0.033	0.033	8007277
Total Dissolved Solids	mg/L	<10	<10	8007032	<10	<10	<10	10	8007280
Misc. Inorganics									
Conductivity	uS/cm	23	15	8007868	13	12	13	1.0	8007868
pH	pH	6.81	6.37	8007845	6.41	6.38	6.40	N/A	8007845
Low Level Elements									
Dissolved Cadmium (Cd)	ug/L	<0.020	<0.020	8005616	<0.020	<0.020	<0.020	0.020	8005616
Total Cadmium (Cd)	ug/L	<0.020	<0.020	8006781	<0.020	<0.020	<0.020	0.020	8006781
Anions									
Alkalinity (PP as CaCO ₃)	mg/L	<0.50	<0.50	8007867	<0.50	<0.50	<0.50	0.50	8007867
Alkalinity (Total as CaCO ₃)	mg/L	6.4	3.0	8007867	2.1	2.2	2.1	0.50	8007867
Bicarbonate (HCO ₃)	mg/L	7.8	3.7	8007867	2.6	2.7	2.6	0.50	8007867
Carbonate (CO ₃)	mg/L	<0.50	<0.50	8007867	<0.50	<0.50	<0.50	0.50	8007867
Hydroxide (OH)	mg/L	<0.50	<0.50	8007867	<0.50	<0.50	<0.50	0.50	8007867
Dissolved Sulphate (SO ₄)	mg/L	1.7	2.0	8008145	1.9	<1.0	1.9	1.0	8008145
Dissolved Chloride (Cl)	mg/L	<1.0	<1.0	8008144	<1.0	<1.0	<1.0	1.0	8008144
Nutrients									
Dissolved Nitrite (N)	mg/L	<0.010	<0.010	8007680	<0.010	<0.010	<0.010	0.010	8007680
Dissolved Nitrate (N)	mg/L	<0.010	<0.010	8007680	<0.010	0.016	<0.010	0.010	8007680
RDL = Reportable Detection Limit									
N/A = Not Applicable									

Maxxam Job #: B569747
Report Date: 2015/08/21

Corporate Client - Maxxam Edmonton
Client Project #: CONTWOYTO LAKE WEATHER STATION
Site Location: CONTWOYTO LAKE, NUNAVUT
Your P.O. #: 350600-508
Sampler Initials: PH

PETROLEUM HYDROCARBONS (CCME)

Maxxam ID		MW6972	MW6974		
Sampling Date		2015/08/13	2015/08/13		
COC Number		A043890	A043890		
	UNITS	CL-6-SW	CL-9-SW	RDL	QC Batch
Ext. Pet. Hydrocarbon					
F2 (C10-C16 Hydrocarbons)	mg/L	<0.10	<0.10	0.10	8008597
F3 (C16-C34 Hydrocarbons)	mg/L	<0.20	<0.20	0.20	8008597
F4 (C34-C50 Hydrocarbons)	mg/L	<0.20	<0.20	0.20	8008597
Reached Baseline at C50	mg/L	Yes	Yes	N/A	8008597
Surrogate Recovery (%)					
O-TERPHENYL (sur.)	%	99	110	N/A	8008597
RDL = Reportable Detection Limit					
N/A = Not Applicable					

Maxxam Job #: B569747
Report Date: 2015/08/21

Corporate Client - Maxxam Edmonton
Client Project #: CONTWOYT LAKE WEATHER STATION
Site Location: CONTWOYT LAKE, NUNAVUT
Your P.O. #: 350600-508
Sampler Initials: PH

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		MW6971	MW6972	MW6973	MW6974	MW6975		
Sampling Date		2015/08/13	2015/08/13	2015/08/13	2015/08/13	2015/08/13		
COC Number		A043890	A043890	A043890	A043890	A043890		
	UNITS	CL-1-SW	CL-6-SW	CL-8-SW	CL-9-SW	DUP	RDL	QC Batch
Elements								
Total Aluminum (Al)	mg/L	0.018	0.074	0.012	0.019	0.013	0.0030	8009192
Total Antimony (Sb)	mg/L	<0.00060	<0.00060	<0.00060	<0.00060	<0.00060	0.00060	8009192
Total Arsenic (As)	mg/L	0.0017	0.00032	0.00031	0.00090	0.00020	0.00020	8009192
Total Barium (Ba)	mg/L	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	8009200
Total Beryllium (Be)	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0010	8009192
Total Boron (B)	mg/L	<0.020	<0.020	<0.020	<0.020	<0.020	0.020	8009200
Total Calcium (Ca)	mg/L	2.1	0.96	0.92	0.71	0.91	0.30	8009200
Total Chromium (Cr)	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0010	8009192
Total Cobalt (Co)	mg/L	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	0.00030	8009192
Total Copper (Cu)	mg/L	0.0010	0.00093	0.0011	0.010	0.0012	0.00020	8009192
Total Iron (Fe)	mg/L	0.79	0.12	<0.060	0.13	<0.060	0.060	8009200
Total Lead (Pb)	mg/L	0.00024	<0.00020	<0.00020	0.00048	<0.00020	0.00020	8009192
Total Lithium (Li)	mg/L	<0.020	<0.020	<0.020	<0.020	<0.020	0.020	8009200
Total Magnesium (Mg)	mg/L	1.0	0.46	0.45	0.51	0.45	0.20	8009200
Total Manganese (Mn)	mg/L	0.039	0.013	<0.0040	<0.0040	<0.0040	0.0040	8009200
Total Molybdenum (Mo)	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	0.00020	8009192
Total Nickel (Ni)	mg/L	0.00067	0.0011	0.0011	0.00053	0.00091	0.00050	8009192
Total Phosphorus (P)	mg/L	0.12	<0.10	<0.10	<0.10	<0.10	0.10	8009200
Total Potassium (K)	mg/L	0.74	0.43	0.42	0.38	0.38	0.30	8009200
Total Selenium (Se)	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	0.00020	8009192
Total Silicon (Si)	mg/L	0.65	0.20	<0.10	0.34	<0.10	0.10	8009200
Total Silver (Ag)	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	0.00010	8009192
Total Sodium (Na)	mg/L	0.57	0.54	0.56	0.58	0.56	0.50	8009200
Total Strontium (Sr)	mg/L	<0.020	<0.020	<0.020	<0.020	<0.020	0.020	8009200
Total Sulphur (S)	mg/L	0.90	0.70	0.72	0.49	0.69	0.20	8009200
Total Thallium (Tl)	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	0.00020	8009192
Total Tin (Sn)	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0010	8009192
Total Titanium (Ti)	mg/L	<0.0010	0.0025	<0.0010	<0.0010	<0.0010	0.0010	8009192
Total Uranium (U)	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	0.00010	8009192
Total Vanadium (V)	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0010	8009192
Total Zinc (Zn)	mg/L	0.0079	<0.0030	<0.0030	0.0052	<0.0030	0.0030	8009192
Lab Filtered Elements								
Dissolved Aluminum (Al)	mg/L	0.0048	0.0070	0.0058	0.0051	0.0042	0.0030	8009425
Dissolved Antimony (Sb)	mg/L	<0.00060	<0.00060	<0.00060	<0.00060	<0.00060	0.00060	8009425
RDL = Reportable Detection Limit								

Maxxam Job #: B569747
Report Date: 2015/08/21

Corporate Client - Maxxam Edmonton
Client Project #: CONTWOYTO LAKE WEATHER STATION
Site Location: CONTWOYTO LAKE, NUNAVUT
Your P.O. #: 350600-508
Sampler Initials: PH

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		MW6971	MW6972	MW6973	MW6974	MW6975		
Sampling Date		2015/08/13	2015/08/13	2015/08/13	2015/08/13	2015/08/13		
COC Number		A043890	A043890	A043890	A043890	A043890		
	UNITS	CL-1-SW	CL-6-SW	CL-8-SW	CL-9-SW	DUP	RDL	QC Batch
Dissolved Arsenic (As)	mg/L	0.0011	<0.00020	0.00023	0.00064	0.00022 (1)	0.00020	8009425
Dissolved Barium (Ba)	mg/L	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	8010354
Dissolved Beryllium (Be)	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0010	8009425
Dissolved Boron (B)	mg/L	<0.020	<0.020	<0.020	<0.020	<0.020	0.020	8010354
Dissolved Calcium (Ca)	mg/L	1.9	0.84	0.82	0.64	0.88	0.30	8010354
Dissolved Chromium (Cr)	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0010	8009425
Dissolved Cobalt (Co)	mg/L	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	0.00030	8009425
Dissolved Copper (Cu)	mg/L	0.00080	0.00033	0.00067	0.0013	0.00077	0.00020	8009425
Dissolved Iron (Fe)	mg/L	0.15	<0.060	<0.060	<0.060	<0.060	0.060	8010354
Dissolved Lead (Pb)	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	0.00020	8009425
Dissolved Lithium (Li)	mg/L	<0.020	<0.020	<0.020	<0.020	<0.020	0.020	8010354
Dissolved Magnesium (Mg)	mg/L	0.97	0.42	0.42	0.48	0.43	0.20	8010354
Dissolved Manganese (Mn)	mg/L	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	0.0040	8010354
Dissolved Molybdenum (Mo)	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	0.00020	8009425
Dissolved Nickel (Ni)	mg/L	0.00060	<0.00050	0.00082	<0.00050	0.00084	0.00050	8009425
Dissolved Phosphorus (P)	mg/L	<0.10	<0.10	<0.10	<0.10	<0.10	0.10	8010354
Dissolved Potassium (K)	mg/L	0.69	0.41	0.34	0.38	0.38	0.30	8010354
Dissolved Selenium (Se)	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	0.00020	8009425
Dissolved Silicon (Si)	mg/L	0.61	<0.10	<0.10	0.32	<0.10	0.10	8010354
Dissolved Silver (Ag)	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	0.00010	8009425
Dissolved Sodium (Na)	mg/L	0.53	<0.50	<0.50	0.51	0.58 (1)	0.50	8010354
Dissolved Strontium (Sr)	mg/L	<0.020	<0.020	<0.020	<0.020	<0.020	0.020	8010354
Dissolved Sulphur (S)	mg/L	0.86	0.71 (1)	0.75 (1)	0.55 (1)	0.72 (1)	0.20	8010354
Dissolved Thallium (Tl)	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	0.00020	8009425
Dissolved Tin (Sn)	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0010	8009425
Dissolved Titanium (Ti)	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0010	8009425
Dissolved Uranium (U)	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	0.00010	8009425
Dissolved Vanadium (V)	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0010	8009425
Dissolved Zinc (Zn)	mg/L	0.0053	<0.0030	<0.0030	<0.0030	<0.0030	0.0030	8009425

RDL = Reportable Detection Limit

(1) Dissolved greater than total. Results are within limits of uncertainty(MU).

