

This report template can be completed to satisfy the requirements of either the End-of-Spill Report or the Update to Minister Report. Please specify which report you are completing in section I of this form. If any of the fields of this form are not applicable to the spill for which this form is being completed, indicate 'N/A' in the field; reports with incomplete fields will be sent back to the responsible person.

**End-of-Spill Report:** Section 6 of the Spill Reporting Regulation outlines the requirements for the End-of-Spill Report. Responsible persons must submit a written End-of-Spill Report to the Ministry of Environment and Climate Change Strategy within 30 days following the emergency response completion date of a spill as outlined in section 6 (1) of the Spill Reporting Regulation. Responsible persons must submit a written report to the Ministry of Environment and Climate Change Strategy as soon as practicable if either of the following two conditions are present:

1. The spill entered, or was likely to enter, a body of water as defined in the Spill Reporting Regulation
2. The quantity of the substance spilled was, or was likely to be, equal to or greater than the listed quantity for the listed substance as outlined in the Spill Reporting Regulation

**Update to Minister Report:** Section 5 of the Spill Reporting Regulation outlines the requirements for the Update to Minister Report. Responsible persons must submit a written report to the Ministry of Environment and Climate Change Strategy as soon as practicable if any of the following three conditions are present:

1. On request of the Minister
2. At least once every 30 days after the date that the spill began
3. At any time that the responsible person has reason to believe that information previously reported in the Initial Report has become inaccurate or incomplete

Complete this form and submit it by email to [SpillReports@gov.bc.ca](mailto:SpillReports@gov.bc.ca). For additional information, please visit the British Columbia [Environmental Emergency Program Report a Spill webpage](#).

**Dangerous Goods Incident Report (DGIR) number:**

### Section I: Type of report

#### Sections 5 and 6 of Spill Reporting Regulation

This form is completed to satisfy the requirements of the:

Update to Minister Report

End-of-Spill Report

### Section II: Contact information

#### Section 6 (2) (a) of the Spill Reporting Regulation

Details for person filling out the report

Name of company representative:

Company name:

Email:

Address:

Telephone number:

Details for responsible person  Same as above	Name of company representative:
	Company name:
	Email:
	Address:
	Telephone number:
Details for owner of the substance spilled  Same as above	Name of company representative:
	Company name:
	Email:
	Address:
	Telephone number:

### Section III: Timing of the spill

#### Section 6 (2) (b) of the Spill Reporting Regulation

Date of spill:	Time of spill:	Duration of the spill (days):
Date reported:	Emergency response completion date <sup>1</sup> :	

### Section IV: Site description

#### Section 6 (2) (c) (d) of the Spill Reporting Regulation

Provide a description of the spill site and the sites affected by the spill. The description of the spill site may include a description of the receiving environment, the proximity to a nearby city/town/roadway, the type of vegetation in the area, how densely populated the area is, accessibility to spill site, nearby waterways, and any other defining characteristics of the area.

Latitude:	Degrees	Minutes	Seconds
Longitude:	Degrees	Minutes	Seconds
<b>or</b>			
Site civic address or location:	Street		Postal Code
	City		
<b>or</b>			
DLS or BCNTS (if applicable):		Site ID number (if applicable):	

<sup>1</sup> For the definition of the *emergency response completion date*, please refer to [B.C. Reg. 187/2017 Spill Reporting Regulation](#)

**Section V: Description of the source, type, and quantity of the spill**

**Section 6 (2) (e) (f) of the Spill Reporting Regulation**

Description of the source of the spill (pipeline, rail, truck, facility, etc.):

Type of substance spilled (common name):

United Nations (UN) number of substance spilled (if applicable):

Item number from the table in the Schedule in the Spill Reporting Regulation:

Quantity (in litres or kilograms) of the substance spilled – if the quantity is unknown, provide a reasonable estimate and explain why the quantity is unknown and cannot be determined:

**Section VI: Description of the circumstances, cause, and impacts of the spill**

**Section 6 (2) (g) (i) (ii) (iii) of the Spill Reporting Regulation**

Provide a description of the activity during which the spill occurred (transportation, transfer of cargo, fuelling, cleaning, maintenance, etc.):

Provide a description of the incident leading to the spill (tank rupture, overflow, collision, rollover, derailment, fire, explosion, etc.):

Provide a description of the underlying cause of the spill (human error, external conditions, organizational or management failure, etc.):

**Section VII: Impacts to human health, the environment, and infrastructure**

**Section 6 (2) (g) (iv) (v) of the Spill Reporting Regulation**

Describe any adverse effects of the spill on human health (please state 'N/A' if there were no adverse effects on human health):

Number of people evacuated:

Number of fatalities:

Number of people injured:

Describe any adverse impacts on infrastructure<sup>2</sup> (please state 'N/A' if there were no adverse impacts to infrastructure):

**Impacts to water**

Was there an impact to a body of water?	Yes	No
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<sup>2</sup> For the definition of *infrastructure*, refer to section 91.1 of the [Environmental Management Act 2003](#)

Description of impact:	
Describe the body of water (stream, aquifer, fish habitat, naturally formed body of water, ditch, lake, etc.):	
Name of body of water:	
<b>Impacts to the environment</b>	
Was there an impact on flora (vegetation)? YES                      NO	If yes, list the common and species names:
Provide a description of the impact on flora (oiled, removed, etc.):	
Was there an impact on fauna (animals)? YES                      NO	If yes, list the common and species names:
Provide a description of impact on fauna (include injured, dead, etc.):	
Was there an impact on aquatic and/or terrestrial habitats? YES                      NO	If yes, list the type of habitat (riparian, breeding ground, etc.):
Provide a description of impact on aquatic and terrestrial habitats, including response actions taken to restore any of the impacts listed:	

**Section VIII: Spill response actions****Section 6 (2) (h) of the Spill Reporting Regulation**

Action taken to comply with section 91.2 of the <i>Environmental Management Act 2003</i>	Who took the action (company, person, contractor, etc.)	Date that the action was taken (click the arrow or enter the date using the format YYYY-MM-DD)

**Section IX: Waste disposal (please state 'N/A' if no waste was produced)****Section 6 (2) (i) of the Spill Reporting Regulation**

List the type of waste	Method of disposal	Location of disposal

**Section X: Attached reports, maps, and photographs****Section 6 (2) (j) (k) of the Spill Reporting Regulation**

Report of results of sampling, testing, monitoring, and/or assessing carried out during spill response actions (including reports from Qualified Professionals), if applicable	Copy attached <input type="checkbox"/>
Map of the incident site and areas surrounding the incident site (required)	Copy attached <input type="checkbox"/>
Photographs of the spill (required)	Copy attached <input type="checkbox"/>

**Section XI: Agencies on scene or notified****Section 6 (2) (l) (m) of the Spill Reporting Regulation**

List the names of all agencies that were at the incident site:

List the names of other persons or agencies that were advised about the spill:

**Section XII: Additional comments**

**Section XIII: Verification of information provided**

I confirm that the above information is true and complete.

Name of person completing form:

Date completed (YYYY-MM-DD)

Name of responsible person (person or company):

Date completed (YYYY-MM-DD)

**Section XIV: Approval - For internal use only**

Reviewed by:

Date completed (YYYY-MM-DD)

**Mailing**PO Box 58  
Cowichan Bay, BC  
V0R 1N0**Regional**201 - 716 Goldstream Avenue  
Victoria, BC  
V9B 2X3**City of Port Alberni**4850 Argyle Street  
Port Alberni, BC  
V9Y 8Z1**CONFIDENTIAL**

January 12, 2021

**Attn:** Ken Watson, Acting Director of Engineering & Public Works, *Port Alberni***Re:** *SPILL RESPONSE SUMMARY LETTER – DGIR 202659*

TerraWest Environmental Inc. (TerraWest) was retained by the City of Port Alberni (the 'Client') to respond to a spill of Bunker C crude oil ('Bunker C' or 'fuel oil') which was being stored in a steel rail car on a rail spur located at the Mclean Mill National Historic Park in Port Alberni, B.C. The Bunker C was historically used by the 1929 Baldwin 2-8-2T Steam locomotive as a fuel source, and was being stored for future use in the rail car at the Mclean Mill located at 5633 Smith Road, Port Alberni, BC, herein referred to as the 'Subject Property' and/or the 'Site'.

The spill was reported to City of Port Alberni October 26, 2020 by the on-Site Mclean Mill caretaker. City officials reviewed the on-Site evidence by visual and olfactory observations and determined the spill was related to the normally locked fuel valve on the rail tank car, found opened due to malicious vandalism or human error. The impacted area and spilled volume were difficult to determine. City staff initial response included placing absorbent pads and emptying the remaining Bunker C from the rail car. City officials determined that minimal Bunker C remained in the rail tank, and that the tank was filled a few years prior when the steam locomotive was running and estimated the spill volume to be approximately 7,000 Litres.

On October 28<sup>th</sup> the City notified the Ministry of Environment of the spill and was provided with the spill tracking number DGIR #202659. The City expanded cleanup efforts by engaging a hydrovac truck to cleanup visual free product. The City contacted TerraWest October 29<sup>th</sup> and provided information regarding the spill and arranged for

Coastal Bridge Construction Ltd. (Coastal) to remove the rail car to gain access to impacted area under the tracks. The information provided in this letter is a summary of the spill efforts, fieldwork and laboratory results.

The Site location and features are described as the following:

Site Location & Features	
<b>Civic Address</b>	5633 Smith Road, Port Alberni, BC
<b>Legal Description</b>	Lot A, Loop Farms and District Lot 106, Alberni District, Plan VIP57991 Except that Part in Plan VIP65071 PID: 018-572-871
<b>GPS Coordinates</b>	Latitude: 49 19'37" Longitude 124 49'44"
<b>Land Use</b>	P2 – Park and Public Use District
<b>Surrounding Land Use</b>	Private forest land and residential
<b>Proximity to Nearest Surface Water Body</b>	Unnamed Wetland located 100 m southwest

The general location of the Site and spill location is shown on Figure 1.

## 1.0 FIELD ACTIVITIES

Summary of the field activities during spill response included but not limited to the following information:

Summary of Field Activities	
<b>Dates</b>	October 28 – Dec 8 <sup>th</sup> , 2020
<b>Environmental Consultant</b>	TerraWest Environmental Inc.
<b>Equipment Contractors</b>	Coastal Bridge Construction – Excavators, crane truck, skid steer Drillwell Enterprises – Track mounted auger rig Walco Industries Ltd. - Hydrovac Terrapure Environmental – Trucking and tanker trucks
<b>Biological Consultant</b>	Brad Remilard, DR Clough Consulting
<b>Laboratory</b>	Element Materials Technology Canada Inc. (Element)
<b>Boreholes Advanced</b>	6



Test Pits Advanced	4
Maximum Depth of Boreholes/Testpits	3.0 m below ground surface (m bgs)
Groundwater Wells Installed	9
Recovery Wells Installed in the Excavation	6
Stockpile Samples Submitted for Laboratory Analysis	38
Test Pit Soil Samples Submitted for Laboratory Analysis	14
Borehole Soil Samples Submitted for Laboratory Analysis	29
Excavation Confirmation Soil Samples Submitted for Laboratory Analysis	43
Surface Soil Samples Collected Under the Impacted Stockpiled Soil Submitted for Laboratory Analysis	11
Backfill Soil Samples Submitted for Laboratory Analysis	2
Surface Water Samples Submitted for Laboratory Analysis	15
Groundwater Samples Submitted for Laboratory Analysis	30
Recovery Well Samples Submitted for Laboratory Analysis	10
Excavation Size	Approximately 20 m by 30 m by 2 m
Maximum Excavation Depth	2.0 m
Volume of Excavated Soil Disposed of	2100 Tonnes
Soil Disposal Company	Terrapure Environmental Facility located in Nanaimo, B.C
Volume of impacted surface water and sludgedisposed of	Approximately 175,000 Litres
Off-site Liquid Disposal Location	Terrapure in Victoria, B.C; and Nanaimo, B.C
Backfill Source	Sand and gravel from the Bowerman operated pit in Port Alberni

## 1.1 Sampling Plan

Soil samples were analyzed by Element for contaminants of concern (COCs) including benzene, toluene, ethylbenzene, total xylenes, methyl tertiary butyl ether, styrene (BTEXSM), light extractable hydrocarbons (LEPH), heavy extractable petroleum hydrocarbons (HEPH), volatile petroleum hydrocarbons (VPH), polycyclic aromatic hydrocarbons (PAH) and select metals. Select soil samples were analyzed for metals and toxicity characteristic leachate procedure (TCLP) for characterization as required for the soil disposal application process. The backfill soil samples was collected from the backfill material and was analyzed for above petroleum hydrocarbon and metals to characterize the imported fill.

Groundwater and surface water samples were analyzed by Element for contaminants of concern (COCs) including BTEXSM, LEPH, HEPH, and PAHs. Select samples were analyzed for metals and routine parameters.

All samples collected were discrete samples.

## 2.0 STANDARDS

### 2.1 Soils Standards

There are three sets of soil standards applicable for the soil samples collected during the spill response. The Site-specific information regarding land use is presented in the table below:

Land Use Determination	
Historical land use	Industrial
Current land use	Parkland
Zoning <sup>1</sup>	P2 – Park and Public Use District
Distance to nearest surface water bodies <sup>2</sup>	Wetland 100 m southwest
Has a successful investigation into the drinking water pathway been conducted, as per the CSR Protocol 21 and the pathway eliminated?	Not completed

<sup>1</sup> Regional District of Alberni-Clayoquot Consolidated Zoning By-law (2018). Zoning Bylaw No. 1971. Available from <https://www.acrd.bc.ca/cms/wpattachments/wplD174atID2700.pdf>, and <https://www.acrd.bc.ca/dms/documents/Maps/Alberni-Valley/d10.pdf>

<sup>2</sup> BC Ministry of Environment (2021). BC Water Resources Atlas. Available from <http://maps.gov.bc.ca/ess/hm/wrbc/>

Is there a possibility of livestock ingesting the soil?	Not anticipated
Is the groundwater used for livestock watering?	Not anticipated
Is the groundwater used for irrigation?	Not anticipated

Based on the table above, the applicable CSR standards for soil at the Site as follows, herein referred to as the 'applicable standards':

- CSR Schedule 3.1 Part 1 Numerical Soil Standards for parkland land use:
  - Intake of contaminated soil
  - Groundwater used for drinking water
  - Toxicity to soil invertebrates and plants
  - Groundwater flow to freshwater
- CSR Schedule 3.1 Part 2 Generic Numerical Soil Standards to protect human health for parkland land use; and
- CSR Schedule 3.1 Part 3 Generic Numerical Soil Standards to protect ecological health for parkland use.

## 2.2 Groundwater & Surface Water Standards

The CSR Protocol 21 – Water Use Determination outlines there are four defined uses and standards for groundwater and surface water: freshwater and/or aquatic life, drinking water, irrigation, and livestock. The Site-specific information regarding water used determination is presented in the table below:

Water Use Determination	
Distance and type of nearest surface water bodies <sup>3</sup>	100 m Wetland (freshwater)
Are the aquatic water use standards applicable to the Site, as per the CSR Protocol 21?	Yes
Has a successful investigation into the drinking water pathway been conducted, as per the CSR Protocol 21 and the pathway eliminated?	Not completed
Are the irrigation and livestock pathways applicable, as per the CSR Protocol 21?	No

Based on the table above, the applicable CSR standards for groundwater at the Site are the CSR Schedule 3.2 Generic Numerical Water Standards for drinking water use and the freshwater aquatic use.

<sup>3</sup> BC Ministry of Environment (2021). BC Water Resources Atlas. Available from <http://maps.gov.bc.ca/ess/hm/wrbc/>

### 3.0 SOIL ANALYTICAL RESULTS

For the purpose of this report this section will focus on petroleum hydrocarbon parameters. Laboratory analytical results also identified select metal parameters which exceed applicable standards however, these parameters are deemed unrelated to the spilled product at this time. Laboratory analytical results for the soils, groundwater and surface water are summarized in the sections below and are presented in the Tables 1 Through 10. The laboratory reports are excluded from this letter but are available upon request.

All excavated soil characterized by stockpile samples exceeding the applicable standard were removed from the Site and are not discussed below.

#### 3.1 Excavation Confirmation Soil Sample Analytical Results

Laboratory analytical results for confirmatory soil samples indicated the following soil samples reported concentrations of petroleum hydrocarbon parameters exceeding the lowest applicable standards.

Sample ID	Sample Date	Parameter	Depth m bgs	Concentration (ug/g)	Lowest Applicable Standard (ug/g)
EX20-02-F-09	Nov 18, 2020	Toluene	2.0	0.66	0.5
EX20-01-F-A (Duplicate for EX20-01-F-12)	Nov 19, 2020	Toluene	1.5	0.55	0.5

All other analyzed parameters were below the applicable standards.

A site plan showing the soil confirmation sample locations with analytical results is presented in Figure 2.

#### 3.1 Test Pit and Borehole Soil Sample Analytical Results

Laboratory analytical results indicated the following test pit sample reported concentrations of petroleum hydrocarbon parameters exceeding the lowest applicable standards.

Sample ID	Sample Date	Parameter	Depth m bgs	Concentration (ug/g)	Lowest Applicable Standard (ug/g)
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TP20-03-01	Nov 11, 2020	Benzene	1.52	0.074	0.035
		Total xylene		9.72	6.5

All other analyzed parameters were below the applicable standards.

The soil at sample location TP20-03-01 was excavated and disposed of during the remediation works in this area.

A site plan showing the soil confirmation sample locations with analytical results is presented in Figure 3.

### 3.2 Confirmation Surface Water Analytical Results

Laboratory analytical results indicated the following groundwater samples reported concentrations of petroleum hydrocarbon parameters exceeding the lowest applicable standards.

Sample ID	Sample Date	Parameter	Maximum Concentration (ug/L)	Lowest Applicable Standard (ug/L)
SW20-01-01	Nov 4, 2020	Toluene	13.3	5
SW20-02	Nov 16, 2020	LEPH	600	500
		Benzo(a)pyrene	0.03	0.01
		Pyrene	0.23	0.01

All other analyzed parameters were below the applicable standards.

Surface water at sample location SW20-02 was pumped to tanker trucks for off-Site disposal. Follow-up surface water samples collected at sample location SW20-01 reported concentrations of analyzed parameters below applicable standards.

A site plan showing the soil confirmation sample locations with analytical results is presented in Figure 4.

### 3.3 Confirmation Groundwater Analytical Results

Laboratory analytical results indicated the following groundwater samples reported concentrations of petroleum hydrocarbon parameters exceeding the lowest applicable standards.

Sample ID	Sample Date	Parameter	Concentration (ug/L)	Lowest Applicable Standard (ug/L)
GW20-01-01	Nov 4, 2020	Toluene	18.8	5
RW20-01-01	Nov 16, 2020	Benzo(a)pyrene	0.03	0.01
RW20-04-01	Nov 25, 2020	LEPH	520	500
RW20-05-01/02	Nov 25, 2020	Toluene	15.3	5
		LEPH	2100	500
		Benzo(a)pyrene	0.03	0.01
		1-Methylnaphthlene	6.4	5.5
	Dec 8, 2020	Pyrene	0.27	0.2
		LEPH	800	500
		Benzo(a)pyrene	0.06	0.01
		Pyrene	0.51	0.2

All other analyzed parameters were below the applicable standards.

A follow-up sample collected at sample location RW20-04 on December 8, 2020 reported concentrations of analyzed parameters below applicable standards.

A site plan of the groundwater sample locations with analytical results is presented in Figure 4.

## 4.0 CONCLUSIONS

On Oct 26<sup>th</sup>, 2020, approximately 7,000 litres of Bunker C fuel were spilled from a rail car at the Mclean Mill. TerraWest completed emergency spill response works from Oct 29<sup>th</sup> to November 26<sup>th</sup> 2020. Emergency response works included collecting and disposing of the spilled product, impacted soil and impacted surface water, and completing characterization and confirmatory sampling works. In total, 2,100 tonnes of petroleum hydrocarbon impacted soil and approximately 175,000 litres of impacted water were removed from the Site.

Laboratory analytical results indicated two confirmatory soil samples collected from the base of the excavation (1.5 -2.0 mbgs) exceed applicable standards for toluene. The other 11 floor samples reported concentrations below applicable standards.

Surface water samples collected towards the wetland meet the applicable standards.

Groundwater at recovery wells RW20-01 and RW20-05 located within the excavation exceed applicable standards. The groundwater sample GW20-01-01 collected from a test pit On November 4, 2020 exceeds applicable standards for toluene. Groundwater samples in close proximity (GW20-03-01 and MW20-06) collected on November 7 and 17, reported concentrations below applicable standards. .

TerraWest recommends monitoring the impacted groundwater within the excavation. TerraWest does not recommend further remediation works at this time.

We trust this meets your requirements, and if there are any questions regarding the above please do not hesitate to contact the undersigned below.

Kind regards,

Reviewed By:



Derek Stewart, *AScT, EP*  
*Project Manager*

Daniel Neden, *P.Ag.*  
*Project Manager*

Attachments:

Figure 1. Site Plan Showing Initial Spill and Investigation Locations

Figure 2: Excavation Confirmatory Soil Sample Locations with Petroleum Hydrocarbon Analytical Results

Figure 3: Site Plan with Test Pit and Borehole Investigation Locations with Petroleum Hydrocarbon Analytical Results

Figure 4: Site Plan with Surface Water Investigation Locations with Petroleum Hydrocarbon Analytical Results

Figure 5: Site Plan with Groundwater Investigation Locations with Petroleum Hydrocarbon Analytical Results

Tables:

*Table 1.1 to Table 1.15 Summary of Soil Analytical Results – Petroleum Hydrocarbons*

*Table 2.2 to Table 2.7 Summary of Soil Analytical Results – Metals*

*Table 3 – Summary of Soil Analytical Results – Phenols*

*Table 4 - Summary of Soil Analytical Results – TCLP*

*Table 5.1 – 5.2 – Summary of Groundwater Results – Petroleum Hydrocarbons*

*Table 6 - Summary of Groundwater Results – Dissolved Metals*

*Table 7 – Summary of Groundwater Results – Routine Parameters*

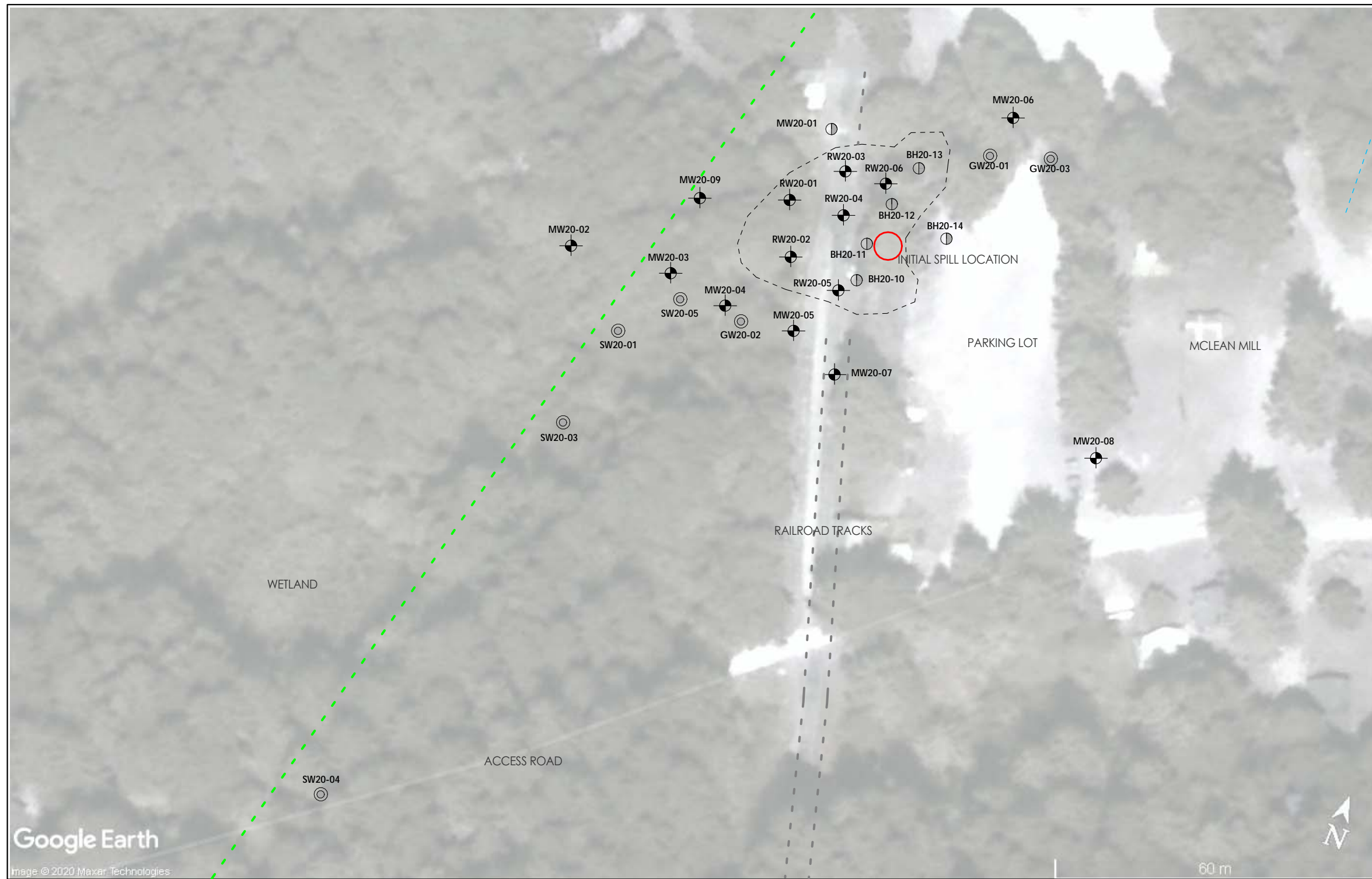
*Table 8.1 – 8.2 – Summary of Surface water Results – Petroleum Hydrocarbons*

