

Table 1: Soil Characterization Data – Petroleum Hydrocarbon Parameters
Client: QNWT DDT
Project: James Creek Spill
KBL File #: 16-104

Sample ID	Sampling Information				Physical Tests			Volatile Organic Compounds				Petroleum Hydrocarbons						
	Sample Interval	ZPC Coordinates	Lab ID	Tube	VOC readings	Penetration	Moisture	1,1-DCE	1,1-DCE	1,1-DCE	1,1-DCE	1,1-DCE	1,1-DCE	1,1-DCE	1,1-DCE	1,1-DCE		
	mg/kg		05-mm-ty				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg		
OCM: Oil Quality Guidelines, Industrial land use								0.005	0.17	0.002	1	10	200	1000	1000	-	-	
OCM: Oil Quality Guidelines, Recreational/Protected land use								-	-	-	-	10	100	1000	1000	-	-	
OCM: Oil Quality Guidelines, Protected land use								-	-	-	-	10	100	1000	1000	-	-	
Sample Log (mm)																		
X14-1	0.5-0.60m				Open		7.14	<0.005	<0.005	<0.01	<0.10	<10	<20	<20	<20	<20	Yes	
X14-2	0.5-0.60m				Open													
X14-3	0.5-0.60m				Open													
X14-4	0.5-0.60m				Open		12.4	<0.005	<0.005	<0.01	<0.10	<10	<20	41	<20	41	Yes	
X14-5	0.5-0.60m				Open													
X14-6	0.5-0.60m				Open													
X14-7	0.5-0.60m				Open													
X14-8	0.5-0.60m				Open		7.31	<0.005	<0.005	<0.01	<0.10	<10	<20	<20	<20	<20	Yes	
X14-9	0.5-0.60m				Open	Water												
X14-10	0.5-0.60m				Open													
X14-11	0.5-0.60m				Open													
X14-12	0.5-0.60m				Open		17.2	<0.005	<0.005	<0.01	<0.10	<10	<20	<20	<20	<20	Yes	
X14-13	0.5-0.60m				Open													
X14-14	0.5-0.60m				Open		17.6	<0.005	<0.005	<0.01	<0.10	<10	<20	<20	<20	<20	Yes	
X14-15	0.5-0.60m				Open													
X14-16	0.5-0.60m				Open		7.15	<0.005	<0.005	<0.01	<0.10	<10	<20	<20	<20	<20	Yes	
X14-17	0.5-0.60m				Open		18.8	<0.005	<0.005	<0.01	<0.10	<10	<20	<20	<20	<20	Yes	
X14-18	2.0-2.15m				250mm													
X14-19	0.5-0.60m				Open													
X14-20	0.5-0.60m				250mm													
X14-21	0.5-0.60m				250mm		11.8	<0.005	<0.005	0.004	0.35	<10	<20	<20	87.2	<20	87.2	Yes
X14-22	0.5-0.60m				250mm		17.1	<0.005	<0.005	0.004	0.37	<10	<20	<20	166	<20	166	Yes
X14-23	0.5-0.60m				250mm	Water												
X14-24	0.5-0.60m				250mm		16	<0.005	<0.005	<0.01	<0.10	<10	<20	<20	<20	<20	Yes	
X14-25	1.0-1.15m				Open													
X14-26	0.5-0.60m				250mm													
X14-27	0.5-0.60m				250mm		7.99	<0.005	<0.005	<0.01	<0.10	<10	<20	<20	<20	<20	Yes	
X14-28	0.5-0.60m				Open													
X14-29	0.5-0.60m				Open		10.5	<0.005	<0.005	<0.01	<0.10	<10	<20	<20	<20	<20	Yes	
X14-30	0.5-0.60m				Open													
X14-31	0.5-0.60m				Open													
X14-32	0.5-0.60m				Open													
X14-33	0.5-0.60m				Open													
X14-34	0.5-0.60m				Open													
X14-35	0.5-0.60m				Open													
X14-36	0.5-0.60m				Open													



Table 2: Field Screening at Test Pit Locations
 Client: GNWT DOT
 Project: James Creek Spill
 KBL File #: 16-104