Maxxam Job #: B569747
Report Date: 2015/08/21

Corporate Client - Maxxam Edmonton
Client Project #: CONTWOYTO LAKE WEATHER STATION
Site Location: CONTWOYTO LAKE, NUNAVUT
Your P.O. #: 350600-508
Sampler Initials: PH

VOLATILE ORGANICS BY GC-MS (WATER)

Maxxam ID		MW6972	MW6974		
Sampling Date		2015/08/13	2015/08/13		
COC Number		A043890	A043890		
	UNITS	CL-6-SW	CL-9-SW	RDL	QC Batch
Volatiles					
Benzene	ug/L	<0.40	<0.40	0.40	8008537
Toluene	ug/L	<0.40	<0.40	0.40	8008537
Ethylbenzene	ug/L	<0.40	<0.40	0.40	8008537
m & p-Xylene	ug/L	<0.80	<0.80	0.80	8008537
o-Xylene	ug/L	<0.40	<0.40	0.40	8008537
Xylenes (Total)	ug/L	<0.80	<0.80	0.80	8008537
F1 (C6-C10) - BTEX	ug/L	<100	<100	100	8008537
F1 (C6-C10)	ug/L	<100	<100	100	8008537
Surrogate Recovery (%)					
1,4-Difluorobenzene (sur.)	%	97	105	N/A	8008537
4-Bromofluorobenzene (sur.)	%	92	97	N/A	8008537
D4-1,2-Dichloroethane (sur.)	%	94	100	N/A	8008537
RDL = Reportable Detection Limit N/A = Not Applicable					

Maxxam Job #: B569747
Report Date: 2015/08/21

Corporate Client - Maxxam Edmonton
Client Project #: CONTWOYTO LAKE WEATHER STATION
Site Location: CONTWOYTO LAKE, NUNAVUT
Your P.O. #: 350600-508
Sampler Initials: PH

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	4.7°C
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Results relate only to the items tested.

Maxxam Job #: B569747
Report Date: 2015/08/21

Corporate Client - Maxxam Edmonton
Client Project #: CONTWOYTO LAKE WEATHER STATION
Site Location: CONTWOYTO LAKE, NUNAVUT
Your P.O. #: 350600-508
Sampler Initials: PH

QUALITY ASSURANCE REPORT

QA/QC	Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
8007680	LMD	Matrix Spike		Dissolved Nitrite (N)	2015/08/19		100	%	80 - 120
				Dissolved Nitrate (N)	2015/08/19		102	%	80 - 120
8007680	LMD	Spiked Blank		Dissolved Nitrite (N)	2015/08/19		99	%	80 - 120
				Dissolved Nitrate (N)	2015/08/19		99	%	80 - 120
8007680	LMD	Method Blank		Dissolved Nitrite (N)	2015/08/19	<0.010		mg/L	
				Dissolved Nitrate (N)	2015/08/19	<0.010		mg/L	
8007680	LMD	RPD		Dissolved Nitrite (N)	2015/08/19	NC		%	20
				Dissolved Nitrate (N)	2015/08/19	NC		%	20
8007845	MA4	Spiked Blank		pH	2015/08/19		100	%	97 - 103
8007845	MA4	RPD		pH	2015/08/19	2.0		%	N/A
8007867	MA4	Spiked Blank		Alkalinity (Total as CaCO3)	2015/08/19		101	%	80 - 120
8007867	MA4	Method Blank		Alkalinity (PP as CaCO3)	2015/08/19	<0.50		mg/L	
				Alkalinity (Total as CaCO3)	2015/08/19	<0.50		mg/L	
				Bicarbonate (HCO3)	2015/08/19	<0.50		mg/L	
				Carbonate (CO3)	2015/08/19	<0.50		mg/L	
				Hydroxide (OH)	2015/08/19	<0.50		mg/L	
				Alkalinity (PP as CaCO3)	2015/08/19	NC		%	20
8007867	MA4	RPD		Alkalinity (Total as CaCO3)	2015/08/19	NC		%	20
				Bicarbonate (HCO3)	2015/08/19	NC		%	20
				Carbonate (CO3)	2015/08/19	NC		%	20
				Hydroxide (OH)	2015/08/19	NC		%	20
				Conductivity	2015/08/19		100	%	90 - 110
				Conductivity	2015/08/19	<1.0		uS/cm	
8007868	MA4	Spiked Blank		Conductivity	2015/08/19	NC		%	20
8008144	KD5	Matrix Spike		Dissolved Chloride (Cl)	2015/08/20		102	%	80 - 120
8008144	KD5	Spiked Blank		Dissolved Chloride (Cl)	2015/08/20		105	%	80 - 120
8008144	KD5	Method Blank		Dissolved Chloride (Cl)	2015/08/20	<1.0		mg/L	
8008144	KD5	RPD		Dissolved Chloride (Cl)	2015/08/20	NC		%	20
8008145	KD5	Matrix Spike		Dissolved Sulphate (SO4)	2015/08/20		105	%	80 - 120
8008145	KD5	Spiked Blank		Dissolved Sulphate (SO4)	2015/08/20		98	%	80 - 120
8008145	KD5	Method Blank		Dissolved Sulphate (SO4)	2015/08/20	<1.0		mg/L	
8008145	KD5	RPD		Dissolved Sulphate (SO4)	2015/08/20	NC		%	20
8008537	NM5	Matrix Spike		1,4-Difluorobenzene (sur.)	2015/08/21		106	%	70 - 130
				4-Bromofluorobenzene (sur.)	2015/08/21		101	%	70 - 130
				D4-1,2-Dichloroethane (sur.)	2015/08/21		101	%	70 - 130
				Benzene	2015/08/21		100	%	70 - 130
				Toluene	2015/08/21		96	%	70 - 130
				Ethylbenzene	2015/08/21		94	%	70 - 130
				m & p-Xylene	2015/08/21		93	%	70 - 130
				o-Xylene	2015/08/21		92	%	70 - 130
				F1 (C6-C10)	2015/08/21		70	%	70 - 130
				1,4-Difluorobenzene (sur.)	2015/08/20		97	%	70 - 130
8008537	NM5	Spiked Blank		4-Bromofluorobenzene (sur.)	2015/08/20		97	%	70 - 130
				D4-1,2-Dichloroethane (sur.)	2015/08/20		90	%	70 - 130
				Benzene	2015/08/20		96	%	70 - 130
				Toluene	2015/08/20		97	%	70 - 130
				Ethylbenzene	2015/08/20		101	%	70 - 130
				m & p-Xylene	2015/08/20		101	%	70 - 130
				o-Xylene	2015/08/20		98	%	70 - 130
				F1 (C6-C10)	2015/08/20		85	%	70 - 130
				1,4-Difluorobenzene (sur.)	2015/08/20		95	%	70 - 130
8008537	NM5	Method Blank		1,4-Difluorobenzene (sur.)	2015/08/20		95	%	70 - 130

Maxxam Job #: B569747
Report Date: 2015/08/21

Corporate Client - Maxxam Edmonton
Client Project #: CONTWOYTO LAKE WEATHER STATION
Site Location: CONTWOYTO LAKE, NUNAVUT
Your P.O. #: 350600-508
Sampler Initials: PH