*Table 9 – Summary of Surface Water – Total Metals*

*Table 10 – Summary of Surface Water – Routine*

Site Photographs





**LEGEND**

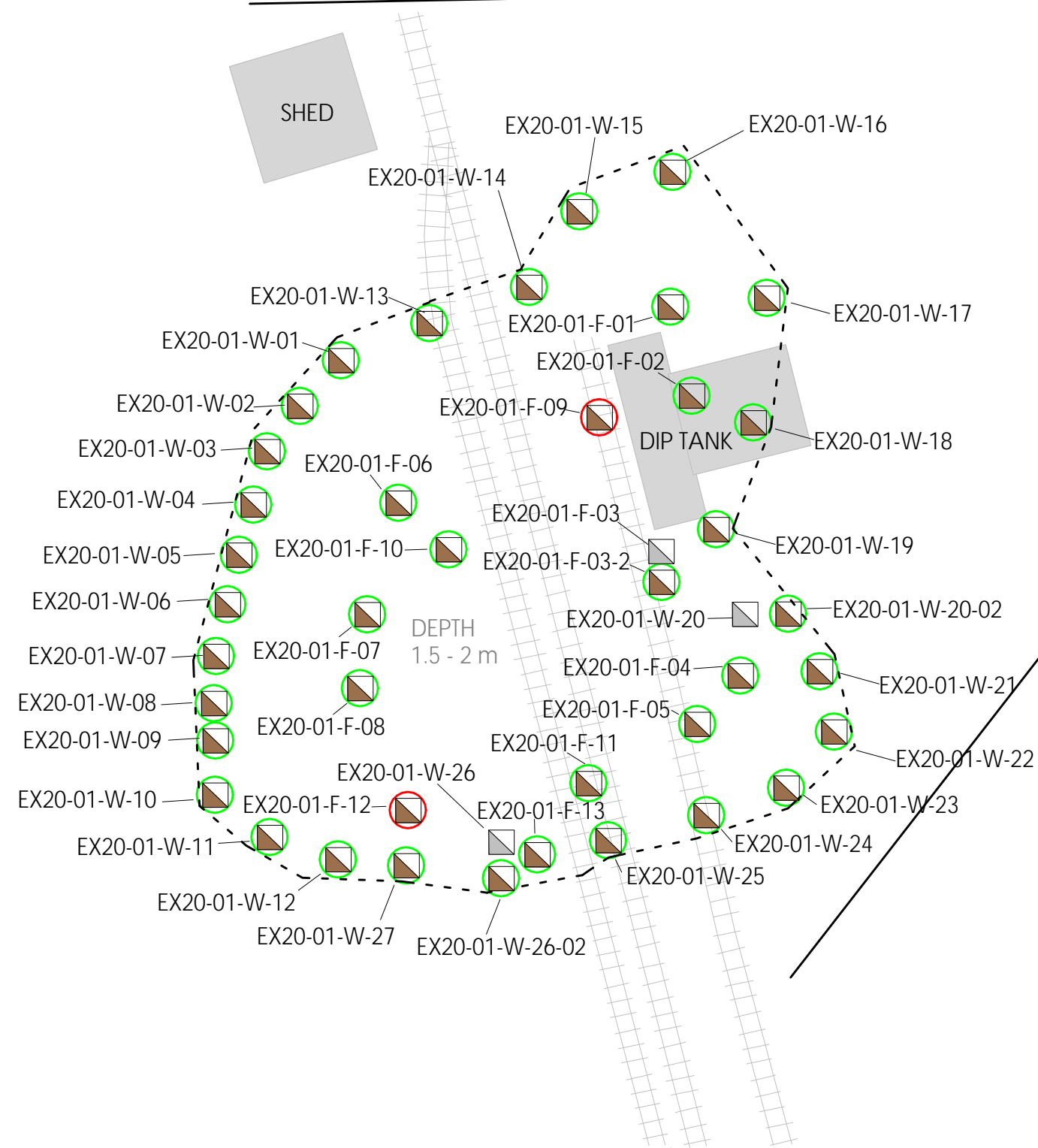
**FIGURE 1. SITE PLAN SHOWING INITIAL SPILL AND INVESTIGATION LOCATIONS**

CLIENT: PORT ALBERNI  
 LOCATION: MCLEAN MILL, 5633 SMITH ROAD, PORT ALBERNI, BC  
 PROJECT: PAMM21-01  
 DATE: JANUARY 2021  
 CREATED BY: DS

- - - SITE BOUNDARY
- - - DRAINAGE DITCH
- RAILWAY TRACKS







- SPILL LOCATION
- +
 GROUNDWATER MONITORING WELL
- BOREHOLE LOCATION
- SURFACE WATER SAMPLE LOCATION

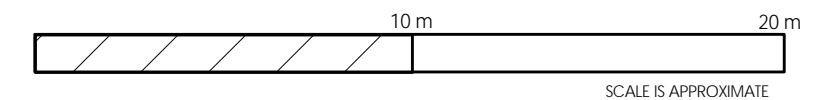
THIS FIGURE IS SUBJECT TO THE SAME LIMITATIONS OUTLINED IN THE REPORT BODY.  
 THIS FIGURE IS FOR INTERPRETATION ONLY AND IS INTENDED TO BE VIEWED IN COLOUR ON 11"x17" SIZED PAPER.  
 THE BOUNDARIES AND SCALE DEPICTED ARE APPROXIMATE.  
 SOURCE: GOOGLE EARTH

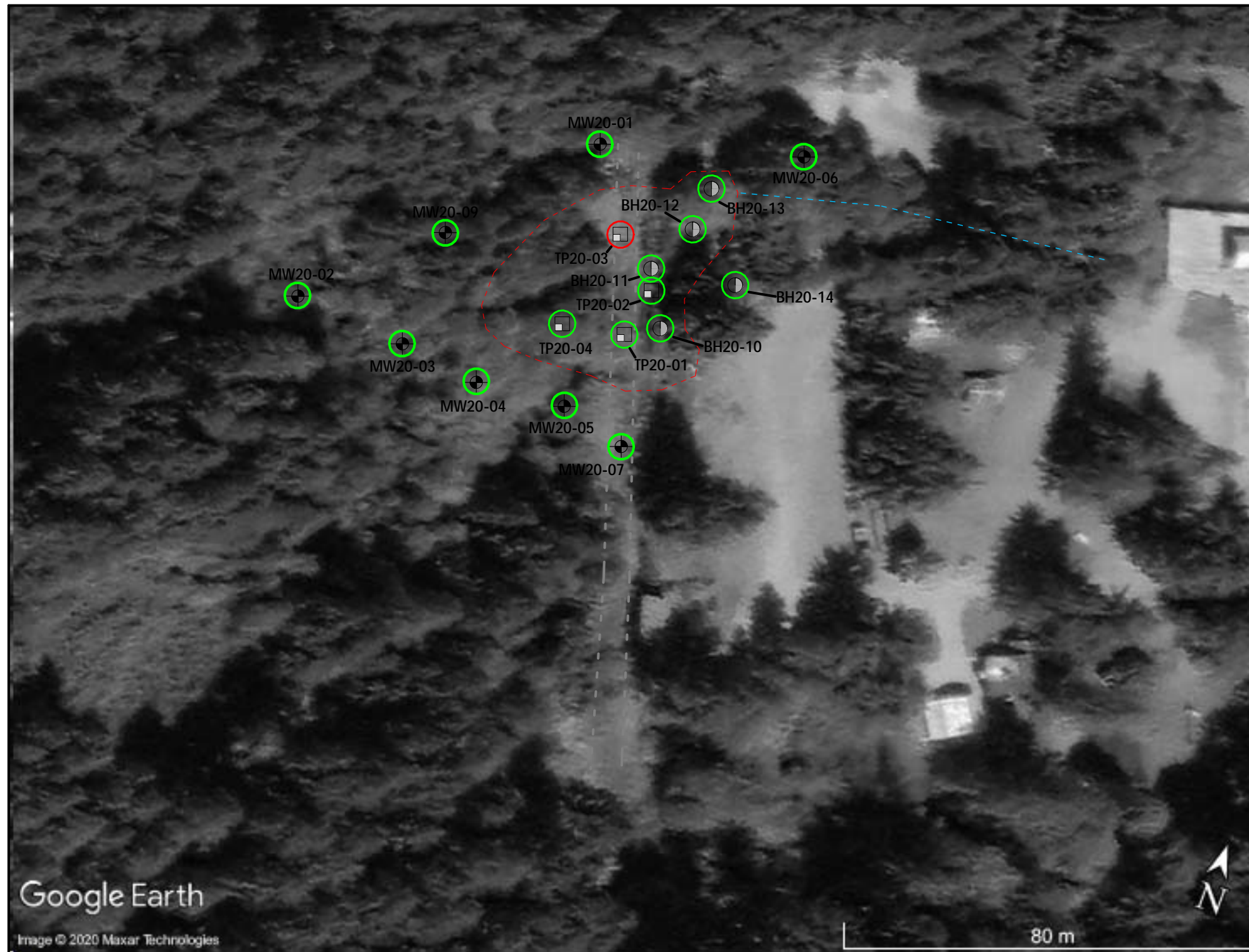


**FIGURE 2. EXCAVATION CONFIRMATORY SOIL SAMPLE LOCATIONS WITH PETROLEUM HYDROCARBON ANALYTICAL RESULTS**

CLIENT: CITY OF PORT ALBERNI  
LOCATION: 10 U 367042.75 m E 5463563.03 m N  
PROJECT: PAMM21-01  
DATE: JANUARY 2021  
CREATED BY: Q. G., D.N.

- LEGEND**
-  APPROXIMATE LOCATION OF BUILDING FOOTPRINT
  -  APPROXIMATE EXCAVATION BOUNDARIES
  -  CONFIRMATORY SOIL SAMPLE LOCATION
  -  PREVIOUSLY EXCEEDING SAMPLE LOCATION EXCAVATED
  -  SAMPLE LOCATION LESS THAN APPLICABLE STANDARDS
  -  SAMPLE LOCATION EXCEEDS APPLICABLE STANDARDS





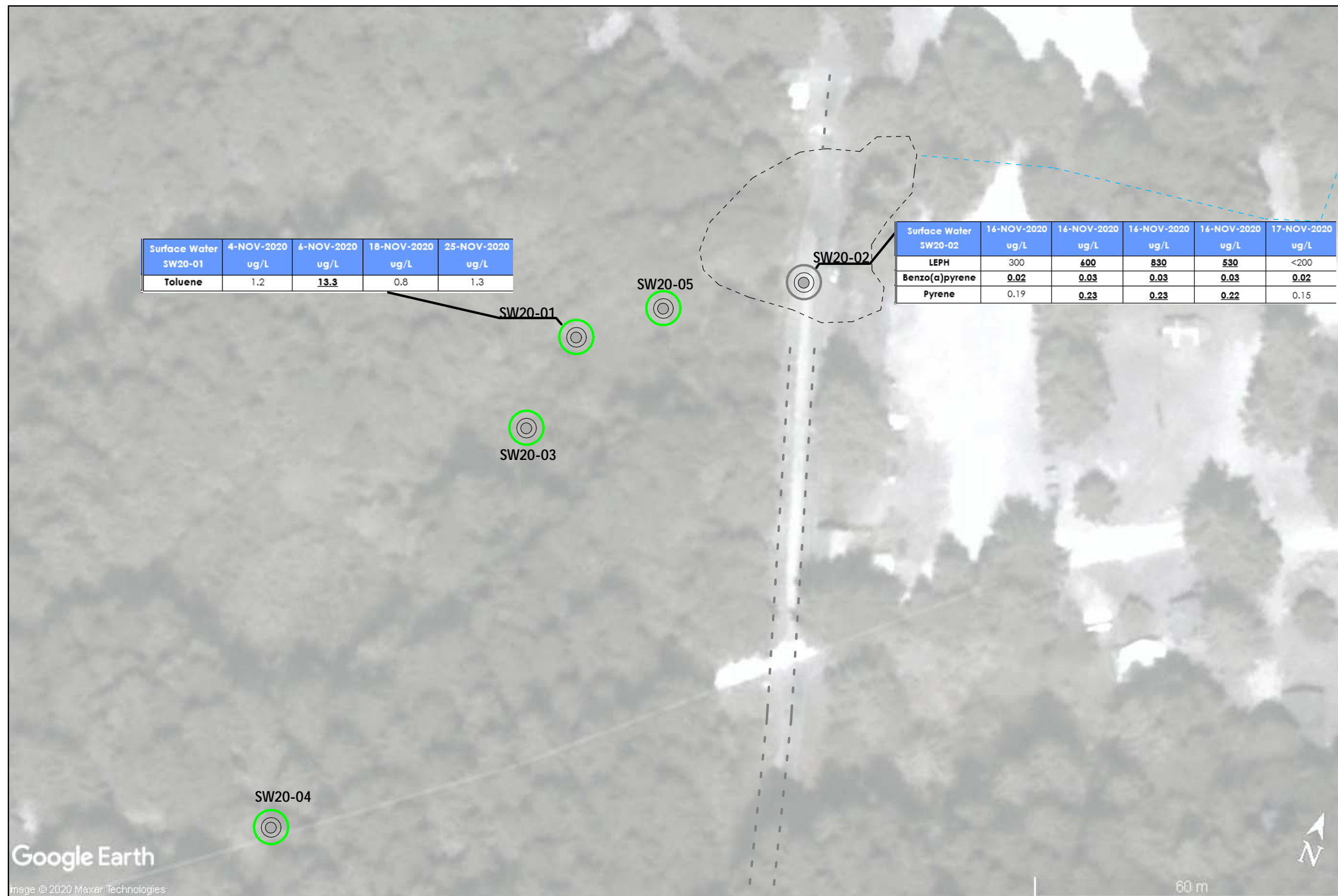
**FIGURE 3. SITE PLAN WITH TEST PIT AND BOREHOLE INVESTIGATION LOCATIONS WITH PETROLEUM HYDROCARBON ANALYTICAL RESULTS**

CLIENT: CITY OF PORT ALBERNI  
 LOCATION: MCLEAN MILL, 5633 SMITH ROAD, PORT ALBERNI, BC  
 PROJECT: PAMM21-01  
 DATE: JANUARY 2021  
 CREATED BY: DN

**LEGEND**

- — SITE BOUNDARY
- - - DRAINAGE DITCH
- - - RAILWAY TRACKS
- ⊕ GROUNDWATER MONITORING WELL
- TEST PIT SAMPLE LOCATION
- LOCATION LESS THAN APPLICABLE STANDARDS
- LOCATION EXCEEDS APPLICABLE STANDARDS

THIS FIGURE IS SUBJECT TO THE SAME LIMITATIONS OUTLINED IN THE REPORT BODY.  
 THIS FIGURE IS FOR INTERPRETATION ONLY AND IS INTENDED TO BE VIEWED IN COLOUR ON 11"x17" SIZED PAPER.  
 THE BOUNDARIES AND SCALE DEPICTED ARE APPROXIMATE.  
 SOURCE: GOOGLE EARTH



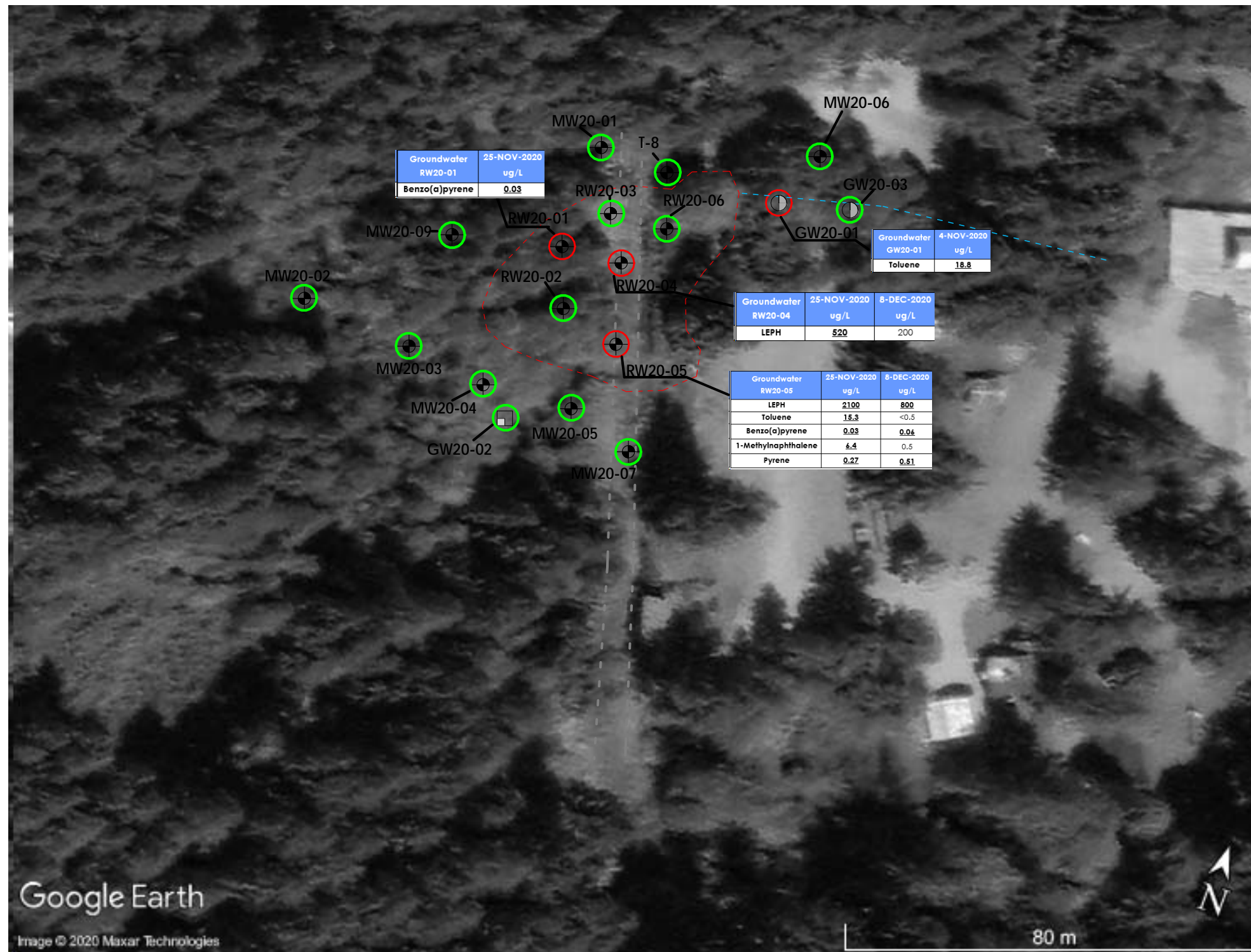
**FIGURE 4. SITE PLAN WITH SURFACE WATER INVESTIGATION LOCATIONS WITH PETROLEUM HYDROCARBON ANALYTICAL RESULTS**

CLIENT: CITY OF PORT ALBERNI  
 LOCATION: MCLEAN MILL, 5633 SMITH ROAD, PORT ALBERNI, BC  
 PROJECT: PAMM21-01  
 DATE: JANUARY 2021  
 CREATED BY: MF/QG/DN

**LEGEND**

- SITE BOUNDARY
- - - DRAINAGE DITCH
- RAILWAY TRACKS
- ⊙ SURFACE WATER SAMPLE LOCATION
- LOCATION LESS THAN APPLICABLE STANDARDS
- LOCATION EXCEEDS APPLICABLE STANDARDS
- SAMPLE LOCATION COLLECTED AND DISPOSED OFF-SITE

THIS FIGURE IS SUBJECT TO THE SAME LIMITATIONS OUTLINED IN THE REPORT BODY.  
 THIS FIGURE IS FOR INTERPRETATION ONLY AND IS INTENDED TO BE VIEWED IN COLOUR ON 11"x17" SIZED PAPER.  
 THE BOUNDARIES AND SCALE DEPICTED ARE APPROXIMATE.  
 SOURCE: GOOGLE EARTH



**FIGURE 5. SITE PLAN WITH GROUNDWATER INVESTIGATION LOCATIONS WITH PETROLEUM HYDROCARBON ANALYTICAL RESULTS**

CLIENT: CITY OF PORT ALBERNI  
 LOCATION: MCLEAN MILL, 5633 SMITH ROAD, PORT ALBERNI, BC  
 PROJECT: PAMM21-01  
 DATE: JANUARY 2021  
 CREATED BY: DN

**LEGEND**

- SITE BOUNDARY
- - - DRAINAGE DITCH
- RAILWAY TRACKS
- TEST PIT WATER SAMPLE LOCATION
- ⊕ GROUNDWATER MONITORING WELL
- ⊙ HYDROVAC BOREHOLE WATER SAMPLE LOCATION
- LOCATION LESS THAN APPLICABLE STANDARDS
- LOCATION EXCEEDS APPLICABLE STANDARDS

THIS FIGURE IS SUBJECT TO THE SAME LIMITATIONS OUTLINED IN THE REPORT BODY. THIS FIGURE IS FOR INTERPRETATION ONLY AND IS INTENDED TO BE VIEWED IN COLOUR ON 11"x17" SIZED PAPER. THE BOUNDARIES AND SCALE DEPICTED ARE APPROXIMATE. SOURCE: GOOGLE EARTH

Table 1.1 Summary of Stockpile #1 Soil Analytical Results - Petroleum Hydrocarbons

Sample ID	SP20-01-01	SP20-02-01	SP20-01-03	SP20-01-04	SP20-01-05	SP20-01-06	SP20-01-07	SP20-01-08	CSR Schedule 3.1 - Part 1 Urban Park Land Use <sup>2</sup>				CSR Schedule 3.1 Part 2 Urban Park Land Use <sup>3</sup>	CSR Schedule 3.1 Part 3 Urban Parkland Land Use <sup>4</sup>	
									Human Health Protection		Environmental Protection				
									Matrix	Soil	Soil	Soil	Soil	Soil	Soil
Depth (m below surface grade)	Stockpile Sample	Stockpile Sample	Stockpile Sample	Stockpile Sample	Stockpile Sample	Stockpile Sample	Stockpile Sample	Stockpile Sample							
Sample Date	2-Nov-20	2-Nov-20	5-Nov-20	5-Nov-20	5-Nov-20	5-Nov-20	5-Nov-20	5-Nov-20							
Comments	Stockpile #1. Soil disposed of off-site	Stockpile #1. Soil disposed of off-site	Stockpile #1. Soil disposed of off-site	Stockpile #1. Soil disposed of off-site	Stockpile #1. Soil disposed of off-site	Stockpile #1. Soil disposed of off-site	Stockpile #1. Soil disposed of off-site	Stockpile #1. Soil disposed of off-site							
PARAMETERS	Units	Analytical Results <sup>1</sup>													
<b>Volatile Hydrocarbons</b>															
Benzene	ug/g	0.028	0.032	<b>0.046</b>	<b>0.361</b>	<b>0.197</b>	<0.02	<0.02	<b>0.391</b>	350	0.035	100	2.5	n.s.	n.s.
Ethylbenzene	ug/g	1.66	1.26	2.3	8.56	4.36	<0.05	0.57	7.27	8,500	15	200	200	n.s.	n.s.
Methyl t-Butyl Ether	ug/g	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	n.s.	n.s.	n.s.	n.s.	8,000	n.s.
Styrene	ug/g	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	n.s.	n.s.	n.s.	n.s.	15,000	5
Toluene	ug/g	<b>1.4</b>	<b>1.18</b>	<b>2.18</b>	<b>10.6</b>	<b>5.76</b>	<0.05	<b>0.28</b>	<b>9.96</b>	6,500	6	150	0.5	n.s.	n.s.
Total Xylenes	ug/g	10.7	7.81	14.8	<b>50.5</b>	<b>25.6</b>	0.19	4.17	<b>41.9</b>	15,000	6.5	150	20	n.s.	n.s.
<b>Volatile Petroleum Hydrocarbons</b>															
VHS <sub>(6-10)</sub>	ug/g	210	190	170	450	250	<50	90	410	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
VPHs (VHS <sub>(6-10)</sub> minus BTEX)	ug/g	190	180	150	<b>380</b>	<b>210</b>	<50	90	<b>350</b>	n.s.	n.s.	n.s.	n.s.	200	200
<b>Extractable Petroleum Hydrocarbons</b>															
EPHS <sub>10-19</sub>	ug/g	8270	6640	8580	19300	12700	267	5170	11900	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
EPHS <sub>19-32</sub>	ug/g	4150	2980	4610	9100	5900	149	2590	5190	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
LEPHS <sub>10-19</sub>	ug/g	<b>8260</b>	<b>6630</b>	<b>8580</b>	<b>19300</b>	<b>12700</b>	267	<b>5160</b>	<b>11800</b>	n.s.	n.s.	n.s.	n.s.	1,000	1,000
HEPHS <sub>19-32</sub>	ug/g	<b>4140</b>	<b>2970</b>	<b>4610</b>	<b>9090</b>	<b>5890</b>	148	<b>2590</b>	<b>5180</b>	n.s.	n.s.	n.s.	n.s.	1,000	1,000
<b>Polycyclic Aromatic Hydrocarbons</b>															
Acenaphthene	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	0.13	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	2,000	n.s.
Acenaphthylene	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Anthracene	ug/g	0.41	0.51	0.32	1.33	0.71	0.09	0.7	1.09	25,000	n.s.	2.5	n.s.	n.s.	n.s.
Benzo(a)anthracene	ug/g	0.54	0.74	0.43	<b>1.5</b>	0.86	0.17	0.95	<b>1.29</b>	n.s.	n.s.	n.s.	n.s.	95	1
Benzo(a)pyrene	ug/g	0.35	0.47	0.29	1.07	0.61	0.05	0.65	1.02	10	n.s.	20	n.s.	n.s.	n.s.
Benzo(b)fluoranthene	ug/g	0.18	0.21	0.12	0.48	0.25	0.21	2.21	0.44	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Benzo(b+j)fluoranthene	ug/g	0.2	0.24	0.15	0.54	0.28	0.29	2.88	0.48	n.s.	n.s.	n.s.	n.s.	95	1
Benzo(g,h,i)perylene	ug/g	0.23	0.24	0.17	0.51	0.29	0.04	0.48	0.45	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Benzo(k)fluoranthene	ug/g	0.02	0.03	0.09	0.05	0.03	0.07	0.64	0.05	n.s.	n.s.	n.s.	n.s.	95	1
Chrysene	ug/g	0.61	0.86	0.48	1.77	0.92	0.25	2.01	1.42	n.s.	n.s.	n.s.	n.s.	400	n.s.
Dibenz(a,h)anthracene	ug/g	0.04	0.05	0.03	0.1	0.05	<0.02	0.13	0.09	n.s.	n.s.	n.s.	n.s.	10	1
Fluoranthene	ug/g	0.34	0.37	0.24	0.89	0.45	0.91	2.79	0.83	3,500	n.s.	50	n.s.	n.s.	n.s.
Fluorene	ug/g	1.31	1.56	1.04	2.95	1.74	0.15	1.01	2.87	n.s.	n.s.	n.s.	n.s.	1,000	n.s.
Indeno(1,2,3-c,d)pyrene	ug/g	0.04	0.04	0.03	0.09	0.05	0.03	0.39	0.08	n.s.	n.s.	n.s.	n.s.	95	1
1-Methylnaphthalene	ug/g	9.41	11.25	14.14	15.36	15.51	0.26	7.75	26.6	n.s.	n.s.	n.s.	n.s.	500	n.s.
2-Methylnaphthalene	ug/g	16.62	19.94	13.4	45.1	24.33	0.28	10.05	41.47	n.s.	n.s.	n.s.	n.s.	100	n.s.
Naphthalene	ug/g	<b>3051</b>	<b>4.25</b>	<b>2.96</b>	<b>9.19</b>	<b>5.09</b>	0.03	<b>0.94</b>	<b>8.19</b>	1,500	100	0.6	75	n.s.	n.s.
Phenanthrene	ug/g	4.57	<b>5.33</b>	3.21	<b>10.24</b>	<b>5.49</b>	0.46	3.46	<b>9.69</b>	n.s.	n.s.	n.s.	n.s.	3,500	5
Pyrene	ug/g	1.7	2.1	1.45	5.49	2.84	0.67	3.42	4.85	n.s.	n.s.	n.s.	n.s.	2,500	10
Quinoline	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	4.5	n.s.

