

Appendix 6a

Site Photos

– Sewage Outfall

Site Photographs –Sewage Outfall



Photo 1 View of Sewage Outfall culvert



Photo 2 View of Sewage Outfall site (looking northwest)

Appendix 6b

Sample Coordinates

– Sewage Outfall

Sample Coordinates - Sewage Outfall
Phase II/III ESA, HHERA and RAP/RMP
Former US Military Site and Residential Subdivision, Hopedale, NL
Project No. 121410103

Sample ID	Coordinates	
	Easting	Northing
SURFACE SOIL		
BS152	0675061	6150400
BS153	0675066	6150412
BS154	0675059	6150421
BS155	0675104	6150355

Appendix 6c

Soil Vapour Concentrations

– Sewage Outfall

Sample Tipping Results - Sewage Outfall
Phase II/III ESA, HHERA and RAP/RMP
Former US Military Site and Residential Subdivision, Hopedale, NL
Project No. 121410103

Sample ID	Sample Depth (mbgs)	Hydrocarbon Odour	Soil Vapour Concentration (ppm)
TEST PITS			
BS152	0.00-0.10	No	0.0
BS153	0.00-0.28	No	0.0
BS154	0.00-0.12	No	0.0
BS155	0.00-0.10	No	0.0

Appendix 6d

Laboratory Analytical Results Summary Tables

– Sewage Outfall

Table 6.1 Results of Laboratory Analysis of TPH/BTEX in Soil - Sewage Outfall
Phase II/III ESA, HHERA and RAP/RMP
Former US Military Site and Residential Subdivision, Hopedale, NL
Project No. 121410103

Sample ID	Sample Depth (m)	Benzene	Toluene	Ethylbenzene	Xylenes	C ₆ -C ₁₀ (Gas Range)	C ₁₀ -C ₂₁ (Fuel Range)	C ₂₁ -C ₃₂ (Lube Range)	Modified TPH - Tier I ²	Resemblance
	RDL	0.03	0.03	0.03	0.05	3	15	15	20	-
	RDL ³	0.1	0.1	0.1	0.3	10	15	15	20	-
	Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	-
	Tier I RBSLs ¹	0.16	14	58	17	-	-	-	140	-
SURFACE SAMPLES										
BS152 ³	0.00 - 0.10	<0.1	<0.1	<0.1	<0.3	<10	170	740	910	OP F/L
BS153	0.00 - 0.28	<0.03	<0.03	<0.03	0.18	<3	77	210	290	OP F/L
BS154 ³	0.00 - 0.12	<0.1	<0.1	<0.1	<0.3	<10	170	830	1,000	OP F/L

Notes:

1 = Partnership in RBCA (Risk-Based Corrective Action) Implementation (PIRI) Tier I Risk Based Screening Levels (RBSLs) for a residential site with non-potable groundwater and coarse grained soil, fuel oil impacts (September, 2003)

2 = Modified TPH - Tier I does not include BTEX

3 = Elevated RDL(s) due to sample dilution

RDL = Reportable Detection Limit for routine analysis

< # = Not detected above RDL noted

"-" = indicates value is not available or does not apply

OP F/L=One product in fuel/lube range

Shaded = Value exceeds generic criteria for a residential site with non-potable groundwater, coarse grained soil and fuel oil impacts

**Table 6.2 Results of Laboratory Analysis of PCBs in Soil - Sewage Outfall
Phase II/III ESA, HHERA and RAP/RMP
Former US Military Site and Residential Subdivision, Hopedale, NL
Project No. 121410103**

Sample ID	Sample Depth (m)	Polychlorinated Biphenyls (PCBs)
	RDL	0.05/0.5 ²
	Units	mg/kg
	Criteria ¹	1.3
SURFACE SAMPLES		
BS152	0.00 - 0.10	3
BS153	0.00 - 0.28	<0.5 ²
BS154	0.00 - 0.12	0.92

Notes:

1 = CCME Canadian Soil Quality Guidelines for a Residential/Parkland Site (2007)

2 = Elevated RDL due to matrix/co-extractive interference

RDL = Reportable Detection Limit for routine analysis

< # = Not detected above RDL noted

Shaded = Value exceeds applicable criteria

**Table 6.3 Results of Laboratory Analysis of Available Metals in Soil - Sewage Outfall
Phase II/III ESA, HHERA and RAP/RMP
Former US Military Site and Residential Subdivision, Hopedale, NL
Project No. 121410103**

Parameters	RDL	Units	Criteria ¹	SURFACE SAMPLES		
				BS152	BS153	BS154
Aluminum	10	mg/kg	-	6,900	29,000	1,900
Antimony	2	mg/kg	20	3	<2	2
Arsenic	2	mg/kg	12	<2	<2	<2
Barium	5	mg/kg	500	110	45	47
Beryllium	2	mg/kg	4	<2	<2	<2
Bismuth	2	mg/kg	-	2	<2	<2
Boron	5	mg/kg	-	11	7	18
Cadmium	0.3	mg/kg	10	2.2	<0.3	1.5
Chromium	2	mg/kg	64	29	42	9
Cobalt	1	mg/kg	50	7	47	2
Copper	2	mg/kg	63	100	41	65
Iron	50/500 ²	mg/kg	-	12,000	47,000 ²	3,200
Lead	0.5	mg/kg	140	99	10	50
Lithium	2	mg/kg	-	8	19	<2
Manganese	2	mg/kg	-	200	2,800	160
Mercury	0.1	mg/kg	6.6	1.0	0.2	0.8
Molybdenum	2	mg/kg	10	<2	5	<2
Nickel	2	mg/kg	50	17	20	5
Rubidium	2	mg/kg	-	5	3	<2
Selenium	2/5 ²	mg/kg	1	<2	<5 ²	<5 ²
Silver	0.5	mg/kg	20	3.0	0.6	3.6
Strontium	5/50 ²	mg/kg	-	32	<50 ²	60
Thallium	0.1	mg/kg	1	0.1	0.2	<0.1
Tin	2	mg/kg	50	64	4	32
Uranium	0.1	mg/kg	23	0.4	4.0	0.3
Vanadium	2	mg/kg	130	16	82	8
Zinc	5	mg/kg	200	1,500	110	540

Notes:

Notes:

1 = CCME Canadian Soil Quality Guidelines for a Residential/Parkland Site (2007)

2 = Elevated RDL due to sample matrix/matrix interfaces

RDL = Reportable Detection Limit for routine analysis

< # = Not detected above RDL noted

"-" = indicates value is not available or does not apply

Shaded = Value exceeds applicable criteria