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC	Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
				4-Bromofluorobenzene (sur.)	2015/08/20		98	%	70 - 130
				D4-1,2-Dichloroethane (sur.)	2015/08/20		95	%	70 - 130
				Benzene	2015/08/20	<0.40		ug/L	
				Toluene	2015/08/20	<0.40		ug/L	
				Ethylbenzene	2015/08/20	<0.40		ug/L	
				m & p-Xylene	2015/08/20	<0.80		ug/L	
				o-Xylene	2015/08/20	<0.40		ug/L	
				Xylenes (Total)	2015/08/20	<0.80		ug/L	
				F1 (C6-C10) - BTEX	2015/08/20	<100		ug/L	
				F1 (C6-C10)	2015/08/20	<100		ug/L	
8008537	NM5	RPD		Benzene	2015/08/20	1.2		%	40
				Toluene	2015/08/20	NC		%	40
				Ethylbenzene	2015/08/20	3.6		%	40
				m & p-Xylene	2015/08/20	5.0		%	40
				o-Xylene	2015/08/20	NC		%	40
				Xylenes (Total)	2015/08/20	4.5		%	40
				F1 (C6-C10) - BTEX	2015/08/20	NC		%	40
				F1 (C6-C10)	2015/08/20	NC		%	40
8008597	JR1	Matrix Spike		O-TERPHENYL (sur.)	2015/08/20		103	%	50 - 130
				F2 (C10-C16 Hydrocarbons)	2015/08/20		102	%	50 - 130
				F3 (C16-C34 Hydrocarbons)	2015/08/20		103	%	50 - 130
				F4 (C34-C50 Hydrocarbons)	2015/08/20		100	%	50 - 130
8008597	JR1	Spiked Blank		O-TERPHENYL (sur.)	2015/08/20		108	%	50 - 130
				F2 (C10-C16 Hydrocarbons)	2015/08/20		106	%	70 - 130
				F3 (C16-C34 Hydrocarbons)	2015/08/20		108	%	70 - 130
				F4 (C34-C50 Hydrocarbons)	2015/08/20		103	%	70 - 130
8008597	JR1	Method Blank		O-TERPHENYL (sur.)	2015/08/20		102	%	50 - 130
				F2 (C10-C16 Hydrocarbons)	2015/08/20	<0.10		mg/L	
				F3 (C16-C34 Hydrocarbons)	2015/08/20	<0.20		mg/L	
				F4 (C34-C50 Hydrocarbons)	2015/08/20	<0.20		mg/L	
8008597	JR1	RPD		F2 (C10-C16 Hydrocarbons)	2015/08/20	NC		%	40
				F3 (C16-C34 Hydrocarbons)	2015/08/20	NC		%	40
				F4 (C34-C50 Hydrocarbons)	2015/08/20	NC		%	40
8009192	APY	Matrix Spike		Total Aluminum (Al)	2015/08/20		102	%	80 - 120
				Total Antimony (Sb)	2015/08/20		114	%	80 - 120
				Total Arsenic (As)	2015/08/20		115	%	80 - 120
				Total Beryllium (Be)	2015/08/20		106	%	80 - 120
				Total Chromium (Cr)	2015/08/20		115	%	80 - 120
				Total Cobalt (Co)	2015/08/20		112	%	80 - 120
				Total Copper (Cu)	2015/08/20		114	%	80 - 120
				Total Lead (Pb)	2015/08/20		111	%	80 - 120
				Total Molybdenum (Mo)	2015/08/20		113	%	80 - 120
				Total Nickel (Ni)	2015/08/20		113	%	80 - 120
				Total Selenium (Se)	2015/08/20		108	%	80 - 120
				Total Silver (Ag)	2015/08/20		108	%	80 - 120
				Total Thallium (Tl)	2015/08/20		110	%	80 - 120
				Total Tin (Sn)	2015/08/20		112	%	80 - 120
				Total Titanium (Ti)	2015/08/20		120	%	80 - 120
				Total Uranium (U)	2015/08/20		112	%	80 - 120
				Total Vanadium (V)	2015/08/20		120	%	80 - 120
				Total Zinc (Zn)	2015/08/20		114	%	80 - 120

Maxxam Job #: B569747
Report Date: 2015/08/21

Corporate Client - Maxxam Edmonton
Client Project #: CONTWOYTO LAKE WEATHER STATION
Site Location: CONTWOYTO LAKE, NUNAVUT
Your P.O. #: 350600-508
Sampler Initials: PH

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC	Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
8009192	APY	Spiked Blank		Total Aluminum (Al)	2015/08/20		105	%	80 - 120
				Total Antimony (Sb)	2015/08/20		109	%	80 - 120
				Total Arsenic (As)	2015/08/20		110	%	80 - 120
				Total Beryllium (Be)	2015/08/20		102	%	80 - 120
				Total Chromium (Cr)	2015/08/20		114	%	80 - 120
				Total Cobalt (Co)	2015/08/20		110	%	80 - 120
				Total Copper (Cu)	2015/08/20		111	%	80 - 120
				Total Lead (Pb)	2015/08/20		109	%	80 - 120
				Total Molybdenum (Mo)	2015/08/20		112	%	80 - 120
				Total Nickel (Ni)	2015/08/20		111	%	80 - 120
				Total Selenium (Se)	2015/08/20		102	%	80 - 120
				Total Silver (Ag)	2015/08/20		107	%	80 - 120
				Total Thallium (Tl)	2015/08/20		107	%	80 - 120
				Total Tin (Sn)	2015/08/20		110	%	80 - 120
				Total Titanium (Ti)	2015/08/20		113	%	80 - 120
				Total Uranium (U)	2015/08/20		112	%	80 - 120
				Total Vanadium (V)	2015/08/20		114	%	80 - 120
				Total Zinc (Zn)	2015/08/20		110	%	80 - 120
8009192	APY	Method Blank		Total Aluminum (Al)	2015/08/20	<0.0030		mg/L	
				Total Antimony (Sb)	2015/08/20	<0.00060		mg/L	
				Total Arsenic (As)	2015/08/20	<0.00020		mg/L	
				Total Beryllium (Be)	2015/08/20	<0.0010		mg/L	
				Total Chromium (Cr)	2015/08/20	<0.0010		mg/L	
				Total Cobalt (Co)	2015/08/20	<0.00030		mg/L	
				Total Copper (Cu)	2015/08/20	<0.00020		mg/L	
				Total Lead (Pb)	2015/08/20	<0.00020		mg/L	
				Total Molybdenum (Mo)	2015/08/20	<0.00020		mg/L	
				Total Nickel (Ni)	2015/08/20	<0.00050		mg/L	
				Total Selenium (Se)	2015/08/20	<0.00020		mg/L	
				Total Silver (Ag)	2015/08/20	<0.00010		mg/L	
				Total Thallium (Tl)	2015/08/20	<0.00020		mg/L	
				Total Tin (Sn)	2015/08/20	<0.0010		mg/L	
				Total Titanium (Ti)	2015/08/20	<0.0010		mg/L	
				Total Uranium (U)	2015/08/20	<0.00010		mg/L	
				Total Vanadium (V)	2015/08/20	<0.0010		mg/L	
				Total Zinc (Zn)	2015/08/20	<0.0030		mg/L	
8009192	APY	RPD		Total Aluminum (Al)	2015/08/20	NC		%	20
				Total Antimony (Sb)	2015/08/20	NC		%	20
				Total Arsenic (As)	2015/08/20	NC		%	20
				Total Beryllium (Be)	2015/08/20	NC		%	20
				Total Chromium (Cr)	2015/08/20	NC		%	20
				Total Cobalt (Co)	2015/08/20	NC		%	20
				Total Copper (Cu)	2015/08/20	NC		%	20
				Total Lead (Pb)	2015/08/20	NC		%	20
				Total Molybdenum (Mo)	2015/08/20	NC		%	20
				Total Nickel (Ni)	2015/08/20	NC		%	20
				Total Selenium (Se)	2015/08/20	NC		%	20
				Total Silver (Ag)	2015/08/20	NC		%	20
				Total Thallium (Tl)	2015/08/20	NC		%	20
				Total Tin (Sn)	2015/08/20	NC		%	20
				Total Titanium (Ti)	2015/08/20	NC		%	20

Maxxam Job #: B569747
Report Date: 2015/08/21

Corporate Client - Maxxam Edmonton
Client Project #: CONTWOYTO LAKE WEATHER STATION
Site Location: CONTWOYTO LAKE, NUNAVUT
Your P.O. #: 350600-508
Sampler Initials: PH

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC	Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
8009200	JPJ	Matrix Spike	Total Uranium (U)	2015/08/20	NC			%	20
			Total Vanadium (V)	2015/08/20	NC			%	20
			Total Zinc (Zn)	2015/08/20	NC			%	20
			Total Barium (Ba)	2015/08/21			105	%	80 - 120
			Total Boron (B)	2015/08/21			112	%	80 - 120
			Total Calcium (Ca)	2015/08/21			NC	%	80 - 120
			Total Iron (Fe)	2015/08/21			99	%	80 - 120
			Total Lithium (Li)	2015/08/21			97	%	80 - 120
			Total Magnesium (Mg)	2015/08/21			103	%	80 - 120
			Total Manganese (Mn)	2015/08/21			101	%	80 - 120
			Total Phosphorus (P)	2015/08/21			97	%	80 - 120
			Total Potassium (K)	2015/08/21			102	%	80 - 120
			Total Silicon (Si)	2015/08/21			100	%	80 - 120
			Total Sodium (Na)	2015/08/21			103	%	80 - 120
			Total Strontium (Sr)	2015/08/21			98	%	80 - 120
8009200	JPJ	Spiked Blank	Total Barium (Ba)	2015/08/21			101	%	80 - 120
			Total Boron (B)	2015/08/21			110	%	80 - 120
			Total Calcium (Ca)	2015/08/21			101	%	80 - 120
			Total Iron (Fe)	2015/08/21			98	%	80 - 120
			Total Lithium (Li)	2015/08/21			96	%	80 - 120
			Total Magnesium (Mg)	2015/08/21			102	%	80 - 120
			Total Manganese (Mn)	2015/08/21			101	%	80 - 120
			Total Phosphorus (P)	2015/08/21			98	%	80 - 120
			Total Potassium (K)	2015/08/21			101	%	80 - 120
			Total Silicon (Si)	2015/08/21			101	%	80 - 120
			Total Sodium (Na)	2015/08/21			101	%	80 - 120
			Total Strontium (Sr)	2015/08/21			98	%	80 - 120
			Total Sulphur (S)	2015/08/21			100	%	80 - 120
8009200	JPJ	Method Blank	Total Barium (Ba)	2015/08/21	<0.010			mg/L	
			Total Boron (B)	2015/08/21	<0.020			mg/L	
			Total Calcium (Ca)	2015/08/21	<0.30			mg/L	
			Total Iron (Fe)	2015/08/21	<0.060			mg/L	
			Total Lithium (Li)	2015/08/21	<0.020			mg/L	
			Total Magnesium (Mg)	2015/08/21	<0.20			mg/L	
			Total Manganese (Mn)	2015/08/21	<0.0040			mg/L	
			Total Phosphorus (P)	2015/08/21	<0.10			mg/L	
			Total Potassium (K)	2015/08/21	<0.30			mg/L	
			Total Silicon (Si)	2015/08/21	<0.10			mg/L	
			Total Sodium (Na)	2015/08/21	<0.50			mg/L	
			Total Strontium (Sr)	2015/08/21	<0.020			mg/L	
			Total Sulphur (S)	2015/08/21	<0.20			mg/L	
8009200	JPJ	RPD	Total Barium (Ba)	2015/08/21	NC			%	20
			Total Boron (B)	2015/08/21	NC			%	20
			Total Calcium (Ca)	2015/08/21	0.32			%	20
			Total Iron (Fe)	2015/08/21	NC			%	20
			Total Lithium (Li)	2015/08/21	NC			%	20
			Total Magnesium (Mg)	2015/08/21	0.15			%	20
			Total Manganese (Mn)	2015/08/21	1.0			%	20
			Total Phosphorus (P)	2015/08/21	NC			%	20
			Total Potassium (K)	2015/08/21	NC			%	20
			Total Silicon (Si)	2015/08/21	0.21			%	20