Notes:

- 1 - Data excerpted from Element Materials Technology Canada Inc. analytical report(s); units as indicated
- 2 - BC Contaminated Sites Regulation (CSR) Schedule 3.1 - Part 1 Numerical Soil Standards, site-specific land use and pathways as noted above
- 3 - BC CSR Schedule 3.1 - Part 2 Generic Numerical Soil Standard to Protect Human Health, site-specific land use as noted above
- 4 - BC CSR Schedule 3.1 - Part 3 Generic Numerical Soil Standards to Protect Ecological Health, site-specific land use as noted above
- 5 - BC CSR Schedule 3.3 - Generic Vapour Standards, site-specific land use as noted above
- = Parameter not analyzed
- < = Less than the laboratory method detection limit
- Bold, underlined**, and shaded grey indicates concentration exceeds lowest of the applicable standards

Table 1.2 Summary of Stockpile #2 Soil Analytical Results - Petroleum Hydrocarbons

Sample ID	Matrix	SP20-02-01	SP20-02-02	SP20-02-03	SP20-02-04	SP20-02-05	SP20-02-06	SP20-02-07	SP20-02-08	SP20-02-09	SP20-02-10	CSR Schedule 3.1 - Part 1 Urban Park Land Use <sup>2</sup>				CSR Schedule 3.1 Part 2 Urban Park Land Use <sup>3</sup>	CSR Schedule 3.1 Part 3 Urban Parkland Land Use <sup>4</sup>
												Human Health Protection		Environmental Protection			
												Depth (m below surface grade)	Soil	Soil	Soil	Soil	Soil
Sample Date	6-Nov-20	6-Nov-20	6-Nov-20	6-Nov-20	10-Nov-20	10-Nov-20	13-Nov-20	13-Nov-20	13-Nov-20	13-Nov-20	13-Nov-20						
Comments	Stockpile #2. Soil backfilled in	Stockpile #2. Soil disposed of off-site	Stockpile #2. Soil backfilled in	Stockpile #2. Soil backfilled in	Stockpile #2. Soil backfilled in	Stockpile #2. Soil backfilled in	Stockpile #2. Soil backfilled in	Stockpile #2. Soil backfilled in	Stockpile #2. Soil disposed of off-site	Stockpile #2. Soil backfilled in	Stockpile #2. Soil backfilled in						
<b>PARAMETERS</b>	Units	<b>Analytical Results<sup>1</sup></b>															
<b>Volatile Hydrocarbons</b>																	
Benzene	ug/g	<0.02	0.021	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	350	0.035	100	2.5	n.s.	n.s.
Ethylbenzene	ug/g	0.14	0.4	<0.05	<0.05	0.09	<0.05	<0.05	0.09	<0.05	0.09	8,500	15	200	200	n.s.	n.s.
Methyl t-Butyl Ether	ug/g	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	n.s.	n.s.	n.s.	n.s.	8,000	n.s.
Styrene	ug/g	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	n.s.	n.s.	n.s.	n.s.	15,000	5
Toluene	ug/g	0.13	<b>0.51</b>	<0.05	<0.05	0.07	<0.05	<0.05	<0.05	<0.05	0.08	6,500	6	150	0.5	n.s.	n.s.
Total Xylenes	ug/g	0.94	2.52	0.07	0.18	0.92	0.14	<0.05	0.55	0.29	0.85	15,000	6.5	150	20	n.s.	n.s.
<b>Volatile Petroleum Hydrocarbons</b>																	
VHs <sub>(6-10)</sub>	ug/g	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
VPHs (VHs <sub>6-10</sub> minus BTEX)	ug/g	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	n.s.	n.s.	n.s.	n.s.	200	200
<b>Extractable Petroleum Hydrocarbons</b>																	
EPHs <sub>10-19</sub>	ug/g	360	637	57	64	754	601	85	1520	474	213	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
EPHs <sub>19-32</sub>	ug/g	91	174	<20	<20	318	152	70	1050	337	130	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
LEPHs <sub>10-19</sub>	ug/g	359	636	57	64	754	601	85	<b>1520</b>	473	213	n.s.	n.s.	n.s.	n.s.	1,000	1,000
HEPHs <sub>19-32</sub>	ug/g	91	174	<20	<20	318	151	70	1050	337	130	n.s.	n.s.	n.s.	n.s.	1,000	1,000
<b>Polycyclic Aromatic Hydrocarbons</b>																	
Acenaphthene	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	2,000	n.s.
Acenaphthylene	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Anthracene	ug/g	0.07	0.07	<0.02	<0.02	0.04	0.08	<0.02	0.1	0.05	<0.02	25,000	n.s.	2.5	n.s.	n.s.	n.s.
Benzo(a)anthracene	ug/g	0.09	0.1	0.02	0.02	0.07	0.12	<0.02	0.14	0.06	<0.02	n.s.	n.s.	n.s.	n.s.	95	1
Benzo(a)pyrene	ug/g	0.06	0.07	<0.02	<0.02	0.03	0.06	<0.02	0.08	0.04	<0.02	10	n.s.	20	n.s.	n.s.	n.s.
Benzo(b)fluoranthene	ug/g	0.03	0.03	0.03	0.02	0.02	0.03	<0.02	0.05	0.03	<0.02	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Benzo(b,j)fluoranthene	ug/g	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	0.05	<0.04	<0.04	n.s.	n.s.	n.s.	n.s.	95	1
Benzo(g,h,i)perylene	ug/g	0.03	0.04	<0.02	<0.02	0.02	0.04	<0.02	0.06	0.03	<0.02	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Benzo(k)fluoranthene	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	95	1
Chrysene	ug/g	0.1	0.12	0.03	0.03	0.06	0.1	0.02	0.16	0.07	0.02	n.s.	n.s.	n.s.	n.s.	400	n.s.
Dibenz(a,h)anthracene	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	10	1
Fluoranthene	ug/g	0.06	0.05	0.07	0.1	0.04	0.09	0.03	0.11	0.06	<0.02	3,500	n.s.	50	n.s.	n.s.	n.s.
Fluorene	ug/g	0.2	0.23	<0.02	0.02	0.15	0.21	0.02	0.27	0.13	0.04	n.s.	n.s.	n.s.	n.s.	1,000	n.s.
Indeno(1,2,3-c,d)pyrene	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	95	1
1-Methylnaphthalene	ug/g	1.4	1.59	0.09	0.12	0.73	1.29	0.11	1.41	0.62	0.23	n.s.	n.s.	n.s.	n.s.	500	n.s.
2-Methylnaphthalene	ug/g	2.18	2.69	0.15	0.21	0.45	1.81	0.1	1.17	0.33	0.18	n.s.	n.s.	n.s.	n.s.	100	n.s.
Naphthalene	ug/g	0.43	0.54	0.04	0.05	0.03	0.23	0.02	0.13	0.03	0.04	1,500	100	0.6	75	n.s.	n.s.
Phenanthrene	ug/g	0.6	0.68	0.08	0.11	0.35	0.55	0.09	0.85	0.41	0.12	n.s.	n.s.	n.s.	n.s.	3,500	5
Pyrene	ug/g	0.29	0.31	0.07	0.09	0.18	0.3	0.05	0.42	0.2	0.06	n.s.	n.s.	n.s.	n.s.	2,500	10
Quinoline	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	4.5	n.s.

Notes:  
 1 - Data excerpted from Element Materials Technology Canada Inc. analytical report(s); units as indicated  
 2 - BC Contaminated Sites Regulation (CSR) Schedule 3.1 - Part 1 Numerical Soil Standards, site-specific land use and pathways as noted above  
 3 - BC CSR Schedule 3.1 - Part 2 Generic Numerical Soil Standard to Protect Human Health, site-specific land use as noted above  
 4 - BC CSR Schedule 3.1 - Part 3 Generic Numerical Soil Standards to Protect Ecological Health, site-specific land use as noted above  
 n.s. = No applicable standard  
 - = Parameter not analyzed  
 < = Less than the laboratory method detection limit  
**Bold, underlined, and shaded grey** indicates concentration exceeds lowest of the applicable standards

Table 1.3 Summary of Stockpile #2 Soil Analytical Results - Petroleum Hydrocarbons

Sample ID	SP20-02-09	SP20-02-10	SP20-02-11	SP20-02-12	SP20-02-13	SP20-02-14	CSR Schedule 3.1 - Part 1 Urban Park Land Use <sup>2</sup>				CSR Schedule 3.1 Part 2 Urban Park Land Use <sup>3</sup>	CSR Schedule 3.1 Part 3 Urban Parkland Land Use <sup>4</sup>
							Human Health Protection		Environmental Protection			
Matrix	Soil	Soil	Soil	Soil	Soil	Soil						
Depth (m below surface grade)	Stockpile Sample	Stockpile Sample	Stockpile Sample	Stockpile Sample	Stockpile Sample	Stockpile Sample						
Sample Date	20-Nov-20	20-Nov-20	20-Nov-20	20-Nov-20	20-Nov-20	20-Nov-20						
Comments	Follow-up Sample of Stockpile #2. Soil backfilled in excavation	Follow-up Sample of Stockpile #2. Soil disposed of off-site	Follow-up Sample of Stockpile #2. Soil backfilled in excavation	Follow-up Sample of Stockpile #2. Soil backfilled in excavation	Follow-up Sample of Stockpile #2. Soil disposed of off-site	Follow-up Sample of Stockpile #2. Soil backfilled in excavation	Intake of Contaminated Soil	Groundwater Used for Drinking Water	Toxicity to Invertebrates and Plants	Groundwater Flow to Freshwater	Human Health Protection	Ecological Health
PARAMETERS	Units	Analytical Results <sup>1</sup>										
<b>Volatile Hydrocarbons</b>												
Benzene	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	350	0.035	100	2.5	n.s.	n.s.
Ethylbenzene	ug/g	<0.05	<0.05	<0.05	0.07	0.37	8,500	15	200	200	n.s.	n.s.
Methyl t-Butyl Ether	ug/g	<0.05	<0.05	<0.05	<0.05	<0.05	n.s.	n.s.	n.s.	n.s.	8,000	n.s.
Styrene	ug/g	<0.05	<0.05	<0.05	<0.05	<0.05	n.s.	n.s.	n.s.	n.s.	15,000	5
Toluene	ug/g	<0.05	<0.05	<0.05	0.08	0.4	6,500	6	150	0.5	n.s.	n.s.
Total Xylenes	ug/g	0.19	0.23	0.25	0.52	2.52	15,000	6.5	150	20	n.s.	n.s.
<b>Volatile Petroleum Hydrocarbons</b>												
VHS <sub>(6-10)</sub>	ug/g	<50	<50	<50	<50	<50	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
VPHs (VHS <sub>6-10</sub> minus BTEX)	ug/g	<50	<50	<50	<50	<50	n.s.	n.s.	n.s.	n.s.	200	200
<b>Extractable Petroleum Hydrocarbons</b>												
EPHS <sub>10-19</sub>	ug/g	262	1520	541	260	1150	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
EPHS <sub>19-32</sub>	ug/g	152	861	349	146	577	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
LEPHS <sub>10-19</sub>	ug/g	261	<b>1520</b>	540	260	<b>1150</b>	n.s.	n.s.	n.s.	n.s.	1,000	1,000
HEPHS <sub>19-32</sub>	ug/g	152	861	349	146	577	n.s.	n.s.	n.s.	n.s.	1,000	1,000
<b>Polycyclic Aromatic Hydrocarbons</b>												
Acenaphthene	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	2,000	n.s.
Acenaphthylene	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Anthracene	ug/g	0.03	0.03	0.05	0.02	0.04	25,000	n.s.	2.5	0.04	n.s.	n.s.
Benzo(a)anthracene	ug/g	0.04	0.03	0.06	0.04	0.05	n.s.	n.s.	n.s.	n.s.	95	1
Benzo(a)pyrene	ug/g	0.02	0.02	0.04	0.02	0.03	10	n.s.	20	n.s.	n.s.	n.s.
Benzo(b)fluoranthene	ug/g	0.03	<0.02	0.05	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Benzo(b+)fluoranthene	ug/g	<0.04	<0.04	0.05	<0.04	<0.04	n.s.	n.s.	n.s.	n.s.	95	1
Benzo(g,h,i)perylene	ug/g	<0.02	<0.02	0.03	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Benzo(k)fluoranthene	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	95	1
Chrysene	ug/g	0.06	0.04	0.07	0.04	0.05	n.s.	n.s.	n.s.	n.s.	400	n.s.
Dibenz(a,h)anthracene	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	10	1
Fluoranthene	ug/g	0.11	0.03	0.08	0.05	0.03	3,500	n.s.	50	n.s.	n.s.	n.s.
Fluorene	ug/g	0.07	0.08	0.11	0.05	0.1	n.s.	n.s.	n.s.	n.s.	1,000	n.s.
Indeno(1,2,3-c,d)pyrene	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	95	1
1-Methylnaphthalene	ug/g	0.24	0.36	0.46	0.15	0.74	n.s.	n.s.	n.s.	n.s.	500	n.s.
2-Methylnaphthalene	ug/g	0.22	0.21	0.31	0.13	1.24	n.s.	n.s.	n.s.	n.s.	100	n.s.
Naphthalene	ug/g	0.02	0.02	0.02	0.01	0.19	1,500	100	0.6	75	n.s.	n.s.
Phenanthrene	ug/g	0.2	0.25	0.37	0.18	0.35	n.s.	n.s.	n.s.	n.s.	3,500	5
Pyrene	ug/g	0.15	0.11	0.19	0.12	0.15	n.s.	n.s.	n.s.	n.s.	2,500	10
Quinoline	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	4.5	n.s.

**Notes:**

- 1 - Data excerpted from Element Materials Technology Canada Inc. analytical report(s); units as indicated
- 2 - BC Contaminated Sites Regulation (CSR) Schedule 3.1 - Part 1 Numerical Soil Standards, site-specific land use and pathways as noted above
- 3 - BC CSR Schedule 3.1 - Part 2 Generic Numerical Soil Standard to Protect Human Health, site-specific land use as noted above
- 4 - BC CSR Schedule 3.1 - Part 3 Generic Numerical Soil Standards to Protect Ecological Health, site-specific land use as noted above
- n.s. = No applicable standard
- = Parameter not analyzed
- < = Less than the laboratory method detection limit
- Bold, underlined, and shaded grey** indicates concentration exceeds lowest of the applicable standards



Table 1.4 Summary of Stockpile #3 Soil Analytical Results - Petroleum Hydrocarbons

Sample ID	Matrix	SP20-03-01	SP20-03-02	SP20-03-03	SP20-03-04	SP20-03-05	SP20-03-06	SP20-03-07	SP20-03-08	SP20-03-09	SP20-03-10	CSR Schedule 3.1 - Part 1 Urban Park Land Use <sup>2</sup>				CSR Schedule 3.1 Part 2 Urban Park Land Use <sup>3</sup>	CSR Schedule 3.1 Part 3 Urban Parkland Land Use <sup>4</sup>
												Human Health Protection		Environmental Protection			
												Depth (m below surface grade)	Soil	Soil	Soil	Soil	Soil
Sample Date		10-Nov-20	10-Nov-20	10-Nov-20	10-Nov-20	10-Nov-20	10-Nov-20	10-Nov-20	10-Nov-20	10-Nov-20	10-Nov-20						
Comments		Stockpile #3. Soil disposed of off-site	Stockpile #3. Soil disposed of off-site	Stockpile #3. Soil disposed of off-site	Stockpile #3. Soil disposed of off-site	Stockpile #3. Soil disposed of off-site	Stockpile #3. Soil disposed of off-site	Stockpile #3. Soil disposed of off-site	Stockpile #3. Soil disposed of off-site	Stockpile #3. Soil disposed of off-site	Stockpile #3. Soil disposed of off-site						
<b>PARAMETERS</b>	Units	<b>Analytical Results<sup>1</sup></b>															
<b>Volatile Hydrocarbons</b>																	
Benzene	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.05	0.022	350	0.035	100	2.5	n.s.	n.s.
Ethylbenzene	ug/g	0.57	0.24	0.56	0.1	0.25	0.49	0.73	0.05	1.46	0.73	8,500	15	200	200	n.s.	n.s.
Methyl t-Butyl Ether	ug/g	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	n.s.	n.s.	n.s.	n.s.	8,000	n.s.
Styrene	ug/g	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	n.s.	n.s.	n.s.	n.s.	15,000	5
Toluene	ug/g	<b>0.53</b>	0.17	<b>0.52</b>	0.08	0.33	0.35	<b>0.77</b>	<0.05	<b>1.75</b>	<b>0.83</b>	6,500	6	150	0.5	n.s.	n.s.
Total Xylenes	ug/g	4.06	1.71	3.73	0.94	1.51	3.5	4.72	0.33	9.01	4.51	15,000	6.5	150	20	n.s.	n.s.
<b>Volatile Petroleum Hydrocarbons</b>																	
VHs <sub>(6-10)</sub>	ug/g	70	<50	<50	<50	<50	60	70	<50	70	50	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
VPHs (VHs <sub>6-10</sub> minus BTEX)	ug/g	60	<50	<50	<50	<50	50	60	<50	60	<50	n.s.	n.s.	n.s.	n.s.	200	200
<b>Extractable Petroleum Hydrocarbons</b>																	
EPHs <sub>10-19</sub>	ug/g	653	610	665	403	176	1080	828	86	1570	488	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
EPHs <sub>19-32</sub>	ug/g	128	387	189	126	60	415	297	53	629	181	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
LEPHs <sub>10-19</sub>	ug/g	652	610	664	402	176	<b>1080</b>	827	86	<b>1570</b>	487	n.s.	n.s.	n.s.	n.s.	1,000	1,000
HEPHs <sub>19-32</sub>	ug/g	127	386	188	125	60	414	297	53	627	181	n.s.	n.s.	n.s.	n.s.	1,000	1,000
<b>Polycyclic Aromatic Hydrocarbons</b>																	
Acenaphthene	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	2,000	n.s.
Acenaphthylene	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Anthracene	ug/g	0.09	0.07	0.09	0.06	0.04	0.11	0.08	<0.02	0.2	0.04	25,000	n.s.	2.5	n.s.	n.s.	n.s.
Benzo(a)anthracene	ug/g	0.16	0.13	0.24	0.12	0.09	0.26	0.16	0.04	0.36	0.11	n.s.	n.s.	n.s.	n.s.	95	1
Benzo(a)pyrene	ug/g	0.08	0.06	0.13	0.06	0.05	0.13	0.09	<0.02	0.19	0.06	10	n.s.	20	n.s.	n.s.	n.s.
Benzo(b)fluoranthene	ug/g	0.04	0.04	0.24	0.04	0.02	0.07	0.04	<0.02	0.1	0.05	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Benzo(b+j)fluoranthene	ug/g	0.04	0.04	0.29	<0.04	<0.04	0.07	<0.04	<0.04	0.1	0.05	n.s.	n.s.	n.s.	n.s.	95	1
Benzo(g,h,i)perylene	ug/g	0.04	0.03	0.09	0.04	0.03	0.08	0.05	<0.02	0.11	0.03	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Benzo(k)fluoranthene	ug/g	<0.02	<0.02	0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	95	1
Chrysene	ug/g	0.12	0.09	0.24	0.1	0.06	0.2	0.13	0.03	0.27	0.09	n.s.	n.s.	n.s.	n.s.	400	n.s.
Dibenz(a,h)anthracene	ug/g	<0.02	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.02	n.s.	n.s.	n.s.	n.s.	10	1
Fluoranthene	ug/g	0.17	0.29	0.28	0.09	0.04	0.23	0.08	0.02	0.41	0.13	3,500	n.s.	50	n.s.	n.s.	n.s.
Fluorene	ug/g	0.31	0.2	0.27	0.21	0.15	0.38	0.29	0.07	0.63	0.15	n.s.	n.s.	n.s.	n.s.	1,000	n.s.
Indeno(1,2,3-c,d)pyrene	ug/g	<0.02	<0.02	0.06	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.02	n.s.	n.s.	n.s.	n.s.	95	1
1-Methylnaphthalene	ug/g	1.7	0.6	1.64	1.22	0.87	2.37	1.69	0.39	4.49	0.83	n.s.	n.s.	n.s.	n.s.	500	n.s.
2-Methylnaphthalene	ug/g	2.92	0.7	2.79	1.88	1.62	3.92	3.02	0.78	6.77	1.54	n.s.	n.s.	n.s.	n.s.	100	n.s.
Naphthalene	ug/g	0.52	0.04	0.47	0.25	0.27	<b>0.72</b>	0.53	0.13	<b>1.41</b>	0.25	1,500	100	0.6	75	n.s.	n.s.
Phenanthrene	ug/g	0.75	0.52	0.69	0.52	0.35	0.98	0.73	0.17	1.59	0.38	n.s.	n.s.	n.s.	n.s.	3,500	5
Pyrene	ug/g	0.43	0.32	0.52	0.29	0.19	0.6	0.36	0.09	0.91	0.27	n.s.	n.s.	n.s.	n.s.	2,500	10
Quinoline	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	4.5	n.s.

Notes:  
 1 - Data excerpted from Element Materials Technology Canada Inc. analytical report(s); units as indicated  
 2 - BC Contaminated Sites Regulation (CSR) Schedule 3.1 - Part 1 Numerical Soil Standards, site-specific land use and pathways as noted above  
 3 - BC CSR Schedule 3.1 - Part 2 Generic Numerical Soil Standard to Protect Human Health, site-specific land use as noted above  
 4 - BC CSR Schedule 3.1 - Part 3 Generic Numerical Soil Standards to Protect Ecological Health, site-specific land use as noted above  
 n.s. = No applicable standard  
 - = Parameter not analyzed  
 < = Less than the laboratory method detection limit  
**Bold, underlined, and shaded grey** indicates concentration exceeds lowest of the applicable standards

Table 1.5 Summary of Confirmatory Soil Analytical Results - Petroleum Hydrocarbons

Sample ID	EX20-01-W-01	EX20-01-W-02	EX20-01-W-03	EX20-01-W-04	EX20-01-W-05	EX20-01-W-06	EX20-01-W-07	EX20-01-W-08	EX20-01-W-09	EX20-01-W-10	EX20-01-W-11	EX20-01-W-12	EX20-01-W-A	EX20-01-W-B	CSR Schedule 3.1 - Part 1 Urban Park Land Use <sup>2</sup>				CSR Schedule 3.1 Part 2 Urban Park Land Use <sup>3</sup>	CSR Schedule 3.1 Part 3 Urban Parkland Land Use <sup>4</sup>	
															Human Health Protection		Environmental Protection				
Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil							
Depth (m below surface grade)	0.50	0.70	0.65	0.70	0.80	1.00	0.90	0.70	0.60	0.45	0.40	0.45	0.50	0.45							
Sample Date	7-Nov-20	7-Nov-20	7-Nov-20	7-Nov-20	7-Nov-20	7-Nov-20	7-Nov-20	7-Nov-20	7-Nov-20	7-Nov-20	7-Nov-20	7-Nov-20	7-Nov-20	7-Nov-20							
Comments	Confirmatory Wall Sample From Excavation	Confirmatory Wall Sample From Excavation	Confirmatory Wall Sample From Excavation	Confirmatory Wall Sample From Excavation	Confirmatory Wall Sample From Excavation	Confirmatory Wall Sample From Excavation	Confirmatory Wall Sample From Excavation	Confirmatory Wall Sample From Excavation	Confirmatory Wall Sample From Excavation	Confirmatory Wall Sample From Excavation	Confirmatory Wall Sample From Excavation	Confirmatory Wall Sample From Excavation	Duplicate to EX20-01-W-1	Duplicate to EX20-01-W-10	Intake of Contaminated Soil	Groundwater Used for Drinking Water	Toxicity to Invertebrates and Plants	Groundwater Flow to Freshwater	Human Health Protection	Ecological Health	
PARAMETERS	Analytical Results <sup>1</sup>																				
Units																					
<b>Volatile Hydrocarbons</b>																					
Benzene	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	350	0.035	100	2.5	n.s.	n.s.
Ethylbenzene	ug/g	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	8,500	15	200	200	n.s.	n.s.
Methyl t-Butyl Ether	ug/g	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	n.s.	n.s.	n.s.	n.s.	8,000	n.s.
Styrene	ug/g	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	n.s.	n.s.	n.s.	n.s.	15,000	5
Toluene	ug/g	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	6,500	6	150	0.5	n.s.	n.s.
Total Xylenes	ug/g	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	15,000	6.5	150	20	n.s.	n.s.
<b>Volatile Petroleum Hydrocarbons</b>																					
VHs <sub>10-19</sub>	ug/g	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
VPHs (VHs <sub>10-19</sub> minus BTEX)	ug/g	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	n.s.	n.s.	n.s.	n.s.	200	200
<b>Extractable Petroleum Hydrocarbons</b>																					
EPHs <sub>10-19</sub>	ug/g	33	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
EPHs <sub>19-32</sub>	ug/g	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
LEPHs <sub>10-19</sub>	ug/g	33	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	n.s.	n.s.	n.s.	n.s.	1,000	1,000
HEPHs <sub>19-32</sub>	ug/g	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	n.s.	n.s.	n.s.	n.s.	1,000	1,000
<b>Polycyclic Aromatic Hydrocarbons</b>																					
Acenaphthene	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	2,000	n.s.
Acenaphthylene	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Anthracene	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	25,000	n.s.	n.s.	2.5	n.s.	n.s.
Benzo(a)anthracene	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	95	1
Benzo(a)pyrene	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	10	n.s.	20	n.s.	n.s.	n.s.
Benzo(b)fluoranthene	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Benzo(b+j)fluoranthene	ug/g	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	n.s.	n.s.	n.s.	n.s.	95	1
Benzo(g,h,i)perylene	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Benzo(k)fluoranthene	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	95	1
Chrysene	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	400	n.s.
Dibenz(a,h)anthracene	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	10	1
Fluoranthene	ug/g	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	3,500	n.s.	50	n.s.	n.s.	n.s.
Fluorene	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	1,000	n.s.
Indeno(1,2,3-c,d)pyrene	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	95	1
1-Methylnaphthalene	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	500	n.s.
2-Methylnaphthalene	ug/g	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	100	n.s.
Naphthalene	ug/g	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	1,500	100	0.6	75	n.s.	n.s.
Phenanthrene	ug/g	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	3,500	5
Pyrene	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	2,500	10
Quinoline	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	4.5	n.s.