Sampling Information			Volatile Organic Compounds
Sample ID	Sample Interval	Date	
-	mbgs	dd-mmm-yy	ppm
Test Pit Locations			
TP-01	0.0 - 0.2	11-Jul-16	ND
	0.5 - 0.7	11-Jul-16	ND
	0.8 - 1.0	11-Jul-16	ND
TP-02	0.0 - 0.2	11-Jul-16	65
	0.5 - 0.7	11-Jul-16	60
	0.8 - 1.0	11-Jul-16	35
TP-03	0.0 - 0.2	11-Jul-16	115
	0.5 - 0.7	11-Jul-16	840
	0.8 - 1.0	11-Jul-16	270
TP-04	0.0 - 0.2	11-Jul-16	ND
	0.5 - 0.7	11-Jul-16	15
TP-05	0.0 - 0.2	11-Jul-16	15
	0.5 - 0.7	11-Jul-16	ND
TP-06	0.0 - 0.2	11-Jul-16	10
	0.5 - 0.7	11-Jul-16	10
	0.8 - 1.0	11-Jul-16	ND
TP-07	0.0 - 0.2	11-Jul-16	1550
	0.5 - 0.7	11-Jul-16	230
	0.8 - 1.0	11-Jul-16	ND
	1.2 - 1.5	11-Jul-16	ND
TP-08	0.0 - 0.2	11-Jul-16	1000
	0.5 - 0.7	11-Jul-16	40
	0.8 - 1.0	11-Jul-16	ND
TP-09	0.0 - 0.2	11-Jul-16	390
	0.5 - 0.7	11-Jul-16	900
	0.8 - 1.0	11-Jul-16	290
	1.2 - 1.5	11-Jul-16	5
TP-10	0.0 - 0.2	11-Jul-16	490
	0.5 - 0.7	11-Jul-16	ND
	0.8 - 1.0	11-Jul-16	ND
TP-11	0.0 - 0.2	11-Jul-16	ND
	0.5 - 0.7	11-Jul-16	ND
	0.8 - 1.0	11-Jul-16	ND
TP-12	0.0 - 0.2	11-Jul-16	280
	0.5 - 0.7	11-Jul-16	ND
TP-13	0.0 - 0.2	11-Jul-16	ND
TP-14	0.0 - 0.2	11-Jul-16	490
	0.2 - 0.3	11-Jul-16	ND
TP-15	0.0 - 0.2	11-Jul-16	780
	0.2 - 0.3	11-Jul-16	790
TP-16	0.0 - 0.2	11-Jul-16	1150
	0.2 - 0.3	11-Jul-16	1300
TP-17	0.0 - 0.2	11-Jul-16	880
	0.2 - 0.3	11-Jul-16	ND
TP-18	0.0 - 0.2	11-Jul-16	ND
	0.2 - 0.3	11-Jul-16	ND
TP-19	0.0 - 0.2	11-Jul-16	ND
	0.2 - 0.3	11-Jul-16	ND
TP-20	0.0 - 0.2	11-Jul-16	1400
	0.2 - 0.3	11-Jul-16	1250
TP-21	0.0 - 0.2	11-Jul-16	ND
	0.2 - 0.3	11-Jul-16	15
SS-01	-	11-Jul-16	15
SS-02	-	11-Jul-16	1550
SS-03	-	11-Jul-16	40
SS-04	-	11-Jul-16	ND
SS-05	-	11-Jul-16	15

Legend

mbgs metres below ground surface
 ND non-detect
 ppm parts per million



- Parameters not measured and absence of applicable guideline indicated by "-"
- Analytical data reported by ALS Environmental (Work Orders #: L1797627, L1801776, L1803112, and L1803820)
- Exceedance of applicable guidelines or background conditions indicated by shading or bold, font and italics; where multiple guidelines apply, the most stringent

Table 4: Groundwater Characterization Data – Petroleum Hydrocarbon Parameters
 Client: GNWT DOT
 Project: James Creek Spill
 KBL File #: 16-104

Sampling Information			Volatile Organic Compounds					Petroleum Hydrocarbons		
Sample ID	Lab ID	Date	Benzene	Toluene	Ethylbenzene	Xylenes (Total)	F1-BTEX (C6-C10)	F2 (>C10-C16)	F3 (C16-C34)	F4 (C34-C50)
-	-	dd-mmm-yy	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Health Canada DW Guidelines			<i>0.005</i>	<i>0.06</i>	<i>0.14</i>	<i>0.09</i>	-	-	-	-
CCME Water Quality Guidelines			0.37	0.002	0.09	-	-	-	-	-
AB Surface Water Guidelines			0.04	0.0005	0.09	0.03	0.15	0.11	-	-
Groundwater Monitoring Locations										
MW10-22-072216	L1803116-3	22-Jul-16	<0.0005	<0.0005	<0.0005	<0.00071	<0.1	<0.1	<0.25	<0.25
MW10-24-072216	L1803116-2	22-Jul-16	<0.0005	<0.0005	<0.0005	<0.00071	<0.1	<0.1	<0.25	<0.25
MW10-28-072216	L1803116-1	22-Jul-16	<0.0005	<0.0005	<0.0005	<0.00071	<0.1	<0.1	<0.25	<0.25

Legend

mg/L milligrams per litre

Applicable Guidelines

- *Guidelines for Canadian Drinking Water Quality* (Health Canada DW Guidelines; Health Canada, 2014)
- *Canadian Environmental Quality Guidelines* (CCME Water Quality Guidelines; CCME, 1998-2014) for the protection of freshwater aquatic life
- *Environmental Quality Guidelines for Alberta Surface Waters* (AB Surface Water Guidelines; ESRD, 2014) for the protection of freshwater aquatic life

Notes

- Parameters not measured and absence of applicable guideline indicated by "-"
- Analytical data reported by ALS Environmental (Work Order #: L1803116)
- Exceedance of applicable guidelines or background conditions indicated by shading or bold, font and italics; where multiple guidelines apply, the most stringent