Maxxam Job #: B569747
Report Date: 2015/08/21

Corporate Client - Maxxam Edmonton
Client Project #: CONTWOYTO LAKE WEATHER STATION
Site Location: CONTWOYTO LAKE, NUNAVUT
Your P.O. #: 350600-508
Sampler Initials: PH

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
8009425	APY	Matrix Spike [MW6971-02]	Total Sodium (Na)	2015/08/21	1.9		%	20
			Total Strontium (Sr)	2015/08/21	NC		%	20
			Total Sulphur (S)	2015/08/21	NC		%	20
			Dissolved Aluminum (Al)	2015/08/20		93	%	80 - 120
			Dissolved Antimony (Sb)	2015/08/20		104	%	80 - 120
			Dissolved Arsenic (As)	2015/08/20		101	%	80 - 120
			Dissolved Beryllium (Be)	2015/08/20		93	%	80 - 120
			Dissolved Chromium (Cr)	2015/08/20		100	%	80 - 120
			Dissolved Cobalt (Co)	2015/08/20		100	%	80 - 120
			Dissolved Copper (Cu)	2015/08/20		100	%	80 - 120
			Dissolved Lead (Pb)	2015/08/20		99	%	80 - 120
			Dissolved Molybdenum (Mo)	2015/08/20		102	%	80 - 120
			Dissolved Nickel (Ni)	2015/08/20		101	%	80 - 120
			Dissolved Selenium (Se)	2015/08/20		96	%	80 - 120
			Dissolved Silver (Ag)	2015/08/20		97	%	80 - 120
			Dissolved Thallium (Tl)	2015/08/20		97	%	80 - 120
			Dissolved Tin (Sn)	2015/08/20		102	%	80 - 120
			Dissolved Titanium (Ti)	2015/08/20		105	%	80 - 120
			Dissolved Uranium (U)	2015/08/20		98	%	80 - 120
			Dissolved Vanadium (V)	2015/08/20		103	%	80 - 120
8009425	APY	Spiked Blank	Dissolved Zinc (Zn)	2015/08/20		107	%	80 - 120
			Dissolved Aluminum (Al)	2015/08/20		97	%	80 - 120
			Dissolved Antimony (Sb)	2015/08/20		106	%	80 - 120
			Dissolved Arsenic (As)	2015/08/20		104	%	80 - 120
			Dissolved Beryllium (Be)	2015/08/20		96	%	80 - 120
			Dissolved Chromium (Cr)	2015/08/20		104	%	80 - 120
			Dissolved Cobalt (Co)	2015/08/20		104	%	80 - 120
			Dissolved Copper (Cu)	2015/08/20		104	%	80 - 120
			Dissolved Lead (Pb)	2015/08/20		103	%	80 - 120
			Dissolved Molybdenum (Mo)	2015/08/20		103	%	80 - 120
			Dissolved Nickel (Ni)	2015/08/20		103	%	80 - 120
			Dissolved Selenium (Se)	2015/08/20		100	%	80 - 120
			Dissolved Silver (Ag)	2015/08/20		99	%	80 - 120
			Dissolved Thallium (Tl)	2015/08/20		101	%	80 - 120
			Dissolved Tin (Sn)	2015/08/20		105	%	80 - 120
			Dissolved Titanium (Ti)	2015/08/20		105	%	80 - 120
			Dissolved Uranium (U)	2015/08/20		103	%	80 - 120
			Dissolved Vanadium (V)	2015/08/20		107	%	80 - 120
			Dissolved Zinc (Zn)	2015/08/20		110	%	80 - 120
8009425	APY	Method Blank	Dissolved Aluminum (Al)	2015/08/20	<0.0030		mg/L	
			Dissolved Antimony (Sb)	2015/08/20	<0.00060		mg/L	
			Dissolved Arsenic (As)	2015/08/20	<0.00020		mg/L	
			Dissolved Beryllium (Be)	2015/08/20	<0.0010		mg/L	
			Dissolved Chromium (Cr)	2015/08/20	<0.0010		mg/L	
			Dissolved Cobalt (Co)	2015/08/20	<0.00030		mg/L	
			Dissolved Copper (Cu)	2015/08/20	<0.00020		mg/L	
			Dissolved Lead (Pb)	2015/08/20	<0.00020		mg/L	
			Dissolved Molybdenum (Mo)	2015/08/20	<0.00020		mg/L	
			Dissolved Nickel (Ni)	2015/08/20	<0.00050		mg/L	
			Dissolved Selenium (Se)	2015/08/20	<0.00020		mg/L	

Maxxam Job #: B569747
Report Date: 2015/08/21

Corporate Client - Maxxam Edmonton
Client Project #: CONTWOYTO LAKE WEATHER STATION
Site Location: CONTWOYTO LAKE, NUNAVUT
Your P.O. #: 350600-508
Sampler Initials: PH

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC	Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
8009425	APY	RPD [MW6971-02]		Dissolved Silver (Ag)	2015/08/20	<0.00010		mg/L	
				Dissolved Thallium (Tl)	2015/08/20	<0.00020		mg/L	
				Dissolved Tin (Sn)	2015/08/20	<0.0010		mg/L	
				Dissolved Titanium (Ti)	2015/08/20	<0.0010		mg/L	
				Dissolved Uranium (U)	2015/08/20	<0.00010		mg/L	
				Dissolved Vanadium (V)	2015/08/20	<0.0010		mg/L	
				Dissolved Zinc (Zn)	2015/08/20	<0.0030		mg/L	
				Dissolved Aluminum (Al)	2015/08/20	NC		%	20
				Dissolved Antimony (Sb)	2015/08/20	NC		%	20
				Dissolved Arsenic (As)	2015/08/20	8.1		%	20
				Dissolved Beryllium (Be)	2015/08/20	NC		%	20
				Dissolved Chromium (Cr)	2015/08/20	NC		%	20
				Dissolved Cobalt (Co)	2015/08/20	NC		%	20
				Dissolved Copper (Cu)	2015/08/20	NC		%	20
				Dissolved Lead (Pb)	2015/08/20	NC		%	20
				Dissolved Molybdenum (Mo)	2015/08/20	NC		%	20
				Dissolved Nickel (Ni)	2015/08/20	NC		%	20
				Dissolved Selenium (Se)	2015/08/20	NC		%	20
				Dissolved Silver (Ag)	2015/08/20	NC		%	20
				Dissolved Thallium (Tl)	2015/08/20	NC		%	20
				Dissolved Tin (Sn)	2015/08/20	NC		%	20
				Dissolved Titanium (Ti)	2015/08/20	NC		%	20
				Dissolved Uranium (U)	2015/08/20	NC		%	20
				Dissolved Vanadium (V)	2015/08/20	NC		%	20
8010354	JPJ	Matrix Spike [MW6971-02]		Dissolved Zinc (Zn)	2015/08/20	NC		%	20
				Dissolved Barium (Ba)	2015/08/21		103	%	80 - 120
				Dissolved Boron (B)	2015/08/21		109	%	80 - 120
				Dissolved Calcium (Ca)	2015/08/21		106	%	80 - 120
				Dissolved Iron (Fe)	2015/08/21		108	%	80 - 120
				Dissolved Lithium (Li)	2015/08/21		98	%	80 - 120
				Dissolved Magnesium (Mg)	2015/08/21		107	%	80 - 120
				Dissolved Manganese (Mn)	2015/08/21		102	%	80 - 120
				Dissolved Phosphorus (P)	2015/08/21		109	%	80 - 120
				Dissolved Potassium (K)	2015/08/21		104	%	80 - 120
				Dissolved Silicon (Si)	2015/08/21		104	%	80 - 120
				Dissolved Sodium (Na)	2015/08/21		101	%	80 - 120
				Dissolved Strontium (Sr)	2015/08/21		100	%	80 - 120
8010354	JPJ	Spiked Blank		Dissolved Barium (Ba)	2015/08/21		101	%	80 - 120
				Dissolved Boron (B)	2015/08/21		104	%	80 - 120
				Dissolved Calcium (Ca)	2015/08/21		101	%	80 - 120
				Dissolved Iron (Fe)	2015/08/21		103	%	80 - 120
				Dissolved Lithium (Li)	2015/08/21		93	%	80 - 120
				Dissolved Magnesium (Mg)	2015/08/21		102	%	80 - 120
				Dissolved Manganese (Mn)	2015/08/21		98	%	80 - 120
				Dissolved Phosphorus (P)	2015/08/21		104	%	80 - 120
				Dissolved Potassium (K)	2015/08/21		99	%	80 - 120
				Dissolved Silicon (Si)	2015/08/21		99	%	80 - 120
				Dissolved Sodium (Na)	2015/08/21		97	%	80 - 120
				Dissolved Strontium (Sr)	2015/08/21		96	%	80 - 120
				Dissolved Sulphur (S)	2015/08/21		99	%	80 - 120

Maxxam Job #: B569747
Report Date: 2015/08/21

Corporate Client - Maxxam Edmonton
Client Project #: CONTWOYTO LAKE WEATHER STATION
Site Location: CONTWOYTO LAKE, NUNAVUT
Your P.O. #: 350600-508
Sampler Initials: PH