**Notes:**  
 1 - Data excerpted from Element Materials Technology Canada Inc. analytical report(s); units as indicated  
 2 - BC Contaminated Sites Regulation (CSR) Schedule 3.1 - Part 1 Numerical Soil Standards, site-specific land use and pathways as noted above  
 3 - BC CSR Schedule 3.1 - Part 2 Generic Numerical Soil Standard to Protect Human Health, site-specific land use as noted above  
 4 - BC CSR Schedule 3.1 - Part 3 Generic Numerical Soil Standards to Protect Ecological Health, site-specific land use as noted above  
 n.s. = No applicable standard  
 - = Parameter not analyzed  
 < = Less than the laboratory method detection limit  
**Bold, underlined, and shaded grey** indicates concentration exceeds lowest of the applicable standards

Table 1.6 Summary of Confirmatory Soil Analytical Results - Petroleum Hydrocarbons

Sample ID	EX20-01-W-13	EX20-01-W-14	EX20-01-W-15	EX20-01-W-16	EX20-01-W-17	EX20-01-W-18	EX20-01-W-19	EX20-01-W-20	EX20-01-W-C	EX20-01-W-20-02	EX20-01-W-21	EX20-01-W-22	CSR Schedule 3.1 - Part 1 Urban Park Land Use <sup>2</sup>				CSR Schedule 3.1 Part 2 Urban Park Land Use <sup>3</sup>	CSR Schedule 3.1 Part 3 Urban Park Land Use <sup>4</sup>
													Human Health Protection		Environmental Protection			
													Matrix	Soil	Soil	Soil	Soil	Soil
Depth (m below surface grade)	0.50	0.50	0.50	0.70	0.70	0.70	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Sample Date	7-Nov-20	7-Nov-20	7-Nov-20	7-Nov-20	7-Nov-20	7-Nov-20	7-Nov-20	7-Nov-20	7-Nov-20	18-Nov-20	7-Nov-20	7-Nov-20	7-Nov-20	7-Nov-20	7-Nov-20	7-Nov-20	7-Nov-20	7-Nov-20
Comments	Confirmatory Wall Sample From Excavation	Confirmatory Wall Sample From Excavation	Confirmatory Wall Sample From Excavation	Confirmatory Wall Sample From Excavation	Confirmatory Wall Sample From Excavation	Confirmatory Wall Sample From Excavation	Confirmatory Wall Sample From Excavation	Soil Excavated for Disposal	Duplicate to Sample EX20-01-W-20	Confirmatory Wall Sample From Excavation at Location EX20-01-W-20	Confirmatory Wall Sample From Excavation	Confirmatory Wall Sample From Excavation	Intake of Contaminated Soil	Groundwater Used for Drinking Water	Toxicity to Invertebrates and Plants	Groundwater Flow to Freshwater	Human Health Protection	Ecological Health
<b>PARAMETERS</b>	Units	<b>Analytical Results<sup>1</sup></b>																
<b>Volatile Hydrocarbons</b>																		
Benzene	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Ethylbenzene	ug/g	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Methyl 1-Butyl Ether	ug/g	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Styrene	ug/g	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Toluene	ug/g	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Total Xylenes	ug/g	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
<b>Volatile Petroleum Hydrocarbons</b>																		
VHS <sub>9-10</sub>	ug/g	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
VPHs (VHS <sub>9-10</sub> minus BTEX)	ug/g	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
<b>Extractable Petroleum Hydrocarbons</b>																		
EPHs <sub>10-19</sub>	ug/g	<20	192	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
EPHs <sub>19-32</sub>	ug/g	<20	48	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
LEPHs <sub>10-19</sub>	ug/g	<20	191	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
HEPHs <sub>19-32</sub>	ug/g	<20	48	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
<b>Polycyclic Aromatic Hydrocarbons</b>																		
Acenaphthene	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Acenaphthylene	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Anthracene	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Benzo(a)anthracene	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Benzo(a)pyrene	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Benzo(b)fluoranthene	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Benzo(b+j)fluoranthene	ug/g	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Benzo(g,h,i)perylene	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Benzo(k)fluoranthene	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Chrysene	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Dibenz(a,h)anthracene	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Fluoranthene	ug/g	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Fluorene	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Indeno(1,2,3-c,d)pyrene	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
1-Methylnaphthalene	ug/g	<0.02	0.07	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
2-Methylnaphthalene	ug/g	<0.02	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Naphthalene	ug/g	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Phenanthrene	ug/g	0.03	0.08	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Pyrene	ug/g	0.02	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Quinoline	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02

Notes:  
 1 - Data excerpted from Element Materials Technology Canada Inc. analytical report(s); units as indicated  
 2 - BC Contaminated Sites Regulation (CSR) Schedule 3.1 - Part 1 Numerical Soil Standards, site-specific land use and pathways as noted above  
 3 - BC CSR Schedule 3.1 - Part 2 Generic Numerical Soil Standard to Protect Human Health, site-specific land use as noted above  
 4 - BC CSR Schedule 3.1 - Part 3 Generic Numerical Soil Standards to Protect Ecological Health, site-specific land use as noted above  
 n.s. = No applicable standard  
 - = Parameter not analyzed  
 < = Less than the laboratory method detection limit  
**Bold, underlined, and shaded grey** indicates concentration exceeds lowest of the applicable standards  
 Light grey indicates soil has been excavated for disposal

Table 1.7 Summary of Confirmatory Soil Analytical Results - Petroleum Hydrocarbons

Sample ID	EX20-01-F-01	EX20-01-F-02	EX20-01-F-03	EX20-01-F-03-02	EX20-01-F-04	EX20-02-F-05	EX20-02-F-06	EX20-02-F-07	EX20-02-F-08	EX20-01-F-09	EX20-01-F-10	EX20-01-F-11	CSR Schedule 3.1 - Part 1 Urban Park Land Use <sup>2</sup>				CSR Schedule 3.1 Part 2 Urban Park Land Use <sup>3</sup>	CSR Schedule 3.1 Part 3 Urban Park Land Use <sup>4</sup>	
													Human Health Protection		Environmental Protection				
													Matrix	Soil	Soil	Soil	Soil	Soil	Soil
Depth (m below surface grade)				1.30															
Sample Date	10-Nov-20	10-Nov-20	10-Nov-20	18-Nov-20	10-Nov-20	10-Nov-20	10-Nov-20	10-Nov-20	10-Nov-20	18-Nov-20	18-Nov-20	19-Nov-20							
Comments	Confirmatory Floor Sample From Excavation	Confirmatory Floor Sample From Excavation	Soil Excavated for Disposal	Confirmatory Floor Sample From Excavation	Confirmatory Floor Sample From Excavation	Confirmatory Floor Sample From Excavation	Confirmatory Floor Sample From Excavation	Confirmatory Floor Sample From Excavation	Confirmatory Floor Sample From Excavation	Confirmatory Floor Sample From Excavation	Confirmatory Floor Sample From Excavation	Confirmatory Floor Sample From Excavation							
<b>PARAMETERS</b>	Units	<b>Analytical Results<sup>1</sup></b>																	
<b>Volatile Hydrocarbons</b>																			
Benzene	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.028	<0.02	<0.02	350	0.035	100	2.5	n.s.	n.s.	
Ethylbenzene	ug/g	<0.05	<0.05	0.39	<0.05	<0.05	<0.05	0.08	<0.05	0.67	<0.05	<0.05	8,500	15	200	200	n.s.	n.s.	
Methyl t-Butyl Ether	ug/g	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	n.s.	n.s.	n.s.	n.s.	8,000	n.s.	
Styrene	ug/g	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	n.s.	n.s.	n.s.	n.s.	15,000	5	
Toluene	ug/g	<0.05	<0.05	0.3	<0.05	<0.05	<0.05	0.1	<0.05	<0.05	<0.05	<0.05	6,500	6	150	0.5	n.s.	n.s.	
Total Xylenes	ug/g	<0.05	<0.05	2.5	<0.05	<0.05	<0.05	0.47	<0.05	4.11	<0.05	<0.05	15,000	6.5	150	20	n.s.	n.s.	
<b>Volatile Petroleum Hydrocarbons</b>																			
VHS <sub>6-10</sub>	ug/g	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	
VPHs (VHS <sub>6-10</sub> minus BTEX)	ug/g	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	n.s.	n.s.	n.s.	n.s.	200	200	
<b>Extractable Petroleum Hydrocarbons</b>																			
EPH <sub>10-19</sub>	ug/g	<20	<20	1030	285	<20	<20	67	<20	641	<20	<20	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	
EPH <sub>19-32</sub>	ug/g	<20	<20	498	149	<20	<20	<20	<20	217	<20	<20	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	
LEPH <sub>10-19</sub>	ug/g	<20	<20	<b>1030</b>	285	<20	<20	67	<20	641	<20	<20	n.s.	n.s.	n.s.	n.s.	1,000	1,000	
HEPH <sub>19-32</sub>	ug/g	<20	<20	497	149	<20	<20	<20	<20	217	<20	<20	n.s.	n.s.	n.s.	n.s.	1,000	1,000	
<b>Polycyclic Aromatic Hydrocarbons</b>																			
Acenaphthene	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	2,000	n.s.	
Acenaphthylene	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	
Anthracene	ug/g	<0.02	<0.02	0.05	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.02	<0.02	25,000	n.s.	2.5	n.s.	n.s.	n.s.	
Benzo(a)anthracene	ug/g	<0.02	<0.02	0.09	0.03	<0.02	<0.02	0.03	<0.02	0.06	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	95	1	
Benzo(a)pyrene	ug/g	<0.02	<0.02	0.05	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	<0.02	<0.02	10	n.s.	20	n.s.	n.s.	n.s.	
Benzo(b)fluoranthene	ug/g	<0.02	<0.02	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	
Benzo(b+j)fluoranthene	ug/g	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	n.s.	n.s.	n.s.	n.s.	95	1	
Benzo(g,h,i)perylene	ug/g	<0.02	<0.02	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	
Benzo(k)fluoranthene	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	95	1	
Chrysene	ug/g	<0.02	<0.02	0.08	0.04	<0.02	<0.02	0.02	<0.02	0.07	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	400	n.s.	
Dibenz(a,h)anthracene	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	10	1	
Fluoranthene	ug/g	<0.02	<0.02	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.02	<0.02	3,500	n.s.	50	n.s.	n.s.	n.s.	
Fluorene	ug/g	<0.02	<0.02	0.25	0.13	<0.02	<0.02	0.06	<0.02	0.16	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	1,000	n.s.	
Indeno(1,2,3-c,d)pyrene	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	95	1	
1-Methylnaphthalene	ug/g	<0.02	<0.02	1.4	0.24	<0.02	<0.02	0.31	<0.02	0.98	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	500	n.s.	
2-Methylnaphthalene	ug/g	<0.02	<0.02	2.38	0.4	<0.02	<0.02	0.55	<0.02	1.7	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	100	n.s.	
Naphthalene	ug/g	<0.01	<0.01	0.4	0.04	<0.01	<0.01	0.07	<0.01	0.39	<0.01	<0.01	1,500	100	0.6	75	n.s.	n.s.	
Phenanthrene	ug/g	<0.02	<0.02	0.55	0.27	<0.02	<0.02	0.13	<0.02	0.43	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	3,500	5	
Pyrene	ug/g	<0.02	<0.02	0.27	0.08	<0.02	<0.02	0.06	<0.02	0.19	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	2,500	10	
Quinoline	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	4.5	n.s.	

**Notes:**  
 1 - Data excerpted from Element Materials Technology Canada Inc. analytical report(s); units as indicated  
 2 - BC Contaminated Sites Regulation (CSR) Schedule 3.1 - Part 1 Numerical Soil Standards, site-specific land use and pathways as noted above  
 3 - BC CSR Schedule 3.1 - Part 2 Generic Numerical Soil Standard to Protect Human Health, site-specific land use as noted above  
 4 - BC CSR Schedule 3.1 - Part 3 Generic Numerical Soil Standards to Protect Ecological Health, site-specific land use as noted above  
 5 - BC CSR Schedule 3.3 - Generic Vapour Standards, site-specific land use as noted above  
 - = Parameter not analyzed  
 < = Less than the laboratory method detection limit  
**Bold, underlined, and shaded grey** indicates concentration exceeds lowest of the applicable standards  
 Light grey indicates soil has been excavated for disposal

Table 1.8 Summary of Confirmatory Soil Analytical Results - Petroleum Hydrocarbons

Sample ID	EX20-01-W-23	EX20-01-W-24	EX20-01-W-25	EX20-01-W-26	EX20-01-W-26-02	EX20-01-W-27	EX20-01-F-12	EX20-01-F-A	EX20-01-F-13	CSR Schedule 3.1 - Part 1 Urban Park Land Use <sup>2</sup>				CSR Schedule 3.1 Part 2 Urban Park Land Use <sup>3</sup>	CSR Schedule 3.1 Part 3 Urban Parkland Land Use <sup>4</sup>	
										Human Health Protection		Environmental Protection				
										Matrix	Soil	Soil	Soil	Soil	Soil	Soil
Depth (m below surface grade)	1.00	1.20	0.80	1.00		1.20	1.50	1.50								
Sample Date	20-Nov-20	20-Nov-20	19-Nov-20	19-Nov-20	23-Nov-20	19-Nov-20	19-Nov-20	19-Nov-20	23-Nov-20							
Comments	Confirmatory Floor Sample From Excavation	Confirmatory Floor Sample From Excavation	Confirmatory Wall Sample From Excavation	Soil Excavated for Disposal	Confirmatory Wall Sample From Excavation at Location EX20-01-W-26	Confirmatory Wall Sample From Excavation	Confirmatory Floor Sample From Excavation	Duplicate to EX20-01-F-12	Confirmatory Floor Sample From Excavation							
<b>PARAMETERS</b>	<b>Analytical Results<sup>1</sup></b>															
<b>Volatile Hydrocarbons</b>																
Benzene	ug/g	<0.02	<0.02	<0.02	<b>0.22</b>	<0.02	<0.02	0.024	0.02	<0.02	350	0.035	100	2.5	n.s.	n.s.
Ethylbenzene	ug/g	<0.05	<0.05	<0.05	4.4	<0.05	<0.05	0.41	0.57	<0.05	8,500	15	200	200	n.s.	n.s.
Methyl t-Butyl Ether	ug/g	<0.05	<0.05	<0.05	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	n.s.	n.s.	n.s.	n.s.	8,000	n.s.
Styrene	ug/g	<0.05	<0.05	<0.05	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	n.s.	n.s.	n.s.	n.s.	15,000	5
Toluene	ug/g	<0.05	<0.05	<0.05	<b>5.2</b>	<0.05	<0.05	0.38	<b>0.55</b>	<0.05	6,500	6	150	0.5	n.s.	n.s.
Total Xylenes	ug/g	<0.05	<0.05	0.1	<b>25.4</b>	0.14	0.13	2.5	3.33	<0.05	15,000	6.5	150	20	n.s.	n.s.
<b>Volatile Petroleum Hydrocarbons</b>																
VHS <sub>6-10</sub>	ug/g	<50	<50	<50	<500	<50	<50	<50	<50	<50	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
VPHs (VHS <sub>6-10</sub> minus BTEX)	ug/g	<50	<50	<50	<500	<50	<50	<50	<50	<50	n.s.	n.s.	n.s.	n.s.	200	200
<b>Extractable Petroleum Hydrocarbons</b>																
EPH <sub>10-19</sub>	ug/g	<20	<20	<20	1130	36	24	338	379	<20	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
EPH <sub>19-32</sub>	ug/g	<20	<20	<20	598	<20	<20	169	194	<20	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
LEPH <sub>10-19</sub>	ug/g	<20	<20	<20	<b>1130</b>	36	24	338	378	<20	n.s.	n.s.	n.s.	n.s.	1,000	1,000
HEPH <sub>19-32</sub>	ug/g	<20	<20	<20	597	<20	<20	169	194	<20	n.s.	n.s.	n.s.	n.s.	1,000	1,000
<b>Polycyclic Aromatic Hydrocarbons</b>																
Acenaphthene	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	2,000	n.s.
Acenaphthylene	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Anthracene	ug/g	<0.02	<0.02	<0.02	0.11	<0.02	<0.02	<0.02	0.03	<0.02	25,000	n.s.	2.5	n.s.	n.s.	n.s.
Benzo(a)anthracene	ug/g	<0.02	<0.02	<0.02	0.2	<0.02	<0.02	0.04	0.06	<0.02	n.s.	n.s.	n.s.	n.s.	95	1
Benzo(a)pyrene	ug/g	<0.02	<0.02	<0.02	0.12	<0.02	<0.02	0.02	0.04	<0.02	10	n.s.	20	n.s.	n.s.	n.s.
Benzo(b)fluoranthene	ug/g	<0.02	<0.02	<0.02	0.05	<0.02	<0.02	<0.02	0.02	<0.02	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Benzo(b+j)fluoranthene	ug/g	<0.04	<0.04	<0.04	0.05	<0.04	<0.04	<0.04	<0.04	<0.04	n.s.	n.s.	n.s.	n.s.	95	1
Benzo(g,h,i)perylene	ug/g	<0.02	<0.02	<0.02	0.07	<0.02	<0.02	<0.02	0.02	<0.02	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Benzo(k)fluoranthene	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	95	1
Chrysene	ug/g	<0.02	<0.02	<0.02	0.22	<0.02	<0.02	0.05	0.07	<0.02	n.s.	n.s.	n.s.	n.s.	400	n.s.
Dibenz(a,h)anthracene	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	10	1
Fluoranthene	ug/g	<0.02	<0.02	<0.02	0.06	<0.02	<0.02	<0.02	<0.02	<0.02	3,500	n.s.	50	n.s.	n.s.	n.s.
Fluorene	ug/g	<0.02	<0.02	<0.02	0.5	<0.02	<0.02	0.1	0.17	<0.02	n.s.	n.s.	n.s.	n.s.	1,000	n.s.
Indeno(1,2,3-c,d)pyrene	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	95	1
1-Methylnaphthalene	ug/g	<0.02	<0.02	<0.02	3.63	0.04	0.05	0.67	1.09	0.04	n.s.	n.s.	n.s.	n.s.	500	n.s.
2-Methylnaphthalene	ug/g	<0.02	<0.02	0.02	5.75	0.06	0.09	1.19	1.9	0.06	n.s.	n.s.	n.s.	n.s.	100	n.s.
Naphthalene	ug/g	<0.01	<0.01	<0.01	<b>1.32</b>	0.03	0.02	0.25	0.41	0.01	1,500	100	0.6	75	n.s.	n.s.
Phenanthrene	ug/g	<0.02	<0.02	<0.02	1.38	<0.02	0.03	0.29	0.45	0.02	n.s.	n.s.	n.s.	n.s.	3,500	5
Pyrene	ug/g	<0.02	<0.02	<0.02	0.59	<0.02	<0.02	0.12	0.19	<0.02	n.s.	n.s.	n.s.	<0.02	2,500	10
Quinoline	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	4.5	n.s.

**Notes:**

- 1 - Data excerpted from Element Materials Technology Canada Inc. analytical report(s); units as indicated
- 2 - BC Contaminated Sites Regulation (CSR) Schedule 3.1 - Part 1 Numerical Soil Standards, site-specific land use and pathways as noted above
- 3 - BC CSR Schedule 3.1 - Part 2 Generic Numerical Soil Standard to Protect Human Health, site-specific land use as noted above
- 4 - BC CSR Schedule 3.1 - Part 3 Generic Numerical Soil Standards to Protect Ecological Health, site-specific land use as noted above
- n.s. = No applicable standard
- = Parameter not analyzed
- < = Less than the laboratory method detection limit

**Bold, underlined, and shaded grey** indicates concentration exceeds lowest of the applicable standards

Light grey indicates soil has been excavated for disposal

Table 1.9 Summary of Test Pit Soil Analytical Results - Petroleum Hydrocarbons

Sample ID	TP20-01-01	TP20-01-02	TP20-01-03	TP20-01-04	TP20-02-01	TP20-02-02	TP20-02-03	CSR Schedule 3.1 - Part 1 Urban Park Land Use <sup>2</sup>				CSR Schedule 3.1 Part 2 Urban Park Land Use <sup>3</sup>	CSR Schedule 3.1 Part 3 Urban Parkland Land Use <sup>4</sup>		
								Human Health Protection		Environmental Protection					
Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil								
Depth (m below surface grade)	1.52	2.44	3.05	3.96	0.91	2.13	3.05								
Sample Date	11-Nov-20	11-Nov-20	11-Nov-20	11-Nov-20	11-Nov-20	11-Nov-20	11-Nov-20								
Comments								Intake of Contaminated Soil	Groundwater Used for Drinking Water	Toxicity to Invertebrates and Plants	Groundwater Flow to Freshwater	Human Health Protection	Ecological Health		
PARAMETERS	Units	Analytical Results <sup>1</sup>													
<b>Volatile Hydrocarbons</b>															
Benzene	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	350	0.035	100	2.5	n.s.	n.s.
Ethylbenzene	ug/g	<0.05	<0.05	<0.05	<0.05	<0.05	0.35	<0.05	<0.05	8,500	15	200	200	n.s.	n.s.
Methyl t-Butyl Ether	ug/g	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	n.s.	n.s.	n.s.	n.s.	8,000	n.s.
Styrene	ug/g	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	n.s.	n.s.	n.s.	n.s.	15,000	5
Toluene	ug/g	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	6,500	6	150	0.5	n.s.	n.s.
Total Xylenes	ug/g	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	15,000	6.5	150	20	n.s.	n.s.
<b>Volatile Petroleum Hydrocarbons</b>															
VH <sub>5(6-10)</sub>	ug/g	<50	<50	<50	<50	<50	<50	<50	<50	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
VPHs (VH <sub>5-10</sub> minus BTEX)	ug/g	<50	<50	<50	<50	<50	<50	<50	<50	n.s.	n.s.	n.s.	n.s.	200	200
<b>Extractable Petroleum Hydrocarbons</b>															
EPH <sub>10-19</sub>	ug/g	<20	<20	<20	<20	693	170	<20	<20	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
EPH <sub>19-32</sub>	ug/g	<20	<20	<20	<20	402	81	<20	<20	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
LEPH <sub>10-19</sub>	ug/g	<20	<20	<20	<20	693	170	<20	<20	n.s.	n.s.	n.s.	n.s.	1,000	1,000
HEPH <sub>19-32</sub>	ug/g	<20	<20	<20	<20	402	81	<20	<20	n.s.	n.s.	n.s.	n.s.	1,000	1,000
<b>Polycyclic Aromatic Hydrocarbons</b>															
Acenaphthene	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	2,000	n.s.
Acenaphthylene	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Anthracene	ug/g	<0.02	<0.02	<0.02	<0.02	0.05	<0.02	<0.02	<0.02	25,000	n.s.	2.5	n.s.	n.s.	n.s.
Benzo(a)anthracene	ug/g	<0.02	<0.02	<0.02	<0.02	0.10	<0.02	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	95	1
Benzo(a)pyrene	ug/g	<0.02	<0.02	<0.02	<0.02	0.05	<0.02	<0.02	<0.02	10	n.s.	20	n.s.	n.s.	n.s.
Benzo(b)fluoranthene	ug/g	<0.02	<0.02	<0.02	<0.02	0.03	<0.02	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Benzo(b+j)fluoranthene	ug/g	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	n.s.	n.s.	n.s.	n.s.	95	1
Benzo(g,h,i)perylene	ug/g	<0.02	<0.02	<0.02	<0.02	0.03	<0.02	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Benzo(k)fluoranthene	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	95	1
Chrysene	ug/g	<0.02	<0.02	<0.02	<0.02	0.09	<0.02	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	400	n.s.
Dibenz(a,h)anthracene	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	10	1
Fluoranthene	ug/g	<0.02	<0.02	<0.02	<0.02	0.05	<0.02	<0.02	<0.02	3,500	n.s.	50	n.s.	n.s.	n.s.
Fluorene	ug/g	<0.02	<0.02	<0.02	<0.02	0.41	0.05	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	1,000	n.s.
Indeno(1,2,3-c,d)pyrene	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	95	1
1-Methylnaphthalene	ug/g	<0.02	<0.02	<0.02	<0.02	0.96	0.13	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	500	n.s.
2-Methylnaphthalene	ug/g	<0.02	<0.02	<0.02	<0.02	1.20	0.22	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	100	n.s.
Naphthalene	ug/g	<0.01	<0.01	<0.01	<0.01	0.09	0.01	<0.01	<0.01	1,500	100	0.6	75	n.s.	n.s.
Phenanthrene	ug/g	<0.02	<0.02	<0.02	0.02	0.61	0.09	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	3,500	5
Pyrene	ug/g	<0.02	<0.02	<0.02	<0.02	0.21	0.03	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	2,500	10
Quinoline	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	4.5	n.s.

Notes:

- 1 - Data excerpted from Element Materials Technology Canada Inc. analytical report(s); units as indicated
- 2 - BC Contaminated Sites Regulation (CSR) Schedule 3.1 - Part 1 Numerical Soil Standards, site-specific land use and pathways as noted above
- 3 - BC CSR Schedule 3.1 - Part 2 Generic Numerical Soil Standard to Protect Human Health, site-specific land use as noted above
- 4 - BC CSR Schedule 3.1 - Part 3 Generic Numerical Soil Standards to Protect Ecological Health, site-specific land use as noted above
- n.s. = No applicable standard
- = Parameter not analyzed
- < = Less than the laboratory method detection limit

Table 1.10 Summary of Test Pit Soil Analytical Results - Petroleum Hydrocarbons

Sample ID	TP20-03-01	TP20-03-02	TP20-03-03	TP20-03-04	TP20-04-01	TP20-04-02	TP20-04-03	CSR Schedule 3.1 - Part 1 Urban Park Land Use <sup>2</sup>				CSR Schedule 3.1 Part 2 Urban Park Land Use <sup>3</sup>	CSR Schedule 3.1 Part 3 Urban Parkland Land Use <sup>4</sup>
								Human Health Protection		Environmental Protection			
Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil						
Depth (m below surface grade)	1.52	2.44	3.35	3.96	1.22	1.83	3.05						
Sample Date	11-Nov-20	11-Nov-20	11-Nov-20	11-Nov-20	11-Nov-20	11-Nov-20	11-Nov-20						
Comments								Intake of Contaminated Soil	Groundwater Used for Drinking Water	Toxicity to Invertebrates and Plants	Groundwater Flow to Freshwater	Human Health Protection	Ecological Health
PARAMETERS	Units	Analytical Results <sup>1</sup>											
<b>Volatile Hydrocarbons</b>													
Benzene	ug/g	<b>0.074</b>	<0.02	<0.02	<0.02	<0.02	<0.02	350	0.035	100	2.5	n.s.	n.s.
Ethylbenzene	ug/g	1.64	0.26	<0.05	<0.05	<0.05	<0.05	8,500	15	200	200	n.s.	n.s.
Methyl t-Butyl Ether	ug/g	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	n.s.	n.s.	n.s.	n.s.	8,000	n.s.
Styrene	ug/g	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	n.s.	n.s.	n.s.	n.s.	15,000	5
Toluene	ug/g	2.07	0.31	<0.05	<0.05	<0.05	<0.05	6,500	6	150	0.5	n.s.	n.s.
Total Xylenes	ug/g	<b>9.72</b>	1.72	0.23	<0.05	<0.05	<0.05	15,000	6.5	150	20	n.s.	n.s.
<b>Volatile Petroleum Hydrocarbons</b>													
VH <sub>5(6-10)</sub>	ug/g	130	<50	<50	<50	<50	<50	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
VPHs (VH <sub>5-10</sub> minus BTEX)	ug/g	120	<50	<50	<50	<50	<50	n.s.	n.s.	n.s.	n.s.	200	200
<b>Extractable Petroleum Hydrocarbons</b>													
EPH <sub>10-19</sub>	ug/g	969	673	202	<20	<20	<20	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
EPH <sub>19-32</sub>	ug/g	208	232	53	<20	<20	<20	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
LEPH <sub>10-19</sub>	ug/g	967	672	201	<20	<20	<20	n.s.	n.s.	n.s.	n.s.	1,000	1,000
HEPH <sub>19-32</sub>	ug/g	207	232	52	<20	<20	<20	n.s.	n.s.	n.s.	n.s.	1,000	1,000
<b>Polycyclic Aromatic Hydrocarbons</b>													
Acenaphthene	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	2,000	n.s.
Acenaphthylene	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Anthracene	ug/g	0.12	0.05	<0.02	<0.02	<0.02	<0.02	25,000	n.s.	2.5	n.s.	n.s.	n.s.
Benzo(a)anthracene	ug/g	0.24	0.12	0.05	<0.02	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	95	1
Benzo(a)pyrene	ug/g	0.12	0.06	0.02	<0.02	<0.02	<0.02	10	n.s.	20	n.s.	n.s.	n.s.
Benzo(b)fluoranthene	ug/g	0.05	0.02	<0.02	<0.02	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Benzo(b+)]fluoranthene	ug/g	0.05	<0.04	<0.04	<0.04	<0.04	<0.04	n.s.	n.s.	n.s.	n.s.	95	1
Benzo(g,h,i)perylene	ug/g	0.06	0.03	<0.02	<0.02	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Benzo(k)fluoranthene	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	95	1
Chrysene	ug/g	0.17	0.10	0.04	<0.02	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	400	n.s.
Dibenz(a,h)anthracene	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	10	1
Fluoranthene	ug/g	0.08	0.04	<0.02	<0.02	<0.02	<0.02	3,500	n.s.	50	n.s.	n.s.	n.s.
Fluorene	ug/g	0.41	0.21	0.08	<0.02	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	1,000	n.s.
Indeno(1,2,3-c,d)pyrene	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	95	1
1-Methylnaphthalene	ug/g	2.76	1.30	0.44	<0.02	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	500	n.s.
2-Methylnaphthalene	ug/g	4.61	2.34	0.84	0.02	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	100	n.s.
Naphthalene	ug/g	<b>0.97</b>	0.45	0.13	<0.01	<0.01	<0.01	1,500	100	0.6	75	n.s.	n.s.
Phenanthrene	ug/g	1.00	0.51	0.19	<0.02	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	3,500	5
Pyrene	ug/g	0.55	0.27	0.10	<0.02	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	2,500	10
Quinoline	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	4.5	n.s.

Notes:

- 1 - Data excerpted from Element Materials Technology Canada Inc. analytical report(s); units as indicated
- 2 - BC Contaminated Sites Regulation (CSR) Schedule 3.1 - Part 1 Numerical Soil Standards, site-specific land use and pathways as noted above
- 3 - BC CSR Schedule 3.1 - Part 2 Generic Numerical Soil Standard to Protect Human Health, site-specific land use as noted above
- 4 - BC CSR Schedule 3.1 - Part 3 Generic Numerical Soil Standards to Protect Ecological Health, site-specific land use as noted above
- n.s. = No applicable standard
- = Parameter not analyzed
- < = Less than the laboratory method detection limit
- Bold, underlined, and shaded grey** indicates concentration exceeds lowest of the applicable standards

Table 1.11 Summary of Borehole Soil Analytical Results - Petroleum Hydrocarbons

Sample ID	MW20-01-01	MW20-01-02	MW20-02-01	MW20-02-02	MW20-03-01	MW20-03-02	MW20-04-02	MW20-04-03	MW20-05-01	MW20-05-02	MW20-06-01	MW20-06-02	MW20-07-01	MW20-07-A	MW20-07-02	CSR Schedule 3.1 - Part 1 Urban Park Land Use <sup>2</sup>				CSR Schedule 3.1 Part 2 Urban Park Land Use <sup>3</sup>	CSR Schedule 3.1 Part 3 Urban Park Land Use <sup>4</sup>	
																Human Health Protection		Environmental Protection				
																Matrix	Soil	Soil	Soil	Soil	Soil	Soil
Depth (m below surface grade)	0.15	1.07	0.30	1.37	1.50	0.46	0.76	1.22	0.30	1.37	0.30	1.22	0.46	0.46	1.22							
Sample Date	12-Nov-20	12-Nov-20	12-Nov-20	12-Nov-20	12-Nov-20	12-Nov-20	12-Nov-20	12-Nov-20	12-Nov-20	12-Nov-20	12-Nov-20	12-Nov-20	12-Nov-20	13-Nov-20	13-Nov-20	13-Nov-20						
Comments																						
PARAMETERS	Units	Analytical Results <sup>1</sup>																				
<b>Volatile Hydrocarbons</b>																						
Benzene	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02					n.s.	n.s.	
Ethylbenzene	ug/g	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05					n.s.	n.s.	
Methyl t-Butyl Ether	ug/g	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05					8,000	n.s.	
Styrene	ug/g	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05					15,000	5	
Toluene	ug/g	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05					6,500	6	
Total Xylenes	ug/g	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05					15,000	6.5	
<b>Volatile Petroleum Hydrocarbons</b>																						
VHS <sub>10</sub>	ug/g	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50					n.s.	n.s.	
VPH <sub>10</sub> (VHS <sub>10</sub> minus BTEX)	ug/g	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50					n.s.	n.s.	
<b>Extractable Petroleum Hydrocarbons</b>																						
EPH <sub>10-19</sub>	ug/g	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20					n.s.	n.s.	
EPH <sub>19-32</sub>	ug/g	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20					n.s.	n.s.	
LEPH <sub>10-19</sub>	ug/g	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20					n.s.	n.s.	
HEPH <sub>19-32</sub>	ug/g	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20					n.s.	n.s.	
<b>Polycyclic Aromatic Hydrocarbons</b>																						
Acenaphthene	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02					n.s.	n.s.	
Acenaphthylene	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02					n.s.	n.s.	
Anthracene	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02					25,000	n.s.	
Benzo(a)anthracene	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02					n.s.	n.s.	
Benzo(a)pyrene	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02					n.s.	n.s.	
Benzo(b)fluoranthene	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02					n.s.	n.s.	
Benzo(b,j)fluoranthene	ug/g	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04					n.s.	n.s.	
Benzo(g,h,i)perylene	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02					n.s.	n.s.	
Benzo(k)fluoranthene	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02					n.s.	n.s.	
Chrysene	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02					n.s.	n.s.	
Dibenz(a,h)anthracene	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02					n.s.	n.s.	
Fluoranthene	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02					3,500	n.s.	
Fluorene	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02					n.s.	n.s.	
Indeno(1,2,3-c,d)pyrene	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02					n.s.	n.s.	
1-Methylnaphthalene	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02					n.s.	n.s.	
2-Methylnaphthalene	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02					n.s.	n.s.	
Naphthalene	ug/g	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01					1,500	100	
Phenanthrene	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02					n.s.	n.s.	
Pyrene	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02					n.s.	n.s.	
Quinoline	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02					n.s.	n.s.	

Notes:  
 1 - Data excerpted from Element Materials Technology Canada Inc. analytical report(s); units as indicated  
 2 - BC Contaminated Sites Regulation (CSR) Schedule 3.1 - Part 1 Numerical Soil Standards, site-specific land use and pathways as noted above  
 3 - BC CSR Schedule 3.1 - Part 2 Generic Numerical Soil Standard to Protect Human Health, site-specific land use as noted above  
 4 - BC CSR Schedule 3.1 - Part 3 Generic Numerical Soil Standards to Protect Ecological Health, site-specific land use as noted above  
 n.s. = No applicable standard  
 - = Parameter not analyzed  
 < = Less than the laboratory method detection limit  
**Bold, underlined** and shaded grey indicates concentration exceeds lowest of the applicable standards



Table 1.12 Summary of Borehole Soil Analytical Results - Petroleum Hydrocarbons

Sample ID	Matrix	MW20-08-01	MW20-08-02	MW20-09-01	MW20-09-02	BH20-10-01	BH20-10-02	BH20-11-01	BH20-11-A	BH20-11-02	BH20-12-01	BH20-13-01	BH20-13-02	BH20-14-01	BH20-14-02	CSR Schedule 3.1 - Part 1 Urban Park Land Use <sup>2</sup>				CSR Schedule 3.1 Part 2 Urban Park Land Use <sup>3</sup>	CSR Schedule 3.1 Part 3 Urban Parkland Land Use <sup>4</sup>
		Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Human Health Protection		Environmental Protection		Human Health Protection	Ecological Health
		1.07	2.13	0.46	0.91	0.46	0.37	0.15	0.15	1.07	0.15	0.15	0.61	0.30	1.07	Intake of Contaminated Soil	Groundwater Used for Drinking Water	Toxicity to Invertebrates and Plants	Groundwater Flow to Freshwater	Human Health Protection	Ecological Health
Sample Date		13-Nov-20	13-Nov-20	13-Nov-20	13-Nov-20	13-Nov-20	13-Nov-20	13-Nov-20	13-Nov-20	13-Nov-20	13-Nov-20	13-Nov-20	13-Nov-20	13-Nov-20	13-Nov-20						
Comments									Duplicate to BH20-11-01												
PARAMETERS		Analytical Results <sup>1</sup>																			
<b>Volatile Hydrocarbons</b>																					
Benzene	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	350	0.035	100	2.5	n.s.	n.s.
Ethylbenzene	ug/g	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	8,500	15	200	200	n.s.	n.s.
Methyl t-Butyl Ether	ug/g	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	n.s.	n.s.	n.s.	n.s.	8,000	n.s.
Styrene	ug/g	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	n.s.	n.s.	n.s.	n.s.	15,000	5
Toluene	ug/g	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	6,500	6	150	0.5	n.s.	n.s.
Total Xylenes	ug/g	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	15,000	6.5	150	20	n.s.	n.s.
<b>Volatile Petroleum Hydrocarbons</b>																					
VH <sub>5-10</sub>	ug/g	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
VPH <sub>5-10</sub> (VH <sub>5-10</sub> minus BTEX)	ug/g	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	n.s.	n.s.	n.s.	n.s.	200	200
<b>Extractable Petroleum Hydrocarbons</b>																					
EPH <sub>15-19</sub>	ug/g	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
EPH <sub>15-22</sub>	ug/g	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
LEPH <sub>15-19</sub>	ug/g	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	n.s.	n.s.	n.s.	n.s.	1,000	1,000
HEPH <sub>15-22</sub>	ug/g	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	n.s.	n.s.	n.s.	n.s.	1,000	1,000
<b>Polycyclic Aromatic Hydrocarbons</b>																					
Acenaphthene	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	2,000	n.s.
Acenaphthylene	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Anthracene	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	25,000	n.s.	2.5	n.s.	n.s.	n.s.
Benzo(a)anthracene	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	95	1
Benzo(a)pyrene	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	10	n.s.	20	n.s.	n.s.	n.s.
Benzo(b)fluoranthene	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Benzo(b)fluoranthene	ug/g	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	n.s.	n.s.	n.s.	n.s.	95	1
Benzo(g,h)perylene	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Benzo(k)fluoranthene	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	95	1
Chrysene	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	400	n.s.
Dibenz(a,h)anthracene	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	10	1
Fluoranthene	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	3,500	n.s.	50	n.s.	n.s.	n.s.
Fluorene	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	1,000	n.s.
Indeno(1,2,3-c,d)pyrene	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	95	1
1-Methylnaphthalene	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	500	n.s.
2-Methylnaphthalene	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	100	n.s.
Naphthalene	ug/g	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	1,500	100	0.6	75	n.s.	n.s.
Phenanthrene	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	0.03	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	3,500	5
Pyrene	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	2,500	10
Quinoline	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	4.5	n.s.

Notes:  
 1 - Data excerpted from Element Materials Technology Canada Inc. analytical report(s); units as indicated  
 2 - BC Contaminated Sites Regulation (CSR) Schedule 3.1 - Part 1 Numerical Soil Standards, site-specific land use and pathways as noted above  
 3 - BC CSR Schedule 3.1 - Part 2 Generic Numerical Soil Standard to Protect Human Health, site-specific land use as noted above  
 4 - BC CSR Schedule 3.1 - Part 3 Generic Numerical Soil Standards to Protect Ecological Health, site-specific land use as noted above  
 n.s. = No applicable standard  
 - = Parameter not analyzed  
 < = Less than the laboratory method detection limit  
**Bold, underlined, and shaded grey** indicates concentration exceeds lowest of the applicable standards

Table 1.13 Summary of Fill Soil Analytical Results - Petroleum Hydrocarbons

Sample ID	Units	Backfill N Soil 18-Nov-20	Backfill S Soil 18-Nov-20	CSR Schedule 3.1 - Part 1 Urban Park Land Use <sup>2</sup>				CSR Schedule 3.1 Part 2 Urban Park Land Use <sup>3</sup>	CSR Schedule 3.1 Part 3 Urban Parkland Land Use <sup>4</sup>
				Human Health Protection		Environmental Protection		Human Health Protection	Ecological Health
				Intake of Contaminated Soil	Groundwater Used for Drinking Water	Toxicity to Invertebrates and Plants	Groundwater Flow to Freshwater		
Matrix									
Sample Date									
Comments									
<b>PARAMETERS</b>		<b>Analytical Results<sup>1</sup></b>							
<b>Volatile Hydrocarbons</b>									
Benzene	ug/g	<0.02	<0.02	350	0.035	100	2.5	n.s.	n.s.
Ethylbenzene	ug/g	<0.05	<0.05	8,500	15	200	200	n.s.	n.s.
Methyl t-Butyl Ether	ug/g	<0.05	<0.05	n.s.	n.s.	n.s.	n.s.	8,000	n.s.
Styrene	ug/g	<0.05	<0.05	n.s.	n.s.	n.s.	n.s.	15,000	5
Toluene	ug/g	<0.05	<0.05	6,500	6	150	0.5	n.s.	n.s.
Total Xylenes	ug/g	<0.05	<0.05	15,000	6.5	150	20	n.s.	n.s.
<b>Volatile Petroleum Hydrocarbons</b>									
VHS <sub>(6-10)</sub>	ug/g	<50	<50	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
VPHs (VHS <sub>6-10</sub> minus BTEX)	ug/g	<50	<50	n.s.	n.s.	n.s.	n.s.	200	200
<b>Extractable Petroleum Hydrocarbons</b>									
EPHs <sub>10-19</sub>	ug/g	<20	<20	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
EPHs <sub>19-32</sub>	ug/g	<20	<20	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
LEPHs <sub>10-19</sub>	ug/g	<20	<20	n.s.	n.s.	n.s.	n.s.	1,000	1,000
HEPHs <sub>19-32</sub>	ug/g	<20	<20	n.s.	n.s.	n.s.	n.s.	1,000	1,000
<b>Polycyclic Aromatic Hydrocarbons</b>									
Acenaphthene	ug/g	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	2,000	n.s.
Acenaphthylene	ug/g	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Anthracene	ug/g	<0.02	<0.02	25,000	n.s.	2.5	n.s.	n.s.	n.s.
Benzo(a)anthracene	ug/g	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	95	1
Benzo(a)pyrene	ug/g	<0.02	<0.02	10	n.s.	20	n.s.	n.s.	n.s.
Benzo(b)fluoranthene	ug/g	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Benzo(b+)fluoranthene	ug/g	<0.04	<0.04	n.s.	n.s.	n.s.	n.s.	95	1
Benzo(g,h,i)perylene	ug/g	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Benzo(k)fluoranthene	ug/g	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	95	1
Chrysene	ug/g	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	400	n.s.
Dibenz(a,h)anthracene	ug/g	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	10	1
Fluoranthene	ug/g	<0.02	<0.02	3,500	n.s.	50	n.s.	n.s.	n.s.
Fluorene	ug/g	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	1,000	n.s.
Indeno(1,2,3-c,d)pyrene	ug/g	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	95	1
1-Methylnaphthalene	ug/g	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	500	n.s.
2-Methylnaphthalene	ug/g	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	100	n.s.
Naphthalene	ug/g	<0.01	<0.01	1,500	100	0.6	75	n.s.	n.s.
Phenanthrene	ug/g	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	3,500	5
Pyrene	ug/g	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	2,500	10
Quinoline	ug/g	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	4.5	n.s.

**Notes:**

- 1 - Data excerpted from Element Materials Technology Canada Inc. analytical report(s); units as indicated
- 2 - BC Contaminated Sites Regulation (CSR) Schedule 3.1 - Part 1 Numerical Soil Standards, site-specific land use and pathways as noted above
- 3 - BC CSR Schedule 3.1 - Part 2 Generic Numerical Soil Standard to Protect Human Health, site-specific land use as noted above
- 4 - BC CSR Schedule 3.1 - Part 3 Generic Numerical Soil Standards to Protect Ecological Health, site-specific land use as noted above
- n.s. = No applicable standard
- = Parameter not analyzed
- < = Less than the laboratory method detection limit
- Bold, underlined**, and shaded grey indicates concentration exceeds lowest of the applicable standards

Table 1.14 Summary of Stockpile Surface Soil Analytical Results - Petroleum Hydrocarbons

Sample ID		HA20-01-01	SS20-01-02	SS20-01-03	SS20-01-04	SS20-01-A	CSR Schedule 3.1 - Part 1 Urban Park Land Use <sup>2</sup>				CSR Schedule 3.1 Part 2 Urban Park Land Use <sup>3</sup>	CSR Schedule 3.1 Part 3 Urban Parkland Land Use <sup>4</sup>
		Soil	Soil	Soil	Soil	Soil	Human Health Protection		Environmental Protection			
Matrix		0.15	0.15	0.15	0.15	0.15						
Depth (m below surface grade)		0.15	0.15	0.15	0.15	0.15						
Sample Date		17-Nov-20	20-Nov-20	20-Nov-20	20-Nov-20	20-Nov-20						
Comments		Ditch Beside Parking Lot	Beneath Stockpile #1	Beneath Stockpile #1	Beneath Stockpile #1	Duplicate to SS20-01-04	Intake of Contaminated Soil	Groundwater Used for Drinking Water	Toxicity to Invertebrates and Plants	Groundwater Flow to Freshwater	Human Health Protection	Ecological Health
PARAMETERS	Units	Analytical Results <sup>1</sup>										
<b>Volatile Hydrocarbons</b>												
Benzene	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	350	0.035	100	2.5	n.s.	n.s.
Ethylbenzene	ug/g	<0.05	<0.05	<0.05	<0.05	<0.05	8,500	15	200	200	n.s.	n.s.
Methyl t-Butyl Ether	ug/g	<0.05	<0.05	<0.05	<0.05	<0.05	n.s.	n.s.	n.s.	n.s.	8,000	n.s.
Styrene	ug/g	<0.05	<0.05	<0.05	<0.05	<0.05	n.s.	n.s.	n.s.	n.s.	15,000	5
Toluene	ug/g	<0.05	<0.05	<0.05	<0.05	<0.05	6,500	6	150	0.5	n.s.	n.s.
Total Xylenes	ug/g	<0.05	<0.05	<0.05	<0.05	<0.05	15,000	6.5	150	20	n.s.	n.s.
<b>Volatile Petroleum Hydrocarbons</b>												
VH <sub>5(6-10)</sub>	ug/g	<50	<50	<50	<50	<50	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
VPHs (VH <sub>5(6-10)</sub> minus BTEX)	ug/g	<50	<50	<50	<50	<50	n.s.	n.s.	n.s.	n.s.	200	200
<b>Extractable Petroleum Hydrocarbons</b>												
EPH <sub>10-19</sub>	ug/g	<20	<20	<20	<20	<20	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
EPH <sub>19-32</sub>	ug/g	<20	<20	37	<20	<20	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
LEPH <sub>10-19</sub>	ug/g	<20	<20	<20	<20	<20	n.s.	n.s.	n.s.	n.s.	1,000	1,000
HEPH <sub>19-32</sub>	ug/g	<20	<20	37	<20	<20	n.s.	n.s.	n.s.	n.s.	1,000	1,000
<b>Polycyclic Aromatic Hydrocarbons</b>												
Acenaphthene	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	2,000	n.s.
Acenaphthylene	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Anthracene	ug/g	<0.02	<0.02	<0.02	<0.02	0.04	25,000	n.s.	2.5	n.s.	n.s.	n.s.
Benzo(a)anthracene	ug/g	<0.02	<0.02	0.03	0.06	0.19	n.s.	n.s.	n.s.	n.s.	95	1
Benzo(a)pyrene	ug/g	<0.02	<0.02	0.02	0.05	0.14	10	n.s.	20	n.s.	n.s.	n.s.
Benzo(b)fluoranthene	ug/g	<0.02	<0.02	0.03	0.07	0.16	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Benzo(b+j)fluoranthene	ug/g	<0.04	<0.04	<0.04	0.11	0.26	n.s.	n.s.	n.s.	n.s.	95	1
Benzo(g,h,i)perylene	ug/g	<0.02	<0.02	<0.02	0.05	0.11	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Benzo(k)fluoranthene	ug/g	<0.02	<0.02	<0.02	0.03	0.08	n.s.	n.s.	n.s.	n.s.	95	1
Chrysene	ug/g	<0.02	<0.02	0.03	0.05	0.14	n.s.	n.s.	n.s.	n.s.	400	n.s.
Dibenz(a,h)anthracene	ug/g	<0.02	<0.02	<0.02	<0.02	0.02	n.s.	n.s.	n.s.	n.s.	10	1
Fluoranthene	ug/g	<0.02	<0.02	0.07	0.1	0.41	3,500	n.s.	50	n.s.	n.s.	n.s.
Fluorene	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	1,000	n.s.
Indeno(1,2,3-c,d)pyrene	ug/g	<0.02	<0.02	<0.02	0.04	0.09	n.s.	n.s.	n.s.	n.s.	95	1
1-Methylnaphthalene	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	500	n.s.
2-Methylnaphthalene	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	100	n.s.
Naphthalene	ug/g	<0.01	<0.01	<0.01	<0.01	<0.01	1,500	100	0.6	75	n.s.	n.s.
Phenanthrene	ug/g	<0.02	<0.02	0.02	0.03	0.14	n.s.	n.s.	n.s.	n.s.	3,500	5
Pyrene	ug/g	<0.02	<0.02	0.05	0.07	0.29	n.s.	n.s.	n.s.	n.s.	2,500	10
Quinoline	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	4.5	n.s.