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
8010354	JPJ	Method Blank	Dissolved Barium (Ba)	2015/08/21	<0.010		mg/L	
			Dissolved Boron (B)	2015/08/21	<0.020		mg/L	
			Dissolved Calcium (Ca)	2015/08/21	<0.30		mg/L	
			Dissolved Iron (Fe)	2015/08/21	<0.060		mg/L	
			Dissolved Lithium (Li)	2015/08/21	<0.020		mg/L	
			Dissolved Magnesium (Mg)	2015/08/21	<0.20		mg/L	
			Dissolved Manganese (Mn)	2015/08/21	<0.0040		mg/L	
			Dissolved Phosphorus (P)	2015/08/21	<0.10		mg/L	
			Dissolved Potassium (K)	2015/08/21	<0.30		mg/L	
			Dissolved Silicon (Si)	2015/08/21	<0.10		mg/L	
			Dissolved Sodium (Na)	2015/08/21	<0.50		mg/L	
			Dissolved Strontium (Sr)	2015/08/21	<0.020		mg/L	
			Dissolved Sulphur (S)	2015/08/21	<0.20		mg/L	
8010354	JPJ	RPD [MW6971-02]	Dissolved Barium (Ba)	2015/08/21	NC		%	20
			Dissolved Boron (B)	2015/08/21	NC		%	20
			Dissolved Calcium (Ca)	2015/08/21	4.0		%	20
			Dissolved Iron (Fe)	2015/08/21	NC		%	20
			Dissolved Lithium (Li)	2015/08/21	NC		%	20
			Dissolved Magnesium (Mg)	2015/08/21	NC		%	20
			Dissolved Manganese (Mn)	2015/08/21	NC		%	20
			Dissolved Phosphorus (P)	2015/08/21	NC		%	20
			Dissolved Potassium (K)	2015/08/21	NC		%	20
			Dissolved Silicon (Si)	2015/08/21	1.2		%	20
			Dissolved Sodium (Na)	2015/08/21	NC		%	20
			Dissolved Strontium (Sr)	2015/08/21	NC		%	20
			Dissolved Sulphur (S)	2015/08/21	NC		%	20

N/A = Not Applicable

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

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.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spiked amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than 2x that of the native sample concentration).

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (one or both samples < 5x RDL).

Maxxam Job #: B569747
Report Date: 2015/08/21

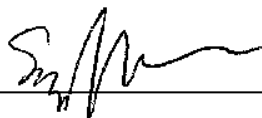
Corporate Client - Maxxam Edmonton
Client Project #: CONTWOYTO LAKE WEATHER STATION
Site Location: CONTWOYTO LAKE, NUNAVUT
Your P.O. #: 350600-508
Sampler Initials: PH

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



Poonam Sharma, Chem. Tech., Senior Analyst, Organics Department



Sandy Yuan, M.Sc., Scientific Specialist

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.

**APPENDIX F (see CD ROM)
CONTRACTOR SUBMITTALS**

**MOBILIZATION/DEMOBILIZATION PLAN 2014
WORKER ORIENTATION PACKAGE
SITE-SPECIFIC HEALTH AND SAFETY PLAN
SEDIMENT AND EROSION CONTROL PLAN
HYDROCARBON TREATMENT PLAN
DEMOBILIZATION PLAN 2015
INCIDENT REPORTS
BILLS OF LADING
DESTRUCTION CERTIFICATES**



Delta Engineering/Carter Industries

Mob/Demob Plan

PROJECT ID: *Contwoyto Lake Weather Station Remediation*

DATE OF SUBMISSION: February 1, 2014

SUBMITTED BY: Robert Johnson, P.Eng.

SUBMITTED TO: Janice Lee (PWGSC)

CC.: Shawn Carter (Carter Industries)

1.0 INTRODUCTION

A site visit was conducted to the Conwtoyto Lake Weather Station on October 19/2013. A secondary site visit was completed on January 10/2014 to confirm ice conditions, inspect equipment at Lupin Mine, inspect the camp at Lupin Mine and confirm the viability of basing operations from Lupin Mine during the winter mobilization, summer operations and winter demobilization.

Delta/Carters have secured a working relationship with Elgin Mining who own the Lupin Mine Site located on the shoreline of Contwoyto Lake approximately 60km North-west of the Weather Station. The agreement will provide Delta/Carter with equipment, fuel, supplies, accommodation, communications and local knowledge that will be utilized with the project. Please accept this submittal outlining the mobilization and demobilization plan for this project.

2.0 REVISION LIST

The following table tracks revisions to the Mob/Demob Plan and ensures that all stakeholders have the most up to date copy. The table must be updated each time a revision is made to the document.

Figure 1 Mob/Demob Plan Revision Table

REVISION NO.	Delta REVIEW	DATE	CROWN REVIEW	DATE	REVISION DISTRIBUTION DATE
1	Bob Johnson	December 5, 2013			
2	Bob Johnson	January 30/2014			



***Delta Engineering Ltd./Carter Industries
Contwoyto Lake Weather Station Remediation
Mob/Demob Plan***

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2.0	Weather Conditions	4
3.0	Demobilization.....	4



1.0 Winter 2014 Mobilization

Site visit conducted on January 10/2014 confirmed that there is minimal snow accumulation in the contwoyto area and average winter temperatures have resulted in adequate ice growth on the lake. The current conditions are acceptable ice thickness and minimal snow cover creating optimum conditions for ice crossing from Lupin Mine to the Contwoyto Weather Station and construction of an ice strip on Contwoyto Lake near the weather station.

The mobilization to Contwoyto Weather Station will commence in early April 2014 with the mobilization of an initial crew to start the 14G grader and 966 Loader at the Lupin Mine. This equipment will be used to construct an ice crossing from Lupin Mine to Contwoyto. Inspection of the equipment completed on January 10/2014 included the mechanic, Sam Sutherland, who was responsible for the equipment and confirmed that the grader and loader are in excellent condition.

Two 550 fan-cooled snow machines have been procured from Elgin Mining and will be used in conjunction with an eagle ice profiler to profile the ice and route from Lupin Mine to the Weather Station. The grader and loader will be used to plow the ice road to gain access to the weather station. It is highly unlikely that flooding will be required on the ice due to low snow fall and cold weather however the profiler will identify concerns and problematic areas will be flooded if required. Two pressure ridges were identified, on the January 10 site visit, between Lupin and the weather station. Lupin mine has 40' temporary bridges available for bridging pressure ridges that may move during the mobilization program.

The Lupin Mine Site has road access into Contwoyto Lake and therefore land use is not a concern to access the ice from the Lupin Mine.

The Grader will be used to plow an ice strip near the contwoyto weather station. Members of the management team with Delta/Carters met with First Air on December 5/2013 and identified an optimum runway orientation and dimension to accommodate the Hercules Aircraft. The runway will be 5500 feet in length and 150 feet wide and be oriented in a NW direction to match the direction of prevailing winds in the month of April in the area. The airstrip will be a minimum ice thickness of 50" which will be profiled and inspected by first air before the Hercules aircraft starts to fly. First Air has confirmed the availability of the aircraft and has guaranteed access to the site until May 1 and further pending weather.

The airlift mobilization will commence once the airstrip has been inspected and approved by first air.



Delta Engineering Ltd./Carter Industries
Contwoyto Lake Weather Station Remediation
Mob/Demob Plan

The following is a list of equipment/supplies that Delta/Carter will be mobilizing to site:

NO	Unit #	EQUIPMENT /supplies	DESCRIPTION	Equipment Weights	Number of Loads
Supplied to Contwoyto Weather Station from Lupin Inventory					
1	HV1	Cat 730 Rock Truck	2007 Caterpillar 730D articulating rock truck	54,000 lbs	Drive to site
2	HV2	Excavator	2009 Komatsu PC 200-7	29,000 lbs	Drive to Site
3	5	Fuel Tanks (5) 25,000 capacity	New tankage from Lupin – King Manufactured	10,000 lbs	Drive to site
4		Fuel	25,000 liters	50,000 lbs	Drive to site
5	L1	Boat with 75hp engine	18' lund with new motor	2300 lbs	Drive to site
6	HV3	Grader	1998 Caterpillar 14 Remains at Lupin over summer	50,000 lbs	Drive to Site
7	HV4	Loader	Caterpillar 966G Loader Remains at Lupin over summer	61,000 lbs	Drive to Site
Supplied to Contwoyto Weather Station from Yellowknife by Air					
8	LV1	Skid Steer	Caterpillar 705 Skid Steer on tracks with blade	2300 lbs	0.25
9	LV 2-4	Quads	Bombardier 1000 quads	2300 lbs	0.25
10		Roll off containers (5)	20 foot covered roll off containers – backhauled during mobilization program	10,000 lbs	2.5
11		Hydrogen Peroxide	Supplied in Totes 30,000 liters	60,000 lbs	1.5
12		MAP	Supplied in Pallets	5,000 lbs	.25
13		Liners	Panels and rolls	10,000 lbs	.25



14		Bono bags 100		1000 lbs	
15		Pallets 100		5,000 lbs	.25
16		Gasoline	4,000 liters in drums	10,000 lbs	.25
17		21 foot deep hull boat	6 passenger Eagle with 225HP outboard	6,000 lbs	.25
18		Water Bladders	10,000 liter bladders	200 lbs	

Lupin Mine has a 6000 foot runway that is in excellent condition, the runway can accommodate all aircraft up to 737 Jet Aircraft. There will be weekly Twin Otter resupply flights in to Lupin. On crew rotation weeks, there will be additional flights if required. Crews will travel from Lupin Mine to Contwoyto Weather Station daily in the boats provided. Site visits will fly directly into the project site from Yellowknife.

2.0 Weather Conditions

The winter weather conditions are very favorable for a winter ice road and ice airstrip mobilization. The site visit completed on January 10/2014 identified vast areas of ice on Contwoyto Lake that proved minimal snow cover maximizing the growth of ice and minimizing the work required to remove snow. The ice proved to be smooth suggesting calm winds during the development of surface ice. Two pressure ridges were located that will require some consideration during the construction of the ice road from Lupin Mine to the weather station.