**Notes:**

- 1 - Data excerpted from Element Materials Technology Canada Inc. analytical report(s); units as indicated
- 2 - BC Contaminated Sites Regulation (CSR) Schedule 3.1 - Part 1 Numerical Soil Standards, site-specific land use and pathways as noted above
- 3 - BC CSR Schedule 3.1 - Part 2 Generic Numerical Soil Standard to Protect Human Health, site-specific land use as noted above
- 4 - BC CSR Schedule 3.1 - Part 3 Generic Numerical Soil Standards to Protect Ecological Health, site-specific land use as noted above
- n.s. = No applicable standard
- = Parameter not analyzed
- < = Less than the laboratory method detection limit
- Bold, underlined,** and shaded grey indicates concentration exceeds lowest of the applicable standards

Table 1.15 Summary of Stockpile Surface Soil Analytical Results - Petroleum Hydrocarbons

Sample ID	SS20-05-01	SS20-06-01	SS20-07-01	SS20-08-01	SS20-09-01	SS20-10-01	CSR Schedule 3.1 - Part 1 Urban Park Land Use <sup>2</sup>				CSR Schedule 3.1 Part 2 Urban Park Land Use <sup>3</sup>	CSR Schedule 3.1 Part 3 Urban Parkland Land Use <sup>4</sup>	
							Human Health Protection		Environmental Protection				
Matrix	Soil	Soil	Soil	Soil	Soil	Soil							
Depth (m below surface grade)	0.15	0.15	0.15	0.15	0.15	0.15							
Sample Date	26-Nov-20	26-Nov-20	26-Nov-20	26-Nov-20	26-Nov-20	26-Nov-20							
Comments	Beneath Stockpile #3	Beneath Stockpile #3	Beneath Stockpile #3	Beneath Stockpile #3	Beneath Stockpile #2	Beneath Stockpile #2	Intake of Contaminated Soil	Groundwater Used for Drinking Water	Toxicity to Invertebrates and Plants	Groundwater Flow to Freshwater	Human Health Protection	Ecological Health	
PARAMETERS	Units	Analytical Results <sup>1</sup>											
<b>Volatile Hydrocarbons</b>													
Benzene	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	350	0.035	100	2.5	n.s.	n.s.
Ethylbenzene	ug/g	<0.05	0.1	<0.05	<0.05	<0.05	<0.05	8,500	15	200	200	n.s.	n.s.
Methyl t-Butyl Ether	ug/g	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	n.s.	n.s.	n.s.	n.s.	8,000	n.s.
Styrene	ug/g	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	n.s.	n.s.	n.s.	n.s.	15,000	5
Toluene	ug/g	<0.05	0.2	<0.05	<0.05	<0.05	<0.05	6,500	6	150	0.5	n.s.	n.s.
Total Xylenes	ug/g	<0.05	0.56	<0.05	<0.05	<0.05	<0.05	15,000	6.5	150	20	n.s.	n.s.
<b>Volatile Petroleum Hydrocarbons</b>													
VHS <sub>(6-10)</sub>	ug/g	<50	<50	<50	<50	<50	<50	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
VPHs (VHS <sub>6-10</sub> minus BTEX)	ug/g	<50	<50	<50	<50	<50	<50	n.s.	n.s.	n.s.	n.s.	200	200
<b>Extractable Petroleum Hydrocarbons</b>													
EPHS <sub>10-19</sub>	ug/g	<20	<20	<20	<20	<20	<20	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
EPHS <sub>19-32</sub>	ug/g	<20	<20	43	<20	<20	<20	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
LEPHS <sub>10-19</sub>	ug/g	<20	<20	<20	<20	<20	<20	n.s.	n.s.	n.s.	n.s.	1,000	1,000
HEPHS <sub>19-32</sub>	ug/g	<20	<20	43	<20	<20	<20	n.s.	n.s.	n.s.	n.s.	1,000	1,000
<b>Polycyclic Aromatic Hydrocarbons</b>													
Acenaphthene	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	2,000	n.s.
Acenaphthylene	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Anthracene	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	25,000	n.s.	2.5	n.s.	n.s.	n.s.
Benzo(a)anthracene	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	95	1
Benzo(a)pyrene	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	10	n.s.	20	n.s.	n.s.	n.s.
Benzo(b)fluoranthene	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Benzo(b+j)fluoranthene	ug/g	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	n.s.	n.s.	n.s.	n.s.	95	1
Benzo(g,h,i)perylene	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Benzo(k)fluoranthene	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	95	1
Chrysene	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	400	n.s.
Dibenz(a,h)anthracene	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	10	1
Fluoranthene	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	3,500	n.s.	50	n.s.	n.s.	n.s.
Fluorene	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	1,000	n.s.
Indeno(1,2,3-c,d)pyrene	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	95	1
1-Methylnaphthalene	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	500	n.s.
2-Methylnaphthalene	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	100	n.s.
Naphthalene	ug/g	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	1,500	100	0.6	75	n.s.	n.s.
Phenanthrene	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	3,500	5
Pyrene	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	2,500	10
Quinoline	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	n.s.	n.s.	n.s.	n.s.	4.5	n.s.

**Notes:**

- 1 - Data excerpted from Element Materials Technology Canada Inc. analytical report(s); units as indicated
- 2 - BC Contaminated Sites Regulation (CSR) Schedule 3.1 - Part 1 Numerical Soil Standards, site-specific land use and pathways as noted above
- 3 - BC CSR Schedule 3.1 - Part 2 Generic Numerical Soil Standard to Protect Human Health, site-specific land use as noted above
- 4 - BC CSR Schedule 3.1 - Part 3 Generic Numerical Soil Standards to Protect Ecological Health, site-specific land use as noted above
- n.s. = No applicable standard
- = Parameter not analyzed
- < = Less than the laboratory method detection limit
- Bold, underlined,** and shaded grey indicates concentration exceeds lowest of the applicable standards

Table 2.1 Summary of Stockpile #1 2 Soil Analytical Results - Metals

Sample ID	Matrix	Depth (m below surface grade)	Sample Date	Comments	SP20-01-01	SP20-02-01	SP20-02-01	SP20-02-02	SP20-02-03	SP20-02-04	SP20-02-05	SP20-02-06	SP20-02-07	SP20-02-08	SP20-02-09	SP20-02-10	CSR Schedule 3.1 - Part 1 Urban Park Land Use <sup>2</sup>				CSR Schedule 3.1 Part 2 Urban Park Land Use <sup>3</sup>	CSR Schedule 3.1 Part 3 Urban Park Land Use <sup>4</sup>			
					Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Human Health Protection		Environmental Protection		Human Health Protection	Ecological Health
					Stockpile Sample	Stockpile Sample	Stockpile Sample	Stockpile Sample	Stockpile Sample	Stockpile Sample	Stockpile Sample	Stockpile Sample	Stockpile Sample	Stockpile Sample	Stockpile Sample	Stockpile Sample	Stockpile Sample	Stockpile Sample	Stockpile Sample	Stockpile Sample	Intake of Contaminated Soil	Groundwater Used for Drinking Water	Toxicity to Invertebrates and Plants	Groundwater Flow to Freshwater	Human Health Protection
PARAMETERS					Units	Analytical Results <sup>1</sup>																			
pH		No Units			5.4	5.8	6.9	6.6	6.3	6.2	6.6	6.4	6	6.9	6.9	6.5	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.			
<b>Metals</b>																									
Antimony	ug/g				2	1.7	1.5	1.6	1.8	2.3	2.8	2.6	2.2	2.6	2.4	1.6	n.s.	n.s.	n.s.	n.s.	500	20			
Arsenic	ug/g				<b>21</b>	<b>26</b>	<b>20</b>	<b>21</b>	<b>27</b>	<b>41</b>	<b>58</b>	<b>40</b>	<b>32</b>	<b>37</b>	<b>37</b>	<b>21</b>	40	10	25	10	n.s.	n.s.			
Barium	ug/g				86	66	88	87	84	79	94	86	77	100	98	83	15,000	350	700	3,500	n.s.	n.s.			
Beryllium	ug/g				<0.5	<0.5	0.5	0.4	0.4	0.4	0.4	0.5	0.4	0.5	0.4	0.4	150	1 to 2,500 <sup>pH</sup>	150	1 to 500 <sup>pH</sup>	n.s.	n.s.			
Cadmium	ug/g				0.1	0.3	0.11	0.09	0.14	0.13	0.13	0.1	0.14	0.11	0.09	0.09	40	1 to 70 <sup>pH</sup>	30	1 to 50 <sup>pH</sup>	n.s.	n.s.			
Chromium	ug/g				<b>94</b>	<b>120</b>	100	100	110	100	120	100	110	120	110	110	250	n.s.	200	n.s.	n.s.	n.s.			
Chromium VI	ug/g				-	-	<0.3	<0.3	<0.3	<0.3	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	n.s.	60	n.s.	60	n.s.	n.s.			
Chromium III (Calculated)	ug/g				-	-	100	97	110	100	120	100	100	100	100	100	n.s.	1,000 mg/g	n.s.	300,000	n.s.	n.s.			
Cobalt	ug/g				28	30	28	27	30	28	33	32	29	34	34	27	25	25	45	25	n.s.	n.s.			
Copper	ug/g				<b>110</b>	<b>140</b>	90	83	100	100	130	120	100	140	130	86	7,500	250 to 100,000 <sup>pH</sup>	150	75 to 7,500 <sup>pH</sup>	n.s.	n.s.			
Lead	ug/g				5.1	5.2	6.2	4.7	6	6.1	4.9	4.4	6.9	5.4	4.9	5	120	120 to 8,500 <sup>pH</sup>	550	200 to 90,000 <sup>pH</sup>	n.s.	n.s.			
Lithium	ug/g				12	11	11	11	11	10	11	12	11	11	12	12	n.s.	n.s.	n.s.	n.s.	65	n.s.			
Manganese	ug/g				720	910	1000	1500	1600	1200	1300	1200	1200	1400	1300	1300	10,000	2,000	2,000	n.s.	n.s.	n.s.			
Mercury	ug/g				0.18	0.13	0.17	0.18	0.17	0.2	0.38	0.3	0.18	0.35	0.32	0.13	25	n.s.	40	n.s.	n.s.	n.s.			
Molybdenum	ug/g				<0.5	<0.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	400	15	80	650	n.s.	n.s.			
Nickel	ug/g				59	70	63	54	63	58	78	60	55	66	67	53	900	70 to 500 <sup>pH</sup>	150	90 to 9,500 <sup>pH</sup>	n.s.	n.s.			
Selenium	ug/g				<1.0	<1	0.3	0.3	0.3	0.3	0.3	<0.3	0.3	0.4	0.3	0.3	400	1	1.5	1	n.s.	n.s.			
Silver	ug/g				<0.2	<0.3	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	n.s.	n.s.	n.s.	n.s.	400	20			
Strontium	ug/g				17	24	19	16	19	19	24	21	19	25	24	17	n.s.	n.s.	n.s.	n.s.	20,000	n.s.			
Thallium	ug/g				<0.1	<0.1	0.06	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.05	2	2	9	2	n.s.	9			
Tin	ug/g				<0.5	<0.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	n.s.	n.s.	n.s.	n.s.	50,000	50			
Uranium	ug/g				0.2	0.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	250	30	500	150	n.s.	n.s.			
Vanadium	ug/g				180	170	<b>210</b>	190	190	200	190	200	<b>210</b>	<b>220</b>	<b>230</b>	<b>220</b>	400	100	150	n.s.	n.s.	n.s.			
Zinc	ug/g				89	89	120	84	92	93	98	94	92	100	97	86	25,000	200 to 5,500 <sup>pH</sup>	450	150 to 3,000 <sup>pH</sup>	n.s.	n.s.			

Notes:  
 1 - Data excerpted from Element Materials Technology Canada Inc. analytical report(s); units as indicated  
 2 - BC Contaminated Sites Regulation (CSR) Schedule 3.1 - Part 1 Numerical Soil Standards, site-specific land use and pathways as noted above  
 3 - BC CSR Schedule 3.1 - Part 2 Generic Numerical Soil Standard to Protect Human Health, site-specific land use as noted above  
 4 - BC CSR Schedule 3.1 - Part 3 Generic Numerical Soil Standards to Protect Ecological Health, site-specific land use as noted above  
 n.s. = No applicable standard  
 pH = Standard is pH dependant and is specific to each sample with the range noted above  
 - = Parameter not analyzed  
 < = Less than the laboratory method detection limit  
 Light grey indicates concentration exceeds standards however does not exceed regional background concentrations for vanadium of 200 ug/g as per Protocol 4.  
**Bold, underlined,** and shaded grey indicates concentration exceeds lowest of the applicable standards

Table 2.2 Summary of Stockpile #2 Soil Analytical Results - Metals

Sample ID	SP20-02-09	SP20-02-10	SP20-02-11	SP20-02-12	SP20-02-13	SP20-02-14	CSR Schedule 3.1 - Part 1 Urban Park Land Use <sup>2</sup>				CSR Schedule 3.1 Part 2 Urban Park Land Use <sup>3</sup>	CSR Schedule 3.1 Part 3 Urban Parkland Land Use <sup>4</sup>	
							Human Health Protection		Environmental Protection				
Matrix	Soil	Soil	Soil	Soil	Soil	Soil							
Depth (m below surface grade)	Stockpile Sample	Stockpile Sample	Stockpile Sample	Stockpile Sample	Stockpile Sample	Stockpile Sample							
Sample Date	20-Nov-20	20-Nov-20	20-Nov-20	20-Nov-20	20-Nov-20	20-Nov-20							
Comments	Follow-up sample - soil backfilled in	Soil disposed of off-site	Follow-up sample - soil backfilled in	Follow-up sample - soil backfilled in	Follow-up sample - soil backfilled in	Soil disposed of off-site	Intake of Contaminated Soil	Groundwater Used for Drinking Water	Toxicity to Invertebrates and Plants	Groundwater Flow to Freshwater	Human Health Protection	Ecological Health	
PARAMETERS	Units	Analytical Results <sup>1</sup>											
pH	No Units	6.1	6.3	6.5	6.5	6.5	6.4	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
<b>Metals</b>													
Antimony	ug/g	2.1	3.1	2.3	1.7	2.3	1.7	n.s.	n.s.	n.s.	n.s.	500	20
Arsenic	ug/g	<b>34</b>	<b>43</b>	<b>35</b>	<b>23</b>	<b>27</b>	<b>25</b>	40	10	25	10	n.s.	n.s.
Barium	ug/g	87	100	86	92	84	88	15,000	350	700	3,500	n.s.	n.s.
Beryllium	ug/g	0.4	0.5	0.5	0.5	0.5	0.5	150	1 to 2,500 <sup>pH</sup>	150	1 to 500 <sup>pH</sup>	n.s.	n.s.
Cadmium	ug/g	0.15	0.14	0.13	0.11	0.13	0.11	40	1 to 70 <sup>pH</sup>	30	1 to 50 <sup>pH</sup>	n.s.	n.s.
Chromium	ug/g	110	120	110	110	98	98	250	n.s.	200	n.s.	n.s.	n.s.
Chromium VI	ug/g	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	n.s.	60	n.s.	60	n.s.	n.s.
Chromium III (Calculated)	ug/g	110	120	110	110	98	98	n.s.	1,000 mg/g	n.s.	300,000	n.s.	n.s.
Cobalt	ug/g	28	30	29	28	25	27	25	25	45	25	n.s.	n.s.
Copper	ug/g	110	120	100	83	83	76	7,500	250 to 100,000 <sup>pH</sup>	150	75 to 7,500 <sup>pH</sup>	n.s.	n.s.
Lead	ug/g	6.1	7.9	5.9	5.2	5.9	5.3	120	120 to 8,500 <sup>pH</sup>	550	200 to 90,000 <sup>pH</sup>	n.s.	n.s.
Lithium	ug/g	11	12	11	12	12	12	n.s.	n.s.	n.s.	n.s.	65	n.s.
Manganese	ug/g	1400	1300	1200	1300	1100	1600	10,000	2,000	2,000	n.s.	n.s.	n.s.
Mercury	ug/g	0.19	0.43	0.25	0.15	0.29	0.18	25	n.s.	40	n.s.	n.s.	n.s.
Molybdenum	ug/g	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	400	15	80	650	n.s.	n.s.
Nickel	ug/g	65	72	60	61	57	52	900	70 to 500 <sup>pH</sup>	150	90 to 9,500 <sup>pH</sup>	n.s.	n.s.
Selenium	ug/g	0.4	0.4	0.4	0.4	0.4	0.4	400	1	1.5	1	n.s.	n.s.
Silver	ug/g	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	n.s.	n.s.	n.s.	n.s.	400	20
Strontium	ug/g	22	26	21	18	17	18	n.s.	n.s.	n.s.	n.s.	20,000	n.s.
Thallium	ug/g	<0.05	<0.05	<0.05	0.05	<0.05	0.06	2	2	9	2	n.s.	9
Tin	ug/g	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	n.s.	n.s.	n.s.	n.s.	50,000	50
Uranium	ug/g	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	250	30	500	150	n.s.	n.s.
Vanadium	ug/g	200	190	180	<b>220</b>	190	<b>210</b>	400	100	150	n.s.	n.s.	n.s.
Zinc	ug/g	85	89	86	87	81	74	25,000	200 to 5,500 <sup>pH</sup>	450	150 to 3,000 <sup>pH</sup>	n.s.	n.s.

Notes:

- 1 - Data excerpted from Element Materials Technology Canada Inc. analytical report(s); units as indicated
- 2 - BC Contaminated Sites Regulation (CSR) Schedule 3.1 - Part 1 Numerical Soil Standards, site-specific land use and pathways as noted above
- 3 - BC CSR Schedule 3.1 - Part 2 Generic Numerical Soil Standard to Protect Human Health, site-specific land use as noted above
- 4 - BC CSR Schedule 3.1 - Part 3 Generic Numerical Soil Standards to Protect Ecological Health, site-specific land use as noted above
- n.s. = No applicable standard
- pH = Standard is pH dependant and is specific to each sample with the range noted above
- = Parameter not analyzed
- < = Less than the laboratory method detection limit
- Light grey indicates concentration exceeds standards however does not exceed regional background concentrations for vanadium of 200 ug/g as per Protocol 4.
- Bold, underlined,** and shaded grey indicates concentration exceeds lowest of the applicable standards

Table 2.3 Summary of Stockpile #3 Soil Analytical Results - Metals

Sample ID	Matrix	Depth (m below surface grade)	Sample Date	Comments	SP20-03-01	SP20-03-02	SP20-03-03	SP20-03-04	SP20-03-05	SP20-03-06	SP20-03-07	SP20-03-08	SP20-03-09	SP20-03-10	CSR Schedule 3.1 - Part 1 Urban Park Land Use <sup>2</sup>				CSR Schedule 3.1 Part 2 Urban Park Land Use <sup>3</sup>	CSR Schedule 3.1 Part 3 Urban Park Land Use <sup>4</sup>		
					Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Human Health Protection		Environmental Protection			
					Stockpile Sample	Stockpile Sample	Stockpile Sample	Stockpile Sample	Stockpile Sample	Stockpile Sample	Stockpile Sample	Stockpile Sample	Stockpile Sample	Stockpile Sample	Stockpile Sample	Stockpile Sample	Stockpile Sample	Intake of Contaminated Soil	Groundwater Used for Drinking Water	Toxicity to Invertebrates and Plants	Groundwater Flow to Freshwater	Human Health Protection
<b>PARAMETERS</b>	Units				<b>Analytical Results<sup>1</sup></b>																	
pH	No Units	7	6.8	6.3	6.6	6.1	6.3	6.8	6.5	6.3	5.8											
<b>Metals</b>																						
Antimony	ug/g	1.7	2	1.3	1.5	2.1	1.7	1.8	1.6	1.7	1.5											
Arsenic	ug/g	<b>23</b>	<b>22</b>	<b>15</b>	<b>22</b>	<b>21</b>	<b>19</b>	<b>26</b>	<b>14</b>	<b>20</b>	<b>19</b>											
Barium	ug/g	120	77	70	81	95	86	100	150	86	68											
Beryllium	ug/g	0.6	0.4	0.5	0.5	0.4	0.5	0.6	0.8	0.5	0.5											
Cadmium	ug/g	0.07	0.28	0.12	0.09	0.11	0.13	0.07	0.07	0.13	0.14											
Chromium	ug/g	120	170	120	110	110	130	120	110	94												
Chromium VI	ug/g	<0.3	<0.2	<0.2	<0.2	<0.3	<0.3	<0.3	<0.4	<0.2	<0.2											
Chromium III (Calculated)	ug/g	120	170	120	110	110	130	120	110	94												
Cobalt	ug/g	31	36	30	30	29	30	34	28	30	28											
Copper	ug/g	140	160	130	110	100	130	140	140	120	120											
Lead	ug/g	4	6.1	4.1	4.3	5	5.3	4	4.7	5.3	4.6											
Lithium	ug/g	16	13	11	12	12	12	14	17	12	10											
Manganese	ug/g	950	1400	1000	1300	1100	1200	1100	1100	1000	1100											
Mercury	ug/g	0.19	0.24	0.2	0.18	0.19	0.2	0.19	0.15	0.19	0.16											
Molybdenum	ug/g	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0											
Nickel	ug/g	71	90	99	67	61	70	72	66	67	55											
Selenium	ug/g	0.4	0.4	0.3	0.3	0.4	0.4	0.3	<0.3	0.4	<0.3											
Silver	ug/g	0.1	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	0.1	<0.10	<0.10											
Strontium	ug/g	23	34	18	18	15	21	24	23	17	17											
Thallium	ug/g	0.05	<0.05	<0.05	0.05	0.06	<0.05	<0.05	0.06	<0.05	<0.05											
Tin	ug/g	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0											
Uranium	ug/g	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	<0.5	<0.5											
Vanadium	ug/g	<b>220</b>	<b>210</b>	<b>220</b>	<b>210</b>	<b>220</b>	<b>230</b>	<b>240</b>	<b>220</b>	<b>230</b>	200											
Zinc	ug/g	79	110	90	91	95	95	89	72	100	88											

**Notes:**

- 1 - Data excerpted from Element Materials Technology Canada Inc. analytical report(s); units as indicated
  - 2 - BC Contaminated Sites Regulation (CSR) Schedule 3.1 - Part 1 Numerical Soil Standards, site-specific land use and pathways as noted above
  - 3 - BC CSR Schedule 3.1 - Part 2 Generic Numerical Soil Standard to Protect Human Health, site-specific land use as noted above
  - 4 - BC CSR Schedule 3.1 - Part 3 Generic Numerical Soil Standards to Protect Ecological Health, site-specific land use as noted above
- n.s. = No applicable standard  
 pH = Standard is pH dependant and is specific to each sample with the range noted above  
 - = Parameter not analyzed  
 < = Less than the laboratory method detection limit  
 Light grey indicates concentration exceeds standards however does not exceed regional background concentrations for vanadium of 200 ug/g as per Protocol 4.  
**Bold, underlined,** and shaded grey indicates concentration exceeds lowest of the applicable standards

Table 2.4 Summary of Confirmatory Soil Analytical Results - Metals

Sample ID	EX20-01-W-01	EX20-01-W-02	EX20-01-W-03	EX20-01-W-04	EX20-01-W-05	EX20-01-W-06	EX20-01-W-07	EX20-01-W-08	EX20-01-W-09	EX20-01-W-10	EX20-01-W-11	EX20-01-W-12	EX20-01-W-A	EX20-01-W-B	CSR Schedule 3.1 - Part 1 Urban Park Land Use <sup>2</sup>				CSR Schedule 3.1 Part 2 Urban Park Land Use <sup>3</sup>	CSR Schedule 3.1 Part 3 Urban Park Land Use <sup>4</sup>	
	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Human Health Protection		Environmental Protection				
Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil							
Depth (m below surface grade)	0.50	0.70	0.65	0.70	0.80	1.00	0.90	0.70	0.60	0.45	0.40	0.45	0.50	0.45							
Sample Date	7-Nov-20	7-Nov-20	7-Nov-20	7-Nov-20	7-Nov-20	7-Nov-20	7-Nov-20	7-Nov-20	7-Nov-20	7-Nov-20	7-Nov-20	7-Nov-20	7-Nov-20	7-Nov-20							
Comments	Confirmatory Wall Sample From	Confirmatory Wall Sample From	Confirmatory Wall Sample From	Confirmatory Wall Sample From	Confirmatory Wall Sample From	Confirmatory Wall Sample From	Confirmatory Wall Sample From	Confirmatory Wall Sample From	Confirmatory Wall Sample From	Confirmatory Wall Sample From	Confirmatory Wall Sample From	Confirmatory Wall Sample From	Duplicate to EX20-01-W-1	Duplicate to EX20-01-W-10							
PARAMETERS	Analytical Results <sup>1</sup>																				
	Units																				
pH	No Units	-	-	-	-	-	-	-	-	-	-	-	-	-					n.s.	n.s.	
<b>Metals</b>																					
Arsenic	ug/g	<b>26</b>	<b>40</b>	<b>27</b>	<b>19</b>	<b>30</b>	<b>22</b>	<b>17</b>	<b>16</b>	<b>19</b>	<b>20</b>	<b>14</b>	<b>15</b>	<b>28</b>	<b>22</b>						
Chromium	ug/g	98	130	110	100	110	120	120	94	100	100	100	120	110	100						
Chromium VI	ug/g	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.2	<0.3						
Chromium III (Calculated)	ug/g	98	130	110	100	110	120	120	94	100	100	100	120	110	100						
Copper	ug/g	130	130	90	71	110	100	72	61	82	83	67	120	140	78						
																7,500	250 to 100,000 <sup>PH</sup>	150	75 to 7,500 <sup>PH</sup>	n.s.	n.s.

Notes:  
 1 - Data excerpted from Element Materials Technology Canada Inc. analytical report(s); units as indicated  
 2 - BC Contaminated Sites Regulation (CSR) Schedule 3.1 - Part 1 Numerical Soil Standards, site-specific land use and pathways as noted above  
 3 - BC CSR Schedule 3.1 - Part 2 Generic Numerical Soil Standard to Protect Human Health, site-specific land use as noted above  
 4 - BC CSR Schedule 3.1 - Part 3 Generic Numerical Soil Standards to Protect Ecological Health, site-specific land use as noted above  
 n.s. = No applicable standard  
 pH = Standard is pH dependant and is specific to each sample with the range noted above  
 - = Parameter not analyzed  
 < = Less than the laboratory method detection limit  
**Bold, underlined** and shaded grey indicates concentration exceeds lowest of the applicable standards



Table 2.5 Summary of Borehole Soil Analytical Results - Metals

Sample ID	MW20-01-01	MW20-01-02	MW20-02-01	MW20-02-02	MW20-03-01	MW20-03-02	MW20-04-02	MW20-04-03	MW20-05-01	MW20-05-02	MW20-06-01	MW20-06-02	MW20-07-01	MW20-07-A	MW20-07-02	CSR Schedule 3.1 - Part 1 Urban Park Land Use <sup>2</sup>				CSR Schedule 3.1 Part 2 Urban Park Land Use <sup>3</sup>	CSR Schedule 3.1 Part 3 Urban Parkland Land Use <sup>4</sup>	
	Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Human Health Protection		Environmental Protection				
Depth (m below surface grade)	0.15	1.07	0.30	1.37	1.50	0.46	0.76	1.22	0.30	1.37	0.30	1.22	0.46	0.46	1.22	Intake of Contaminated Soil	Groundwater Used for Drinking Water	Toxicity to Invertebrates and Plants	Groundwater Flow to Freshwater	Human Health Protection	Ecological Health	
Sample Date	12-Nov-20	12-Nov-20	12-Nov-20	12-Nov-20	12-Nov-20	12-Nov-20	12-Nov-20	12-Nov-20	12-Nov-20	12-Nov-20	12-Nov-20	12-Nov-20	12-Nov-20	13-Nov-20	13-Nov-20	13-Nov-20	Duplicate to MW20-07-01					
Comments																						
PARAMETERS	Units	Analytical Results <sup>1</sup>																				
pH	No Units	7.2	7.9	5.6	6.6	6.3	5.4	6.4	7.3	7.4	7.7	5.5	6.9	5.8	5.8	7.1	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
<b>Metals</b>																						
Arsenic	ug/g	<u>33</u>	<u>39</u>	<u>48</u>	<u>30</u>	<u>38</u>	<u>20</u>	<u>16</u>	<u>22</u>	<u>26</u>	<u>30</u>	<u>28</u>	<u>44</u>	<u>11</u>	<u>11</u>	<u>20</u>	40	10	25	10	n.s.	n.s.
Copper	ug/g	130	130	<u>110</u>	120	93	100	160	120	130	140	95	120	100	<u>110</u>	120	7,500	250 to 100,000 <sup>HH</sup>	150	75 to 7,500 <sup>HH</sup>	n.s.	n.s.
Vanadium	ug/g	<u>210</u>	180	<u>220</u>	190	<u>210</u>	180	180	<u>240</u>	190	180	<u>210</u>	180	<u>230</u>	<u>230</u>	180	25,000	200 to 5,500 <sup>HH</sup>	450	150 to 3,000 <sup>HH</sup>	n.s.	n.s.

**Notes:**  
 1 - Data excerpted from Element Materials Technology Canada Inc. analytical report(s); units as indicated  
 2 - BC Contaminated Sites Regulation (CSR) Schedule 3.1 - Part 1 Numerical Soil Standards, site-specific land use and pathways as noted above  
 3 - BC CSR Schedule 3.1 - Part 2 Generic Numerical Soil Standard to Protect Human Health, site-specific land use as noted above  
 4 - BC CSR Schedule 3.1 - Part 3 Generic Numerical Soil Standards to Protect Ecological Health, site-specific land use as noted above  
 n.s. = No applicable standard  
 pH = Standard is pH dependant and is specific to each sample with the range noted above  
 - = Parameter not analyzed  
 < = Less than the laboratory method detection limit  
 Light grey indicates concentration exceeds standards however does not exceed regional background concentrations for vanadium of 200 ug/g as per Protocol 4.  
**Bold, underlined, and shaded grey** indicates concentration exceeds lowest of the applicable standards

Table 2.6 Summary of Borehole Soil Analytical Results - Metals

Sample ID	MW20-08-01	MW20-08-02	MW20-09-01	MW20-09-02	BH20-10-01	BH20-10-02	BH20-11-01	BH20-11-A	BH20-11-02	BH20-12-01	BH20-13-01	BH20-13-02	BH20-14-01	BH20-14-02	CSR Schedule 3.1 - Part 1 Urban Park Land Use <sup>2</sup>				CSR Schedule 3.1 Part 2 Urban Park Land Use <sup>3</sup>	CSR Schedule 3.1 Part 3 Urban Park Land Use <sup>4</sup>	
	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Human Health Protection	Environmental Protection		Human Health Protection			Ecological Health
Matrix																					
Depth (m below surface grade)	1.07	2.13	0.46	0.91	0.46	0.37	0.15	0.15	1.07	0.15	0.15	0.61	0.30	1.07							
Sample Date	13-Nov-20	13-Nov-20	13-Nov-20	13-Nov-20	13-Nov-20	13-Nov-20	13-Nov-20	13-Nov-20	13-Nov-20	13-Nov-20	13-Nov-20	13-Nov-20	13-Nov-20	13-Nov-20							
Comments															Intake of Contaminated Soil	Groundwater Used for Drinking Water	Toxicity to Invertebrates and Plants	Groundwater Flow to Freshwater	Human Health Protection	Ecological Health	
PARAMETERS	Units	Analytical Results <sup>1</sup>																			
pH	No Units	7.3	7.8	5.9	7.3	7.6	7.7	7.8	7.8	8	7.9	7.5	7.8	6.2	5.9	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Metals																					
Arsenic	ug/g	<u>46</u>	<u>34</u>	<u>11</u>	<u>24</u>	<u>23</u>	<u>27</u>	<u>24</u>	<u>24</u>	<u>34</u>	<u>48</u>	<u>40</u>	<u>41</u>	<u>42</u>	<u>25</u>	40	10	25	10	n.s.	n.s.
Copper	ug/g	120	120	79	130	140	140	110	100	110	100	120	130	120	<u>110</u>	7,500	250 to 100,000 <sup>PH</sup>	150	75 to 7,500 <sup>PH</sup>	n.s.	n.s.
Vanadium	ug/g	<u>160</u>	160	<u>220</u>	200	180	180	150	140	150	140	150	170	200	<u>220</u>	25,000	200 to 5,500 <sup>PH</sup>	450	150 to 3,000 <sup>PH</sup>	n.s.	n.s.

Notes:

- 1 - Data excerpted from Element Materials Technology Canada Inc. analytical report(s); units as indicated
- 2 - BC Contaminated Sites Regulation (CSR) Schedule 3.1 - Part 1 Numerical Soil Standards, site-specific land use and pathways as noted above
- 3 - BC CSR Schedule 3.1 - Part 2 Generic Numerical Soil Standard to Protect Human Health, site-specific land use as noted above
- 4 - BC CSR Schedule 3.1 - Part 3 Generic Numerical Soil Standards to Protect Ecological Health, site-specific land use as noted above
- n.s. = No applicable standard
- pH = Standard is pH dependant and is specific to each sample with the range noted above
- = Parameter not analyzed
- < = Less than the laboratory method detection limit
- Light grey indicates concentration exceeds standards however does not exceed regional background concentrations for vanadium of 200 ug/g as per Protocol 4.
- Bold, underlined** and shaded grey indicates concentration exceeds lowest of the applicable standards

Table 2.7 Summary of Fill Soil Analytical Results - Metals

Sample ID	Backfill N Soil	Backfill S Soil	CSR Schedule 3.1 - Part 1 Urban Park Land Use <sup>2</sup>				CSR Schedule 3.1 Part 2 Urban Park Land Use <sup>3</sup>	CSR Schedule 3.1 Part 3 Urban Parkland Land Use <sup>4</sup>
			Human Health Protection		Environmental Protection			
Matrix								
Depth (m below surface grade)								
Sample Date	November 18, 2020	November 18, 2020						
Comments			Intake of Contaminated Soil	Groundwater Used for Drinking Water	Toxicity to Invertebrates and Plants	Groundwater Flow to Freshwater	Human Health Protection	Ecological Health
PARAMETERS	Units	Analytical Results <sup>1</sup>						
pH	No Units	8	7.4	n.s.	n.s.	n.s.	n.s.	n.s.
<b>Metals</b>								
Antimony	ug/g	0.2	<0.2	n.s.	n.s.	n.s.	n.s.	500
Arsenic	ug/g	3.8	4	40	10	25	10	n.s.
Barium	ug/g	91	120	15,000	350	700	3,500	n.s.
Beryllium	ug/g	0.3	0.3	150	1 to 2,500 <sup>pH</sup>	150	1 to 500 <sup>pH</sup>	n.s.
Cadmium	ug/g	0.04	0.04	40	1 to 70 <sup>pH</sup>	30	1 to 50 <sup>pH</sup>	n.s.
Chromium	ug/g	46	48	250	n.s.	200	n.s.	n.s.
Cobalt	ug/g	11	9.5	25	25	45	25	n.s.
Copper	ug/g	12	12	7,500	250 to 100,000 <sup>pH</sup>	150	75 to 7,500 <sup>pH</sup>	n.s.
Lead	ug/g	2.3	2.4	120	120 to 8,500 <sup>pH</sup>	550	200 to 90,000 <sup>pH</sup>	n.s.
Lithium	ug/g	7.7	7.8	n.s.	n.s.	n.s.	n.s.	65
Manganese	ug/g	860	680	10,000	2,000	2,000	n.s.	n.s.
Mercury	ug/g	0.25	0.22	25	n.s.	40	n.s.	n.s.
Molybdenum	ug/g	<1.0	<1.0	400	15	80	650	n.s.
Nickel	ug/g	37	39	900	70 to 500 <sup>pH</sup>	150	90 to 9,500 <sup>pH</sup>	n.s.
Selenium	ug/g	<0.3	<0.3	400	1	1.5	1	n.s.
Silver	ug/g	<0.10	<0.10	n.s.	n.s.	n.s.	n.s.	400
Strontium	ug/g	60	40	n.s.	n.s.	n.s.	n.s.	20,000
Thallium	ug/g	<0.05	<0.05	2	2	9	2	n.s.
Tin	ug/g	<1.0	<1.0	n.s.	n.s.	n.s.	n.s.	50,000
Uranium	ug/g	0.6	0.6	250	30	500	150	n.s.
Vanadium	ug/g	64	61	400	100	150	n.s.	n.s.
Zinc	ug/g	69	57	25,000	200 to 5,500 <sup>pH</sup>	450	150 to 3,000 <sup>pH</sup>	n.s.

**Notes:**

- 1 - Data excerpted from Element Materials Technology Canada Inc. analytical report(s); units as indicated
- 2 - BC Contaminated Sites Regulation (CSR) Schedule 3.1 - Part 1 Numerical Soil Standards, site-specific land use and pathways as noted above
- 3 - BC CSR Schedule 3.1 - Part 2 Generic Numerical Soil Standard to Protect Human Health, site-specific land use as noted above
- 4 - BC CSR Schedule 3.1 - Part 3 Generic Numerical Soil Standards to Protect Ecological Health, site-specific land use as noted above
- n.s. = No applicable standard
- pH = Standard is pH dependant and is specific to each sample with the range noted above
- = Parameter not analyzed
- < = Less than the laboratory method detection limit
- Bold, underlined, and shaded grey** indicates concentration exceeds lowest of the applicable standards

Table 3. Summary of Stockpile #1 and Excavation Soil Analytical Results - Phenols

Sample ID		SP20-01-01	EX20-01-F-01	EX20-01-F-02	CSR Schedule 3.1 - Part 1 Urban Park Land Use <sup>2</sup>					CSR Schedule 3.1 Part 2 Urban Park Land Use <sup>3</sup>	CSR Schedule 3.1 Part 3 Urban Park Land Use <sup>4</sup>	
		Soil	Soil	Soil	Human Health Protection		Environmental Protection					
Matrix		Soil	Soil	Soil								
Depth (m below surface grade)		Stockpile Sample										
Sample Date		2-Nov-20	10-Nov-20	10-Nov-20								
Comments		Soil disposed of off-site	Confirmatory Floor Sample From Excavation	Confirmatory Floor Sample From Excavation	Intake of Contaminated Soil	Groundwater Used for Drinking Water	Toxicity to Invertebrates and Plants	Groundwater Flow to Freshwater	Groundwater Flow to Marine Water	Groundwater Used for Irrigation	Human Health Protection	Ecological Health
PARAMETERS	Units	Analytical Results <sup>1</sup>										
<b>Chlorinated Phenols</b>												
Ortho-chlorophenol (2-Chlorophenol)	ug/g	<0.2	<0.04	<0.04	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	400	0.5
Meta-chlorophenol (3-Chlorophenol)	ug/g	<0.05	<0.05	<0.05	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	250	0.5
Para-chlorophenol (4-Chlorophenol)	ug/g	<0.05	<0.05	<0.05	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	250	0.5
4-Chloro-3-methylphenol; Dry Weight		<0.05	<0.05	<0.05								
2,6-Dichlorophenol	ug/g	<0.05	<0.05	<0.05	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	250	0.5
2,3-Dichlorophenol	ug/g	<0.05	<0.05	<0.05	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	250	0.5
2,4 & 2,5-Dichlorophenol	ug/g	<0.0020	<0.0020	<0.0020	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	250	0.5
3,4-Dichlorophenol	ug/g	<0.05	<0.05	<0.05	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	250	0.5
3,5-Dichlorophenol	ug/g	<0.05	<0.05	<0.05	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	250	0.5
2,4,6-Trichlorophenol	ug/g	<0.04	<0.04	<0.04	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	85	0.5
2,3,6-Trichlorophenol	ug/g	<0.05	<0.05	<0.05	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	85	0.5
2,4,5-Trichlorophenol	ug/g	<0.05	<0.05	<0.05	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	8,500	0.5
2,3,5-Trichlorophenol	ug/g	<0.05	<0.05	<0.05	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	85	0.5
2,3,4-Trichlorophenol	ug/g	<0.05	<0.05	<0.05	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	85	0.5
3,4,5-Trichlorophenol	ug/g	<0.05	<0.05	<0.05	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	85	0.5
2,3,5,6-Tetrachlorophenol	ug/g	<0.05	<0.05	<0.05	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	250	0.5
2,3,4,5-Tetrachlorophenol	ug/g	<0.05	<0.05	<0.05	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	250	0.5
2,3,4,6-Tetrachlorophenol	ug/g	<0.03	<0.03	<0.03	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	2,500	0.5
Monochlorophenols	ug/g	<0.2	<0.05	<0.05	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Dichlorophenols	ug/g	<0.05	<0.05	<0.05	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Trichlorophenols	ug/g	<0.05	<0.05	<0.05	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Tetrachlorophenols	ug/g	<0.05	<0.05	<0.05	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Pentachlorophenol	ug/g	<0.02	0.06	0.02	200	1.5 to 300 <sup>pH</sup>	25	0.1 to 300 <sup>pH</sup>	0.1 to 300 <sup>pH</sup>	n.s.	n.s.	n.s.
Total Chlorophenols	ug/g	<0.2	0.06	<0.05	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.

**Notes:**

- 1 - Data excerpted from Element Materials Technology Canada Inc. analytical report(s); units as indicated
- 2 - BC Contaminated Sites Regulation (CSR) Schedule 3.1 - Part 1 Numerical Soil Standards, site-specific land use and pathways as noted above
- 3 - BC CSR Schedule 3.1 - Part 2 Generic Numerical Soil Standard to Protect Human Health, site-specific land use as noted above
- 4 - BC CSR Schedule 3.1 - Part 3 Generic Numerical Soil Standards to Protect Ecological Health, site-specific land use as noted above
- n.s. = No applicable standard
- pH = Standard is pH dependant and is specific to each sample with the range noted above
- = Parameter not analyzed
- < = Less than the laboratory method detection limit
- Bold, underlined, and shaded grey** indicates concentration exceeds lowest of the applicable standards

Table 4. Summary of Stokpile #1 to 3 Soil Analytical Results - Toxicity Characteristic Leachate Procedure

Sample ID		SP20-01-01	SP20-02-01	SP20-02-05	SP20-02-06	SP20-03-09	SP20-03-10	
Matrix		Soil	Soil	Soil	Soil	Soil	Soil	
Depth (m below surface grade)		Stockpile Sample	Stockpile Sample	Stockpile Sample	Stockpile Sample	Stockpile Sample	Stockpile Sample	BC HWR Leachate Quality Standards <sup>2</sup>
Sample Date		2-Nov-20	2-Nov-20	10-Nov-20	10-Nov-20	10-Nov-20	10-Nov-20	
Comments		Stockpile #1. Soil disposed of off-site	Stockpile #1. Soil disposed of off-site	Stockpile #2. Soil backfilled in excavation	Stockpile #2. Soil backfilled in excavation	Stockpile #3. Soil disposed of off-site	Stockpile #3. Soil disposed of off-site	
<b>PARAMETERS</b>	Units	<b>Analytical Results<sup>1</sup></b>						
<b>Leachable Volatile Hydrocarbons</b>								
Benzene	mg/L	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.5
Toluene	mg/L	0.02	0.03	<0.01	<0.01	0.05	0.01	2.4
Ethylbenzene	mg/L	0.02	0.02	<0.01	<0.01	0.03	<0.01	0.24
Total Xylenes	mg/L	0.11	0.11	<0.01	0.02	0.2	0.05	30.0
<b>Leachable Polycyclic Aromatic Hydrocarbons</b>								
Acenaphthene	mg/L	0.0012	0.0012	0.0008	0.0006	0.0014	0.0008	n.s.
Acenaphthylene	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	n.s.
Acridine	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	0.0004	<0.0001	n.s.
Anthracene	mg/L	0.00022	0.00013	0.00009	0.00007	0.00027	0.00007	n.s.
Benzo(a)anthracene	mg/L	0.00018	0.00001	<0.00001	<0.00001	0.0004	0.00001	n.s.
Benzo(a)pyrene	mg/L	0.0001	<0.00001	<0.00001	<0.00001	0.00032	<0.00001	0.001
Benzo(b)fluoranthene	mg/L	0.00006	<0.00002	<0.00002	<0.00002	0.0005	<0.00002	n.s.
Benzo(b+j)fluoranthene: 1311 Non-moc	mg/L	0.00006	<0.00004	<0.00004	<0.00004	0.0009	<0.00004	n.s.
Benzo(g,h,i)perylene	mg/L	0.00006	<0.00002	<0.00002	<0.00002	0.00049	<0.00002	n.s.
Benzo(k)fluoranthene	mg/L	<0.00002	<0.00002	<0.00002	<0.00002	0.00051	<0.00002	n.s.
Chrysene	mg/L	0.00024	<0.00002	<0.00002	<0.00002	0.00041	<0.00002	n.s.
Dibenzo(a,h)anthracene	mg/L	<0.00002	<0.00002	<0.00002	<0.00002	0.00045	<0.00002	n.s.
Fluoranthene	mg/L	0.00015	0.00003	0.00003	0.00003	0.00066	0.00008	n.s.
Fluorene	mg/L	0.0022	0.0019	0.0011	0.0008	0.0018	0.0009	n.s.
Indeno(1,2,3-c,d)pyrene	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	0.0005	<0.0001	n.s.
1-Methylnaphthalene	mg/L	0.0181	0.0221	0.0109	0.0049	0.0203	0.0087	n.s.
2-Methylnaphthalene	mg/L	0.0257	0.0328	0.0053	0.0014	0.0259	0.0092	n.s.
Naphthalene	mg/L	0.0135	0.0216	0.0007	0.0002	0.015	0.0032	n.s.
Phenanthrene	mg/L	0.0028	0.0021	0.0015	0.0013	0.0023	0.0011	n.s.
Pyrene	mg/L	0.00078	0.00015	0.00014	0.00013	0.00082	0.00014	n.s.
Quinoline	mg/L	0.0013	0.00118	0.00064	0.0005	0.00105	0.00061	n.s.
<b>Leachate Inorganics</b>								
Antimony	mg/L	<0.24	<0.24	<0.24	<0.24	<0.24	<0.24	n.s.
Arsenic	mg/L	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	2.5
Barium	mg/L	0.35	0.31	0.33	0.21	0.41	0.4	100.0
Beryllium	mg/L	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	n.s.
Boron	mg/L	0.22	<0.05	0.36	0.71	0.14	<0.05	500.0
Cadmium	mg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.5
Chromium	mg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	5.0
Cobalt	mg/L	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	n.s.
Copper	mg/L	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	100
Iron	mg/L	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23	n.s.
Lead	mg/L	<0.14	<0.14	<0.14	<0.14	<0.14	<0.14	5.0
Mercury	mg/L	0.0066	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.1
Nickel	mg/L	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	n.s.
Selenium	mg/L	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18	1.0
Silver	mg/L	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	5.0
Thallium	mg/L	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	n.s.
Uranium	mg/L	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	10.0
Vanadium	mg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	n.s.
Zinc	mg/L	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	500.0
Zirconium	mg/L	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	n.s.

**Notes:**

1 - Data excerpted from Element Materials Technology Canada Inc. analytical report(s); units as indicated

2 - BC Hazardous Waste Regulation (HWR) Table 1 Leachate Quality Standards

n.s. = No applicable standard

- = Parameter not analyzed

< = Less than the laboratory method detection limit

\* = Standard converted to ug/L to correspond with laboratory results

**Bold, underlined,** and shaded grey indicates concentration exceeds lowest of the applicable standards

Table 5.1 Summary of Groundwater Analytical Results - Petroleum Hydrocarbons

Sample ID	GW20-01-01	GW20-03-01	GW20-02-01	GW20-02-02	GW20-02-03	GW20-02-04	GW20-02-05	RW20-01-01	RW20-02-01	RW20-02-02	RW20-03-01	RW20-03-01 (A)	RW20-04-01	RW20-04-02	RW20-05-01	RW20-05-02	RW20-06-01	CSR Schedule 3.2 <sup>2</sup>		
Matrix	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Freshwater Aquatic Life	Drinking Water
Depth to Groundwater from Ground Surface (m)																				
Sample Date	4-Nov-20	7-Nov-20	4-Nov-20	6-Nov-20	19-Nov-20	25-Nov-20	8-Dec-20	16-Nov-20	25-Nov-20	8-Dec-20	25-Nov-20	25-Nov-20	25-Nov-20	8-Dec-20	25-Nov-20	8-Dec-20	25-Nov-20			
Comments	Upgradient sample from borehole near lower part of ditch	Upgradient sample from borehole near upper part of ditch	Down-gradient Testpit	Down-gradient Testpit	Down-gradient Testpit	Down-gradient Testpit	Down-gradient Testpit	GW Well in Excavation	GW Well in Excavation	GW Well in Excavation	GW Well in Excavation	GW Well in Excavation	GW Well in Excavation	GW Well in Excavation	GW Well in Excavation	GW Well in Excavation	GW Well in Excavation			
PARAMETERS	Analytical Results <sup>1</sup>																			
<b>Mono-Aromatic Hydrocarbons</b>																				
Benzene	ug/L	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	<0.5	<0.5	400	5
Ethylbenzene	ug/L	6.6	<0.5	0.5	<0.5	0.7	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	0.6	1.4	<0.5	8.8	<0.5	0.6	2,000	140
Methyl t-Butyl Ether	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	34,000	95
Styrene	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	720	800
Toluene	ug/L	<b>18.8</b>	<0.5	1.2	<0.5	4.1	<0.5	<0.5	1.4	<0.5	<0.5	0.6	0.7	2.1	<0.5	<b>15.3</b>	<0.5	0.7	5	60
Total Xylenes (m,p,o)	ug/L	38.4	<0.5	3.1	1.1	4	<0.5	<0.5	2.5	<0.5	<0.5	2.5	2.6	8.3	<0.5	60	0.8	2.9	300	90
<b>Volatile Petroleum Hydrocarbons</b>																				
VPHw (VHW <sub>6-10</sub> minus BTEX)	ug/L	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	60	<50	120	<50	1,500	n.s.
VHW6-10	ug/L	70	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	70	<50	210	<50	<50	15,000	15,000
<b>Extractable Hydrocarbons</b>																				
EPHW <sub>10-19</sub>	ug/L	200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	520	200	2100	810	200	5,000	5,000
LEPHw	ug/L	200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<b>520</b>	200	<b>2100</b>	<b>800</b>	200	200	500	n.s.
EPHW <sub>14-32</sub>	ug/L	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	550	<200	<200	n.s.	n.s.
HEPHw	ug/L	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	540	<200	<200	n.s.	n.s.
<b>Polycyclic Aromatic Hydrocarbons</b>																				
Acenaphthene	ug/L	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.3	<0.1	0.5	<0.1	<0.1	60	250
Acenaphthylene	ug/L	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	n.s.	n.s.
Acridine	ug/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.5	n.s.
Anthracene	ug/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	1	1,000
Benzo(a)anthracene	ug/L	0.12	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	0.03	<0.01	0.01	<0.01	<0.01	<0.01	0.02	0.06	0.1	0.01	1	0.07
Benzo(a)pyrene	ug/L	0.07	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<b>0.03</b>	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	<b>0.03</b>	<b>0.06</b>	<0.01	0.1	0.01
Benzo(b)fluoranthene	ug/L	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	0.03	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	0.07	0.02	n.s.	n.s.
Benzo(b+j)fluoranthene	ug/L	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	0.05	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	0.08	0.08	n.s.	0.07
Benzo(g,h,i)perylene	ug/L	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	n.s.	n.s.
Benzo(k)fluoranthene	ug/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	n.s.	n.s.
Chrysene	ug/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	1	7
Dibenz(a,h)anthracene	ug/L	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	n.s.	0.01
Fluoranthene	ug/L	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.2	<0.1	2	150
Fluorene	ug/L	0.4	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	0.6	0.1	<0.1	120	150
Indeno(1,2,3-c,d)pyrene	ug/L	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	n.s.	n.s.
1-Methylnaphthalene	ug/L	4.1	<0.1	<0.1	<0.1	0.4	<0.1	<0.1	<0.1	<0.1	<0.1	0.3	0.3	0.9	<0.1	<b>6.4</b>	0.5	<0.1	n.s.	5.5
2-Methylnaphthalene	ug/L	6.7	<0.1	<0.1	<0.1	0.4	<0.1	<0.1	<0.1	<0.1	<0.1	0.5	0.5	1.1	<0.1	8.4	0.6	<0.1	n.s.	15
Naphthalene	ug/L	3.6	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	0.4	<0.1	2.7	0.1	<0.1	10	80
Phenanthrene	ug/L	1.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.7	0.3	<0.1	3	n.s.
Pyrene	ug/L	0.4	<0.02	<0.02	<0.02	0.05	<0.02	0.13	0.07	<0.02	0.09	0.03	0.02	0.06	0.15	<b>0.27</b>	<b>0.51</b>	0.08	0.2	100
Quinoline	ug/L	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	34	0.05

Notes:  
 1 - Data excerpted from Element Materials Technology Canada Inc. analytical report(s); units as indicated  
 2 - BC Contaminated Sites Regulation (CSR) Schedule 3.2 Generic Numerical Water Standards, site-specific pathways as noted above  
 n.s. = No applicable standard  
 - = Parameter not analyzed  
 < = Less than the laboratory method detection limit  
**Bold, underlined, and shaded grey** indicates concentration exceeds lowest of the applicable standards