Summer field work will commence once the ice has left the lake which is expected to be in early July. Field work will continue through the month of July and into early August. Crews will move between Lupin Mine and Contwoyto Weather Station on boats during this time. The months of July and August are the calm season in barren lands when the winds are at a minimum and the lakes are calm.

3.0 Demobilization

Demobilization of debris and equipment will be completed using the Hercules Aircraft landing on an ice strip on Contwoyto Lake near the weather station. The ice strip will be construction in April 2015 in the same manner as outlined above.



***Delta Engineering Ltd./Carter Industries
Contwoyto Lake Weather Station Remediation
Mob/Demob Plan***

Barrels and buildings will be shipped off site during the mobilization program in April 2014. Barrels will be collected and shipped off site on a Hercules aircraft, damaged barrels will be collected in overpacs. The buildings will be demolished and shipped off site on covered roll off containers during the mobilization in April 2014.

Final debris, contaminated soils and construction equipment/supplies will be shipped off site by air in April 2015 using the Hercules Aircraft landing on an ice strip near the weather station.



TETRA TECH EBA

HYDROCARBON IMPACTED SOILS EXCAVATION AND TREATMENT PLAN CONTWOYTO LAKE WEATHER STATION REMEDIATION



PRESENTED TO
Public Works and Government Services Canada

JULY 2014
ISSUED FOR USE
FILE: E14103200-01

Revision List

The following table tracks the process of revisions to the Hydrocarbon Impacted Soils Excavation and Treatment Plan and ensures that all stakeholders have the most up to date copy.

Hydrocarbon Impacted Soils Excavation and Treatment Plan Revisions

REVISION NO.	REVIEW	DATE	REVISION SIGNATURE
1	Bob Johnson	March 6, 2014	
2	Robert Zschuppe	June 29, 2014	
3	Robert Zschuppe	July 4, 2014	

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Appendix A General Conditions

ACRONYMS & ABBREVIATIONS

DCV	Delta Engineering Ltd./Carter Industries Ltd. Joint Venture
DR	Department Representative
MAP	Monoammonium Phosphate
PHC	Petroleum Hydrocarbons
PWGSC	Public Works and Government Services Canada
STF	Soil Treatment Facility
Tetra Tech EBA Inc.	Tetra Tech EBA

LIMITATIONS OF REPORT

This report and its contents are intended for the sole use of Public Works and Government Services Canada and their agents. Tetra Tech EBA Inc. (Tetra Tech EBA) does not accept any responsibility for the accuracy of any of the data, the analysis, or the recommendations contained or referenced in the report when the report is used or relied upon by any Party other than Public Works and Services Canada, or for any Project other than the proposed development at the subject site. Any such unauthorized use of this report is at the sole risk of the user. Use of this report is subject to the terms and conditions stated in Tetra Tech EBA's Services Agreement. Tetra Tech EBA's General Conditions are provided in Appendix A of this report.

1.0 INTRODUCTION

1.1 General

Tetra Tech EBA Inc. (Tetra Tech EBA) was retained by Delta Engineering Ltd./Carter Industries Ltd. Joint Venture (DCV) to complete a Hydrocarbon Impacted Soils Excavation and Treatment Plan for the Contwoyto Lake Weather Station Remediation Project. The station is located approximately 190 km southwest of Bathurst Inlet, Nunavut, on Contwoyto Lake in the Kitikmeot Region (herein after is referred to as the "Property"). This remediation project is for the Public Works and Government Services Canada (PWGSC).

1.2 Background

Three reports have been completed for the Property:

1. Integrated Phase I and Phase II Environmental Site Assessment, WK117-Contwoyto Lake Weather Station, Nunavut-WESA Inc., 2011;
2. Phase III Environmental Site Assessment, Contwoyto Lake Former Weather Station Nunavut. SENES Consultants Project No: 350047-508. March 2013; and
3. Contwoyto Lake Former Weather Station Remedial Action Plan. SENES Consultants. March 2013.

According to the referenced reports, the Property has approximately 1,142 m³ of petroleum hydrocarbon contaminated soil and 46 m³ of metals-impacted soil, based on laboratory analyses completed to the Canadian Council of Ministers of the Environment (CCME) soil quality standards. When laboratory analyses are compared to the Abandoned Military Site Remediation Protocol (AMSRP, 2008), the approximate volumes remain the same for hydrocarbon contamination, but decrease to 36 m³ for metal-contaminated soil.

The Remedial Action Plan (RAP) outlines the proposed strategy to clean up the metals and hydrocarbon contaminated material. For soils impacted by metals, the suggested method is to excavate the 36 m³ of metals-impacted soil and dispose to an appropriately licensed, off-site disposal facility to meet AMSRP (2008) standards. For the hydrocarbon impacted material, the RAP suggested strategy is to treat the 1,142 m³ of impacted material on site to meet AMSRP 2008 standards. The metals-impacted material is co-contaminated with the hydrocarbon impacted material.

1.3 Objectives

The objectives of this Hydrocarbon Impacted Soils Excavation and Treatment Plan:

- Provide support services to DCV for the remedial activities associated to the hydrocarbon impacted material; and
- Review DCV's plan for treatment of the hydrocarbon impacted material.

The metals-impacted material is not addressed in this document, as the metal impacted material will be excavated and disposed of offsite at a licensed off-site disposal facility.

2.0 SCOPE OF WORK

The scope of work for the Hydrocarbon Impacted Soils Excavation and Treatment Plan includes the following:

- DCV will survey the extent of hydrocarbon impacted material to the extents indicated on the drawings in the Phase III ESA;
- DCV will excavate and treat approximately 1,100 m³ of hydrocarbon impacted soils (after the removal of the metals-impacted material) from the locations (AEC 1 Soil Zone 01 to 02; AEC 2 Soil Zone 03 to 10) identified in the Phase III ESA as containing hydrocarbon impacted soils. The hydrocarbon-impacted material will be treated on site through application of fertilizers and mixing in a landfarm treatment area;
- The PWGSC Department Representative will collect confirmatory samples from the walls and floors of the excavations to submit to a certified laboratory for petroleum hydrocarbon analysis and metal analysis for the metals where exceedances were observed in the Phase III ESA;
- Once the laboratory results confirm the soil samples meet the AMSRP (2008), the excavations will be backfilled with clean backfill;
- Confirmatory samples will be collected from the treated hydrocarbon impacted material to meet the AMSRP 2008 standards prior to removal from the landfarm; and
- Once the hydrocarbon material has been treated and meets AMSRP standards, the landfarm will be decommissioned. Soil samples should be collected below the treatment area to confirm there is no contamination residing below the treatment area. .

3.0 SURVEY EXCAVATION AREAS

The areas outlined in the Phase III ESA will be surveyed by DCV to determine the extents of hydrocarbon-impacted material. Once surveyed, these areas will be field-verified by the Department Representative prior to any excavation work.

4.0 EXCAVATION OF PHC CONTAMINATED SOIL

The following outlines DCV's plan for remediation of the hydrocarbon impacted material.

DCV will develop a water management plan for the excavations prior to commencing excavation. The purpose of the water management plan is to protect the environment from contaminants that will be exposed during the excavation process. The water management plan will address the specific water concerns associated with each excavation, as some excavations are located closer to water bodies than others.. The water management plan should cover how DCV will deal with surface runoff, groundwater infiltration, and local water bodies. To aid in the development of this water management plan, DCV should complete a detailed topographic survey to determine potential pathways for water movement on the surface.

DCV understands that some areas located on the Property may have high water flow during freshet; therefore, these areas should be left until after the high-water runoff. The purpose of this is to reduce the potential pathway of contaminants to the environment. Prior to commencing with the excavations, DCV will determine which areas are influenced by the high-water runoff and which areas are not. The areas that are influenced by the high water runoff will be excavated during July and August as they are considered to be dry months at the Property.

The plan will be submitted to the Department Representative for review and comments before the excavation commences. The water management plan should include:

Plan for controlling surface runoff entering the excavation

DCV will pay special attention to the potential of surface runoff. DCV will plan each work area so as to remove surface runoff from entering the excavated area. DCV will attempt to minimize disturbance by completing this work during the dry months. The surface runoff may be controlled using surface ditches, earth dams, and pumping stations. The actual use of the materials will be specific to each excavation and their use will be outlined in the water management plan for excavations which will be developed prior to the excavation being commenced.

Plan for excavating near Water Bodies or drainage paths

When excavating in the vicinity of water bodies or drainage paths, silt fences, silt curtains, or containment berms will be installed to prevent sediment and/or contaminated soil migration into the water; this requirement will be outlined in a water management plan.

Plan for removal of surface and groundwater from the excavation.

DCV will supply liners and flexible bladders for emergency dewatering of excavations so water can be contained for treatment and discharge.

Degradation of Permafrost.

Any time the ground is disturbed over permafrost, especially when this changes surface or ground water characteristics, there is significant potential for permafrost degradation. In order to control permafrost degradation, the ground and surface water must be properly managed. DCV has over 20 years of experience in cold regions and will develop the water management plan to reduce impacts to permafrost.

Precipitation Mitigation.

DCV will outline steps to follow when precipitation is encountered that may impact the excavation. DCV will not excavate during rain.

Plan for controlling sediments created by the excavation.

DCV will use a water management plan to ensure the protection of local water bodies. DCV will install silt curtains, silt fences, and/or hydrocarbon booms to ensure that the excavations will not impact the local water bodies or streams when excavations pose a risk to water bodies.

Surface Debris and Buildings

DCV will ensure that all surface debris and buildings have been collected and demolished in the area before any excavation commences.

Transportation of Contaminated Soil

It is understood that areas adjacent to the excavations are currently bare. These areas will be utilized as loading sites for the trucks to transport hydrocarbon-impacted material to the land treatment facility. After the excavation of the material is complete, a surficial scraping of this area should be completed with the material hauled to the landfarm for treatment as a precaution if any hydrocarbon impacted material dropped on the ground during loading of the material.

5.0 EXCAVATION OF PETROLEUM HYDROCARBON (PHC) IMPACTED MATERIAL

The following outlines the general procedures DCV will use for removal of the hydrocarbon impacted material:

- Eliminate any surface debris at the excavation site and set aside for collection as surface debris.
- Survey excavation site and field verify by the Department Representative.
- Install water and erosion control system, based on the Water Management Plan.
- Once approved to commence excavations by the Department Representative, begin excavation work. If excavation depths are greater than 1.0 m, sides will be sloped at 2:1 and stairs will be added.
- If saturated soil is encountered during the excavations, determine if the area will drain naturally prior to removal.
- Transport excavated material to the treatment facility.
- Once excavations have reached the depths and extents shown on drawings, DCV will notify the Department Representative.
- DCV may construct and use a screening/grizzly system to remove oversize boulders at the treatment facility.
- The Department Representative should determine if more material is required to be removed using visual and olfactory observations, as well as a PetroFLAG Kit and a photoionization detector (PID). If the Department Representative determines more material may need to be removed, soil samples should be taken.
- Confirmatory soil samples should be collected from the walls and the base of the excavations. If the excavation is greater than 1.5 m deep, then the walls should have samples collected at depths <1.5 m and samples >1.5 m below ground surface.
- Confirmatory samples should be submitted to a certified lab for analyses.
- Once the excavations have been confirmed clean by the laboratory analyses, the excavations can be backfilled. If any confirmatory samples do not meet the AMSRP (2008) standards, further excavation will be necessary;
- Only clean backfill that has been tested by a certified lab will be used to backfill the excavations.
- The site will be re-graded to the natural topography.
- If water accumulates in the excavations, it will need to be analyzed for PHC prior to backfilling. One suggestion, if approved by the Nunavut Water Board, is to use this potentially-impacted PHC water and mix it with the fertilizer used to treat the PHC impacted soil at the land treatment facility. This could treat the soil and the water at the same time.

6.0 LANDFARM TREATMENT FACILITY

The following sections outline the construction, location, treatment of the PHC impacted material, and decommissioning of the Landfarm Treatment Facility (LTF).

6.1 LTF Location and Construction

The LTF has been selected on top of the existing esker, which was a former runway. DCV will use float planes to access the site. Figure 1 shows the proposed location of the treatment facility.

Table 1: Landfarm Treatment Facility Coordinates

7 262 657 N	529 082 W
7 262 641 N	529 074 W
7 262 541 N	529 266 W
7 262 557 N	529 265 W

Baseline samples will be collected prior to construction of the LTF. This is to establish the pre-treatment soil quality for comparison with post-treatment confirmatory sampling discussed in Sections 6.2 and 6.3. The LTF will be constructed on the Property in consultation with the Department Representative to satisfy authorities having jurisdiction requirements. The LTF will not have a liner, as approved by PWGSC. The LTF will be bermed and will have groundwater monitoring wells. The berms will be a minimum of 0.5 m high and will be used to limit access and spillage during treatment.

The LTF should be separated into different treatment cells based on the concentration and type of hydrocarbon contaminated material. Material contaminated with PHC fractions F3-F4 material should be kept separate from soil that only is impacted with PHC fractions F1-F2. The number of cells required will be a function of the quantity of material excavated and number of cells required for soil treatment. DCV estimates that the LTF will be approximately 250 m long by 11 m wide.

The cells will be constructed with a 1% interior slope and a sump at the end to collect water. This will help control water that may collect in the cells of the LTF. Water within the cells can be collected in tanks and transported to a holding tank (bladder) for testing. If it does not achieve discharge criteria, the water will be treated prior to discharge.

Signage will be posted at access points to the STF. The sign will read **CAUTION, CONTAMINATED SOIL TREATMENT AREA – RESTRICTED ACCESS**. Since this area may still be used for traditional hunting and wildlife may be present, flagging and fencing of the area will be done as an added precaution.

If there are periods of excessive rainfall (greater than 20 mm of precipitation), the soil piles will be covered with at least 6 mil poly to prevent water from contacting the soil.

6.2 Treatment of Hydrocarbons and Testing Regimen

The soil treatment process will be supervised and directed by the superintendent. Prior to treatment, material that is greater than 300 mm will be removed by screening.

Monoammonium Phosphate (MAP) will be provided to assist with the treatment of the hydrocarbons. The MAP will be mixed with water at a ratio of 5-10 L per 1000 L of water. The MAP will be misted over the soil, with an

application rate of 2-4 L per cubic meter every three days, and the soils will be mixed and aerated. Moisture of the treated soils will also be monitored to ensure that near-optimum moisture (10%-14% moisture) is obtained during treatment. Since the texture of the soil is coarse, the moisture content is important to maintain for both microbial activities and to minimize excess water traveling through the soil transporting PHC.

Soil will be placed in the treatment cells to a maximum of 1 m in depth to allow the excavator with a finishing bucket to have proper access for turning over the soil. Since there is no liner in these treatment cells, the underlying soil may be mixed during this treatment. Therefore, care should be taken to minimize mixing of uncontaminated soil with contaminated soil. Treatment details of MAP application rate and frequency may alter slightly based on site conditions.

Prior to commencing with treatment, each cell should be sampled for PHC to determine a base PHC contamination level. Afterwards, testing of soils will be completed on a regular basis. The first soil sample should be collected from each cell within the first week of treatment and again every two weeks until the hydrocarbons meet the AMSRP (2008) guidelines.

The rate of sampling should be completed at one representative sample every 50 m³. A representative sample can be formed by combining a number of grab samples throughout the 50 m³ of soil volume. Once a lot of 50 m³ has reached the AMSRP (2008) criteria, it will be removed from the treatment cell.

DCV will be responsible for the confirmation testing; however, at least ten percent of the samples extracted will be submitted to the Department Representative for results verification.

6.3 Decommissioning of LTF

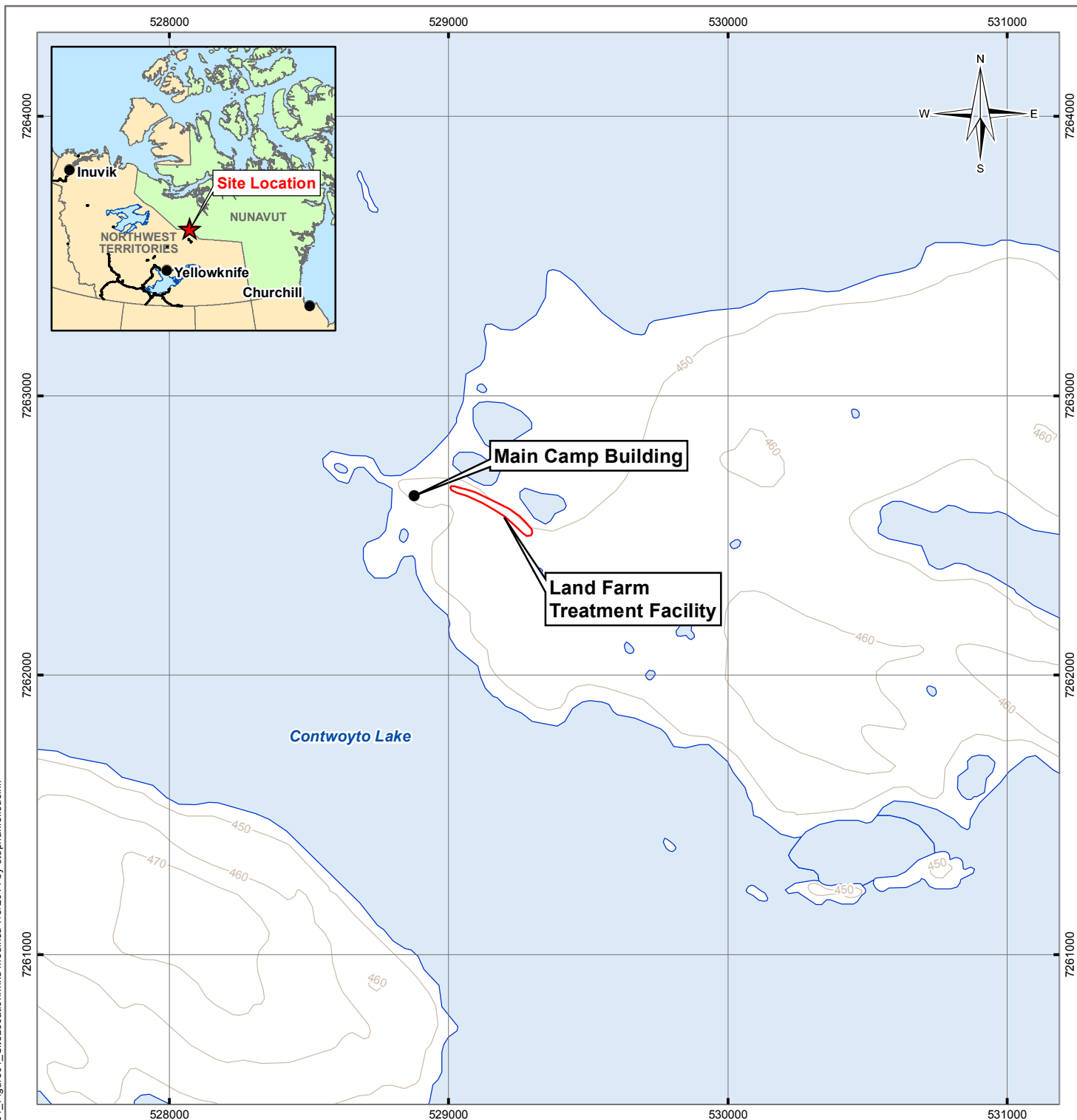
After the treatment of hydrocarbon impacted material has met the AMSRP (2008) standards, the LTF will be decommissioned. Confirmatory samples will be collected from the berms and where the LTF resided. Confirmatory sampling should be conducted on a grid pattern at 26 m x 26 m x 15 cm, and each sample should be a combination of five grab points. DCV will be responsible for the sample collection and confirmation testing.