Table 5.2 Summary of Groundwater Analytical Results - Petroleum Hydrocarbons

Sample ID	MW20-02-01	MW20-03-01	MW20-03-02	MW20-04-01	MW20-04-02	MW20-05-01	MW20-05-02	MW20-06-01	MW20-07-01	MW20-07-A	MW20-08-01	MW20-09-01	T-8-01	CSR Schedule 3.2 <sup>2</sup>		
Matrix	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater			
Depth to Groundwater from Ground Surface (m)	0.385	0.235		0.115		0.19		0.975	0.105	0.105	1.235	0.055	0.36			
Sample Date	17-Nov-20	17-Nov-20	8-Dec-20	17-Nov-20	8-Dec-20	17-Nov-20	8-Dec-20	17-Nov-20	18-Nov-20	18-Nov-20	18-Nov-20	17-Nov-20	18-Nov-20			
Comments										Duplicate to MW20-07-01						
PARAMETERS	Units	Analytical Results <sup>1</sup>														
<b>Mono-Aromatic Hydrocarbons</b>																
Benzene	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	400	5
Ethylbenzene	ug/L	<0.5	<0.5	<0.5	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	2,000	140
Methyl t-Butyl Ether	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	34,000	95
Styrene	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	720	800
Toluene	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	5	60
Total Xylenes (m,p,o)	ug/L	<0.5	0.8	<0.5	3.6	0.6	<0.5	<0.5	<0.5	0.5	0.5	0.5	<0.5	<0.5	300	90
<b>Volatile Petroleum Hydrocarbons</b>																
VPHw (VHW <sub>6-10</sub> minus BTEX)	ug/L	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	1,500	n.s.
VHW6-10	ug/L	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	15,000	15,000
<b>Extractable Hydrocarbons</b>																
EPHW <sub>10-19</sub>	ug/L	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	5,000	5,000
LEPHw	ug/L	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	500	n.s.
EPHW <sub>19-32</sub>	ug/L	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	n.s.	n.s.
HEPHw	ug/L	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	n.s.	n.s.
<b>Polycyclic Aromatic Hydrocarbons</b>																
Acenaphthene	ug/L	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	60	250
Acenaphthylene	ug/L	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	n.s.	n.s.
Acridine	ug/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.5	n.s.
Anthracene	ug/L	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	1	1,000
Benzo(a)anthracene	ug/L	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	1	0.07
Benzo(a)pyrene	ug/L	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.1	0.01
Benzo(b)fluoranthene	ug/L	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	n.s.	n.s.
Benzo(b+j)fluoranthene	ug/L	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	n.s.	0.07
Benzo(g,h,i)perylene	ug/L	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	n.s.	n.s.
Benzo(k)fluoranthene	ug/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	n.s.	n.s.
Chrysene	ug/L	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	1	7
Dibenz(a,h)anthracene	ug/L	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	n.s.	0.01
Fluoranthene	ug/L	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	2	150
Fluorene	ug/L	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	120	150
Indeno(1,2,3-c,d)pyrene	ug/L	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	n.s.	n.s.
1-Methylnaphthalene	ug/L	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	n.s.	5.5
2-Methylnaphthalene	ug/L	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	n.s.	15
Naphthalene	ug/L	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	10	80
Phenanthrene	ug/L	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	3	n.s.
Pyrene	ug/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	0.05	<0.02	<0.02	<0.02	<0.02	0.2	100
Quinoline	ug/L	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	34	0.05

**Notes:**

- 1 - Data excerpted from Element Materials Technology Canada Inc. analytical report(s); units as indicated
- 2 - BC Contaminated Sites Regulation (CSR) Schedule 3.2 Generic Numerical Water Standards, site-specific pathways as noted above
- n.s. = No applicable standard
- = Parameter not analyzed
- < = Less than the laboratory method detection limit
- Bold, underlined,** and shaded grey indicates concentration exceeds lowest of the applicable standards

Table 6. Summary of Groundwater Analytical Results - Dissolved Metals

Sample ID	MW20-02-01	MW20-03-01	MW20-04-01	MW20-05-01	MW20-06-01	MW20-07-01	MW20-07-A	MW20-08-01	MW20-09-01	T-8-01	CSR Schedule 3.2 <sup>2</sup>		
Matrix	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater			
Depth to Groundwater from Ground Surface (m)	0.385	0.235	0.115	0.19	0.975	0.105	0.105	1.235	0.055	0.36			
Sample Date	17-Nov-20	17-Nov-20	17-Nov-20	17-Nov-20	17-Nov-20	18-Nov-20	18-Nov-20	18-Nov-20	17-Nov-20	18-Nov-20			
Comments	Duplicate to MW20-07-01										Freshwater Aquatic Life	Drinking Water	
PARAMETERS	Units	Analytical Results <sup>1</sup>											
Hardness as CaCO <sub>3</sub>	mg/L	63	107	132	104	160	<5	<5	67	26	94	n.s.	n.s.
<b>Dissolved Metals</b>													
Aluminum	ug/L	30	20	<10	40	<10	170	200	730	70	<10	n.s.	9,500
Antimony	ug/L	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	0.2	0.3	<0.2	<0.2	90	6
Arsenic	ug/L	<1	1	<1	<1	<1	<1	6	3	<1	4	50	10
Barium	ug/L	24	22	18	17	25	2	3	38	4	12	10,000	1,000
Beryllium	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.5	8
Bismuth	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	n.s.	n.s.
Boron	ug/L	<20	<20	<20	<20	30	30	20	60	<20	<20	12,000	5,000
Cadmium	ug/L	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.5 to 4 <sup>H</sup>	5
Chromium	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.4	<0.5	<0.5	10 (CrVI)/90 (CrIII)	50 (CrVI)/6,000 (CrIII)
Cobalt	ug/L	<0.2	2.4	0.9	<0.2	<0.2	0.2	1.1	<0.2	1	1	40	20 <sup>3</sup>
Copper	ug/L	<5	<5	<5	<5	<5	<5	5	<5	<5	<5	20 to 90 <sup>H</sup>	1,500
Iron	ug/L	30	720	30	30	<20	170	210	1000	70	2900	n.s.	6,500
Lead	ug/L	<0.1	<0.1	<0.1	<0.1	<0.1	0.6	0.7	1.3	<0.1	<0.1	40 to 160 <sup>H</sup>	10
Lithium	ug/L	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	n.s.	8
Manganese	ug/L	80	1300	550	<10	20	10	10	60	20	1000	n.s.	1,500
Mercury	ug/L	-	-	-	-	-	-	-	-	-	-	0.25	1
Molybdenum	ug/L	<0.2	0.4	0.4	0.6	1.4	5.3	5.1	6.4	<0.2	<0.2	10,000	250
Nickel	ug/L	<2	<2	<2	<2	<2	<2	<2	3	<2	<2	250 to 1,500 <sup>H</sup>	80
Selenium	ug/L	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	20	10
Silver	ug/L	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.5 to 15 <sup>H</sup>	20
Strontium	ug/L	38	78	86	54	100	2	3	60	14	51	n.s.	2,500
Tellurium	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	<0.5	<0.5	<0.5	n.s.	n.s.
Thallium	ug/L	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	3	n.s.
Thorium	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	n.s.	n.s.
Tin	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	n.s.	2,500
Uranium	ug/L	0.1	<0.1	<0.1	0.4	1.2	1.4	1.5	2.8	<0.1	<0.1	85	20
Vanadium	ug/L	1.9	2.4	1.9	2.6	2	14	13	5.8	3.8	3.8	n.s.	20
Zinc	ug/L	<5	<5	<5	<5	<5	8	13	14	<5	<5	75 to 2,400 <sup>H</sup>	3,000
Zirconium	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	n.s.	n.s.
Titanium	ug/L	3	5	5	5	5	6	8	19	4	<2	1,000	n.s.

Notes:

1 - Data excerpted from Element Materials Technology Canada Inc. analytical report(s); units as indicated

2 - BC Contaminated Sites Regulation (CSR) Schedule 3.2 Generic Numerical Water Standards, site-specific pathways as noted above

3 - Interim background groundwater concentration for cobalt

H = Standard is hardness dependant and is specific to each sample with the range noted above

n.s. = No applicable standard

- = Parameter not analyzed

< = Less than the laboratory method detection limit

**Bold, underlined,** and shaded grey indicates concentration exceeds lowest of the applicable standards



Table 7. Summary of Groundwater Analytical Results - Routine Parameters

Sample ID	MW20-02-01	MW20-03-01	MW20-04-01	MW20-05-01	MW20-06-01	MW20-07-01	MW20-07-A	MW20-08-01	MW20-09-01	T-8-01	CSR Schedule 3.2 <sup>2</sup>		
Matrix	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater			
Depth to Groundwater from Ground Surface (m)	0.385	0.235	0.115	0.19	0.975	0.105	0.105	1.235	0.055	0.36			
Sample Date	17-Nov-20	17-Nov-20	17-Nov-20	17-Nov-20	17-Nov-20	18-Nov-20	18-Nov-20	18-Nov-20	17-Nov-20	18-Nov-20	Freshwater Aquatic Life	Drinking Water	
Comments													
<b>PARAMETERS</b>	Units	<b>Analytical Results<sup>1</sup></b>											
<b>Routine Parameters</b>													
Calcium (Dissolved)	mg/L	20	31	38	29	48	0.19	0.27	21	7.1	25	n.s.	n.s.
Magnesium (Dissolved)	mg/L	3.5	6.8	9	7.7	9.6	0.11	0.13	3.7	1.9	7.8	n.s.	n.s.
Potassium (Dissolved)	mg/L	0.48	0.6	0.5	0.7	1.7	0.1	0.08	2.0	0.16	0.38	n.s.	n.s.
Silicon (Dissolved)	mg/L	4.9	5.6	4.6	8.5	9.1	2.3	2.4	6.9	3.4	7.4	n.s.	n.s.
Sodium (Dissolved)	mg/L	2.9	19	10	5.1	8.4	21	21	56	1.6	2.5	n.s.	200
Sulphur (Dissolved)	mg/L	1.30	7.80	3.50	3.20	5.00	1.80	1.8	17	0.43	0.74	n.s.	n.s.
Hardness as CaCO <sub>3</sub>	mg/L	63	107	132	104	160	<5	<5	67	26	94	n.s.	n.s.

**Notes:**

1 - Data excerpted from Element Materials Technology Canada Inc. analytical report(s); units as indicated

2 - BC Contaminated Sites Regulation (CSR) Schedule 3.2 Generic Numerical Water Standards, site-specific pathways as noted above

A = Standard to protect against taste and odour concerns

n.s. = No applicable standard

\* = Laboratory results have been converted to correspond with applicable standards

- = Parameter not analyzed

< = Less than the laboratory method detection limit

**Bold, underlined, and shaded grey** indicates concentration exceeds lowest of the applicable standards

Table 8.1 Summary of Surface Water Analytical Results - Petroleum Hydrocarbons

Sample ID		SW20-01-01	SW20-01-02	SW20-01-03	SW20-01	SW20-03-01	SW20-03	SW20-04-01	SW20-04	CSR Schedule 3.2 <sup>2</sup>		
		Surface Water	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water	Freshwater Aquatic Life	Drinking Water	
Matrix		Surface Water	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water			
Sample Date		4-Nov-20	6-Nov-20	18-Nov-20	25-Nov-20	20-Nov-20	25-Nov-20	20-Nov-20	25-Nov-20			
Comments		Wetland	Wetland	Wetland	Wetland	Wetland	Wetland	Wetland	Wetland			
PARAMETERS	Units	Analytical Results <sup>1</sup>										
<b>Mono-Aromatic Hydrocarbons</b>												
Benzene	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	400	5	
Ethylbenzene	ug/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	2,000	140	
Methyl t-Butyl Ether	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	34,000	95	
Styrene	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	720	800	
Toluene	ug/L	1.2	<b>13.3</b>	0.8	1.3	<0.5	2.1	<0.5	2.1	5	60	
Total Xylenes (m,p,o)	ug/L	3.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	300	90	
<b>Volatile Petroleum Hydrocarbons</b>												
VPHw(VHw <sub>6-10</sub> minus BTEX)	ug/L	<50	<50	<50	<50	<50	<50	<50	<50	1,500	n.s.	
VHw <sub>6-10</sub>	ug/L	<50	<50	<50	<50	<50	<50	<50	<50	15,000	15,000	
<b>Extractable Hydrocarbons</b>												
EPH <sub>w10-19</sub>	ug/L	<200	<200	<200	-	-	-	-	-	5,000	5,000	
LEPHw	ug/L	<200	<200	<200	-	-	-	-	-	500	n.s.	
EPH <sub>w19-32</sub>	ug/L	<200	<200	<200	-	-	-	-	-	n.s.	n.s.	
HEPHw	ug/L	<200	<200	<200	-	-	-	-	-	n.s.	n.s.	
<b>Polycyclic Aromatic Hydrocarbons</b>												
Acenaphthene	ug/L	<0.1	<0.1	<0.1	-	-	-	-	-	60	250	
Acenaphthylene	ug/L	<0.1	<0.1	<0.1	-	-	-	-	-	n.s.	n.s.	
Acridine	ug/L	<0.05	<0.05	<0.05	-	-	-	-	-	0.5	n.s.	
Anthracene	ug/L	<0.1	<0.1	<0.1	-	-	-	-	-	1	1,000	
Benzo(a)anthracene	ug/L	<0.01	<0.01	<0.01	-	-	-	-	-	1	0.07	
Benzo(a)pyrene	ug/L	<0.01	<0.01	<0.01	-	-	-	-	-	0.1	0.01	
Benzo(b)fluoranthene	ug/L	<0.01	<0.01	<0.01	-	-	-	-	-	n.s.	n.s.	
Benzo(b+j)fluoranthenes	ug/L	<0.04	<0.04	<0.04	-	-	-	-	-	n.s.	0.07	
Benzo(g,h,i)perylene	ug/L	<0.1	<0.1	<0.1	-	-	-	-	-	n.s.	n.s.	
Benzo(k)fluoranthene	ug/L	<0.02	<0.02	<0.02	-	-	-	-	-	n.s.	n.s.	
Chrysene	ug/L	<0.1	<0.1	<0.1	-	-	-	-	-	1	7	
Dibenz(a,h)anthracene	ug/L	<0.01	<0.01	<0.01	-	-	-	-	-	n.s.	0.01	
Fluoranthene	ug/L	<0.1	<0.1	<0.1	-	-	-	-	-	2	150	
Fluorene	ug/L	<0.1	<0.1	<0.1	-	-	-	-	-	120	150	
Indeno(1,2,3-c,d)pyrene	ug/L	<0.1	<0.1	<0.1	-	-	-	-	-	n.s.	n.s.	
1-Methylnaphthalene	ug/L	<0.1	<0.1	<0.1	-	-	-	-	-	n.s.	5.5	
2-Methylnaphthalene	ug/L	<0.1	<0.1	<0.1	-	-	-	-	-	n.s.	15	
Naphthalene	ug/L	<0.1	<0.1	<0.1	-	-	-	-	-	10	80	
Phenanthrene	ug/L	<0.1	<0.1	<0.1	-	-	-	-	-	3	n.s.	
Pyrene	ug/L	<0.02	<0.02	<0.02	-	-	-	-	-	0.2	100	
Quinoline	ug/L	<0.01	<0.01	<0.01	-	-	-	-	-	34	0.05	

**Notes:**

1 - Data excerpted from Element Materials Technology Canada Inc. analytical report(s); units as indicated

2 - BC Contaminated Sites Regulation (CSR) Schedule 3.2 Generic Numerical Water Standards, site-specific pathways as noted above

n.s. = No applicable standard

- = Parameter not analyzed

< = Less than the laboratory method detection limit

**Bold, underlined, and shaded grey** indicates concentration exceeds lowest of the applicable standards

Table 8.2 Summary of Surface Water Analytical Results - Petroleum Hydrocarbons

Sample ID		SW20-02-01	SW20-02-02	SW20-02-03	SW20-02-04	SW20-02-05	SW20-05-01	SW20-05-02	CSR Schedule 3.2 <sup>2</sup>		
		Surface Water	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water	Freshwater Aquatic Life	Drinking Water
Sample Date		16-Nov-20	16-Nov-20	16-Nov-20	16-Nov-20	17-Nov-20	25-Nov-20	8-Dec-20			
Comments		Sump	Sump	Sump	Sump	Sump	Surface water in dike near excavation	Surface water in dike near excavation			
PARAMETERS	Units	Analytical Results <sup>1</sup>									
<b>Mono-Aromatic Hydrocarbons</b>											
Benzene	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	400	5	
Ethylbenzene	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	2,000	140	
Methyl t-Butyl Ether	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	34,000	95	
Styrene	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	720	800	
Toluene	ug/L	1	0.8	0.7	0.9	<0.5	<0.5	<0.5	5	60	
Total Xylenes (m,p,o)	ug/L	5.1	4.4	5.4	4.1	2.7	0.8	<0.5	300	90	
<b>Volatile Petroleum Hydrocarbons</b>											
VPHw(VHW <sub>6-10</sub> minus BTEX)	ug/L	<50	<50	<50	<50	<50	<50	<50	1,500	n.s.	
VHW <sub>6-10</sub>	ug/L	<50	<50	<50	<50	<50	<50	<50	15,000	15,000	
<b>Extractable Hydrocarbons</b>											
EPH <sub>w10-19</sub>	ug/L	300	600	830	540	<200	<200	<200	5,000	5,000	
LEPHw	ug/L	300	<b>600</b>	<b>830</b>	<b>530</b>	<200	<200	<200	500	n.s.	
EPH <sub>w19-32</sub>	ug/L	<200	990	300	200	<200	<200	<200	n.s.	n.s.	
HEPHw	ug/L	<200	990	300	200	<200	<200	<200	n.s.	n.s.	
<b>Polycyclic Aromatic Hydrocarbons</b>											
Acenaphthene	ug/L	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	60	250	
Acenaphthylene	ug/L	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	n.s.	n.s.	
Acridine	ug/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.5	n.s.	
Anthracene	ug/L	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	1	1,000	
Benzo(a)anthracene	ug/L	0.05	0.06	0.06	0.05	0.03	<0.01	<0.01	1	0.07	
Benzo(a)pyrene	ug/L	<b>0.02</b>	<b>0.03</b>	<b>0.03</b>	<b>0.03</b>	<b>0.02</b>	<0.01	<0.01	0.1	0.01	
Benzo(b)fluoranthene	ug/L	0.01	0.02	0.02	0.02	0.02	<0.01	<0.01	n.s.	n.s.	
Benzo(b+)]fluoranthenes	ug/L	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	n.s.	0.07	
Benzo(g,h,i)perylene	ug/L	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	n.s.	n.s.	
Benzo(k)fluoranthene	ug/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	n.s.	n.s.	
Chrysene	ug/L	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	1	7	
Dibenz(a,h)anthracene	ug/L	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	n.s.	0.01	
Fluoranthene	ug/L	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	2	150	
Fluorene	ug/L	0.3	0.4	0.4	0.4	0.2	<0.1	<0.1	120	150	
Indeno(1,2,3-c,d)pyrene	ug/L	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	n.s.	n.s.	
1-Methylnaphthalene	ug/L	1.2	1.2	1.6	1.5	0.9	<0.1	<0.1	n.s.	5.5	
2-Methylnaphthalene	ug/L	0.3	0.3	0.6	0.7	0.7	<0.1	<0.1	n.s.	15	
Naphthalene	ug/L	<0.1	<0.1	<0.1	0.1	0.2	<0.1	<0.1	10	80	
Phenanthrene	ug/L	0.7	0.8	0.7	0.8	0.4	<0.1	<0.1	3	n.s.	
Pyrene	ug/L	0.19	<b>0.23</b>	<b>0.23</b>	<b>0.22</b>	0.15	<0.02	<0.02	0.2	100	
Quinoline	ug/L	<0.01	<0.01	<0.01	<0.01	0.03	<0.01	<0.01	34	0.05	

**Notes:**

- 1 - Data excerpted from Element Materials Technology Canada Inc. analytical report(s); units as indicated
- 2 - BC Contaminated Sites Regulation (CSR) Schedule 3.2 Generic Numerical Water Standards, site-specific pathways as noted above
- n.s. = No applicable standard
- = Parameter not analyzed
- < = Less than the laboratory method detection limit
- Bold, underlined, and shaded grey** indicates concentration exceeds lowest of the applicable standards

Table 9. Summary of Surface Water Analytical Results - Total Metals

Sample ID		SW20-02-01	SW20-02-02	SW20-02-03	SW20-02-04	CSR Schedule 3.2 <sup>2</sup>	
Matrix		Surface Water	Surface Water	Surface Water	Surface Water		
Sample Date		16-Nov-20	16-Nov-20	16-Nov-20	16-Nov-20	Freshwater Aquatic Life	Drinking Water
Comments		Sump	Sump	Sump	Sump		
PARAMETERS	Units	Analytical Results <sup>1</sup>					
Hardness as CaCO <sub>3</sub>	mg/L	46	46	53	53	n.s.	n.s.
<b>Total Metals</b>							
Aluminum	ug/L	<b>10000</b>	<b>10000</b>	<b>13000</b>	<b>20000</b>	n.s.	9,500
Antimony	ug/L	<1.0	<1.0	<1.0	<1.0	90	6
Arsenic	ug/L	7	7	8	10	50	10
Barium	ug/L	50	50	60	85	10,000	1,000
Beryllium	ug/L	<b>&lt;3</b>	<b>&lt;3</b>	<b>&lt;3</b>	<b>&lt;3</b>	1.5	8
Bismuth	ug/L	<5	<5	<5	<5	n.s.	n.s.
Boron	ug/L	<100	<100	<100	<100	12,000	5,000
Cadmium	ug/L	<0.5	<0.5	<0.5	<0.5	0.5 to 4 <sup>H</sup>	5
Chromium	ug/L	<b>23</b>	<b>23</b>	<b>29</b>	<b>42</b>	10 (CrVI)/90 (CrIII)	50 (CrVI)/6,000 (CrIII)
Cobalt	ug/L	<b>4</b>	<b>4</b>	<b>5.4</b>	<b>8.2</b>	40	1
Copper	ug/L	30	30	40	50	20 to 90 <sup>H</sup>	1,500
Iron	ug/L	12000	12000	15000	22000	n.s.	n.s.
Lead	ug/L	1	1	2	3	40 to 160 <sup>H</sup>	10
Lithium	ug/L	<b>&lt;20</b>	<b>&lt;20</b>	<b>&lt;20</b>	<b>&lt;20</b>	n.s.	8
Manganese	ug/L	200	200	300	400	n.s.	1,500
Molybdenum	ug/L	<1.0	<1.0	<1.0	<1.0	10,000	250
Nickel	ug/L	<10	10	10	20	250 to 1,500 <sup>H</sup>	80
Selenium	ug/L	<10	<10	<10	<10	20	10
Silver	ug/L	<0.5	<0.5	<0.5	<0.5	0.5 to 15 <sup>H</sup>	20
Strontium	ug/L	30	30	30	30	n.s.	2,500
Tellurium	ug/L	<3	<3	<3	<3	n.s.	n.s.
Thallium	ug/L	<0.5	<0.5	<0.5	<0.5	3	n.s.
Thorium	ug/L	<3	<3	<3	<3	n.s.	n.s.
Tin	ug/L	<5	<5	<5	<5	n.s.	2,500
Titanium	ug/L	790	840	1000	<b>1400</b>	1,000	n.s.
Uranium	ug/L	<0.5	<0.5	<0.5	<0.5	85	20
Vanadium	ug/L	46	48	59	82	n.s.	20
Zinc	ug/L	<20	<20	30	40	75 to 2,400 <sup>H</sup>	3,000
Zirconium	ug/L	<5	<5	<5	<5	n.s.	n.s.

**Notes:**

- 1 - Data excerpted from Element Materials Technology Canada Inc. analytical report(s); units as indicated
- 2 - BC Contaminated Sites Regulation (CSR) Schedule 3.2 Generic Numerical Water Standards, site-specific pathways as noted above
- n.s. = No applicable standard
- H = Standard is hardness dependant and is specific to each sample with the range noted above
- = Parameter not analyzed
- < = Less than the laboratory method detection limit
- Bold, underlined**, and shaded grey indicates concentration exceeds lowest of the applicable standards

Table 10. Summary of Surface Water Analytical Results - Routine Parameters

Sample ID		SW20-02-01	SW20-02-02	SW20-02-03	SW20-02-04	CSR Schedule 3.2 <sup>2</sup>	
Matrix		Surface Water	Surface Water	Surface Water	Surface Water		
Sample Date		16-Nov-20	16-Nov-20	16-Nov-20	16-Nov-20		
Comments		Sump	Sump	Sump	Sump	Freshwater Aquatic Life	Drinking Water
PARAMETERS	Units	Analytical Results <sup>1</sup>					
<b>Routine Parameters</b>							
pH	no units	6.90	6.71	6.64	6.63	n.s.	n.s.
Calcium	mg/L	10000	10000	12000	11000	n.s.	n.s.
Magnesium	mg/L	4800	5000	5600	6400	n.s.	n.s.
Potassium	mg/L	890	1100	1400	1400	n.s.	n.s.
Silicon	mg/L	13000	14000	16000	21000	n.s.	n.s.
Sodium	mg/L	3000	4000	3000	4000	n.s.	200
Sulphur	mg/L	820	820	950	990	n.s.	n.s.

**Notes:**

1 - Data excerpted from Element Materials Technology Canada Inc. analytical report(s); units as indicated

2 - BC Contaminated Sites Regulation (CSR) Schedule 3.2 Generic Numerical Water Standards, site-specific pathways as noted above

A = Standard to protect against taste and odour concerns

n.s. = No applicable standard

- = Parameter not analyzed

< = Less than the laboratory method detection limit

Spill Area After Fuel Rail Tank Moved down Track (October 30, 2020)



## SITE PHOTOGRAPHS

October 30 - November 26, 2020



**Photo 1.** Viewing south towards the initial spill location under rail car



**Photo 2.** Viewing north towards the spill location. The rail was subsequently moved showing free product under tracks.



**Photo 3.** Viewing south towards the rail car, rail tracks and surrounding vegetation.



**Photo 4.** Initial excavation area and hydrovac cleanup.



**Photo 5.** Initial excavation area near dip tank Hydrovac cleanup of free product.



**Photo 6.** Initial excavation area with poly. Hydrovac cleanup of product.





**Photo 7.** Viewing west towards spilled product in excavated area.



**Photo 8.** Test Pit location showing spilled product had migrated under the rail tracks towards the wetland.



**Photo 9.** Testpit near the wetland on the west side of tracks showing no sheening or product.



**Photo 10.** Excavating impacted soil and draining impacted water towards a sump to be transferred into tanks.



**Photo 11.** Containment holding tanks used to store impacted water pumped from the excavation area and sump.



**Photo 12.** Soil stockpiles awaiting off site disposal.



**Photo 13.** Track removal and soil excavation works.



**Photo 14.** Soil investigation works surrounding the spill area.



**Photo 15.** Heavy rains and high groundwater table filled excavation.



**Photo 16.** View of sheening on water and absorbent materials.



**Photo 17.** View of excavation works on the south wall.



**Photo 18.** Backfilling excavation area and sump.



**Photo 19.** Installation of six recovery wells in the backfilled excavation area.



**Photo 20.** Tank truck filled with impacted water for offsite disposal.



**Photo 21.** Final backfilling and compaction works of the excavation area.