Once this material has been determined to be clean of PHC, the site can be graded to the natural topography.

FIGURES

Figure 1 Site Location

Q:\Vancouver\GIS\ENGINEERING\141\14103200-01\Maps\14103200-01_Figure01_SiteLocation.mxd modified 7/3/2014 by stephanie.leusink



LEGEND

- Site Feature
- Land Farm Treatment Facility
- Contour (10 m)
- Waterbody

NOTES

Base data source: CanVec

STATUS

ISSUED FOR REVIEW

WEATHER STATION REMEDIATION CONTWOYTO LAKE, NU

Site Location

PROJECTION

UTM Zone 12

DATUM

NAD83

CLIENT

Delta Engineering Ltd. /
Carter Industries Ltd.
Joint Venture

Scale: 1:20,000

200 100 0 200 400

Metres



TETRA TECH EBA

FILE NO.

E14103200-01_Figure01_SiteLocation.mxd

PROJECT NO.

E14103200-01

DWN

SL

CKD

MEZ

APVD

RZ

REV

0

OFFICE

T/EBA-VANC

DATE

July 3, 2014

Figure 1

APPENDIX A

GENERAL CONDITIONS

GENERAL CONDITIONS

GEOENVIRONMENTAL REPORT

This report incorporates and is subject to these “General Conditions”.

1.0 USE OF REPORT AND OWNERSHIP

This report pertains to a specific site, a specific development, and a specific scope of work. It is not applicable to any other sites, nor should it be relied upon for types of development other than those to which it refers. Any variation from the site or proposed development would necessitate a supplementary investigation and assessment.

This report and the assessments and recommendations contained in it are intended for the sole use of Tetra Tech EBA's client. Tetra Tech EBA does not accept any responsibility for the accuracy of any of the data, the analysis or the recommendations contained or referenced in the report when the report is used or relied upon by any party other than Tetra Tech EBA's Client unless otherwise authorized in writing by Tetra Tech EBA. Any unauthorized use of the report is at the sole risk of the user.

This report is subject to copyright and shall not be reproduced either wholly or in part without the prior, written permission of Tetra Tech EBA. Additional copies of the report, if required, may be obtained upon request.

2.0 ALTERNATE REPORT FORMAT

Where Tetra Tech EBA submits both electronic file and hard copy versions of reports, drawings and other project-related documents and deliverables (collectively termed Tetra Tech EBA's instruments of professional service), only the signed and/or sealed versions shall be considered final and legally binding. The original signed and/or sealed version archived by Tetra Tech EBA shall be deemed to be the original for the Project.

Both electronic file and hard copy versions of Tetra Tech EBA's instruments of professional service shall not, under any circumstances, no matter who owns or uses them, be altered by any party except Tetra Tech EBA. The Client warrants that Tetra Tech EBA's instruments of professional service will be used only and exactly as submitted by Tetra Tech EBA.

Electronic files submitted by Tetra Tech EBA have been prepared and submitted using specific software and hardware systems. Tetra Tech EBA makes no representation about the compatibility of these files with the Client's current or future software and hardware systems.

3.0 NOTIFICATION OF AUTHORITIES

In certain instances, the discovery of hazardous substances or conditions and materials may require that regulatory agencies and other persons be informed and the client agrees that notification to such bodies or persons as required may be done by Tetra Tech EBA in its reasonably exercised discretion.

4.0 INFORMATION PROVIDED TO TETRA TECH EBA BY OTHERS

During the performance of the work and the preparation of the report, Tetra Tech EBA may rely on information provided by persons other than the Client. While Tetra Tech EBA endeavours to verify the accuracy of such information when instructed to do so by the Client, Tetra Tech EBA accepts no responsibility for the accuracy or the reliability of such information which may affect the report.



KBL Environmental LTD.

Certificate of Disposal

Date: May 15 2015

KBL Environmental Ltd hereby certifies that the waste shipped from Contwoyto Weather Station, on KBL Bill of Lading #5009 and federal manifest NT08577-8, NT08576-0 which was received at KBL Environmental Ltd. on March 27 2015 and has been processed, recycled/disposed of in accordance with all applicable Federal and Territorial /Provincial Regulations.

Generator:

Contwoyto
NUG-10008-PWGSC
Contwoyto Weather Station

Issued By:

Jeff Bembridge
Operations Manager
KBL Environmental Ltd.
NTR 0000123

PO Box 1108 - 17 Cameron Road - Yellowknife, NT - X1A 2N8



Certificate of Disposal

Date: May 15 2015

KBL Environmental Ltd hereby certifies that the waste shipped from Contwoyto Weather Station on KBL Bill of Lading #5014 and federal manifest NT08581-0 which was received at KBL Environmental Ltd. on March 28, 2015 and has been processed, recycled/disposed of in accordance with all applicable Federal and Territorial /Provincial Regulations.

Generator:

Contwoyto
NUG-10008-PWGSC
Contwoyto Weather Station

A handwritten signature in black ink, reading "Jeff Bembridge".

Issued By:

Jeff Bembridge
Operations Manager
KBL Environmental Ltd.
NTR 0000123

PO Box 1108 - 17 Cameron Road - Yellowknife, NT - X1A 2N8



Certificate of Disposal

Date: May 15 2015

KBL Environmental Ltd hereby certifies that the waste shipped from Contwoyto Weather Station on KBL Bill of Lading #5013 and federal manifest NT08579-4 which was received at KBL Environmental Ltd. on March 28, 2015 and has been processed, recycled/disposed of in accordance with all applicable Federal and Territorial /Provincial Regulations.

Generator:

Contwoyto
NUG-10008-PWGSC
Contwoyto Weather Station

A handwritten signature in black ink, reading "Jeff Bembridge", is positioned above the printed name and title.

Issued By:

Jeff Bembridge
Operations Manager
KBL Environmental Ltd.
NTR 0000123

PO Box 1108 - 17 Cameron Road - Yellowknife, NT - X1A 2N8



KBL Environmental LTD.

Certificate of Disposal

Date: May 15 2015

KBL Environmental Ltd hereby certifies that the waste shipped from Contwoyto Weather Station on KBL Bill of Lading #5012 and federal manifest NT08583-6 which was received at KBL Environmental Ltd. on March 28, 2015 and has been processed, recycled/disposed of in accordance with all applicable Federal and Territorial /Provincial Regulations.

Generator:

Contwoyto
NUG-10008-PWGSC
Contwoyto Weather Station

Issued By:

Jeff Bembridge
Operations Manager
KBL Environmental Ltd.
NTR 0000123

PO Box 1108 - 17 Cameron Road - Yellowknife, NT - X1A 2N8



Certificate of Disposal

Date: May 15 2015

KBL Environmental Ltd hereby certifies that the waste shipped from Contwoyto Weather Station on KBL Bill of Lading #5011 and federal manifest NT08578-6 which was received at KBL Environmental Ltd. on March 28, 2015 and has been processed, recycled/disposed of in accordance with all applicable Federal and Territorial /Provincial Regulations.

Generator:

Contwoyto
NUG-10008-PWGSC
Contwoyto Weather Station

A handwritten signature in black ink, which appears to read "Jeff Bembridge", is written over a light blue horizontal line.

Issued By:

Jeff Bembridge
Operations Manager
KBL Environmental Ltd.
NTR 0000123

PO Box 1108 - 17 Cameron Road - Yellowknife, NT - X1A 2N8



Certificate of Disposal

Date: May 15 2015

KBL Environmental Ltd hereby certifies that the waste shipped from Contwoyto Weather Station on KBL Bill of Lading #5010 and federal manifest NT08582-8 which was received at KBL Environmental Ltd. on March 28, 2015 and has been processed, recycled/disposed of in accordance with all applicable Federal and Territorial /Provincial Regulations.

Generator:

Contwoyto
NUG-10008-PWGSC
Contwoyto Weather Station

A handwritten signature in black ink, reading "Jeff Bembridge", is written over a light blue horizontal line.

Issued By:

Jeff Bembridge
Operations Manager
KBL Environmental Ltd.
NTR 0000123

PO Box 1108 - 17 Cameron Road - Yellowknife, NT - X1A 2N8



Certificate of Disposal

Date: May 15 2015

KBL Environmental Ltd hereby certifies that the waste shipped from Contwoyto Weather Station on KBL Bill of Lading #5008 and federal manifest NT08580-2 which was received at KBL Environmental Ltd. on March 28, 2015 and has been processed, recycled/disposed of in accordance with all applicable Federal and Territorial /Provincial Regulations.

Generator:

Contwoyto
NUG-10008-PWGSC
Contwoyto Weather Station

A handwritten signature in black ink, appearing to read "Jeff Bembridge", is written over a faint, larger version of the same signature.

Issued By:

Jeff Bembridge
Operations Manager
KBL Environmental Ltd.
NTR 0000123

PO Box 1108 - 17 Cameron Road - Yellowknife, NT - X1A 2N8



April 7, 2014

Jeff Dirks
KBL Environmental Ltd.
11420 Winterburn Road
Edmonton, Alberta T6C 0X3

Acceptance of P.C.B amended Painted wood.

Dear Mr. Dirks:

This letter will serve to confirm that the profile KBL Environmental submitted to SENA Waste Services (WPS 33930) for P.C.B amended Painted wood has been approved and is acceptable for treatment & disposal at the Swan Hills Treatment. The approval is subject to the conditions in the Waste Services Agreement and in the Specific Terms of Service.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Pierre Lavigne', is written over a horizontal line.

Pierre Lavigne
Technical Sales Representative
SENA Waste Services
#307-9426-51 Ave
Edmonton, Ab
T6E 5A6